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Commission Action:	

STAFF REPORT: APPEAL
DE NOVO COASTAL DEVELOPMENT PERMIT

LOCAL GOVERNMENT: County of Orange

LOCAL DECISION: Approval with Conditions

APPEAL NUMBER: A5-IRC-99-301

APPLICANT: Irvine Community Development Company

AGENT: M. Andriette Culbertson, Culbertson and Adams

PROJECT LOCATION: Southern Coastal Orange County, North of PCH, West of Crystal Cove State Park and East of the City of Newport Beach, Irvine Coast (Newport Coast), Orange County

PROJECT DESCRIPTION: Seventh Amendment to the Master Coastal Development Permit for the Newport Coast Planned Community (NCPC). Proposed development includes mass grading, backbone infrastructure for future residential and recreational development in Planning Areas (PA) 4A, 4B, 5, 6, 12C, and offer to dedicate open space areas PA 12E (Muddy Canyon) and 12G (Moro Sliver) and approval of Vesting Tentative Tract Map 15447. Also proposed is 1.6 acres Needlegrass restoration in PA 12E to mitigate the loss of 0.4 acres of Needlegrass in PA 4A and PA 5; water quality enhancement program and drainage facilities also including PA 2B, 2C, 3A, 3B, 10B, 12A, 12B, 13B, 14 and 17 and off-site grading including within Crystal Cove State Park easement. Technical revisions to approved Vesting Tentative Tract Maps to reflect the grading adjustments required by the new drainage and runoff control plans are also proposed.

APPELLANTS: Commissioners Pedro Nava and Sara Wan

SUMMARY OF STAFF RECOMMENDATION

At a public hearing on October 12, 1999, the Commission determined that **a substantial issue existed** with respect to the local government's approval of the proposed development on the grounds that the approval did not conform to the Newport Coast (formerly Irvine Coast) certified Local Coastal Program (LCP).

At the January 12, 2000 Commission meeting on de novo portion of the appeal, staff recommended that the Commission **deny** the project as it was previously proposed on the grounds that it was inconsistent with the environmentally sensitive habitat area (ESHA), Erosion, Sediment, and Runoff policies of the certified LCP. The Commission postponed the hearing on the de novo application at the request of the applicant. In the six months since the postponement, the applicant has made significant revisions to the project as discussed below.

Staff is now recommending that the Commission, after a public hearing, **approve the proposed project subject to special conditions** to require the applicant pay an in-lieu fee to provide sand and beach replacement due to project impacts and to submit evidence of fee title conveyance of open space PA 12E and 12G ; to require that the 0.4 acre seasonal wetland mitigation site is constructed prior to the disturbance of the existing wetlands, and that the wetlands/riparian mitigation plans and Needlegrass grassland mitigation plan are carried out as proposed and approved herein; that the drainage and runoff plan be revised such that no runoff from PA 2C, 5 or 6 are directed into Muddy Creek below the existing agricultural pond berm, and that the structural stability of the existing agricultural pond berm be certified and the submittal of additional slope stability analysis; the submittal of bridge plans showing details of the proposed structure and Department of Parks and Recreation approval of the design and location as well as review of required fuel modification plans; and to protect water quality by the submittal of erosion control plans meeting the requirements of the LCP, revised grading plans in conformance with the requirements of the LCP, submittal of a final water quality control plan assuring that all necessary BMPs are implemented, and a plan to assure the long-term maintenance of the proposed water quality enhancement facilities and program and the acceptance of the project's summer nuisance flow by the local sewer agency for the life of the project.

A. SUBSTANTIVE FILE DOCUMENTS:

See Appendix A

B. EXECUTIVE SUMMARY

Prior Commission Action

At a public hearing on October 12, 1999, the Commission determined that **a substantial issue existed** with respect to the local government's approval of the proposed development on the grounds that the approval did not conform to the Newport Coast (formerly Irvine Coast) certified Local Coastal Program (LCP).

At the January 12, 2000 Commission meeting on de novo portion of the appeal, staff recommended that the Commission **deny** the project as it was previously proposed on the grounds that it was inconsistent with the environmentally sensitive habitat area (ESHA), Erosion, Sediment, and Runoff policies of the certified LCP. The applicant requested the use of their automatic right to postpone the hearing. At that hearing, the Commission received testimony only on the question of postponement. The Commission also requested that the applicant fund an independent third party review to assist Commission staff in the review of technical reports that Commission staff indicated were necessary for a proper analysis of the potential impacts of the proposed project. The applicant agreed to fund such a review with the understanding that the independent review effort would be managed by the Executive Director. The hearing was postponed at the request of the applicant.

1. Project Revisions

At its October, 1999 meeting, the Commission found that the appeal of County of Orange Coastal Permit 97-0152 by Commissioners Nava and Wan raised a Substantial Issue on the grounds of the approved development's inconsistency with the LCP provisions regarding environmentally sensitive habitat areas (ESHA), that the permit approved development outside of the LCP area, specifically within Crystal Cove State Park, and that the permit unilaterally deleted the Commission's appeal jurisdiction with regards to development adjacent to streams. Subsequent to the Commission's October, 1999 Substantial Issue action on the appeal, the applicant revised the application for the de novo stage of the appeal.

Between October 1999 and prior to the January, 2000 Commission meeting, the applicant made several project modifications that had not been a part of the project approved by the local government. The modifications that were included in the staff's review of the de novo project for the January meeting included a water quality enhancement program and a wetlands/riparian enhancement program. The applicant also requested that the amendment to the appeal jurisdiction of the Commission be deleted from the application. The applicant also obtained permission from the Department of Parks and Recreation to apply to the Commission for the proposed detention basin,

stream course fill for a private access road and the installation of water quality structures to be located within their retained easement in Crystal Cove State Park (PA 17).

Even with the addition of the water quality enhancement program and the wetlands/riparian mitigation program, staff was recommending that the Commission deny the project as it was proposed at that time. Staff's recommendation of denial was due to the proposed detention basin in Muddy Canyon creek, within a designated Category "B" ESHA. The detention basin was inconsistent with the ESHA policies of the certified LCP which dictates that all development be setback 50 feet from "blueline streams" that are designated ESHA Category "A" and "B", unless specifically excepted. The proposed Muddy Canyon detention basin would have resulted in the loss of 0.12 acres of riparian wetlands. The detention basin location was further inconsistent with the Backbone Drainage Plan of the LCP which locates all detention basins out of the major streams and locates them either within the development areas or on tributary drainages. The applicant had also not demonstrated that the proposed detention basin was sited in the least environmentally damaging location and that there were no other feasible locations outside of the major drainage course, through possible redesign of the subdivision. Therefore, the project as previously proposed, even with the water quality and wetlands/riparian mitigation, was inconsistent with the ESHA policies of the LCP.

The project 's drainage and runoff management plan as previously designed also significantly increased the rate of stormwater runoff over pre-development conditions. The peak rate of increase was kept at 8.5% over the existing peak runoff rate only by placing the proposed detention basin within Muddy Canyon creek, inconsistent with the LCP. The significant increase in the peak runoff rate and the detention basin in the creek had the potential of adversely impacting the natural erosion/beach sand replenishment process, inconsistent with the LCP Runoff Policies.

The revised project as previously proposed also reduced the amount of sediment that is normally discharged to the ocean through Los Trancos and Muddy Canyons and the culverts along the frontal slopes of Pacific Coast Highway by as much as a 97% reduction along one segment of the beach. The applicant asserted that this loss of sediment is not significant in terms of beach nourishment but provided inadequate evidence, very late in the staff project review period, supporting the assertion that the proposed project was consistent with the Erosion and Beach Nourishment Policies of the LCP, despite the loss of sediment.

Finally, staff was also recommending denial of the revised project due to potential destabilizing impacts to Muddy Canyon and its creek downstream of the proposed Muddy Canyon detention basin that straddle the State park boundary. There were also unanswered questions as to whether the change in the movement of sediment through the canyons had a destabilizing effect on the streams.

In light of the staff recommendation of denial, the applicant's late submittal of inadequate supporting information to demonstrate the consistency of the proposed project with the certified LCP, and the applicant's desire to redesign the project to eliminate the detention basin, the applicant requested a postponement of the hearing. In the six months since the postponement, the applicant has further modified the project from that reviewed in the January, 2000 staff report and provided numerous technical studies (listed in Exhibit 36) to support their contention that the project as now modified is consistent with the Newport Coast LCP.

The most significant project modification is the removal of the previously proposed detention basin and road within Muddy Canyon and the proposal of four additional detention basins within the proposed residential development areas and a commercial area outside of the appeal jurisdiction (PA 14). A bridge is now proposed to replace the Muddy Canyon detention basin thereby eliminating 0.12 acres of wetland fill. The applicant also had their proposed water quality enhancement program further reviewed by Peter Mangarella, Eric Strecker and Seth Gentzler and made revisions to the program including the addition of "regional" DrainPac filters and other additional water quality features.

The applicant commissioned numerous technical studies, some of which had been previously requested by staff, including hydrology, sediment yield, coastal processes and water budget studies, among others in support of their assertion that the proposed residential and recreational development is consistent with the LCP erosion, sediment, runoff policies and the protection of the natural streams and off-shore ESHA (Exhibit 36). As agreed to by request of the Commission, the applicant also funded an independent third party review of the hydrologic, sediment yield and coastal processes studies. The independent third party review effort by Ronald M. Noble, Noble Consultants and Professor Robert L. Wiegel was directed by a Hydrology Scope of Work prepared by the Executive Director (Exhibit 35).

2. Summary of Staff Recommendation

Staff is recommending **approval** of the proposed project subject to special conditions necessary to bring the project in conformance with beach nourishment processes, water quality, environmentally sensitive habitat areas, land dedication, geologic hazards and grading policies of the certified LCP. The beach nourishment special condition as well as the water quality and grading conditions are also necessary in order for the project to be found consistent with the public access and public recreation policies of the Coastal Act.

I. STAFF RECOMMENDATION:

MOTION: ***I move that the Commission approve Coastal Development Permit No. A5-IRC-99-301 pursuant to the staff recommendation.***

STAFF RECOMMENDATION OF APPROVAL:

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

RESOLUTION TO APPROVE THE PERMIT:

The Commission hereby approves a coastal development permit for the proposed development and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act 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 on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.

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

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

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

III. **Special Conditions**

The permit is subject to the following conditions:

1. WETLANDS MITIGATION AND MONITORING

PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall prepare and submit an addendum to the Wetlands/Riparian Mitigation and Monitoring Plan, by LSA Associates, Inc., dated 5/16/00, subject to the review and approval of the Executive Director, which shall require:

A. The proposed 0.4 acre seasonal wetland mitigation shall be constructed prior to the disturbance of the existing 0.05 acre seasonal wetland located in PA 4A; and

B. Within 60 days following construction of the mitigation wetlands, the applicant shall submit to the Executive Director a monitoring report for review and approval. The report shall determine whether the following performance standard has been met. After construction, the soil in each depression shall be saturated with water to the soil surface and then filled with an additional volume of water equivalent to that which would result from a 2-year rainfall event estimated from the record for Station 4650 (Laguna Beach 2).[1] The depression shall pond this water for at least 7 days. This performance standard is based on the fact that a standard criterion for identifying a hydric soil is that it ponds water for at least 7 consecutive days at least 50% of years (i.e., 50 years out of 100, on average).[2] If the performance standard can not be accomplished, the applicant shall submit an application for an amendment to the CDP for other, equivalent mitigation.

C. The permittee shall monitor and remediate the 0.4 acre seasonal wetland mitigation site in accordance with the approved monitoring program. Any proposed changes from the approved monitoring program shall be reported to the Executive Director. No changes to the approved monitoring program shall occur

[1] Exponent. 2000. Projected water balance for Muddy Canyon, Crystal Cove Area, California. A report to the Irvine Company dated April 20, 2000. p.6.
[2] Natural Resources Conservation Service. 1998. Field indicators of hydric soils in the United States. Version 4.0, March 1998. U. S. Department of Agriculture.

without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is required.

2. **Revised Drainage and Runoff Plans**.

A. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit revised drainage and runoff plans, for the review and approval of the Executive Director, which shall indicate that no runoff from Planning Areas 2C, 5 or 6 shall be directed into Muddy Creek below the existing agricultural pond berm located in Upper Muddy Canyon.

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

3. **Safety of Agricultural Pond Berm**

PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall retain a licensed structural engineer or other appropriate licensed professional who shall examine the existing agricultural pond berm located in Upper Muddy Canyon and provide written certification, subject to the review and approval of the Executive Director, that the berm is structurally sound and can withstand the runoff from the proposed surrounding development.

If the licensed professional determines that the existing agricultural pond berm can not meet the above standard both during and after construction of the adjacent development, the applicant shall obtain an amendment to this coastal permit from the Commission to reconstruct or reinforce the berm so that it is structurally sound.

4. Assumption of Risk

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

such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards.

B. **PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant, Irvine Community Development Company, shall execute and record a deed restriction, in a form and content acceptable to the Executive Director incorporating all of the above terms of this condition. The deed restriction shall include a legal description of the applicant's entire parcel. The deed restriction shall run with the land, binding all successors and assigns, and shall be recorded free of prior liens that the Executive Director determines may affect the enforceability of the restriction. This deed restriction shall not be removed or changed without a Commission amendment to this coastal development permit.

5. <u>Erosion Control</u>

PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit to the Executive Director for review and approval, final erosion control plans that have been approved by the County of Orange. The approved plans shall be subject to the following requirements and include the following components:

a. During construction, erosion on the site shall be controlled to avoid adverse impacts to adjacent properties, public roadways and the Crystal Cove Area of Special Biological Significance/Marine Life Refuge.

b. The following temporary erosion control measures shall be used during construction activity: a combination of temporary measures (e.g., geo-fabric blankets, spray tackifiers, silt fences, fiber rolls, straw mulch, hay bales, gravel bags or other mechanical or vegetative techniques), as appropriate, during each phase of site preparation, grading and project construction. Native and/or appropriate non-native plant material selected for vegetation shall be consistent with LCP subsection I-3-L-6.

c. Following construction, erosion on the site shall be controlled to avoid adverse impacts on adjacent properties, public roadways and the Crystal Cove Area of Special Biological Significance/Marine Life Refuge.

d. A copy of the Storm Water Pollution Prevention Plan (SWPPP), prepared as a requirement for development under the County of Orange NPDES permit, which specifies BMPs appropriate for use during each phase of site preparation, grading and project construction, and procedures for their installation, based on soil loss calculations shall be submitted. The submitted calculations will account for factors

such as soil conditions, hydrology (drainage flows), topography, slope gradients, vegetation cover and groundwater elevations.

e. An erosion control plan describing the location and timing for the installation and maintenance of all erosion control devices shall describe the parties responsible for repair and maintenance of such devices. Erosion control devices shall be installed in coordination with clearing, grubbing, and grading. Such plan may acknowledge that minor adjustments in the location of temporary erosion control measures may occur if necessary to protect downstream resources.

f. Erosion control measures for grading and construction done during the period from October 15 to April 15 will be implemented by October 15 and maintained as necessary through April 15. For grading and construction commencing in the period from October 15 to April 15, erosion control measures will be implemented In conjunction with the project in a manner consistent with the County of Orange Grading Code. All areas disturbed, but not completed, between April 15 and October 15, including graded pads, shall be stabilized in advance of the rainy season.

g. A plan to mobilize crews, equipment, and staging areas for BMP installation during each phase of site preparation, grading and project construction, with timing of deployment based on the forecast percentage of rainfall occurrence. The plan shall also address provisions for delivery of erosion prevention/control materials, or access to onsite supplies, and specifications for adequate storage capabilities.

h. A plan for landscaping, which shall be installed on all cut and fill slopes in completed areas prior to November 15th of each year utilizing either temporary or permanent (in the case of finished slopes) erosion control methods. Said planting shall be accomplished under the supervision of a licensed landscape architect, shall provide adequate coverage within 90 days, and shall utilize vegetation of species consistent with native and/or appropriate non-native plant material selected for vegetation shall be consistent with LCP subsection I-3-L-6 and surrounding native vegetation, subject to Executive Director approval.

i. To facilitate this determination, the third-party contractor designated by the applicant shall evaluate the implementation of SWPPP measures for compliance with this coastal development permit, and copies of all periodic reports shall be submitted to the Executive Director for review.

The permittee shall undertake development in accordance with the approved grading and erosion control plans. No changes to the plans shall occur without a Coastal Commission approved amendment to this coastal development permit unless the Executive Director determines that no amendment is required.

6. **Irvine Beach Sand Replenishment/Public Access Enhancement Fund**.

PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicants shall provide evidence, in a form and content acceptable to the Executive Director that, $163,800 has been deposited in an interest bearing account designated by the Executive Director in-lieu of providing sand to replace the sand and beach area that will be lost due to the impact of the proposed project. The California Coastal Commission or other entity designated by the Executive Director shall be named as trustee of this account, with all interest earned payable to the account for the purposes stated below.

The purpose of the account shall be to aid in the restoration of beaches within the Crystal Cove littoral sub cell (between the east jetty of Newport Harbor and Abalone Point) through the establishment of a beach sand replenishment/public access enhancement program. The funds shall solely be used to implement projects which provide sand to the region's beaches, not to fund operations, maintenance, or planning studies. The funds shall be released only upon approval of an appropriate program by the Executive Director of the Coastal Commission. If these funds have not been spent for such sand replenishment in five years time from the issuance of the Coastal Development Permit, they may be used for alternative public access/recreational beach improvements within the Crystal Cove littoral sub cell (between the east jetty of Newport Harbor and Abalone Point), subject to the approval of the Executive Director, but shall not be used to fund operations, maintenance, or planning studies.

7. **Slope Stability**

A. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit, for the review and approval of the Executive Director, a geotechnical report which demonstrates the gross stability of all slopes (natural, cut, and fill) in the proposed development. The report shall be prepared and certified by a licensed geologist (RG) or engineering geologist (CEG). Such analyses shall be prepared as follows:

The plan shall demonstrate:

1) Slope stability analyses shall demonstrate a factor of safety greater than or equal to 1.5 for the static condition and greater than or equal to 1.1 for the pseudostatic condition.

The plan shall include, at a minimum, the following components:

1) At least one two-dimension quantitative slope stability analysis shall be prepared for each cut slope and each fill slope in the development. The stability of natural slopes adjacent to the development shall be evaluated through supplemental quantitative slope stability analyses.

2) All slope stability analyses shall be undertaken through cross-sections oriented perpendicular to the slope.

3) Pseudostatic slope analyses shall assume a horizontal seismic coefficient of 0.2g.

4) All slope analyses shall be performed using geotechnical parameters (friction angle, cohesion, and unit weight) determined from undisturbed samples collected on the site.

5) The choice of geotechnical parameters for each geologic unit examined shall be supported by direct shear tests, triaxial shear test, or literature references from intact and/or remolded samples in order to characterize the conditions in each slope.

6) All slope stability analyses shall be undertaken with potentiometric surfaces for the highest potential groundwater conditions.

7) If anisotropic conditions are assumed for any geologic unit, strike and dip of weakness planes shall be provided, and geotechnical parameters for each orientation shall be supported by reference to pertinent direct sheer tests, triaxial shear test, or literature.

8) When planes of weakness are oriented normal to the slope, or dip into the slope, or when the strength of materials is considered homogenous, rotational failure surfaces shall be sought by Spencer's method through a critical failure search routine to analyze the factor of safety along postulated critical failure surfaces.

9) If anisotropic conditions are assumed for units containing critical failure surfaces determined above, and when planes of weakness dip in the same direction as the slope, factors of safety for translational failure surfaces also shall be calculated. Geotechnical parameters for such weak surfaces shall be supported through direct sheer tests, triaxial shear test, or literature references.

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

8. <u>Revised Grading Plans</u>

A. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit revised grading plans to the Executive Director for review and approval. The revised grading plans shall show the following:

1) provide a schedule showing when each stage and element of the project will be completed, including estimated starting and completion dates, hours of operation, days of week operation, and the total area of soil surface to be disturbed during each stage of grading;

2) Show the location of all on-site stockpiling which shall be approved by the County of Orange. Top soil for later use in revegetation shall be stockpiled on-site in previously designated and approved areas. Other earthen material shall be disposed at locations approved by the County of Orange provided that a coastal development permit has been finally issued for locations in the coastal zone to receive this quantity of earthen material;

3) Removal of natural vegetation will be limited to graded areas, access/haul roads, and areas required for fuel modification. Construction material shall be limited to the approved area to be disturbed except for approved haul roads; and

4) All grading will conform to the County of Orange Grading Ordinance.

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

9. <u>Fuel Modification and Landscaping Plans</u>.

A. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit fuel modification plans for all areas where future development will abut natural areas. All fuel modification plans shall be reviewed and at a minimum, conceptually approved, by the Orange County Fire Authority and reviewed by the Department of Parks and Recreation prior to submittal. All fuel modification plans shall be in conformance with the requirements of the Development/Open Space Edges Policies of the certified Newport Coast LCP. No fuel modification shall occur in Planning Area (PA) 17 Crystal Cove State Park, including within the applicant's retained easement area within PA 17.

Landscaping plans, conceptually approved by the County of Orange, which are in conformance with the applicable landscaping and habitat and visual resources protection policies of the LCP shall also be submitted for the review and approval of the Executive Director.

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

10. <u>Final Fire Access Road Plans</u>

A. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit final plans, subject to the review and written approval of the Executive Director, for the widening and paving of the existing fire access road located between PA 4A and PA 5. The final plans shall be reviewed and approved by the Orange County Fire Authority and the Irvine Ranch Water District. The plans shall show that the road is designed to avoid impacts to Purple Needlegrass to the maximum extent feasible, consistent with the Southern Coastal Needlegrass Grassland Restoration Plan, by LSA Associates, Inc., dated December 14, 1999. Accordingly, the road may be realigned but shall be widened to a maximum of 14 feet where it abuts existing Purple Needlegrass vegetation. The existing Purple Needlegrass vegetation shall be flagged and fenced prior to grading activities and shall be protected from impacts during road construction.

If any Purple Needlegrass is destroyed or significantly impacted other than that indicated on Exhibit 2 of this report and Exhibit 2 of the Southern Coastal Needlegrass Grassland Restoration Plan, by LSA Associates, Inc., dated December 14, 1999, the applicant shall mitigate the loss of the additional Purple Needlegrass at a ratio of 4:1 in the same location as the proposed mitigation site. If the mitigation site is too small to accommodate the required additional restoration, the biological consultant shall identify another suitable site within the project vicinity, subject to the review and written approval of the Executive Director.

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

11. Conformance with Final Geologic Recommendations.

A. All final design and construction plans, including foundations, grading and drainage plans, shall be consistent with all recommendations contained in the June 6, 2000 report by NMG Geotechnical, the August 6, 1999 and August 30, 1999 reports by Goffman, McCormick and Urban, and the Leighton and Associates letter of 16 June, 2000 and subsequent supplemental reports. **PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant shall submit, for the Executive Director's review and approval, evidence that an appropriate licensed professional has reviewed and approved all final design and construction plans and certified that each of those final plans is consistent with all of the recommendations specified in the above-referenced geologic evaluation approved by the California Coastal Commission for the project site.

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

12. Bridge Plans.

A. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit revised plans, subject to the review and written approval of the Executive Director, for the proposed Muddy Canyon bridge located in PA 17. Plans shall be to scale and include a site plan on a topographic base map (or grading plan), plan views, elevations and cross-sections. All bridge supports and abutments must be shown in relationship to the wetlands located in Muddy Canyon and must avoid all such wetlands. The plans shall be reviewed and approved by the Department of Parks and Recreation prior to submittal.

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

13. Evidence of Conveyance of Fee Title of Open Space Lands

PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit written evidence that fee title to Planning Areas (PA) 12E and PA 12G has been conveyed to the County of Orange, consistent with the Land Dedication Policies of the certified Newport Coast LCP. The recorded fee dedication for AA 12E shall irrevocably limit the use of PA 12 E to open space and conservation purposes. The recorded fee dedication for PA 12G shall irrevocably limit the use of {A 12G to open space and recreation purposes.

14. <u>Water Quality Control Plan Required for Proposed Development in Planning Areas 4, 5, and 6</u>

PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit final Water Quality Control Plan for Planning Areas 4, 5, and 6, for review and approval Executive Director,

A. The final Water Quality Control Plan shall assure the achievement of the following standards to the maximum extent practicable:

1) Storm water discharges shall not cause or threaten to cause pollution, contamination, or nuisance.
2) Storm water discharges and authorized non-stormwater discharges to any surface or ground water shall not adversely impact human health or the environment.
3) The SWPPP developed for the construction activity covered by this General Permit shall be designed and implemented such that storm water discharges and authorized non-stormwater discharges shall not cause or contribute to an exceedance of any applicable water quality standards contained in a Statewide Water Quality Control Plan and/or the applicable RWQCB's Basin Plan.
4) Should it be determined by the discharger, SWRCB, or RWQCB that stormwater discharges and/or authorized non-stormwater discharges are causing or contributing to an exceedance of an applicable water quality standard, the discharger shall:

a. Implement corrective measures immediately following discovery that water quality standards were exceeded, followed by notification to the RWQCB and the CCC by telephone as soon as possible but no later than 48 hours after the discharge has been discovered. This notification shall be followed by a report within 14-calender days to the appropriate RWQCB and the CCC, unless otherwise directed by the RWQCB or the CCC, describing (1) the nature and cause of the water quality standard exceedance; (2) the BMPs currently being implemented; (3) any additional BMPs which will be implemented to prevent or reduce pollutants that are causing or contributing to the exceedance of water quality standards; and (4) any maintenance or

repair of BMPs. This report shall include an implementation schedule for corrective actions and shall describe the actions taken to reduce the pollutants causing or contributing to the exceedance.

b. The discharger shall revise its SWPPP and monitoring program immediately after the report to the CCC to incorporate the additional BMPs that have been and will be implemented, the implementation schedule, and any additional monitoring needed.

c. Nothing in this section shall prevent the appropriate RWQCB from enforcing any provisions of this General Permit while the discharger prepares and implements the above report.

B. The Water Quality Control Plan shall include at a minimum the following components to achieve the above requirements:

1) Non-structural Best Management Practices (BMPs) including but not limited to:

   a) Fertilizer and Organic Soils Management,

   b) Advanced street sweeping and litter pick-up,

   c) Homeowner education regarding Nonpoint Source pollution and proper use of pesticides

2) Routine structural BMPs: I

   a) Inlet trash racks,

   b) Energy dissipaters on stormwater outfalls,

   c) Efficient irrigation technology,

   d) Vegetated swales and other areas for stormwater infiltration

   e) Extended detention ponds and

   f) catch basin media filters

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

15. <u>Water Quality Control Plan for Proposed Additional Water Quality Mitigation Measures in Planning Areas 3, 4, 5, 6, 12C and 14.</u>

CONSISTENT WITH THE TERMS OF THE PROPOSED PROJECT AND PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit final Water Quality Control Plan for Planning Areas 3, 4, 5, 6, 12C and 14 for review and approval Executive Director,

A. The final Water Quality Control Plan shall assure the achievement of the following standards to the maximum extent practicable:

1) Storm water discharges shall not cause or threaten to cause pollution, contamination, or nuisance.
2) Storm water discharges and authorized non-stormwater discharges to any surface or ground water shall not adversely impact human health or the environment.

B. The Water Quality Control Plan shall ensure that the RWQCB Water Quality Objectives are not exceeded by nuisance flows from Planning Areas 3, 4, 5, 6 , 12C and 14 during the period of October 15 until April 15 of each year by

1) Incorporating a low flow diversion system that will convey these nuisance flows to the publicly owned treatment works operated by the Orange County Sanitation District and

2) Submitting a final agreement between OCSD and IRWD as to the conveyance and treatment of the summer nuisance flows. Specifically the agreement must provide for a legal transfer of responsibility, and provide evidence of OCSD's commitment to enter into agreement with IRWD to accept nuisance flow diversion, as proposed and described herein, from April 15th to October 15th of each year, for the life of the project.

3) Isolating the nuisance flows from Planning Areas 2C, 5 and 6 in the portion of Muddy Canyon upstream and including the Agricultural Basin, to the maximum extent practicable.

C. The Water Quality Control Plan shall ensure that pollutants in stormwater runoff in Planning Areas 3A, 3B and 14are treated to the maximum extent practicable by various Best Management Practices including but not limited to:

4) Non-structural Best Management Practices (BMPs) including but not limited to:

   a) Fertilizer and Organic Soils Management,

   b) Advanced street sweeping and litter pick-up,

   c) Homeowner education regarding Nonpoint Source pollution and proper use of pesticides

5) Routine structural BMPs: I

   a) Vegetated swales,

   b) Extended detention ponds,

   c) catch basin media filters, and

   d) a clarifier at the service station if the station is built

D. The permittee shall undertake development in accordance with the approved final plans. Any proposed changes to the approved final plans shall be reported to the

Executive Director. No changes to the approved final plans shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is required.

16. <u>BMP Maintenance Plan</u>

PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit a Maintenance Plan for Nonpoint Source Best Management Practices for Planning Areas 4, 5, and 6, for review and approval Executive Director,

A. The Maintenance Plan shall assure the achievement of the following standards to the maximum extent practicable:

1) Storm water discharges shall not cause or threaten to cause pollution, contamination, or nuisance.
2) Storm water discharges and authorized non-stormwater discharges to any surface or ground water shall not adversely impact human health or the environment.

B. The Maintenance Plan shall ensure that stormwater BMPs in Planning Areas 4, 5, and 6 are maintained in accordance with *the California Storm Water Best Management Practices Handbooks* and the *Newport Coast Planned Community, Crystal Cove Stormwater Quality Evaluation Report* and shall include:

1) . A BMP maintenance agreement which states that by acceptance of this coastal development permit, the applicant/owner or successor in interest agrees to be solely responsible for regular maintenance including inspection and regular cleaning of all approved BMPs to ensure their effectiveness prior to and during each rainy season from October 15 through April 15 of each year, for the life of the project. Debris and other water pollutants contained in BMP filters or devices must be contained and disposed of in a proper manner on a regular basis. All BMP traps/separators and/or filters must be cleaned prior to the start of the winter storm season, no later than October 15th each year

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

17. <u>Water Quality and Marine Ecological Monitoring Plan for the Crystal Cove Development Project</u>

PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit a final *Water Quality and Marine Ecological Monitoring Plan for the Crystal Cove Development Project* , for review and approval Executive Director,

A. The *Water Quality and Marine Ecological Monitoring Plan for the Crystal Cove Development Project* shall assure the achievement of the following standards to the maximum extent practicable:

1) Storm water discharges shall not cause or threaten to cause pollution, contamination, or nuisance.
2) Storm water discharges and authorized non-stormwater discharges to any surface or ground water shall not adversely impact human health or the environment.

B. The *Water Quality and Marine Ecological Monitoring Plan for the Crystal Cove Development Project* shall include

1) A Quality Assurance/Quality Control Plan that includes reporting limits for the constituents below that will are below the Water Quality Objectives that have been identified by the RWQCB and if now WQOs are available then the Reporting limits should be below acute and chronic toxicity levels for the test species indicated below.

2) An accurate and legible map of the proposed sampling locations as follows: identifies four monitoring stations each in Muddy Canyon, Los Trancos Canyon and Emerald Canyon. Sampling stations are intended to represent four locations within each respective watershed: 1) upstream from significant development or future development, 2) near the mouth of the watershed, but above Pacific Coast Highway, 3) in the surf zone adjacent to the mouth of the watershed and 4) beyond the surf zone where the water is 20 feet deep at Mean Lower Low Water.

C. The *Water Quality and Marine Ecological Monitoring Plan for the Crystal Cove Development Project* shall include the following parameters:

1. SAMPLING AND ANALYSIS FOR PATHOGEN INDICATOR BACTERIA:
Sampling for total and fecal coliforms and enterococci at all stations during storm and dry-weather runoff. Analysis of additional Orange County data for same study locations and adjacent sites.

2. SAMPLING AND ANALYSIS FOR PHYSICAL CONSTITUENTS OF RUNOFF:
   Total suspended solids (TSS), Total dissolved solids (TDS), Freshwater hardness, Salinity, Standard observations of water clarity, color, degree of turbidity, and debris.

3. SAMPLING AND ANALYSIS FOR TRACE (HEAVY) METALS:
   Full sampling at all stations for the 7 trace metals cadmium, chromium, copper, lead, nickel, silver, and zinc in both their total and dissolved forms.

4. SAMPLING AND ANALYSIS FOR PESTICIDES:
   Full sampling at all stations for 26 organophosphorus pesticide compounds, including chlorpyrifos, diazinon, malathion, and parathion.

5. SAMPLING AND ANALYSIS FOR NUTRIENT CHEMICALS:
   Full sampling at all stations for, Nitrate + nitrite, Total Kjeldahl nitrogen, Total phosphorus, Dissolved phosphorus

6. SAMPLING AND ANALYSIS FOR PETROCHEMICALS:
   Total recoverable oil and grease at all stations

7. SAMPLING AND ANALYSIS FOR DRY-WEATHER RUNOFF:
   Sampling once per month in each watershed exhibiting such runoff. All of the above described microbiological, physical and chemical constituents analyzed.

8. TOXICITY BIOASSAYS FOR STORM RUNOFF:
   Acute (48 – 96 hr) toxicity testing using initial runoff water to assess its effects on a freshwater daphniid crustacean indicator species and a marine mysid crustacean indicator species. Testing conducted with water sampled during three representative storm events.

9. TOXICITY BIOASSAYS FOR DRY-WEATHER RUNOFF:
   Acute (48 hr) and Chronic (7 day) toxicity testing in which a freshwater daphiid crustacean indicator species is exposed to dry-weather runoff water. Testing conducted 3-4 times per year for each watershed exhibiting runoff.

10. QUANTITATIVE ECOLOGICAL STUDIES OF ROCKY INTERTIDAL HABITATS NEAR MOUTHS OF THE THREE WATERSHED CANYONS:

    a) Before and after storms, repeated sampling of the same groups of individuals in mussel and sea anemone indicator species associations (template photo quadrat sampling) to evaluate possible changes in relation to runoff.

    b) Before and after storms, repeated sampling of five different indicator species groups (invertebrates and algae). Randomly placed photo quadrats used to determine possible storm-related and other changes in species composition and abundance.

c) Before and after storms, repeated sampling of algal epiphytes (species composition and % cover) living attached to surfgrass. These epiphytes are good indicators of higher than normal nutrient chemical concentrations.

11. QUANTITATIVE ECOLOGICAL STUDIES OF ROCKY SUBTIDAL HABITATS OFFSHORE OF THE THREE WATERSHED CANYONS:

a) Before and after storms, repeated sampling of several different indicator species groups (invertebrates and marine plants. Randomly placed photo quadrats used to determine possible storm-related and other changes in species composition and abundance. Depth 20 ft MLLW.

b) Before and after storms, repeated sampling of algal epiphytes (species composition and % cover) living attached to surfgrass. Depth 20 ft MLLW. These epiphytes are good indicators of higher than normal nutrient chemical concentrations.

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

IV. Findings and Declarations

The Commission hereby finds and declares:

A. Standard of Review

The action currently before the Commission is the de novo portion of the appeal. The Commission's finding of Substantial Issue invalidated the locally issued coastal permit. Pursuant to Section 30604(b) of the Coastal Act, the Commission's standard of review for the proposed development is the certified Local Coastal Program. However, the proposed project is also subject to the Chapter 3 public access policies of the Coastal Act due to the development which is occurring seaward of Pacific Coast Highway, the first public road, onto the beach at Los Trancos Creek, Muddy Creek and the existing culverts that empty onto the coastal bluff face or onto the sand at beach level. The development that occurs is the discharge of water, resulting from the inland build-out of the planning areas subject to the permit, which could result in potential impacts on the public's access and recreational opportunities.

Also, because the proposed project also involves the fill of wetlands and other non-wetland jurisdictional waters of the United States, the applicant must obtain a 404 permit from the Army Corps of Engineers. The 404 permit can not be granted unless the

applicant first obtains a federal consistency certification or waiver from the Commission. If the Commission were to approve this coastal development permit, it would also serve as the federal consistency certification.

Section 30603(a)(4) of the Coastal Act provides that, after certification of the LCP, all locally approved development in unincorporated areas, except for "the principal permitted use" is appealable to the Coastal Commission. The Newport Coast LCP does not specify a single "principal permitted use". Therefore, all subsequent coastal permits issued by the County of Orange, such as project level subdivisions, grading and construction of residential, commercial or recreational development will be appealable to the Coastal Commission.

B. Project Location and Description

The proposed project involves approximately 980 acres of undeveloped moderate to steeply sloping hillsides, canyons, and ridges (referred to as Planning Areas (PA) 4A, 4B, 5, 6 and 12C) and includes large lot subdivision and approval of Vesting Tentative Tract Map 15447, for future residential development (up to 635 homes**)** and private recreation development (32 acres), 298.5 acres of dedicated open space lands (PAs 12E and 12G) and the construction of backbone infrastructure (drainage facilities, utilities, roads, etc) (Exhibit 1). Also proposed are minor boundary adjustments between the planning areas and technical revisions to the previously proposed VTTM 15447 to reflect the changes in grading that was necessitated by the redesigned detention basin plans (Exhibit 33**).** The County of Orange, Planning and Development Services Department has submitted a letter indicating that they approve of the changes that have been made to the development covered by the previously approved Coastal Permit 97-0152. They have approved the technical revisions to the adjacent Planning Areas outside of this permit area. Finally, the local government acknowledges that they must delay action on affected subsequent permit approvals until Commission action on this permit (Exhibit 37).

The proposed Vesting Tentative Tract Map (VTTM) 15447 subdivides the area into: large parcels for financing and/or sale or lease to builders (or in the case of the Conservation Areas 12E and 12G, dedication to a public agency) who will further subdivide the areas to ultimately build up to 635 detached single family homes on 581.5 gross acres (PA 4A, 4B, 5 and 6); the construction of a 32 acre private recreation facility on the 100 acre PA 12C site; and dedication as Conservation open space of 298.5 acres (PA 12E and 12G). The residential development closest to Pacific Coast Highway (PA 4A and 4B) is Medium density (3.5 to 6.5 du/a), in the upper area (PA 5) Medium Low density (2 to 3.5 du/a) and Low density (up to 2du/a) in PA 6. (Exhibit 1). The applicant is however no longer planning to develop future homes in PA 6. Through a subsequent coastal permit application, that area will be developed with recreational park uses only.

Mass grading totaling 48,191,680 cubic yards (cy) is proposed. This figure also includes remedial grading. Grading of the lower area (PA 4A, 4B and 12C) totals 32,491,680 cy of balanced cut and fill. This amount includes 300,000 cubic yards of remedial grading. Upper area grading (PA 2C, 5 and 6) totals 15,700,000 cy of balanced grading, of which 2,700,000 is remedial earthwork. Planning Area 2C, is located adjacent to Signal Peak and immediately west of PA 5. This PA is not included in the permit approved by the County and appealed to the Commission, but for purposes of the proposed grading, is now part of this application. Approximately one million cubic yards of fill material is also coming from the Newport Ridge (PA15) area that is outside the coastal zone.

Grading in Crystal Cove State Park within the Irvine Company's retained easement is also proposed but has been reduced over the earlier proposal. The Irvine Company's retained easement allows remedial grading and roads within 150 feet of the common boundary. Grading operations will create residential pads in PA 4A, 4B, one super pad in PA 12C for recreational facilities, and super pads in PA 5 and 6 for future pad grading of home sites. The design of the residential areas as described in the amendment to the master permit is, "a series of custom lot enclaves and future private access roads on terraces separated by slopes from 20 to 50 feet high to follow the rising elevation of the site." This project design entails cut slopes as deep as 135 feet and fill slopes up to 205 feet in height. One fill slope that faces down into Muddy Canyon will be approximately 350 feet in height. Exhibits 6 – 10 illustrate the grading concept.

The existing 3,800 ft. long fire access dirt road which goes through previously dedicated open space area (PA 12A) connecting PA 4A to PA 5 was required by the Orange County Fire Authority to be widened from the current 12 ft. to 26 ft. wide. Adjacent to the existing fire access road is several patches of Purple Needlegrass, a component of once widespread environmentally sensitive native Needlegrass grassland. The Purple Needlegrass remnant is no longer considered ESHA. Although the road is proposed to be narrowed to a maximum of 14 feet where it is adjacent to Needlegrass to avoid impacting it, 0.4 acres of Needlegrass will be loss through road widening in one location and due to proposed residential development in PAs 4A and PA 5 (Exhibit 2**)**. The applicant is proposing to mitigate the loss of Purple Needlegrass through the creation of a 1.6 acre Southern Coastal Needlegrass grassland (4:1 ratio) adjacent to an existing healthier stand of Needlegrass located away from the road (Exhibit 2).

The applicant is also proposing to fill 0.05 acres of seasonal wetlands in PA 4A in conjunction with residential development of the area and to mitigate the fill of the wetlands by constructing three seasonal wetlands totaling 0.40 acres at the top of a knoll in the adjacent conservation area PA 12E. The wetlands would mimic the three existing seasonal wetlands, at a 4:1 ratio (See Exhibit 3). The applicant is proposing to mitigate the fill of the wetlands even though they contend that the existing wetlands, created during past agricultural use of the property, are excluded from the definition of wetlands as defined by Section 13577(b)(2)of the Commission's regulations.

The project proposal also includes additional wetland/riparian mitigation necessary to obtain an Army Corps of Engineer (Corps) 404 permit and as a part of the proposed water quality enhancement program. The proposed wetland/riparian mitigation and monitoring plan, prepared by LSA Associates, Inc**.** and revised May 16, 2000 creates or enhances a little over 3 acres of wetlands creation , expansion and enhancement within the project area and off-site mitigation at San Joaquin Marsh to mitigate temporary stream and non-wetland waters impacts. Although the application no longer includes the fill of 0.12 acres of fill of wetlands in Muddy Canyon for a detention basin and road to provide access to PA 12C, the wetlands/riparian mitigation plan has not been reduced. The plan now calls for the construction of a 34-foot wide, 40-foot high bridge to access the private recreation site located on the opposite side of Muddy Canyon. The proposed bridge will cause shading impacts on 40.5 sq.ft. or 0.0009 acres of riparian wetlands within Muddy Creek. The proposed revised wetlands/riparian mitigation plan also includes mitigation for these shading impacts.

The project description also includes the implementation of a water quality improvement program as more fully described later in this report. According to the applicant, the water quality enhancement program is considered “state of the art” and was already partially developed at the time of the appeal and has been expanded and enhanced as a result of discussions with interested agencies, including Coastal Commission water quality staff**.** While the Irvine Company is proposing the water quality treatment program, they also state that the Commission may lack any legal ability to impose a comprehensive mitigation program for water quality. This assertion is addressed in the water quality section of this report. The water quality enhancement program includes frequent vacuum street sweeping; the installation of debris and contaminant filters in selected catch basins and storm drain outlets; diversion of summer dry weather runoff to the local sewage treatment plant; and the construction of wetland/riparian mitigation areas which serve the dual purpose of mitigation for the loss of wetlands and other non-wetlands waters required by the Army Corps of Engineers (ACOE) for a 404 permit approval and filtering runoff as a component of the water quality program.

The proposed project is located in the unincorporated southern coastal Orange County area in the Newport Coast (formerly Irvine Coast) segment of the LCP planning area. Specifically, the project site is located North of PCH, West of Crystal Cove State Park and East of the City of Newport Beach (Exhibit 4). The project site is characterized by undeveloped natural hillside slopes and canyons. Although no development exists on the property, it was previously farmed and grazed by cattle in the past. The western project boundary is Los Trancos Canyon. The western side of Los Trancos Canyon is built out with residential, golf course and tourist commercial hotel development and the Los Trancos Beach Public Parking Lot adjacent to PCH (PA 2B, 2C, 10B, 13B, and 17, respectively)**.** To the east of the project boundary is Crystal Cove State Park (PA 17) and beyond the state park is approximately 2,000 acres of wilderness open space area that has been/will be dedicated to the County of Orange as the Irvine Coast Wilderness Regional Park (Exhibit 5).

C. LCP Area Description

The Newport Coast (formerly Irvine Coast) Local Coastal Program area is comprised of 9,493 acres in southwestern unincorporated Orange County (Exhibit 4). If the land that is now part of Crystal Cove State Park (which has its own certified Public Works Plan) is also considered, the Newport Coast area would extend from the three and one-half mile long shoreline of the Pacific Ocean to the ridge of the San Joaquin Hills and the San Joaquin Hills Transportation Corridor. Moderate to steep hillside terrain, canyons and ridgelines (Exhibit 1 and 5A) characterize the LCP area. The shoreline is characterized by a series of sandy cove beaches interspersed with rocky and headlands areas. On the inland side of PCH, the gentler sloping Pelican Hill and Wishbone Hill areas are in the northwestern portion of the LCP area. These ridges and hillsides contain three major canyons, Buck Gully, Los Trancos and Muddy Canyon. On the eastern end of the LCP area are Moro Canyon and Emerald Canyon (Exhibit 11). Extensive coastal sage scrub covers most of the area and portions of the LCP area are within the Central and Coastal Subregion Natural Communities Conservation Program (NCCP)/Habitat Conservation Plan (HCP).

The 3.5 miles of the Newport Coast shoreline is designated a Marine Life Refuge by the Department of Fish and Game. It is the largest marine life refuge in California – approximately 20,000 ft. in length and 600 ft. wide (600 ft. seaward of the “line of ordinary high tide”). The California State Water Resources Control Board also designates the coastal waters an Area of Special Biological Significance (ASBS). In 1972, the area was also listed as a potential educational reserve in the California Comprehensive Ocean Area Plan. The LCP designated the off-shore coastal waters ESHA Category “C” and contains policies to protect the biological integrity of this marine resource. The Marine Life Refuge/Area of Significant Biological Significance is characterized by jagged, rocky reefs and pinnacles extending from the intertidal zone to depths of 40 to 50 feet. Rocky outcroppings also occur at depths of 60 to 600 feet. The flora and fauna of these areas are highly diversified, particularly the rocky intertidal areas and the offshore kelp community.

Portions of the inland slopes were extensively used for cattle grazing. During that time, the natural brush was often cleared and herbicides were used to artificially expand the grassland for grazing purposes and to prevent the encroachment of the natural coastal sage scrub and other native brush into the “pasture” areas. The coastal bluffs were also farmed for a number of years. Despite the changes to the vegetation that occurred during the period of grazing and farming, the LCP area still contains vast areas of natural habitats and supports a diversity of wildlife species. The number and diversity of species are enhanced by the presence of ecotones created by the variation in habitats, the small area covered by many of the habitat stands, and the mix of stands.

The land uses of the 9,493 acre LCP area (including the 2,807 acre Crystal Cove State Park which is now covered by a separate Public Works Plan and not a part of this LCP) include 277 acres designated tourist commercial; 1,873 acres designated low, medium-low, medium and high density residential land use; and 7,343 acres of open space (public and private parks, recreation and conservation) land use. Included within the open space designation is 455 acres of golf course use (two 18 hole courses), private passive and active parks, publicly dedicated passive recreation open space areas and Crystal Cove State Park. The LCP allows a maximum of 2,600 residential units, 2,150 resort/overnight accommodations and 2.66 million square feet of commercial development.

D. PREVIOUS LCP BALANCING

The Commission's standard of review for the proposed development is the certified Newport Coast (formerly Irvine Coast) LCP. The Newport Coast LCP is one of the seven segments of the Orange County Local Coastal Program. The certified LCP is comprised of the Land Use Plan (LUP) and the implementing ordinances or implementing actions program (IAP). The Irvine Coast LUP was certified by the Commission on January 19,1982. The Implementing Actions Program along with the first amendment to the LUP was certified on January 14, 1988. In 1996, the Commission certified a second amendment to the Irvine Coast LCP and also approved the change in the name of the LCP segment to Newport Coast.

As detailed below, the Commission relied on the balancing provisions of the Coastal Act in the certification of the Newport Coast LCP. Section 30007.5 of the Coastal Act provides the Commission with the ability to resolve conflicts between Coastal Act policies. This section provides that:

> The Legislature finds and recognizes that conflicts may occur between one or more policies of the division. The Legislature therefore declares that in carrying out the provisions of this division such conflicts be resolved in a manner that on balance is the most protective of significant coastal resources. In this context, the Legislature declares that broader policies which, for example, serve to concentrate development in close proximity to urban and employment centers may be more protective, overall, than specific wildlife habitat and other similar resource policies.

In its action approving the Newport Coast LCP, the Commission balanced Coastal Act policies that protect individual scenic natural landforms, blueline streams, significant land resources such as coastal sage scrub and native grasslands, and archaeological resources against the Coastal Act provision which seeks to concentrate development next to existing development and roads and where it can be otherwise more suitably accommodated. The Commission resolved these conflicts in favor of preserving the most sensitive habitat and archaeological resource areas and the dedication for open space purposes of large contiguous tracts of land rather than preserve each isolated, fragmented environmentally,

visually and culturally sensitive area. This method of resource protection was found by the Commission, on balance, to be more protective overall of coastal resources.

Land Use Plan

The 1982 certified LUP allowed development of up to 3,730 acres of the LCP area with a maximum of 2,000 residential units and visitor-serving commercial development including 2,000 hotel/motel units, restaurants, commercial recreational facilities, tourist-commercial shops and offices totaling 300,000 square feet. This development was allowed within designated Planning Areas that contained scenic natural landforms, natural streams and tributaries, and archaeological resources. Two arterial highways were designated through the Irvine Coast LCP area in a general north/south direction: Pelican Hills Road, a six lane major highway, and Sand Canyon Avenue, proposed as a four lane primary arterial highway with a fifth passing lane.

In conditionally certifying the LUP in 1982, the Commission specifically found:

> The underlying concept of the Irvine Coast LCP land use plan is a dedication of open space, to preserve it in its natural undisturbed state, mitigation for the impacts associated with residential and commercial development that would not otherwise be found to be consistent with the Coastal Act. The Commission finds that this approach is an appropriate way to maximize protection of environmentally sensitive areas, by concentrating development and preserving large contiguous areas of open space.

The Commission approved the LUP subject to conditions requiring that (1) the proposed Sand Canyon Avenue be limited to two lanes in order to minimize the significant adverse impacts including destruction of the bottom of Muddy Canyon, significant impacts to the wildlife corridors connecting Los Trancos Canyon with the proposed conservation areas, as well as visual impacts to park users; (2) the provision of policies to ensure that grading activities protect coastal views and natural resources; (3) environmentally sensitive areas policies to ensure that the resources are mapped using current information, that the rate of run-off in streams and gullies associated with development does not cause excessive siltation and impacts on the off-shore environment, protection of land resources through fuel modification practices and the protection of environmentally sensitive resources by requiring that the least environmentally damaging alternatives are employed in development projects; (4) and modification to the land dedication program including the timing of dedication, the development to dedication ratio, and phasing and requiring the landowner, the Irvine Company, to enter into a Development Agreement with the County of Orange to assure the implementation of the approved dedication program.

As mitigation for the impacts of that development, 2,650 acres of undisturbed land in the southeasterly portion of the LCP area was to be dedicated to the public for environmentally sensitive habitat preservation, archaeological resource protection, visual

resources protection and the provision of public access trails and low intensity public recreation use (Exhibit 12). Although the land dedication was to mitigate the impacts of development on the natural and cultural resources of the area, the LCP also contains policies to minimize the impacts of development by means such as site selection and grading controls to reduce erosion and siltation of off-shore waters; development edge controls, buffers and setbacks to reduce impacts on habitat and wildlife in conservation areas; retention of Los Trancos Canyon and Buck Gully as (private) open space allowing only minimal development to preserve the significant scenic and habitat resources within the development area while providing for on-site recreation opportunities for the new residents of the LCP area; and other policies to preserve significant riparian vegetation, archaeological and paleontological resources and reduce visual impacts of residential development.

In addition to the 2,650 acre open space dedication, the LUP also required the following additional open space area:

- 1,900 acre purchase of land by the Department of Parks and Recreation creating Crystal Cove State Park, and an additional 500 acre gift (Moro Ridge) from the Irvine Company for the state park;

- the right of the State to purchase an additional 393 acres of park land;

- 931 acres of the proposed Orange Coast National Urban Park; and

- 570 acres of private open space recreation areas within the development Planning Areas.

The public lands dedication and purchase combined with the private open space areas resulted in 60% to 74% of the LUP area being devoted to open space use.

LCP First Amendment

In 1988, the Commission approved the first amendment to the Irvine Coast LUP and certified the Implementing Actions Program to carry out the amended LUP. The amended LUP proposed substantial changes to the residential, visitor-serving commercial and park/open space areas as well as the resource protection policies and the resource dedication program. The Commission approved the LUP amendment and IAP as submitted by the County of Orange. The highlights of the amended LUP were (1) deletion of permitted office use (200,000 sq. ft.); (2) expansion of hotel and visitor-commercial use near the intersection of Pelican Hill Road (now Newport Coast Drive) and PCH to include two 18-hole golf courses encompassing 367 acres, 400 additional hotel rooms (total 1,900) and 25,000 sq. ft. of additional commercial retail use (75,000 sq. ft. total); (3) clustering of 2,600 market rate residential units on the ridges; (4) preservation of open space in Buck Gully, Los Trancos Canyon, the frontal slopes of Pelican Hill, Muddy

Canyon and 2,666 acres of land between the recently established 2,807 acre Crystal Cove State Park and the City of Laguna Beach.

Although the amended LUP allowed an increase in the number of residential units, from 2,000 to 2,600, the actual amount of land area devoted to residential use was reduced from 38% to 23%. The total percentage of the LCP area devoted to open space use was increased from 61% to 74%, not including the two golf courses. The Commission found that the policies proposed to protect the marine environment in conjunction with golf course use were consistent with Section 30231 of the Coastal Act. Those provisions included the creation of a riparian corridor within the Category "D" ESHA (similar to what is being proposed in PA 5 in the subject permit), control of fertilizer, pesticide and herbicide use, and the preparation of a water quality monitoring program with regular reporting to the Regional Water Quality Control Board and the County of Orange. With respect to grading and urban runoff control policies, the amended LUP also required the preparation of a Master Drainage and Urban Runoff Management Plan to assess the cumulative impacts of development as well as reducing the land area devoted to low priority residential use.

The Commission's 1988 findings approving the amended LUP, as submitted, state "the findings adopted by the California Coastal Commission in approving the 1982 LUP contain a detailed analysis of Coastal Act consistency regarding the manner in which the open space dedication area mitigates the development impacts of 1982 land uses", thereby incorporating by reference the previous findings. Additionally, the Commission found:

> Among the primary goals of the Coastal Act are the protection of coastal resources and provision of public access to the coast. The Legislature, also recognized that conflicts might occur when carrying out all of the Act's policies. The legislature, therefore, established a "balancing" test. This test allows the Commission to approve a plan which, although it may cause some damage to an individual resource, on balance is more protective of the environment as a whole (Coastal Action Section 30007.5) Public acquisition of large, continuous open space areas, as specifically determined in the findings of approval for the 1982 LUP, is recognized as a superior means to guarantee mitigation of development impacts through the preservation of coastal resources such as vegetation, wildlife, and natural landforms, and to create new public access and recreation opportunities rather than preserving small pockets of open space surrounded by development.

The 1988 LCP findings went on to explain how the LCP balances Coastal Act required resource protection and public access and recreation against individual impacts to ESHAs. The Commission found that the LUP carries out Section 30240(a) of the Coastal Act through the preservation in its natural state a 2,666 acre open space area containing major canyon watersheds, visually significant ridgelines, stream courses with riparian vegetation (Category "A" and "B" ESHAs), archaeological and paleontological sites, coastal chaparral and other wildlife habitats. Additionally, 1,155 acres of habitat areas in

Los Trancos Canyon, Buck Gully and Muddy Canyon would be conveyed into public management under the amended LUP in contrast to the 1982 LUP where these special use parks were under private ownership. Finally, consistency with 30240(a) was further achieved with the realignment of Sand Canyon Avenue to require that it be relocated out of Muddy Canyon and located up onto Wishbone Ridge in the LUP amendment along with the dedication of the canyon to the County. The Commission further found that the 2,666 dedicated open space area would be contiguous with the 2,807 Crystal Cove State Park to allow better management of the 5,473 acres of public recreational use.

The Commission also found that the amended LCP was consistent with Section 30240(b) of the Coastal Act that requires that development adjacent to ESHA areas not adversely impact the ESHA resources. The LCP policies that carried this out were the strengthening of the policies regarding protection of Category “A” and “B” ESHAs by limiting allowable development, fuel modification and development edge policies, the comprehensive Master Drainage and Runoff Management Plan that would be required to be approved before the first coastal development permit draining into Buck Gully, Los Trancos or Muddy Canyon could be approved, that the 2,666 acre open space area be designed as wilderness park land use as opposed to a more intensive recreational use so that the natural resources of the area are preserved. The Commission found that the above method of habitat protection was more protective of the environmentally sensitive resources of the entire LCP area than would be afforded by the protection of individual ESHA designated streams and associated riparian vegetation if they were surrounded by residential and commercial development.

LCP Second Amendment

In October 1996, the Commission approved the second amendment to the LCP which included a change in the name of the LCP segment to Newport Coast. The second amendment also proposed additional changes affecting environmentally sensitive habitat areas. According to the County, the main purpose of the second LCP amendment was to modify the LCP to include agreements that had been made between the County of Orange, the Irvine Company as landowner, the Department of Fish and Game and the U.S. Fish and Wildlife Service through the Central and Coastal Subregional NCCP (Natural Communities Conservation Plan) HCP (Habitat Conservation Plan). As a result of the NCCP and other considerations, the LCP amendment proposed changes to further reduce development impacts on environmentally sensitive habitat areas by providing a physical connection of the open space being preserved under the certified LUP in Buck Gully and Los Trancos Canyons with the open space land being preserved in Muddy Canyon, Crystal Cove State Park and the wilderness dedication areas.

To accomplish the habitat improvements, Sand Canyon Avenue was deleted from the LCP. Under the previously approved LCP, Sand Canyon Avenue would have been built along the ridgeline separating Los Trancos Canyon and Muddy Canyon and would have resulted in significant landform alteration and the loss of 150 acres of natural open space

(including coastal sage scrub) and interfered with a prime wildlife crossing corridor in the upper area of the coastal zone. **(**Exhibits 11 and 12). The residential development that flanked the Sand Canyon Avenue on both sides was also eliminated. Residential Planning Areas PA 4A and 4B were pulled back to concentrate development adjacent to the residential development proposed along the landward side of PCH. PA 5 and 6 were also pulled back toward San Joaquin Hills Road and reconfigured in the upper portion of the LCP area thereby leaving a natural open space corridor connection between Pas 4A and 4B and Pas 5 and 6 connecting Los Trancos and Muddy Canyon (Exhibit 11). PA 6 was decreased in size by 115 acres and the land area was changed from "residential" to "conservation" land use to accommodate the wildlife connection corridor. This reconfiguration of PA 5 and 6 also resulted in Muddy Creek being relocated to PA 5 instead of PA 6 (Exhibit 11 and 12).

The Commission approved an increase in the residential density of PA 4A and 4B from low to medium density in order to facilitate the concentration of residential development adjacent to and along PCH. However, the total number of residential units was not increased from 2,600 units. The Second LCP Amendment findings again reference the Commission's certification of the LCP based on concentrating development adjacent to existing roads and the conservation of large expanses of continuous open space areas in exchange for allowing impacts to individual habitat areas in designated development areas.

E. <u>LCP CONSISTENCY</u>

<u>1. Environmentally Sensitive Habitat Areas (ESHA)</u>

a. Definition and Designation of ESHA

The LCP designates the coastal waters, streams, wetlands and estuaries as environmentally sensitive habitat areas (ESHA). The definition of ESHA is found in Section I-3 Resource Conservation and Management Policies and reads as follows: *"For purposes of Section 30107.5 of the Coastal Act, natural drainage courses designated . . . on the USGS 7-minute series map, Laguna Beach Quadrangle, . . .(hereafter referred to as "USGS Drainage Courses), coastal waters, wetlands, and estuaries are classified as "Environmentally Sensitive Habitat Areas" (ESHAs)."* The LCP recognizes that the habitat value of the numerous streams, and along the length of individual streams, is not equal. The coastal waters also have a different habitat value. For this reason, four categories of ESHA were created to denote the differing habitat values. This classification was based on a biological inventory done at the time of the original Land Use Plan certification more than 18 years ago. The applicant has submitted a current biological assessment of the ESHA areas that are proposed to be filled. These areas still meet the LCP ESHA criteria and basically have not changed in habitat value (Exhibits 18 and 19)**.** The streams are designated either Category "A", "B", or "D" and the coastal waters are Category "C" ESHA. The ESHAs are depicted on Exhibit H of the LCP (Exhibit 11). Although ESHA is

defined to include wetlands, no wetlands were indicated on the ESHA map, Exhibit H. However, the Commission notes that riparian vegetation associated with streams is considered wetlands under the wetlands definition of the Coastal Act.

The LUP states that Category "A" USGS Drainage Courses contain the most significant habitat areas and are subject to the most protection and are thus located entirely within Planning Areas that have Recreation or Conservation land use designations. Although Category "B" ESHAs support less riparian vegetation than Category "A streams and contain water only when it rains, the LCP also seeks to preserve these USGS Drainage Courses. Category "D" ESHAs are deeply eroded and are of little or no riparian habitat value. These drainages are characteristically incised as a result of erosion, resulting in rapid runoff and steep narrow side slopes generally incapable of supporting vegetation. For this reason, the portions of streams that have a Category "D" ESHA designation are generally located within residential or other planning areas allowing them to be significantly modified or eliminated altogether.

The proposed project also includes development in areas containing other unique land resources. The project area also contains remnants of a once abundant native Southern California Needlegrass grassland habitat**,** Purple Needlegrass (Nassella pulchra). Purple Needlegrass is not designated ESHA in the LCP nor would it meet ESHA standards of the Coastal Act due to the fact that the patches of Needlegrass are very small and are surrounded by non-native grasses and forbs, instead of other native grasses. It is located in patches along the existing unpaved fire access road that connects the upper and lower Planning Areas **(**Exhibit 2). The applicant is however proposing to avoid Needlegrass impacts to the extent possible and to mitigate any unavoidable impacts.

b. ESHA Policies of the LCP

As stated above, all wetlands, estuaries, coastal waters and all USGS (United States Geological Service) "Blueline" streams are designated ESHA in the LCP. The LCP states that the coastal waters are protected by the Runoff Policies of the LCP. There are no LCP policies specifically pertaining to wetlands or estuaries and no wetland or estuaries were identified on the LCP ESHA Map, Exhibit H (Exhibit 11).

However, the LCP further classifies the USGS Blueline streams based on their habitat value into Category "A", "B" or "D" with Category "A" streams being characterized as having fairly significant riparian vegetation and Category "D" streams having the least habitat value. The LCP also affords differing levels of protection for these ESHAs based on their classification. ESHA Policy D.1 pertains to Category "A" and "B" ESHAs and reads as follows:

LCP ESHA Policy D. 1:

D. CATEGORY "A" & "B" ENVIRONMENTALLY SENSITIVE HABITAT AREA POLICIES

The following policies apply to Category A and B ESHAs only, as delineated on Exhibit H.

1. Except for the ESHA B located in Planning Area 4A, the natural drainage courses and natural springs will be preserved in their existing state. All development permitted in Category A and B ESHAs shall be set back a minimum of 50 feet from the edge of the riparian habitat except as provided for in the following subsections. If compliance with the setback standards precludes proposed development which is found to be sited in the least environmentally damaging and feasible location, then the setback distance may be reduced accordingly.

    a. Where existing access roads and trails cross streams, where emergency roads are required by State or County fire officials, and/or where access roads are required to serve residential units and recreational facilities I Muddy Canyon, the drainage course may be modified to allow the construction and maintenance of existing or new road or trail crossings. Such modification shall be the least physical alteration required to maintain an existing road or to construct a new road or trail, and shall be undertaken, to the extent feasible, in areas involving the least adverse impact stream and riparian habitat value.

    b. Where drainage and erosion control and related facilities are needed for new development and/or to protect the drainage course, the drainage course may be modified to allow construction of such facilities. Modification shall be limited to the least physical alteration required to construct and maintain such facilities, and shall be undertaken, to the extent feasible, in areas involving the least adverse impact to the drainage course. Where feasible, drainage and erosion control and related facilities will be located outside the drainage course.

c. Where the construction requires filling or the modification of drainage courses substantially as shown in Exhibit L, drainage courses may be modified.

d. Where the construction of local collectors, requires filling or other modifications of drainage courses in PA 6, PA 12C, and/or the upper portion of PA 12A and where the alignment is shown to be the least environmentally damaging feasible alternative, drainage courses may e modified.

e. Where access roads and trails exist or where new emergency roads are required by State or County fire officials, vegetation may be removed in the maintenance or construction of such roads and trails. Any required vegetation removal will be minimized.

f. To the extent necessary, existing riparian vegetation may be thinned or selectively removed when required for habitat enhancement and/or fire control. Existing vegetation which is not classified as riparian may also be removed.

g. Where drainage and erosion control and related facilities are needed to implement the Master Drainage and Runoff Management Plan and related programs, vegetation may be removed in the construction and maintenance of such facilities. Vegetation removal will be limited to the least required to construct and maintain such facilities and shall be undertaken, the extent feasible, in areas involving the least adverse impact to riparian vegetation.

h. Upon the recordation of an Offer of Dedication for Planning Area 12E, the ESHA B located in Planning Area 4A may be altered as required for development authorized by this LCP.

The LCP allows modification or elimination of all of the Category “D” ESHA drainage courses within the project area. All of the Planning Areas proposed for residential

development, (PA) 4A, 4B, 5 and 6 contain some portion of a Category "D" ESHA (Exhibit 11). The applicable LCP Policy is F. 2. which reads:

F. CATEGORY "D" ENVIRONMENTALLY SENSITIVE HABITAT AREA POLICIES

2. PA 1A, PA 1B, PA 1C, PA 2A, PA 2B, PA 2C, PA 3A, PA 3B, PA 4A, PA6, PA8, PA 9, PA 10A, PA 10B, PA 11A, PA 12A, PA 12B, PA 12D, PA 12E, PA 12F, PA 12G, PA 12H, PA 12I, PA 12J, PA 13A, PA 13B, PA 13C, PA 13D, PA 13E, PA 13F, PA 14, PA 16A, PA 20A, PA 20 B, AND PA 20C: Vegetation and drainage courses will be modified or eliminated by development. The Open Space Dedication Programs and Riparian Habitat Creation Program will mitigate any habitat values lost as a result of such drainage course modification or elimination.

E. CATEGORY "C" ENVIRONMENTALLY SENSITIVE HABITAT AREA POLICIES

The protection of water quality in marine resource areas is subject to the authority of the State Water Resources Control Board". Protection of water quality is provided by the LCP Runoff Policies and will be reviewed by the Regional Water Quality Control Board in conjunction with subsequent coastal development permits and related environmental impact reports (EIR's).

A water quality monitoring program shall be submitted to the Regional Water Quality Control Board prior to initial implementing approvals for the golf course, for the purpose of monitoring runoff entering the ocean as well as the riparian corridors. Copies of the results o f the monitoring program shall be forwarded to the Regional Water Quality Control Board and the County of Orange on a regular basis for their review to determine whether corrective action is required pursuant to the authority of said agencies.

Use and application of chemicals on the golf course and other landscape areas shall be limited to those approved by State, County, and Federal agencies. The landowner shall be responsible for notifying tenants and/or prospective initial purchasers of this requirement.

c. USGS Blueline Streams

A total of approximately 37,000 linear feet or slightly more than seven miles of streams and other minor drainages are proposed to be filled under the current project proposal.

Of this figure, 9,400 linear feet or roughly 1.7 miles are USGS Blueline streams and the remaining 27,200 linear feet or roughly 5 miles are other minor drainages. All of the Blueline streams are designated Environmentally Sensitive Habitat Areas (ESHAs) in the LCP. However, the minor drainages are not considered streams by the Commission's regulations or the certified LCP. These minor drainages, are classified as "jurisdictional non-wetland waters of the U.S." by the Army Corps of Engineers and are discussed below.

The proposed project involves impacts to 9,400 linear feet or 1.7 miles of USGS Blueline streams. Some of the streams contain riparian wetlands. All of the "blueline streams" are designated ESHA in the LCP. However, the proposed fill of ESHA designated blueline streams is consistent with the LCP. The Commission also incorporates its findings justifying impacts to environmentally sensitive habitat areas based on Section 30007.5 of the Coastal Act which are contained in the Commission's actions on the County of Orange LCP at this point as if set forth in full. (See also discussion summarizing such findings in earlier section of this report entitled "Previous LCP Balancing.). Further, the LCP requires no mitigation for the loss of the ESHA, with one exception. The fill of the Category "B" ESHA in PA 4A can not occur until the applicant records an offer to dedicate the 289.6 acre open space area, PA 12E.

Most of the "blueline streams" that will be filled as a result of the proposed residential development are Category "D" ESHA, which are characterized as steep drainages with little or no riparian vegetation. The Commission notes that in the certification of the LCP certain individual streams were allowed to be filled due to their less significant resource value in an effort to concentrate development adjacent to existing development and existing and/or planned roadways in areas more suited to development in exchange for the preservation of large tracts of more biologically significant natural areas for habitat, scenic and cultural resource protection, public access and recreational opportunities. The open space preservation areas contain mainly Category "A" and "B" streams.

Although the LCP allows the significant modification or elimination of the Category "D" ESHAs within development planning areas, ESHA resources within the development planning areas are still recognized and protected. Most of the Category "A", "B" and "C" ESHAs are protected and development of these resources are either prohibited or limited. In most Category "A" and "B" ESHAs only development that can not be located outside of the ESHAs are allowed and only if the development is designed and sited to be the least environmentally damaging development alternative.

The Commission found in the Substantial Issue portion of this appeal that because PA 5 is not listed in the LCP ESHA Policy F.2. that indicates where Category "D" drainages can be filled, that the appeal raised Substantial Issue with regards to protection of ESHAs. However, as discussed further below, the Commission finds that the fill of this Category "D" stream was allowed to be eliminated or significantly altered in the originally certified LUP as well as in the first amendment to the LUP. The Commission also incorporates its

findings justifying impacts to environmentally sensitive habitat areas based on Section 30007.5 of the Coastal Act which are contained in the Commission's actions on the County of Orange LCP at this point as if set forth in full. (See also discussion summarizing such findings in earlier section of this report entitled "Previous LCP Balancing.). The Commission finds that the fact that PA 5 is not listed in the above policy is a typographical error given its listing in the previous LCP Policy F.2 allowing its elimination.

Exhibit 12 is a map of the ESHA designated streams and the Planning Areas as they were configured in the originally certified LUP and the first LUP amendment. As the map indicates, the portion of Category "D" Muddy Creek that is currently in PA 5 was at that time located in PA 6. ESHA Policy F.2 in the original LUP and the first amendment allowed this same portion of the stream to be filled when the Planning Areas were configured such that it was in PA 6. Under the second LUP amendment, the Planning Area boundaries were reconfigured by the County. As shown in Exhibit 11, the same portion of Muddy Canyon stream that was allowed to be filled when it was in PA6 is now located in PA 5 due to a boundary reconfiguration of the second LCP amendment. However, when the County revised the Planning Area boundaries in the second LCP amendment, they apparently inadvertently neglected to revise the listing in above Policy F. 2 to include PA 5. There is no basis in the Commission's findings or the County's proposal that the Commission intended to prohibit the fill of this segment of ESHA Category "D" stream once it was relocated to PA 5 through a planning area boundary reconfiguration. Therefore, the Commission finds that the fill of the ESHA Category "D" stream in PA 5 to be consistent with the certified Newport Coast LCP .

d. Jurisdictional Non-Wetland Waters of the U. S.

The project also includes the fill of roughly seven miles of streams and other minor drainages that are not defined as streams or ESHA in the LCP and not considered streams under the Coastal Act. The minor drainages are considered "non-wetland waters of the United States" and are regulated by the Army Corp of Engineers (See Exhibit 15). These drainages, typically two feet or less in width, are not considered streams by the Coastal Act and are therefore not mapped in the LCP or the post-certification maps that are certified by the Commission after the LCP is certified.

The minor drainages are ephemeral or contain water only when it rains. When it rains, the drainages rapidly convey water to Muddy Creek or other tributaries but, at all other times, they are dry due to their short length, sternness and narrowness. However, because they convey water to streams, which ultimately empty into navigational waters, they are "waters of the U.S."

Although these drainages are not considered streams in the Coastal Act, according to June 4, 1999 letter of U.S. Fish and Wildlife Service (FWS), they possess important functions and values that are commensurate with, if not well in excess of, some of the portions of the drainages that are "blueline streams" (Exhibit 16). Similar opinions were

made in the June 4, 1999 letter of the U.S. Environmental Protection Agency (EPA) (Exhibit 14). Both FWS and EPA were objecting to the Army Corps of Engineers (Corps) issuance of a Nationwide Permit NW26 for the proposed project, citing cumulative impacts to 37,000 linear feet of streams and ephemeral drainages. On July 14, 1999, the Corps denied a NW26 permit without prejudice.

However, on August 18, 1999, the Corps determined that the application did qualify for a NW26 permit subject to certain special conditions including mitigation for the loss of these non-wetlands jurisdictional waters (Exhibit 16a). Additionally, on July 14, 2000 the Corps submitted a letter to the Commission commenting on the project as now revised. The letter states that the project changes have further minimized aquatic impacts and that with the proposed changes and habitat mitigation that the project would still qualify for nationwide permit 26(Exhibit 16b).

Finally, on July 19, 2000 EPA submitted a letter stating appreciation for the additional analysis that had been requested by the Commission. However they expressed the same concerns of their previous letter regarding the fill of six miles of streams and associated wetlands. The letter concludes that they believe that the mitigation is inadequate given the significance of the loss and that potential non-point source pollution impacts may not have been adequately evaluated (Exhibit 14b). The Commission notes that the applicant's proposed wetland/riparian enhancement and creation plan is being proposed primarily to mitigate the impacts of fill of these jurisdictional non-wetland waters of the U.S. in order to obtain a 404 permit or waiver from the Corps. Most of the proposed wetland/riparian areas are also being proposed for water quality enhancement purposes. The wetlands/riparian mitigation and monitoring plan is discussed below.

e. <u>Wetlands</u>

As stated above, although the LCP defines wetlands as environmentally sensitive habitat area (ESHA), no wetlands are designated on the LCP ESHA Map, Exhibit H of the LCP nor are there specific wetland policies in the LCP. The Commission however notes that riparian vegetation associated with streams is considered wetlands under the Coastal Act definition of wetlands. The LCP does not define wetlands.

With the exception of the proposed fill of 0.05 acres of seasonal wetlands in PA 4A, the wetlands fill proposed in conjunction with the proposed project is consistent with the LCP. The other wetland impacts are (1) the fill of 100 sq. ft. or 0.002 acres of wetlands in Los Trancos and Muddy Canyons (50 sq. ft. each) to place low flow interceptor concrete gutters, part of the water quality program, in the bottom of the creeks and (2) wetland shading impacts totaling 40 sq. ft. or 0.0009 acres due to the proposed Muddy Canyon bridge that replaced the previous Muddy Canyon detention basin. These latter impacts are allowed by the certified LCP because they will occur in conjunction with the allowable fill of a stream pinpointed for development. The Commission also incorporates its findings justifying impacts to environmentally sensitive habitat areas based on Section 30007.5 of

the Coastal Act which are contained in the Commission's actions on the County of Orange LCP at this point as if set forth in full. (See also discussion summarizing such findings in earlier section of this report entitled "Previous LCP Balancing.).

1. Fill of Seasonal Wetlands

The project as proposed includes the fill of 0.05 acres of wetlands in Planning Area (PA) 4A. The existing wetlands in PA 4A are seasonal in nature and occur as four small separate wetland areas on a ridge above Upper Wishbone (Exhibit 3). The four isolated wetland depressions (with two adjacent to each other) in three locations were, according to the applicant, created in upland areas during the period of cattle grazing operations. These linear depressions appear to have been scooped out with a backhoe and probably served to hold standing water into the early portion of the annual dry season, providing drinking water for cattle. They would likely continue to provide a similar function for wildlife and they support low diversity wetland vegetation consisting primarily of exotic annual herbs. The depressions are hydrologically isolated and the wetlands are supported only by rainfall. During the dry season, they are invaded by upland grasses and forbs[3].

These four constructed depressions meet both the Army Corps of Engineers (ACOE) and the Coastal Act definitions of "wetland."[4] Due to the abrupt boundary between the depressions and the surrounding upland, the area of these seasonal wetlands is the same under both the federal and Coastal Act definitions and is a total area of about 0.05 acre. For notification to the ACOE and mitigation calculations, this figure was rounded up to a nominal 0.1 acre of impact.

The wetlands are referred to by the applicant as isolated seasonal agricultural wetlands. The proposed fill of 0.05 acres of seasonal wetlands in PA 4A is for residential development purposes and not agricultural purposes. Nonetheless, the applicant contends that the three wetlands in PA 4A are exempt from the Commission's appeal jurisdiction under Section 13577(b)(2) of the Commission's regulation. Section 13577(b)(2) provides that wetlands subject to the Commission's appeal jurisdiction do not include:

> "…wetland habitat created by the presence of and associated with agricultural ponds and reservoirs where the pond or reservoir was in fact constructed by a farmer or rancher for agricultural purposes; and there is no evidence […] showing that wetland habitat predated the existence of the pond or reservoir. Areas with drained hydric soils that are no longer capable of supporting hydrophytes shall not be considered wetlands."

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[3] LSA. 2000. Wetland/riparian mitigation and monitoring plan: Crystal Cove/Newport Coast phases IV-3 & IV-4, Orange County, California. A report submitted to the U.S. Army Corps of Engineers, Ca Department of Fish & Game, and the Ca Coastal Commission dated Mary 16, 2000.

[4] LSA. 1999. Addendum to delineation of wetlands and jurisdictional waters and calculation of impacts to waters - Crystal Cove/Newport Coast phases IV-3 & IV-4

In support of their contention, the applicants have submitted statements by those familiar with the past agricultural operations. Aerial photographs have also been submitted documenting that the wetlands did not predate their agricultural operations. However, the applicant's evidence also documents that the agricultural operations ceased in 1995. Although these areas may have originally been created for agricultural purposes, the proposed development will not continue this or any other agricultural use of the site. Further, despite the cessation of the agricultural operations, the wetlands remain viable. Since the site no longer contains an agricultural use, the remaining wetlands are no longer associated with or created by an agricultural pond. The Commission finds that the exemption provided in Section 13577(b)(2) does not apply to wetlands that currently exist independent of and disassociated from preexisting agricultural activities. The Commission also finds that the exemption is in applicable to the proposed fill of wetlands for other than agricultural purposes.

The proposed wetland fill for residential purposes is inconsistent with the certified LCP. The LCP identifies wetlands as an environmentally sensitive habitat area (ESHA) even though no wetlands were designated on the LCP ESHA Map. The LCP contains no policies authorizing the fill of wetlands. It is possible that the LCP omits wetland specific policies because the wetlands at issue did not exist at the time the LCP was certified. Because there are no LCP policies specifically authorizing the fill of the wetlands, the Commission finds that the fill of the existing 0.05 acres of seasonal wetlands in PA 4A for residential purposes is inconsistent with the ESHA protection policies of the certified LCP. This finding is also supported by the appellate court decision in Bolsa Chica Land Trust v. Superior Court (1999) 71 Cal. App.4th 493. The Bolsa Chica decision involved the Coastal Commission's approval of a local coastal program amendment that authorized development within wetlands and environmentally sensitive habitat areas. The Court of Appeal held that the Commission acted improperly in approving residential development in parts of the site that included wetlands. Given the existence of newly discovered wetlands and the omission of LCP policies that authorize permissible fill, the Commission finds that, in light of the Bolsa Chica decision, the County's LCP must be interpreted consistent with Section 30233 of the Coastal Act.

Therefore the Commission can approve the fill of the seasonal wetlands which is inconsistent with the ESHA protection policies of the certified LCP only if it finds that the proposed project is the least environmentally damaging alternative and that the project provides benefits over and above that which is required by the LCP and only if the project is found to be on balance, most protective of the land resources pursuant to Section 30007.5 of the Coastal Act. An analysis of the approvability of the proposed fill pursuant to Section 30007.5 of the Coastal Act is provided in a later Section of this staff report entitled, Use of Balancing in Conflict Resolution.

The applicant is proposing mitigation for the fill of the seasonal wetlands although they continue to argue the Commission's jurisdiction to regulate such wetland fill. As part of the

Wetland/Riparian Mitigation and Monitoring Plan, prepared by LSA Associates, Inc., revised May 16, 2000, the applicant proposes 4:1 mitigation of the fill of the seasonal wetlands by creating 0.40 acres of seasonal wetlands in selected sites within the permanently dedicated open space area of PA 12E. PA 12E is required to be offered for dedication to the County of Orange for open space purposes pursuant to the requirements of the LCP land dedication program established at the time of LCP certification. The land dedication policies are found in the Resource Conservation and Management Policies. Policy A.2.c requires the landowner to record an Offer of Dedication for PA 12E to the County of Orange prior to or concurrent with the recordation of the first final development map, other than a large-lot subdivision in PA 4A, 4B, 5, or 6 (Exhibit 17). The applicant's de novo application includes the offer of dedication of PA 12E to the County of Orange for open space purposes. In fact, offer of dedication has already been made and is scheduled for acceptance by the Board of Supervisor's in August.

The proposed mitigation is on-site and in-kind. It would be accomplished by creating a total of 0.4 acre of similar linear depressional wetlands at three locations about 2500 feet to the northeast of the existing wetlands. Construction will entail grading, installation of a clay liner, and covering with topsoil salvaged from the seasonal agricultural wetlands that will be filled. The constructed wetlands will probably hold water for a longer period after rainfall events than the existing wetlands because the clay liner will be less pervious than the sandy bottom of the agricultural depressions. As a result of the method of construction and their larger area, the constructed wetlands can reasonably be expected to provide wetland functions equal or superior to those made available by the existing wetlands.

The proposed wetland/riparian mitigation plan states that the wetlands can and will be constructed at different times during the development process. If the existing wetlands were filled without the replacement wetland being constructed there would be an additional temporary loss. Under this scenario, full mitigation is not occurring for the habitat impacts. The replacement wetlands can easily be constructed early in the development process. They will be located in a natural open space area that will be dedicated for habitat purposes. Only as conditioned to construct the seasonal wetland mitigation prior to disturbance of the existing wetlands is the proposed project consistent with the ESHA protection policies of the LCP which balanced the protection of certain individual ESHAs to achieve a greater goal of the protection o f higher quality wetlands associated with streams and preserved in large open space areas.

2. Wetland Impacts Due to Water Quality Improvements

The proposed project will result in the impact of a total of 0.002 acres of riparian wetlands in Los Trancos and Muddy Creeks in order to construct water quality improvements. The specific water quality improvements resulting in wetland impacts are four foot wide concrete interceptor gutters or swales that are necessary in the bottom of both creeks in

order to divert the low flow or summer runoff to proposed buried pump stations for conveyance to the adjacent sanitary sewer lines (Exhibit 20). The low flow diversion structures will be placed in the bottom of the creeks just landward of Pacific Coast Highway where the riparian vegetation is minimal. The applicant's biological consultant recently resurveyed the interceptor swale location and determined that the location in Los Trancos creek is already lined with grouted rip rap and that small patches of cattails grow seasonally in the sediment that accumulates on the lined channel bottom. The location in Muddy Creek is virtually unvegetated, with a rocky bottom. The applicant is however proposing to mitigate the potential loss of riparian vegetation that could occupy the 100 sq. ft. of area that will be displaced due to the construction of the water quality facilities. The mitigation is included in the May 16, 2000 wetlands/riparian mitigation and monitoring plan.

This low flow diversion is a significant water quality enhancement in that the urban runoff, which would be normally discharged onto Crystal Cove State Beach during the peak summer beach use period will not occur. To accomplish the nuisance flow diversion to the Orange County Sanitation District facility the applicant must construct pump and interceptor structures in and adjacent to both Los Trancos and Muddy Creeks. In each creek 100 sq. ft. of potential wetlands area would be impacted in order to accommodate the diversion structures.

Based on a recent field visit by the applicant's biological consultant to determine the exact of habitat that exists in the location of the interceptors, the proposed location of the structures will not displace any wetlands. The biologist reports that in Muddy Creek that the site is now covered with grouted rip rap. The bottom of Los Trancos Creek at the interceptor location is lined with concrete. However, periodically sediment accumulates in the creek bottom and cattails and other vegetation grows on top of the concrete lining. Therefore there is a potential to impact low quality wetlands with the construction of the water quality devices.

The fill of riparian wetlands for water quality facilities, while not an allowable use under the Coastal Act, would be allowed under the certified LCP. The Commission also incorporates its findings justifying impacts to environmentally sensitive habitat areas based on Section 30007.5 of the Coastal Act which are contained in the Commission's actions on the County of Orange LCP at this point as if set forth in full. (See also discussion summarizing such findings in earlier section of this report entitled "Previous LCP Balancing.). The fill occurs in the portions of Los Trancos and Muddy Creeks that are designated Category "B" ESHA on the LCP ESHA Map but are in actuality lined with concrete, in the case of Los Trancos and filled with grouted rip rap in the case of Muddy Creek. ESHA Policy D.1.b. states that Category "B" ESHAs shall be preserved in their existing state unless specifically allowed to be filled. All other development must be set back a minimum of 50 feet from the riparian vegetation of the stream. However, the policy goes on to allow drainage and erosion control and related facilities to modify a Category "B" ESHA if the facility is sited in the least environmentally damaging and feasible location and the modification is limited to the least physical alteration required to construct and maintain such facilities. The wetland fill is

subject to a Department of Fish and Game Streambed Alteration Agreement. DFG has reviewed the proposed wetland fill and the proposed mitigation contained in the May 16, 2000 Wetland/Riparian Mitigation and Monitoring Plan and found it acceptable (Exhibit 21).

The proposed low flow diversion interceptor structure is part of the runoff management system and one of the key elements of the water quality enhancement program. The interceptor pump is located in the bottom of the creeks in order to pick up the maximum amount of summer nuisance flow coming down the creeks . The Department of Parks and Recreation was consulted in the location of the facility in Los Trancos Creek. The location was chosen because it affords an opportunity to also collect the runoff from the Los Trancos public beach parking lot and divert it to the sewer system. Therefore the Commission finds that the interceptor swales are located in the least environmentally damaging location and the location that will allow the maximum water quality benefit.

The LCP does not contain specific wetland mitigation policies. However, the applicant is proposing to mitigate the loss of the wetlands in the proposed wetlands/riparian mitigation and monitoring plan through enhancement of existing riparian wetlands and creating riparian wetlands in portions of Muddy Creek where it does not exist. The Commission therefore finds that the potential fill of 0.002 acres of riparian wetlands for water quality purposes is consistent with the ESHA policies of the LCP.

3. Wetland Impacts Due to Bridge Shading

The proposed project no longer includes the construction of a detention basin and road in Muddy Canyon. The private road was for vehicular access for residents of the future gated community to get to the private recreation facility proposed on the opposite side of Muddy Canyon in PA 12C. Both the detention basin and road have been eliminated in favor of a bridge. The proposed bridge, like the previous detention basin, is located primarily within PA 17, Crystal Cove State Park (Exhibit 22). Specifically, the bridge is located within the easement area retained by the Irvine Company in the sale of the park land to the Department of Parks and Recreation. Although the bridge will have some minor shading impacts on the wetlands within the Muddy Canyon, no wetlands fill will occur as the bridge supports are not located in the creek. The bridge will cause shading impacts to 40.5 sq. ft. or 0.0009 acres of riparian wetlands. This shading impacts is minor and is environmentally superior to the previous Muddy Canyon detention basin that would have resulted in the fill of 0.12acres of wetlands. Therefore this alternative is the least environmentally damaging alternative as required by ESHA Policy D.1.a. that allows modification of the Category “B” creek section due to new access roads provided that the modification is the least physical alteration necessary and that it occurs in a manner involving the least adverse impact to the stream and riparian habitat values.

Based on written information submitted by the applicant the proposed bridge will be approximately 33.5 feet wide, approximately 200 feet long and 40 feet above the bottom of the Creek channel. According to the applicant's biologist, the width of the wetlands area under the proposed bridge is approx. 12 feet. The bridge supports will be well outside of the wetland area and the wetlands will not be disturbed during the construction of the bridge. The applicant has not however submitted adequate bridge plans. The bridge is shown on grading plans but which do not include a site plan showing the location of the proposed bridge in reference to the existing wetlands and creek. The plans also do not include scaled plan view drawings, cross-sections or elevation plans. Therefore the Commission is imposing special condition 12 requiring the submittal of adequate final bridge plans. Because the bridge is located on Department of Parks and Recreation (DPR) property, the applicant is required to obtain DPR review and approval prior to submittal to the Executive Director. DPR has reviewed preliminary bridge plans and have indicated to Commission staff that the bridge is environmentally superior to the previous detention basin and will have minimal visual impacts on users of the Park.

The wetland vegetation is expected to decrease in density due to shading by approximately 9%. However, it is likely that wetland vegetation more tolerant to shade will offset the small decrease in density of the existing vegetation. Therefore the Commission agrees that the shading impacts of the Muddy Creek wetlands will be insignificant. However, the applicant is proposing to mitigate this impact in the proposed wetland/riparian mitigation and monitoring plan.

Therefore, as proposed to mitigate the potential shading impacts on 0.0009 acres of wetlands caused by the proposed Muddy Canyon bridge by the creation of 0.002 acres of new riparian expansion within Muddy creek pursuant to the May 16, 2000 Wetlands/Riparian Mitigation and Monitoring Plan prepared by LSA Associates, is the proposed project consistent with the applicable ESHA protection policies of the certified LCP.

4. <u>Purple Needlegrass Impacts</u>

The existing 3,800 ft. long fire access dirt road which connects PA 4A to PA 5 is required by the Orange County Fire Authority (OCFA) to be widened from the current 12 ft. to 26 ft. wide. Adjacent to the existing fire access road is several patches of Purple Needlegrass, a component of once widespread environmentally sensitive native Needlegrass grassland. The Purple Needlegrass remnant however, is no longer considered ESHA due to it small size and isolation from other native grassland vegetation. The Commission however notes that Purple Needlegrass is listed in the Department of Fish and Game Natural Diversity Data Base as a sensitive natural community.

The applicant has petitioned OCFA to grant a variance to allow the road to be narrower where it is adjacent to Needlegrass. The applicant submitted plans for the road indicating

that the road will be a minimum of 14 ft. wide. In order to avoid the Needlegrass that is adjacent to the road it must be shown at its maximum width and alignment. Although the road is proposed to be narrowed to a maximum of 14 feet where it is adjacent to Needlegrass to avoid impacting it, 0.4 acres of Needlegrass will be loss due to proposed residential development in PA 4A and PA 5 (Exhibit 2**)**. Therefore special condition 10 requires the applicant to submit final revised plans indicating the maximum width and alignment of the road to assure that the Needlegrass that can be avoided is saved.

The applicant is proposing to mitigate the loss of Purple Needlegrass due to residential development through the creation of a 1.6 acre Southern Coastal Needlegrass grassland (4:1 ratio). The created grassland will be adjacent to an existing healthier stand of Needlegrass located away from the road (Exhibit 2). The Southern Coastal Needlegrass Grassland Restoration Plan, by LSA Associates, Inc., date December 14, 1999 has been reviewed by the Commission staff biologist and found to be adequate in terms of the mitigation proposal and monitoring plan. The Commission notes that the applicant has successfully created another Needlegrass grassland mitigation site near Signal Peak.

2. STREAM SEDIMENT SUPPLY AND BEACH NOURISHMENT IMPACTS

a. Project Setting

The proposed project is within an area identified as the Crystal Cove Littoral Sub-Cell. The east jetty of Newport Harbor and Abalone Point, near Laguna Beach bound the longshore extent of this sub-cell. The inland boundary follows the upland watershed divide and both Los Trancos Canyon and Muddy Canyon are sediment sources for this littoral sub-cell.

There have been many modifications to this sub-cell both to the supplies of sediment to the sub-cell and to the transport through the sub-cell. The biggest impact was the construction of the Newport Harbor jetty system that began in 1918. By 1936, the jetties were built out to water depths of about –50' Mean Sea Level. These jetties block most sediment from being transported from the Balboa Peninsula to any of the beaches south of the jetties (Jenkins and Wasyl, 2000, pg. 52).

The Crystal Cove Sub-Cell now consists of a number of pocket beaches that are stabilized by shore normal rock outcrops that have formed a natural groin system. The beaches that form between these outcrops are thin veneers of sand over wave cut platforms. Since completion of the Newport Harbor jetties, these pocket beaches have become relatively stable, with the sand losses balanced by the influx of new material from the terraces, streams and dredge disposal. (Noble, 2000, pg. 2)

b. Consistency of proposed project with LCP

The Resource Protection Program Findings of the LCP states, in part:

> The major objective of the Erosion and Urban Runoff Management for The Newport Coast is to assure that erosion and runoff rates do not significantly exceed natural rates, while at the same time assuring sand replenishment provided within the coastal watershed is maintained. (The Newport Coast littoral "cell" is limited and partially dependent on the local watershed for sand replenishment.)

The LCP contains erosion control, sediment and runoff policies to carry out the above objective of preserving the beach sand replenishment process while maintaining the stability of the natural streams. LCP Sediment Policy J.4 states:

> **J**. **<u>SEDIMENT POLICIES (in part)</u>**
>
> 4. Sediment movement in the natural channels shall not be significantly changed in order to maintain stable channel sections and to maintain the present level of beach sand replenishment.

Further, Runoff Policy K.1 states:

> **K. <u>RUNOFF POLICIES (in part)</u>**
>
> 1. Peak flood discharge rates of storm water flows in the major streams shall not exceed the peak rate of storm water runoff from the area in its natural or undeveloped state, unless it can be demonstrated that an increase in the discharge of no more than 10% of the natural peak rate will not significantly affect the natural erosion/beach replenishment process.

c. Peak flood discharge rates

The proposed project will substantially alter the drainage, erosion and sediment deposition of the project site. 86 acres that are now in the Los Trancos watershed will be graded to drain to Muddy Canyon. Development in both watersheds, will include 224.2 acres of impervious surfaces (130.8 for Los Trancos and 93.4 acres for Muddy Canyon); 180.4 acres of common irrigated area (116 acres for Los Trancos and 64.4 acres for Muddy Canyon); 92 acres of residential irrigated areas (56.2 acres for Los Trancos and 35.8 acres for Muddy Canyon); 710.9 acres of fuel modification and natural canyon areas in Los Trancos; 64.6 acres of fuel modification area for Muddy Canyon and 625.8 acres of natural canyon area in Muddy Canyon.

Both watersheds will have a large increase in water inputs for the summer months, due to irrigation. Total water inputs to Los Trancos will decrease by over 36 acre-feet, primarily due to the reduction in the watershed area (Exhibits 25-32). Muddy Canyon will have an increase in total water inputs of 163 acre-feet, due to the increase in watershed area and to irrigation (Exhibits 25a-32a). The increase in impervious surface will cause an increase in volume of runoff in both watersheds --10 acre-feet for Los Trancos and 110 acre-feet for Muddy Canyon. Six detention basins will be used to control drainage in the watersheds and reduce post-project peak flows. (Exponent (April 20, 2000) Projected Water Balance for Los Trancos Canyon, Crystal Cove Area, California; and Exponent (April 20, 2000) Projected Water Balance for Muddy Canyon, Crystal Cove Area, California.)

flood discharge of storm water flows in Muddy Canyon and the 25-year and 100-year peak discharge of storm water flows in Los Trancos Creek shall not exceed the peak rates of storm water runoff from the area in its natural or undeveloped state. The 5-year and 10-year peak flood discharge of storm water flows from Los Trancos Creek will exceed the peak rates of storm water runoff from the area in its natural or undeveloped state; but the increase in discharge is less that 10% of the natural peak rate. With implementation of the beach sand replenishment program outlined in Special Condition 6 and discussed further below, this increase in peak flood discharge of storm water flows will not significantly affect the natural erosion/beach sand For Los Trancos, peak 100-year flows are modeled to be 1,637 cubic feet per second (cfs) for pre-project conditions and 1,563 cfs for post project conditions. For Muddy Canyon, peak 100-year flows are modeled to be 960 cfs for pre-project conditions and 952 cfs for post project conditions. (John Tettemer and Associates (June 2000). Proposed Runoff Management Plan Watershed Map, Figure 2.) Post-project peak flow durations will be far longer than pre-project peak flow durations to accommodate the increased runoff volume. At some locations in both watersheds, the peak flows for smaller events (5-year, 10-year and 25-year events) are projected to be larger for post-project conditions than for pre-project conditions. These increases will occur within the limits defined in Policy K1 of the certified LCP; the post-project peak discharge rates from Los Trancos for both the 5-year and

10-year events will exceed the pre-project discharge rates by 1.4% and 0.7% respectively, but the post-project peak rates will not exceed the pre-project discharge rates by more than 10% consistent with Policy K1.

As currently designed, the proposed project will be designed so that all peak replenishment process. Therefore, the Commission finds the project as conditioned consistent with Policy K1 of the certified LCP.

d. Channel stability

LCP Policy D1 states, in part, that:

> …the natural drainage courses and natural springs will be preserved in their existing state…

LCP Policy J4 elaborates on two aspects of this requirement:

> Sediment movement in natural channels shall not be significantly changed in order to maintain stable channel sections and to maintain the present level of beach sand replenishment.

The matter of beach sand replenishment is addressed in the following section. In this section, the issue of channel stability within Muddy and Los Trancos Canyons is discussed. Consistency with the LCP also requires that there will be no significant scouring or erosion of the channel bed. Bank undercutting and collapse is not a significant erosion mechanism in Muddy and Los Trancos canyons in that, for the most part, no banks are developed in these steep-sided, canyon-defined streams.

The amount of both coarse- and fine-grained sediments carried by Muddy and Los Trancos canyons is expected to be reduced as a result of development (Chang, 2000). Further, the duration of peak flow (storm) events will be far longer than pre-project peak flow durations to accommodate the increased runoff volume (Tettemer, 2000). These conditions raise the concern, expressed by some of the appellants and by EPA, that streams will become more erosive, leading to instability of the channel sections.

The greatest reduction in sediment volume as a result of development is expected in the finest size fractions—silt and clay (Chang, 2000). Most of this material is carried in the wash load of streams; that is, it is carried in suspension without interacting with the bed of the stream. The amount of wash load is driven by sediment supply—it will be reduced as a result of development primarily because of the increase in impervious surfaces and in changes in the nature of vegetation cover. The loss of wash load as a result of development will not, as the appellants claim, result in increased erosion, incision, or destabilization of the banks. These processes depend on the shear stress of the water upon the stream's bed and banks and not on the amount of sediment in the wash load.

Accordingly, increased erosion is not expected as a result of the reduction of fine sediments that will occur as a result of development.

There also will be, however, modest reductions in the sediment yield in the coarser size fractions—sand and gravel (Chang, 2000). Most of this material is carried in the bed load of a stream; that is, it is rolled along or bounced along the bed of the stream. A stream has a certain capacity to carry materials as bed load. Thus, the amount of bed load is driven not only by sediment supply, but also by the shear stress of the water (a function of velocity) and by the percentage of its capacity that is occupied. Thus, if a stream is carrying its maximum bed load capacity for a given flow velocity, then a reduction in sediment supply may be compensated for by increased erosion of the stream's bed. There are two reasons why, in the case of Los Trancos and Muddy canyons, such increased erosion is not likely to occur to any significant amount. First, it appears that the coarse sediment supply is currently not high enough to ensure that the streams presently are carrying their bed load capacity. Thus, the bed load may, like the wash load, be limited by the supply of sediment in pre-development conditions. In fact, the relatively low sand and gravel yields estimated for Muddy Canyon (Chang, 2000) suggests that the stream is not near its bed load capacity in its current state. Second, there is evidence that much of the bed of Muddy Canyon is armored (Tettemer, 2000; David Pryor, personal communication)—that is, the bed consists either of bedrock or of boulders so large that they cannot be moved by all but the largest floods. Armored stream beds are not subject to scour. Los Trancos canyon appears to be less well-armored, and may be subject to somewhat more scouring. The development will have far less impact on Los Trancos canyon than on Muddy Canyon, however, and significant increases in scour are not anticipated.

Finally, although post-development peak discharge rates will, in most cases, be kept at pre-development levels or even reduced (Tettemer, 2000) the duration of flood events will be greatly increased as a result of the detention of some of the runoff and the greater volume of runoff resulting from the development. Longer flood events could lead to greater scouring, even if peak discharges are not appreciably increased. Because of the armoring of Muddy Canyon mentioned above, however, increased scouring is not likely to be significant. Further, the berm associated with the former agricultural reservoir in the upper reaches of Muddy Canyon will serve as an additional detention basin. LSA (2000) predicts that water reaching this pond, which is dry for most of the year, will be lost through evapotranspiration and infiltration. At the east end of the berm at the lower end of this reservoir, several feet above the level of the pond, there is a deep ravine that discharges into the stream below the berm. Following extreme rainfall events, the pond will act as a detention basin with excess water flowing out through this ravine. In smaller flood events it is unlikely that any additional runoff will enter Muddy Canyon between this structure and the tributary draining watershed M2r (Tettemer, 2000).

Thus, it is unlikely that the proposed development will result in a significant increase in scour of Muddy or Los Trancos Canyons, and the stability of the channel cross section

should be maintained consistent with LCP policies J4 and D1. Inasmuch as this has not been the case in Los Trancos canyon as a result of existing development in its watershed, the conditions in Muddy Canyon differ such that such a comparison is not valid. The proposed development will have little additional effect on Los Trancos canyon because the watershed of Los Trancos canyon is little impacted by the proposed development—most of the runoff would be diverted into Muddy Canyon where it would be discharged into the stream immediately upstream from the Pacific Coast Highway.

e. Changes to natural erosion/beach sand replenishment process

Certified LCP Sediment Policy J4 requires that sediment movement in the natural channels shall not be significantly changed in order to "maintain the present level of beach sand replenishment." This policy is a recognition of the fact that LCP approved development will cause some changes to the conditions of the natural channels or Blueline streams. Accordingly, the proposed project must be reviewed to ensure that it "maintains the present level of beach sand replenishment."

The changes in peak discharge events will change the sediment transport characteristics of both Los Trancos Creek and Muddy Canyon. In predicting the total sediment yield from watersheds, fine-grained material (wash load) and coarser material (bedload) are treated differently. Yield of the fine-grained material (such as silts and clays) correlates well with supply and can be estimated from the characteristics of the drainage area. Yield of the coarser material (sand, gravel, and cobble) is limited by either the availability of sediment or the flows that have enough energy to carry sediment. Once on the beach, the fine material tends to remain in suspension once it reaches the ocean and will be quickly carried from the beach. The coarser material will remain on the beach and contribute to the littoral sediment supply. Due to the different transport mechanisms and fates of these materials, they are regularly modeled differently (Exhibit 23b).

The proposed changes to the watersheds will reduce the available supplies of fine-grained sediment. The computed annual average yield of fine material are 694 tons for pre-project conditions and 164 tons for post-project conditions (Chang, 2000, pg. 5). No error analysis or sensitivity analysis was provide with this study; however, an overall summary report provided by the applicant noted that "the accuracy of individual estimates are on the order of $\pm$ 50% (Inman, Jenkins and Masters, 2000A, pg. 23.) This reduction in fine sediment yield of 530 tons per year will reduce the volume of fines in the nearshore area. Since fine material can be a detriment to water quality and visibility, a reduction in fines can benefit overall nearshore water quality.

For coarse sediment yields, both Los Trancos and Muddy Canyon, in general, have more sediment available than there is stream flow available to erode or carry the material and are called capacity limited (as opposed to supply limited). Therefore changes to flow characteristics will change the sediment transport and the amount of inland material that

will reach the beach. A 100-year flood series was created and used to predict pre-project and post-project average annual sediment transport rates. The flood series was made up of various peak storm events that can be expected to occur during a 100-year period. The proposed development will result in a 23.8 ton/yr. reduction in sand-sized coarse sediment from the two watersheds combined (Chang, 2000, pg. 7), a 12.1 ton/yr. reduction of fine sand and a 172.1 ton/yr. reduction in coarse sand, gravel, cobble and boulders. The overall reduction in all coarse sediment will be 208 tons/yr. (Chang, 2000, pg. 6). Again, no error analysis or sensitivity analysis was provided with this study; however, the applicant provided an overall summary report that noted that "the accuracy of individual estimates are on the order of ± 50% (Inman, Jenkins and Masters, 2000A, pg. 23.)

The applicant's consultants examined the effects of the 23.8 tons/yr. (18.3 cubic yards per year or 14 cubic meters per year) reduction in sand-sized coarse sediment. This volume is well within the annual fluctuations of sediment within the Crystal Cove Sub-Cell. Based on conservative estimates of volumes of beach sand within the entire Crystal Cove Sub-Cell, this 23.8 ton/yr. decrease would represent about 0.005% of the existing beach sand volume (Jenkins and Wasyl, 2000, pg. 2)

Both peak flows and sediment yields vary greatly from wet period events and dry period events and the applicant's' consultants also provided estimates of sediment yield reductions for wet and dry period conditions. Sediment yield during wet years is about 2.8 times higher for wet periods versus dry periods (Jenkins and Wasyl, 2000, pg. 51). The project will result in a reduction in sand-sized coarse sediment of 10.5 cubic yards per year (8 cubic meters per year) for dry periods and 32.9 cubic yards per year (25.2 cubic meters per year) for wet periods (Jenkins and Wasyl, 2000 pg. 52.) "After 20 years of cumulative impact during a wet climate period, the net impact of the project would be a 24 cm (10 inch) net retreat of the mean high tide line. This is insignificant relative to the natural cycles of beach retreat and recovery which cause net excursions in the mean high tide line of as much as 8 meters during the wet climate period." (Jenkins and Wasyl, 2000, pg. 2).

The projected changes in sand-sized beach material are small, but quantifiable reductions in beach sand. These reductions may result in impacts that are small in comparison to current changes in the littoral system; however they constitute new changes that can be directly attributable to the proposed project. The reduction in fine sediment can be viewed as a positive water quality impact from the proposed project, but this does not offset the anticipated impacts to sand supply.

The proposed project will also result in an annual reduction in coarse beach material, other than the material that compares in size with the average composition of sand now found on the beach. The proposed project will reduce the total coarse sediment yield by 208 tons per year, or 160 cubic yards per year (122.3 cubic meters per year). These coarser fractions are in the streambeds and "were later found in gravel and cobble beds

underlying the present beach sand deposits in the neighborhood of the bluff toe" (Jenkins and Wasyl, 2000, pg. 19) (Exhibits 23 and 23a). These coarser sediments remain close to the toe of the bluff, and affect the slope of the backbeach. These coarser sediments were not included in the littoral sediment budget or the analysis of how the proposed project will alter the sand replenishment from the watersheds. Nevertheless, the reduction of these coarser sediments to the coast will alter the overall beach profile and beach condition. In particular, this reduction of coarse sediment volume will deflate the dry beach profile.

The project-related changes will result in an estimated reduction in total coarse sediment of 208 tons per year, or 160 cubic yards per year (122.3 cubic meters per year) ± 50%. (Inman, Jenkins and Masters, 2000A, pg. 23) The estimated error for this volume of material, ± 50% would provide a range from 80 cubic yards per year to 240 cubic yards per year. The provided estimate of 160 cubic yards per year is the median value within this range. This 160 cubic yards per year is a small amount of material when compared to the overall volumes of sand transport in the sub-cell. Total yield of coarse grained sediment in the sub-cell averages 2,900 cubic yards per year (2,220 cubic meters per year) and net littoral transport averages 1,300 to 1,960 cubic yards per year (1,000 to 1,500 cubic meters per year) southward. (Jenkins and Wasyl, 2000, pgs. 51 and 68) However, this sub-cell has been experiencing a small deficit in total sediment such that over a 20 year period, the average volume of material into the cell averages 1,230 cubic yards per year (941 cubic meters per year) less that the average volume of material leaving the cell. As proposed, the project would add to and increase this deficit.

The project related impacts to sediment supply are all tied to the hydrologic modifications, runoff detention and efforts to maintain the range of peak flood discharge of storm water flows at or below the peak rates of storm water runoff from the area in its natural or undeveloped state. Small reductions in overall peak flows and other hydrologic modifications will reduce the sediment carrying capacity of the watersheds and reduce sediment transport to the beach areas. On-site retention could substantially increase the amount of coarse material held on site and further reduce the sediment supply to the coast.

As stated above, LCP Policy J4 requires proposed development to "maintain the present level of beach sand replenishment." The impacts to sediment yield can be mitigated by annual replenishment of a comparable volume of beach-quality material. Ideally, the replenishment would add all the coarse-grained material in proportion to the pre-project supply rates and in a way to mimic pre-project distribution of the coarser material. However, for the various reasons provided below, the full range of coarse-grained material cannot be provided as replenishment material. A comparable volume of sand-sized material can approximate, but not replicate the pre-project conditions.

Gravel and cobble are readily identified components of many beaches. However, little is known about gravel and cobble transport mechanisms or whether beach nourishment

projects could reestablish the same gravel and cobble distribution that exists currently. The normal method of beach replenishment is to deposit new material over the existing beach and grade the overall slope to match pre-established contours. This technique would not place the coarse gravel and cobble at the base of the bluff. Even if a trench were excavated at the toe of the bluff, it would be difficult to mimic the natural slope or distribution of these coarser materials. If the gravel and cobble were placed in the beach uniformly with the sand-sized material, its initial exposure on the surface would detract from the overall quality of the beach, and there is no available information on how this coarser material will function. Eventually it could settle below the beach surface and could be transported to the toe of the bluff, but there are no studies to assure this or to estimate how long it would take for the redistribution to take place. Due to these uncertainties, a complete replenishment of all the coarse-grained material with coarse-grained materials is not appropriate.

However, beach replenishment using sand-sized material has been undertaken regularly and is well understood. The general distribution and transport of sand-sized material has been studied for the Crystal Cove Sub-Cell and is reasonably well understood. Replenishment by sand-sized material is an appropriate mitigation for the project-related losses of all the coarse material.

The required replenishment program would be established to place approximately 160 cubic yards per year of beach size sand onto beaches in the Crystal Cove Sub-Cell. Since this a small pocket beach, material should be placed on the beach in small increments, comparable to a one to five year supply, otherwise the material will quickly be carried downcoast. Prior to any in-kind replenishment, a program to achieve littoral sediment replenishment should be established. The development of a comprehensive program will provide a means to maximize the benefits of individual mitigation efforts in the area now and in the future. A comprehensive program would include, among other items, a suggested schedule for replenishment, identification of sand sources, environmental review of the replenishment efforts, design of the replenishment program and follow-up monitoring.

The Watershed and Coastal Resources Management Division of the Orange County Public Facilities and Resources Department is attempting to develop a number of programs relating to coastal and watershed management. A beach replenishment program for the Crystal Cove Sub-Cell would fit well with the general direction of this Department; however, a full program is not now available. State Parks is also concerned with the continued stability of the state beaches and may also be interested in developing a replenishment beach sand program that could be implemented in the Crystal Cove Sub-Cell. There is not now a full replenishment program that evaluates and guides the use of the most appropriate sites and methods for introducing the material so that it will mitigate this project's impacts and maximize benefits to sandy beaches in the Crystal Cove sub-cell. Absent such a program, the Commission cannot specify a direct in-kind placement of sandy material as mitigation for this particular project.

The in-lieu fee is an alternative mitigation mechanism that is used when in-kind mitigation of impacts is not presently available. The Commission has successfully used the in-lieu fee mechanism to mitigate sand supply impacts in the San Diego region and the Santa Cruz region. To implement this mechanism, the sand supply impacts must be quantified and then translated into a specific dollar amount. This fee is then put in an interest-bearing special deposit account for future allocation to an identifiable sand replenishment effort developed through a program that is specifically designed to address the impacts caused by the project at issue. In-lieu fees are particularly appropriate in cases such as this, where although there may be as yet unidentified opportunities for beach replenishment in the future within the Crystal Cove Sub-Cell, in-kind replacement today, by a single applicant, is not an undertaking likely to result in successful resource impact mitigation. Nonetheless, the impacts must be mitigated. This is also particularly important to acknowledge given that the project is adjacent to a state public beach.

Overall, absent any other mitigation proposals for the sand supply impacts of the project, the Commission is obligated to require in-lieu fee mitigation in order to approve the proposed project. Special Condition 6 therefore requires the applicant to establish an in-lieu fee account based on the quantifiable impacts of the proposed project.

Inquiries by the Commission staff find that costs for local sand replenishment in the Orange County area vary widely, depending upon the particular location of the source material, method of transportation and total volumes being considered. Undelivered sand from landfills in Southern California are as low as $1/cubic yard. However, transportation costs for this material increase these costs significantly. Nourishment of the Crystal Cove Sub-Cell would have to be done in small amounts at regularly repeated projects. These would be land-based efforts, since the costs to mobilize and demobilize a dredge would make offshore supplies prohibitively expensive.

In 1996, sand was trucked to and placed on Seal Beach at a total project cost of $11.50 per cubic yard. (personal communication from Chris Webb, Moffatt-Nichol Engineers, 20 July 2000) In 1998, a second nourishment project at Seal Beach brought sand in by rail at a total cost of $15.80 per cubic yard (op.cit). Sand was placed on a small beach in Huntington Harbor at a total cost of $25 per cubic yard; however, this cost included sieving the sand to meet a very close grain size tolerance (op.cit). The City of Encinitas annually nourishes Moonlight Beach. From 670 to 1,020 cubic yards of sand are purchased, hauled and placed on this city beach each year at costs ranging from $30 to $36 per cubic yard of sand (Sand Import – Moonlight Beach, Fiscal Year 92/93 through Fiscal Year 98/99; provided by City of Encinitas).

Nourishment averaged $13.65 for the two separate projects at Seal Beach, cost $25 at Huntington Beach for a individual project and averaged $34.39 for 7 separate events at Encinitas. Using the most economical estimate for beach replenishment ($13.65 per cubic yard for the two separate projects at Seal Beach) and based on a total loss of 160

cubic yards per year for 75 years, the anticipated economic life of the approved development, a one-time lump sum obligation would be:

(160 cy/yr) x (75 yrs.) x ($13.65/cy) = $163,800.

This estimate for annual nourishment of 160 cubic yards of sand is conservative. Using the average nourishment cost for the small nourishment projects at Moonlight State Beach, this same volume of nourishment would cost $412,680. The City of Encinitas purchases sand from a commercial supplier, rather than acquiring opportunistic sand and over half the replenishment cost is for the sand alone. If efforts were made to obtain opportunistic sand, these costs would compare better with those for Seal Beach. It is conservative, but reasonable to assume that the nourishment costs for the Seal Beach projects could reflect costs for nourishment in the Crystal Cove Sub-Cell.

As specified in the Special condition 6, the purpose of these in-lieu funds shall be to support a beach replenishment program for the Crystal Cove Sub-Cell. This sub-cell is logically related to the direct, indirect and cumulative impacts of the project. This is a small area and if a beach replenishment program for the Crystal Cove Sub-Cell cannot be developed within a 5-year period, the funds can be used for general access and recreational purposes within the Crystal Cove Sub-Cell. As conditioned, the Commission finds the proposed project consistent with the requirement of Policy J4 to maintain the present level of beach sand replenishment.

3. MARINE RESOURCES PROTECTION

Water Quality and related Resource Protection LCP Policies

The LCP Resource Conservation and Management Policy E designates the off-shore coastal waters ESHA Category “C” due to its diverse marine life and kelp beds and recognizes its designation as a Marine Life Refuge by the Department of Fish and Game (DFG) and an Area of Special Biological Significance (ASBS) by the Water Resources Control Board. LCP. ESHA Policy E. states:

> **E. CATEGORY “C” ENVIRONMENTALLY SENSITIVE HABITAT AREA POLICIES**
>
> The protection of water quality in marine resource areas is subject to the authority of the State Water Resources Control Board”. Protection of water quality is provided by the LCP Runoff Policies and will be reviewed by the Regional Water Quality Control Board in conjunction with subsequent coastal development permits and related environmental impact reports (EIR’s).

> A water quality monitoring program shall be submitted to the Regional Water Quality Control Board prior to initial implementing approvals for the golf course, for the purpose of monitoring runoff entering the ocean as well as the riparian corridors. Copies of the results o f the monitoring program shall be forwarded to the Regional Water Quality Control Board and the County of Orange on a regular basis for their review to determine whether corrective action is required pursuant to the authority of said agencies.
>
> Use and application of chemicals on the golf course and other landscape areas shall be limited to those approved by State, County, and Federal agencies. The landowner shall be responsible for notifying tenants and/or prospective initial purchasers of this requirement.

The applicant is proposing a water quality enhancement program in this de novo application. It was not included in the project approved by the County. Concerning the water quality treatment program, the applicant states, “although not specifically addressed in the LCP, recent interest in water quality measures and other matters expressed by the Commission and others have prompted the addition of these environmental enhancements”. The applicant also contends that the Commission may lack any legal ability to impose a comprehensive mitigation program for water quality. The Commission strongly disagrees with this statement.

The authority of the Commission with regards to the enforcement of the non-point pollution control provisions of the Coastal Zone Management Act was discussed by the Commission’s chief counsel and deputy counsel in a memorandum addressed to the Commission and Interested Parties, dated October 21, 1999. The memorandum concludes that where the Commission has certified a LCP, on appeal, the Commission may impose compliance with the standards in the certified LCP, including any management measures to prevent or mitigate non-point source pollution. The applicable LCP provisions are specifically addressed below. Additionally, since the Commission is reviewing the proposed development for consistency with the certified LCP, and the certified LCP requires consistency with all permit requirements of the Water Board, the Commission's review is consistent with the limitations of Section 30412 of the Coastal Act.

The Coastal Commission does have the authority to address coastal water pollution associated with land use practices and constituting non-point sources of pollution. The applicant also states that the LCP does not contain “water quality” policies. However, with respect to erosion and urban runoff control associated with the protection of marine water quality in particular, the LCP states the following:

> Marine water quality will be protected by directing runoff to natural drainage courses such as Los Trancos Canyon, Buck Gully, and Muddy Canyon…and by means of erosion control techniques to slow runoff so that habitat areas are

> protected from flows significantly in excess of natural rates of flow. Additional control of non-point sources will be implemented if necessary to comply with State, regional, and County standards.

In consideration of the applicable State, regional and County standards described herein and as discussed further below, the Commission finds that in addition to the erosion control techniques referred to in the LCP excerpts above, non-point source control measures, such as those proposed by the applicant and further augmented by conditions herein, are necessary for the proposed development in order to ensure runoff from the developed site will be consistent with State and local standards, and therefore consistent with the provisions of the Newport Coast LCP.

Analysis of Water Quality Issues

The Newport Coast LCP provides for the protection of surface water quality in coastal streams and marine waters primarily through the Runoff Policies, and the ESHA Policies. The Commission notes the Grading Policies and Erosion & Sediment Policies listed with the Runoff and applicable ESHA Policies above, and discussed in other sections of this report, are also however, related to water quality.

Muddy Canyon and Los Trancos Canyon contain at present, ephemeral streams, which will receive drainage from the proposed development. Both of these streams are tributary to coastal waters that are encompassed in an area designated as a Marine Life Refuge by the Department of Fish and Game, and an Area of Special Biological Significance (ASBS) by the State Water Resources Control Board (SWRCB).

In the LCP, protection of surface water quality and sensitive resources in coastal streams and ocean waters, is heavily reliant upon applicant compliance with the regulations which govern this project under the authority of the State and Regional Water Boards. This is evident in LCP Policy 3.E., which states:

> *The Category "C" ESHA area is encompassed within Crystal Cove State Park. The protection of water quality in marine resource areas is subject to the authority of the State Water Resources Control Board. Protection of Water Quality is provided by the Runoff Policies and will be reviewed by the Regional Water Quality Control Board in conjunction with subsequent coastal development permits…*

The applicable runoff policies are noted above, however these policies specifically address processes associated with natural erosion and beach replenishment which required technical analyses of the development, specific to those issues, and as such are discussed in a separate section of this report.

State and Regional Water Board Actions

The project is subject to State Water Resource Control Board and Santa Ana Regional Water Quality Control Board (SARWQCB) regulations with regard to stormwater and non-stormwater runoff associated with new development during and after construction. Relevant permits include the State Water Resources Control Board (SWRCB) NPDES General Permit No. CAS000002 Waste Discharge Requirements (WDRs) for Discharges of Storm Water Runoff Associated with Construction Activity, the County of Orange Municipal NPDES Stormwater Permit No. CA 8000180, and the Orange County Drainage Area Management Plan, an implementing plan approved by the RWQCB for compliance with the municipal permit. In addition, the SARWQCB issued Waiver of WDR (9/30/99). Applicable regulations pursuant to the State and Regional Board authority indicated here, are described below.

WDR Waiver of 401 Water Quality Certification Requirements

Pursuant to section 401 of the Clean Water Act (CWA), any person applying for a federal permit or license for an activity which may result in a discharge of pollutants into waters of the nation must obtain a state water quality certification verifying that the activity complies with the state's water quality standards. No license or permit can be granted until certification required by section 401 has been obtained or waived.

In response to the Irvine Company's request for 401 certification for the proposed development, the Santa Ana Regional Water Quality Control Board staff initially recommended denial without prejudice based on the following original assessment of record contained in a letter to Walt Petit, Executive Director of the State Water Resources Control Board from Gerard Thibeault, Executive Officer of the Santa Ana Regional Water Quality Control Board, dated September 20, 1999, RE: REGIONAL BOARD RECOMMENDATION FOR DENIAL WITHOUT PREJUDICE OF 401 WATER QUALITY CERTIFICATION FOR THE PROPOSED CRYSTAL COVE/NEWPORT COAST PHASES IV-3 7 IV-4 PROJECT, UNINCORPORATED ORANGE COUNTY (ACOE REFERENCE NO. 980071600-YJC) which states:

> *B*ased upon an assessment that the proposed project will result in alterations to the natural landscape, the drainage patterns of Los Trancos and Muddy Canyon Creek and the natural water quality runoff, Regional Board staff believes that the proposed project could alter the water quality in the receiving ASBS waters. There is inadequate evidence in the record that the discharges resulting from this project would be located at a sufficient distance from the Irvine Coast ASBS to assure the maintenance of natural conditions therein. Therefore, we cannot conclude, based on the existing information, that the project would comply with State water quality standards.

The Regional Board staff indicated however, in the memo cited above, that they would be prepared to support certification, if it was determined that Ocean Plan standards applicable to areas of ASBS were not applicable to discharge from the proposed project. Subsequent to the recommendation above, the State Board Chief Counsel advised the

SARWQCB that their application of the Ocean Plan discharge prohibition was inappropriate since discharges from the proposed project would be to tributaries to the ASBS rather than directly to the ASBS.

RWQCB staff found in reviewing the project absent ASBS considerations, it met RWQCB established criteria (attached and discussed specific to water quality, below) for waivers from WDR certification requirements. Pursuant to this determination, the RWQCB issued a waiver of individual waste discharge requirements for Phases IV-3 and IV-4 of the Newport Coast Project, in response to the Irvine Company's request for 401 certification of the project as part of its application for a 404 permit from the U.S. Army Corp of Engineers, on September 30, 1999.

Relevant criteria (among other), specific to water quality on which the WDR waiver was based is found in the following condition:

> The project shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Regional Board or the State Water Resources Control Board, as required by the Clean Water Act.

A letter directed to Coastal Commission staff dated December 29, 1999, from the Executive Director of the Santa Ana Regional Board, discusses the waiver. The letter states the following:

> *In issuing the waiver, Board staff recognized that the project would be regulated under existing waste discharge requirements both during and after construction, namely, the State Water Resources Control Board's general construction activity stormwater permit, and the areawide urban stormwater permit issued to Orange County and co-permittees. Board staff would not have issued the waiver had we believed that the project regulated in this manner, would result in impairment of receiving waters.*

Additionally, the RWQCB has recently submitted a letter, dated July 14,2000 verifying that the WDR Waiver issued September 30, 1999 remains valid and applicable to the proposed development as revised and currently before the Commission. (EXHIBIT 40).

The Commission notes that project opponents contend that the RWQCB action with respect to the WDR waiver was/is inappropriate, and in fact illegal. They maintain that the Ocean Plan standards are applicable to discharge associated with the proposed development due in part to the fact that direct discharge from the development into the ASBS is occurring, based on interpretation of the definition of a direct discharge associated with tributary drainage into the ASBS, and associated with discharge which will allegedly drain from the proposed development directly through Pacific Coast Highway (PCH) culverts over the bluffs and/or directly onto the beach, which at high tide would constitute a direct discharge.

The applicant contends that no drainage from the proposed development will be discharged through the PCH culverts. The applicant has presented evidence (Master Drainage and Water Quality Plan Crystal Cove, dated June 20, 2000 and prepared by Hunsaker & Associates) that supports the contention that stormwater from the appeal area will discharged either to Muddy Creek or Los Trancos Creek and that the culverts that discharge over the coastal bluffs either drain Pacific Coast Highway or areas that have previously been permitted and that are not subject to this appeal.

The Commission, therefore recognizes the policy interpretation of the SWRCB contained in a letter to the RWQCB, dated September 30, 1999, which served as the basis for RWQCB determination with respect to the Waiver of WDR for 401 certification. Further, consistent with Section 30412 of the Coastal Act, the Commission finds that based on overall project analysis discussed herein, which includes a recognition of the assessment and determination of the Regional Board by action on 401 certification, described and attested to in the above letter dated December 29, 1999, the Commission does not expect that the storm water and/or non-stormwater discharge from the development will result in impairment of beneficial uses of the receiving water bodies, one of which is "biologically significant habitat area ", or that such runoff will otherwise significantly impact the Crystal Cove ASBS, recognized as Category "C" ESHA in the LCP, if the applicant achieves full compliance with the provisions of the state general construction permit , the areawide urban stormwater permit, the provisions of the WDR waiver, as conditioned and issued by the Regional Board and the LCP, all of which are discussed in detail below.

SWRCB General Construction Activity NPDES Permit

The State Water Resources Control Board (SWRCB) NPDES General Permit No. CAS000002, Waste Discharge Requirements (WDRs) for Discharges of Storm Water Runoff Associated with Construction Activity, is applicable to construction projects which result in a disturbance of 5 or more acres of land. Under this Permit, the discharger is required to employ Best Available Technologically Achievable (BAT) and Best Conventional Pollutant Control Technology (BCT) to reduce or eliminate storm water pollution.

Opponents to the project have raised concerns about applicant compliance with the provisions of this Permit, with respect to the proposed development. This concern is based on video documentation of turbid runoff leaving an area adjacent to the appeal area that was under construction during a storm events last winter and being discharged into Muddy Creek.

With respect to the video documentation of the site currently under construction and not subject to this appeal; BMPs designed to control erosion and sediment contained in stormwater runoff from development sites under construction is a regulatory requirement to which the development associated with the video is subject. Staff has observed the video, however, there is incomplete evidence in the record for staff to determine whether

the turbid water contained fine sediment and clays beyond that which is practicable to eliminate through the use of BMPs consistent with applicable regulations, or whether in fact, the BMPs employed by the Irvine Company in this specific case were inadequate or had failed.

While the development that is the subject of the video tape is not before the Commission, the relevance of this discussion here is founded in a concern that 1) the BMPs/practices employed by the Irvine Company associated with development currently underway on property adjacent to the area where development is currently proposed, may have been inadequate or failed and 2) if so, it is conceivable that this may be indicative of what might occur on the area that is before the Commission in spite of the regulatory requirements to which the project is subject to for any reason – a flaw in scoping, preparation of the SWPPP, implementation, maintenance of BMPs or other reasons.

In addition, pursuant to Administrative Civil Liability Complaint No. 99-90, The Irvine Company was fined for a violation of Waste Discharge Requirements pertaining to an authorized non-stormwater discharge associated with the development currently underway. As indicated above, the State General Construction Permit requires:

> " *the SWPPP developed for construction activity to be designed and implemented such that …authorized non-stormwater discharge shall not cause or contribute to an exceedance of any applicable water quality standards*".

A discharge in exceedance of those effluent limitations established by the Regional Board for chlorinated discharge, may then constitute an action not in compliance with the State General Construction NPDES Permit.

With respect to the latter of the two issues noted above as a basis for concern on the part of the Commission, specifically the applicant's potential failure to comply with provisions of the State General Construction NPDES Permit in conjunction with a development not subject to appeal but currently under construction; the Commission is aware of reports alleging the failure of some types of erosion control measures employed by the applicant. Commission staff discussed one such report, with the applicant in a meeting occurring on 7/18/00. In response to staff inquiry about the possible failure of erosion control devices, the applicant indicated that the report may have been associated with the dislodging of sandbags located on or near Pacific Coast Highway, intended to control runoff and trap sediment and debris. The applicant indicated that it is believed that this incident may have occurred as a result of vehicle operation on Pacific Coast Highway (PCH). PCH is a heavily traveled roadway, involving automobiles moving in excess of speeds of 45 mph.

The Commission finds that in order to ensure the continued efficacy of erosion control measures and other BMPs required to control erosion and sediment during construction phase activity, site considerations, such as those which have the potential to affect the

efficacy of BMPs by way of physical disturbance or other cause, must be addressed in the development and implementation of the SWPPP.

Construction Phase Runoff Control

The proposed development must be in conformance with applicable State and Regional Water Board regulations in order to be consistent with the LCP. While the State Water Resources Control Board (SWRCB) NPDES General Permit No. CAS000002, Waste Discharge Requirements (WDRs) for Discharges of Storm Water Runoff Associated with Construction Activity (General Construction Permit) does not require specific Best Management Practices or impose numeric effluent limitations, it includes the following narrative standards:

DISCHARGE PROHIBITIONS:

1. Authorization pursuant to this General Permit does not constitute an exemption to applicable discharge prohibitions prescribed in Basin Plans, as implemented by the nine RWQCBs.
2. Discharges of material other than storm water which are not otherwise authorized by an NPDES permit to a separate storm sewer system (MS4) or waters of the nation are prohibited, except as allowed in Special Provisions for Construction Activity, C.3.
3. Storm water discharges shall not cause or threaten to cause pollution, contamination, or nuisance.
4. Storm water discharges regulated by this General Permit shall not contain a hazardous substance equal to or in excess of a reportable quantity listed in 40 CFR Part 117 and/or 40 CFR Part 302.

RECEIVING WATER LIMITATIONS:

1. Storm water discharges and authorized nonstorm water discharges to any surface or ground water shall not adversely impact human health or the environment.
2 The SWPPP developed for the construction activity covered by this General Permit shall be designed and implemented such that storm water discharges and authorized nonstorm water discharges shall not cause or contribute to an exceedance of any applicable water quality standards contained in a Statewide Water Quality Control Plan and/or the applicable RWQCB's Basin Plan.
3. Should it be determined by the discharger, SWRCB, or RWQCB that storm water discharges and/or authorized nonstorm water discharges are causing or contributing to an exceedance of an applicable water quality standard, the discharger shall:

a. Implement corrective measures immediately following discovery that water quality standards were exceeded, followed by notification to the RWQCB by telephone as soon as possible but no later than 48 hours after the discharge has been discovered. This notification shall be followed by a report within 14-calender days to the appropriate RWQCB, unless otherwise directed by the RWQCB, describing (1) the nature and cause of the water quality standard exceedance; (2) the BMPs currently being implemented; (3) any additional BMPs which will be implemented to prevent or reduce pollutants that are causing or contributing to the exceedance of water quality standards; and (4) any maintenance or repair of BMPs. This report shall include an implementation schedule for corrective actions and shall describe the actions taken to reduce the pollutants causing or contributing to the exceedance.

b. The discharger shall revise its SWPPP and monitoring program immediately after the report to the RWQCB to incorporate the additional BMPs that have been and will be implemented, the implementation schedule, and any additional monitoring needed.

c. Nothing in this section shall prevent the appropriate RWQCB from enforcing any provisions of this General Permit while the discharger prepares and implements the above report.

Since these narrative standards rely on the best professional judgement of local stormwater agencies and RWQCB staff to determine if a violation has occurred, it is in the interest of the Commission to review the specific Storm Water Pollution Prevention Plans for this project, as well as any other reports to the RWQCB regarding the compliance of this project with the General Construction Permit.

Therefore the Commission finds it necessary to impose Special Condition 14 which requires that the applicant provide the Commission staff with a copies of all reports, plans and notices provided to the SARWQCB that relate to the General Construction Permit at the same time as they are provided to the staff of the SARWQCB. In addition, if they are not required by the SARWQCB, status reports regarding the implementation of the SWPPP (including deficiencies noted and modifications imposed) and copies of any reports of inspection of the site for SWPPP compliance by the applicants inspectors of government officials, shall be provided to the Commission staff on a monthly basis following the first storm exceeding 0.1 inch of precipitation.

The CCC will consult with the RB & /or EPA on such reports. If reports indicate activity not in compliance with the Permit is occurring, corrective action will be required pursuant to this Permit. Corrective action may involve the incorporation of additional BMPs into the development in order to ensure compliance and may require an amendment unless Executive Director determines no such amendment is required.

Areawide Stormwater Permit (Order No. 96-31; NPDES No. CAS618030)

The applicant has submitted a *Master Drainage and Water Quality Plan – Crystal Cove, prepared by Hunsaker and Associates dated April 20, 2000.* The plan describes the source and treatment control measures proposed by the applicant to control nonpoint source pollution in the form of urban runoff from the development. These measures are consistent with the areawide municipal stormwater permit (CAS618030), issued to the County of Orange and co-permittees, and the Orange County Drainage Area Management Plan (OC DAMP), submitted to the Regional Boards for compliance with the NPDES permit by the County and co-permittees, as described below. In addition the applicant has submitted a *Storm Water Quality Report, prepared by Peter Mangarella, Eric Strecker, and Seth Gentzler, dated June 14, 2000,* which discusses the proposed measures in the context of the overall water quality management plan, wherein the program is evaluated with results compared to applicable water quality objectives. The Report also contains recommendations specific to the program.

The OC DAMP is essentially the implementing program for the NPDES permit. It was developed based upon the principle criterion identified in the NPDES permit, that being the term Maximum Extent Practicable or "MEP." The NPDES permit defines "MEP" as follows:

> *"MEP" means to the maximum extent practicable, taking into account equitable considerations of synergistic, additive, and competing factors, including but not limited to, gravity of the problem, fiscal feasibility, public health risks, societal concern, and social benefits*."

The co-permittees have the responsibility of weighing economic, societal and equity issues as they define the policies and standards to be employed in implementing the OC DAMP program.

The OC DAMP includes a section focused on New Development Control (Section 7.0), which requires new development (such as Newport Coast) to incorporate non-structural, routine structural, and special structural BMPs "*to minimize the amount of pollution entering the drainage system*." The following are examples of non-structural, routine structural and special structural BMPs, proposed for incorporation per the project description, the *Storm Water Quality Report* and the *Master Drainage and Runoff Management Plan* (not a complete list):

> *Non-structural:* Fertilizer and Organic Soils Management, street sweeping and litter pick-up, homeowner education
>
> *Routine structural:* Inlet trash racks, energy dissipaters, efficient irrigation technology, vegetated swales, extended detention ponds

Special structural: Nuisance flow diversion, catch basin media filters

The applicant's *Master Drainage and Runoff Management Plan* includes both source and treatment control Best Management Practices. The plan includes the incorporation of approximately 5 "regional" storm drain filters, specifically "DrainPaks", and 40 DrainPak inserts located throughout the proposed development. "Regional" is described as those which are "located in-line with the storm sewer system and are designed to treat low storm flows". The inserts are "located within storm drain inlets and treat storm water runoff before it enters the storm sewer system". Vegetated swales are proposed to be located along a portion of Reef Point Drive, which is along the frontage of the Crystal Cove commercial tract and selected locations within the recreation areas. Circular bio-filters designed to collect and treat local drainage from selected cul-de-sacs are proposed for implementation at cul-de-sacs where technically feasible. Six (6) detention basins designed to control peak flows will be constructed. In addition to contributing to the volume/velocity control function, detention basin # 6 will be designed to capture an estimated 85% of the mean annual runoff from 380 acres, approximately 260 of which are in the area subject to appeal, and provide a 40-hour draw-down period to allow settling and absorption of pollutants. An extended detention wetland is proposed to be located in conjunction with the agricultural reservoir. The wetland can provide water quality benefits through biological processes and functions such as, filtration, microbial degradation, and vegetative uptake. A riparian corridor will be located directly downstream of flood control detention pond #1.

The applicants consultants base assumptions about stormwater quality relative to performance from the BMPs that the applicant plans to use on results generated from the use of a model referred to as adaptation of an EPA method called the "Simple Method". The consultant evaluated the results of the model against applicable California Toxins Rule (CTR) objectives, and found that that for Muddy Creek:" the model results show that the predicted average concentrations for the trace elements in stormwater are well below the acute CTR objectives applied in Muddy Creek". Further the applicant's consultant contends that the constituents beyond those modeled which are associated with particulate (e.g. hydrocarbons and bacteria) will also be controlled through proposed BMPs, and that contaminants such as pesticides and herbicides are addressed through education programs and restricted use in common and landscaped areas.

The proposed suite of permanent BMPs and the modeling effort to predict their performance was evaluated by an independent consultant hired by California Department of Parks and Recreations. The independent consultant, Professor Michael K. Stenstrom of UCLA, in a draft report dated July 24, 2000 indicated that "the range and magnitude of BMPs is impressive" and confirmed that the model "is a fair and reasonable predictor of the impact of the development". He also made the following recommendations that he indicated would improve the "workability and robustness of the plan":

1. Low flow diversion. The diversion of low flow will create a continuing cost to prospective homeowners. In order to create an incentive to reduce this cost (and therefore maintain a willingness on the part of homeowners to pay it) the cost should be billed on the basis of volume of diverted flow. This can be done by installing flow meters and totalizers at each pump station. The totalizers can be checked periodically (i.e., weekly or biweekly) in the summer. The sanitary districts can be consulted to create a fee structure composed of a base fee and a progressive fee based upon total flow rate. The districts can make the fee commensurate with actual costs. If the districts do not want to install meters and totalizers, they can install simpler but more reliable elapsed time meters (the meter accumulates time only when the pump is running). The elapsed time is multiplied by the known, average flow rate of the pump to calculate the total flow. The totalizer will also be useful in monitoring performance of the pump station. Very low values may reveal failure in the pump station, or a rapid increase suggests a problem in the drainage area, such as a leaking water main. The totalizer data will give the homeowners' association, or other manager, an management tool. At present the diversions are only planned during the summer. The beach waters are used for bathing beyond these time limits. It would be useful if the flows could be diverted during other dry periods of the year. The Sanitation District may not accept these flows, but it would useful to see if an arrangement could be worked out.

2. DrainPacs must be monitored to determine when they are clogged. The best way to do this is observe them in the rain. Ideally, a maintenance contractor should be hired to perform this function. An outside stormwater contractor such as United Stormwater could do this function. The landscaping contractor could be charged with observing and photographing the units during rainfall. Litter could be removed from the collected material and the remainder may be suitable for mixed composting.

3. The DrainPacs are have been sized using a rating of 50% of hydraulic conductivity. This rate was based in part upon my experiments at UCLA. None of the area DrainPacs have been designed. It might be wiser to rate them at 25% of the hydraulic conductivity, which would double the required area. This would reduce cleaning frequency and increase reliability. Some of the structures are quite small (i.e., < 20 sq. ft.), and doubling their size would not double their construction costs.

4. Several DrainPacs are shown in the Muddy Canyon system. It might be possible to replace this system of DrainPacs with CDS units. A cost analysis would need to be performed. A single CDS unit might be easier to maintain that several DrainPacs. The Mangarella team has the skill base and most of the information to quickly perform this analysis. I would accept a single CDS unit, sized to treat the approximately 30% of the maximum flow, in lieu of the DrainPacs.

5. An aggressive street sweeping program is proposed. From my tour of previously developed areas, it appears that the proposed street sweeping may be more frequent than needed. Street sweeping is most effective in more populated land uses, with greater vehicle and pedestrian traffic. Weekly or bi-weekly street sweeping is probably adequate, except during construction periods. The Development Company should consider directing some of the street sweeping effort to other BMPs, such as larger DrainPacs or construction-time BMPs.

6. Several detention basins are proposed. The success of these basins will depend in large part on their detailed design, which requires that the high flow does not flush out the material retained during the low flow or the first flush. I do not know of the plans for the detailed design. The Development Company should insure that the basins are optimally designed. Again, the Mangarella team has the expertise to do design the basins or review the designs to insure success.

While the Commission supports these recommendations and encourages the applicant to incorporate them to the maximum extent practicable, there is not a basis in the LCP or the Coastal Act for requiring them.

Diversion System

Additionally, the applicant has proposed a low flow diversion system designed to intercept and divert all dry-weather nuisance flows from the appeal areas, as well as flow from existing development in the Newport Coast to the north and west containing 509 residential units and a portion of the golf course which drains into Los Trancos, to the Orange County Sanitation District's (OCSD) wastewater treatment plant for treatment prior to discharge. Runoff flows occurring during dry weather characterized as "nuisance" are not a natural occurrence. They are a result of urbanization, and therefore have the potential to alter natural dry weather conditions in sensitive coastal and marine ecosystems. They often have a higher concentration of pollutants due to the lower runoff volumes and relatively constant pollutant deposition.

The Commission finds this low flow diversion system is consistent with the Best Management Practices being used by other coastal developments in Southern California and will serve to eliminate potential impacts associated with non-saline water on sensitive coastal and marine resources associated with the Marine Life Refuge, and ASBS, in a manner consistent with the LCP.

While this BMP is not required under the certified LCP for this development, it has been required in other Southern California LCPs (e.g. Treasure Island) to eliminate the impacts of nuisance flows to the coastal zone. The basis for this type of BMP is considered by the Newport Coast LCP in cases where more standard BMPs fail to achieve compliance with water quality standards. For example, with respect to erosion and urban runoff control associated with the protection of marine water quality in particular, the LCP states the following:

> *Marine water quality will be protected by directing runoff to natural drainage courses such as Los Trancos Canyon, Buck Gully, and Muddy Canyon….and by means of erosion control techniques to slow runoff so that habitat areas are protected from flows significantly in excess of natural rates of flow. Additional control of non-point sources will be implemented if necessary to comply with State, regional, and County standards.*

In consideration of the applicable State, regional and County standards described herein, the Commission finds that techniques for additional control of nonpoint sources, such as low flow diversion to sewage treatment plant, as those proposed by the applicant and further augmented by conditions herein, are necessary to ensure that summer nuisance flows from this development will not exceed State and local standards, and therefore are consistent with the provisions of the Newport Coast LCP.

Further, with the recent approval of California's Non-Point Source Pollution Control Plan, the Coastal Commission and the State Water Resources Control Board have cooperatively embarked on implementation of a strategy for controlling nonpoint source pollution and improving coastal water quality. The plan includes a mechanism for identifying areas requiring specially protection from nonpoint source impacts as "Critical

Coastal Areas" (CCAs) and indicates that currently designated ESHAs will be considered for CCA status. The Crystal Cove ASBS is designated as an ESHA in the California Coastal Management Plan (CCMP) and in the certified LCP. As such, it is a likely candidate to be designated as a CCA with the additional protections that the California's Non-Point Source Pollution Control Plan recommends.

The Non-Point Source Pollution Control Plan states:

> California will use a combination of approaches in delineating CCAs. First, the State will designate special sections within the California coastal zone as CCAs. These include environmentally sensitive habitat areas (ESHAs) currently designated in California's coastal zone management program….Within these areas the CCC will use it's existing authority under the California Coastal Management Plan (CCMP) to ensure that all appropriate Management Measures (MMs) are implemented and, where appropriate, that additional MMs are developed to protect these coastal waters.

Due to the sensitive and extremely valuable nature of the ASBS, the Commission finds that the diversion of dry weather nuisance flows as proposed by the applicant is necessary to eliminate the potential for any such resource impacts associated with the introduction of non-saline runoff water to occur in the ASBS, and to ensure the quality of water in the ASBS is preserved in a manner consistent with all State, regional, and County standards, and in such conforms to the LCP.

The Commission also finds that in addition to the BMPs proposed for controlling stormwater pollution, the diversion of dry weather nuisance flows to the treatment plant, offers assurance that these nuisance flows which are not a natural occurrence, and therefore have the potential to alter natural dry weather conditions in coastal and marine environments, will not result in impacts to the ASBS.

The applicant has indicated the intention to transfer responsibility in full, for the diversion of dry-weather nuisance flow(s) from the development and Planning areas outside the Planning Areas subject to appeal, such as Planning Areas 2B, 2C, 3A, 3B, 10B and 13B, to the Orange County Sanitation District for treatment prior to District discharge, to the Irvine Ranch Water District (IRWD). Obtaining permission to divert flows to the OCSD requires the approval and acceptance from the District. Such approval is based on the terms of the District's interim policy on diversions. In addition the applicant has secured a tentative agreement with the IRWD to effectively transfer all responsibility to IRWD for the diversion system, any improvements necessary to maintain the proper operation and function of the system in perpetuity.

Prior to issuance of the coastal development permit, Special Condition No. 15 requires the applicant to submit a final agreement between OCSD and IRWD as to the conveyance and treatment of the summer nuisance flows. Specifically the agreement must provide for a legal transfer of responsibility, and provide evidence of OCSD's

commitment to enter into agreement with IRWD to accept nuisance flow diversion, as proposed and described herein, from April 15th to October 15th of each year, for the life of the project.

Long-term Operation & Maintenance of Structural BMPs

In order to ensure the efficacy of the overall water quality management program proposed, BMPs must be regularly inspected and maintained in effective working condition, in perpetuity. In order to ensure effective implementation and continued long-term management of the structural BMPs associated with the overall water quality management program, the applicant must accept responsibility for such, until another appropriate entity such as a homeowner's association or public or private entity with steady and predictable financial means accepts such responsibility subject to the criteria set forth in Special Condition No. 16.

Special Condition No. 16B requires maintenance activities to conform to the recommendations contained in the *Newport Coast Planned Community, Crystal Cove Stormwater Quality Evaluation Report*, and requires annual submittal of reports documenting maintenance activities, to the Commission.

Water Quality and Marine Ecological Monitoring Plan for the Crystal Cove Development Project

Finally, the WDR Waiver of 401 water quality certification referenced in the beginning of this section, was issued by the RWQCB on the condition that the Irvine Company develop and implement a comprehensive receiving water quality monitoring program, designed to identify any unexpected adverse impacts of the project. The applicant submitted a monitoring plan on January 12, 2000 entitled Monitoring Studies Concerning Water Quality and Marine Ecology for the Crystal Cove Development Project Phases IV-3 and IV-4 (Monitoring Plan). The Monitoring Plan was reviewed and approved by the RWQCB on January 14, 2000. The monitoring program is planned for a 5-year period, and sampling began in January 2000.

The Monitoring Plan identifies four monitoring stations each in Muddy Canyon, Los Trancos Canyon and Emerald Canyon. Sampling stations are intended to represent four locations within each respective watershed: 1) upstream from significant development or future development, 2) near the mouth of the watershed, but above Pacific Coast Highway, 3) in the surf zone adjacent to the mouth of the watershed and 4) beyond the surf zone where the water is 20 feet deep at Mean Lower Low Water.

The following constituents are included in the Monitoring Plan:

12. SAMPLING AND ANALYSIS FOR PATHOGEN INDICATOR BACTERIA:
    Sampling for total and fecal coliforms and enterococci at all stations during storm and

dry-weather runoff. Analysis of additional Orange County data for same study locations and adjacent sites.

13. SAMPLING AND ANALYSIS FOR PHYSICAL CONSTITUENTS OF RUNOFF:
Total suspended solids (TSS), Total dissolved solids (TDS), Freshwater hardness, Salinity, Standard observations of water clarity, color, degree of turbidity, and debris.

14. SAMPLING AND ANALYSIS FOR TRACE (HEAVY) METALS:
Full sampling at all stations for the 7 trace metals cadmium, chromium, copper, lead, nickel, silver, and zinc in both their total and dissolved forms.

15. SAMPLING AND ANALYSIS FOR PESTICIDES:
Full sampling at all stations for 26 organophosphorus pesticide compounds, including chlorpyrifos, diazinon, malathion, and parathion.

16. SAMPLING AND ANALYSIS FOR NUTRIENT CHEMICALS:
Full sampling at all stations for, Nitrate + nitrite, Total Kjeldahl nitrogen, Total phosphorus, Dissolved phosphorus

17. SAMPLING AND ANALYSIS FOR PETROCHEMICALS:
Total recoverable oil and grease at all stations

18. SAMPLING AND ANALYSIS FOR DRY-WEATHER RUNOFF:
Sampling once per month in each watershed exhibiting such runoff. All of the above described microbiological, physical and chemical constituents analyzed.

19. TOXICITY BIOASSAYS FOR STORM RUNOFF:
Acute (48 – 96 hr) toxicity testing using initial runoff water to assess its effects on a freshwater daphniid crustacean indicator species and a marine mysid crustacean indicator species. Testing conducted with water sampled during three representative storm events.

20. TOXICITY BIOASSAYS FOR DRY-WEATHER RUNOFF:
Acute (48 hr) and Chronic (7 day) toxicity testing in which a freshwater daphiid crustacean indicator species is exposed to dry-weather runoff water. Testing conducted 3-4 times per year for each watershed exhibiting runoff.

21. QUANTITATIVE ECOLOGICAL STUDIES OF ROCKY INTERTIDAL HABITATS NEAR MOUTHS OF THE THREE WATERSHED CANYONS:

d) Before and after storms, repeated sampling of the same groups of individuals in mussel and sea anemone indicator species associations (template photo quadrat sampling) to evaluate possible changes in relation to runoff.

e) Before and after storms, repeated sampling of five different indicator species groups (invertebrates and algae). Randomly placed photo quadrats used to determine possible storm-related and other changes in species composition and abundance.

f) Before and after storms, repeated sampling of algal epiphytes (species composition and % cover) living attached to surfgrass. These epiphytes are good indicators of higher than normal nutrient chemical concentrations.

22. QUANTITATIVE ECOLOGICAL STUDIES OF ROCKY SUBTIDAL HABITATS OFFSHORE OF THE THREE WATERSHED CANYONS:

c) Before and after storms, repeated sampling of several different indicator species groups (invertebrates and marine plants. Randomly placed photo quadrats used to determine possible storm-related and other changes in species composition and abundance. Depth 20 ft MLLW.

d) Before and after storms, repeated sampling of algal epiphytes (species composition and % cover) living attached to surfgrass. Depth 20 ft MLLW. These epiphytes are good indicators of higher than normal nutrient chemical concentrations.

Opponents to the development contend that the data collected during the winter of 1999/2000 intended to serve as baseline data for evaluating future conditions against is not representative of the natural conditions of the streams and marine environment in an undeveloped state, and therefore is inadequate to serve as baseline data and analysis of all future results will be skewed, based on this.

Los Trancos Canyon has been receiving drainage from developed areas (including residential housing and portions of a golf course) for several years. In addition the marine waters encompassing the Crystal Cove ASBS have been receiving drainage from developed areas via Los Trancos Canyon for several years and from PCH via culverts for at least 50 plus years.. In addition the Commission recognizes the construction project currently underway drains to both Los Trancos and Muddy Canyon, and did so last storm season, therefore ultimately draining to the ASBS. Therefore, the data collected associated with the approved monitoring program can not serve as an accurate reflection of conditions in the ASBS, or Los Trancos Canyon under undeveloped conditions.

In addition, the Commission finds that one-year, let alone one season, of data for any particular ecosystem or biological resource can not produce results that can be considered statistically significant, for the purpose of establishing baseline conditions. Therefore the Commission finds that the *Water Quality and Marine Ecological Monitoring Plan for the Crystal Cove Development Project,* designed by *Richard Ford, Barbara B. Hemmingsen and Michael. A. Shane,* will not serve to provide data which can be used to evaluate alterations to Los Trancos Canyon, or the intertidal, subtidal or marine waters and resources over natural conditions of these areas when in an undeveloped state, as a result of the proposed development.

It is expected however, that the Monitoring Plan will serve to detect and demonstrate if and where exceedances of applicable water quality objectives are occurring. Further, based on the sampling locations which include upstream locations in both Muddy and Los Trancos Canyon, and due to the relative confinement of the watershed, it should be possible to isolate relative contributions from the proposed development versus other development in the watershed.

The Commission finds that the LCP requires compliance with State, regional and County standards. The Santa Ana Regional Water Quality Control Board has incorporated the standards of the California Toxics Rule into their Water Quality Control Plan (Basin Plan) for inland waters, such as Muddy and Los Trancos Creeks. The applicable standards for ocean waters are found in the California Ocean Plan.

Therefore, the Monitoring Plan will serve to document the developments conformance with the State and Local standards and hence conformance with the LCP. If it can be determined by the CCC and the RWQCB, based on monitoring results, that the proposed development is causing or contributing to an exceedance in water quality objectives, the development will not be in compliance with the conditions of this permit which requires conformance with all applicable State, regional and County standards. Corrective action which may include incorporating additional measures into the development will be required. Any such action or measures will constitute a change to the approved development and will require an amendment to the permit unless the Executive Director determines no such amendment is necessary.

Quarterly reports documenting the results of the monitoring program prepared for compliance with RWQCB approved Monitoring Plan, of which applicant compliance with is required by Special Condition No. 17 of this permit, will be submitted to the Commission pursuant to the specifications of this condition. The Commission will base consultation and coordination with the RWQCB on matters affecting our joint responsibilities, on such reports. The applicant will be notified by Commission staff in accordance with standard enforcement procedures, if a determination of non-compliance occurs and action on the part of the applicant is required.

Conclusion

The water quality measures proposed by the applicant described herein are consistent with the regulations governing the project as described above. In order to ensure full compliance with those regulations, however, Commission staff recommends four special conditions be included which pertain to construction phase runoff control measures, operation and long –term maintenance of the diversion system, and other post-construction BMPs, and compliance with proposed water quality monitoring plan and reporting requirements approved by the RWQCB and incorporated by reference and condition here. As conditioned, the Commission finds the proposed development is in

conformance with the applicable water quality and resource protection policies of the Newport Coast LCP.

Other LCP Policies Which Protect Water Quality

The LCP contains Erosion, Sediment and Grading Policies in addition to the above cited Runoff Policies that all serve to protect the quality of the marine environment. Although ESHA Policy E states that the LCP Runoff policies provides for the protection of water quality, the Erosion, Sediment and Grading Policies are also clearly aimed at protecting the streams and coastal waters from adverse impacts that can degrade them, inconsistent with their ESHA status. Suspended sediments constitute the largest mass of pollutant loading to receiving waters from urban areas. None of the Erosion, Sediment, Runoff or Grading policies of the LCP specifically address other forms of pollution such as nutrients, oxygen-demanding substances, heavy metals, hydrocarbons or pathogenic bacteria which are also a major problem in urban areas. Although the LCP does not specifically mention these other forms of pollution, they often enter surface waters via runoff that contains sediment and from irrigation and storm water.

Previous sections of this staff report discuss the consistency of the proposed project with the Erosion, Sediment and Runoff Policies of the LCP in terms of the potential impacts to stability of the natural streams and beach nourishment issues within and adjacent to the appeal area. The purpose of this section of the report is to evaluate the proposed project's consistency with the Erosion, Sediment, Runoff and Grading Policies in terms of protecting water quality of the streams and ultimately the off-shore marine environment. As stated the coastal waters of the LCP area are designated both a Marine Life Refuge and ASBS and as such are afforded special protection.

The Erosion, Sediment, Runoff and Grading Policies are also contained in the Resource Conservation and Management Policies of the LCP and are duplicated in their entirely in Exhibit 17. The Erosion Policies of the LCP are Section I of the Resource Conservation and Management Policies (Exhibit 17, Pages 25 and 26) Water quality is protected by regulating grading and construction activities, specifically requiring that disturbed soil be reseeded or otherwise covered on a temporary basis in conjunction with grading operations (Policy I.2); that erosion control devices be installed in a timely manner and properly maintained throughout clearing, grubbing and grading operations (Policy I.3); and that when grading operations occur during the rainy season (October 15 to April 15) that erosion control measures be in place by October 15 and that grading be carried out consistent with the County of Orange Grading Code (Policy I.4).

The Sediment Policies of the LCP are found in Section J of the Resource Conservation and Management Policies of the LCP (Exhibit 17, Pages 26-28) . Sediment Policies J.1, 2, 3 and 5 require that structural and non-structural sediment control devices and techniques be designed and employed for grading operations in a timely manner and maintained to prevent sediment from leaving the site with storm water runoff. Such

devices include, but are not limited to hay bales, berms, sand bags, debris basins, desilting basins, silt traps, temporary and permanent hydroseeding and planting. Sediment catch basins and other erosion control devices are also required to be constructed and maintained in accordance with the County of Orange Grading Code (Policy J.5).

The Runoff Policies of the LCP are found In Section K (Exhibit 17, pages 28-29). The Runoff Policies require that drainage facilities be properly designed and constructed (K.2); that stormwater runoff be directed to storm drains or suitable water courses to prevent damage to graded slopes (K.3); that retention basins be maintained (K.4). The Grading Policies are found in Section L of the LCP Resource Management Policies. The grading policies require that soils engineering and geologic studies, where necessary be prepared assessing the potential for slope instability, and seismic impacts, and that a grading schedule be provided showing when each stage and element of the project will be completed, including the total area of soil surface to be disturbed during each stage of grading, among other things (L.1) ; requires that all grading activities occurring between October 15 and April 15 shall be subject to the Runoff, Erosion, Sediment and Grading Policies of the LCP (L.2); prohibits the placement of any materials other than drainage improvements and erosion control modifications in the 100year flood-plain of coastal waters and streams (l.4.c); requires that all completed cut and fill slopes be stabilized through planting of native or appropriate non-native plants, under the direction of a licensed landscape architect (L.6); and requires that removal of natural vegetation be limited to graded areas, access haul/roads and areas required for fuel modification (L.7).

The applicant has submitted grading plans, including grading phasing for some areas. However Grading Policy L.1 requires that this information be required for all grading activities. Therefore special condition 8 is being imposed to require complete grading plans and information as required by the LCP. Special condition 5 is being imposed because the applicant has noted the specific construction BMPs on the grading plans or a separate erosion control plan that will be implemented in order to prevent degradation of the habitat values of the coastal waters. Only as conditioned as required in special conditions 5 and 8 and the water quality special conditions (14-17) is the proposed project consistent with the Erosion, Sediment, Runoff and Grading Policies of the LCP, protecting the sensitive off-shore marine resources and public access and recreation on the public Crystal Cove State Beach.

<u>Changes due to development</u>

The ESHA Category A and B, as well as the Sediment, Runoff and Erosion Policies of the LCP address changes to the natural channels due to development. Both physical impacts to streams due to fill are addressed as well as impacts due to increased rate of flow and changes in the movement of sediment (Exhibit 17). While the LCP polices address increases in the peak rate of runoff in the stream courses and changes in sediment movement, no policies specifically address changes in the volume of water

going through the streams independent of the effects of the rates of discharge and the movement of sediment, which is usually carried by water. A strict interpretation of the first sentence of ESHA Policy D.1.is that no changes at all can occur to Category "A" and "B" segments of the natural streams and tributaries (Exhibit 17, page 18-19). However, this interpretation is not supported by the remaining language of the policy. The policy allows physical modifications to the Category "A" and "B" ESHAs for drainage and erosion control facilities if needed to protect the stream or to support new development as well as fill for roads, if done in the least environmentally damaging manner and no feasible alternative exists. Additionally, the Runoff Policies specifically requires that stormwater be directed to the streams or storm drains which normally outlet in stream courses and that the streams be rip rapped or somehow stabilized. Change in the sediment movement in the streams is addressed in terms potential instability of the stream course and not on the biological impacts (Sediment Policy J. 4.). It is a given fact that development adjacent to the streams will result in an increase in volume of runoff in the streams and tributaries.

Development of the Newport Coast will result in physical changes that potentially could result in environmental impacts to nearshore marine habitats. As a result of development, there will be alterations in the volume and periodicity of stream discharges, and changes in the sediment load of streams.

The qualitative changes in the hydrology of the two water courses will be similar. During intense storms when natural infiltration of water is low, there will be little change in runoff. The runoff from low and medium intensity storms will increase due to the increase in impervious surfaces and there will be summer flows due to irrigation. The rate of peak discharge of flows resulting from storms of various return periods (up to the 100-year storm) will seldom exceed existing conditions at either Los Trancos or Muddy Creek and will never exceed existing peak discharge rates by more than 7% at any point within those streams.[5] The proposed development will result in a about a 7% decrease in storm flow volumes and essentially no change in flow duration at Los Trancos Canyon because development will shift a portion of the watershed to Muddy Canyon. On the other hand, there will be a slight increase in dry weather flows due mainly to irrigation.[6] In Muddy Canyon, storm flow volumes and duration will increase substantially[7] and there will be a large increase in dry weather flows.[8] The increased runoff in Muddy Canyon will be about 60% of the total annual runoff volume, whereas the contribution from irrigation

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[5] Tettemer & Assoc. 2000. Newport Coast planned community proposed runoff management plan hydrologic analysis. A report to the Irvine Company dated April 2000; Exhibit ?? Table of peak discharge for various return periods from Tettemer.

[6] Hamilton, D.L. 2000. Projected water balance for Los Trancos Canyon, Crystal Cove Area, California. A report to LSA dated April 20, 2000.

[7] Tettemer & Assoc. 2000. *op. cit.*

[8] Hamilton, D.L. 2000. Projected water balance for Muddy Canyon, Crystal Cove Area, California. A report to LSA dated April 20, 2000.

will amount to about 40% of the existing annual runoff volume. Dry weather flows will be captured near the Pacific Coast Highway and diverted to the sewer system.

In addition to the changes in volume and periodicity of the stream discharges, there will be changes in their sediment load. As a result of the increases in impervious surfaces and the conversion of natural vegetation to lawns, there will be a reduction in sediment supply. It is estimated that there will be a reduction of about 76% in the yield of silts and clays, and a reduction of about 17% in the yield of sand-sized and larger materials.[9]

Potential impacts to coastal marine habitats.

Five benthic habitat types are present in the nearshore area of the Newport Coast. These are sandy and rocky intertidal areas, sandy subtidal areas, low relief rocky subtidal areas that have periodically supported giant kelp forests, and high relief subtidal outcrops or "hogbacks." In addition, the water column supports a variety of marine mammals and a diverse assemblage of fishes. The biodiversity and high quality of these marine habitats was the basis for the declaration of this section of coast as an Area of Special Biological Significance by the California State Water Resources Control Board. The importance of these habitats also is attested by the fact that the California Department of Fish and Game has designated three areas along this section of coast as Marine Life refuges.

Nearshore marine communities could be affected by large changes in salinity, increases in sedimentation, and chronic increases in turbidity. Since there will be a substantial decrease in the discharge of fine sediments after the project is completed, there is no reason to expect a long-term increase in either turbidity or sedimentation. However, there has been some concern that the yield of fine sediments might be increased temporarily during the several years of construction. There have been no quantitative estimates of such a change. Shallow-water and intertidal habitats are unlikely to be significantly impacted because fine particles remain in suspension due to wave action and are carried off shore by currents. Near shore turbidity plumes following storms are natural annual phenomena and have not been shown to have significant deleterious effects on beach communities. The habitat most at risk from increases in sediment discharge is low-relief rocky reef that could support giant kelp. Currently, there are no kelp forests in the project area. The local kelp beds disappeared during the 1982-1984 El Niño and have never recovered.[10] Much of the low relief substrate apparently was buried by sand during a series of El Niño storms and the sand has been trapped by local topography. A recent survey indicated that sand cover was still high, there were

[9] Chang, H.H. 2000. Sediment yield study for Muddy Canyon and Los Trancos Canyon. A r
[10] MBC. 2000. The status of kelp beds at Newport Coast and their relationship to the kelp bed along the Orange County Coast. A report to the Irvine Company dated April 2000;

moderate populations of other brown algae, and no giant kelp.[11] Suitable conditions for giant kelp recruitment apparently have been lacking for 16 years. If conditions were to become suitable for kelp recruitment, large increases in suspended sediments due to construction activities could have negative effects. The recruitment and growth of giant kelp can be impaired if turbidity chronically reduces light levels and the settlement and survival of the small life stages of kelp can be reduced if sediments cover rocky substrates. Therefore, Condition x? requires that Best Management Practices be employed to insure that water quality is not significantly impaired by construction.

The discharge of freshwater through Muddy Canyon will increase as a result of development. However, the resulting local changes in ocean salinity are unlikely to have negative effects on marine organisms. Significant negative effects of freshwater have been reported where the flow is directly over rocky intertidal areas.[12] Local influxes of freshwater can result in severe mortality, particularly of lower intertidal organisms such as sea urchins.[13] Such events are relatively uncommon and there is no opportunity for such catastrophic exposure to freshwater near the mouth of Muddy Canyon since the nearest rocky intertidal area is about 300 feet away. Generally, considerable mixing with seawater takes place when freshwater enters the ocean. Intertidal organisms are well adapted to cope with these natural reductions in salinity following storms. There is no reason to expect that the predicted changes in flow patterns in Muddy Canyon will result in conditions of lowered salinity so severe as to cause negative impacts to intertidal populations.

Changes in Riparian Communities.

The small hydrologic changes predicted for Los Trancos Canyon are unlikely to have measurable effects on the physical or biological environment. However, the predicted changes in Muddy Canyon are likely to result in alterations in the flow characteristics of portions of the stream and in the vegetative characteristics of the riparian corridor. The pertinent changes will be increases in groundwater recharge volume, increases in the volume and duration of flow from storm events of all return periods, and substantial dry weather nuisance flows from irrigation. Overall, the increase in storm water discharge will be equivalent to 60% of existing flows and the dry weather flows from irrigation will be equivalent to 40 % of existing flows. However, except for the graded slope in area M2r[14], the runoff from development adjacent to and immediately upslope from the Pacific Coast Highway (PCH) enters Muddy Canyon just upstream of the PCH culvert and

[11] Deysher, L.E. 2000. The potential effects of coastal development on subtidal kelp resources. A report to the Irvine Company dated June 16, 2000.
[12] Ford, R.F. 2000. Evaluation of water quality and marine ecological issues concerning freshwater runoff into the Irvine Coast Marine Life Refuge Area of Special Biological Significance. A report to the Irvine Company dated April 20, 2000.
[13] Dr. S. C. Schroeter, UCSB, personal communication.
[14] Tettemer & Assoc. 2000. *op. cit.*

therefore will have little effect on the canyon. It is not clear what proportion of the 100% increase in annual flows will come from the development at the head of the canyon (Planning Areas 2C & 5) but, based on a visual examination of the areas of development, is likely to be on the order of 50%. This increase in flow will have the most significant effects on Muddy Canyon and its riparian habitat. Most of the potentially negative effects will be confined to the area above the existing agricultural pond. This agricultural pond in the upper portion of the canyon was created by a high berm across the canyon that will not be altered. The pond is dry much of the year. However, after rainstorms it probably acts as a retention basin for most flows. LSA predicts that water reaching this pond will be lost through evapotranspiration and groundwater recharge.[15] At the east end of the berm, several feet above the level of the agricultural pond there is a deep ravine that discharges into the stream below the berm. Following extreme rainfall events, the agricultural pond would act as a detention basin with excess water flowing out through the ravine. Due to the presence of the berm and agricultural pond, most of the predicted change from intermittent to perennial flow will occur in the approximately 700-foot reach of Muddy Creek immediately upstream. Currently the agricultural basin in dominated by weedy herbaceous species that are common in wet areas, such as stinging nettle, tree tobacco and cocklebur. The drainage immediately upstream from the agricultural pond also supports arroyo willow and mulefat, typical riparian species. Farther up the canyon, the stream course is narrow and coastal sage scrub grows down the steep sides to the edge of the stream. its increase in flow volume and change to perennial flow will probably result in an increase in riparian vegetation, conversion of some coastal sage scrub to willow and mulefat, and perhaps conversion of some streambed habitat to emergent wetland vegetation. Perennial nuisance flows may also result in an increase of weedy herbaceous vegetation in some areas. Condition Y requires that runoff from development, including all summer nuisance flows, be confined to the section of stream above the agricultural basin. This would be accomplished by not constructing the planned 6-inch low-flow diversion pipe in the small canyon toward the south end of Planning Area 5. Confining development runoff to the upper reach of the stream will prevent increases in surface flow within the long central reach.. The flow in the reach of stream below the agricultural berm is expected to remain intermittent. However, of the total amount of intermittent stream in Muddy Canyon, about 78 % is expected to become wetter to an unknown degree.[16] Below the agricultural basin this change in water regime is expected to take the form of an elevation of the water table and an increase in seep and spring flows. Although the effects of this increase in available water can not be predicted in any detail, there will probably be a gradual increase in the abundance and diversity of woody riparian vegetation such as willow, alder, sycamore, and coast life oak. This is a much more natural shift in vegetation than that which would be caused by introducing perennial surface flows to this area. The

[15] LSA. 2000. Analysis of coastal drainages and wetlands - comparative history and likely future habitat conditions in Muddy Canyon. A report to the Irvine Company dated April 20, 2000.
[16] LSA, 2000. op. cit.

predicted changes in vegetation will probably be reflected in an increase in the local abundance and diversity of wildlife.

GEOLOGIC HAZARDS

Policy L1 of the certified Local Coastal Program requires that the applicant submit soils engineering and geologic studies that assess potential soil-related constraints and hazards such as slope instability, settlement, liquefaction, or related secondary seismic impacts. Policy L1 also requires that approved development incorporate the mitigation measures recommended in the reports generated by these studies. This section describes staff's findings related to geologic hazard issues. Geologic issues involving grading, erosion and sedimentation are discussed in separate sections of this report.

Slope Stability

The proposed project lies on a moderately steep hillside adjacent to the coast. The proposed development is on a ridge oriented approximately north-south, perpendicular to the coast, lying between two north-south-trending canyon systems—Los Trancos Canyon to the west and Muddy Canyon to the east. The overall slope of the hillside is moderate (5-10%), but side slopes in the two canyons and its tributaries may be steep to very steep (up to 1:1, or 100%). The geologic conditions are conducive to slope instability, in that many slopes expose bedding planes or other planes of weakness that dip outwards from the slope. Further, the southern half of the area is underlain by the Monterey Formation, a geologic unit known to be susceptible to landsliding. In fact, the area itself is known to be subject to landsliding, and numerous active and inactive landslides have been mapped during by the applicant's geotechnical consultants. Detention basins are planned for planning area 5 and 6 that have the potential to hold storm water on the site, potentially leading to increased infiltration of water into fill slopes, raising additional slope stability concerns.

The applicant proposes massive grading for both remediation of identified landslides and for construction of building pads. Detailed grading plans and geotechnical investigations have been provided for planning areas 5, 6, and 12C, and for part of Planning area 4B. Policy L.1 of the LCP requires full geotechnical investigation for all areas to be developed. The geotechnical reports demonstrate that the proposed grading will mitigate for problems of slope instability, and provide plans for establishment of keys, mechanically stabilized earth (MSE) buttresses, and drainage devices to insure stability of the manufactured slopes. Staff finds that the natural, cut, and fill slopes proposed should be stable provided that all of the recommendations and designs contained within the June 6, 2000 report by NMG Geotechnical, the August 6, 1999 and August 30, 1999 reports by Goffman, McCormick and Urban, and the Leighton and Associates letter of 16 June, 2000 are followed during construction. Therefore, the Commission imposes Special Condition 11.

The applicant has not provided detailed grading plans or slope stability analyses for planning are 4A and part of planning area 4B. Accordingly, special conditions 7 and 11 are imposed, requiring the applicant to submit, for the review and approval of the Executive Director, geotechnical analyses demonstrating the stability of the final grading designs consistent with specified criteria prior to issuance of a Coastal Development PermitIf the stability of the final grading plans cannot be established consistent with the specified criteria or modifications to the grading plan prove to be necessary, an amendment to the Coastal Development Permit will be required.

Seismic Hazards

The proposed project is not crossed by traces of active faults as defined by the Alquist-Priolo Act. The closest active fault is the Newport-Inglewood fault, located approximately 4 miles southwest of the site. This fault is considered capable of producing a large (m-agnitude 6.9) earthquake, that would subject the subject site to severe ground shaking. Ground shaking could lead to landsliding, but the slope stability analyses described above assure a reasonable factor of safety (1.1) even for these conditions. Liquefaction is not considered a significant hazard, since the groundwater table is not near the surface nor is it expected to be near the surface even if it is raised by post-development irrigation or other changes in hydrology. Fault rupture hazard is considered low because no known active faults cross the development. A hypothetical fault, the San Joaquin Blind Thrust Fault, has been postulated to exist below the San Joaquin hills and could extend beneath the site. No microearthquakes associated with this fault have been identified historically. This fault, if it exists, is too poorly understood to be used as a design basis.

Staff finds that the most significant seismic hazards at the site are severe ground shaking associated with a major earthquake on one of the many nearby faults, and seismically-induced landslides. The former may be mitigated for by conformance to appropriate California Building Code regulations. Seismically-induced landslides are unlikely provided that the recommendations and designs contained within the June 6, 2000 report by NMG Geotechnical, the August 6, 1999 and August 30, 1999 reports by Goffman, McCormick and Urban, and the Leighton and Associates letter of 16 June, 2000 are followed during construction.

Additionally, the Commission attaches Special Condition No. 4 which requires the landowner to assume the risks of extraordinary erosion and geologic hazards of the property and waive any claim of liability on the part of the Commission. Given that the applicants have chosen to implement the project despite these risks, the applicant must assume the risks. In this way, the applicant is notified that the Commission is not liable for damage as a result of approving the permit for development. The condition also requires the applicant to indemnify the Commission in the event that third parties bring an action against the Commission as a result of the failure of the development to withstand hazards. In addition, the condition ensures that future owners of the property will be

informed of the risks, the Commission's immunity from liability, and the indemnity afforded the Commission.

F. Use of Balancing in Conflict Resolution

The Commission can approve development that is inconsistent with the certified LCP only if it finds that the approval of the development raises issues of conflict between two or more LCP policies and that, on balance, the project as approved is most protective of coastal resources. The LCP policy conflicts which arise in this application is the LCP policies which concentrate development in the designated residential and recreational development planning areas and the fact that ESHA designated wetlands are found in the residential planning area 4A which neither the LCP or the Coastal Act or the appellate court decision in Bolsa Chica would allow to be filled.

Section 30007.5 of the Coastal Act provides the Commission with the ability to resolve conflicts between Coastal Act as well as LCP policies. When the Commission certified the Newport Coast LCP it did so based on this Coastal Act provision. As detailed in the LCP Balancing Provisions section of this staff report, the certified LCP, as amended, relies on Coastal Act Section 30007.5 in allowing the development of 2,150 acres of the 9,493 acre LCP area with residential, recreational and tourist commercial uses while requiring that 7,343 acres or 77% of the LCP area be designated and reserved for open space (public and private conservation, recreation and park) uses. In approving the LCP which allows development on 2,150 acres the Commission recognized that some of this area contained environmentally sensitive habitat areas such as streams, and their associated riparian wetlands, coastal sage scrub and other sensitive grassland communities, and scenic hillsides. However, the Commission found that the coastal resources of the LCP area were, on balance, best protected by concentrating allowable development in certain areas while preserving large expanses of the most environmentally sensitive vegetation and wildlife areas, natural landforms, cultural resources and the provision of new public access and public recreational opportunities.

The Commission again relies on the balancing provision of the Coastal Act, which is incorporated into the LCP, in approving the fill of 0.05 acres of seasonal wetlands which is otherwise inconsistent with the certified LCP, the Coastal Act, and the appellate Court decision in Bolsa Chica. . Section 30007.5 of the Coastal Act provides that:

> *The Legislature further finds and recognizes that conflicts may occur between one or more policies of the division. The Legislature therefore declares that in carrying out the provisions of this division such conflicts be resolved in a manner that on balance is the most protective of significant coastal resources. In this context, the Legislature declares that broader policies which, for example, serve to concentrate development in close proximity to urban and employment centers may be more protective, overall, than specific wildlife habitat and other similar resource policies.*

A. Conflict. In order for the Commission to utilize the conflict resolution provision of Section 30007.5, the Commission must first establish that a substantial conflict between two statutory directives contained in the certified LCP exists. The fact that a project is consistent with one policy of the certified LCP and inconsistent with another policy does not necessarily result in a conflict. Rather, the Commission must find that to deny the project based on the inconsistency with one policy will result in coastal zone effects that are inconsistent with another policy.

In this case, as described above, the proposed project is inconsistent with the environmentally sensitive habitat policies of the certified LCP because the proposed fill of 0.05 acres of seasonal wetlands is not allowed in the Resource Conservation and Management Policies of the LCP which defines all wetlands as ESHA and does not provide for their fill, except for under limited circumstances**.** This finding is also supported by the appellate court decision in Bolsa Chica Land Trust v. Superior Court. As noted above, given the existence of newly discovered wetlands and the omission of LCP policies that authorize permissible fill, the Commission finds that, in light of the Bolsa Chica decision, the County's LCP must be interpreted consistent with Section 30233 of the Coastal Act. However, to deny the project based on this inconsistency with the Resource Conservation and Management Policies of the LCP would not allow the concentration of proposed residential development contiguous with otherwise approval residential development. The Commission clearly found in the certification of the LCP that it was environmentally preferable to allow the fill of certain streams and associated riparian wetlands in order to concentrate development than to preserve each wetland area.

It is noted that the wetland in question did not exist at the time of LCP certification. The subject wetland area is actually made up of four isolated wetland depressions (two adjoining) in three locations. The wetlands are isolated and are not connected to a stream or any other water source. They were created by ranchers when cattle were grazed on the property and are located at one of the highest elevations on the site. The Commission staff biologist agrees that the wetlands serve basically as a water source for wildlife into the early annual dry season summer because they retain rainwater. The vegetation, though hydrophytic, is of marginal value and the non-native grasses and forbs surrounding the wetland invade it when the water dries up in the summer.

The Commission notes that the applicant is proposing to mitigate the fill of the seasonal wetlands at a ratio of 4:1. It should also be noted that the replacement seasonal wetlands will be located in a 290 acre NCCP preserve area (PA 12 E) and permanently dedicated for conservation open space use. As such the wetlands will serve a similar function of providing a water source for wildlife. However, the location of the replacement wetlands is environmentally superior containing high quality native vegetation compared to the existing wetland setting adjacent to invasive non-native exotic annual herbs and grasses.

The Commission also notes that the development of PA 4A is tied to a comprehensive hydrological regime including sediment and erosion control and water quality measures, and the need to do a substantial amount of remedial grading to correct adverse geologic conditions. To require that the wetlands be left in place would require substantial revisions to the proposed project which is otherwise consistent with all other applicable policies of the certified LCP.

The proposed project also provides additional resource benefits over and above those required in the LCP with the extension of the proposed water quality enhancement program to retrofit areas outside of the project area. In addition, the proposed project will divert summer nuisance flows both inside and outside of the project area. If the Commission were to deny the project based on the project's inconsistencies with the LCP wetland fill provisions, significant water quality impacts would not be reduced. Therefore, the Commission finds that the proposed project creates a conflict among Coastal Act policies.

B. Conflict Resolution. After establishing a conflict among Coastal Act policies, Section 30007.5 requires the Commission to resolve the conflict in a manner that is on balance most protective of coastal resources. In this case, the proposed project would result in the fill of 0.05 acres of isolated seasonal wetlands.

There are important factors in the Commission's use of the conflict resolution provisions of Section 30007.5 that, in this particular case, create a unique situation. The Commission relied on Section 30007.5 when it originally certified the LCP and twice amended it as discussed in earlier in this staff report. The purpose for the balancing in this particular application is, in part, for the same purpose of the original LCP balancing.

The proposed project includes wetland fill that is inconsistent with the wetland policies of the certified LCP. However, the proposed project also includes 4:1 mitigation for the wetland impacts and replaces the new wetlands within a habitat conservation area where it will be surrounded by high quality habitat instead of the invasive non-native plant material currently surrounding the existing wetlands. Thus, the mitigation site is likely to provide more viable habitat than currently exists in the isolated wetland area to be impacted.

The proposed project also provides additional resource benefits over and above those required in the LCP with the extension of the proposed water quality enhancement program to retrofit areas outside of the project area. In addition, the proposed project will divert summer nuisance flows both inside and outside of the project area. The additional water quality benefits include (1) for PAs 3, 4 and 14 the diversion of nuisance flows from October 15 to April 15 of each year to the publicly owned treatment works, (2) for PAs 5 and 6 retention of nuisance flows to the maximum extent practicable from October 15 to April 15 of each year in the existing Agricultural pond berm in Muddy

Canyon; (3) for PAs3 and 14 fertilizer and organic soils management, advanced street sweeping and litter pick-up, homeowners education regarding non-point sources pollution and extended detention ponds and proper use of pesticides.

These additional benefits are not required by either the LCP or Permits and are significant water quality benefits. The details of the water quality enhancement program are discussed elsewhere in this report. The Commission therefore finds that the proposed project would have significant resource benefits.

In resolving the identified Coastal Act conflict, the Commission finds that the concentration of development in the area proposed for residential development, in PA 4A is, on balance, more protective of the land resources than to require that they be retained in an area adjacent to residential development. Therefore, the Commission finds that approving the project is, on balance, most protective of coastal resources.

This finding that approving the project is most protective of coastal resources is based on the assumption that the wetland mitigation site will be constructed as proposed and as conditioned and maintained in perpetuity. This finding is also based, in part on the assumption that the water quality enhancement program will be extended to retrofit areas outside of the project area and will be continually managed and maintained in the designed manner in the future. Should either the constructed water pollution control facilities not be managed and maintained as designed, or the mitigation site not be implemented as proposed and as conditioned herein, the benefits of the project would not be realized. Therefore, the Commission attaches several special conditions to ensure that the desired result is achieved; these have been discussed in detail in the previous findings addressing biological resources and water quality. The Commission finds that without the special conditions, the proposed project could not be approved pursuant to Section 30007.5 of the Coastal Act.

G. <u>California Environmental Quality Act</u>

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

The Commission incorporates its findings on conformity with LCP policies at this point as if set forth in full. For the reasons described in the Commission findings above, the proposed project, as conditioned, will not cause significant adverse impacts to the environment. Specifically, the Commission has required mitigation measures to enable the Commission to find the proposed project, as conditioned, consistent with the biological

resources, stream sediment, beach nourishment, geologic hazards, slope stability and water quality policies of the certified LCP. There are no feasible alternatives or mitigation measures available which would substantially lessen any significant adverse impact which the activity might have on the environment. Therefore, the Commission finds that the proposed project is the lease environmentally damaging feasible alternative and can be found consistent with the requirements of the Coastal Act to conform to CEQA.

APPENDIX A

SUBSTANTIVE FILE DOCUMENTS

1. Irvine Coast (Newport Coast) Certified Local Coastal Program.
2. Local Coastal Development Permit Record No. PA 97-0152).
3. Master Drainage and Water Quality Enhancement Program, NCPC, revised December 10, 1999
4. Southern Coastal Needlegrass Grassland Restoration Plan, Crystal Cove/Newport Coast Phases IV-3 and IV-4, revised December 14, 1999.
5. Wetland/Riparian Mitigation Plan, Crystal Cove/Newport Coast Phases IV-3 and IV-4, revised May 16, 2000.
6. Substantial Issue staff report and Commission findings, A5-IRC-99-301(Irvine Community Development Company), 9/2/99
7. California Department of Fish and Game, 1603 Agreement No. 5-212-99, Irvine Community Development Company, as amended July 17, 2000.
8. California Water Resources Control Board, Waiver of Waste Discharge Requirements and Water Quality Certification for the proposed Crystal Cove/Newport Coast Phases IV-3 & IV-4 Project, (ACOE Reference No. 980071600-YJC), September 30, 1999.
9. Third Party Independent review of Hydrologic, Sediment Yield and Coastal Processes Results and Conclusions for Newport Coast Phases IV-3 and IV-4 Appeal, Ronald M. Noble, Noble Consultants, Inc. and Professor Robert L. Wiegel, June 28, 2000.
10. Newport Coast Phases IV-3 and IV-4 Appeal, Technical Reports, Community Development Company, August, 2000.