LATHAM & WATKINS LLP
Paul N. Singarella (Bar No. 155393)
Kelly E. Richardson (Bar No. 210511)
650 Town Center Drive, Suite 2000
Costa Mesa, California 92626-1925
Telephone: (714) 540-1235
Facsimile: (714) 755-8290

Attorneys for Respondents
The Pebble Beach Company, and
City of Carmel

STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION

In the matters of:

MONTEREY REGIONAL STORM WATER MANAGEMENT PLAN,

Public Hearing for the Approval of a Storm Water Management Plan, General NPDES Permit No. CAS000004)

PROPOSED CEASE AND DESIST ORDERS,

Requiring The Pebble Beach Company, Monterey County, and City of Carmel, to Cease and Desist from Discharging Waste to Areas of Special Biological Significance (ASBS) in Violation of Prohibitions Prescribed by the State Water Resources Control Board

MONTEREY REGIONAL STORM WATER MANAGEMENT PLAN

PROPOSED CEASE AND DESIST ORDER NOS. R3-2005-0021 AND R3-2005-0022

AFFIDAVIT OF DR. RICHARD FORD

Hearing Date: February 11, 2005
Time: 8:30 a.m.
Place: Richard W. Nutter Agricultural Conference Center
1432 Abbott Street
Salinas, CA 93901

I, Richard F. Ford, hereby declare and state as follows:

I. QUALIFICATIONS AND EXPERIENCE

1. I am a Professor Emeritus of Biology at San Diego State University and a Research Associate at the Hubbs-Sea World Research Institute. My research specializations and areas of expertise are in oceanography, marine ecology, population and fisheries ecology of marine invertebrates and fishes, water quality and pollution ecology, and effects of storm water runoff on freshwater and marine habitats. I have over 40 years of experience working in these areas of aquatic science. I am the author of more than 70 refereed scientific publications and more than 200 technical reports on water quality studies. During my academic career, I offered courses and seminars in the areas of marine ecology, biological oceanography, marine water quality and pollution, aquaculture, and biological applications of statistics. I served as chairman of thesis and dissertation committees and primary research advisor for 60 Master's Degree and Doctoral students in these specializations.

2. My academic education includes a Bachelor of Arts degree in Biology (Pomona College 1956), a Master's degree in Biology (Stanford University 1959), and a Ph.D. in Oceanography (Scripps Institution of Oceanography UCSD 1965).

3. During the period 1974-1996, I served as Director of the Center for Marine Studies at SDSU. My professional activities include membership and appointments on a variety of local, state and federal committees and review panels. These include service as a member of California Sea Grant Committee and as a member of Sea Grant site review panels, a member of San Diego Bay Technical Advisory Panel of the San Diego Regional Water Quality Control Board, and a member of the California Department of Fish and Game Advisory Board for the Ocean Resources and Enhancement Program. For the San Diego Unified Port District and the Navy Facilities Engineering Committee, I served as marine ecologist responsible for the extensive field studies incorporated in the South San Diego Bay Enhancement Plan, published by the Port District and the Coastal Conservancy. In addition, I served as a member of the Ecosystem Monitoring Committee, and as consulting marine biologist in producing the San Diego Bay Natural Resources Management Plan.

During the past 40 years I have served as a scientific advisor and consultant on water quality and marine ecological issues to eight local and state agencies and to more than 15 other entities. These include the California Regional Water Quality Control Board, Santa Ana and San Diego Regions, the California Department of Fish and Game, the US Army Corps of Engineers, the San Diego Gas & Electric Company, and The Irvine Company. I have conducted research and evaluations of storm water runoff issues involving four different sites along the southern California coast. These include two sites on the Palos Verdes Peninsula (For Hon Development Company and Destination Development Corporation), at Dana Point (for Headlands Reserve LLC), and for the past 11 years at the Newport Coast (for The Irvine Company). The latter two sites include designated Marine Life Refuges and Areas of Special Biological Significance.

4. Attached as Exhibit A is a true and correct copy of my Curriculum Vitae.

5. I have personal and firsthand knowledge of the facts stated in this affidavit, and I could and would testify competently if called upon to do so. I am familiar with the Pebble Beach Company sites and the adjacent Carmel Bay area, based on my review of the documents listed below, and from previous visits to the area.

6. This affidavit is submitted in support of The Pebble Beach Company and City of Carmel's opposition to the California Regional Water Quality Control Board's (1) Monterey Regional Storm Water Management Plan; and (2) Cease and Desist Order Nos. R3-2005-0021 and R3-2005-0022.

II. DOCUMENTS EXAMINED AND KEY FINDINGS

7. During February 2005, I was asked by Latham & Watkins to review the following documents, some of which are already a part of the Administrative Record for these matters, and others that are attached in Respondents' Appendix of Evidence:

- Cease and Desist Order No. R3-2005-0021 (Pebble Beach Company) issued by the California Regional Water Quality Control Board, Central Coast Region, dated February 11, 2005.
- Letter from Celeste Cantu, State Water Resources Control Board to Roxayne

Spruance, Pebble Beach Company, dated October 18, 2004.

- Letter from Sarah G. Newkirk, The Ocean Conservancy to Central Coast Regional Water Quality Control Board RE Proposed Cease and Desist Order R3-2005-0021 and others, dated January 10, 2005.
- Letter from David S. Beckman, NRDC RE: Cease and Desist Order R3-2005-0021 and others, dated January 25, 2005.
- Letter from Mark Stillwell to Central Coast Regional Water Quality Control Board RE: Draft Order R3-2005-0021 and others, dated January 24, 2005.
- Draft Environmental Impact Report: Pebble Beach Company's Del Monte Forest Preservation and Development Plan, dated January 2005, Chapter 3.4 Hydrology and Water Quality. See, Respondents' Appendix of Evidence.
- Monterey Regional Storm Water Management Program (MRSWMP), revised draft dated December 8, 2004. See, Respondents' Appendix of Evidence.
- Comment letter from Richard F. Horner (for NRDC) to State Water Resources Control Board and Central Coast Regional Water Quality Control Board RE: MRSWMP, dated January 5, 2005.
- Comment letter from David S. Beckman and Anjali I. Jaiswal, NRDC, to State Water Resources Control Board and Central Coast Regional Water Quality Control Board RE: MRSWMP, dated January 10, 2005.
- Comment letter from Sarah G. Newkirk, The Ocean Conservancy, to Central Coast Regional Water Quality Control Board RE: MRSWMP, dated January 10, 2005.
- Comment letter from Holly Price, NOAA Monterey Bay National Marine Sanctuary, to Central Coast Regional Water Quality Control Board RE; MRSWMP, dated December 29, 2004.
- Comment letter from Dan Albert, City of Monterey, to Central Coast Regional Water Quality Control Board RE: MRSWMP, dated January 24, 2005.
- Comment letter from Ken Anderson et al, City of Santa Cruz, to Central Coast

Regional Water Quality Control Board RE: MRSWMP, dated January 2005.

- Final Report: Discharges Into State Water Quality Protection Areas, Southern California Coastal Water Research Project, July 2003. See, Respondents' Appendix of Evidence.
- In addition, in this affidavit I have used the summaries of results for my studies of storm water runoff from the Pelican Hill Golf Club, Newport Coast, Orange County, California. Those summaries are provided in the report by Richard Ford entitled, "Potential Impacts of the Pelican Hill Resort Project on the Marine Environment of the Newport Coast." This was submitted to the Santa Ana Regional Water Quality Control Board in April 2004, and is hereafter cited as Ford (2004). See, Respondents' Appendix of Evidence.

8. During the period 1993-1996, I conducted studies concerning nutrient chemicals and freshwater entering the Irvine Coast ASBS in storm water runoff and dry weather low flows from the Pelican Hill Golf Club watersheds and adjacent residential areas. As described by Ford 2004, and other references cited in that document, these studies were carried out during the rainfall seasons of 1993-1994 and 1995-1996. The primary purpose of this work was to evaluate the possible effects of dry weather flows from these golf course and light residential watersheds on marine plant indicator species in adjacent, near shore habitats of the Irvine Coast ASBS. Marine plant species were used as the indicator organisms in this case because they are the ones most responsive and affected by nutrient chemical concentrations in the water. Plant indicators employed included two large species of brown algae, surf grass, and small epiphytic algae living on those three species. Two study areas within and offshore of the main golf course watersheds and a nearby control study area were employed (Ford 2004; Figure 2.1). Near shore sampling stations in the surf zone and at two different sub tidal depths were employed in each of these study areas. Studies also were conducted to evaluate water quality during dry weather flows at five surf zone stations (Ford 2004).

9. The results for the storm events studies in both years (Ford 2004) indicate four things very clearly. The first is that concentrations of PO_4 and NO_3 nutrients entering from the

freshwater watershed were reduced to very low levels once they reached the surf zone. The second is that these concentrations of nutrients had similarly very low levels near the bottom at the six sub tidal stations within less than 24 hours following the onset of runoff. Third, the concentrations of these nutrients at the surf zone and sub tidal stations were either not measurable or not significantly different from one another among control and treatment station locations. Fourth, and most important from an ecological standpoint, the concentrations always were within the known ranges of natural water quality in the area (Ford 2004; Table 1.1).

10. All of the results show that there is very strong containment, mixing and transport of water in near shore areas of the Newport Coast and its ASBS. This occurs primarily because of substantial surf action and surge effects present there, the movement offshore of rip currents, as well as the movement produced by alongshore currents and tidal flow. As a result of these processes, runoff water and its associated chemicals are assimilated, contained, mixed, and transported from the near shore area of the ASBS very rapidly. These same natural near shore processes have similar effects on storm water runoff into the Carmel Bay ASBS and elsewhere.

11. The results reported by (Ford 2004) indicated clearly that storm water runoff had only a limited effect on the salinity of the receiving water in the surf zone and at the near shore sub tidal stations. In addition, the moderate reductions in salinity that apparently occurred at these points in the surf zone during storm runoff were relatively short lived, with salinities returning to non-storm background levels of the coastal ocean in 24 hrs or less.

12. The overall conclusions from both the water quality and biological studies described by Ford 2004 are quite clear. The concentrations of nutrient chemicals in the freshwater watershed and in the adjacent ocean were quite low. There were no statistically significant or detectable effects of stormwater runoff from the two golf course watersheds on the algal, surf grass, and epiphytic test species considered. The same was true for five dry weather flow sites along the Newport Coast. This conclusion is supported by the results concerning water quality, which indicated that runoff from these watersheds had no detectable effects on the concentrations of nutrient chemicals in the adjacent near shore ocean and the Irvine Coast ASBS. One of the main reasons for this is that near shore physical processes are very effective in

assimilating these chemical constituents as they enter the surf zone.

To the extent that these measurements are representative of storm events as a whole, they provide clear evidence that nutrient chemicals in runoff from the Pelican Hill Golf Course watersheds sampled were reduced to very low concentrations in adjacent surf zone and shallow sub tidal locations. They also show clearly that in these surf zone and sub tidal locations there were no measurable or significant differences in nutrient concentrations between the control and Pelican Hill Golf Course watershed locations. Under these conditions, one would also expect to observe no significant differences in biological effects among the sub tidal control and potentially affected locations in the ASBS, and that was the case.

13. Based on my experience and on the results of other, similar studies in California, I believe that well-maintained coastal golf courses and associated light residential areas have very limited and less than significant effects on the adjacent near shore marine environment and do not result in alteration of natural water quality. The results we obtained in our studies of storm water runoff and dry weather flows from the watersheds of the Pelican Hill Golf Club (Ford 2004) probably are typical of such golf courses and associated light residential areas elsewhere in California that are well-maintained and that employ appropriate BMPs. These measures help to assure that storm water and dry weather flows from such watersheds produce natural water quality conditions in the adjacent marine environment. At the Irvine Coast ASBS, I saw no indication that waste was being transported from the golf course watersheds into the ASBS.

14. Just as at other coastal sites in California, the natural near shore processes along the coast of Carmel assure that runoff water and its associated constituents are assimilated, contained, mixed, and transported from the near shore area very rapidly. These near shore processes, as well as the site controls and BMPs employed in the Pebble Beach watersheds, help to assure the maintenance of natural water quality conditions in the adjacent Carmel Bay ASBS.

15. Based on the documents I have reviewed concerning the golf course and associated residential and commercial developments of the Pebble Beach Company, I believe that storm water runoff from the Pebble Beach watersheds have no discernible impacts on the marine environment of the adjacent ASBS in Carmel Bay. The report by SCCWRP entitled

Discharges into State Water Quality Protection Areas (See, Respondents' Appendix of Evidence) describes the Carmel Bay Area of Special Biological Significance. This report indicates that the Carmel Bay ASBS receives runoff from a total of 369 drainages. In addition, the Carmel River carries runoff from inland areas into the ASBS; those inland discharges are not included in the total reported by SCCWRP. Approximately 40% of the storm water runoff from the City of Carmel drains directly into the Carmel River. This figure of 369 drainages represents the second largest number carrying runoff water into any of the State Water Quality Protection Areas along the coast of California. In this context it is very important to recognize that the watersheds and drainages of the Pebble Beach Company sites represent only a small percentage of the drainages and runoff entering the Carmel Bay ASBS. Though I did not conduct a complete analysis of the data of drainages to the Carmel Bay ASBS in the SCCWRP, my preliminary conclusion is that well less than 100 of the 369 identified drainages are possibly related to the Pebble Beach Company, a relatively small portion of the total, especially when drainage from the Carmel River is taken into account. To the extent that any decline in water quality in the ASBS could be shown, and I have not reviewed any evidence to lead me to believe that it has, it would be difficult to attribute that decline to the relatively benign and minor flows from the Pebble Beach property. The Hydrology and Water Quality Chapter of the 2005 DEIR for the Del Monte Forest Preservation and Development Plan (See, Respondents' Appendix of Evidence) describes a series of proposed BMP's, many of which, coupled with existing BMPs and project design features, will even further enhance water quality in the watershed and in the adjacent ocean. The runoff water retention features of this Plan are particularly significant. Another very important feature of this Plan is to divert part of the storm runoff water that now enters Carmel Bay. As a result of implementing the features of this Forest and Development Plan, in conjunction with a Monterey Regional Storm Water Management Program, the quality of runoff water will be monitored, to assure the continued maintenance of natural water quality conditions in the adjacent Carmel Bay ASBS.

17. I am very concerned that, if implemented, proposed Cease and Desist Order Nos. R3-2005-0021 and -0022 would result in eliminating a portion of the freshwater flow into the

ocean from the Pebble Beach watersheds. The Carmel-Monterey region is an area of substantial rainfall. As a result, many freshwater species in the watershed and marine species in the Carmel Bay ASBS are adapted to natural levels of runoff water flow during storms. Such runoff is a part of the natural system that has been in place there since well before any use of the area by humans. In my opinion, elimination of a portion of runoff flow could have adverse effects in aquatic habitats in the watersheds and in the adjacent marine habitats of the Carmel Bay ASBS.

18. In addition, I am equally concerned about the practical feasibility of retaining and diverting runoff flows so that they do not enter the ocean. Is this really practical from an engineering standpoint? If it is, can we justify the very high cost involved? I believe the answer to both questions is no.

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct.

Executed this February 7, 2005, in San Diego, California

By 
Richard F. Ford

RICHARD FISKE FORD

Date of Birth: March 7, 1934
Place of Birth: Los Angeles, California
Social Security No: 560-44-1658

EDUCATION

B.A. Pomona College, Department of Zoology, 1956, (Zoology)
M.A. Stanford University, Department of Biology, 1959 (Biology of Fishes)
Ph.D. Scripps Institution of Oceanography, University of California, San Diego, Department of Oceanography, 1965 (Oceanography-Benthic Marine Ecology)

POSITIONS AND RELATED EXPERIENCE

Stanford University: Eli Lilly Fellow, Department of Biology, 1957-58; Teaching Assistant, Department of Biology, 1957-59; Research Assistant, George Vanderbilt Foundation, 1957-59.

Scripps Institution of Oceanography, University of California, San Diego: Marine Technician, 1954; Research and Teaching Assistant, Department of Oceanography, 1959-62; U. S. Bureau of Commercial Fisheries Pre-Doctoral Fellow, Department of Oceanography, 1962-64; Lecturer in Marine Ecology, University of California Extension, 1968; Member, California Sea Grant Committee, California Sea Grant College Program 1976-84.

San Diego State University: Assistant Professor of Biology, 1964-68; University Representative, Chamber of Commerce Oceanographic Development Committee, 1967-70; Diving Safety Officer, 1967-73; Member, University Diving Control Board, 1973-86; Associate Professor of Biology, 1968-1971; Coordinator, Biological Sciences Graduate Program, 1971-73; Campus Coordinator, Sea Grant Program 1974-86; Director, Center for Marine Studies, 1974-86; Coordinator, Marine Biology Program, 1984-86; Executive Committee, Center for Marine Studies 1969-1991; Professor of Biology, 1971-97; Advisory Council, Coastal and Marine Institute, 1991-97; Professor Emeritus of Biology (Oceanography and Marine Ecology), 1997-present.

National Science Foundation: Faculty member, NSF-SDSU Institute, San Diego, CA, and Aspen, CO, Summer 1967; Faculty member, NSF-SDSU Ecology Institute, Aspen, CO, Summer, 1971; Funded participant with responsibility for U.S. arrangements, Workshop on Lobster and Rock Lobster Ecology and Physiology, Perth, Western Australia, NSF U.S.-Australia Cooperative Science Program 1976-77. Visiting Scientist, CSIRO Division of Fisheries Research, Perth, Western Australia, funded by NSF U.S.-Australia program, 1980-81. Recipient of research grant support, 1967-1981.

Office of Sea Grant Programs, U.S. Department of Commerce: SDSU Campus Coordinator for Sea Grant Program, 1974-86; Member of California Sea Grant Committee, California Sea Grant College Program, 1976-84; Member of site review panels, 1976-84; Recipient of research grant support for San Diego studies of fisheries, water quality, and aquaculture, 1970-1989.

California Department of Fish and Game: Appointed California State University Appointed Representative on Advisory Board for Ocean Resources Enhancement and Hatchery Program, 1984-93; Recipient of research grant support for studies of stock enhancement of the white seabass, 1984-present.

California Regional Water Quality Control Board, San Diego Region: Appointed Member, San Diego Bay Technical Advisory Panel, 1989-97.

California State Water Resources Control Board and US Environmental Protection Agency: Recipient of research contract support concerning effects of treated sewage effluent on the marine environment of San Diego County, 1985-88.

Commonwealth Scientific And Industrial Research Organization, Australia: Visiting Scientist, CSIRO Division of Fisheries Research, Perth, Western Australia, funded in part through CSIRO Exchange Visits Programme for fisheries research on the Australian rock lobster, 1980-81.

Hubbs Sea World Research Institute, San Diego: Member, Scientific Advisory Council, 1977-82; Member, Research Coordination Committee, 1982-90; Research Associate with three currently active research programs, 1982-present.

Mexican National University (UNAM): Visiting Professor and Lecturer in marine ecology, UNAM Marine Laboratory, Puerto Morelos, Quintana Roo, Mexico, 1983-84.

Public Broadcasting System, KPBS TV and FM Stations, San Diego: Member, Science Advisory Committee, KPBS Office of Scientific Affairs, 1974-80.

San Diego Unified Port District: Chairman, Marine Environmental Advisory Committee, 1975-78; Marine Ecologist responsible for the extensive field studies incorporated in the South San Diego Bay Enhancement Plan, published by the Port District and the Coastal Conservancy; Member, Ecosystem Monitoring Committee, 1995-97; Consulting Marine Biologist in producing the recently released San Diego Bay Natural Resources Management Plan, 1996-2000.

US Navy Facilities Engineering Command, San Diego, CA: Recipient of research contract support concerning potential effects of pile driving on marine fishes in San Diego Bay, 1987-89; Consulting Marine Biologist in producing the recently released San Diego Bay Natural Resources Management Plant, 1996-2000.

ADVISING AND CONSULTING FOR AGENCIES

Scientific Advisor and Consultant on water quality and marine ecological issues to:

California Department of Fish and Game
California Regional Water Quality Control Board, San Diego Region
California Regional Water Quality Control Board, Santa Ana Region
California State Water Resources Control Board
Coastal Conservancy
San Diego Unified Port District
U.S. Army Corps of Engineers
U.S. Navy Facilities Engineering Command

ADVISING AND CONSULTING FOR OTHER ENTITIES

Scientific Advisor and Consultant on water quality and marine ecological issues to:

The Irvine Company
Headlands Reserve, LLC
David D. Smith and Associates
Destination Development Corporation
Hon Development Company
Keith Macdonald and Associates
Merkel and Associates
NRG Energy, Inc.
Rivertech Inc.
PBS&J
Phillips Brandt Reddick
San Diego Gas & Electric Company
Southern California Edison Company
Tierra Data Systems
Woodward-Clyde Consultants

RESEARCH SPECIALIZATIONS

Marine ecology; population ecology and fisheries ecology of marine invertebrates and fishes; water quality and pollution ecology; effects of storm water runoff on aquatic habitats; effects of thermal effluent from generating stations on marine habitats; restoration of degraded wetlands habitats; marine resource planning; aquaculture.

TEACHING AREAS PRIOR TO RETIREMENT

Marine ecology; biological oceanography; marine pollution ecology; biological applications of statistics; aquaculture.

DIRECTION OF GRADUATE STUDENT RESEARCH PRIOR TO RETIREMENT

Chairman of thesis and dissertation committees and primary research advisor for 60 Master's Degree and Doctoral students at SDSU, 1965-1999

SELECTED REFEREED PUBLICATIONS BY RICHARD F. FORD
(Total of 71 papers published 1964-present)

1978 Effects of thermal effluent on benthic marine invertebrates determined from long-term simulation studies. In: J.H. Thorp and J.W. Gibbons (eds.), Energy and environmental Stress in Aquatic Systems. DOE Symposium Series (CONF-71114). National Technical Information Service, Springfield, VA. pp. 546-568 (with D.G. Foreman, K.J. Grubbs, C.D. Kroll, and D.G. Watts).

1979 Effects of fluctuating and constant temperatures and chemicals in thermal effluent on growth and survival of the American lobster (*Homarus americanus*). J. World Mariculture Soc. 10:139-158 (with J.F. Felix, R.L. Johnson, J.M. Carlberg, and J.C. Van Olst).

1986 Population characteristics and fishery potential of the spiny lobster *Panulirus penicillatus* at Enewetak Atoll. Bull. Mar. Sci. 38(1):56-67 (with T.A. Ebert).

1988 Experimental manipulation of population density and its effects on growth and mortality of juvenile western rock lobsters, *Panulirus cygnus* George (with B.F. Phillips and L. M. Joll). Fish. Bull. 86(4):773-787.

1990 Combining mariculture and seawater-based solar ponds, Trans. ASME J. Solar Energy Engineering. 112:90-97 (with P. Lowrey, F.R. Collade, F. Morgan and E. Frusti).

1995 Accomplishments and roadblocks of a marine stock enhancement program for white seabass in California. Amer. Fisheries Soc. Symposium. 15:492-498, 1995. (With D.B. Kent and M.A. Drawbridge).

SELECTED TECHNICAL REPORTS BY RICHARD F. FORD CONCERNING PROBLEMS OF WATER QUALITY PRODUCED BY STORM WATER RUNOFF

Ford, R.F. 1987. Potential ecological influences of the Irvine Coast Planned Community on the adjacent marine environment. Report prepared for The Irvine Company, May 1987.

Ford, R.F. 1987. Potential ecological effects of runoff from the Irvine Coast Planned Community on the adjacent marine environment. Report prepared for Coastal Community Builders, November 1987. Also appears as Appendix I of Rivertech Inc. (1989).

Ford, R.F. 1991. Evaluation of control measures for runoff, water quality and erosion in the Irvine Coast Planned Community Development and their relationships to potential effects on the marine environment. Letter report to Norman D. Witt, Jr. prepared for Coastal Community Builders, a Division of The Irvine Company, August 12, 1991.

Ford, R.F.1992. Evaluation of ecological conditions adjacent to Morning Canyon and at two other Irvine Coast sites, January 11, 1992. Report prepared for Coastal Community Builders, January 1992.

Ford, R.F. 1995. Marine ecological effects of nutrient chemicals in storm water runoff along the Irvine Coast. Report prepared for Coastal Community Builders, June 1995.

Ford, R.F. 1997. Marine ecological effects of nutrient chemicals in storm water runoff and dry weather flows along the Irvine Coast during 1995-1996. Report prepared for Coastal Community Builders and Pelican Hill Golf Club, July 1997.

Ford R.F. 1999. Water quality and marine ecological evaluation relating to the proposed Storm Water Management Plan/Water Quality Management Plan for Long Point Resort, Rancho Palos Verdes, California. Report prepared for Destination Development Corporation, September 1999.

Ford, R.F. 1999. Evaluation of water quality and marine ecological issues concerning the Crystal Cove Development Project of the Newport Coast Planned Community. Report prepared for the California Coastal Commission and The Irvine Company, October 8, 1999.

Ford, R.F. 2000a. Monitoring studies concerning water quality and marine ecology for the Crystal Cove Development Project, Phases IV-3 and IV-4. Study plan prepared for the California Regional Water Quality Control Board, Santa Ana Region and the Irvine Community Development Company, January 12, 2000.

Ford, R.F. 2000b. Evaluation of water quality and marine ecological issues concerning freshwater runoff into the Irvine Coast Marine Life Refuge Area of Special Biological Significance. Report prepared for the California Coastal Commission and the Irvine Community Development Company, April 20, 2000.

Ford, R.F. 2001. Toxicity bioassays conducted during the period October 27, 2000 – April 24, 2001 in the water quality monitoring program for the Crystal Cove Development Project. Submitted to the Water Quality Program, California Coastal Commission, San Francisco, CA, November 15, 2001

Ford, R.F. 2004. Potential effects of the Pelican Hill Resort Project on the marine environment of the Newport Coast. Report submitted to the California Regional Water Quality Control Board, Santa Ana Region and The Irvine Company, 2004.

Ford, R.F., B.B. Hemmingsen and M.A. Shane. 2000a. Water quality and marine ecological monitoring studies for the Crystal Cove Development Project: First Quarterly Report for 2000. Submitted to the California Regional Water Quality Control Board, Santa Ana Region and Irvine Community Development Company, May 12, 2000.

Ford, R.F., B.B. Hemmingsen and M.A. Shane. 2000b. Water quality and marine ecological monitoring studies for the Crystal Cove Development Project: Analytical Report on water quality data for the period January 25 - April 3, 2000, June 2, 2000.

Ford, R.F., B.B. Hemmingsen and M.A. Shane. 2000c. Water quality and marine ecological monitoring studies for the Crystal Cove Development Project: Second Quarterly Report for 2000. Submitted to the California Regional Water Quality Control Board, Santa Ana Region and Irvine Community Development Company, September 28, 2000.

Ford, R.F., B.B. Hemmingsen and M.A. Shane. 2001. Water quality and marine ecological monitoring studies for the Crystal Cove Development Project: Third Quarterly Report for 2000. Submitted to the California Regional Water Quality Control Board, Santa Ana Region and Irvine Community Development Company, June 18, 2001.

Ford, R.F., B.B. Hemmingsen and M.A. Shane. 2002. Water quality and marine ecological monitoring studies for the Crystal Cove Development Project: Final Report for the period January 1 – December 31, 2000. Volume I. Water quality, bioassay and indicator bacteria studies. Submitted to the California Regional Water Quality Control Board, Santa Ana Region and Irvine Community Development Company, March 15, 2002.

Ford, R.F., B.B. Hemmingsen and M.A. Shane. 2003a. Water quality and marine ecological monitoring studies for the Crystal Cove Development Project: Interim Report for the period January 2000 – April 2003. Marine water quality, toxicity bioassays and intertidal and subtidal marine ecological studies. Submitted to the California Regional Water Quality Control Board, Santa Ana Region and Irvine Community Development Company, August 9, 2003.

Ford, R.F., B.B. Hemmingsen and M.A. Shane. 2003b. Water quality and marine ecological monitoring studies for the Crystal Cove Development Project: Final Report for the period October 1, 2000 – December 1, 2001. Volume I. Water quality, bioassay and indicator bacteria studies. Submitted to the California Regional Water Quality Control Board, Santa Ana Region and Irvine Community Development Company, February 20, 2003.

Ford, R.F., M.A. Shane and H.C. Simonds. 2003c. Water quality and marine ecological monitoring studies for the Crystal Cove Development Project: Final Report for the period January 1 – December 31, 2000. Volume II. Intertidal and subtidal marine ecological studies. Submitted to the California Regional Water Quality Control Board, Santa Ana Region and Irvine Community Development Company, March 26, 2003.

Ford, R.F., and B.B. Hemmingsen. 2004a. Water quality and marine ecological monitoring studies for the Crystal Cove Development Project: Final Report for the period October 1, 2001 – December 31, 2002. Submitted to the California Regional Water Quality Control Board, Santa Ana Region and Irvine Community Development Company, March 15, 2004.

Ford, R.F., B.B. Hemmingsen and M.A. Shane. 2004b. Water quality and marine ecological monitoring studies for the Crystal Cove Development Project: Final Report for the period October 1, 2002-December 31, 2003. Water quality, bioassay and indicator bacteria studies. Submitted to the California Regional Water Quality Control Board, Santa Ana Region and Irvine Community Development Company, April 9, 2004.