

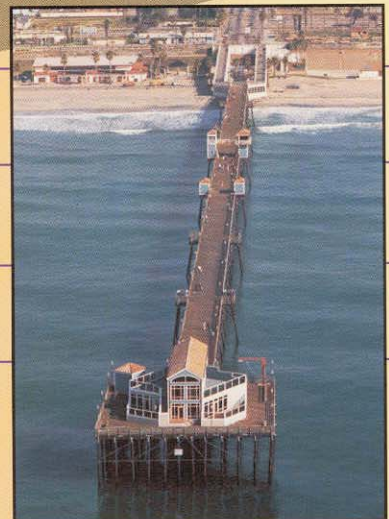
NOBLE

CONSULTANTS



CIVIL,
COASTAL &
HARBOR
ENGINEERING

- ◆ PLANNING
- ◆ DESIGN
- ◆ CONSTRUCTION MANAGEMENT



COASTAL ENGINEERING ANALYSIS

SHORELINE PROCESSES

Deepwater & Shallow Water Wave Transformation
Longshore & Cross-Shore Sediment Transport Analysis
Shoreline Erosion & Accretion Studies
Sediment Budgets
Shoreline Change Analysis
Beach Replenishment Planning
Beach & Sand Management Plans
Tides, Currents & Wind Assessment
Tidal Inlet Analysis
Estuarine, Riverine & Coastal Analyses
Dredging & Disposal Studies



NUMERICAL MODELING

Wave Refraction & Diffraction
Spectral Nearshore Wave Transformation
Monte Carlo Simulation of Wave Incidence
Wave Predictions & Wave Hindcasting
Storm Surge & Surge Resonance
Wave Forces on Structures
Longshore & Cross-Shore Sediment Transport
Tidal Hydrodynamic Modeling
Water Quality & Circulation Analyses
Outfall Diffusion & Dispersion Modeling



HYDRAULIC (PHYSICAL) MODELING

Wave Transformation, Transmission & Reflection
Wave Runup & Overtopping
Breakwater Protection Alignment
Revetment & Breakwater Stability Analysis
Tidal Currents & Embayment Flushing

OTHER

Coastal Engineering Impact Analysis for EIR's
Storm Damage & Risk Assessment
Oceanographic Instrumentation & Data Acquisition
Bathymetric & Beach Surveys
Permitting & Regulatory Compliance
Hydraulic & Sedimentation Analyses
Flood & Hydrology Studies
Sediment Sampling & Analysis
Effluent & Discharge Assessment



Noble Consultants has developed the breadth and depth of practical expertise to provide a comprehensive array of services. Services that result in effective solutions in both the short and the long term. By working closely with clients at each stage of a project, Noble has built an impressive track record of delivering projects that successfully meet the most exacting requisites.



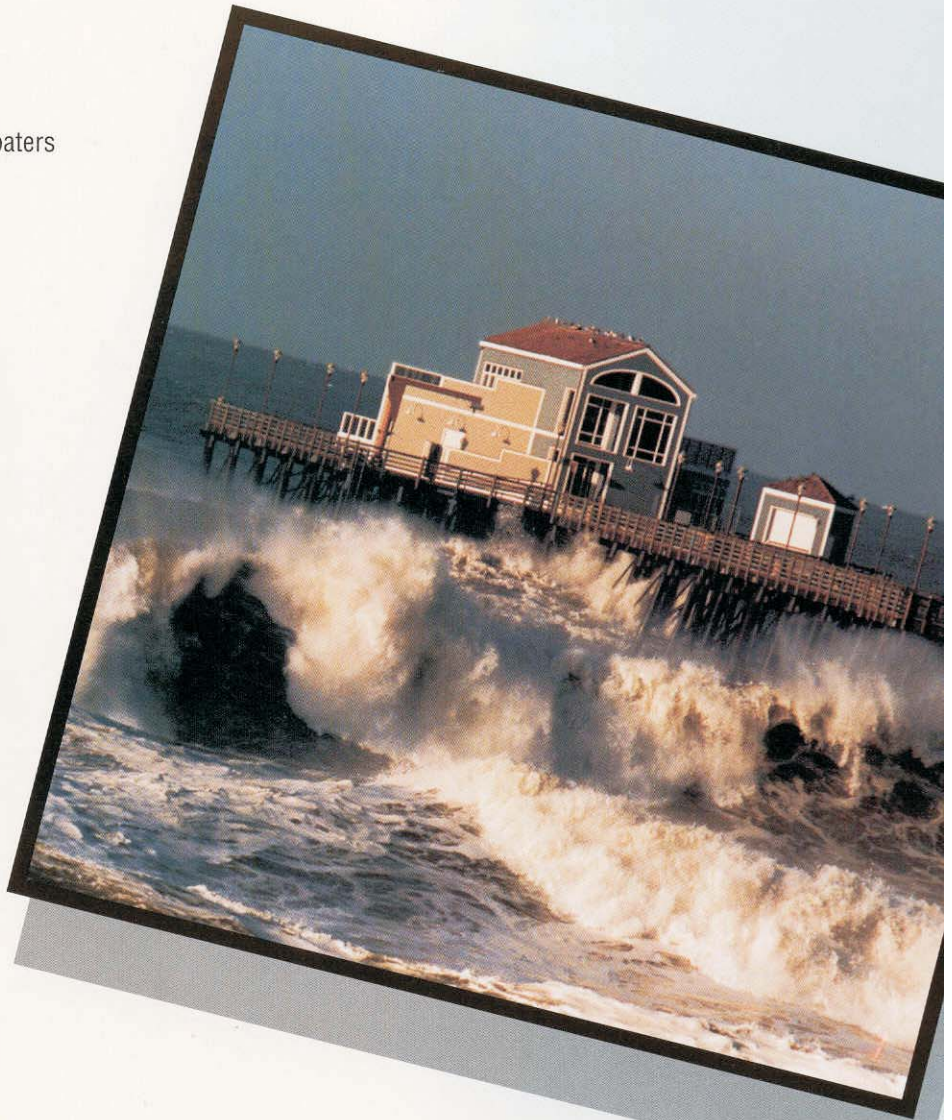
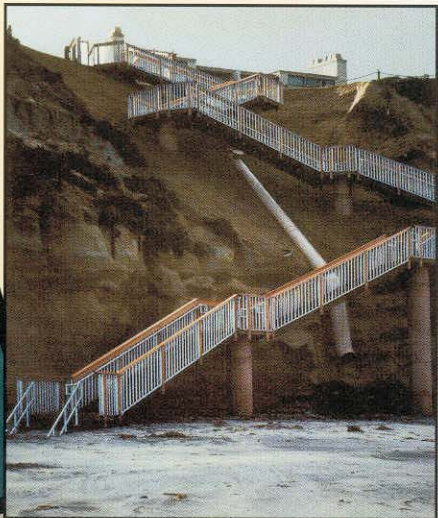
CIVIL/HARBOR ENGINEERING DESIGN

SERVICES

Project Management & Oversight
Site Investigations & Inspections
Reconnaissance & Feasibility Studies
Master Planning of Waterfront & Shoreline Projects
Conceptual Design Development
Final Engineering Design
Engineering Drawings, Specifications & Contract Documents
Engineer's Construction Cost Estimate
Permitting & Regulatory Compliance
Constructability Review
Value Engineering
Forensic Engineering & Expert Testimony

TYPES OF PROJECTS

Marinas, Ports & Harbors
Mooring Facilities
Piers, Wharves, Bulkheads & Docks
Breakwaters, Jetties & Groins
Residential & Commercial Waterfront Developments
Navigation & Channel Improvements
Seawalls, Revetments & Dikes
Shore & River Bank Protection
Beach Restoration & Nourishment
Dredging, Siltation & Material Disposal
Inspection of Waterfront & Coastal Facilities
Boat Launch Facilities
Coastal Access Stairways
Drainage Facilities, Culverts & Energy Dissipaters
Ocean Outfalls & Intake Structures
Lake Restoration



Taking a multidisciplinary approach, Noble Consultants puts a team of experts on each project. Together, their extensive practical experience and professional skills result in innovative answers to new challenges. Utilizing state-of-the-art engineering techniques, Noble tailors its services to each individual project requirement.

CONSTRUCTION ENGINEERING AND MANAGEMENT

FINAL DESIGN & BID DOCUMENTS

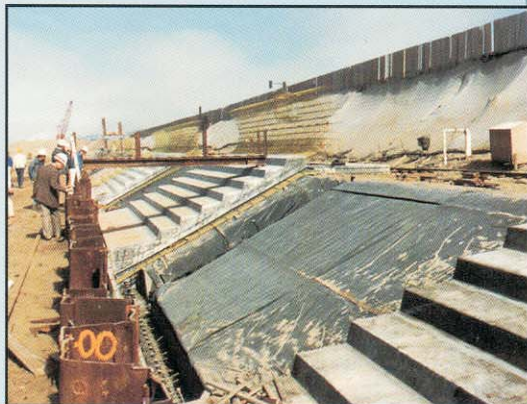
- Value Engineering
- Constructability Review
- Construction Cost Evaluation
- Life Cycle Cost Evaluation
- Claims Prevention Review
- Contract Documents & Bidding Alternatives
- Construction Scheduling & Phasing

CONTRACT BIDDING & AWARD

- Pre-Qualification of Bidders
- Solicitation of Bids
- Pre-Bid Conference
- Review of Contractor Qualifications
- Bid Analysis & Contract Award
- Pre-Construction Conference

CONSTRUCTION

- Contract Administration
- Project Document Control
- Project Cost & Schedule Control
- Resident Construction Inspection
- Off-Site Fabrication Inspection
- Approval of Submittals & Shop Drawings
- Approval of Contractor Pay Requests
- Change Order Control & Claims Analysis
- Progress Construction Meetings
- Verification of Materials Compliance
- Verification of Materials Testing
- Maintain As-Built Record Drawings
- Project Close-Out & Correction List
- Post-Construction Monitoring



Noble Consultants is dedicated to meeting each client's specific needs. That includes carefully controlling budgets and meeting project timetables. In fact Noble has earned the reputation of fulfilling and exceeding client requirements. Noble's high percentage of repeat business attests to client satisfaction. To learn more how Noble Consultants can assist you, please contact one of the offices listed on the back cover.



No one can control nature.
But Noble Consultants
anticipates and mitigates

its forces through highly specialized civil engineering skills combined with years of practical experience.

Across the country and around the world, this professional engineering firm has been involved in more than 5,000 projects along ocean and coastal shores, within bays and harbors and throughout inland rivers, lakes and waterways. With construction costs ranging from \$10,000 to over \$100 million, no project is too large nor too small.

Noble provides a full spectrum of services from initial project analysis, feasibility studies and the development of engineering criteria to final design including the preparation of construction drawings, specifications and construction management.

The firm has worked with government agencies, private industry and corporations, as well as with other engineering and construction firms. Regardless of size, each client and project receives the same technical proficiency, personal attention and commitment to excellence that is the hallmark of Noble Consultants.

