



Shoreline Engineering, Inc. is a federally registered, woman-owned and operated, small business. The Shoreline team has been providing professional structural & civil engineering services for marine facilities and landside structures for more than 33 years with over 47 years of combined experience. The firm has a history of providing practical, constructible solutions to difficult problems. Providing clients with the information they need to make informed decisions is a central goal of the team. Whether it's inspection and assessment, analysis and design, consulting, or construction administration; Shoreline Engineering is committed to delivering quality products and providing insightful engineering expertise.

PROFESSIONAL SERVICES PROVIDED:

STRUCTURAL CONDITION ASSESSMENT

- Underwater and above water inspection
- Evaluation and analysis of existing structures
- MOTEMS inspection
- Bridge inspection (NHI-FHWA trained)

STRUCTURAL / CIVIL ENGINEERING

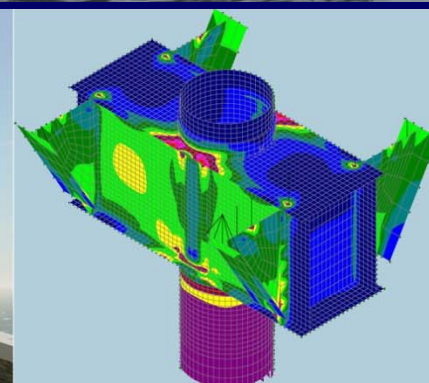
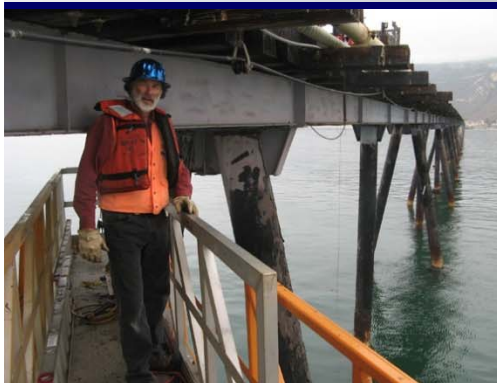
- Design and analysis of new construction
- Seismic analysis and structural retrofit design
- Foundation design and site analysis

CONSULTING ENGINEERING

- Forensic evaluation
- Expert witness / technical expert

CONSTRUCTION ADMINISTRATION

- Construction inspection
- Third-party verification
- Resident engineer





Structural Condition Assessment

Shoreline Engineering believes that the key to prolonging the service life of marine structures is through proactive maintenance including regular detailed structural assessments. The harsh marine environment takes its toll on these valuable facilities. Deterioration caused by pounding waves, high winds, salt spray, corrosion, and biological organisms results in reduced structural capacity and the possibility of downtime while unanticipated repairs are performed.

The Shoreline team, with more than 47 years of combined engineering experience, brings a seamless combination of analytical and practical expertise to each project. Our goal is to provide our clients with the information they need to make decisions which will result in the most cost effective approach to maintaining their facilities.

Shoreline provides in-house, commercially trained, engineer-divers who not only conduct the inspection, but also perform the evaluation and generate the assessment report. If required, the same team also performs the subsequent analysis, repair design, and construction administration.

Using experienced professional engineers with commercial diving equipment and training yields the safest and highest quality inspections available. The ability to instantly communicate safety concerns at either end of the umbilical allows for a level of safety that cannot be matched by self-contained underwater breathing apparatus.

Unlike SCUBA, commercial surface-supplied diving equipment provides a triple-redundant breathing gas supply for the diver. Continuous four-wire communications enable clear transfer of

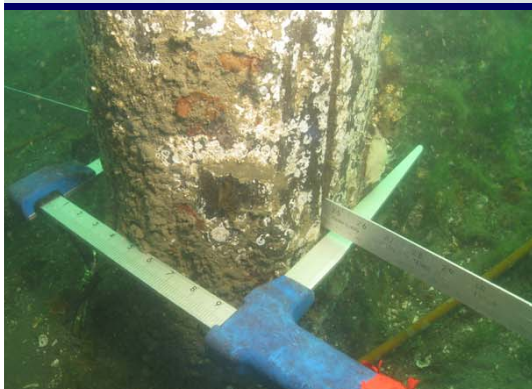


inspection findings to the topside note taker who can guide the diver through the pre-planned assessment procedure. Conditions that may warrant a more in-depth evaluation are identified during the inspection and addressed immediately.

Using company owned equipment and vessels ensures that the equipment is properly maintained and available when required.

Inspection Types:

- Baseline
- Routine
- Repair Design
- New Construction / Repair Construction
- Special (Due diligence, Forensic, Sampling)
- Post-Event (Storm, Earthquake, Allision / Collision)





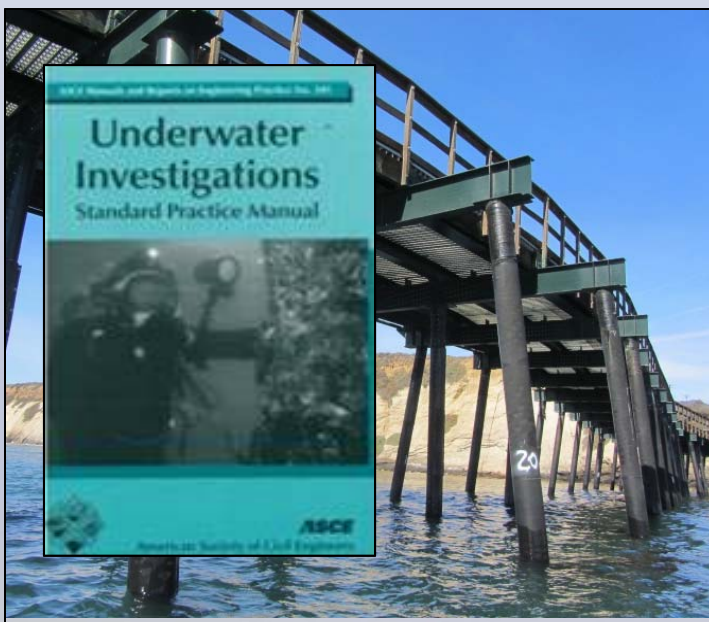
SHORELINE ENGINEERING, INC.

STRUCTURAL / CIVIL / FORENSIC / ENGINEER-DIVERS

MARINE INFRASTRUCTURE INSPECTION, REHABILITATION, & ENGINEERING SERVICES

- Professionally Licensed Engineer Divers
- ADCI Certified Commercial Divers
- Commercial Surface-Supplied Diving Equipment
- Company-Owned Vessels and Dive Equipment
- Triple-Redundant Air Supply
- Continuous 4-Wire Communications
- Detailed Dive Planning
- Safety First Priority

- Underwater and Above Water Inspections
- Destructive and Non-Destructive Testing
- Ultrasonic Thickness Measurements
- Cathodic Protection Surveys
- Core Sampling
- Underwater Imaging
- Detailed Assessment Reports
- Rehabilitation / Repair Solutions



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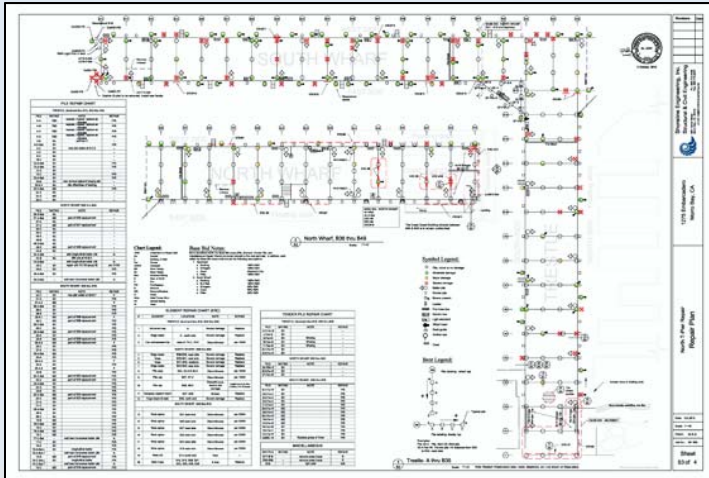


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**MARINE INFRASTRUCTURE
INSPECTION, REHABILITATION,
& ENGINEERING SERVICES**

Marine Facilities:

- New Construction Engineering Design
- Rehabilitation Design
- Capacity Analysis / Computer Modeling
- Damage Assessment & Repair Design
- Pipeline Armoring, Burial, and Removal



Ports & Harbors, Marinas, Offshore Structures:

Shoreline specializes in detailed structural condition assessment, repair and rehabilitation design, and new construction design of marine facilities. Project experience includes timber, steel, and concrete structures, as well as, pipelines and outfalls. Shoreline personnel have extensive experience performing waterfront inspections locally, nationally, and internationally, including U.S. Naval Facilities worldwide and MOTEMS regulated facilities in CA.



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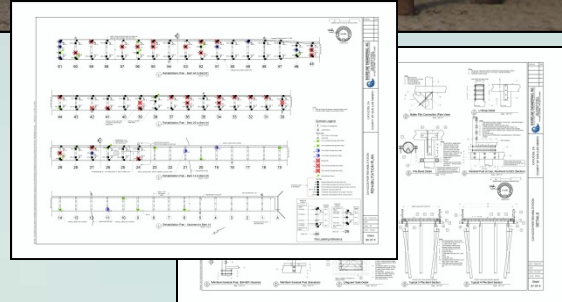
**MARINE INFRASTRUCTURE
INSPECTION, REHABILITATION,
& ENGINEERING SERVICES**

RECENT PROJECT EXPERIENCE:



Timber Pier Inspection & Rehabilitation:

- Underwater & Above Water Inspection
- Capacity analysis / Computer modeling
- Interim Repair & Strengthening Design
- Rehabilitation Analysis & Design



Cayucos Pier Inspection and Rehabilitation:

Shoreline engineers performed above and below water inspections of the pier. Based on the findings, an interim repair plan was developed to strengthen the pier for the winter storm season. The interim repair solution was constrained by several factors: no pile driving permitted, no vehicular or heavy equipment loading allowed on deck, and a limited construction window before winter storms arrive. The repair was completed in January 2014. A huge west swell hit the central coast March 1, 2014 causing significant damage to several piers in the area – the Cayucos Pier, with interim repair elements installed, survived. Subsequently, Shoreline engineers developed a comprehensive rehabilitation design.



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STRUCTURAL / CIVIL ENGINEERING CONSULTING ENGINEERING CONSTRUCTION ADMINISTRATION

Professional engineering services include extensive and effective use of computer evaluation and modeling. The engineers develop structural component models (SCM) and finite element models (FEM) to load and evaluate system performance and check code compliance. The models are used to support the preparation of construction documents.

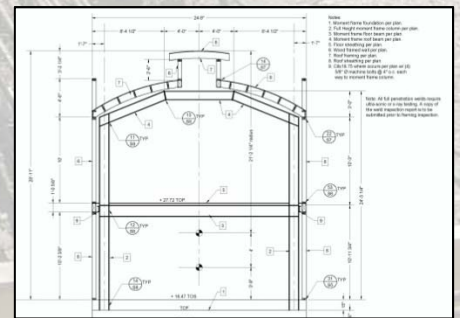
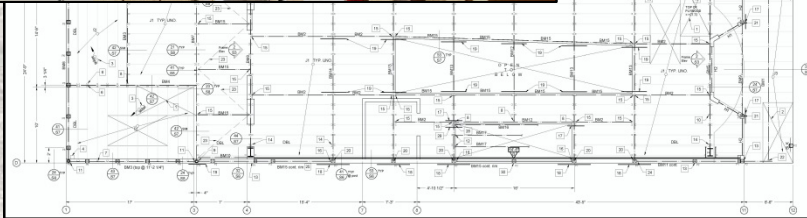
Residential / Commercial Buildings:

- Structural and Civil Engineering Design
- Restoration of Historic Structures
- Site Engineering
- Lateral Force Resistance Systems
- Custom Trusses
- Computer Modeling & Analysis



Landside structures:

Shoreline engineers routinely provide engineering analysis and design services for both residential and commercial structures. Complex sites and/or architectural designs pose interesting challenges that require attention to detail. This ensures optimal cost controls and ease of construction.



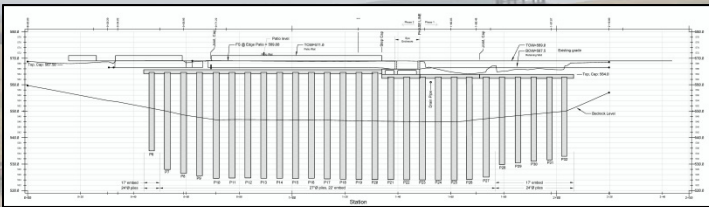
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Shoring Structures & Foundations:

- Site Investigations
- Survey and Monitoring
- Document Review
- Foundation Stabilization Design
- Retaining Structures
- Expert Witness Consulting & Testimony



Retaining Walls / Shoring / Foundation Stabilization:

Shoreline engineers have completed several projects that required long term monitoring; in some cases, more than a decade. What starts out as a fairly straightforward foundation strengthening project can become a complex site stabilization effort. Engineering services often include civil, structural, and expert witness components. Effective coordination with geotechnical engineers, geologists, attorneys, and ultimately the contractor, may be required to successfully stabilize the site and structure.

