WATERFRONT & MARINE INFRASTRUCTURE

With experienced professionals in both landside and marine engineering disciplines, Art Anderson is positioned to address the unique challenges of shoreline and nearshore infrastructure projects. While many aspects of traditional landside facility engineering apply, the marine environment presents additional challenges and requires robust designs to withstand harsh conditions that come with wind, waves, currents and wakes. Regulatory challenges also must be understood, including navigating complex shoreline development codes and obtaining permits from a variety of local, state and federal agencies.

Over the decades with hundreds of successfully completed projects, our clients and partners have come to appreciate the value of our experience delivering challenging shoreline and nearshore transportation, industrial, commercial, recreational and environmental facilities.

Art Anderson Capabilities

What makes Art Anderson different is our breadth of expertise and diversity of services. We employ naval and landside architects, planners, construction managers, and marine and facilities engineers.

We are well-equipped to address challenges that encompass:

- Facilities and Land-Based Architecture and Engineering
- Military and Public Facilities Engineering
- Waterfront and Shoreline Engineering
- Facilities and Vessel Construction Management
- Naval Architecture/Marine Engineering
- Waterborne Transportation Planning and Design
- Marine Research and Development

Projet Highlight: Marina Expansion

Art Anderson provided comprehensive design and construction services for the expansion of the Port of Bremerton’s marina on the Bremerton waterfront. The $34 million project expanded the marina by approximately 300 berths and incorporated a breakwater system. We provided full civil, structural, mechanical and electrical engineering design; landside and naval architecture; and bid/construction support services for all elements of the project.

The main breakwater design was developed as a result of extensive physical and numerical modeling. The structure protects against both wind and the long-period wake waves of passing ferry traffic. The project received numerous accolades, in large part due to the accomplishments of the floating breakwater design.
CORE CAPABILITIES

Civil Engineering
- Dock and Pier Design & Inspections
- Marina Design
- Floating Structures
- Marina Breakwater/Wave Screen Design
- Moorage Design
- Shoreside Facility Design
- Vehicle Ferry Ramp Design
- ADA Accessible Design
- Site Planning
- Utilities Master Planning
- Site Fire Water Systems
- Hotel Services Design
- Wave Dynamics Studies
- Boat Launch Ramp Design
- Pedestrian Ramp Design
- Fuel Float Design
- Structural Design
- Piling Design
- Shoreline Erosion Control
- Underwater Utilities Systems Design
- Underwater Fuel Systems
- Underwater Concrete Design
- Regulatory Permitting (Local and ACOE)

Marine Engineering
- Electrical System Design
- Structural Design
- Feasibility Studies
- Economic Optimizations and Trade-off Studies
- Overhaul and Conversion Planning
- Construction Cost Estimating
- Wake Studies
- Stability Studies
- Weight Engineering
- Hydraulic Systems Design
- Vessel Mooring

Construction Management
- Program and Project Management
- Selection and Supervision of Design Team
- Value Engineering Studies
- Constructability Review
- Design Consultation
- Communications Management
- Production and Distribution of Bid Documents
- Management of Bid Process
- Monitoring of Program/Project Schedules and Budget
- Records Management
- Pre-construction conferences
- Full Time and Periodic Construction Observation
- Construction Quality Control
- Dock and Pier Inspections
- Submittal Review
- Field Change Preparation
- Change Order Preparation
- RFI Processing
- Punchlist Preparation
- Dispute Resolution

Mechanical Engineering
- 3D Design and Modeling
- Plumbing Layout and Design
- Water Systems
- Code Studies
- Hydraulic Systems Design
- Fueling Systems
- Machinery Design
- Feasibility and Optimization Studies
- HVAC System Design (Custom and Package)

Electrical Engineering
- Marina Power Systems
- System Controls
- Interior and Exterior Lighting Design
- Low Voltage Lighting
- Security and Fire Alarm Systems
- Electrical Load Calculations
- Remote Control Systems
- Power System Protection
- Underwater Power Transmission
- Power Vault Design

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