



PROJECT TITLE: Bulkhead and Boardwalk at Constant's Wharf
CONTRACT NO.: 199900004-007-03
LOCATION: Constant's Wharf, Suffolk, Virginia
AWARD DATE: May 2003 **COMPLETION DATE:** April 2005
FINAL VALUE: ☐ \$0-1 Mil ☒ \$1-5 Mil ☐ \$5-10 Mil ☐ \$10-20 Mil
☐ \$20-30 Mil ☐ \$30-40 Mil ☐ \$40-50 Mil ☐ \$50+ Mil
TYPE OF CONTRACT: ☐ Fixed Price ☒ Cost Reimbursable

PROJECT DESCRIPTION:

The project consisted of the development of the downtown waterfront on the Nansemond River for the City of Suffolk. Work included demolition of 1000 feet of an existing concrete sheet pile bulkhead, construction of 1000 feet of a new steel sheet pile bulkhead, a brick paved promenade, removal and replacement of an existing concrete floating dock marina and berthing for small tour boats. The City retained TranSystems Corporation to evaluate and repair/replace a system in distress in an accelerated design and construction schedule. Immediate measures were needed to stabilize the existing conditions and then proceed with an evaluation and analysis to address the condition and develop a design that could immediately be implemented.

Through a qualification based selection process, the City of Suffolk, assisted by TranSystems Corporation, expedited a contract with W. F. Magann Corporation to operate as the construction contractor. With an engineering and construction team in place, numerous repair/replacement options were developed by the TranSystems/W. F. Magann team for the City of Suffolk in order to determine the most cost effective solution. Onsite meetings were held with the client, Virginia Marine Resources Commission and the Army Corp of Engineers to resolve design issues and fast track permit issues.



Steel sheet pile installation

The alternatives analysis used time, quality, construction sequencing and cost as evaluation criteria and resulted in the selection of the new steel sheet pile bulkhead installed outboard of the failing 1000 feet of concrete bulkhead as the best value and performance. TranSystems quickly produced calculations and construction documents not only for the new steel sheet pile bulkhead with concrete dead man tiebacks, but also a detailed backfill and soil surcharge plan to reduce settlement of the structures built behind the bulkhead (steps, walkways, retaining walls, etc.).



Floating piers, a large fixed pier, and a pedestrian bridge abutment were also incorporated into the new design. The project was completed on time and within budget.



Steel sheet pile bulkhead with soil surcharge loading



Completed Constant's Wharf Public Park and Marina