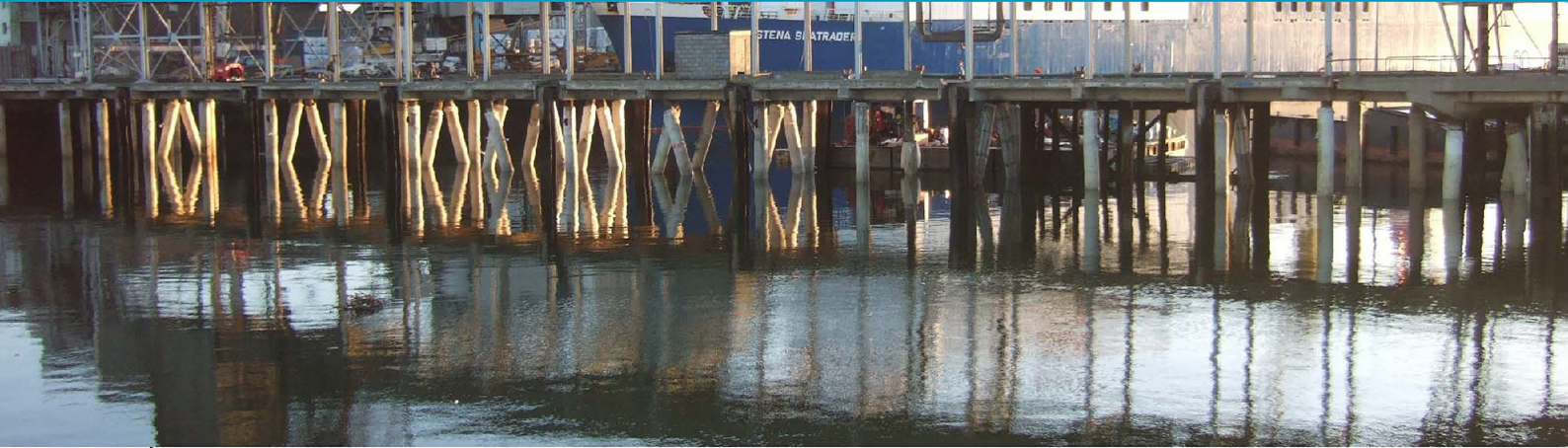


Consultant: Jacobs



The Bulk Jetty was built in 1950. The steel piles to the jetty were in such a poor condition with many piles holed through corrosion that the structure was considered for demolition. The pile jacket system enabled strengthening and protection by concrete encasement and allowed the continued use of the jetty.

The reredoss steel section piles were high pressure jet cleaned and inspected before the pile jacket system was applied. 138 piles were protected including raker piles. Pile encasement lengths were typically 9-11m long down to bed level. The top 0.3m of the pile was protected by sprayed concrete onto joint continuity mesh reinforcement. The work was completed in some 7 months, generally using 2 dive teams, putting the jetty back into working condition.

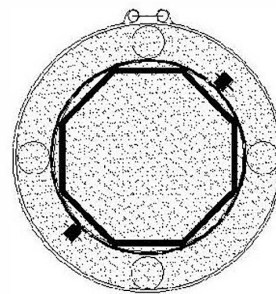


Holed Pile

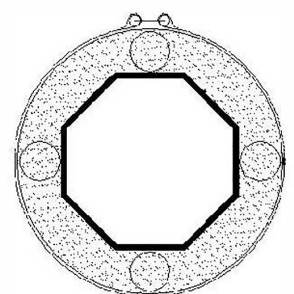
The jetty piles had suffered from Accelerated Low Water Corrosion. Following a steel thickness survey and structural appraisal, the Consultant Engineers selected a 100mm thick concrete encasement with weakened lengths to be reinforced with steel sprit rings. A traditional 2: 1 sand: cement micro concrete mix was developed to achieve C35 / 45. strength. Polypropylene fibres were included to aid shrinkage control. A site test was conducted on the strengthening arrange to demonstrate the systems use.



Repaired Piles Using Pile



Reinforced Pile Encasement



Pile Encasement