



*Project overview prior to demolition and repair*



*Reinforced concrete pile caps had deteriorated badly at tidal level*



*Repair area formed and poured ready to finish off*

## Watsons Bay ferry wharf receives overdue repair

**The problem:** Years of chloride ingress into the concrete structure had caused severe deterioration of various elements of the wharf, particularly in the tidal zones of the concrete pile caps and some reinforced concrete beams.

**The constraints:** The wharf was to remain open while the work was undertaken. Tidal impact on the repair work was also a safety concern. Finally all debris from the demolition process had to be captured to protect the environment.

**The solution:** An access system complete with working platforms suitable for use on each of the elements to be repaired was specially designed and manufactured. It was installed to allow work to proceed around tides, as well as capture any debris from the repair work. Production sequences were planned to facilitate berthing of the ferry at specific times.

**The methodology:** Following installation of the access system, the repair team removed the deteriorated concrete. The repair areas were suitably prepared including any steel replacement.

These were then formed up and a fluid micro-concrete repair material was mixed and poured into the formwork. Once the repair mortar had gained sufficient strength, the formwork was removed and, where required, the repairs were finished off using a hand-applied high-build repair mortar.

**The result:** All deteriorated concrete removed and reinstated with new high-density concrete repair material. No environmental damage caused and all work carried out to safe work practices.

**Asset owner:** Sydney Ports

**Completed:** August 2007