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HINZE DAM STAGE 3 PROJECT
Stage 1 Ogee Slot

OVERVIEW OF PROJECT

With a rapidly growing population and widespread drought, the pressure on water supply continues to increase. The Hinze Dam Stage 3 project has been identified as a priority to increase the dam's water storage capacity and delay the release of floodwaters onto the floodplains. This will reduce downstream flood levels and decrease the number of properties vulnerable to flooding.

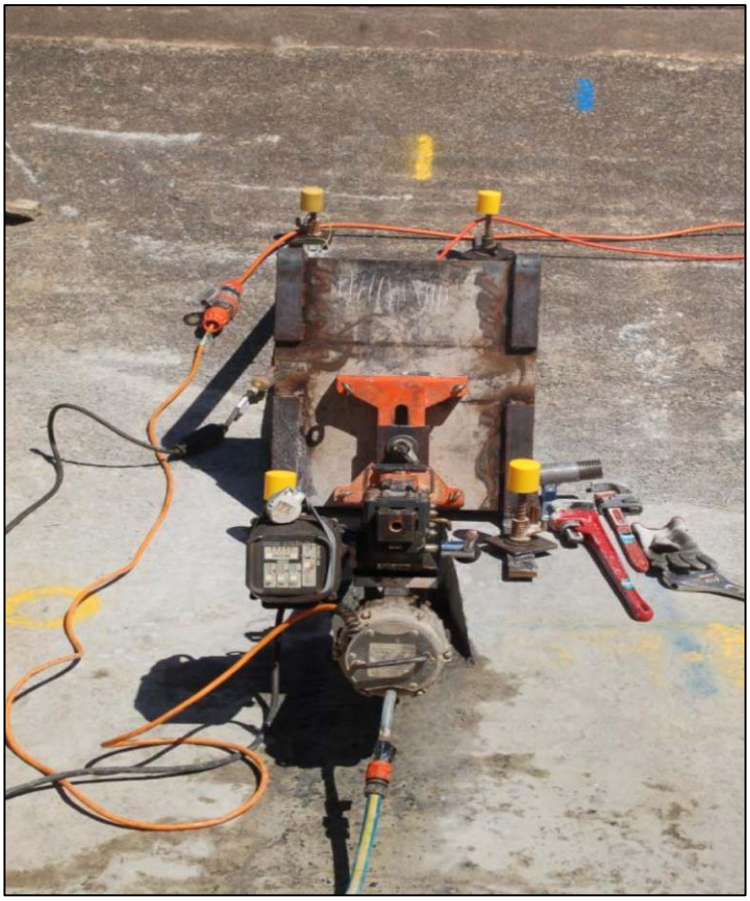
For the above to be fulfilled the Hinze Dam wall will be raised by 15 meters which will double the capacity of the dam.

PROBLEM

The stage 3 upgrade requires mass concrete to be formed and poured in the stilling basin and over the stage 2 spillway. For this to occur access was required to the stilling basin through the stage 1 ogee.

SOLUTION

DecoTEC have had past experience in similar projects and were therefore called upon to carry out the required works. There were a number of elements that had to be addressed before and during these works were conducted. The following photos demonstrate DecoTEC's approach to the task.

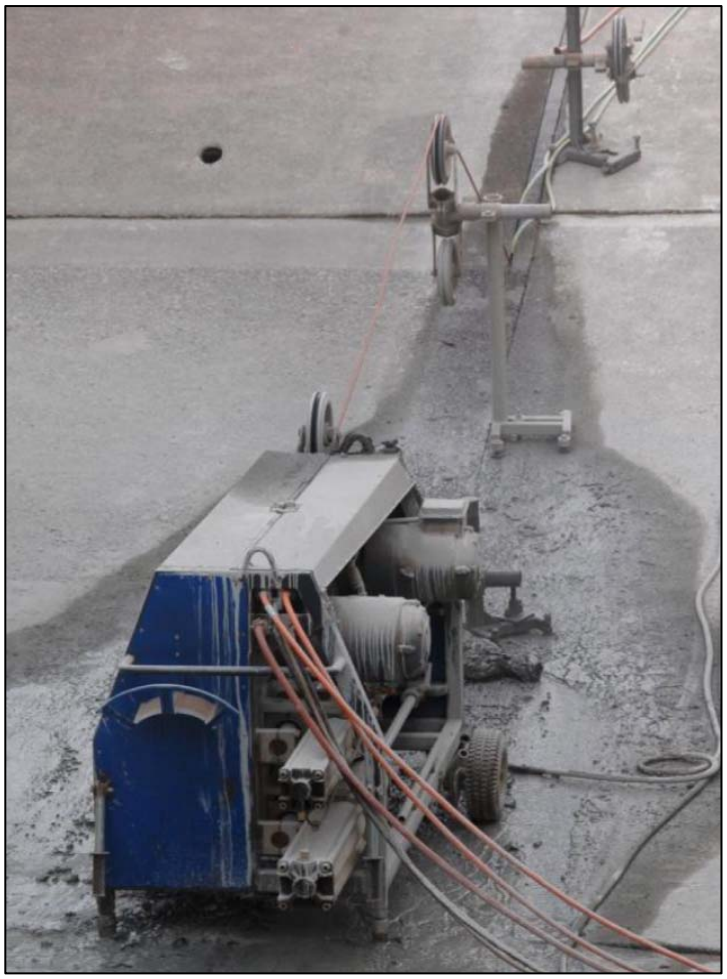


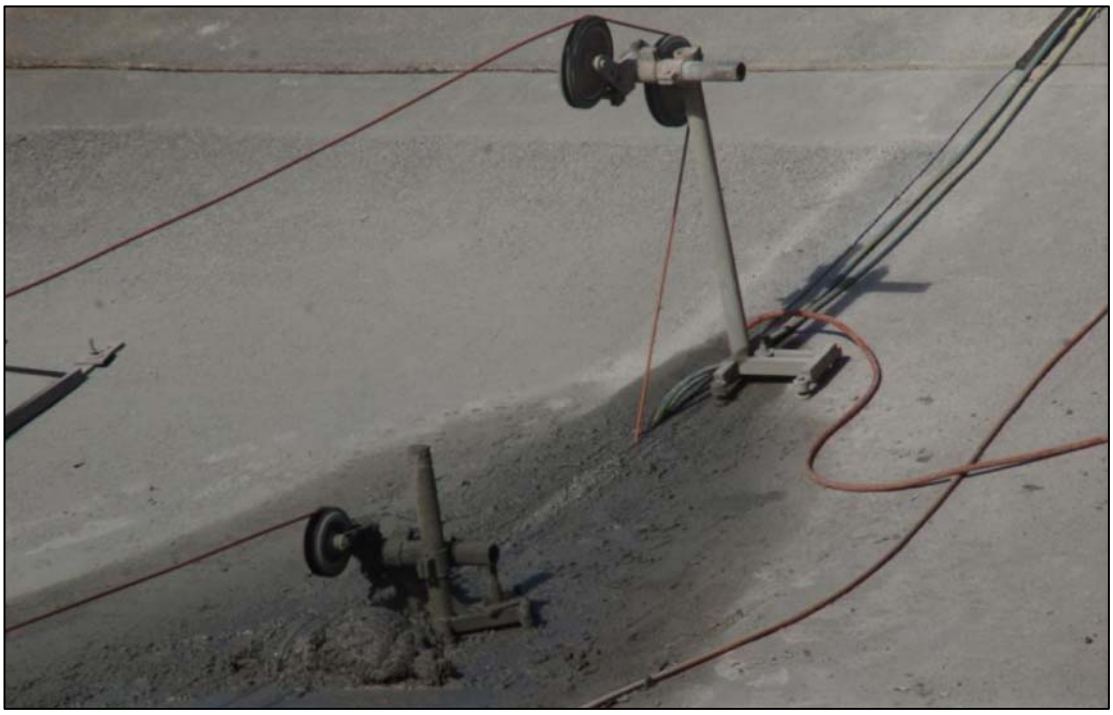
Set-up to drill 50mm wire holes 14.5 metres through lower ogee using 3 phase lower automated drill rig.

Each of the wire feed holes were drilled using continious barrells. An accuracy of +/- 50mm was maintained in all drilled holes.

Wire saw was set-up and wire fed through the cored hole and back over top off ogee.

Tension is taken up and cutting begins all excess wire is taken up within the wire saw storage unit as the wire is continuously pulled through the concrete.





Right side cut near completion. Each cut took approximately 32 hours to complete.

Set-up on left cut

Section through right cut showing control joint and water stop.

Left and right cuts after completion giving full separation from the surrounding concrete. The concrete contained 20 and 30mm reo bars at 200mm centres.

Concrete was then removed with a 20 tonne excavator.

In all 240m^3 of concrete was removed each cut face was 14.5m long x 5m high approx. Allowing for the ogee shape a total of 48m^2 was cut on each face.

The final opening was large enough to drive a Moxy truck through and would provide access to the upper spillway mass concrete pouring