

# A RECORD OF SUCCESS

**B**lowering Dam was one of a number of dams in regional NSW scheduled for major safety upgrades to improve water management in times of extreme weather conditions. Macmahon successfully tendered for the \$33 million NSW State Government contract and the work was recently completed, some months ahead of schedule, in December 2010.

Macmahon has built an enviable reputation in the engineering construction industry since the company's inception in 1963. Their experience in many water infrastructure projects and specialist knowledge in the construction of dams, remediation works, the storage, treatment and supply of water and pipeline installation were significant elements in their successful bid.

Owned and operated by the State Water Corporation, Blowering Dam is the sixth largest embankment dam and ninth highest in Australia and the last dam downstream in the Snowy Mountains Hydro-Electric Scheme. It was originally constructed in 1968 and came to fame 10

years later when Ken Warby set the world water speed record of 511 km per hour on the dam: a record that still holds today.

The upgrade works comprised the construction of a two metre high parapet wall on the crest of the dam and the raising of the spillway chute wall. These upgrades enable the safe containment of high flood discharges through the spillway domain.

The dam location in the picturesque Murrumbidgee Valley on the Tumut River gave the project a dramatic backdrop, but conversely translated into a challenging environment to work in. The steep slopes and rugged terrain certainly added to the complexity of the project.

Tumut town, located 13 km downstream from the dam, was a direct beneficiary of Macmahon's successful bid, as the company is always keen to utilise local resources, equipment and labour. Up to 60 townspeople were employed with more than 20 subcontractors and 130 suppliers also engaged on the project.

Furthermore, for 18 months, the dozen members of the Macmahon project team plus other contractors lived in Tumut, while the work was carried out.

"Working and living locally meant we could focus on the task in hand and develop strong communications between all parties.

"The great team spirit created between Macmahon and the community most certainly contributed to the success of this project." said Dave Deany, Project Manager with Macmahon.

"Additionally, it was a pleasure to see the local community get right behind the project."

Indeed, the community kept a keen interest in the developments, as they knew that the 18 year gap since the spillway had last been operated was a statistic waiting to be challenged...as it was in December, when very heavy rain meant the dam exceeded its capacity and the work on

the crest wall and the upgraded spillway came into their own, operating safely and efficiently.

Delivering ahead of time and under budget were key achievements for Macmahon on this job. Their best practice project management skills were a strong component to this success.

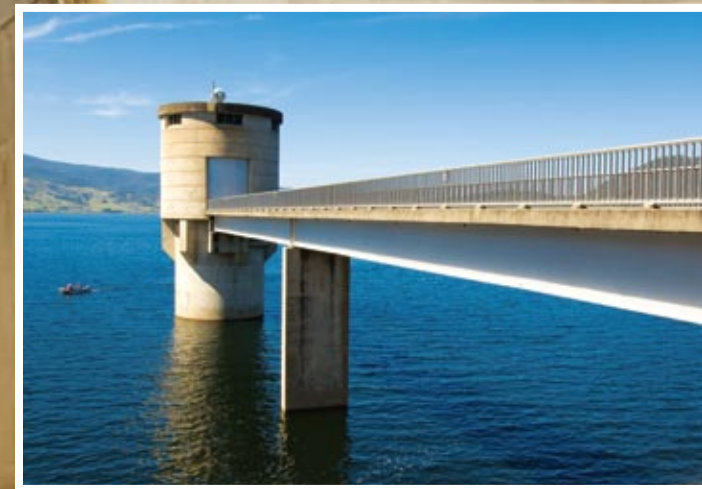
In particular, daily contact and regular reporting to State Water via their third party representative, Professional Engineering Services (PES) ensured that everyone was kept up to date, facilitating rapid decision making and smooth running.

This same project team is also carrying their experience and expertise over into new major water infrastructure works – they are currently working on the Burrendong Dam in Central West NSW and have been awarded the contract to upgrade the Jindabyne Dam spillway, located in the New South Wales Snowy Mountains. An overflow of success stories for Macmahon!

## BLOWERING DAM

MAIN CONSTRUCTION COMPANY : Macmahon Contractors  
PROJECT MANAGER : David Deany  
COMPLETION : December 2010  
PROJECT END VALUE : \$33 Million

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## A FAMILY TRADITION CARRIES ON

**M**orrone Contracting and Plant Hire Pty are a Western Australian earthmoving machinery hire company.

In operation since 2006, and more usually involved in carrying out government work in civil engineering projects in metro and country areas in WA, Morrone relished the opportunity to spread their wings and be involved in the Blowering Dam Upgrade over in New South Wales.

Providing earthmoving services for this project ironically meant moving across the earth for Shane Nairn, an excavator operator for Morrone. He and his family relocated for a year and a half to Tumut, the nearest town to the dam, which covered all but the last 2 months of the project.

“Our move was made much easier as the people of Tumut and the team working on the dam upgrade made us feel very welcome, plus the work itself was interesting, so we settled in well”, said Shane.

Shane’s considerable skills in operating excavating machinery and experience in working previously with Macmahon and other large contractors, meant that he had no trouble fitting in with the project team. His work involved using Morrone’s 45 tonne Komatsu excavator to break down sections of the dam wall, moving the rocks away and then breaking them down into smaller pieces. The next stage required him to transport this smaller material back, and re-use it for building the new parapet wall on the dam.

Re-laying the rocks is a highly specialised job, needing a keen eye for detail, as a misalignment of the angle of the layers of rock by just a centimetre or two low down at the start of the wall, can translate into a considerable shift by the time the wall is completed. Naturally, that would mean the wall is rendered useless and would need deconstructing and rebuilding all over again. Shane’s skill and experience in this area, meant that Macmahon felt confident in leaving him unsupervised to organise himself, carry out the work and to direct other contractors to complete the job successfully.

Morrone have recently been at a crossroads after the untimely passing of the director Mr. Mario Morrone in December 2009. Although his in-depth knowledge of the industry is sadly missed, his daughter Marie, who had been working alongside her father for many years, learning and drawing on his expertise, decided to carry on the family-run company. Bolstered by her brother Adrian coming on board, they have resolved to strengthen and grow Morrone Contracting and Plant Hire Pty into a business which would make their father burst with pride.

All six staff members are committed to expanding in the civil earthmoving industry and aim to increase their capacity in terms of equipment and providing hire services nationwide.

They were therefore pleased to have made a very positive step in this direction, by being called upon by Macmahon contractors to be involved in their first inter-state project.

Morrone have certainly stepped up to the mark in this Blowering Dam Upgrade contract, by showing that they can successfully deliver on these larger-scale national projects.

Busy with a number of other contracts in the civil engineering sector in Western Australia, the future for Morrone looks bright: no doubt making a certain father very happy!

### MORRONE CONTRACTING AND PLANT HIRE PTY

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# LOCAL EXPERTISE MEETS THE LIFTING CHALLENGE

**T**umut Crane Hire operates in the Snowy Mountains area of New South Wales, based a mere 15 kilometres from the Blowering Dam.

It forms part of Weaver Engineering and Crane Hire, run by husband and wife team, Roger and Kathy Weaver, who have been in the light engineering field since 1990, operating as preventative, predictive and corrective maintenance contractors in the timber, paper, agriculture, electricity generation and domestic industries.

They specialise in erecting small constructions and fabrications such as walkways, landings, safety and security fencing, domestic fencing, materials storage structures, materials transporting conveyers and blow lines.

Tumut Crane Hire has a substantial fleet of cranes, including 20 and 50 tonne slew cranes, 12, 15 and 20 tonne Franna cranes, two mini crawler cranes, semi-trailer, tray truck, hiab/tip truck, a boomlift and three scissor lifts.

All are provided with skilled operators and if required, riggers or dogman.

Their range of equipment, and expertise in operating in confined spaces, means that they can meet a number of differing needs, making them the ideal choice to assist in the Blowering Dam Upgrade. For this project, they initially provided support cranes, which moved equipment and materials, working in tandem with the site's tower crane.

Tumut Crane Hire's flexibility came to the fore when additional lifting work was required towards the end of the project and they were able to supply a suitable utility crane at short notice. Similarly, they were able to deliver 50 and 20 tonne hydraulic mobile cranes when it was realised that heavier duty equipment was needed to deal with the demanding conditions.

Their capabilities in the light engineering field were also called upon, as they installed formwork shutters and provided trucks to transport equipment around the large site. As well as crane hire, Weaver Engineering have a team of fitters and welders for performing industrial maintenance/modifications.

"We are very pleased to have played our part as a local business in this important infrastructure upgrade project", said company director, Roger Weaver.

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## WHEN THE PRESSURE'S ON, HI TECH ALWAYS DELIVERS

**A**s pioneers of the technique of using high-pressure water jets, **Hi Tech Industrial Services** is now, 21 years later, well-established as a reliable and highly experienced company in the concrete cutting and removal field.

Starting out with just one machine, the company now provides a nationwide service, boasting one of the fastest concrete removal rates in the country: a feat indicative of **Hi Tech's** 'can do' attitude, in-depth expertise and strong commitment to service delivery.

**Hi Tech** was engaged to prepare the walls of Blowering Dam to enable the construction of a parapet wall on the dam crest. This involved using high-pressure jets to wash off contaminants and to rough up (etch) the existing concrete to provide an 'A-class' bonding surface for the new concrete layer.

It all sounds straightforward, but this job provided several difficult challenges – not least, working in severe temperatures (where the issue of freezing water needed to be closely monitored) and operating on inclines of up to 53%, meant a less experienced team could well have fallen behind schedule.

Their technique, knowledge and skill in adverse conditions is what enables **Hi Tech** to quickly remove or prepare the highest-density

concrete, and is the reason why they have often been called in at critical times of a project to turn it around and get the timescales back on track.

"As one of the first companies in this field we have the experience that allows us to take on the tough jobs" says Mark Turner, Founder and Managing Director, "The construction industry is now seeing the environmental, commercial and technical advantages of using high-pressure water, because it maintains the integrity of the original structure, unlike jackhammers or other more aggressive methods. Structural engineers and consultants agree that it is the safest and most effective vibration-free way to remove and/or cut concrete."

Involved in most of the major tunnel and bridge projects in Australia, including the Brisbane City Link and the Gateway Bridge in Brisbane, **Hi Tech Industrial Services** shows that you can count on them when the pressure is on.

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## HARWARE SUPPLIES MADE EASY

Located in heart of Tumut at the edge of the Snowy Mountains in New South Wales, McDougall & Cruise timber and hardware store have been operating for over 25 years.

Owner operators Ian McDougall and John Cruise have been proudly catering to the needs of large and small construction businesses, tradespeople, and the DIY enthusiast. Their reputation for quality stock and service means that once your order is in their hands, your supply worries are over.

McDougall & Cruise provided supplies for the contractors during the Blowering Dam upgrade project, organising the purchase and on-site delivery of materials such as timber, tools and welding gas supplies.

Their commitment to service means that there is a rapid turnaround between receiving a quote and the arrival of the materials in your requested location. Lengthy experience in the trade means in-depth knowledge of quality suppliers and materials: guaranteed to fit your location and purpose.

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