Rail boost: No sleep for sleeper plants

- Zoo prepares for panda pandemonium
- Rocla proves that safety culture can be changed
Welcome to the latest edition of Rocla Works.

This issue we unveil the first Rocla® concrete sleeper for Phase 2 of the ARTC contract to upgrade the North-South rail corridor. Part of the Federal Government’s $1.2 billion rail investment program announced in December 2008, this contract will see Rocla sleepers being produced for various sections of the New South Wales including Hunter region and Queensland rail networks.

We bring you a number of interesting projects including the PermaTrak® concrete boardwalk system that is part of an award-winning foreshore restoration project in Central Queensland, and the Rocla Water Quality stormwater management devices installed for the new panda enclosure being built at Adelaide Zoo.

We also bring you a special feature on Rocla’s safety experience. Safety is Rocla’s number one priority and we are continuously working towards our goal of a zero harm work environment.

Since rolling out our company-wide safety program ‘RoclaSAFE’ in 2006 we have significantly improved workplace safety and profoundly changed our safety culture. Overall, Rocla’s last time injury (LTI) performance has improved by almost 90 percent in 3 years. Central to this has been the commitment of senior management and a fundamental change in workers’ attitudes towards safety.

With strong leadership, teamwork and the continued efforts of everyone at Rocla, we are committed to achieving our goal of a zero harm workplace - no injuries.

Whilst we can be pleased with progress, we recognise that we have more to do in our safety journey.

I hope you enjoy reading this issue of Rocla Works. If you would like further information on any of the products or solutions featured in this issue, please call our toll-free number 131 004 or visit www.rocla.com.au.

Stephen T. Baker
General Manager

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Stephen T. Baker
General Manager
Rocla has secured a multi-million dollar extension to its contract to supply concrete sleepers to the Australian Rail Track Corporation (ARTC).

Rocla has already provided 1.35 million sleepers to the ARTC for several sections of its North-South Improvement Strategy, which encompasses the upgrade of the entire Melbourne-Sydney-Brisbane rail line.

The new sleepers are for various parts of the network upgrade, including the Hunter Region and interstate rail projects, including dual-gauge sleepers for the Queensland network.

To complete current projects, Rocla’s NSW concrete sleeper plants in Grafton and Mittagong have been operating around the clock. Thanks to the Federal Government’s $1.2 billion dollar investment in rail infrastructure, the plants will continue to operate at full capacity, producing standard and dual-gauge sleepers.

Between them, the two factories will manufacture approximately 500,000 sleepers, of which around 78,000 will be dual gauge and the rest a mixture for 47kg and 60kg rail.

Rocla General Manager, Stephen Baker, said: “We are pleased to have been awarded this contract as it will allow us to continue full production at our sleeper factories. This is a good outcome for jobs, not only for our business, but the additional flow-on effects to our suppliers will have a positive impact on the regions’ economies.”

An event was held at Rocla’s sleeper plant at Grafton on March 20 to celebrate the signing of the new contract. A golden sleeper, representing the first unit for the new contract, was unveiled by Stephen Baker and ARTC Chief Executive Officer, David Marchant.

Adelaide Zoo has installed two Rocla Water Quality stormwater devices as part of a $35 million construction and rebuilding program.

The zoo is expected to attract many thousands more visitors from late 2009 when two giant pandas arrive from China. The pair is on loan for 10 years as part of an international breeding program. Zoo visitors are expected to increase by 100,000 a year, or even more if breeding is successful. Two Rocla CDS® gross pollutant traps were specified by Joe Laspina from engineering consultants Wallbridge & Gilbert to treat the stormwater prior to discharge into the River Torrens.

A CDS® 0708 Unit GPT was installed to treat water from paved pedestrian areas, while a First Defense® FD450 oil and sediment separator was installed to service the loading dock and vehicular areas.

The Rocla® devices were installed by Hindmarsh Plumbing. Project manager Collin Williams said the one-piece First Defense® unit and the larger CDS® 0708 GPT were easy to handle and install. “Both products were delivered on time and the service was excellent,” Collin said.
Dubbo City Council installed an underground system to capture and store rainwater runoff from the grandstand roof. The 200kL storage capacity provides ample water to service all the amenities for public and players.

Rocla Water Quality supplied an ECO³® modular storage cell system, as well as a CDS® PL0506 “Nipper” gross pollutant trap for pre-treatment.

The inclusion of the CDS® treatment device will prevent premature loss of storage volume and extend the functioning life of the asset.

The system, the first application of the ECO³® modular system in NSW, was installed by Central West Surveying & Civil.

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The increasing popularity of bio-retention basins in water-sensitive urban design has created a new role for the MassBloc® earth retention system.

A MassBloc® retaining wall was recently deployed in the construction of a bio-retention basin on the edge of a new residential development, Fernbrooke, at Redbank Plains south-east of Brisbane.

After an original plan to use gabion walls was rejected by the council, civil contractors Pensar turned to the MassBloc® system, which provides an attractive and economical earth retention structure that is also easy to transport and quick to install.

“Because of the sloping site we had to create stepped foundations,” Steve said, “plus there was an outlet pipe running through the wall requiring an in-situ surround that had to fit the shape of the Rocla blocks.” A mix of full and half-blocks were used to create the wall, which varies in height from 1.5 to 4 metres, with some of the full-size blocks half-buried.

The MassBloc® system is ideal as a retaining structure for bio-retention basins. The massive blocks (weighing around 1.8 tonnes) are permeable and are simply stacked in place, interlocked by a nib precast into the base.
Tumut Shire Council in southern NSW has an impressive infrastructure program that belies its small population.

Located in the foothills of the Snowy Mountains, Tumut Shire is mostly national park and forestry, with only a half-dozen towns, but the council has completed seven M-Lock® bridges in recent years.

Rocla’s precast concrete products and poles facilities in Wodonga have been supplying the council regularly with M-Lock® components, spun concrete piles and MassBloc® earth retention units for its busy building program.

The most recent structure, Purcell’s Bridge, has a double-lane width and four spans of 12 metres. Designed by Xeros Kendall, of Wagga, the bridge is skewed 15 degrees and features Rocla® spun concrete piles mounted on concrete footings.

This is the third large M-Lock® bridge in the Shire, two of which were built as part of the NSW Roads & Traffic Authority’s bridge building program for regional roads.

There are also three single-span bridges and a recent double-span bridge over Little River, with two spans of 11 metres and 15 metres. This bridge includes the first 15-metre planks supplied by Rocla Wodonga.

All bridges were built by Snowy Works & Services, the business arm of Tumut Shire Council. SnowyWS was established in 2002 to provide construction and maintenance services for the council and to increase revenue by bidding for external projects.

SnowyWS acts as preferred supplier to the council, with all services delivered on a cost recovery basis, but also creates employment and raises funds to improve community assets.
Concrete pole line delivers power boost to Discovery Coast

Rocla® concrete power poles helped Ergon Energy overcome site difficulties during the construction of a multi-million dollar power upgrade on Queensland’s Discovery Coast, south of Gladstone.

The towns of Agnes Water and 1770 (the site of James Cook’s first Queensland landfall) are the main beneficiaries of the upgrade, which included construction of high voltage lines from Korenan, the primary point of supply, to new substations at Granite Creek and Agnes Water.

Rocla’s Rockhampton poles plant supplied almost 200 spun concrete poles for a 66kV high reliability line linking the new substations. Poles for the 48km line included 170 single-circuit poles and 22 double-circuit poles, all 20 to 26 metres in length and 60 to 80kN strength.

Rocla also supplied 132kV poles for a 1200m stretch of the high voltage line between Korenan and Granite Creek. Because the line route ran through environmentally sensitive areas, Ergon Energy and Electrix, who was engaged by Ergon as design and construct contractor, consulted extensively with landowners and authorities and exceeded statutory requirements to minimise the impact on the community and the environment. Adverse weather experienced during the construction period created even greater challenges in successfully managing these issues.

During construction of the line, slight changes in direction of the line were necessary to avoid sensitive sites. Rocla responded by altering pole details such as angled fittings and by working around the clock to ensure delivery and construction deadlines were met.

Rocla® concrete power poles helped Ergon Energy overcome site difficulties during the construction of a multi-million dollar power upgrade on Queensland’s Discovery Coast, south of Gladstone.

Rocla® piles a durable, attractive solution for marina expansion

Rocla recently supplied a total of 300 spun concrete marine piles to The Jetty Specialist for the construction of new marina facilities at Manly Boat Harbour in Brisbane.

Managed by the Port of Brisbane Corporation, Manly is the largest recreational boat harbour on the eastern seaboard. The new $30 million marina development will bring the harbour’s number of berths to 1750. The Jetty Specialist constructed 135 new berths to be operated by the Moreton Bay Trailer Boat Club and 64 berths for the Port of Brisbane Corporation. Rocla® spun concrete piles were specified for their durability as well as their appearance, which suited the existing neighbouring piles. Cliff Hookham, of The Jetty Specialist, said that in this application, Rocla® marine piles represented good value for money. “We use Rocla piles regularly on our domestic and commercial sites, depending on project requirements,” he said.

“Each site has its own unique characteristics, challenges and engineering requirements, all of which have to be considered before pile selection.”

“In the right environment, Rocla piles are a fantastic pile to install,” Cliff said.

Rocla supplied 300 piles from its Rockhampton facility, all 12 metres in length, 400mm in diameter and with a bending moment strength of 275kN.
BHP Billiton Mitsubishi Alliance (BMA) exports coal from Central Queensland mines through the Hay Point Coal Terminal south of Mackay which, with the adjoining Dalrymple Bay Coal Terminal, is one of the largest and busiest facilities in the world.

As part of BMA’s environmental management plan, they formed a foreshore development project team to restore fragile coastal and dune vegetation, protect turtle nesting sites and promote community access to the beach area near the Hay Point Coal terminal land, which is adjacent to the Great Barrier Reef Marine Park World Heritage area.

As part of BMA’s environmental management plan, they formed a foreshore development project team to restore fragile coastal and dune vegetation, protect turtle nesting sites and promote community access to the beach area near the Hay Point Coal terminal land, which is adjacent to the Great Barrier Reef Marine Park World Heritage area.

An 18-hectare strip of undeveloped land owned by BMA, which provides a buffer between the terminal and Hay Point Beach, supports the only remnant coastal scrub vegetation left in the local urban area.

The project evolved from general beach and foreshore cleaning by employees, to a community partnership with the Sarina Landcare Catchment Management Association and Sarina Shire Council. The PermaTrak® walkways protect the fragile sand dunes adjacent to the terminal and assist with monitoring of turtle nesting. Construction of the walkways also provided training for unemployed youth through the environmental group Green Corps, which was contracted to install the boardwalks.

Survey and geotechnical assessment was undertaken by BMA. No design was required because the PermaTrak® system is pre-engineered. Rocla undertook drafting of the layouts for both boardwalks.

The 1.2m wide boardwalks follow the shape of the undulating dunes, providing a solid footing in the soft and shifting foundation material while minimising damage to established vegetation.

In 2008 the BMA project won the Queensland Clean Beach Challenge, an environmental protection award organised by Keep Australia Beautiful.
OP Industries selected 600mm diameter Plastream® pipe and fittings as ducting for 11 new buildings at the Edinburgh Defence Precinct north of Adelaide.

The buildings will be used for vehicle maintenance and the ducting system vents air and fumes from mechanic’s pits. Jason McCormack, OP Industries project manager, said the light weight and ease of handling of Plastream® pipe made it ideal for the application. “If necessary, one man can install the product,” Jason said. “Another advantage in this application was that Rocla manufactured all the specialised fittings and junctions and delivered them pre-welded, so we only needed to push them together on site.”

Plastream® pipe has steel reinforcement fully encapsulated within the UV-stabilised polyethylene pipe wall, providing the advantages of a smooth PE bore plus the structural strength of steel.

Its unique properties make it an ideal solution for a wide range of applications, including stormwater drainage, road culverts, ducting (above or below ground) and transporting slurry. For ducting applications, the smooth interior of the pipe provides low airflow resistance, while the inherent strength resists crushing.

Gold Coast City Council was surprised by the ease of construction of the Rocla® precast bridge system when it built its first M-Lock® bridge recently, at Currumbin Valley.

Council project manager, Rod Kennedy, said the construction crew was apprehensive about using prefabricated components on cast in situ piers. “We normally use cast in situ headstocks,” Rod said, “so the construction supervisor was worried about tolerances, but we made up some jigs to line up the components and the system went together easily.”

The bridge includes two 10-metre spans with precast headstocks and planks. A footpath and barrier walls were added to provide protection for pedestrians. The single-lane bridge replaces a deteriorating causeway on Long Tan Rd that was becoming too costly to maintain. The new bridge provides reliable access for local residents that will require little maintenance and is engineered for durability and compliance with relevant standards and design loadings.
Moreton Bay Regional Council, north of Brisbane, found the Plastream® in-ground storage and detention system ideal for use as sewer emergency storage tanks.

During upgrading of its sewer pump stations, the council successfully installed a 600kL Plastream® system at Caboolture, followed by another at Woodford.

Acknowledging the durability of PE in dealing with the highly corrosive gases associated with sewage, as well as the ease of installation and commercial benefits, the council specified the Plastream® storage system for three more upgrades in the Beachmere area.

The first of the three projects, at Weeroona Road, Beachmere, was designed by MWH as three 1800mm diameter tanks, 14m in length, with a total storage capacity of 100kL. The storage facility was located next to a saltwater lagoon, with a high groundwater table, requiring continuous dewatering for the duration of the installation.

To speed installation and avoid on-site welding, Rocla delivered the system as three fully fabricated tanks. The only welding necessary on-site was of the riser units for the six access shafts, which were located above the water table.

The tank was delivered to site in mid-March and installation by The MCQ Group was completed by the end of the month. The other two tanks are expected to be installed during June.

Stormwater is piped to the tanks during a rain event and detained to allow for infiltration into the sandy subsoil for aquifer recharge. Infiltration is through a constructed permeable layer of sand and filter fabric forming the base of the tank. The system, designed by consulting engineers Cossill & Webley for construction contractor Wormall Contracting, featured two trafficable 6.3m wide by 2.4m deep compartmentalised tanks with a total storage capacity of 800,000 litres. Ten access points were provided for ease of maintenance. The flexibility of componentry offered by Rocla, including the precast endwalls, allowed the system to be easily constructed as two connecting tanks to avoid an existing sewer service.

Rocla recently supplied precast concrete modular tanks for an on-site detention system at the prestigious Meve residential development in Beeliar, south of Perth.

Call 131 004 www.rocla.com.au
Rocla ‘people first’ approach changes safety culture

The national roll-out of Rocla’s safety program has demonstrated conclusively that major safety improvements can only be achieved by fundamentally changing employee behaviour.

RoclaSAFE, launched in August 2006 at Rocla’s Gailes facility in Brisbane, has been successfully implemented at all Rocla’s sites, where it has significantly improved workplace safety and profoundly changed the safety culture.

At the Gailes site, lost time injuries and medical treatment injuries were reduced by almost 75% and days lost by 95% within 18 months of implementing the program. This represents a reduction in time off work from 227 days to 11 days.

Another Rocla plant, at Dry Creek in Adelaide, recently celebrated more than 1000 days without a lost-time injury and more than a year without a medically treated injury.

Overall, Rocla’s Lost Time Injury performance has improved by almost 90 percent in three years. Rocla’s LTIFR performance is now 1.6 compared to 15.8 in 2006.

Developed in conjunction with specialist safety consultants Noel Arnold & Associates, the RoclaSAFE program is designed to assist managers and employees to identify and analyse factors impacting on safety performance and develop strategies that deliver measurable improvements.

The process began in October 2005 with a review of workplace accidents and injuries at Gailes, the pilot site. That study revealed that employees and managers did not fully understand their safety roles - employees were often cutting corners and not following procedures, and there was little safety accountability.

Like all Rocla factories, the Gailes site already had a well documented OHS system in place, but the underlying workplace safety culture did not effectively support the OHS system objectives. This was also costing the business in terms of lost time and insurance payments.

Rocla’s senior management was involved from the start. General Manager, Stephen Baker, said: “We believe it is only by building our OHS program on a genuine commitment to people that we can truly change behaviours and achieve best-in-class safety performance.”

A personal letter from the General Manager was sent to all employees explaining the importance of the program, posters were developed reinforcing the role of individual employees in creating a safe workplace, focus groups were created at each site to champion the new safety culture, and training was provided on safe work instructions.

Other actions included integrating safety into production meetings, developing site safety improvement plans and providing feedback to staff, as well as recognising safety improvements.

The second phase of the program was implemented during 2007/08 with further training in hazard identification and safety observations, improvement in housekeeping initiatives through implementation of “5S” across the business and ongoing education and training.

RoclaSAFE is now in its third phase, with a focus on continuous improvement, peer safety audits, increasing ownership and accountability and, most importantly, implementation of fatal risk guidelines for cranes and mobile plant.

“Even in these challenging economic times, we are ensuring that safety remains our first priority,” Stephen Baker said. “We are pressing on with our safety agenda towards the ultimate aim of a ‘zero harm’ workplace where all Rocla employees enjoy the benefits of an injury-free lifestyle.”
Solid savings on concrete bridges

Rocla M-Lock® Bridge System
Engineered solutions for small to medium spans

- Complete system: piles, headstocks, planks
- High-strength precast concrete components
- Fast, economical construction
- No need for additional surfacing
- Can be built by council labour
- Durable, precise, versatile
- Ideal timber bridge replacement

Before you cross your next bridge call 131 004 and ask about the Rocla M-Lock® Bridge System