

It is not only motorists who are benefiting from the \$422 Pacific Motorway Upgrade Project - cyclists, public transport users and even the local fauna have also had their needs met.

The project is the first priority stage of an upgrade of the Pacific Motorway from the Gateway to Logan Motorway, and involved rehabilitating a 3.3km long section of the Motorway from Springwood (south) to Daisy Hill. There has also been a major upgrade of the Loganlea Road interchange, a new park'n'ride bus station constructed, improvements undertaken to the Paradise Road roundabout and construction of a new section of bikeway.

Pacific CBR, a joint venture between Bielby Holdings, J F Hull Holdings and Albem Operations undertook the project, under an Early Contractor Involvement contract.

Overall, the project goal is to deliver a Motorway and interchange which will cater for the increased - and ever increasing - traffic volumes. The existing Loganlea Interchange was only two lanes, leading to delays and congestion. This has now been replaced by a new bridge with four lanes, speeding up commuter traffic flows. The upgrade as a whole also reduces delays on the surrounding local road network.

The existing Motorway pavement was requiring significantly increased maintenance, so a key aspect of the works involved workers laying heavy-duty asphalt with a twenty year design life.

Some of the adjacent on and off ramps have now been closed, to cut the number of road users entering the Motorway for short local trips which can be better catered for on the adjacent local road network.

Over 300,000 manhours were worked on this project, and over 130 construction-related jobs created in the immediate local area. There was also extensive use of local subcontractors and suppliers by the Pacific CBR Joint Venture team.

The ECI approach had significant advantages for this project. Instead of Pacific CBR developing plans for traffic management in this extremely busy commuter environment, and then needing to obtain approvals for the plans from the Queensland Department of Transport and Main Roads, a consultative approach was taken. A Traffic Management team was established during the ECI phase, which included representatives both from QDTMR and the joint venture team. The plans were thus jointly developed, giving a huge saving in time and energy.

This approach also facilitated the communication with locals, commuters and other stakeholders, ensuring traffic delays, detours and other impacts could be managed more effectively.

Another advantage of ECI was a more streamlined and fluid design process, with the design process involving QDTMR experts and external consultants, resulting in a quicker Permission To Use outcome. Issues were quickly resolved as they arose, and variations in the scope considered. As a result, the adding of an extra southbound auxiliary lane, and realignment of a local street network, were approved and design adjustments rapidly resolved.

With the Motorway's proximity to bushland and native fauna habitat, fauna-sensitive road design principles were used. The measures included constructing fauna exclusion fencing, and also constructing structures to assist fauna crossing the motorway. A culvert at Winnerts Road was modified to allow fauna crossing and provide protection from predators, and also revegetated at the culvert entrance with local flora, logs and rocks. Fauna surveys were undertaken prior to work commencing, and any core habitat identified by the wildlife experts was avoided where possible.

Any hollow trees which needed to be removed were relocated to revegetation areas, and manufactured tree hollows and nest boxes installed within the project site.

The three partners in Pacific CBR have between them extensive experience in the civil construction industry. J F Hull Holdings Pty. Ltd. has been involved in over 120 projects, including bridges, road and rail infrastructure, wharves and jetties, and major concrete structures.

Bielby Holdings Pty Ltd is a privately owned, Queensland based, civil engineering construction company which focuses on Queensland Government infrastructure projects, and has third party certified management systems to AS9001:2000 and AS14001:2004.

Albem Operations was founded by John Panizza in 1980, and is a leading civil engineering contracting firm. Mr Panizza was one of the founders of Transfield (Queensland), and was inducted into the Construction Hall of Fame in 2000. Albem Operations is owned and managed by the Panizza family, and continues the tradition of excellence and innovation in civil construction.

# PACIFIC MOTORWAY UPGRADE

## GETTING A BETTER MOTORWAY MOVING

MAIN CONSTRUCTION COMPANY : Bielby Hull Albem Joint Venture  
CLIENT : Department of Transport and Main Roads  
PROJECT END VALUE : \$422 Million  
COMPLETION : End 2011





## ENGINEERED EXCELLENCE IN CONCRETE APPLICATIONS



Just as the scale of Australia's transport infrastructure has grown, so has Rocla Pty Ltd. The company which started life as two men in a shed in 1922 is now a nation-wide leader in the supply of innovative engineered solutions for stormwater piping, pits, headwalls and Box Culverts, sewerage piping and access systems, irrigation, stormwater detention and treatment, rainwater harvesting, water storage, bridging and earth retention, as well as concrete poles, building columns, boardwalks and railway sleepers.

For the Pacific Motorway Upgrade project, Rocla has since June 2010 been supplying stormwater drainage products on an ongoing basis, including steel reinforced concrete pipe, concrete jacking pipe, circular punch out stormwater pits, small and large box culverts, and precast headwalls. The products have been designed to the relevant Australian Standard and therefore meet the project specifications as requested by Queensland Department Transport and Main Roads, manufactured in Brisbane and supplied to the work sites as required by the Alliance. Meeting these project lead times was a challenge resolved by the depth of management, engineering and manufacturing expertise Rocla brought to the job.

Rocla supply a wide variety of products for large infrastructure projects, with multiple manufacturing and sales facilities in major metropolitan and regional centres across Australia, giving the company extensive distribution capabilities and a customer service network in both urban and regional locations.

Advanced engineering capabilities in the field of concrete applications are the cornerstone of Rocla's success, with a commitment to continuous innovation and product improvement putting them at the forefront of the industry. With a comprehensive testing and quality assurance program, Rocla ensure their clients are supplied with durable, high quality solutions which meet the relevant Australian standards which are required to supply to Main Roads Departments' and Queensland Rail projects.

Rocla are also supplying a broad excellent range of products for civil projects to several other major Queensland transport route upgrades, including the Mount Lindsay Highway, Houghton Highway and Ipswich Motorway.

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## THE GO TO GUYS FOR ASPHALT

The only people who haven't travelled over roads worked on by Boral Asphalt have probably never left home. With more than 60 years in business working on civil projects, Boral have enormous experience in working collaboratively with civil contracting clients such as Beilby Hull Albem JV and agencies like QTMR to deliver on technically difficult and large scale major projects such as the Pacific Motorway Upgrade project.

Boral is supplying and laying all the asphalt, and supplying and spraying all the bitumen for the 3.85 km of new road between Springwood and Daisy Hill. In total, they expect to supply and lay approximately 155,000 tonnes of asphalt. In the first stages of the project, Boral supplied and sprayed 143,000 litres of bitumen, with a further 356,000 litres yet to be supplied and sprayed. To date, 63,000 tonnes of asphalt have been laid, with a remaining quantity of 92,000 tonnes of various mix types due to be supplied before the final completion of the project.

Boral has had an 11 man asphalt crew based on the job site since March 2010, mostly at night, with a second crew called on when needed. Plant being used on the project includes Roadtec RP150, RP170 & RP190 Pavers, Roadtec SB1500 Shuttle Buggy, Various Steel & Multi Tyred Rollers, Izuzu Job trucks and Water Carts.

"The main challenge with this project is maintaining the existing volume of traffic whilst constructing the infrastructure, and the limited hours of work due to this, especially when working on the main alignment at night because the hours available are 9pm to 4am," said Boral's Paul Davidson, Contracting Operations Manager - Asphalt (South Qld).

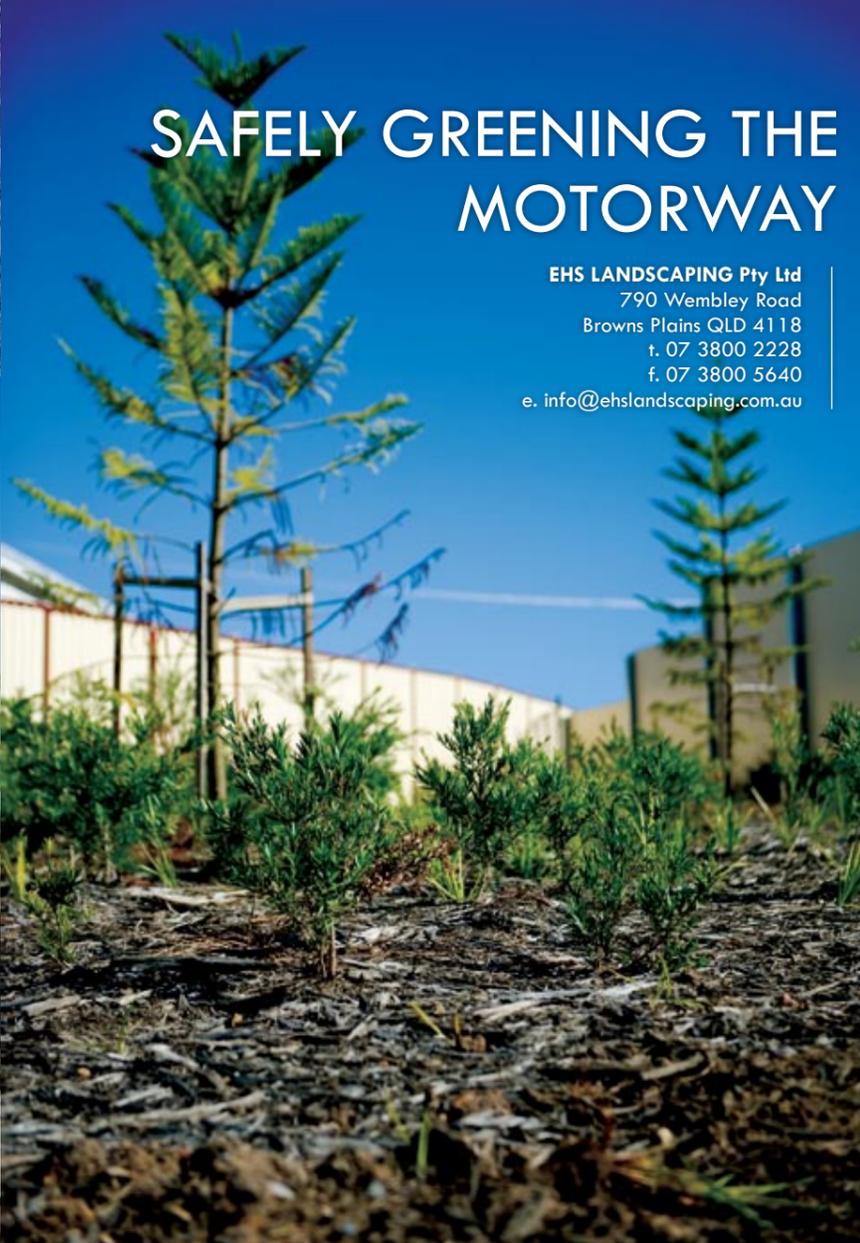
"To facilitate a switch to the new bridge over one weekend, a proposal was accepted to lay a 12,000 tonne rock bed and for us to pave over this to form the permanent pavement. From Friday night 8th July to Sunday night 10th July 2011, 12,000 tonnes of rock and 2,000 tonnes of asphalt were placed to shift traffic over the new bridge and feed Loganlea Road, Winnetts Road and Western Service Road."

Boral Asphalt has developed a long successful and ongoing association with Beilby Holdings and QTMR. The company has asphalt and spray seal depots strategically located throughout Qld including regional centres, to provide coverage to the vast majority of the state. SEQ depots include Whinstanes, West Burleigh, Narangba and Toowoomba, and in total the SEQ operation has over 500 staff.

Boral Asphalt holds Quality certification to ISO9001, Safety to AS4801 through Federal Safety Office, operates their own NATA registered laboratories, and is a member of industry bodies including AAPA. Other current and recent major projects include Gateway Upgrade Project (South), Northern Access Road, SAFELink Alliance, Logan Ipswich Interchange and Banora Point Bypass.

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# SAFELY GREENING THE MOTORWAY

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## TOP STEEL FABRICATION SKILLS ON LOCAL JOB

For over half a century, Livingstone Engineering has been manufacturing the highest quality steel products for civil projects. For the Pacific Motorway Upgrade project, the company supplied the foundation cages for the light poles, manufactured to Main Roads Standard – MRS 11.78. Everything Livingstone produce is quality assured to ISO 9001 -2008, third party accredited by SAI Global.

Fabricating foundation cages is core business for the company, with the latest fabrication technology used to achieve the best results rapidly. The fabrication capabilities include thread cutting capacity to 64 mm, High Tensile 8.8 grade and Mild Steel 4.6 grade; also thread rolling. In addition to the Salisbury workshop they have the Wacol facility which is a major fabrication arm for many other types of Main Roads infrastructure works.

“We find it satisfying to be a local supplier on a local job,” said Livingstone Engineering spokesman, Geoff Buckley. “We have an understanding of how critical communication and delivery is. We have almost 50 staff concentrating on local projects, as well as interstate and time sensitive export projects to oil and gas projects.”

Repeat business has built the company’s solid reputation, with regular major clients such as Seymoure Whyte, Abi Group, John Holland, Thiess, Leighton and Bechtel. Other recent major projects have included Origin Alliance, Airport Link and the Clem7 Tunnel.

Livingstone provides an extremely broad array of products in high tensile steel, stainless steel and mild steel, including structural steel work, light fabrication work, cast-in items, Energex standard cages, customised foundation cages, Brisbane City Council standard cages, RTA standard cages and Main Roads standard cages.

Construction fasteners are a specialty, with products including holding down bolts, U-bolts, single ended studs, double ended studs, hexagonal head bolts, commercial mild steel bolts, nuts & washers; high strength structural bolts, nuts & washers; masonry anchors; stainless bolts, nuts & washers; cogged bolts, collar bolts, ferrules, eye bolts and cast-in sockets. The structural and architectural products produced include bridge rails, bridge posts, hand rail, angles, brackets, base plates, steel sections, FMS, RHS, PFC, pipe, round bar, angle, UB, UC, threaded rod and plate.

The company also provides services including repetitive parts manufacture, cutting, drilling, miscellaneous metal work, stainless steel work, tapping, welding and site work. A full range of metal finishes are available: black, galvanised, paint, powder coat and zinc.

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With over two decades of experience in protecting and enhancing the sites of Queensland civil construction projects, EHS Landscaping has the skills, equipment and manpower to deliver excellent long-term results for the Pacific Motorway Upgrade project.

EHS is engaged to undertake all the landscaping requirements for the project, including the Supply and Spreading of 28,000m<sup>3</sup> of Topsoil, 6,500m<sup>3</sup> of Mulch, 30,000m<sup>2</sup> of Jute Matting, and supply and planting of 350,000 plants ranging from 45L trees to tubestock. EHS are also carrying out approximately 90,000m<sup>2</sup> of hydromulching, a method of water-saving revegetation for large areas, which provides simultaneous erosion control.

Their work is being undertaken in ongoing stages over the twelve months of the construction period, combining work on newly disturbed areas and constructed earthworks with ongoing maintenance of previously mulched and revegetated areas. EHS has supplied their own earthmoving equipment including bobcats, excavators and water trucks.

Crews of between ten and twenty staff will be carrying out the works, working around the challenges of heavy traffic and limited access to some work areas. Smooth co-ordination with other contractors is needed to manage both safety and program requirements, as EHS work in conjunction with Bielby Holdings to help protect the works and meet the requirements set by the EPA and other governing bodies.

“We have been extremely happy to be working in conjunction with Bielby Holdings and Hull Albem to help them achieve the required results on this project,” said EHS Spokesperson, Helen Hay.

“We have the capacity to carry out a project of this size, which is spread over a twelve month period, while still being able to satisfy the needs and requirements of our other clients. We are committed to helping our clients achieve the best possible outcome on each and every project, and establish great working relationships with them.”

“EHS acknowledge that Occupational Health and Safety is a large requirement on each and every project. As we have worked for so many of the major Civil Contractors, we adapt our OH&S policies and procedures to meet their individual requirements. Due to our commitment, we have never had a serious incident involving any of our employees or subcontractors.”

EHS are Members of QALI, and purchase all their plant stock from accredited and reputable nurseries in South East Queensland, and all landscaping materials from many locally owned businesses.

For the next twelve months, EHS will also be working on the Origin Alliance Joint Venture – D2G (Dinmore to Goodna) Project, again ensuring the landscape around a major project is left in better condition than it was initially, with weeds controlled, native species replanted and soil erosion prevented.

# BEYOND THE CALL AND AROUND THE CLOCK

Manns Logan Crane Hire provided an extraordinary level of service and commitment to the Pacific Motorway Upgrade. Not only did they supply cranes and operators, riggers, transport and other equipment, they also made available to the Alliance a large section of their Kingston depot for use as a storage facility for their road barriers (PCB'S) and associated equipment.

Fast response was required, and close coordination with the Alliance (BHA) for the supply of mobile cranes, equipment and labour within the hours they were able to close off sections of the motorway. Manns Logan supplied Frannas, a rigging crew and supervisor for the task of installing and removing Road Barriers (PCB'S) on both day and night shifts, and mobile compressor and rattle guns supplied for bolting PCB'S together.

“Almost all of the lane changes had to be done after hours when traffic flow was reduced to a minimum for the safety of both the workers and the public. Some weeks we had multiple cranes working throughout the nights. Then a second shift would start the following morning,” said Manns Logan General Manager, Trevor Rohweder.

“One challenge was making sure our staff were given adequate rest periods between shifts. Pre start Toolbox meetings were held to inform all workers of risks involved in that night's shift, and Strict Traffic management controls were also put into place by the Alliance (BHA).”

Manns Logan also supplied a body truck for transport of anti gawk screens. All cranes and transport were provided as wet hires with experienced operators.

A family owned company with 24 years of experience in construction projects, Manns Logan can supply a complete range of lifting solutions, with cranes ranging from 7 Tonnes up to 160 Tonnes. They offer wet and dry hires for both short term needs and for the long haul to both urban and country areas of South East Queensland.

“We supply cranes and equipment to many customers with different needs, including builders, developers, manufacturers, local government bodies and councils and individuals with one off jobs,” said Trevor Rohweder.

“The success of our involvement with the Alliance (BHA) on this project was due to clear and precise communication between all parties, and understanding the needs and efficiency required to execute PCB movement for lane changes and barriers, while protecting all the workers in such a dangerous environment alongside a very busy highway.”

## MANN'S LOGAN CRANE HIRE

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