

MOGGILL CONSTRUCTIONS MOVES MOUNTAINS AT MUNRUBEN

The \$26M Mount Lindesay Highway project involved the construction of a grade separated interchange, two new roundabouts, on and off ramps, a new school drop off zone, parking off Crowson Lane and improved facilities for cyclists and pedestrians

PRINCIPAL CONTRACTOR : Moggill Constructions Pty Ltd
CLIENT : Department of Transport and Main Roads
SUPERINTENDENT : SMEC
DESIGNERS : AECOM
COMPLETION : September 2012
PROJECT END VALUE : \$26 Million

Civil engineering contractor Moggill Constructions has completed the construction of a grade separated interchange on the Mount Lindesay Highway at Chambers Flat Road and Crowson Lane, Munruben in Queensland — Stage Two of a \$244 million upgrade of the highway. The project commenced in March 2011 and was completed in September 2012, delivering vastly improved traffic flow and safety to a vital highway link.

The works have included:

- Duplication of the Mount Lindesay Highway
- Construction of a four span bridge over the highway
- Building of service roads, roundabouts and on and off ramps
- Construction of pathways for cyclists and pedestrians
- Creation of a school bus drop-off zone
- Realignment of Crowson Lane and Chambers Flat Road
- Associated drainage including bio retention basins to filter the storm water runoff
- Lighting and landscaping
- Fauna fencing and fauna crossings to allow the safe passage for animals from one side of the highway to the other
- Pavement rehabilitation of the existing carriageway by insitu stabilisation
- Complex pavement structure detail.

A major challenge has been undertaking construction works alongside the high speed environment of the highway, which demanded complex traffic management and staging. With highway closures and night works out of the question, keeping the highway moving became a priority along with ensuring the adjacent through roads and movements on-and off the highway were accommodated without delay or inconvenience. A monitoring regime was implemented to

assess traffic flow, allowing one lane to be kept open, even during the busiest construction periods.

A partnering arrangement between Moggill Constructions, the superintendent's representatives and the principal was the key to successfully delivering a high quality interchange with a focus on safety, the environment and positive relationships with all key stakeholders.

The \$26 million contract for the Department of Transport and Main Roads required significant community liaison. Moggill Constructions had a full time community liaison representative on the job as a first point of consultation to provide quick feedback to the construction team regarding the concerns of any of the local residents, road users and other stakeholders.

The geology of the site presented its own difficulties. The heavy duty clearance of 20 hectares of bushland was required to uncover the subgrade materials. Large excavators with attachments such as grabs and guillotines removed the trees, roots and vegetation which were then converted to mulch which was recycled back into the landscaping of the highway, incorporating an effective and environmental on-site use of the green waste.

Ross Morrison, Senior Project Engineer, comments: "The nature of this site with its very erodible and highly dispersive soils posed a high risk of a detrimental outcome, therefore the decision was made to commence landscape works in conjunction with the environmental protection works at an early stage to suit the local conditions. The dispersive top soils were controlled by using the green waste to landscape any disturbed areas, immediately preventing soil contaminates entering sensitive neighbouring waterways such as Norris Creek. Water samples after rain events were also taken in the waterways to ensure the environmental control measures were effective."

"We encountered significantly more rock and unsuitable material than anticipated. During the earthworks process, approximately 150,000 cubic meters cut to fill was moved from the Western side to construct the embankment on the Eastern side of the Highway. The substantial increase in rock quantity was identified early during the construction and efforts were made to mitigate its effect on design and program changes."

Drainage was a feature of the works. To cope with heavy rain and natural overland runoff, a large under-road culvert had to be built at the southern end of the project to maintain the natural flow of water downstream. The fauna fence guided into either end of the four (4) cell box culvert with fauna crossings built in, to allow the safe passage for animals from one side of the highway to the other.

Over 4,000 cubic metres of concrete was used in the interchange upgrade, including in the bridge deck, piers, piles and pad footings. At the project's peak, over 60 workers per day were on site, working to deliver the project on time for its September completion.

Moggill Constructions Pty Ltd is a Brisbane-based company which has completed over 530 contracts for both the government and private sectors since 1973, maintaining a proud reputation for high construction, environmental and safety standards. The company has delivered on some of the most complex and challenging of civil engineering contracts, including structures such as bridges and tunnels, highways and subdivisions, as well as railway, mining and marine infrastructure.

For more information contact Moggill Constructions Pty Ltd, PO Box 196 Sumner Park BC QLD 4074, phone 07 3376 3655, fax 07 3376 5288, email: info@moggill.com, website: www.moggill.com



NEILSENS DELIVERS FOR MOUNT LINDESAY HIGHWAY



Neilsens Quality Gravels Pty Ltd commenced operations at its Brendale River Gravel and Sand site in 1976, and then followed this up with the commencement of hard rock quarries at Cryna in 1996 and Bromelton in 2008. The company's main focus throughout this time has been the production and supply of high quality concrete aggregates and road pavement construction materials.

Neilsens supplied in the vicinity of 100,000t of Road Base Materials and Drainage Aggregates to the Mount Lindesay Highway Project to the Head Contractor, Moggill Constructions Pty Ltd, over an 18 month period from its Bromelton and Cryna Quarries. In all, over 60 staff and Contractors were directly involved in the Project – from Quarry and Administration personnel to Cartage Contractors.

With the Construction Industry increasing its demand for quality quarry materials, Neilsens has been an active participant, having supplied Precast Concrete aggregates for the Air Port Link Tunnels, and currently supplying similar aggregates for the Legacy Way Tunnel. In addition, Neilsens is an ongoing supplier of Road Materials to the Scenic Rim and Logan Councils.

For more information contact Neilsens Quality Gravels, Sandy Creek Road Bromelton QLD, phone 07 5541 0622, PO Box 5319 Brendale QLD 4500, Contact: Kim Turner, phone 07 3205 5599, fax 07 3205 7521, email: kim@neilsens.com.au, website: www.neilsens.com.au



FAST LANE TO PROGRESS

The upgrade of the Mount Lindesay Highway interchange at Chambers Flat Road and Crowson Lane commenced in March 2011 and was recently completed in September 2012.

The upgrade involved constructing a new grade separated interchange with an overpass bridge, roundabouts on both sides of the highway, a new bus pick-up and drop-off area in Crowson Lane to service local school buses and new facilities for cyclists and pedestrians. This new interchange will not only improve safety, it will also improve traffic flow and reduce congestion along the Mount Lindesay Highway, making provision for future growth in the area.

The upgrade was supervised by the contract administrators SMEC Australia on behalf of the Queensland Department of Transport and Main Roads, with construction work being undertaken by Moggill Construction. To assist project delivery, SMEC Australia and Moggill Constructions required an innovative approach to contract administration and project management to ensure timely and on-budget delivery whilst maintaining the efficiency of this vital transport link throughout the works period. This was achieved through relationship management where the successful completion of a project is achieved by establishing and maintaining a good working relationship between Principal, the Superintendent, and the Contractor. This relationship was founded on a climate of cooperation, openness, trust and respect.

Col Arthy, Contract Administrator for SMEC says: "We have had to deal with some challenging problems, resolve issues and ambiguities, and deliver solutions". One of these challenges for this site was the need for SMEC Australia and Moggill Constructions to develop and operate a range of complex traffic management arrangements which ensured works could proceed throughout even the busiest peak periods. This need for the site to function with equal effectiveness for motorists, public transport providers, and various local stakeholder perspectives, while construction activities continue without unnecessary delay required the construction team to develop site specific processes and procedures that anticipated the impacts of construction on the community.

SMEC Australia is a professional services firm with origins in the Snowy Mountains Hydro-Electric Scheme over 40 years ago, and has a global footprint of over 60 offices in 33 countries with over 5000 employees around the world. The successful delivery of the Mount Lindesay Highway upgrade is another demonstration of the breadth and depth of SMEC Australia's construction services expertise and highlights the value of SMEC Northern Region in delivering vital infrastructure to the community of Queensland and Northern Territory.

For more information contact SMEC Australia, Gold Coast office and Enquiries: Level 1, 7027 Southport-Nerang Rd (PO Box 953) Nerang QLD 4211, phone 07 5578 0200, fax: 07 558 0203, email: goldcoast@smec.com

