

Seaford Rail Extension Project, SA



Image provided by The Department for Transport, Energy and Infrastructure

Wallbridge & Gilbert has been appointed as Client Services Engineer to provide the Department for Transport, Energy and Infrastructure with technical assistance throughout the design and construct tender development and assessment process for the Seaford Rail Extension project.

The \$291.2 million project will provide a 5.7 kilometre extension of the dual track rail line from Noarlunga Centre Railway Station to the Seaford District Centre. Construction work is expected to start in late 2010, with the new line scheduled for passenger operation in 2013, to coincide with the completion of the electrification of the Noarlunga line.

SEW Eurodrive Office Warehouse, WA



Photo by Hames Sharley and Acorn Photo Agency

Leading transmissions manufacturer and supplier, SEW Eurodrive, has recently moved into its new \$3.5 million warehouse/office at Welshpool, Perth. Wallbridge & Gilbert provided structural and civil engineering for the project which features a 26 metre span fascia truss with cantilevered steel blades.

Flinders University School of Medicine, SA



Photo by Grieve Gillett Architects and Grant Hancock photographer

Wallbridge & Gilbert were structural and civil engineers for the new School of Medicine Lecture Theatre at Flinders University. The building is prominently located at the northern entry to the teaching precinct with views across the Adelaide plains and St Vincent Gulf.

The building incorporates a main lecture theatre as well as tutorial rooms, foyer, outdoor deck and amenities areas over three levels. Exposed internal concrete finishes feature throughout the interior whilst precast concrete, glazing and blade louvre panels are used externally.

A combination of steel and concrete beams with concrete columns and load bearing walls were selected as the most efficient structural system to accommodate the large open spans, complicated building geometry, steep terrain and variable geotechnical conditions.

Recent Appointments



Our Lady of Mercy College image by Clarke Hopkins Clarke

● **“Building the Education Revolution” Schools**

Construction of a range of buildings is now well underway on many school sites across Australia, as part of the Federal Government’s stimulus package. The Adelaide office has now completed the civil and structural design for more than 40 new school buildings, while our Melbourne office has designed and documented over 100 projects.

The Melbourne office also provided the Victorian Education Department with the structural template designs as a part of this program. The templates incorporated 22 different buildings with each building having four configurations to allow for different wind loads and geological conditions. The templates are being constructed at approximately 700 sites across Victoria.

● **Flinders Uni School of Biological Sciences**

W&G has commenced design of the \$8.8 million extension to the School of Biological Sciences at Flinders University. The project will provide teaching and laboratory spaces.

● **Our Lady of Mercy College, Melbourne**

A new four-level educational building sited on a very steep site. The building features a curved masonry wall over 13 metres high.

● **UNO Apartments, Adelaide for the Department for Families and Communities**

A new \$46.5 million building located at 102 Waymouth Street will have a six-star energy rating and consist of a street level retail space, carparking and a selection of one, two and three bedroom apartments covering 16 floors.

Construction works are scheduled to commence in August 2010 with completion expected by April 2012.

● **BP Kwinana Refinery, WA**

Aztec Analysis has been retained by AkerSolutions to advise on all heavy lifting and craneage aspects of G10 Diesel Capability Improvement Project at the BP Refinery Kwinana. The heaviest vessel to be installed is a 190 tonne reactor.

● **GippsTAFE Chadstone Campus, Victoria**

The project includes demolition and rebuilding of the existing campus incorporating the construction of two new two-level buildings and a new three-level building. The project will comply with the Green Building Council 5-star rating.

● **Ozone Hotel, Kangaroo Island, SA**

W&G have assisted with the development application for a new 4.5 star hotel to be constructed adjacent to the existing Ozone Hotel at Kingscote.



Ozone Hotel image by Parade Studio Architects



UNO Apartments image by The Department for Families and Communities, SA



Manila Place Apartments image by PA Group Pty Ltd

● **Manila Place Apartments, Darwin**

Wallbridge & Gilbert RFP has recently completed the structural and civil design of this new four-storey, 27 apartment project (above).

● **Sunshine Regeneration Project, Victoria**

This secondary education facility has resulted from a consolidation of four campuses of Sunshine College. It has seven new single level buildings, a new two-level building and a new physical education building.

● **Maroondah Regeneration Project, Victoria**

Project incorporates four new double-storey buildings, a refurbishment and a new gymnasium.

Glenelg Tram Overpass, Glandore, SA



Photo provided by The Department for Transport, Energy and Infrastructure

Following the provision of proof engineering, design and construction verification services to contractors and The Department for Transport, Energy and Infrastructure for both the Bakewell Underpass and the Gallipoli Underpass, Wallbridge & Gilbert has again provided these services for the Glenelg Tram Overpass project.

This \$32 million project provides an eight-span 250 metre long tram, bicycle and pedestrian bridge over South Road and incorporates 42 prestressed super T-beams weighing 60 tonnes each. Situated above South Road is a tram stop with platforms and canopy accessed by lifts and stairs.

Barker Inlet & Adelaide Airport Stormwater Harvesting, SA

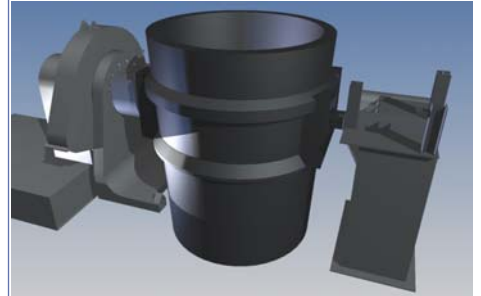


W&G has been engaged by SA Water to design the Barker Inlet Stormwater Reuse Scheme and the Adelaide Airport Stormwater Scheme. These two projects are significant stormwater harvesting schemes for SA Water and are being completed with funding from the Commonwealth and the State Government.

The Adelaide Airport project will deliver treated stormwater for non-potable applications with stormwater extracted from Brownhill/Keswick Creek along the southern boundary of the Adelaide Airport and treated through a series of biological and media filters before being injected into a T2 Aquifer, approximately 210 metres below the surface level. The scheme includes the design of distribution mains for irrigation and other non-potable purposes.

The Barker Inlet project will extract water from the existing Barker Inlet Wetlands. This water will also be stored in the T2 Aquifer and pumped up from the aquifer and disinfected prior to distribution to industrial, commercial and public open spaces in the Regency Park area.

Ladle Turnover for OneSteel



Over recent years OneSteel Whyalla has experienced several mechanical problems at the Ladle Turnover in the Steelmaking Plant.

During that time, ladle capacity had been increased from 110 to 130 tonnes.

The bolts and welds that connect the tilt arm to the gear had failed several times, resulting in significant downtime. The tilt arms had also demonstrated significant distortion and bending.

Aztec Analysis has redesigned the ladle turnover mechanism using FEA techniques to suit the new load and fatigue environment.

Wastewater Treatment Plant, SA

Work has commenced on the City of Tea Tree Gully Wastewater Treatment Plant near Greenwith Road.

The facility will have the capability to treat more than one million litres of effluent per day. This will complement the treated recycled stormwater network via aquifer storage and recovery.

Photo by The City of Tea Tree Gully



Adelaide Airport Landside Infrastructure Project, SA



Perspective provided by Adelaide Airport Limited

Wallbridge & Gilbert has been providing traffic, civil and structural engineering services to Adelaide Airport on the upgrade of its landside infrastructure. Through the innovative use of traffic and pedestrian microsimulation modelling during the concept phase, the client was able to visualise the predicted operational performance of the options considered.

The project will include 2,000 space multi-storey short term carpark and a landscaped plaza that will provide a relaxed experience for airline passengers. The safe and rationalised movements of private cars, taxis and buses are the key to the successful operation of the landside precinct. So too is the ability for the infrastructure to be expanded to accommodate forecast volume increases over the next 20 years.

Wallbridge & Gilbert will also design and document a major upgrade to the existing road network, including a new roundabout and one kilometre of new road, as well as new taxi and bus facilities.

Adelaide Mushrooms, Monarto, SA



Wallbridge & Gilbert was engaged in 2004 to undertake civil and structural engineering design to progressively complete this project.

The \$35 million facility shown in the foreground is Stage 3 and is approximately 16,800m². Stage 1 and 2 are seen behind.

Photo by Romaldi Construction

Crane Assessment



Aztec Analysis has been providing a life-extension service for the cranes of many clients. We assess the condition and duty-cycle history of cranes which are at the theoretical end of their design lives and determine strategies to allow them to continue in service. A recent example is the 40 tonne gantry crane (*above*) at the cooling water inlet of AGL's Torrens Island Power Station.

The crane was commissioned in 1972 and is beyond its original design life. The salt water environment had caused significant corrosion.

The crane has been inspected, serviced and repaired so that it can safely continue in service.

102 Wakefield Street Carpark, Adelaide



This 672 space car park, which will open soon, is designed to support five future office floors above.

Lyell McEwin Hospital Carpark, SA



Construction of the new \$25 million multideck carpark at Lyell McEwin Hospital is now complete. Wallbridge & Gilbert provided structural and civil engineering for the carpark which is designed to hold 1300 cars and 45 bicycles over six levels.

Photo provided by Cheesman Architects

Flinders Ports Wharf Assessments, SA



Aztec Analysis has been engaged by Flinders Ports South Australia to inspect and assess the condition of its commercial wharf assets around the state. The facilities include Port Adelaide, Outer Harbour, Thevenard, Port Lincoln, Wallaroo, Port Pirie, Port Giles and Klein Point.

Aztec is using the services of Lawrie Commercial Diving for the underwater inspection of piles.

Balfours Stage 2, Adelaide



The eighteen-storey 'Altitude' Apartment building recently achieved practical completion.

The building is the second to be delivered as part of the \$600 million Balfours Precinct development.

A feature of the building is the cantilever glass swimming pool 20 metres above ground level. Another unique feature is the striking 26 metre high "hero" columns supporting apartments above level 10 (see above).

Manuele Engineers, SA



New headquarters for major steel fabricator, Manuele Engineers, are under construction. The highly automated facility is due for completion in late 2010.

Wallbridge & Gilbert has carried out all civil and structural engineering, working closely with the client who is naturally constructing the steelwork.

Dry Creek Railcar Maintenance Facility, SA



W&G has gained valuable rail project experience in providing design, documentation and construction services for this new railcar maintenance facility which has nine operational buildings and a two-storey office/control centre.

Eastern Region Stormwater Strategy, SA

Wallbridge & Gilbert is developing a comprehensive Stormwater Management Plan (SMP) for the Eastern Region Alliance, which comprises four member Councils; the Cities of Campbelltown, Norwood St Peters and Payneham, Burnside and Adelaide.

The SMP will create an integrated drainage plan for the entire eastern region of Adelaide. By integrating the management of the catchment areas, the SMP will ensure environmental, social and economical aspects of flood management are considered in conjunction with stormwater quality and sustainable use. This multi-faceted plan will guide development policy changes and will be used as an asset management tool.

Dock One Newport Quays, Port Adelaide, SA



This new \$110 million project located at Dock One Port Adelaide will comprise 275 two and three-storey townhouses and a three-storey apartment building.

Wallbridge & Gilbert is providing civil engineering services. Dock One is due for completion in 18 months.

Image by Urban Construct



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