



Hebel[®] SoundBarriers deliver the goods for ARTC and communities along the new Southern Sydney Freight corridor

Project Name and Location

The Southern Sydney Freight Rail Line (SSFL) – Stage 2 Leightonfield to Glenlee.

Start and Completion Date

The project commenced in 2009 and was completed in late 2012.

Developer

Australian Rail Track Corporation (ARTC)

Builder

Arenco (Stage 1); Leighton Contractors (Stage 2)

PROJECT SCOPE:

The upgrade of the Southern Sydney Freight Rail Line was part of a major program of works to improve the efficiency and cost-effectiveness of rail freight services along the vital North-South Rail Corridor. The final stage of the project provided a third track dedicated to freight transportation between Macarthur and Sefton. The objective was to provide a bi-directional, non-electrified third track dedicated to freight movement for 36 kilometres in order to allow passenger and freight services to operate independently.

Prior to the completion of this project, freight trains shared rail lines with South-Western Sydney's metropolitan passenger trains and were not permitted to run during morning and afternoon peak periods.



Products and Applications:

30,000m² of Hebel® SoundBarrier, in a horizontal panel formation, was specified for this project for three important reasons – its ease and speed of construction, its ability to reduce acoustic transmission and its ability to incorporate the routed icons, patterns and aesthetics specified by the urban design brief.

Challenges/ Requirements:

The SSFL has improved freight rail services by removing the current peak hour curfew and allowed more freight trains to operate between Melbourne, Sydney and Brisbane. However, the new track is located in densely populated residential areas in South Western Sydney, so it was important to reduce the acoustic and visual impact on local residents, in addition to meeting construction challenges and deadlines.

Acoustic Requirements – The project called for good acoustic insulation in order to lessen the impact of freight movement on local residents. Made from aerated autoclaved concrete, Hebel® SoundBarriers provided acoustic performance levels which were rated over and above the requirements for this project.

Aesthetics – After extensive consultation with local councils, schools and businesses, community liaison groups, indigenous and multicultural associations and residents living adjacent to the new track, the Hebel SoundBarrier walls were manufactured with unique routed patterns that expressed local themes, important cultural emblems such as native flora and local government logos. This provided a visually pleasing and attractive feature wall in addition to a highly functional noise barrier.

Ease of Construction – Restricted access to the line meant fast set up and installation using small, agile equipment was critical. A solid but light weight aerated concrete panel, the Hebel SoundBarriers were installed by smaller construction teams without the need for heavy equipment.

Speed of Construction – Hebel SoundBarriers met the demanding short lead times the project demanded. Localized crews were readily trained to handle and quickly install the panels, enabling multiple zones to be constructed in a tight work schedule.

Minimal On-Going Maintenance – High performance Dulux® coatings were specified to achieve a quality, long-lasting colour fastness with minimal maintenance.

Results:

The use of Hebel SoundBarriers allowed the contractors to meet the tight installation schedule despite the line access restrictions and challenging site. Hebel also met key community requirements for attractive aesthetics due to its ability to provide customised factory-routed patterns; design flexibility with a variety of patterns incorporated in the walls at different locations; and a high level of acoustic insulation.

Testimonial: Leighton Contractors

“This is the second major rail infrastructure project we have delivered with Hebel for the ARTC. In a (rail infrastructure) project like this, where track access was limited and scheduled around commuter train timetables, work often took place outside normal working hours to avoid disruptions to the passenger train network. Meeting construction deadlines was critical, not only to ensure safety for the work crews, but also to control and minimise the impact on commuters and the local community.

The addition of a 3rd track dedicated to freight movement has increased rail traffic through high density residential areas. Local residents, schools, businesses and councils needed an aesthetically-pleasing sound wall to shield homes, apartments and shops from noisy and frequent rail traffic.

The Hebel SoundBarrier system was specified due to its outstanding noise attenuation performance, its ability to provide an attractive visual screen and its proven durability. Installation was streamlined with steel-column construction in concrete pier foundations. It's a fast, reliable, economical system that was simple to install and is extremely effective.”

About CSR Hebel

For more information on CSR Hebel, please call 1300 369 448 or visit www.hebelaustralia.com.au



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