

ARTISTIC ACHIEVEMENT



The £25 million extension to the 1823 Manchester Art Gallery was announced as the overall winner at the Concrete Society 2003 Awards, held at the London Marriott Hotel on 12 November. The project also received the prestigious British Precast Award.

The new galleries exhibit exposed precast column and roof soffits with an outstanding quality of finish. The vaulted roofs are exquisite in shape and detail and the exposed bolts, which connect the units together, are extremely functional and make a unique detail. The colour of the concrete chosen to achieve the necessary light level has worked very successfully. The use of concrete assists with the thermal stability within the gallery, remaining unobtrusive and complementary to the existing buildings. The quality and finish of all the concrete is exceptionally good.

SCC Ltd was responsible for the precast concrete superstructure including the profiled floor units, which form the ceiling of the new galleries. Each of the units is 4.3m x 8.5m

long, rising approximately 600mm to form a graceful shell structure. The units sit directly on precast columns, which have a fair-faced white mica concrete finish.

The main feature wall in the stair core and lift areas comprises nine individual wall panels and two intermediate floor beams capped by a roof beam weighing 19½ tonnes. The appearance was achieved by SCC Ltd using antique white cement, mica sand and a light acid-etched finish.

Main Contractor: Bovis Lend Lease

Architect: Michael Hopkins & Partners PLC

Engineer: ARUP

Precast Components: SCC Ltd.

Precast Detailing: Deakin Walton

SPA chairman Peter Camber points to the way forward

Although the market for precast concrete continues to grow, there is no room for complacency and the industry needs to be less parochial and look beyond its current boundaries. We need to understand that the competition will come not so much from within precast but from other off-site systems. The industry therefore needs to

sell itself more strongly – to speak with a bigger, common voice. Here the recent launch of The Concrete Centre will be a big help in promoting the benefits.

The advantage of concrete has always been its versatility. And this is particularly true of precast, which lends itself to almost any structure or component. Indeed it is almost impossible to think of

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Fast-build platform on the right lines

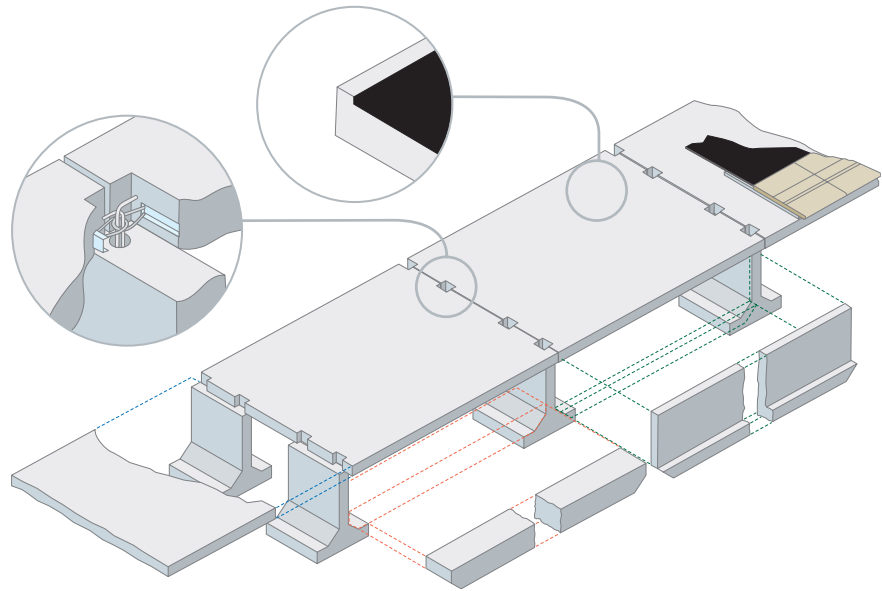
Bell & Webster Concrete is set to enter the railway infrastructure market following the launch of its brand-new fast-build platform range – an innovative collection of lightweight precast concrete components that are quickly assembled and dramatically cut the time required to build railway platforms. Robust, cost-effective and flexible, the system is ideal for refurbishment, new build and extensions in both passenger and freight applications.

The fast-build platform range comprises four key precast components: base units, platform units, ground beams and infill panels. Platforms are built in 4m x 3m modules and each can be constructed in a very impressive 1½ hours.

First, four 1.0m x 1.0m square base support units are placed onto a prepared foundation on a 25mm-thick mortar bed using load-shedding shims. Next the platform slab, measuring 4m long by 3m wide and 0.2m thick, is secured to the base units. Apertures can be formed

in the platform slabs for services access or for the location of columns or supports. Once the base and platform units are in place, ground beams can be fixed, if required, between the base units to carry any additional loading. Alternatively, an infill

panel to create front and rear walls can be provided. These latter units can be supplied with a nib to carry brick, block or stonework walling. The fast-build platform system meets current specifications of Network Rail and Independent Rail Operators.



Quality finishes at Ipswich

Trent Concrete produced a series of high-quality precast units for the new 6000-seater north stand at Ipswich Town Football Club.



Trent's £800,000+ contract covered a total of 823 units including lower and upper tier terrace units, fascia units, staircases, step blocks and vomitory and spine walls.

High standard, architectural quality finishes were specified for the units, which vary in mix and finish from plain grey ex-mould to sparkling white acid-etched. The upper tier terrace units are cast in a special lightweight aggregate grey concrete; the lower tier terrace units are cast in both grey and white concrete; the rear spine walls feature distinctive white concrete incorporating Spanish dolomite for extra sparkle; the vomitory staircases are cast in a

grey mix incorporating a mica sand to add sparkle.

The shear wall panels were manufactured using match-casting techniques to obtain tight tolerances between panel-to-panel joints and correct fit at panel-to-panel connections.

Architect: H.O.K. Sport

Main Contractor: Jackson Building Ltd.

Consulting Engineer: Jan Bobrowski & Partners

Frame subcontractor: Aren Building Concepts (High Wycombe) Ltd – ABC Structures

Precaster: Trent Concrete

Detained again

C. V. Buchan is supplying precast panels to Skanska for the Home Office's Logford House Immigration Removal Centre near Heathrow. This is the latest in a series of projects jointly constructed by the company and main contractor Skanska over the past seven years. The two have worked together on five custodial centres for PFI prisons consortium Premier Detention Services since 1996, and Buchan's work for Skanska totals more than £40m during that period.

At Heathrow, the £46m Immigration Removal Centre has similar construction challenges to those posed by prisons. The experience built up over the previous five Premier projects has led to the precast



concrete panels being refined to such an extent that there will be no first-fix M&E on site and hardly any wet trades. All service runs are fitted into the precast concrete panels, including (for the first time) sprinklers and air conditioning. All electrical conduits have been cast in, as have doors and window frames.

Once assembled, the rooms will only require the flooring and decorating, the concrete finish being ready to take paint.

Of course, concrete is a natural choice for a secure detention facility where robustness is all-important. Other major advantages include speed, with offsite precasting cutting about

40% off the programme, which is a big plus from the client's perspective. In addition, the reduction in subcontractors on site improves safety as well as saving costs.

All of the concrete panels were supplied from Buchan's factories at Accrington and Cranage.

Highway improvements

Tarmac Precast Concrete has supplied Costain Civil Engineering with 66 Y and YE prestressed bridge beams for bridge 1 as part of the A34 Chieveley/M4 junction 13 improvement scheme. The Highways Agency project, designed by engineers Mott MacDonald, will relieve congestion on the A34 north- and south-bound at this busy motorway intersection. The beams, valued at £350k, are 28m long and were manufactured at Tarmac's Tallington factory.



A drop of the white stuff

Precast concrete in various forms and from various suppliers was involved in the recent creation of a new production and distribution centre for milk and dairy products at Arla Dairy, Stourton, near Leeds. With Carillion Building as main contractor, the challenge for Ebor Concretes was to substitute concrete block walling by large precast panels with no horizontal joints and ready for painting.



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an application in the construction industry where precast cannot offer advantages.

However, one of the problems still faced by concrete as a construction material is its historical poor press. It is time to broadcast concrete's enormous progress in recent years. We need to get concrete accepted in the way that steel and timber have succeeded by significant support and promotion.

Precast needs to raise its profile and promote its significant advantages – that it is robust and well insulated and that its manufacture is environmentally friendly. For the main contractors, its biggest selling point is the time it saves. When we are targeting the client and end-user, the concrete pluses include inherent fire resistance, energy-efficiency and whole-life-cost advantage.

The wider message to the industry is that precast

panels were cast flat from lightly grit-blasted full-size steel-plated moulds. Top surfaces were screeded and given an initial wood float finish before the final steel float finish. Lifting anchors were hidden in both the panel sides and top to save any making good after demoulding and installation. The only other fittings were two special cast-in channels incorporating a sliding locknut able to accommodate the predicted deflection of 40mm from the steel supporting structure. Altogether, Ebor supplied around 5000m² of 155mm-thick panels, most being 2400mm wide 8500mm high with access doors and service ducts suitable for the direct application of the hygienic paint.

Also on the scene was the Concrete Products Division of the Roger Bullivant Group, supplying and installing a number of specialist precast items to form a low-level docking area. To prevent dairy products leaching down into inaccessible areas, the RB team raised the lower concrete base slab to a level just below the dock leveller itself and introduced a slope from back to front. As a result, any spillage will simply run away and can be easily accessed for cleaning. Constructed in two separate areas, the dock leveller

concrete designers, fabricators and suppliers must be brought into the project as early as possible, to be part of the team or integrated supply chain. This will promote a more efficient design and development process which is effective, versatile and best value.

I firmly believe that in future off-site construction will become the norm rather than the exception and that precast has a significant part to play.

pits are linked by a long run of precast perimeter retaining wall and yard retaining wall to form the completed low level docking area.

Bison Concrete Products Ltd was contracted to supply, deliver and erect 13,678m² of 150mm and 300mm deep precast prestressed concrete hollow core floor components, together with 117m³ precast concrete stair flights and landings.

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