Brisbane's New Runway

The precast beneath the planes

As the largest aviation project in Australia, Brisbane's new runway system will allow parallel runways to operate simultaneously. Below it lie high strength concrete pipes and box culverts manufactured by National Precast member Humes.

Selected for their durability and longevity, the precast elements will stand up to the state-of-the-art design of the runway as they support the safe landing and departure of more than 227,000 flights each year.

The project's 3.3 kilometre long and 60 metre wide main runway will double the airport's capacity, and will be supported by 12 kilometres of taxiways, navigational aids, airfield infrastructure. This extra capacity is predicted to deliver $5 billion per year in regional economic benefit, as well as almost 8000 jobs, by 2035.

The $1.3 billion project is expected to lead to increased choice in airlines, destinations and flight times. Forecasts estimate that passenger numbers are likely to grow from 22.7 million passengers in FY17 to around 50 million by 2035.

Precast manufacturer
Humes Australia

Contractor
CPB Contractors, BMD Group

Engineer
McConnell Dowell

Client
Brisbane Airport Corporation

www.nationalprecast.com.au

Completed mid-2015, phase 1 of the project comprised the ground improvement works. Phase 2, the construction of the runway system and airfield infrastructure, is currently underway.

According to National Precast CEO Sarah Bachmann, precast pipes and culverts are usually the first choice for projects of such an important nature as this one. In this instance, an extensive network of pipes and culverts are being used to transport water and sewage under the runway system and associated infrastructure.

"There's no more durable product than reinforced concrete pipes. They're the strongest pipe on the market and can be designed to meet any load requirements, which in this case, is especially critical," says Ms Bachmann.

Humes

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making precast easy

Photo Courtesy: Brisbane Airport

"Neither will they rust, move or deflect. With an increased focus on whole of life value of assets, it's easy to understand why concrete pipes, with a proven track record over almost 200 years, are specified for major infrastructure projects," she says.

"Sustainability is also a consideration with asset holders. And by that I mean consideration of not only the environment, but of people and the economy too. Long life spans and reliability are minimum requirements along with value, efficiency, durability and performance."

"As well, installation of concrete pipes is straightforward. That also delivers a speedy programme," Ms Bachmann added.

Work began on constructing the runway in 2017 and the project is on track for completion in 2020.

The proven track record of concrete pipes

While concrete pipes dating back to Roman times have been discovered in the United Kingdom, the oldest modern-day concrete pipe installation is a sanitary sewer in New York that was installed in 1842. The concept came to Australia in 1910, when a world first – the centrifugal-spun reinforced concrete pipe - was invented by the Hume brothers. The pipes are still manufactured today by the company we now know as Humes.

Photo Courtesy: Brisbane Airport