

Press Release

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Elliptical pipes overcome challenging conditions at Twickenham

Working on the RFU's major redevelopment of the South Stand at Twickenham stadium, consulting engineers, Arup have overcome challenging surface water drainage issues by specifying Stanton Bonna's elliptical concrete pipes.

A high water table on the site and very shallow gradients for surface water run-off from the stadium meant that elliptical pipes were considered a more technical and economic alternative to other drainage systems such as box culverts. Stanton Bonna was awarded the contract shortly before installation commenced, meaning tight delivery schedules had to be met.

Stanton Bonna has supplied some 750m of 1150mm x 750mm reinforced concrete elliptical pipes, installed side by side in a horizontal orientation in pipe runs up to 5m wide. With insitu concrete inter-connecting chambers they form an attenuation tank for storing surface water run-off prior to it being discharged into the public sewer system. The contract has also included smaller quantities of Stanton Bonna circular concrete pipes and manholes.

Elliptical pipes are ideal for this type of application where ground levels only permit minimal earth cover and where the pipes' inherent strength and improved flow rates mean they can be laid at shallow gradients thereby reducing trench excavation costs.

With the pipes' elliptical internal profile ensuring excellent hydraulic performance, they offer significant benefits over other systems and, supplied in 2.4m lengths, the pipes also require fewer joints than, for example, a box culvert alternative.

At Twickenham the new attenuation tanks are located immediately outside the South Stand, where an ongoing £90m redevelopment, scheduled for completion by September 2007, involves increasing the stadium capacity from 75,000 to 82,000 as well as the construction of a new 156 bedroom four star hotel, a new conference centre and health spa and new RFU offices.

Installation of the Stanton Bonna pipes has been carried out by Duffy Construction whose project manager, David Walker commented: “The high water table and shallow gradients on this construction site created specific surface water drainage challenges that were best solved by elliptical pipes. Stanton Bonna was able to respond rapidly to tight delivery schedules and with trench excavation levels reduced and rapid jointing techniques employed, the pipes ensured a quick and easy installation.”

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For further information

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