



# LONDON BRIDGE BEST PRACTICE

LONDON BRIDGE STATION  
REDEVELOPMENT PROJECT

## Hollow blockwork walls

### Overview

A major part of the back of house works is the construction of blockwork walls which are required to create rooms for various applications. This work is being conducted within the arches which could have caused a number of problems if the traditional method of using steel windposts and concrete lintels were used.

One of these problems would have been moving the steel windposts into position. This is due to the location of the works being within the arches meaning that space is limited. It would have been a challenge to transport the windposts through the various arches and to the specified location. Also, due to the windposts being heavy, a safety risk when placing them into position could have been caused. If windposts were to be used this would have slowed down other works going on in conjunction with the blockwork walls as an exclusion zone would have needed to be in place whilst the windposts were lifted into position. In light of these issues, a method was needed for constructing blockwork walls without the need of traditional windposts and lintels.



### The Solution: WI columns and WI Beams

Pyramid used a method developed by Wembley Innovations where the steel windposts and concrete lintels are replaced by WI columns and WI beams. WI columns are constructed using hollow concrete blocks that wrap around a steel reinforcement bar that is anchored to the ground and the soffit of the arch. The hollow blocks are then filled with concrete and allowed to cure. These hollow blocks are able to increase the masonry wall strength without thickening the wall or impacting on its appearance. WI beams are constructed in the same way as the WI

columns except the reinforcement bar is attached to the corresponding reinforcement bar of the WI columns using a T-connector.

Once completed the WI system provides a clean and seamless finish which improves aesthetics and can reduce costs by 10-17%. The WI system can create walls that can be as tall 7 meters high and also contain the full fire resistant properties of masonry. As the WI column is constructed using individual blocks they are easier and safer to construct as the reinforcement bar used is only a fraction of the weight of the windposts and lintels that would have been used.



### Benefits:

- Cost efficient compared to steel wind posts.
- Large blockwork spans without the need for steel wind posts
- Avoids the need for a lengthy fabrication period associated with mild steel windposts
- Creates safer site works – no erection, lifting posts or lintels
- WI columns Beams are approved for use under part A of the building regulations 2000 and are CERAM tested and approved
- Project cost saving compared to steel wind posts
- Enhanced quality and performance
- Rationalisation of builders work

### Objectives and targets:

- London Bridge Sustainability Delivery Statement – cost reduction; materials
- CEEQUAL – materials