

# Christ College, Brecon

## Overview:

|                   |                          |
|-------------------|--------------------------|
| Site Location:    | >> Brecon                |
| Client:           | >> Dwr Cymru Welsh Water |
| Contract Value:   | >> £42,000               |
| Project Duration: | >> 3 Weeks               |



Lewis Civil Engineering Ltd, were engaged by Dwr Cymru under their reactive planned maintenance framework to repair a 600x450mm brick egg storm sewer collapse 3.5m deep within the landscaped grounds of Christ College in Brecon.

The sewer had been overplanted with a rare ornamental tree that had grown to 12m tall and 8m wide during its lifetime and in doing so its roots had ingressed the existing brick egg storm sewer and caused a localised collapse.

Over pumping was set up in order to divert flows around the working area which was secured by the erection of Heras fencing. The designed solution was to fell and remove the tree and undertake a 12m sewer repair via on-line replacement with 600dia Storm drain. However, the connection interface between the new circular sewer and the existing brick egg sewer required the careful construction of 2 new 1500dia manholes to ensure a suitable transition between the differing shaped pipes and also to prevent any weakening of the existing sewer post repair.

Due to the depths involved we engaged a third party designer to undertake an independent temporary works design check in accordance with our standard procedures.

In order to construct the manholes we carefully exposed the brick egg sewer in stages and encased it in concrete up to haunch level – similar to an underpinning technique.

Once encased up to haunch level the egg shaped sewer was then stable enough to remove a section of its roof to form the channel for the new manhole.

The precast concrete manholes could then be built above this new channel in traditional methodology.

Upon completion of the sewer repairs we reinstated the whole affected area with high quality turf to match the impressive condition of the existing landscaping. One of the conditions for working on the project was that the college wished for the felled tree to be replaced with a similar specimen – we sourced one from the Worcester area and transplanted it within the college grounds but far enough away from any sewers and other utilities to not become a problem again in the future.



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