



## Case Projects

# Jimmys Creek VIC

## Retrofit of CWT Collection Well System

### Project Requirements:

Parks Victoria came to us with a major problem. A contractor had constructed a cast in situ concrete floor toilet building with a below floor collection well. This collection well was a modified circular horizontal axis concrete septic tank. The septic tank entry and exit ports had been sealed and penetrations made for the down tubes for the pedestals. All these potential leak points by the very design were below ground level. The site had a high water table. Ground water leaked in to the collection well. This presented a problem for the facility manager. The stored liquid had to be classed as black water and had to be removed from site. The fact that the collection well was leaking also raised the concern that black water could leak in to the adjacent soil if the water table should drop. The resolution to overcome the problem was to replace the collection well. As the cast in situ floor had piers straddling the collection well, the concrete floor had to be demolished concurrent with the collection well.

### Our Unique Solution:

Our solution was to lift the building from the concrete floor, demolish and replace the collection well and floor slab, then replace the building. Fortunately, the building was a post and panel construction, masonry anchored to the concrete floor. Parks Victoria supplied a CAD drawing of the structure. A lifting device consisting of RHS members with U bolts connections to the building columns was fabricated in our Armidale workshop. A CWT 10000 collection well and custom two piece floor was designed and constructed. The two piece floor was required to overcome the 3500 maximum width road transport restriction.

On site, the building was rigged. Multiple adjustable lifting straps had to be used to ensure the building did not distort and fail in the lifting process. The building had to be braced with similar straps in every plane. Once the masonry anchors were removed, the building lifted off easily using a Franna type crane.

Now the demolition, excavation and pad preparation was done. The client required that the refurbished building had a similar RL for the concrete floor as the old building, and as close as possible to the original building's position. This required accurate site survey, marking and pad preparation.

The collection well, footing columns and precast floor were then placed by crane. A ground anchor system ensured the collection well would not float once the ground water established itself at its former level.





The building was now positioned and masonry anchored. Pureblue stainless steel pedestals were now fastened to the ports cast in the concrete floor. Backfilling and resurfacing of the surrounding circulation space with washed gravel completed the project.

#### The Future:

CWT is kept abreast of upcoming toilet installations of this type, at remote non serviced sites, through the tender process. Despite this sort of Jimmy Creek incident, toilet buildings using non compliant to AS1546.1 modified plastic septic tanks are still being designed and constructed. These systems will fail in the long term. The only solution is to demolish and start again. Meanwhile, sensitive environments are at risk.

