

BICENTENNIAL BIKEWAY BEARING REPLACEMENT

PROJECT SUMMARY

Client: BCC

Location: Bicentennial Bikeway,
Brisbane

Duration: 3 weeks

Value: \$ 55,000

Major Challenges Overcome:

- Restricted jacking area
- Risk of deck cracking
- Tides and access



Bicentennial Bikeway

planning and consideration of a range of factors including public safety, the environment and timing, to minimize the impact on the community.

The Project

The Bicentennial Bikeway is a popular Brisbane cycleway running past the Brisbane CBD that connects Toowong and the western suburbs. At peak times, traffic on the bikeway can include over 5000 pedestrians and cyclists in a day. It is an iconic bikeway utilized and supported by many users.

Dynaciv was engaged to replace two pot bearings on the bridge that were identified as being in poor condition. The plates and holding down bolts were severely oxidised, making removal difficult. This project required careful

Scope

1. Submit required permits and management plans to Brisbane City Council (BCC)
2. Install scaffold to access the structure.
3. Replace original pot bearings with elastomeric bearings:
 - a. Jacking and propping without causing damage to the Bikeway Bridge (whilst open to traffic)
 - b. Provide engineering certification
4. Install lateral restraints

- a. Fabricate restraints in 316 Stainless Steel
 - b. Drill and grout holding down bolts
5. Clean and demobilise site.

Work Completed

A temporary work access platform was constructed adjacent to the abutment. The platform could easily be removed for spring high tides.



Wedge jacks were installed behind the existing bearings as a safety measure in case the hydraulics failed.



The pot bearing holding down bolts were completely corroded and had to be cut to remove the bearings. The bolts were cut before the flat jacks were put in position, to maximise working space.

The flat jacks were positioned on the headstock no more than 365mm away from the bearing. The remainder of the holding down bolts were then removed.

Dial gauges were installed to monitor the jacking process.



The dial gauges had a magnetic base which was epoxied to the concrete and could be placed in many locations.

Both jacks were simultaneously employed so that nominal lift was achieved on both. This was enough to relieve the loading on the bearings.



The jack hold valve was activated and locking collar engaged to ensure that even if hydraulic fluid was lost, the jack would hold the load and position.



Once the jacks were safely carrying load, the pot bearings were removed. The headstock and girder were mechanically cleaned to provide an even surface for the elastomeric bearings.

An epoxy mortar pad was installed



Below: The epoxy mortar mixed, and elastomeric bearings installed.



The flat jacks were removed, and stainless steel restraints were re-installed

