PROJECT SHEET

AYR BRIDGES BEARING REHABILITATION

PROJECT SUMMARY

Client: Queensland Rail

Location: Ayr

Duration: 6 Months

Major Challenges Overcome:

- Working in between trains
- Heavy Rainfall
- High demand track section - Sugar
- Limited access
- Limited Work Time
- Inconsistent work areas

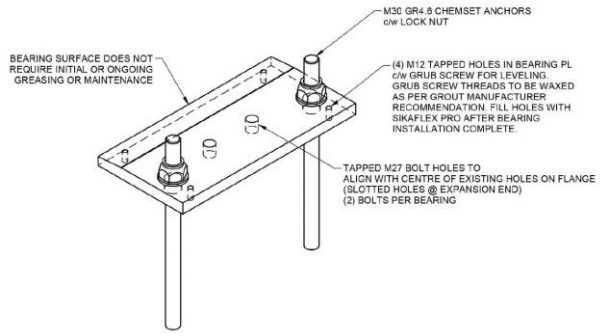
Queensland Rail (QR) engaged Dynaciv to carry out the bearing replacement of 78 bridge bearings along 7 bridges. It was challenging as each bridge presented different difficulties. These included:

- Steel in the piers (made core drilling difficult)
- Higher than expected piers, resulting in additional time spent on grinding the pier height.
- Inconsistent girder hole location and uneven flanges making bearing fitting difficult.
- Limited jacking locations
- High frequency of trains
- Limited closure periods

Typical work site and existing bearing

The existing bearings were damaged in many places which resulted in broken holding down bolts and cracked diaphragms. Queensland Rail initiated a new bearing design that is more robust to provide the girder more support and reduce the uneven loads on the diaphragms.

New bearing design



Dynaciv installed all 78 bearings successfully during closures and in between trains. Most of the bearing install was done during the night.

Typical installed 55t jack

Most of the closures were only 8 hrs. We had to allow enough time for the grout to reach sufficient strength to allow trains to pass.

Installed bearing

Dynaciv were also asked to strengthen two piers at one of the bridges. These piers had suffered severe cracking and a design was prepared to wrap the piers in a carbon fibre wrap.

CFRP Wrap being applied.

Completed CFRP wrap