

# STEVE MAXWELL PLATELAYING AWARD MINOR WORKS CATEGORY

## Cockle Creek Bridge Transoms, Reconditioning and Rerail

Sydney Trains and John Holland  
Owen (JHG) and Heath (ST)

Value of works: \$xxxxxx



### Executive Summary

John Holland and Sydney Trains are jointly submitting for the PWI Steve Maxwell- Minor works category. As part of the Master Services Agreement commencing in August 2015, the agreement's objective is to focus on **Safety, Environment, Delivery, Quality, Value, Innovation and Customer Service.**

Cockle Creek Railway Bridge is a steel bridge structure across Cockle Creek at Argenton. It is a double track, 2-span, riveted steel Pratt truss bridge.

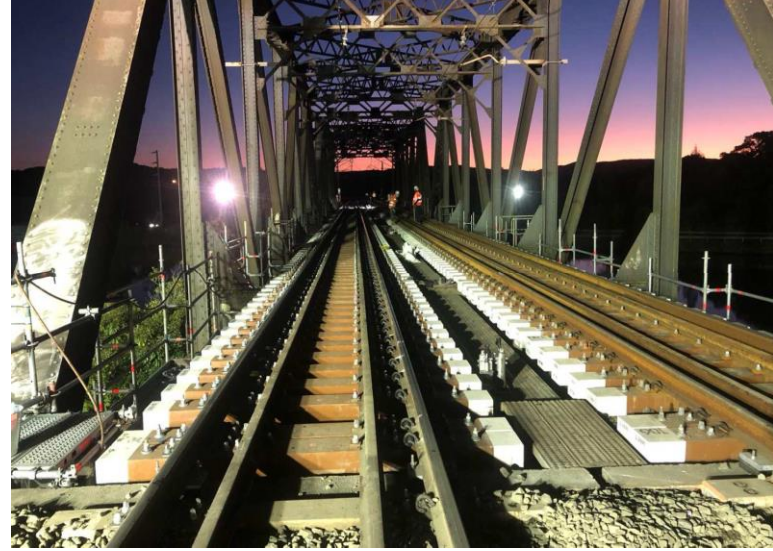
The project was successfully delivered in WE49 and WE2 on the configuration 9 possession on time and to budget. The team (both John Holland and Sydney Trains) have been delivering transom projects for the last 4 years. The lessons learnt and efficiencies have enabled the team to deliver more work in a shorter time frame without compromising safety and caring for the environment.

### PROJECT SCOPE

The project scope completed over two possessions included:

- Possession 1 (WE49- 3 day Possession) – 5 shifts
- 186 FFU transoms installed
  - 440m of rerailing
  - 440m of guard rails replaced with new fastening
  - Bridge end reconditioning
  - Tamping and track re-alignment
  - 4x weeks of scaffolding works leading up to the possession
  - 2600 holes drilled

- Possession 2 (WE2- 2 day possession) – 4 shifts
- 186 FFU transoms installed
  - 440m of guard rails replaced with new fastening
  - Bridge end reconditioning
  - Tamping and track re-alignment through 112 crossover
  - 2600 holes drilled
  - Install scaffolding and dismantling



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## PROGRAM OF WORKS

The works were programmed over two config 9 possessions. Due to the sheer amount of work on the Down Main including the scaffolding, rerailing, tamping and signal testing, it was decided to deliver this scope WE49 (3 day possession).

For both weekend 49 and 2, full scope was achieved with nil impacts to possession hand back.

## ACCURACY TO DESIGN AND SURVEY

The drilling pattern on this bridge is slightly different due to the guard rail configuration. Only partial drilling could be achieved prior to the possession.

All transoms were drilled perfectly to suit the existing holes on the top flange and no re-drilling was required.

The vertical and horizontal alignment is within 3mm of design. This was achieved through real time survey and marking of each transom for heights and centreline.

With the assistance of Sydney Trains staff, the pre-measuring, prior marking up and site dilapidation of the bridge ensured the team was fully prepared for the possession. Their past knowledge, sharing of lessons and previous issues allowed to team anticipate issues and develop solutions to overcome challenges.

## DIFFICULTIES OVERCOME

The original JHG scope of works was to replace the transoms and complete rerailing on the Down Main only. A variation to erect scaffolding was granted to JHG which required further management of design, temporary works, access, and installation. To combat this JHG relied on proven design from past projects which was then tailored to suit the location. To meet the tight timeframe, the reliance on reliable and proven subcontractors was key to streamline the process.

Post the WE49 possession Sydney Trains awarded JHG with the scope for WE2 (3 weeks turn around). The team devised a plan to shift the scaffolding from one track to the other saving our client a total of \$300k.

To deliver the scope in the tight timeframe was a challenge for both parties however with detailed planning and communication, the team delivered scope in full without any safety, quality or environmental issues.

## SAFETY AND ENVIRONMENT

Working over water and working at heights is a significant risk for both JHG and Sydney Trains. The team developed specific controls to manage these severe hazards on site.

A detailed scaffolding design was developed to fulfil temporary works requirements. The team installed the scaffolding via barges and working underneath the bridge. Sydney Trains operations were notified of the works and adequate safe working was established for the duration of the works.

During the possession a fall specialist team and standby scaffolding crew were available to repair any potential damage of the scaffolding and to manage any edge protection issues.

Dropped objects and pollution of waterways were identified as significant risks during the planning phase. The team notified RMS and sought to close the channel. Additionally, a spotter boat with full time communication with the crew on the bridge was deployed to ensure nil potential of falling objects.

All refuelling of plant and equipment was carried out off the bridge to prevent potential spillage. For any potential spillages such as damaged hydraulic hoses, spill kits were available on the bridge deck as well as a marine spill kit on a designate barge below.

Managing the community is very important to both Sydney Trains and John Holland. The car parking at Cockle Creek was shared, however designated parking was clearly assigned, and members of the public were managed through our site representative and traffic management.