

# CAPABILITY STATEMENT

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INFRASTRUCTURE  
CONSTRUCTION ENGINEERING & TEMPORARY WORKS



### OVERVIEW

Peritas have a long-standing history with Temporary Works and Construction Engineering projects across the Infrastructure market in Australia. Over the past 10 years, we have been involved in some of WA's biggest projects with construction values up to \$1.6 billion. Construction Engineering is a valuable element to our business and we are renowned for our focus on **safety, constructability, quality of service and delivery**. We deliver high quality detailed engineering solutions to difficult construction projects.

SKYBRIDGE, PERTH AIRPORT WA

### RECENT PROJECTS:

#### CONSTRUCTION ENGINEERING

TONKIN GAP PROJECT, WA  
 BAYSWATER TRAIN STATION, WA  
 SKYBRIDGE, PERTH AIRPORT WA - **MBA AWARD WINNER 2020**  
 MITCHELL FWY PEDESTRIAN BRIDGE, WA  
 MATAGARUP BRIDGE TUNING DEVICE, BURSWOOD, WA  
 AUBIN GROVE TRAIN STATION, WA  
 MANDURAH TRAFFIC BRIDGE, WA  
 AUSTAL SHIPS SLIPWAY UPGRADE, HENDERSON WA  
 RIO TINTO MESA A SMP MODULES  
 RIO TINTO - BROCKMAN 2 MODULARISATION & TRANSPORT  
 RIO TINTO - WEST ANGELAS MODULARISATION & TRANSPORT  
 BINDOON SNIPER TOWER, BINDOON WA  
 ELIZABETH QUAY STAGE 1 & 2, PERTH, WA

#### TEMPORARY WORKS INFRASTRUCTURE

FORRESTFIELD AIRPORT LINK (D-WALLS), WA  
 SEAWATER INTAKE STRUCTURE, BARROW ISLAND  
 BUSSELTON JETTY, WA  
 MAIN ROADS RURAL BRIDGE UPGRADES, WA  
 RUSSEL ROAD BRIDGE UPGRADE, WA  
 KAREL AVE, JANDAKOT WA  
 ROE HIGHWAY, KALAMUNDA INTERCHANGE, WA  
 BHP LINER TRANSPORT FRAMES

#### DEMOLITION

OLD MANDURAH TRAFFIC BRIDGE, WA  
 WINDSOR BRIDGE DEMOLITION, NSW  
 KAREL AVE BRIDGE, JANDAKOT WA  
 HAMILTON ST BRIDGE, SUBIACO WA  
 BROUN AVENUE BRIDGE, MORLEY WA

#### AUBIN GROVE TRAIN STATION MODULE LIFT



WORLD  
DEMOLITION  
AWARDS 2018  
CIVILS DEMOLITION AWARD  
WINNER



MANDURAH TRAFFIC BRIDGE, WA

2019  
bankwest  
MASTER BUILDERS  
BUILDING EXCELLENCE  
AWARDS



### CONSTRUCTION ENGINEERING

- Construction methodology
- Heavy Lifting
- Articulated steel formwork for bridges
- Demolition
- Transport Frames
- Pre-tender input for project bids
- Condition Inspections

### TEMPORARY WORKS DESIGN

- Steel and Timber Formwork
- Propping
- Excavation Support
- Falsework
- Hoardings
- Crane Pads
- Third Party Design Review

AUSTAL SHIPS TROLLEY WEDGE, HENDERSON WA

## SPECIALIST COMPETENCIES

### Pre-Commencement Workshops

- Masterplanning,
- Risk workshops,
- Sustainability assessment,
- Accurate concept design,
- Constructability review.

### Drawings & Documentation

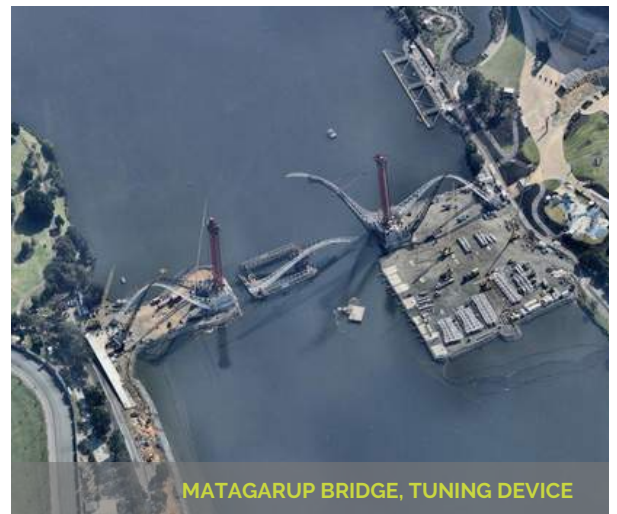
Our team are proficient users of BIM Modelling software (REVIT and TEKLA) where we adopt the most recent software versions.

### Construction Support & Contract Administration

We provide support throughout the construction phase of projects to ensure design compliance is achieved. As queries arise our experienced staff are always available to provide prompt responses to avoid delays on site.

### Specialist Analysis

Our capabilities include Finite Element Analysis and Dynamic Response Analysis to ensure we're able to model any structure. Having the latest software our engineers are able to provide effective design solutions for any structure.



MATAGARUP BRIDGE, TUNING DEVICE



WINDSOR BRIDGE DEMOLITION, NSW



### CLIENT

Evolve Bayswater

### TIME FRAME

Engaged 2021

### EXPERTISE

Temporary works design & associated construction engineering.

## BAYSWATER TRAIN STATION

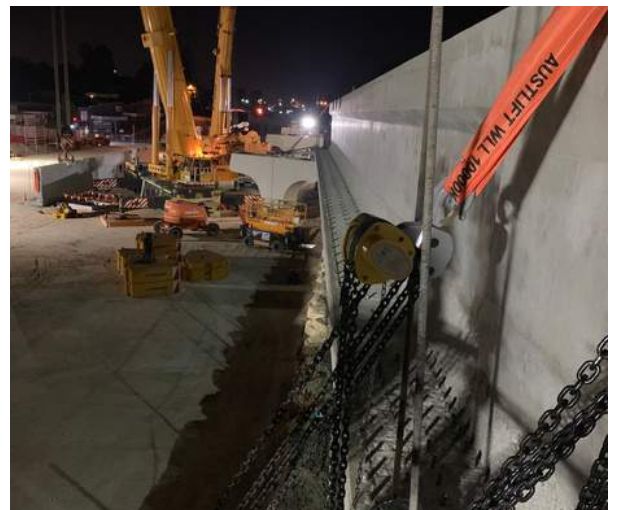
### PROJECT NOTES:

Peritas are providing Construction Engineering and Temporary Works design to Evolve Bayswater Alliance for the redevelopment of the Bayswater Train Station & famous Baysie Bridge.

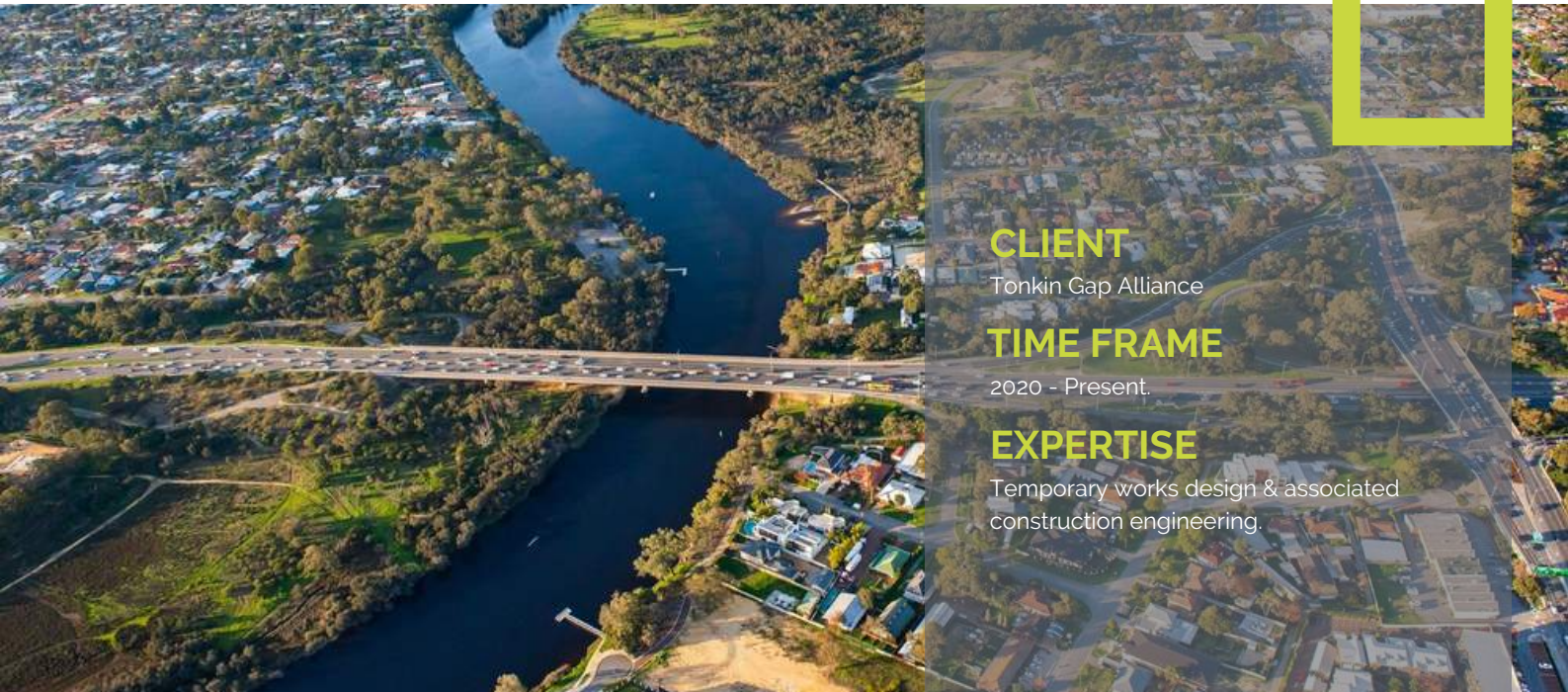
This includes the design of the following items:

- Precast 'L', 'C' and 'Z' Beam lift design
- Installation methodology (bracing, propping & adjustment),
- Lifting frame design,
- Beam temporary support,
- Headstock stability review,
- Temporary bearing and bearing replacement
- Construction support & attendance.

The New Bayswater Station will improve connectivity with the Midland Line, Forrestfield-Airport Link and Morley-Ellenbrook Line connections providing a new level of public transport service to Perth's north-eastern suburbs.







### CLIENT

Tonkin Gap Alliance

### TIME FRAME

2020 - Present.

### EXPERTISE

Temporary works design & associated construction engineering.

## TONKIN GAP PROJECT, REDCLIFFE WA

### PROJECT NOTES:

Peritas are providing Construction Engineering, Demolition and Temporary Works design to TGA for the Tonkin Gap Project.

This includes the design of the following items:

- 3rd Party Design Reviews
  - MSE Panel Propping,
  - Sheet Piling and Cofferdam,
- Pier formwork,
- Crane Pad assessments,
- Permanent formwork for road traffic barrier
- Temporary bearing replacement
- Underpass propping design for excavation
- Reo cage lifting,
- Edge protection,
- T-Roff beam Temp Support,
- Incrementally launched bridge formwork & falsework design,
- Broun Avenue Bridge Demolition,
- North dive Pile testing methodology
- Various construction support items

Tonkin Highway will be transformed to deliver a high-standard, north-south transport link from Muchea to Mundijong.







### CLIENT

Georgiou Group

### TIME FRAME

Completed 2021.

### EXPERTISE

Temporary works design & associated construction engineering.

## KAREL AVENUE, DEMOLITION & LIFTING DESIGN, WA

### PROJECT NOTES:

Peritas provided Construction Engineering, Demolition and Temporary Works design to Georgiou Group and Mainline Demolition for the Karel Avenue interchange project for Main Roads WA.

This included the design of the following items

- Existing bridge demolition
- MSE Wall panel lifting and propping
- Pier reinforcement cage lifting
- Pier formwork 3rd party verification
- Lift study 3rd party verification
- Crane outrigger pad assessments
- T-Roff beam supports.







### CLIENT

Permacast

### TIME FRAME

Engaged 2022:

### EXPERTISE

Temporary works design & associated construction engineering.

## WHITEMAN PARK TRAIN STATION (MELCONN)

### PROJECT NOTES:

Peritas are providing Construction engineering support to Permacast on the MELConnx Project in relation to the Whiteman Park Train Station Precast elements.

This includes the design of the following items:

- Precast 'L', 'C' and 'Z' Beam lift design
- Lifting Beam (180T at 25m)
- Lifting Frame
- Beam temporary support (in precast yard),
- Transport Frame for Precast Beams

The new Whiteman Park Station is an exciting opportunity to connect an important tourist attraction and growing residential community to the greater Perth area.







### CLIENT

South West Gateway Alliance

### TIME FRAME

Commenced 2022.

### EXPERTISE

Temporary works design & associated construction engineering.

## BUNBURY OUTER RING ROAD

### PROJECT NOTES:

Peritas were engaged by Georgiou to undertake construction engineering design, documentation and construction supervision on the Main Roads demolition and lifting design for the new Karel Avenue interchange.

Peritas' scope of works for the project included the design and construction supervision of the bridge demolition, and lifting, between Farrington Road and Berrigan Drive.

This will include the design of the following items:

- Piling pads
- MSE wall propping
- T-Roff beam temporary support
- Steel and Timber Formwork
- Propping
- Excavation Support
- Falsework
- Hoardings
- Crane Pads
- Third-Party Design Reviews







### CLIENT

BMD

### VALUE

\$3 million in approximated construction value.

### EXPERTISE

Lift design & associated construction engineering.

### TIME FRAME

2 months design.

## SCARBOROUGH BEACH ROAD PEDESTRIAN BRIDGE, WA

### PROJECT NOTES:

Peritas provided structural lifting design, documentation and construction support to BMD for the Mitchell Freeway Southbound Widening project.

This particular scope involved lifting a 60-metre long pedestrian bridge into place from the Mitchell Fwy, over a bustling Scarborough Beach Road.

The new footbridge spans 7.4 metres in width and will make accessing Perth's CBD via foot and bike safer thanks to a separated cyclist and pedestrian path.

Peritas consulted with BMD to devise a safe & simple option for the lift. This continued BMD's successful delivery of the Mitchell Freeway Southbound Widening project for Main Roads Western Australia.





## CASE STUDY - INFRASTRUCTURE (CE & TW)

### CLIENT

Georgiou Group & Mainline Demolition.

### VALUE

\$50 million in construction value.

### EXPERTISE

Structural design, documentation and shop detailing of steel formwork, construction engineering, demolition design of existing bridge.

### TIME FRAME

3 months engineering and shop detailing.



## MANDURAH TRAFFIC BRIDGE, WA

### PROJECT NOTES:

As a result of the success of the Aubin Grove train station project, Peritas was again engaged to provide construction engineering for the new Mandurah traffic bridge.

The bridge has a curved soffit in profile and also curves along all three axes along the span, making this task truly challenging.

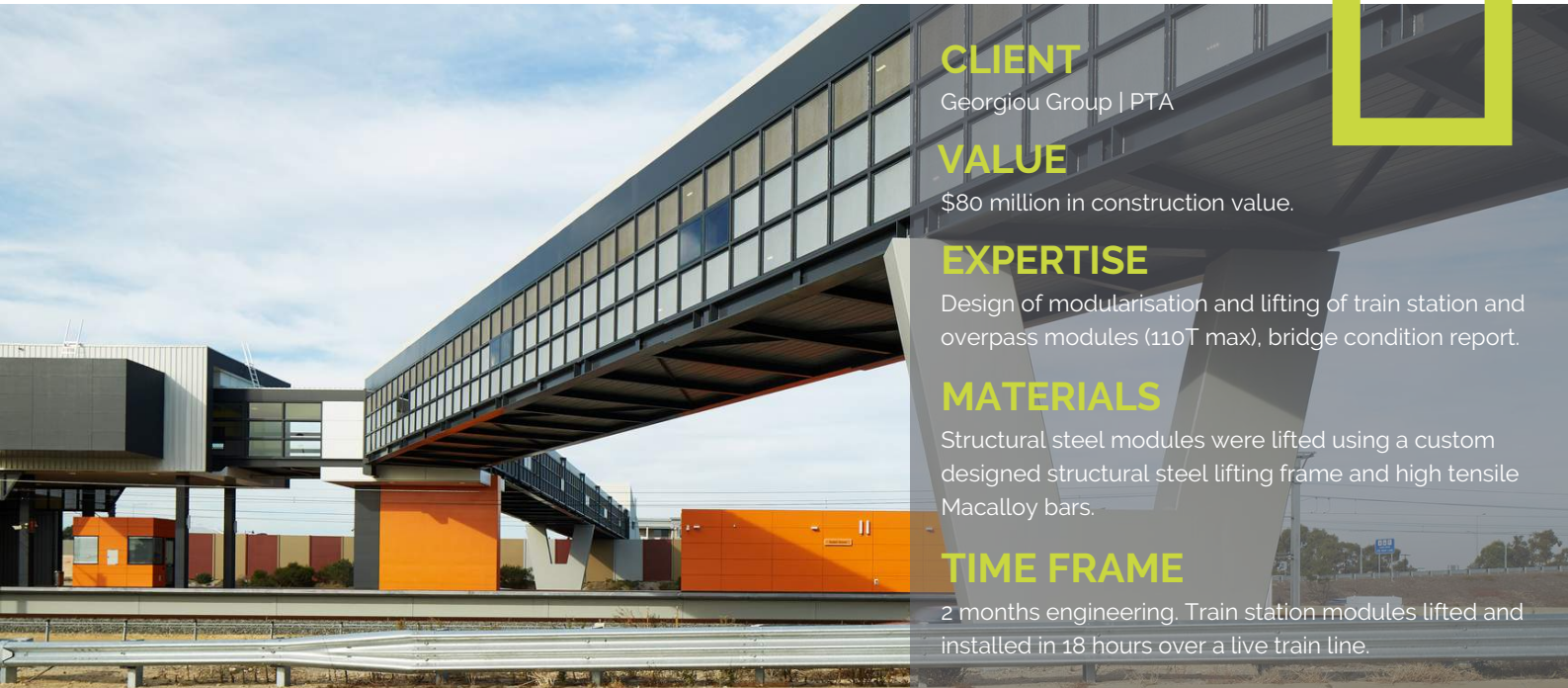
Our engineers devised an innovative approach of designing reusable steel forms, comprising 3 soffit forms on hydraulic jacks, 2 internal traveler forms with hinges and hydraulics on rails that launched with the bridge before being withdrawn onto the following soffit and 2 external forms.

We undertook the steel shop detailing on this formwork to ensure that our requirements were satisfied.

Following the completion of the new bridge, we were engaged by Mainline Demolition to provide engineering assistance for the demolition of the old bridge. The demolition works went on to win the 2018 Civils Demolition Prize at the World Demolition Summit.







### CLIENT

Georgiou Group | PTA

### VALUE

\$80 million in construction value.

### EXPERTISE

Design of modularisation and lifting of train station and overpass modules (110T max), bridge condition report.

### MATERIALS

Structural steel modules were lifted using a custom designed structural steel lifting frame and high tensile Macalloy bars.

### TIME FRAME

2 months engineering. Train station modules lifted and installed in 18 hours over a live train line.

## AUBIN GROVE TRAIN STATION, WA

### PROJECT NOTES:

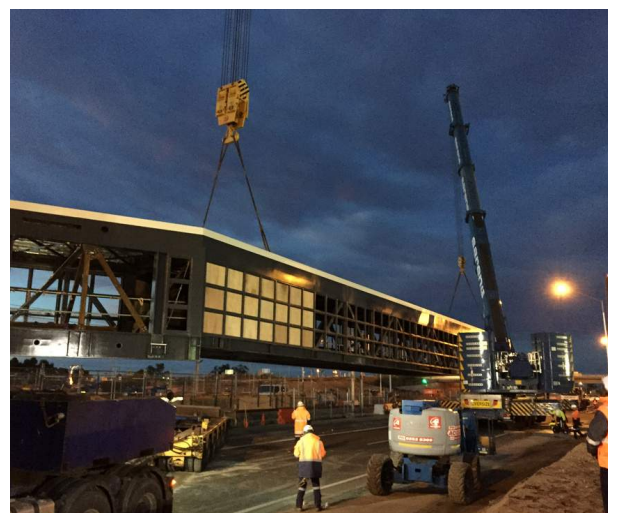
Peritas was engaged for our innovative thinking applied to construction engineering. The builder on this state of the art train station was interested in modularising the station and overpass to minimise site labour costs and freeway shutdown times and reduce risks associated with working between live train lines.

Peritas designed a safe and efficient method of lifting the five train station modules utilising the high tensile properties of macalloy bars and a single lifting frame with common lifting points between the frame and crane.

This meant the frame did not need to be put down and re-rigged between lifts. All modules were disconnected from the inside, ensuring a safe workplace for the rigging crew.

**It was advised that the lifting would cause shutdowns to the freeway and the train line for 72 hours, Peritas managed to deliver a safe & effective schedule that saw all modules were lifted and installed effectively within 18 hours.**

Peritas are proud of the safe and effective lifting method our team delivered & will continue to utilise such methodology in the future.





### CLIENT

Georgiou Group | Perth Airport

### VALUE

Included within the \$1.8Billion FAL project.

### EXPERTISE

Lift design & associated construction engineering.

### TIME FRAME

3 months engineering. Horrie Miller Drive module lifted, installed and derigged within 2 hours.

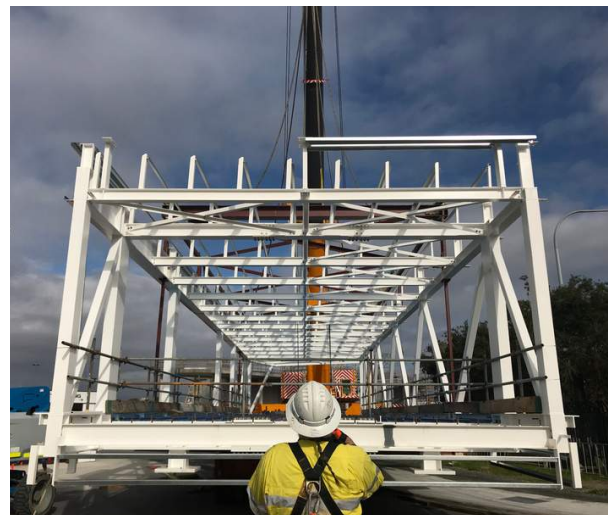
## SKYBRIDGE, PERTH AIRPORT WA

### PROJECT NOTES:

Peritas were engaged by Georgiou to undertake the lifting design for the new Perth Airport Skybridge, linking the Forrestfield Airport Train Station to the International Terminal. The Skybridge comprises 12 steel modules, the largest of which is 32m long, 8.5m wide and 83T and needed to be lifted in over Horrie Miller Drive during a limited shutdown window. Careful consideration of the lifting methodology was also required due to the ceiling heights on the lift imposed by the Airport due to its operations.

Peritas designed a series of lifting frames for the modules, based on both single and dual crane lift arrangements. The frames were slotted through the top chords of the skybridge truss with the lifting pins designed to be removed via lever from within the module. This enabled the Contractor to lift the modules with the roof cladding, gutters and capping installed, whilst factoring in the safety of the workers.

The performance of the modules during the staged installation was also considered, with temporary propping design provided where necessary to control deflection and maintain the intended performance requirements of the completed structure. This was completed in co-ordination with the Skybridge design engineers.





### CLIENT

Swan River Pedestrian Bridge Authority & MRWA

### VALUE

\$90 million in construction value.

### EXPERTISE

Construction Engineering design documentation

### TIME FRAME

1 months from schematic design to final design and construction commencement.

## MATAGARUP BRIDGE, PERTH WA

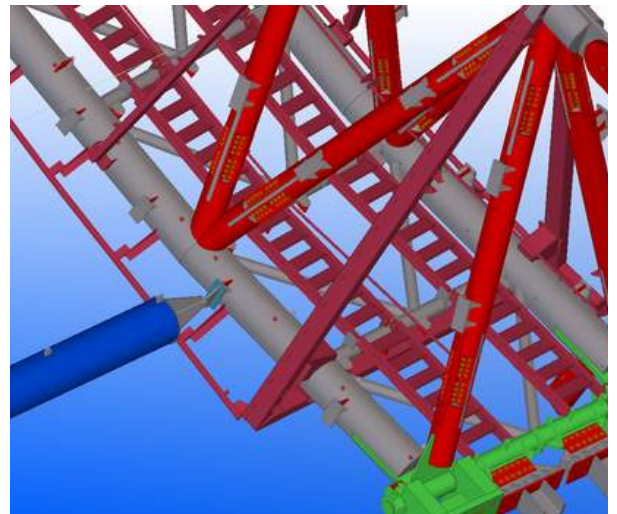
### PROJECT NOTES:

Peritas Consulting were engaged initially by the Swan River Pedestrian Bridge Alliance to provide construction engineering design assistance for the installation of the bridge steel wishbone arches.

The proposed installation method, using a hydraulically controlled tuning brace between the wishbone ends was considered impractical. Peritas designed a far simpler (and cheaper) method of adjusting the tuning brace, shop detailed the members and assisted the contractor in the procurement of the necessary materials.

Peritas also designed a temporary landing nose to be fixed off the concrete abutments to receive the ends of the wishbone arches from the installation barge.

Following this work, Peritas was engaged by Main Roads WA to complete a 3rd party verification of the lifting methodology of the arches, and complete reviews of the jacking strand plates using FEA analysis.







## CONTACT DETAILS

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### PERTH

P: +61 8 6336 9299  
E: [enquiries@peritasgroup.com.au](mailto:enquiries@peritasgroup.com.au)  
A: 74 Goodwood Parade, Burswood WA 6100

### MELBOURNE

P: +61 3 8657 9292  
E: [enquiries@peritasgroup.com.au](mailto:enquiries@peritasgroup.com.au)  
A: Suite 704, 1 Queens Road, Melbourne VIC 3004

### BRISBANE

P: +61 3 8657 9292  
E: [enquiries@peritasgroup.com.au](mailto:enquiries@peritasgroup.com.au)  
A: Level 38, 71 Eagle Street, Brisbane QLD, 4000

### NEW BUSINESS ENQUIRIES

Attention: Matt Waring - National Business Development Manager  
E: [mwarings@peritasgroup.com.au](mailto:mwarings@peritasgroup.com.au)  
P: +61 477 990 171

[www.peritas.au](http://www.peritas.au)