

## PORT RIVER EXPRESSWAY STAGES 2 & 3

The Port River Expressway consists of 4 key elements of works each with their own interface issues:

1. Stage 2 Expressway
2. Local roadworks
3. Stage 3 Rail works
4. Rail Adjustment works

Challenging construction aspects of the project include:

- Two opening Bascule bridges
- Rail track works through an operating fertiliser plant
- Work around two 50,000 Lt Sulphuric Acid tanks
- Work within a National Dolphin Sanctuary
- Work within an active business environment
- Work within an established community



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This is the largest single infrastructure project undertaken by TSD and will benefit Sth Australia's economic development by

- Reducing road freight travel distance by 3 kms
- Reducing rail freight travel distance by 4 kms
- Removing heavy traffic from central Port Adelaide
- Enhance unique heritage & cultural character of area

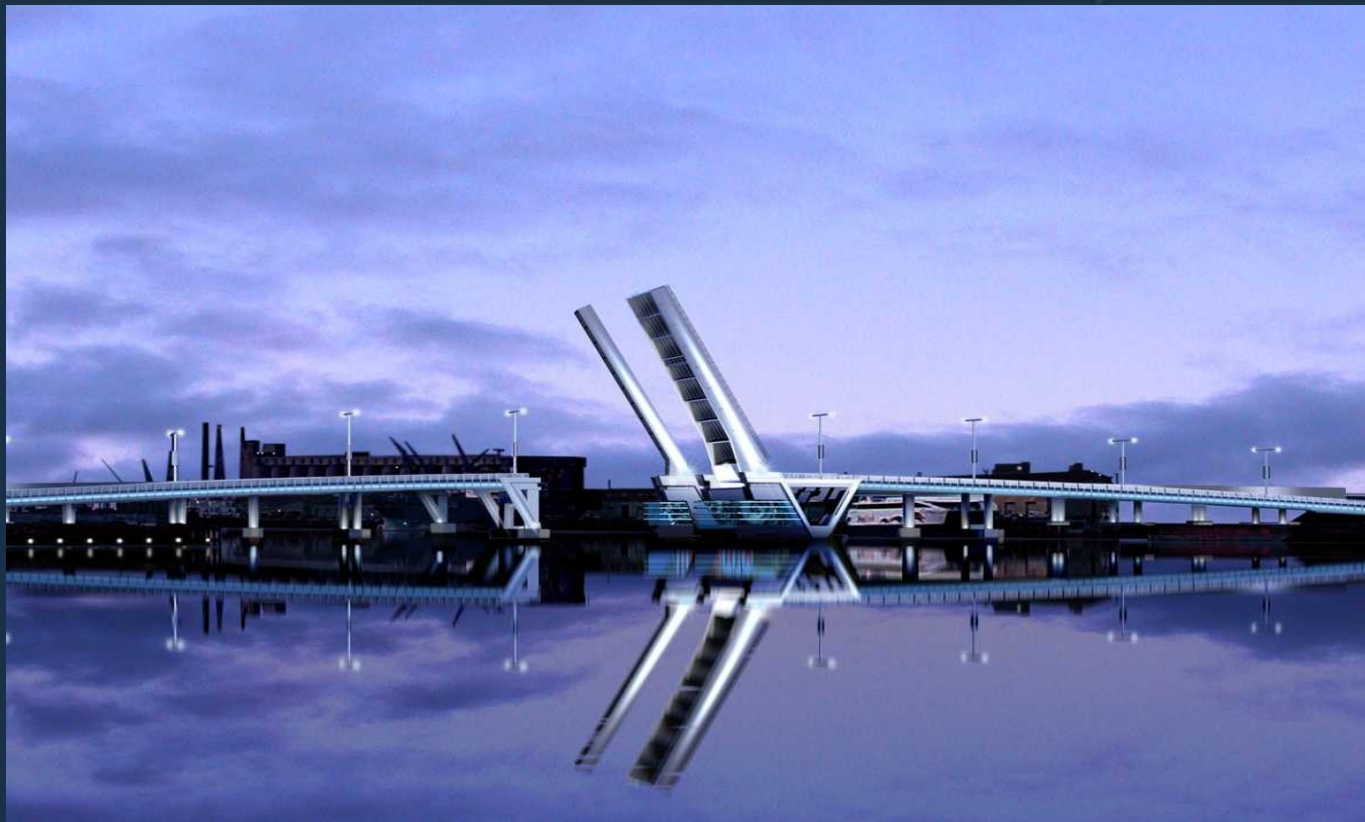
|                           |                               |
|---------------------------|-------------------------------|
| Contract Award            | 8 <sup>th</sup> July 2005     |
| Stage 2 Completion (Road) | 31 <sup>st</sup> October 2007 |
| Stage 3 Completion (Rail) | 30 <sup>th</sup> June 2007    |
| Maintenance Period        | 10 years                      |

3 No Principal Design Consultants and a Project Verifier

- Dare Sutton Clarke Stage 2
- Maunsell Stage 3
- Hardesty & Hanover Bascule Bridges
- Sinclair Knight Merz Project Verifier



## PORT RIVER EXPRESSWAY STAGES 2 & 3



**Bascule is a French term for SEE SAW and BALANCE.**

Unique lightweight steel "battle deck" with epoxy road surface.

Glazed curtain walling to allow public to see machinery

Bridge opens in 70 sec with 3 modes of power supply

Rail bridge closure tolerance is 1mm on track line & level

All 3 No bridges operated remotely from 12 kms away

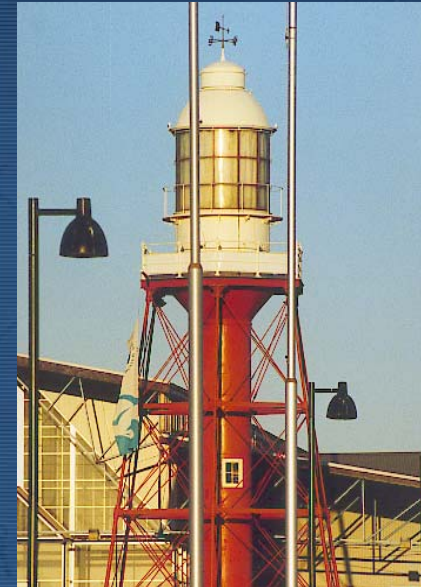
## PORT RIVER EXPRESSWAY STAGES 2 & 3

### Key **non negotiable** elements of the project:

- Structural Design and Form of opening bridges
- Structural Design and Form of approach structures
- Road and Rail alignments and layout
- Client (TSD) specified aspect of the works

### Key areas of input from Stakeholders during the detail design phase:

- Urban aesthetics including landscape form
- Lighting effects on bridges
- Shared path types and finishes
- Public Art
- Pedestrian Features such as Street Furniture, Signage
- Colour of painted elements of structures



## PORT RIVER EXPRESSWAY STAGES 2 & 3

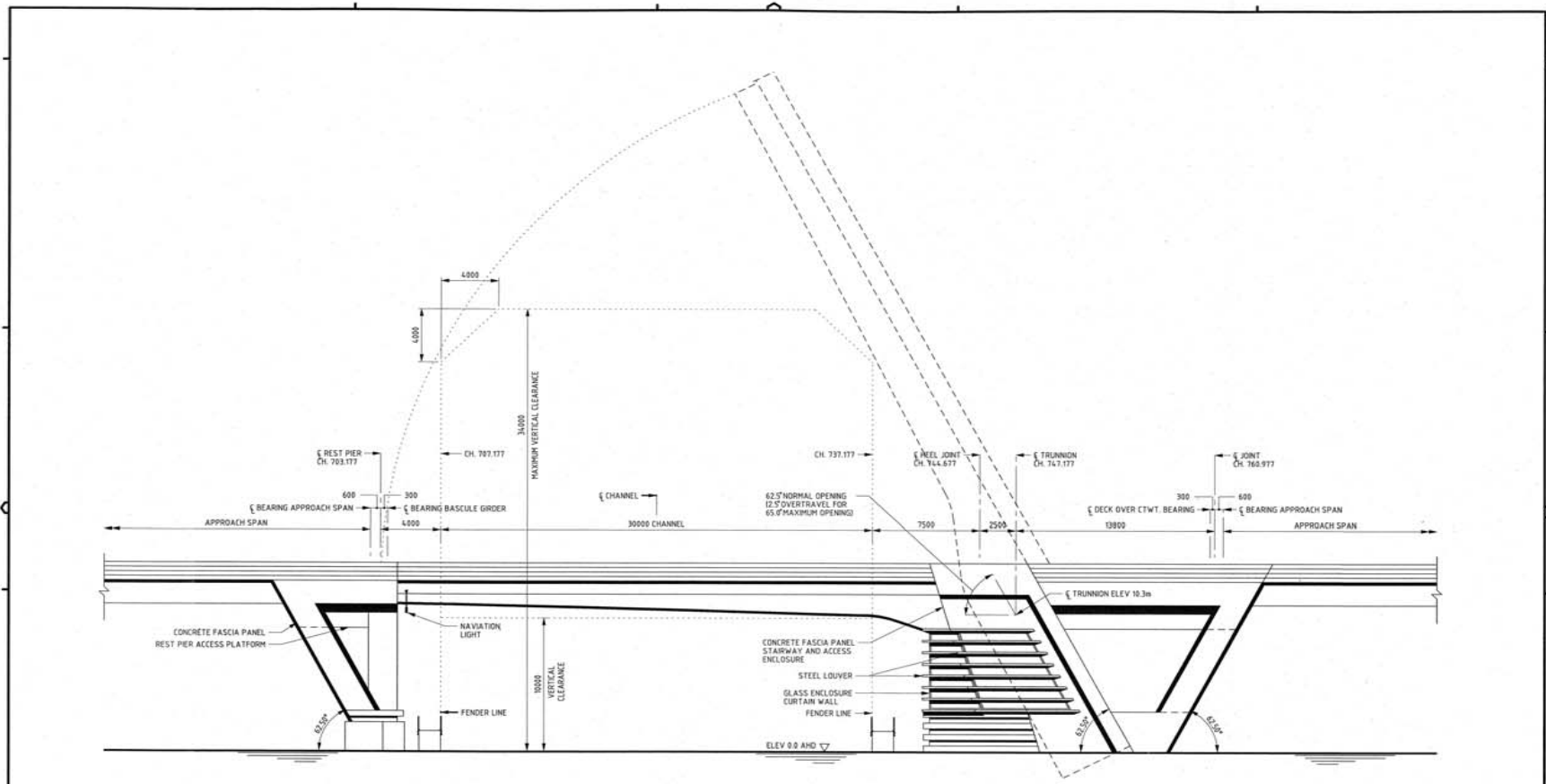
The third Port River crossing has been on the drawing board for many years and is a very high profile topical project within the local community. We will initiate a number of Key Stakeholder meetings, Community Liaison Groups, letter drops, public displays and give presentations at Client Information nights within the local community.

At a recent presentation I was asked what noise the bridge would make when opening and if we had a tape recording.

**Of course being well prepared for such technical questions**



# PORT RIVER EXPRESSWAY STAGES 2 & 3



SOUTH ELEVATION  
HIGHWAY BRIDGE  
SCALE: 1/125

PLANS FOR ESTIMATING PURPOSES ONLY.  
NOT FOR CONSTRUCTION.

| NO. | DESCRIPTION | DATE | BY | CHKD. | APP'D. |
|-----|-------------|------|----|-------|--------|
|     |             |      |    |       |        |
|     |             |      |    |       |        |
|     |             |      |    |       |        |

**HARDESTY & HANOVER, LLP**  
BRIDGE ENGINEERING

ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE

|           |                 |
|-----------|-----------------|
| DESIGN    | DESIGNED        |
| DRAWN     | DRAWN           |
| CHECKED   | APPROVED        |
| EXAMINED  | BY: [Signature] |
| DATE      | DATE            |
| REVISIONS | DATE            |

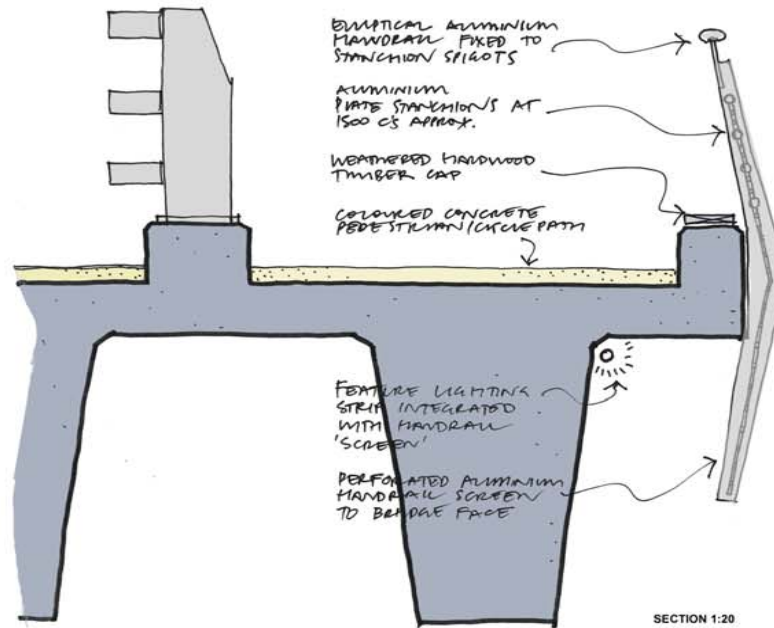
PORT RIVER EXPRESSWAY  
STAGES 2 & 3  
HIGHWAY BASCULE BRIDGE  
GENERAL ELEVATION

JUNE 3, 2004

DATE: 06/03/04 SHEET: 4 OF 4



# PORT RIVER EXPRESSWAY STAGES 2 & 3

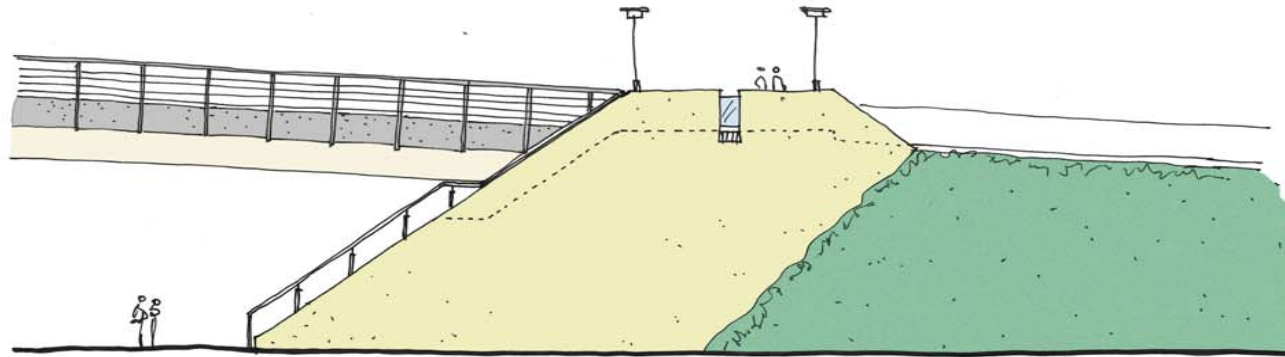


BRIDGE PEDESTRIAN HANDRAIL

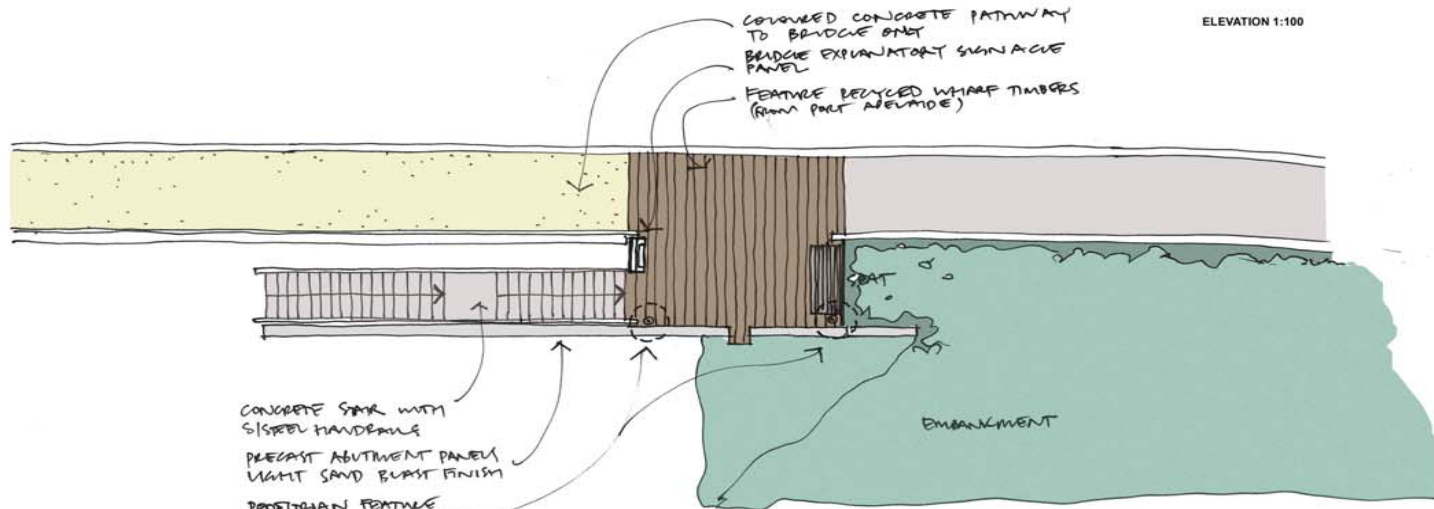
**WOODHEAD INTERNATIONAL**  
 26-28 CROCKER STREET, ADELAIDE  
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|  |                       |
|--|-----------------------|
| PROJECT  | PORT RIVER EXPRESSWAY |
|  | SOUTH AUSTRALIA       |
| DATE   | AUGUST 2004           |
| DRAWING NUMBER                                     | 03 2300 01AR SK03     |
| © WOODHEAD INTERNATIONAL PTY LTD ABN 41007 347 748 |                       |

# PORT RIVER EXPRESSWAY STAGES 2 & 3



ELEVATION 1:100



PLAN 1:100

CONCRETE SLAB WITH  
STEEL HANDRAILS  
PRECAST ABUTMENT PANELS  
LIGHT SAND BLAST FINISH  
PEDESTRIAN FEATURE  
LIGHTING

CONCRETE PATHWAY  
TO BRIDGE ONT  
BRIDGE EXPLANATORY SIGNAGE  
PANEL  
FEATURE RECYCLED WHARF TIMBERS  
(FROM PORT AUSTRALIA)

EMBANKMENT

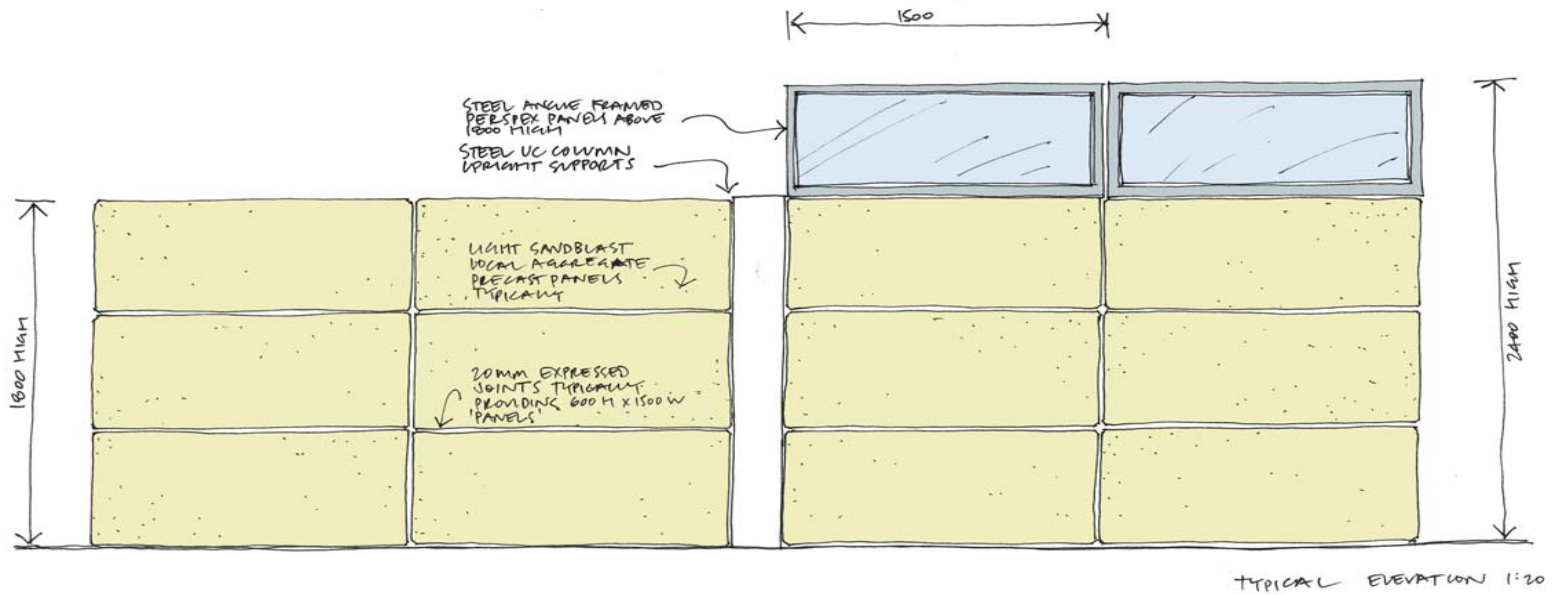
## ABUTMENTS

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PROJECT: PORT RIVER EXPRESSWAY  
LOCATION: SOUTH AUSTRALIA  
DATE: AUGUST 2004  
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# PORT RIVER EXPRESSWAY STAGES 2 & 3



NOISE WALLS

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