urban land development authority

Queensland Government

1 November 2010

ULDA Ref No: DEV2010/045

Brisbane City Council
Brisbane Infrastructure
City Design Planning and Sustainability
Attn Melissa Collie
GPO Box 1434
BRISBANE QLD 4001

Dear Melissa

RE: UDA DEVELOPMENT APPROVAL FOR MATERIAL CHANGE OF USE (LANDING) AND OPERATIONAL WORKS (TIDAL WORKS) FOR 449 KINGSFORD SMITH DRIVE, HAMILTON DESCRIBED AS LOT 8 ON RP892884

I am pleased to inform you that your application was approved on 29 October 2010 in accordance with the attached UDA Development Approval Package.

This application and its decision can also be viewed in the ULDA Development Approvals Register via our website www.ulda.qld.gov.au.

If you have any further questions with regard to the matter, please contact me on 3024 4166.

Yours sincerely

Matt Toon
PRINCIPAL PLANNER

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UDA Development Approval Package

Address of Site	449 Kingsford Smith Dr Hamilton
Real Property Description	Lot 8 on RP892884
Type of Application	UDA Development Approval for Material Change of Use (Landing) and Operational Work (Tidal Works)
Description of proposal	CityCat Terminal
ULDA Reference Number	DEV2010/045
Package Approved	29 October 2010
Decision	APPROVED

Approved plan/s, drawing/s and document/s	Number	Date
Demolition Plan	41 - 22279 - 03 - A003 0	06.07.10
Terminal Site Plan	41 - 22279 - 03 - A004 2	23.8.10
Roof Plan	41 - 22279 - 03 - A006 0	06.07.10
Site Elevations and Sections	41 - 22279 - 03 - A007 1	23.8.10
Waiting Area Plan, Roof Plan & RCP	41 - 22279 - 03 - A100 2	23.8.10
Waiting Area Elevations	41 - 22279 - 03 - A101 1	23.8.10
Waiting Area Sections	41 - 22279 - 03 - A102 1	23.8.10
Pontoon Floor Plans	41 - 22279 - 03 - A200 1	23.8.10
Pontoon Elevations	41 - 22279 - 03 - A210 1	23.8.10
Pontoon Sections	41 - 22279 - 03 - A211 1	23.8.10
Gangway Floor Plan, Roof Plan	41 - 22279 - 03 - A300 1	23.8.10
Gangway Sections & Elevations	41 - 22279 - 03 - A310 1	23.8.10
Marine Notes	41 - 22279 - 03 - M001 1	22.07.10
Pile Setout Plan & Schedule	41 - 22279 - 03 - M100 0	06.07.10
Pile Elevations	41 - 22279 - 03 - M101 0	06.07.10

PROJECT TEAM

Matt Toon Principal Planner Urban Land Development Authority	**Con de Groot** Principal Engineer Urban Land Development Authority	**Phillip Kohn** Environmental Planner Urban Land Development Authority

CONDITIONS		TIMING
1.	**Carry Out The Approved Development** Carry out the approved development generally in accordance with the approved plans and documents.	While development is occurring on the site and then to be maintained
2.	**Structural Certification** Submit to the ULDA structural certification by a Registered Professional Engineer of Queensland (RPEQ), or equivalent, as per the structural certification form *Certification of Construction of Tidal Works*, included with this approval which relates to Schedule 4A of the *Coastal Protection and Management Registration 2003*.	Prior to the commencement of use

CONDITIONS		TIMING
3.	**Maintenance and Restoration** The owner/s of the Landing (Ferry Terminal) are to be responsible for a. The future maintenance of the pontoon, walkway and associated structures and b. The restoration of any bank erosion, upstream or downstream of the pontoon, walkway and associated structures, which may be attributed to turbulence caused by vessels using these structures.	As indicated and to be maintained
4.	**Erect Sign** A sign is to be placed in position on or near the CityCat Terminal that a. is visible at all times and b. states the maximum live load that may be applied to the CityCat Terminal, in terms of the maximum number of persons that may be on the CityCat Terminal at any given time and the maximum number of vessels of a particular type that may be moored at the work at any given time.	Prior to the commencement of use and to be maintained
5.	**As constructed drawings** Submit to the Port of Brisbane's Manager Spatial Data Services and Regional Harbour Master (Brisbane) a complete set of hard-copy and electronic (in CAD format) "As Constructed" drawings.	Prior to the commencement of use
6.	**Department of Transport and Main Roads – Nominated Assessing Authority** a. Advise the Harbour Master, in writing, of the commencement date, proposed timetable and contractor contact details at least two weeks before commencing construction. b. Issue any notices or signs regarding maritime navigation and or safety the Harbour Master requires. c. Advise the Harbour Master, in writing, when construction is complete. d. Prior to the commencement of use supply, install and maintain any navigation lights, buoys, marks or signs the Harbour Master considers necessary. Any lights, buoys, marks and signs must accord with Maritime Safety Queensland's requirements. e. Prior to the commencement of use light the structure so it does not cause a risk to the safe navigation of other vessels. Any freestanding piles must have retro-reflective tape fitted to be clearly visible to approaching vessels. f. Any ship at this pontoon/jetty must not impede the safe navigation of other ships or restrict safe access to or from neighbouring structures. g. Remove any obstructions and debris encountered during construction, with disposal to be approved by the Harbour Master. h. Remove at no cost to the ULDA or Department of Transport and Main Roads the existing navigation marker and pile as shown in approved Demolition Plan 41-22279-03-A003 0 dated 06.07.10. i. The pontoon is not to be used for the overnight mooring of ships. j. If construction is not complete within 2 years from the date of approval additional advice is to be sort from the Regional Harbour Master.	As indicated and to be maintained

CONDITIONS		TIMING
7.	**Marine Plants** Construction is to minimise impacts upon marine plants and potential marine plants habitat to ensure no net loss Note: Refer to *Restoration of fish habitats: Fisheries Guidelines for marine areas (FHG 002)* and *Fisheries Guidelines for fish-friendly structures (FHG 006)* regarding compliance with this condition.	At all times during construction
8.	**Soil Erosion and Sediment Control** Sediment, erosion and dust control measures must be implemented in accordance with the *Soil Erosion and Sediment Control Engineering Guidelines for Queensland Construction Sites* (the Institution of Engineers, Australia Queensland Division June 1996) as a minimum standard.	While site works are occurring and then to be maintained
9.	**Construction Management Plan** Prepare and submit for endorsement to the ULDA a site based construction management plan that will include but not be limited to a. provision for the management of traffic around and through the site during and outside of construction work hours b. provision for parking and materials delivery during and outside of construction hours of work c. management of sedimentation, erosion and dust generated from the site during and outside construction work hours d. management of groundwater and surface water collection, treatment and disposal to accepted environmental standards e. if found, management of contaminated soils, including removal, treatment and replacement in accordance with site remediation plans prepared and approved specifically for this site, if needed. The construction management plan shall be prepared in consultation with the professionals responsible for individual site related management plans to ensure that all aspects of the construction and environmental management are included. The construction management plan shall be reviewed and approved by the principal consultant overseeing and certifying the construction works. All work shall be undertaken in accordance with the construction management plan which must be current and available on site at all times during the construction period.	Prior to the commencement of the site works and then to be implemented at all times during construction

Standard Advice

UDA Development Approval
This UDA Development Approval does not include assessment against the Building Code of Australia and does not permit building work to occur. Prior to the commencement of any building work, a Development Permit under the *Sustainable Planning Act 2009* for Carrying out Building Work will be required.

Advertising Signs
Brisbane City Council is responsible for administering the Local Law that regulates how, where and what kind of advertising signs can be displayed outdoors in Brisbane. For further information please contact BCC Licence & Compliance on 3403 8888.

Please note: The above information has been provided to the applicant as an advice only, and does not form part of the development approval conditions. This advice has been provided to the applicant to inform them of other obligations they may have to comply with (under state legislation or local laws) prior to their activity commencing.

**** End of Package ****

Certification of Construction of Tidal Works

In accordance with a condition of a UDA development approval for tidal works this certification must be completed and submitted by a suitably qualified professional to certify that the construction of the tidal works is in accordance with, or generally in accordance with, the certified design and is suitable for the intended use.

Re: Condition number 2 of development approval number DEV2010/045

for City Cat Terminal

adjoining land at 449 Kingsford Smith Dr, Hamilton described as Lot 8 on RP892884

I, _____
Insert the name of the person making this certification

of _____
Insert the address of the person making this certification

state that:

1. I am a Registered Professional Engineer of Queensland, or equivalent (attach details of registration), under the provisions of the *Professional Engineers Act 2002* and have relevant experience in the construction of tidal works.
2. I certify that:
   - (a) the works (including any other associated works) have been constructed in accordance with the approved drawings and conditions of the development approval;
   - (b) the works:
     - (i) are suitable for their intended usage;
     - (ii) are structurally adequate for their intended location and anticipated usage;
     - (iii) are structurally adequate to allow for the scour resulting from flood and tidal conditions;
     - (iv) do not impose loads on existing structures such that the design capabilities of these existing structures are exceeded (it should be noted that structures includes walls without limiting the definition of structures);
     - (v) would not adversely affect the stability of the bed and the banks of the waterway in which the works were constructed and works designed for significant scour;
     - (vi) are designed and constructed in accordance with all appropriate Australian Standards and guidelines except as detailed in the minimum design criteria in the Environmental Protection Agency's operational policy *Building and Engineering Standards for Tidal Works*;
     - (vii) do not adversely affect the usage of adjacent structures; and
     - (viii) have a non-slip surface;
   - (c) the bed and banks of the waterway for a distance of 15 metres around the site of the works are clear of all debris; and
   - (d) the tidal work complies with the *IDAS code for development applications for prescribed tidal work (Schedule 4A of Coastal Protection and Management Regulation 2003).*

_____ Signed
(Person making this declaration)

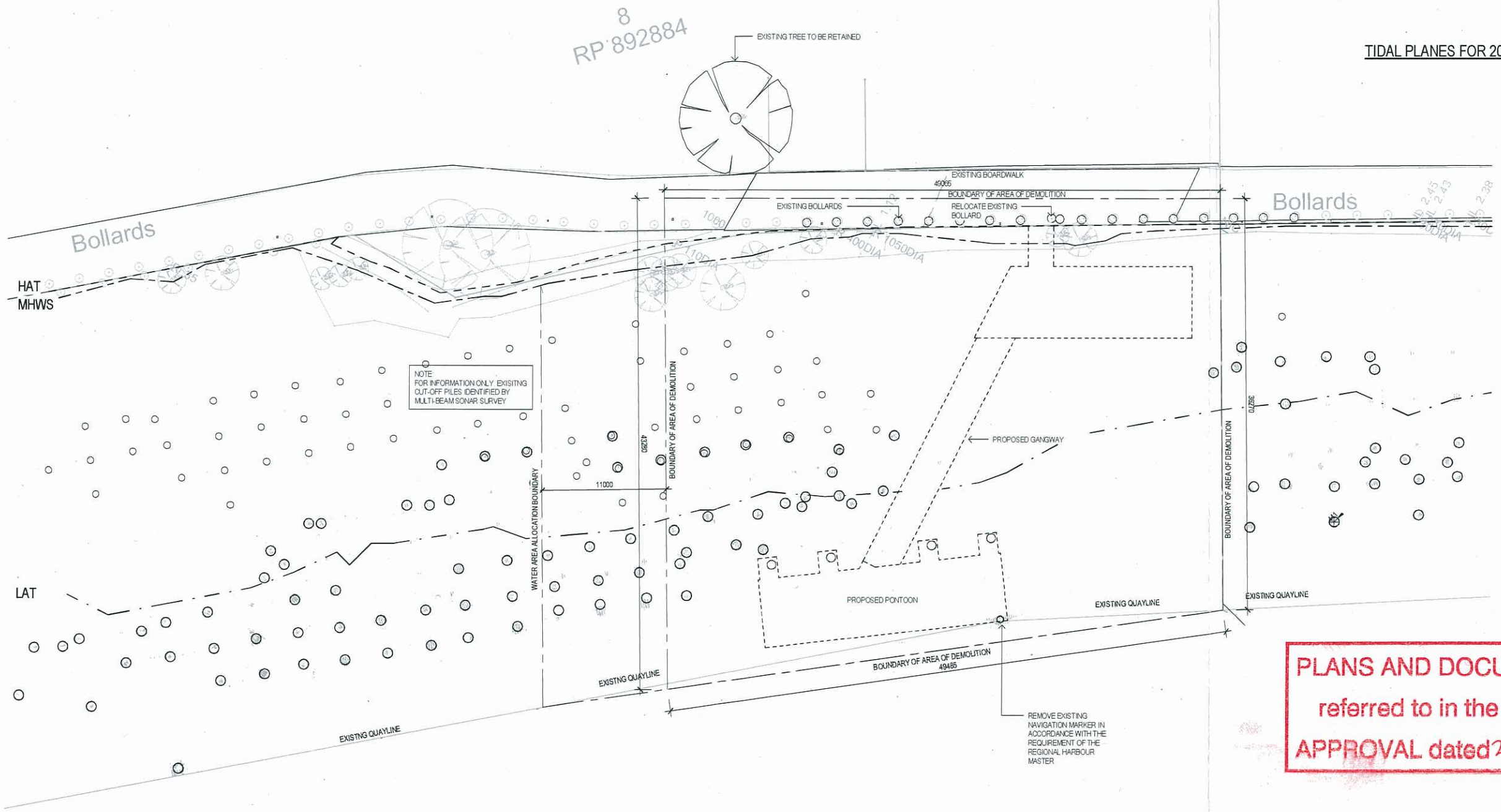
_____ Printed name and RPEQ registration number

LEGEND

- HIGHEST ASTRONOMICAL TIDE
- MEAN HIGH WATER SPRINGS
- LOWEST ASTRONOMICAL TIDE
- CONTOUR LINES

	AHD	LAT
HAT	1.65	2.89
MHWS	1.06	2.30
AHD	0.0	1.24
MLWS	-0.85	0.39
LAT	-1.24	0.0

TIDAL PLANES FOR 2010 TIDE TABLES



PLANS AND DOCUMENTS referred to in the ULDA APPROVAL dated 29/10/10

DEMOLITION PLAN

SCALE 1:200

No	Revision	Drawn	Checked	Approved	Date
0	APPROVED ISSUE	DW	JK*	GR*	06.07.10

Note * indicates signatures on original issue of drawing or last revision of drawing

0 2000 4000 6000 8000 10000mm
SCALE 1:200 AT ORIGINAL SIZE

NOTE:
ALL LEVELS TO AHD

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Drawn	B.LAHDENSUO	Designed	G.RAVIKUMAR
Drafting Check	R.SHORE*	Design Check	D.STRAKER*
Approved	G.RANGER*		R. WALLIS*
Date	06.07.10		RPEQ No. 949
Scale	As indicated	This Drawing must not be used for Construction unless signed as Approved	

Client: BRISBANE CITY COUNCIL
Project: BRETTS WHARF CityCat TERMINAL
Title: DEMOLITION PLAN

Original Size: A1
Drawing No: 41-22279-03-A003
Rev: 0

Plot Date 8/07/2010 2:15:59 PM
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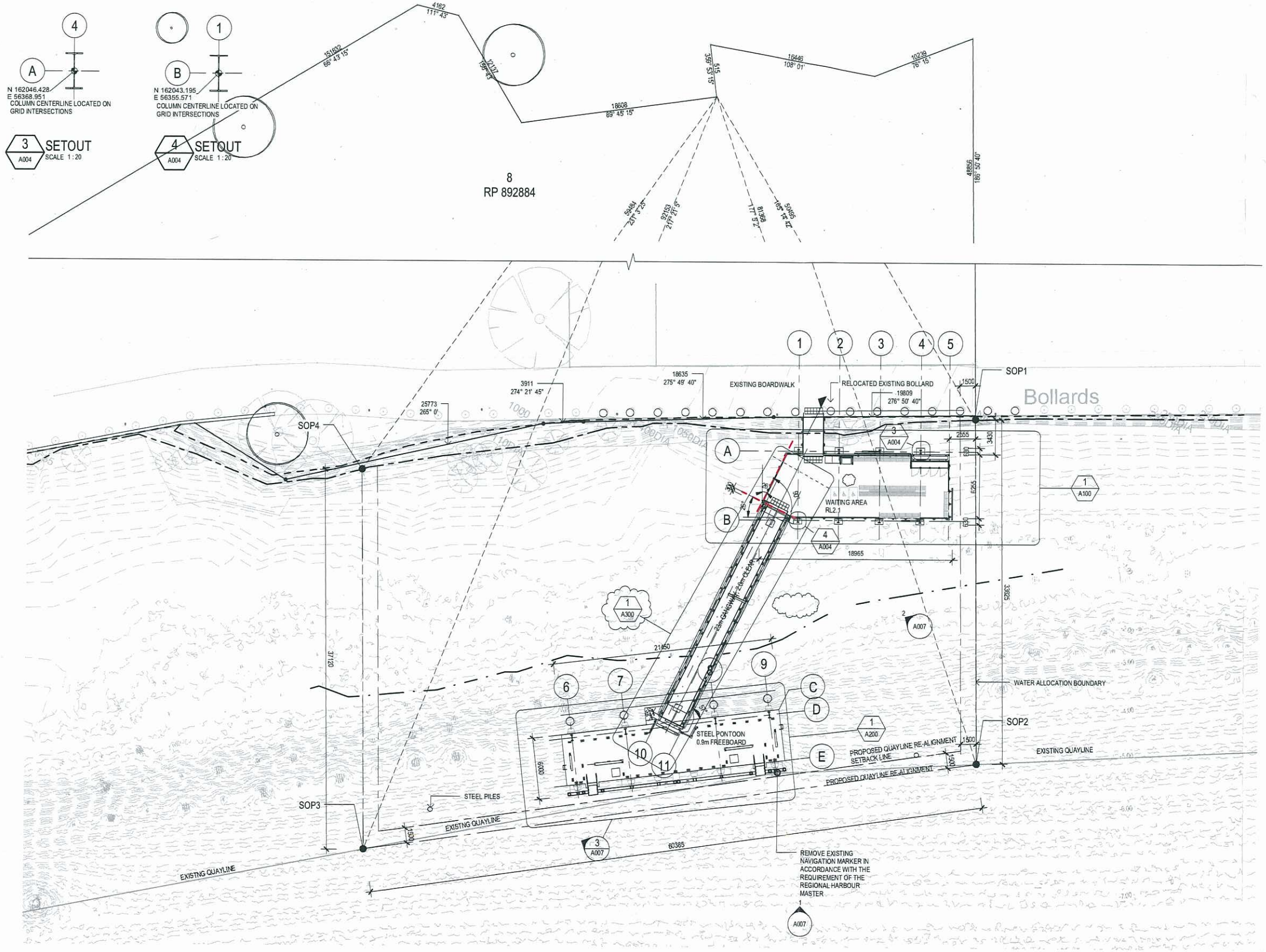

NOTES:
1. CONTRACTORS SITE TO BE CONFIRMED BY BRISBANE CITY COUNCIL
2. ALL LEVELS ARE MEASURED TO AHD
3. LANDWARD BOUNDARY OF COASTAL MANAGEMENT DISTRICT COINCIDES WITH H.A.T.

	AHD	LAT
HAT	1.65	2.89
MHWS	1.06	2.30
AHD	0.0	1.24
MLWS	-0.85	0.39
LAT	-1.24	0.0

TIDAL PLANES FOR 2010 TIDE TABLES

PLANS AND DOCUMENTS referred to in the ULDA APPROVAL dated 29/10/10

HORIZONTAL DATUM = BCSG

WATER ALLOCATION SETOUT TABLE

SETOUT POINT No.	EASTING	NORTHING
SOP 1	56374.912	162047.966
SOP 2	56366.191	162015.534
SOP 3	56306.142	162023.541
SOP 4	56315.787	162059.408

LEGEND

- HIGHEST ASTRONOMICAL TIDE
- MEAN HIGH WATER SPRINGS
- LOWEST ASTRONOMICAL TIDE
- CONTOUR LINES

TERMINAL SITE PLAN
SCALE 1:200

No	Revision Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Checked	Approved	Date
2	REVISIONS AS CLOUDED	SMR	JK*	GR*	23.08.10
1	APPROVED ISSUE	BL	JK*	GR*	22.07.10
0	APPROVED ISSUE	DW	JK*	GR*	06.07.10

0 2000 4000 6000 8000 10000mm
SCALE 1:200 AT ORIGINAL SIZE

NOTE:
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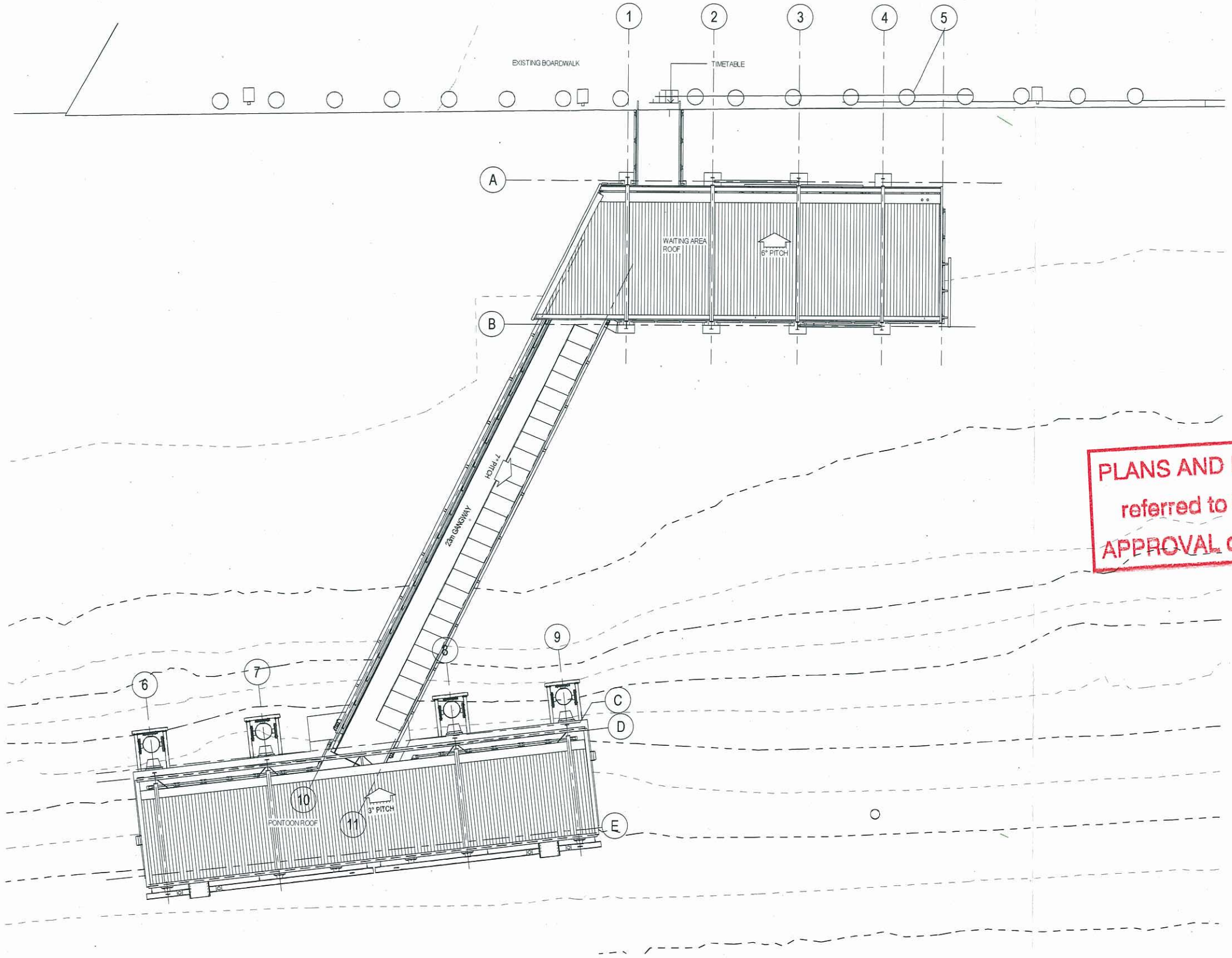
Drafting Check	R.SHORE*	Design Check	D.STRAKER*
Approved	G.RANGER*		R. WALLIS*
Date	22.07.10		RPEQ No. 949
Scale	As indicated		This Drawing must not be used for Construction unless signed as Approved

Client BRISBANE CITY COUNCIL
Project BRETTS WHARF CityCat TERMINAL
Title TERMINAL SITE PLAN

Original Size A1 Drawing No: 41-22279-03-A004 Rev: 2

Plot Date: 23/08/2010 3:45:08 PM Cad File No: C:\Revit Projects\41-22279-BrettsWharf-Site Model-Central_sravikumar.rvt



PLANS AND DOCUMENTS referred to in the ULDA APPROVAL dated 29/10/10

1 SITE ROOF PLAN
SCALE 1 : 100

No	Revision	Drawn	Checked	Approved	Date
0	APPROVED ISSUE	GRK	JK*	GR*	06.07.10

Note: * indicates signatures on original issue of drawing or last revision of drawing

0 1000 2000 3000 4000 5000mm
SCALE 1:100 AT ORIGINAL SIZE

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Drafting Check	R.SHORE*	Design Check	D.STRAKER*
Approved	G. RANGER*		A. WOLSKI*
Date	06.07.10		RPEQ No. 2676
Scale	1 : 100	This Drawing must not be used for Construction unless signed as Approved	

Client **BRISBANE CITY COUNCIL**
Project **BRETTS WHARF CityCat TERMINAL**
Title **ROOF PLAN**

Original Size **A1** Drawing No: **41-22279-03-A006** Rev: **0**

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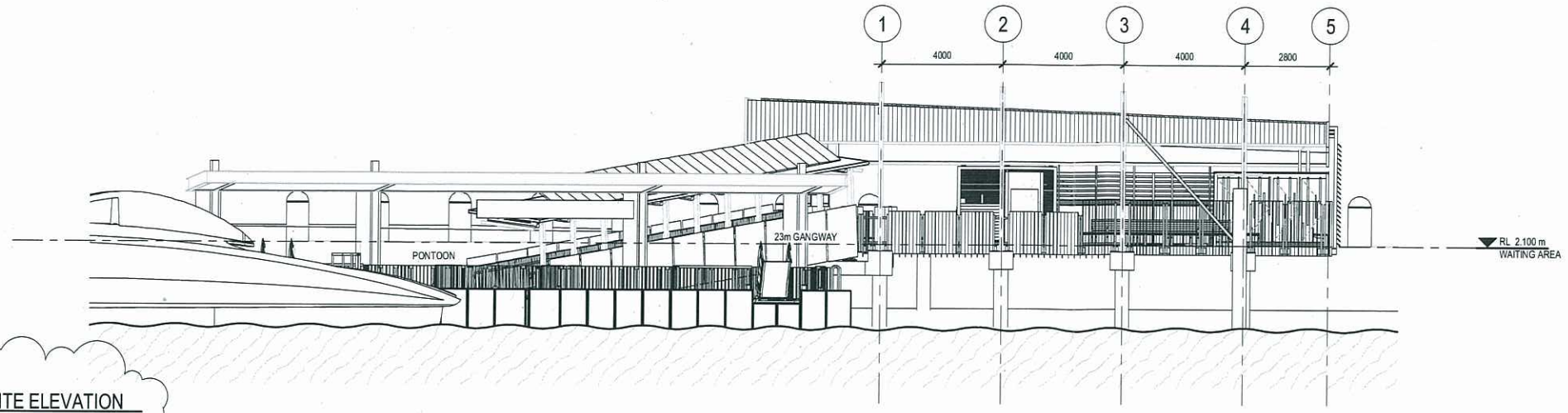
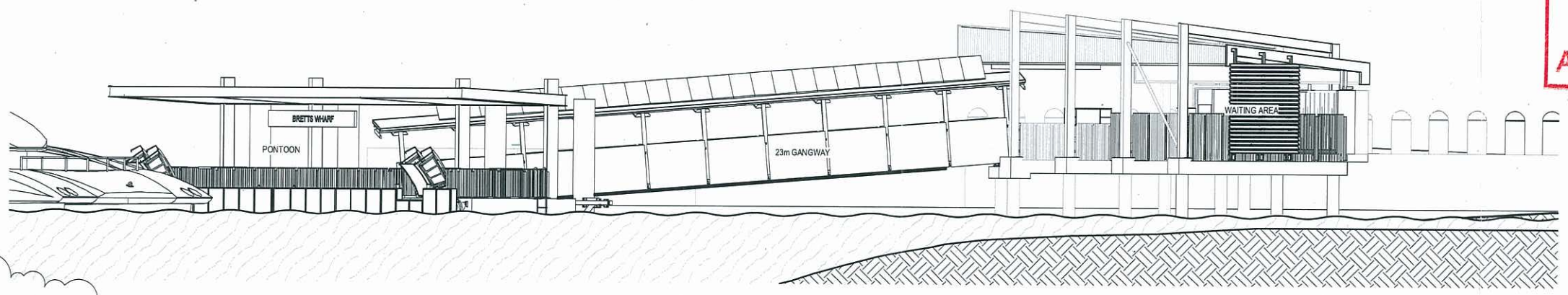


1 A004 SITE ELEVATION
SCALE 1 : 100

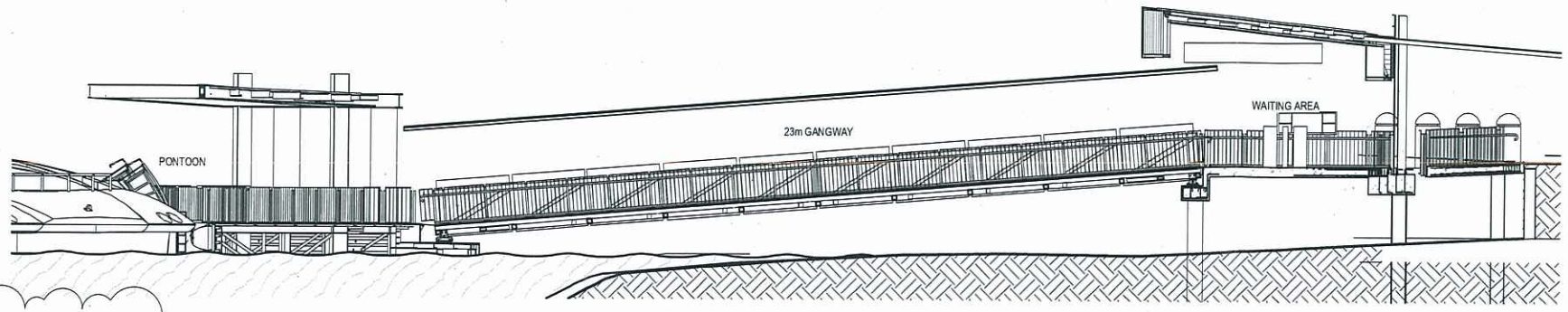
	AHD	LAT
HAT	1.65	2.89
MHWS	1.06	2.30
AHD	0.0	1.24
MLWS	-0.85	0.39
LAT	-1.24	0.0

TIDAL PLANES FOR 2010 TIDE TABLES

PLANS AND DOCUMENTS referred to in the ULDA APPROVAL dated 29/10/10



2 A004 SITE ELEVATION
SCALE 1 : 100



3 A004 SITE SECTION
SCALE 1 : 100

No	Revision Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Checked	Approved	Date
1	REVISED TITLES	BL	JK*	GR*	23.08.10
0	APPROVED ISSUE	BL	JK*	GR*	06.07.10

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SCALE 1:100 AT ORIGINAL SIZE

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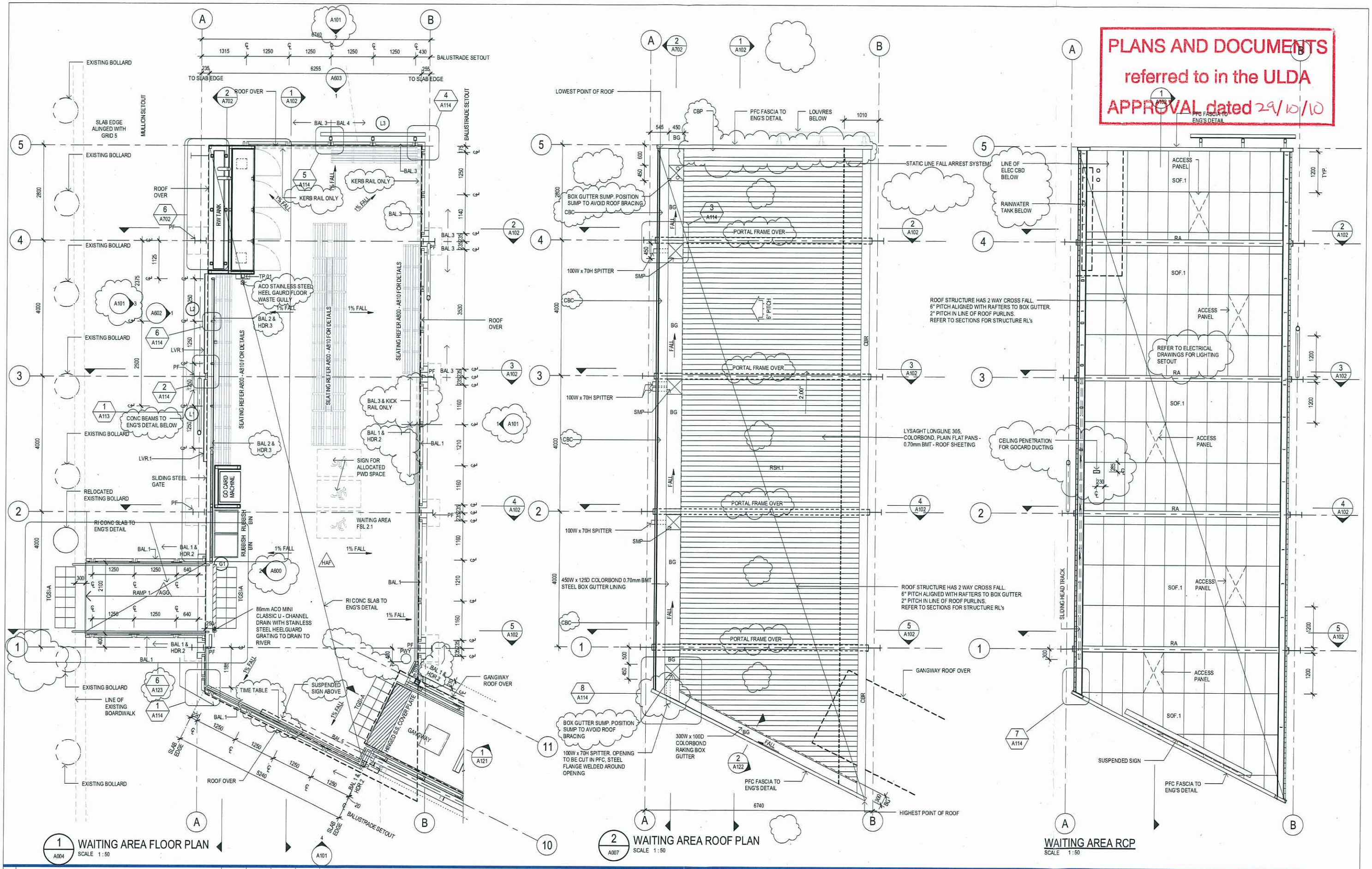
Drafting Check	R.SHORE*	Design Check	D.STRAKER*
Approved	G.RANGER*		R. WALLIS*
Date	06.07.10		RPEQ No. 949
Scale	As indicated	This Drawing must not be used for Construction unless signed as Approved	

Client BRISBANE CITY COUNCIL
Project BRETTS WHARF CityCat TERMINAL
Title SITE ELEVATIONS & SECTIONS

Original Size A1 Drawing No: 41-22279-03-A007 Rev: 1

Plot Date: 23/08/2010 3:45:19 PM Cad File No: C:\Revit Projects\41-22279-BrettsWharf-Site Model-Central_sravikumar.rvt

PLANS AND DOCUMENTS referred to in the ULDA APPROVAL dated 29/10/10



1 A004 WAITING AREA FLOOR PLAN
SCALE 1 : 50

2 A007 WAITING AREA ROOF PLAN
SCALE 1 : 50

WAITING AREA RCP
SCALE 1 : 50

No	Revision	Drawn	Checked	Approved	Date
2	REVISIONS AS CLOUDED	DW	JK*	GR*	23.08.10
1	APPROVED ISSUE	BL	JK*	GR*	22.07.10
0	APPROVED ISSUE	BL	JK*	GR*	06.07.10

Note: * indicates signatures on original issue of drawing or last revision of drawing

0 500 1000 1500 2000 2500mm
SCALE 1:50 AT ORIGINAL SIZE

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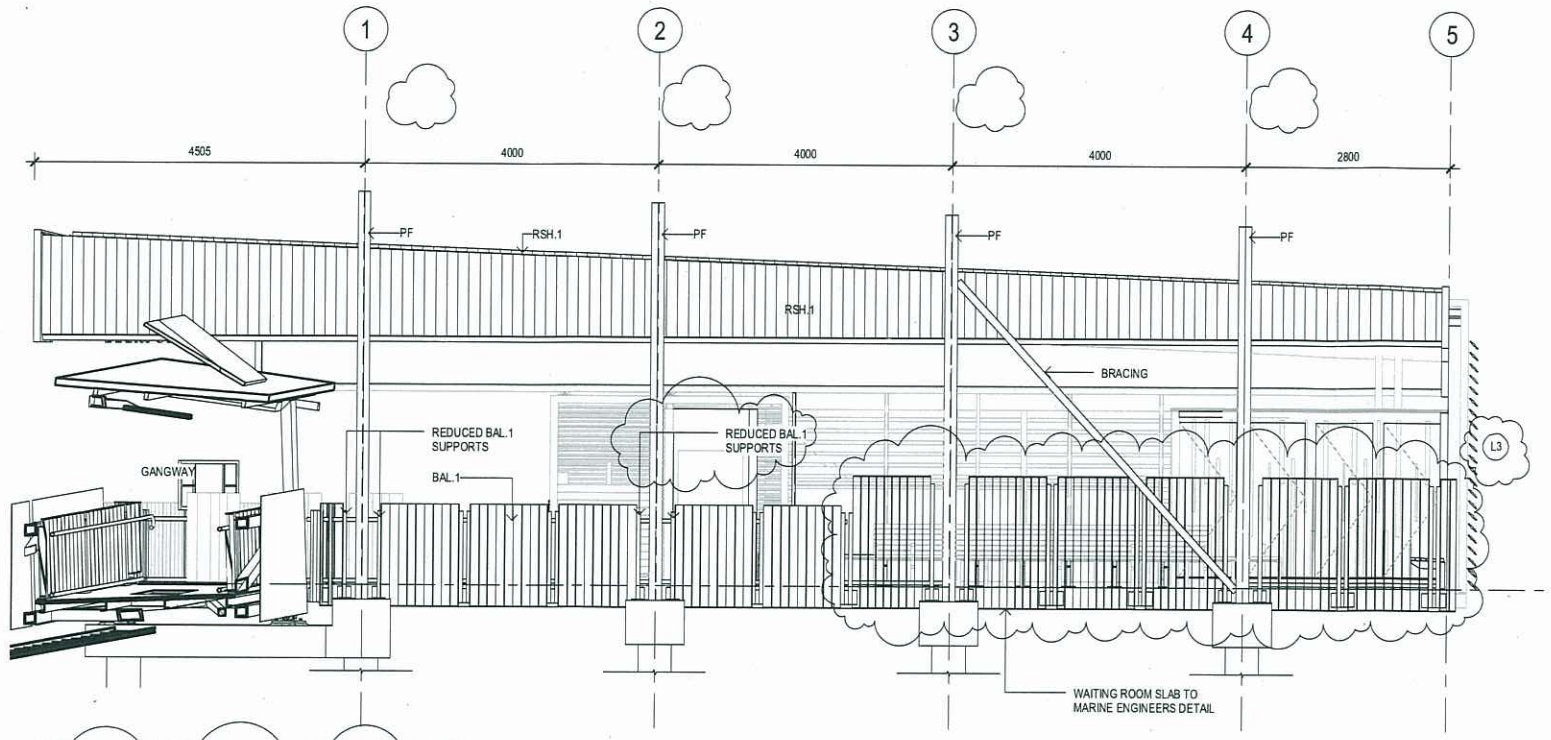
Drawn	M.LEWIS	Designed	G.RAVIKUMAR
Drafting Check	R.SHORE*	Design Check	D.STRAKER*
Approved	G.RANGER*		
Date	22.07.10		
Scale	1 : 50	This Drawing must not be used for Construction unless signed as Approved	

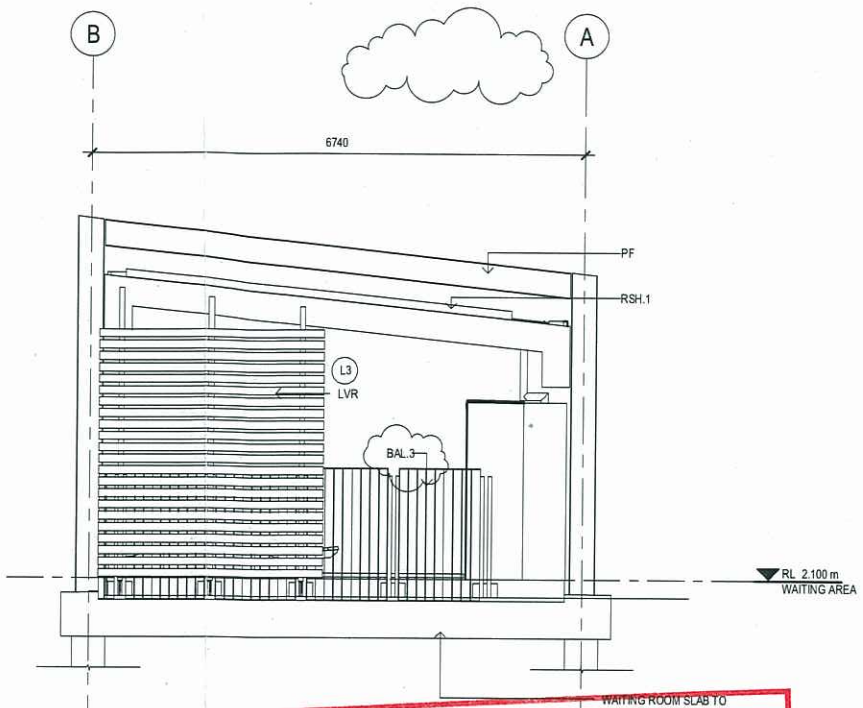
Client: BRISBANE CITY COUNCIL
Project: BRETTS WHARF CityCat TERMINAL
Title: WAITING AREA PLAN, ROOF PLAN & RCP

Original Size A1 Drawing No: 41-22279-03-A100 Rev: 2

Plot Date: 23/08/2010 3:45:21 PM Cad File No: C:\Revit Projects\41-22279-BrettsWharf-Site Model-Central_sravikumar.rvt

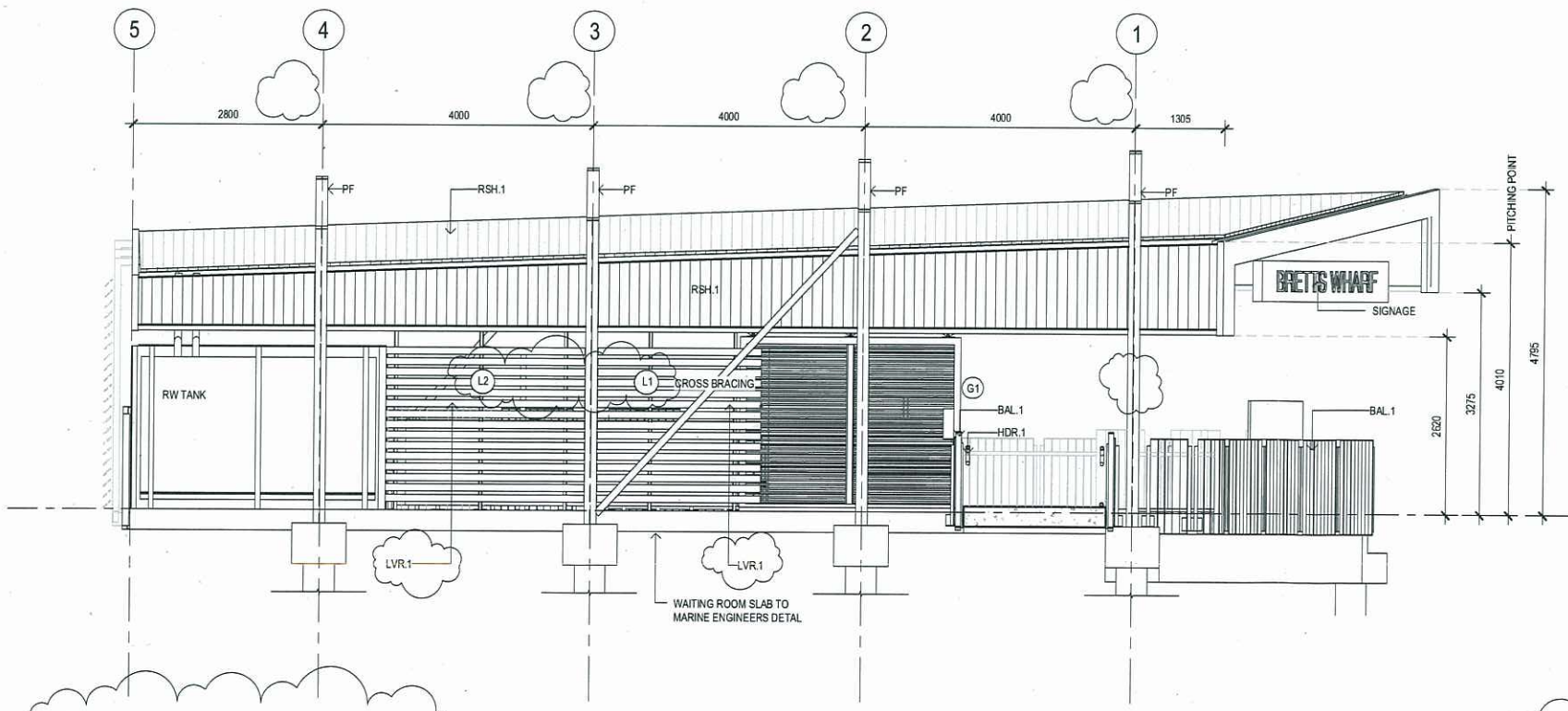


1 A100 WAITING AREA SOUTH ELEVATION
SCALE 1 : 50

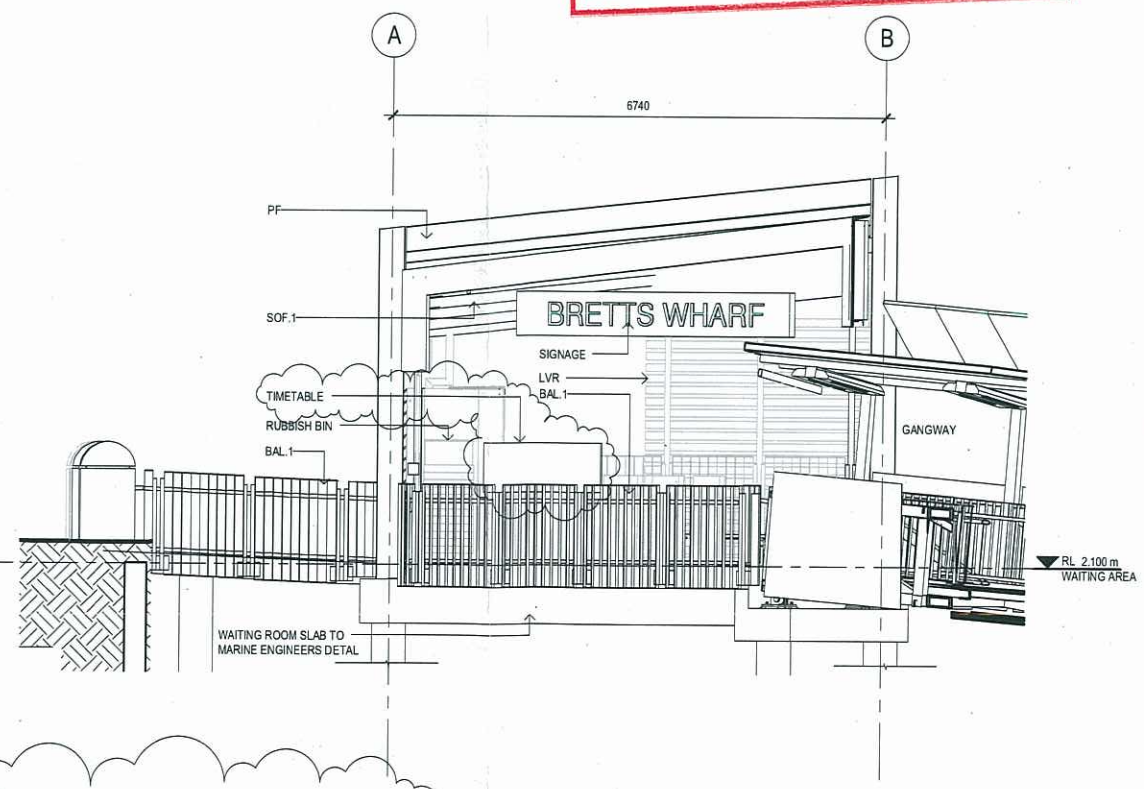


2 A100 WAITING AREA EAST ELEVATION
SCALE 1 : 50

PLANS AND DOCUMENTS referred to in the ULDA APPROVAL dated 29/10/10



3 A100 WAITING AREA NORTH ELEVATION
SCALE 1 : 50



4 A100 WAITING AREA WEST ELEVATION
SCALE 1 : 50

No	Revision	Drawn	Checked	Approved	Date
1	REVISIONS AS CLOUDED	DW	JK*	GR*	23.08.10
0	APPROVED ISSUE	BL	JK*	GR*	06.07.10

Note: * indicates signatures on original issue of drawing or last revision of drawing

0 500 1000 1500 2000 2500mm
SCALE 1:50 AT ORIGINAL SIZE

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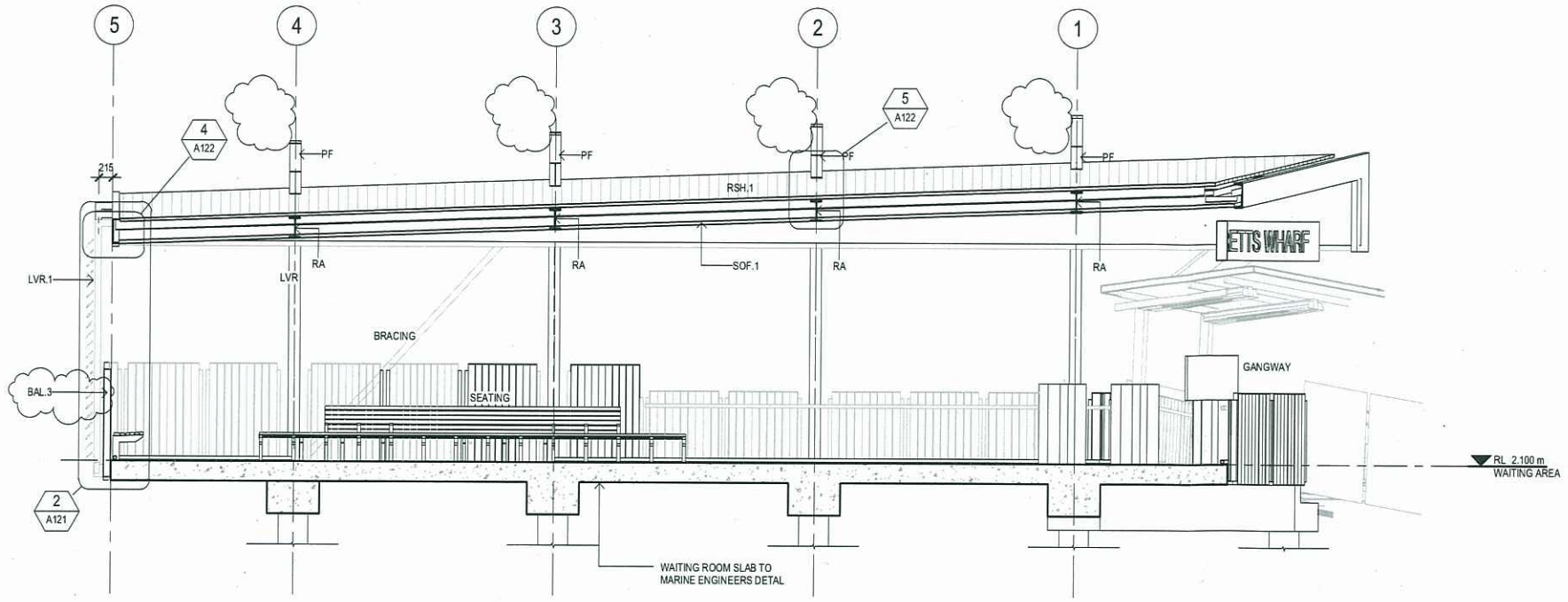
Drafting Check	R.SHORE*	Design Check	D.STRAKER*
Approved	G. RANGER*		
Date	06.07.10		
Scale	1 : 50	This Drawing must not be used for Construction unless signed as Approved	

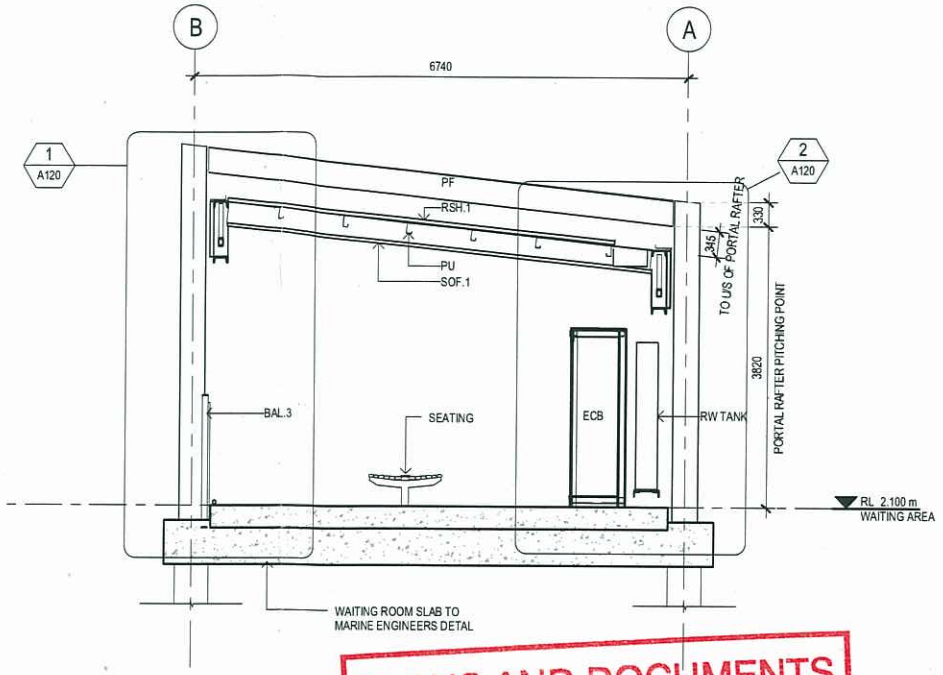
Client **BRISBANE CITY COUNCIL**
Project **BRETTS WHARF CityCat TERMINAL**
Title **WAITING AREA**
WAITING AREA ELEVATIONS

Original Size **A1** Drawing No: **41-22279-03-A101** Rev: **1**

Plot Date: 23/08/2010 3:45:25 PM Cad File No: C:\Revit Projects\41-22279-BrettsWharf-Site Model-Central_sravikumar.rvt

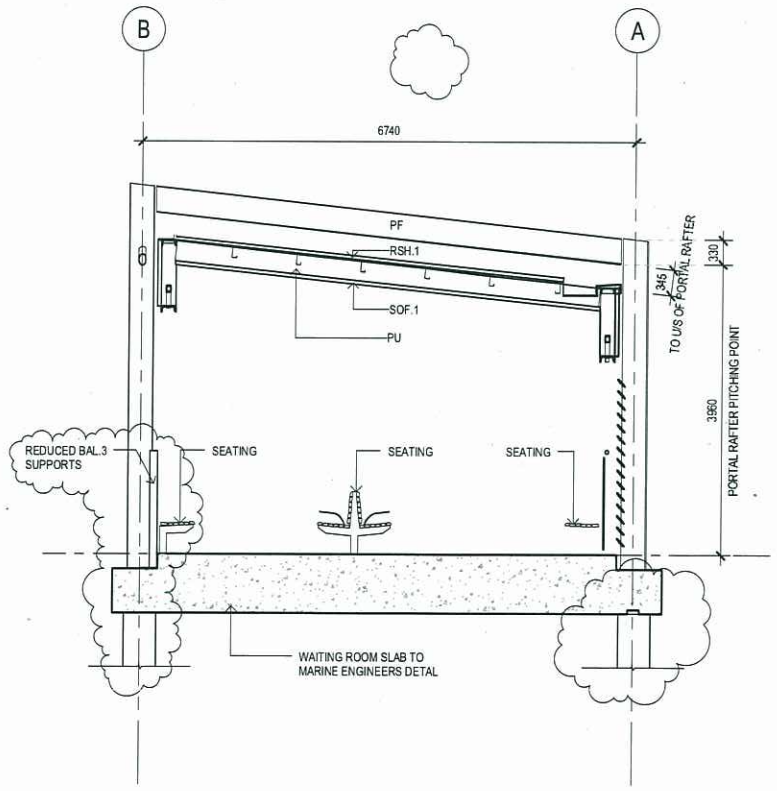


1 A100 WAITING AREA SECTION 1
SCALE 1 : 50

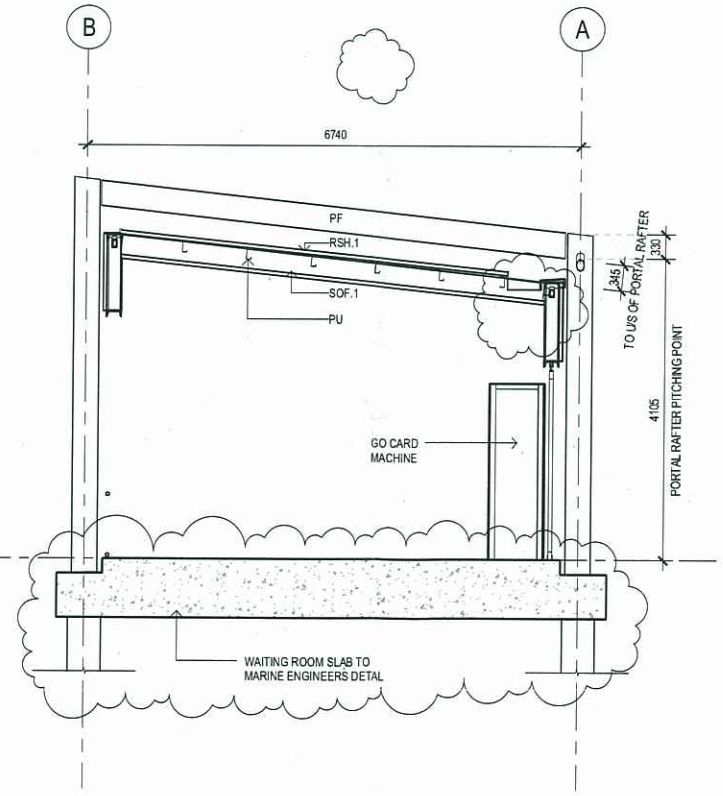


2 A100 WAITING AREA SECTION 2
SCALE 1 : 50

PLANS AND DOCUMENTS
referred to in the ULDA
APPROVAL dated 29/10/10



3 A100 WAITING AREA SECTION 3
SCALE 1 : 50



4 A100 WAITING AREA SECTION 4
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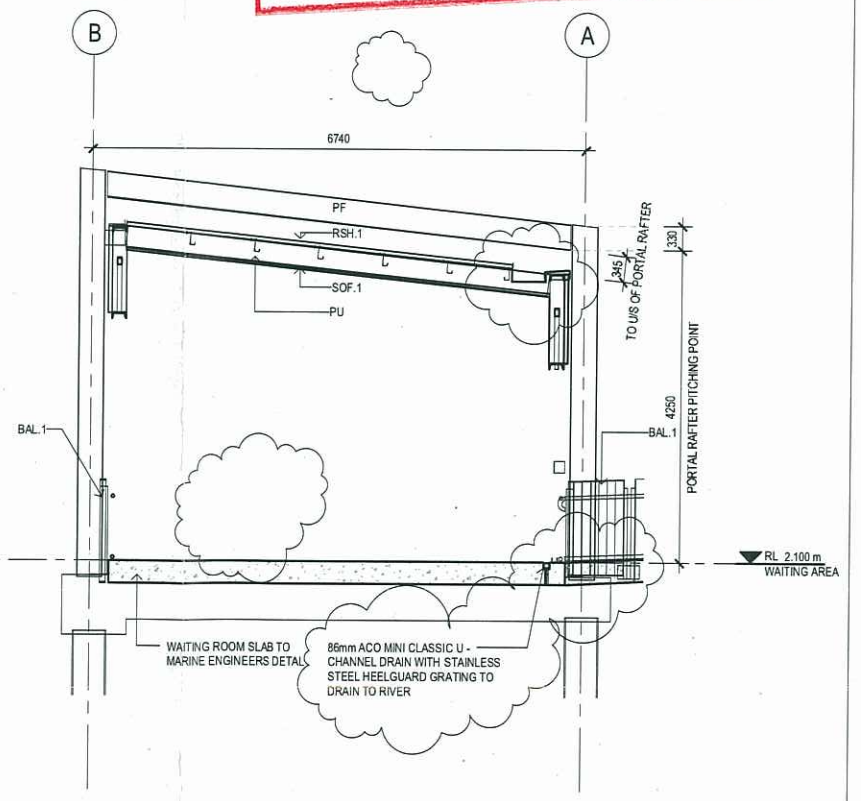

5 A100 WAITING AREA SECTION 5
SCALE 1 : 50

No	Revision Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Checked	Approved	Date
1	REVISIONS AS CLOUDED	DW	JK*	GR*	23.08.10
0	APPROVED ISSUE	BL	JK*	GR*	06.07.10

0 500 1000 1500 2000 2500mm
SCALE 1:50 AT ORIGINAL SIZE

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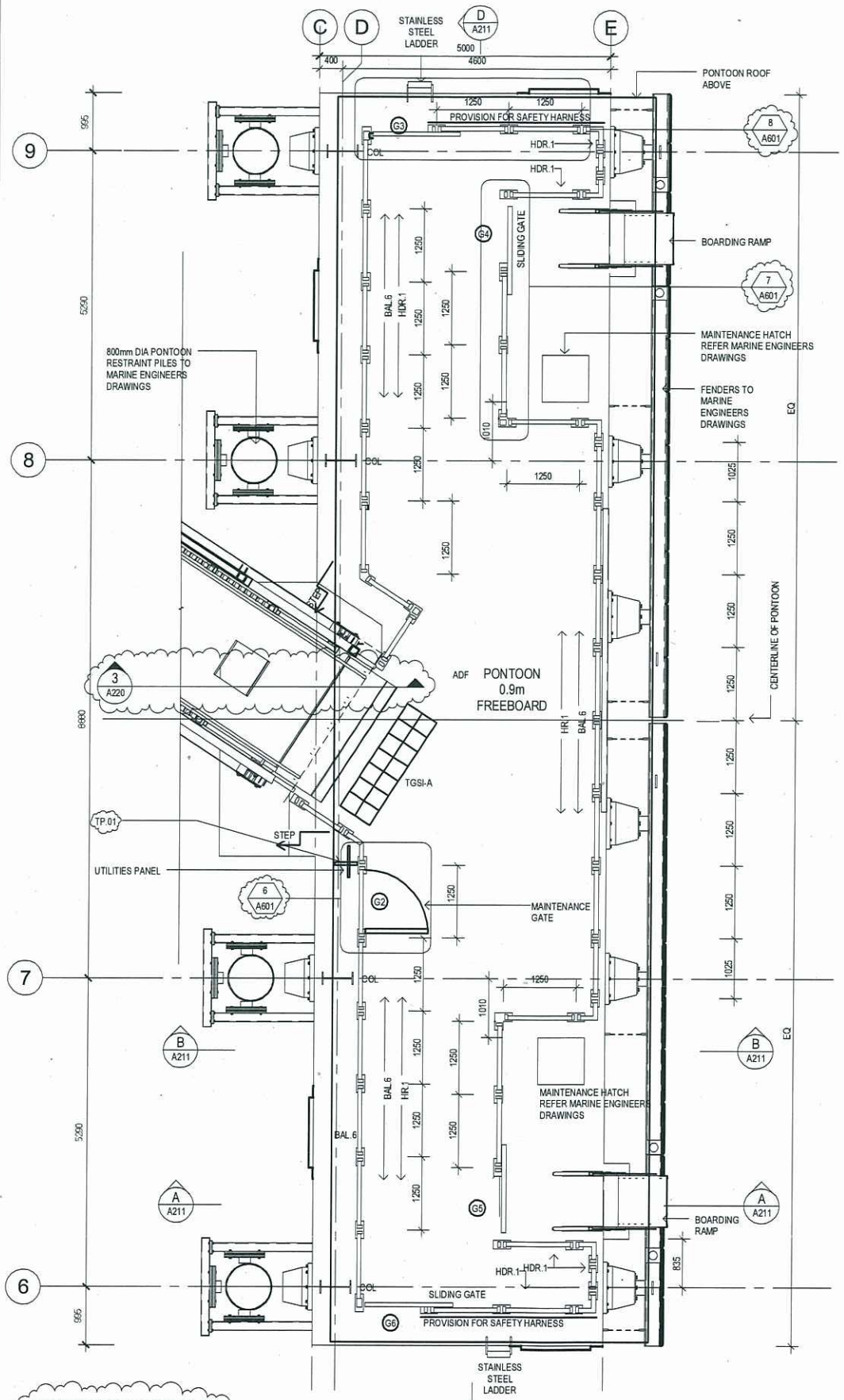
Drafting Check	R.SHORE*	Design Check	D.STRAKER*
Approved	G. RANGER*		
Date	06.07.10		
Scale	1 : 50	This Drawing must not be used for Construction unless signed as Approved	

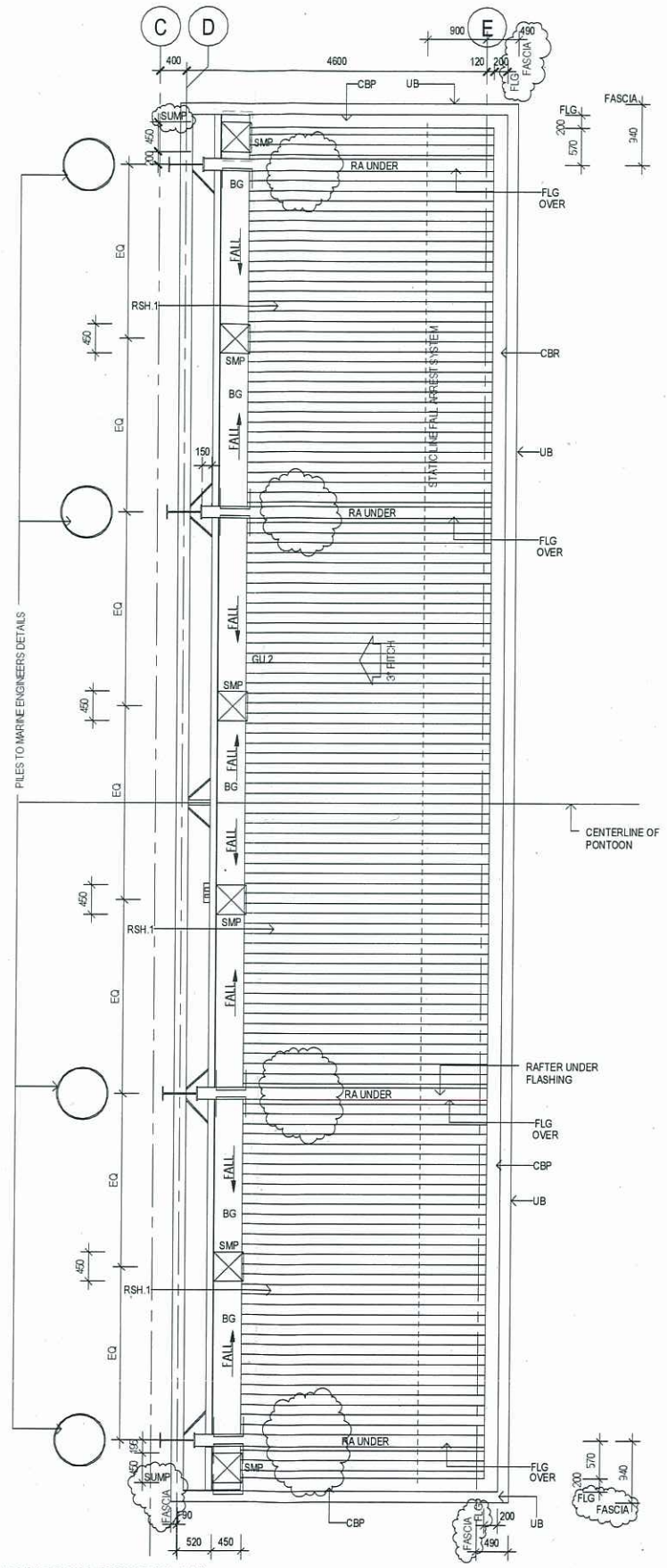
Client BRISBANE CITY COUNCIL
Project BRETTS WHARF CityCat TERMINAL
Title WAITING AREA
WAITING AREA SECTIONS

Original Size A1 Drawing No: 41-22279-03-A102 Rev: 1

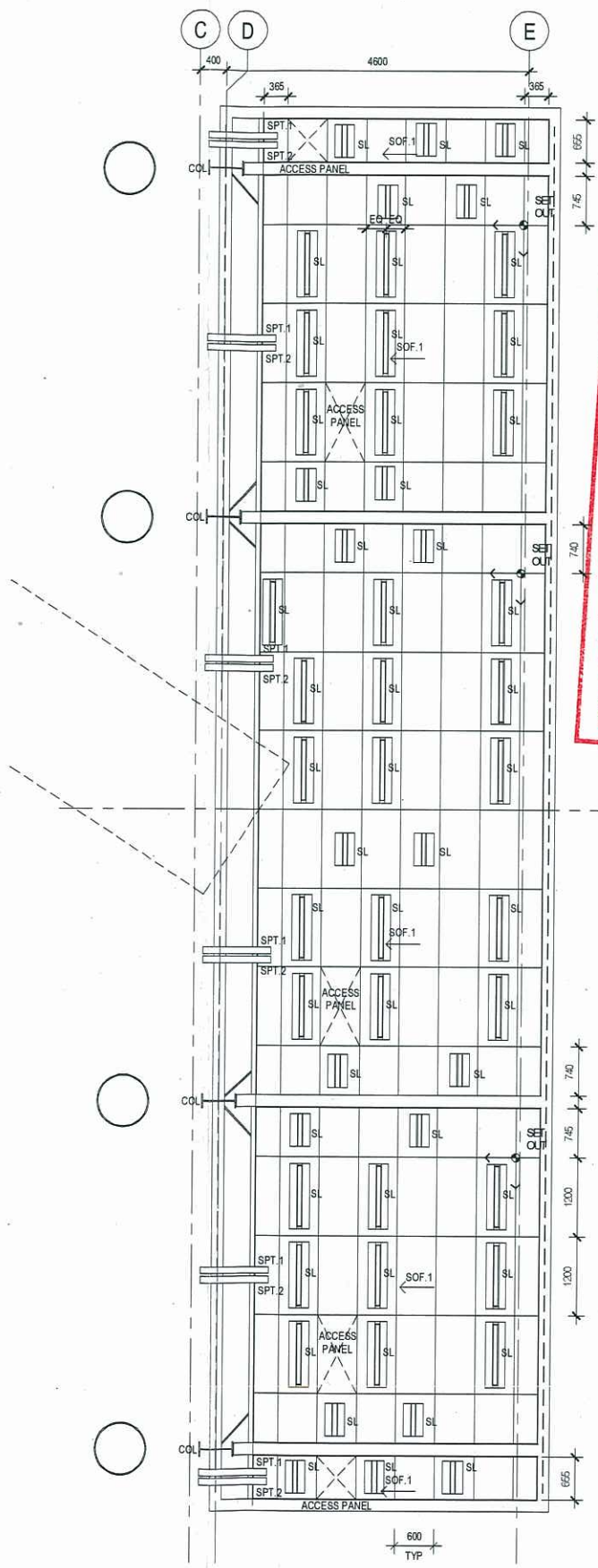
Plot Date: 23/08/2010 3:45:28 PM Cad File No: C:\Revit Projects\41-22279-BrettsWharf-Site Model-Central_sravikumar.rvt



PONTOON FLOOR PLAN
SCALE 1 : 50



PONTOON ROOF PLAN
SCALE 1 : 50



PONTOON RCP
SCALE 1 : 50

PLANS AND DOCUMENTS referred to in the ULDA APPROVAL dated 29/10/10

No	Revision	Drawn	Checked	Approved	Date
1	REVISIONS AS CLOUDED	SMR	JK*	GR*	23.08.10
0	APPROVED ISSUE	DW	JK*	GR*	06.07.10

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0 500 1000 1500 2000 2500mm
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Designed G.RAVIKUMAR
Drafting Check R.SHORE*
Design Check D.STRAKER*
Approved
Date 06.07.10
Scale 1 : 50
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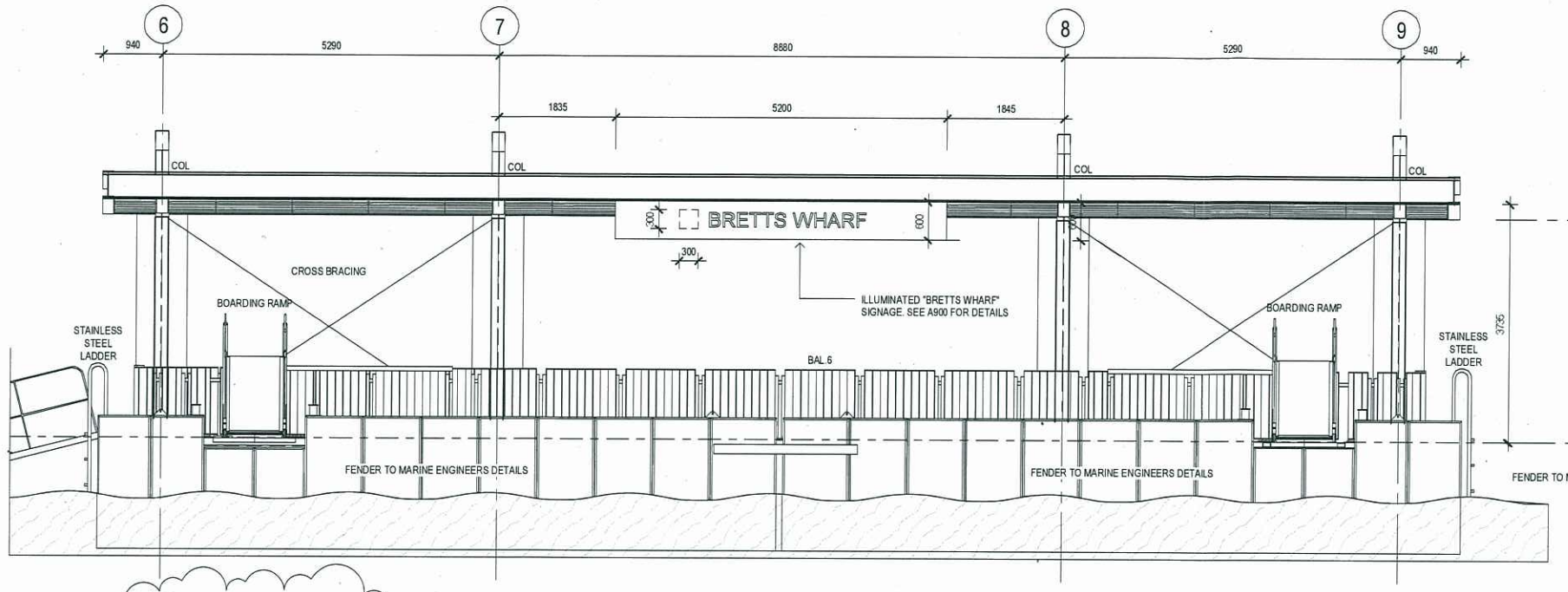
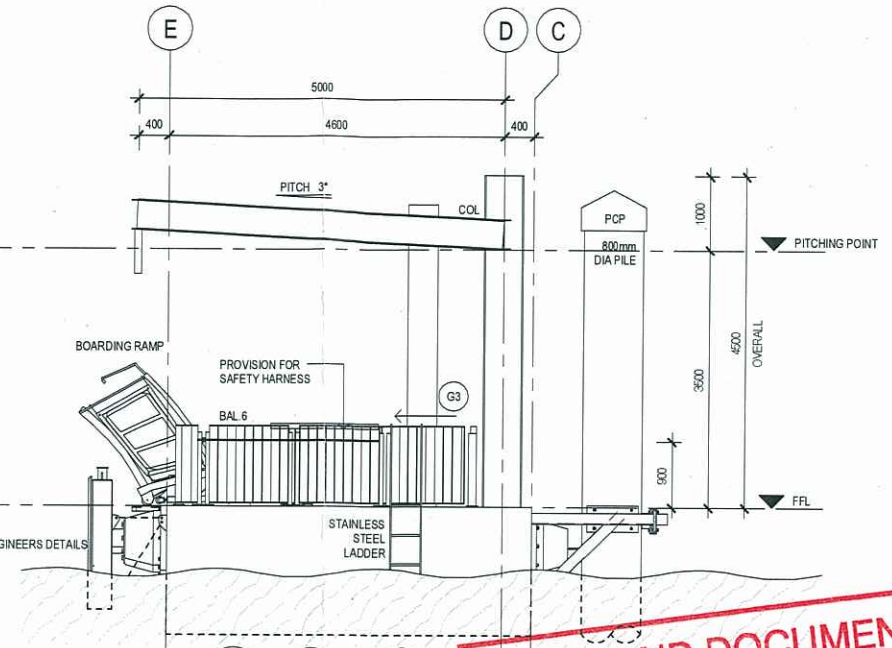
Client **BRISBANE CITY COUNCIL**
Project **BRETTS WHARF CityCat TERMINAL**
Title **PONTOON FLOOR PLANS**

Original Size **A1**
Drawing No: **41-22279-03-A200**
Rev: **1**

Plot Date: 23/08/2010 3:29:19 PM
Cad File No: C:\Documents and Settings\smraso\My Documents\41-22279-Bretts\Wharf-Pontoon-Central_smraso.rvt

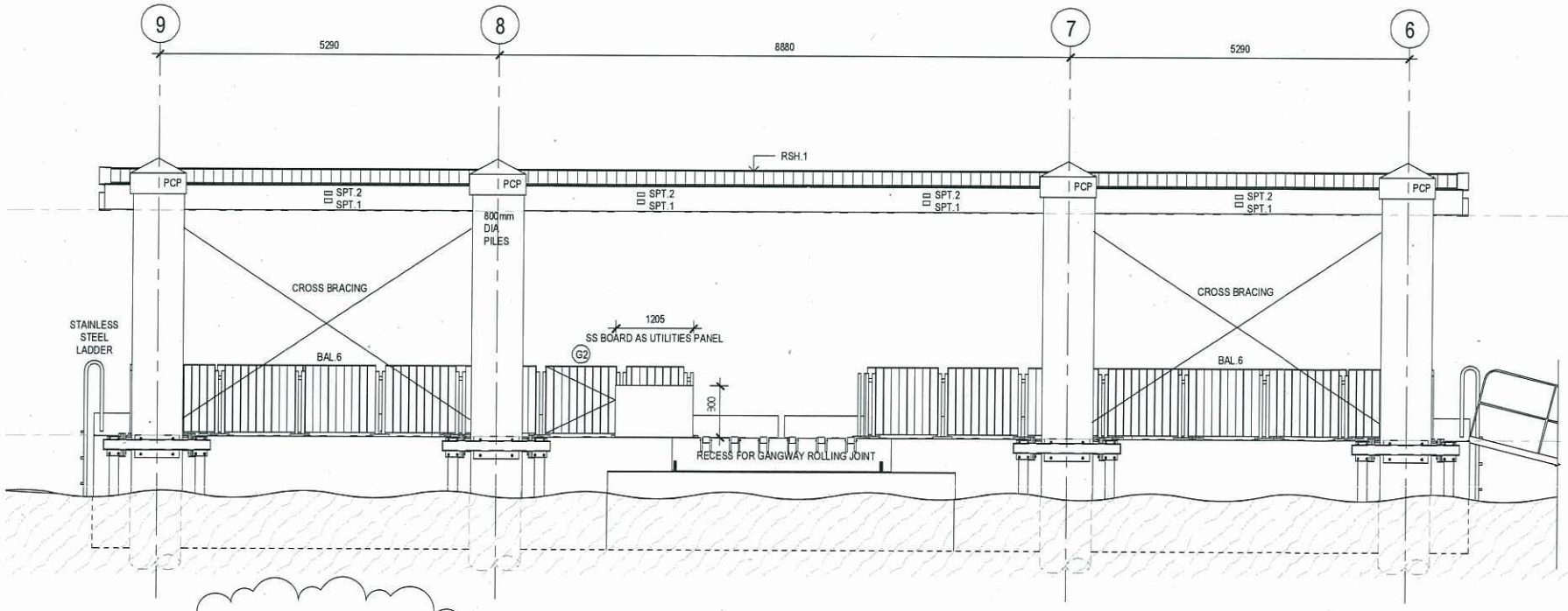


1 PONTOON ELEVATION
SCALE 1 : 50

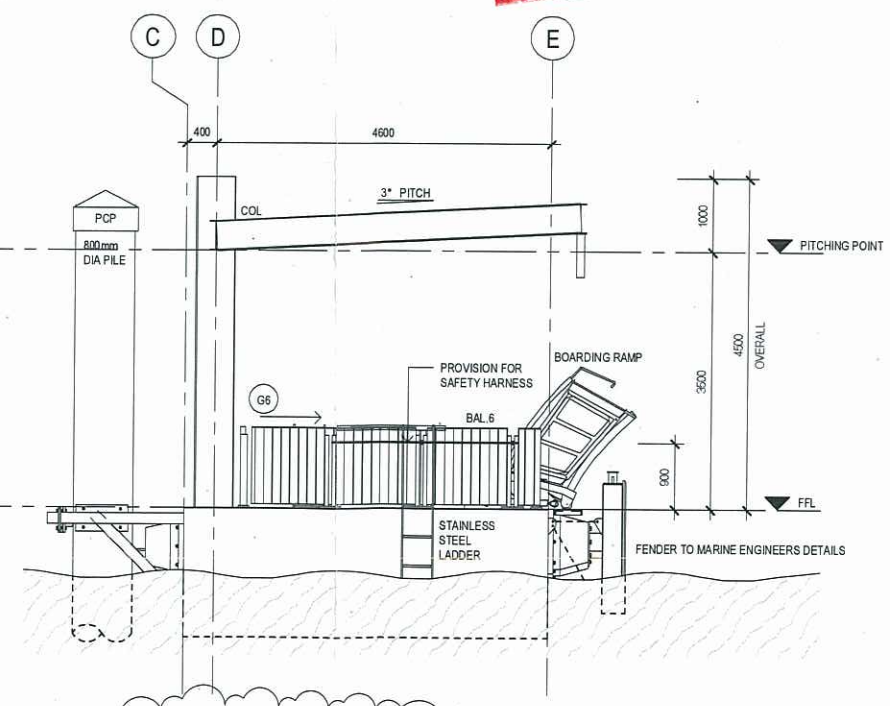


2 PONTOON ELEVATION
SCALE 1 : 50

PLANS AND DOCUMENTS referred to in the ULDA APPROVAL dated 29/10/10



3 PONTOON ELEVATION
SCALE 1 : 50



4 PONTOON ELEVATION
SCALE 1 : 50

No	Revision Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Checked	Approved	Date
1	REVISIONS AS CLOUDED	SMR	JK*	GR*	23.08.10
0	APPROVED ISSUE	NMI	JK*	GR*	06.07.10

0 500 1000 1500 2000 2500mm
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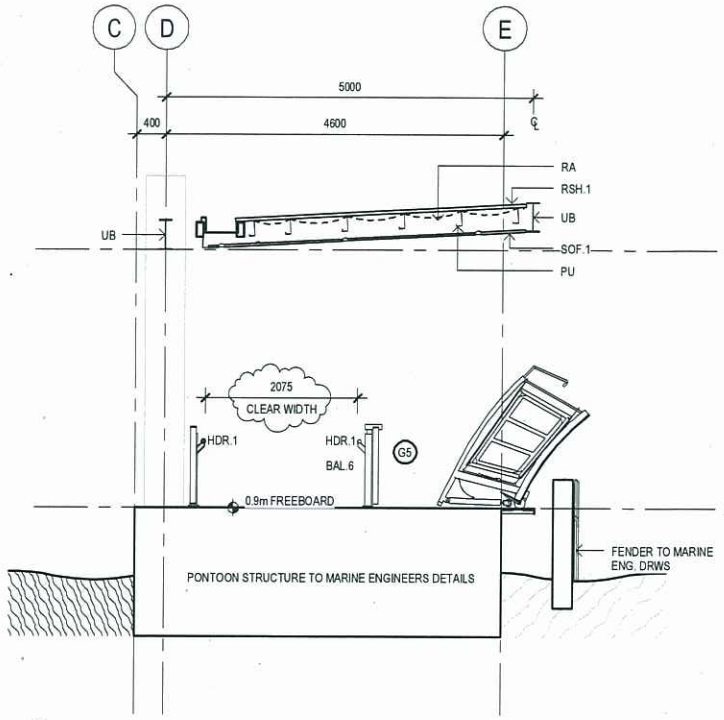
Approved	G. RANGER*		
Date	06.07.10		
Scale	1 : 50	This Drawing must not be used for Construction unless signed as Approved	

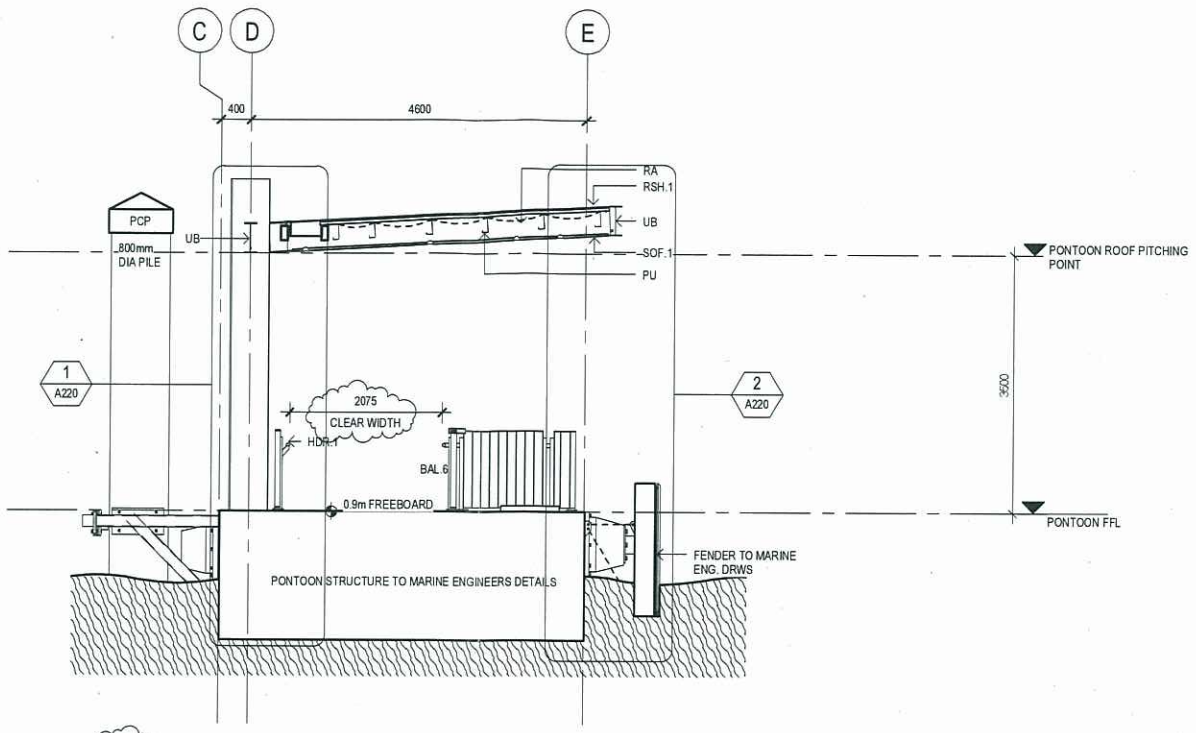
Client **BRISBANE CITY COUNCIL**
Project **BRETTS WHARF CityCat TERMINAL**
Title **PONTOON ELEVATIONS**

Original Size **A1** Drawing No: **41-22279-03-A210** Rev: **1**

Plot Date: 23/08/2010 3:29:57 PM Cad File No: C:\Documents and Settings\smraso\My Documents\41-22279-BrettsWharf-Pontoon-Central_smraso.rvt



A A200 PONTOON SECTION
SCALE 1 : 50



B A200 PONTOON SECTION
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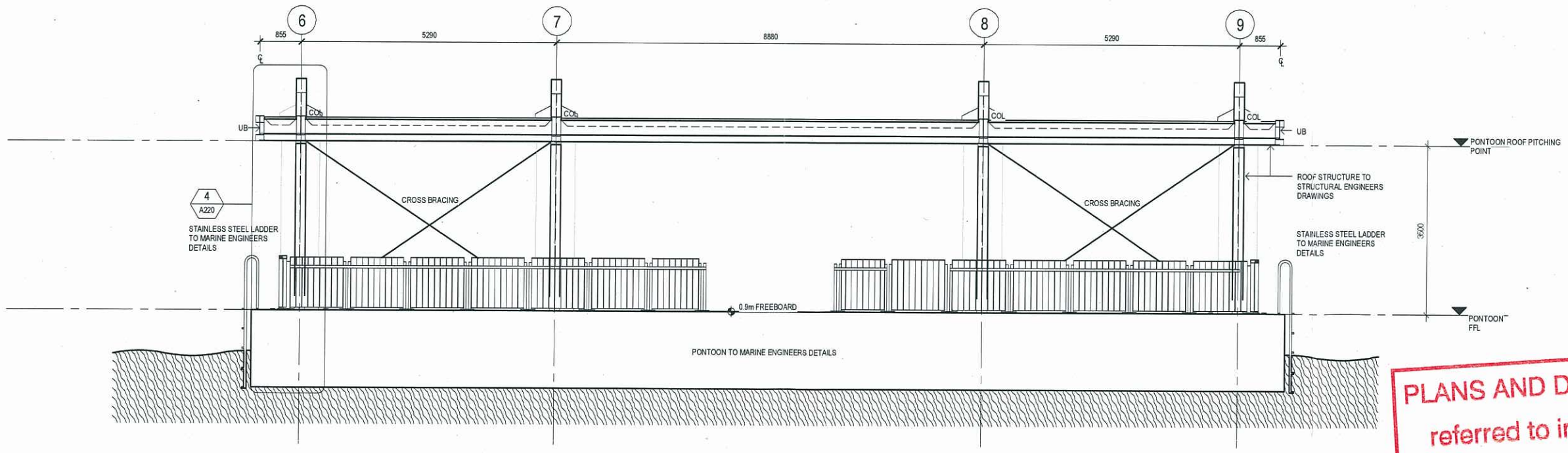

D A200 PONTOON SECTION
SCALE 1 : 50

PLANS AND DOCUMENTS referred to in the ULDA APPROVAL dated 20/10/10

No	Revision Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Checked	Approved	Date
1	REVISIONS AS CLOUDED	SMR	JK*	GR*	23.08.10
0	APPROVED ISSUE	NMI	JK*	GR*	06.07.10

0 500 1000 1500 2000 2500mm
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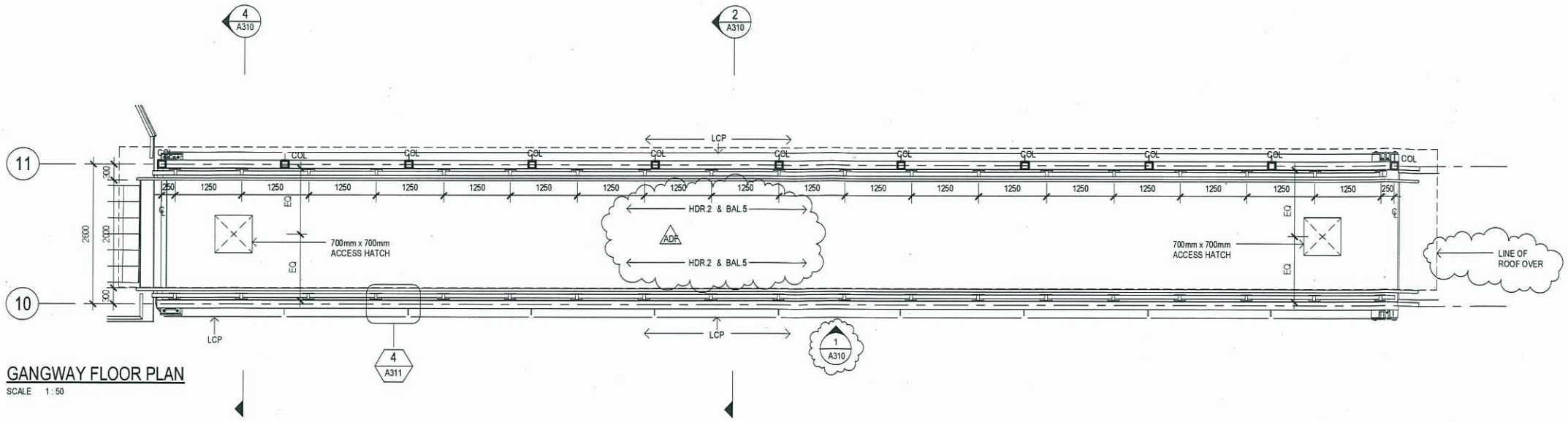
Approved	G. RANGER*		
Date	06.07.10		
Scale	1 : 50	This Drawing must not be used for Construction unless signed as Approved	

Client BRISBANE CITY COUNCIL
Project BRETTS WHARF CityCat TERMINAL
Title PONTOON SECTIONS

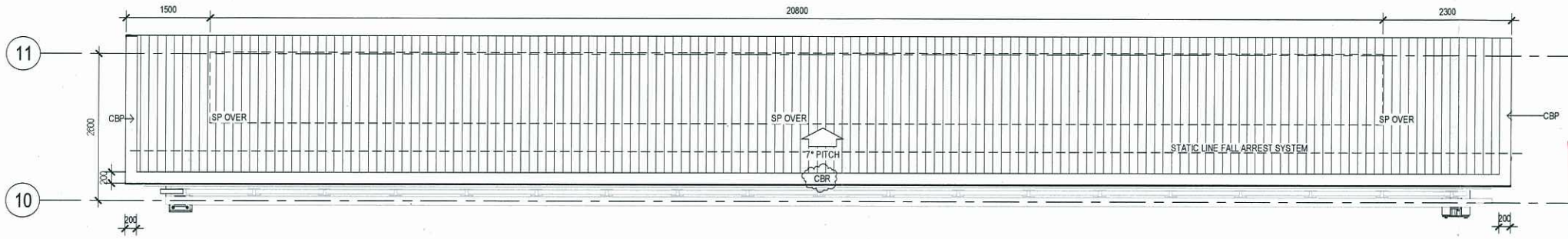
Original Size A1 Drawing No: 41-22279-03-A211 Rev: 1

Plot Date: 23/08/2010 3:30:31 PM Cad File No: C:\Documents and Settings\smrasor\My Documents\41-22279-Bretts\Wharf-Pontoon-Central_smrasor.rvt



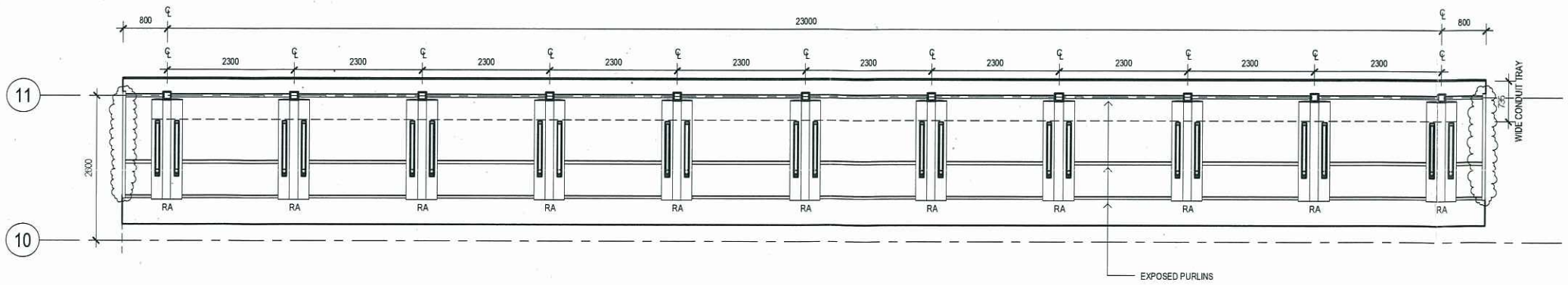
GANGWAY FLOOR PLAN

SCALE 1 : 50



GANGWAY ROOF PLAN

SCALE 1 : 50



GANGWAY RCP

SCALE 1 : 50

PLANS AND DOCUMENTS referred to in the ULDA APPROVAL dated 29/10/10

No	Revision	Drawn	Checked	Approved	Date
1	REVISIONS AS CLOUDED	SMR	JK*	GR*	23.08.10
0	APPROVED ISSUE	DW	JK*	GR*	06.07.10

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0 500 1000 1500 2000 2500mm
SCALE 1:50 AT ORIGINAL SIZE

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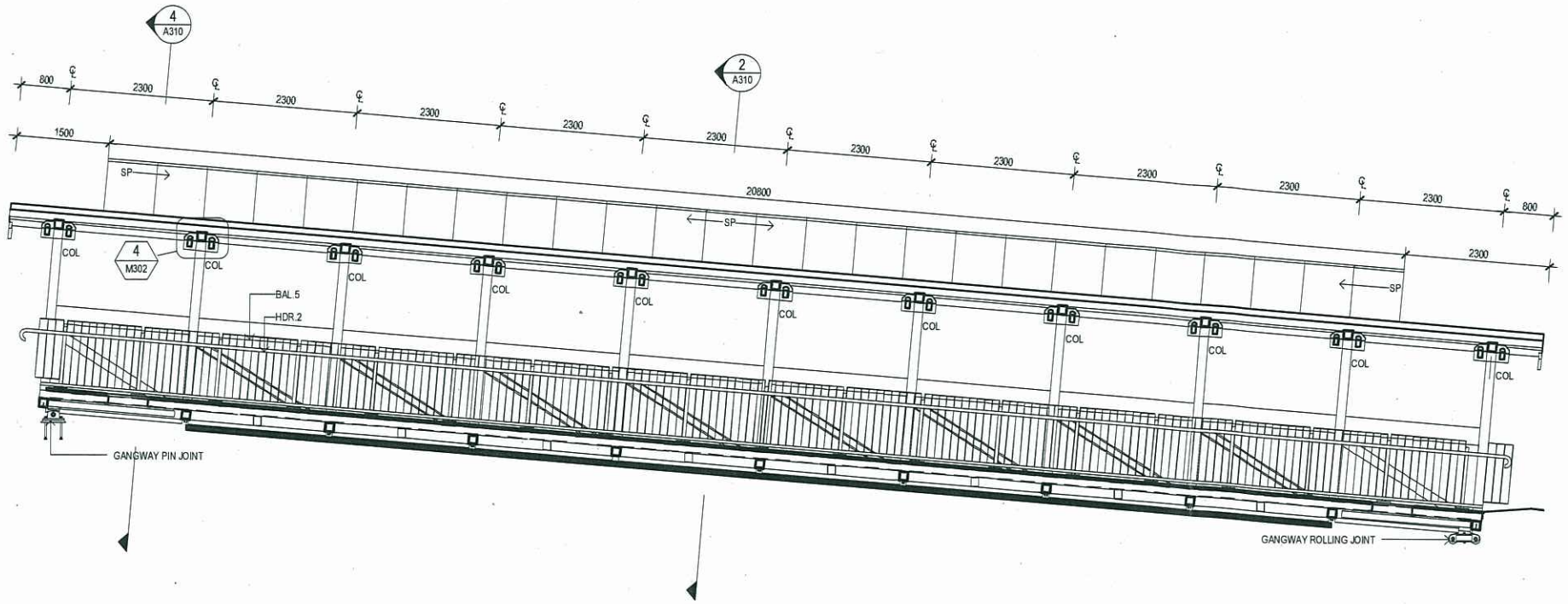
Drafting Check	R.SHORE*	Design Check	D.STRAKER*
Approved	G.RANGER*		
Date	06.07.10		
Scale	1 : 50	This Drawing must not be used for Construction unless signed as Approved	

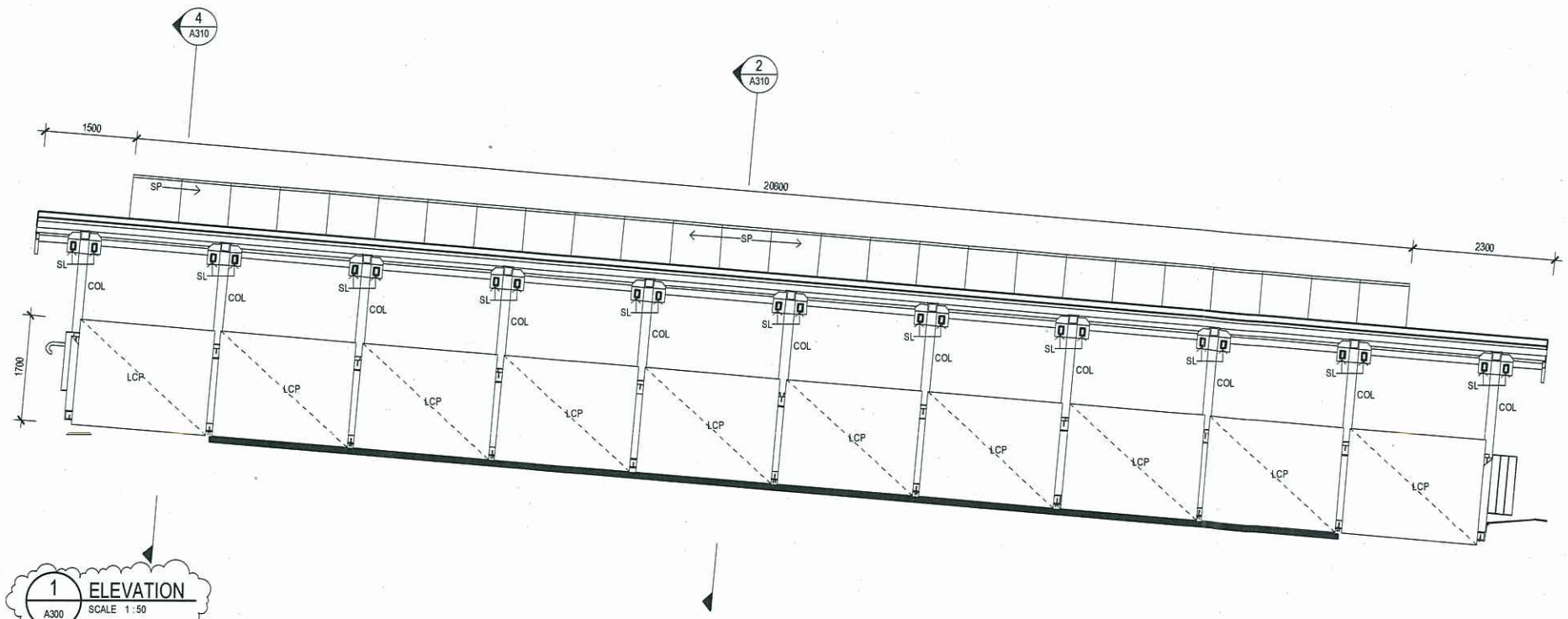
Client: BRISBANE CITY COUNCIL
Project: BRETT'S WHARF CityCat TERMINAL
Title: GANGWAY FLOOR PLAN, ROOF PLAN

Original Size: A1
Drawing No: 41-22279-03-A300
Rev: 1

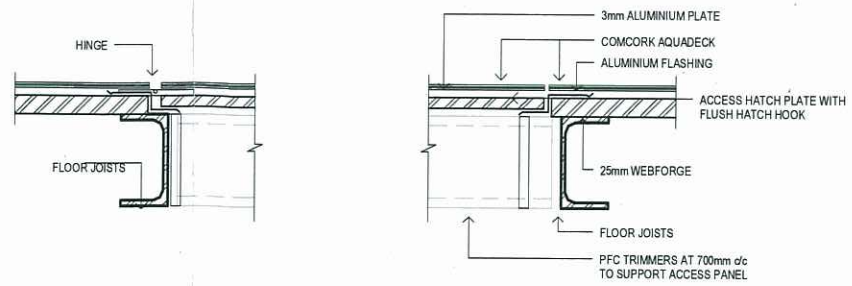
Plot Date: 23/08/2010 3:51:42 PM
Cad File No: C:\Documents and Settings\smraso\My Documents\41-22279-BrettsWharf-Gangway-Central_smraso.rvt



3 GANGWAY LONG SECTION
SCALE 1 : 50

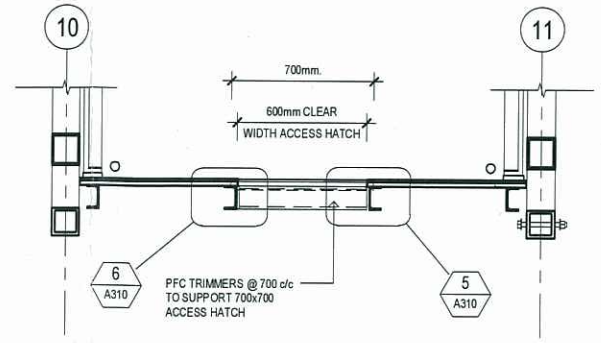


1 A300 ELEVATION
SCALE 1 : 50

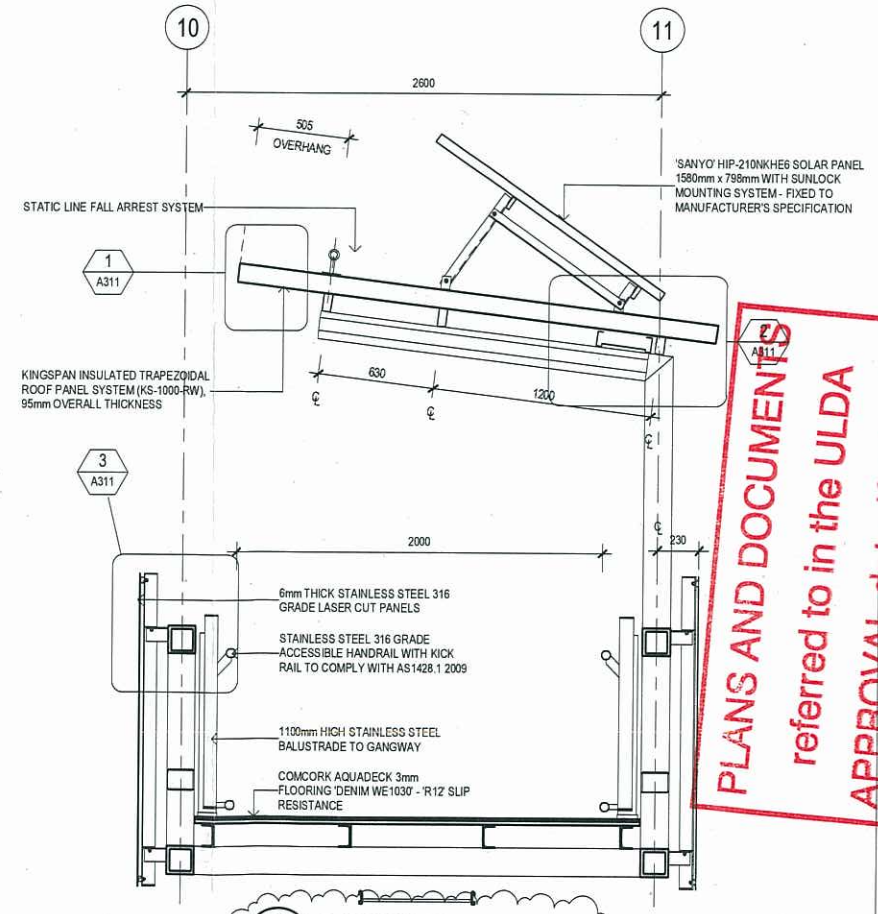


6 A310 DETAIL
SCALE 1 : 5

5 A310 DETAIL
SCALE 1 : 5



4 A300 GANGWAY ACCESS HATCH SECTION
SCALE 1 : 20



2 A300 GANGWAY CROSS SECTION
SCALE 1 : 20

PLANS AND DOCUMENTS referred to in the ULDA APPROVAL dated 29/10/10

No	Revision	Drawn	Checked	Approved	Date
1	TITLE CHANGE	SMR	JK*	GR*	23.08.10
0	APPROVED ISSUE	DW	JK*	GR*	06.07.10

Note: * indicates signatures on original issue of drawing or last revision of drawing

0 50 100 150 200 250 mm — SCALE 1:5 AT ORIGINAL SIZE
0 200 400 600 800 1000 mm — SCALE 1:20 AT ORIGINAL SIZE
0 500 1000 1500 2000 2500 mm — SCALE 1:50 AT ORIGINAL SIZE

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Drafting Check	R.SHORE*	Design Check	D.STRAKER*
Approved	G.RANGER*		
Date	06.07.10		
Scale	As indicated	This Drawing must not be used for Construction unless signed as Approved	

Client: BRISBANE CITY COUNCIL
Project: BRETT'S WHARF CityCat TERMINAL
Title: GANGWAY SECTIONS & ELEVATIONS

Original Size: A1
Drawing No: 41-22279-03-A310
Rev: 1

Plot Date: 23/08/2010 3:53:02 PM
Cad File No: C:\Documents and Settings\smrasa\My Documents\41-22279-Bretts\Wharf-Gangway-Central_smrasa.rvt

GENERAL

G1. READ THESE NOTES IN CONJUNCTION WITH ARCHITECTURAL AND OTHER ENGINEERING DRAWINGS AND SPECIFICATIONS, AND WITH SUCH OTHER WRITTEN INSTRUCTIONS ISSUED. REFER TO ARCHITECTURAL DRAWINGS FOR SETTING OUT AND DETAIL DIMENSIONS.

G2. CARRY OUT WORK IN A SAFE MANNER IN ACCORDANCE WITH APPLICABLE STATUTORY REGULATIONS, BY-LAWS OR RULES. COMPLY WITH QUEENSLAND OCCUPATIONAL HEALTH AND SAFETY ACT INCLUDING ASSOCIATED REGULATIONS AND CODES OF PRACTICE. CONTRACTOR IS RESPONSIBLE FOR OCCUPATIONAL HEALTH AND SAFETY OF SITE PERSONNEL AND GENERAL PUBLIC IN ACCORDANCE WITH LEGISLATIVE REQUREMENTS, INDUSTRIAL AGREEMENTS AND ACCEPTED INDUSTRY PRACTICE.

G3. DO NOT OBTAIN DIMENSIONS BY SCALING FROM DRAWINGS.

G4. DIMENSIONS ARE IN MILLIMETRES, LEVELS ARE IN METRES UNO. TO AHD.

G5. NOMINATION OF PROPRIETARY ITEMS DOES NOT INDICATE EXCLUSIVE PREFERENCE, BUT INDICATES REQUIRED PROPERTIES OF ITEM. SIMILAR ALTERNATIVES HAVING REQUIRED PROPERTIES MAY BE OFFERED FOR APPROVAL. APPROVAL DOES NOT AUTHORISE A VARIATION TO THE CONTRACT. INSTALL PROPRIETARY ITEMS IN ACCORDANCE WITH MANUFACTURER'S REQUREMENTS AND RECOMMENDATIONS.

G6. ALL DIMENSIONS RELEVANT TO SETTING OUT AND OFF-SITE WORK SHALL BE VERIFIED BY THE CONTRACTOR BEFORE CONSTRUCTION IS COMMENCED.

G7. ANY AMBIGUITY OR DISCREPANCY SHALL BE REFERED TO THE SUPERINTENDANT FOR CLARITY BEFORE WORK COMMENCES.

G8. CONSTRUCTION METHODS AND TEMPORARY WORKS ARE THE RESPONSIBILITY OF THE CONTRACTOR.

G9. ROOF FALL ARREST SYSTEM AND CONNECTIONS SHALL BE DESIGNED AND CERTIFIED BY THE CONTRACTOR

SURVEY COTNTROL DATA

SD1. HORIZONTAL DATUM = BSCG

SD2. DATUM FOR LEVELS IS AHD (AUSTRALIAN HEIGHT DATUM). ALL LEVELS ARE IN METRES

SD3. TIDAL PLANES (AHD) QUEENSLAND TIDE TABLES 2010 – CAIRNCROSS DOCK TO NEWFARM

ST100	+2.5m	1 IN 100 yr STORM TIDE LEVEL (BCC)
ST10	+1.9m	1 IN 10 yr STORM TIDE LEVEL (BCC)
HAT	+1.65m	HIGHEST ASTRONOMICAL TIDE
MHWS	+1.06m	MEAN HIGH WATER SPRINGS
MHWN	+0.65m	MEAN HIGH WATER NEAPS
MSL	+0.1m	MEAN SEA LEVEL
AHD	0.00m	AUSTRALIAN HEIGHT DATUM
MLWN	-0.43m	MEAN LOW WATER NEAPS
MLWS	-0.85m	MEAN LOW WATER SPRINGS
LAT	-1.24m	LOWEST ASTRONOMICAL TIDE

DESIGN PARAMETERS

DL1 DESIGN VESSEL DIMENSIONS

VESSEL TYPE	HIGH SPEED FERRY
FULL LOAD DISP.	35.5t
OVERALL LENGTH (LOA)	25.5m
MAXIMUM BEAM	7.70m
LADEN DRAFT	1.42m
WINDAGE AREA (PROFILE)	73m²
WINDAGE AREA (BOW)	22m²
MINIMUM UNDERKEEL CLEARANCE	1.5m

DL2 LIVE LOADS TO AS/NZS 1170.1

5 kPa GENERAL OR 4.5 kN POINT LOAD

3 kPa STABILITY

HANDRAIL TO AS/NZS 1170.1 3 kN/m OUTWARDS

0.75 kN/m DOWWARDS

WIND LOADS TO AS/NZS 1170.2

REGION	B
AVERAGE RECURRENCE INTERVAL, R	500 years
ULTIMATE REGIONAL WIND SPEED V_R (3 sec GUST)	57 m/s
SERVICEABILITY REGIONAL WIND SPEED V_{SR} (3 sec)	39 m/s
DIRECTIONAL MULTIPLIER	1.0 FOR CLADDING AND PURLINS, 0.95 FOR STRUCTURAL MEMBERS
TERRAIN CATEGORY	2
TERRAIN/HEIGHT MULTIPLIER (Mz.cat)	1
SHIELDING MULTIPLIER (Ms)	1.0
TOPOGRAPHIC MULTIPLIER (MT)	1.0

CURRENT FLOWS TO AS/4997

VELOCITY	1.8 m/s

DEBRIS LOADING TO AS/4997 10 kN/m

DL3 BERTHING

COEFFICIENT (Cm)	1.65
CONFIGURATION (Cc)	1.0
NORMAL VELOCITY	0.5 m/s
NORMAL ANGLE	Max 15 degrees
FACTOR OF SAFETY (FOS)	2.0
SOFTNESS (Cs)	1.0
ECCENTRICITY (Ce)	0.447
NORMAL ENERGY	7.66 kNm
ACCIDENTAL VELOCITY	3 m/s
ACCIDENTAL ANGLE	Max 45 degrees
FACTOR OF SAFETY (FOS)	1.0
SOFTNESS (Cs)	0.9
ECCENTRICITY (Ce)	0.88
ACCIDENTAL ENERGY	209 kNm

DL4. DESIGN LIFE 50 years

DL5. ROLLER AND HINGE ASSUMPTIONS

PLASTIC MATERIALS TO BE MANUFACTURED AND CERTIFIED FOR A 10yr DESIGN LIFE BY THE SUPPLIER (DOTMAR OR EQUIVALENT)

PLASTIC SHALL BE UV STABILISED AND RESISTANT TO WEATHERING

METAL SHAFTS SHALL BE MACHINED SMOOTH

ALL ROLLER AND HINGE SHAFT BOLTS, WASHERS AND NUTS SHALL BE STAINLESS STEEL 2205 (DUPLEX S31803) U.N.O

ALL ROLLER INTERNAL BEARING SLEEVE SHALL BE MADE OF STAINLESS STEEL 2205 (DUPLEX S31803)

DL6 PONTOON DIMENSIONS TO ACCOMMODATE TWO VESSELS AT BERTH (BOW TO BOW) WITH 5M CLEARANCE

STEEL

S1. WORKMANSHP AND MATERIALS SHALL COMPLY WITH AS4100 AND AS/NZS1554.

S2. PROVIDE STEEL IN ACCORDANCE WITH:

AS1163 GRADE C350 FOR RECTANGULAR AND SQUARE HOLLOW SECTIONS,

AS1163 GRADE C350 FOR CIRCULAR HOLLOW SECTIONS

AS/NZS3678 GRADE 250 FOR PLATES

AS/NZS3679 PART 2, GRADE 300 FOR WELDED BEAMS AND WELDED COLUMNS,

AS/NZS3679 PART 1 GRADE 300 OR BHP GRADE 300 PLUS FOR UNIVERSAL BEAMS, UNIVERSAL COLUMNS, PARALLEL FLANGE CHANNELS AND ANGLES.

S3. CARRY OUT WELDING TO AS/NZS1554; ALL INTERFACES BETWEEN STEEL SECTIONS TO BE CONNECTED WITH 6 mm CONTINUOUS FILLET WELDS ALL ROUND, BOTH SIDES UNO. WELDS TO BE SHOP WELDED UNO. WELDS TO BE CATEGORY SP. BUTT WELDS TO BE FULL (COMPLETE) PENETRATION UNO.

ELECTRODES SHALL BE LOW CARBON CLASSIFICATION E48XX, PRE-APPROVED TO AS/NZS1554

S5. WELDING SYMBOLS ARE TO AS1101.3. "CFW" INDICATES CONTINUOUS FILLET WELD. "FSBW" INDICATES FULL STRENGTH BUTT WELD WHICH IS EQUIVALENT TO CPBW. "CPBW" INDICATES COMPLETE PENETRATION BUTT WELD.

S6. FOR SITE WELDING ENSURE STEEL IS CLEANED BACK TO WHITE METAL SURFACE AND FREE OF DUST, WATER, GREEASE. OIL, CHEMICALS, ETC. WELDING SHALL BE IN ACCORDANCE WITH NOTES ABOVE. TOUCH UP SURFACE TREATMENT TO ORIGINAL OR AS SPECIFIED.

S7. PREPARE WORKSHOP DRAWINGS, CALCULATIONS etc AND SUBMIT THREE COPIES OF EACH FOR SUPERINTENDENT'S REVIEW OF GENERAL COMPLIANCE WITH DESIGN CONCEPT. SHOP DRAWINGS TO SHOW RELEVANT DETAILS OF EACH ASSEMBLY, COMPONENT AND CONNECTION, TOGETHER WITH INFORMATION RELATIVE TO FABRICATION, SURFACE TREATMENT AND ERECTION, INCLUDING IDENTIFICATION, STEEL TYPE AND GRADE, DIMENSIONS OF ITEMS, REQUIRED CAMBER (WHERE APPLICABLE), LOCATION, TYPE AND SIZE OF WELDS OR BOLTS, WELD CATEGORIES AND BOLTING CATEGORIES, WELD PROCEDURES, SURFACE PREPARATION METHODS AND COATING SYSTEM, VENT/DRAIN HOLES FOR HOT DIP GALVANISING, PROPOSED JOINTS IN STEEL MEMBERS, etc.

S8. DO NOT COMMENCE FABRICATION UNTIL SHOP DRAWINGS AND CALCULATIONS HAVE BEEN REVIEWED. ALLOW 14 DAYS FOR SUPERINTENDENT'S REVIEW. SUPERINTENDENT'S REVIEW DOES NOT INCLUDE CHECKING OF DIMENSIONS, AND DOES NOT RELIEVE CONTRACTOR OF RESPONSIBILITY FOR COMPLIANCE WITH DRAWINGS AND SPECIFICATIONS.

S9. AFTER COMPLETION OF FABRICATION, PREPARATION FOR SURFACE TREATMENT TO BE: GRIND SMOOTH ROUGH WELDS, SHARP EDGES, BURRS, ARRISES, WELD SPLATTER AND SLAG, etc. REMOVE GREASE, OIL AND OTHER CONTAMINANTS TO AS1627.1. REMOVE RUST, MILLSCALE, OXIDE DEPOSITS, OLD PAINT FILMS, etc BY ABRASIVE BLAST CLEANING TO AS1627.4 CLASS 2½ TO 35 MICRONS PROFILE HEIGHT OR BY POWER TOOL CLEANING TO AS1627.2 CLASS 2. REMOVE ALL DUST BY BRUSHING OR VACUUM CLEANING.

CONCRETE

C1. WORKMANSHP AND MATERIALS TO COMPLY WITH AS3600 AND AS3610.

C2. QUALITY OF CONCRETE ELEMENTS TO BE AS FOLLOWS:

STRUCTURAL ELEMENT	ALL INSTU CONCRETE
EXPOSURE CLASSIFICATION	C2
STRENGTH GRADE (MPa)	S50
MAX. AGGREGATE SIZE (mm):	20
CEMENT TYPE:	GP
MINIMUM CEMENTITIOUS CONTENT (kg/m³):	415
MAXIMUM CEMENTITIOUS CONTENT (kg/m³):	520
MAX. 56 DAY DRYING SHRINKAGE	600×10^{-6}
CHLORIDE DIFFUSION COEFFICIENT, MAX LIMIT (m/s²):	2.5×10^{-12}
SUPPLEMENTARY CEMENTITIOUS MATERIAL	20%OF CEMENT CONTENT
MAXIMUM WATER/CEMENTITIOUS RATIO	0.38

C3. SUPPLEMENTARY CEMENTITIOUS MATERIALS SHALL BE FLY ASH.

C4. ALL CONCRETE CORNERS SHALL HAVE A NOMINAL 20mm CHAMFER U.N.O

C5. USE CEMENTITIOUS MATERIALS LESS THAN SIX MONTHS OLD. USE BAGGED CEMENT IN ORDER OF RECEIPT.

C6. CONCRETE DENOTED WITH STRENGTH GRADE PREFIX 'S' IS REQUIRED TO HAVE HIGH DURABILITY.
DO NOT USE METAL INSERTS WITHIN COVER CONCRETE.
PLASTIC OR MILD STEEL BAR CHAIRS SHALL NOT BE USED TO SUPPORT REINFORCEMENT WITHIN CONCRETE COVER. ONLY BAR CHAIRS OF STAINLESS STEEL (316) OR PRECAST CONCRETE BLOCKS (S50) SHALL BE USED. ALL CONCRETE BLOCKS ARE TO BE ROUGHENED.
DO NOT ALLOW CONCRETE TO FALL VERTICALLY WHEN PLACING, OR TO ENTRAP AIR IN ANY OTHER WAY.
PLACE CONCRETE IN LAYERS LESS THAN 300 mm THICK AND VIBRATE EACH LAYER BEFORE PLACING NEXT.
PREVENT EVAPORATION OF WATER FROM CONCRETE SURFACES IMMEDIATELY AFTER LAYING IN ACCORDANCE WITH THE SPECIFICATION.

C7. COVER MUST NOT BE LESS THAN SPECIFIED. PROVIDE MINIMUM CLEAR COVER TO REINFORCEMENT AS SHOWN BELOW, EXCEPT WHERE SPECIFIED OTHERWISE:

LOCATION	COVER (mm)
TOP AND BOTTOM OF SLABS	65
TOP, BOTTOM AND SIDES OF BEAMS	65

C8. PARCHEM ZEMDRAIN CONTROLLED PERMEABILITY FORMWORK LINERS SHALL BE FIXED TO THE FACE OF ALL VERTICAL FORMWORK. FIXING SHALL BE IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATION.

C9. CONFIRM WITH ARCHITECT ALL SURFACE FINISHES OF EXPOSED CONCRETE FACES.

C10. PROVIDE DRIP GROOVES IN SOFFIT OF BEAMS AND SLABS AT EXTERNAL PERIMETER OF STRUCTURES. ENSURE COVER TO REINFORCEMENT IS ACHIEVED.

C11. BEAM SIZES ARE DESIGNATED DEPTH (INCLUDING SLAB, IF ANY) x WIDTH. PLACE CONCRETE IN SLABS AT SAME TIME AS BEAMS INTEGRAL WITH THEM. SIZES OF CONCRETE ELEMENTS DO NOT INCLUDE THICKNESS OF APPLIED FINISHES.

C12. MIX DESIGNS AND THE PRODUCTION AND TESTING OF TRIAL MIXES SHALL REQUIRE THE APPROVAL OF THE SUPERINTENDENT PRIOR TO THE USE OF CONCRETE OR GROUT ON SITE.

REINFORCEMENT

R1. SYMBOLS ON DRAWINGS FOR GRADE AND TYPE OF REINFORCEMENT ARE AS FOLLOWS:
- R: DENOTES STRUCTURAL GRADE 250 PLAIN ROUND BAR TO AS/NZS4671
- N: DENOTES HOT ROLLED GRADE 500 DEFORMED (RIBBED) BAR DUCTILITY CLASS N TO AS/NZS4671

R2. PROVIDE ACRS (AUSTRALIAN CERTIFICATION AUTHORITY FOR REINFORCING STEEL LTD) CERTIFICATION OF COMPLIANCE WITH AS/NZS4671 FOR ALL REINFORCEMENT. PROVIDE CERTIFICATION OF COMPLIANCE WITH AS1311 FOR ALL PRESTRESSING TENDONS.

R3. DO NOT USE LOW DUCTILITY REINFORCEMENT (GRADE L) UNO.

R4. REINFORCEMENT TO BE CLEAN, FREE OF LOOSE MILL SCALE, RUST, OIL, GREASE, MUD OR OTHER MATERIAL THAT MIGHT REDUCE BOND BETWEEN REINFORCEMENT AND CONCRETE.

R5. DESIGNATION OF REINFORCEMENT BARS IS AS SHOWN:
eg. 17 N20 - 350 EF
- 17: DENOTES No OF BARS IN GROUP
- N: DENOTES BAR GRADE AND DUCTILITY CLASS
- 20: DENOTES NOMINAL BAR DIAMETER IN mm
- 350: DENOTES SPACING IN mm
- EF DENOTES LOCATION

R6. FOLLOWING ABBREVIATIONS APPLY TO LOCATION OF REINFORCEMENT:

EW: EACH WAY	FF: FAR FACE	BB: BOTTOM BOTTOM (LAID FIRST)
EF: EACH FACE	B: BOTTOM	TT: TOP TOP (LAID LAST)
NF: NEAR FACE	T: TOP	CP: CENTRALLY PLACED

R7. SECURE REINFORCEMENT IN POSITION AGAINST DISPLACEMENT AND MAINTAIN SPECIFIED CLEAR CONCRETE COVER TO REINFORCEMENT (INCLUDING FITMENTS) BY APPROVED CHAIRS, SPACERS, LIGATURES OR TIES AT 800 mm MAXIMUM CENTRES EACH WAY UNO.. PROVIDE ADEQUATE SUPPORT TO PREVENT DISPLACEMENT OF REINFORCEMENT BY WORKMEN OR EQUIPMENT DURING CONCRETE PLACEMENT.

R8. SECURELY TIE REINFORCEMENT WITH WIRE TIES. TURN ENDS OF TIE WIRES INTO CONCRETE, CLEAR OF COVER ZONE. TIE BUNDLED BARS TOGETHER AT 30 BAR DIAMETER CENTRES.

R9. SUPPORT REINFORCEMENT ON PROPRIETARY CONCRETE OR STAINLESS STEEL SUPPORTS ADEQUATE TO WITHSTAND CONSTRUCTION AND TRAFFIC LOADS AND MAINTAIN DURABILITY OF FNISHED CONCRETE STRUCTURE.

R10. ENSURE REINFORCEMENT CAGES ARE ELECTRICALLY CONTINUOUS UNO.

R11. DO NOT PLACE OR MOVE REINFORCEMENT DURING OR AFTER CONCRETE PLACEMENT.

R12. ENSURE EMBEDDED ITEMS (INSERTS, THREADED SOCKETS, FERRULES, BOLTS, DISSIMILAR METAL ITEMS, etc) IN COVER CONCRETE OR EXPOSED TO AIR ARE NOT IN CONTACT WITH REINFORCEMENT. PROVIDE ISOLATION BETWEEN DISSIMILAR METALS, AND BETWEEN REINFORCEMENT AND EXPOSED ITEMS. EXCEPT FOR DESIGNATED CP TEST POINTS.

R13. SPLICE REINFORCEMENT ONLY AT LOCATIONS SHOWN ON DRAWINGS OR AS APPROVED BY SUPERINTENDENT. STAGGER LAPS WHERE POSSIBLE. LAPPED SPLICE LENGTHS TO COMPLY WITH AS3600. CLEAR SPACING BETWEEN LAPPED SPLICE BARS TO BE LESS THAN 3 TIMES BAR DIAMETER.

R14. PERCUSSION ROTARY DRILL HOLES FOR GROUTED BARS AND THREADED RODS (NOTE: CORED HOLES MUST BE ROUGHENED). HOLE DIAMETER AND INSTALLATION TO BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. EMBEDMENT LENGTHS AS PER DRAWINGS.

ALUMINIUM

A1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS1664.1 AND AS1665.

A2. ALUMINIUM EXTRUSIONS SHALL BE MARINE GRADE TYPE 6082 OR 6061, TEMPER T6.

A3. ALL ALUMINIUM MEMBERS SHALL BE SEPARATED FROM CONTACT WITH A DISSIMILIAR MATERIAL (STEEL, STAINLESS STEEL, CONCRETE). THE FACE OF CONTACT WITH THE ALUMINIUM SHALL BE SEPERATED WITH A UHMWPE PAD. THE UHMWPE SHALL BE HEAVY DUTY, MARINE GRADE AND UV STABILISED.

A4. ALL BOLTS, NUTS AND WASHERS THROUGH ALLUMINIUM SHALL BE STAINLESS STEEL 316 A4 CLASS 70 U.N.O IN ACCORDANCE WITH AS4673.

A5. ALL BOLTS THROUGH ALLUMINIUM SHALL BE INSULATED WITH A 1mm THICK UHMWPE SLEEVE ON BOLT SHANK AND 3mm THICK UHMWPE WASHERS UNDER HEAD & NUT. THE UHMWPE SHALL BE HEAVY DUTY, MARINE GRADE AND UV STABILISED.

A6. ALL ALUMINIUM WELDING SHALL BE IN ACCORDANCE WITH AS1665.

ALL WELDING SHALL BE WELD CATEGORY B.

ALL FILLER MATERIAL SHALL BE ALLOY 5556 IN ACCORDANCE WITH AS2717.2

ALL ALUMINIUM WELDS SHALL BE "FSBW" FULL STRENGTH BUTT WELD WHICH IS EQUIVALENT TO A "CPBW" COMPLETE PENETRATION BUTT WELD.

STAINLESS STEEL

SS1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS4673.

SS2. ALL STRUCTURAL STAINLESS STEEL SHALL BE GRADE 316 STAINLESS STEEL IN ACCORDANCE WITH AS4673 (COLD-FORMED STAINLESS STRUCTURES) AND AS1554.6 (WELDING CODE) U.N.O. STAINLESS STEEL TO HAVE HRAP SURFACE FINISH OR STAINLESS STEEL TO BE POLISHED TO A SURFACE ROUGHNESS (Ra) OF LESS THAN 0.5 MICRONS. WELDS TO BE POLISHED TO MATCH ADJACENT STAINLESS STEEL ROUGHNESS AND APPEARANCE.

SS3. FABRICATE STAINLESS STEEL IN WORKSHOP AREAS SEGREGATED FROM CARBON STEEL FABRICATION AREAS. USE TOOLS DEDICATED TO STAINLESS STEEL FABRICATION. WIRE BRUSHES AND WIRE WOOL USED IN FABRICATION OF STAINLESS STEEL TO BE STAINLESS STEEL OR CLEAN INERT MATERIALS.

SS4. ALL WELDS SHALL BE 6mm CATEGORY 1A GRADE 2 SURFACE FINISH CONTINUOUS FILLET WELDS TO AS/NZS 1554.6. SURFACE FINISH TO BE CLEANED BY BUFFNG OR POLISHING OF WELD AND ADJACENT AREAS. UNLESS NOTED OTHERWISE. ALL WELDS TO HAVE STAINLESS STEEL ELECTRODES TO SUIT 316 STAINLESS STEEL.

SS5. ALL STAINLESS STEEL MEMEBERS SHALL BE SEPARATED FROM CONTACT WITH A DISSIMILIAR MATERIAL (STEEL, ALUMINIUM). THE FACE OF CONTACT WITH THE ALUMINIUM SHALL BE SEPERATED WITH A UHMWPE PAD. THE UHMWPE SHALL BE HEAVY DUTY, MARINE GRADE AND UV STABLISED.

SS6. ALL BOLTS, NUTS AND WASHERS SHALL BE STAINLESS STEEL 316 A4 CLASS 70 U.N.O IN ACCORDANCE WITH AS4673.

SS7. NUTS AND BOLTS SHALL COMPLY WITH ISO 3506 IDENTIFICATIONS OR, IF NOT SO MARKED, SHALL BE PROVIDED WITH MILL OR NATA CERTIFIED TEST RESULTS CONFIRMING GRADE STRENGTH.

SS8. BOLTS SHALL HAVE ROLLED THREADS. THE NUTS AND WASHERS SHALL BE ELECTROPOLISHED OR PASSIVATED IN NITRIC ACID.

SS9. ALL BOLTS THROUGH DISSIMILIAR METALS (STEEL, ALUMINIUM) SHALL BE INSULATED WITH A 1mm THICK UHMWPE SLEEVE ON BOLT SHANK AND 3mm THICK UHMWPE WASHERS UNDER HEAD & NUT. THE UHMWPE SHALL BE HEAVY DUTY, MARINE GRADE AND UV STABILISED.

SS10. WELDS JOINING STAINLESS STEEL TO CARBON STEEL SHALL USE HIGH ALLOY ELECTRODES TO AVOID WELD POOL DILUTION.

SS11. THREADS OF SS BOLTS SHALL BE COATED WITH NICKEL BASED GREASE ANTI-SIEZE LUBRICANT BEFORE ASSEMBLY.

STEEL PILES

SP1. ALL STEEL TUBE PILES ARE TO BE PROVIDED BY THE CONTRACTOR.

SP2. BOND BARS SHALL BE WELDED TO THE INSIDE OF PILES USING GRADE E48 ELECTRODES.

SP3. ALL REINFORCING BOND BARS SHALL BE GRADE D500N IN ACCORDANCE WITH AS/NZS4671.

SP4. ALL BOND BARS SHALL BE COLD BENT ON A ø400 MANDREL IN ACCORDANCE WITH AS3600. THE USE OF HEAT TO BEND ANY GRADE D500N BARS WILL NOT BE PERMITTED WITHOUT PRIOR APPROVAL OF THE SUPERINTENDENT.

SP5. FOR PILE HEAD TREATMENT/PROTECTION REFER TO THE SPECIFICATION.

SP6. ALL PILES SHALL HAVE PROTECTIVE COATINGS APPLIED IN ACCORDANCE WITH THE SPECIFICATION.

SP7. ALL PILES SHALL BE DRIVEN TO ±100 mm OF THE NOMINATED HORIZONTAL POSITION.

SP8. ROTATE HORIZONTAL LEG OF PILE BOND BARS IF REQURED TO AVOID CLASHES. MAINTAIN SPACING OF BOND BARS AS DETAILED ON DRAWINGS.

SP9. CATHODIC PROTECTIONION TO BE PROVIDED TO ALL PILES.

PLANS AND DOCUMENTS referred to in the ULDA APPROVAL dated 29/10/10

No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Checked	Approved	Date
1	APPROVED ISSUE		BJG	JK*	GR*	22.07.10
0	APPROVED ISSUE		TZH	JK*	GR*	06.07.10

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Drawn	T. HAGENSON	Designed	A. PIETROBON
Drafting Check	M. MOHR*	Design Check	B. GILES*
Approved	G. RANGER*		R. WALLIS*
Date	06.07.10		RPEQ No. 949
Scale		This Drawing must not be used for Construction unless signed as Approved	

Client **BRISBANE CITY COUNCIL**
Project **BRETTS WHARF CityCat TERMINAL**
Title **MARINE NOTES**

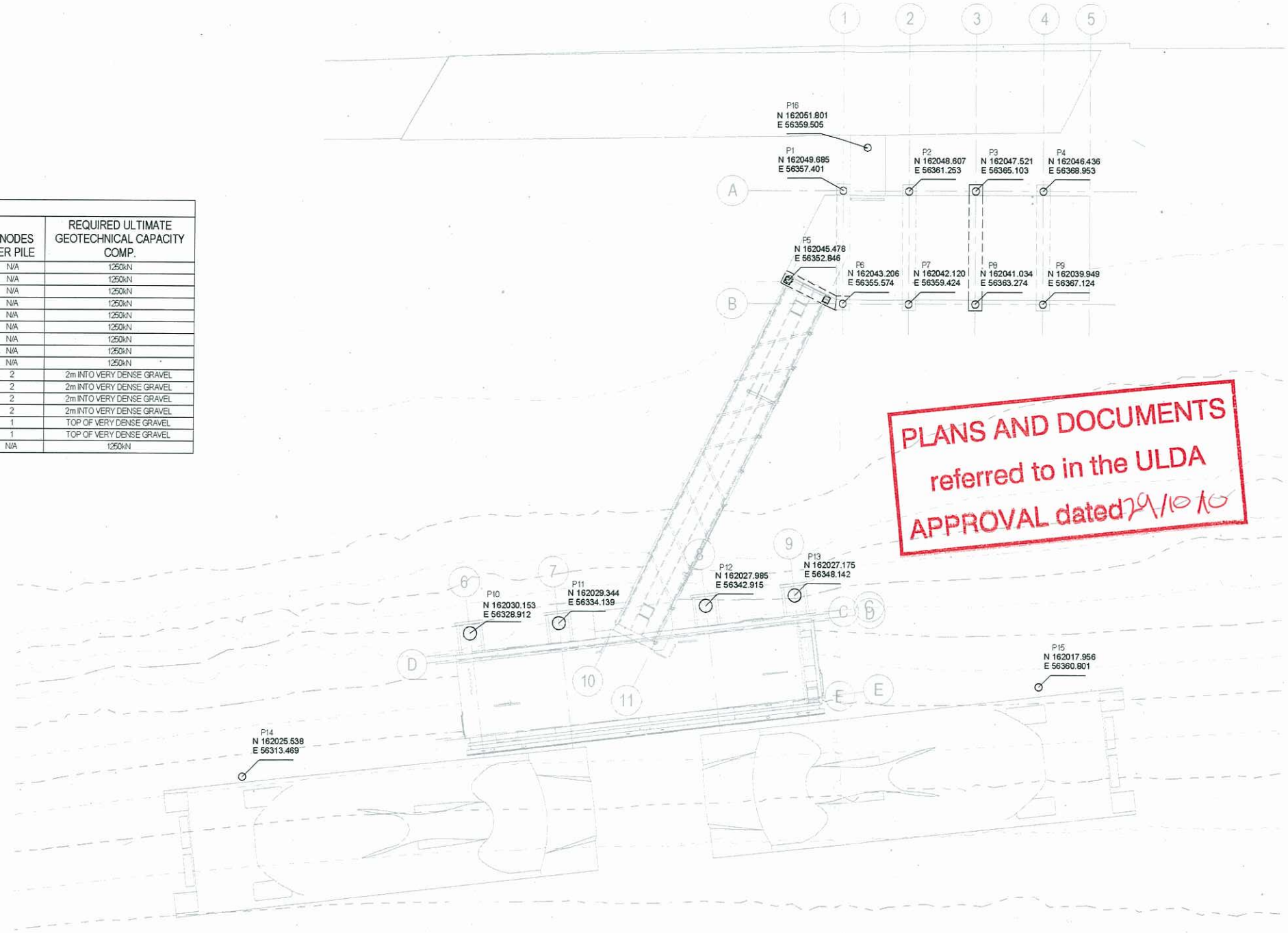
Original Size A1 **Drawing No: 41-22279-03-M001** **Rev: 1**

NOTES

1. FOR MARINE NOTES REFER DRG. 41-22279-03-M001
2. ALL LEVELS ARE TO AUSTRALIAN HEIGHT DATUM (AHD). ALL COORDINATES ARE TO BCSG.
3. ALL PILES SHALL BE GRADE 350 STEEL AND PAINTED TO 1m BELOW BED LEVEL IN ACCORDANCE WITH SPECIFICATION
4. ALL PILE ORIENTATIONS SHALL BE BASED ON CLOCKWISE ROTATION FROM THE NORTH POINT
5. ALL PILES SHALL BE VERTICAL
6. REQUIRED ULTIMATE GEOTECHNICAL CAPACITIES HAVE BEEN CALCULATED USING $\phi g = 0.4$
7. PILE P16 SHALL BE CUT-OFF TO MATCH WALKWAY SLOPE

PILE SCHEDULE

PILE No.	PILE TYPE	PILE DIAMETER (mm)	WALL THICKNESS (mm)	CUT-OFF LEVEL (m)	EST. TOE LEVEL (m)	EST. BED LEVEL (m)	FENDER ORIENTATION (REFER NOTE 4)	SLIDE MOORING ORIENTATION (REFER NOTE 4)	ANODES PER PILE	REQUIRED ULTIMATE GEOTECHNICAL CAPACITY COMP.
P1	TYPE A	457	12.7	1.350	-13.500	-0.3	N/A	N/A	N/A	1250kN
P2	TYPE A	457	12.7	1.350	-13.500	-0.3	N/A	N/A	N/A	1250kN
P3	TYPE A	457	12.7	1.350	-13.500	-0.2	N/A	N/A	N/A	1250kN
P4	TYPE A	457	12.7	1.350	-13.500	-0.1	N/A	N/A	N/A	1250kN
P5	TYPE A	457	12.7	1.145	-13.500	-0.3	N/A	N/A	N/A	1250kN
P6	TYPE A	457	12.7	1.145	-13.500	-0.5	N/A	N/A	N/A	1250kN
P7	TYPE A	457	12.7	1.350	-13.500	-0.6	N/A	N/A	N/A	1250kN
P8	TYPE A	457	12.7	1.350	-13.500	-0.7	N/A	N/A	N/A	1250kN
P9	TYPE A	457	12.7	1.350	-13.500	-0.9	N/A	N/A	N/A	1250kN
P10	TYPE B	600	16.0	4.000	-15.000	-3	N/A	N/A	2	2m INTO VERY DENSE GRAVEL
P11	TYPE B	600	16.0	4.000	-15.000	-3	N/A	N/A	2	2m INTO VERY DENSE GRAVEL
P12	TYPE B	600	16.0	4.000	-15.000	-2.6	N/A	N/A	2	2m INTO VERY DENSE GRAVEL
P13	TYPE B	600	16.0	4.000	-15.000	-2.5	N/A	N/A	2	2m INTO VERY DENSE GRAVEL
P14	TYPE C	457	12.7	4.000	-13.000	-5	180	N/A	1	TOP OF VERY DENSE GRAVEL
P15	TYPE C	457	12.7	4.000	-13.000	-4.6	180	N/A	1	TOP OF VERY DENSE GRAVEL
P16	TYPE A	457	12.7	1.995	-13.500	1.8	N/A	N/A	N/A	1250kN



PLANS AND DOCUMENTS referred to in the ULDA APPROVAL dated 29/10/10

PILE SETOUT PLAN
SCALE 1 : 150

No	Revision	Drawn	Checked	Approved	Date
0	APPROVED ISSUE	TZH	JK*	GR*	06.07.10

Note: * indicates signatures on original issue of drawing or last revision of drawing

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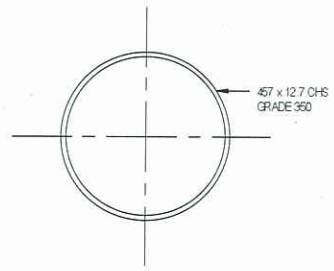
Drawn	T. HAGENSON	Designed	A. PIETROBON
Drafting Check	M. MOHR*	Design Check	B. GILES*
Approved	G. RANGER*		R. WALLIS*
Date	06.07.10		RPEQ No. 949
Scale	1 : 150		This Drawing must not be used for Construction unless signed as Approved

Client: BRISBANE CITY COUNCIL
Project: BRETTS WHARF CityCat TERMINAL
Title: PILE SETOUT PLAN & SCHEDULE

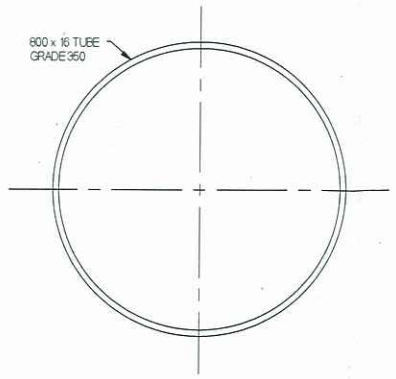
Original Size: A1 Drawing No: 41-22279-03-M100 Rev: 0

Plot Date: 6/07/2010 3:19:43 PM Cad File No: C:\Documents and Settings\blahdensuo\My Documents\41-22279-Bretts\Wharf-Site Model-Central_BLAHDENSUO.rvt



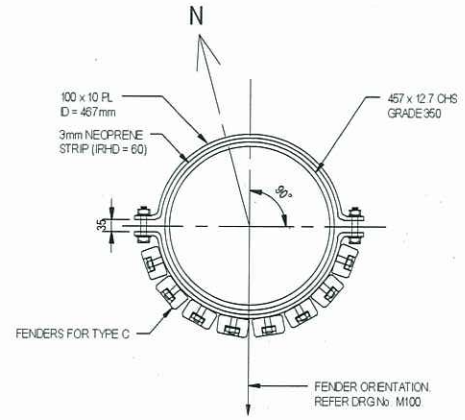
TYPICAL PILE DETAIL TYPE A

SCALE 1:10



TYPICAL PILE DETAIL TYPE B

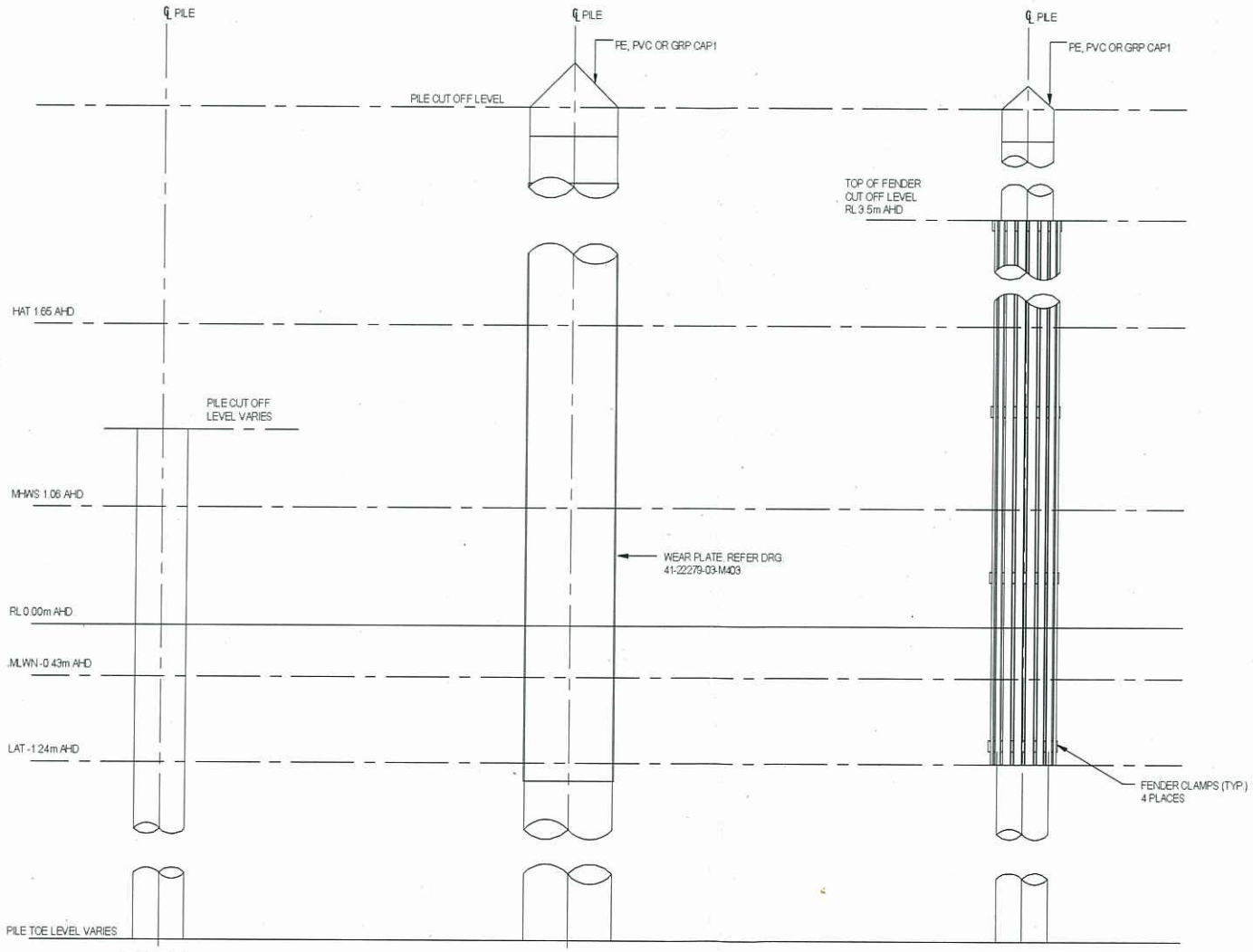
SCALE 1:10



TYPICAL PILE DETAIL TYPE C

SCALE 1:10

NOTES:
1. REFER TO SCHEDULE FOR FENDERS' ORIENTATION.



PLANS AND DOCUMENTS
referred to in the ULDA
APPROVAL dated 29/10/10

NOTES

1. FOR MARINE NOTES REFER DRG. 41-22279-03-M001
2. ALL PILES SHALL BE PAINTED AS PER THE SPECIFICATION DOWN TO 1m BELOW BED LEVEL.
3. ALL PILES SHALL HAVE ZINC ANODES UNO. REFER TO PILE SCHEDULE, DRG. 41-22279-03-M103 & SPECIFICATION.
4. ALL BOLTS SHALL BE S.S.316 CLASS A470 IN ACCORDANCE WITH AS 4673.
5. PILES P1-P9 & P16 SHALL BE MADE ELECTRICALLY CONTINUOUS BY WELDING REINFORCEMENT AS SHOWN ON DRG. 41-22279-03-M103.

No	Revision	Drawn	Checked	Approved	Date
0	APPROVED ISSUE	TZH	JK*	GR*	06.07.10

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0 100 200 300 400 500 mm
SCALE 1:10 AT ORIGINAL SIZE

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Drawn	T. HAGENSON	Designed	A. PIETROBON
Drafting Check	M. MOHR*	Design Check	B. GILES*
Approved	G. RANGER*		R. WALLIS*
Date	06.07.10		RPEQ No. 949
Scale	As indicated		

This Drawing must not be used for Construction unless signed as Approved

Client BRISBANE CITY COUNCIL
Project BRETTS WHARF CityCat TERMINAL
Title PILE ELEVATIONS

Original Size A1 Drawing No: 41-22279-03-M101 Rev: 0

Plot Date: 7/07/2010 5:52:46 PM Cad File No: C:\Documents and Settings\tzhagenson\My Documents\41-22279-Bretts Wharf-Site Model-Central_tzhagenson.rvt