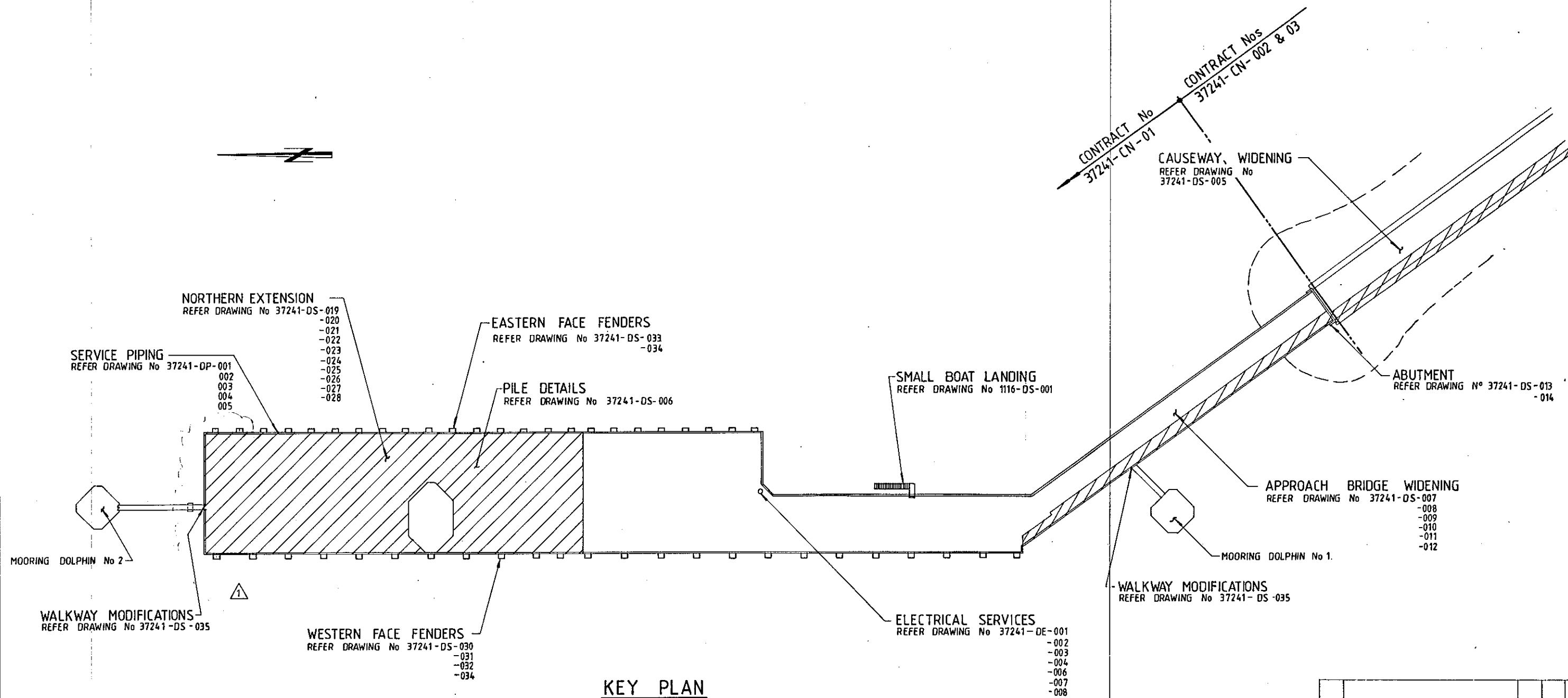


Tender T14/25 - Section D - DCW As-Constructed Drawings

ORIGINAL DCW JETTY AND DCW JETTY EXTENSION LAYOUT PLAN



KEY PLAN

DENOTES EXTENSIONS TO EXISTING WHARF

REV.	DESCRIPTION	DATE	BY	CHK.
2	AS BUILT	5-595	GM	R
1	NORTHERN EXTENSION EXTENDED	14-94	OK	R
0	ISSUED FOR CONSTRUCTION	13-12-93	OK	R
A	ISSUED FOR TENDER	30-7	OK	R

FRASER CONSULTANTS
 Suite 7, Savings House,
 11 Hedland Place
 PO Box 733, Karatha WA 6714
 Tel: (091) 44 1679 Fax: (091) 41 2531

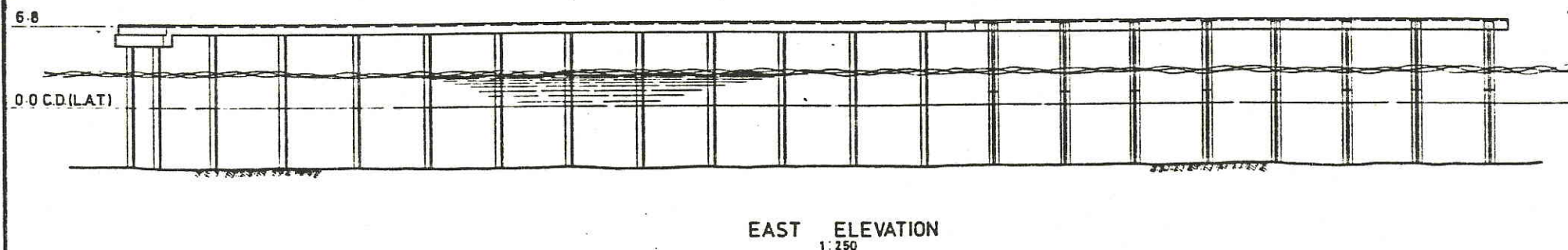
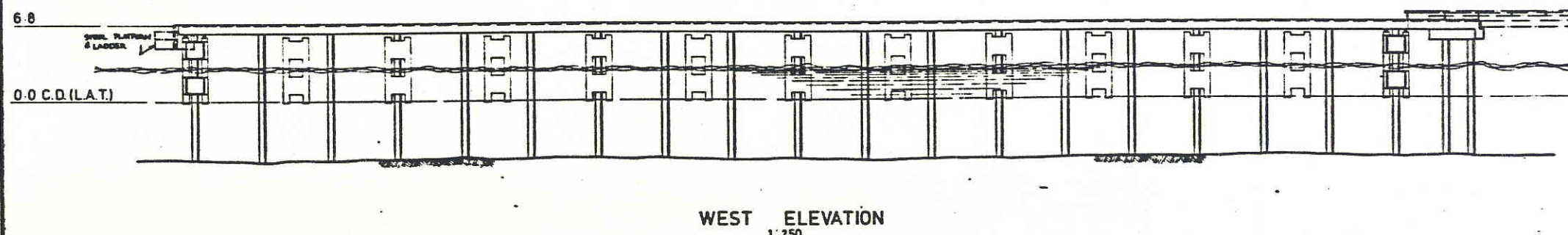
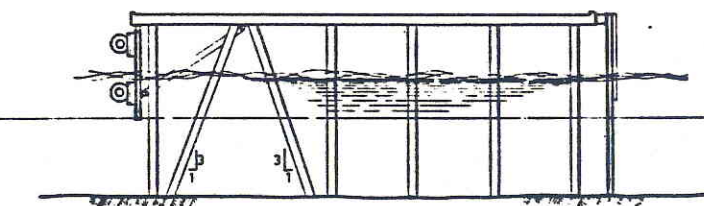
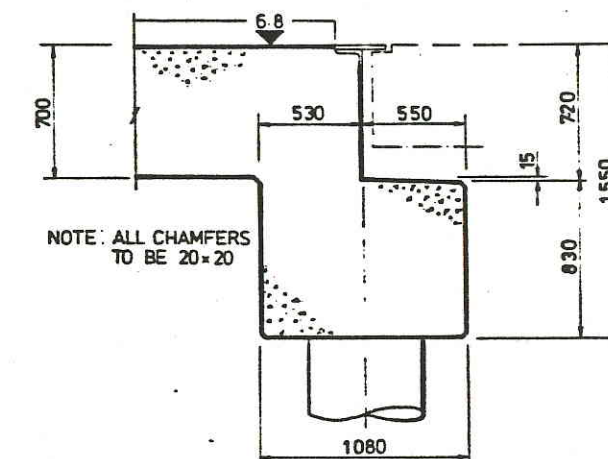
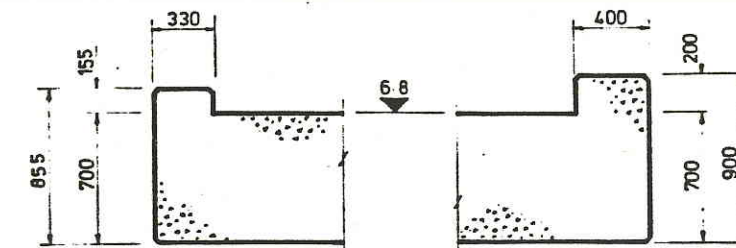
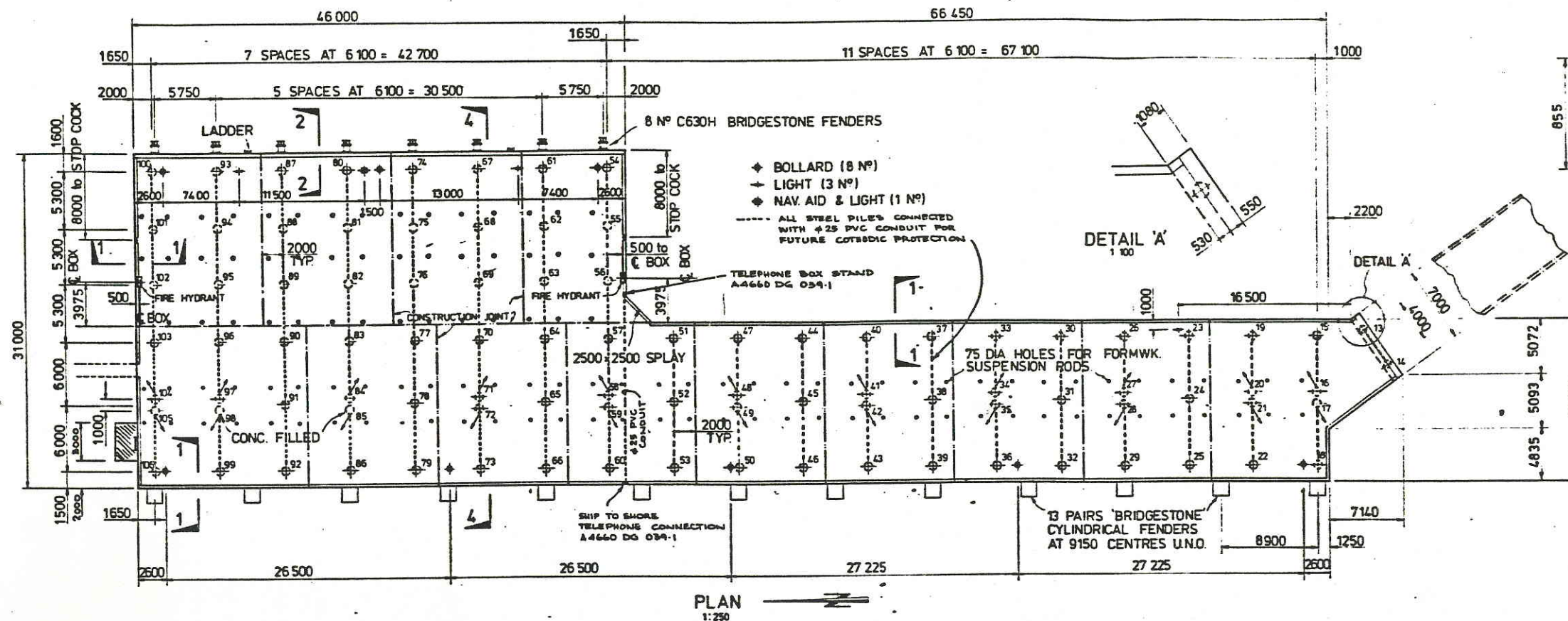
DRAWN: G. MANSFIELD
 DATE: JULY '93
 SCALE: 1:500
 DESIGNED: CHECKED: CERTIFIED: *[Signature]*

PROJECT: DAMPIER PORT AUTHORITY
 EXTENSIONS TO DAMPIER PUBLIC WHARF

DRAWING TITLE:
KEY PLAN

DRAWING No 37241-DS-002
 REV: 2

ORIGINAL DCW JETTY
GENERAL ARRANGEMENT AND
CAST INSITU REINFORCED CONCRETE
PLANS



- NOTES
1. CONCRETE STRENGTH - $F_c = 40 \text{ MPa}$
 2. PILE INFILL CONCRETE BELOW REINF. CAGE - $F_c = 15 \text{ MPa}$ WHERE REQUIRED
 3. DOUBLE PILE SETS TO BE RAKED AS SHOWN IN SECTION 4-4 AND ARE TO BE SKEWED IN PLAN BY $10^\circ - 15^\circ$ TO AVOID ADJACENT PILES. PAIRS OF PILES TO BE IN ONE PLANE. ALL SINGLE PILES TO BE VERTICAL
 4. ALL PILES ARE 610 OD x 16 THK
 5. 75 DIA HOLES FOR FORMWORK SUSPENSION RODS TO REMAIN UNFILLED AS DRAINAGE HOLES
 6. PILE REQUIRED CAPACITY
2000kN BASIC COMPRESSION
3000kN BASIC TENSION (RAKED PILES)
 7. PILE STEEL GRADE - 250 MPa
 8. THE OPTION TO CONCRETE FILL PILES MAY ONLY BE EXERCISED IF THEY DO NOT SATISFY AGREED DRIVING CRITERIA
 9. PILE PROTECTIVE SYSTEM - COAL TAR EPOXY PAINT AS PER SPECIFICATION DOWN TO RL -3.0 (C.D.)

JOHN HOLLAND CONSTRUCTION GROUP
2 HARDY STREET, SOUTH PERTH, W.A. TELEPHONE 267 4222

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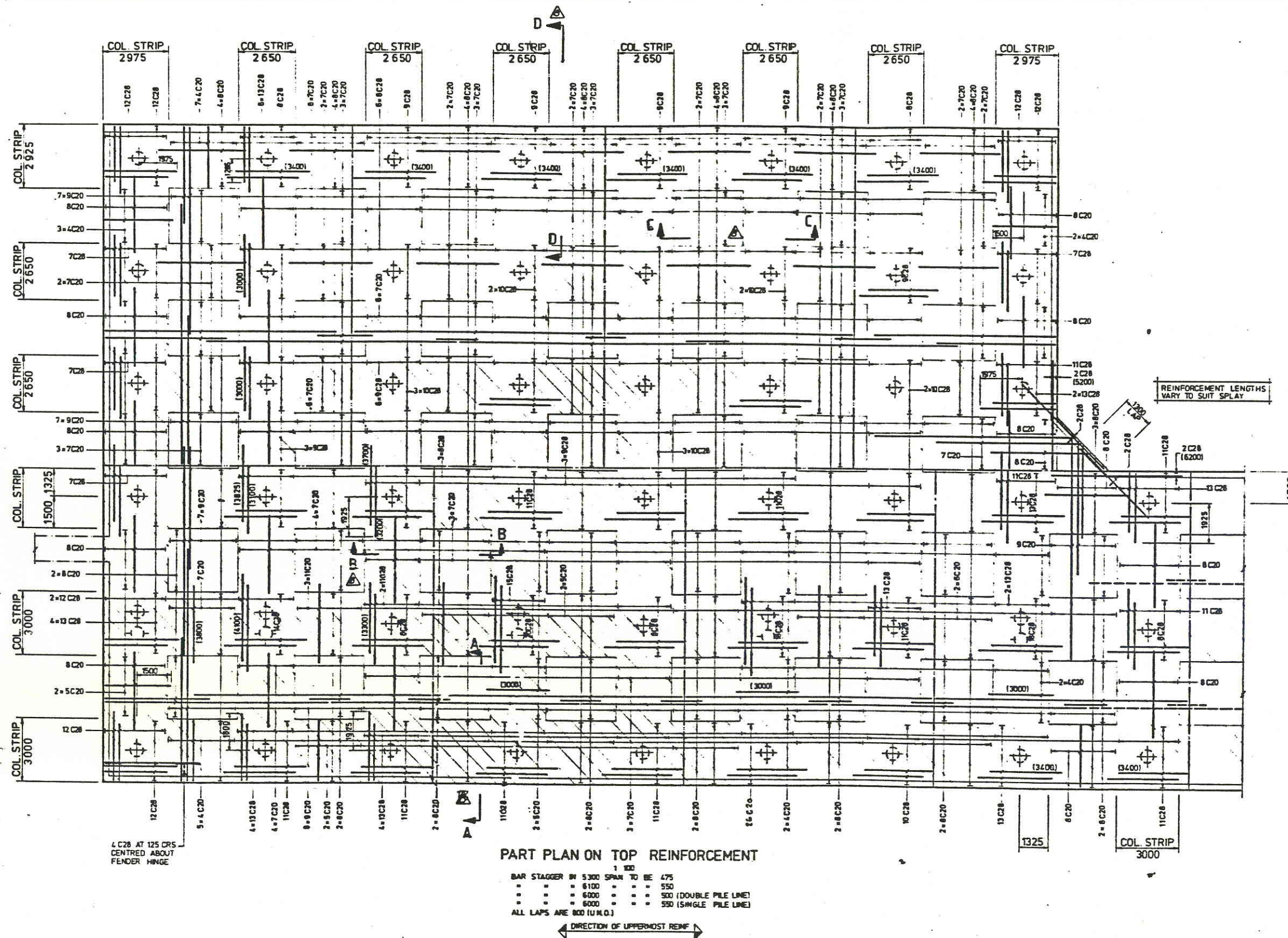
BHP
CENTRAL ENGINEERING DIVISION
City Centre Tower, 12th Floor
44 St George's Terrace
PERTH, W.A. 6000

NO.	DATE	BY	CHD	TITLE
07400 DS 038-1				WHARF MISCELLANEOUS DETAILS
0433				FENDER DETAILS (SHEET 3)
0432				" " (SHEET 2)
0431				" " (SHEET 1)
0430				WHARF REINF. (SHEET 4)
0429				" " (SHEET 3)
0428				" " (SHEET 2)
0427				" " (SHEET 1)
0371				GENERAL LAYOUT

NO.	DATE	BY	CHD	TITLE
2	MAY 83	MM		DRWG. WAS A4660 DG 038-1
1	MAR 83	G.B.		AS BUILT - CONTRACT 1023 G
0	6-8-82	G.B.		APPROVED FOR CONSTRUCTION
B		JW		NOTE 8 MODIFIED
A		BW		INITIAL ISSUE

DRAWN	BW
DATE	16.9.81
CHECKED	
APPROVED	
APPROVED	
APPROVED	
APPROVED	

Woodside Offshore Petroleum Pty Ltd	
NORTH WEST SHELF DEVELOPMENT PROJECT	
MATERIALS OFFLOADING FACILITY	
WHARF - GENERAL ARRANGEMENT	
SCALE	AS SHOWN
DRAWING NO.	G7400 DS 038-1
REVISION	2



- NOTES
1. BARS AT ANY SECTION WITHIN COLUMN AND MIDDLE STRIPS TO BE EQUALLY SPACED WITH LAPPING OR CONTINUOUS BARS EVENLY DISTRIBUTED WITHIN THE STRIP
 2. COVER TO REINFORCEMENT - 65 mm (DECK) 40 mm (PILES)
 3. 12C28 DENOTES 12 BARS OF OLD WORKED TWISTED DEFORMED 28 DIA BARS
 4. FOR ALL SECTIONS REFER DRG No G7400 DS 040-4

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CENTRAL ENGINEERING DIVISION
City Centre Tower, 10th Floor
44 St George's Terrace
PERTH W.A. 6000

DATE	BY	CHKD	TITLE
1 MAY 83	MM		WHARF REINF (SHEET 3)
1 MAR 83	G.B.		(SHEET 2)
6 5 82	G.B.		(SHEET 1)
11 11 81	JW		WHARF - GENERAL ARRANGEMENT
11 11 81	JW		WHARF - GENERAL ARRANGEMENT

DATE	BY	CHKD	DESCRIPTION
1 MAY 83	MM		DRWG WAS A4660 DG 040-1
1 MAR 83	G.B.		AS BUILT - CONTRACT 1023 G
6 5 82	G.B.		APPROVED FOR CONSTRUCTION
11 11 81	JW		SECTIONS ADDED
11 11 81	JW		INITIAL ISSUE

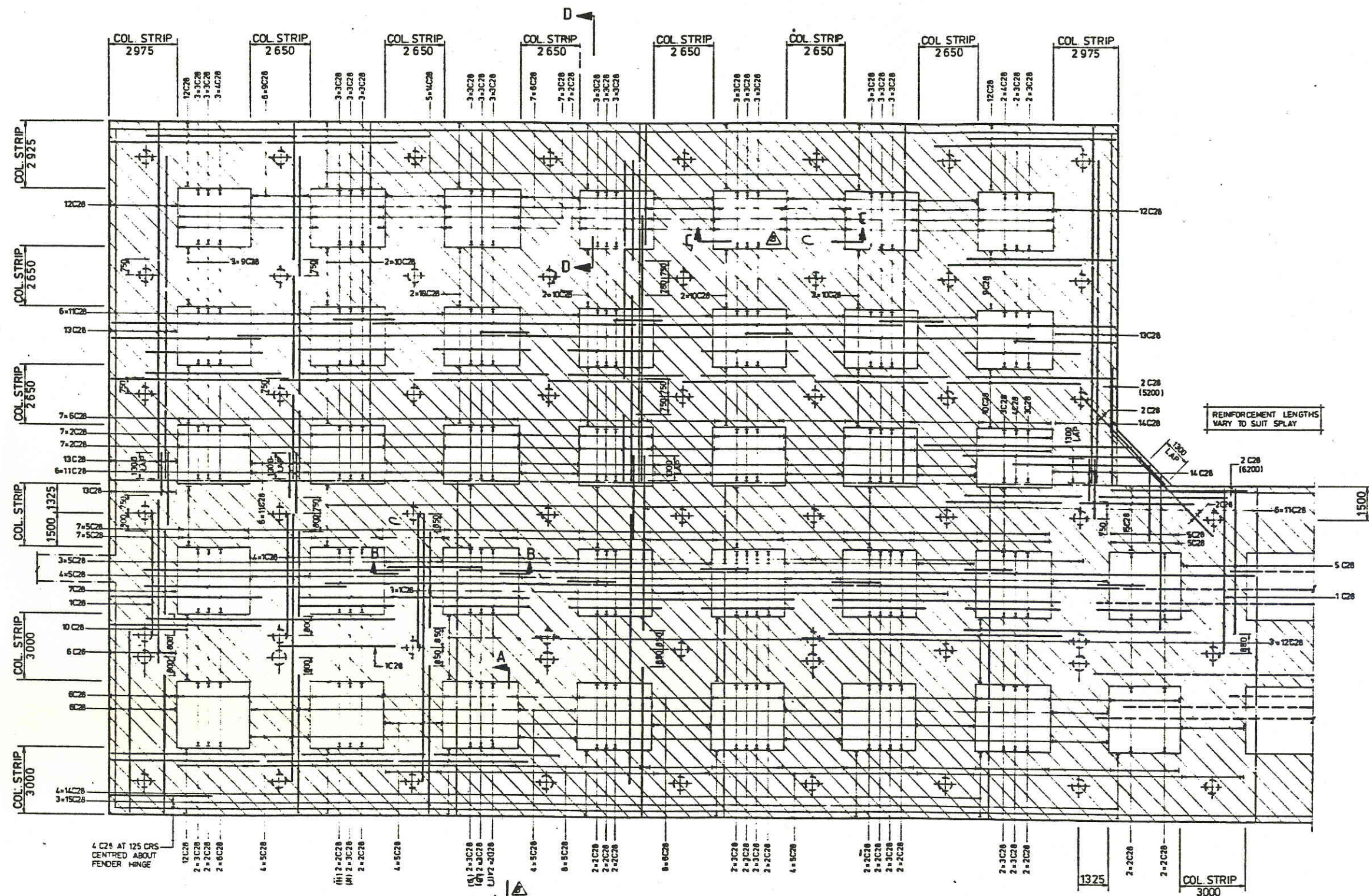
DATE	BY	CHKD	DESCRIPTION
1 MAY 83	MM		DRWG WAS A4660 DG 040-1
1 MAR 83	G.B.		AS BUILT - CONTRACT 1023 G
6 5 82	G.B.		APPROVED FOR CONSTRUCTION
11 11 81	JW		SECTIONS ADDED
11 11 81	JW		INITIAL ISSUE

Woodside Offshore Petroleum Pty Ltd

NORTH WEST SHELF DEVELOPMENT PROJECT
MATERIALS OFFLOADING FACILITY

WHARF REINFORCEMENT (SHEET 1)

SCALE 1:100 DRAWING NO G7400 DS 040-1 REVISION 2



PART PLAN ON BOTTOM REINFORCEMENT

1:100
REINF TERMINATION POINTS ARE EITHER ON PILE @ OR 900 FROM PILE @ UNO.
50% OF EDGE COL STRIP REINF TO EXTEND 650 BEYOND PILE @
ALL LAPS TO BE 1000 UNO

DIRECTION OF LOWERMOST REINF

NOTE FOR GENERAL NOTES SEE DRG NO G7400 DS 040.1
FOR ALL SECTIONS REFER DRG NO G7400 DS 040.4

AS BUILT

JOHN HOLLAND CONSTRUCTION GROUP
2 HARDY STREET SOUTH PERTH W.A. TELEPHONE 267 4722

MAUNSELL
& PARTNERS PTY. LTD.
CONSULTING ENGINEERS

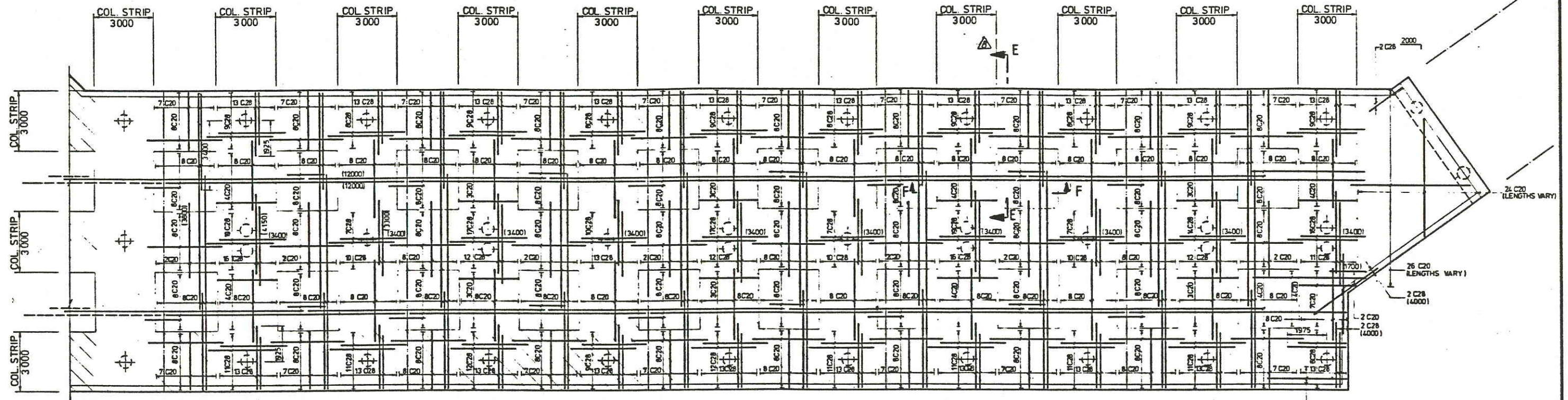
BHP
CENTRAL ENGINEERING DIVISION
City Centre Tower, 12th Floor
44 St George's Terrace
PERTH W.A. 6000

DRAWING NO.	TITLE	REFERENCE DRAWINGS
G7400 DS 040.1	WHARF REINF (SHEET 1)	
G-03	(SHEET 3)	
G-01	(SHEET 1)	
G081	WHARF - GENERAL ARRANGEMENT	

NO.	DATE	BY	CHKD	DESCRIPTION	ENGR	ENGR	ENGR
2	MAY 85	JLM		DRAWG WAS A4660 DS 040.2			
1	MAR 83	G.B.		AS BUILT - CONTRACT 1023 G			
0	6.9.82	G.B.		APPROVED FOR CONSTRUCTION			
		JW		SECTIONS AGED			
B		FW		REINF. AMENDED			
A		BW		INITIAL ISSUE			

DRAWN	BW
DATE	16.9.81
CHECKED	
APPROVED	
APPROVED	
APPROVED	
APPROVED	

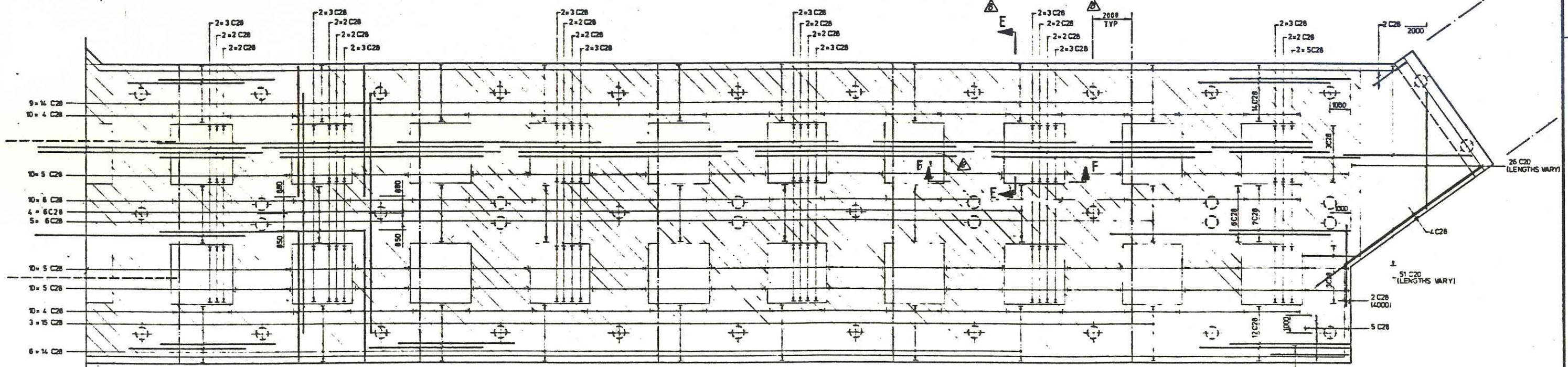
Woodside Offshore Petroleum Pty Ltd
NORTH WEST SHELF DEVELOPMENT PROJECT
MATERIALS OFFLOADING FACILITY
WHARF REINFORCEMENT (SHEET 2)
SCALE AS SHOWN
DRAWING NO. G7400 DS 040.2
REVISION 2



PART PLAN ON TOP REINFORCEMENT

1:100
ALL LAPS TO BE 800
ALL STAGGERS TO BE 550

DIRECTION OF UPPERMOST REINF



PART PLAN ON BOTTOM REINFORCEMENT

1:100
REINF TERMINATION POINTS ARE EITHER ON PILE E OR 900 FROM PILE E U.N.O.
50% OF EDGE COL STRIP REINF TO EXTEND 650 BEYOND PILE E

DIRECTION OF LOWERMOST REINF

NOTE FOR GENERAL NOTES SEE DRG N° G7400 DS 040-1
FOR SECTIONS REFER DRG N° G7400 DS 040-4

AS BUILT

JOHN HOLLAND CONSTRUCTION GROUP
3 HARDY STREET SOUTH PERTH, W.A. TELEPHONE 387 4222

MAUNSELL
& PARTNERS PTY. LTD.
CONSULTING ENGINEERS

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CENTRAL ENGINEERING DIVISION
City Centre Tower, 13th Floor
44 St George's Terrace
PERTH, W.A. 6000

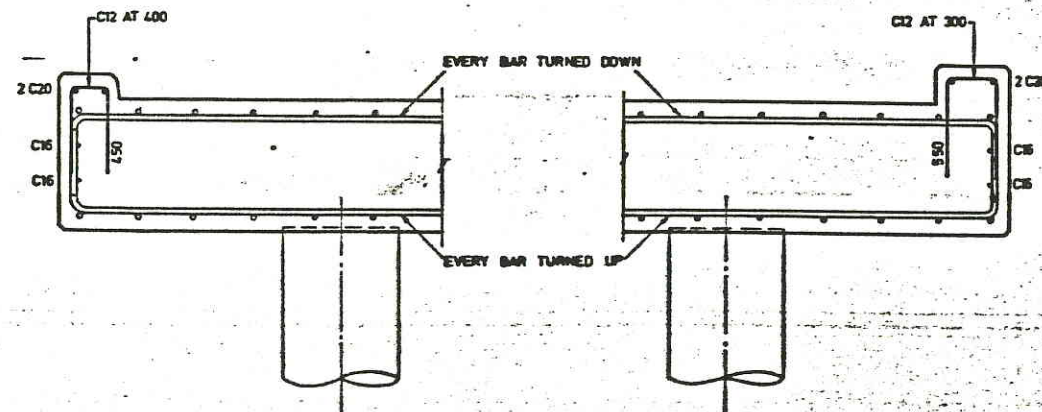
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G7400 DS 040-2	WHARF REINF (SHEET 2)	
G7400 DS 040-3	WHARF REINF (SHEET 3)	
G7400 DS 040-4	WHARF REINF (SHEET 4)	
G7400 DS 040-5	WHARF REINF (SHEET 5)	
G7400 DS 040-6	WHARF REINF (SHEET 6)	
G7400 DS 040-7	WHARF REINF (SHEET 7)	
G7400 DS 040-8	WHARF REINF (SHEET 8)	
G7400 DS 040-9	WHARF REINF (SHEET 9)	
G7400 DS 040-10	WHARF REINF (SHEET 10)	
G7400 DS 040-11	WHARF REINF (SHEET 11)	
G7400 DS 040-12	WHARF REINF (SHEET 12)	
G7400 DS 040-13	WHARF REINF (SHEET 13)	
G7400 DS 040-14	WHARF REINF (SHEET 14)	
G7400 DS 040-15	WHARF REINF (SHEET 15)	
G7400 DS 040-16	WHARF REINF (SHEET 16)	
G7400 DS 040-17	WHARF REINF (SHEET 17)	
G7400 DS 040-18	WHARF REINF (SHEET 18)	
G7400 DS 040-19	WHARF REINF (SHEET 19)	
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G7400 DS 040-37	WHARF REINF (SHEET 37)	
G7400 DS 040-38	WHARF REINF (SHEET 38)	
G7400 DS 040-39	WHARF REINF (SHEET 39)	
G7400 DS 040-40	WHARF REINF (SHEET 40)	
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G7400 DS 040-99	WHARF REINF (SHEET 99)	
G7400 DS 040-100	WHARF REINF (SHEET 100)	

NO	DATE	BY	CHKD	DESCRIPTION	ENGR	ENGR	ENGR
2	MAY 83	N.M.		DRWG WAS A4660 DG 040-3			
1	MAR 83	G.B.		AS BUILT - CONTRACT 1023 G			
D	6-5-82			APPROVED FOR CONSTRUCTION			
C	29-4-82	J.W.		SECTIONS ADDED DIM ADDED			
B	6-3-82	P.W.		REV AMENDED			
A		B.W.		INITIAL ISSUE			

DRAWN	B.W.
DATE	19.10.81
CHECKED	
APPROVED	
APPROVED	
APPROVED	
APPROVED	
APPROVED	

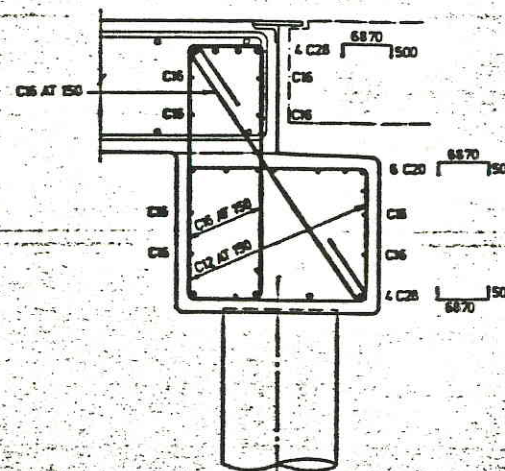
Woodside Offshore Petroleum Pty Ltd
NORTH WEST SHELF DEVELOPMENT PROJECT
MATERIALS OFFLOADING FACILITY
WHARF REINFORCEMENT (SHEET 3)
SCALE 1:100
DRAWING NO G7400 DS 040-3
REVISION 2

NOTE: LONGITUDINAL EDGE REINFORCEMENT
TO BE CONTINUOUS WITH 40 DIA. LAP

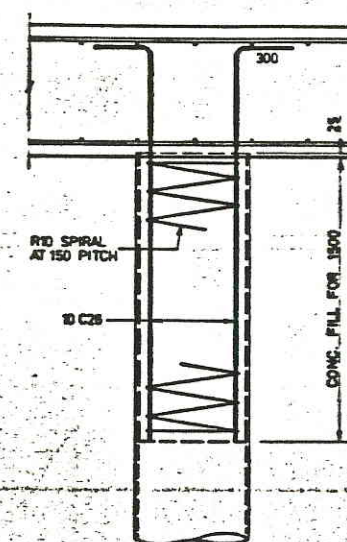


TYPICAL EDGE DETAIL

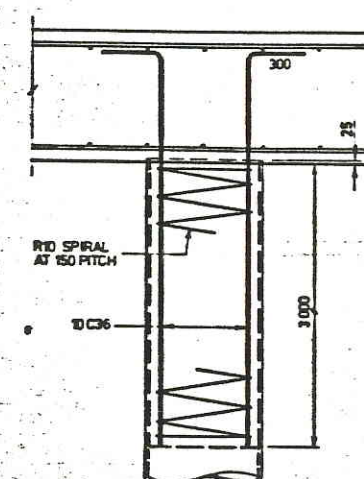
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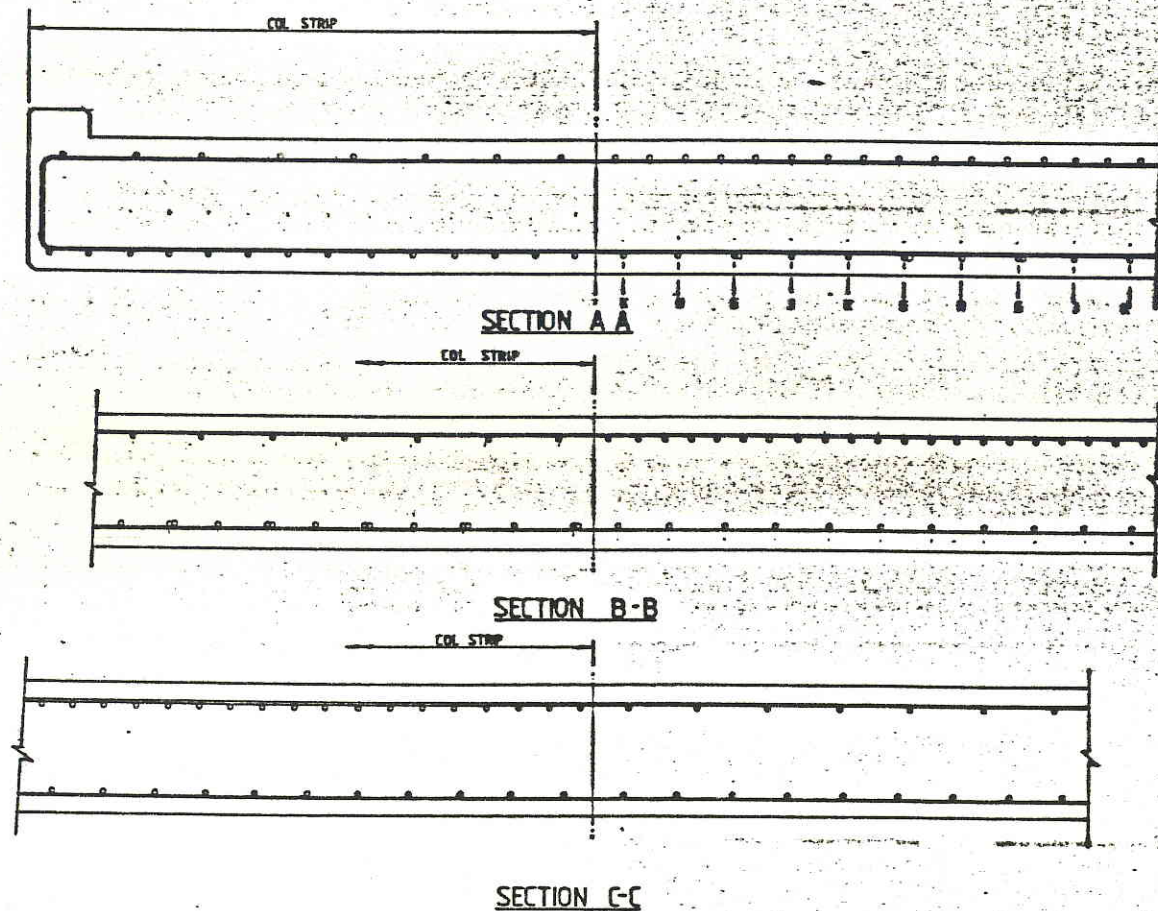
WHARF/APP. BRIDGE
EDGE DETAIL



TYP. PILE TERMINATION DETAIL



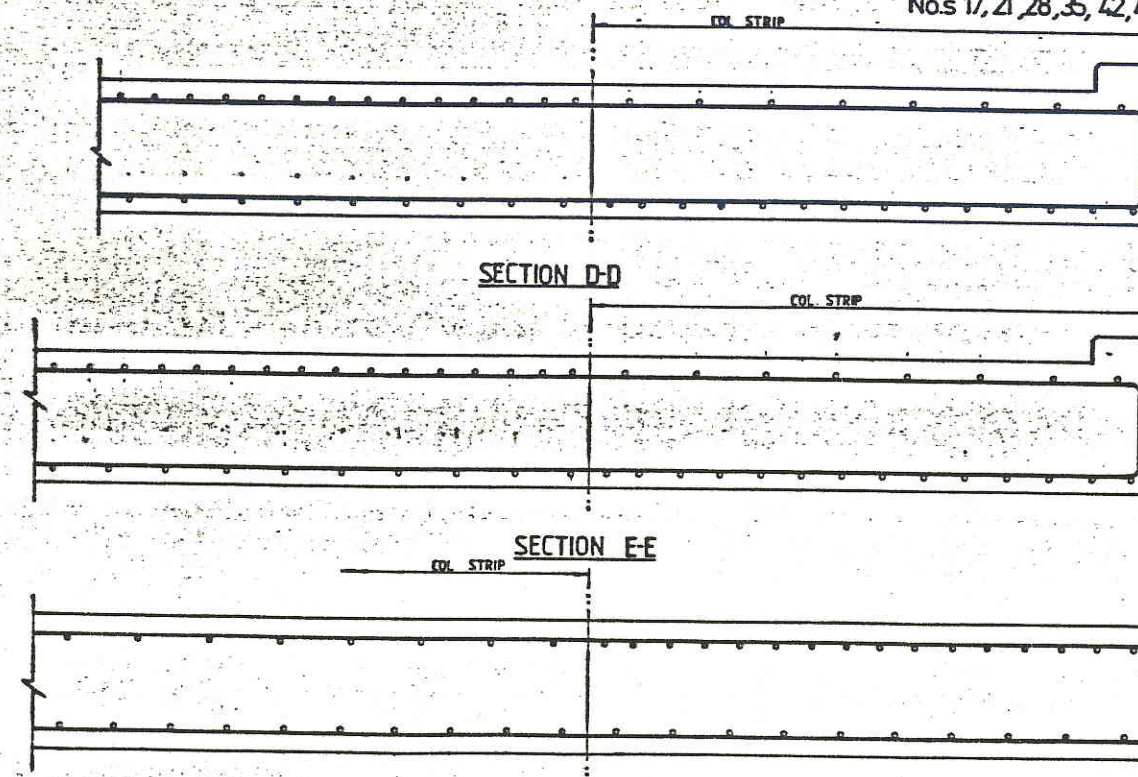
TERMINATION DETAILS FOR PILES
Nos 17, 21, 28, 35, 42, 49, 59, 72, 85, 98, 105.



SECTION A-A

SECTION B-B

SECTION C-C



SECTION D-D

SECTION E-E

SECTION F-F

G-7400 DS

NOTE FOR GENERAL NOTES REFER DRG No G7400 DS 040.4

JOHN HOLLAND CONSTRUCTION GROUP
2 HARDY STREET, SOUTH PERTH W.A.
TELEPHONE 387 4222

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BHP
CENTRAL ENGINEERING DIVISION
City Centre Tower 15th Floor
44 St George's Terrace
PERTH, W.A. 6000

NO	DATE	BY	CHKD	DESCRIPTION	ENGR	ENGR	ENGR
1	MAY 83	MM		DRWG. WAS A4660 DG 040.4			
2	MAY 83	MM		AS BUILT - CONTRACT 1023 G			
3	6-5-83	MM		APPROVED FOR CONSTRUCTION			
4	28-4-84	MM		SECTIONS A-A, B-B, C-C, D-D, E-E, F-F ADDED			
5	7-4-84	MM		GENERAL HULL DIMENSIONS DIM 17, 21, 28, 35, 42, 49, 59, 72, 85, 98, 105			
6	7-4-84	MM		INITIAL ISSUE			

NO	DATE	BY	CHKD	DESCRIPTION	ENGR	ENGR	ENGR
1	MAY 83	MM		DRWG. WAS A4660 DG 040.4			
2	MAY 83	MM		AS BUILT - CONTRACT 1023 G			
3	6-5-83	MM		APPROVED FOR CONSTRUCTION			
4	28-4-84	MM		SECTIONS A-A, B-B, C-C, D-D, E-E, F-F ADDED			
5	7-4-84	MM		GENERAL HULL DIMENSIONS DIM 17, 21, 28, 35, 42, 49, 59, 72, 85, 98, 105			
6	7-4-84	MM		INITIAL ISSUE			

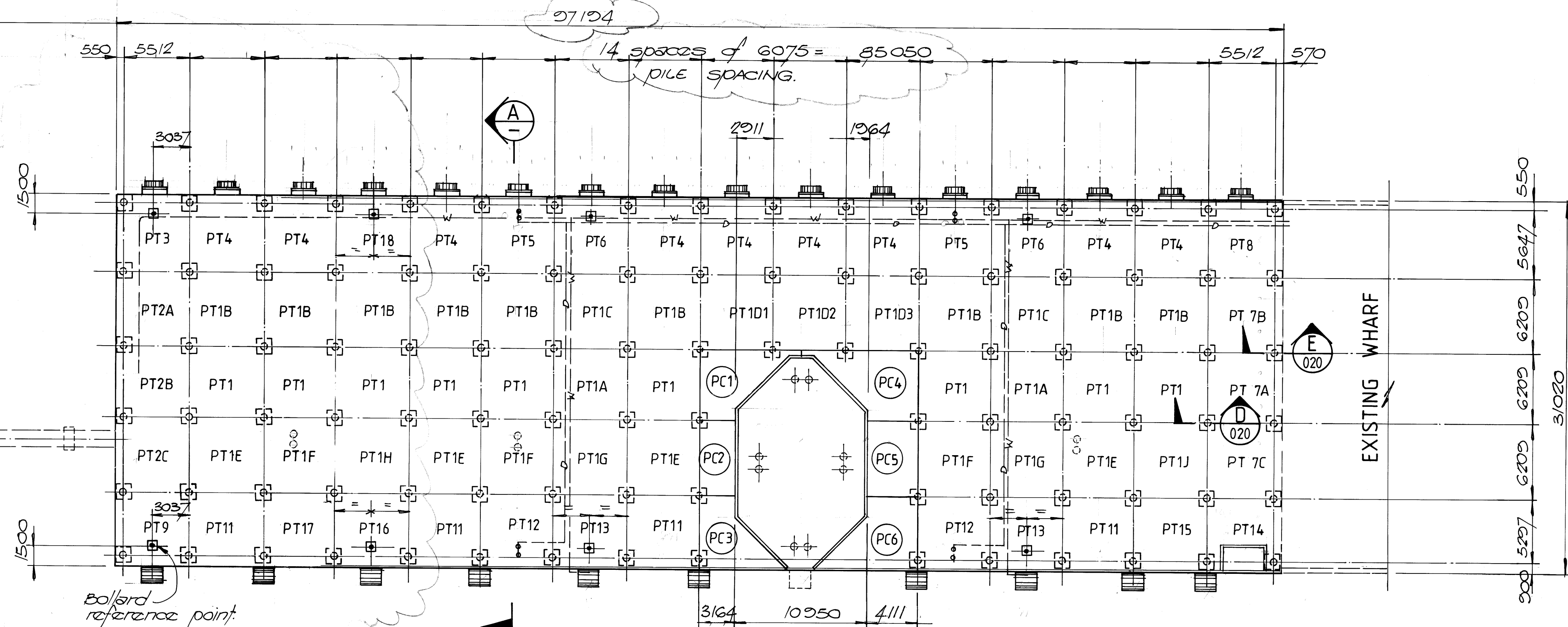
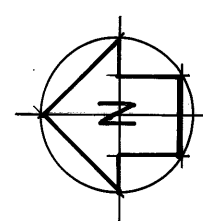
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1	MAY 83	MM		DRWG. WAS A4660 DG 040.4			
2	MAY 83	MM		AS BUILT - CONTRACT 1023 G			
3	6-5-83	MM		APPROVED FOR CONSTRUCTION			
4	28-4-84	MM		SECTIONS A-A, B-B, C-C, D-D, E-E, F-F ADDED			
5	7-4-84	MM		GENERAL HULL DIMENSIONS DIM 17, 21, 28, 35, 42, 49, 59, 72, 85, 98, 105			
6	7-4-84	MM		INITIAL ISSUE			

NO	DATE	BY	CHKD	DESCRIPTION	ENGR	ENGR	ENGR
1	MAY 83	MM		DRWG. WAS A4660 DG 040.4			
2	MAY 83	MM		AS BUILT - CONTRACT 1023 G			
3	6-5-83	MM		APPROVED FOR CONSTRUCTION			
4	28-4-84	MM		SECTIONS A-A, B-B, C-C, D-D, E-E, F-F ADDED			
5	7-4-84	MM		GENERAL HULL DIMENSIONS DIM 17, 21, 28, 35, 42, 49, 59, 72, 85, 98, 105			
6	7-4-84	MM		INITIAL ISSUE			

AS BUILT

Woodside Offshore Petroleum Pty Ltd
NORTH WEST SHELF DEVELOPMENT PROJECT
MATERIALS OFFLOADING FACILITY
WHARF REINFORCEMENT (SHEET 4)
SCALE 1:20
DRAWING NO G7400 DS 040.4
REVISION 2

DCW JETTY EXTENSION
GENERAL ARRANGEMENT AND
PRECAST REINFORCED CONCRETE
PLANS

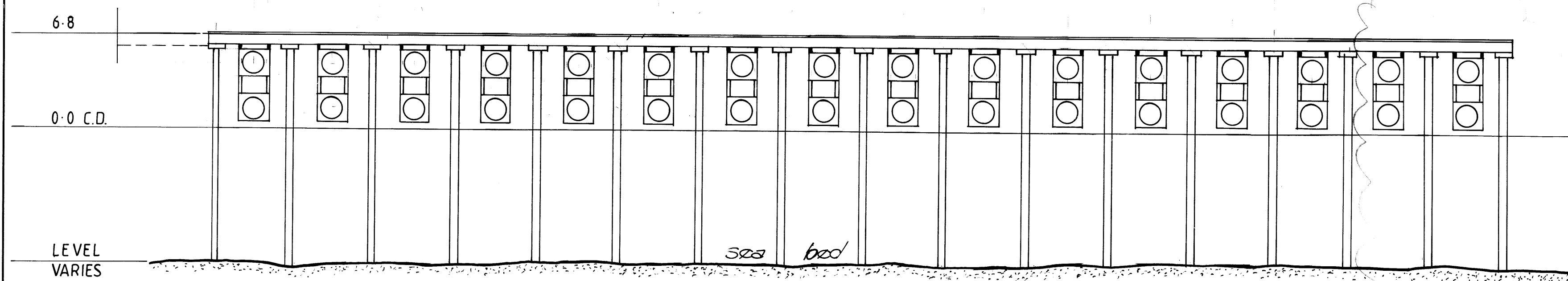
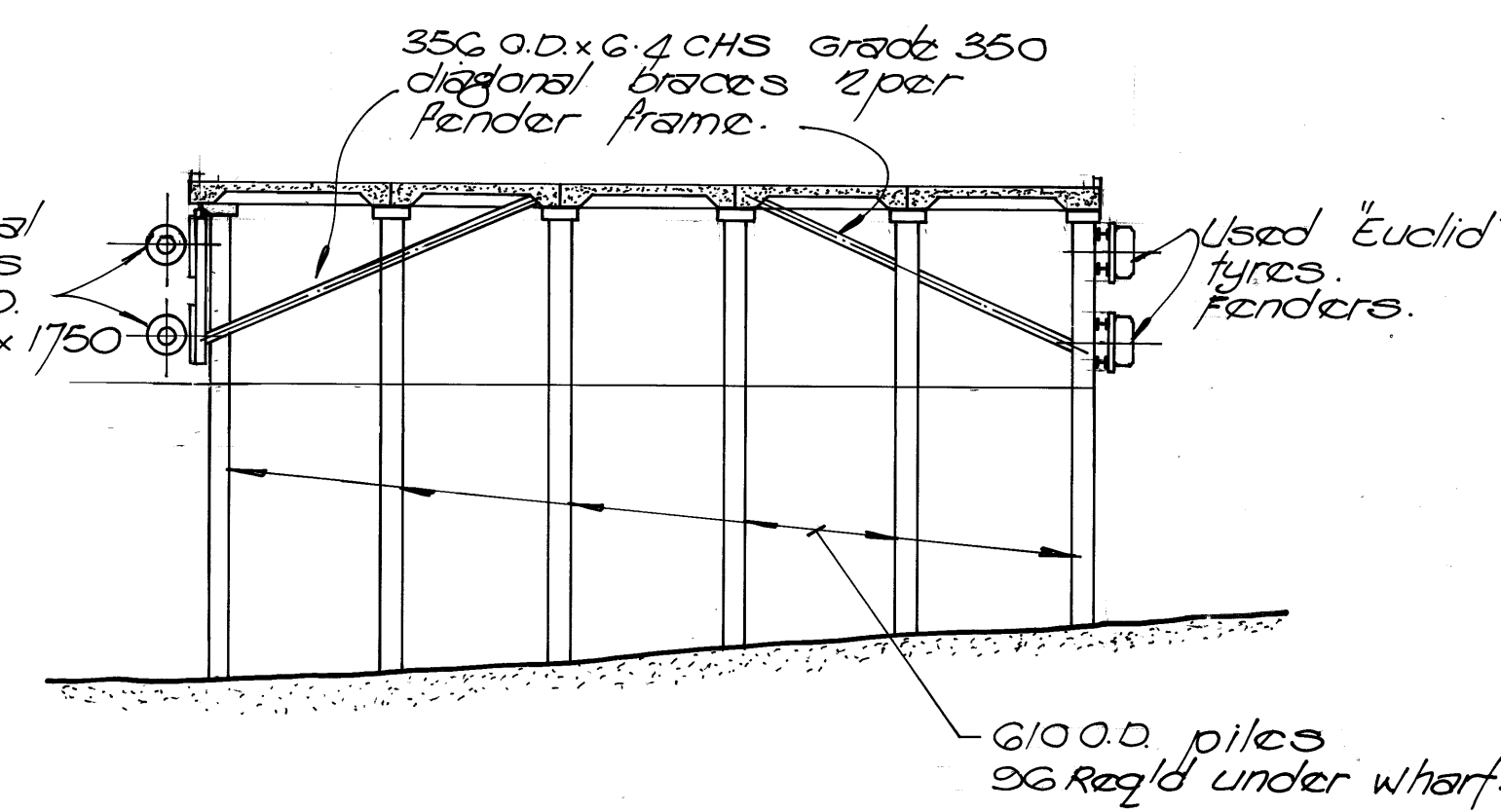
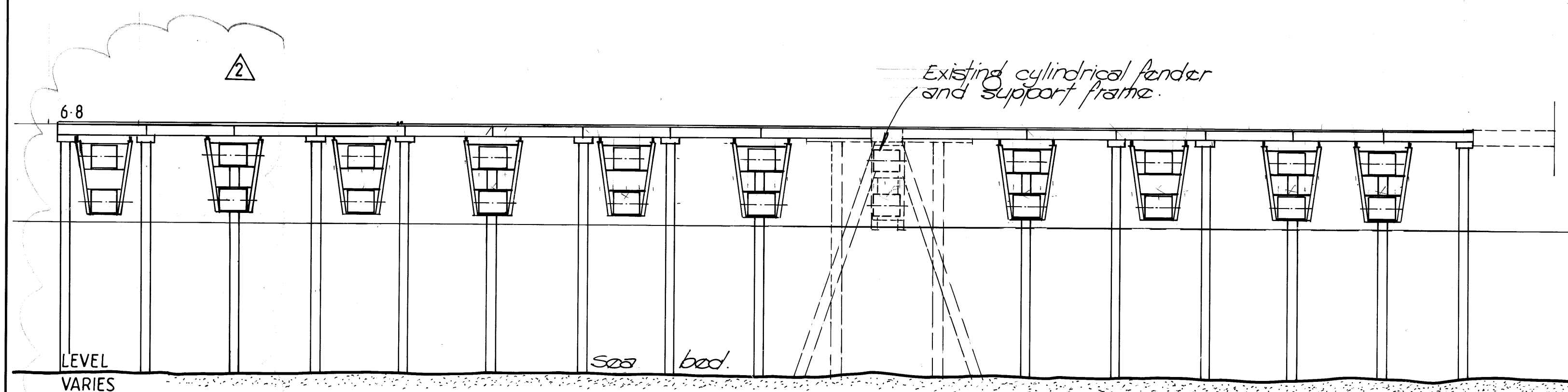


NOTES:


1. "TOLERANCES FOR SIZE AND POSITION OF PRECAST DECK SLABS"

a. Deviation from specified plan dimensions shall not exceed 10mm.


b. The finished deck surface must be within ± 2.5 mm of the design surface and there must be no more than a 3mm step between adjacent slabs.



3	AS BUILT	5595	GM.	<i>RL</i>
2	WHARF EXTENSION EXTENDED 2 BAYS	14494	<i>RL</i>	<i>RL</i>
1	TOLERANCE NOTE ADDED	13194	<i>RL</i>	<i>RL</i>
0	ISSUED FOR CONSTRUCTION	131293	<i>RL</i>	<i>RL</i>
B	RE DRAWN		<i>RL</i>	
REV.	DESCRIPTION	DATE	BY	CHK.



**FRASER
CONSULTANTS**

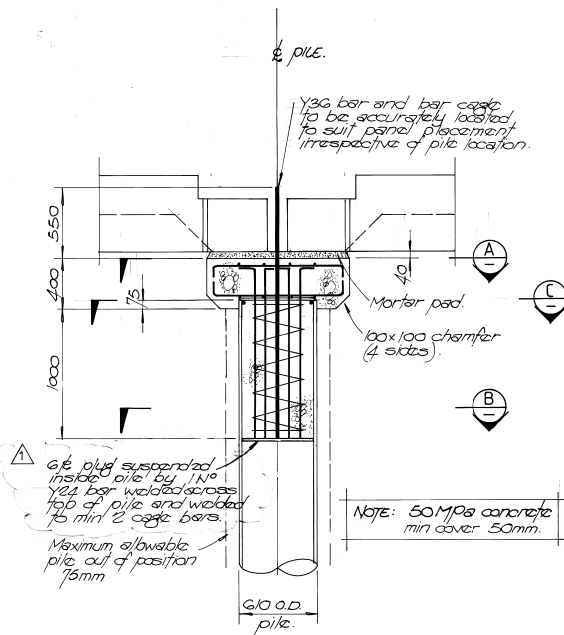


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ASTRON ENVIRONMENTAL
ASTRON ENGINEERING PTY LTD

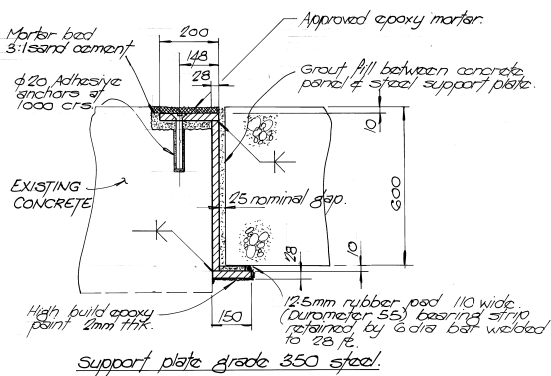
Suite 7, Savings House,
11 Hedland Place
PO Box 713, Karratha WA 6714
Tel: (091) 44 1679 Fax: (091) 44 2638

DRAWN:	G. MANSFIELD	DATE:	OCT '93	SCALE:	AS NOTED
DESIGNED:	H. BARR	CHECKED:		CERTIFIED:	<i>RL</i>
PROJECT: DAMPIER PORT AUTHORITY					
EXTENSIONS TO DAMPIER PUBLIC WHARF					
DRAWING TITLE: NORTHERN EXTENSION PLAN AND ELEVATIONS					
DRAWING NO 37241 - DS - 019					
					REV 3

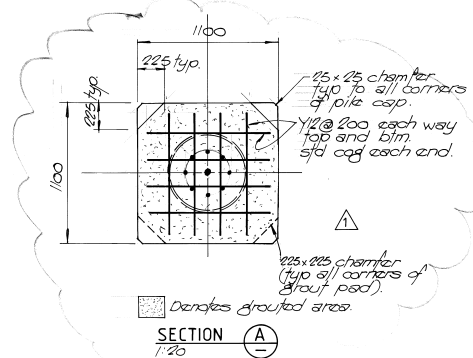
37241 DS019



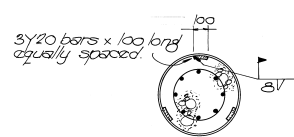
TYPICAL INSITU PILE CAP DETAIL U.N.O.
1:20



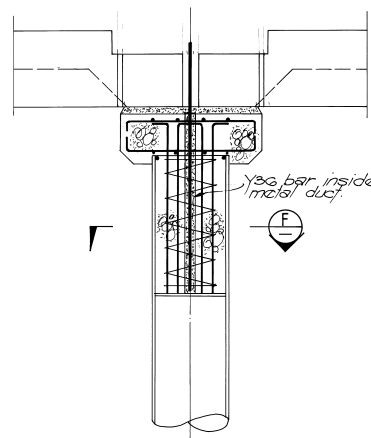
PRECAST PANEL SUPPORT DETAIL
AT EXISTING BREASTING DOLPHIN.
1:10



SECTION A-A
1:20



SECTION B-B
1:20



All details as per typical pile cap U.N.O.

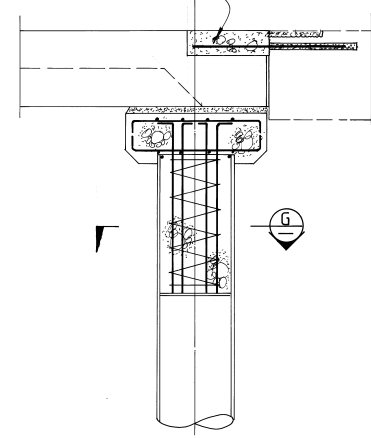
SECTION D-D
1:20

Note: This pile cap detail applies to all piles along this line in a East West direction & in number.



SECTION E-E
1:20

Note: This pile cap detail applies to all piles along this line in a East West direction & in number.



All details as per typical pile cap U.N.O.

SECTION F-F
1:20

Note: This pile cap detail applies to all piles along this line in a East West direction & in number.

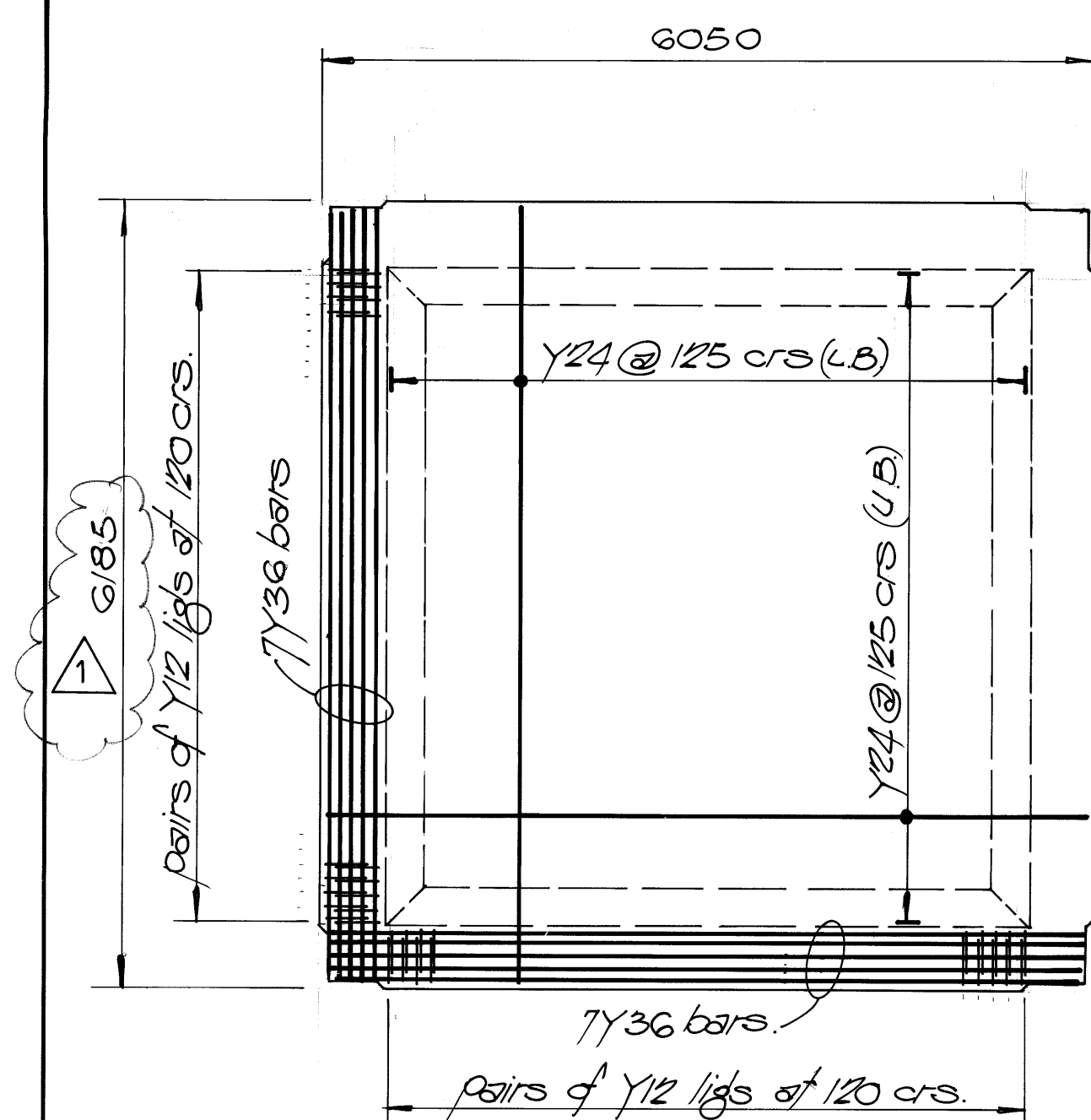


SECTION G-G
1:20

Note: This pile cap detail applies to all piles along this line in a East West direction & in number.

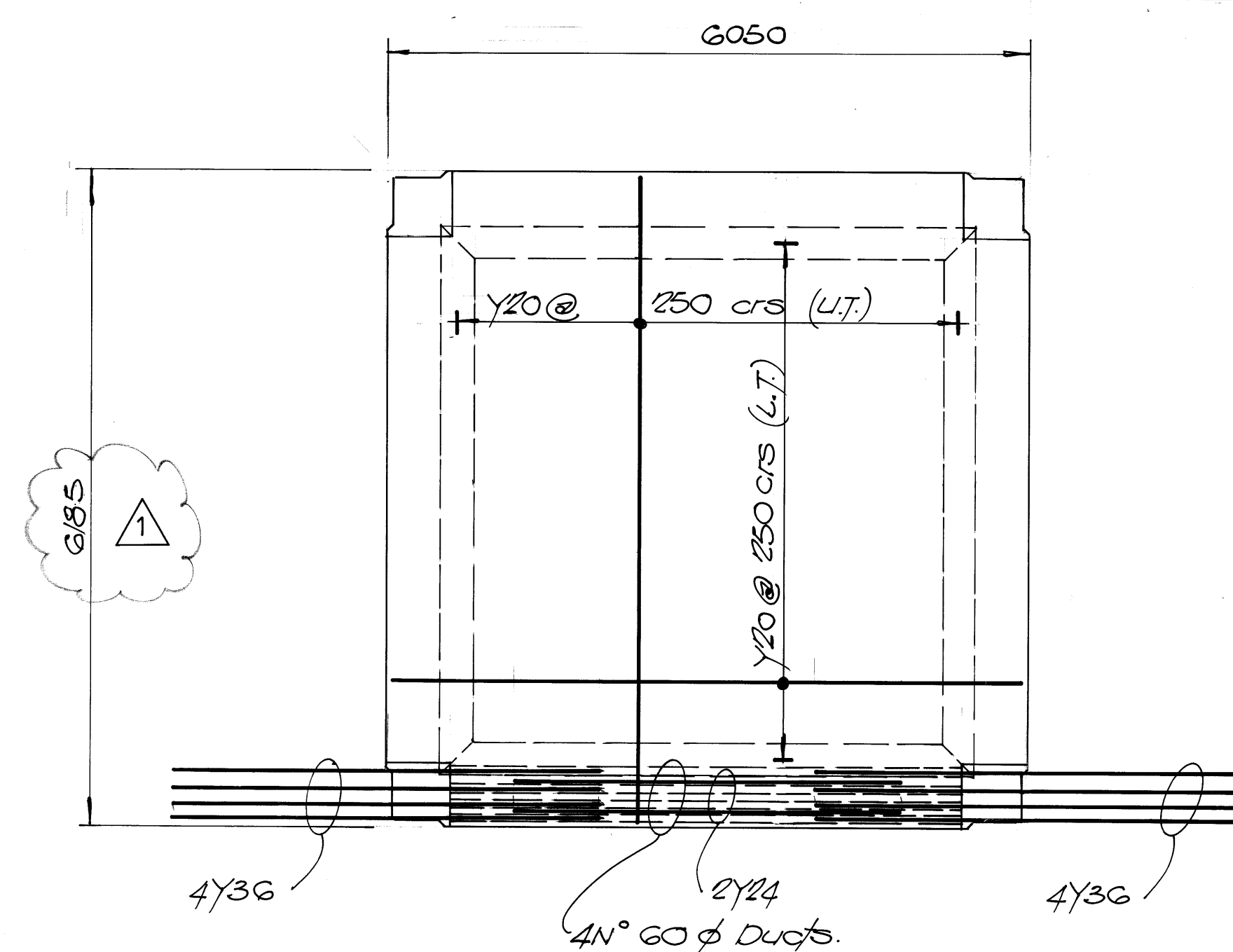
37241DS020

37241 D8021



NOTE: Reinforcement shown is typical on all sides.

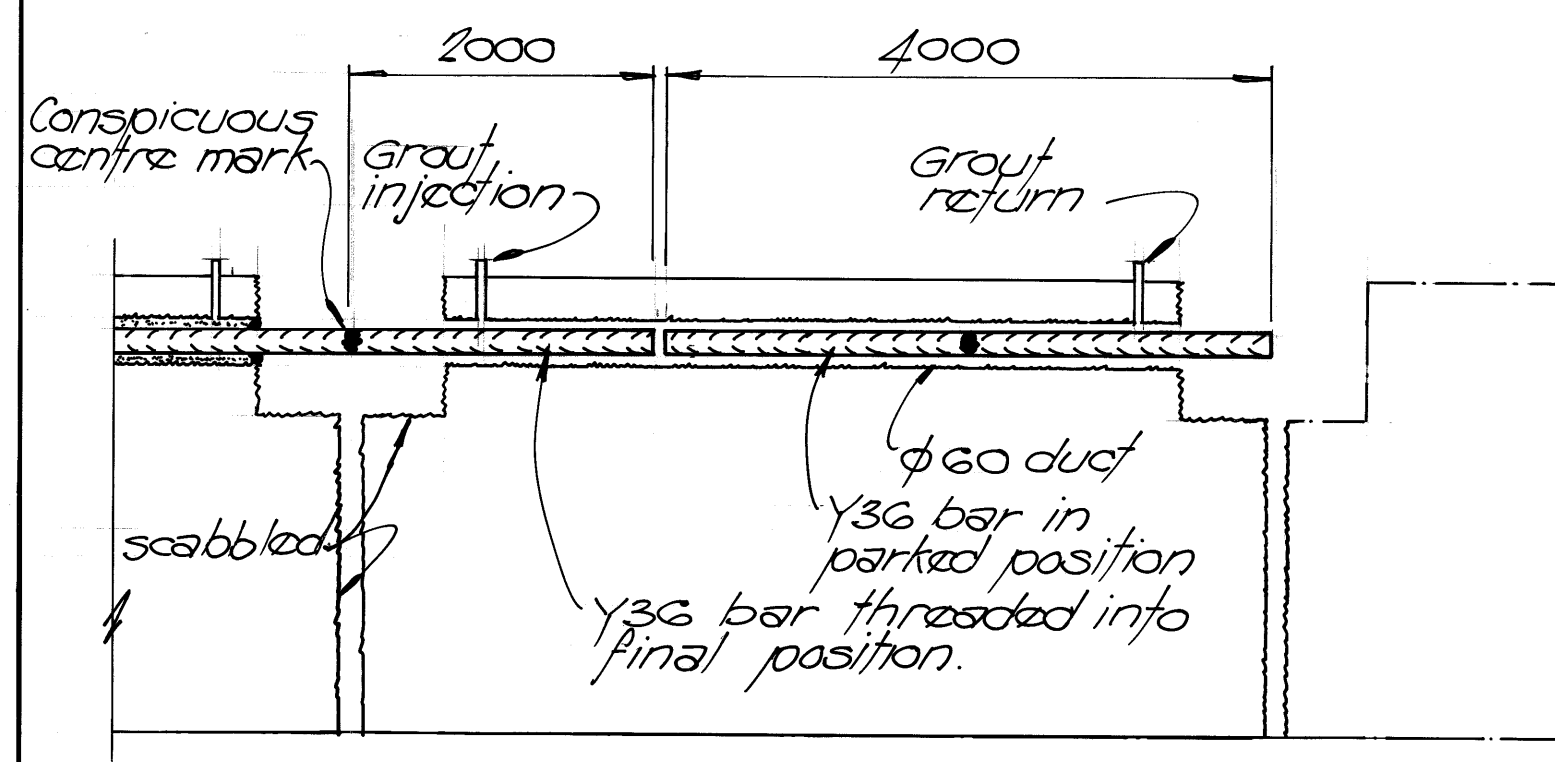
BOTTOM REINFORCEMENT



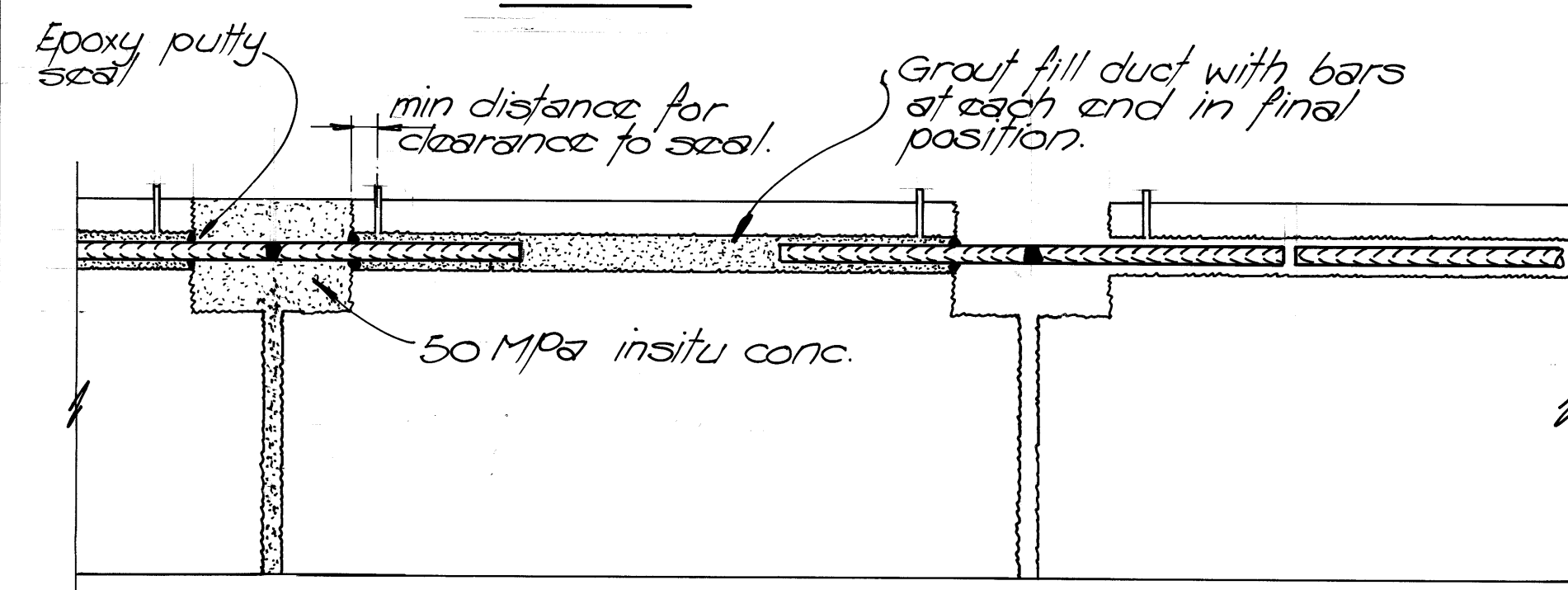
NOTE: All 4 edge beams are reinforced as shown. for ligts refer to bottom reinforcement plan.

TOP REINFORCEMENT

PANEL REINFORCEMENT DETAILS
1:50



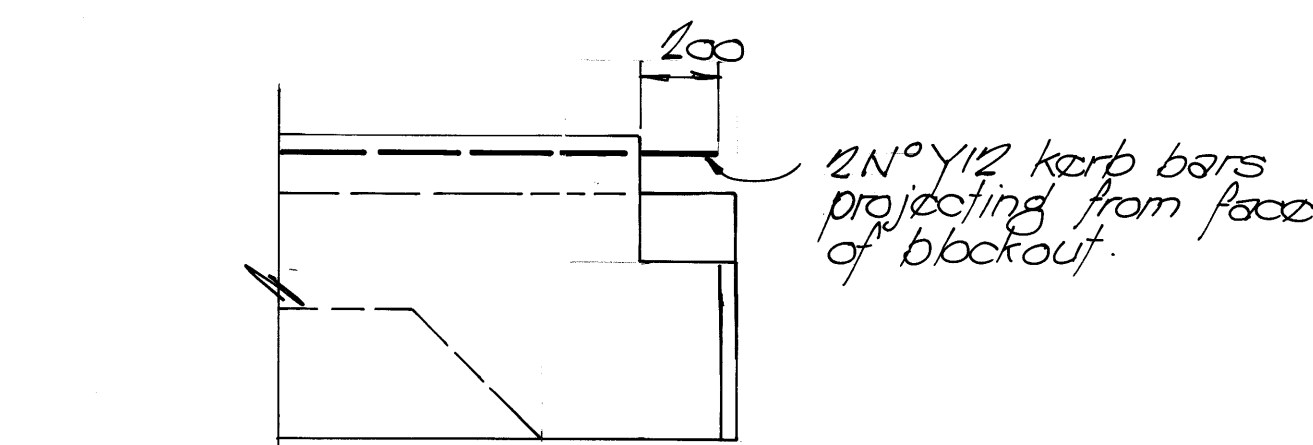
STAGE 1



STAGE 2

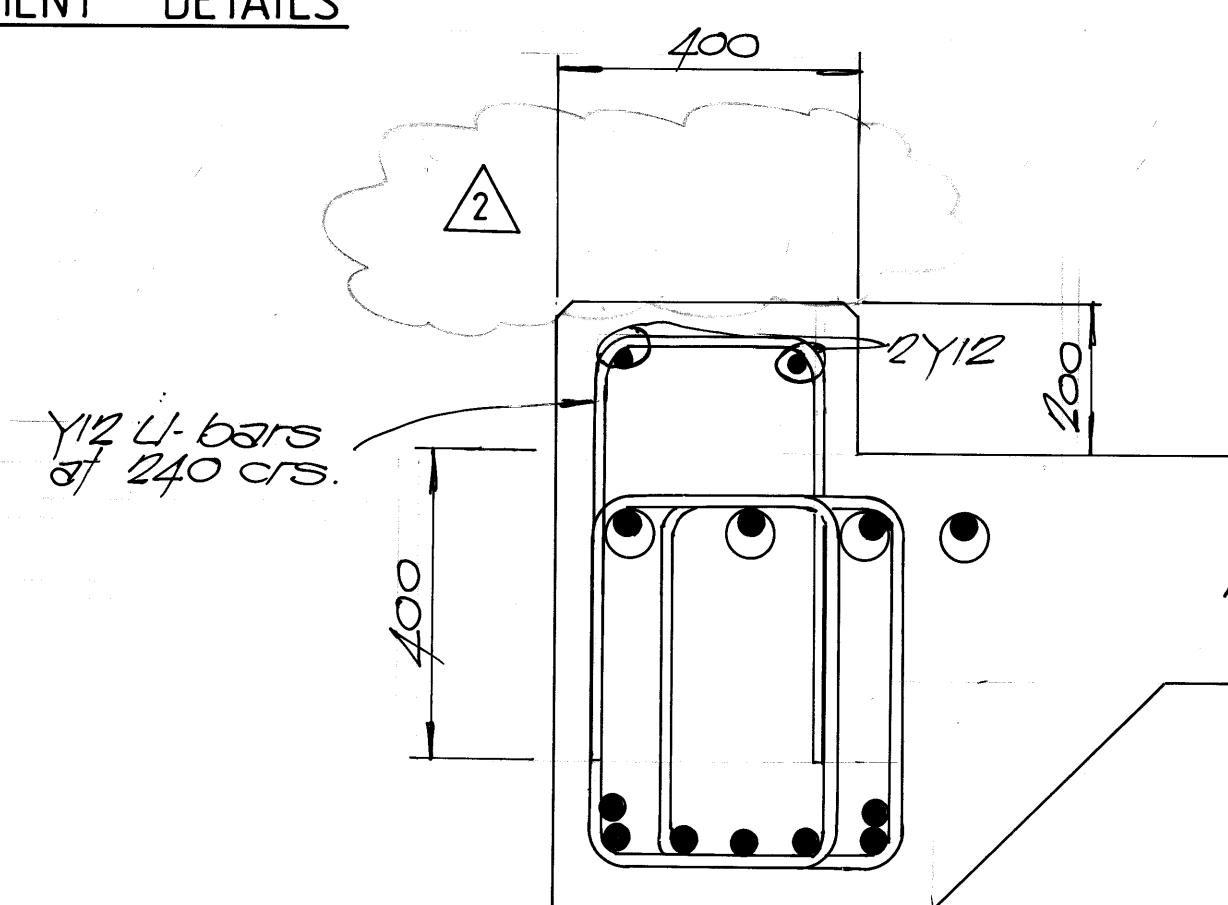
INSTALLATION OF Y36 BARS IN φ60 DUCTS BETWEEN ADJOINING PANELS

scale 1:10 vert.
scale 1:50 horiz.



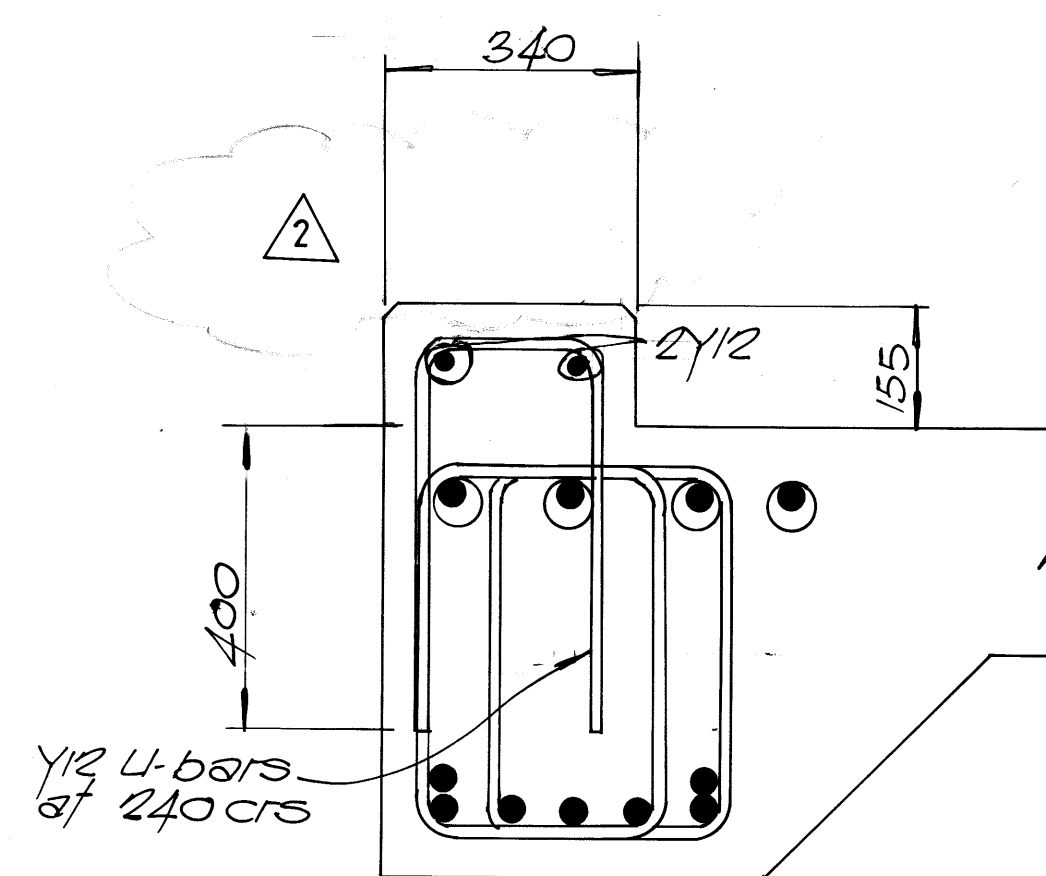
KERB REINFORCEMENT AT EDGE OF PANEL

1:20



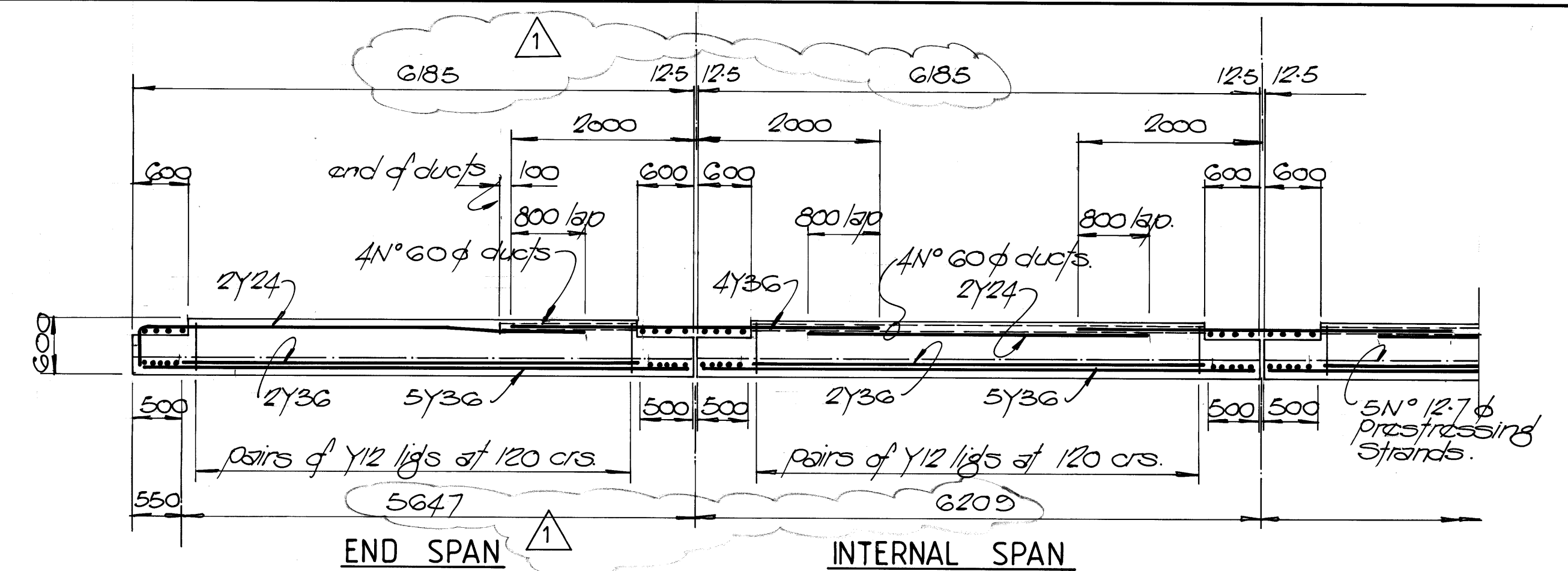
KERB DETAIL EASTERN SIDE OF NORTHERN WHARF EXTENSION

1:10



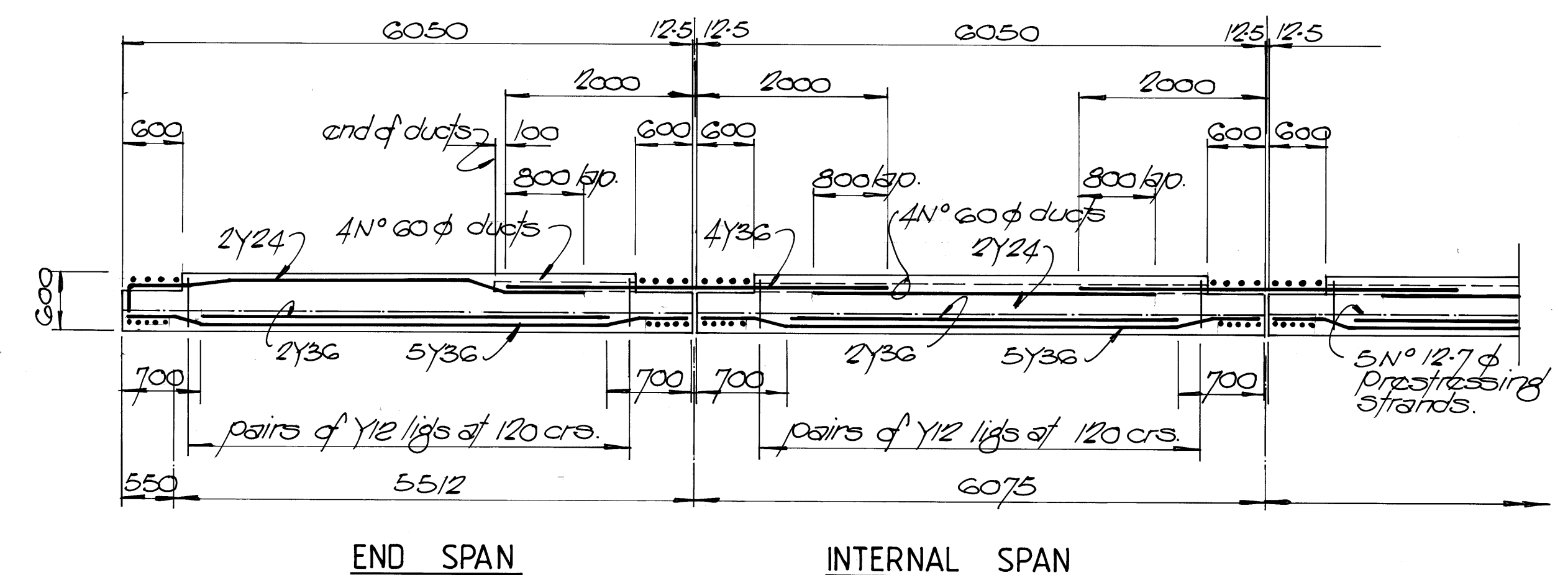
KERB DETAIL WESTERN SIDE AND NORTH END OF NORTHERN WHARF EXTENSION.

1:10



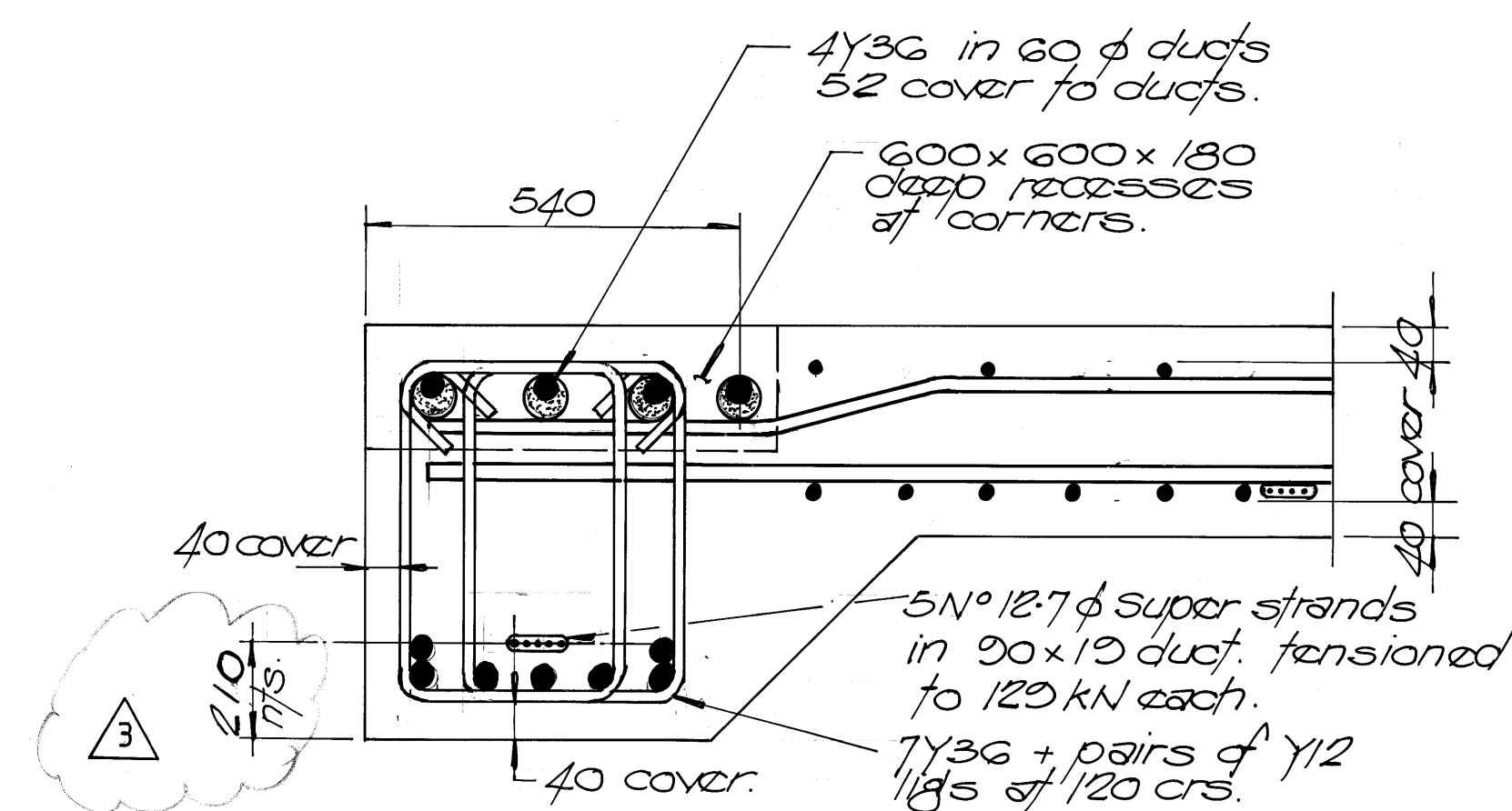
ELEVATION ON EDGE BEAMS AT NORTH AND SOUTH EDGES OF PANELS.

1:50



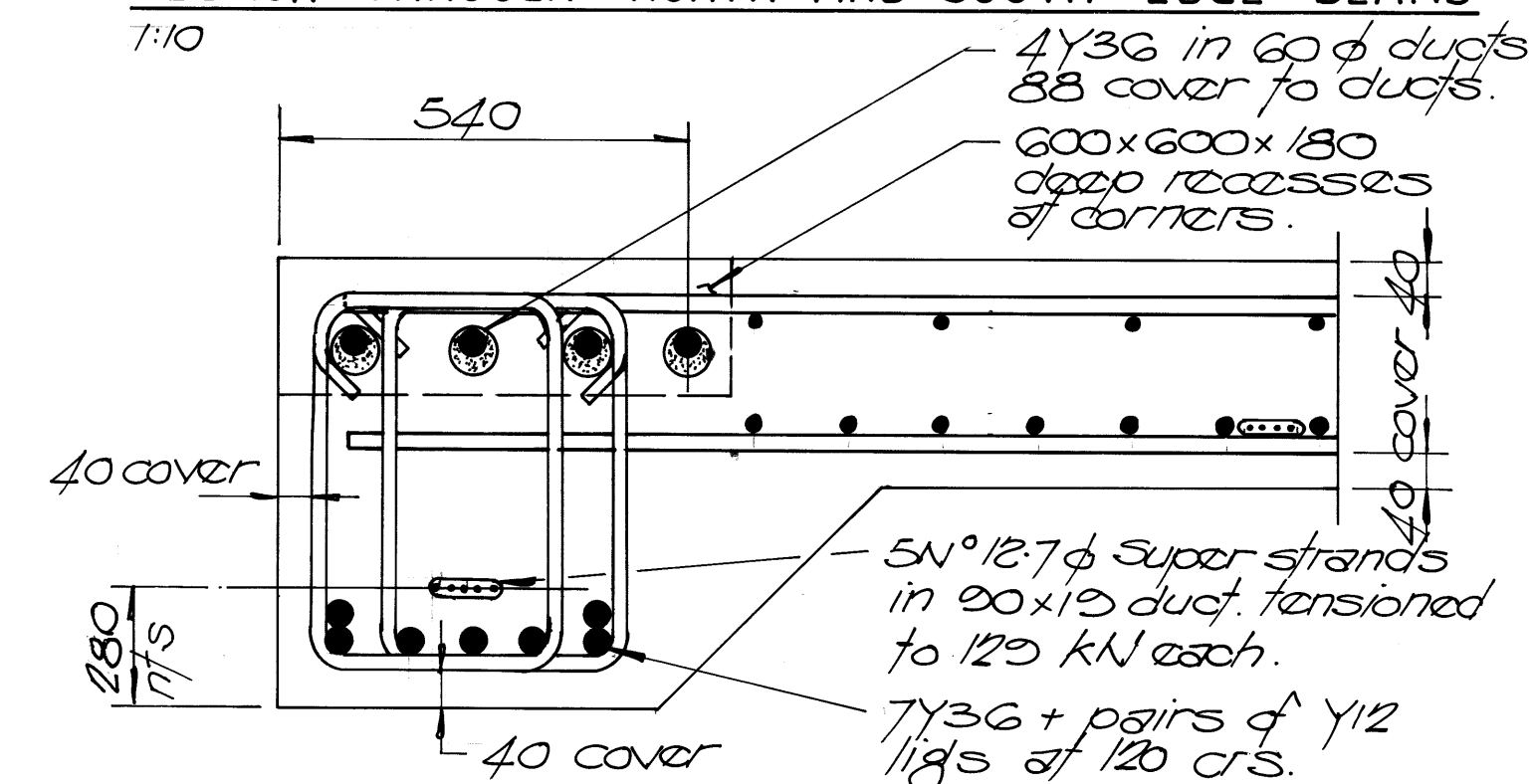
ELEVATION ON EDGE BEAMS AT EAST AND WEST EDGES OF PANELS.

1:50



SECTION THROUGH NORTH AND SOUTH EDGE BEAMS

1:10



SECTION THROUGH EAST AND WEST EDGE BEAMS.

1:10

GENERAL NOTES:

- φ60 ducts are φ60 corrugated metal prestressing ducts.
- Superstrands are stress relieved low relaxation supergrade 7 wire strands to AS1311.

REV.	DESCRIPTION	DATE	BY	CHK.
4	AS BUILT	5595	GM.	PL
3	DUCT LOCATION ALTERED	13-194	EL	PL
2	TIMBER ON TOP OF KERB REMOVED	31-293	EL	PL
1	PANEL DIMENSION CHANGED	23-1293	EL	PL
0	ISSUED FOR CONSTRUCTION	13-1293	EL	PL
B	REDRAWN		EL	

FRASER CONSULTANTS Suite 7, Savings House, 11 Hedland Place, PO Box 713, Karratha WA 6714 Tel: (091) 44 1679 Fax: (091) 44 2638

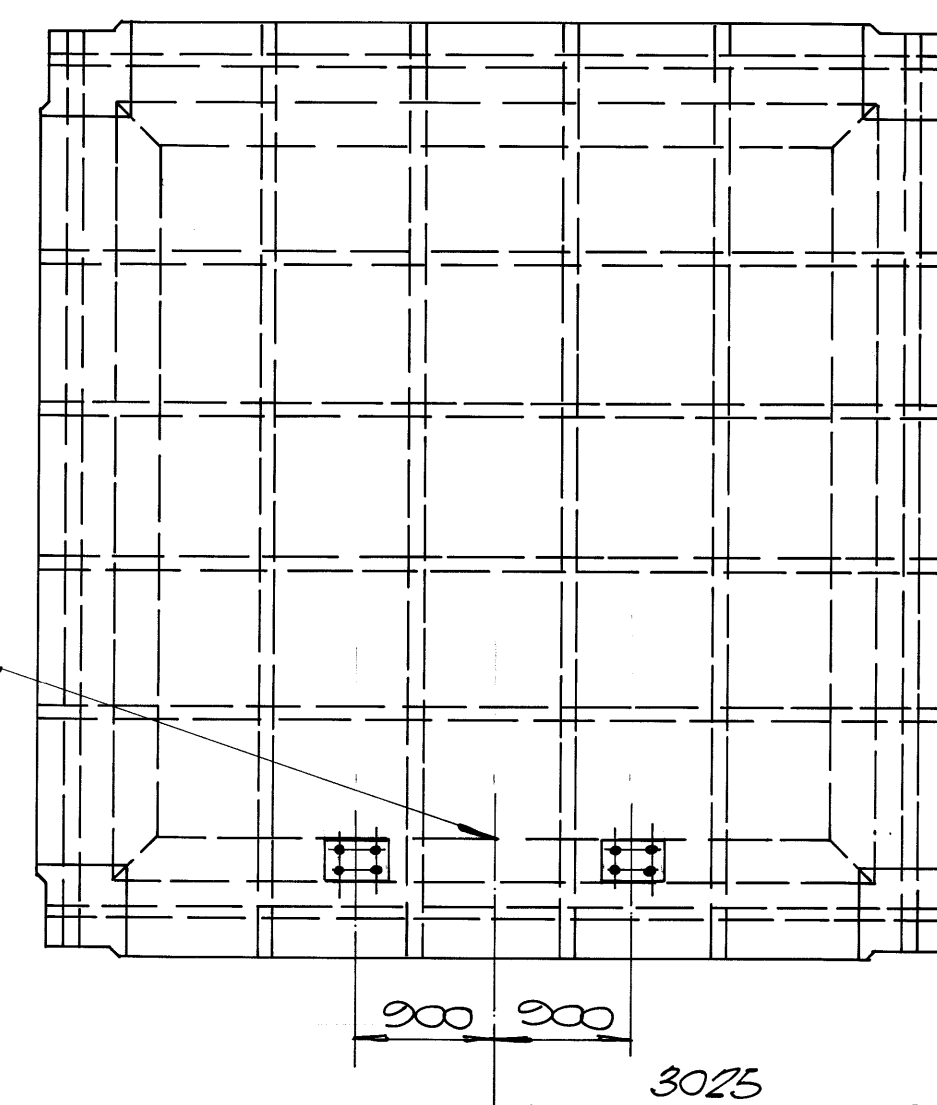
DRAWN: G. MANSFIELD DATE: OCT '93 SCALE: AS NOTED
DESIGNED: H. BARR CHECKED: CERTIFIED: *PL*

PROJECT: DAMPIER PORT AUTHORITY
EXTENSIONS TO DAMPIER PUBLIC WHARF

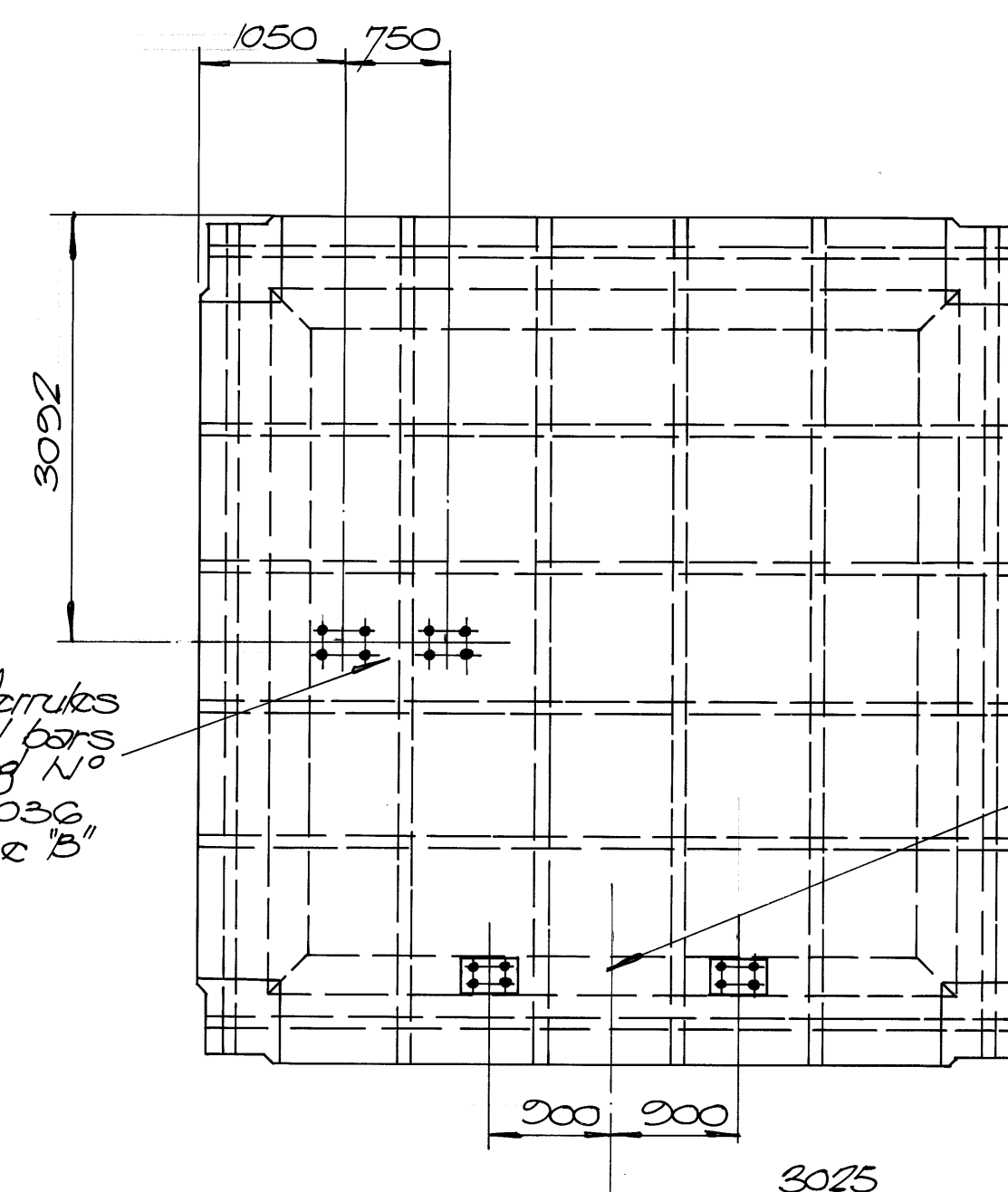
DRAWING TITLE:
NORTHERN EXTENSION
DECK PANEL DETAILS SHEET 2 OF 6

DRAWING N° 37241-DS-022 REV: 4

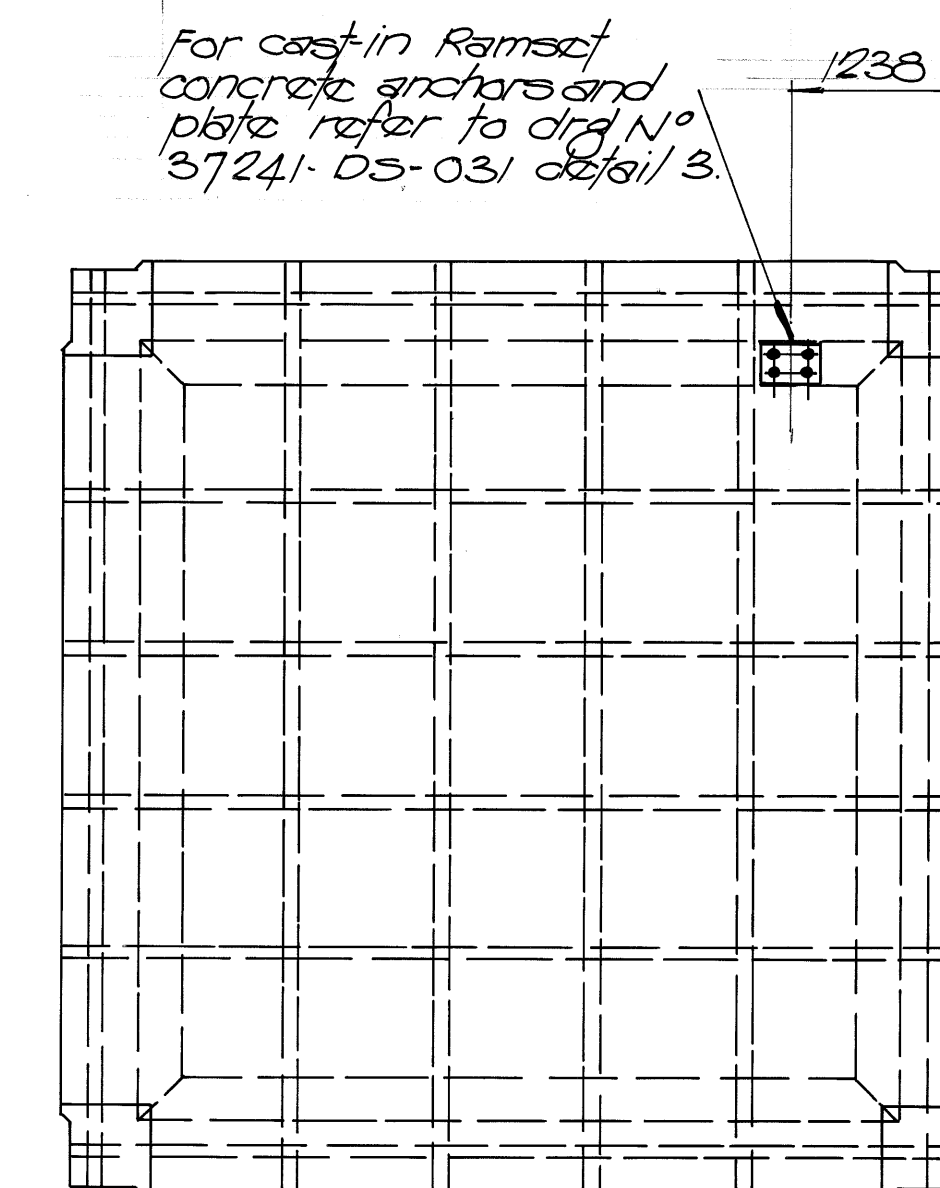
37241-DS022



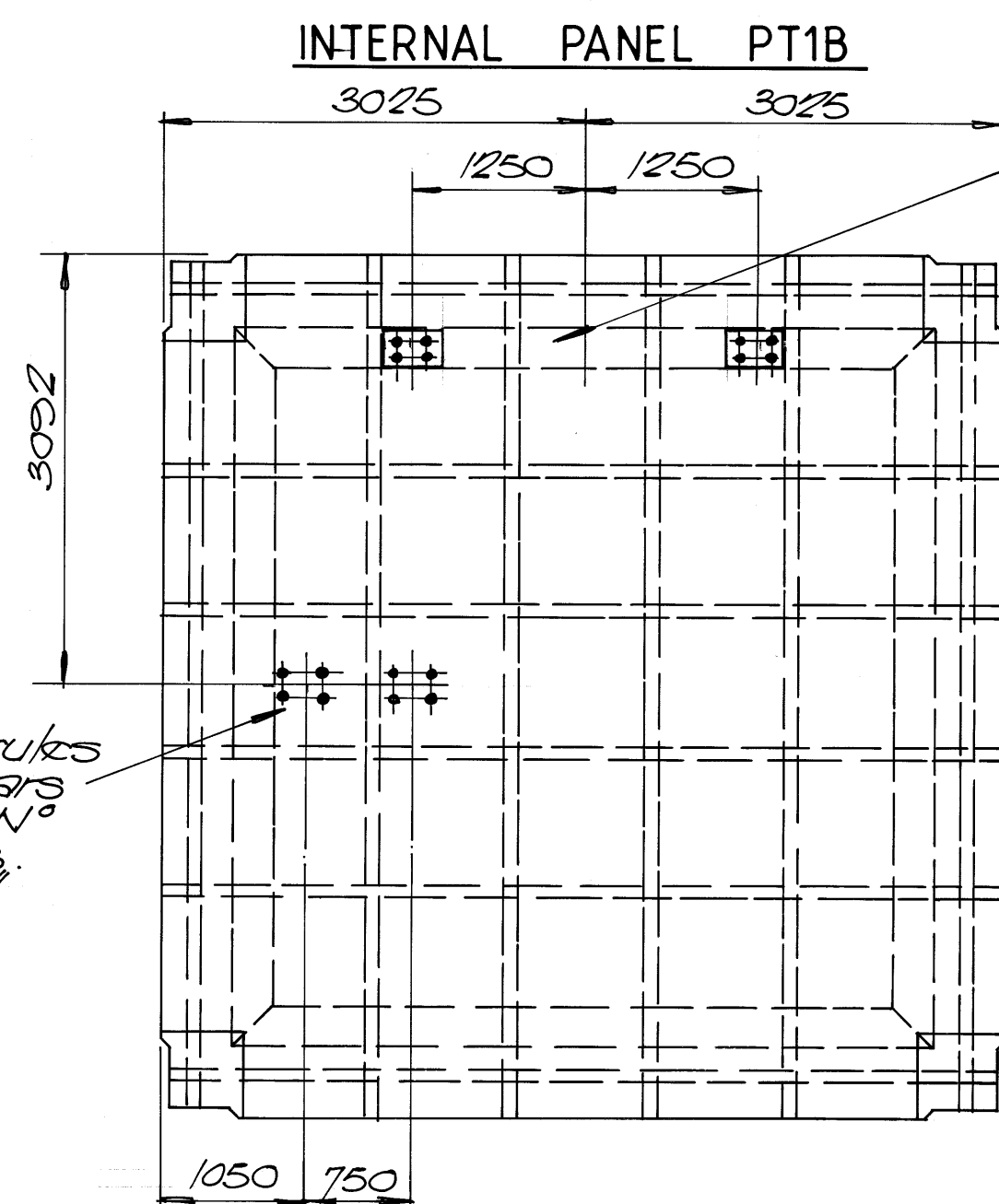
INTERNAL PANEL PT1B



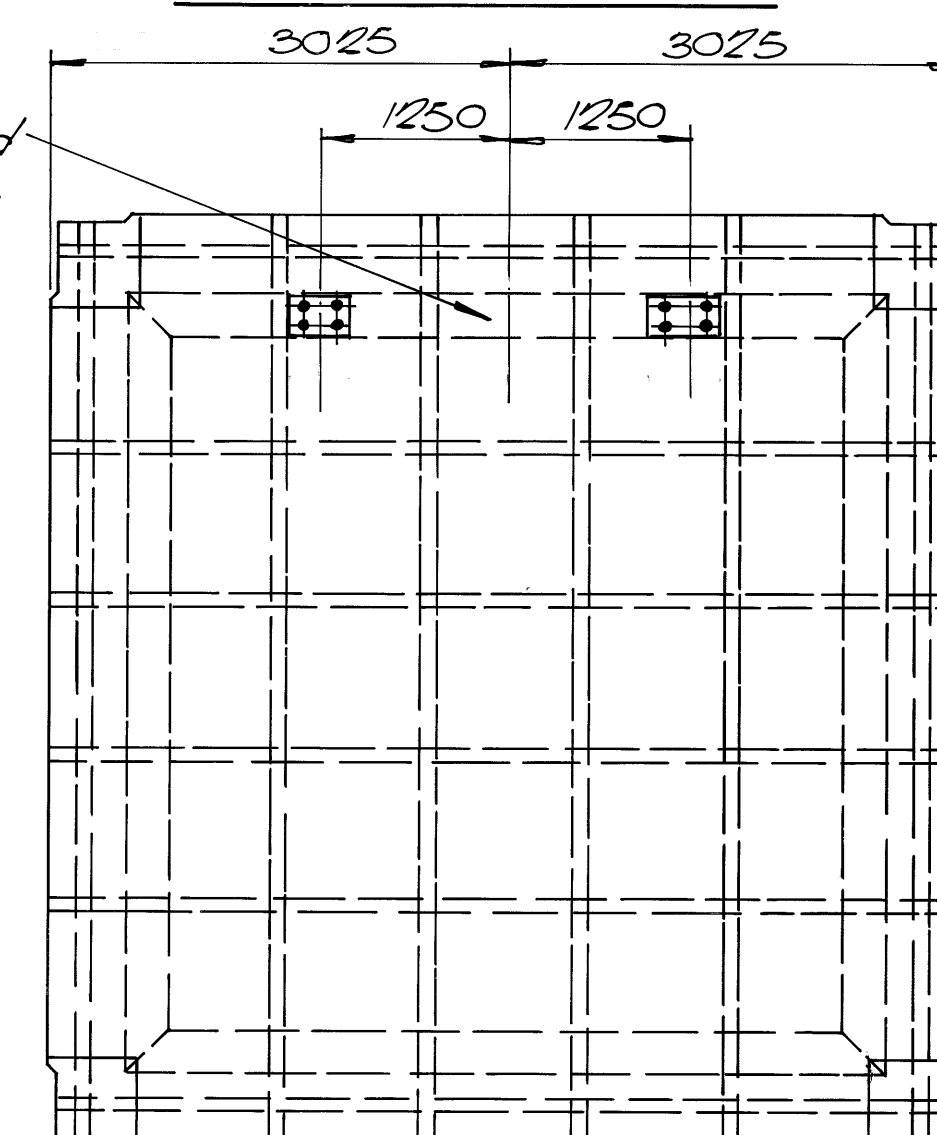
INTERNAL PANEL PT1C



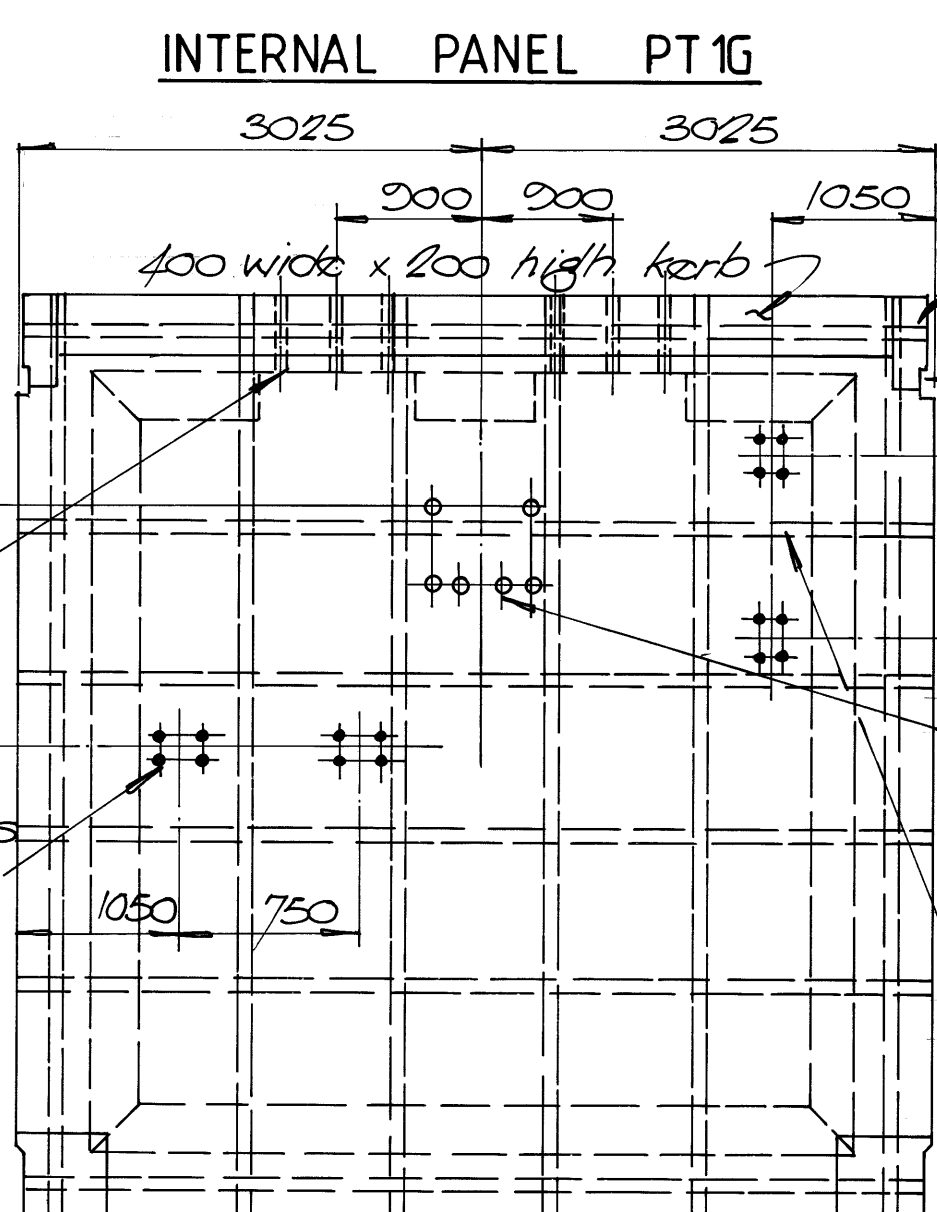
INTERNAL PANEL PT1E



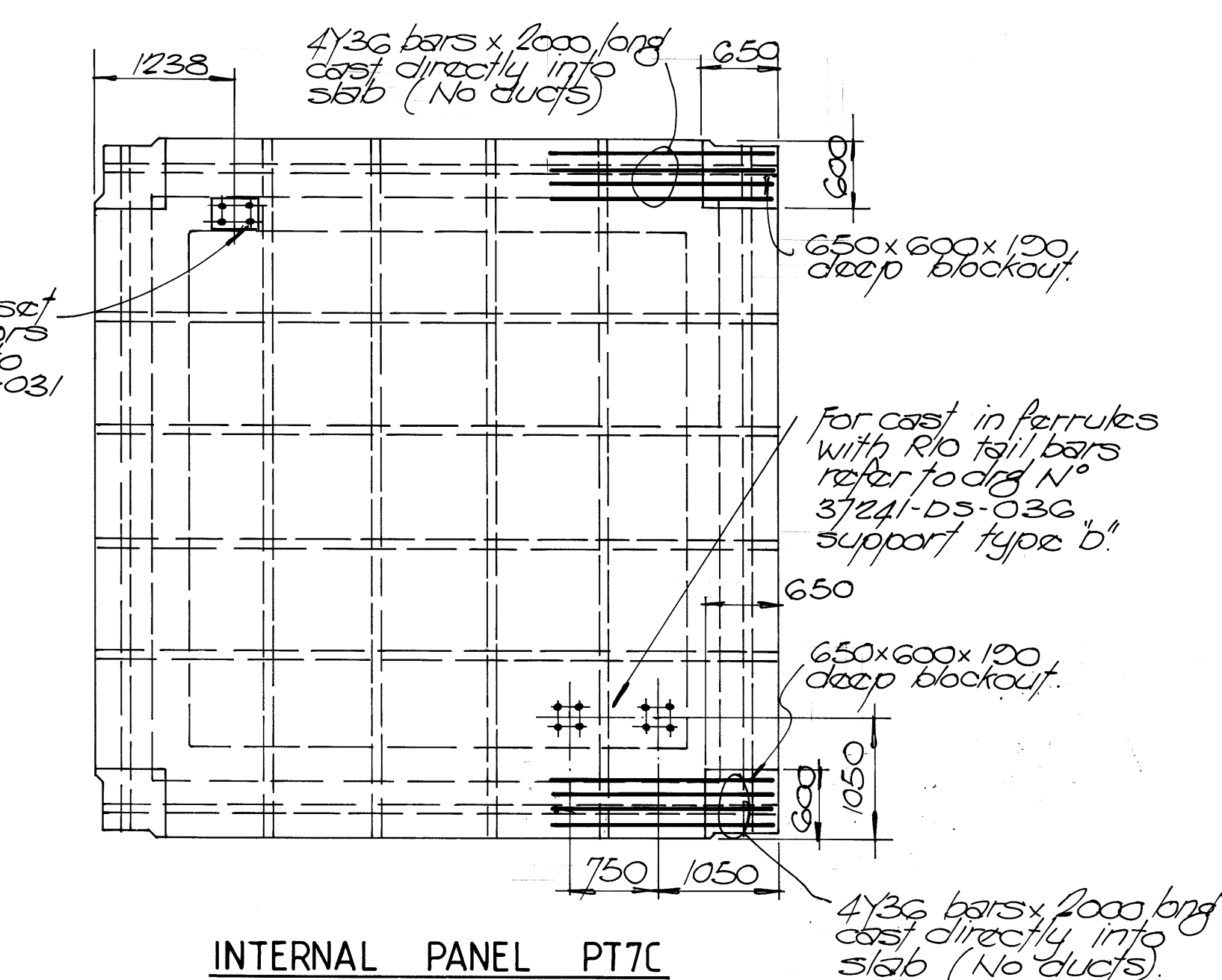
INTERNAL PANEL PT1F



INTERNAL PANEL PT1H




EDGE PANEL PT6



INTERNAL PANEL PT7C

1. Showing prestressing strand ducts.
- CLAB: 4N° 70x12 ducts each way with 4N° 127 superstrands in each beam.
- BEAM: 1N° 70x12 duct in each beam with 5N° 127 superstrands in each.
2. Duct layout size of panel and blockout sizes are as detailed in panel PT1 on drg N° 37241-DS-021 u.n.o.
3. for panel reinforcement refer to drg N° 37241-DS-022.
4. for blockout and tapered groove details not dimensioned refer to drg N° 37241-DS-021.
5. for ass't in s.s. ferrules for pipe support brackets refer to drg N° 37241-DS-036
6. for general notes on dco ducts and prestressing strands refer to drg N° 37241-DS-022

1	AS BUILT	5-595	GM						
0	ISSUED FOR CONSTRUCTION	13-1293							
REV.	DESCRIPTION	DATE	BY	CHK					



Suite 7, Savings House,
11 Hedland Place
PO Box 713, Karratha WA 6714
Tel: (091) 44 1679 Fax: (091) 44 2638

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ASTRON ENVIRONMENTAL
ENGINEERING PTY LTD

DRAWN: G. MANSFIELD	DATE: OCT '93	SCALE: AS NOTED
DESIGNED: H. BARR	CHECKED:	CERTIFIED:

PROJECT: DAMPIER PORT AUTHORITY

EXTENSIONS TO DAMPIER PUBLIC WHARF

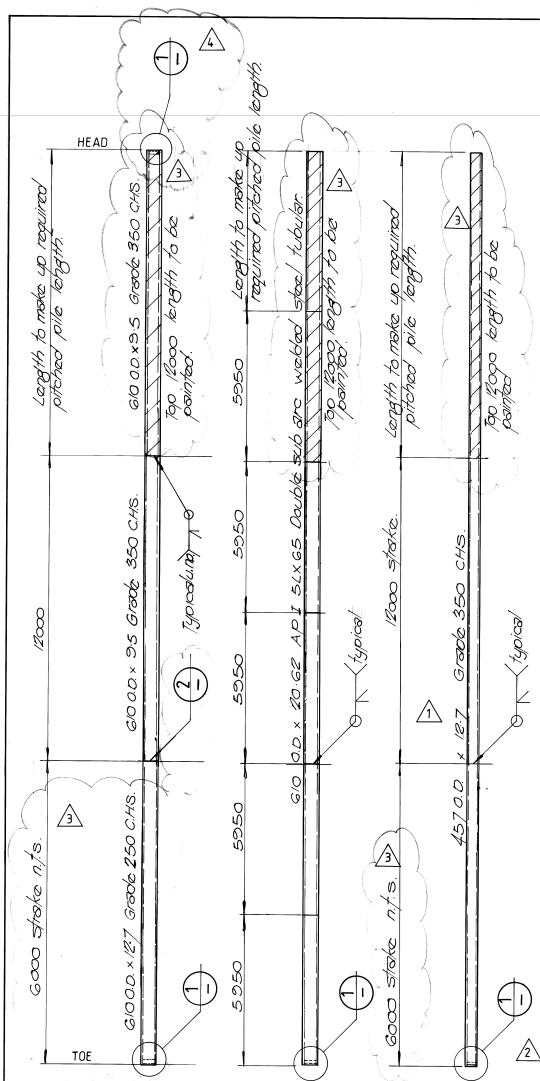
DRAWING TITLE:

NORTHERN EXTENSION
DECK PANELS SHEET 4 OF 6

DRAWING NO	37241 - DS - 024	REV:	1
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37241DS03A

DCW JETTY EXTENSION
PILE DETAIL
PLAN

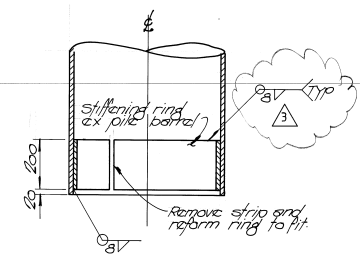


610 O.D. 610 O.D. 457 O.D.

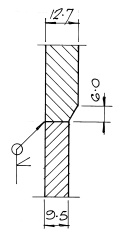
90 REQUIRED 1 REQUIRED 2 REQUIRED
BENT No 1 BENT No 8

PILE ELEVATIONS

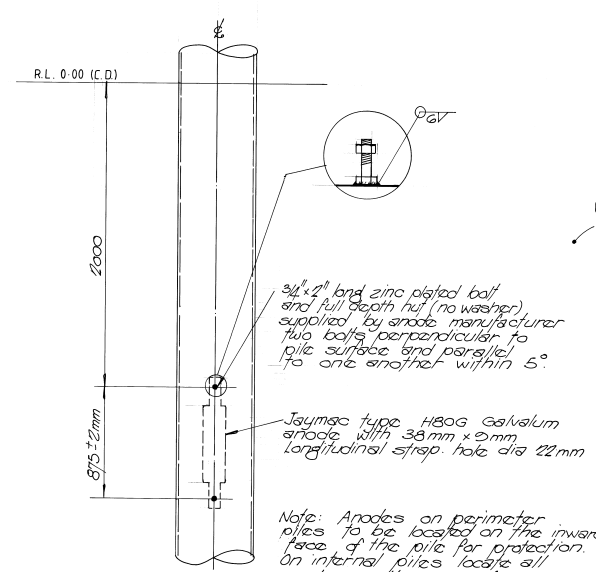
Denotes section of pile to be painted as per specification.
 Denotes unpainted section of pile.



DETAIL 1



DETAIL 2



CATHODIC PROTECTION
NOT IN CONTRACT
37241-CN-01

1

CATHODIC PROTECTION OF PILES

1:20
Note: Anodes are to be located on piles after driving.

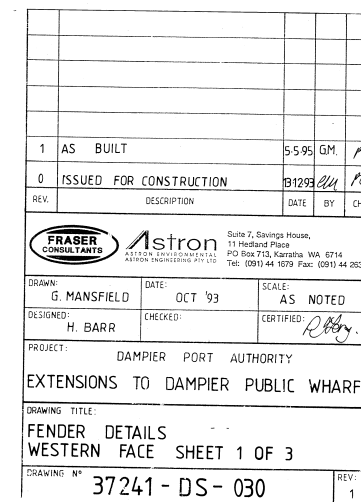
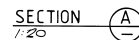
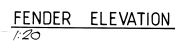
REV.	DESCRIPTION	DATE	BY	CHK.
5	AS BUILT	55.95 GM	PL	
4	DETAIL 1 ADDED TO TOP OF 610 O.D. PILE	12.94	CH	PL
3	GENERAL REVISION	20.12.98	CH	PL
2	DETAIL 1 ADDED TO 457 Ø PILE	10.12.98	CH	PL
1	PILE WALL THICKNESS CHANGED	6.12.93	CH	PL
0	ISSUED FOR CONSTRUCTION	2.12.93	CH	PL

DRAWN: G. MANSFIELD DESIGNED: H. BARR		DATE: OCT '93 CHECKED:	
PROJECT: DAMPIER PORT AUTHORITY EXTENSIONS TO DAMPIER PUBLIC WHARF		SCALE: AS NOTED CERTIFIED:	
DRAWING TITLE: PILE DETAILS			
DRAWING NO: 37241-DS-006		REV: 5	

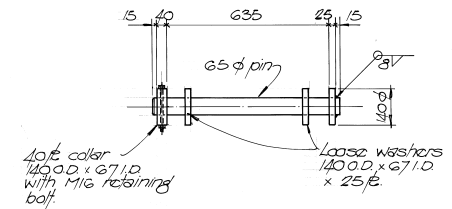
37241 DS 006

ORIGINAL DCW JETTY
WESTERN FACE FENDERS PLAN
(BERTHS 5 & 7)

DCW JETTY EXTENSION
WESTERN FACE FENDERS PLANS
(BERTHS 1, 3, 5 & 7)



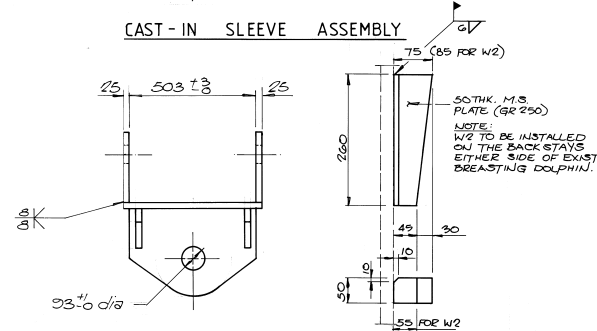
37241DS030



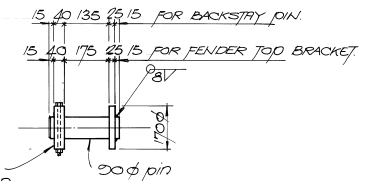
DETAIL 1
030

SECTION A

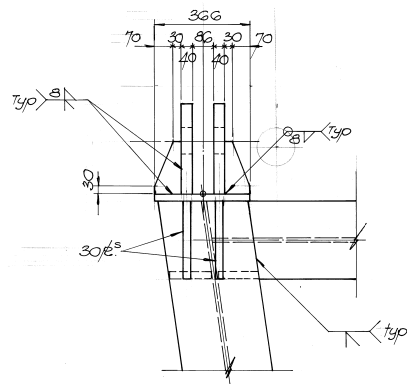
CAST - IN SLEEVE ASSEMBLY




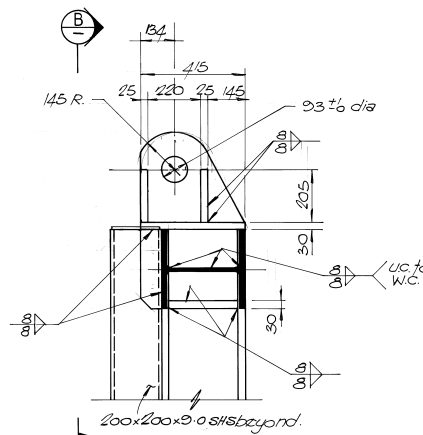
65 DIA PIN



90 DIA PIN

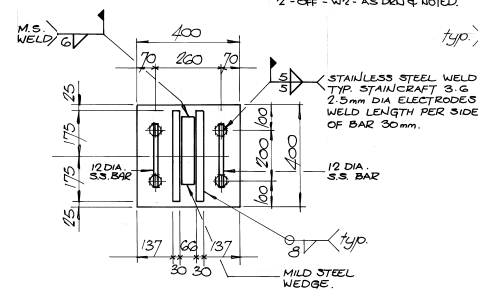
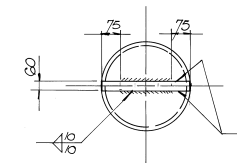
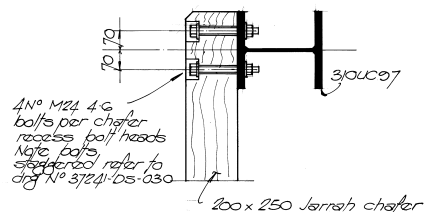


VIEW 



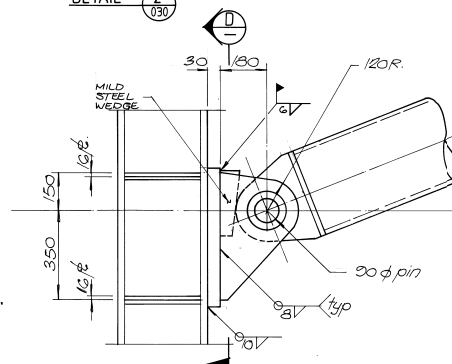
YOKE DETAIL

WEDGE DETAIL

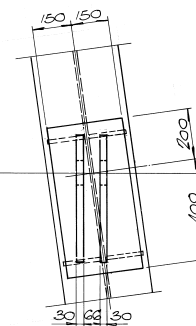
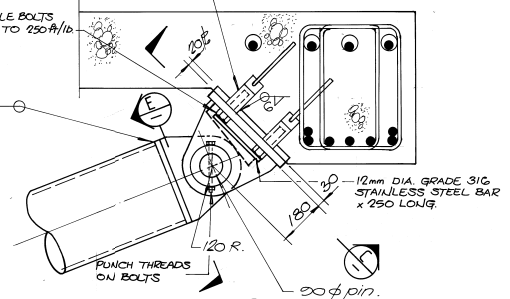
SECTION CSECTION E-E
-032

JARRAH CHAFER TO 310 UC

DETAIL 2
030



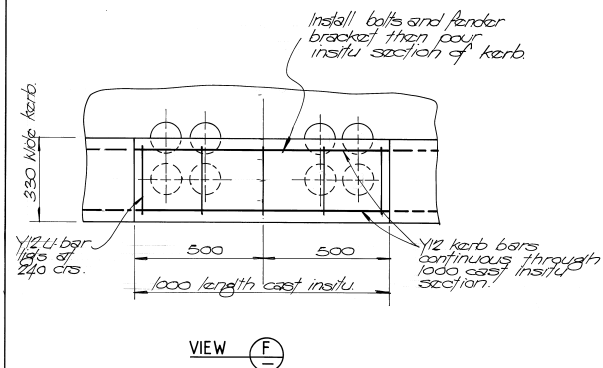
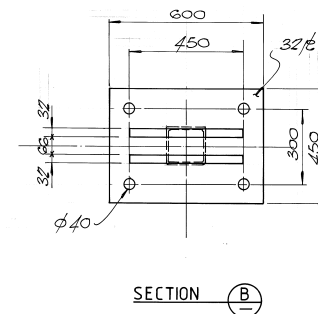
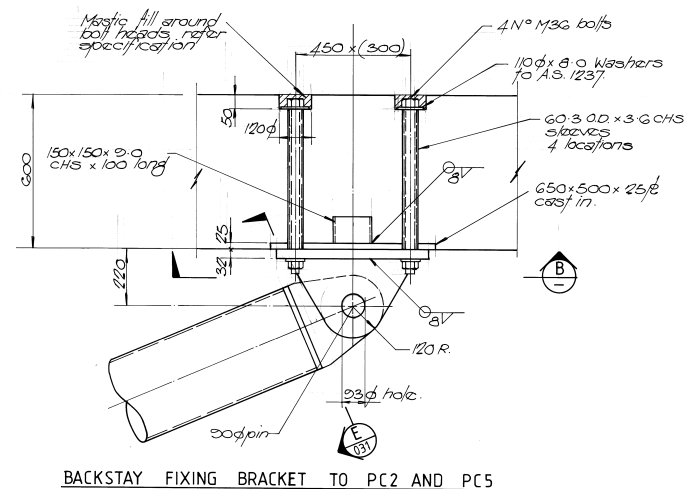
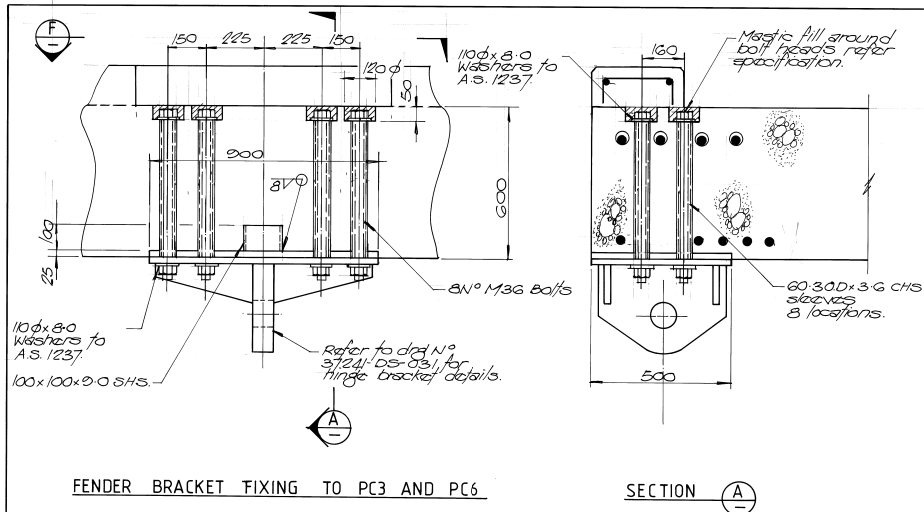
DETAIL 4
030

SECTION D

DETAIL 3
030

[illegible]

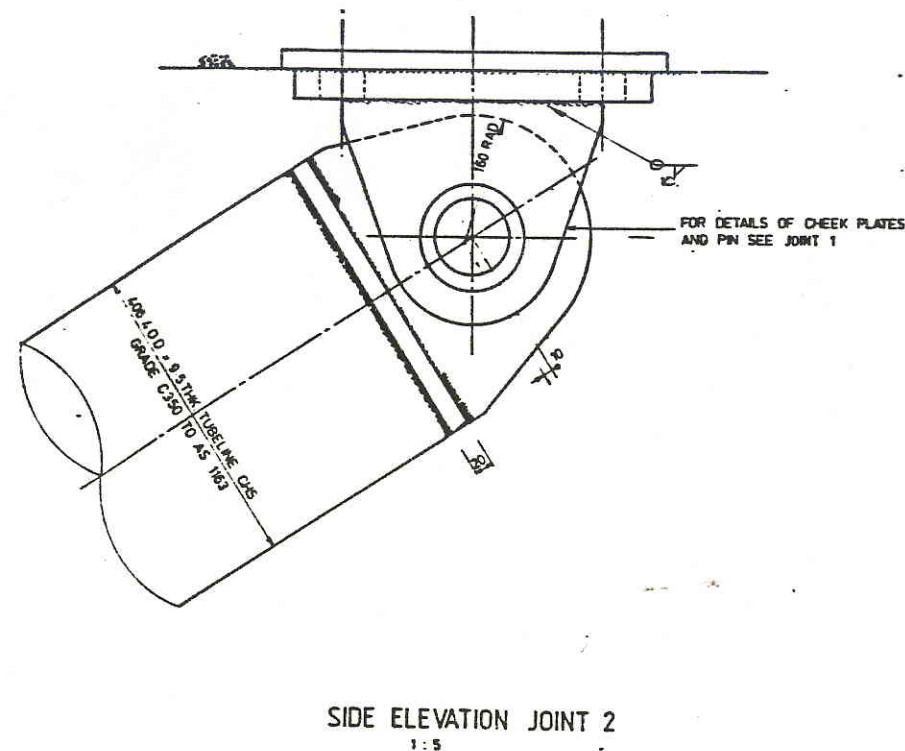
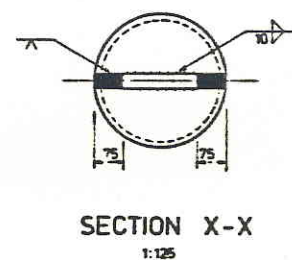
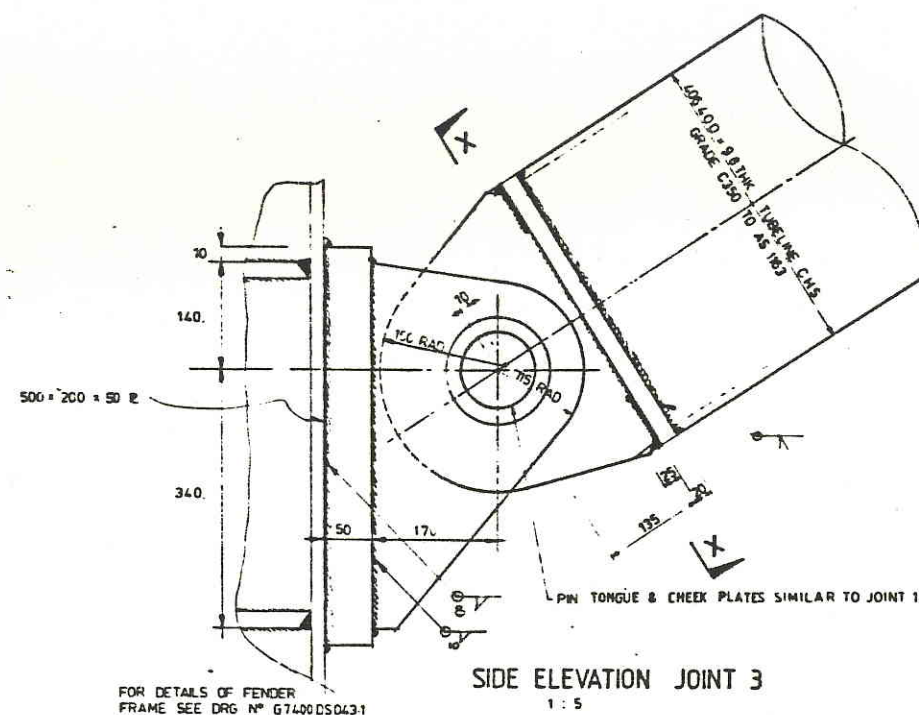
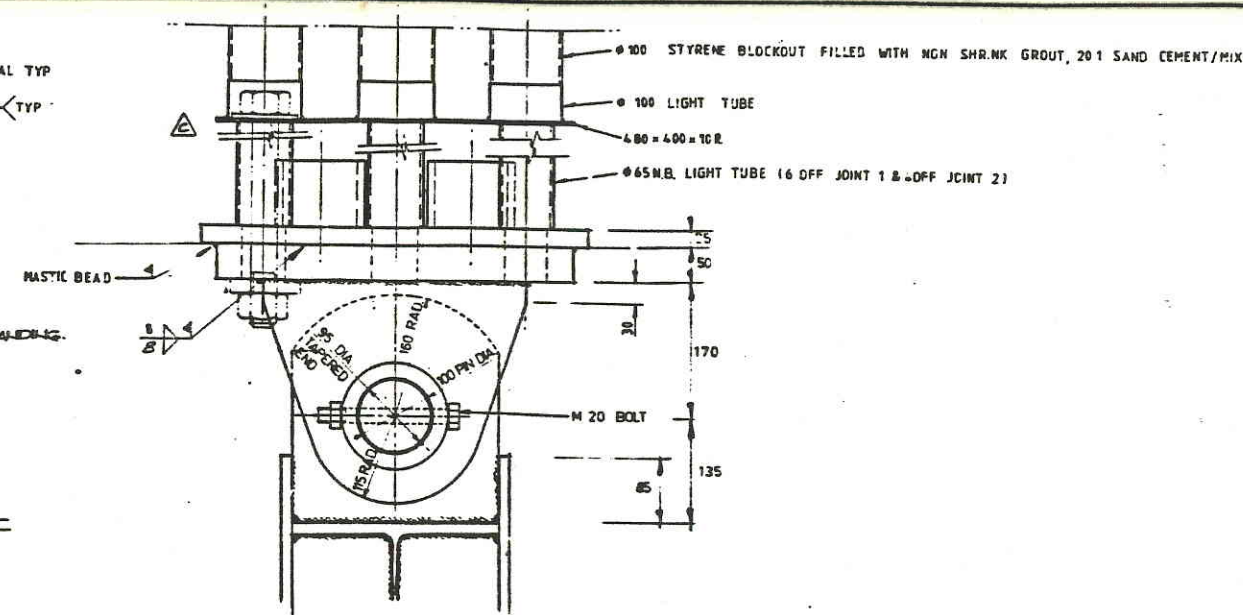
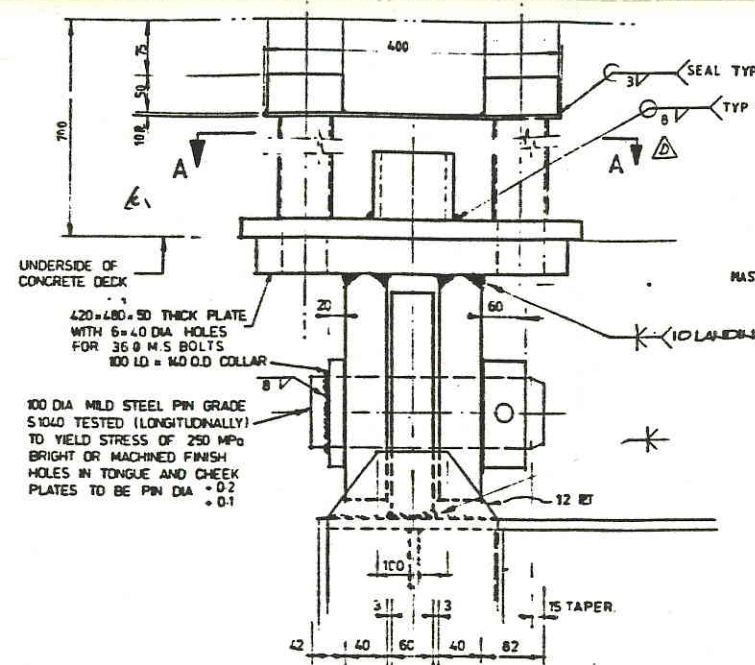
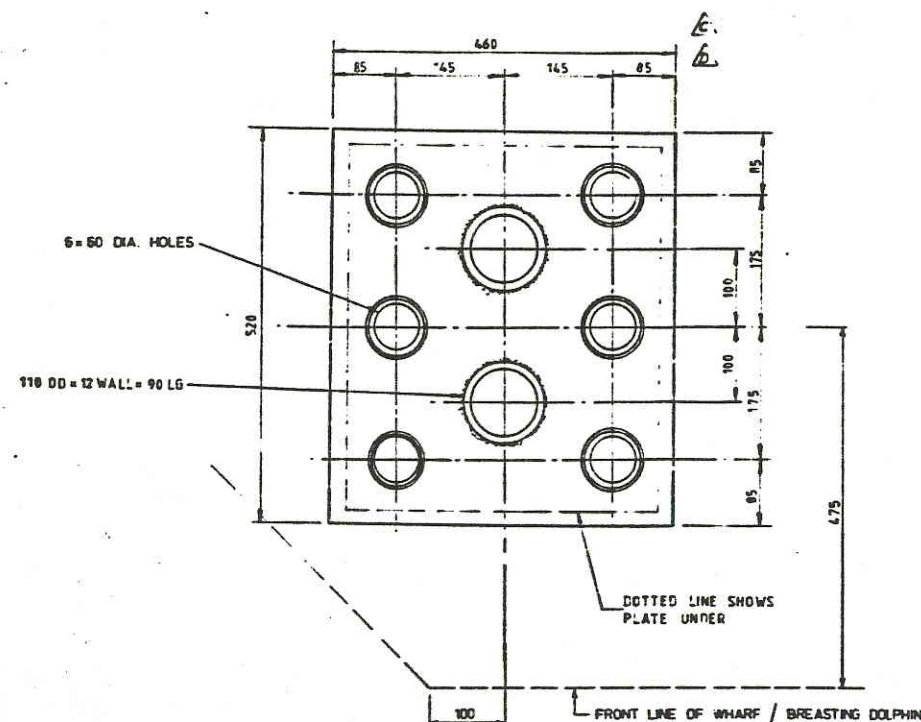
37241 D5031



1	AS BUILT	5595	GM.	R
0	ISSUED FOR CONSTRUCTION	131293	GM.	R
REV.	DESCRIPTION	DATE	BY	CHK.
<div> <div> FRASER CONSULTANTS </div> <div> Astron ASTRON ENGINEERING PTY LTD Suite 7, 2nd Floor, 11 Hedland Place PO Box 713, Karratha WA 6714 Tel: (081) 44 1073 Fax: (081) 44 2638 </div> </div>				
DRAWN:	G. MANSFIELD	DATE:	OCT '93	
DESIGNED:	H. BARR	CHECKED:		CERTIFIED: <i>R. Barr</i>
PROJECT: DAMPIER PORT AUTHORITY				
EXTENSIONS TO DAMPIER PUBLIC WHARF				
DRAWING TITLE: FENDER DETAILS				
WESTERN FACE SHEET 3 OF 3				
DRAWING NO	37241 - DS - 032			REV: 1

37241 DS032

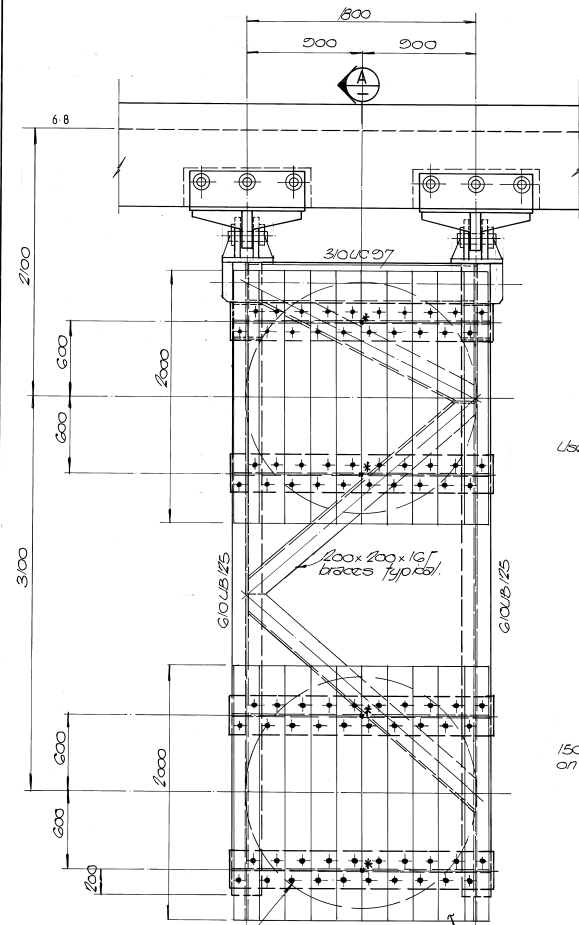
ORIGINAL DCW JETTY
FENDER STRUT SUPPORTS PLAN
(BERTHS 5, 6 & 7)



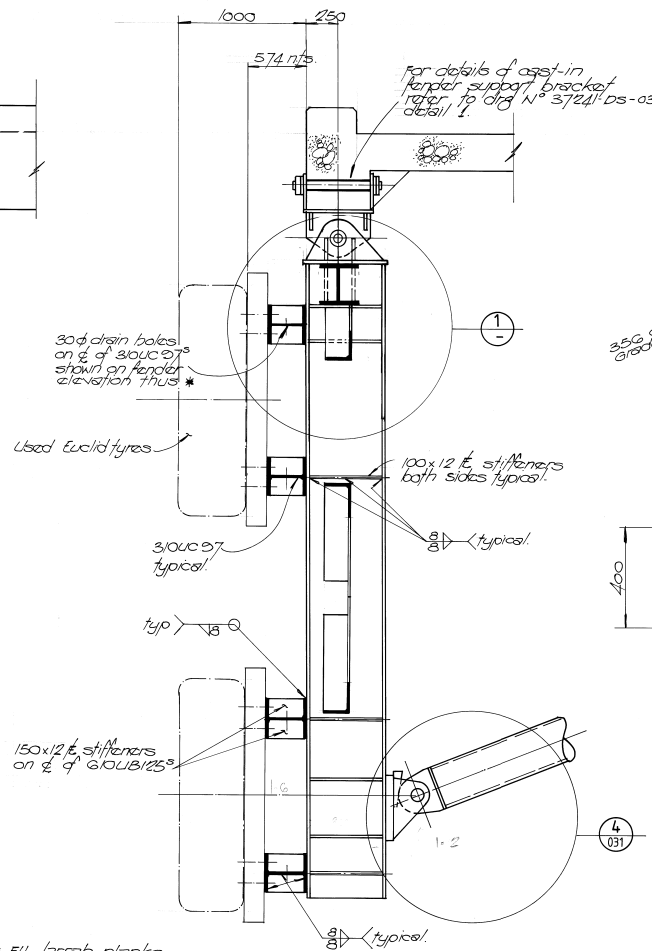
- NOTES :
1. PROTECTIVE SYSTEM -
COAL TAR EPOXY AS PER SPECIFICATION
 2. STEEL GRADE -
NOMINALLY 250 MPa U.L.C.

ORIGINAL DCW JETTY
EASTERN FACE FENDERS PLANS
(BERTH 6 ONLY)

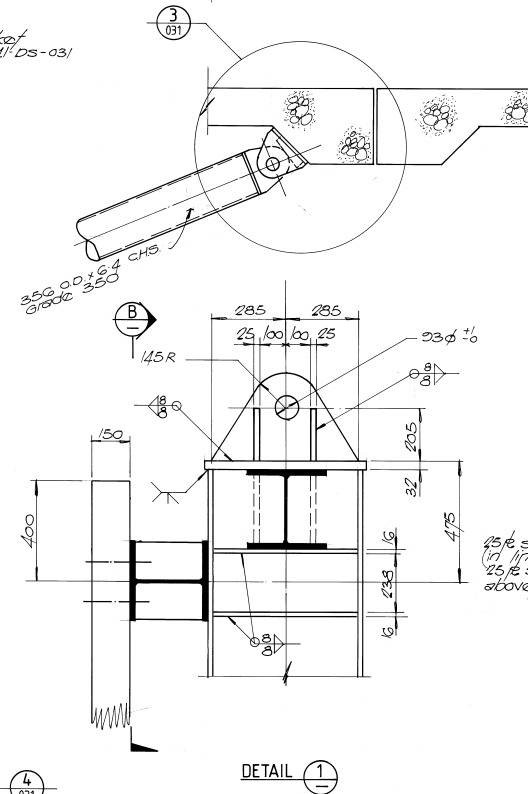
DCW JETTY EXTENSION
EASTERN FACE FENDERS PLANS
(BERTHS 2, 4 & 6)



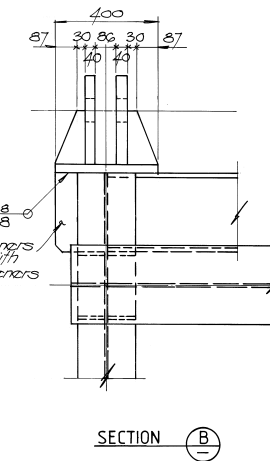
FENDER ELEVATION




SECTION A-A



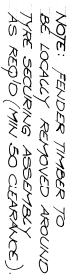
DETAIL 1-1



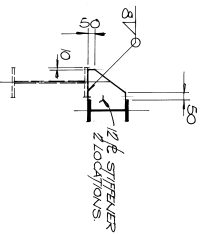
SECTION B-B

1	AS BUILT	5/5/95	GM	PL	
0	ISSUED FOR CONSTRUCTION	13/12/93	AL	PL	
REV.	DESCRIPTION	DATE	BY	CHK.	
<div><div><div>FRASER CONSULTANTS</div><div><div>Astron</div><div>A REGIONAL ENGINEERING & ENVIRONMENTAL ENGINEERING PTY LTD</div></div></div><div><div>Suite 7, Savings House, 11 Heiland Place PO Box 713, Karratha WA 6714 Tel: (091) 44 1079 Fax: (091) 44 2638</div></div></div>					
DRAWN:	G. MANSFIELD	DATE:	OCT '93	SCALE:	AS NOTED
DESIGNED:	H. BARR	CHECKED:		CERTIFIED:	<i>RLB</i>
PROJECT: DAMPIER PORT AUTHORITY					
EXTENSIONS TO DAMPIER PUBLIC WHARF					
DRAWING TITLE:					
FENDER DETAILS					
EASTERN FACE					
DRAWING N°	37241 - DS - 033				REV:
					1

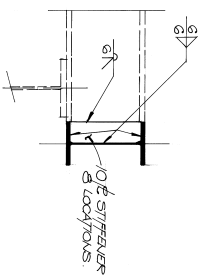
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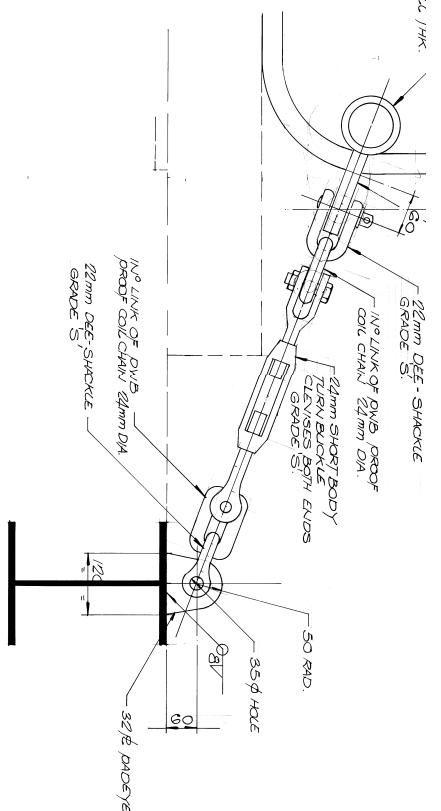
VIEW  1:20




SECTION D 1:20

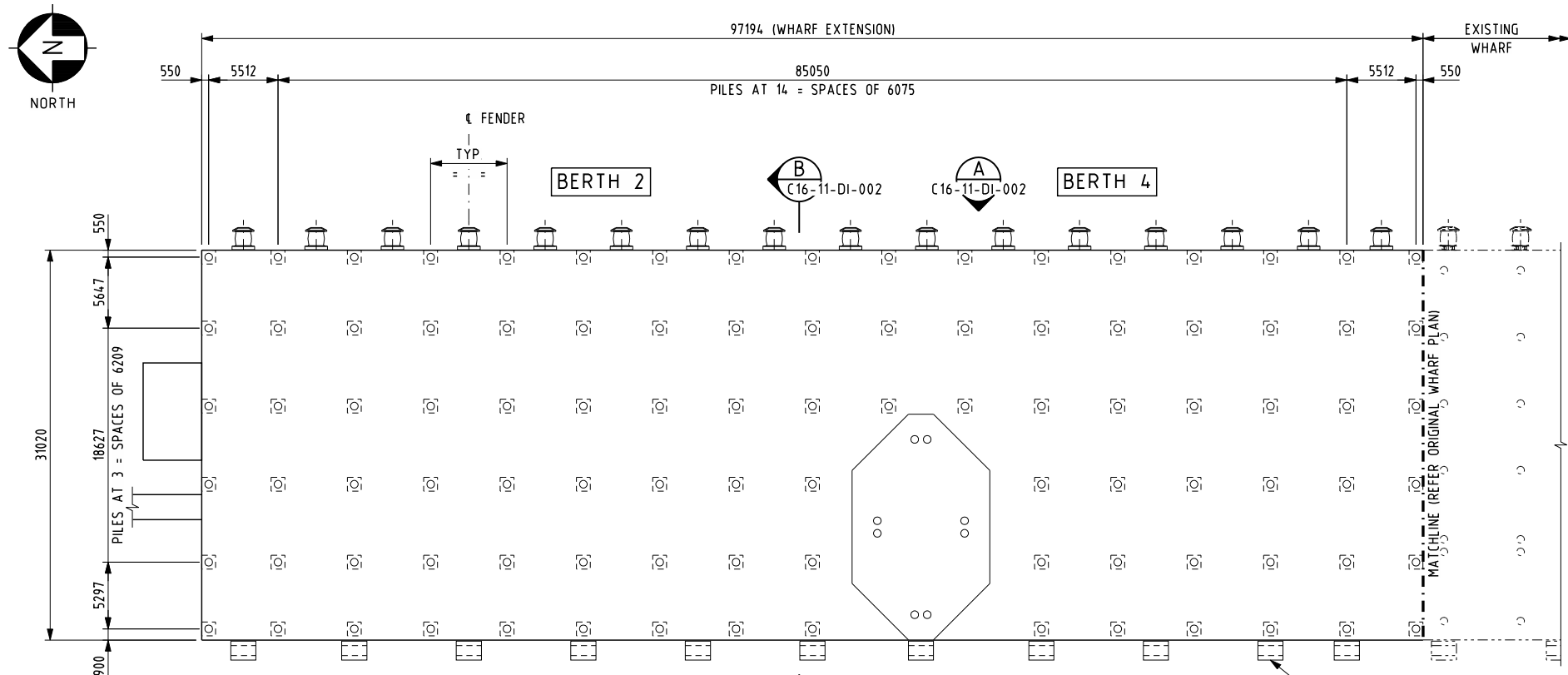


SECTION  1:5



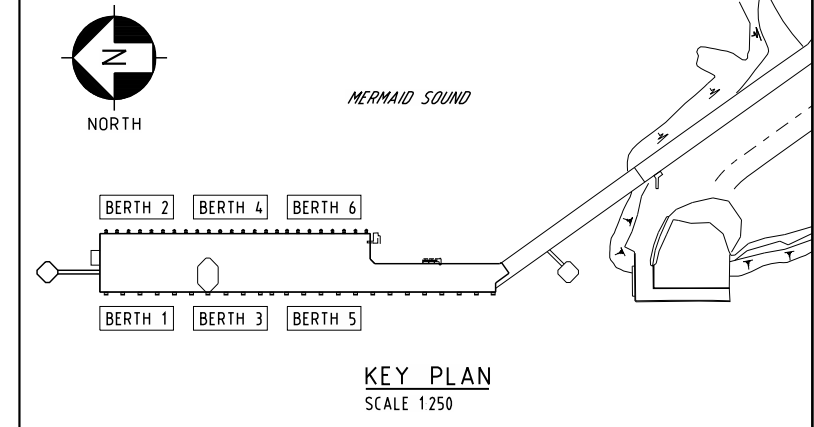
DRAWING NO. 37241-DS-037	REV. 0
DRAWING TITLE MODIFICATIONS TO EASTERN FALE FENDER FRAMES	
PROJECT DAMPER PORT AUTHORITY EXTENSIONS TO DAMPER PUBLIC WHARF	
DESIGNED H. BAAR	DATE OCT '93
CHECKED 	SCALE AS NOTED
128110 12/8/93 H. Baar	

CURRENT DCW JETTY
EASTERN FACE FENDERS
PLANS (BERTHS 2, 4 & 6)



PLAN - WHARF EXTENSION
SCALE 1:250

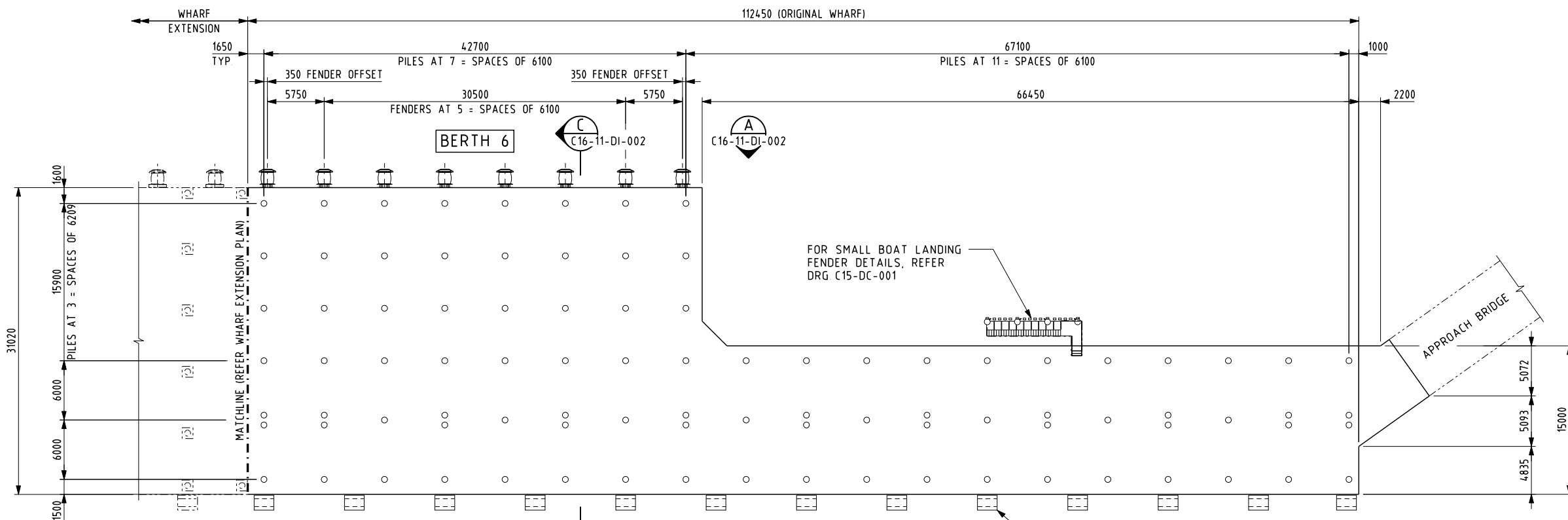
REFER TO DRG 37241-DS-019 REV 3
& DRG G7400-DS-038.1 REV 2 FOR
WESTERN FENDER DETAILS



NOTE REFER TO DPA DRG
D15-DE-001 REV P FOR
FENDER BERTHING CRITERIA
FOR EAST AND WEST BERTHS

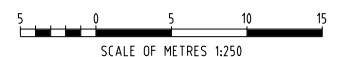
GENERAL NOTES

- 1 ALL DIMENSIONS ARE FROM PREVIOUS DPA DRAWINGS AND NO SURVEY HAS BEEN UNDERTAKEN TO VERIFY THESE DIMENSIONS



PLAN - ORIGINAL WHARF
SCALE 1:250

REFER TO DRG 37241-DS-019 REV 3
& DRG G7400-DS-038.1 REV 2 FOR
WESTERN FENDER DETAILS



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BCH Engineering Consultants Pty Ltd
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TELEPHONE 081 9159 4555
EMAIL info@dpa.wa.gov.au
POSTAL P.O. Box 285 DAMPIER WA 6713
WEB www.dpa.wa.gov.au

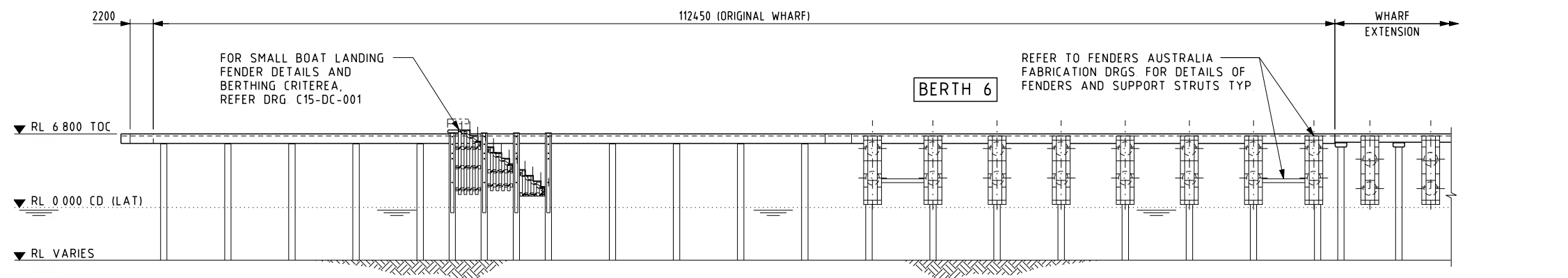
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0	05 05 2011	TW		AS-BUILT	RH						

DRAWN T. WHINNEN	DATE 05 05 11	CLIENT REVIEW DATE	CLIENT DAMPIER PORT AUTHORITY
DESIGNED	DATE	CLIENT APPROVAL DATE	PROJECT DAMPIER CARGO WHARF
CHECKED R. HINCKFUSS	DATE 05 05 11	VERTICAL DATUM HORIZ DATUM	TITLE BERTHS 2, 4 & 6 FENDERS GENERAL ARRANGEMENT PLAN
APPROVED FOR TENDER DATE	SCALE		
APPROVED FOR CONSTRUCTION DATE	COPYRIGHT 2011 © THIS DRAWING IS THE PROPERTY OF BCH ENGINEERING CONSULTANTS AND SHALL NOT BE REPRODUCED OR USED WITHOUT WRITTEN PERMISSION	ORIGINAL SHEET SIZE A1	BCH JOB NO 8075
		DRG No C16-11-DI-001	REVISION 0

NOTE REFER TO DPA DRG
D15-DE-001 REV P FOR
FENDER BERTHING CRITEREA
FOR EAST AND WEST BERTHS

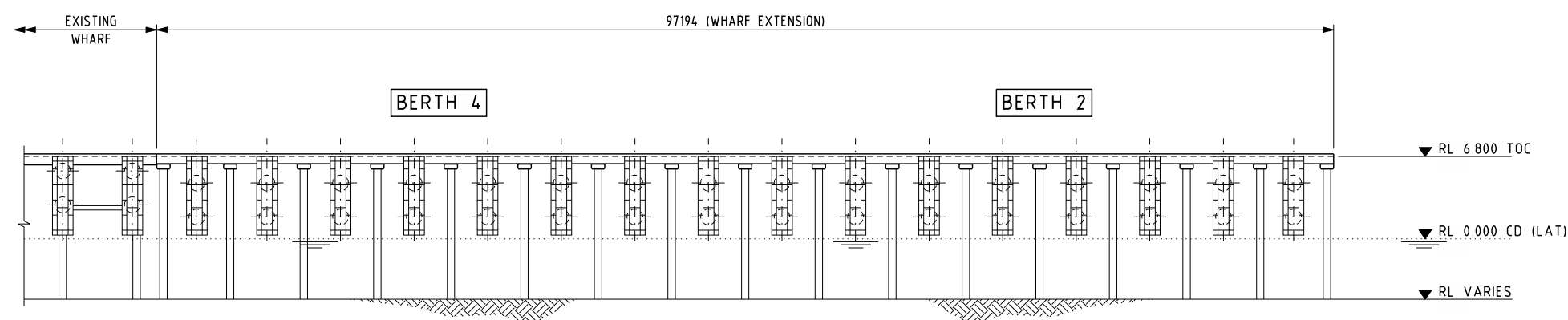
GENERAL NOTES

- 1 ALL DIMENSIONS ARE FROM PREVIOUS DPA
DRAWINGS AND NO SURVEY HAS BEEN
UNDERTAKEN TO VERIFY THESE DIMENSIONS



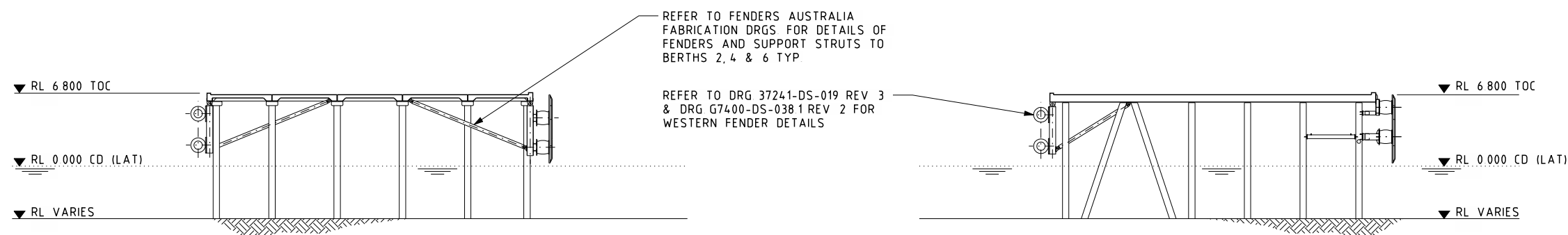
ORIGINAL WHARF - BERTH 6

ELEVATION **A**
SCALE 1:250 C16-11-DI-001



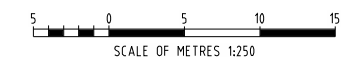
WHARF EXTENSION - BERTHS 2 & 4

ELEVATION **A** CONT
SCALE 1:250 C16-11-DI-001



SECTION **B**
SCALE 1:250 C16-11-DI-001

SECTION **C**
SCALE 1:250 C16-11-DI-001



Phone 08 9322 1877
Fax 08 9322 3270
Email admin@bchengineering.com.au
Web www.bchengineering.com.au

BCH Engineering Consultants Pty Ltd
ABN: 30 128 081 188

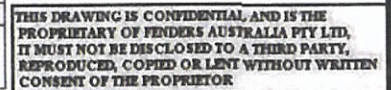


TELEPHONE 081 9159 4555
EMAIL info@dpa.wa.gov.au
POSTAL P.O. Box 285 DAMPIER WA 6713
WEB www.dpa.wa.gov.au

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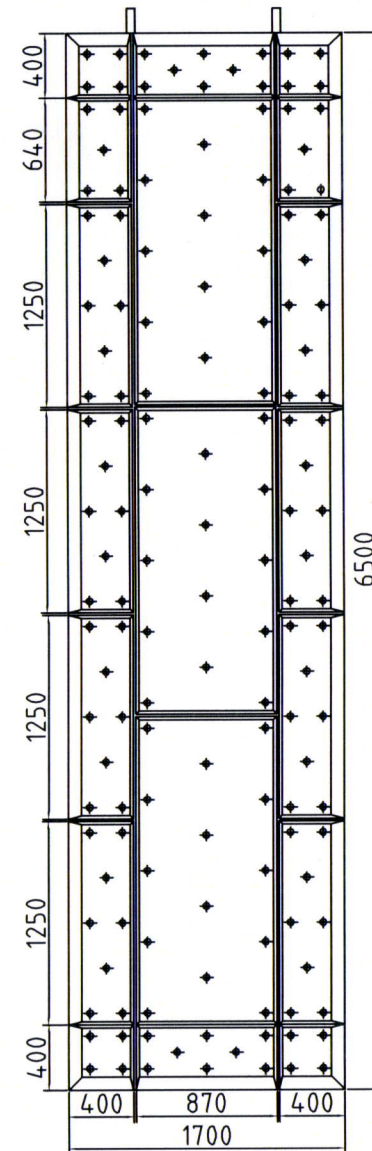
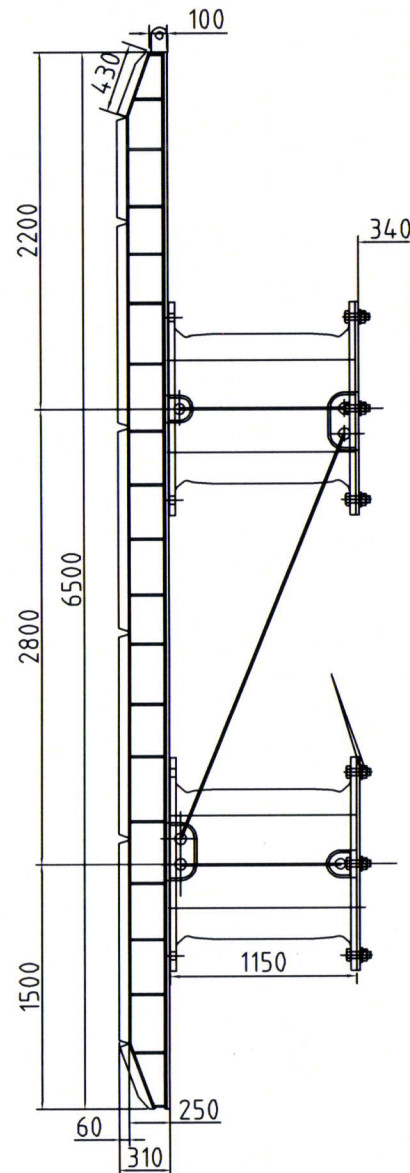
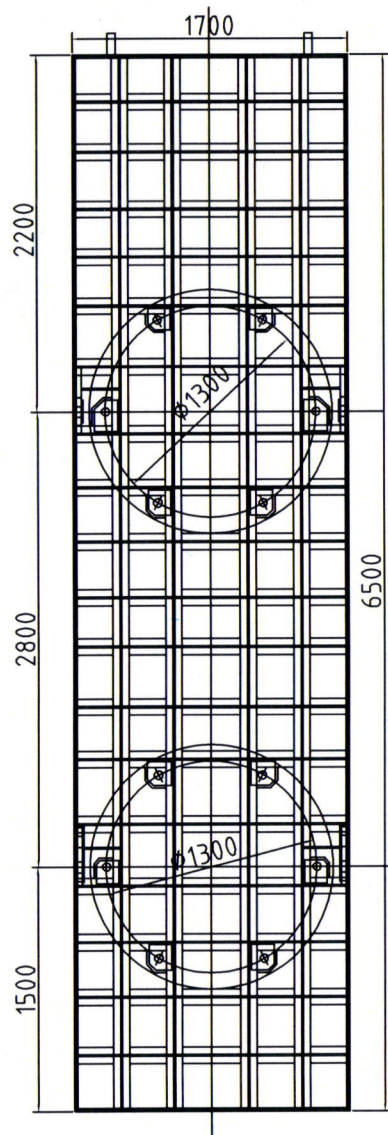
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DESIGNED	DATE	CLIENT APPROVAL DATE	PROJECT DAMPIER CARGO WHARF
CHECKED R. HINCKFUSS	DATE 05 05 11	VERTICAL DATUM HORIZ DATUM	TITLE BERTHS 2, 4 & 6 FENDERS ELEVATIONS & SECTIONS
APPROVED FOR TENDER DATE	SCALE		
APPROVED FOR CONSTRUCTION DATE			
ORIGINAL SHEET SIZE A1		BCH JOB NO 8075	DRG No C16-11-DI-002
		FILE NAME	REVISION 0

ALL WELDS 10mm FILLET
WELDS UNLESS NOTED



Date: 14/03/2008

Drwg. No.: 1150-2-4-GA	Rev: 2
Gen Drwg. No.: DPA-GA24/08SA	



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SCALE: APPROX
 DRAWING NO.

DPA-GA24/08SA

INITIAL	NAME	DATE	APP'D
D.A.		13/3/08	
G.G.		18/3/08	
GHD		18/3/08	
DPA		18/3/08	

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ABN - 54 066 066 475

59 Burlington Street, Naval Base, WA 6165
 Phone: (08) 9410 0111 Fax: (08) 9410 0999



APPROVAL

Drawn	S. A
Checked	P. Mc
Approved	D. A
Date	18/04/08

DAMPIER PORT AUTHORITY BERTHS 2 & 4

GENERAL ARRANGEMENT OF BERTHING OPERATION

SCALE 30:1

ALL STEEL JOINTS
FULLY SEALED WELD
ALL WELDS 10mm FILLET
WELDS UNLESS NOTED

RL 6.8

HAT 5.1

MHWS 4.4

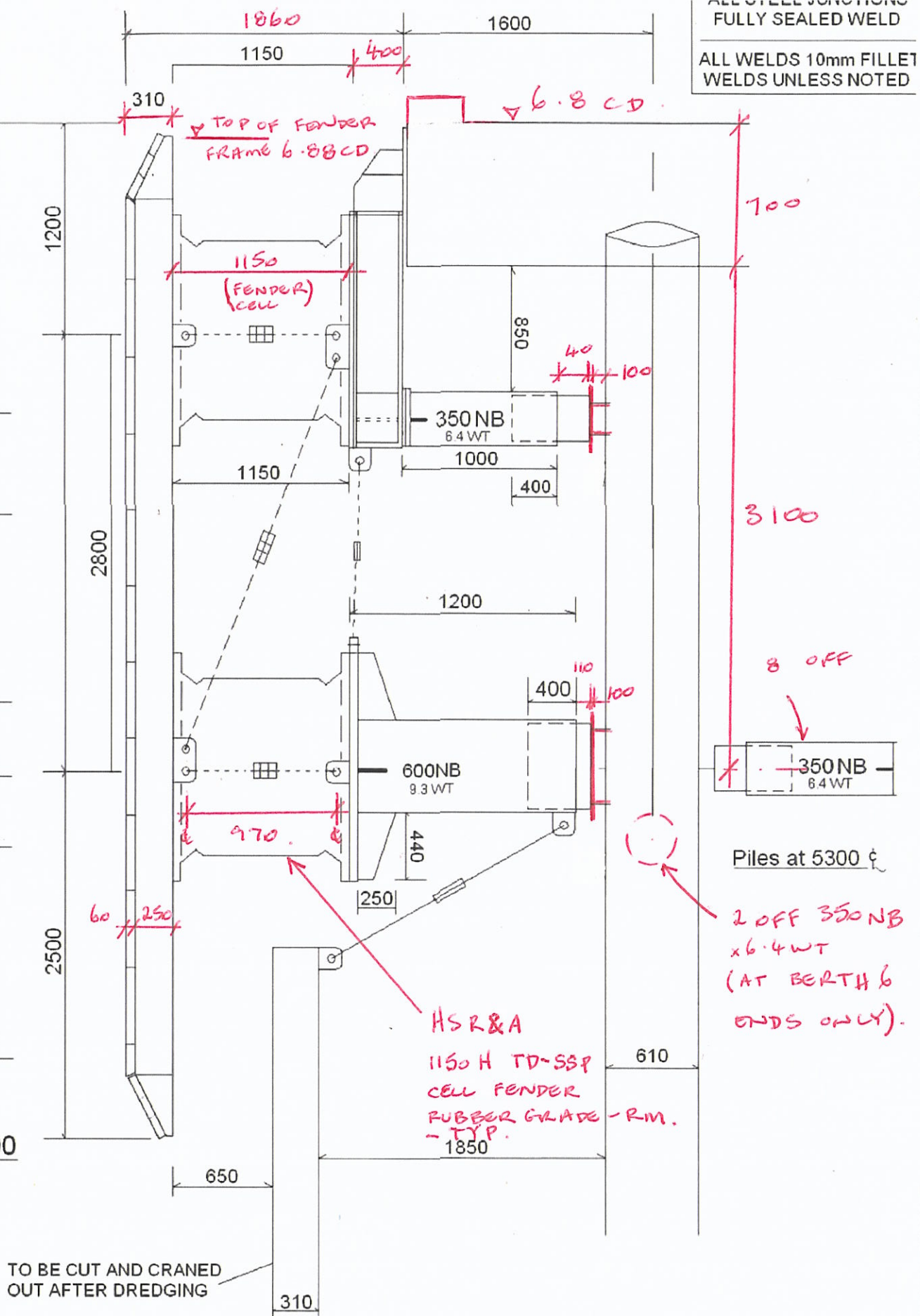
MHWN 3.1

MSI 2.6

MLWN 2.1

MLWS 0.7

LAT 0.00



BC H
23/5/11

FINAL FOR PRODUCTION			
D.P.A.	G.G.	G.H.D.	D.P.A.
DATE	DATE	DATE	DATE
13/5/08	14/5/08	11/6/08	

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Ph: 61-8 9410 0111 Fax: 61-8 9410 0999
59 Burlington St, Naval Base 6165

ADN 51066066 175

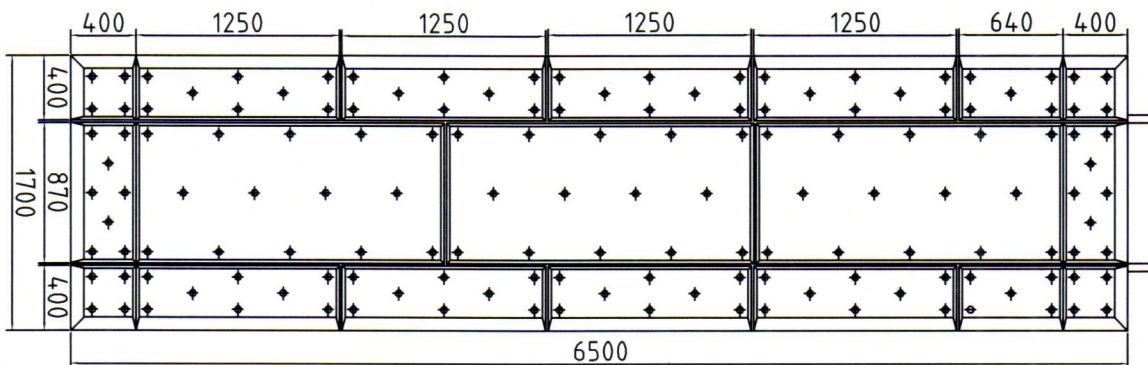
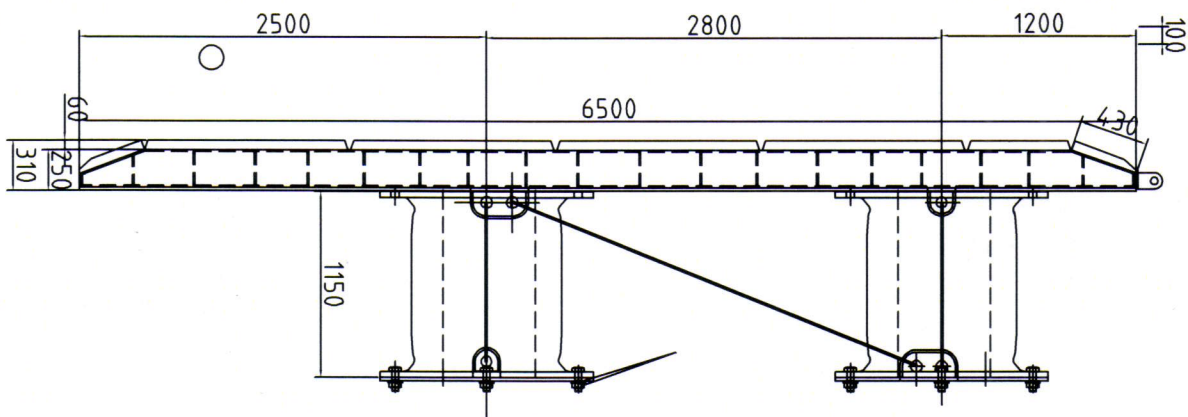
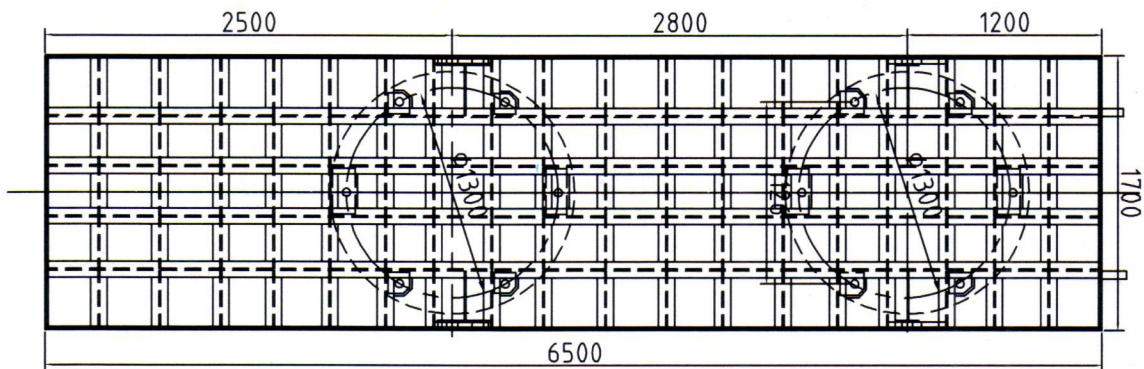
Title: Dampier Port Authority
DCW Berth 6

Net Weight: T.B.A

Description: Berth 6 General Arrangement

Drwg. No.: 1150-6-GA Rev:3

Gen Drwg. No.: DPA/GA6/08SA



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DA	15/11/08
GG	15/11/08
GHD	15/11/08
DPA	15/11/08
NAME	
DATE	
APP'D	

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ABN: 54 006 096 475



APPROVAL	Drawn	S. A.
	Checked	P. Mc.
	Approved	D. A.
	Date	19/04/08

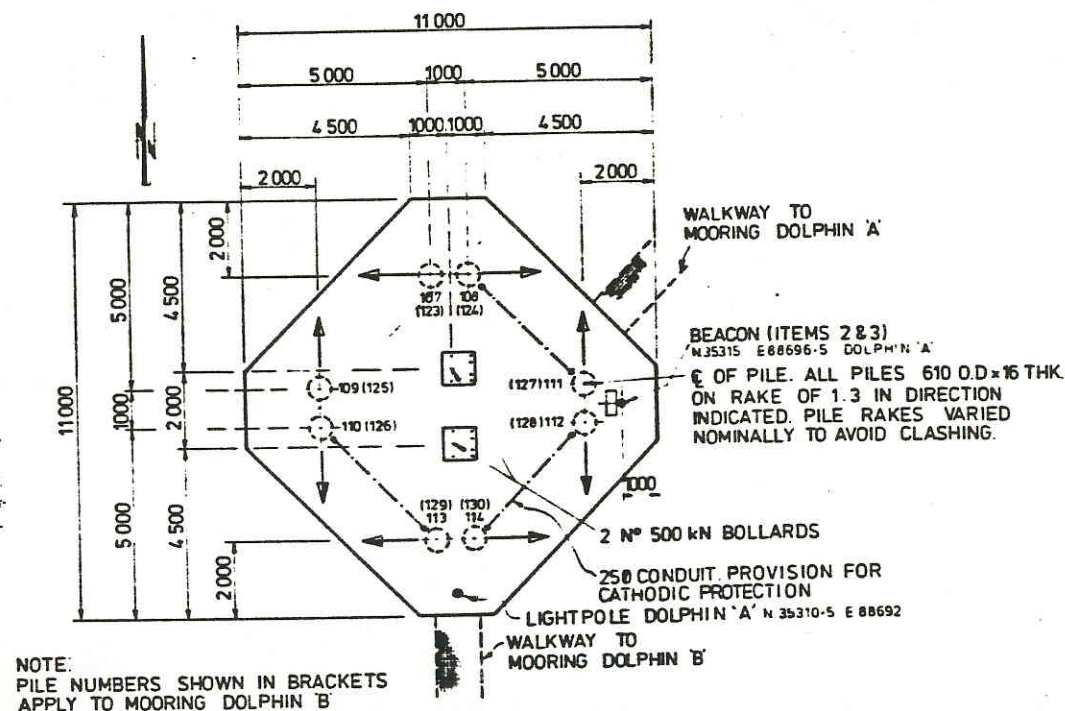
DAMPER PORT AUTHORITY BERTH 6

GENERAL ARRANGEMENT OF BERTHING OPERATION

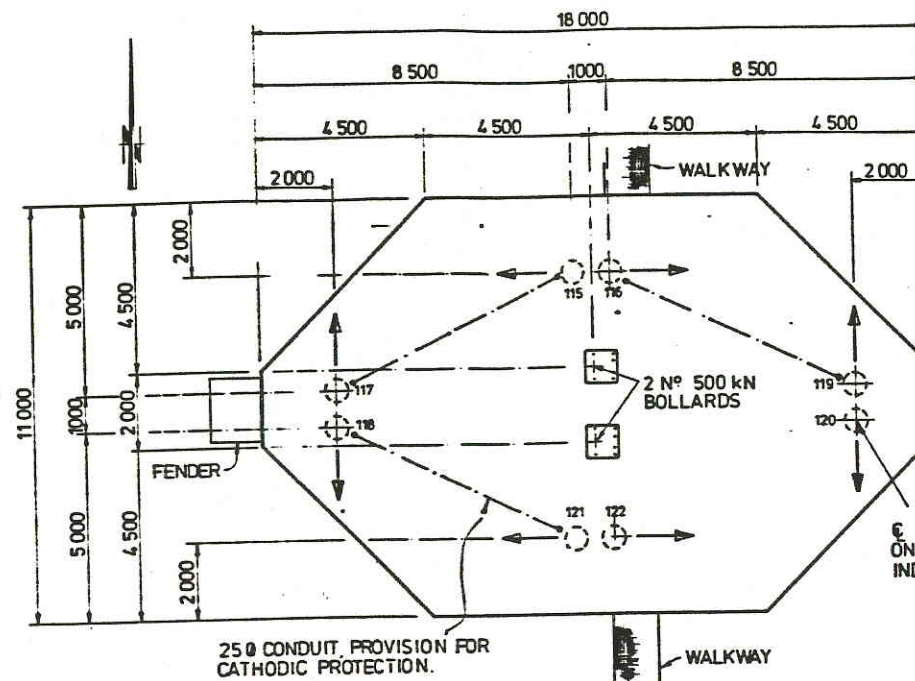
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SCALE APPROX

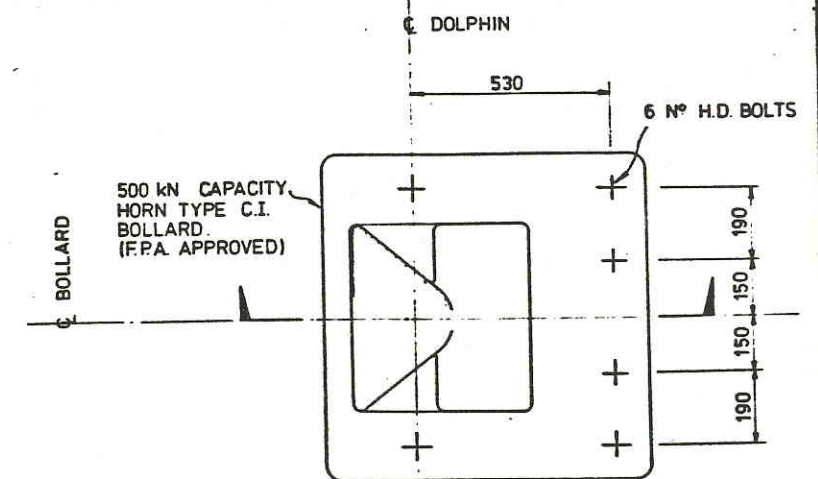
ORIGINAL DCW JETTY
DOLPHINS & BOLLARDS
PLANS



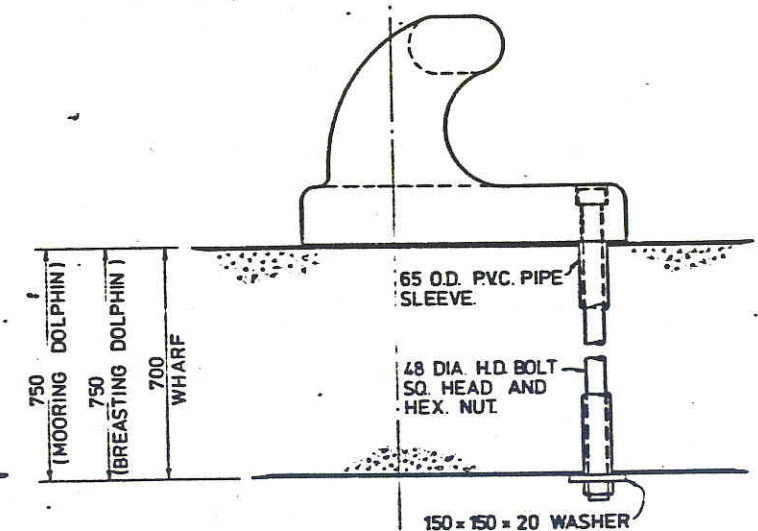
PLAN



PLAN

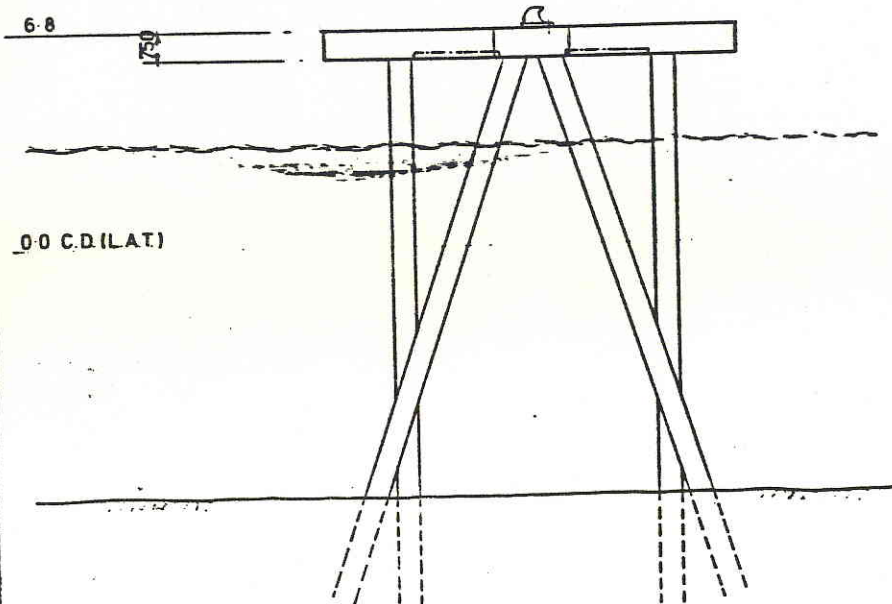


PLAN



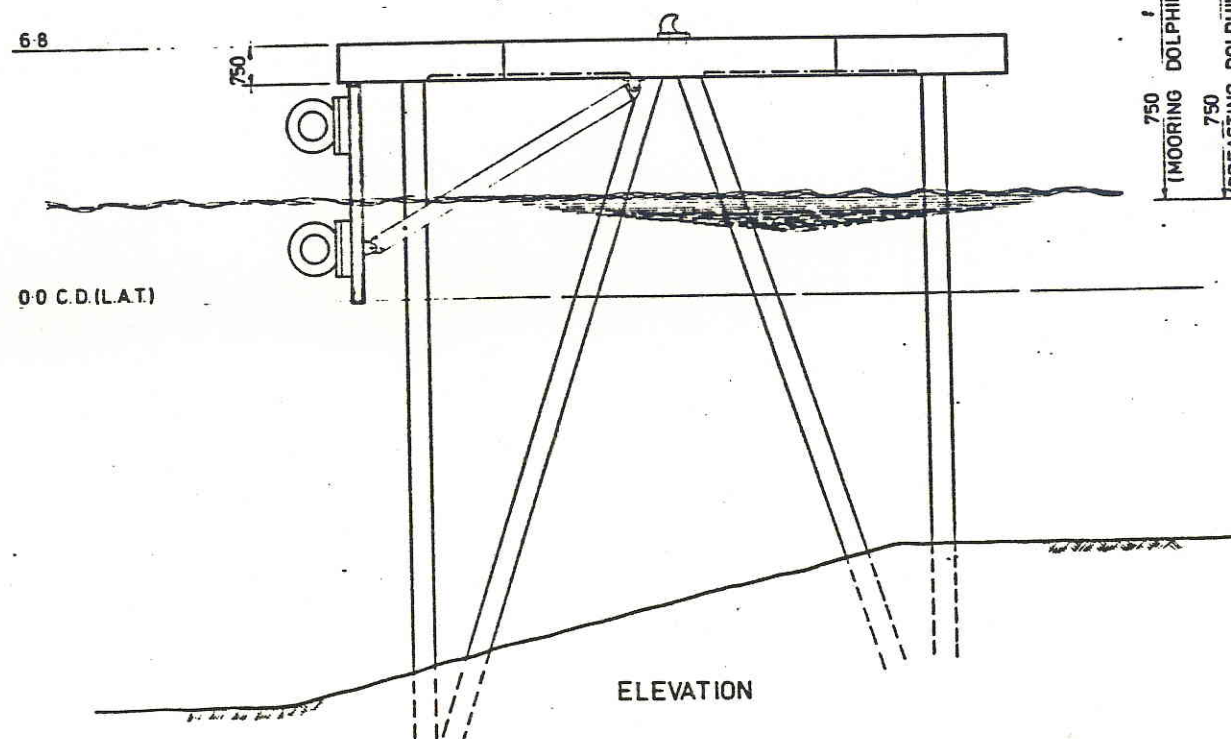
SECTION

BOLLARD H.D. BOLT DETAILS
1:10



ELEVATION

MOORING DOLPHIN DETAILS
1:100



ELEVATION

BREASTING DOLPHIN DETAILS
1:100

- NOTES:
- PILE DESIGN FOUNDING LEVEL -19.5 C.D. (L.A.T.)
 - PILE REQUIRED CAPACITY
1500 kN BASIC COMPRESSION
300 kN BASIC TENSION
 - CONCRETE STRENGTH - $F_c = 40 \text{ MPa}$
 - PILE PROTECTIVE SYSTEM - SEE DRG G7400 DS 038.1

AS BUILT

JOHN HOLLAND CONSTRUCTION GROUP
2 HARDY STREET, SOUTH PERTH, W.A.
TELEPHONE 367 4222

MAUNSELL
& PARTNERS PTY LTD
CONSULTING ENGINEERS

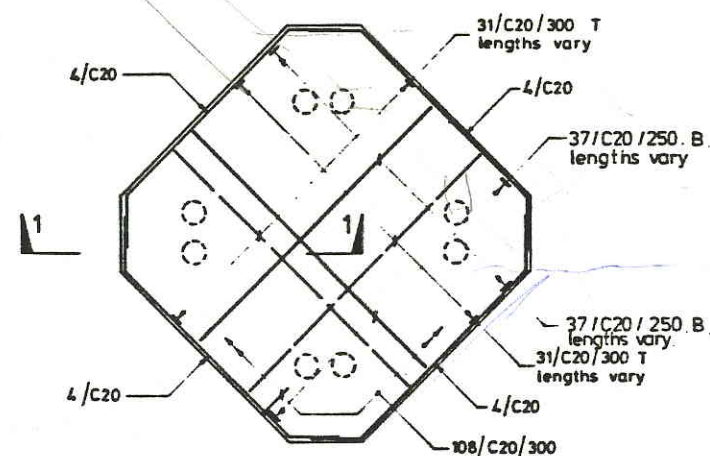
BHP
CENTRAL ENGINEERING DIVISION
City Centre Tower, 13th Floor
40 St George's Terrace
PERTH W.A. 6000

DRAWING NO.	TITLE	REFERENCE DRAWINGS
G7400 DS 041	DOLPHIN - REINF DETAILS	
	GENERAL LAYOUT	

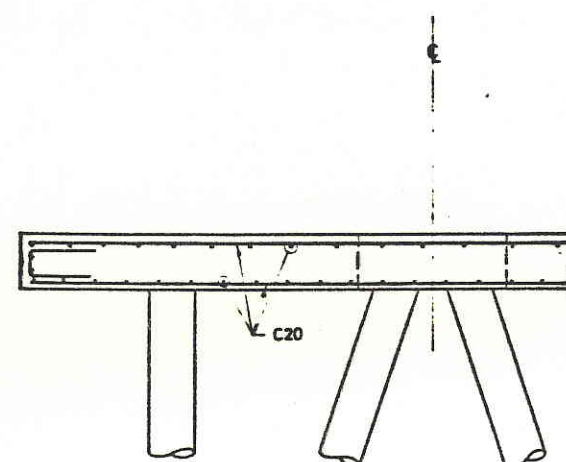
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2	MAY 83	MM		DRWG WAS A4660 DGO41-1	
1	MAR 83	GS		AS BUILT - CONTRACT 1013 G	
0	25-6-82	MM		APPROVED FOR CONSTRUCTION	
0	7-8-82	MM		LONG DOLPHIN REDUCED 5 750 mm	
0	5-2-82	FA		30% RELEASE FOR FENDER FRAME MOUNTING	
2		DSR		INITIAL ISSUE	

DRAWN	B.W.
DATE	22-9-81
CHECKED	
APPROVED	
APPROVED	
APPROVED	
APPROVED	
APPROVED	

Woodside Offshore Petroleum Pty Ltd	
NORTH WEST SHELF DEVELOPMENT PROJECT	
MATERIALS OFFLOADING FACILITY	
DOLPHINS - CONCRETE DETAILS	
SCALE AS SHOWN	DRAWING NO. G7400 DS 041-1
	REVISION 2

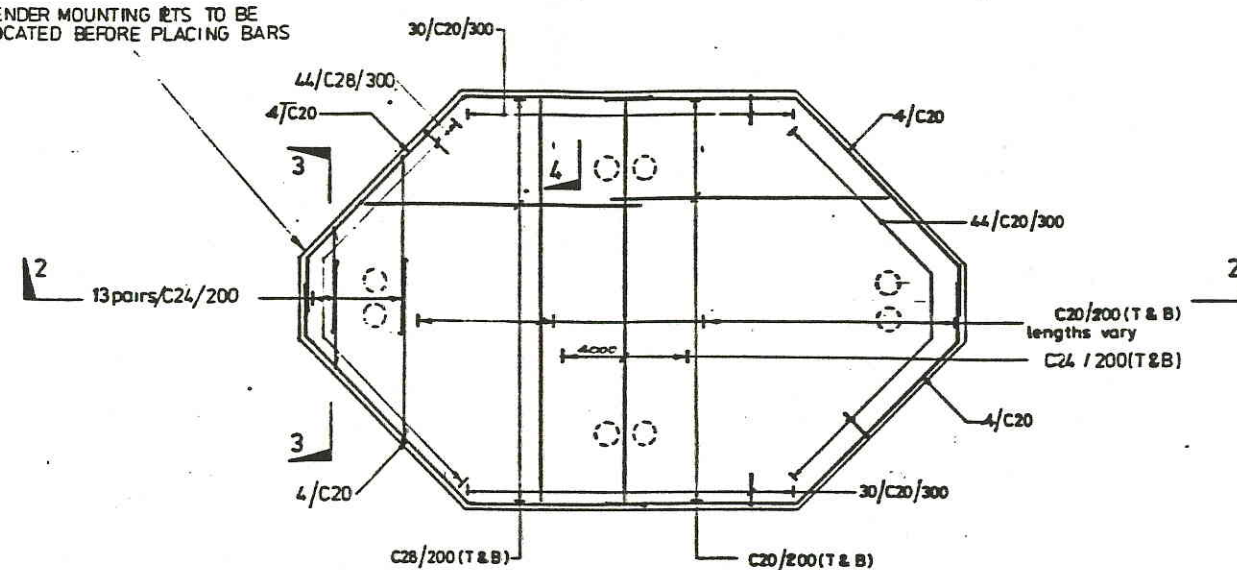


PLAN ON MOORING DOLPHIN
1:100

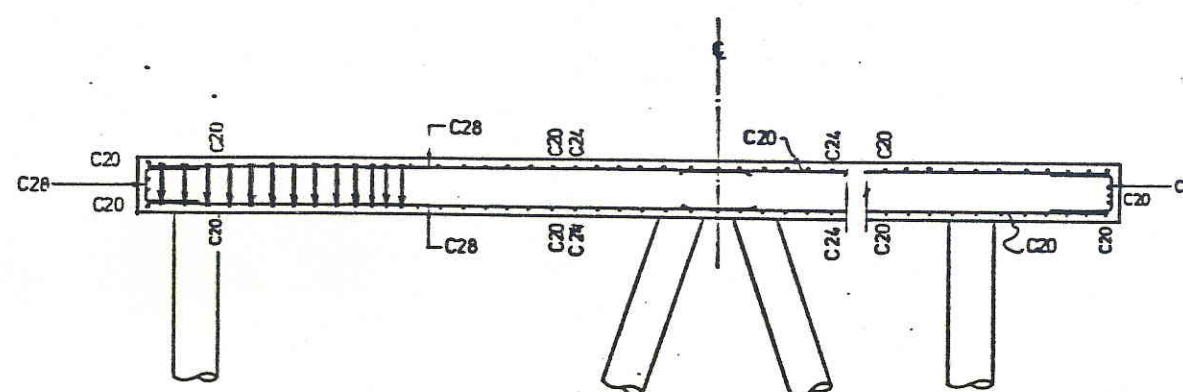


SECTION 1-1
1:50

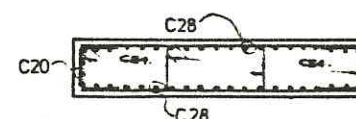
NOTE: FENDER MOUNTING SETS TO BE LOCATED BEFORE PLACING BARS



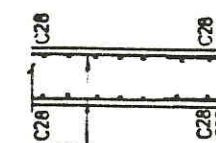
PLAN ON BREASTING DOLPHIN
1:100



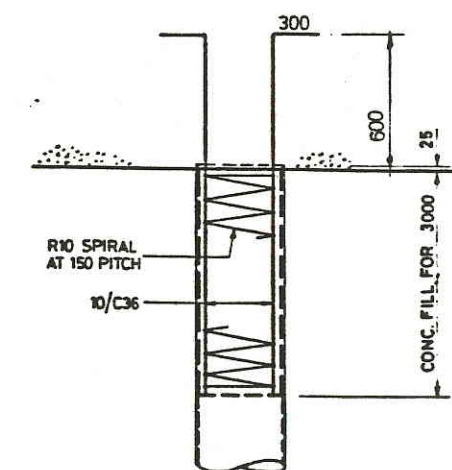
SECTION 2-2
1:50



SECTION 3-3
1:50



SECTION 4-4
1:50



TYP. PILE TERMINATION DETAIL
1:25

- NOTES
- COVER TO REINFORCEMENT: PILE CAP 85mm - PILES 40mm
 - CONCRETE STRENGTH: PILE INFILL - SEE NOTE 2 DRG NO 67400 DS 038.1

JOHN HOLLAND CONSTRUCTION GROUP
2 HARDY STREET SOUTH PERTH W.A. TELEPHONE 367 4227

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BHP
CENTRAL ENGINEERING DIVISION
City Centre Tower 13th Floor
44 St George's Terrace
PERTH W.A. 6000

DRAWING NO	TITLE	REFERENCE DRAWINGS
67400 DS 042.1	DOLPHINS - REINFORCEMENT DETAILS	

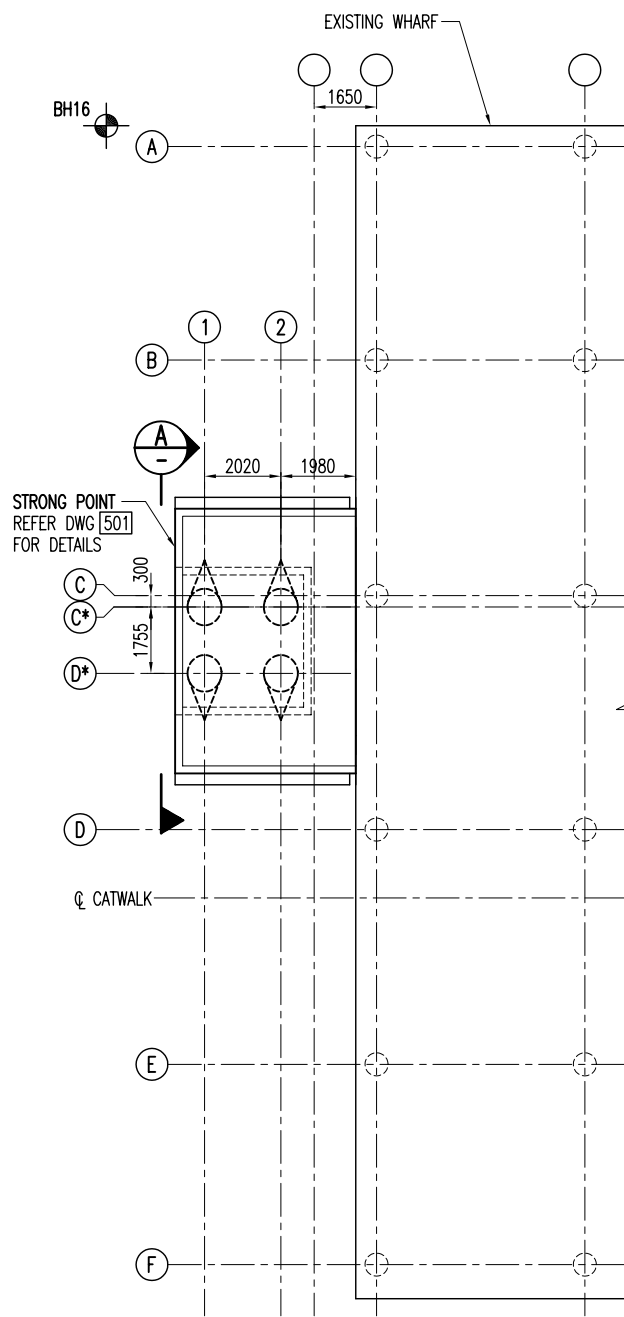
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1	MAR 83	GB		AS BUILT - CONTRACT 1023 G			
0	25-6-82	MM		APPROVED FOR CONSTRUCTION			
C	21-5-82	BSV		REVISION 2 BREASTING DOLPHIN REINFORCEMENT AMENDED			
B	10-2-82	FW		BREASTING DOLPHIN REINFORCEMENT AMENDED			
A		CSR		INITIAL ISSUE			

DRAWN	BW
DATE	22-9-81
CHECKED	
APPROVED	
APPROVED	
APPROVED	
APPROVED	
APPROVED	

AS BUILT
Woodside Offshore Petroleum Pty Ltd
NORTH WEST SHELF DEVELOPMENT PROJECT
MATERIALS OFFLOADING FACILITY
DOLPHINS - REINFORCEMENT DETAILS
SCALE 1:100, 1:50, 1:25
DRAWING NO 67400 DS 042.1
REVISION 2

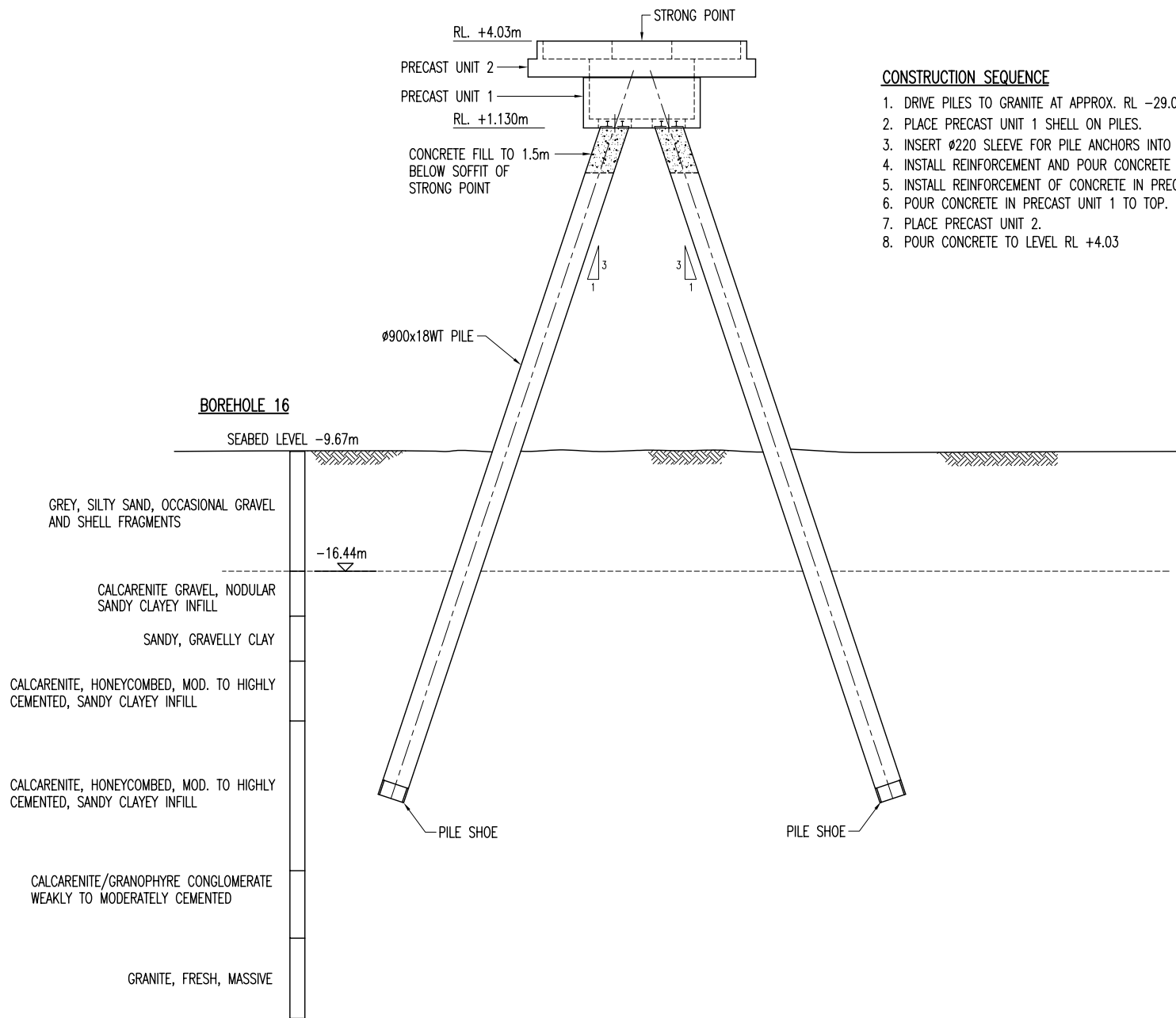
DCW JETTY EXTENSION
ADDITIONAL BOLLARDS PLAN

DCW JETTY EXTENSION
STRONG POINT PLANS



PILE LOCATION	C*-1	C*-2
RAKE	1:3	1:3
CUTOFF LEVEL	+1.180	+1.180
CAPACITY (kN)		
TENSION	2550	2550
COMPRESSION	4130	4130
FOUNDING LEVEL	-23.8	-22.3

PILE LOCATION	D*-1	D*-2
RAKE	1:3	1:3
CUTOFF LEVEL	+1.180	+1.180
CAPACITY (kN)		
TENSION	2550	2550
COMPRESSION	4130	4130
FOUNDING LEVEL	-22.7	-22.8



CONSTRUCTION SEQUENCE

1. DRIVE PILES TO GRANITE AT APPROX. RL -29.00m.
2. PLACE PRECAST UNIT 1 SHELL ON PILES.
3. INSERT Ø220 SLEEVE FOR PILE ANCHORS INTO PILES.
4. INSTALL REINFORCEMENT AND POUR CONCRETE IN TOP OF PILES.
5. INSTALL REINFORCEMENT OF CONCRETE IN PRECAST UNIT 1
6. POUR CONCRETE IN PRECAST UNIT 1 TO TOP.
7. PLACE PRECAST UNIT 2.
8. POUR CONCRETE TO LEVEL RL +4.03

SECTION
SCALE: 1:100

NOTE:
ALL LEVELS TO A.H.D.

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NOTES:
1. NOMINATED COMPRESSION AND TENSION CAPACITIES ARE ULTIMATE VALUES.

REV.	BY	DATE	APPROVED FOR CONSTRUCTION DRAWING HISTORY	CHK	APP	REV.	BY	DATE	PRE-CONSTRUCTION DRAWING HISTORY	CHK	APP
4	NPK	06.07.05	AS CONSTRUCTED	JAM	LPM						
3	LCR	29.03.05	PILE LOCATIONS & NOTES AMENDED	JAM	LPM	C1	LCR	08.03.04	BOX COMPLETION ISSUE	LM	LPM
2	LCR	06.01.05	PILE LOCATIONS REVISED	JAM	LPM	C	LCR	17.03.04	ISSUED FOR INFORMATION - LEVELS REVISED	LM	LPM
1	LCR	09.06.04	STRONG POINT LOCATION AMENDED	JAM	LPM	B	LCR	16.03.04	ISSUED FOR INFORMATION - STRONG POINT REVISED	LM	LPM
0	LCR	15.04.04	APPROVED FOR CONSTRUCTION	JAM	LPM	A	LCR	25.02.04	ISSUED FOR INFORMATION	LM	LPM

CLIENT	BARCLAY MOWLEM CANDAC Performance Built on Trust
MADSEN GIERING consulting engineers	MADSEN GIERING P.O. BOX 1218 MILTON QLD 4064 TEL: (07) 3367 2321 FAX: (07) 3369 3880 EMAIL: mgc@madsengiering.com.au WWW: www.madsengiering.com.au
PROJECT:	DAMPIER PORT AUTHORITY - CARGO WHARF UPGRADE
TITLE:	STRONG POINT DETAILS - SH. 1 OF 5
SCALE:	AS SHOWN
JOB No.:	950
DRAWING No.:	950-DWG-500
REV.:	4

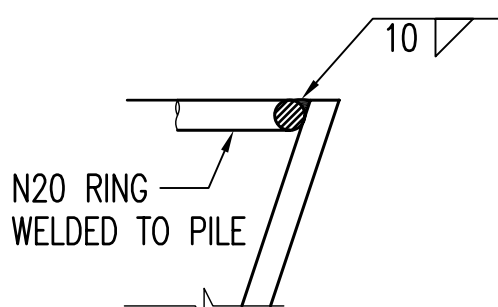
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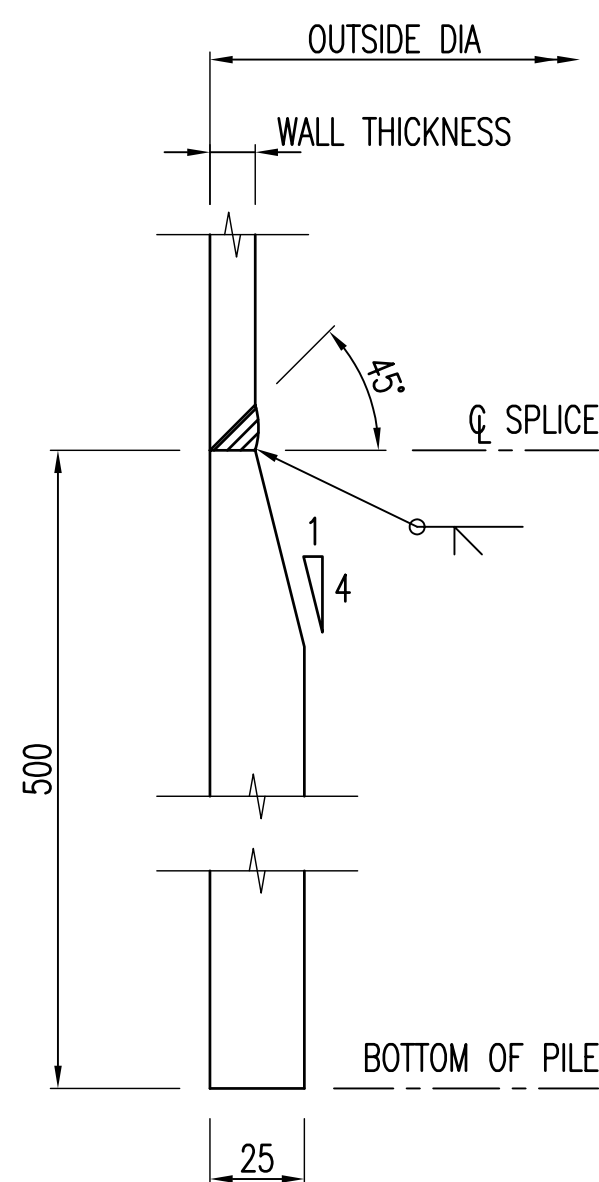
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DOCUMENT
CONTROL
STATUS

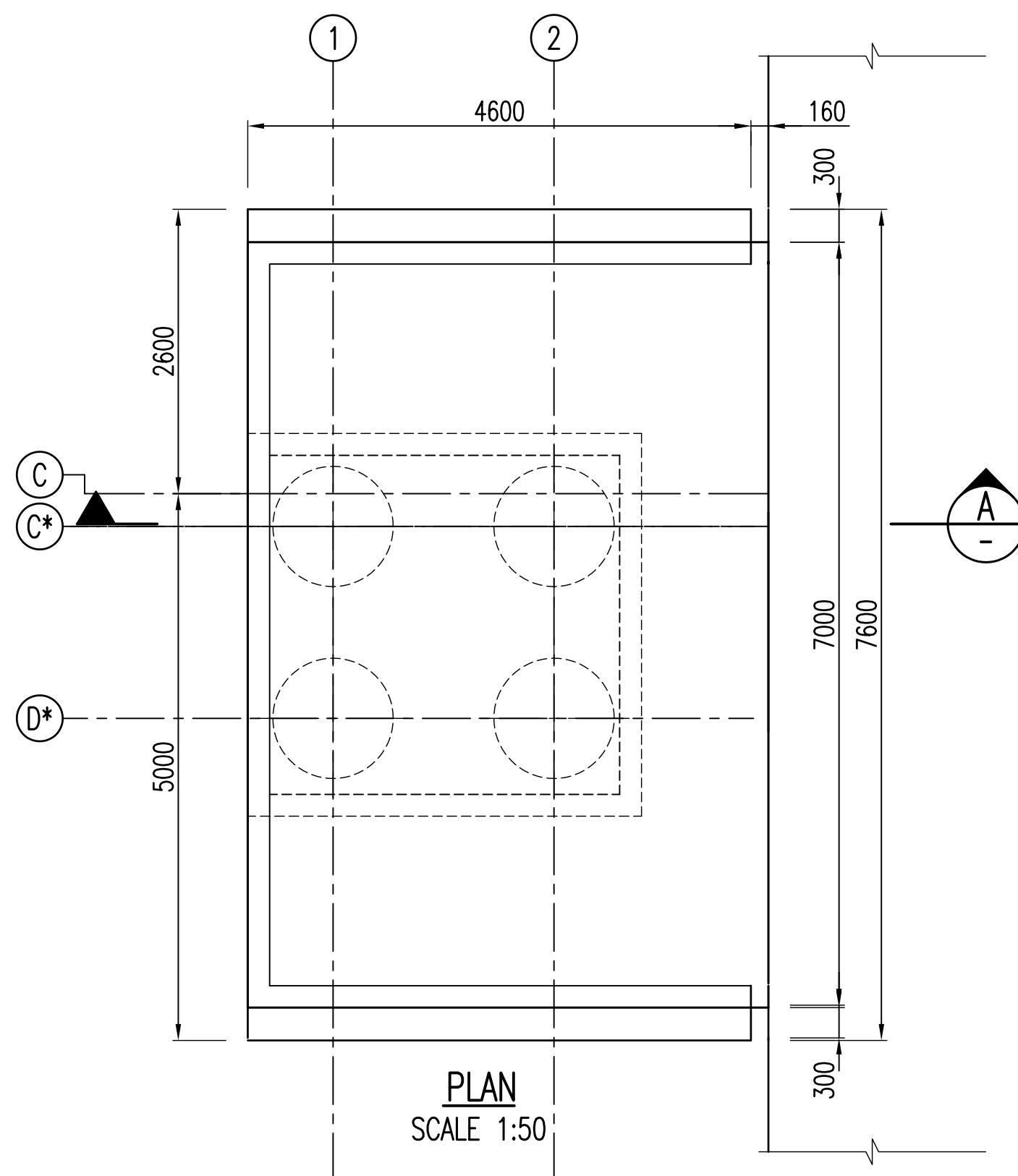
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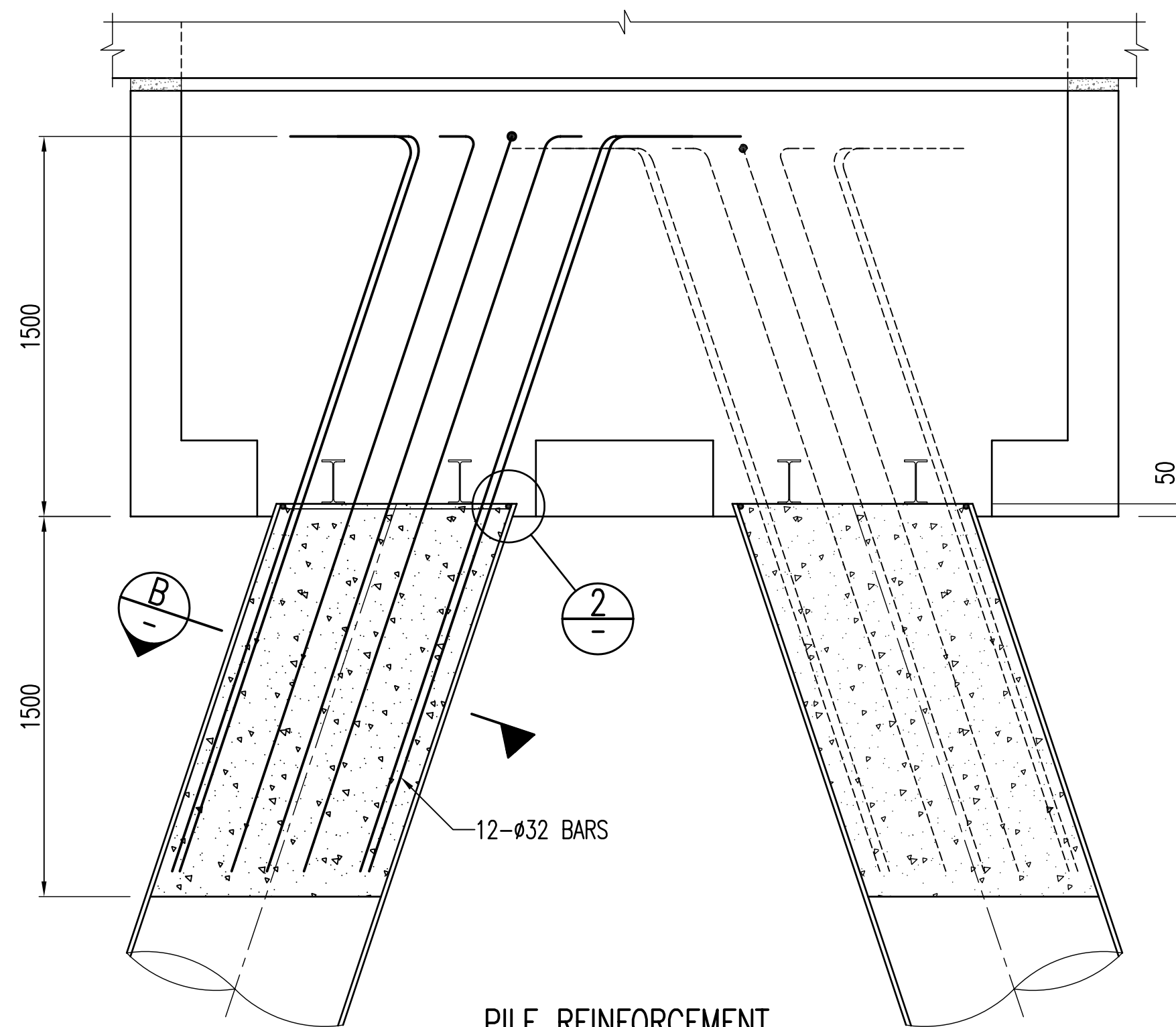
DETAIL
SCALE: 1:5



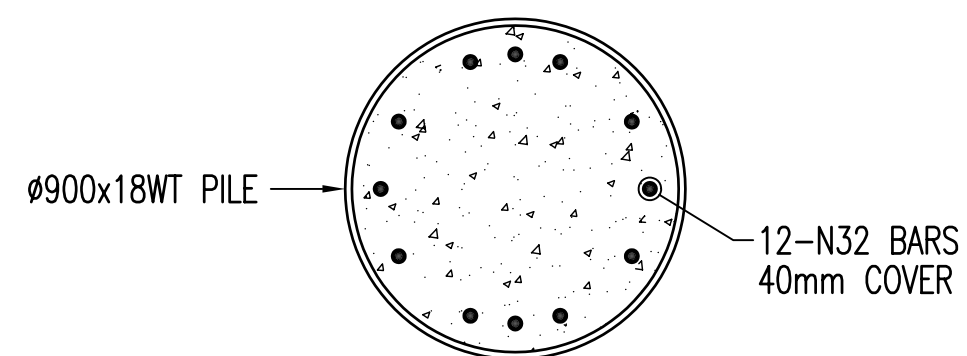
DETAIL
SCALE: 1:2



PLAN
SCALE 1:50



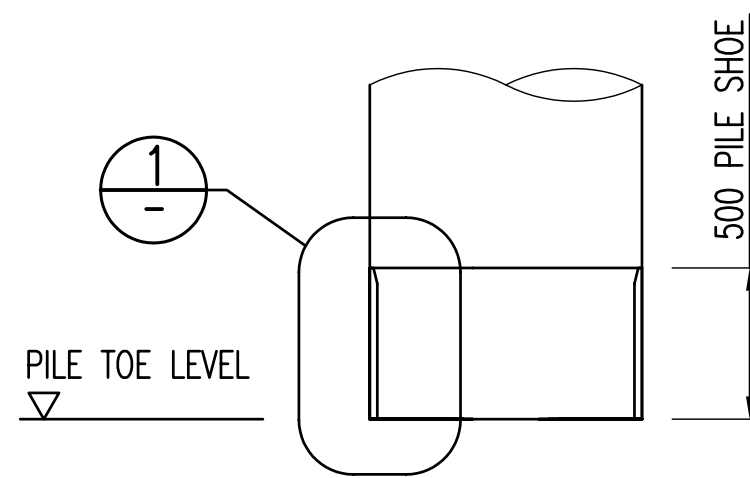
PILE REINFORCEMENT
SCALE 1:20



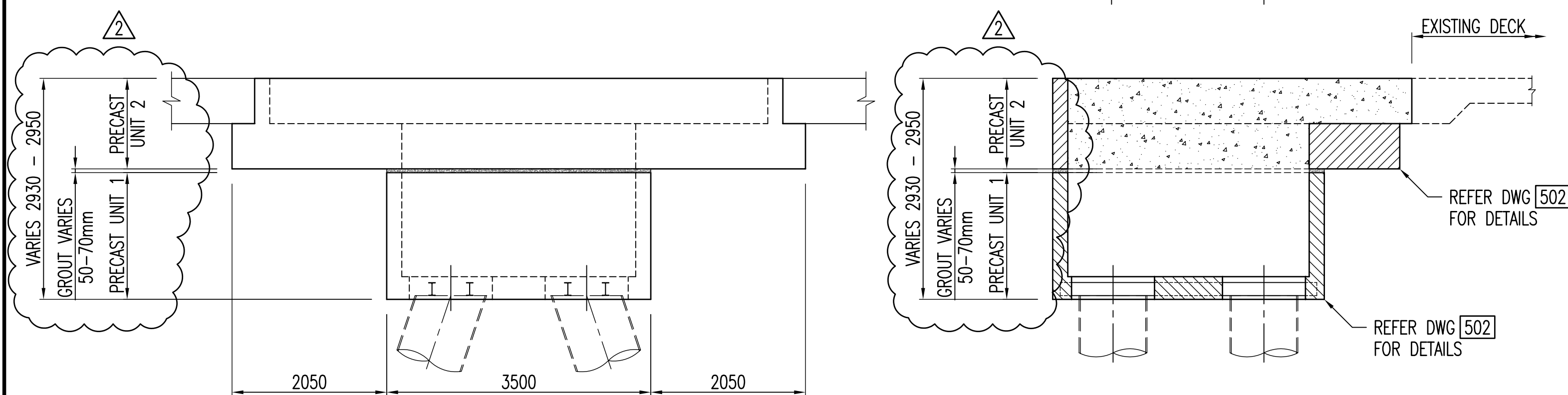
SECTION
SCALE: 1:20

PILE REINFORCEMENT DETAIL

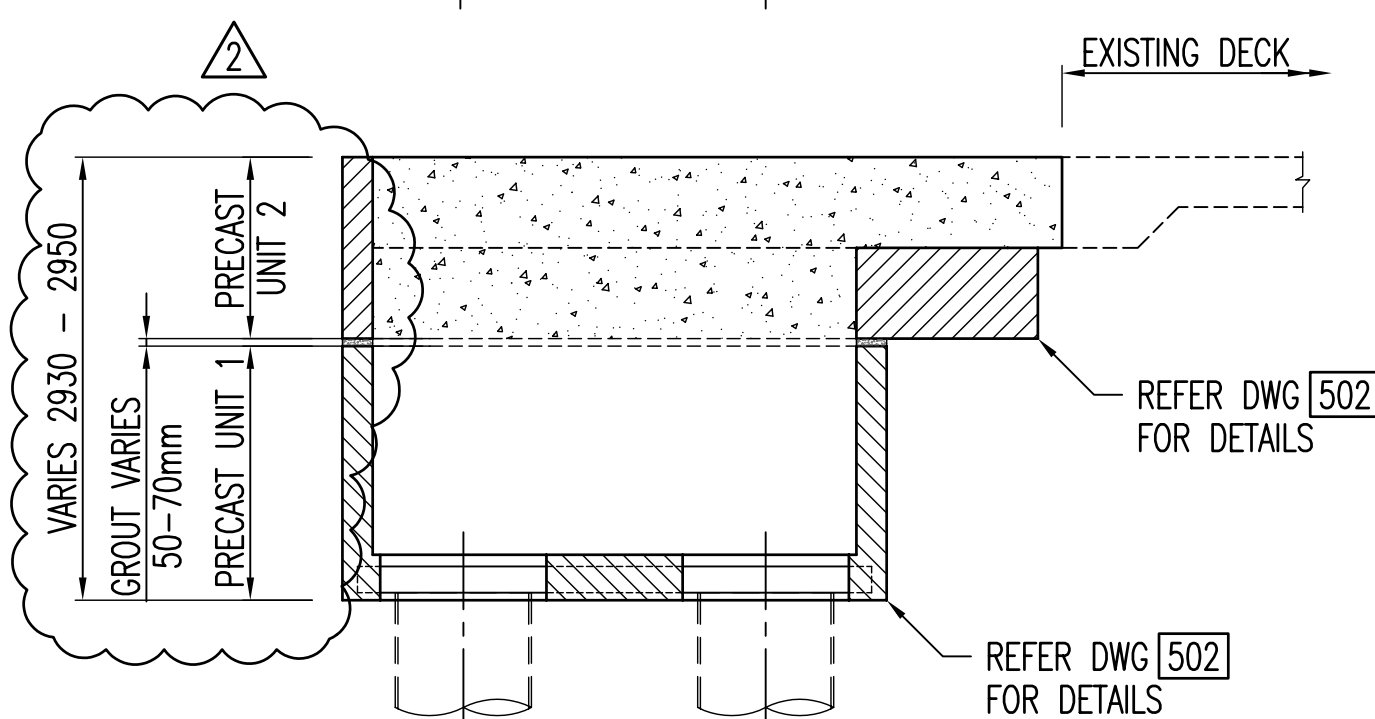
NOTE: LOCATE REINFORCEMENT TO AVOID 180UB16'S (TYPICAL)



PILE SHOE DETAIL
SCALE 1:25



SIDE ELEVATION
SCALE 1:50

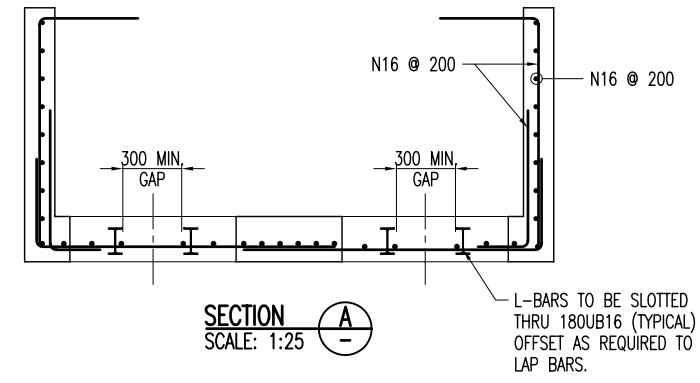
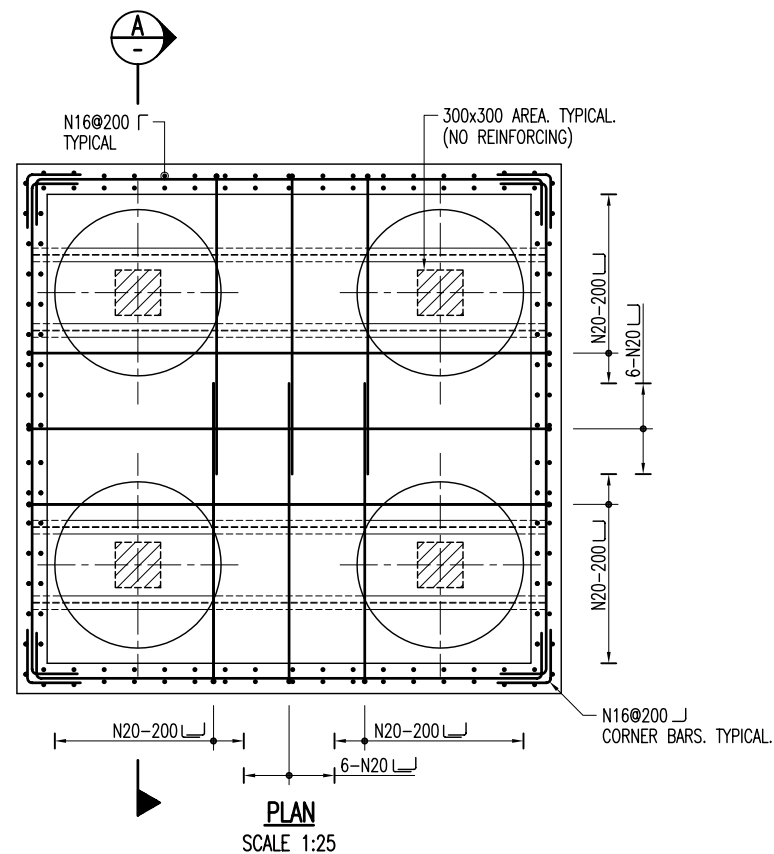


SECTION
SCALE: 1:50

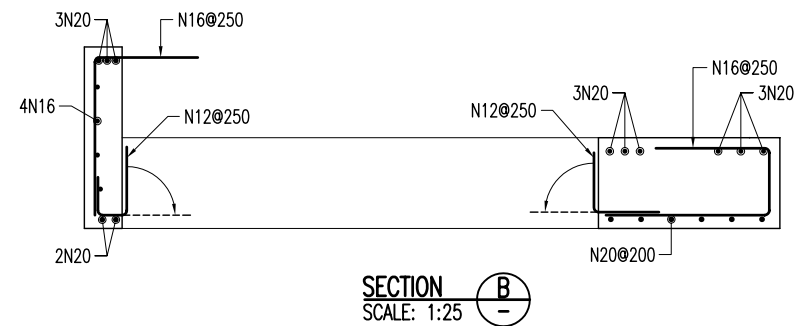
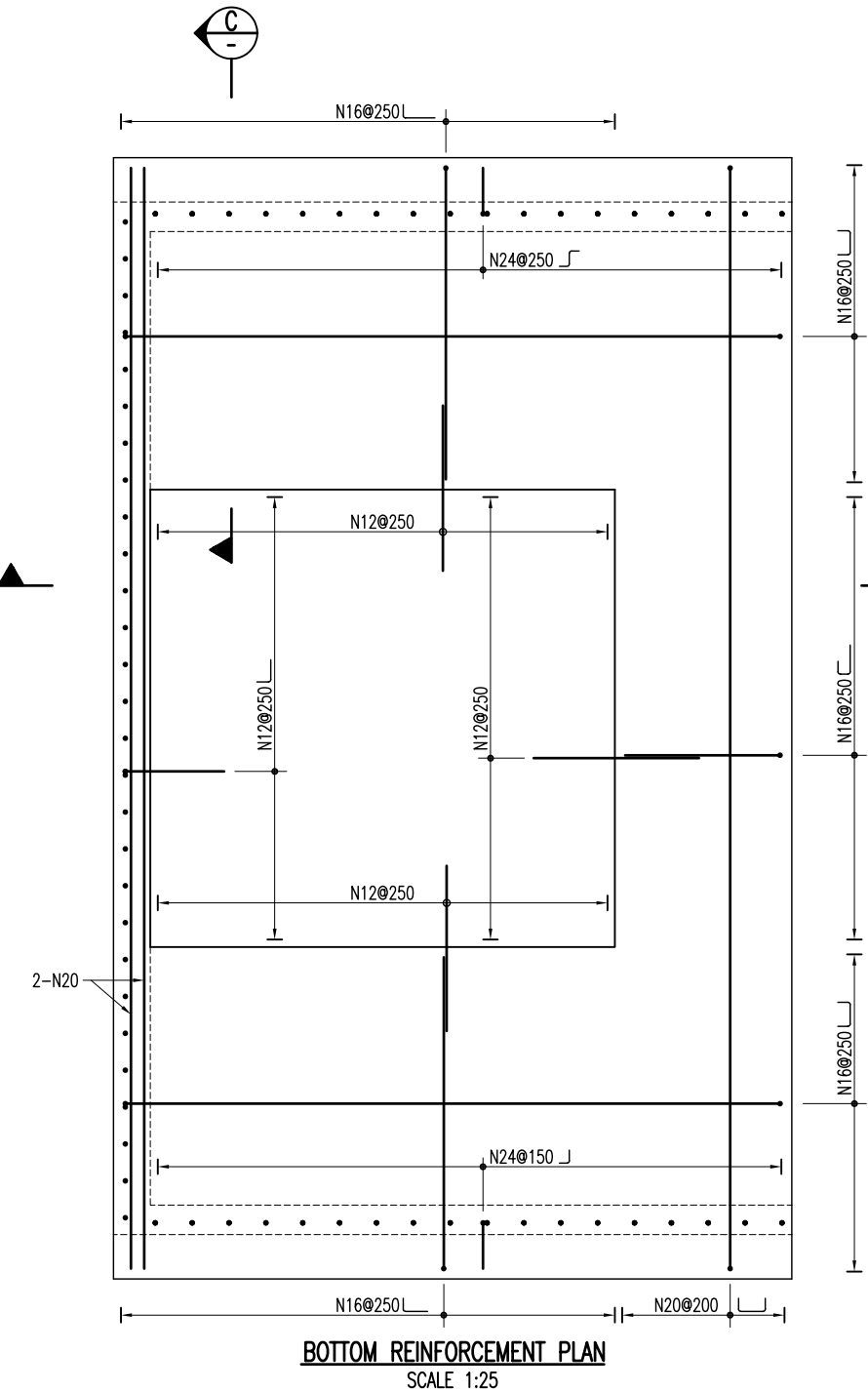
STRONG POINT GENERAL ARRANGEMENT

REV.	BY	DATE	APPROVED FOR CONSTRUCTION	DRAWING HISTORY	CHKD	APP	REV.	BY	DATE	PRE-CONSTRUCTION DRAWING HISTORY	CHKD	APP
2	LCR	10.08.06	REVISED AS CONSTRUCTED		JAM	LPM	C1	LCR	08.04.04	BOX COMPLETION ISSUE	LM	LPM
1	NPK	06.07.05	AS CONSTRUCTED		JAM	LPM	B	LCR	16.03.04	STRONG POINT REVISED	LM	LPM
0	LCR	15.04.04	ISSUED FOR CONSTRUCTION		JAM	LPM	A	LCR	25.02.04	SHEAR RING DETAIL ADDED	LM	LPM
										ISSUED FOR INFORMATION	LM	LPM

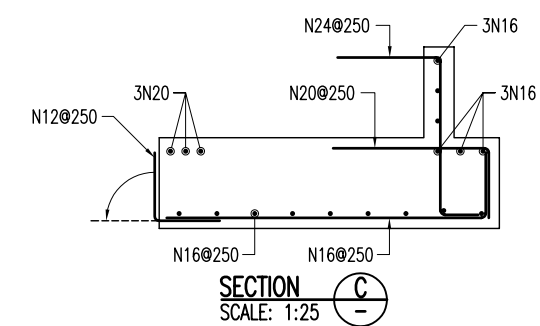
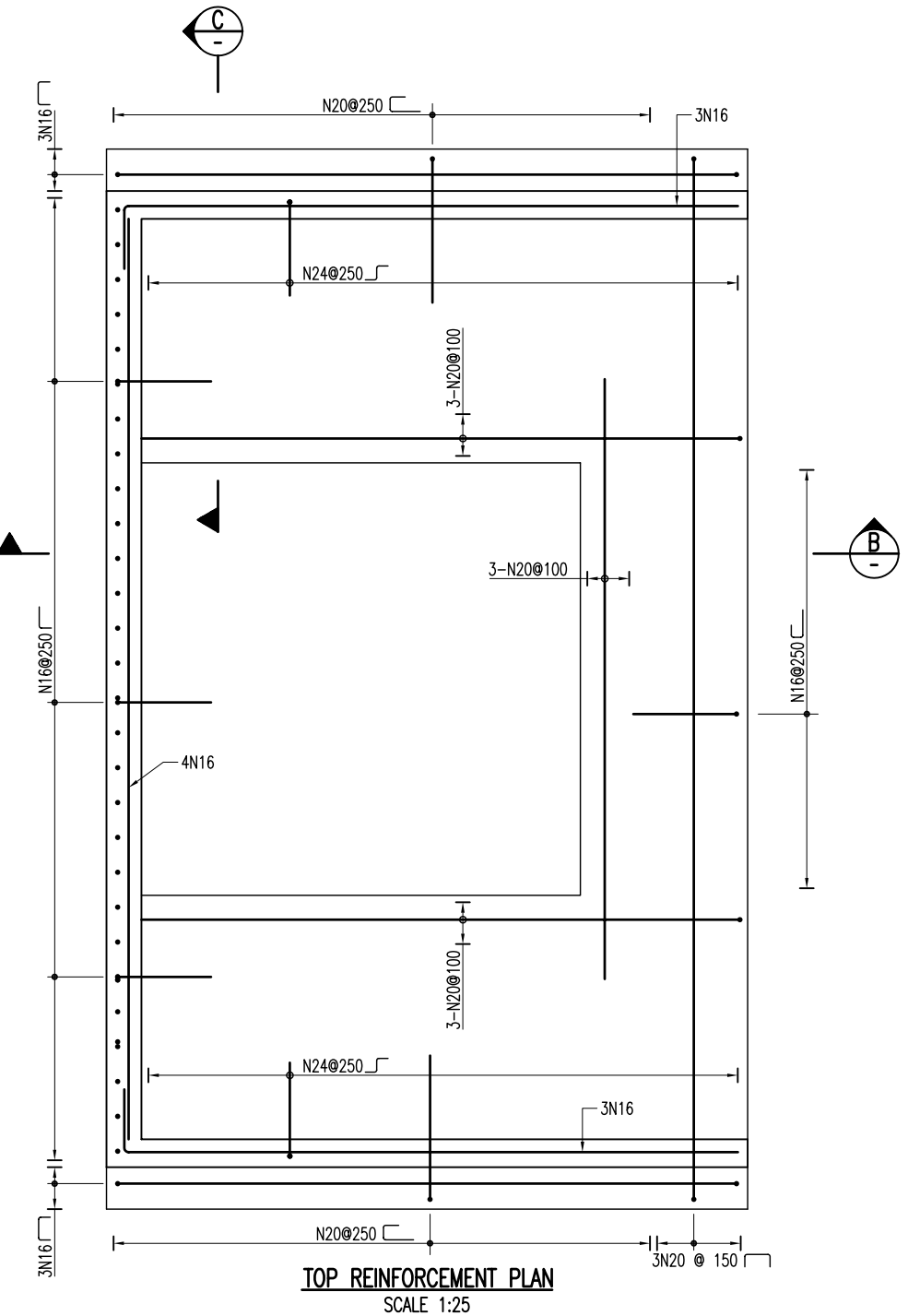
CLIENT				MADSEN GIERSENG consulting engineers P.O. BOX 1218 Tel: (07) 3367 2321 MILTON QLD 4064 Fax: (07) 3369 3880 EMAIL: mgc@madsengiersing.com.au WWW: www.madsengiersing.com.au				PROJECT: DAMPIER PORT AUTHORITY – CARGO WHARF UPGRADE TITLE: STRONG POINT DETAILS – SH. 2 OF 5 SCALE: AS SHOWN JOB No.: 950 DRAWING No.: 950-DWG-501			
DRAWN: L.C.R. CHECKED: J.A.M. DESIGNED: L.P.M. APP. FOR CONSTRUCTION: CLIENT APPROVED:				DWG. SIZE: A1 REV.: 2							



PRECAST UNIT 1
STRONG POINT REINFORCING DETAILS



PRECAST UNIT 2
STRONG POINT REINFORCING DETAILS



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REV.	BY	DATE	APPROVED FOR CONSTRUCTION	DRAWING HISTORY	CKD	APP	REV.	BY	DATE	PRE-CONSTRUCTION DRAWING HISTORY	CKD	APP
A	NP	06.07.05	AS CONSTRUCTED				C1	LCR	08.04.04	BOX COMPLETION ISSUE	LM	LPM
A	LCR	15.04.04	ISSUED FOR CONSTRUCTION				C	LCR	16.03.04	STRONG POINT REVISED	LM	LPM
							B	LCR	26.02.04	SHEAR RING DETAIL ADDED	LM	LPM
							A	LCR	25.02.04	ISSUED FOR INFORMATION	LM	LPM

CLIENT

BARCLAY MOWLEM CANDAC
Performance Built on Trust

MADSEN GIERISING
consulting engineers
P.O. BOX 1218
MILTON QLD 4064
TEL: (07) 3367 2321
FAX: (07) 3369 3880
EMAIL: mgc@madsengierising.com.au
WWW: www.madsengierising.com.au

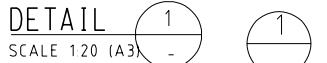
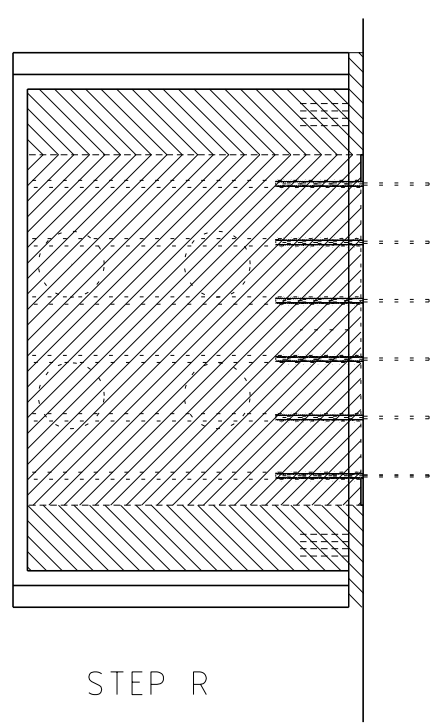
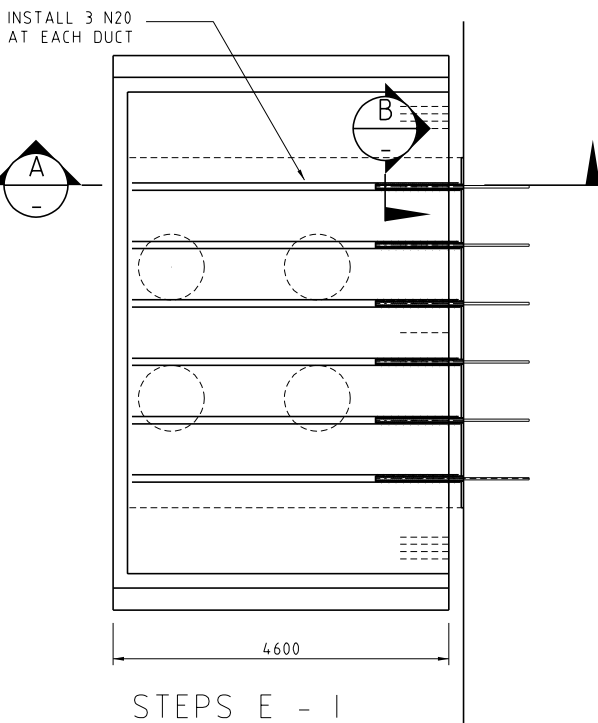
950DW503.DWG

FILE NAME

DRAWN: L.C.R.
CHECKED: J.A.M.
DESIGNED: L.P.M.
APP. FOR CONSTRUCTION:
CLIENT APPROVED:

PROJECT: DAMPIER PORT AUTHORITY – CARGO WHARF UPGRADE
TITLE: STRONG POINT DETAILS – SH. 4 OF 5
SCALE: AS SHOWN
JOB No.: 950
DRAWING No.: 950-DWG-503

DWG. SIZE: A1
REV: 1



1 ALL WORKMANSHIP AND MATERIALS TO COMPLY WITH THE REQUIREMENTS OF AS3600
2 FOLLOW THE INTENT OF THE WORK PROCEDURE LISTED BELOW
3 ALL DIMENSIONS TO BE VERIFIED ON SITE
4 CONCRETE MIX TO CONFORM WITH THE REQUIREMENTS OF THE MASDEN GIERSENG SPECIFICATION
5 USE AN APPROVED CONCRETE RETARDANT WHERE SPECIFIED
6 USE POLYSTYRENE FOAM WHERE INDICATED ON THE DRAWINGS FOAM DENSITY TO BE 25KG/CUM

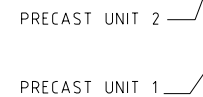
O FILL THE GAP BETWEEN THE STRONG POINT AND THE JETTY WITH CONBEXTRA HES - 25MPa AT 120MINUTES - POURABLE 60 LITRES

P ALL EPOXY GROUTING SHALL BE INSTALLED IN THE COOL OF THE NIGHT

Q THE EPOXY WILL ATTAIN STRENGTH IN 60 MINUTES

R INSTALL THE REMAINDER OF THE CONCRETE ON THE SIDES TO THE ORIGINAL SPECIFICATION

AS C



MKN
CONSULTING
ENGINEERING
ACN 101 059 830

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BARCLAY MOWLEM - CARGO WHARF UPGRADE
STRONG POINT CONNECTION

DRAWING

INSTALLATION PROCEDURE

SCALE:
1:20 (A3)

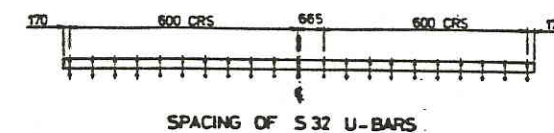
PLOT DATE

CAD REF.	805-DS-14.dgn
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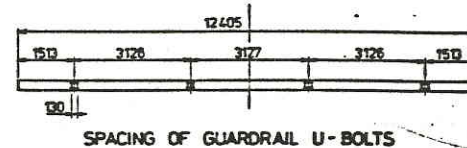
JOB No.	805
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DRAWING No.
805-DS-14

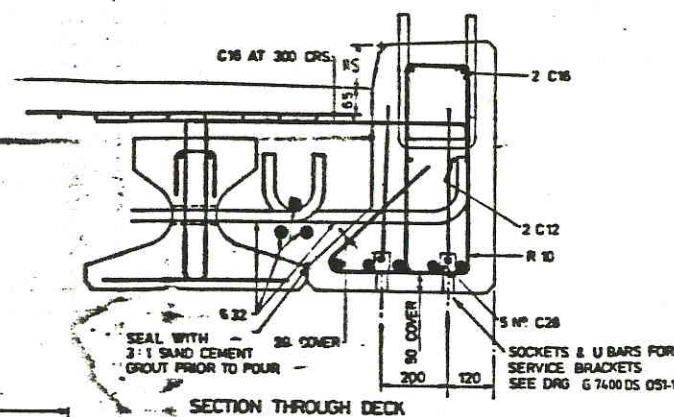
ORIGINAL DCW JETTY
APPROACH BRIDGE AND
ABUTMENT PLANS



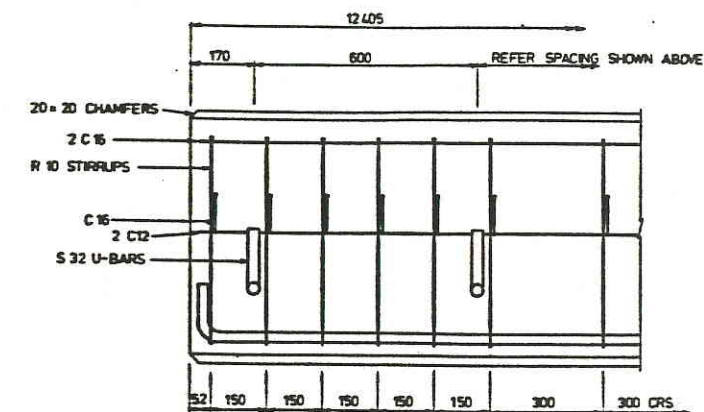
TYPICAL SECTION THROUGH DECK



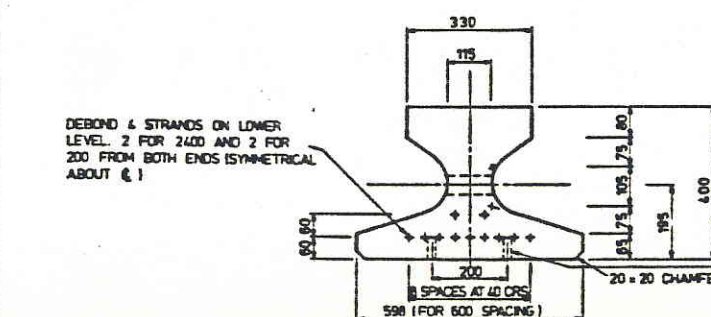
SERVICE BRACKET SOCKET LAYOUT
(EAST EDGE BEAMS ONLY)



SECTION THROUGH DEC

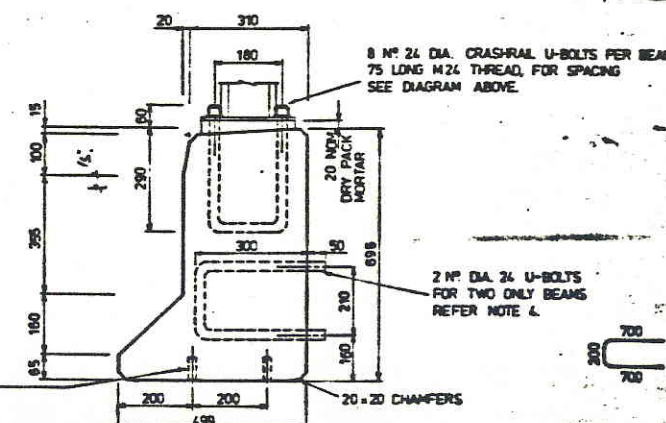


ELEVATION ON EDGE BEAM



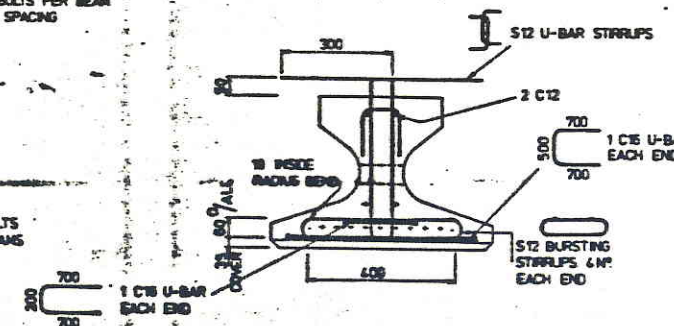
CONCRETE AND PRESTRESS DETAILS OF BEAMS

1: 10

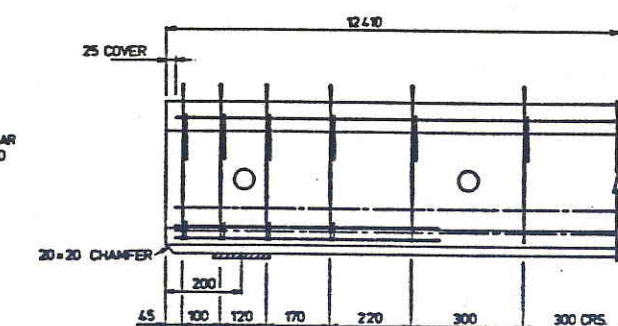


END VIEW ON PRESTRESSED BEAM

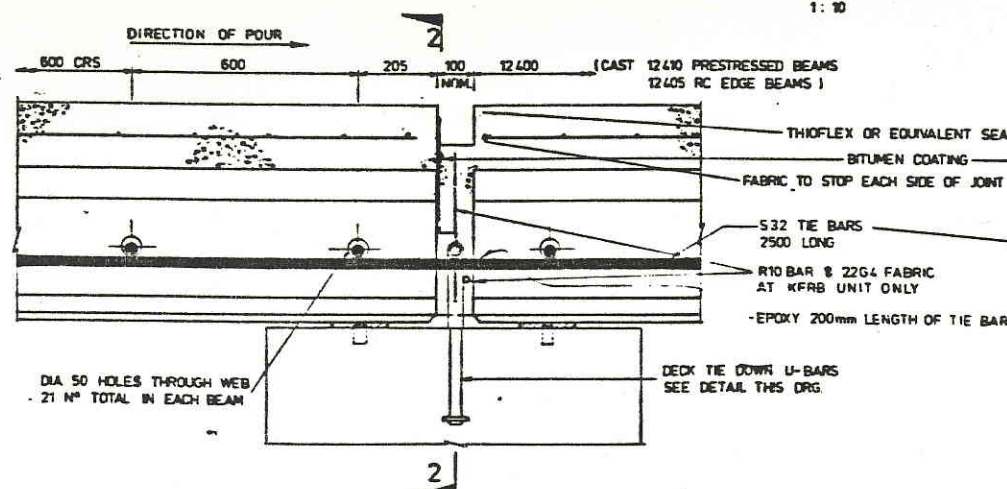
NOTE: ENDS OF P.C. BEAMS TERMINATING AT ABUT & WHARF TO BE PAINTED WITH 2 COATS OF 'DINET' 2 PACK EPOXY 'COPON EAS'



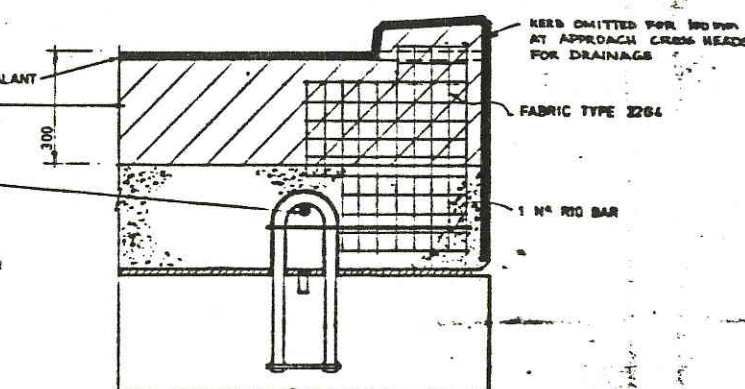
TYPICAL REINFORCEMENT DETAILS



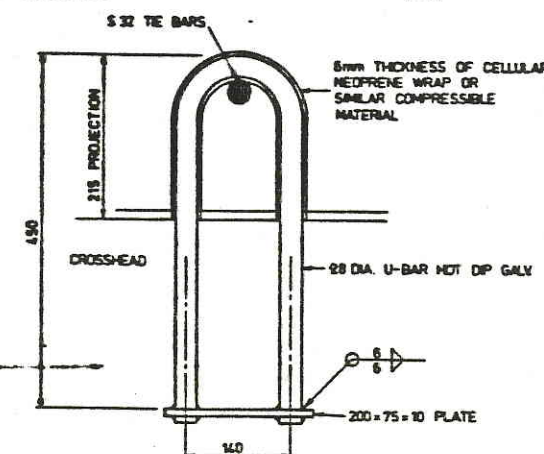
ELEVATION ON PRESTRESSED BEAM



SECTION 1-1 - TYPICAL AT CROSSHEADS



SECTION 2-2 - THROUGH CONSTRUCTION JOINT-



DECK TIE-DOWN DETAIL

AS BUILT

- NOTES:
1. CONCRETE - 28 DAY STRENGTH
45 MPa FOR PRECAST BEAMS
35 MPa FOR INSITU CONCRETE
MINIMUM CEMENT CONTENT 320 kg /m³
MAXIMUM WATER CEMENT RATIO 0.45
2. PRECAST EGDE BEAMS TO BE CAST 12.405 LONG WITH 25 UPWARD PARABOLIC CAMBER
3. PRESTRESSED BEAMS TO BE CAST FLAT 12.410 LONG
11 ϕ DIA 12.7 LOW RELAXATION SUPER GRADE STRANDS PER BEAM
INITIAL JACKING LOAD OF 147 kN PER STRAND (6mm DRAW-IN LOSS OVER 40m ALLOWED FOR)
4. U-BOLTS TO BE PROVIDED TO SUPPORT THE WALKWAY THESE ARE TO BE CAST AT 600 AND 800 FROM THE ENDS OF TWO EGDE BEAMS, SYMMETRICAL ABOUT BENT 5.
5. 30 DIA BOLDS FOR BEARING ARE TO BE PROVIDED 200 FROM THE ENDS OF ALL BEAMS AT THE ABUTMENT AND WHARF
6. ALL EXPOSED CAST IN FITTINGS TO BE HOT DIP GALVANISED
7. CONC. STRENGTH 15 MPa MIN FOR INSITU DECK BEFORE 10% B.M.P OR CONCRETE TRUCK CAN TRAVERSE



MAUNSELL
 & PARTNERS PTY. LTD
 CONSULTING ENGINEERS

G740C DS 24.5 I	APPROACH BRIDGE	GENERAL ARRANGEMENT
DRAWING NO.	TITLE	REFERENCE DRAWINGS

					RIP	FMS	JL
Z	MAY 83	N.M.	DRAW WAS AGGEO DS OAG-1	Tech			
I	MAR 83	G.B.	AS BUILT - CONTRACT 1023 G	P/MC			
O	6-9-82	C.D.	APPROVED FOR CONSTRUCTION	A/SO		y T	W/T
C	20-9-82	L.H.P.	K.L.S. bearing strip rubber bearings attempt.				
B	19-3-82	S.N.V.	RUBBER BEARING STRIP & CONST JOINT AMENDED				
A		BRP	INITIAL ISSUE				
ID#	DATE	BY	CHILD	DESCRIPTION	DRIVER NAME	GROUP	EVALUATOR

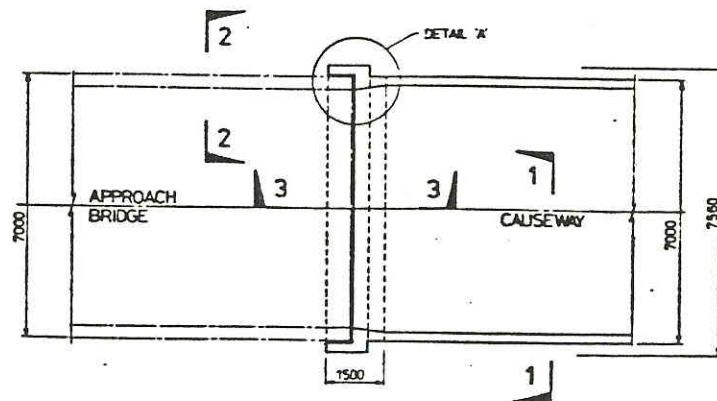
DESIGN	B.R.P.
DATE	11-9-81
CHECKED	P.W.S.
APPROVED	<i>[Signature]</i>
APPROVED	
APPROVED	
APPROVED	
APPROVED	

Woodside Offshore Petroleum Pty Ltd

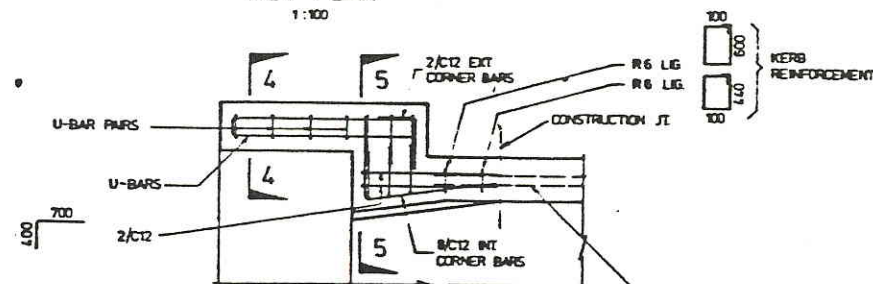
NORTH WEST SHELF DEVELOPMENT PROJECT
MATERIALS OFFLOADING FACILITY

APPROACH BRIDGE - DECK DETAILS

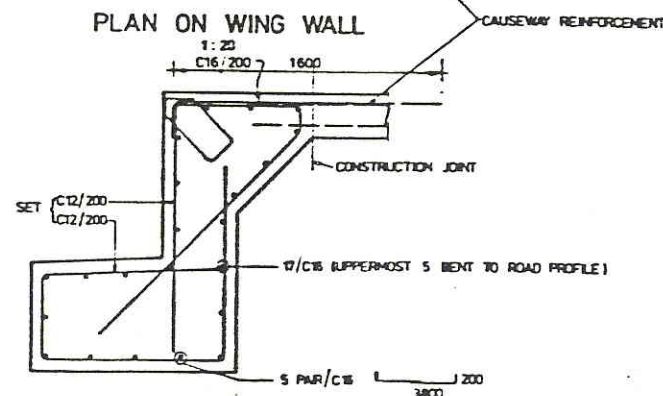
SCALE	DRAWING NO.	REVISION
AS SHOWN	G 7400 DS 046.1	2



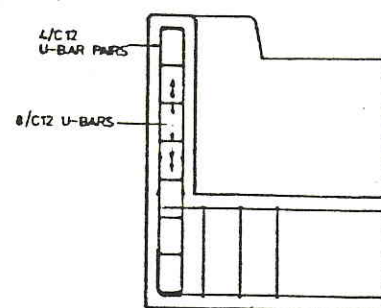
KEY PLAN
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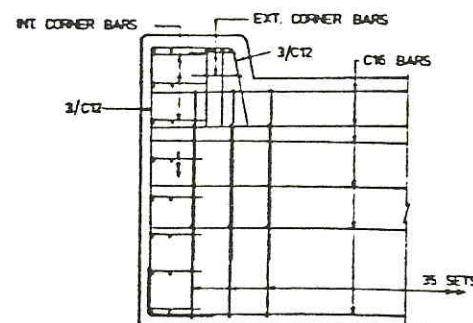
PLAN ON WING WALL
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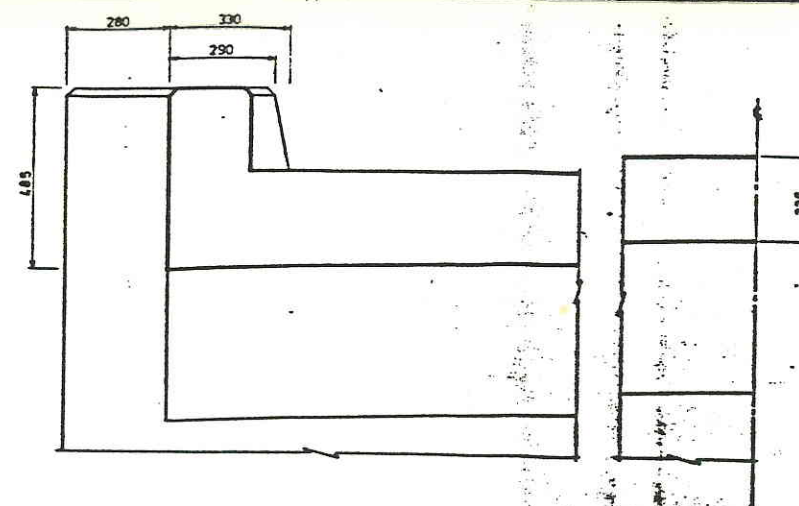
TYPICAL CROSS-SECTION
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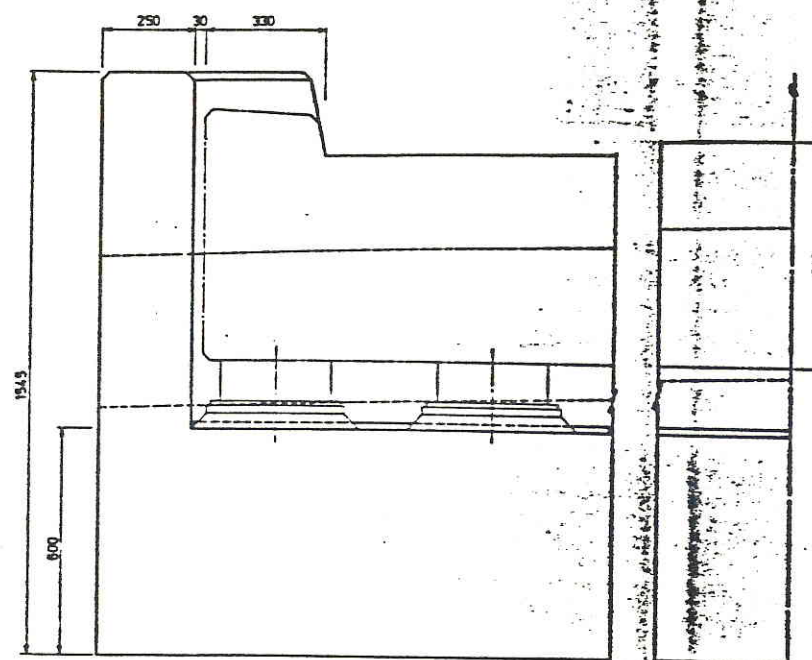
SECTION 4-4
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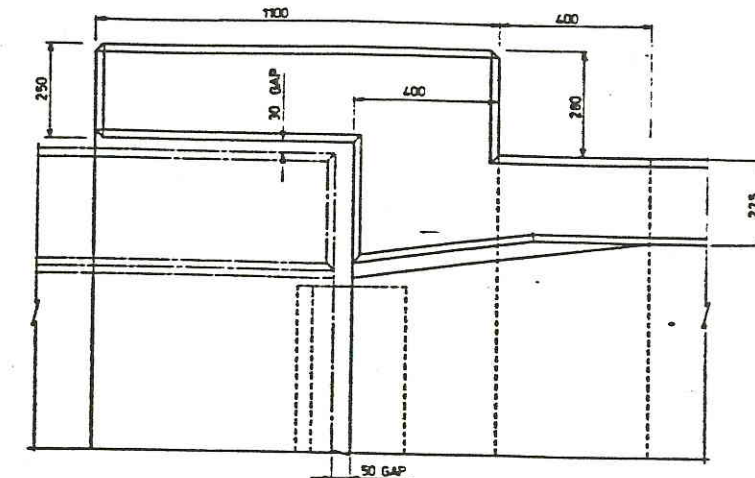
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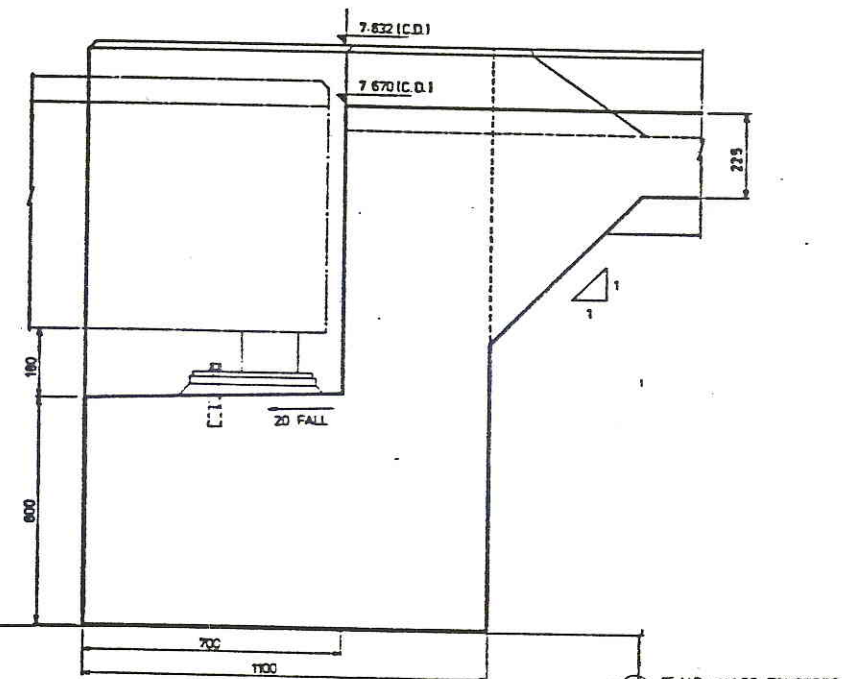
SECTION 1-1
1:10



SECTION 2-2
1:10



DETAIL 'A'
1:10



SECTION 3-3
1:10

- NOTES
- CONCRETE 28 DAY CHARACTERISTIC STRENGTH 35 MPa.
MINIMUM CEMENT CONTENT 325 kg/m³
MAXIMUM WATER CONTENT RATIO 0.45
MINIMUM COVER TO REINFORCEMENT 65mm
 - REINFORCEMENT TO BE BENT AND PLACED IN ACCORDANCE WITH MASA BRIDGE DESIGN SPEC
C DENOTES COLD WORKED TWISTED DEFORMED STEEL
S DENOTES STRUCTURAL GRADE DEFORMED STEEL
R DENOTES ROUND MILD STEEL
 - ROAD PROFILE AT ABUTMENT TO BE ADJUSTED TO SUIT BRIDGE DECK

JOHN HOLLAND CONSTRUCTION GROUP
2 HARDY STREET, SOUTH PERTH W.A. TELEPHONE 387 4222

MAUNSELL & PARTNERS PTY. LTD.
CONSULTING ENGINEERS

BHP
CENTRAL RECORDS DIVISION
City Centre Tower, 13th Floor
44 St George's Terrace
PERTH W.A. 6000

DATE	BY	CHKD	DESCRIPTION	ENGR	ENGR	ENGR
27-06-83	DS	3	APPROACH BRIDGE ABUT & MISC DETAILS			
04-02-82						
04-01-81						
			GENERAL ARRANGEMENT			
			TITLE			
			REFERENCE DRAWINGS			

DATE	BY	CHKD	DESCRIPTION	ENGR	ENGR	ENGR
2 MAY 83	M.M.		DRWG WAS A4660 DS 048.1			
1 MAR 83	G.B.		AS BUILT - CONTRACT 1023 G			
14-08-81	G.B.		APPROVED FOR CONSTRUCTION			
8-2-82	AW		MASS CONCRETE UNDER ABUT SHOWN			
	BRP		INITIAL ISSUE			

DATE	BY	CHKD	DESCRIPTION	ENGR	ENGR	ENGR
9-10-81	BRP					
	P.W.S.					

AS BUILT

Woodside Offshore Petroleum Pty Ltd

NORTH WEST SHELF DEVELOPMENT PROJECT

MATERIALS OFFLOADING FACILITY

APPROACH BRIDGE - ABUTMENT AND MISCELLANEOUS DETAILS

SHEET 1


SCALE AS SHOWN

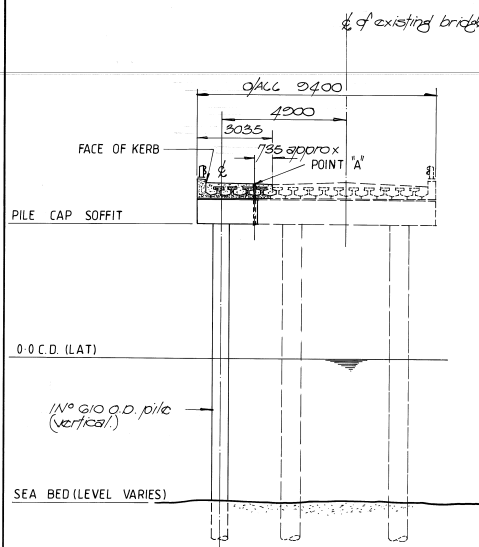
DRAWING NO G 7400 DS 048.1

REVISION 2

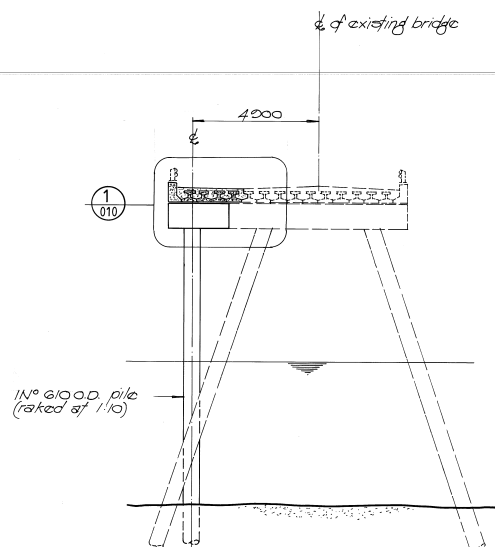
DCW JETTY EXTENSION
APPROACH BRIDGE PLANS



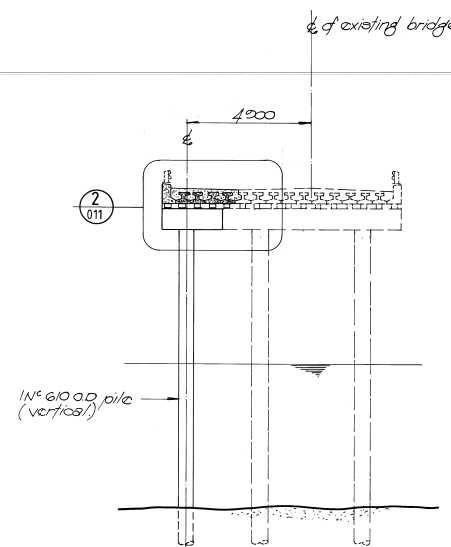
2	AS BUILT			5595	G.M.				
1	SOUTHERN EXTENSION ADDED				Elm				
0	ISSUED FOR CONSTRUCTION			21298	Elm	P			
B	REDRAWN				Elm				
REV.		DESCRIPTION			DATE	BY			
 <div style="margin-left: 20px;"> Astron ARCHITECTS & ENVIRONMENTAL PLANNERS ASTRON ENGINEERING PVT LTD </div> <div style="float: right; font-size: small;"> Suite 7, Savings House, 11 Heddon Place PO Box 713, Rayville NSW 6745 Tel: (091) 44 1670 Fax: (091) 44 2200 </div>									
DRAWN:	G MANSFIELD		DATE:	OCT '93		SCALE:	A5 NOTED		
DESIGNED:	H. BARR		CHECKED:			CERTIFIED:	<i>[Signature]</i>		
PROJECT: DAMPIER PORT AUTHORITY									
EXTENSIONS TO DAMPIER PUBLIC WHARF									
DRAWING TITLE: APPROACH BRIDGE PLAN AND ELEVATION									
DRAWING N°	37241 - DS - 007							REV	



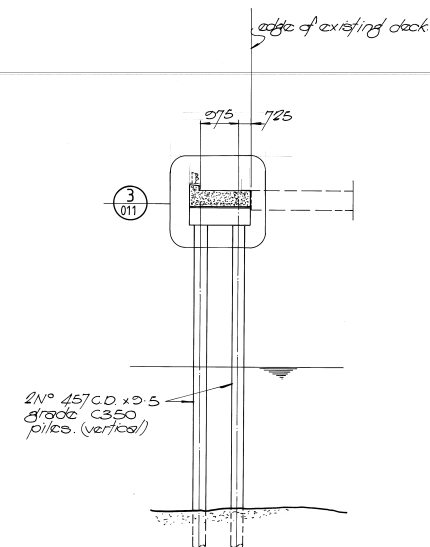
BENT N° 1
1:100



BENTS N° 2 - 6
1:100



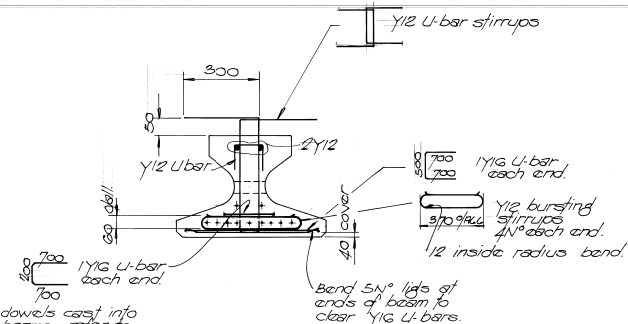
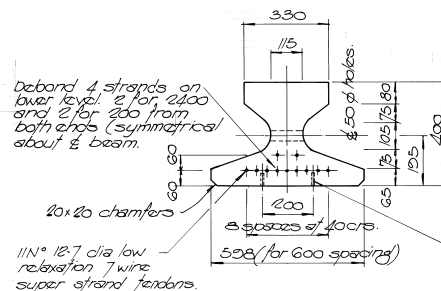
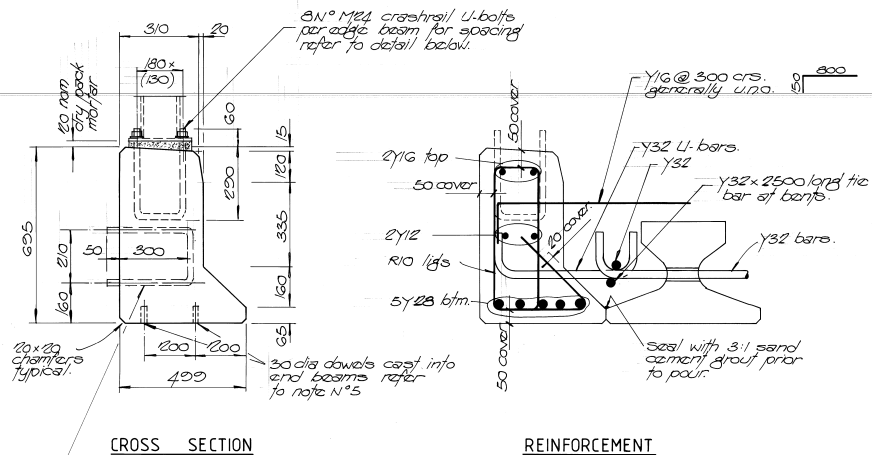
BENT N° 7
WHARF ABUTMENT
1:100



BENT N° 8
1:100

1	AS BUILT	55.95 GM.	PL
0	ISSUED FOR CONSTRUCTION	2.12.93	du PL
B	REDRAWN		du
REV	DESCRIPTION	DATE	BY
<div> <div>FRASER CONSULTANTS</div> <div> <div>Astron</div> <div> Suite 7, Savings House, 11 Hedland Place PO Box 713, Kariatha WA 6714 Tel: (08) 44 1879 Fax: (08) 44 2030 </div> </div> </div>			
DRAWN:	G. MANSFIELD	DATE:	OCT '93
DESIGNED:	H. BARR	CHECKED:	
PROJECT:	DAMPIER PORT AUTHORITY		
DRAWING TITLE:	EXTENSIONS TO DAMPIER PUBLIC WHARF		
DRAWING N°	37241-DS-008		
REV	1		

37241-DS008



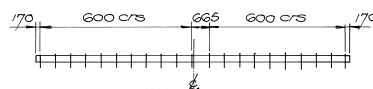
Note: ends of prestressed beams terminating at abutment and bent N°7 to be painted with Fosroc Nitopox E7 522.

NOTES

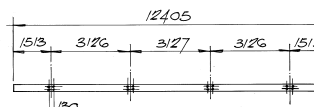
- Concrete properties as specified.
- Pre-cast edge beams to be cast 1245mm long with a 25mm upward parabolic camber.
- Pre-stressed beams to be cast flat 1240 mm long 11 N° dia 12.7mm low relaxation super grade strands per beam. Initial jacking load of 147kN per strand (6mm draw-in loss over 40m allowed for).
- Cast in 4x8 M24 U-bolts into edge beam to support the walkway to Mooring dolphin N°1 refer to drawing N° 37241-DS-035 for details.
- 30 dia dowels for bearings are to be provided 200mm in from the ends of all beams at the abutment and bent N°7.
- The Contractor shall submit pre-cast beam lifting details for approval prior to fabricating.
- All exposed cast in fittings to be hot dipped galvanised.
- Concrete strength 15MPa min for insitu deck before 10t BHP or concrete truck can traverse

PRECAST EDGE BEAM DETAILS

SECTION A

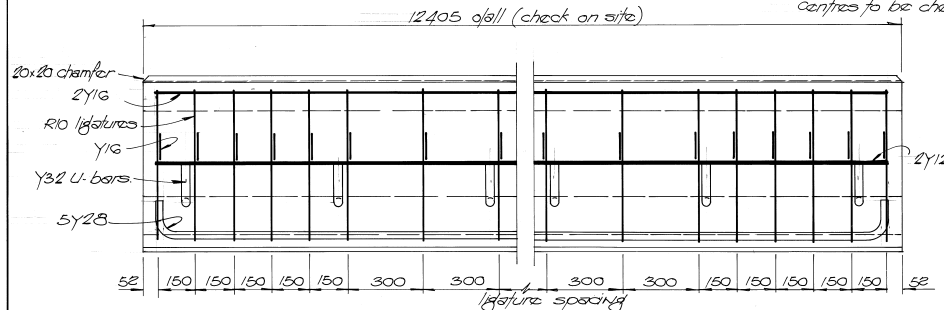


PRESTRESSED INTERNAL BEAM DETAILS



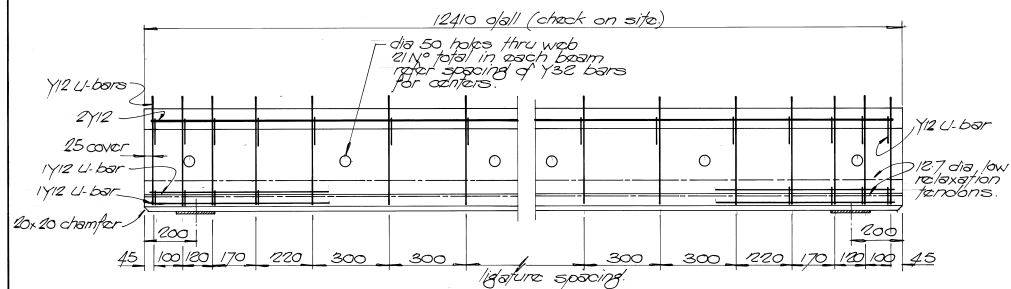
PART ELEVATION ON PRECAST EDGE BEAM

1/10



PART ELEVATION ON PRESTRESSED INTERNAL BEAM

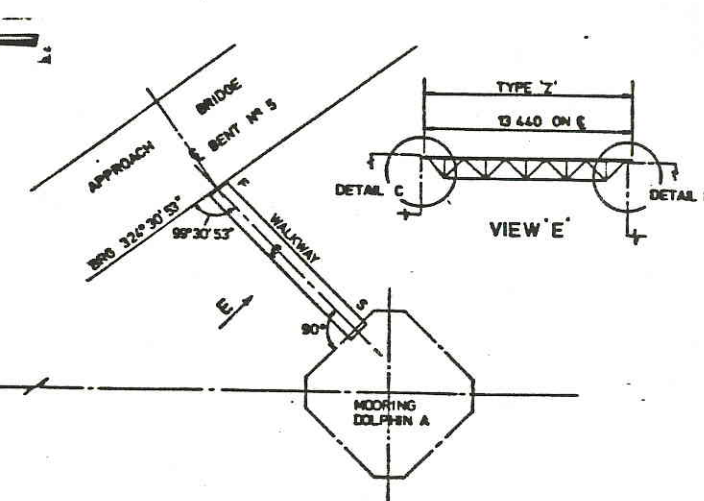
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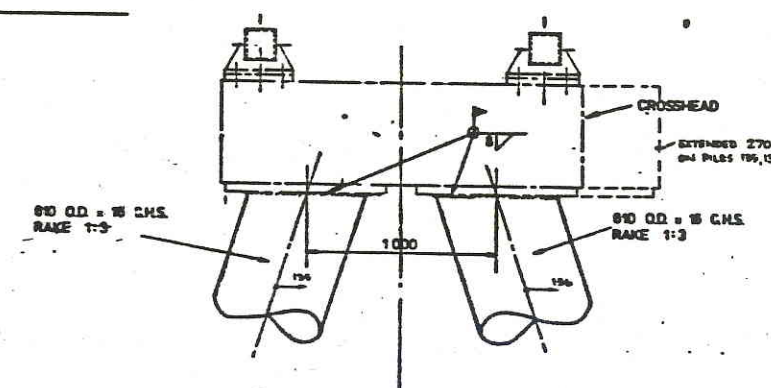
1	AS BUILT	5595	G.M.	PL	
0	ISSUED FOR CONSTRUCTION	21293	EL	PL	
B	REDRAWN		EL		
REV.	DESCRIPTION	DATE	BY	CHK	
<div><div><div><div>FRASER CONSULTANTS</div></div></div><div><div>Astron</div><div>ASBESTOS INVESTIGATIONS ASTRON ENGINEERING PTY LTD</div></div><div><div>Suite 7, Savings 1-June, 11 Heald Place PO Box 715, Karatha WA 6714 Tel: (091) 44 1679 Fax: (091) 44 2639</div></div></div>					
DRAWN:	G. MANSFIELD	DATE:	OCT '93	SCALE:	AS NOTED
DESIGNED:	H. BARR	CHECKED:		CERTIFIED:	<i>Roby</i>
PROJECT:	DAMPIER PORT AUTHORITY				
EXTENSIONS TO DAMPIER PUBLIC WHARF					
DRAWING TITLE:					
APPROACH BRIDGE BEAM DETAILS					
DRAWING: 200	37241-DS-009				REV 1

37241 DS009

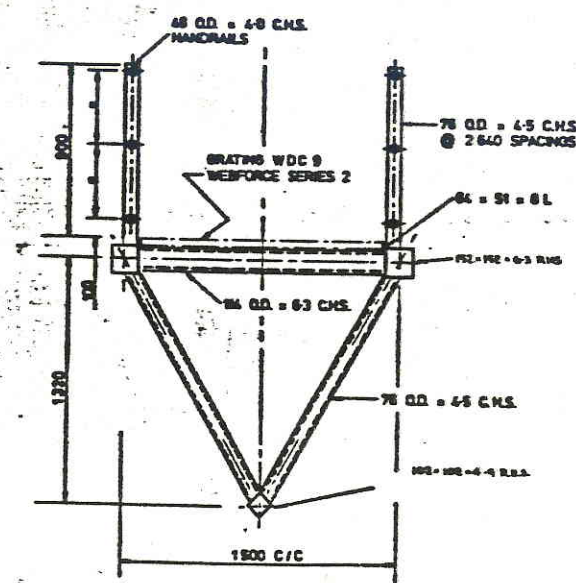
ORIGINAL DCW JETTY
WALKWAYS PLANS



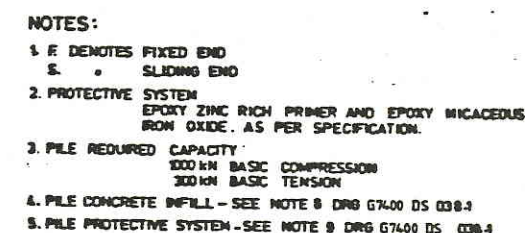
SECTION 1-1
1:20



ELEVATION
1:30




SECTION 2-2
1:20



ELEVATION

[illegible]

DATE	11.10.01.
CHECKED	<i>[Signature]</i>
APPROVED	<i>[Signature]</i>
APPROVED	
APPROVED	
APPROVED	
APPROVED	
APPROVED	

 Woodside Offshore Petroleum Pty Ltd			
NORTH WEST SHELF DEVELOPMENT PROJECT			
MATERIALS OFFLOADING FACILITY			
WALKWAY DETAILS		SHEET 1	
SCALE	AS SHOWN	DRAWING NO	67400 DS 044.1
		REVISION	2



DETAIL A
1:20



DETAIL B
1:20



TRUSS BRACKET
1:5



* AVERAGE AT WALKWAY 'Z'
IE. HEIGHT OF SADDLE VARIES
TO ACCOMMODATE SLOPE
OF WALKWAY



CROSSHEAD DETAIL



SLIDE PLATE (CAST INTO DOLPHINS
1:5 & WHARF EDGE)



SUPPORT BRACKET
(WALKWAY 'Z' DETAIL 'C')
1:5

- NOTES:
1. ALL WELDS TO BE CONT. 6FW UNO.
 2. R.H.S. TOP CHORD GRADE Z50 OTHERS 200
 3. ALL OTHER STEEL NOMINALLY GRADE Z50
 4. FOR PROTECTIVE SYSTEM SEE DRG G7400 DS 044-1

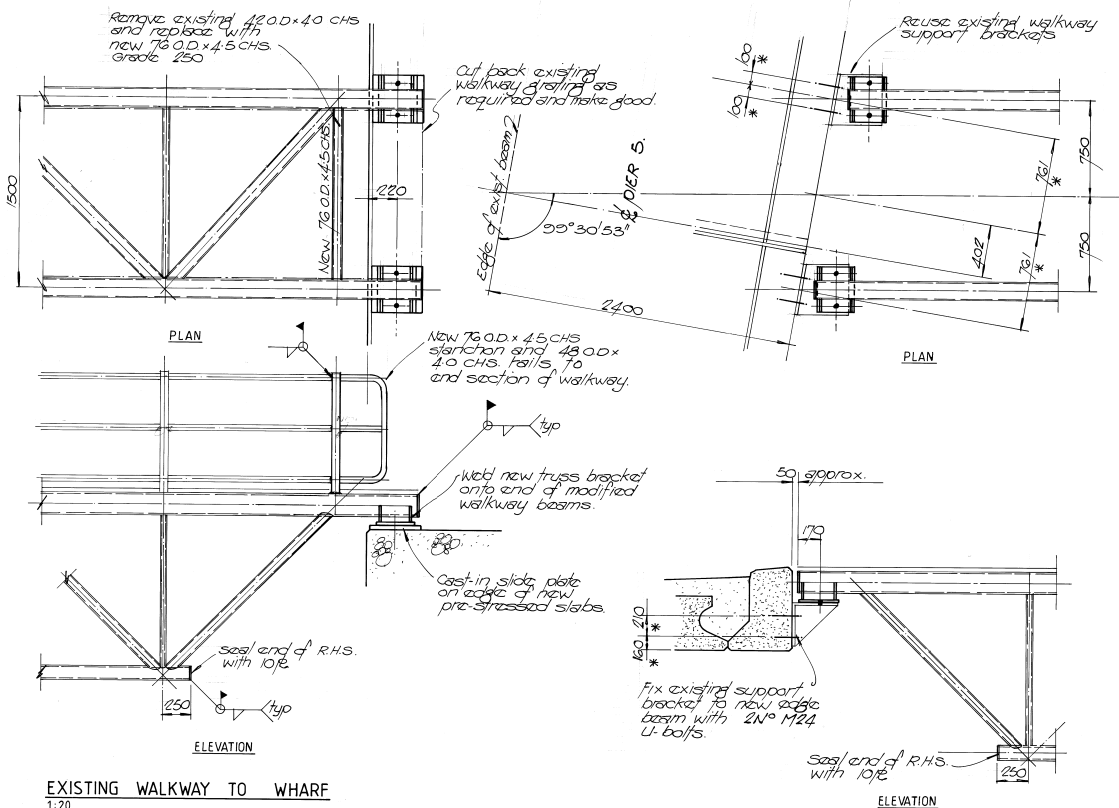


67400CS0441	WALKWAY DETAILS SH 1	TITLE
-------------	----------------------	-------

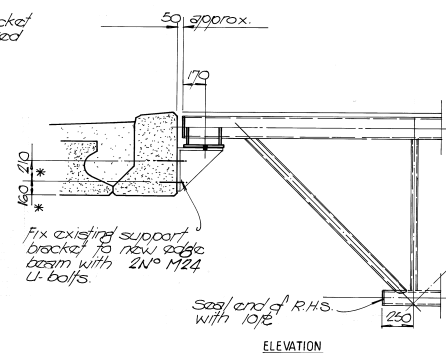
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DRAWN	DSR
DATE	30 10 81
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APPROVED	

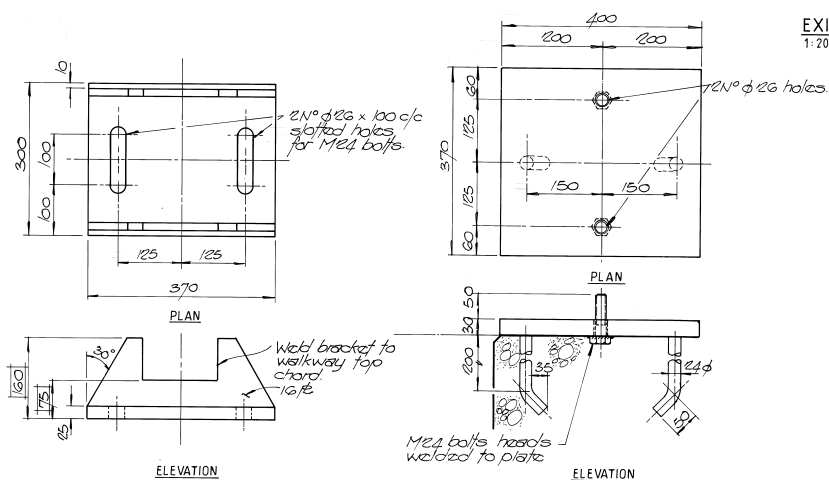
DCW JETTY EXTENSION
AMENDED WALKWAY PLAN



EXISTING WALKWAY TO WHARF
1:20



EXISTING WALKWAY TO APPROACH BRIDGE






TRUSS BRACKET 1:5

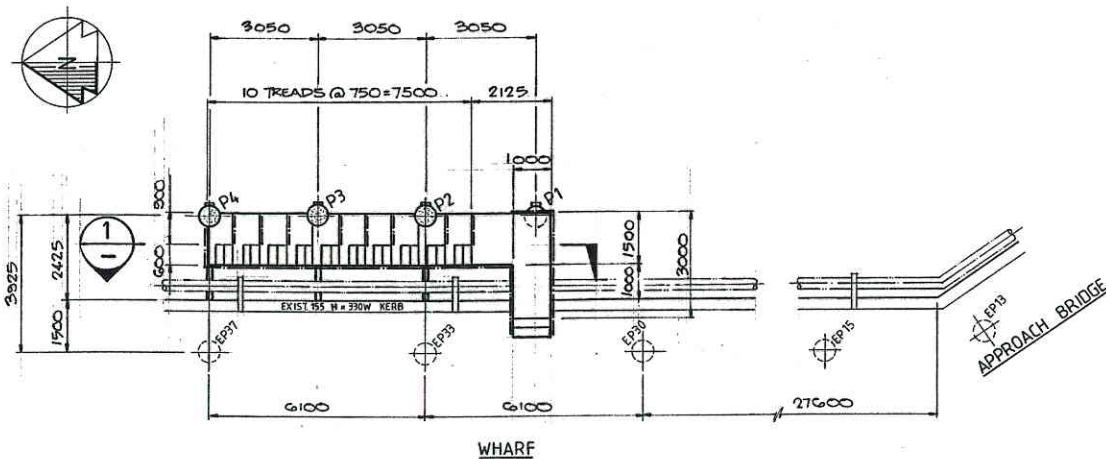
160 Average of walkway approach bridge.
Height varies to accommodate slope
of walkway.

SLIDE PLATE 1:5

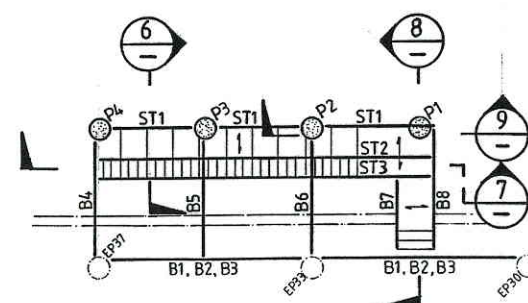
Cast plate into prestressed concrete slab at edge of wharf.

1	AS BUILT			5595	GM		(A)		
0	ISSUED FOR CONSTRUCTION			212-93	CW		A		
REV.	DESCRIPTION			DATE	BY		G		
<div><div></div><div> ASTRON ENGINEERING PTY LTD</div><div>Suite 7, Savings House, 11 Highland Place PO Box 313, Kaituma WA 6714 Tel: (09) 144 1679 Fax: (09) 144 2860</div></div>									
DRAWN:	G. MANSFIELD		DATE:	JULY '93	SCALE:	AS NOTED			
DESIGNED:			CHECKED:		CERTIFIED:				
PROJECT:	DAMPIER PORT AUTHORITY								
EXTENSIONS TO DAMPIER PUBLIC WHARF									
DRAWING TITLE:	WALKWAY MODIFICATIONS								
DRAWING NO	37241 - DS - 035						REV: 1		

ORIGINAL DCW JETTY
SMALL BOAT LANDING PLAN

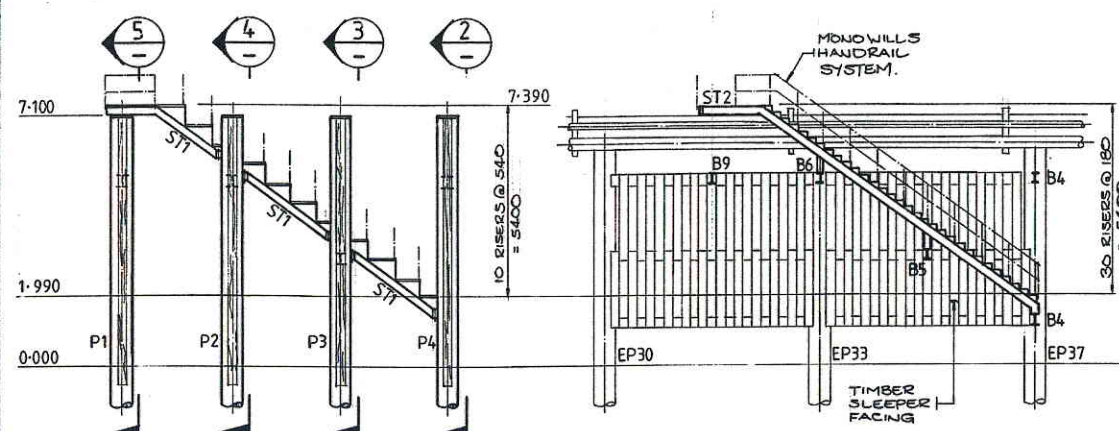


PLAN ON SMALL BOAT LANDING AT WHARF LEVEL
1:100



BOAT LANDING FRAMING PLAN
1:100

MARK	DESCRIPTION
P1-4	310 DIA. CONCRETE FILLED STEEL PILES
EP	EXISTING STEEL PILES
B1-6, 9	310 UC
B7, 8	250 x 150 x 9.0 RHS.
ST1-3	250 x 150 x 9.0 RHS.



EAST ELEVATION
1:100

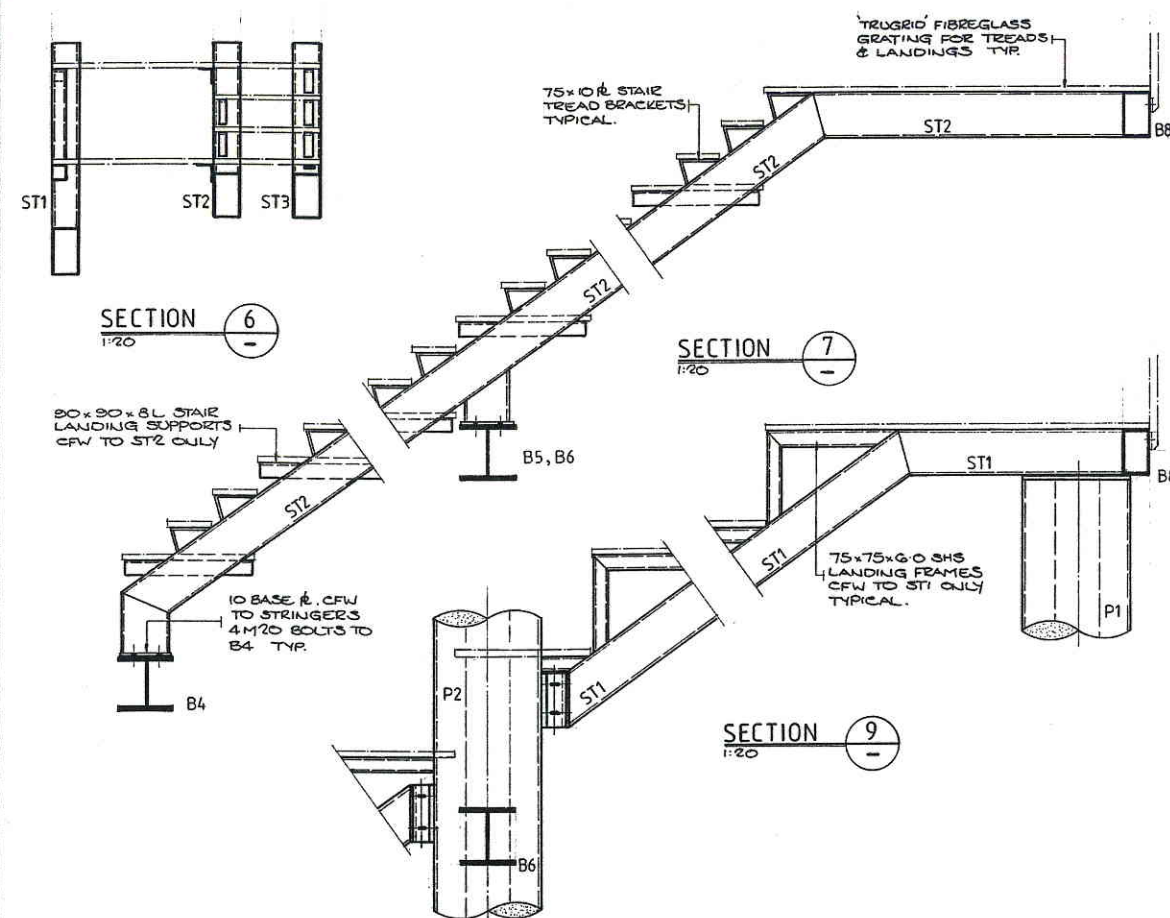
SECTION 1
1:100

SECTION 2
1:100

SECTION 3
1:100

SECTION 4
1:100

SECTION 5
1:100



SECTION 6
1:20

SECTION 7
1:20

SECTION 8
1:20

SECTION 9
1:20

No.	DATE	REVISIONS	BY	CHKD.	ENG.	APP.
C	17.11.95	AS BUILT				
B	10.5.94	REDRAWN & REISSUED FOR REVIEW				
A	5.5.94	ISSUED FOR TENDER	ML		PL	

Astron CIVIL & STRUCTURAL ENGINEERS
 engineering Suite 7, Savings House, 11 Hedland Place
 PO Box 713, KARRATHA WA 6714
 ACN: 009 304 634 Telephone: (081) 44 1679 Facsimile: (081) 44 2838

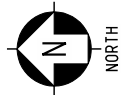
DAMPIER PORT AUTHORITY
 PROPOSED SMALL BOAT LANDING
 GENERAL ARRANGEMENT PLAN SECTIONS & DETAILS

DRWN.	ML	DATE	MAY '94	DRAWING No.	1116-DS-001	REV	C
CHKD.		DATE					

1116DS001

REVC

CURRENT DCW JETTY
SMALL BOAT LANDING PLAN

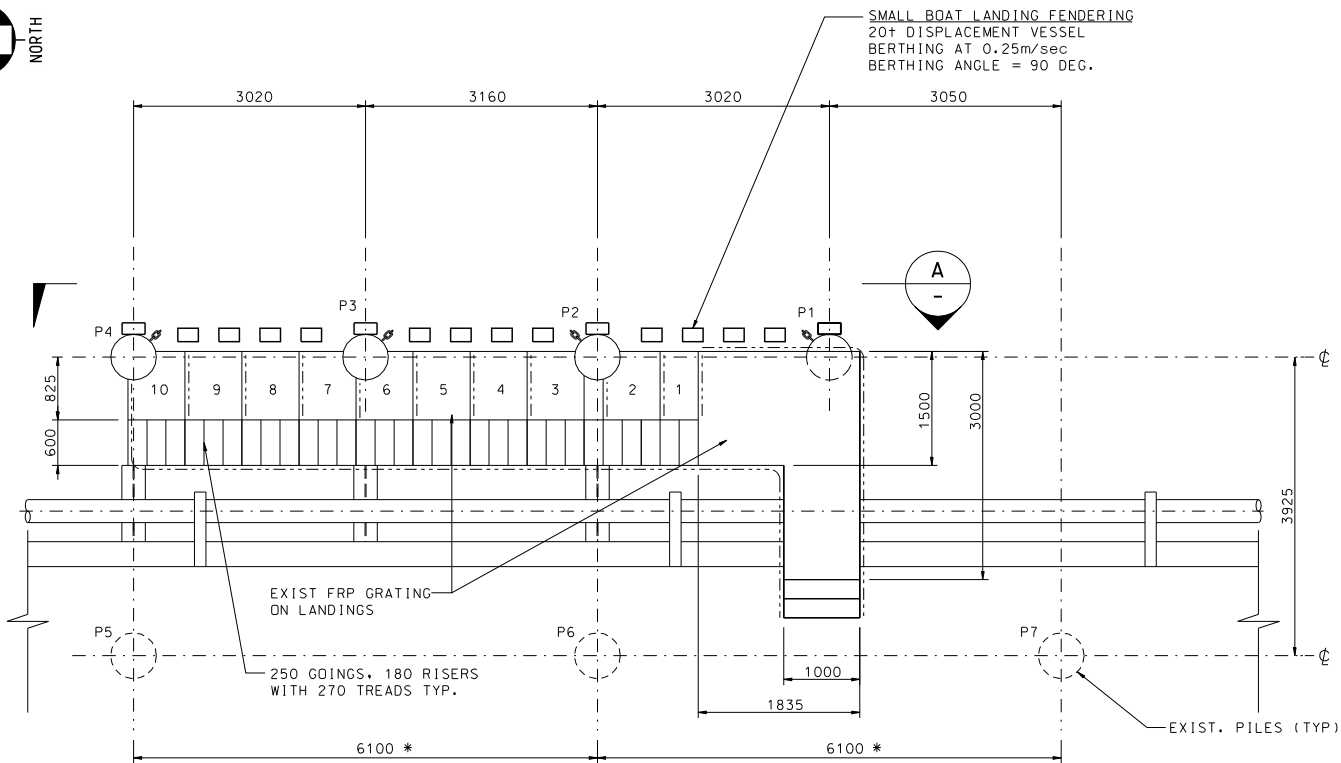


LEGEND:

* DENOTES APPROXIMATE DIMENSION ONLY

NOTES:

1. DO NOT SCALE FROM THIS DRAWING
2. ALL ELEVATIONS REFER TO CHART DATUM.
3. ALL STEELWORK IN ACCORDANCE WITH AS 4100
4. ALL SURFACE TREATMENT TO DPA REQUIREMENTS
5. CHECK ALL DIMENSIONS ON SITE PRIOR TO FABRICATION
6. ALL WELDING TO BE STRUCTURAL PURPOSE (SP) IN ACCORDANCE WITH AS 1554 USING ELECTRODE TYPES E41 OR W40 MINIMUM.
7. ALL NEW STEELWORK TO BE GRIT BLASTED TO CLASS 2.5 AND PAINT TREATED WITH 500um DFT OF INTERZONE 954 OR APPROVED EQUIVALENT PAINT SYSTEM



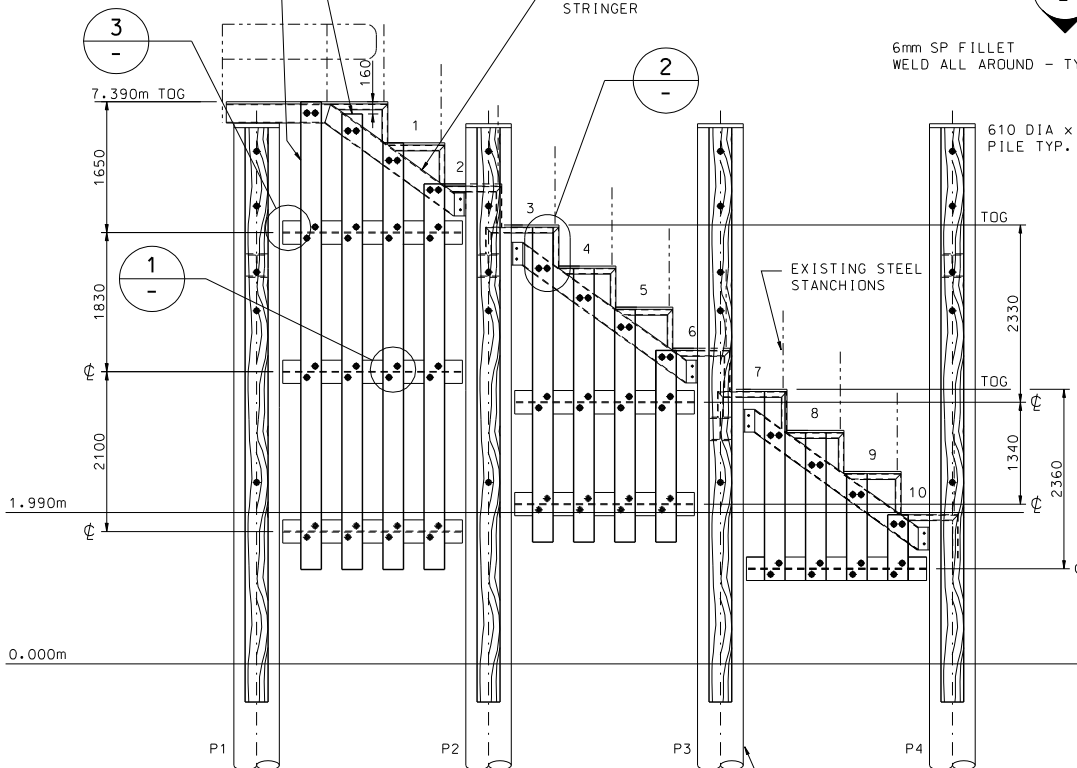
PLAN ON SMALL BOAT LANDING AT WHARF LEVEL

SCALE 1:50

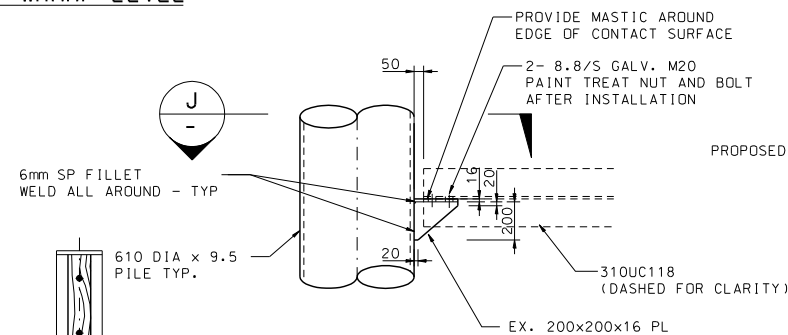
NO CAP PL TO THIS FENDER

250x175 REPLAS PLANKS, 4 PLANKS WITH 5 EQUAL GAPS BETWEEN TYP. BETWEEN PILES P1-P4.

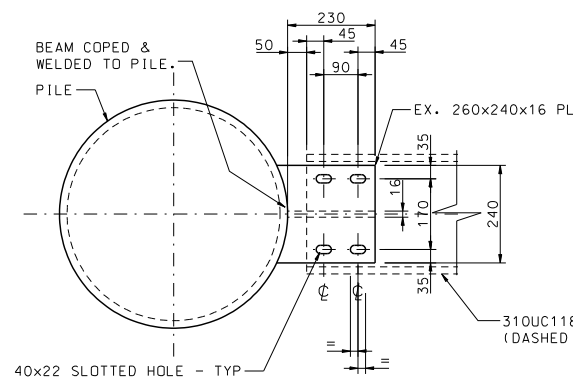
EXISTING 250x150x9 RHS STRINGER



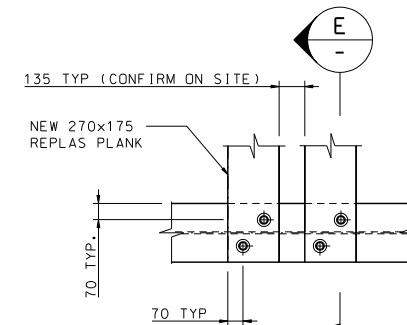
SECTION A
SCALE 1:50



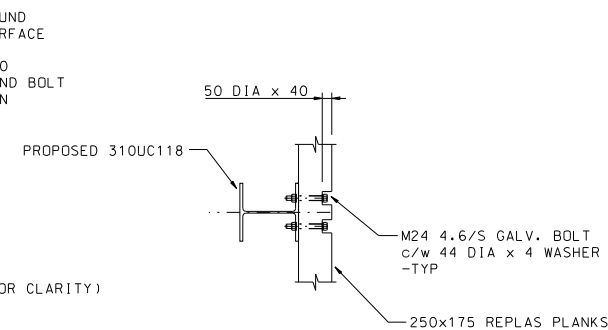
DETAIL 3
SCALE 1:20



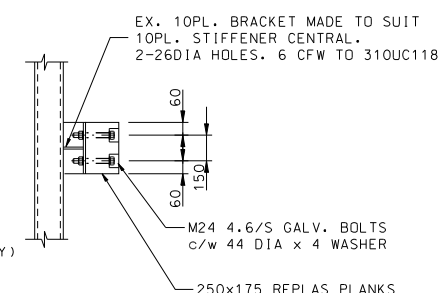
SECTION J
SCALE 1:10



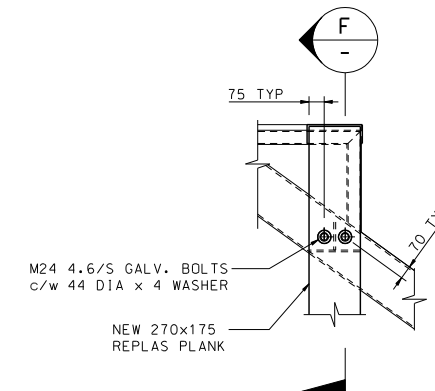
DETAIL 1
SCALE 1:20



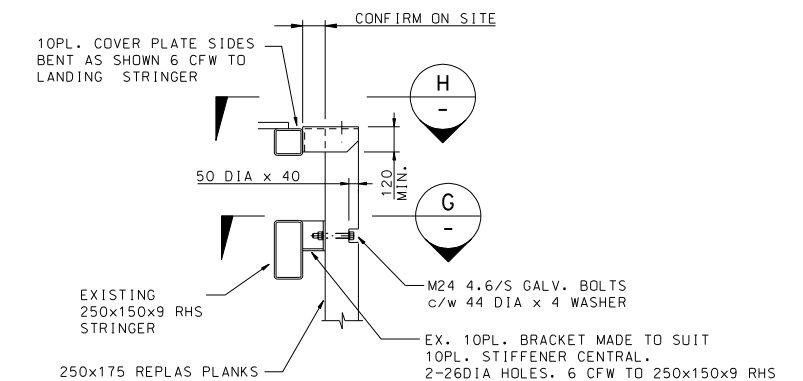
SECTION E
SCALE 1:20



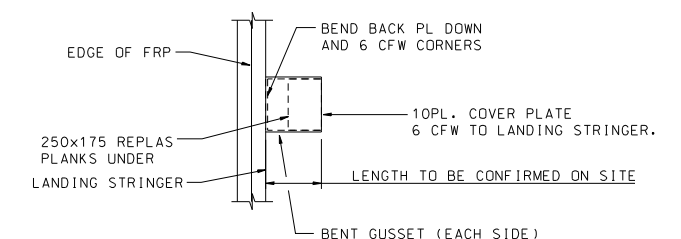
SECTION G
SCALE 1:20



DETAIL 2
SCALE 1:20

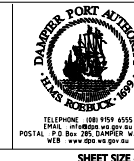


SECTION F
SCALE 1:20



SECTION H
SCALE 1:20

DRAWING No	REFERENCE DRAWINGS	REV No	DATE	REVISION DESCRIPTION	DRAWN	CHECKED	DESIGNED	APPROVED	CLIENT
1		2	05.05.11	AS-BUILT	TW	RLH	N/A	RLH	SAVCOR
		1	21.10.09	MINOR AMENDMENTS	EdK	RLH	N/A	TF	SAVCOR
		0	20.10.09	ISSUED TO CLIENT	EC	TF	N/A	TF	SAVCOR

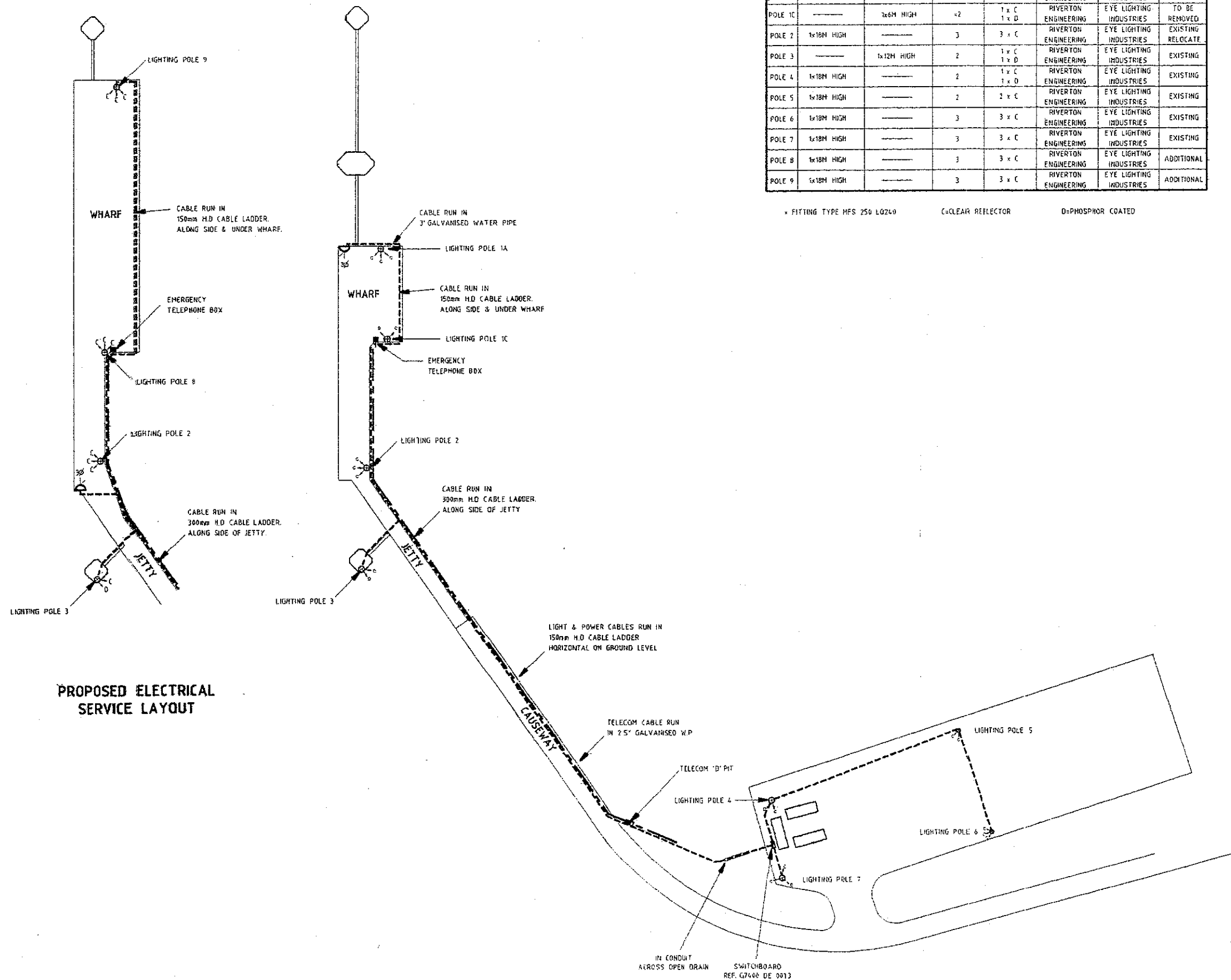


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DATE: 18.10.09	DRAWN: EC
DATE: RLH	CHECKED: 20.10.09
DATE: RLH	DESIGNED: 20.10.09
DATE:	APPROVED:
DATE:	CLIENT:
PROJECT REF. No.	

TITLE DAMPIER PORT AUTHORITY DAMPIER CARGO WHARF, SMALL BOAT LANDING NEW FENDER G.A. AND DETAILS		
SCALE: AS SHOWN	DRG No C15-DC-001	REV 2

ORIGINAL DCW JETTY
ELECTRICAL LAYOUT
PLAN



LEGEND

TELECOM CABLES ————

POWER CABLES - - - - -

NOTES

G7400 DE 001.02 - NAVIGATION LIGHTS & POWER SERVICE LAYOUT

G7400 DE 001.03 - DISTRIBUTION BOARD SINGLE LINE DIAGRAM

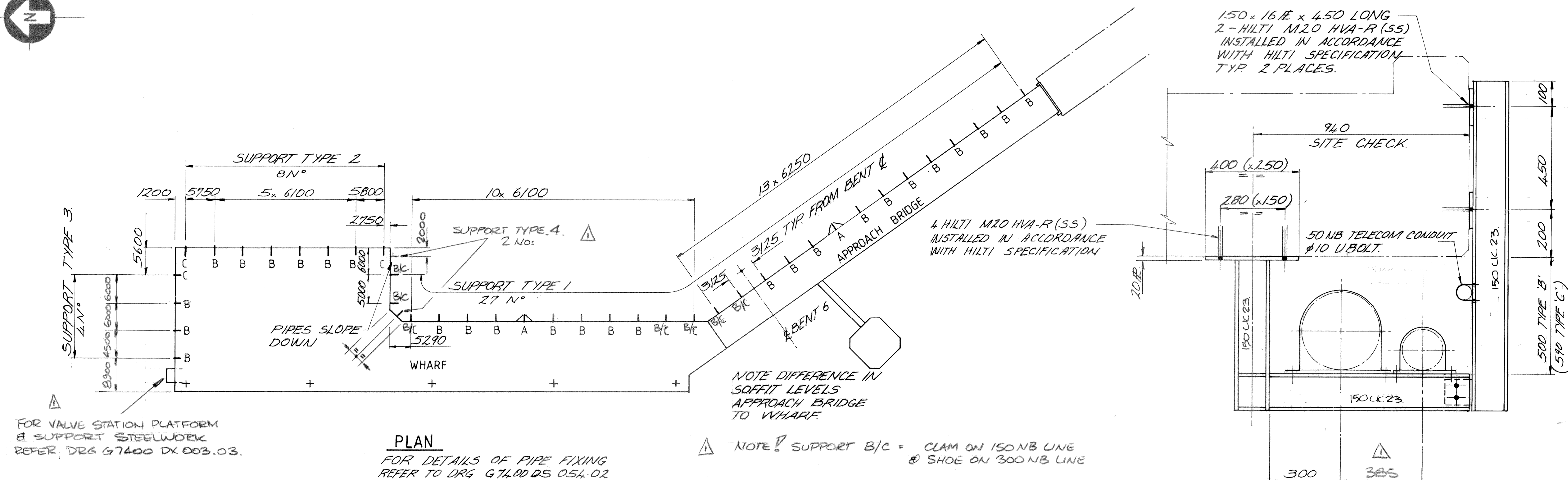
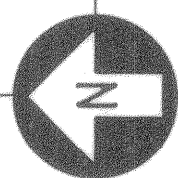
No	DATE	BY	CHK'D	DESCRIPTION	APPROVED	DATE
0	22.07.93	APH		ISSUED FOR TENDER		
REVISIONS						

ASTRON
ASTRON ENVIRONMENTAL
ASTRON ENGINEERING PTY LTD
SUITE 7, SAVINGS HOUSE,
11 HEDLAND PLACE
PO BOX 713, KARRATHA WA 6714
TEL: (08) 944 1179 FAX: (08) 944 2638

MATERIAL OFFLOADING FACILITY ELECTRICAL SERVICE LAYOUT

SCALE:	DRAWN: APH	CHK'D:	DRAWING No:	REVISION
1:1000	DATE: 22.07.93	DATE:	37241-DE-01	0

ORIGINAL DCW JETTY
SERVICES SUPPORTS PLAN
(WATERMAIN AND DIESEL FUEL LINE)

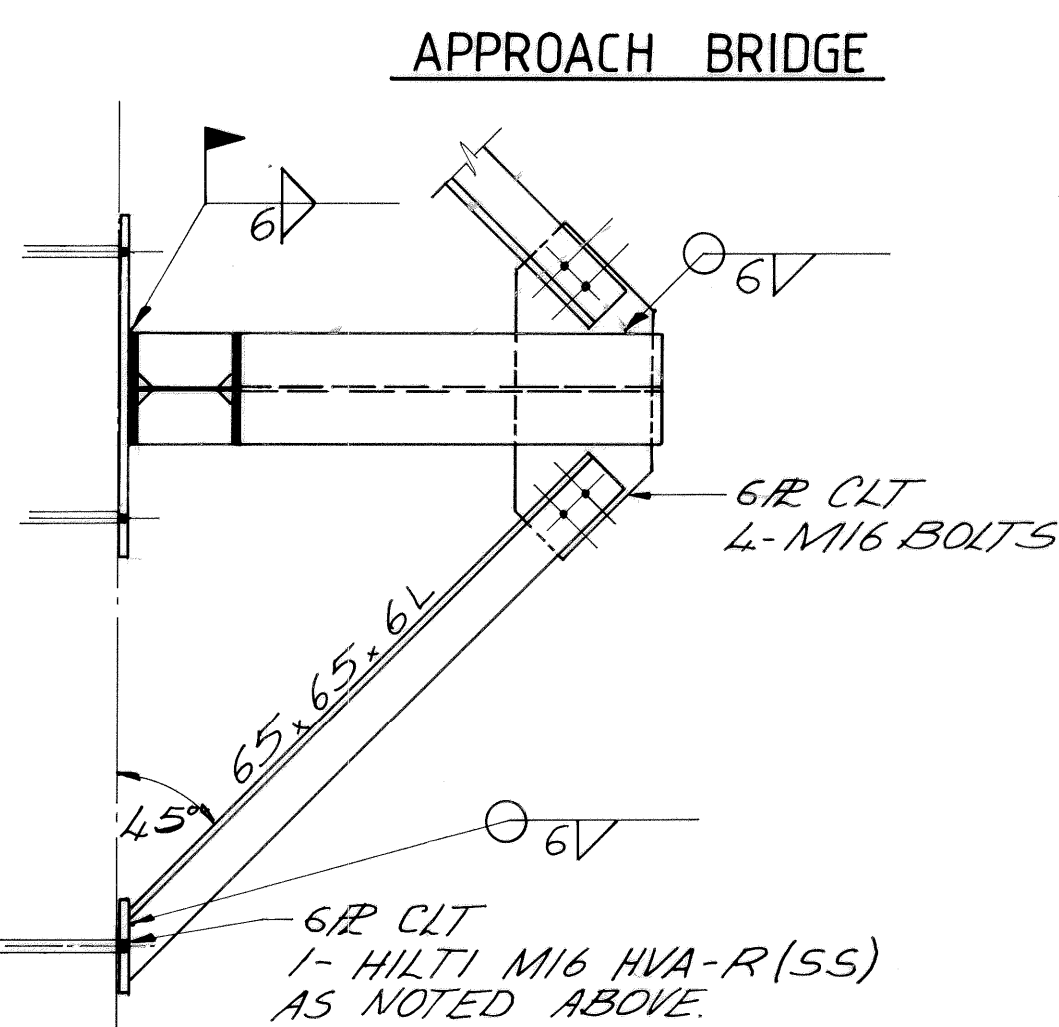
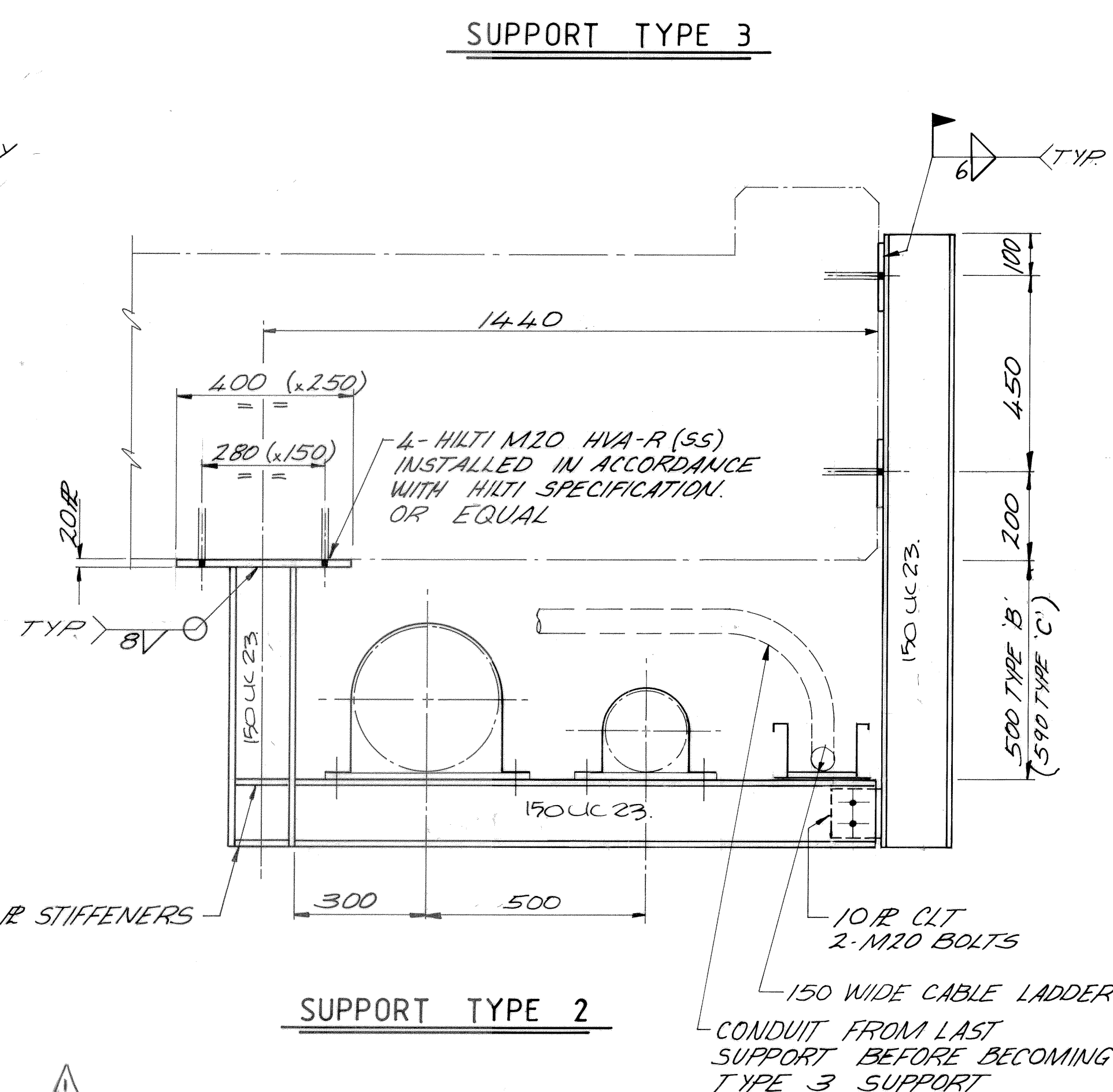
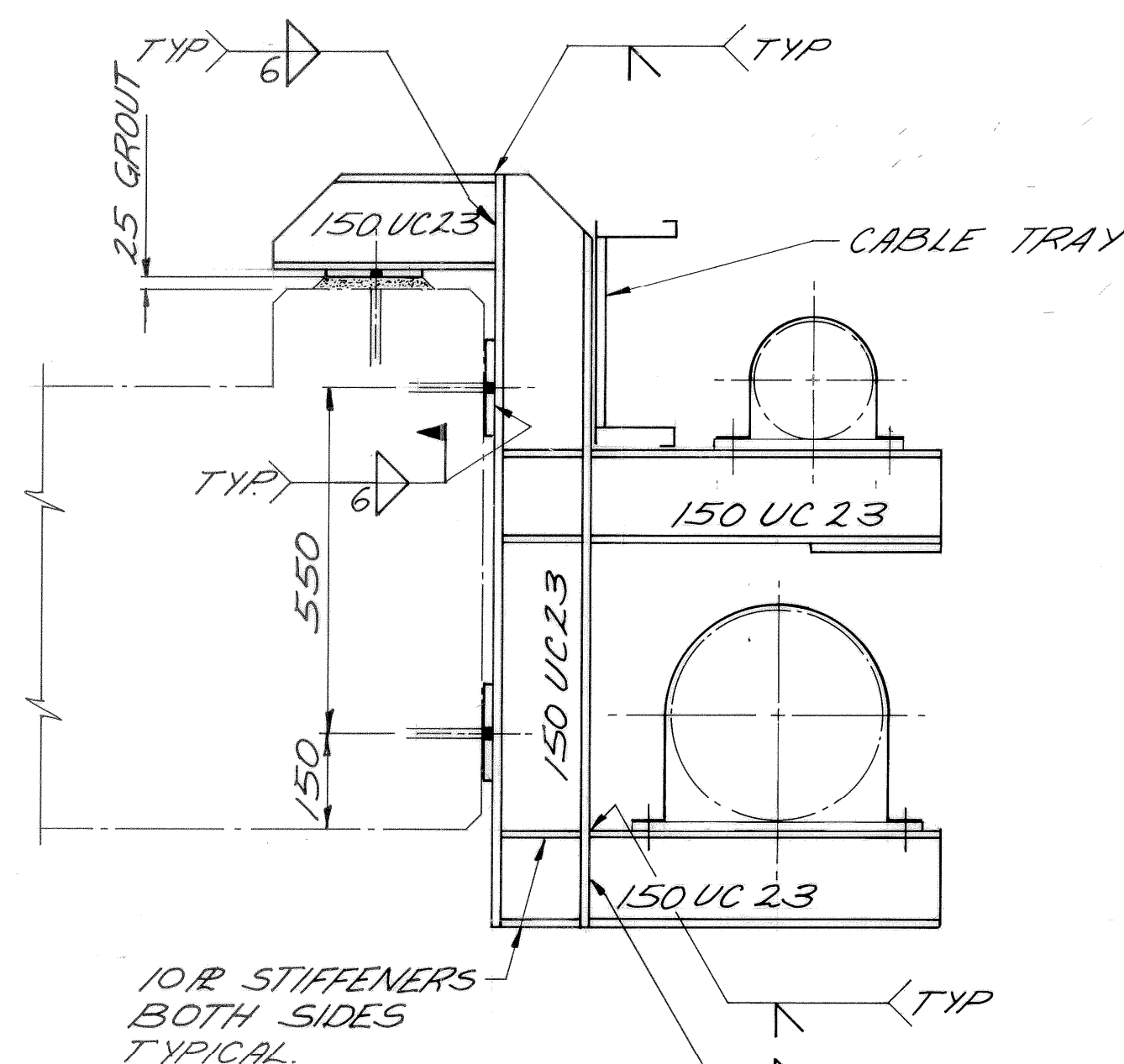
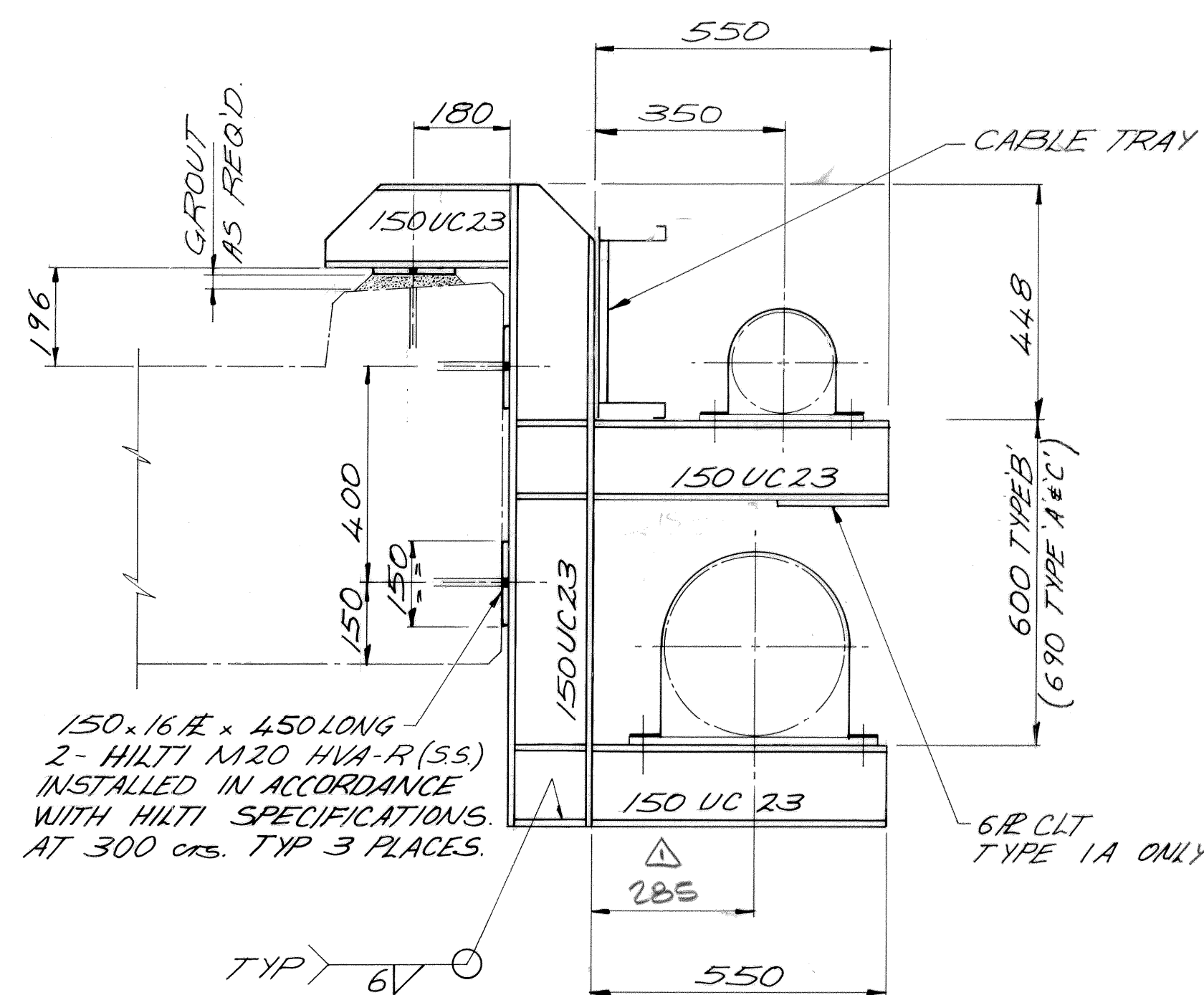


FOR VALVE STATION PLATFORM
& SUPPORT STEELWORK
REFER DRG G7400 DX 003.03.

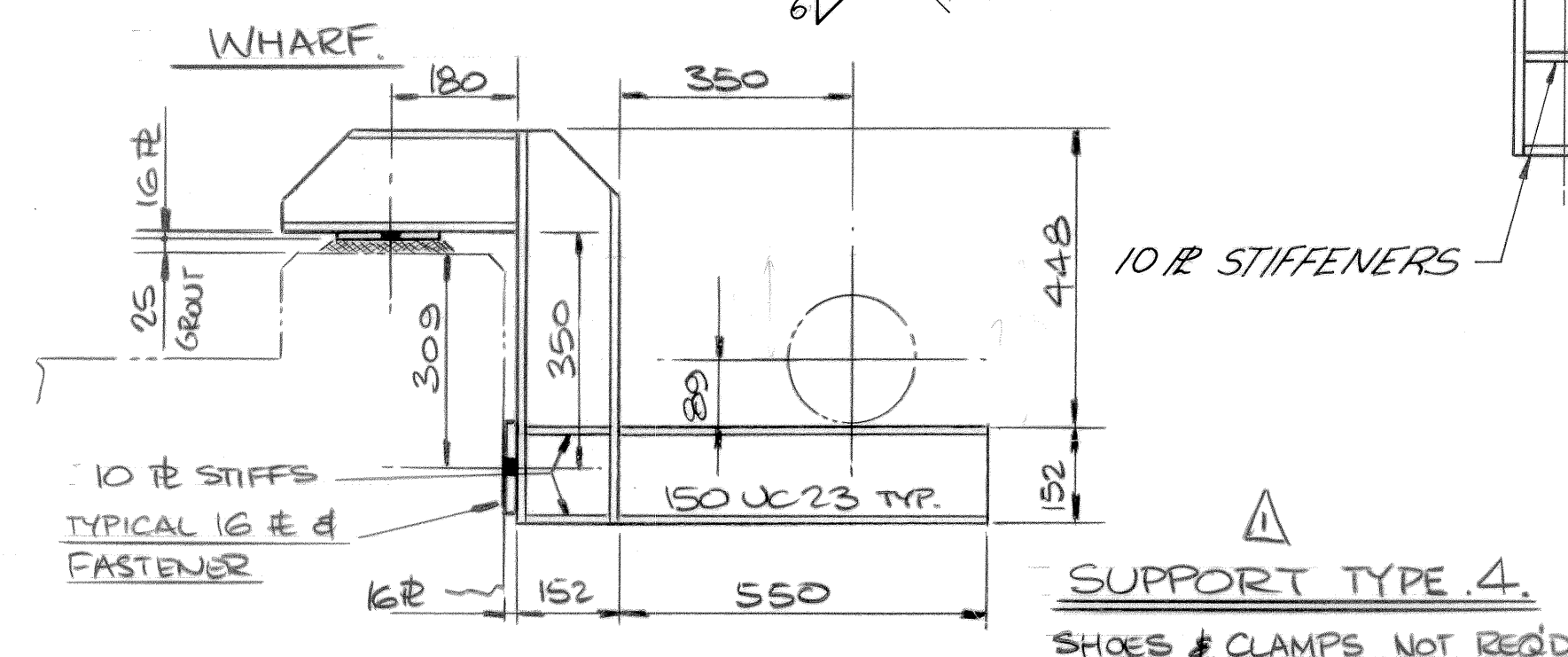
PLAN

FOR DETAILS OF PIPE FIXING
REFER TO DRG G7400 DS 054-02

⚠ NOTE! SUPPORT B/C = CLAM ON 150NB LINE
& SHOE ON 300NB LINE



PLAN SUPPORT TYPE 1A




SUPPORT TYPE .4.

SHOES & CLAMPS NOT REQ'D

G7400DS054-01	PIPE FIXING DETAILS
DRAWING NO.	TITLE
REFERENCE DRAWINGS	

[illegible]

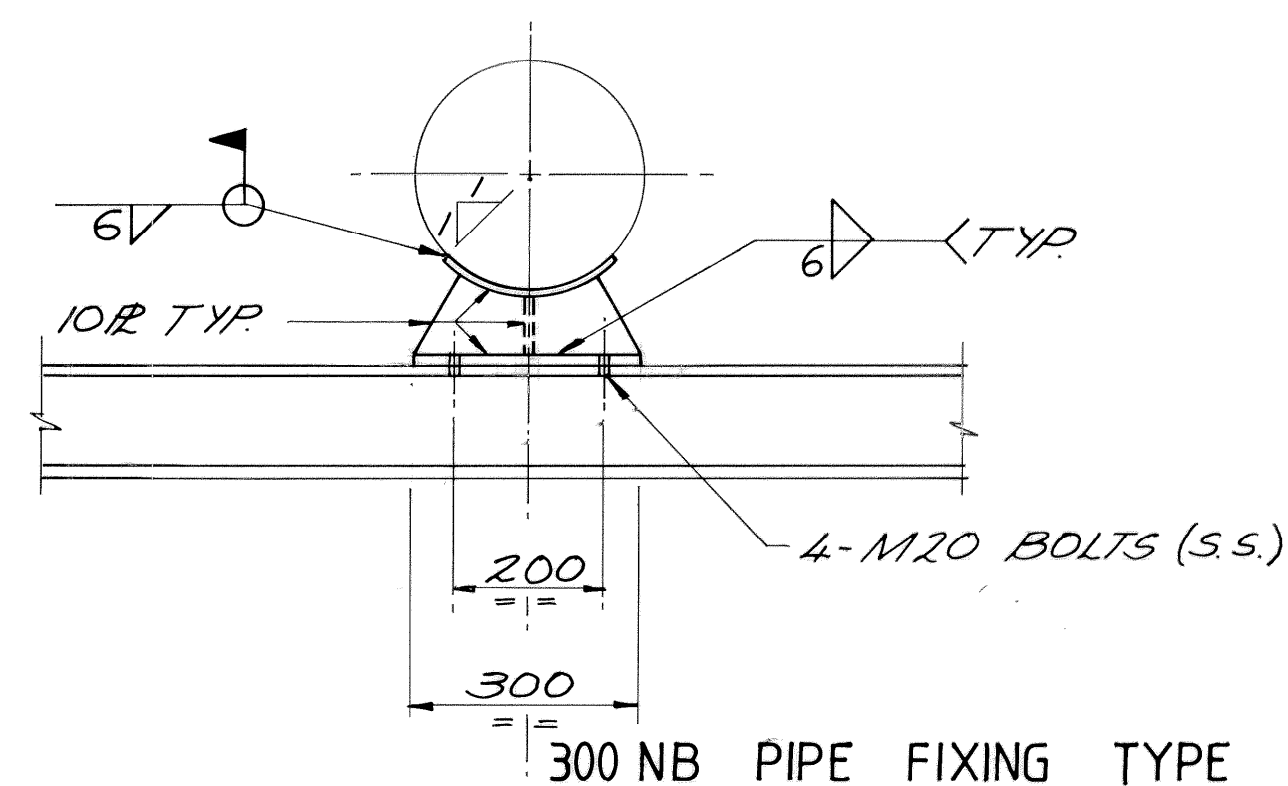
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	ENG'R <i>P. LAED</i>	<i>27-06</i>
	ENG'R	
	ENG'R	
<i>49</i>	CONSTN'N MGR	
<i>87</i>	DESIGN MGR <i>J. Laskowski</i>	<i>13-07</i>
<i>87</i>	MGR PROJ	
	APPROVAL	DATE

 Woodside Offshore Petroleum Pty Ltd				
NORTH WEST SHELF DEVELOPMENT PROJECT MATERIALS OFFLOADING FACILITY				
REPLACEMENT SERVICES SUPPORT DUE TO CYCLONE 'ORSON' DAMAGE STEELWORK DETAILS				
SCALE:	DRAWN: CDF	CHK'D: C.D.	DRAWING NO:	REVISION
1:500, 1:10	DATE: JUNE '89	DATE: OCT '89	G 7400 DS 054.01	2

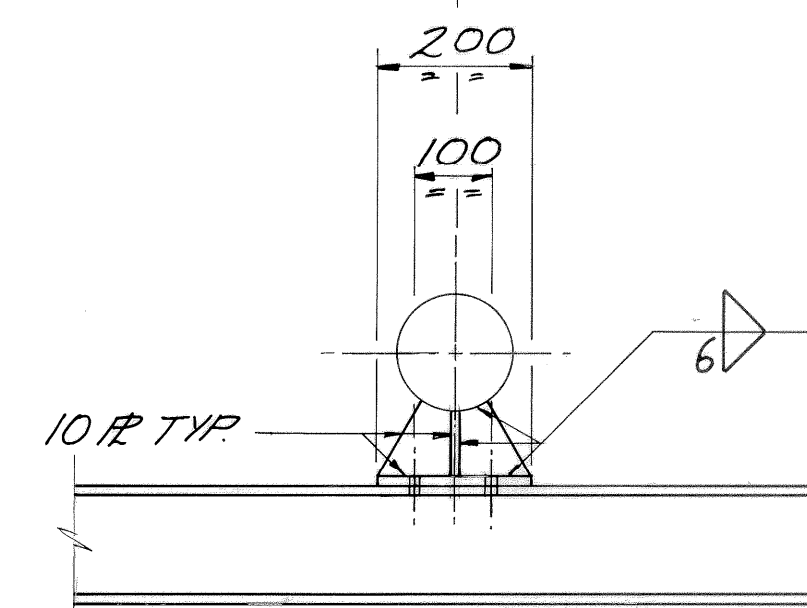
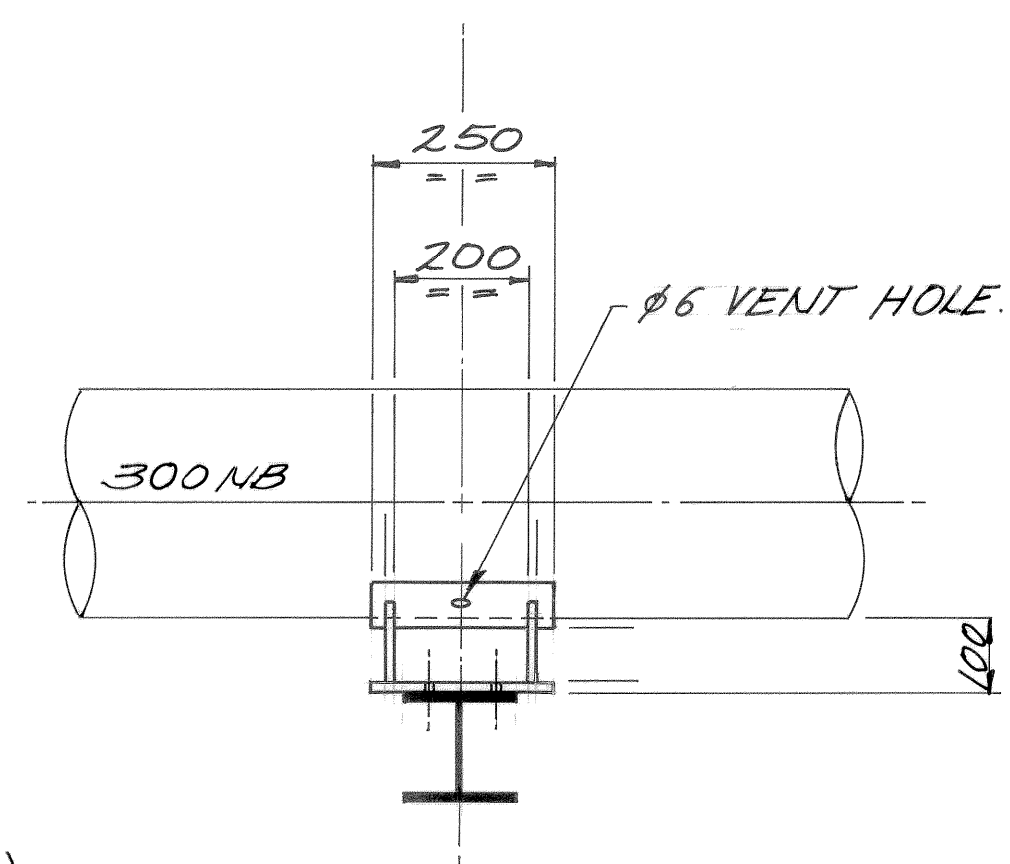
NOTES

FOR NOTES REFER TO DRAWING NUMBER
G7400DS054-01

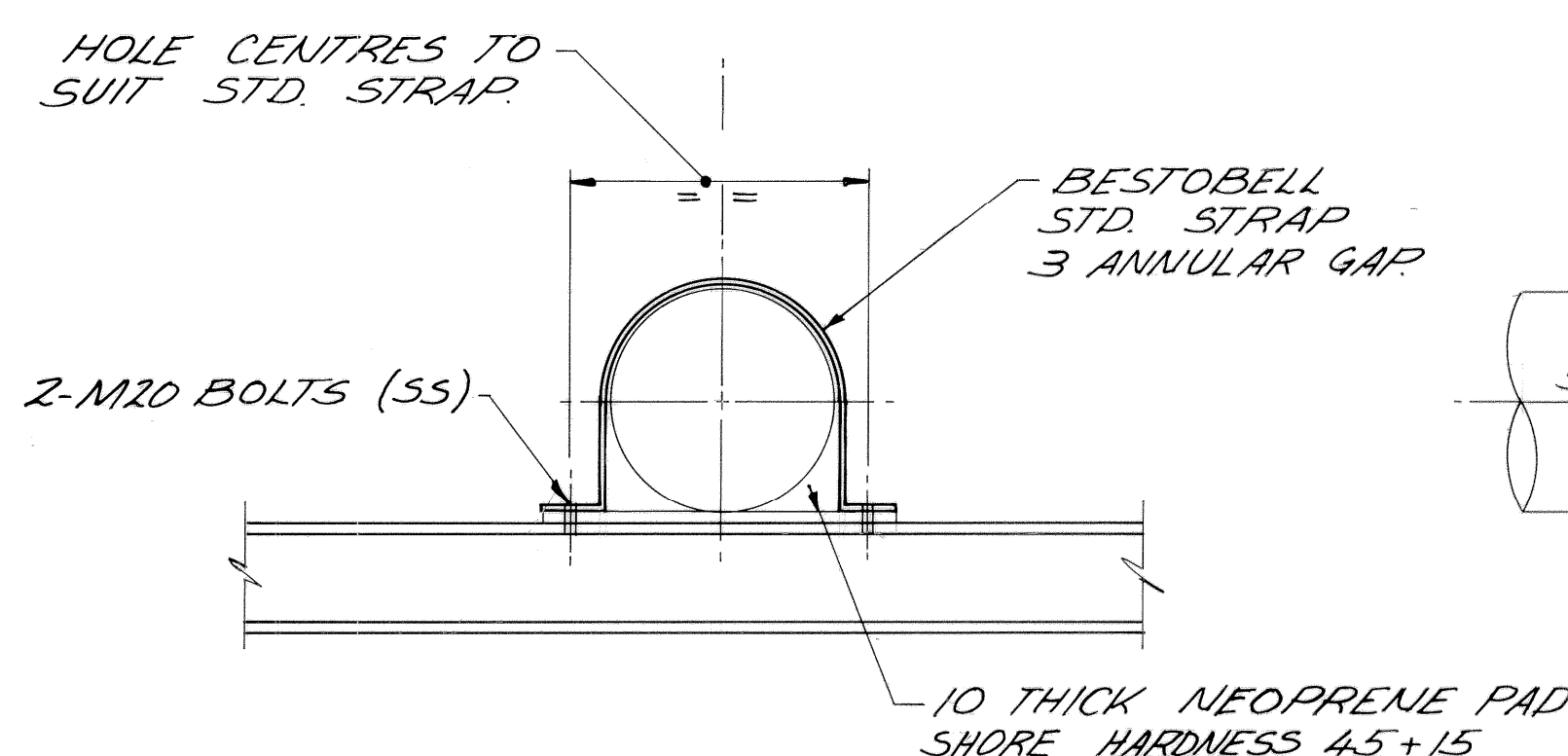
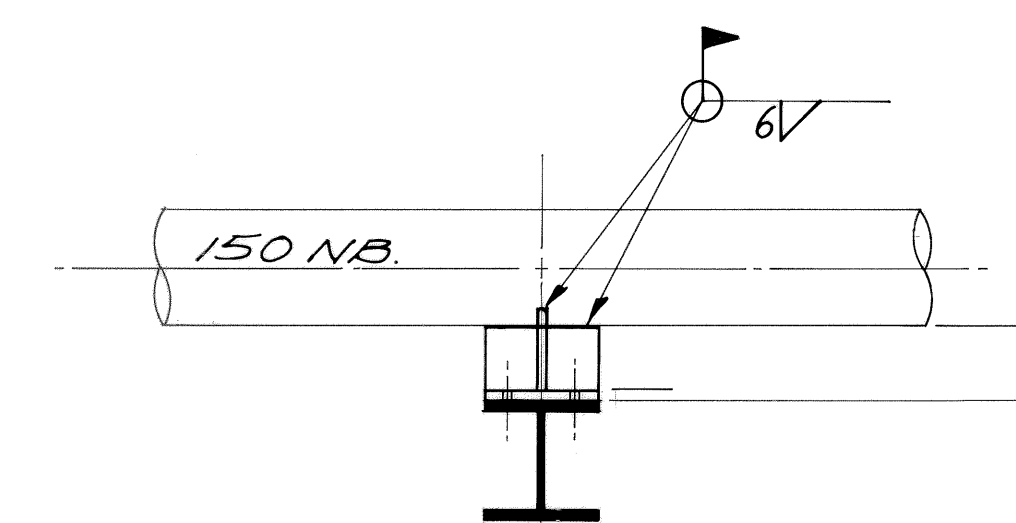
FOR LOCATION OF PIPE FIXING REFER TO
DRAWING NUMBER G7400 DS 054-01



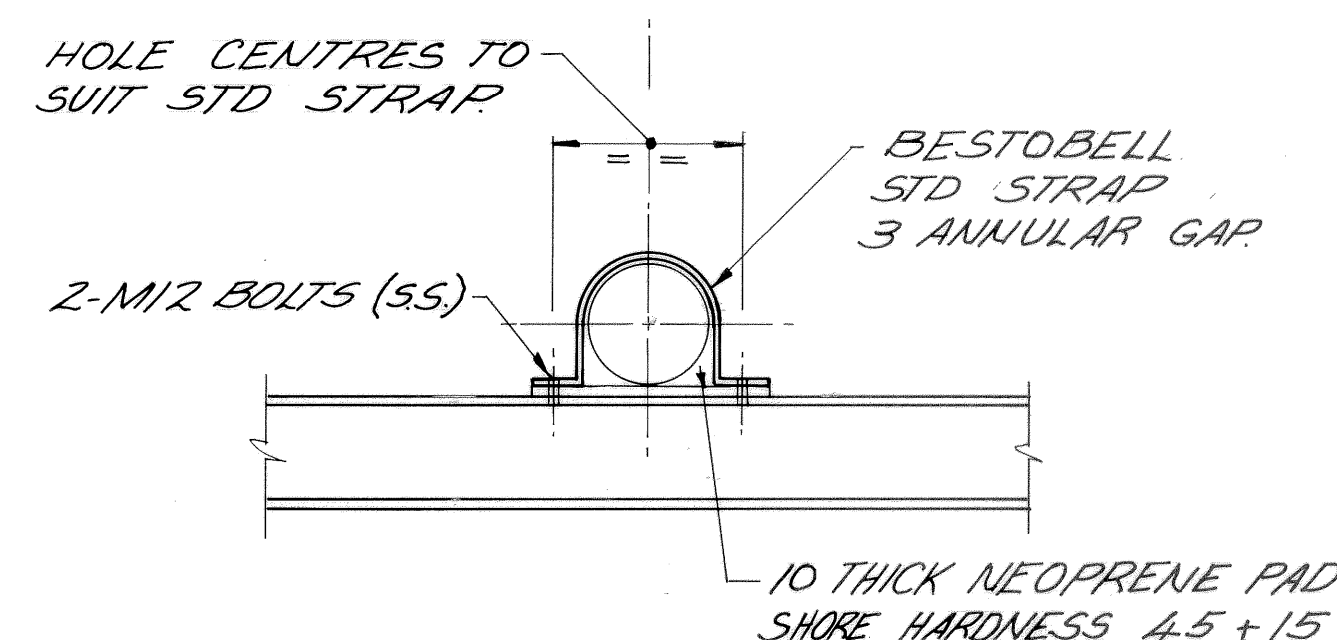
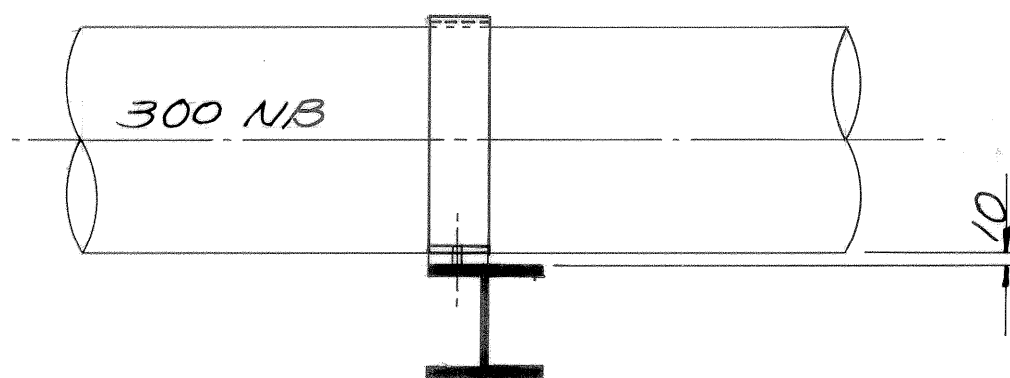
300 NB PIPE FIXING TYPE A



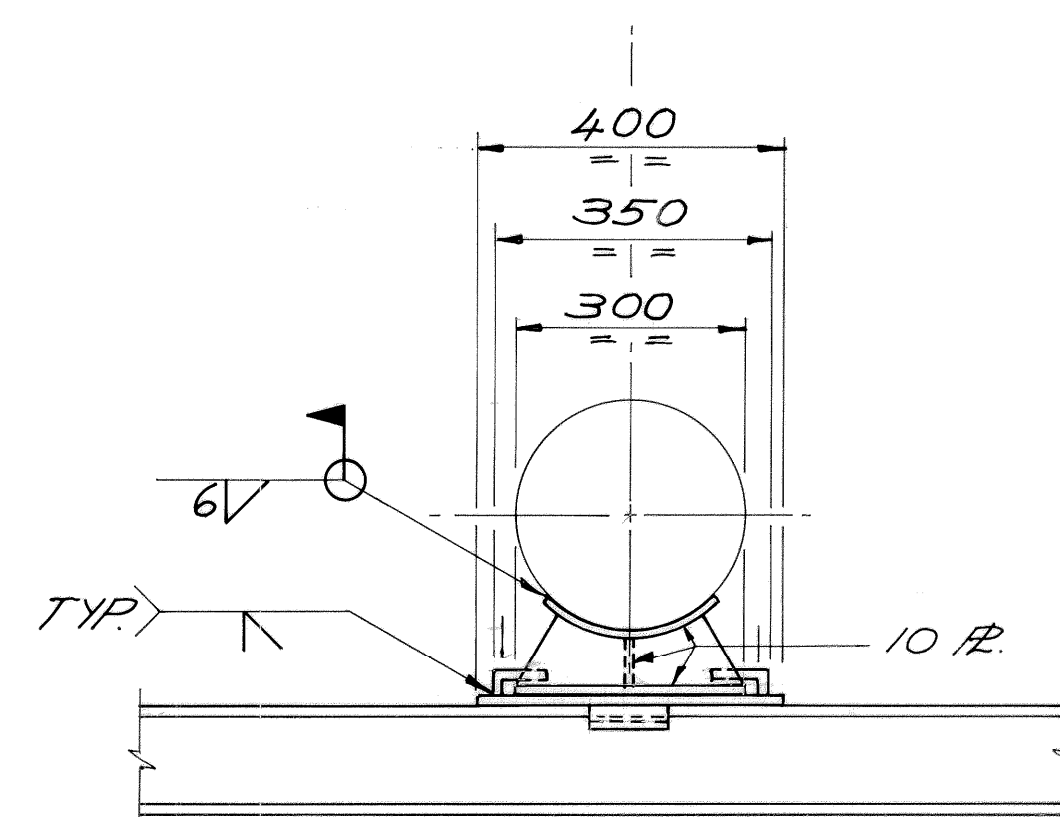
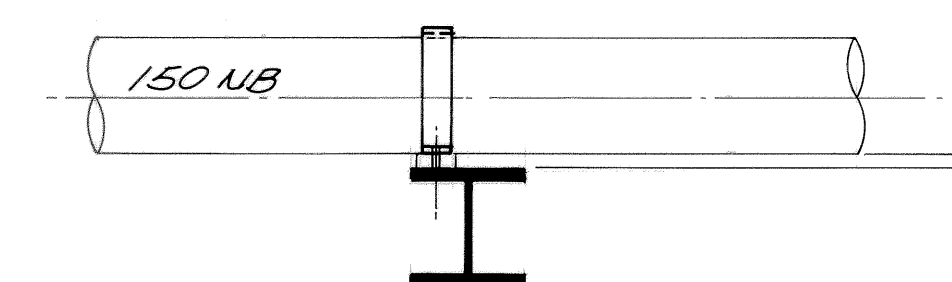
150 NB PIPE FIXING TYPE A



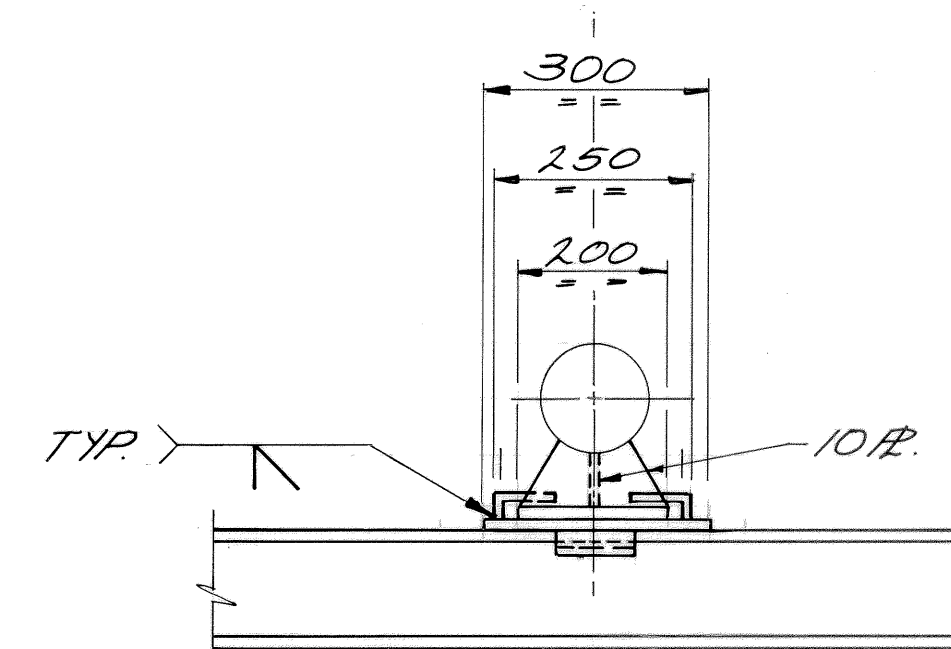
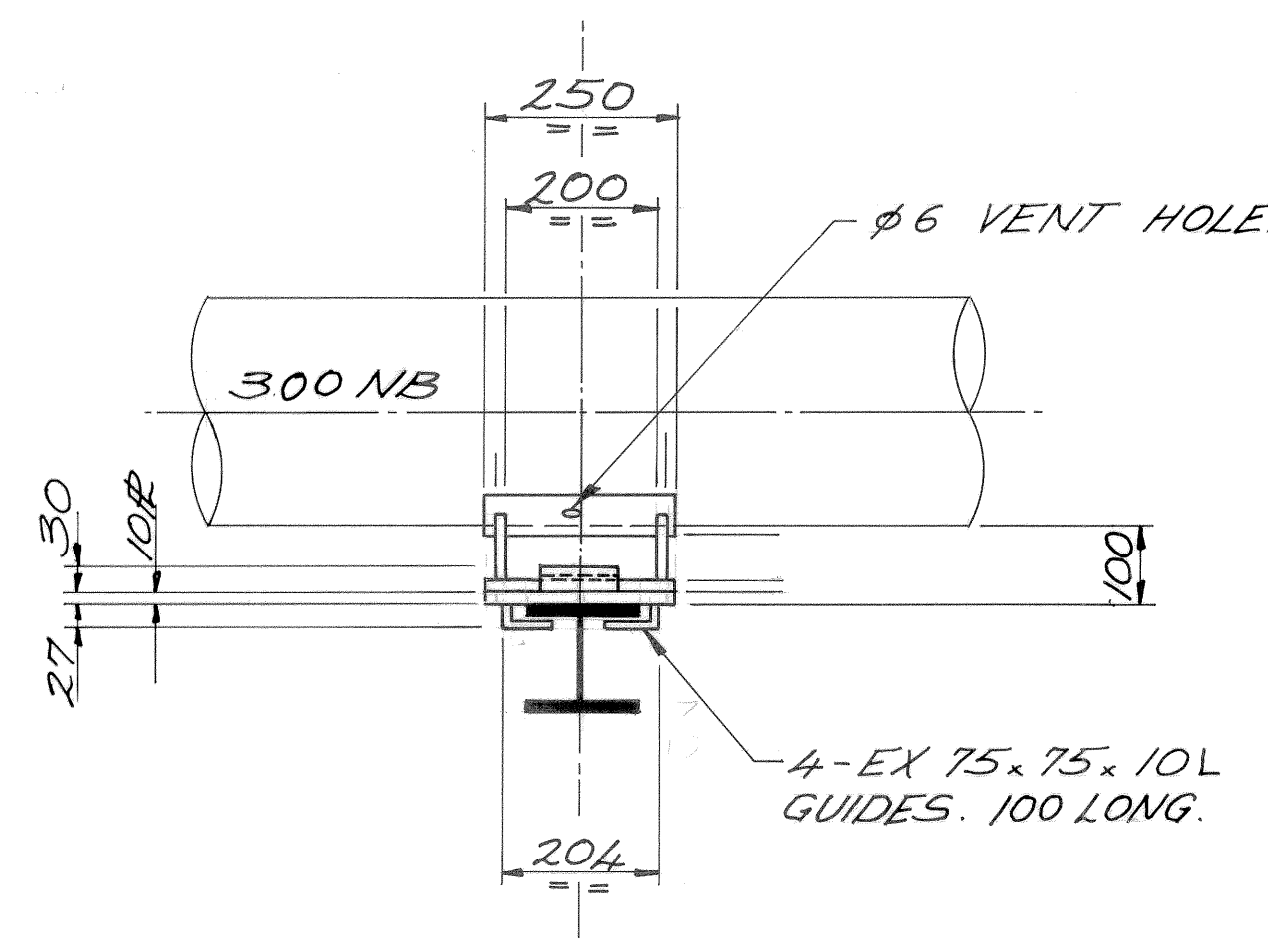
300 NB PIPE FIXING TYPE B



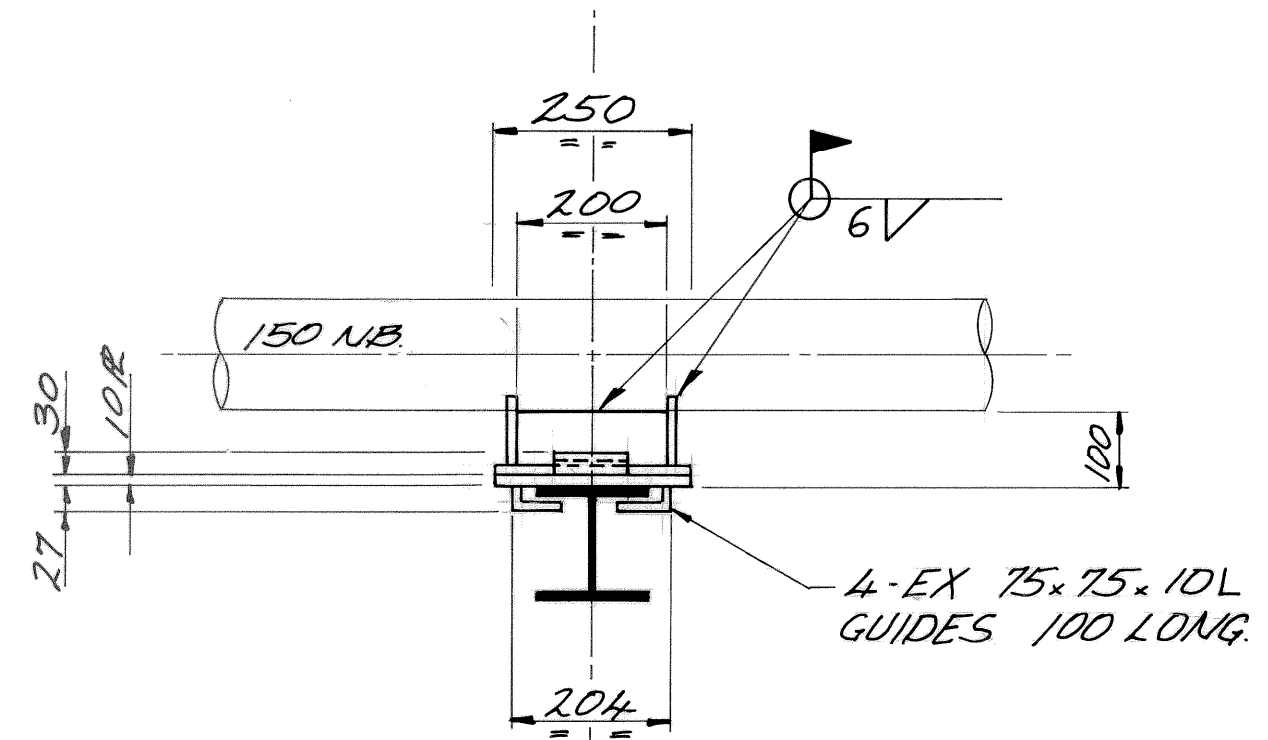
150 NB PIPE FIXING TYPE B



300 NB PIPE FIXING TYPE C



150 NB PIPE FIXING TYPE C

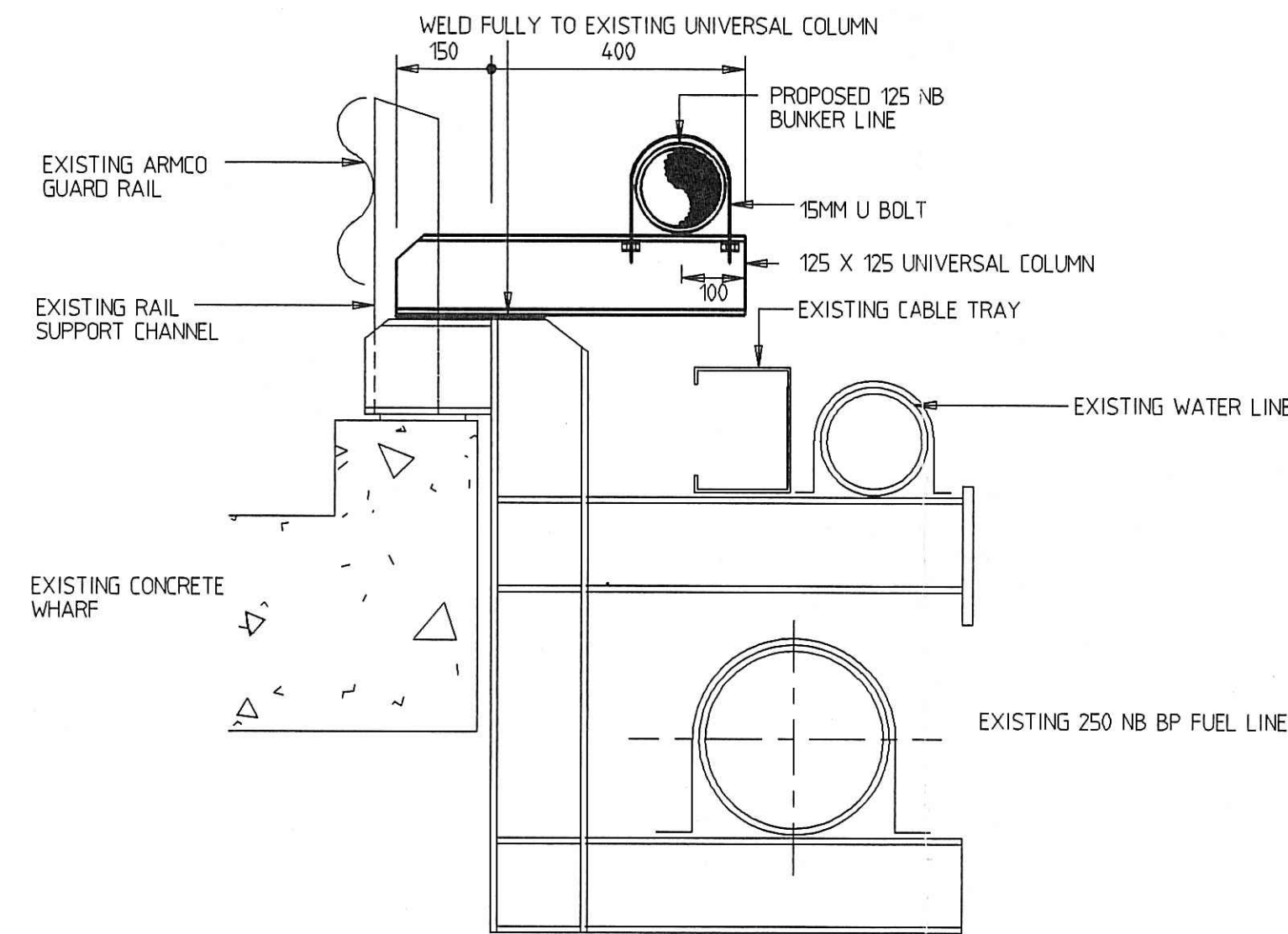


NO	DATE	BY	CHK'D	REVISIONS
1	7/5/90	DBT		AS BUILT
2	11/8/91	CF	C.D.	ISSUED FOR CONSTRUCTION
3	26/8/91	CF		ISSUED FOR TENDER

CONSULT	DATE
ENGR PLARD	12-07-89
ENGR	
ENGR	
CONSTN MGR	
DESIGN MGR	
MGR PROJ	

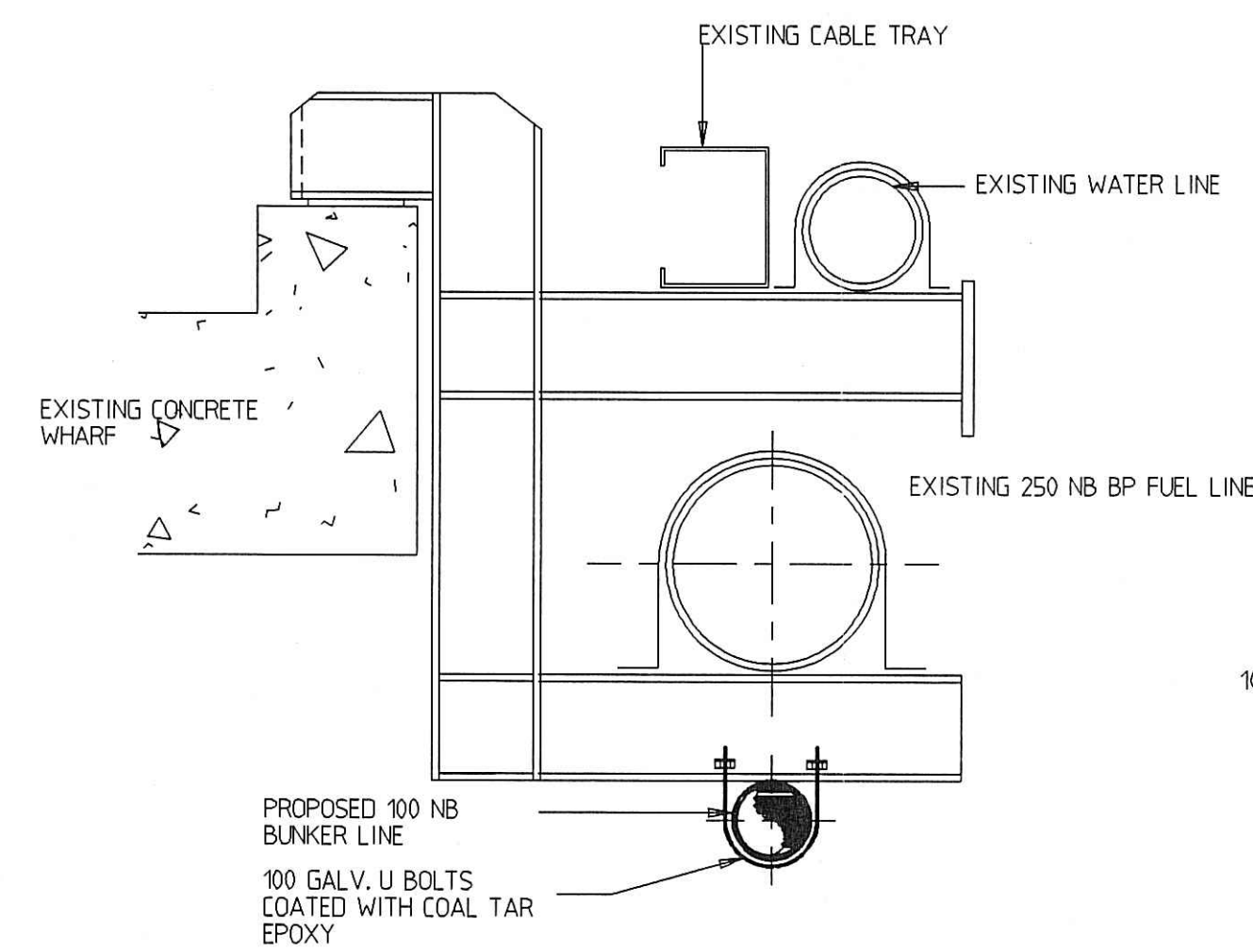
Woodside Offshore Petroleum Pty Ltd			
NORTH WEST SHELF DEVELOPMENT PROJECT MATERIALS OFFLOADING FACILITY REPLACEMENT SERVICES SUPPORT DUE TO CYCLONE 'ORSON' DAMAGE PIPE FIXING DETAILS			
SCALE	DRAWN	CHK'D	DRAWING NO
1:10	CF	C.D.	G 7400 DS 054.02
DATE	DATE	DATE	REVISION
JUNE '89	10-7-89		1

DCW JETTY ADDITIONAL
SERVICES SUPPORTS PLAN
(DIESEL FUEL LINE)

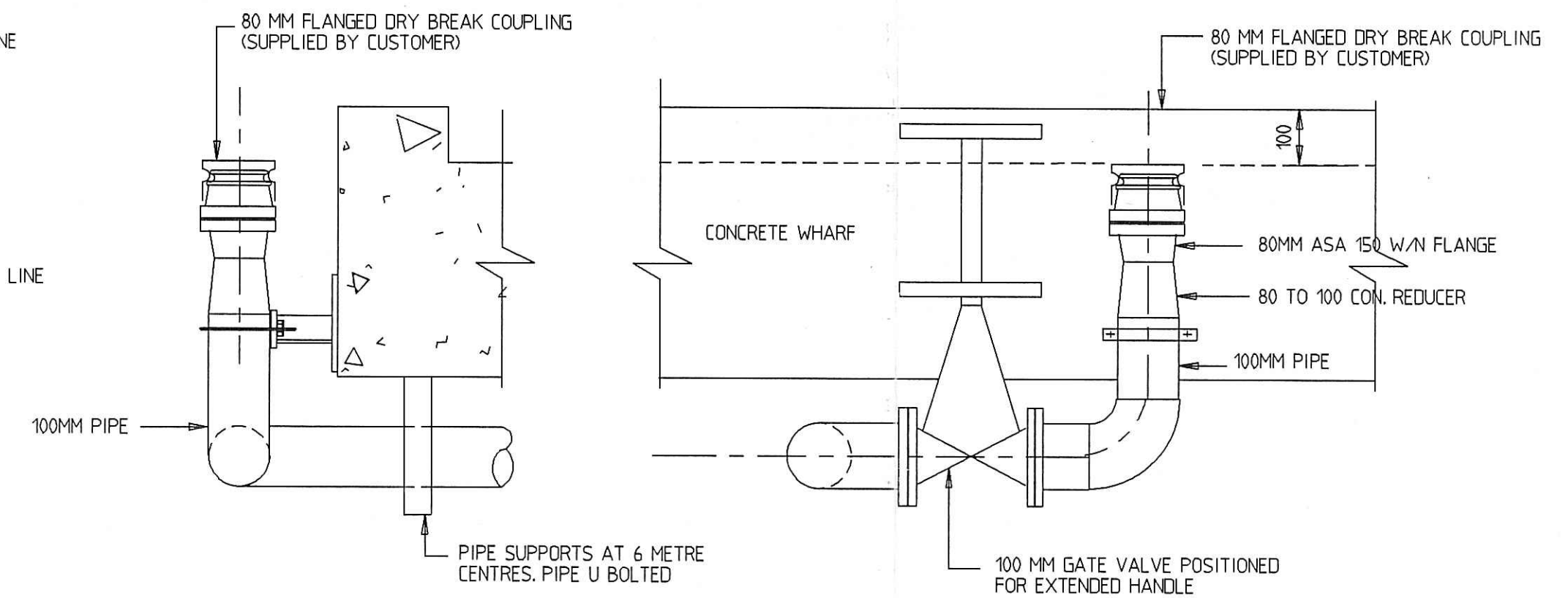


APPROACH BRIDGE SUPPORT DETAIL

PAINTWORK ON NEW PIPE SUPPORT TO MATCH
EXISTING PIPE SUPPORT
PATCH EXISTING WHERE NECESSARY



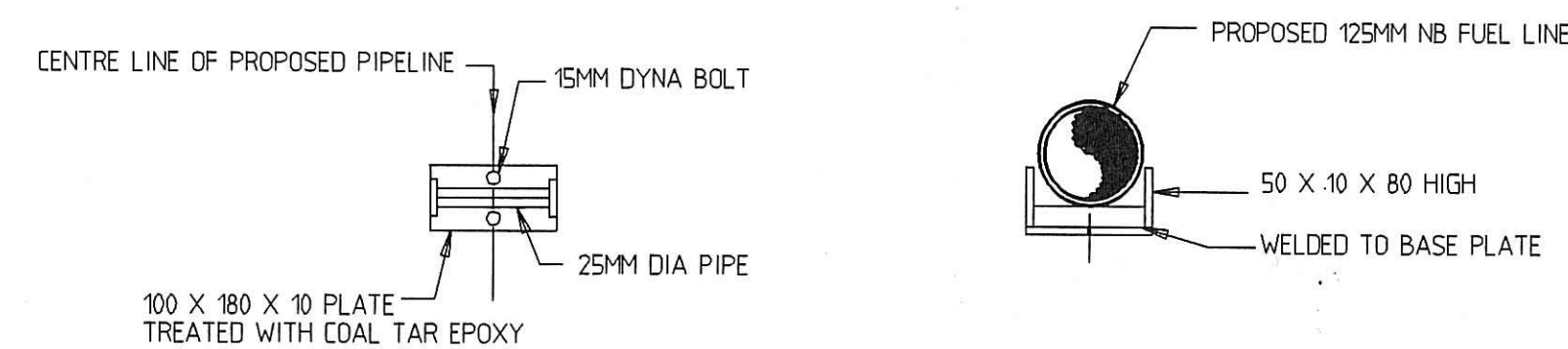
CHANGE OVER POINT FROM
125MM TO 100MM SUPPORTED
BENEATH 250MM LINE



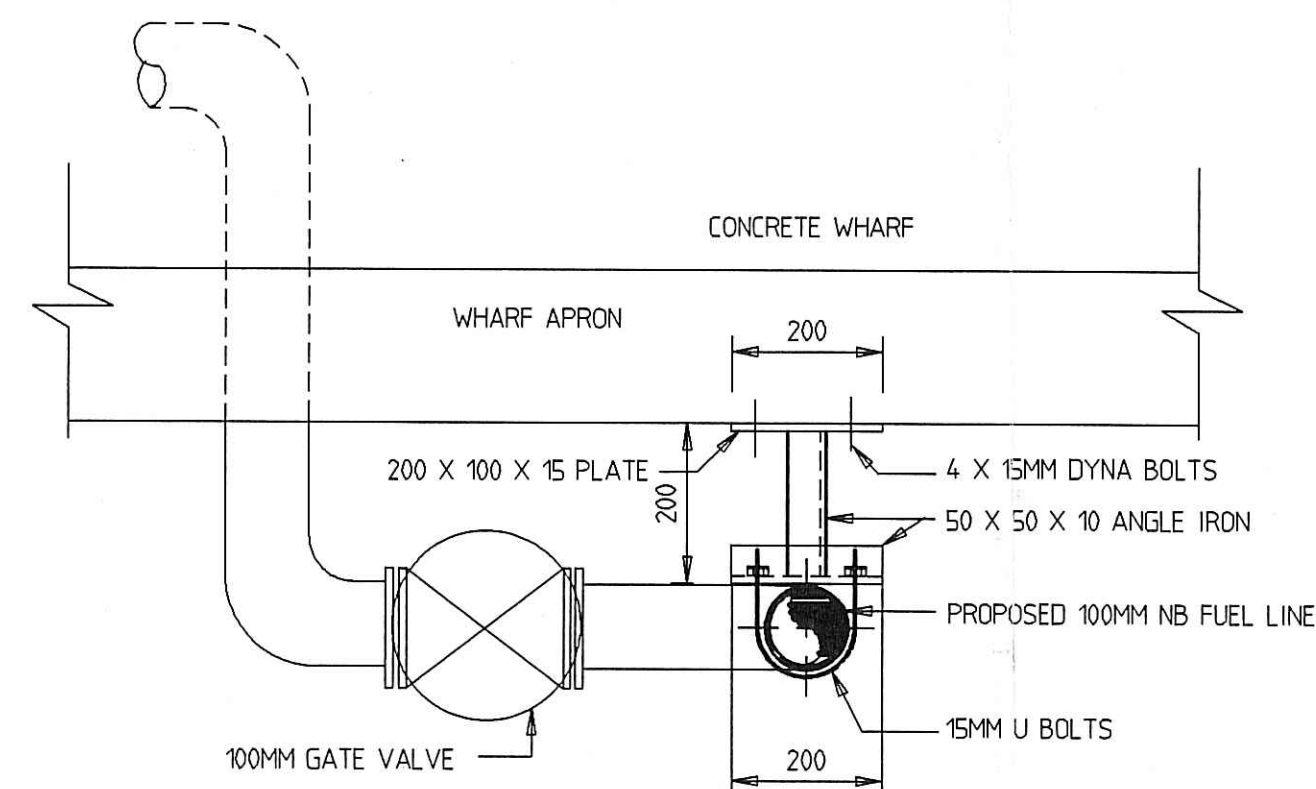
END VIEW

SIDE VIEW

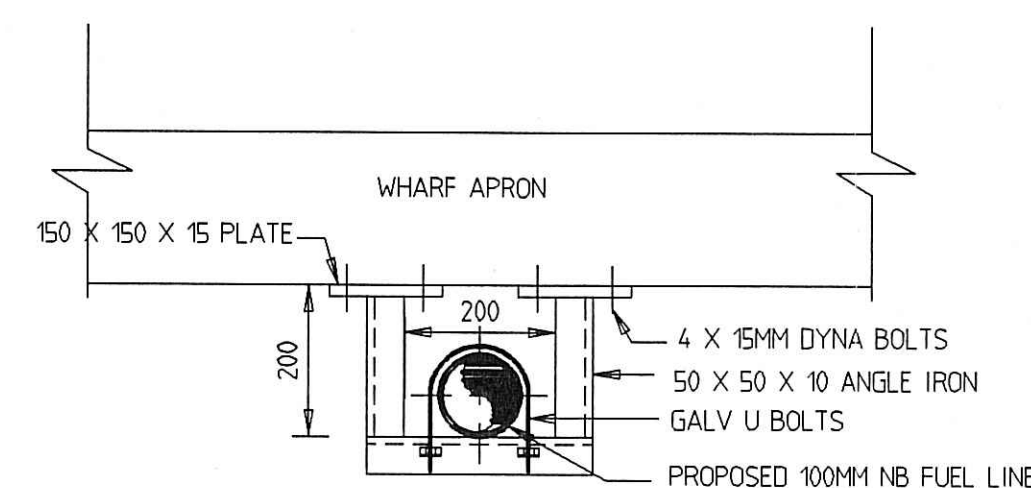
DETAILS OF BUNKER POINT NO.1



DETAILS OF PIPE SUPPORT
ON WHARF APPROACH ROAD

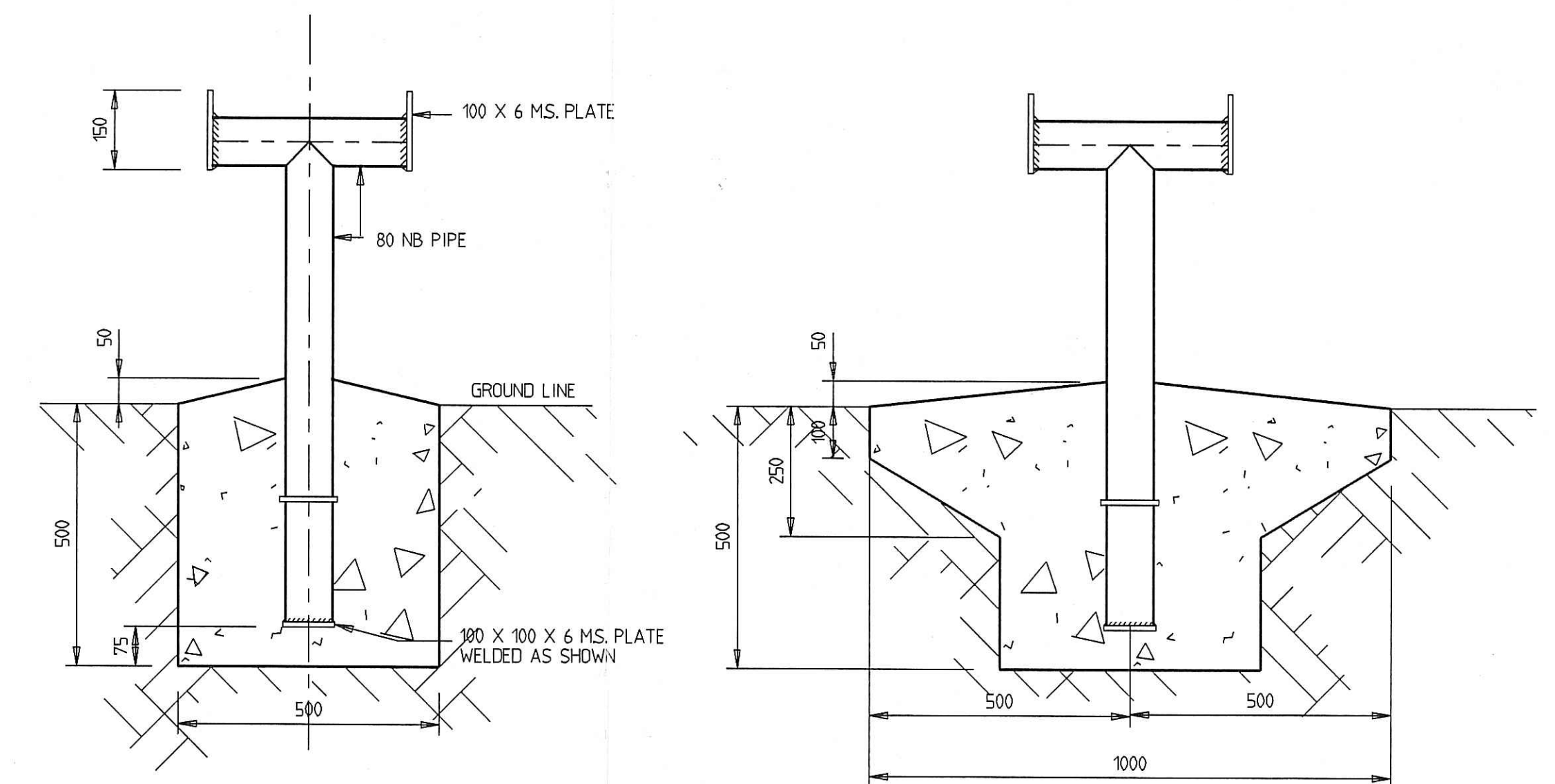


PIPE SUPPORTS FOR BUNKER
POINTS 1, 2 & 3
PLAN VIEW



PIPE SUPPORTS UNDERNEATH
WHARF FOR BUNKER POINTS
1 & 3
END ELEVATION

NOTE: ENTIRE SUPPORT & BOLTS TO BE COATED
IN 400 MICRONS OF COAL TAR EPOXY





DETAILS OF PIPE SUPPORT FOR
PIPELINE BETWEEN PUMP &
WHARF APPROACH ROAD

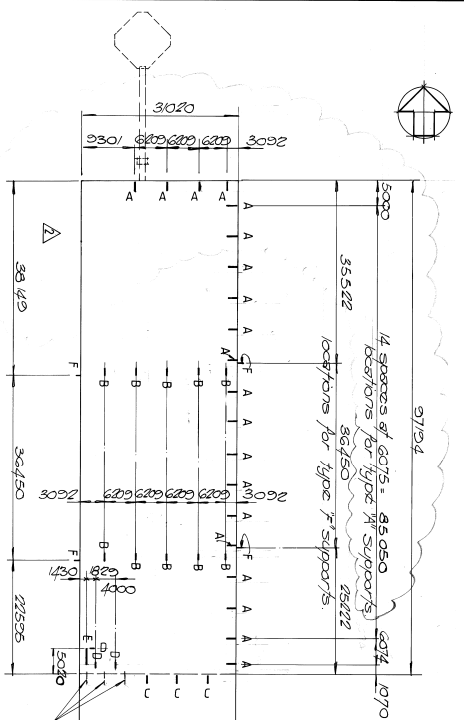
APPROVED
P. Berg

=UCP.NFRI.COM.DAMPIER.BUNKERING.DETAILS-LAY-01

REV	REVISION DESCRIPTION	DATE	BY	REFERENCE DRAWINGS	DWG. No.

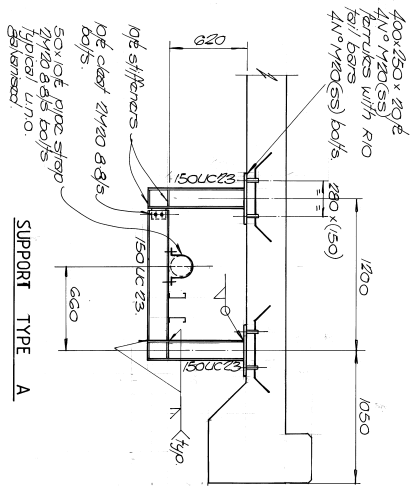
<div></div> <div>THE SHELL COMPANY OF AUSTRALIA LTD.</div> <div>A.C.N. 004 610 459</div>		<div></div> <div>NORTH</div> <div>ENGINEERING MANAGER</div>	SCALE 1:10	DATE 23/6/92	DOCUMENT : UN-CONTROLLED		<div>TITLE</div> <div>DAMPIER PUBLIC WHARF PROPOSED BUNKERING FACILITIES</div>	
			DRAWN JKHATT	ENGINEERED	ISSUING OFFICER	CONTROLLED COPY DIST		
			CHECKED	APPROVED				
			CONSULTANT REFERENCE DWG. No.					
CLEMENT CONSULTANTS PTY LTD			DATE:		AI SIZE DRAWING - DO NOT SCALE		REV. C	
					DWG. No. 133095			

DCW JETTY EXTENSION
SERVICES SUPPORTS PLAN

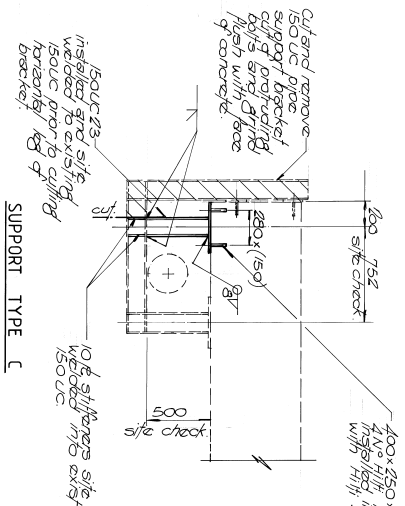


PLAN
1/500

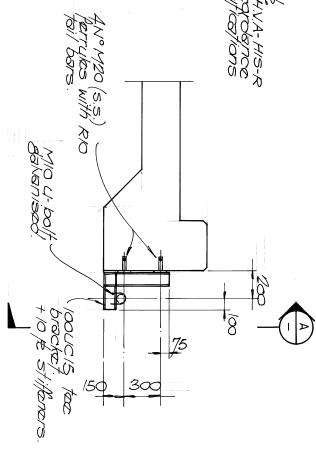
Remove these three piece support brackets and save support platform.



SUPPORT TYPE A

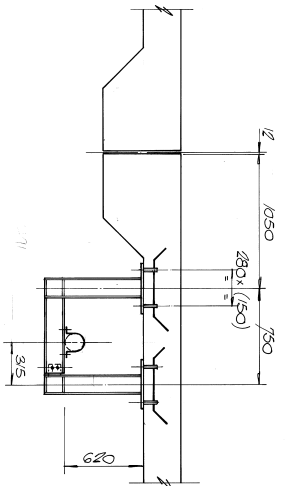


SUPPORT TYPE C



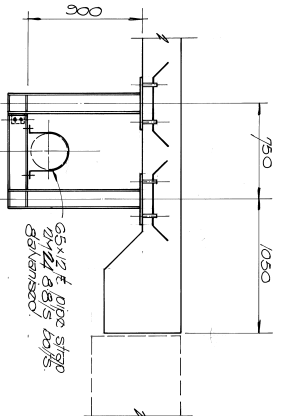
SUPPORT TYPE F

VIEW A



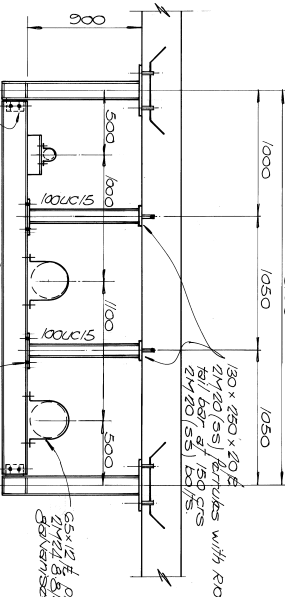
SUPPORT TYPE B

All details as per support type A unless otherwise noted.



SUPPORT TYPE D

All details as per support type A unless otherwise noted.



SUPPORT TYPE E

All details as per support type A unless otherwise noted.

- NOTES:
1. All pipe support stockwork shall be painted as per the specification.
 2. All bolts to be galvanized, unless otherwise noted.
 3. All pipe straps and U-bolts shall be galvanized.
 4. All bolts into steel structures to also be stainless steel.

37241-DS036

DESIGNED BY	DATE	SCALE	AS NOTED
G. MANSFIELD	OCT '93	AS NOTED	
CHECKED BY	DATE	SCALE	AS NOTED
H. BARR			
PROJECT	DAMPER PORT AUTHORITY		
EXTENSIONS TO DAMPER PUBLIC WHARF			
DRAWING TITLE			
SERVICES SUPPORTS			
PLAN AND DETAILS			
DRAWING NO.	37241-DS-036		
REV.			
3	AS BUILT	5.5' 9" 1/4"	PL
2	NORTHERN EXTENSION EXTENDED	1/4" 1/4" 1/4"	PL
1	BOLT MATERIAL CLARIFIED	20194, 2011, PL	PL
0	ISSUED FOR CONSTRUCTION	20123, 2011, PL	PL
REV.	DESCRIPTION	DATE	BY



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