

APPLICATION FORM FOR AUTHORITY TO MOBILISE & OPERATE MOBILE CRANE/S ON WHARFS, JETTIES & APPROACHES OWNED OR CONTROLLED BY GLADSTONE PORTS CORPORATION.

Prior to mobile crane operations on GPC owned or controlled Wharfs, Jetties & Approaches, this form must be completed and submitted to GPC (wharfliftpermit@gpcl.com.au) 2 weeks prior to the planned lift date, who will respond with a Part B – Approved Permit to Lift On Wharf, should approval be granted. Note: Some Franna crane operations do not require a permit. See the Lifting Operations Procedure for details.

Name of Applicant requesting permit:		Contact #:	
Crane Operator/Company conducting the lift:		Contact #:	
GPC Representative/Port User requesting the works:		Contact #:	
Location of lift:	E.g. RGCT – Berth #1 – Zone D		
Description of lift:		
Anticipated crane mobilisation/lift date:		Anticipated completion date:	
Max load to be lifted:		Max outrigger load:	
Crane Model/Capacity:			

LIFT PLAN / DETAILS

<p>The following details should be provided by the applicant as a minimum, to ensure sufficient information is supplied to allow the GPC Engineer to adequately review the proposed lift plan. Please specify & attach the following:</p> <ol style="list-style-type: none"> 1. A sketch showing the position of the crane/s (required) 2. The maximum outrigger and/or axle loadings to occur during the lift (required) 3. Dimensions & details of the mobile crane/s to be used..... 4. A brief methodology for the proposed lift..... 5. Load details including mass & dimensions 6. Lift Details including working radius and slewing range <p>Note: Failure to submit any of the above information may result in a delay in review of the ‘Request For Permit To Lift On Wharf’.</p>	Attached?
	Y / N
	Y / N
	Y / N
	Y / N
	Y / N
	Y / N

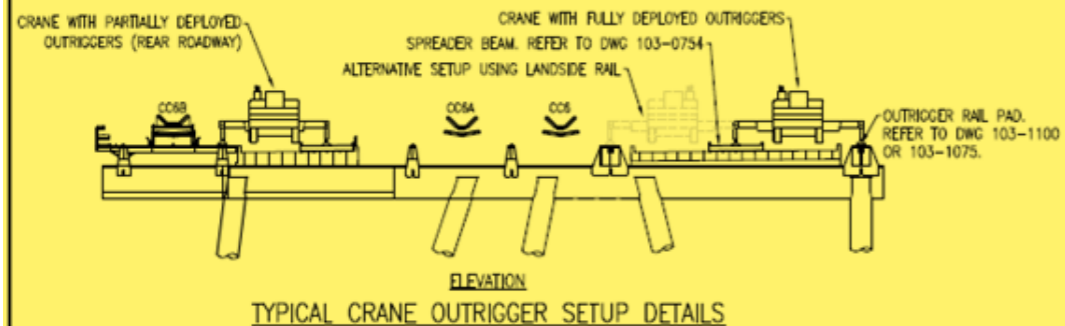
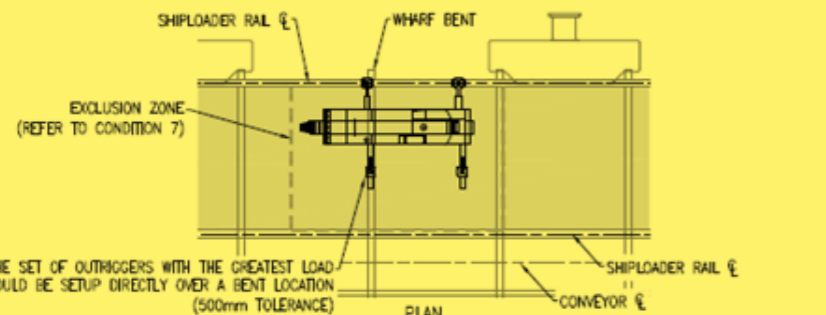
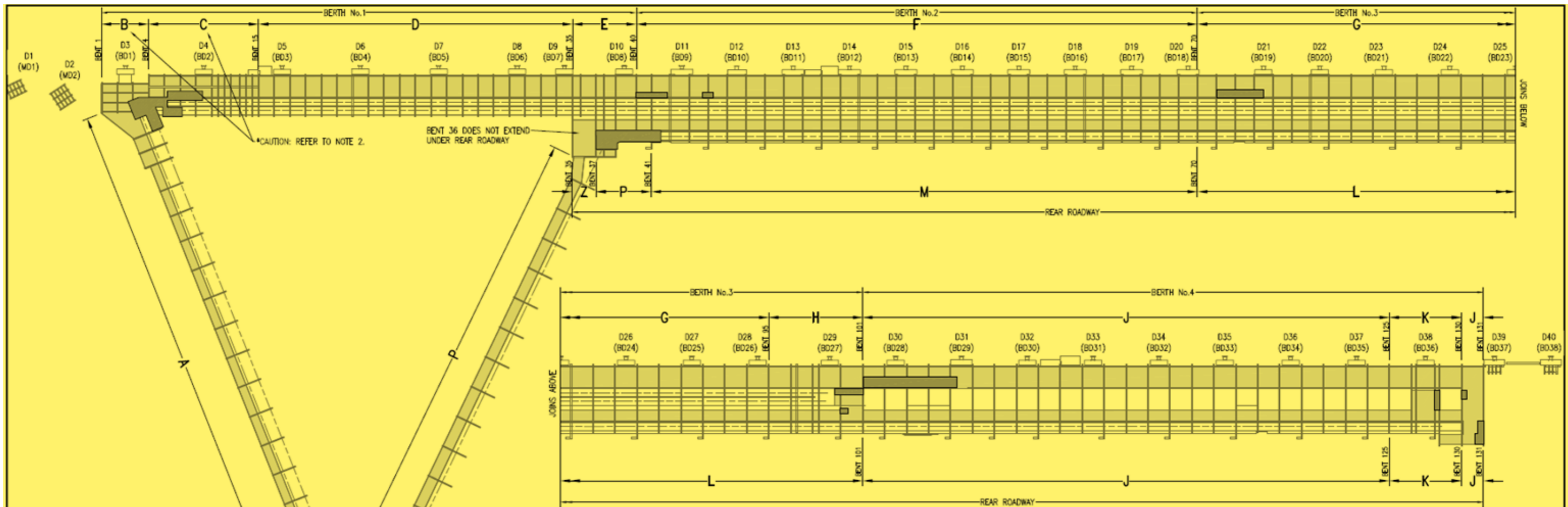
APPLICANTS ACKNOWLEDGEMENT

The applicant acknowledges that the information supplied with this Request for Permit to Lift On Wharf is true and accurate for the proposed works and that any subsequent changes to the lift plan are to be notified in writing to the GPC Engineer reviewing the lift plan, for approval, prior to the lift occurring. Applicants are advised that any Gladstone Ports Corporation plans detailing the layout and/or load limits for its wharfs have been prepared solely for the GPC’s own use at the time the drawing was prepared and may not take into account any subsequent changes that may have since occurred.

Applicant Signature:		Date:	
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Notes:

1. The Applicant and the GPC Representative may or may not be the same person.
2. The GPC Representative/Port User is the person with primary accountability for overseeing the work to be undertaken.
3. This form shall be submitted to GPC with all required attachments included in the single pdf



TYPICAL CRANE OUTRIGGER SETUP DETAILS

LEGEND	
D26 (BD24)	DOLPHIN 26 (aka BERTHING DOLPHIN 24)
[White Box]	TRAFFICABLE DECK AREA
[Grey Box]	BUILDING OR STRUCTURE

NOTES:

- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE DRAWINGS LISTED IN THE 'REFERENCE DRAWING TITLE' SECTION IN THE BORDER BELOW.
- *CAUTION: THE DECK UNITS IN ZONES B & C RUN PERPENDICULAR TO THE QUAY LINE OF THE WHARF. ENSURE SPREADER BEAMS ARE PLACED AT RIGHT ANGLES TO THE PRECAST CONCRETE DECK UNITS. FOR ALL OTHER AREAS OF THE WHARF (EXCLUDING THE APPROACHES) THE DECK UNITS RUN PARALLEL WITH THE QUAY LINE.
- ALL MOBILE CRANE OPERATIONS, EXCLUDING FRANNA CRANES UNDER 20T OPERATING BELOW 75% CAPACITY, SHALL NOT PROCEED WITHOUT AN APPROVED PERMIT TO LIFT.
- PART A - REQUEST FOR PERMIT TO LIFT ON WHARF (Doc#1637292) SHALL BE COMPLETED AND SUBMITTED TO THE TECHNICAL SERVICES DEPARTMENT A MINIMUM OF 2 WEEKS PRIOR TO THE PLANNED LIFT DATE TO ALLOW FOR PROCESSING.
- THE TECHNICAL SERVICES DEPARTMENT CAN BE CONTACTED ON PH: (07) 49 761 401 OR TECHNICALSERVICES@GPC.COM

GENERAL CONDITIONS APPLICABLE TO ALL LIFTS:

- UNLESS APPROVED OTHERWISE BY THE TECHNICAL SERVICES DEPARTMENT, THE FOLLOWING CONDITIONS FOR ALL MOBILE CRANE OPERATIONS SHALL APPLY:
- THE CRANE OPERATOR IS RESPONSIBLE FOR ENSURING THE CRANE SETUP IS IN ACCORDANCE WITH THE CONDITIONS BELOW AND FOR PROVIDING WRITTEN DOCUMENTATION (LIFT PLAN) TO THE GPC REPRESENTATIVE RESPONSIBLE FOR THE WORKS, DEMONSTRATING THAT THE OUTRIGGER/AXLE LOADINGS DO NOT EXCEED THOSE STATED ON THIS DRAWING OR ANY REFERENCED DRAWINGS. CRANE AXLE LOADS/CONFIGURATIONS DURING MOBILISATION SHALL NOT EXCEED THOSE STATED ON DWG 103-0754.
 - MINIMUM OUTRIGGER SPACING SHALL BE 5m.
 - THE SET OF OUTRIGGERS WITH THE GREATEST LOAD SHOULD BE SETUP DIRECTLY OVER A BENT LOCATION (WITHIN 500mm TOLERANCE).
 - SPREADER BEAMS SHALL BE PLACED AT RIGHT ANGLES TO THE PRECAST CONCRETE DECK UNITS AND POSITIONED TO ENSURE THEY SPAN 5 DECK UNITS, WITH THE OUTRIGGERS POSITIONED CENTRALLY ON THE SPREADER BEAM. REFER TO DWG 103-0754 FOR FURTHER DETAILS.
 - OUTRIGGER RAIL PADS SHALL BE SETUP IN ACCORDANCE WITH DWG 103-1100 OR 103-1075.
 - THE GPC REPRESENTATIVE & CRANE OPERATOR SHALL VISUALLY INSPECT THE SPREADER BEAMS & OUTRIGGER RAIL PADS FOR ANY SIGNS OF DAMAGE OR DEGRADATION PRIOR TO USE. ANY SIGN OF DAMAGE OR DEGRADATION SHALL BE REPORTED TO THE RELEVANT DEPARTMENT FOR RECTIFICATION.
 - AN EXCLUSION ZONE SHALL BE ESTABLISHED ACROSS THE FULL WIDTH OF THE TRAFFICABLE DECK TO RESTRICT OTHER VEHICLES/LOADS FROM PASSING THE OPERATING CRANE OR BEING POSITIONED ON THE SAME DECK SPANS THAT ARE SUPPORTING THE OUTRIGGERS. REFER TO NOTE 3, ON DWG 103-0754. NO ADDITIONAL LOADS (GREATER THAN 1t) SHALL BE PERMITTED WITHIN THIS AREA.
 - PRIOR TO THE LIFT COMMENCING, THE GPC REPRESENTATIVE FOR THE WORKS SHALL UNDERTAKE AN INSPECTION OF THE MOBILE CRANE SETUP TO ENSURE THE ABOVE CONDITIONS HAVE BEEN MET. CLARIFICATION REGARDING THE GENERAL CONDITIONS SHOULD BE SOUGHT FROM THE TECHNICAL SERVICES DEPARTMENT, WHERE NECESSARY.

MOBILE CRANE OUTRIGGER LOAD LIMITS (kN)					
CRANE TYPE:	FRANNA	LTM 1055/1	LTM 1060/2	LTM 1100/2	LTM 1200/1
WHARF ZONE:					
A	BY APPROVAL ONLY	BY APPROVAL ONLY	BY APPROVAL ONLY	BY APPROVAL ONLY	BY APPROVAL ONLY
B	BY APPROVAL ONLY	BY APPROVAL ONLY	BY APPROVAL ONLY	BY APPROVAL ONLY	BY APPROVAL ONLY
C	480kN	480kN	480kN	480kN	480kN
D	350kN	350kN	350kN	350kN	350kN
E	350kN	350kN	350kN	350kN	350kN
F	350kN	350kN	350kN	350kN	350kN
G	350kN	350kN	350kN	350kN	350kN
H	935kN	935kN	935kN	935kN	935kN
J	165kN	180kN	180kN	200kN	200kN
K	935kN	935kN	935kN	935kN	935kN
L	165kN	180kN	180kN	200kN	200kN
M	165kN	180kN	180kN	200kN	200kN
P	BY APPROVAL ONLY	BY APPROVAL ONLY	BY APPROVAL ONLY	BY APPROVAL ONLY	BY APPROVAL ONLY
Z	250kN	250kN	250kN	300kN	300kN

NOTE: FOR MOBILISATION AXLE LOAD LIMITS (INCLUDING ALLOWABLE COUNTERWEIGHT CARRY) FOR THE ABOVE CRANES, REFER TO DRAWING 103-0754.

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THIS DRAWING REMAINS THE PROPERTY OF THE GLADSTONE PORTS CORPORATION AND MUST NOT BE USED FOR ANY PURPOSE WHATSOEVER WITHOUT THE WRITTEN PERMISSION OF THE GLADSTONE PORTS CORPORATION.

USE HARD COPY INFORMATION ONLY U.N.O.
ELECTRONIC CAD FILE ACCURACY IS NOT GUARANTEED.

NO.	DRN	DATE	REVISION DESCRIPTION	APPR	DRG. NO.	REFERENCE DRAWING TITLE
1	T.D.	14.08.00	REVISED TO ALIGN WITH DEPARTMENT RESTRUCTURE & EDCOS # CHANGE	A.S.	103-0751	BERTHS 1,2,3&4 - APPROACH JETTY LOADING - GA - SHEET 1 OF 4
2	GCS	16.03.06	GEN REVISION - ADDITIONAL LOAD CASES AND TABLE, OUTRIGGER DIAGRAM ADDED	TAB	103-0752	BERTHS 1,2,3&4 - DECK & ROADWAY LOADING - GA - SHEET 2 OF 4
3	GCS	06.04.08	BENT NOS ADDED, NOTE 1 MODIFIED	TAB	103-0753	BERTHS 1,2,3&4 - DECK & ROADWAY LOADING - GA - SHEET 3 OF 4
4	GCS	30.12.08	AREA 'Z' ADDED WITH DETAILED VIEW AND NOTES	TAB	103-0754	BERTHS 1,2,3&4 - DECK DESIGN LOADS - SUMMARY - SHEET 4 OF 4
5	GCS	14.04.10	FRANNA CHANGED FROM AT-15 TO AT-20, TRAVEL FULLY LOADED (000#S24540)	TAB	103-1100	PROJECT - MOBILE CRANE SETUP - OUTRIGGER PAD - DETAILS
6	GCS	10.11.10	CRANE SUPPORT PADS WERE DWG 103-1075 NOW SUPERCEDED BY 103-1100		103-1075	PROJECT - CRANE SETUP OVER RAILS - OUTRIGGER PADS - DETAILS
7	M.K.	13.04.17	ENGINEERING REVIEW & RE-DRAWN, OUTRIGGER/FRANNA LOAD LIMITS CORRECTED	O.B.		

SCALE	FILE NAME	DESCRIPTION	BOOKS
AT A1 N.T.S.			

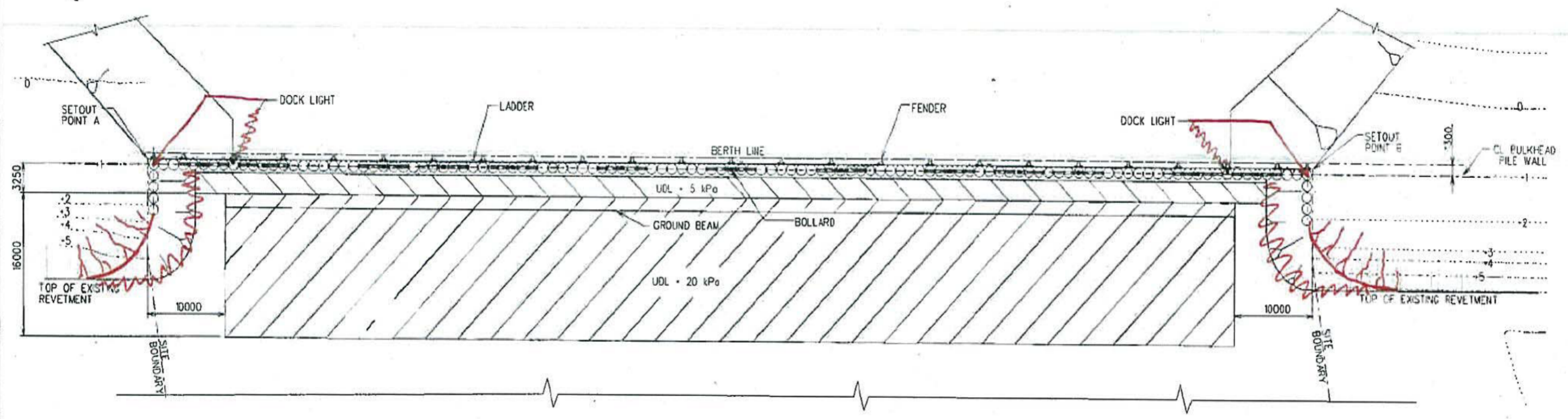
© GLADSTONE PORTS CORPORATION
* SIGNATURES ON ORIGINAL DWG
ALL DIMENSIONS IN METRES U.N.O.
DO NOT SCALE

DESIGNER: B.CLAUGHTON
CHECKER: B.CLAUGHTON
APPROVER: R.GRACEY

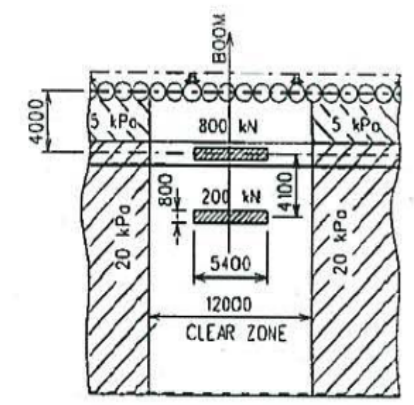
RG TANNA COAL TERMINAL
DECK LOADING ON BERTH 1, 2, 3 & 4
READY RECKONER FOR RIGGERS,
CRANE DRIVERS & USERS

Ext Ref No. GPC DRAWING No. 103-01050
Work Order No. REV 8

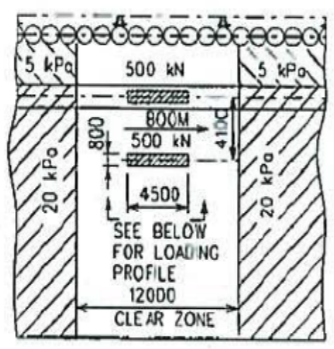
- NOTES:
1. FOR GENERAL NOTES AND REFERENCE DRAWINGS, SEE DRGS 4010, 4011 & 4012
 2. FOR SET OUT POINTS, SEE DRGS 4110 & 4130.



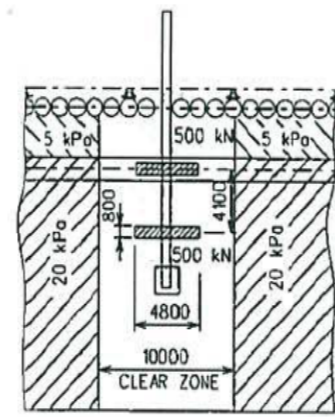
UNIFORMLY DISTRIBUTED LOADS
SCALE 1:250



BOOM OVER BARGE



LOADING PROFILE
BOOM PARALLEL TO BERTH LINE

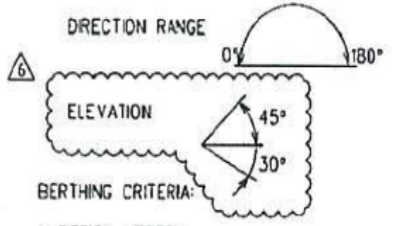


AGGREGATE LOADING CONVEYOR

CONCENTRATED LOADS
SCALE 1:250

- VEHICLES:
- CAT980 LOADERS (OR EQUIVALENT)
 - CAT D6 DOZERS (OR EQUIVALENT)
 - T44 TRUCKS

- MOORING:
1. MOORING LOADS ON BOLLARDS ARE DESIGNED FOR NON-CYC. ONIC WIND GUSTS OF $V_{150} = 53m/s$ (ULTIMATE LIMIT STATE)
 2. MOORING LINE LOADS = 25 TONNES



- BERTHING CRITERIA:
1. DESIGN VESSEL:
3500 DWT AGGREGATE BARGE
L.O.A. = 85m, MOULDED DEPTH = 4.2m
 2. BERTHING VELOCITY:
 $v = 0.33m/s$ AT BALLAST CONDITION
DISPLACEMENT WEIGHT = 1500t
- EQUIPMENT & VEHICLE LOADINGS
1. ALL MOBILE EQUIPMENT AND VEHICLES SHALL NOT OPERATE SEAWARD OF THE GROUND BEAM.



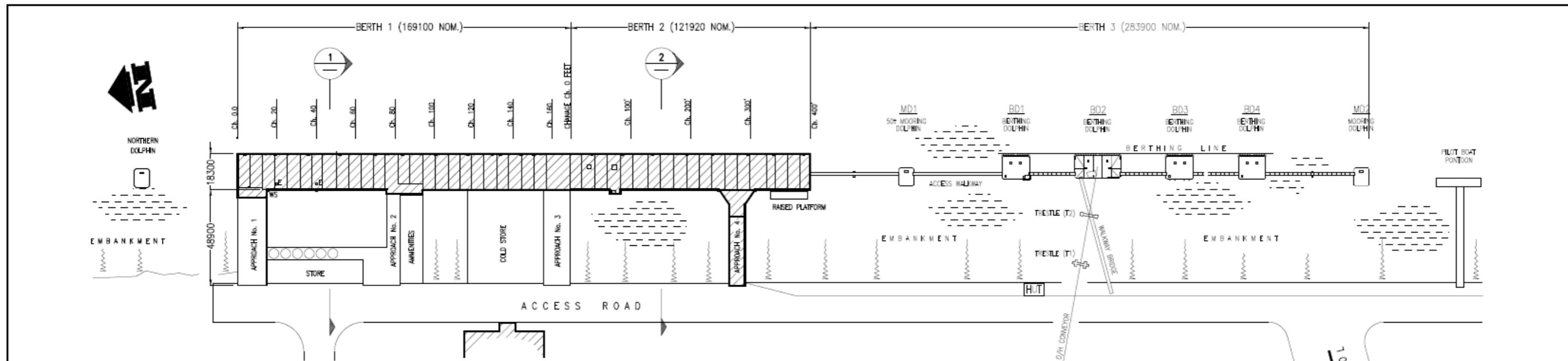
NO.	DATE	REVISION	BY	CHK'D	THE SIGNING OF THIS TITLE BLOCK CONFIRMS THE DESIGN AND DRAWING OF THIS PROJECT HAVE BEEN PREPARED AND CHECKED IN ACCORDANCE WITH THE AECOM QUALITY ASSURANCE SYSTEM TO ISO 9001:2000			
3	14 APR 2010	FINAL ISSUE FOR BID	CCY	TP	DESIGNED	PI	CHECKED	JM
4	04 MAY 2010	ISSUE FOR CONSTRUCTION - SIGNED ORIGINALS ON FILE			DRAWN	LR	CHECKED	TP
5	25 JUN 2010	BATTERS AMENDED			APPROVED	CC VANDERLOOS	DATE	04 MAY 2010
6	21 JUL 2010	RE-ISSUED FOR CONSTRUCTION - EDITORIAL CHANGES	LP	CVV	RPEQ No.	3540	SIGNED	

AECOM
AECOM Australia Pty Ltd ABN 22 061 844 925

QUEENSLAND CURTIS LNG PROJECT
RG TAMBA - AGGREGATE LOADING FACILITY
LOADING PLAN
RED LINE MARK-UP AS BUILT

TRAN NO:	
CAD FILE	
SCALE:	
DRAWING NO.	6014.3567-DG-4.115
REV	6

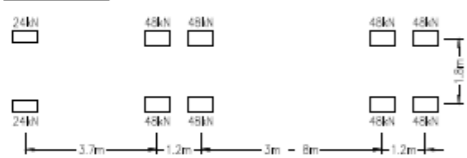
CAP 24-10-11



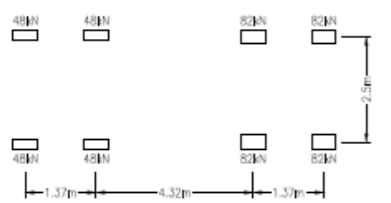
PLAN ON PORT FACILITY
SCALE 1:1000

STANDARD VEHICLE WHEEL LOADS AND DIMENSIONS

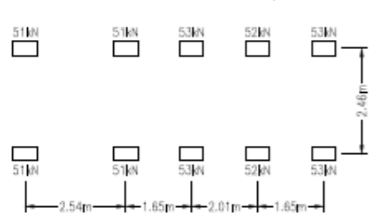
1. T44 STANDARD VEHICLE LOADING WITH FOLLOWING WHEEL LOADS:



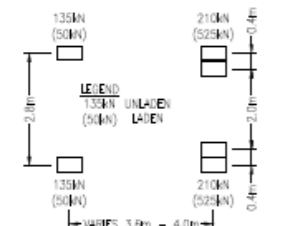
2. P & H 670TC 65t TRUCK CRANE
DURING TRAVEL WITH A TOP BOOM OVER REAR OF CARRIER GIVING THE FOLLOWING MAXIMUM WHEEL LOADS:



3. LIEBHERR LTM1100N 100t TRUCK CRANE
DURING TRAVEL GIVING THE FOLLOWING MAXIMUM WHEEL LOADS (KENTUCKE TO BE CARRIED SEPARATELY BY ANOTHER VEHICLE):



4. 22t FORKLIFT



DESIGN LOADING BERTH No. 1

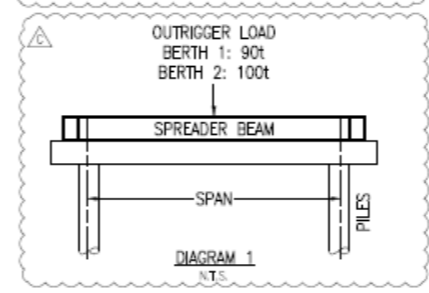
- SATISFIES AS4997 DECK LIVE LOAD FOR GENERAL CARGO AND CONTAINER WHARF WITH CAPACITY TO CARRY 40kPa (4t/m²) UDL.
- 20t SEA CONTAINERS STACKED TO A MAXIMUM OF 2 HIGH.
- B-DOUBLE TRUCK SEMI TRAILER T44 TO AUSTRROADS 1992.
- MOBILE CRANES FROM 65t TO 200t WITH WHEEL PATTERNS INDICATED IN THE REPORT ARE PERMITTED, PROVIDED THE MAXIMUM TOTAL LOAD ON ANY SINGLE SPAN DOES NOT EXCEED 45t. VEHICLES EXCEEDING 45t ARE NOT PERMITTED.
- MAXIMUM ALLOWABLE SINGLE POINT LOAD ON ANY SPAN DISTRIBUTED OVER AN AREA OF 800mm x 800mm SHALL NOT EXCEED 45t. NO OTHER LOAD SHALL BE APPLIED TO THE SAME SPAN AT THE SAME TIME.
- THE 35t GPC NOMINATED (H35.00F) FORKLIFT SHALL NOT BE USED WITH PAYLOAD. THE WHARF CAPACITY IS LIMITED TO ORIGINAL DESIGN LOADING OF 22t CAPACITY FORKLIFT.
- ALL CRANE OUTRIGGER LOADS SHALL BE LOCATED DIRECTLY ON TOP OF THE PILES. THE MAXIMUM OUTRIGGER POINT LOAD (EXCLUDING SPREADERS) IS 45t.
- THE MAXIMUM OUTRIGGER LOAD, INCLUDING SPREADER BEAMS THAT CARRY THE OUTRIGGER LOAD DIRECTLY ONTO TWO ADJACENT PILES SHALL NOT EXCEED 90t. (REFER DIAGRAM 1.)

DESIGN LOADING BERTH No. 2

- SATISFIES AS4997 DECK LIVE LOAD FOR GENERAL CARGO AND CONTAINER WHARF WITH CAPACITY TO CARRY 40kPa (4t/m²) UDL.
- 20t SEA CONTAINERS STACKED TO A MAXIMUM OF 2 HIGH.
- B-DOUBLE TRUCK SEMI TRAILER T44 TO AUSTRROADS 1992.
- MOBILE CRANES FROM 65t TO 200t WITH WHEEL PATTERNS INDICATED IN THE REPORT ARE PERMITTED, PROVIDED THE MAXIMUM TOTAL LOAD ON ANY SINGLE SPAN DOES NOT EXCEED 45t. VEHICLES EXCEEDING 45t ARE NOT PERMITTED.
- MAXIMUM ALLOWABLE SINGLE POINT LOAD ON ANY SPAN DISTRIBUTED OVER AN AREA OF 800mm x 800mm SHALL NOT EXCEED 45t. NO OTHER LOAD SHALL BE APPLIED TO THE SAME SPAN AT THE SAME TIME.
- THE 35t GPC NOMINATED (H35.00F) FORKLIFT SHALL NOT BE USED WITH PAYLOAD. THE WHARF CAPACITY IS LIMITED TO ORIGINAL DESIGN LOADING OF 22t CAPACITY FORKLIFT.
- ALL CRANE OUTRIGGER LOADS SHALL BE LOCATED DIRECTLY ON TOP OF THE PILES. THE MAXIMUM OUTRIGGER POINT LOAD (EXCLUDING SPREADERS) IS 55t.
- THE MAXIMUM OUTRIGGER LOAD, INCLUDING SPREADER BEAMS THAT CARRY THE OUTRIGGER LOAD DIRECTLY ONTO TWO ADJACENT PILES SHALL NOT EXCEED 100t. (REFER DIAGRAM 1.)

DESIGN LOADING APPROACH No. 4

- ALL VEHICLE LOADS SHALL COMPLY WITH T44, P&H 670TC 65 TRUCK CRANE AND LIEBHERR LTM1100N 100t TRUCK CRANE WHEEL LOADS AND DIMENSIONS. REFER NOTES 1, 2, & 3.
- ALL T44 AND ABOVE SIZED VEHICLES SHALL TRAVEL DOWN THE CENTRE LINE OF THE APPROACH BRIDGE. ACTIVE TRAFFIC CONTROL SHALL ENSURE COMPLIANCE WITH THIS REQUIREMENT AND RESTRICT ALL OTHER TRAFFIC FROM THE APPROACH DURING THIS TIME.
- ALL T44 AND ABOVE SIZED VEHICLES SHALL HAVE A MAXIMUM SPEED OF 10km/hr ON THE APPROACH.
- THE 35t GPC NOMINATED (H35.00F) FORKLIFT SHALL NOT TRAVEL ON THE APPROACH.
- THE 22t FORKLIFT CAN ONLY TRAVEL ON THE APPROACH WHEN IT IS UNLADEN.



ORIGINAL CONSTRUCTION

- DRAWING LIST:-**
- D.4886 LAYOUT OF PORT
 - D.4156 WHARF & DOLPHIN - PILE LAYOUT
 - D.5145 WHARF & BRIDGE PILE LAYOUT
 - D.5146 DOLPHIN B1, B2, & M1 PILE LAYOUT
 - 6670-395-11 BERTH 2 TIMBER FENDER PILES (1982)
 - 2 OF 8 PILE LAYOUT SECTION
 - 5 OF 8 BOTTOM STEEL
 - 6 OF 8 BERTH 1, 2, & 3 - G.A.
 - 7 OF 8 PILE DATA SHEET
 - 19-1 50t MOORING DOLPHIN - SECTION
 - 19-2 50t MOORING DOLPHIN - DETAILS

RKF ES DRAWING LIST:-

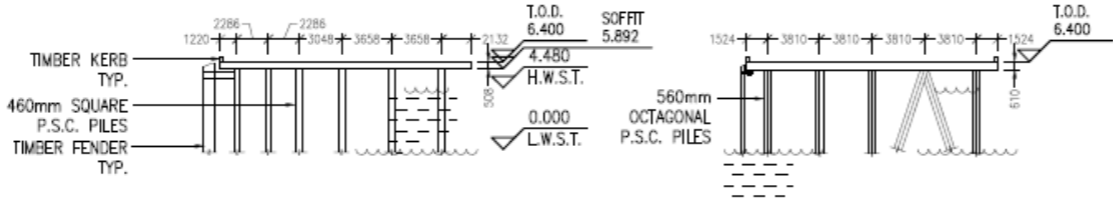
- CONDITION SURVEY**
- RKFES-RPA-001 BERTHS 1, 2, & 3 - GENERAL ARRANGEMENT
 - RKFES-RPA-002 BERTH 1 - ARRANGEMENT AND DETAILS
 - RKFES-RPA-003 BERTH 2 - ARRANGEMENT AND DETAILS
 - RKFES-RPA-004 BERTH 3 - ARRANGEMENT AND DETAILS

TRIAL REPAIR 2002

- RKFES-RPA-006 BERTHS 1, 2 & 3 - REPAIR GENERAL ARRANGEMENT
- RKFES-RPA-007 BERTHS 1, 2 & 3 - T.O.D. CONCRETE REPAIR DETAILS
- RKFES-RPA-008 BERTHS 1, 2 & 3 - (SOFFIT CONCRETE REPAIR) NOT ISSUED
- RKFES-RPA-009 BERTHS 1, 2 & 3 - CATHODIC PROTECTION DETAILS
- RKFES-RPA-010 BERTH 1 - REPAIR ENLARGED PLAN & REFLECTED VIEW

1. THIS LOAD RATING STUDY WAS COMPLETED WITH THE ASSUMPTION THAT THE REINFORCED AND PRESTRESSED CONCRETE ELEMENTS ARE CURRENTLY IN PRISTINE CONDITION. RKF ES RECOMMEND A FOLLOW UP CONDITION SURVEY BE COMPLETED TO ASSESS THE EXTENT AND RATE OF DETERIORATION THAT HAS OCCURRED SINCE 2002 (WHEN THE LAST ASSESSMENT WAS COMPLETED) TO ALLOW THE STRUCTURAL MODELLING TO BE BASED ON THE CURRENT CONDITION OF THE KEY STRUCTURAL ELEMENTS WITHIN THESE FACILITIES.

2. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE DECK CAPACITY ASSESSMENT REPORT 2010 (RKF ES REPORT No. CQPA024210RPT001).



SECTION 1
1:250
(BERTH 1)

SECTION 2
1:250
(BERTH 2)

NO.	DRN	DATE	REVISION DESCRIPTION	APPR	DRG. NO.	REFERENCE DRAWING TITLE
A	N.W.	29.10.10	ISSUED WITH REPORT	RKF		
B	N.W.	10.02.11	BERTH 1, 2 & 3 - NOTES 4, 5 & 6 REVISED TO SUIT NEW LOAD CAPACITY	RKF		
C	N.W.	16.02.11	BERTH 1, 2 & 4 - NOTES REVISED. 22t FORK LIFT LOADS AND DIMENSIONS ADDED	RKF		

Engineering Services
RKF

GLADSTONE PORTS CORPORATION
3RD ANGLE PROJECTION
U.L.D.
ALL DIMENSIONS IN MILLIMETRES U.N.D.
DO NOT SCALE

BG & E
PERTH - WELBOURNE - SYDNEY - DUBAI - ABU DHABI

PERTH
STRUCTURAL ENGINEER
APPROVING ENGINEER

BOB DAVIES
CP ENG M/No. RPEQ

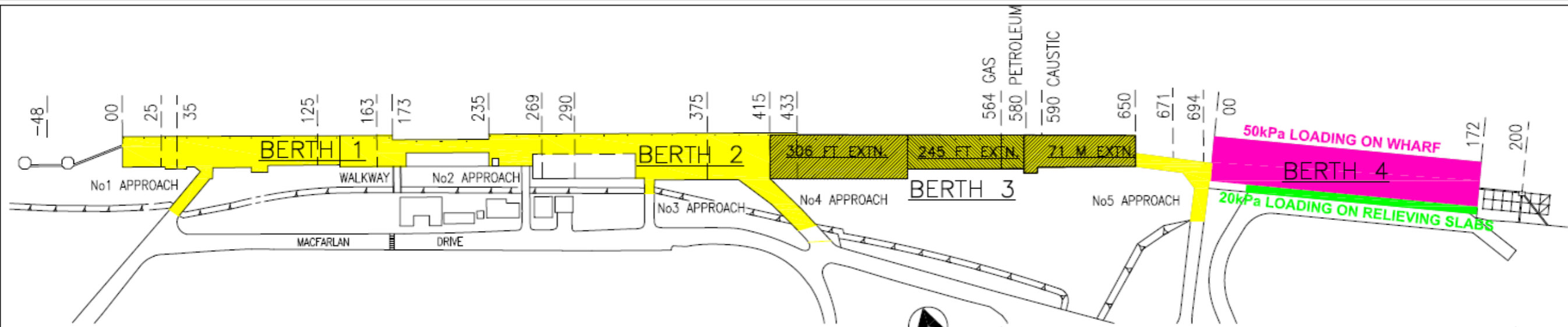
ROGER FRANKLIN
CP ENG M/No. 361703 RPEQ

SCALE AT A1: 1:1000, 250

**PORT ALMA PORT FACILITY
WHARF
BERTH 1 & 2
DECK STRUCTURAL ASSESSMENT 2010
ALLOWABLE LOADS ARRANGEMENT**

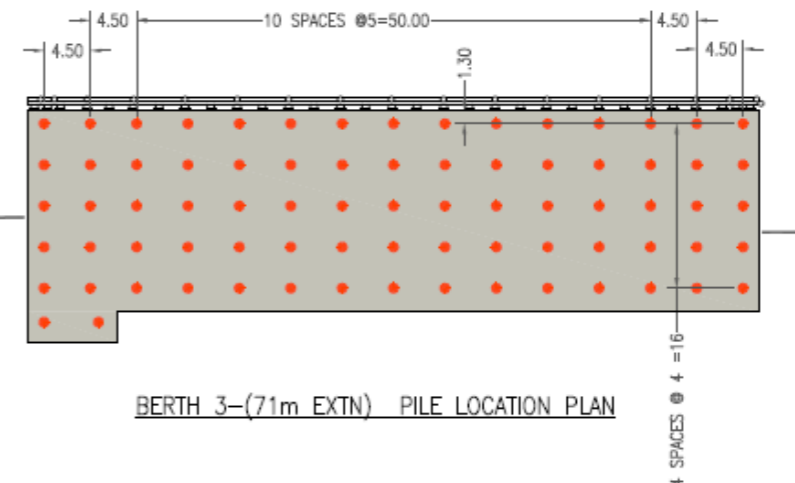
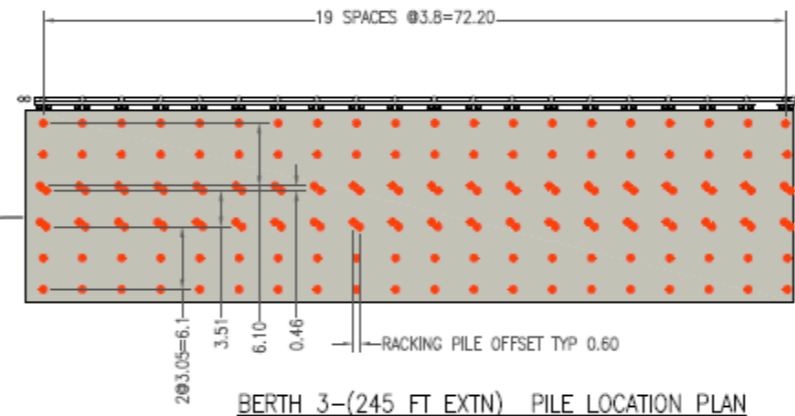
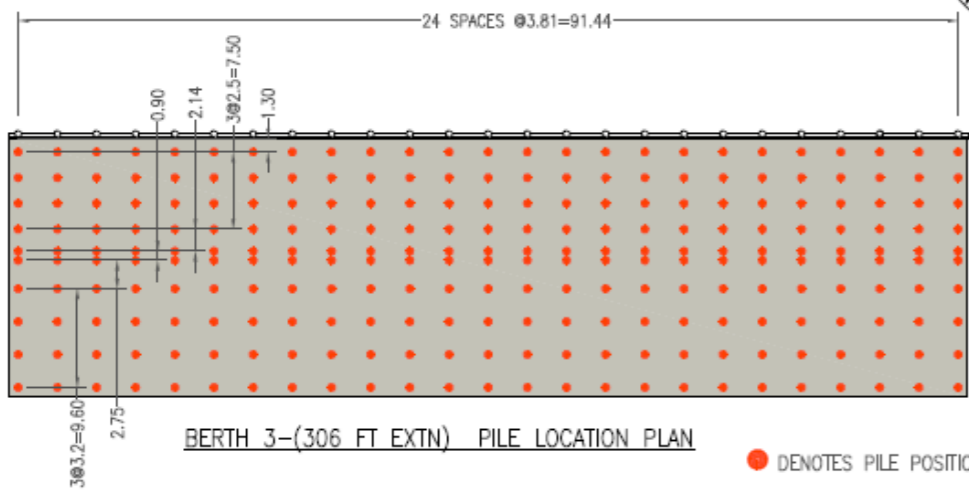
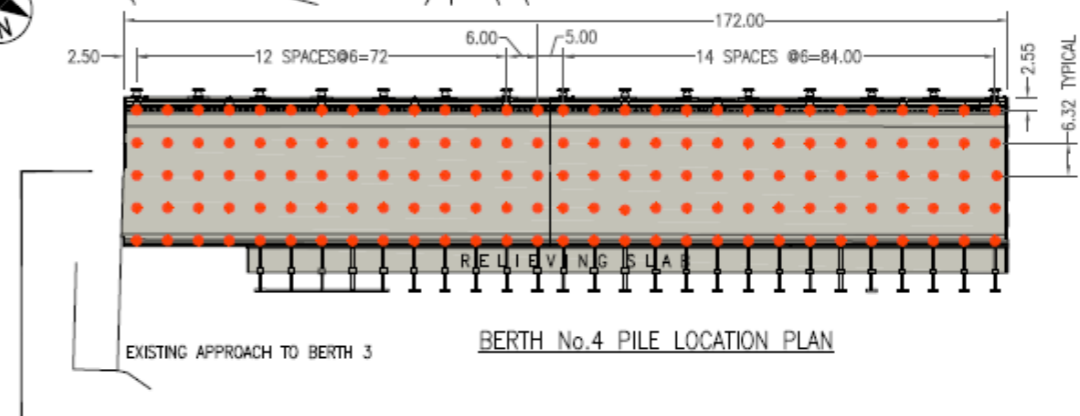
**CLIENT No: 992-0005
DRAWING No: 992-0005
FILE No: 024210-001**

PORT ALMA BERTH 1 & 2 DECK STRUCTURAL ASSESSMENT				
ZUTO	REFERENCE	SIGNED	DATE	
STRUCTURAL ENGINEER	BOB DAVIES	CP ENG M/No. RPEQ		
APPROVING ENGINEER	ROGER FRANKLIN	CP ENG M/No. 361703 RPEQ		



PORT CENTRAL WHARVES

NOTE: ALL CRANES USING OUTRIGGERS MUST HAVE A PERMIT TO LIFT BEFORE LIFTING ON PORT CENTRAL WHARVES



● DENOTES PILE POSITION (MARKED ON WHARF)

GENERAL CRANE USE INFORMATION

- APPROACH AND BERTH LOADING 38kPa
ONLY RUBBER TYRED CRANES ALLOWED
ON BERTH 1 AND 2, BERTH 3 MUST HAVE
PERMIT TO USE CRANES WITH OUT RIGGERS
- BERTH 4 LOADING 50kPa,
CRANES WITH OUTRIGGERS MUST HAVE PERMIT
- DENOTES PILE POSITION

GENERAL DECKLOADING IN kPa

- BERTH 4 LOADING 50kPa
- APPROACH AND BERTH LOADING 38kPa
- RELIEVING SLAB BERTH 4 LOADING 20kPa

NOTE: ALL DIMENSIONS SHOWN ARE IN METERS

REFERENCE DRAWINGS, (INFO SOURCING)

- 005-0014 CARGO WHARF SETOUT PLAN
- 005-0025 BOLLARDS AND LEADERS
- 004-0012 BERTH 3 APPROACH
- 004-0021 71m EXTN
- 004-0031 71m EXTN MOORING DOLPHIN
- 004-0002 245FT EXTN
- 004-0003 245FT EXTN CROSS SECTION
- 003-0011 306FT EXTN
- 003-0012 306FT EXTN GA
- 003-0017 306FT EXTN DETAIL BOLLARD
- A0156 225FT3" EXTN SITE PLAN
- A0177 223FT EXTN GA
- A0240 1970 RECONST.
- A0231 GENERAL DETS
- 003-0028 GRAIN WHARF MODS
- 002-0002 WALKWAY TO DOLPHIN
- 002-0031 MOORING DOLPHINS
- 002-0016 COAL WHARF APPROACH
- 004-0083 BOLLARD LAYOUT
- 004-0089 CONCRETE REMEDIATION
- AO 209
- M0001 LONG STEMMED BOLLARD

PRELIMINARY

NO.	DRN	DATE	REVISION DESCRIPTION	APPR	DRG. NO.	REFERENCE DRAWING TITLE
A	SW	25.07.11	FOR REVIEW			

USE HARD COPY INFORMATION ONLY U.N.O.
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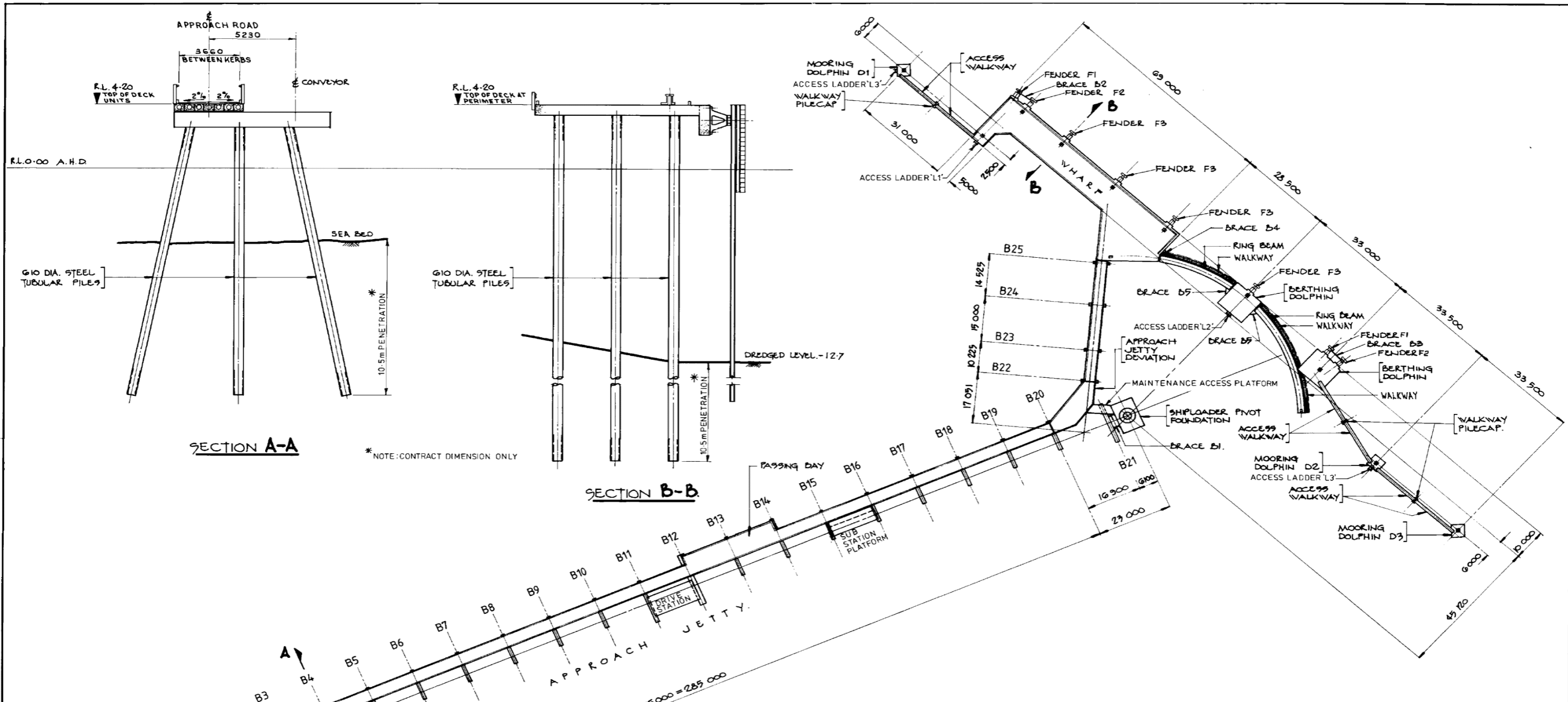
3RD ANGLE PROJECTION U.N.O.
ALL DIMENSIONS IN MILLIMETRES U.N.O.
DO NOT SCALE

* SIGNATURES ON ORIGINAL DRG.
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SCALE AT A1: DO NOT	SCALE AT A1: DO NOT
DRAWN* WURGLER 25.07.11	CHECK* L.WARREN 9.09.11
DESIGN* L.WARREN 9.09.11	APPROVE* O.BARTON 13.09.11

AUCKLAND POINT
LOADING AND LIFTING ON WHARVES
CAPACITIES
LISTINGS AND DETAILS

Ext Ref No.	999-00154
GPC DRAWING No.	
Work Order No.	REV A



* NOTE: CONTRACT DIMENSION ONLY

DRAWING INDEX

- 5048-20 APPROACH JETTY, WHARF & DOLPHINS - GENERAL ARRANGEMENT.
- 5048-21 APPROACH JETTY - PILE PLAN.
- 5048-22 WHARF, DOLPHINS & SHIPLoader PIVOT - PILE PLAN.
- 5048-23 APPROACH JETTY - GENERAL ARRANGEMENT BENTS B1 TO B13.
- 5048-24 APPROACH JETTY - GENERAL ARRANGEMENT BENTS B14 TO B20 & B20 TO B25.
- 5048-25 APPROACH JETTY - BENTS B1 TO B13 REINFORCEMENT.
- 5048-26 APPROACH JETTY - BENTS B14 TO B25 REINFORCEMENT.
- 5048-27 APPROACH JETTY - SHIPLoader PIVOT, APPROACH JETTY DEVIATION & MOORING DOLPHINS GENERAL ARRANGEMENT.
- 5048-28 APPROACH JETTY - DEVIATION & RELIEVING SLAB REINFORCEMENT.
- 5048-29 APPROACH JETTY - PRECAST PRESTRESSED DECK UNITS.
- 5048-30 APPROACH JETTY - GENERAL ARRANGEMENT OF SUPERSTRUCTURE.
- 5048-31 APPROACH JETTY - GUARDRAIL GENERAL ARRANGEMENT & DETAILS.
- 5048-32 WHARF - GENERAL ARRANGEMENT.
- 5048-33 WHARF REINFORCEMENT.
- 5048-34 WHARF REINFORCEMENT SECTIONS.
- 5048-35 BENT 21 SHIPLoader RING BEAM & BERTHING DOLPHINS - GENERAL ARRANGEMENT.
- 5048-36 SHIPLoader RING BEAM & BERTHING DOLPHINS - REINFORCEMENT.
- 5048-37 MISCELLANEOUS DETAILS.
- 5048-38 MOORING DOLPHINS - ACCESS WALKWAYS - GENERAL ARRANGEMENT.
- 5048-39 MOORING DOLPHINS - ACCESS WALKWAYS - DETAILS.
- 5048-40 APPROACH JETTY - SUBSTATION FLOOR - GENERAL ARRANGEMENT & REINFORCEMENT.
- 5048-41 SHIPLoader PIVOT, MOORING DOLPHINS & WALKWAY PILE CAPS REINFORCEMENT.
- 5048-42 END BERTHING DOLPHIN REINFORCEMENT.
- 5048-43 APPROACH JETTY - REINFORCEMENT - BENT B21.
- 5048-44 APPROACH JETTY - BENT B1 - REVISED DESIGN.
- 5048-45 JETTY CONVEYOR H.D. BOLT DETAILS.
- 5048-46 APPROACH JETTY - MAINTENANCE ACCESS PLATFORM - DETAILS.
- 5048-47 PIVOT FOUNDATION - HAND RAIL DETAILS.
- 5048-48 RING BEAM WALKWAY DETAILS.
- 5048-49 RING BEAM WALKWAY STEELWORK DETAILS.
- 5048-50 ACCESS LADDERS L1, L2, L3, GENERAL ARRANGEMENT AND DETAILS.

DESIGN CRITERIA

APPROACH JETTY
 ROADWAY LOADING NAASRA T44.
 CONVEYOR LOADING - DRAWING NO. B51-3-006 (C.M.P.S.)
 DESIGN STRESSES REINFORCING STEEL 170 MPa
 CONCRETE 10 MPa (CLASS 25 MPa)

WHARF
 LOADINGS
 SHIP-LOADER - AS PER MANUFACTURER'S REQUIREMENTS
 DESIGN SHIP 25000 D.W.T. - VIRTUAL MASS AT BERTHING 4900 TONNES.
 APPROACH VELOCITY 0.15m/sec. NORMAL TO WHARF.
 DISTRIBUTED LOAD 30 kPa.

NAASRA T44 WHEEL LOADS
 BOLLARDS 1000 kN AT UP TO 20° EACH SIDE OF NORMAL TO BERTHING FACE.
 DESIGN STRESSES REINFORCING STEEL 170 MPa
 CONCRETE 10 MPa (CLASS 25 MPa)

DOLPHINS
 BOLLARDS PULL 1000 kN AT UP TO 20° EACH SIDE OF DOLPHIN AXIS

DATUM
 AUSTRALIAN HEIGHT DATUM.

402-0029

THE HORNIBROOK GROUP

BLAIN, BREMNER & WILLIAMS PTY. LTD. CONSULTING CIVIL & STRUCTURAL ENGINEERS		SHEET OF SHEETS
SIGNED <i>G.P. Hargrave</i>	DATE 21/3/80	5048-20
		A B C D

AMEND.	DESCRIPTION	DATE	INITIALS
D	RING BEAM WALKWAY SHOWN	26-11-80	GWS
C	DRAWING INDEX AMENDED	23-10-80	C.A.
B	ACCESS LADDERS ADDED DRG INDEX AND	23-7-80	Z.A.
A	Amendments as noted by C.M.P.S.	24-4-80	C.A.

DESIGNED RCM.
 DRAWN EN.
 SCALES 1:500
 1:100
 THE QUEENSLAND CEMENT AND LIME CO. LTD.
 GLADSTONE CLINKER PLANT PROJECT
FISHERMANS LANDING

APPROACH JETTY; WHARF; AND DOLPHINS. GENERAL ARRANGEMENT

GAS PETROLEUM CAUSTIC