DESIGN CRITERIA

DESIGN LIFE

THE STRUCTURE DESIGN LIFE = 50 YEARS

ENVIRONMENTAL

(HISTORICAL DATA RECORDS FRONTNATIONAL LIDAL INSTITUTE AND ELINDERS PORTS): MAXIMUM RECORDED TIDE MEAN HIGHER HIGH WATER SPRING HIDIAN SPRINGS LOW WATER

CLIMATE

DESIGN WIND SPEED TO AS/NZS 1170.2 USING REGION A1 AND TERRAIN CATEGORY = 2.

LOAD CRITERIA

VEHICLE LIVE LOADS

1. DESIGN VEHICLE LOAD, SHALL BE AN EQUIVALENT OF 10 TONNES PER AXLE LOAD WITH 3-40 APART. THUS,



2. PRIMARY LIVE LOADS CONSIST OF:--5kPa ON THE MAIN JETTY. -2.5kPa ON DIVING PLATFORM.

SEISMIC LOADS

SEISMIC DESIGN TO AS 1170.4 IMPORTANCE FACTOR - 1.25 DESIGN CATEGORY B

SEISMIC DESIGN NON CRITICAL FOR STRUCTURES

WAVE LOADS

BASED ON ANNUAL PROBABILITY OF EXCEEDANCE 1/200
SURGE LEVEL = +4.0m CD MAX CREST
AND -2.0m CD MIN THROUGH
SEA BED = -6.50m CD MAX WATER DEPTH AT SEA BED HHWS = + 2.04m (D MAXIMUM DEPTH OF WATER = 5.5 + 2.04 = 7.54m

WAVE PERIOD T_s = 12 sec GENERAL NOTES

- OCTION TO THE PURPOSES OF THESE DRAWINGS THE FOLLOWING DEFINITIONS SHALL APPLY:
 CLIENT DTEI'S PROJECT MANAGER OR DELEGATED.
 REPRESENTATIVE ENGINEER KBR KKELLOG BROWN & ROOT PTY. LTD.]
 EACH DRAWING IS PART OF A SET OF DRAWINGS. THESE DRAWINGS SHALL BE READ
 IN COMJECTION WITH THE SPECIFICATION. ANY DISCREPANCES, VARIATIONS OR
 OMISSIONS SHALL BE INHEDIATELY REFERRED TO THE ENGINEER FOR RESOLUTION
 DESCRIPTIONS OF THE PROPERTY BEFORE PROCEEDING WITH THE WORK
- THESE DRAWINGS ARE NOT TO BE SCALED.
 ALL DIRENSIORS ARE IN METRIC UNITS GIVEN IN MILLIMETRES UNLESS NOTED OTHERWISE.
- 5. LEVELS SHOWN ON THESE DRAWINGS ARE TO CD (CHART DATUM) UNLESS NOTED OTHERWISE.
- UNICES MOTEU DITERMISE.
 WORKHANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH RELEVANT CURRENT AUSTRALIAN STANDARDS INCLUDING ALL AHENDHENTS, UNLESS NOTED OTHERWISE. SUBSTITUTIONS MUST BE APPROVED BY THE ENGINEER.
- ALL NOTES SHOWN ON THE DRAWINGS ARE SELECTED NOTES AND ARE TO BE READ IN CONJUNCTION WITH THE SPECIFICATION.
- IN CONDICE TOUR WITH THE SPECIFICATION.

 9. DIMENSIONS AND LEVELS AS SURVEYED IF ANY ARE FOR INFORMATION ONLY AND SHALL BE VERIFIED ON SITE PRIOR TO CONSTRUCTION.

 10. ALL PROPRIETY ITEMS SUCH AS FENDERS, QUICK RELEASE HOOKS AND CAPSTANS. AND ROCK ANCHORS SHALL BE INSTALLED STRICTLY IN ACCORDANCE WITH THE
- MANUFACTURERS/SUPPLIERS INSTRUCTIONS 11. ALL WORKS TO HAVE LIGHTING PROTECTION TO THE SUBCONTRACTOR'S APPROVAL

CONCRETE

- ALL WORKHANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600 (EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS).

 2. ALL CONCRETE SHALL BE PROPERLY CURED BY KEEPING ALL EXPOSED SURFACES IN A MOIST OR DAMP CONDITION FOR AT LEAST THE FIRST SEVEN DAYS AFTER PLACING THE CONCRETE. ANY ALTERNATIVE CURING NETHODS SHALL BE PROVIDED FOR APPROVAL. ALL CURING SHALL BE COMPATIBLE WITH SURFACE FINISHES.
- NO HOLES, CHASES OR EMBEDMENT OF PIPES OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE MADE IN CONCRETE MEMBERS WITHOUT PRIOR APPROVAL.

 4. CONSTRUCTION JOINTS SHALL BE PROPERLY FORMED EITHER HORIZONTALLY OR
- VERTICALLY, THOROUGHLY SCABBLED TO REMOVE LAITANCE AND POORLY
 COMPACTED MATERIAL, AND USED ONLY WHERE SHOWN OR APPROVED IN WRITING.

 5. CONCRETE SHALL BE AS FOLLOWS:-

PROPERTY	BLINDING BALLAST	APPROACH SLAB	ALL OTHER STRUCTURAL CONCRETE
CONCRETE CLASS	NZO	N40	\$50
CEMENT TYPE	GP	GP	GP
MAX. AGGREGATE SIZE (mm)	20	20	20
MAX. DRYING SHRINKAGE AT SB DAYS TO AS 1012.13 HICROSTRAIN	-	-	600
CHARACTERISTIC STRENGTH AT 28 DAYS (MPa)	20	40	54

- CLEAR COVER TO REINFORCEMENT SHALL BE 50mm U.N.O.
- 6. LLEAR COVER TO REMFORCEMENT SHALL BE SOMM U.K.O.
 7. FOR CONCRETE IN CONTACT WITH THE GROUND, A 0.25mm POLYETHYLENE SHEET
 SHALL BE PLACED BETWEEN THE GROUND AND THE CONCRETE SURFACE.
 8. MORTAR SHALL BE 3:I SAND CEMENT MIXED TO A CREAMY CONSISTENCY OR
 APPROVED PROPRETARY PRODUCT.
 9. ALL JOINTS IN CONCRETE SHALL BE SEALED WITH PARCHEM'S "EMER-SEAL PULO"
 OR SHILLAR APPROVED, INSTALL ATION SHALL BE TO MANUFACTURER'S
 PECOMEMON ATIONS.
- RECOMMENDATIONS.

 10. SCABBLING WHERE REQUIRED, SHALL BE SUFFICIENT TO PROVIDE A ROUGHENED PROFILE WITH COURSE AGGREGATE PROTRUDING, BUT FIRMLY FIXED IN CONCRETE

REINFORCEMENT

- 1 ALL WORKHANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600 (EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS).
- 2. REINFORCING STEEL SHALL BE AUSTRALIAN MADE GRADE DSOON TO AS/NZS 4671.
- 3. THE PM DAIMETER FOR BENDS IN GRADE DSOON REINFORCING BAR SHALL NOT BE LESS THAN 4 TIMES THE DIAMETER OF THE BAR. 4. WELDING OF REINFORCING BARS SHALL NOT BE PERMITTED WITHOUT THE PRIOR APPROVAL OF THE ENGINEER.
- APPROVAL OF THE ENGINEER.

 ALL REMPORCEMENT SHALL BE FIRMLY SUPPORTED ON PLASTIC OR MSO CONCRETE SPACER BLOCKS OR APPROVED METAL CHAIRS AT SPACES NOT GREATER THAN 90 CENTRES BOTH WAYS. BARS SHALL BE TIED AT ALTERNATIVE INTERSECTIONS.

 UNLESS SHOWN OTHERWISE, HIMHUM LAP LENGTHS FOR GRADE DOOR REINFORCING BARS WITH A CLEAR DISTANCE BETWEEN ADJACENT BARS OF LESS THAN 150mm
- SHALL HAVE THE LAP LENGTH SHOWN BELOW INCREASED BY 50%.
 FOR HORIZONTAL BARS WITH GREATER THAN 300mm OF CONCRETE BELOW THE BAR:-
- N12 = 400 N16 = 650 N20 = 950 N24 = 1150 N28 = 1400 N32 = 1560

- MINNUM LAP N FABRIC REINFORCENENT SHALL BE 1 HESH + 50mm.
 7. REINFORCEMENT SHALL BE STORED CLEAR OF GROUND AND PROTECTED AGAINST
 SALT WATER SPRAY AND OTHER CONTAMINANTS.
 8. PRESTRESSING STRANDS SHALL BE 7-WINE SUPER GRADE LOW RELAXATION TO
 AS 1911. PRESTRESSING STRANDS SHALL BE 12-TIMM NOMINAL DIAMETER WITH A
 MINNUM-TENSI E-STRENGTH DE 1040HR.
 9. ALL REINFORCEMENT SHALL BE NEW AND IN MILL FINISH REINFORCEMENT SHALL
 BE PROTECTED FROM CORROSON BEFORE ASSEMBLY INTO THE STRUCTURE BY
 ABRASIVE BLASTING TO AS 1627A, CLASS 3 FINISH AND VASHINISM A CEMENT
 SLURRY CONTAINING NOT LESS THAN 2 PARTS NORMAL PORTLAND CEMENT TO
 1 PART CLEAN POTABLE WATER. THE REINFORCEMENT SHALL BE CAREFULLY
 HANDLED AND PROTECTED AT ALL THIES.

- 1 FORMWORK SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH AS 3610. FORMWORK TO BE CLASS 2 FOR EXPOSED SURFACES, CLASS 3 FOR HIDDEN VERTICAL FACES. AND CLASS 4 FOR HIDDEN SOFFITS.
- ALL FORMED EXPOSED AND RE-ENTRANT CORNERS SHALL BE (HAHFERED OR FALETED 25mm UN.O.
- 4. SIDE FORMS SHALL NOT BE REMOVED PRIOR TO 7 DAYS AFTER POURING OF CONCRETE TO ENSURE MOIST CURING OCCURS.

CONSTRUCTION SEQUENCE

- 1. THE INSITU POUR OVER THE ROADWAY PRECAST BEAMS LOCKS THE TRESTLE SPAN NITO THE REMAINING COMPLETED STRUCTURE. THE TIME PERIOD FROM CASTING THE PRECAST CONCRETE BEAMS TO THE TIME OF THE INSTITUCONCRETE FOUR OF THAT TRESTLE SPAN SHALL BE A SPOLLOWS:—
 -28 DAYS FOR CONCRETE BETWEEN THE ABUTHENT AND THE LOOP #1 EXPANSION DOWN.
- -28 DAYS ELSEWHERE.

STEELWORK

- 1. THE FABRICATION AND ERECTION OF ALL STEELWORK SHALL BE IN ACCORDANCE WITH

- AS 4100.

 2. SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW. FABRICATION SHALL NOT COMMENCE UNTIL APPROVAL MAS BEEN GIVEN.

 3. THE FOLLOWING MATERIAL GRADES SHALL APPLY UND.:HOT ROLLED SECTIONS GRADE 300 TO AS XIX25 3679
 PLATES GRADE 250 TO AS XIX25 3679
 PLATES GRADE 250 TO AS XIX25 3679
 HOLLOW SECTIONS GRADE 350 TO AS XIX25 3678

 1. COLD FORMED SECTIONS GRADE 6520-2430 TO 15 5578 AND AS 1397
 STELL PILES
 4. BOLTS CASTIN CONCRETE SHALL BE FUNCHED FOR HOLL CENGTH OF PROJECTION.
 ALL THREADS TO BE HEAVILY GREASED AND FITTED WITH NUTS AND WASHERS
 PRIOR TO PLACING CONCRETE
- PRIOR TO PLACING CONCRETE

- PRIOR TO PLACING CONCRETE

 ALL STRUCTURAL STEEL BOLTS, NUTS AND WASHERS SHALL BE HOT DIP GALVANISED.

 ALL STRUCTURAL STEEL BOLTS SHALL BE GRADE 8.875 U.N.O.

 ALL WELDING ELECTRODES SHALL BE GRADE E48XX IN ACCORDANCE WITH AS /NZS 1554 /L

 AS /NZS 1553 AND ALL WELDING SHALL BE IN ACCORDANCE WITH AS /NZS 1554/L

 ALL BUTT WELDS SHALL BE PREVOLATED COMPLETE PRETRATION U.N.O.

 ALL FILLET WELDS SHALL BE PRAINTED OR HOT DIPPED GALVANISED IN ACCORDANCE WITH THE SPECIFICATION. WITH THE SPECIFICATION
- WITH THE SPECIFICATION.

 1. ALL BASE PLATES, CLEATS ETC. BEARING AGAINST CONCRETE SHALL BE SEATED ON A HIMMINIM Jam. THICK NEOPREME PAD OF THE SAME PROFILE AS THE BEARING PLATE.

 12. THERE SHALL BE NO DIRECT CONTACT BETWEEN DISSIMILAR METALS. SEPARATION SHALL BE PROVIDED BY AN APPROVED SYNTHETIC MISSILATION MATERIAL.

 STAINLESS STEEL BOLTS, NUTS & WASHERS SHALL BE ISOLATED FROM BASEPLATES BY USING AN OVERSIZED MEOPREME WASHER UNDER THE SS WASHER AND A SNUG TIGHT NYLON BUSH BETWEEN THE BOLT AND THE BASEPLATE.

 13. ALL PLATES, CLEATS, BRACKETS, GUSSETS, ETC TO BE 10mm HIMMINITUR.O.

 14. MINIMILM BOTTED COMPLETION SHALL BE 3 MAD AS FOR STELLING.
- 4. MINIMUM BOLTED CONNECTION SHALL BE 2/M20 8.8/S BOLTS U.N.O.
- 15. UNLESS SPECIFIED OTHERWISE, ALL STEEL WORK MCLUDING ASSOCIATED NUTS, BOLTS, MASHERS, ETC ARE TO BE HOT DIPPED GALVANISED. COLD GALVANISING TOUCH UP AS NECESSARY ANY DAMAGED HOT DIP GALVANISING.

 16. WALKWAY TRUSS STEEL WORK TO BE PAINTED IN ACCORDANCE WITH THE
- 17. SHEAR STUDS TO BE IN ACCORDANCE WITH AS/NZS 1554.2.

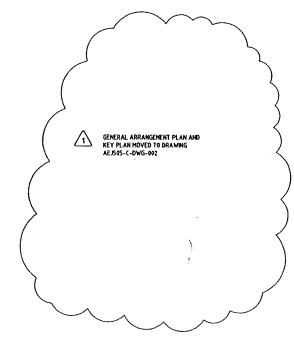
 18. STAINLESS STEEL SHALL BE GRADE 316 AND FABRICATED IN ACCORDANCE WITH
- AS 1554 U.N.O.

 19. ALL CAST-IN ANCHORS, INCLUDING ELEPHANTS' FEET, SHALL HAVE A FULLY
- DEVELOPED TRANSVERSE BAR THROUGH HOLE PROVIDED. WHERE POSSIBLE, eg. IN BEAM LOCATIONS, A 'U' BAR SHALL BE PROVIDED WITH BOTH LEGS PLACED IN TENSION.
- 20. ALL MOROWEL S. HAUREN MES HALL BE HOT DEPET GAVANISE.
 21. PRING TUBES SHALL BE PROTECTED FROM CORROSION BE ABRASIVE BLASTING TO
 AS 18274, CLASS 2.5 FINSH AND PAINTED WITH METRATIONAL PAINTS, INTERZONE 954.
 HIGH SOLDS EPOXY TO 500 MICRON DFT. REFER MANUFACTURER'S SPECIFICATION FOR APPLICATION AND HANDLING.

ABBREVIATIONS

- THE FOLLOWING ABBREVIATIONS HAY APPEAR ON THE DRAWINGS:
 UF UPPER FACE HS HIGH STRENGTH
 LF LOWER FACE UP WORK POINT
 NF NEAR FACE FFL FINISHED FLOOR LEVEL
 EF EACH FACE FF FAR FACE
 LV LENGTH VARIES EW EACH MAY

- EL ELEVATION LEVEL
 LG BAR LENGTH
 MS MILD STEEL (250 MPa)
- WP WORK POINT
 FFL FINISHED FLOOR LEVEL
 FF FAR FACE
 EW EACH WAY
 RL DATUM LEVEL (ISLW)
 OD OUTSIDE DIAMETER



PRELIMINARY NOT FOR CONSTRUCTION

RAPID BAY JETTY REPLACEMENT DESIGN CRITERIA AND GENERAL NOTES

AEJ505-C-DWG-001

C Kellogg Brown & Root Pty Ltd

Plot Date: 29 Nov. 2005 - 12:59pm User Name: hbe9117

AEJS05-C-DWG-002 AEJS05-C-DWG-003 GENERAL ARRANGEMENT AND KEY PLANS GENERAL ARRANGEMENT - DETAILS - SHEET No 1 GENERAL ARRANGEMENT - DETAILS - SHEET No 2 AEJS05-C-DWG-004 BENT 32 AND 33 DETAILS AND TYPICAL HEADSTOCK DETAILS AEJ505-C-DWG-006 HOORING PLATFORM DETAILS DESCRIPTION DRAWING No.

REFERENCE DRAWINGS

Government of South Australia

Department for Transport, **Energy and Infrastructure**

- 100mm ON ORIGINAL DRAWING -

Marine Facilities Section NOTES

PROJECT 29.11.05 APPROVAL 1 ISSUED FOR CLIENT APPROVAL

1 ISSUED FOR CLIENT REVIEW 11105 CLENT DESCRIPTION DATE

APPROVALS

DESIGN

DESIGN VERIFICATIO

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NTS DRAFTER:S CHAINE

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SIGNATURE

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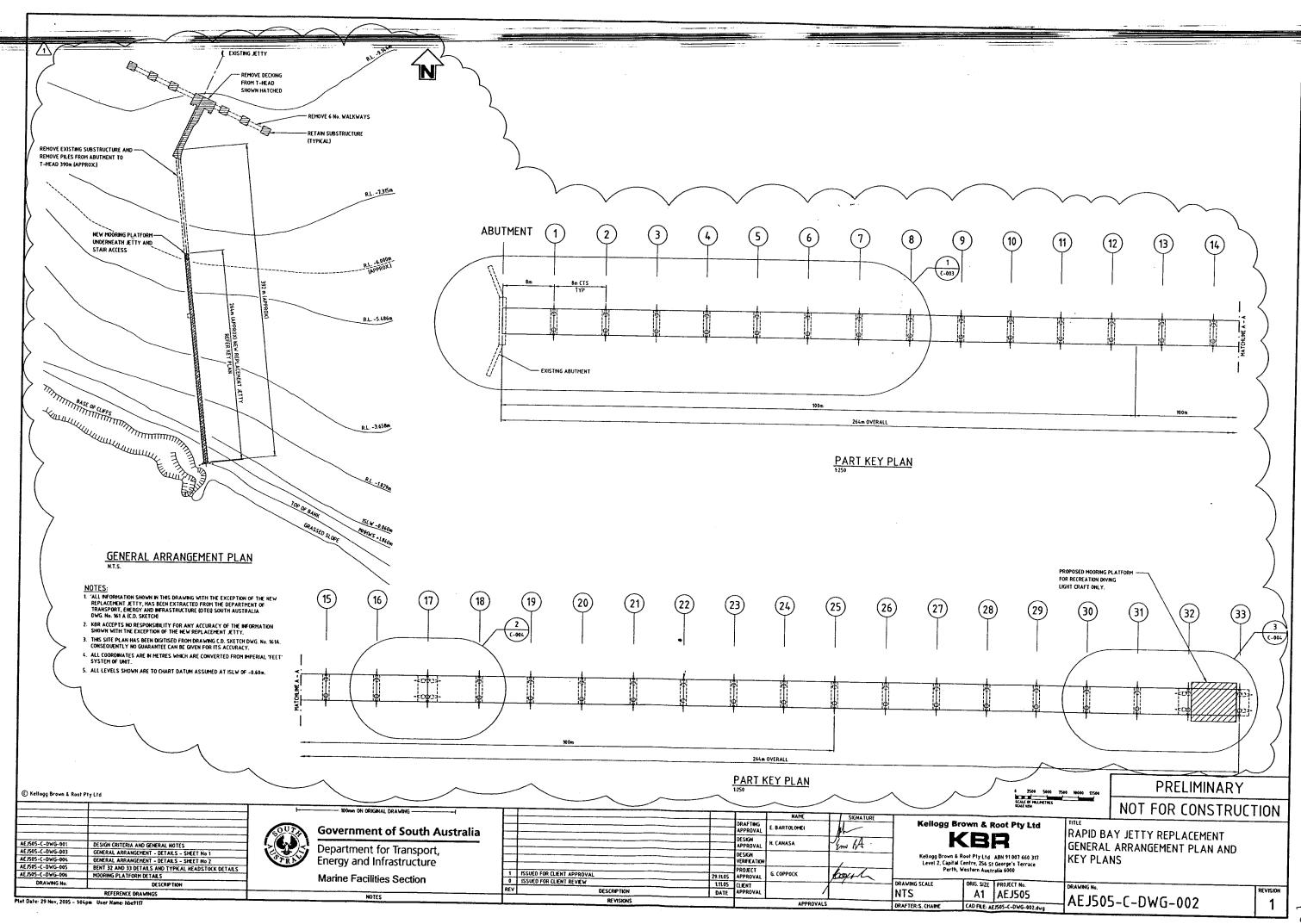
ORIG. SIZE PROJECT No A1 AEJ505 CAD FILE: AEJSOS-C-DWG-001.dwg

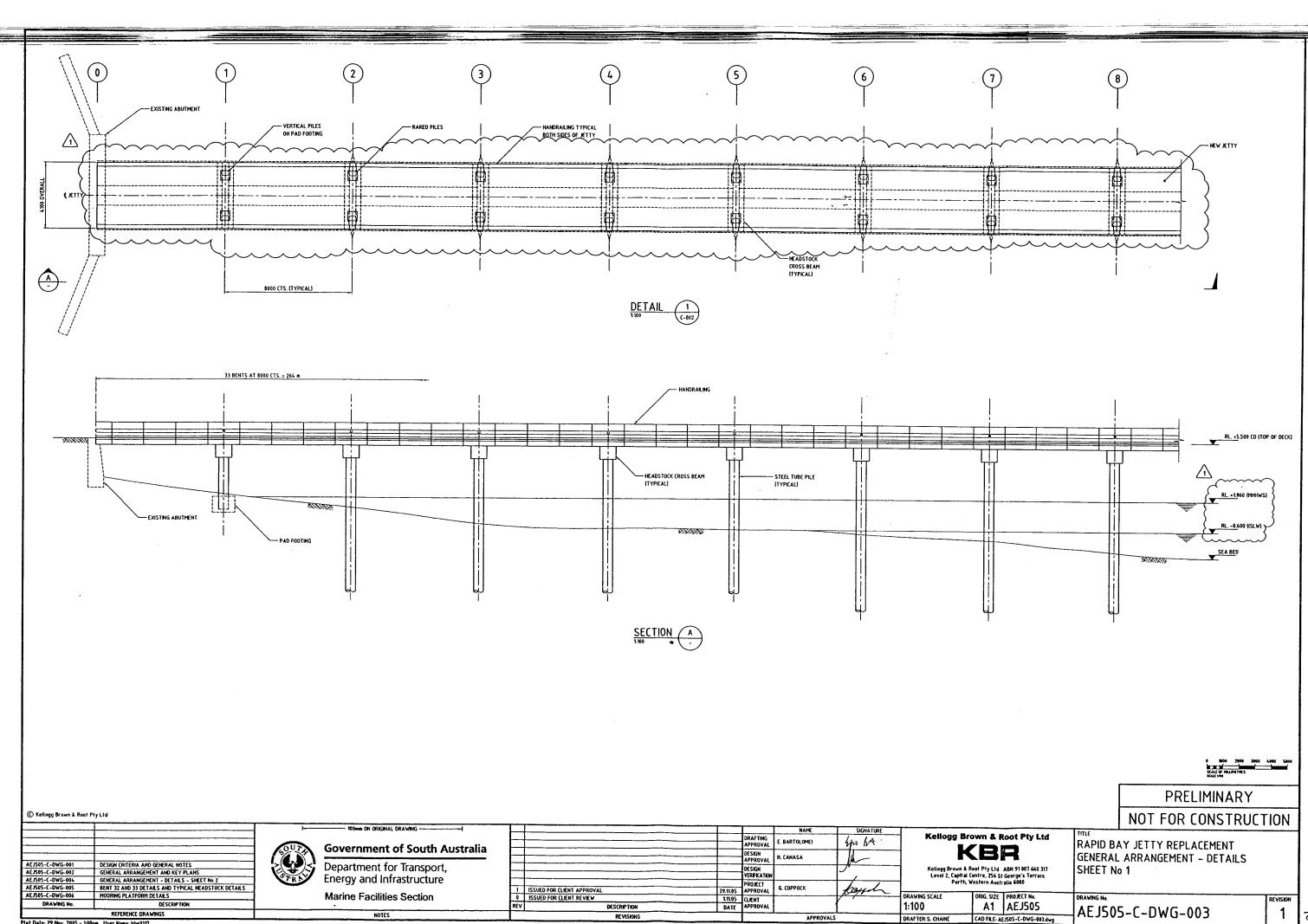
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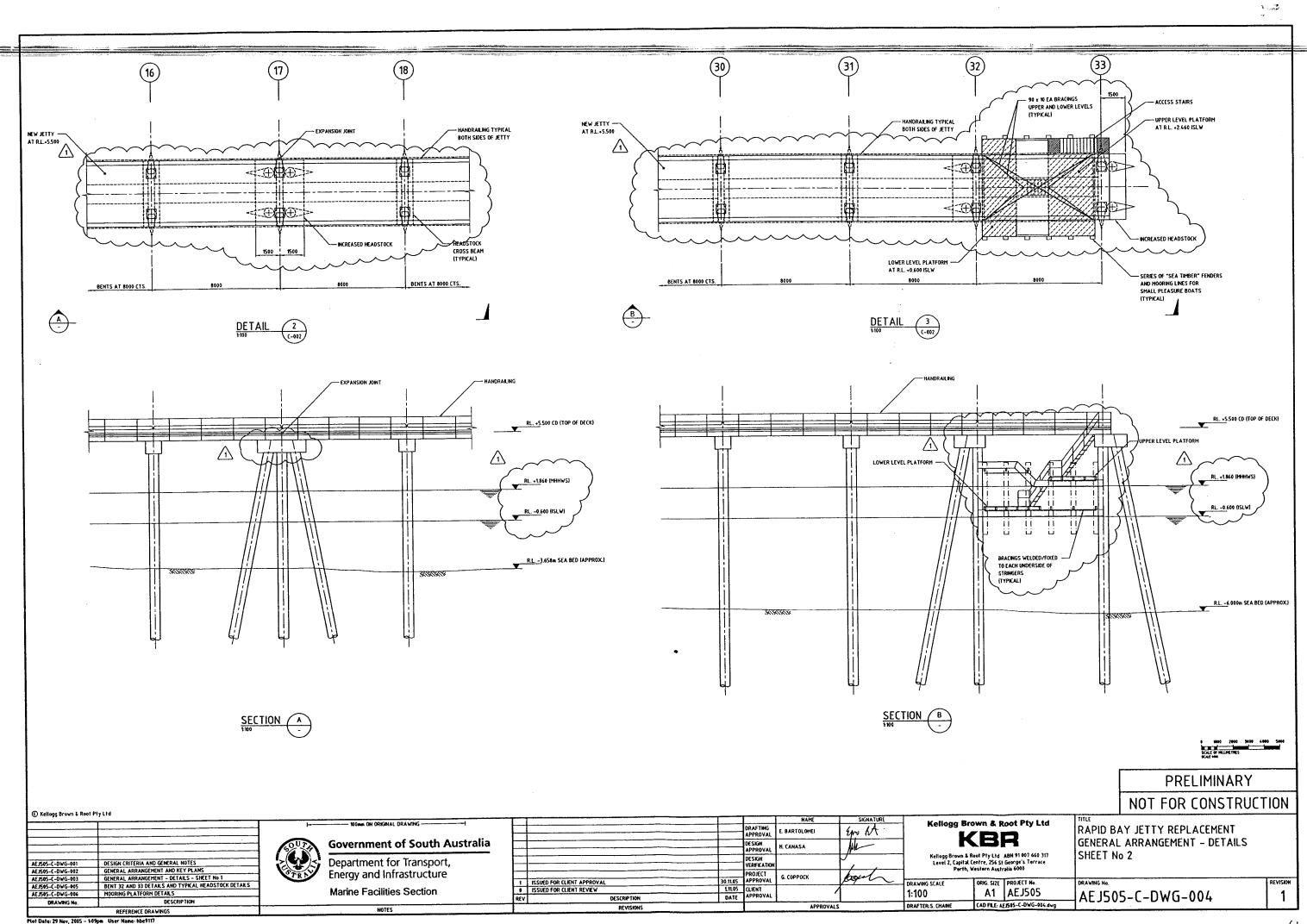
KBR

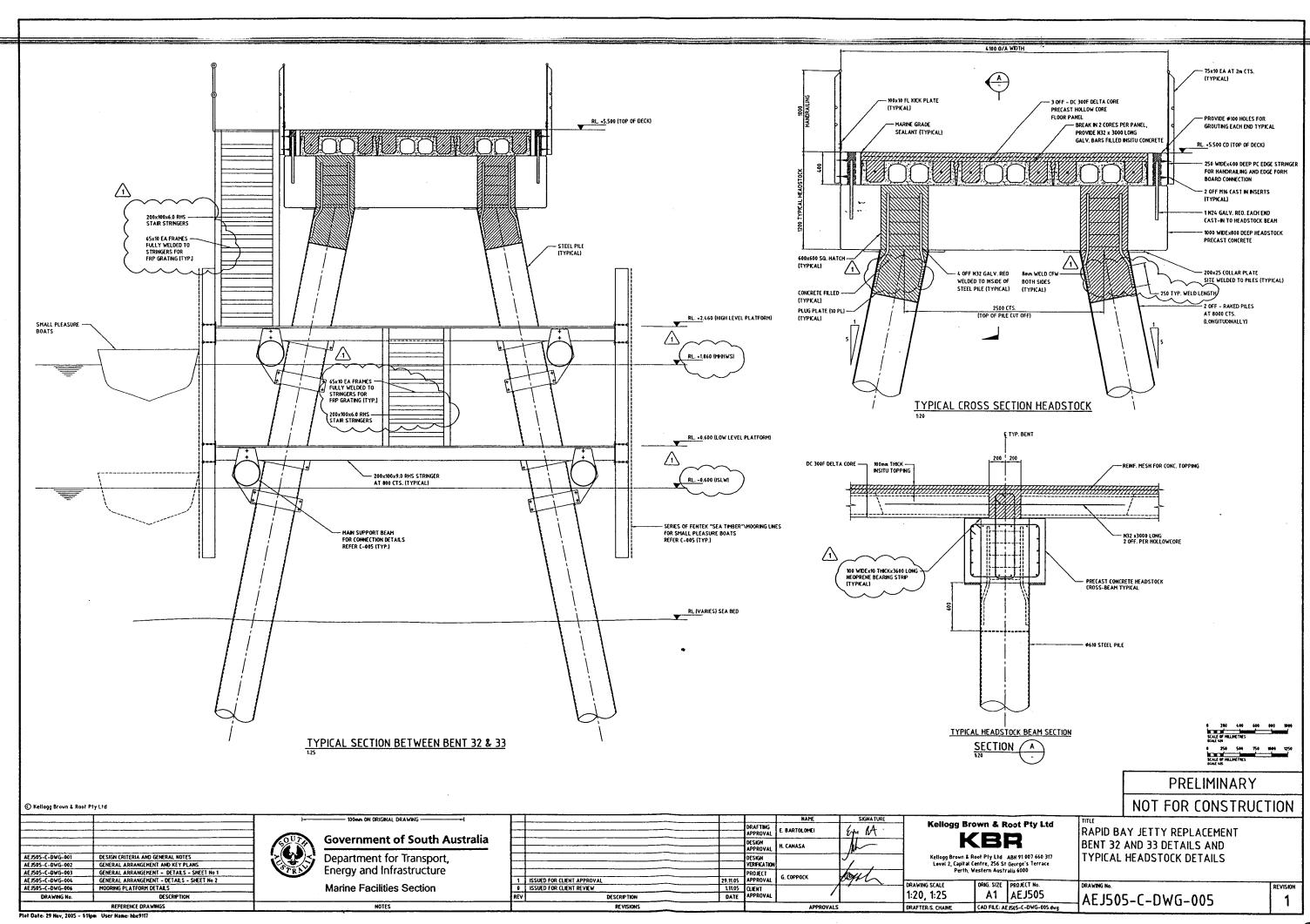
Kellogg Brown & Root Pty Ltd ABN 91 807 660 317 Level 2, Capital Centre, 256 St George's Terrace Perth, Western Australia 6000

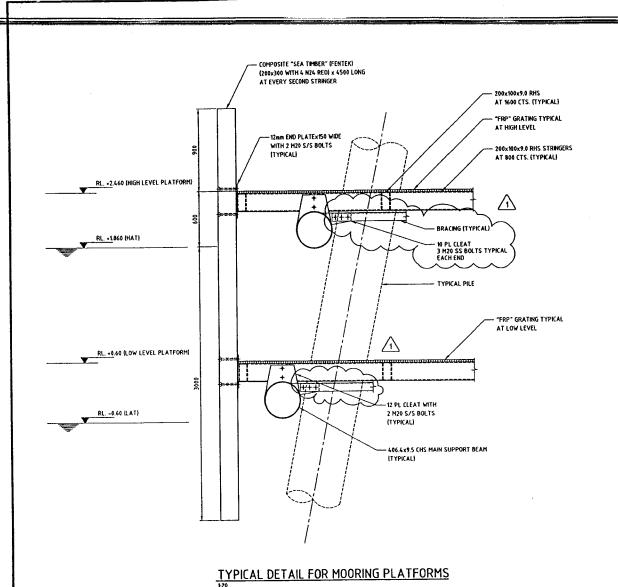
REVISION 1











- 200x100x9.0 RHS STRINGERS AT 800 CRS. (TYPICAL) BRACING 1 FRP" GRATING "SEA TIMBER" (FENTEK) CLAMP PLATES 12mm END PLATE -<u>PLAN</u> 12mm END PLATE -12mm x200 WIDE STRAP/CLAMP PLATE MAIN SUPPORT BEAM - TYPICAL PILE

ELEVATION

TYPICAL CONNECTION MAIN BEAM TO PILE

Q 200 400 600 BOO 1004 SCALE OF HILLINGTRICS SCALE VID

PRELIMINARY

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KBR Kellogg Brown & Root Pty Ltd A3N 91807 660 317 Level 2, Capital Centre, 256 St George's Terrace Perth, Western Australia 6000

Kellogg Brown & Root Pty Ltd

RAPID BAY JETTY REPLACEMENT MOORING PLATFORM DETAILS

AEJ505-C-DWG-006 1

Kellogg Brown ♣ Root Pty Ltd

DESIGN CRITERIA AND GENERAL NOTES
GENERAL ARRANGEMENT DETAILS AND KEY PLANS
GENERAL ARRANGEMENT DETAILS - SHEET No 1
GENERAL ARRANGEMENT DETAILS - SHEET No 2
BENT 32 AND 33 DETAILS AND TYPIKAL HEADSTOCK DETAILS AEJS05-C-DWG-002 AEJS05-C-DWG-003 DESCRIPTION DRAWING No. REFERENCE DRAWINGS

Government of South Australia

Department for Transport, Energy and Infrastructure

Marine Facilities Section NOTES

1 ISSUED FOR CLIENT APPROVAL
0 ISSUED FOR CLIENT REVIEW

DESIGN VERIFICATION PROJECT
29.11.05 APPROVAL
1.11.05 CLIENT
DATE APPROVAL

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A1 AEJ505 1:20 DRAFTER:S. CHAINE

Plot Date: 29 Nov. 2005 - 1:23pm User Name: hbe91