



**TECHNICAL STANDARD TS 35 31 26.70
TRANSPORTABLE TYPE PRIVATE JETTIES ON
WATERWAY BANKS**

Document History and Distribution

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PART 1 GENERAL**1.01 INTRODUCTION****A. PURPOSE**

- a) The proposed work under this Technical Standard consists of the construction of transportable type private jetties by others on the Corporation's public foreshore land.

B. GENERAL

- a) This Technical Standard is not intended for use in Corporation contract documents.
- b) This Technical Standard provides a guide to applicants for the design and construction of transportable type private jetties to a standard acceptable to the Corporation. Every application will be assessed on its merit for the particular site and proposed use.
- c) Transportable private jetties are only permissible on public foreshore land at Lake Eildon and Lake Eppalock. Potential applicants should contact the Corporation to discuss proposals prior to commencement of any significant design work.

C. EXCLUSIONS

- a) This Technical Standard does not cover fixed or floating type private jetties, which are the subject of separate Technical Standards.

1.02 REFERENCES

- A. The publications listed below form a part of this Technical Standard to the extent referenced.
- B. The publications are referred to in the text by basic designation only. Where no date is given for referenced standards, the latest edition available shall be used.

C. AUSTRALIAN STANDARDS

- ▶ AS 1111 – ISO metric hexagon bolts and screws – Product grade C
- ▶ AS 1170.0 - Structural design actions, general principles.
- ▶ AS 1170.1 - Structural design actions, permanent, imposed and other actions
- ▶ AS 1170.2 - Structural design actions, wind actions
- ▶ AS 1214 – Hot-dip galvanised coatings on threaded fasteners
- ▶ AS 1418 – Cranes, hoists and winches
- ▶ AS 1428.1 - Design for access and mobility

- ▶ AS 1657 - Fixed platforms, walkways, stairways and ladders, design, construction and installation.
- ▶ AS 1664 – Aluminium structures: allowable stress design
- ▶ AS 1665 – Welding of aluminium structures
- ▶ AS 1684.1 - Residential timber framed construction, design criteria
- ▶ AS 1720.1 - Timber structures, design methods
- ▶ AS 1734 – Aluminium and aluminium alloys: flat sheet, coiled sheet and plate
- ▶ AS 2416.2 - Water safety signage
- ▶ AS 4100 - Steel structures
- ▶ AS 4680 – Hot-dip galvanised (zinc) coatings on fabricated ferrous articles
- ▶ AS 4791 – Hot-dip galvanised (zinc) coatings on ferrous open sections, applied by an in-line process
- ▶ AS 4792 - Hot-dip galvanised (zinc) coatings on ferrous hollow sections, applied by a continuous or a specialised process
- ▶ AS 4855 – Welding consumables: Covered electrodes for manual metal arc welding of non-alloy and fine grain steels
- ▶ AS 4997 - Guidelines for the design of maritime structures

D. LEGISLATION

- ▶ Occupational Health and Safety Act 2004
- ▶ Occupational Health and Safety Regulations 2007

E. VICROADS REQUIREMENTS

- ▶ www.vicroads.vic.gov.au

1.03 DEFINITIONS

- A. Goulburn-Murray Water is referred to as the “Corporation” in this Technical Standard.

PART 2 PRODUCTS

2.01 TRANSPORTABLE TYPE PRIVATE JETTY CONSTRUCTION MATERIALS

- A. Jetties may be constructed in steel, aluminium and/or timber decking and shall be aesthetically and professionally completed. Minimalist unobtrusive infrastructure is preferred, with a small footprint and negligible impact on the environment.

- B. Winches, cables and pulleys should comply with AS1418. Proprietary items are recommended and the proponent should ensure that the manufacturer supplies a certificate indicating that it meets the requirements of AS 1418.

PART 3 RISK ASSESSMENT OF STRUCTURE

3.01 RISK ASSESSMENT

- A. The applicant shall assess the risk of the structure, in accordance with the guidelines in Annexure 1.
- B. Consideration shall be given in the design of the structure and its elements to firstly identify, then minimise or remove risks to future users of the structure.
- C. Examples of potential risks to users include, but are not limited to the following:
- a) Tripping.
 - b) Slipping.
 - c) Falling.
 - d) Pinch spots.
 - e) Inadequate safety and rescue equipment.

3.02 DESIGN FOR RISK

- A. The design of all structures to be used in a workplace, during operation, construction and maintenance, shall take into consideration occupational health and safety requirements in accordance with the Occupational Health and Safety Act 2004.
- B. The use of jetties is only permitted during daylight hours.
- C. No temporary or permanent additional structures are permitted on jetties.

3.03 ASSESSMENT BY THE CORPORATION AND INFORMATION TO BE PROVIDED

A. ASSESSMENT

- a) The Corporation will assess applications according to the following structure classification.
- i. Classification "A" Structures - Standard Corporation Drawings
 - ▶ The proposed jetty complies with VicRoads as "Other trailers less than 750kg ATM (Aggregate Trailer Mass)" and must comply with the following checklist to be registered by VicRoads and the Corporation.
 - Total weight less than 750kg.
 - Brake lights.

- Direction indicator lights.
 - Tail lights.
 - Number plate light.
 - At least 1 safety chain.
 - Mud guards required to be removed underwater.
 - Deck length not exceeding 7m.
 - Deck width not exceeding 1.2m.
 - Total width not exceeding 2m.
 - 2 white reflectors must be fitted to the front of the trailer.
 - Jetty license number to be displayed both sides with 150mm high letters complying with AS 1742.
 - Tyres are in roadworthy condition and meet relevant load requirements.
 - Hitch points to be mounted to frame and to manufacturer's specification.
 - Drawbar hand brake.
- ▶ The applicant shall submit a design which will be assessed by a Corporation assessor and be in accordance with the standard drawings in Annexure 1.
 - ▶ Non-standard arrangements, including trailers more than 750Kg ATM will be considered Classification "B" structures.
- ii. Classification "B" Structures - Non-standard Corporation Drawings and trailers in excess of 750Kg ATM
- ▶ The applicant shall submit a full design including construction drawings that has an approval certificate issued by an approved Vehicle Assessment Signatory Scheme (VASS) signatory as per www.vicroads.vic.gov.au.
 - ▶ The design will be assessed by a Corporation assessor and possibly by a third party structural engineer.

B. INFORMATION TO BE PROVIDED TO THE CORPORATION

- a) In applying to a transportable type private jetty to be used on a Corporation foreshore, the applicant shall include the following:
- i. Photo of proposed site of usage and site plan.
 - ii. Design of jetty, including the type and layout of the proposed jetty.

- iii. Crown Allotment number or copy of title, which will be attached to the jetty license.
- iv. Use and purpose of the jetty.
- v. Risk assessment complying with ISO 31000, which may be audited.

PART 4 DESIGN

4.01 PURPOSE

- A. The designer shall consider the purpose of the transportable type private jetty as part of the protection of the lake foreshore as well as its use for land and water access and activities.
- B. The design of the jetty structure shall take into account, as appropriate, stability, strength, serviceability, durability, safety, operation and maintenance.

4.02 DESIGN STANDARDS

- A. Transportable type private jetties that are proposed to be located on Corporation waterways shall be designed and constructed to the following performance standards:
 - a) Design Life
 - i. Design life is the period of time for which a structure or an element of the structure remains fit for use for its intended purpose with appropriate maintenance.
 - ii. Transportable type private jetties shall be designed and constructed for a minimum design life appropriate for the licence period.
 - iii. For continued licensing, the jetty must be well maintained and be in a satisfactory condition. It must be inspected and certified as being fit for use, every five years, by an approved VASS signatory as per www.vicroads.vic.gov.au.
 - b) Minimise Public Risk
 - i. All jetties are for private use, but must be accessible to the Corporation when in use.
 - ii. The designer and constructor shall consider the risk posed by the jetty during its design, construction, use and maintenance, and demonstrate that risks have been minimised.
 - iii. A detailed engineering design and certification of the jetty is required.

c) Standards and Legislation

- i. Transportable type private jetties shall be designed and constructed to VicRoads requirements and other relevant current Australian Standards and Legislation as listed in Sec 1.02.

4.03 LOCATION OF THE TRANSPORTABLE TYPE PRIVATE JETTY

- A. The designer shall consider Corporation access to the jetty, site conditions and the likely loading conditions on the jetty.

4.04 LOADING ON THE JETTY

- A. The designer shall consider the use and location of the jetty to determine the worst likely loading cases. The designer shall refer to AS 1170 for loading design.

4.05 RISK

- A. The designer shall mitigate the risk and consequence of failure of the jetty. The risk of failure shall determine the level of design information required.
- B. The designer shall consider the access to and on the jetty and include fall protection in accordance with the risk assessment for the jetty and AS 1657 if required.
- C. Appropriate signage shall be installed in accordance with AS 2156.1.

4.06 TOPOGRAPHY

- A. The topography will determine the access conditions.

4.07 MAINTENANCE

- A. The designer shall design a jetty to require minimum maintenance over its entire life.
- B. During the design life of the jetty maintenance will need to be undertaken to ensure that the design life is achieved. Such maintenance activities would include: -
- a) Regular inspections.
 - b) Timely repairs.
 - c) Timely renewal of protection systems.
 - d) Timely replacement of worn-out components.
 - e) Keeping records of inspections carried out and maintenance performed.
- C. For continued licensing, the jetty must be well maintained and be in a satisfactory condition. It must be inspected and certified as being fit for use, every five years, under the VASS VicRoads Scheme.

4.08 SAFETY

- A. The designer shall design a jetty that is practical and safe to construct, use, maintain and dispose of over its entire life.

PART 5 OHS CONSIDERATIONS**5.01 OCCUPATIONAL HEALTH AND SAFETY**

- A. The constructor shall comply with the following safety standards and legislation, as updated and amended from time to time:
 - a) ISO 31000 - Risk Management.
 - b) Occupation Health and Safety Act 2004 and OHS Regulations (2007).

ANNEXURE 1 – DRAWINGS

TIMBER


- T1 ALL TIMBER WORKMANSHIP SHALL BE IN ACCORDANCE TO AS1728.
- T2 ALL TIMBER SHALL BE SEASONED AUSTRALIAN HARDWOOD AND SHALL CONFORM TO REQUIREMENTS OF AS2062.
- T3 ALL TIMBER SHALL HAVE A MINIMUM STRESS GRADE OF F22.
- T4 ALL TIMBER SHALL BE OF CLASS 1 OR 2 OF THE NATURAL DURABILITY CLASSIFICATION OF HEARTWOOD eg:
 - IRONBARK, RED (EUCALYPTUS SIDEROXYLON)
 - IRONBARK, RED BROAD LEAVED (EUCALYPTUS FIBROSA)
 - IRONBARK, GREY (EUCALYPTUS PANICULATA)
 - GUM, GREY (EUCALYPTUS PROPINQUA)
 - TALLOWWOOD
 - TURPENTINE
- T5 ENDS OF ALL TIMBERS SHALL BE GIVEN A COAT OF PETROLEUM JELLY, OR SIMILAR APPROVED GREASE, WITHIN 48 HOURS OF BEING SAWN AT THE MILL.
- T6 ALL EXPOSED END GRAIN (INCLUDING DRILL HOLES) AND TIMBER TO TIMBER CONTACT SURFACES SHALL BE COATED WITH A HEAVY COAT OF PROTH ON TIMBER PROTECTIVE EMULSION AFTER CUTTING/DRILLING.
- T7 ALL HOLES FOR JOINTS SHALL BE TRULY BORED AND ALL JOINTS CUT TO FIT ACCURATELY AND TIGHTLY. HOLES SHALL BE 10 PER CENT GREATER IN DIAMETER THAN THE BOLTS.
- T8 BOLTHOLE RECESSES (AFTER FINAL TIGHTENING OF BOLTS), SPLITS AND KNOTHOLES IN TIMBER SHALL BE FILLED WITH PABCO HYDROSEAL TYPE 367, KNIFE GRADE OR EQUIVALENT.
- T9 ALL BOLTS, NUTS AND WASHERS SHALL BE HOT DIPPED GALVANISED IN ACCORDANCE WITH AS 4868.
- T10 BOLTS SHALL BE GRADE 4.6, WASHERS SHALL CONFORM TO AS 1720, BOLTS SHALL BE RETIGHTENED AT SIX MONTHS AFTER COMPLETION OF CONSTRUCTION.
- T11 ALL BOLTHEADS OR NUTS ON EXPOSED SURFACES SHALL BE RECESSED BELOW THE SURFACE.

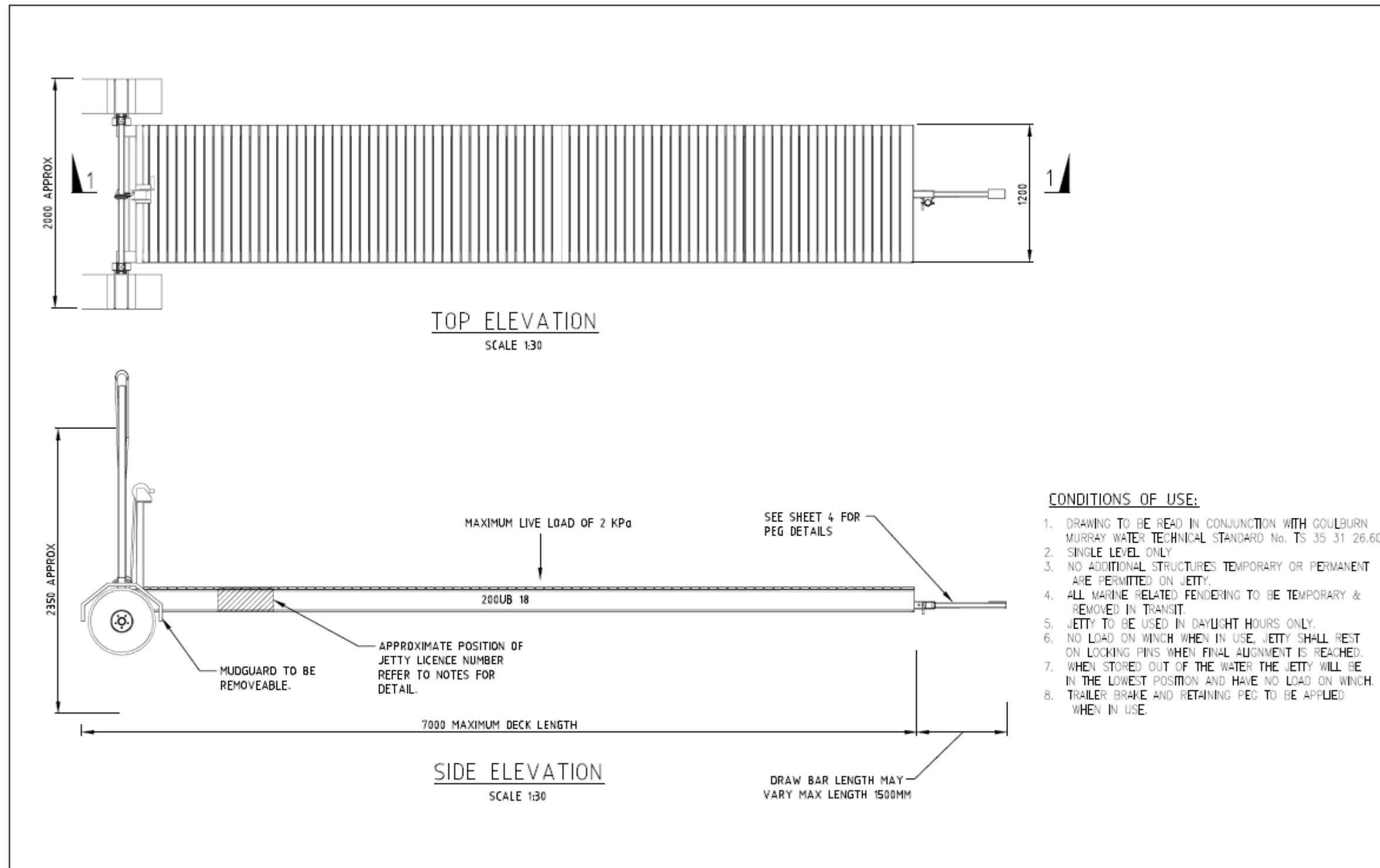
STEELWORK

- S1 ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 4700 AND AS 1554.
- S2 UNLESS SHOWN OTHERWISE, ALL STEEL COMPONENTS SHALL BE IN ACCORDANCE WITH AS3679.1 GRADE 300.
- S3 ALL BOLTS TO BE STRENGTH GRADE 4.6 TO AS1111, TIGHTENED USING A STANDARD WRENCH TO A SHAS TIGHT CONDITION. ALL BOLTS SHALL BE OF SUCH LENGTH THAT AT LEAST ONE FULL THREAD IS EXPOSED BEYOND THE NUT AFTER THE NUT HAS BEEN TIGHTENED.
- S4 ALL WELD TYPES TO BE CATEGORY SP. WELDS SHALL CONFORM TO AS1554 AND WELDING ELECTRODES TO AS/NZS 4855. WELDING SHALL BE PERFORMED BY AN EXPERIENCED OPERATOR. THE INSPECTION/TESTING OF ALL WELDS SHALL BE CARRIED OUT IN ACCORDANCE WITH AS2234 AND NOTES ON THE DRAWING WELD TYPES ARE DESIGNATED AS FOLLOWS:-
 CPW - CONTINUOUS FILLET WELD
 CPBW - COMPLETE PENETRATION BUTT WELD
 A/R - ALL ROUND
- S5 HOT DIP GALVANISING SHALL BE IN ACCORDANCE WITH RELEVANT AUSTRALIAN STANDARDS AS1214, AS1559, AS4480, AS4791 & AS4792. REPAINTING/REPAIR OF DAMAGED GALVANISED SURFACES (EG. SITE WELDS) TO BE PAINTED WITH 2 COATS OF APPROVED ZINC RICH PAINT.
- S6 UNLESS SPECIFIED OTHERWISE, STEELWORK SHALL BE PREPARED BY REMOVING LOOSE SCALE BY HAND OR POWER WIRE BRUSHING THEN APPLYING ONE COAT OF RUST INHIBITIVE ALKYD PRIMER (75um), FOLLOWED BY ONE COAT OF ALL-WEATHER GLOSS ENAMEL PAINT (125um).
- S7 CATHODIC PROTECTION SHALL BE INSTALLED IN ACCORDANCE WITH AS 2452.
- S8 FIXTURES AND FITTINGS TO HAVE APPROPRIATE CORROSION RESISTANCE.

GENERAL WORKS

- G1 THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH GHW TECHNICAL STANDARD TS 35 31 26.60.
- G2 UNLESS NOTED OTHERWISE, ALL DIMENSIONS ARE IN MILLIMETRES.
- G3 THESE DRAWINGS SHALL NOT BE USED FOR FINAL SET OUT FOR THE PROJECT.
- G4 SETTING OUT DIMENSIONS AND SIZES OF STRUCTURAL MEMBERS SHALL NOT BE OBTAINED BY SCALING THE STRUCTURAL DRAWINGS. ANY SETTING OUT DIMENSIONS INCLUDING LEVELS SHOWN IN THE STRUCTURAL DRAWINGS SHALL BE CHECKED BY THE PROPONENT BEFORE CONSTRUCTION COMMENCES.
- G5 THESE ENGINEERING DRAWINGS HAVE BEEN PREPARED FROM INFORMATION STATED ON THE DRAWINGS, AS THIS INFORMATION MAY BE SUBJECT TO CHANGE PRIOR TO OR DURING CONSTRUCTION THE PROPONENT IS TO INFORM GHW WHERE DISCREPANCIES OCCUR.
- G6 THE STRUCTURAL COMPONENTS DETAILED ON THESE DRAWINGS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE RELEVANT AUSTRALIAN STANDARDS AND LOCAL AUTHORITY ORDINANCES FOR THE FOLLOWING LOADINGS:
 LIVE LOADS : SURCHARGE 2 kPa
- G7 ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE RELEVANT AND CURRENT AUSTRALIAN STANDARDS AND WITH THE BY-LAWS AND ORDINANCES OF THE RELEVANT BUILDING AUTHORITIES.

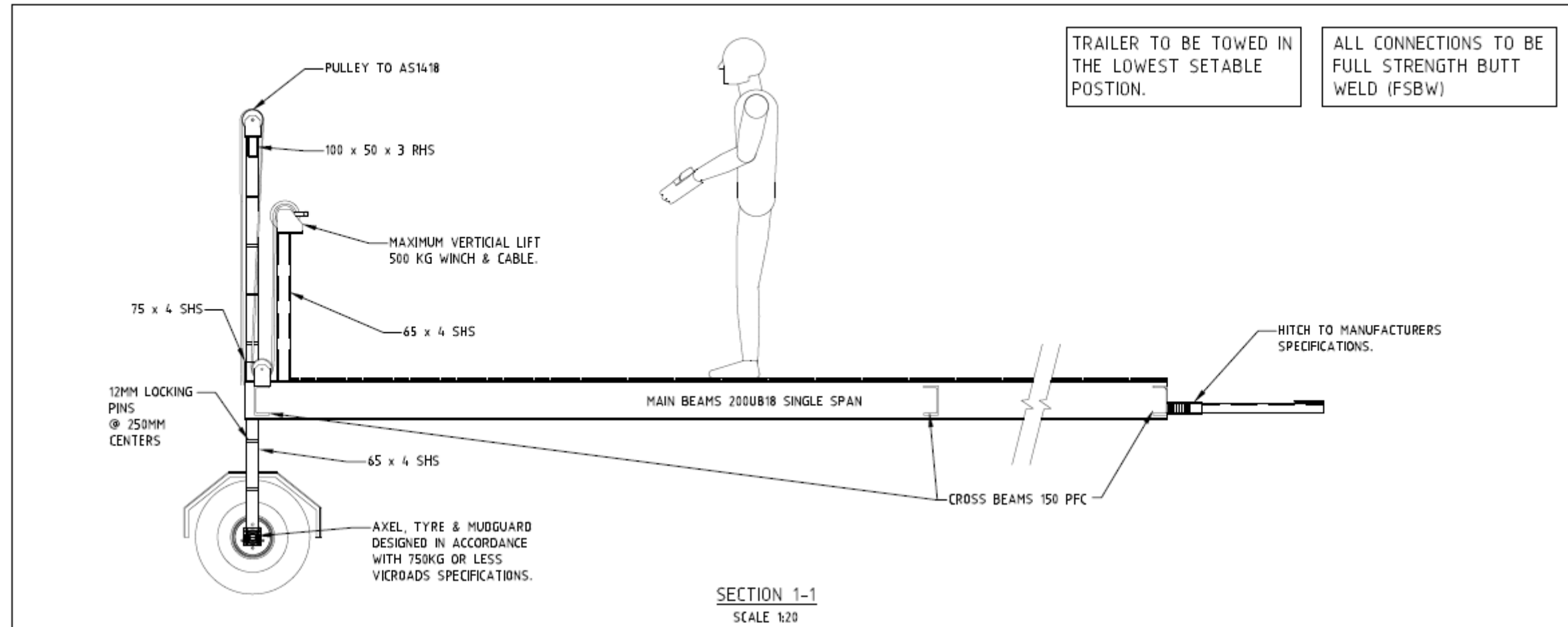
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REV	DATE	REVISIONS									



CONDITIONS OF USE:

1. DRAWING TO BE READ IN CONJUNCTION WITH GOULBURN MURRAY WATER TECHNICAL STANDARD No. TS 35 31 26.60
2. SINGLE LEVEL ONLY
3. NO ADDITIONAL STRUCTURES TEMPORARY OR PERMANENT ARE PERMITTED ON JETTY.
4. ALL MARINE RELATED FENDERING TO BE TEMPORARY & REMOVED IN TRANSIT.
5. JETTY TO BE USED IN DAYLIGHT HOURS ONLY.
6. NO LOAD ON WINCH WHEN IN USE, JETTY SHALL REST ON LOCKING PINS WHEN FINAL ALIGNMENT IS REACHED.
7. WHEN STORED OUT OF THE WATER THE JETTY WILL BE IN THE LOWEST POSITION AND HAVE NO LOAD ON WINCH.
8. TRAILER BRAKE AND RETAINING PEG TO BE APPLIED WHEN IN USE.

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NOTE:


1. HITCH POINTS TO BE MOUNTED WITHIN 150MM OF CROSS BEAMS ON 200UB18 MAIN BEAMS.
2. HOIST, PULLEY, WINCH & CABLE TO AS1418.

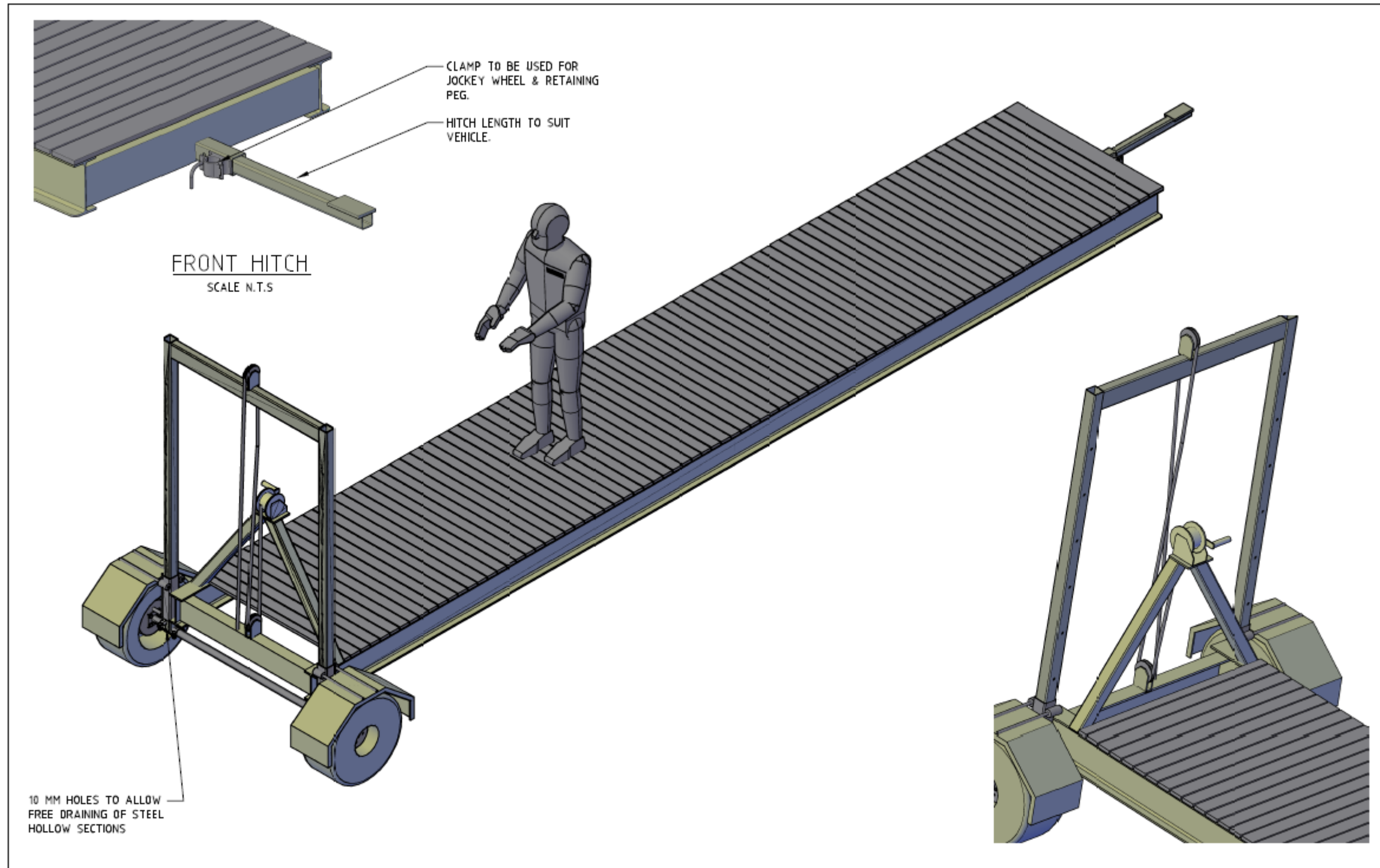
DECKING MATERIAL

DECKING MATERIAL SHALL CONFORM TO AS4997, CAPABLE OF 2KPa UDL & CAN BE CONSTRUCTED FROM:

TIMBER – 95 x 45 BRUSH BOX, STRINGYBARK, TALLOW WOOD ETC.

COMPOSITE – GRATED OR TIMBER REPLICA TO MANUFACTURES SPECIFICATIONS.

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			M. LOU HO KEE SENIOR ENGINEERING & MAINTENANCE SERVICE			Goulburn Murray Rural Water Authority 40 CASEY STREET (PO BOX 165), TATURA VIC. 3616 Telephone (03) 5826 3500 Fax (03) 5826 3501					

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