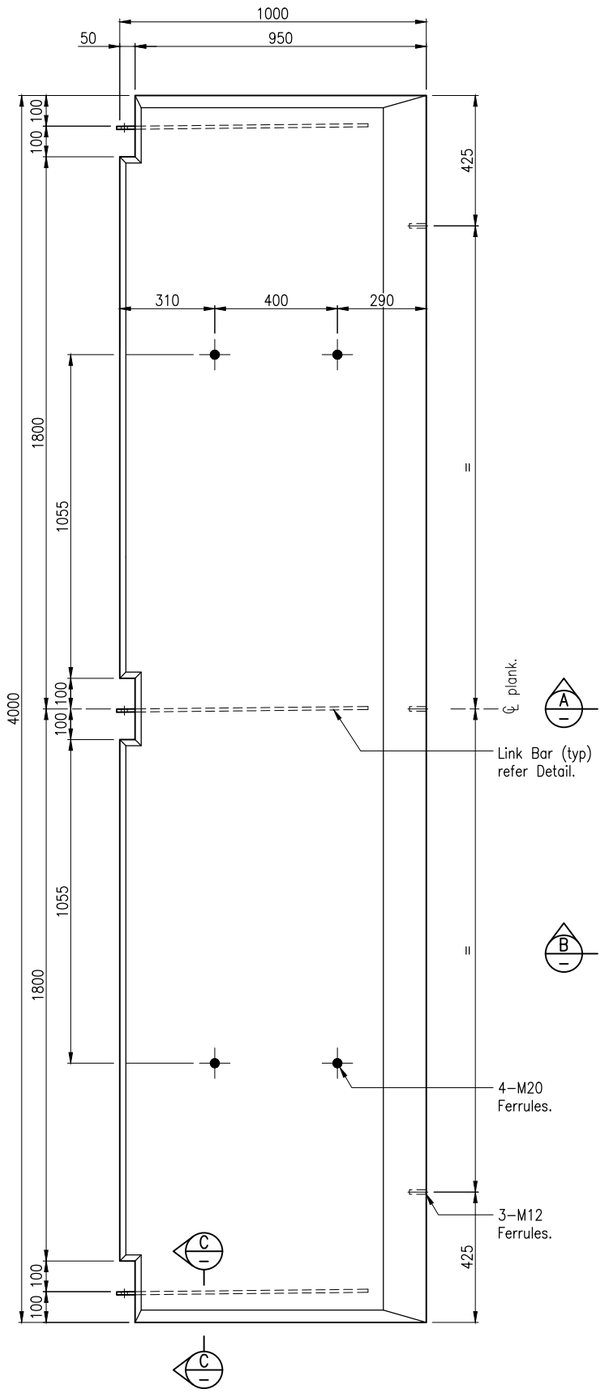
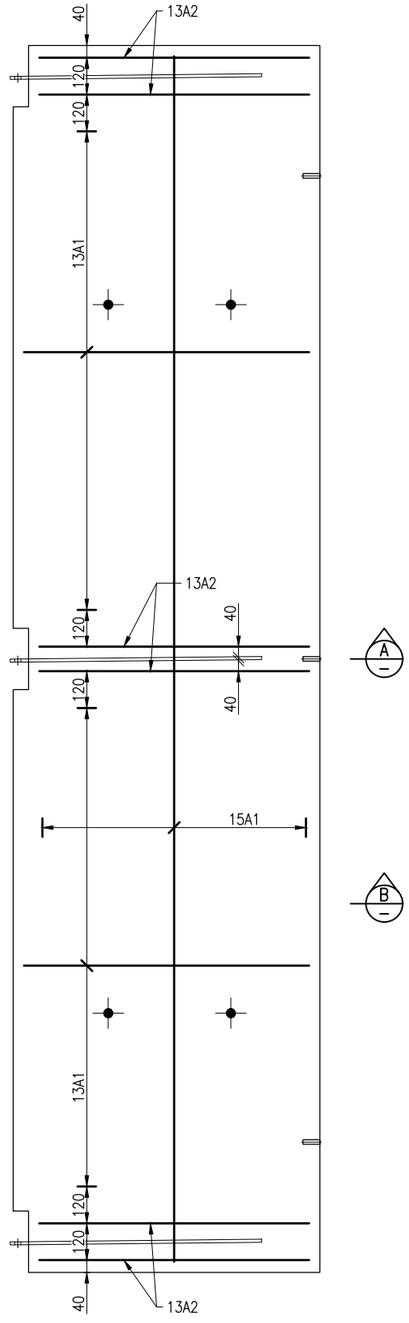
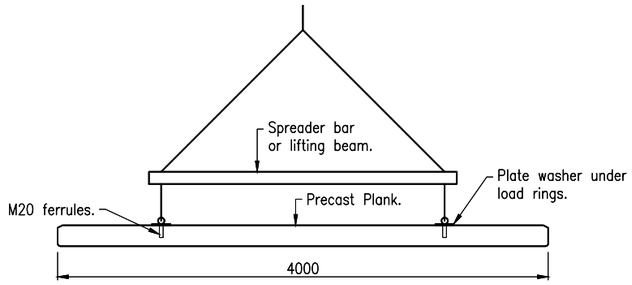


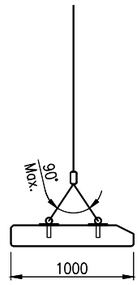
PLAN



REINFORCEMENT PLAN

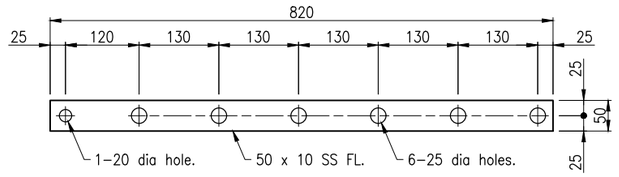


ELEVATION

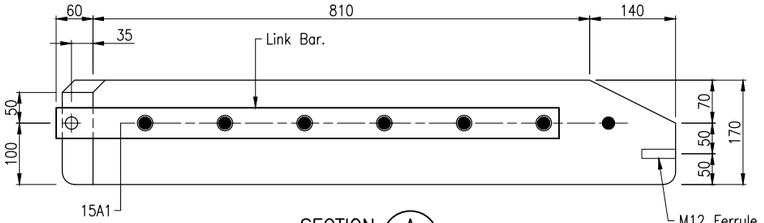


END VIEW

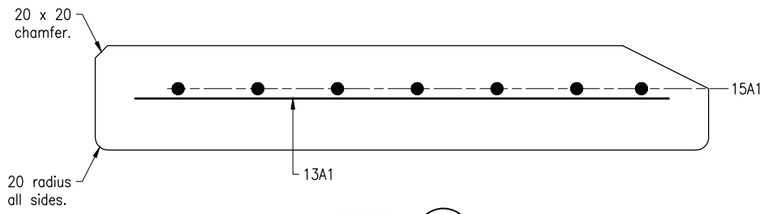
LIFTING DETAILS



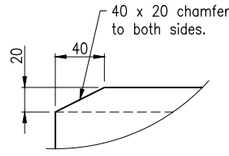
LINK BAR DETAIL
(Quantity = 3)



SECTION A



SECTION B



SECTION C

NOTES:

1. FABRICATION: Precast planks shall be manufactured to MRTS72.
2. DESIGN LOADING: This plank is designed for a multi axle trailer of maximum 2 tonnes per axle at minimum 750 centres.
3. CONCRETE: All concrete supply and placement shall be in accordance with MRTS70.
   The design mix shall be S50/20 for Exposure Classification C2.
4. GFRP REINFORCEMENT: All reinforcement shall be supplied in accordance with MRTS271 and have these properties:

Transverse coefficient of thermal expansion	<= $30x10^{-6}$/°C
Minimum tensile strength	1000 MPa
Durability designation	D1 (as defined in CSA S807)
Elastic Modulus	Grade III (as defined in CSA S807): 60GPa

5. Minimum cover to reinforcement: 30 unless shown otherwise.
6. LINK BARS: Link bars shall be Grade 316 stainless steel flats in accordance with ASTM A276. All sharp edges shall be removed and neatly finished.
7. TRAFFICABLE SURFACE FINISH: The concrete matrix shall be removed to about 1mm below the top of the exposed aggregate to achieve a non–slip finish.

8. MASS of Type T4000FRP plank is 1650 kg.
   The mass shall be clearly and permanently marked on a side surface.
9. M12 and M20 FERRULES shall be Grade 316 stainless steel footed ferrules – either:

Registered Supplier	Product Number (M20)	Product Number (M12)
Reid	FE20095SS	FE12055SS
Ancon	FF2096S316	FF1250S316

10. LIFTING, TRANSPORTATION AND STORAGE:
    Planks shall not be moved before attaining a minimum strength of 32 MPa.
    Lifting shall be in accordance with the Lifting Details diagram.
    Transport and storage shall be in accordance with MRTS72.
11. DIMENSIONS are in millimetres unless shown otherwise.

Departmental Specifications:

MRTS70	Concrete
MRTS72	Manufacture of Precast Elements
MRTS271	Glass Fibre Reinforced Polymer (GFRP) Reinforcement

Australian and International Standards:

ASTM A276	Standard Specification for Stainless Steel Bars and Shapes
CSA S807	Specification for fibre–reinforced polymers

Reinforcement Schedule

Bar Mark	Dnom*	Dmax**	Length	Quantity	Centres
15A1	15	18	3930	7	–
13A1	13	14	930	26	120
13A2	13	14	880	6	–

* Nominal diameter.
** Maximum diameter including the surface profile.

Department of Transport and Main Roads

PRECAST PLANKS FOR BOAT RAMP

TYPE T4000 FRP

Queensland Government

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A3
Not to Scale

Standard Drawing No
4004
Date 11/2024

A