

G. GENERAL NOTES

- G1. These notes shall be read in conjunction with all engineering drawings, the contract specification and other written instruction as may be issued. In case of discrepancy, precedence is given to drawings, notes, then specification.
- G2. These drawings shall not be used for committing to material orders, or construction until authorized and issued for construction.
- G3. Definitions:  
UNO = Unless noted otherwise  
Engineer = Nominated representative of Grounded Engineering  
Principal = Chris Mould
- G4. Unless noted therwise:  
All dimensions are given in millimetres  
All co-ordinates are to map grid Australia (MGA)  
All levels are given to Australian Height datum (AHD)
- G5. All dimensions relevant to setting out and off site work shall be verified by the contractor before construction and fabrication is commenced.
- G6. Do not obtain dimensions by scaling from drawings.
- G7. Refer all discrepancies to the principal for resolution before proceeding with work.
- G8. Workmanship and materials shall be in accordance with the contract specifications, Australian standards (including all amendments), codes of practice and the requirements of any other relevant statutory authorities. All of the above documents are those current (as verified by the contract documents) at the commencement of the contract.

M. STRUCTURAL STEEL NOTES


- M1. All workmanship and material shall be in accordance with the contract specification, AS 5100 and AS 1554 except where verified by the contract documents.
- M2. Steel components shall conform to the following table UNO
- |                           |                 |                |
|---------------------------|-----------------|----------------|
| Plate                     | AS 3678         | GRADE 350      |
| Hot rolled sections       | AS 3679         | GRADE 300 PLUS |
| CHS >80mm diameter        | AS1163          | GRADE C350     |
| Iso metric nuts and bolts | AS1111 & AS1112 |                |
| High strength steel bolts | AS1252          |                |
- M3. Provide steel members made from whole lengths wherever possible. If necessary, make lengths up of sections joined by complete penetration full strength butt welds ground flush. Where proposed, show joints on shop drawings. Ensure members are concentric at connections (gravity or guage lines to intersect)UNO. Accurately pre form parts to avoid force and /or restraint during joining.
- M4. Welds are to be full penetration butt welds where specified  
Fillet Welds are to be 6mm continuous using E48XX electrodes or equivalent.
- M5. Structural Steel Members must be protected against corrosion in accordance with Table 3.4.4.2 of the BCA.

BOLTING NOTES

- M6. UNO connections between two structural steel members shall have a minimum of 2/M16 8.8/S Galvanised bolts in 18mm diameter holes
- M7. Bolt type and tightening procedure are designated:  
Number - size - strength - grade / tightening procedures  
eg. 4-M24 8.8/TB = 4 of 24mm diameter metric high strength structural bolts fully tensioned in bearing mode
- M8. The bolting procedure is designated as follows:
- |        |  |
|--------|--|
| 4.6/S  | Commercial bolts of strength grade 4.6 to AS 1111 tightened using a standard wrench to a snug tight condition.     |
| 8.8/S  | High strength bolts of strength grade 8.8 to AS 1252 tightened using a standard wrench to a snug tight condition.  |
| 8.8/TF | High strength bolts of strength grade 8.8 to AS 1252 fully tensioned to AS 4100 designed as a friction type joint. |
| 8.8/TB | High strength bolts of strength grade 8.8 to AS 1252 fully tensioned to AS 4100 designed as a bearing type joint.  |
- M9. Holding down bolts to be grade 4.6. UNO supply holding down bolts with two class 5 hexagonal head nuts and two extra large flat washers. Hot dip galvanize holding down bolts, nuts and washers to AS 1214. Tie holding down bolt groups rigidly together prior to installation to ensure correct bolt location.

C. CONCRETE NOTES

- C1. All workmanship and materials shall be in accordance with AS 3600, AS 3610 and the contract specification.
- C2. Where the meaning of abbreviations used is uncertain, refer to engineer for clarification prior to proceeding.
- C3. Unless noted otherwise all cement shall comply with AS 3972:
- |    |                                |
|----|--------------------------------|
| GP | General purpose cement         |
| GB | General purpose blended cement |
| SR | Sulphate resistant cement      |
- C5. Concrete shall be nominal class concrete in accordance with AS 3600 and AS 1379 and the following requirements:
- | Structural element     | Concrete Grade | Exposure Class | Cement Type |
|------------------------|----------------|----------------|-------------|
| New entry Pavement     | N40            | B1             | GP          |
| Insitu slab & footings | N32            | B1             | GP          |
- C11. Footings and slabs-on-ground shall have the following minimum concrete cover to all reinforcement:  
- 40mm to unprotected ground and externally exposed surface  
- 30mm to a membrane in contact with the ground  
- 25mm to an internal surface
- C12. External elements are those exposed to weather, rain and water penetration and classified B1 UNO.



Department of Planning  
and Environment

Issued under the Environmental Planning and Assessment Act 1979

Approved Application No 10683

Granted on the 15 August 2023

Signed M Brown

Sheet No 10 of 30



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PO Box 220 Jindabyne NSW 2627  
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Certification & Site Parameters

Design Loads in accordance with  
AS1170.1 - Live loads  
AS1170.2 - Wind loads  
AS1170.3 - Snow loads

Wind Class: Vu = 50m/s - N3 (W41N)  
Site Soil Class: S  
Altitude: 1408m AHD  
Ground Snow Load: 8.6 KPa

Designed: Paul Larkin  
Design Checked By:

**ANSARY CONSULTING ENGINEERS**  
Tarek El-Ansary  
BE(Civil ) MEngSc(Civil ) MIEAust CPEng.  
Signed: Date: 5 May 2020





Tarek El-Ansary  
MIEAust CPEng  
Chartered Professional Engineer  
Membership No. 180355  
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Project / Client:  
Munjarra lodge stair replacement  
lot 704 Bobuck lane Thredbo  
Munjarra lodge

Drawing Title:  
Cover Sheet

Drawn By:  
S.Wakeford  
0429 071 387

Checked : Sheet 1 of 5

DATE: 20-3-2020 SCALE: N/A


DWG # :S00		SIZE:
Revision:A	AS 1100	A3

**STAIR AND DECK PLAN -Pad Footings**  
S01 Class S Site  
Scale 1:50


**EXISTING LODGE**

**EXISTING RUBBISH STORE  
TO BE DEMOLISHED**

DESIGN CHECKED AND CERTIFIED BY  
**ANSARY CONSULTING ENGINEERS**  
Tarek El-Ansary  
BE(Civil ) MEngSc(Civil ) MIEAust CPEng.  
Signed: \_\_\_\_\_ Date:5/5/2020



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Sheet No 11 of 30

**MEMBER SCHEDULE**

MARK	MEMBER	SIZE	NOTES
WP1	WHALING PLATE	75x75x8 EA	1/M12 CHEMICAL ANCHOR FIXING TO EXISTING MASONRY WALL AT 600 CENTRES
SS1	STAIR STRINGER	180 PFC	FSBW AT EACH WELDED MITERED CONNECTION, MIN 2/M12 8.8 BOLTS TO ALL BOLTED CONNECTIONS
DB1	DECK BEAM	100 PFC	MIN 2/M12 8.8 BOLTS PER CONNECTION, WELDED STUB COLUMNS 50x50x3 INTO EACH PF1 UNDER AS PER C1 NOTES
C1	COLUMN	65x3 SHS	WELDED CONNECTION TO SSI, RUN 400MM INTO PF1 WITH 2/N16 WELDED CONCRETE TIES AT 150mm LONG
RWC	RETAINING WALL COLUMN	VARIES	SEE SO3 FOR ALL RETAINING WALL DETAILS

**MESH AND TREAD SCHEDULE**

MARK	TYPE	NOTES
T1	AS30-325 T6	MIN 2/M12 8.8 BOLTS EACH END TO SS1
T2	AS30-325, T5	BEARING ON NOMINAL 25x3 GAL SHS PACKER FIXED TO EXISTING STAIR VIA 2/M12 C/SUNK GOLDBOLTS EACH,USE PROPRIETARY WELDLOK FIXING FOR TREAD TO PACKER CONNECTION.
L1	AS30-325	10MM CLEARANCE TO SS1 EACH SIDE, SUPPORTED AT EACH END OF ALL LOAD BARS. USE WELDLOK PROPRIETARY FIXINGS
MP1	AS30-325	FIX TO DB1 WITH PROPRIETARY WELDLOK FIXINGS, MAX CANTILEVER FROM BEARER 350mm IN SPAN DIRECTION
MP2	BS30-325	BEARING ON NOMINAL 25x3 SHS PACKERS RUNNING FULL LENGTH PERPENDICULAR TO MESH SPAN DIRECTION, FIX PACKERS TO CONCRETE WITH M12 C/SUNK GOLDBOLTS AT 900 CENTRES.
→	SPAN DIRECTION	DENOTED THE SPAN DIRECTION OF LOAD BARS IN MESH PANEL

**FOUNDATION SCHEDULE**

MARK	SIZE	NOTES
●	300 DIAMETER	UNREINFORCED CONCRETE MINIMUM 25 MPa, PIERS MUST SOCKET MINIMUM 200MM INTO UNDISTURBED DECOMPOSED GRANITE
●	450 DIAMETER	UNREINFORCED CONCRETE MINIMUM 25 MPa, PIER DEPTH WILL VARY ACORDING TO HEIGHT OF WALL, SEE SO3 FOR FULL DETAIL

DESIGN  
ALLOWABLE  
BEARING PRESSURE  
FOR FOUNDATION  
PIERS = 50 kPa

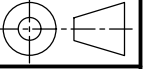


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Project: MUNJARRA LODGE STAIR REFURB  
LOT 704 BOBUCK LANE THREDBO  
NSW 2625  
Client: MUNJARRA LODGE ROB FRASER

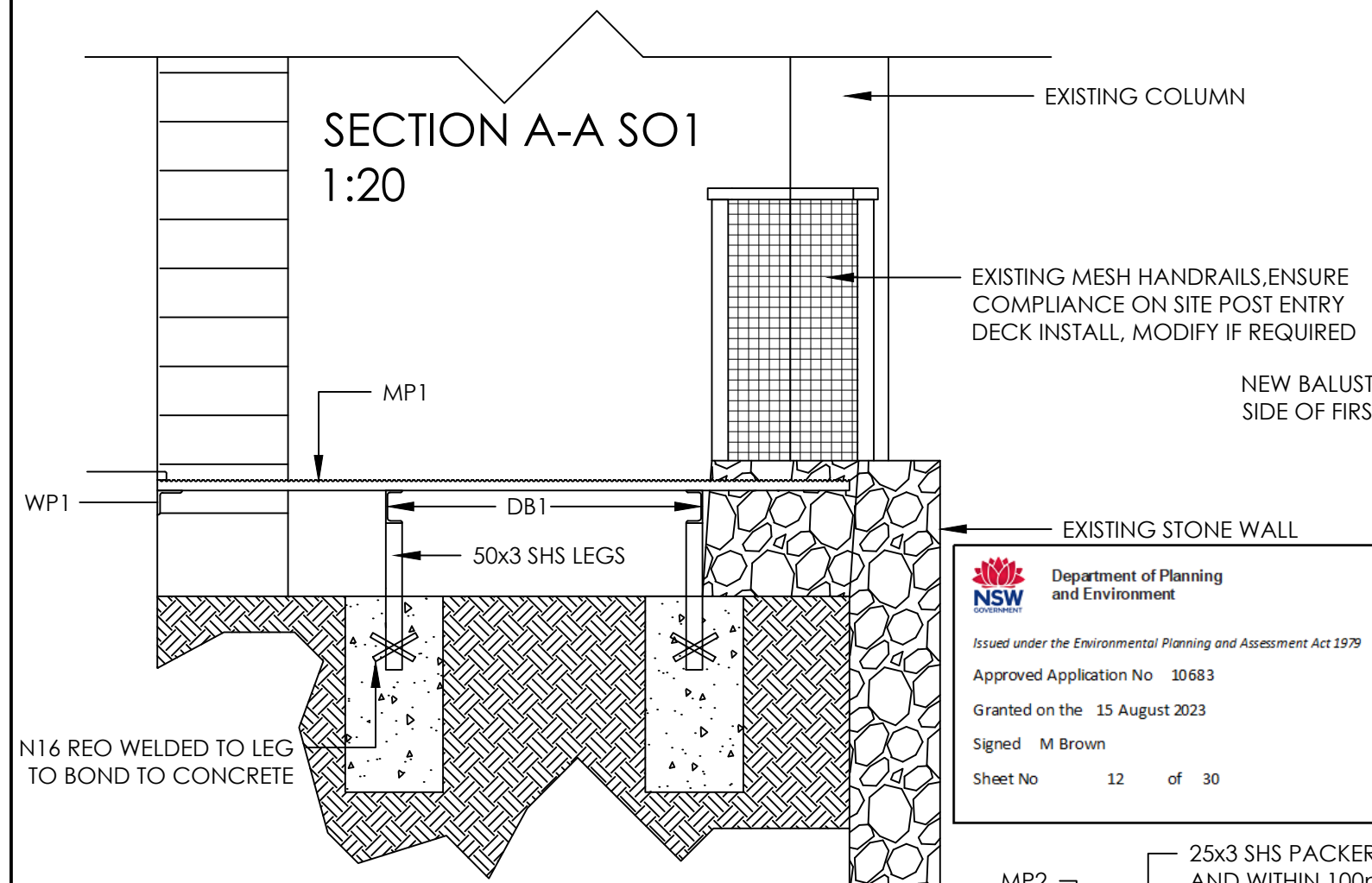
Draftsman: S.WAKEFORD  
Contact: 0429 071 387  
Checked: TEA DATE: 20-03-20

Drawing Title:  
STAIR AND MESH PLAN  
Drawing Number: S01 Revision: A Sheet 2 of 5

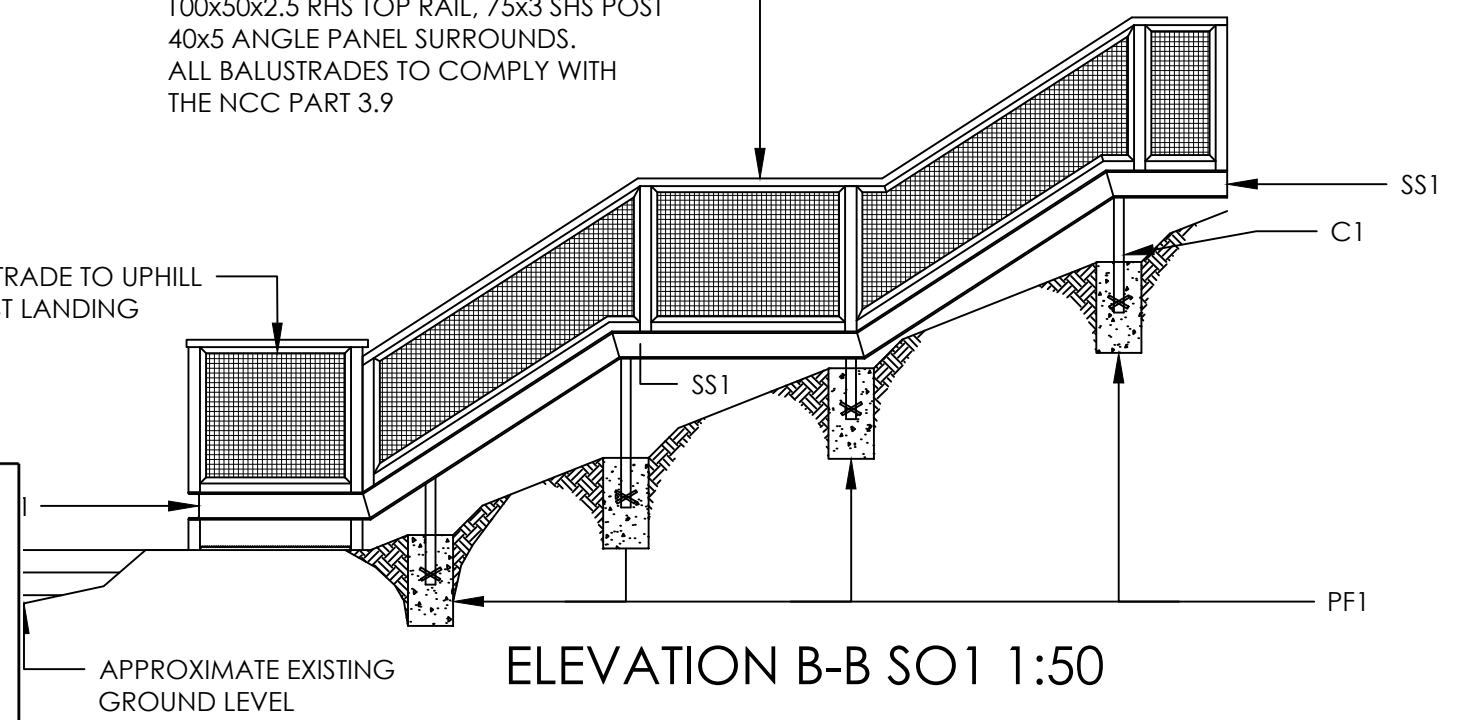


SIZE:  
A3  
AS 1100  
SCALE: 1:50 UNO

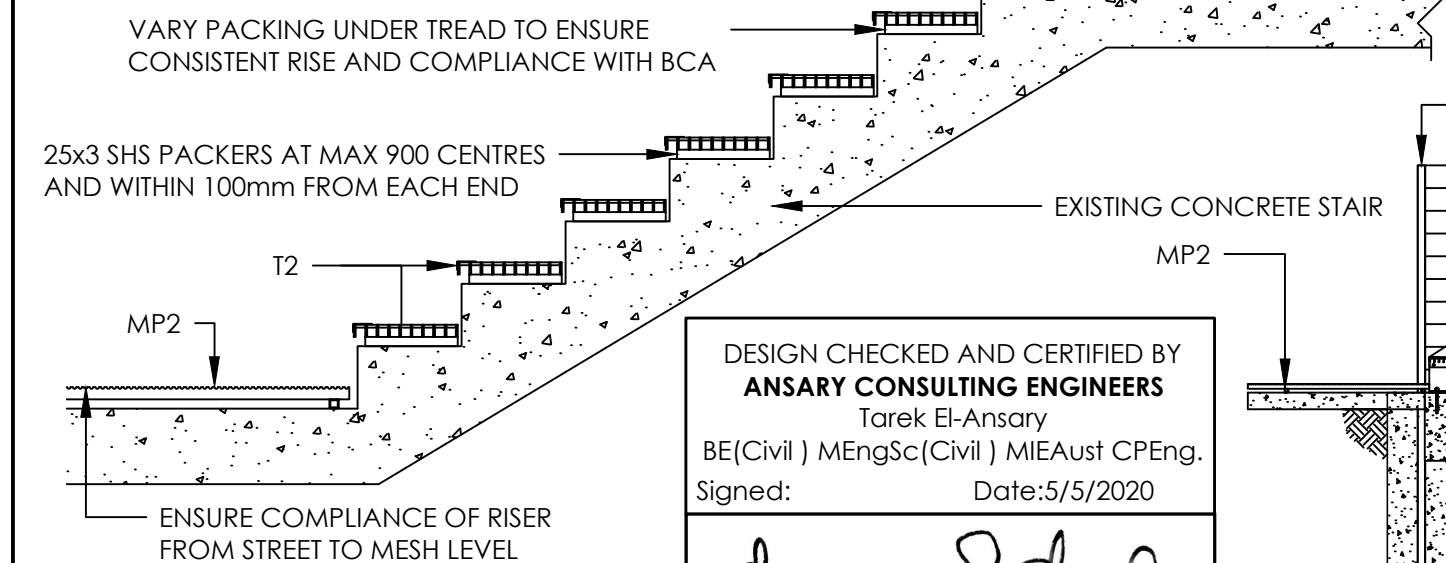
**SECTION A-A SO1**  
1:20



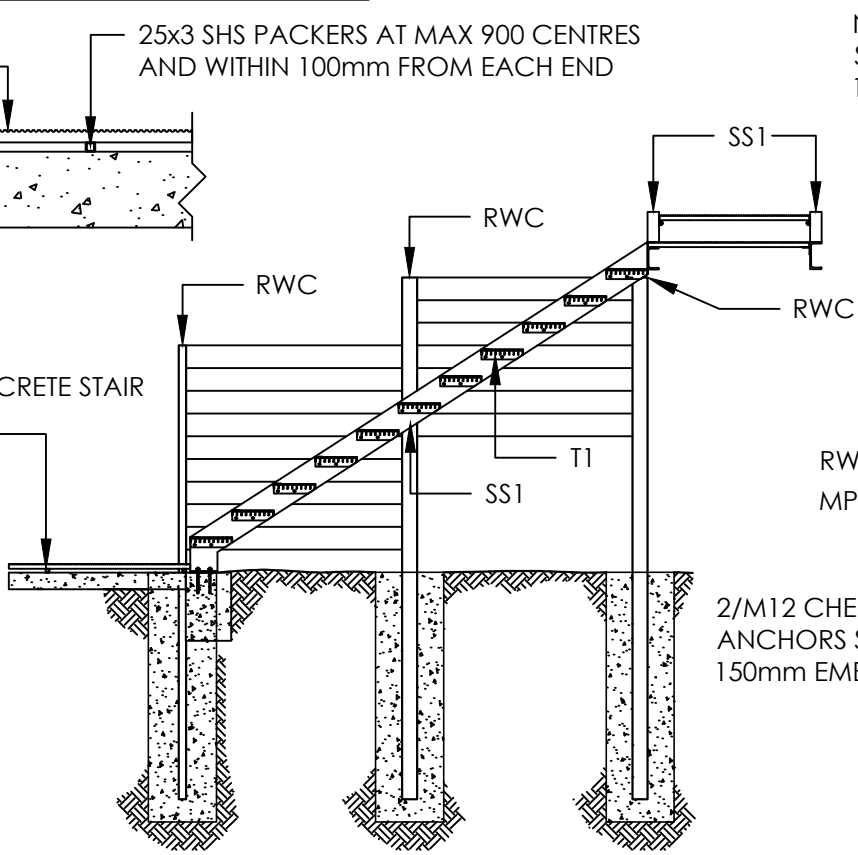
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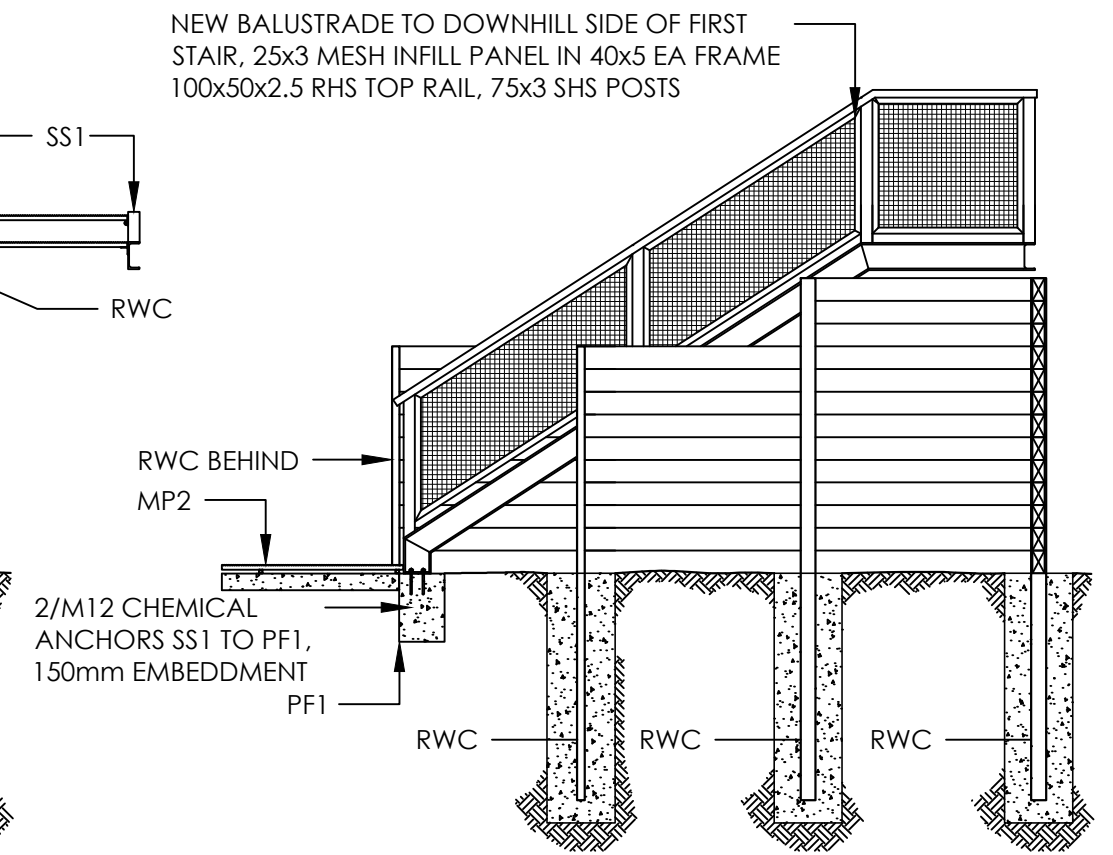
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**SECTION D-D SO1** 1:50



**ELEVATION E-E SO1** 1:50



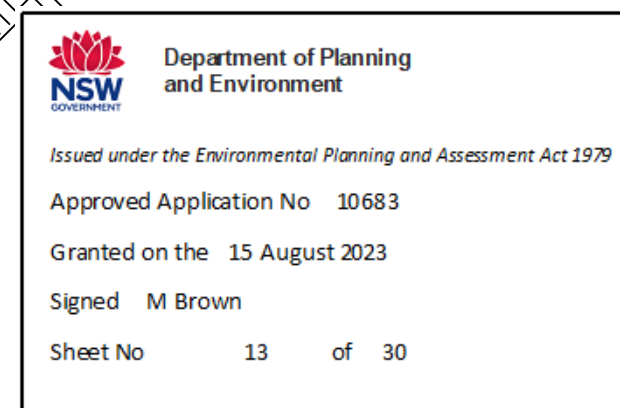
DESIGN CHECKED AND CERTIFIED BY  
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Signed: \_\_\_\_\_ Date: 5/5/2020

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NOTE: EXTERNAL STAIRS ALL HAVE SLIP RESISTANT TREADS IN ACCORDANCE WITH AS4586 AND THE NCC. BALUSTRADES SHALL COMPLY WITH THE NCC PART 3.9.



James Delf



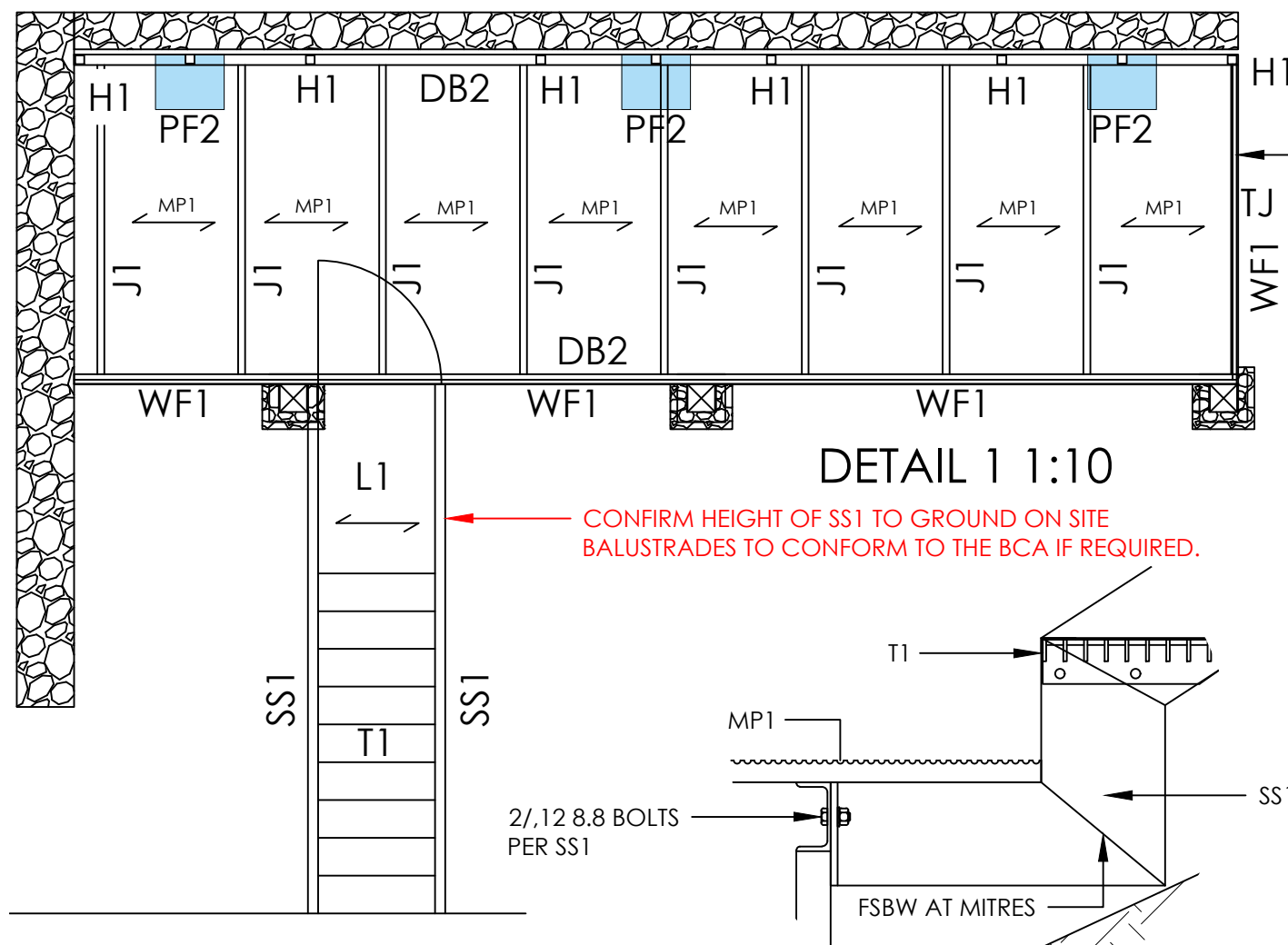
**SO3** **Side Section**  
Scale 1:20

# BIKE STORAGE CAGE, PLAN AND ELEVATION

S04

Class S Site

Scale 1:50 UNO



DETAIL 1 1:10

WALL FRAME HERE TO BOLT THROUGH TO TJ FIX ENDS TO EXISTING AND H1

WALL FRAME CLADDING LIGHT GAUGE EXPANDED MESH TO MATCH WOOD STORE

WELD DB1 TO EXISTING POST STIRRUPS, MIN 6CFW

FIXING TO BEAM

STITCH WELD OR BOLT WALL FRAME TO DB1

SS1

EXISTING PIER

GRATED MESH FLOORING TO SUIT JOIST SPACING

DETAIL 1 DB1

**NSW GOVERNMENT** Department of Planning and Environment

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Sheet No 14 of 30

DESIGN CHECKED AND CERTIFIED BY  
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*Tarek El-Ansary*



DESIGN ALLOWABLE BEARING PRESSURE FOR FOUNDATION PIERS = 50 kPa

## MEMBER SCHEDULE

MARK	MEMBER	SIZE	NOTES
PF2	PAD FOOTING	500 x 400 x 500 DEEP (NOM)	SOCKET INTO UNDISTURBED DECOMPOSED GRANITE. 75 x 3 SHS COLUMN WITH 8mm BASE PLATE & 2 M12 CHEMSTUDS TO PF2.
SS1	STAIR STRINGER	180 PFC	FSBW AT EACH WELDED MITERED CONNECTION, MIN 2/M12 8.8 BOLTS TO ALL BOLTED CONNECTIONS
DB2	DECK BEAM	200 PFC	MIN 2/M12 8.8 BOLTS PER CONNECTION, 6CFW TO EXISTING PIERS WHERE SPECIFIED
H1	HANGER	65x2 SHS	MIN 2/M12 8.8 BOLTS PER CONNECTION, JOIST HANGERS TO HAVE MIN 6mm PLATE TO EITHER SIDE OF JOIST WITH 2/M12 BOLTS THROUGH
J1	JOIST	75x50x6 UA	MIN 2/M12 BOLTS PER CONNECTION
TJ	TRIMER JOIST	75x50x8 UA	WELDED TO DB2 MEMBERS
WF1	WALL FRAME	30X2 SHS	600mm MAXIMUM STUD CENTERS, BOTTOM PLATE TO BE FIXED TO DB2 1/M12 BOLT AT 600 CENTERS OR STITCH WELDED, TOP PLATE ATTACHED TO EXISTING TIMBER BEAM, 2/T17 BATTEN SCREWS THROUGH 6MM PLATES AT 600 CENTRES

## MESH AND TREAD SCHEDULE

MARK	TYPE	NOTES
T1	AS30-325 T6	MIN 2/M12 8.8 BOLTS EACH END TO SS1
L1	AS30-325	10MM CLEARANCE TO SS1 EACH SIDE, SUPPORTED AT EACH END OF ALL LOAD BARS. USE WELDLOK PROPRIETARY FIXINGS
MP1	AS30-325	FIX TO DB1 WITH PROPRIETARY WELDLOK FIXINGS, MAX CANTILEVER FROM BEARER 350mm IN SPAN DIRECTION
←→	SPAN DIRECTION	DENOTES THE SPAN DIRECTION OF LOAD BARS IN MESH PANEL



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Drawing Title:  
BIKE STORAGE CAGE  
Drawing Number: S04 Revision: A

Sheet 5 of 5  
SCALE: VARIES  
SIZE: A3  
AS 1100