

UPSTREAM (EAST)

TfNSW INTERIM DESIGN. TYP
TfNSW ULTIMATE DESIGN. TYP
EXISTING WINGWALL
AND HEADWALL TO
CULVERT
EXISTING REINFORCED
CONCRETE BOX
CULVERT
EXISTING APRON SLAB
AND BASE SLAB TO
CULVERT

PMF RL 41.000

EXISTING HEADWALL, WINGWALLS,
AND APRON SLAB TO BE REMOVED

ENSURE BASE SLAB LEVELS MATCH
BETWEEN EXISTING AND NEW

SOP 1

BASE SLAB DESIGN LEVEL. TYP

EXCAVATION SHALL BE TO THE UNDERSIDE OF
STRUCTURE TO A MINIMUM LATERAL EXTENT
OF 1m BEYOND THE STRUCTURE ALL ROUND.

OVERALL LENGTH OF SLAB ON CONTROL LINE MDA1 = 28875

OVERALL LENGTH OF PRECAST CONCRETE CROWN UNITS ON CONTROL LINE MDA1 = 25720
(BASED ON 10.5 UNITS OF 2440 WITH 15 ± 5mm NOM GAP)

0.5% FALL

OUTSIDE FACE OF
PRECAST CULVERT
AND END OF BASE
SLAB

A
0006

HW1

EB1

SOP 2

END OF
CAST-IN-PLACE
APRON SLAB

DOWNSTREAM (WEST)

'MONOWILLS'
HANDRAIL OR
APPROVED
EQUIVALENT. TYP
WINGWALL W1
EXISTING SURFACE
LEVEL. TYP

SCOUR PROTECTION
END OF
CAST-IN-PLACE
APRON SLAB

GENERAL NOTES

DIMENSIONS ARE IN MILLIMETRES, CHAINAGES
AND REDUCED LEVELS ARE IN METRES.
EXISTENCE AND LOCATION OF ALL UTILITIES
(SERVICES) SHALL BE VERIFIED ON SITE PRIOR
TO COMMENCEMENT OF CONSTRUCTION.
CONCRETE EXPOSURE CLASSIFICATION: B1
MINIMUM 28 DAY COMPRESSIVE STRENGTH OF
CONCRETE SHALL BE 40 MPa.
MINIMUM 28 DAY COMPRESSIVE STRENGTH OF
MASS CONCRETE SHALL BE 20 MPa.
CEMENT MORTAR AT REBATES TO PRECAST
CONCRETE CROWN UNITS SHALL HAVE A
MINIMUM 28 DAY COMPRESSIVE STRENGTH OF
40 MPa.
THE CONTRACTOR SHALL CONFIRM THE
PRECAST UNIT DIMENSIONS WITH THE PRECAST
MANUFACTURER. IF THE ACTUAL PRECAST
UNIT DIMENSIONS VARY FROM THE VALUES
SHOWN ON THE STRUCTURAL DRAWINGS, THE
BASE SLAB, HEADWALL, AND WINGWALL
DIMENSIONS SHALL BE ADJUSTED
ACCORDINGLY.
FOR OTHER GENERAL NOTES RELATING TO
THIS SHEET, SEE SHEET No 0006.

SCOUR PROTECTION

SCOUR PROTECTION SHALL COMPRISE OF 230mm
THICK ROCK FILLED MATTRESS OR APPROVED
EQUIVALENT.
ROCK MATTRESS SHALL BE LAID ON BIDIM A34
GEOTEXTILE LAYER OR APPROVED EQUIVALENT.
RENO MATTRESS SCOUR AND PROTECTION
SHALL BE ROCK FILLED WITH D50 x 12mm TO
AS2758.4 TO MANUFACTURER'S SPECIFICATION
(GALMAC COATING).
ROCK IS TO BE HARD, DENSE, DURABLE, AND
RESISTANT TO WEATHERING. IT SHALL BE FREE
FROM OVERBURDEN, SPOIL, SHALE, AND
ORGANIC MATTER.
ROCK THAT IS LAMINATED, FRACTURED,
POROUS OR OTHERWISE PHYSICALLY WEAK
WILL BE UNACCEPTABLE.
STONE, SHOULD BE DARK IN COLOUR - EITHER
GREY OR DARK BROWN SIMILAR TO SOIL
PROFILE. GEOFABRIC UNDER RENO MATTRESS
SHALL BE BIDIM A49 BY GEOFABRIC OR
APPROVED EQUIVALENT. GEOTEXTILE SHALL BE
IN ACCORDANCE WITH TfNSW DC SPECIFICATION
R63.

LEGEND

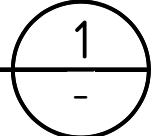
- (D)— DENOTES COMMUNICATION LINE
- W(D)— DENOTES WATER PIPE LINE
- CO— DENOTES TELECOMMUNICATION
LINE OVERHEAD
- DENOTES PROPOSED ROAD
BOUNDARY
- DENOTES EXISTING FENCE
- CJ - DENOTES CONTRACTION JOINT.
- DJ - DENOTES DOWEL JOINT, SEE SHEET
No 0006 FOR TYPICAL DETAIL.
- EB1 - DENOTES APRON SLAB REINFORCED
CONCRETE EDGE BEAM, SEE SHEET
No 0006 FOR DETAIL.
- HW1 - DENOTES REINFORCED CONCRETE HEAD
WALL, SEE SHEET No 0006 FOR DETAIL.
- SOP(n) - DENOTES SET-OUT POINT, SEE
TABLE 1 BELOW.
- W(n) - DENOTES 300 THICK CAST-IN-PLACE
REINFORCED CONCRETE WINGWALL.

TABLE 1
SET-OUT POINTS

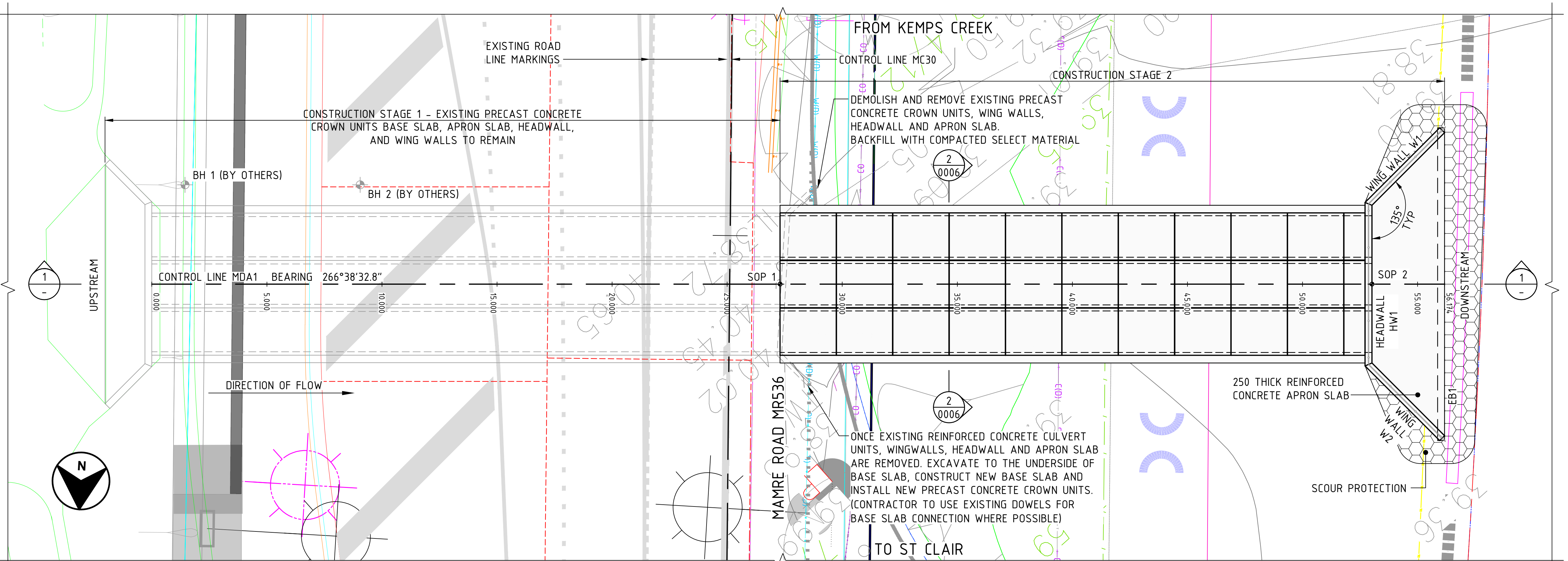
SOP 1	SOP 2
CH 27.299	CH 56.174
E 294 678.318	E 294 652.643
N 6 253 314.913	N 6 253 313.407
IL 38.789	IL 38.410

SECTION

1 : 100



PRECAST CONCRETE CULVERT EXTENSION - 3 OFF 1800 x 900 RCBC



PLAN

1 : 100

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Z:\P24_06_GG_805WAD_CD - D Areas\02 Structures\100 - AutoCAD\101 - Structural\102 - DWG\805WAD-BR-DRG-0005-GENERAL ARRANGEMENT-SHEET A.dwg			
EXTERNAL REFERENCE FILES			
Includes: 805WAD-A1-TITLE SHEET Includes: X-805WAD-CONTROL LINE-MDA1 Includes: X-805WAD-CULVERT-PLAN Includes: X-805WAD-CULVERT-MDA1-ELEV Includes: P24-06-X-DES-Changes_500 Includes: X-Survey\51426\00\DT Includes: X-21-0146-04-REF-D-RD-DESIGN Includes: 51426\00\DT Includes: x-gg-site-plan-ex-bdy Includes: X-Des\TemporaryAccess-P23-06-A1-DesB Includes: Comms only 805 mamre Rd Includes: 805 Mamre Rd 210932_Layered_LL Includes: B526247_UIS0996_Retic_20241205_LL Includes: CASE21134729W_0005_LL Includes: CASE21134729W_0001_LL			
REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.
01	18.09.2024	ISSUED FOR 100% CONCEPT DESIGN	C.SOOAPILLA
02	21.03.2025	RE-ISSUED FOR 100% CONCEPT DESIGN	A. MONGER

DESIGN LOT CODE	MU GROUP REGISTRATION No.
CULVERT	P22_17_FRSP_MR1B_DD
APPROVAL	SCALES ON A1 SIZE DRAWING
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CO-ORDINATION SYSTEM	HEIGHT DATUM
MGA ZONE 56	AHD

MU GROUP
TRANSPORT AND INFRASTRUCTURE

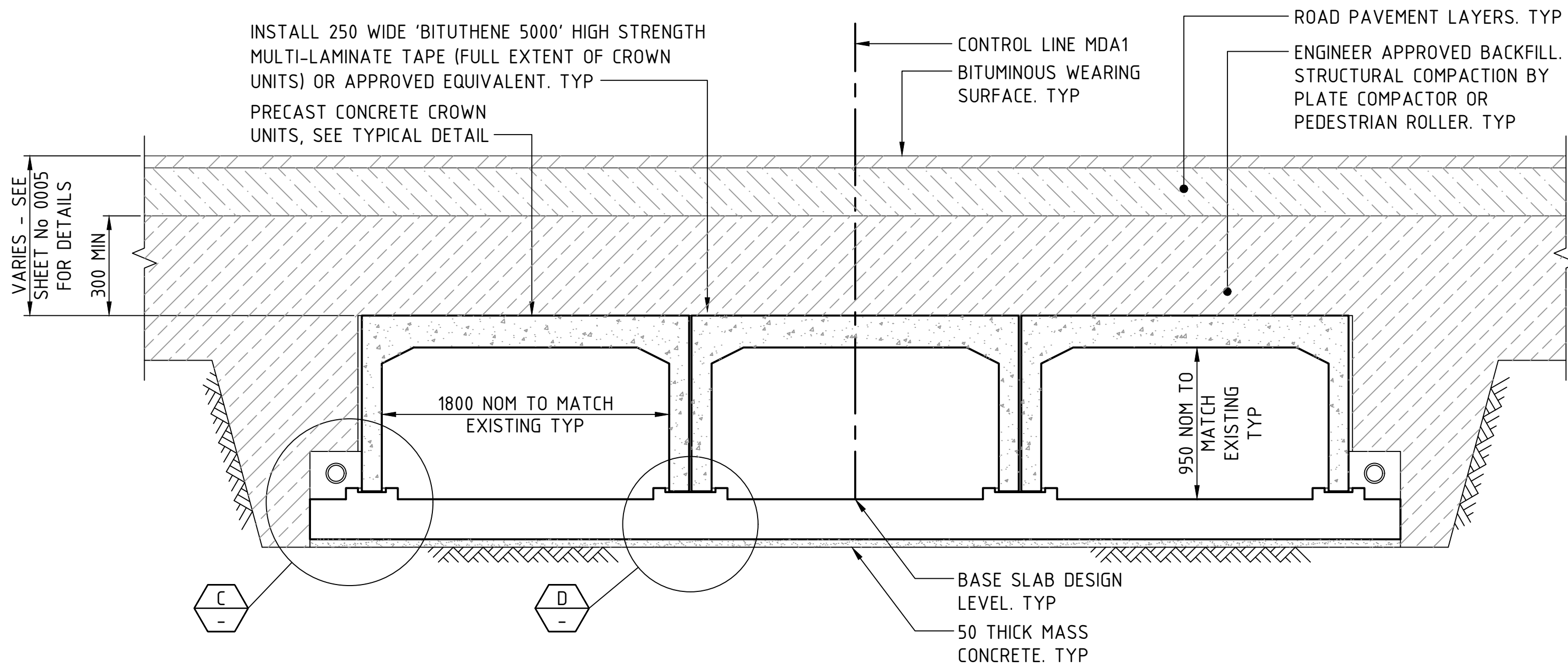
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PLOT DATE / TIME	PLOT BY	CLIENT
3/21/2025 1:38 PM	LUIGILUONGO	GibbGroup.
TITLE	NAME	DATE
DRAWN	L.LUONGO	21.03.25
DRG CHECK	M. GRAOVAC	21.03.25
DESIGN	M. GRAOVAC	21.03.25
DESIGN CHECK	A. MONGER	21.03.25
DESIGN MNGR	A. PAVLOVIC	21.03.25
PROJECT MNGR	A. MUTTIAH	21.03.25

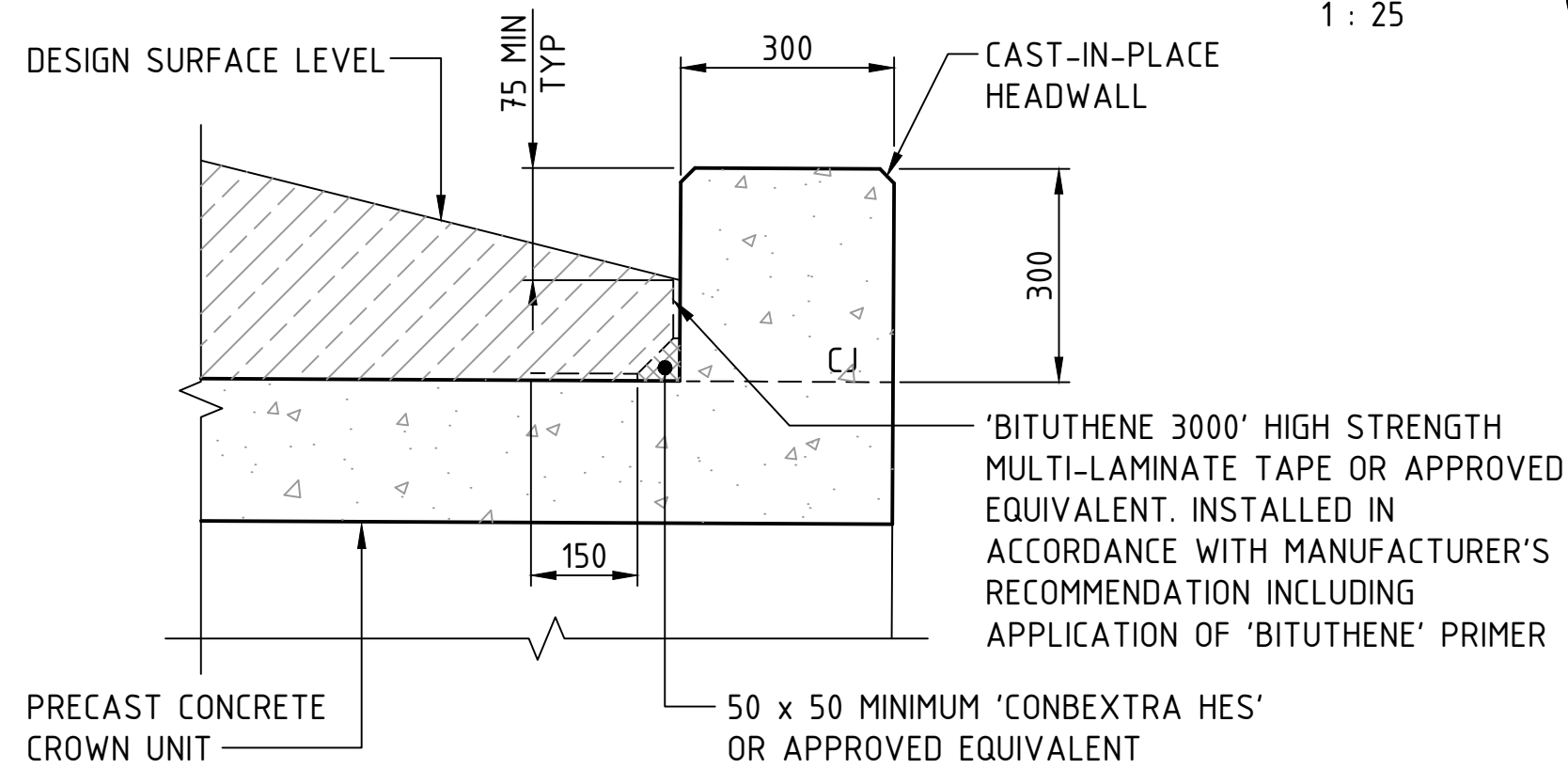
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PENRITH CITY COUNCIL MR536 MAMRE ROAD ASPECT INDUSTRIAL ESTATE CULVERT EXTENSIONS ON MAMRE ROAD AT 6km NORTH OF KEMPS CREEK GENERAL ARRANGEMENT - SHEET A			A1
TNSW REGISTRATION No.			PART
DS 2024 / 000808			-
ISSUE STATUS	SHEET No.	ISSUE	
100% CONCEPT DESIGN	BR-DRG-0005	02	

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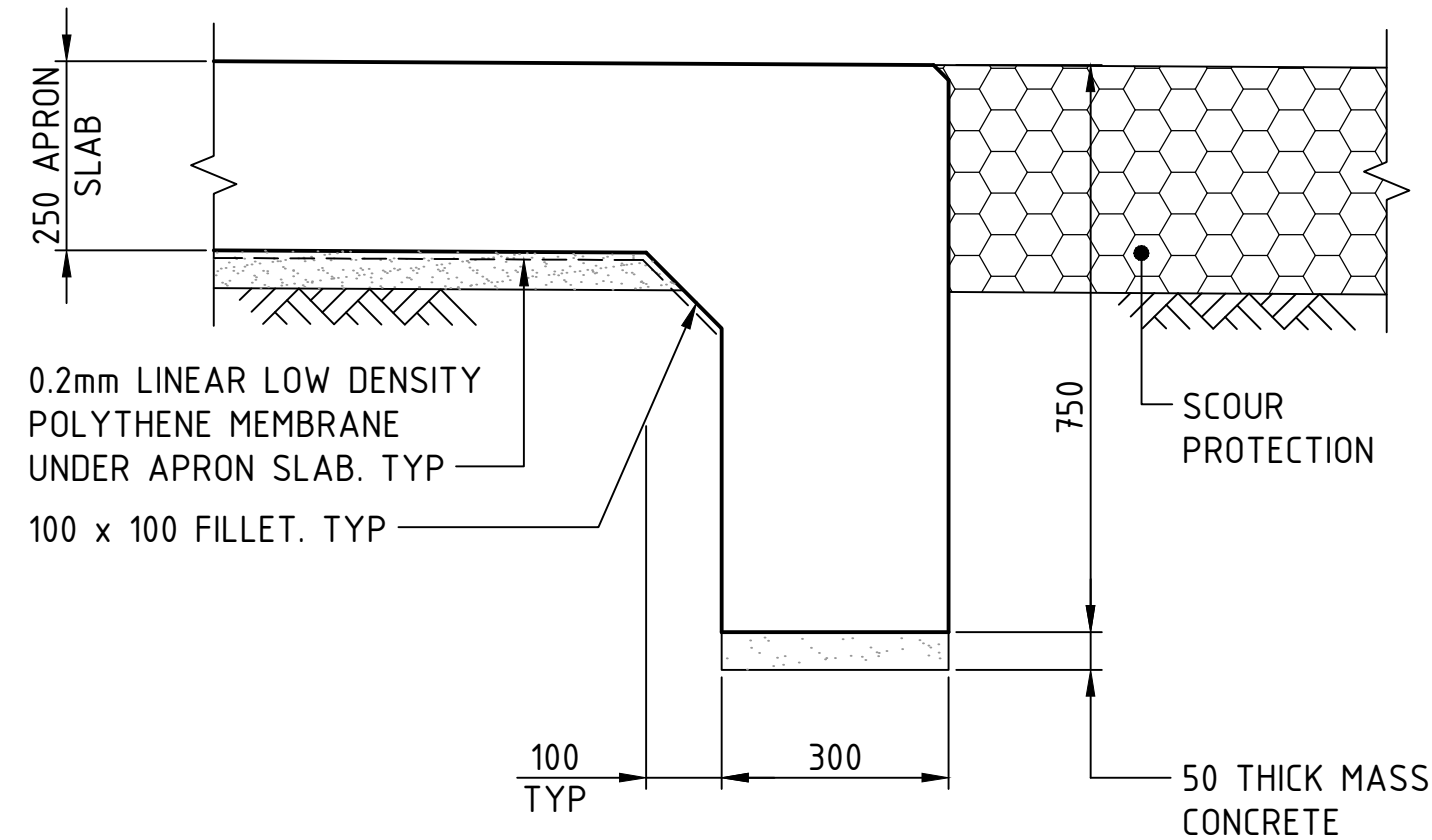


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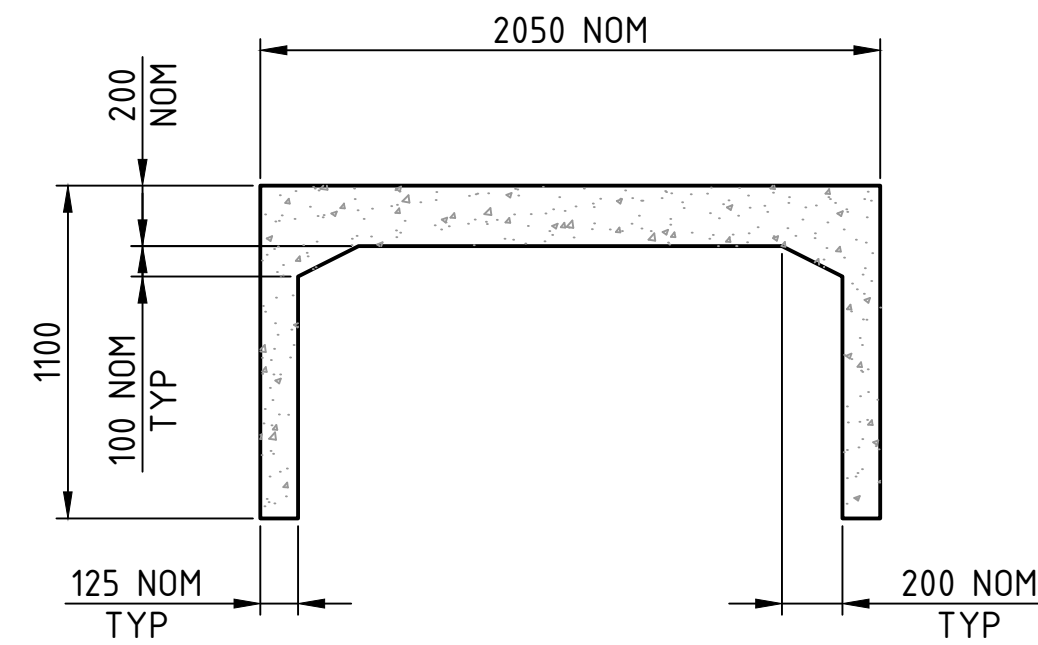
DETAIL A
1 : 10

TYPICAL REINFORCED
HEADWALL HW1 DETAIL

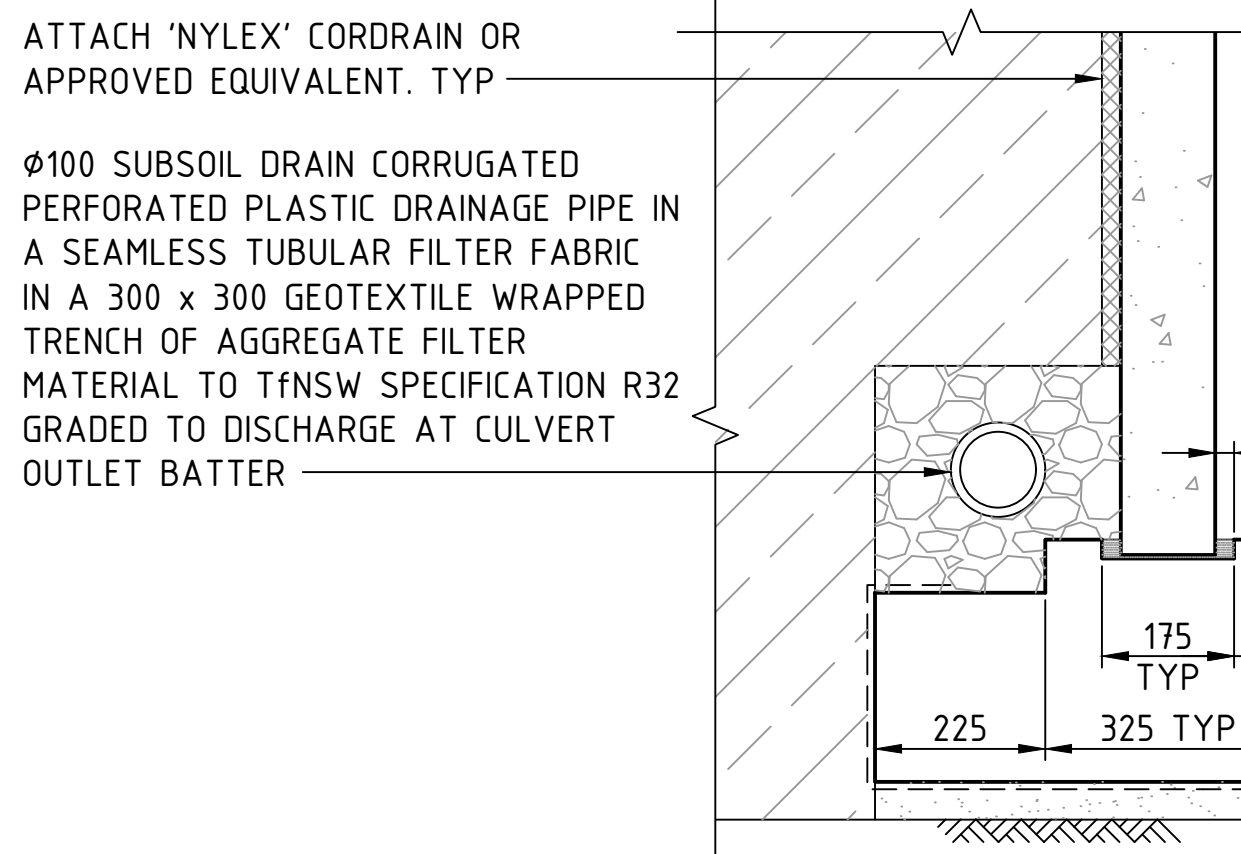


DETAIL B
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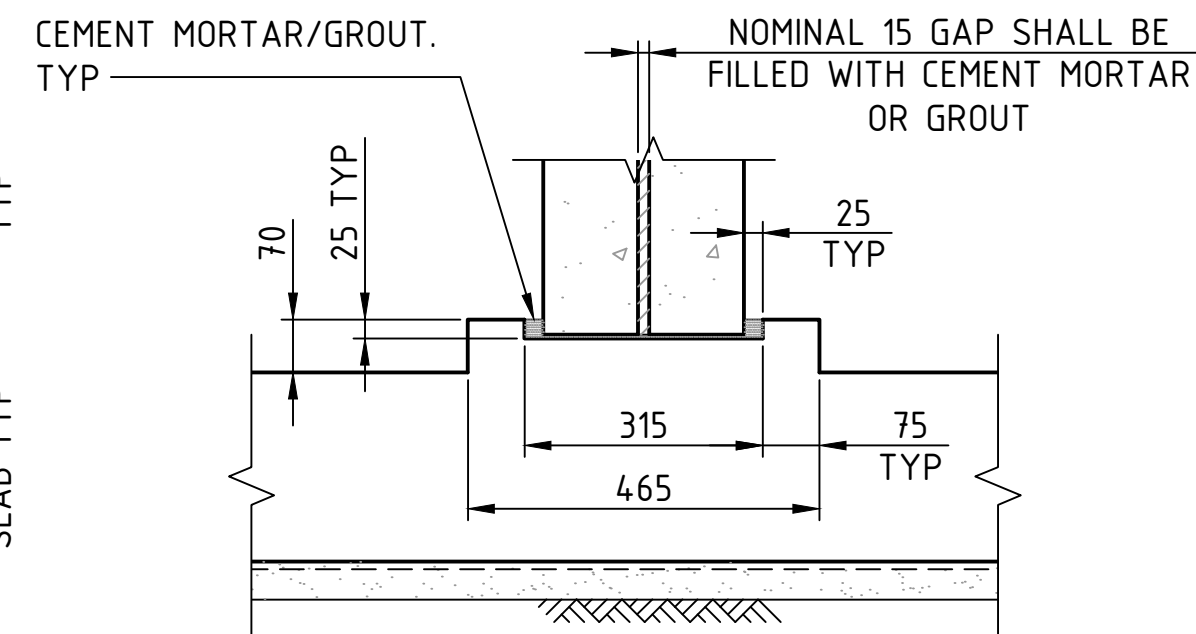
TYPICAL REINFORCED APRON
SLAB EDGE BEAM EB1 DETAIL



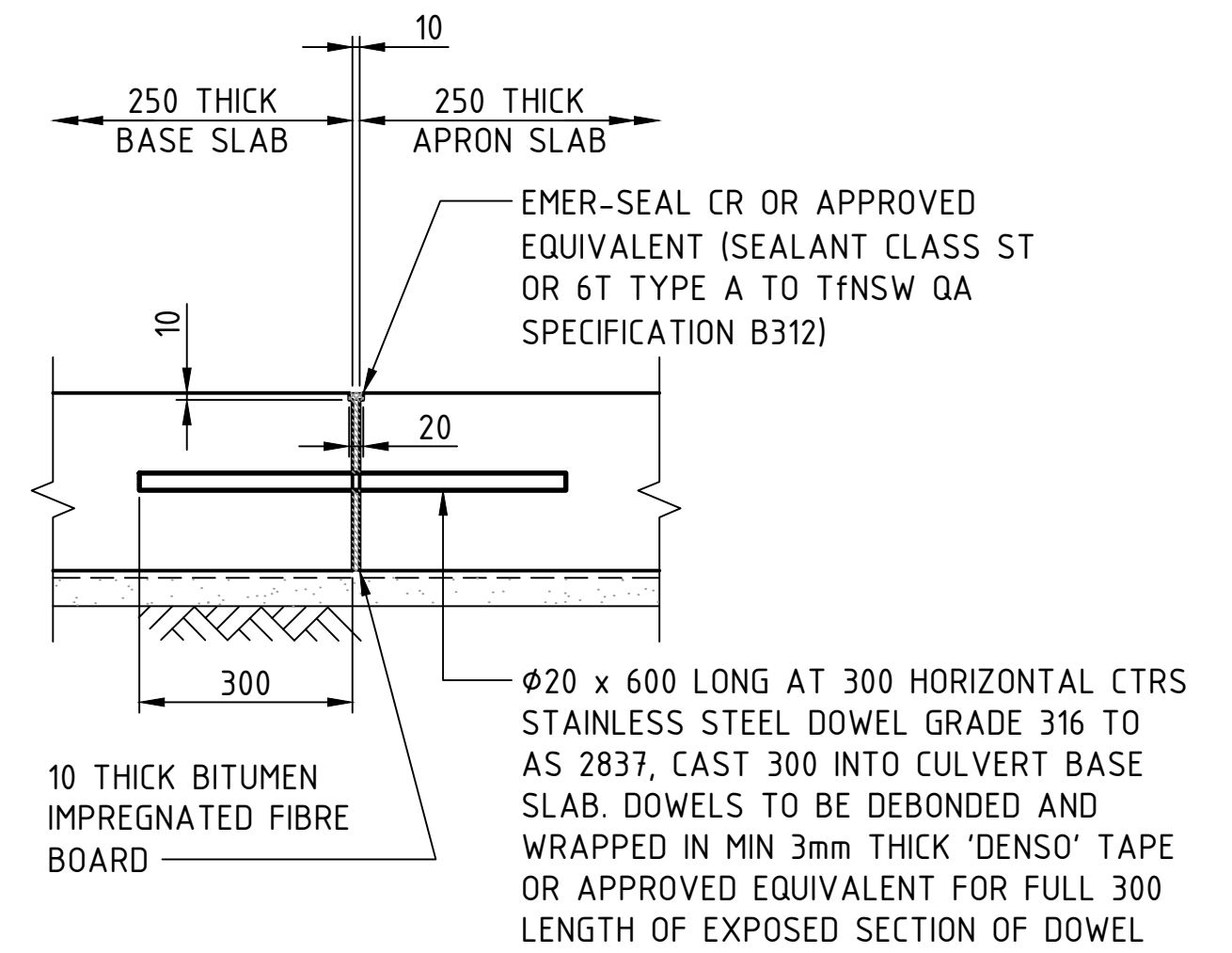
TYPICAL PRECAST CONCRETE CULVERT
CROWN UNIT DETAIL
1 : 25



DETAIL C
1 : 10



DETAIL D
1 : 10



TYPICAL DOWEL JOINT
SHOWN AS DJ
1 : 10

GENERAL NOTES

FOR GENERAL NOTES RELATING TO THIS SHEET, SEE SHEET No 0005.
CONCRETE MIX SHALL BE IN ACCORDANCE WITH TfNSW SPECIFICATION B80.
CURING SHALL BE IN ACCORDANCE WITH TfNSW SPECIFICATION B80.
EDGES SHALL BE CHAMFERED 20 x 20 AND RE-ENTRANT ANGLES FILLETED 20 x 20 UNLESS SPECIFIED OTHERWISE.
NCF DENOTES NO CHAMFER OR FILLET.
ALL BACKFILL SHALL BE IN ACCORDANCE WITH TfNSW DC R11, R44, AND B30.
THE MAXIMUM DYNAMIC ROLLER COMPACTION LOAD IS 20 kN/m AND SHALL BE APPLIED AT A MINIMUM OF 1.5m FROM THE WINGWALL. COMPACTION EQUIPMENT USED TO COMPACT THE SELECT BACKFILL MATERIAL WITHIN 1.5m BEHIND THE WINGWALLS AND HEADWALL SHALL BE LIMITED TO PEDESTRIAN ROLLER OR PLATE COMPACTOR.
DIFFERENTIAL LOADING OF THE BOX CULVERTS DURING THE BACKFILL OPERATION SHALL BE AVOIDED, AS PER CL 6.6 OF AS 1597.6.

FOUNDING MATERIAL AND SUB-GRADE PREPARATION

THE FOUNDATION FOR THE RCBC SHALL BE PREPARED AS FOLLOWS:
a) REMOVE AND STOCKPILE EXISTING EMBANKMENT FILL IF APPLICABLE.
b) REMOVE TOPSOIL AND UNSUITABLE MATERIAL AND REPLACE WITH GENERAL FILL AS SPECIFIED FOR CULVERTS.
c) THE FOUNDATION CONDITIONS SHALL BE VERIFIED ON SITE USING DYNAMIC CONE PENETRATION TESTS THIS CONSTITUTES A HOLD POINT AND SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER.
d) REPLACE WITH GENERAL FILL GRADED AND COMPACTED IN ACCORDANCE WITH THE TfNSW DC R44 SPECIFICATION UP TO THE DESIGN FOUNDATION LEVEL.

LEGEND

FOR LEGEND RELATING TO THIS SHEET, SEE SHEET No 0005.

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EXTERNAL REFERENCE FILES
Includes: 805WAD-A1-TITLE_SHEET

REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.	APPROVAL
01	18.09.2024	ISSUED FOR 100% CONCEPT DESIGN		C.SOOSAPILLA
02	21.03.2025	RE-ISSUED FOR 100% CONCEPT DESIGN		A. MONGER

DESIGN LOT CODE
CULVERT

MU GROUP REGISTRATION No.
P22_17_FRSP_MR1B_DD

SCALES ON A1 SIZE DRAWING
1:25 @ A1 0 250 500 750 1000 1250 mm
1:10 @ A1 0 100 200 300 400 500 mm
CO-ORDINATION SYSTEM MGA ZONE 56
HEIGHT DATUM AHD

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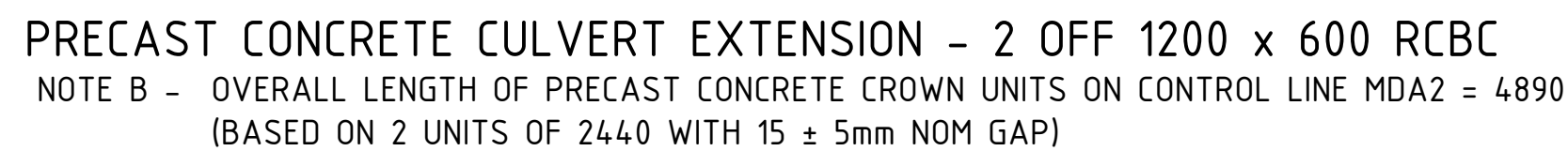
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PLOT BY
LUIGILUONGO

TITLE	NAME	DATE
DRAWN	L.LUONGO	21.03.25
DRG CHECK	M. GRAOVAC	21.03.25
DESIGN	M. GRAOVAC	21.03.25
DESIGN CHECK	A. MONGER	21.03.25
DESIGN MNGR	A. PAVLOVIC	21.03.25
PROJECT MNGR	A. MUTTIAH	21.03.25

CLIENT
GibbGroup.
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T 03 8808 6888

PENRITH CITY COUNCIL MR536 MAMRE ROAD ASPECT INDUSTRIAL ESTATE CULVERT EXTENSIONS ON MAMRE ROAD AT 6km NORTH OF KEMPS CREEK GENERAL ARRANGEMENT - SHEET B	A1
TfNSW REGISTRATION No. DS 2024 / 000808	PART -
ISSUE STATUS 100% CONCEPT DESIGN	SHEET No. BR-DRG-0006 ISSUE 02

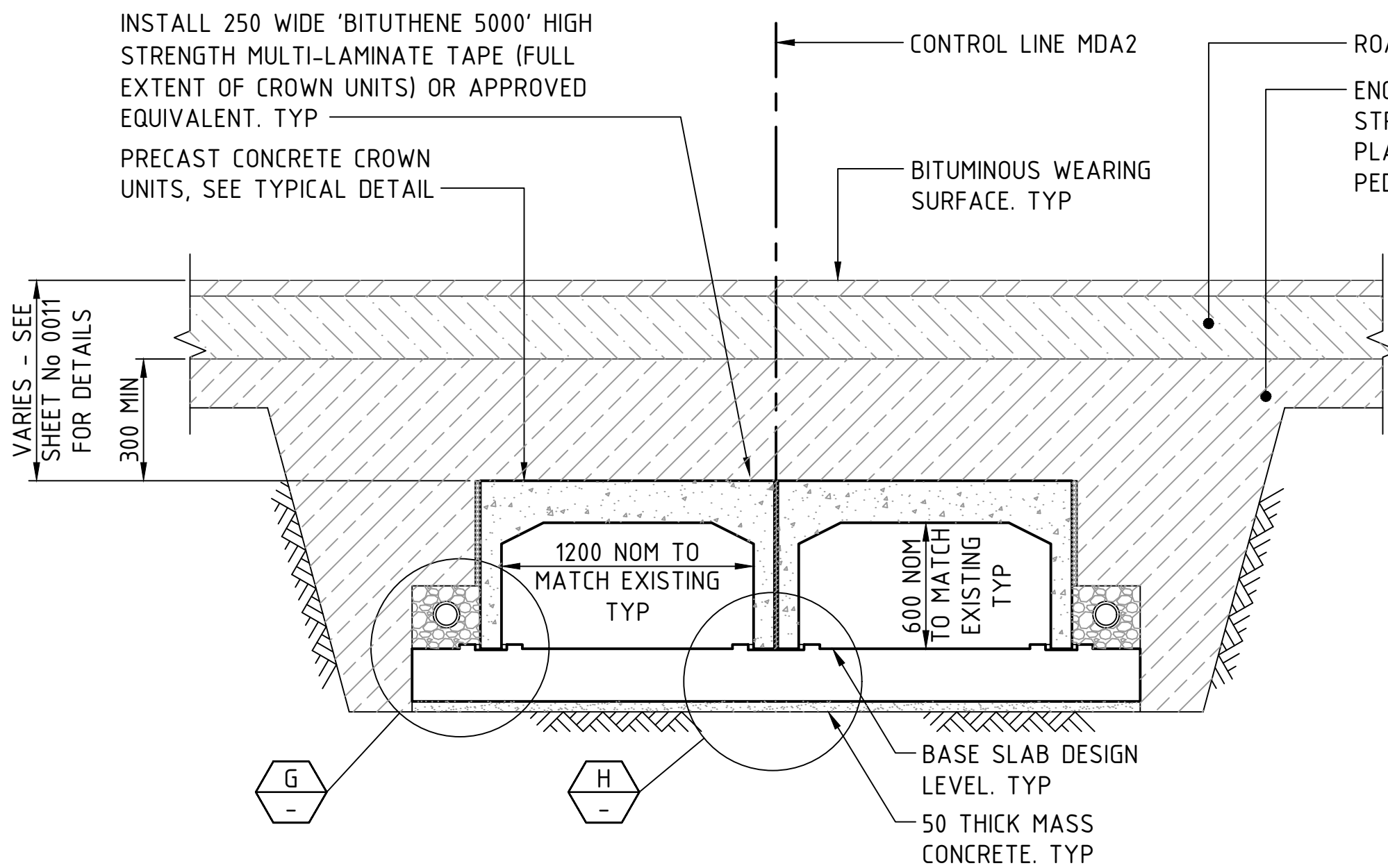


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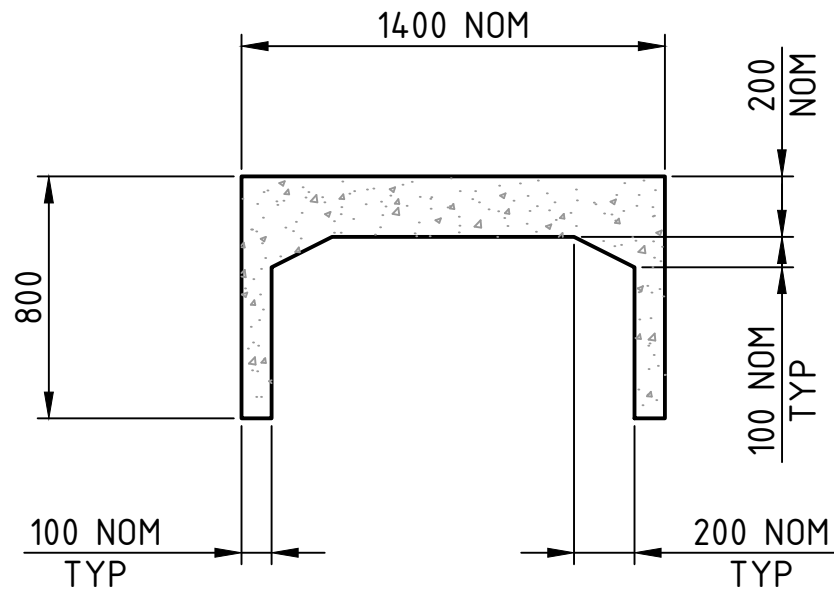
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N	6 253 679.807	N	6 253 679.443
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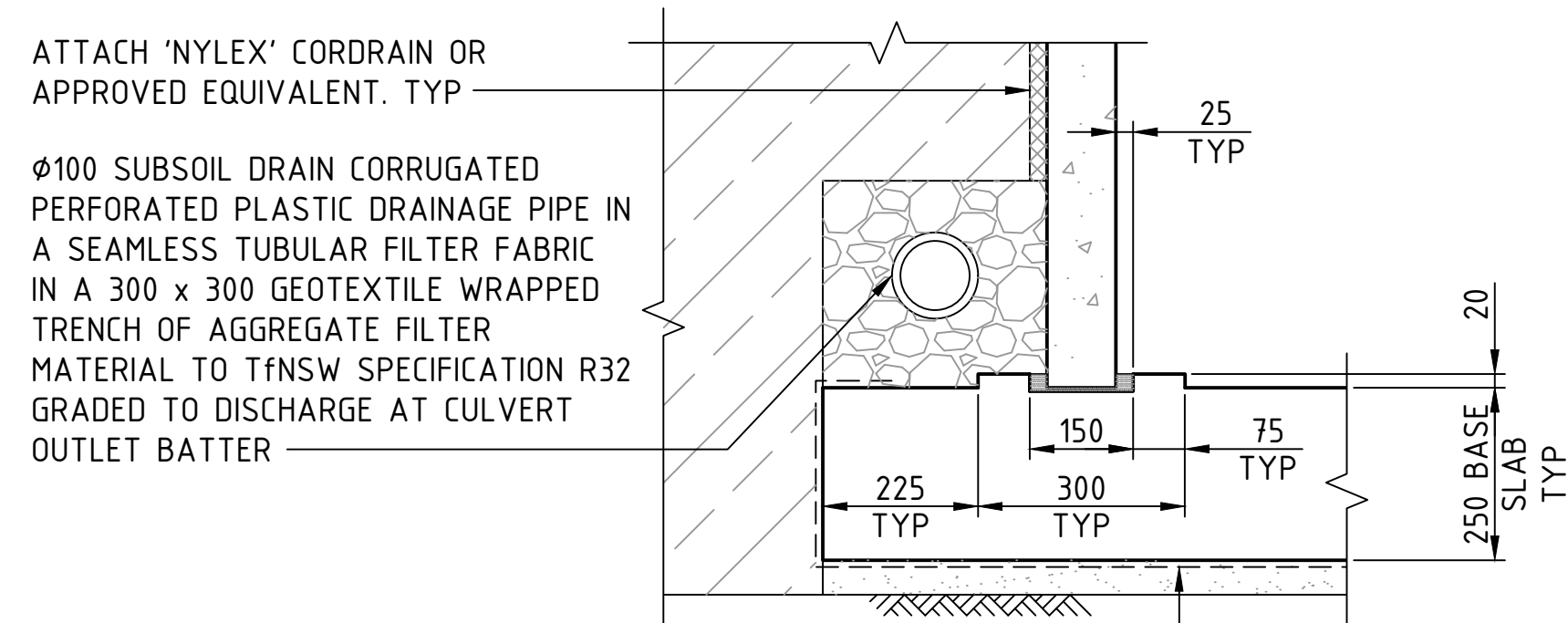
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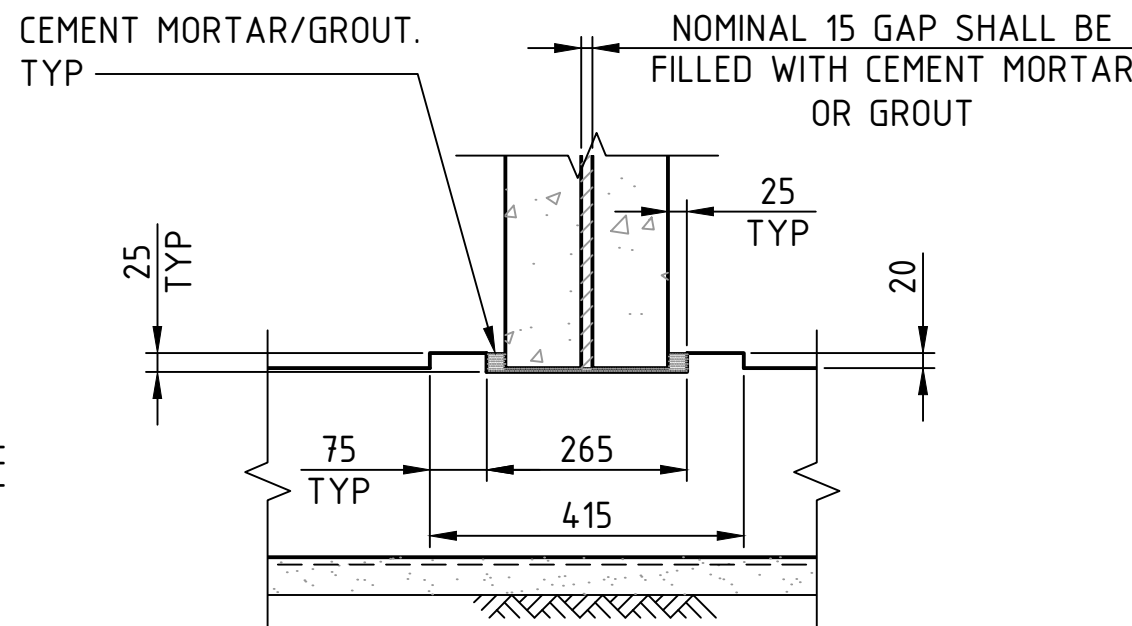
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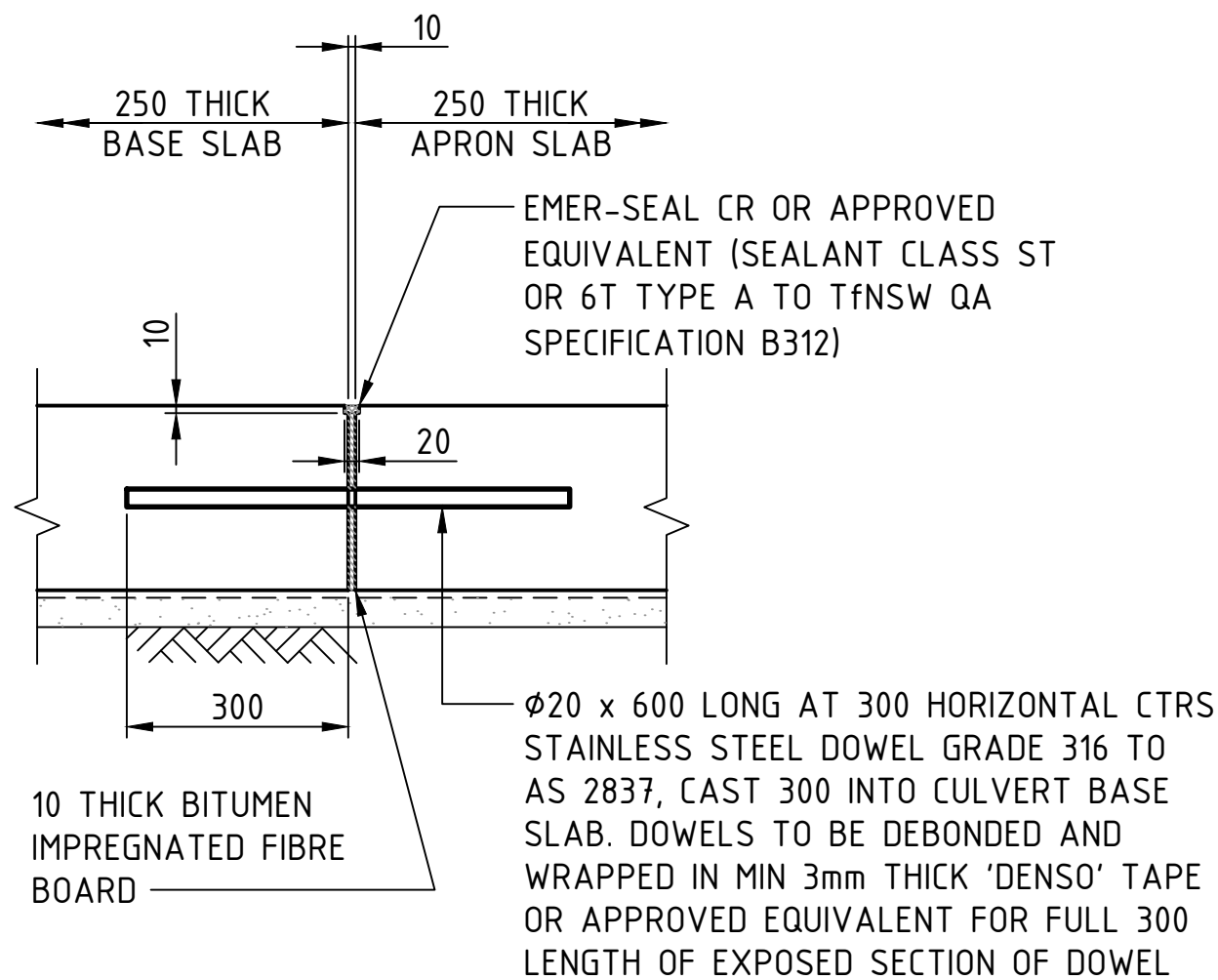
FOR SMALL CULVERTS
TYPICAL PRECAST CONCRETE CULVERT CROWN UNIT DETAIL
1 : 25



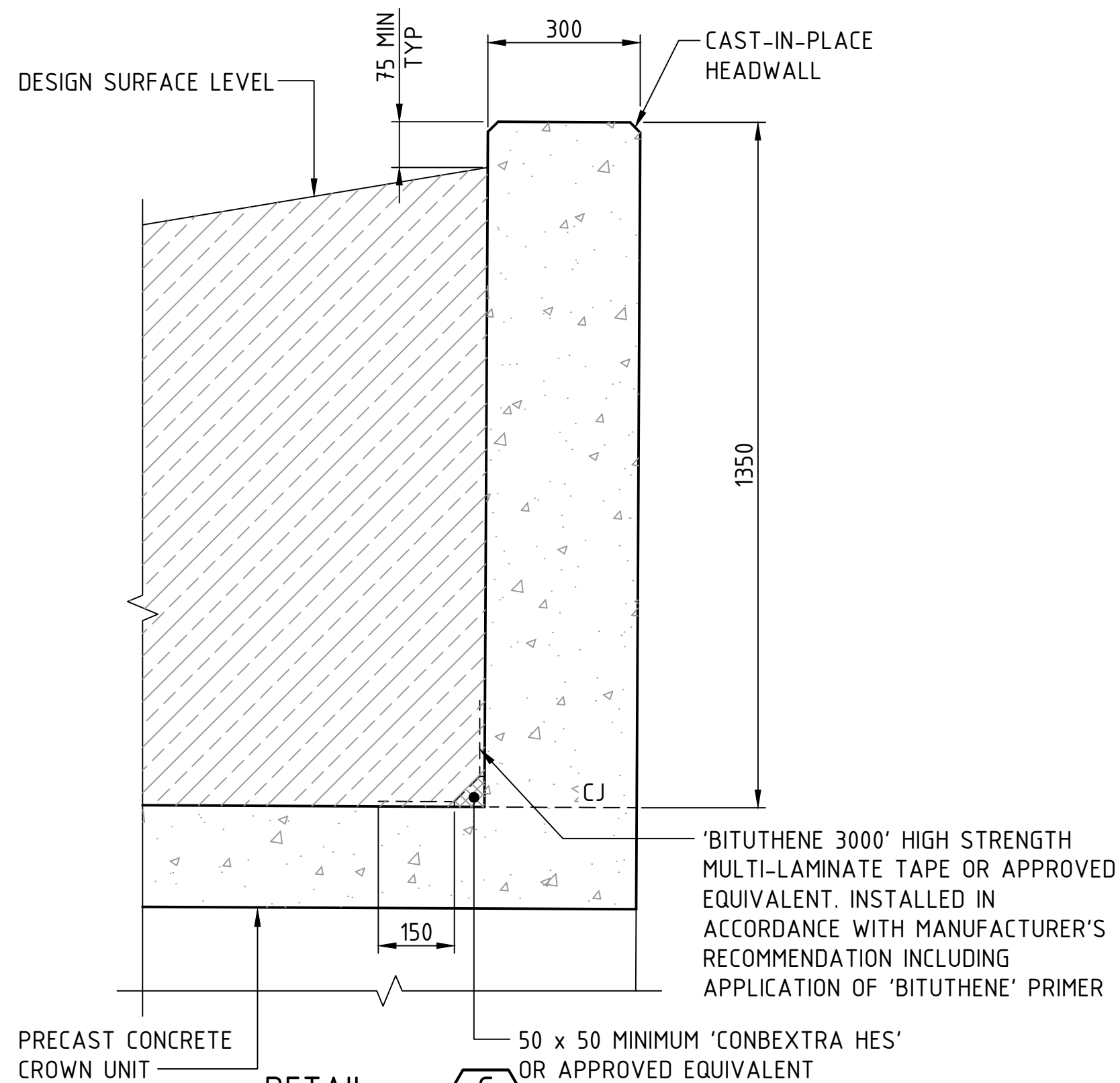
DETAIL G
1 : 10



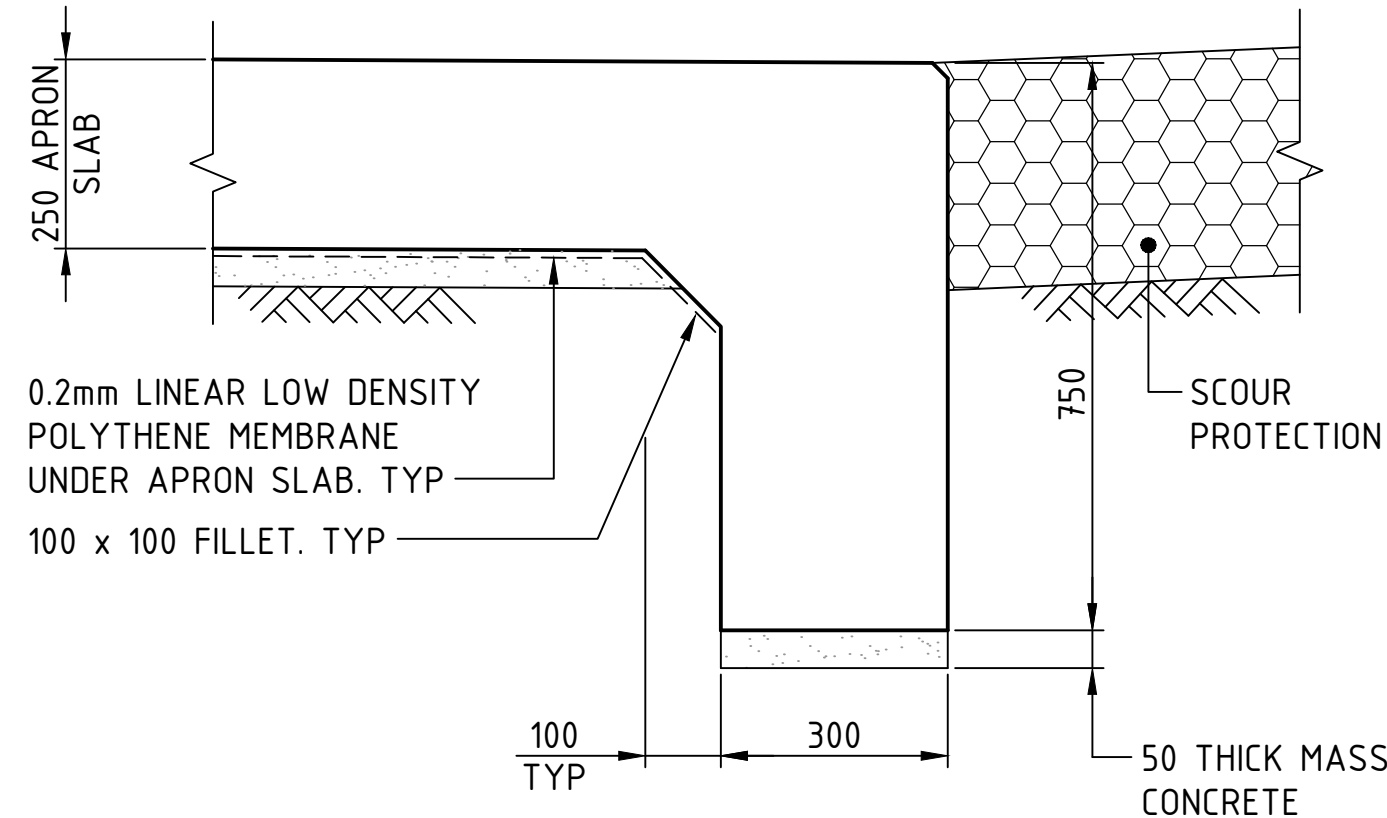
DETAIL H
1 : 10



TYPICAL DOWEL JOINT
SHOWN AS DJ
1 : 10



TYPICAL REINFORCED HEADWALL HW2 DETAIL



TYPICAL REINFORCED APRON SLAB EDGE BEAM EB2 DETAIL

GENERAL NOTES

FOR GENERAL NOTES RELATING TO THIS SHEET, SEE SHEET No 0011.

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LEGEND

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EXTERNAL REFERENCE FILES
Includes: 805WAD-A1-TITLE_SHEET

REV	DATE	AMENDMENT / REVISION DESCRIPTION
01	18.09.2024	ISSUED FOR 100% CONCEPT DESIGN
02	21.03.2025	RE-ISSUED FOR 100% CONCEPT DESIGN

DESIGN LOT CODE
CULVERT

WVR No.	APPROVAL
	C.SOOAPILLA
	A. MONGER

MU GROUP REGISTRATION No.
P22_17_FRSP_MR1B_DD

SCALES ON A1 SIZE DRAWING
1:25 @ A1 0 250 500 750 1000 1250 mm
1:10 @ A1 0 100 200 300 400 500 mm
CO-ORDINATION SYSTEM MGA ZONE 56
HEIGHT DATUM AHD

DRAWINGS / DESIGN PREPARED BY

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TRANSPORT AND INFRASTRUCTURE

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TITLE	NAME	DATE
DRAWN	L.LUONGO	21.03.25
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CLIENT

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PENRITH CITY COUNCIL
MR536 MAMRE ROAD
ASPECT INDUSTRIAL ESTATE
CULVERT EXTENSIONS ON MAMRE ROAD
AT 6km NORTH OF KEMPS CREEK
GENERAL ARRANGEMENT - SHEET D

TfNSW REGISTRATION No.
DS 2024 / 000808

ISSUE STATUS
100% CONCEPT DESIGN

SHEET No.
BR-DRG-0012

ISSUE
02

A1