

# Civil Design Documentation

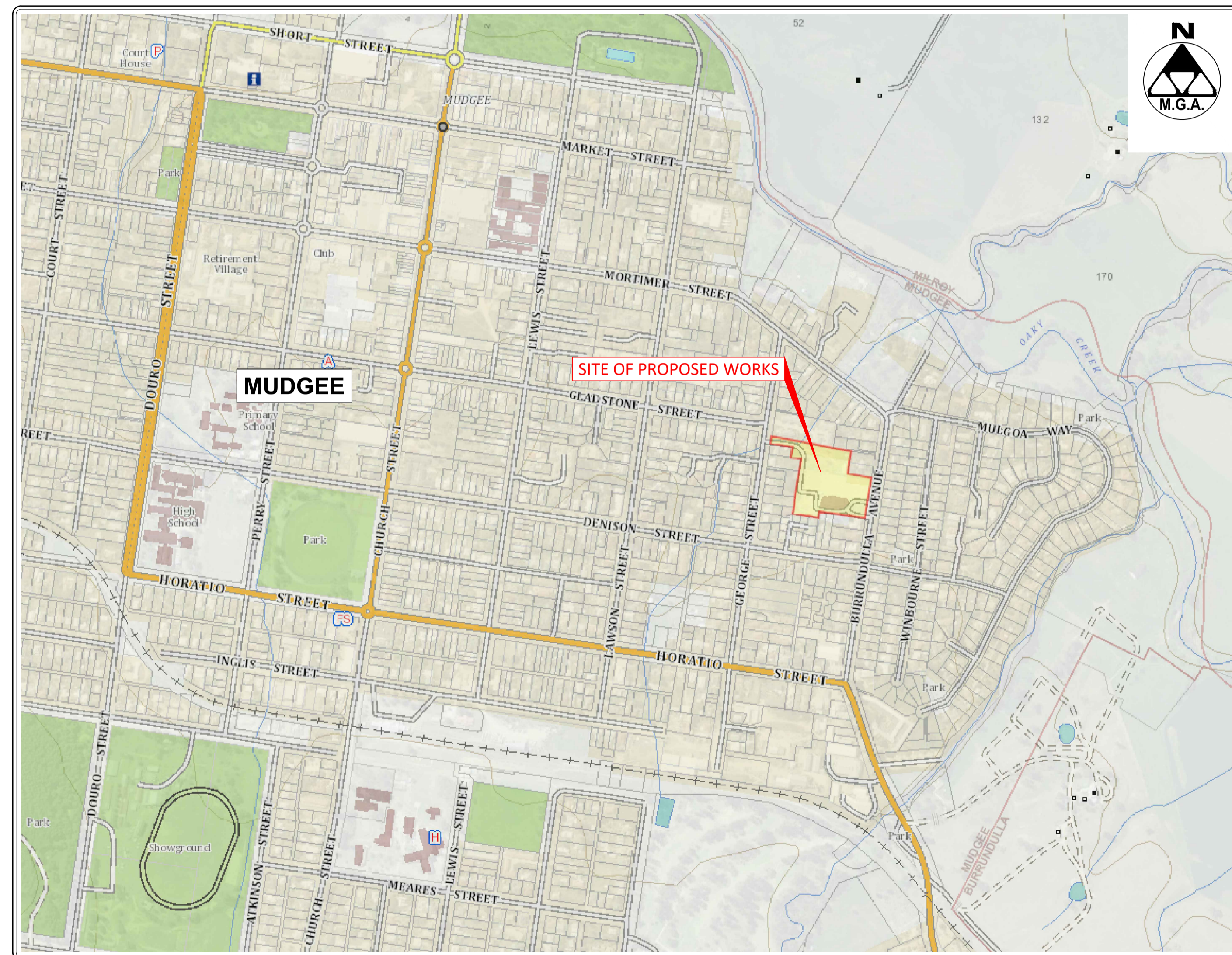
## Proposed Development

Lot 122 in DP 1074283

10 - 12 Burrundulla Avenue, Mudgee NSW 2850

### SCHEDULE OF DRAWINGS

SHEET No.	DESCRIPTION
37274-C00	COVER SHEET AND DRAWING SCHEDULE
37274-C01	EXISTING SITE PLAN
37274-C02	PROPOSED SITE PLAN
37274-C03	PROPOSED ROAD PLAN
37274-C04	PROPOSED ROAD SPECIFICATION PLAN
37274-C05	PROPOSED ROAD #1 PLAN AND LONG. SECTION
37274-C06	PROPOSED ROAD #1 PLAN AND LONG. SECTION (CONT.)
37274-C07	PROPOSED ROAD #2 PLAN AND LONG. SECTION
37274-C08	PROPOSED ROAD #3 PLAN AND LONG. SECTION
37274-C09	EXISTING FLOOD PLAN EXTENTS
37274-C10	PROPOSED STORMWATER MANAGEMENT PLAN - OVERALL
37274-C11	PROPOSED STORMWATER MANAGEMENT PLAN - DETAIL
37274-C12	PROPOSED STORMWATER DETAILS
37274-C13	PROPOSED SEWER PLAN
37274-C14	PROPOSED SEWER DETAILS
37274-C15	PROPOSED WATER RETICULATION PLAN
37274-C16	PROPOSED WATER RETICULATION DETAILS



LOCALITY PLAN  
REDUCTION RATIO 1:12500 @ A1



**PRELIMINARY DRAWING**  
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Rev	Date	Description
A	19-07-2023	PRELIMINARY DRAWING

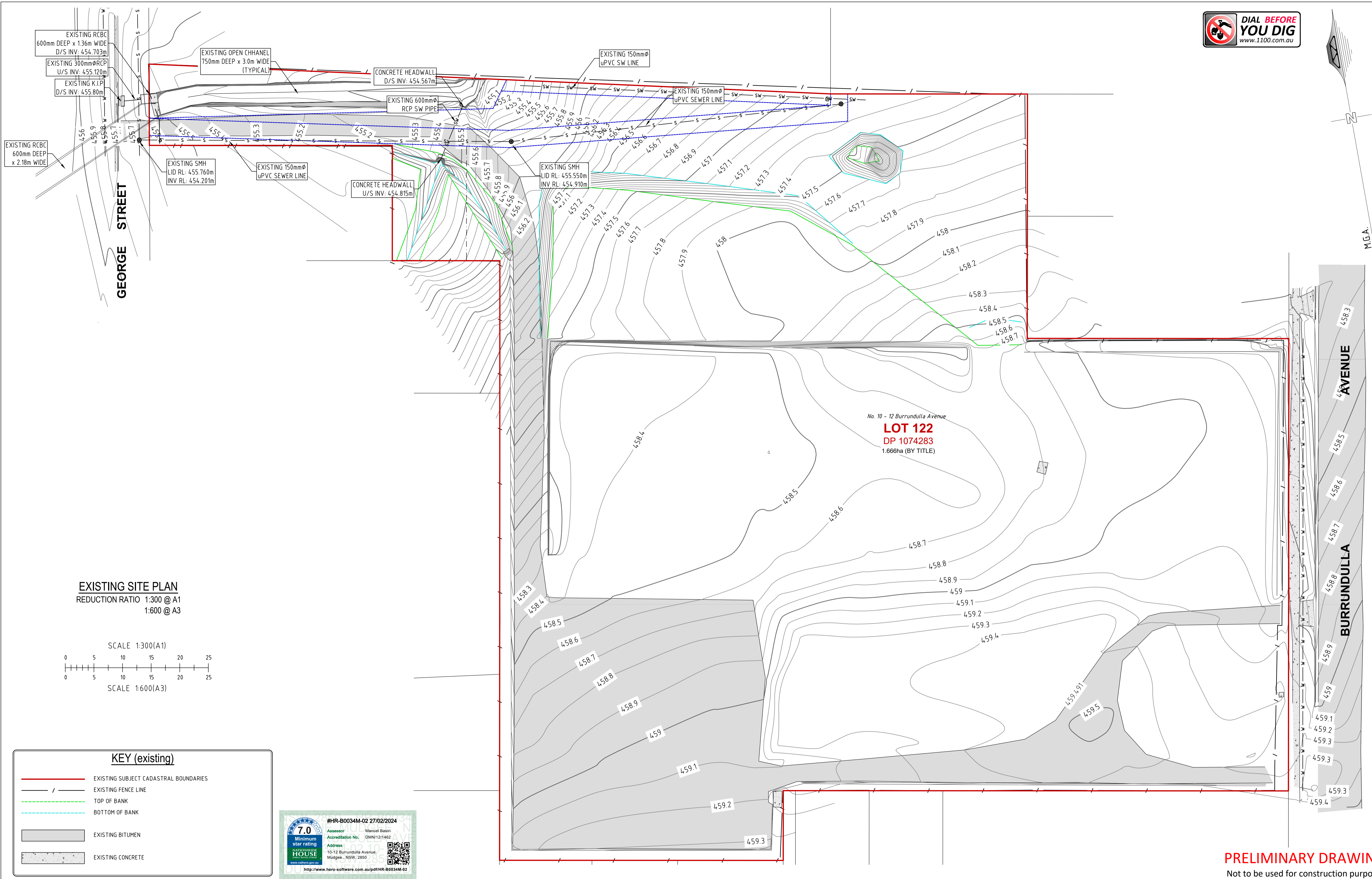
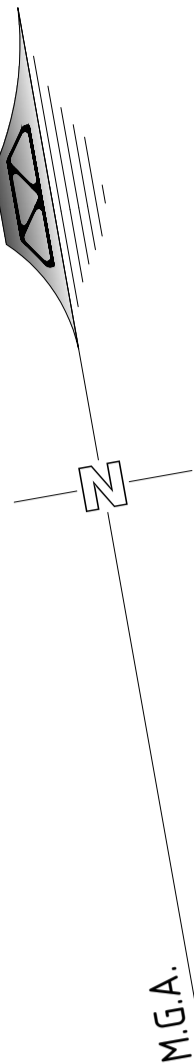
Project  
**LOT 122 IN DP 1074283**  
Site Address  
**10 - 12 BURRUNDULLA AVENUE  
MUDGEE NSW 2850**  
Client  
**MID-WESTERN REGIONAL COUNCIL**

Drawing Title	Design	Drawn	Check
Design	LM	LM	LM

Original Sheet Size	Revision
A1	A

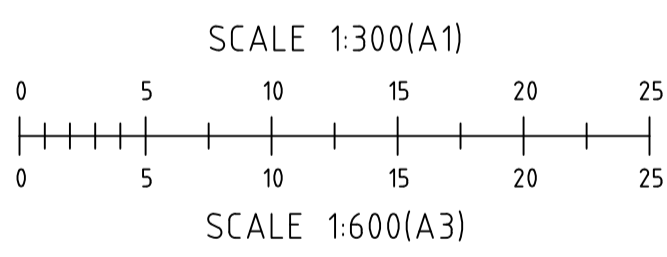
Certification	Project No	Drawing No
A1	40777	C01

**40777  
C01**



No. 10 - 12 Burrundulla Avenue  
**LOT 122**  
DP 1074283  
1.666ha (BY TITLE)

**EXISTING SITE PLAN**  
REDUCTION RATIO 1:300 @ A1  
1:600 @ A3



**KEY (existing)**

- EXISTING SUBJECT CADASTRAL BOUNDARIES
- - - EXISTING FENCE LINE
- - - TOP OF BANK
- - - BOTTOM OF BANK
- EXISTING BITUMEN
- EXISTING CONCRETE

#HR-B0034M-02 27/02/2024

**7.0**  
Minimum star rating

Assessor: Manuel Basiri  
Accreditation No.: DMN12/1462  
Address:  
10-12 Burrundulla Avenue,  
Mudgee, NSW, 2850

<http://www.hero-software.com.au/pdf/HR-B0034M-02>

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A	19-07-2023	PRELIMINARY DRAWING
B	07-02-2024	UPDATED DRAWING

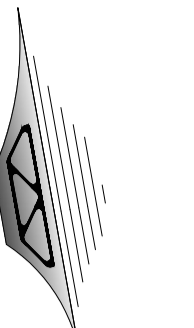
Project  
**CIVIL DESIGN DOCUMENTATION**  
**LOT 122 IN DP 1074283**  
Site Address  
**10 - 12 BURRUNDULLA AVENUE**  
**MUDGEJ NSW 2850**  
Client  
**MID-WESTERN REGIONAL COUNCIL**

Drawing Title  
**EXISTING SITE PLAN**  
Design **LM**  
Drawn **JS**  
Check **LM**

Original Sheet Size  
Revision

Certification  
Project No  
Drawing No

**40777**  
**C01**

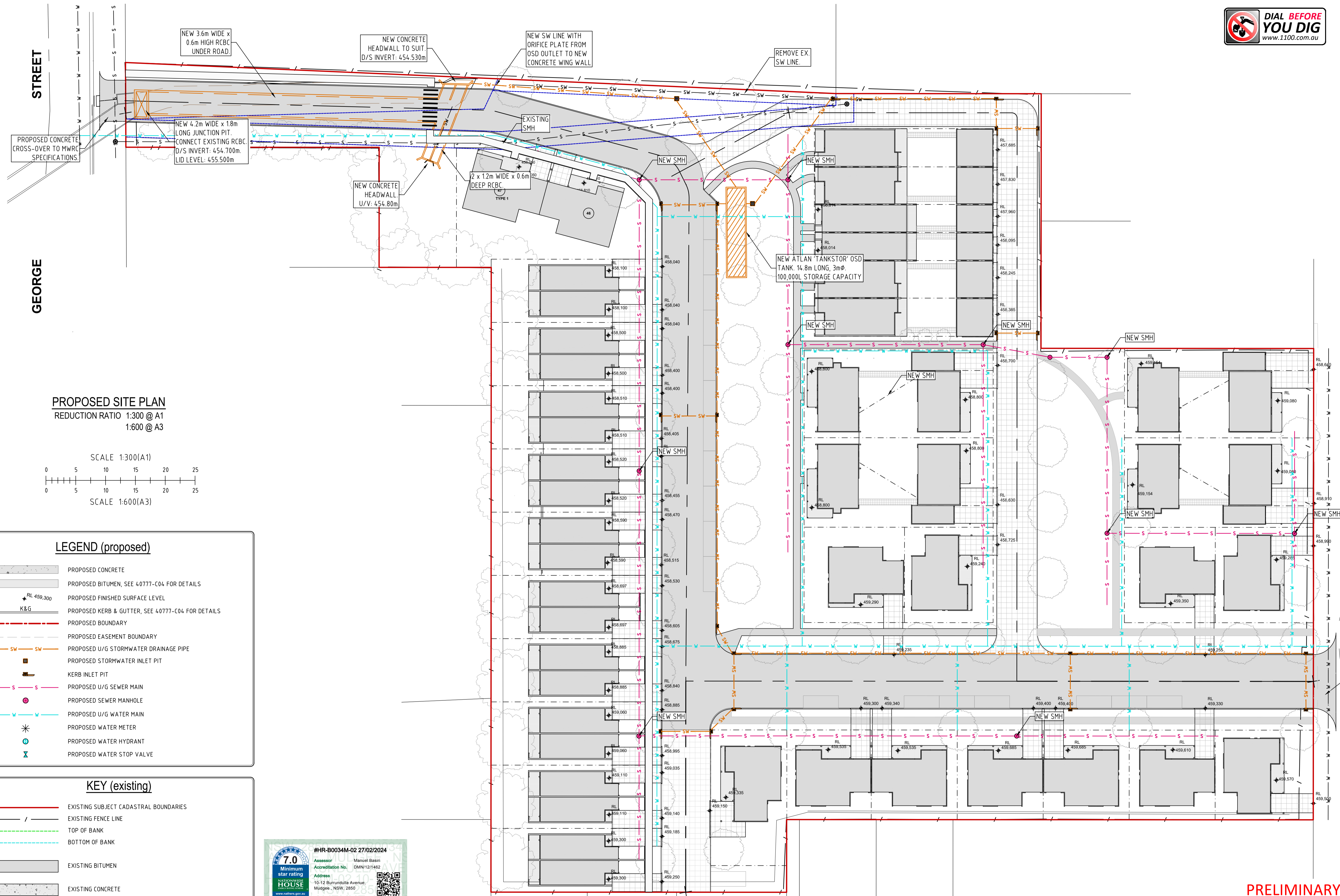


M.G.A.

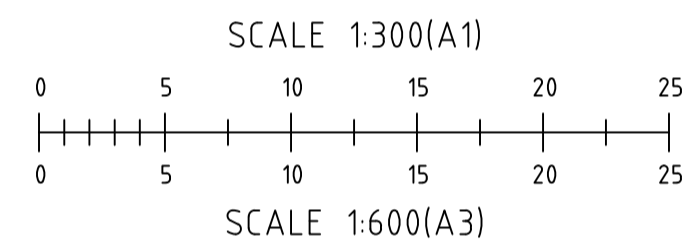
AVENUE

BURRUNDULLA

PROPOSED CONCRETE CROSS-OVER TO MWRC SPECIFICATIONS.



PROPOSED SITE PLAN  
REDUCTION RATIO 1:300 @ A1  
1:600 @ A3



LEGEND (proposed)

- PROPOSED CONCRETE
- PROPOSED BITUMEN, SEE 40777-C04 FOR DETAILS
- PROPOSED FINISHED SURFACE LEVEL
- PROPOSED KERB & GUTTER, SEE 40777-C04 FOR DETAILS
- PROPOSED BOUNDARY
- PROPOSED EASEMENT BOUNDARY
- PROPOSED U/G STORMWATER DRAINAGE PIPE
- PROPOSED STORMWATER INLET PIT
- KERB INLET PIT
- PROPOSED U/G SEWER MAIN
- PROPOSED SEWER MANHOLE
- PROPOSED U/G WATER MAIN
- PROPOSED WATER METER
- PROPOSED WATER HYDRANT
- PROPOSED WATER STOP VALVE

KEY (existing)

- EXISTING SUBJECT CADASTRAL BOUNDARIES
- EXISTING FENCE LINE
- TOP OF BANK
- BOTTOM OF BANK
- EXISTING BITUMEN
- EXISTING CONCRETE

#HR-B0034M-02 27/02/2024

7.0 Minimum star rating

MANUEL BASIRI

Accreditation No: DMN121462

Address: 10-12 Burrundulla Avenue, Mudgee, NSW, 2850

www.mudgee.gov.au

http://www.hero-software.com.au/pdf/HR-B0034M-02

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Rev	Date	Description
A	19-07-2023	PRELIMINARY DRAWING
B	07-02-2024	UPDATED DRAWING
C	26-02-2024	ISSUED FOR REVIEW

Project  
**CIVIL DESIGN DOCUMENTATION**  
**LOT 122 IN DP 1074283**  
Site Address  
**10 - 12 BURRUNDULLA AVENUE**  
**MUDGEE NSW 2850**  
Client  
**MID-WESTERN REGIONAL COUNCIL**

Drawing Title  
**PROPOSED SITE PLAN**

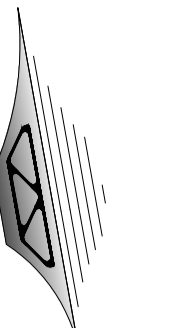
Design LM  
Drawn JS  
Check LM

Original Sheet Size  
Revision

Certification  
A1 Project No  
C Drawing No

40777  
C02

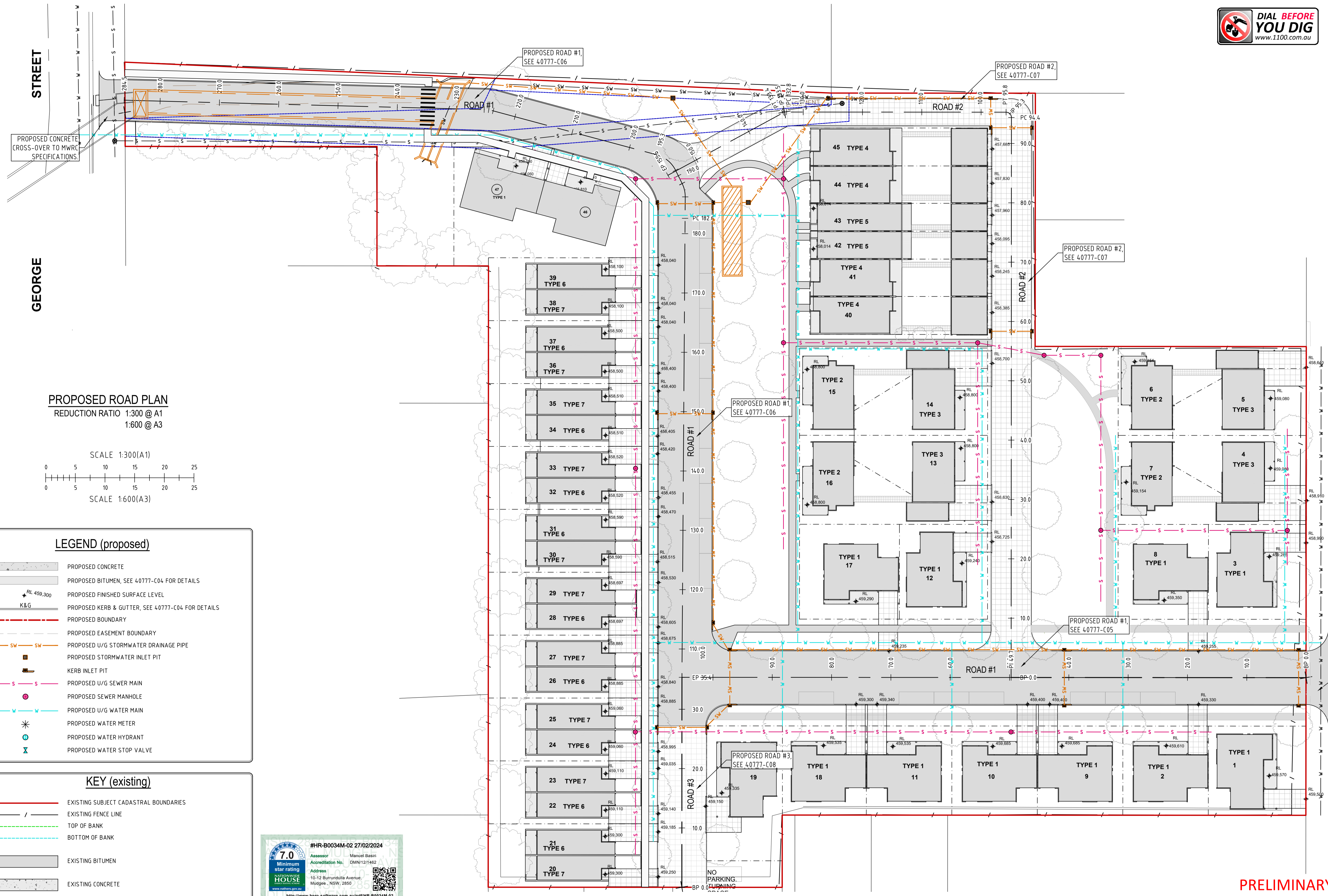
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AVENUE

BURRUNDULLA



PROPOSED CONCRETE CROSS-OVER TO MWRC SPECIFICATIONS.

PROPOSED ROAD #2, SEE 40777-C07

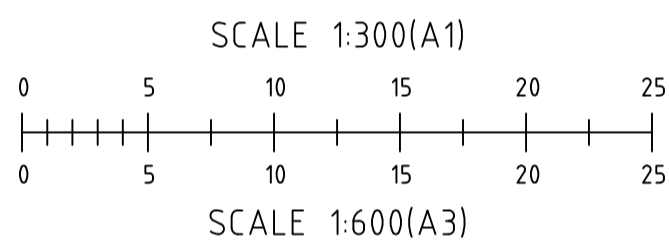
PROPOSED ROAD #1, SEE 40777-C06

PROPOSED ROAD #1, SEE 40777-C05

PROPOSED ROAD #3, SEE 40777-C08

PROPOSED CONCRETE CROSS-OVER TO MWRC SPECIFICATIONS.

PROPOSED ROAD PLAN  
REDUCTION RATIO 1:300 @ A1  
1:600 @ A3



LEGEND (proposed)

- PROPOSED CONCRETE
- PROPOSED BITUMEN, SEE 40777-C04 FOR DETAILS
- PROPOSED FINISHED SURFACE LEVEL
- PROPOSED KERB & GUTTER, SEE 40777-C04 FOR DETAILS
- PROPOSED BOUNDARY
- PROPOSED EASEMENT BOUNDARY
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- PROPOSED SEWER MANHOLE
- PROPOSED U/G WATER MAIN
- PROPOSED WATER METER
- PROPOSED WATER HYDRANT
- PROPOSED WATER STOP VALVE

KEY (existing)

- EXISTING SUBJECT CADASTRAL BOUNDARIES
- EXISTING FENCE LINE
- TOP OF BANK
- BOTTOM OF BANK
- EXISTING BITUMEN
- EXISTING CONCRETE

#HR-B0034M-02 27/02/2024

7.0 Minimum star rating

Assessor: Manuel Basiri  
Accreditation No: DMN/12/1482

Address: 10-12 Burrundulla Avenue, Mudgee, NSW, 2850

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Rev	Date	Description
A	19-07-2023	PRELIMINARY DRAWING
B	07-02-2024	UPDATED DRAWING

Project  
**CIVIL DESIGN DOCUMENTATION**  
LOT 122 IN DP 1074283

Site Address  
10 - 12 BURRUNDULLA AVENUE  
MUDGEJ NSW 2850

Client  
MID-WESTERN REGIONAL COUNCIL

Drawing Title  
**PROPOSED ROAD PLAN**

Design LM  
Drawn JS  
Check LM

Original Sheet Size  
Revision

Certification  
A1 Project No  
B Drawing No

40777  
C03

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH GENERAL BUILDING DRAWINGS, SPECIFICATIONS & OTHER CONSULTANTS DRAWINGS APPLICABLE TO THIS PROJECT. ALL DIMENSIONS IN MILLIMETRES. DO NOT SCALE. DIMENSIONS TO BE CHECKED ON SITE BEFORE COMMENCEMENT OF WORK. REPORT DISCREPANCIES TO BARNSON PTY LTD. NO PART OF THIS DRAWING MAY BE REPRODUCED IN ANY WAY WITHOUT THE WRITTEN PERMISSION OF BARNSON PTY LTD.

**SITWORKS NOTES**

- ORIGIN OF LEVELS :- AHD.
- CONTRACTOR MUST VERIFY ALL DIMENSIONS AND EXISTING LEVELS ON SITE PRIOR TO COMMENCEMENT OF WORK.
- ALL WORK IS TO BE UNDERTAKEN IN ACCORDANCE WITH THE DETAILS SHOWN ON THE DRAWINGS, THE SPECIFICATIONS AND THE DIRECTIONS OF THE SUPERINTENDENT.
- EXISTING SERVICES HAVE BEEN OBTAINED FROM SURFACE INSPECTION ONLY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH THE LOCATION AND LEVEL OF ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF ANY WORK. ANY DISCREPANCIES SHALL BE REPORTED TO THE SUPERINTENDENT. CLEARANCES SHALL BE OBTAINED FROM THE RELEVANT SERVICE AUTHORITY.
- WHERE NEW WORKS ABOUT EXISTING THE CONTRACTOR SHALL ENSURE THAT A SMOOTH EVEN PROFILE, FREE FROM ABRUPT CHANGES IS OBTAINED.
- THE CONTRACTOR SHALL ARRANGE ALL SURVEY SETOUT TO BE CARRIED OUT BY A QUALIFIED SURVEYOR.
- CARE IS TO BE TAKEN WHEN EXCAVATING NEAR EXISTING SERVICES. NO MECHANICAL EXCAVATIONS ARE TO BE UNDERTAKEN OVER TELECOM OR ELECTRICAL SERVICES. HAND EXCAVATE IN THESE AREAS.
- ON COMPLETION OF CONSTRUCTION, ALL DISTURBED AREAS MUST BE RESTORED TO ORIGINAL, INCLUDING KERBS, FOOTPATHS, CONCRETE AREAS, GRAVEL AND GRASSED AREAS AND ROAD PAVEMENTS.
- MAKE SMOOTH TRANSITION TO EXISTING SURFACES.
- THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY DIVERSION DRAINS AND MOUNDS TO ENSURE THAT AT ALL TIMES EXPOSED SURFACES ARE FREE DRAINING AND WHERE NECESSARY EXCAVATE SUMPS AND PROVIDE PUMPING EQUIPMENT TO DRAIN EXPOSED AREAS. ALL WORK TO BE UNDERTAKEN WITH ADHERENCE TO THE REQUIREMENTS OF THE SOIL AND WATER MANAGEMENT PLAN.
- THESE PLANS SHALL BE READ IN CONJUNCTION WITH APPROVED ARCHITECTURAL, STRUCTURAL, HYDRAULIC AND MECHANICAL DRAWINGS AND SPECIFICATIONS.

**SUBGRADE COMPACTION NOTES**

- STRIP TOPSOIL TO EXPOSE NATURALLY OCCURRING MATERIAL.
- WHERE FILLING IS REQUIRED TO ACHIEVE DESIGN SUBGRADE PROOF ROLL EXPOSED NATURAL SURFACE WITH A MINIMUM OF TEN PASSES OF A VIBRATING ROLLER (MINIMUM STATIC WEIGHT OF 10 TONNES) IN THE PRESENCE OF THE SUPERINTENDENT.
- ALL SOFT, WET OR UNSUITABLE MATERIAL TO BE REMOVED AS DIRECTED BY THE SUPERINTENDENT AND REPLACED WITH APPROVED MATERIAL SATISFYING THE REQUIREMENTS LISTED BELOW.
- ALL FILL MATERIAL SHALL BE FROM A SOURCE APPROVED BY THE SUPERINTENDENT AND SHALL COMPLY WITH THE FOLLOWING :
  - FREE FROM ORGANIC AND PERISHABLE MATTER
  - MAXIMUM PARTICLE SIZE 75mm
  - PLASTICITY INDEX BETWEEN 2% AND 15%.
- ALL FILL MATERIAL SHALL BE PLACED IN MAXIMUM 200mm THICK LAYERS AND COMPACTED AT OPTIMUM MOISTURE CONTENT (+ OR - 2%) TO ACHIEVE A DRY DENSITY DETERMINED IN ACCORDANCE WITH AS 1289 E3.1 OF NOT LESS THAN THE FOLLOWING STANDARD MINIMUM DRY DENSITIES IN ACCORDANCE WITH AS 1289 E1.1:
 

LOCATION	STANDARD DRY DENSITY
ROADS	100% STD MDD
- THE CONTRACTOR SHALL PROGRAMME THE EARTHWORKS OPERATION SO THAT THE WORKING AREAS ARE ADEQUATELY DRAINED DURING THE PERIOD OF CONSTRUCTION. THE SURFACE SHALL BE GRADED AND SEALED OFF TO REMOVE DEPRESSIONS, ROLLER MARKS AND SIMILAR WHICH WOULD ALLOW WATER TO POND AND PENETRATE THE UNDERLYING MATERIAL. ANY DAMAGE RESULTING FROM THE CONTRACTOR NOT OBSERVING THESE REQUIREMENTS SHALL BE RECTIFIED BY THE CONTRACTOR AT THEIR COST.
- TESTING OF THE SUBGRADE SHALL BE CARRIED OUT BY AN APPROVED NATA REGISTERED LABORATORY AT THE CONTRACTORS EXPENSE.

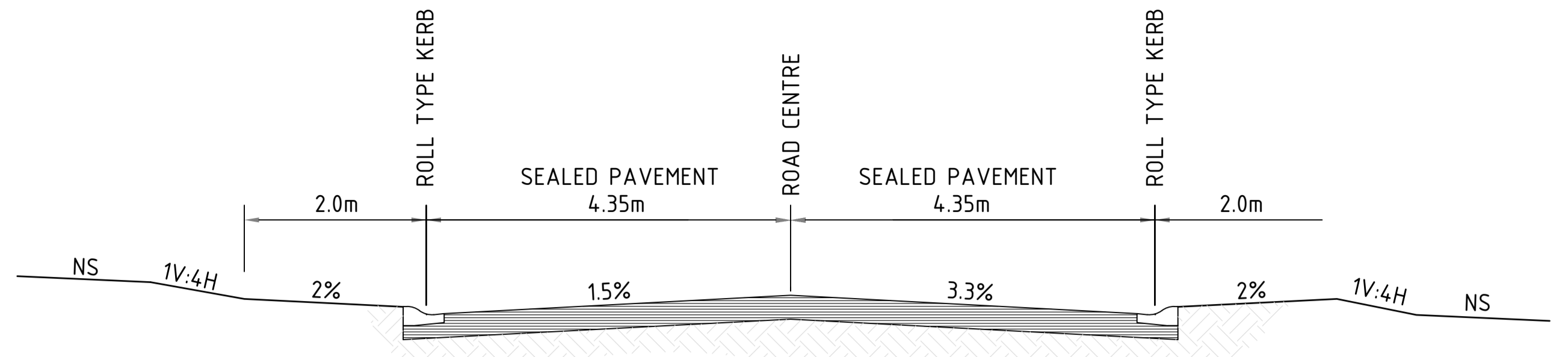
**ROADWORKS NOTES**

- ALL BASECOURSE AND SUB-BASECOURSE MATERIALS SHALL CONFORM WITH AUSPEC SPECIFICATION FOR THE CONSTRUCTION OF NATURAL GRAVEL OR CRUSHED ROCK ROAD PAVEMENT AND AUSPEC SPECIFICATION FOR THE SUPPLY AND DELIVERY OF BASE AND SUB-BASE MATERIALS FOR SURFACED ROAD PAVEMENTS.
- ALL BASECOURSE AND SUB-BASE MATERIALS SHALL BE COMPACTED TO ACHIEVE A MINIMUM OF 100% STANDARD MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT OF +OR- 2% IN ACCORDANCE WITH AS1289 E1.1
- ALL WEARING SURFACES SHALL BE 40mm ASPHALTIC CONCRETE (AC) LAID UPON A SPRAYED BITUMINOUS PRIME COAT, DESIGNED IN ACCORDANCE WITH THE RTA PUBLICATION "SPRAYED SEALING GUIDE".

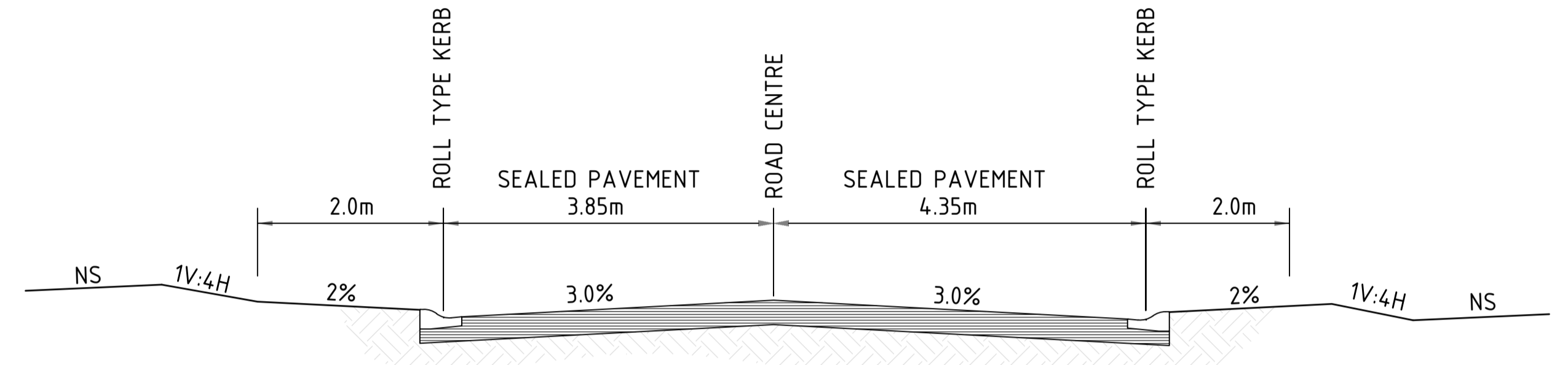
**CONCRETE NOTES**

- CONCRETE FOR KERBS, DRIVEWAYS, RAMPS AND FOOTPATH

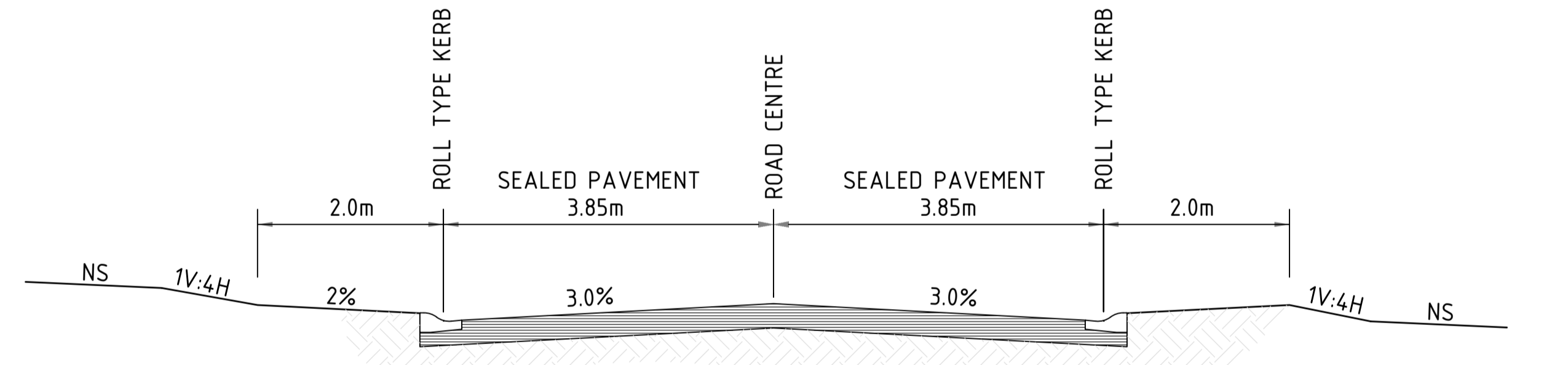
INSPECTION HOLD POINTS	
1.	INSTALLATION OF SEDIMENT & EROSION CONTROL MEASURES.
2.	WATER & SEWER LINE INSTALLATION PRIOR TO BACKFILL.
3.	ESTABLISHMENT OF LINE & LEVEL FOR KERB & GUTTER PLACEMENT.
4.	ROAD PAVEMENT CONSTRUCTION.
5.	ROAD PAVEMENT SURFACING.
6.	PRACTICAL COMPLETION.
SERVICES INSTALLATION	
1.	INSTALLATION OF ALL UNDERGROUND PIPES BE INSTALLED PRIOR TO INSTALLATION OF ROAD PAVEMENT.



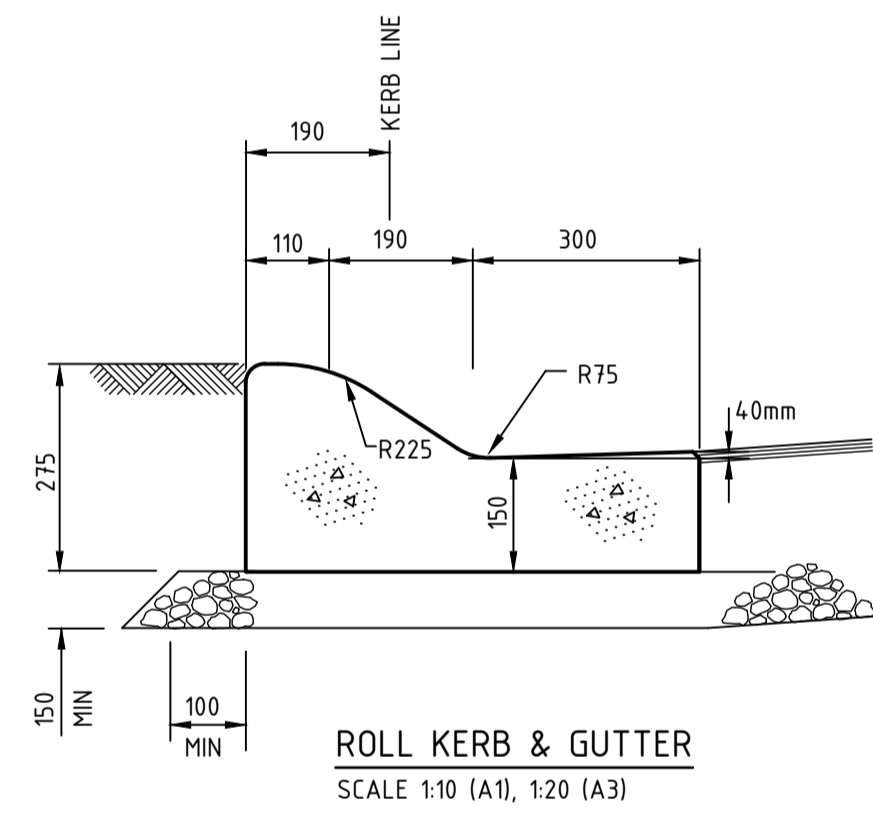
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NOT TO SCALE



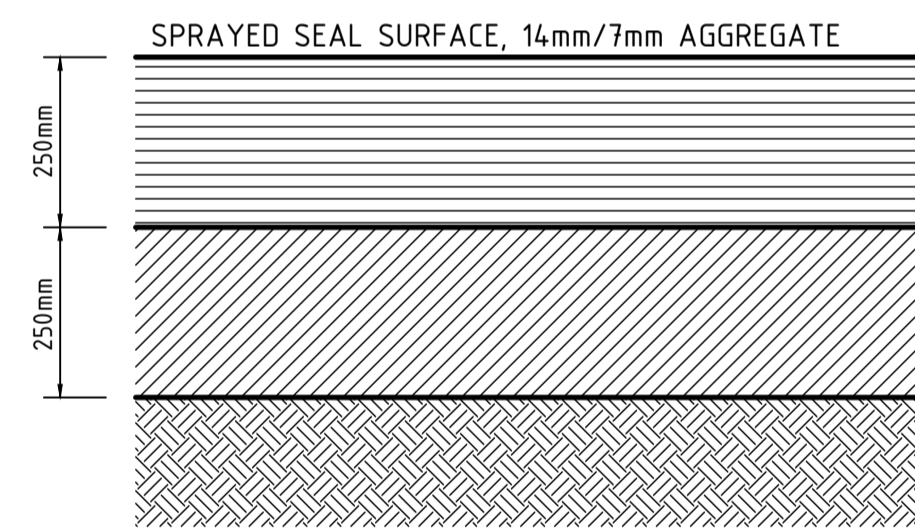
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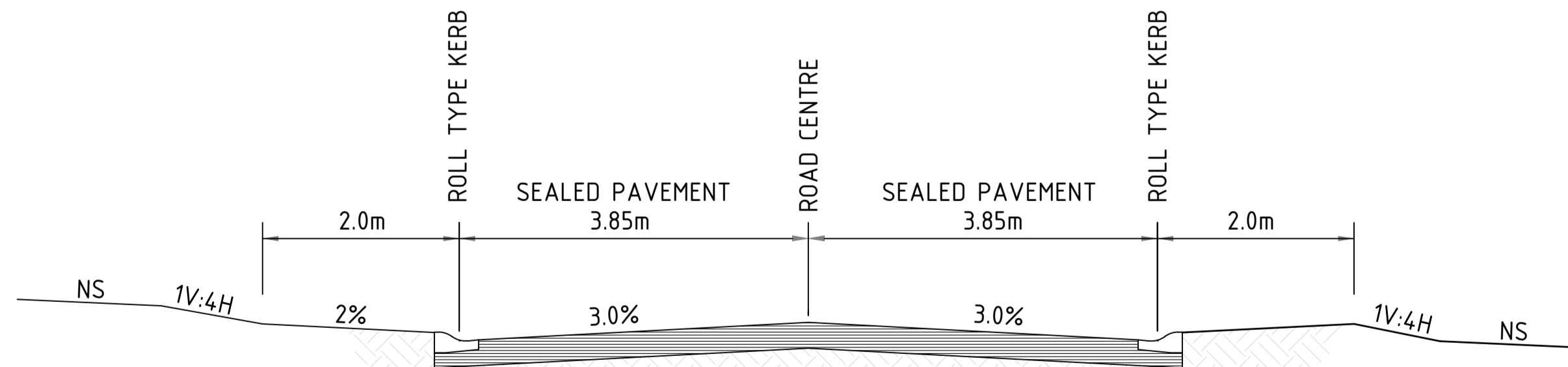
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NOT TO SCALE



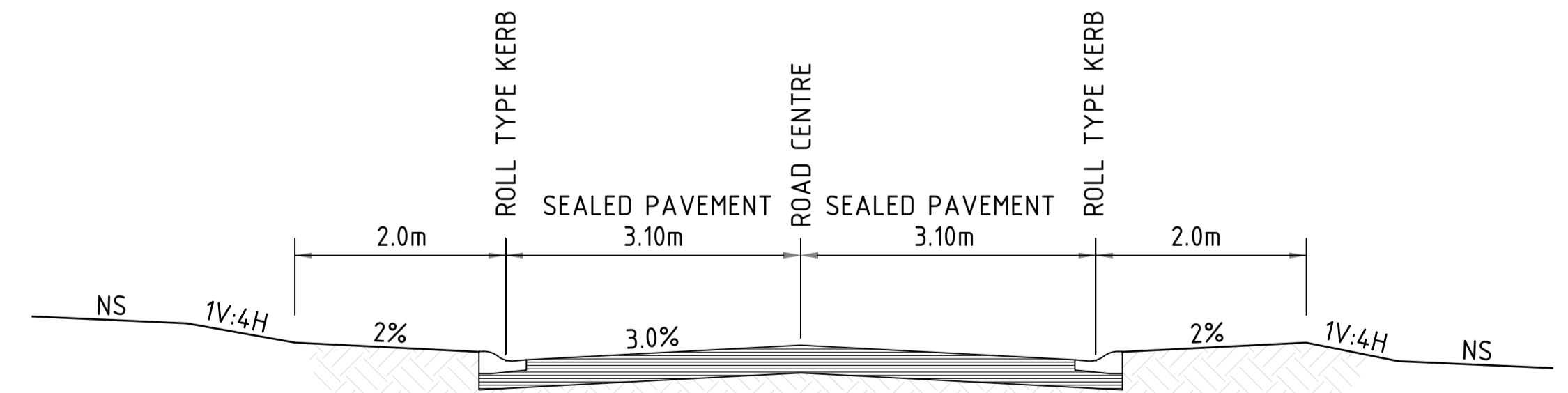
ROLL KERB & GUTTER  
SCALE 1:10 (A1), 1:20 (A3)



PAVEMENT SECTION - ROADS  
SCALE 1:10 (A1), 1:20 (A3)



INTERNAL ROAD #3 - TYPICAL SECTION, Ch: 0m - Ch: 30m  
NOT TO SCALE



INTERNAL ROAD #2 - TYPICAL SECTION, Ch: 0m - Ch: 95m  
NOT TO SCALE



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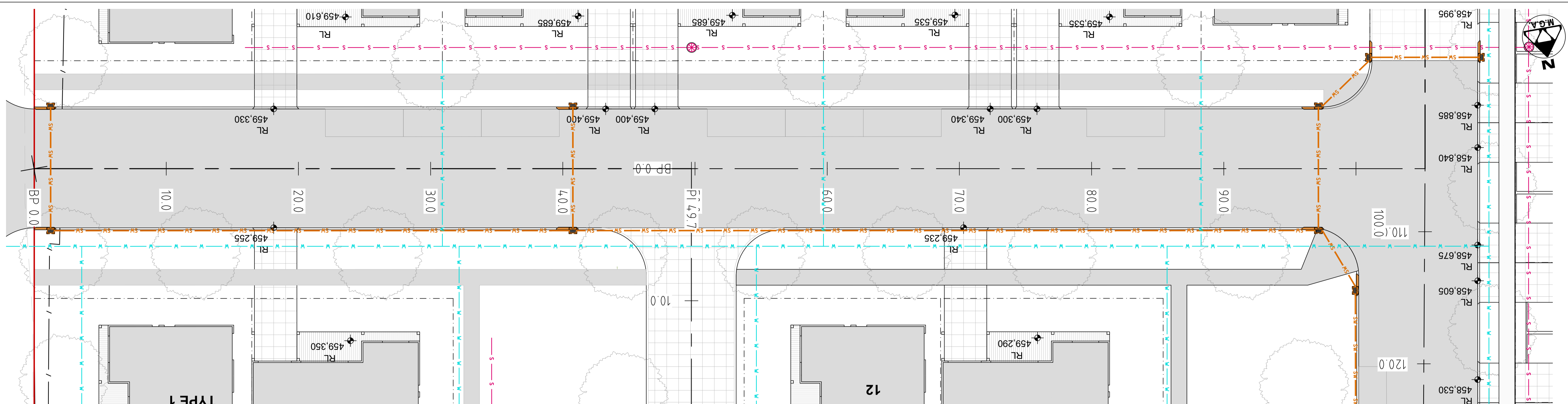
Project  
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LOT 122 IN DP 1074283  
Site Address  
10 - 12 BURRUNDULLA AVENUE  
MUDGEJEE NSW 2850  
Client  
MID-WESTERN REGIONAL COUNCIL

Drawing Title		Certification	
<b>PROPOSED ROAD SPECIFICATION PLAN</b>		Design	LM
Original Sheet Size	A1	Drawn	JS
Check	LM	Revision	A

Project No  
Drawing No

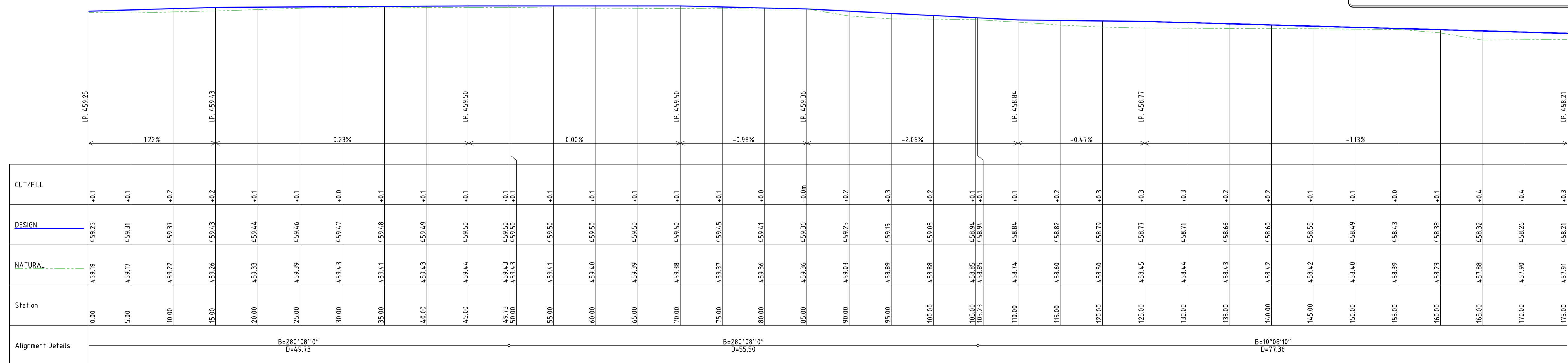


40777  
C04



### LEGEND (proposed)

- PROPOSED BITUMEN, SEE 40777-C04 FOR DETAILS
- PROPOSED FINISHED SURFACE LEVEL
- PROPOSED KERB & GUTTER, SEE 40777-C04 FOR DETAILS
- PROPOSED BOUNDARY
- PROPOSED EASEMENT BOUNDARY
- PROPOSED U/G STORMWATER DRAINAGE PIPE
- PROPOSED STORMWATER INLET PIT
- KERB INLET PIT
- PROPOSED U/G SEWER MAIN
- PROPOSED SEWER MANHOLE
- PROPOSED U/G WATER MAIN



PROPOSED LONG. SECTION  
REDUCTION RATIO H: 1:250 V: 1:100

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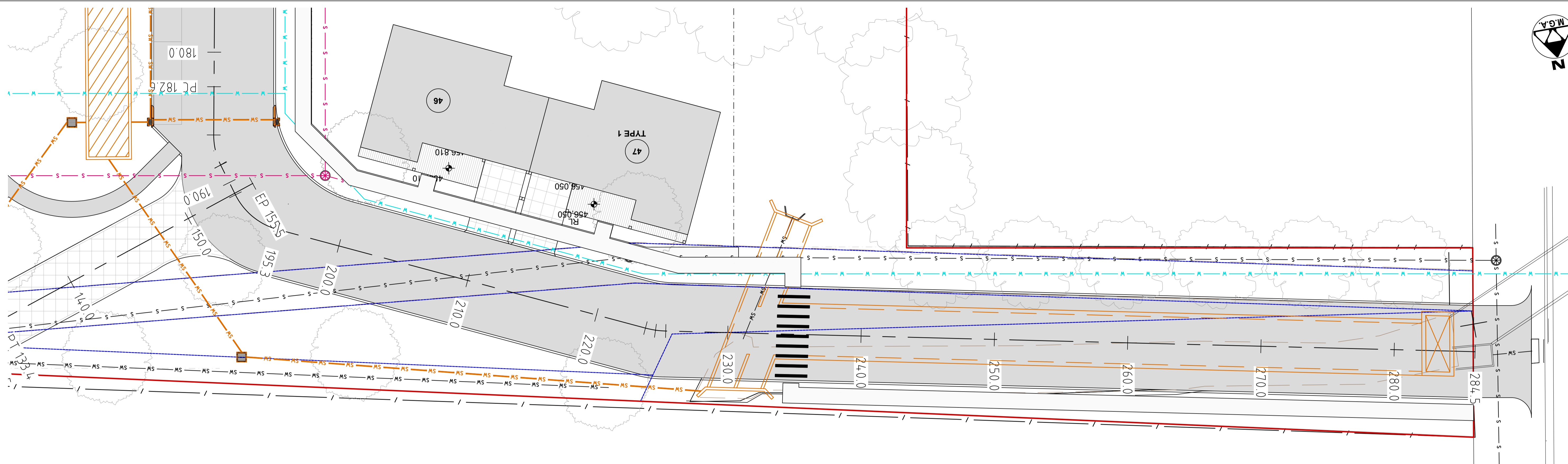
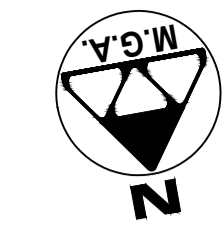
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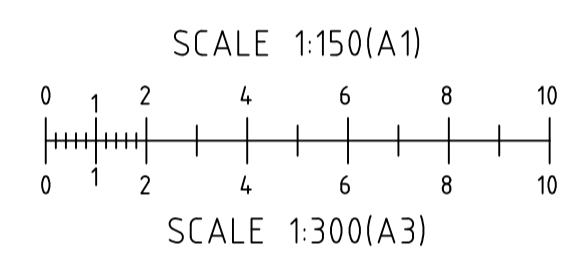
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LOT 122 IN DP 1074283  
Site Address  
10 - 12 BURRUNDULLA AVENUE  
MUDGEE NSW 2850  
Client  
MID-WESTERN REGIONAL COUNCIL

Drawing Title  
**PROPOSED ROAD #1**  
PLAN AND LONG. SECTION  
Design LM  
Drawn JS  
Check LM  
Original Sheet Size  
Revision  
A1  
A

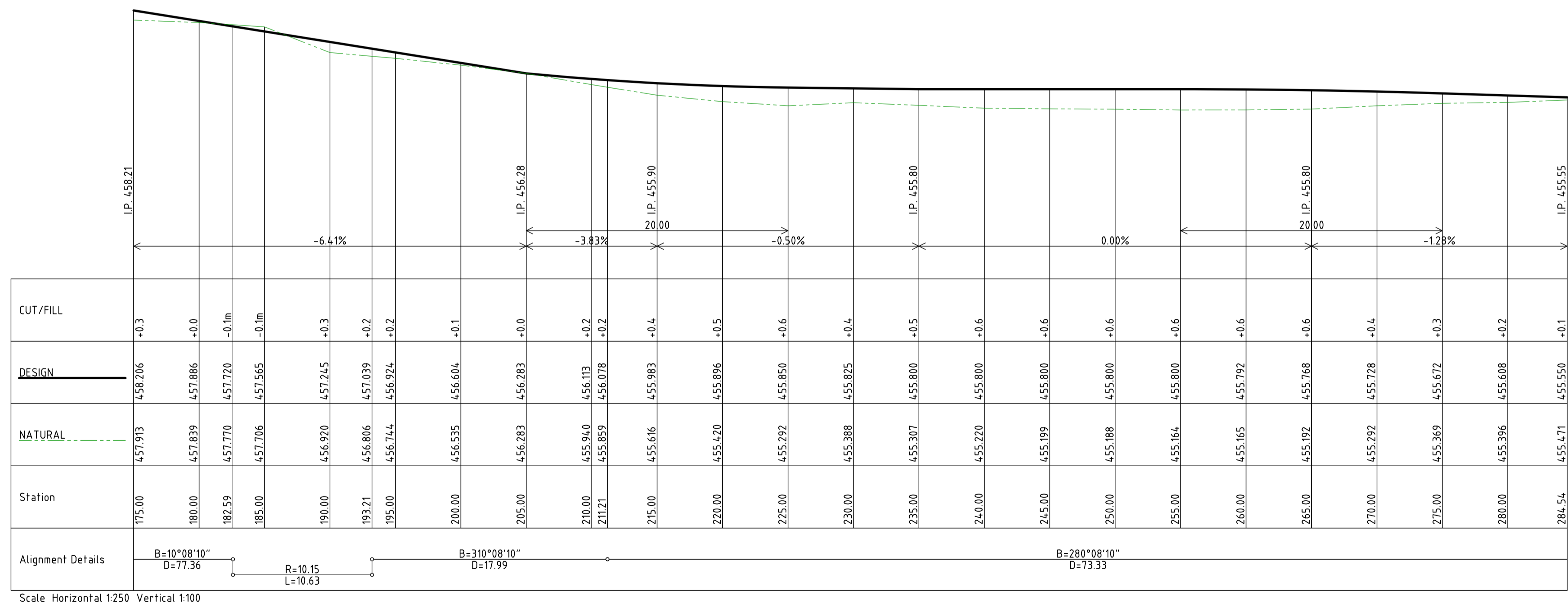
Certification  
Project No  
Drawing No  
40777  
C05



PROPOSED ROAD #1 PLAN (cont.)  
REDUCTION RATIO 1:150 @ A1  
1:300 @ A3



LEGEND (proposed)	
	PROPOSED BITUMEN, SEE 40777-C04 FOR DETAILS
	PROPOSED FINISHED SURFACE LEVEL
	PROPOSED KERB & GUTTER, SEE 40777-C04 FOR DETAILS
	PROPOSED BOUNDARY
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	KERB INLET PIT
	PROPOSED U/G SEWER MAIN
	PROPOSED SEWER MANHOLE
	PROPOSED U/G WATER MAIN



PROPOSED LONG SECTION  
REDUCTION RATIO H: 1:250 V: 1:100



PRELIMINARY DRAWING  
Not to be used for construction purposes



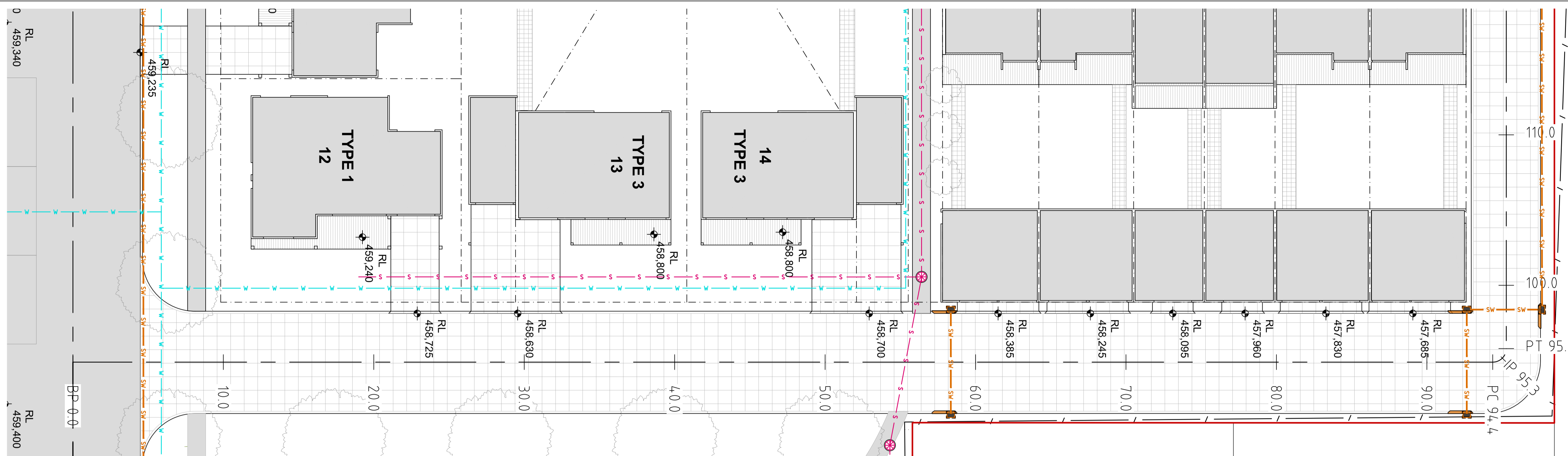
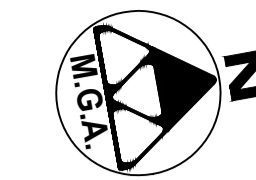
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Rev	Date	Description
A	19-07-2023	PRELIMINARY DRAWING
B	7-02-2023	ROAD PROFILE RAISED TO SUIT FLOOD REPORT

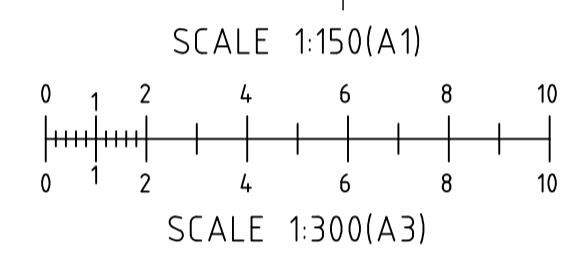
Project  
CIVIL DESIGN DOCUMENTATION  
LOT 122 IN DP 1074283  
Site Address  
10 - 12 BURRUNDULLA AVENUE  
MUDGEES NSW 2850  
Client  
MID-WESTERN REGIONAL COUNCIL

Drawing Title		Certification	
PROPOSED ROAD #1 PLAN AND LONG SECTION (CONT.)		Original Sheet Size	A1
Design	LM	Project No	40777
Drawn	JS	Drawing No	C06
Check	LM	Revision	B

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**PROPOSED ROAD #2 PLAN**  
 REDUCTION RATIO 1:150 @ A1  
 1:300 @ A3



LEGEND (proposed)	
	PROPOSED BITUMEN, SEE 40777-C04 FOR DETAILS
	PROPOSED FINISHED SURFACE LEVEL
	PROPOSED KERB & GUTTER, SEE 40777-C04 FOR DETAILS
	PROPOSED BOUNDARY
	PROPOSED EASEMENT BOUNDARY
	PROPOSED U/G STORMWATER DRAINAGE PIPE
	PROPOSED STORMWATER INLET PIT
	KERB INLET PIT
	PROPOSED U/G SEWER MAIN
	PROPOSED SEWER MANHOLE
	PROPOSED U/G WATER MAIN

CUT/FILL	DESIGN	NATURAL	Station	Alignment Details
0.0	47.657	47.657	00.0	B=10*08'10" D=94.38
0.0	48.657	48.657	00.5	
2.0	48.657	41.657	00.01	B=280*08'10" D=37.05
3.0	52.657	36.857	00.51	
3.0	61.657	78.857	00.02	B=251*38'39" D=22.06
7.0	21.657	51.857	00.52	
7.0	90.657	89.857	00.03	B=251*38'39" D=22.06
3.0	00.657	41.857	00.53	
2.0	76.657	51.857	00.07	B=251*38'39" D=22.06
1.0	88.657	61.857	00.57	
0.0	18.657	18.857	00.05	B=251*38'39" D=22.06
0.0	89.657	21.857	00.55	
1.0	75.657	57.857	00.09	B=251*38'39" D=22.06
1.0	07.657	92.857	00.59	
0.0	92.657	22.857	00.04	B=251*38'39" D=22.06
1.0	41.657	80.857	00.54	
1.0	66.657	26.657	00.08	B=251*38'39" D=22.06
0.0	58.657	08.657	00.58	
0.0	22.657	69.657	00.06	B=251*38'39" D=22.06
0.0	15.657	67.657	00.00	
0.0	97.657	27.657	00.50	B=251*38'39" D=22.06
0.0	07.657	36.657	00.01	
0.0	55.657	25.657	00.51	B=251*38'39" D=22.06
0.0	62.657	12.657	120.00	
0.0	72.657	22.657	00.52	B=251*38'39" D=22.06
0.0	61.657	71.657	00.03	
1.0	45.657	45.705	132.04	B=251*38'39" D=22.06
1.0	95.657	45.705	133.44	
0.0	80.657	40.657	00.01	B=251*38'39" D=22.06
0.0	20.657	10.657	00.57	
0.0	46.657	56.657	00.54	B=251*38'39" D=22.06
0.0	26.657	16.657	00.53	
0.0	16.657	16.957	67.55	
0.0	46.657	16.957	00.53	

**PROPOSED LONG. SECTION**  
 REDUCTION RATIO H: 1:250 V: 1:100



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Rev	Date	Description
A	19-07-2023	PRELIMINARY DRAWING

Project  
**CIVIL DESIGN DOCUMENTATION**  
 LOT 122 IN DP 1074283  
 Site Address  
 10 - 12 BURRUNDULLA AVENUE  
 MUDGEE NSW 2850  
 Client  
 MID-WESTERN REGIONAL COUNCIL

Drawing Title  
**PROPOSED ROAD #2**  
**PLAN AND LONG. SECTION**  
 Design LM  
 Drawn JS  
 Check LM  
 Original Sheet Size A1  
 Revision A

Certification  
 Project No **40777**  
 Drawing No **C07**



These are the specifications upon which the certified NatHERS assessment is based. Any deviation from these specifications will invalidate the NatHERS certificate and therefore voids compliance of the development with the National Construction Code of Australia 2016 and 2019. In case of any variation from these specifications contact Eco Certificates Pty Ltd to obtain updated NatHERS and BASIX certificates and an updated copy of these specifications.

Assessment Date: 25 / 02 / 2024  
 Assessor: Manuel Basiri - DMN Accredited Assessor DMN12/1462 / MIEAust  
 Thermal Modeling Software: HERO 3.0.1.1  
 Development: EC - 4797 - 10-12 Burrundulla Avenue, Mudgee NSW 2850

**Windows and Skylights**

Description	Type	U Value	SHGC
1 All windows and glazed doors of dwellings 6, 7, 14, 15, 16, 41, 45	Aluminium frame double glazed tinted	2.90	0.29
2 All windows and glazed doors of dwellings 1, 2, 3, 4, 5, 9, 10, 12, 13, 18, 19, 46, 47	Aluminium frame single glazed tinted	3.75	0.62
3 All windows and glazed doors of other dwellings	Aluminium frame single glazed clear	5.80	0.65

Window and skylight U and SHGC values, if specified, are according to NFRC. Alternate products or specifications may be used if their U value is lower, and the SHGC value is less than 10% higher or lower, than the U and SHGC values of the product specified above. Note that the NatHERS Technical Notes 2019 allows only a 5% tolerance for the SHGC value however this is overridden by BASIX Thermal Comfort Protocol to be 10%.

**External and Internal Walls**

Description	Construction Type	Insulation	Colour (Solar Absorbance)
1 All external walls of all dwellings	As per plans	R2.50	As per plans
2 All internal walls of garage all dwellings adjacent to internal conditioned areas	As per plans	R2.0	As per plans
3 All other internal walls of all dwellings	As per plans	None	As per plans

The solar absorbance values are as per definition of Light, Medium and Dark Colours in the thermal modelling software and the naming might differ according to the BASIX thermal comfort protocol 2017.

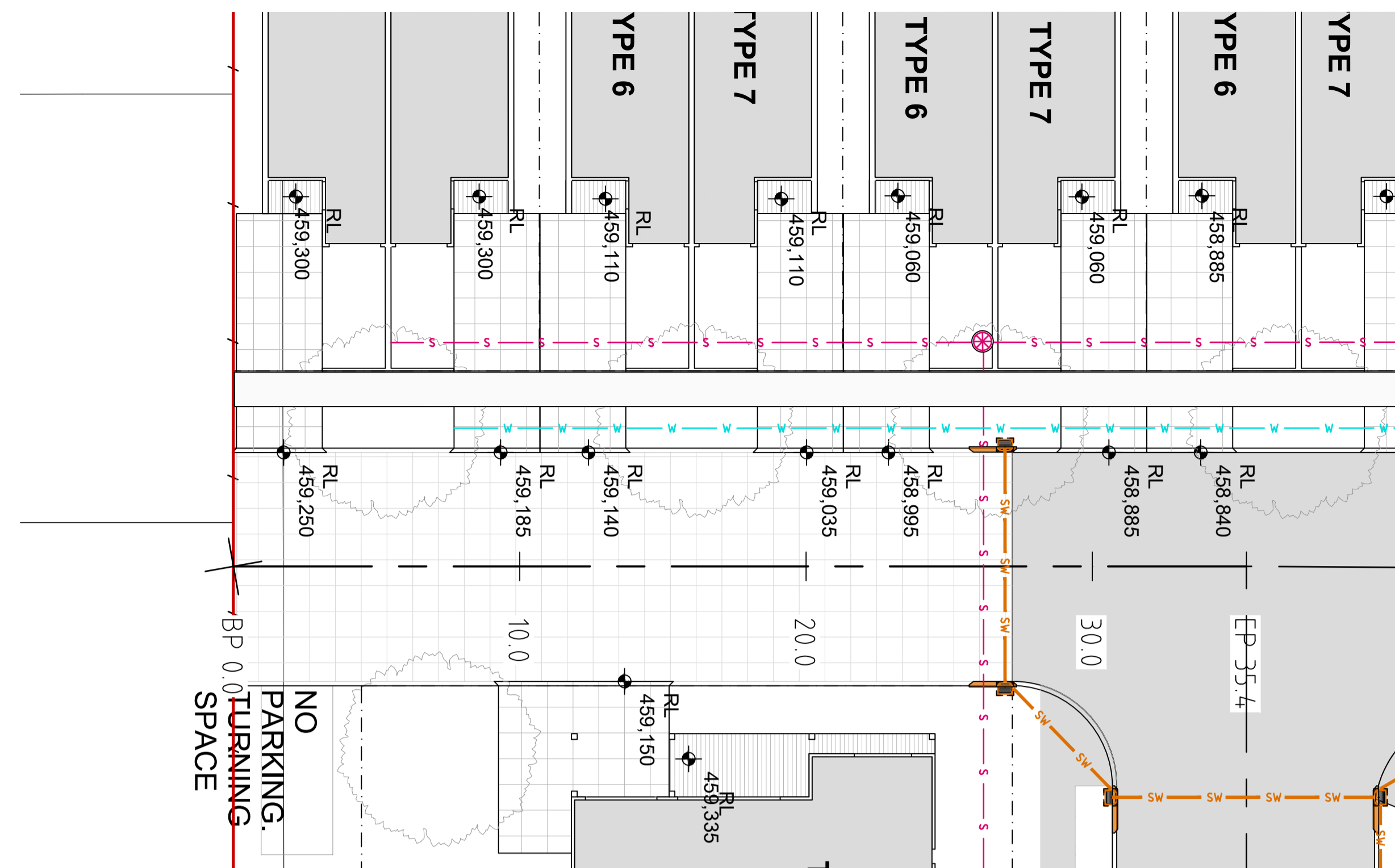
**Floors**

Description	Construction Type	Insulation	Floor Covering
1 All ground floors of conditioned areas of all dwellings	Concrete slab on ground	R2.0	Not Specified (Defaults Applied)
2 All floors of first floor of all units on top of outside air	Framed	R4.0	Not Specified (Defaults Applied)

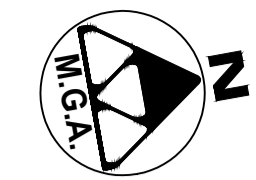
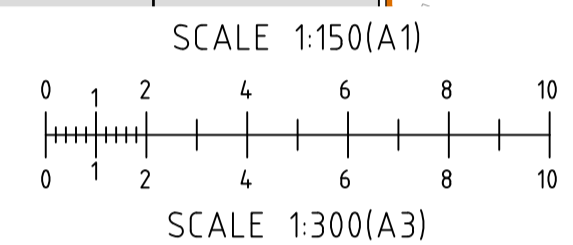
**Ceilings and Roofs**

Description	Construction Type	Insulation	Colour (Solar Absorbance)
1 All ceiling of garage of all dwellings except dwellings of type 8	Plasterboard	None	N/A
2 All ceiling of first floor of dwellings of type 8	Plasterboard	R6.0	N/A
3 All ceiling of all other dwellings under balcony or outside air	Plasterboard	R6.0	N/A
4 All roof of all dwellings	Metal cladding	Foil backed R1.80	As per plans

Ceiling penetration(s) as a result of installation of sealed or unsealed recessed downlights are NOT being considered in the NatHERS thermal comfort modeling associated with this specifications schedule. If unsealed recessed downlights or other unsealed penetrations are introduced to the ceiling insulation of the project at a later stage, the NatHERS certificate associated with this specification and the BASIX certificate of this development, if any, would become invalid and must be updated.

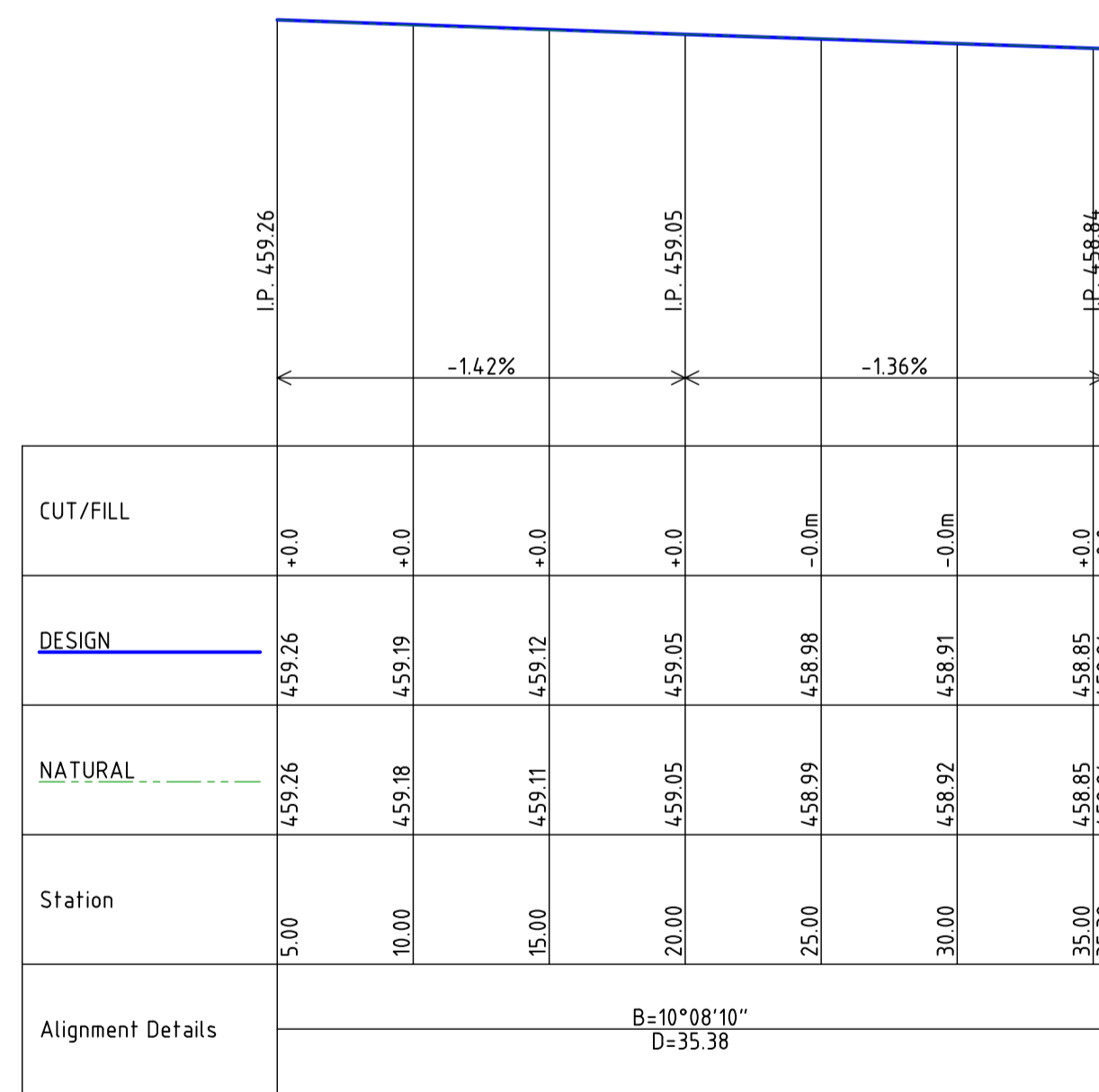


**PROPOSED ROAD #3 PLAN**  
 REDUCTION RATIO 1:150 @ A1  
 1:300 @ A3



**LEGEND (proposed)**

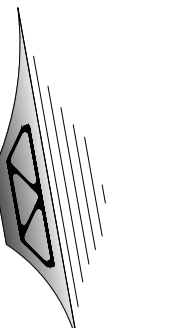
- PROPOSED BITUMEN, SEE 40777-C04 FOR DETAILS
- PROPOSED FINISHED SURFACE LEVEL
- PROPOSED KERB & GUTTER, SEE 40777-C04 FOR DETAILS
- PROPOSED BOUNDARY
- PROPOSED EASEMENT BOUNDARY
- PROPOSED U/G STORMWATER DRAINAGE PIPE
- PROPOSED STORMWATER INLET PIT
- KERB INLET PIT
- PROPOSED U/G SEWER MAIN
- PROPOSED SEWER MANHOLE
- PROPOSED U/G WATER MAIN



**PROPOSED LONG SECTION**  
 REDUCTION RATIO H: 1:250 V: 1:100



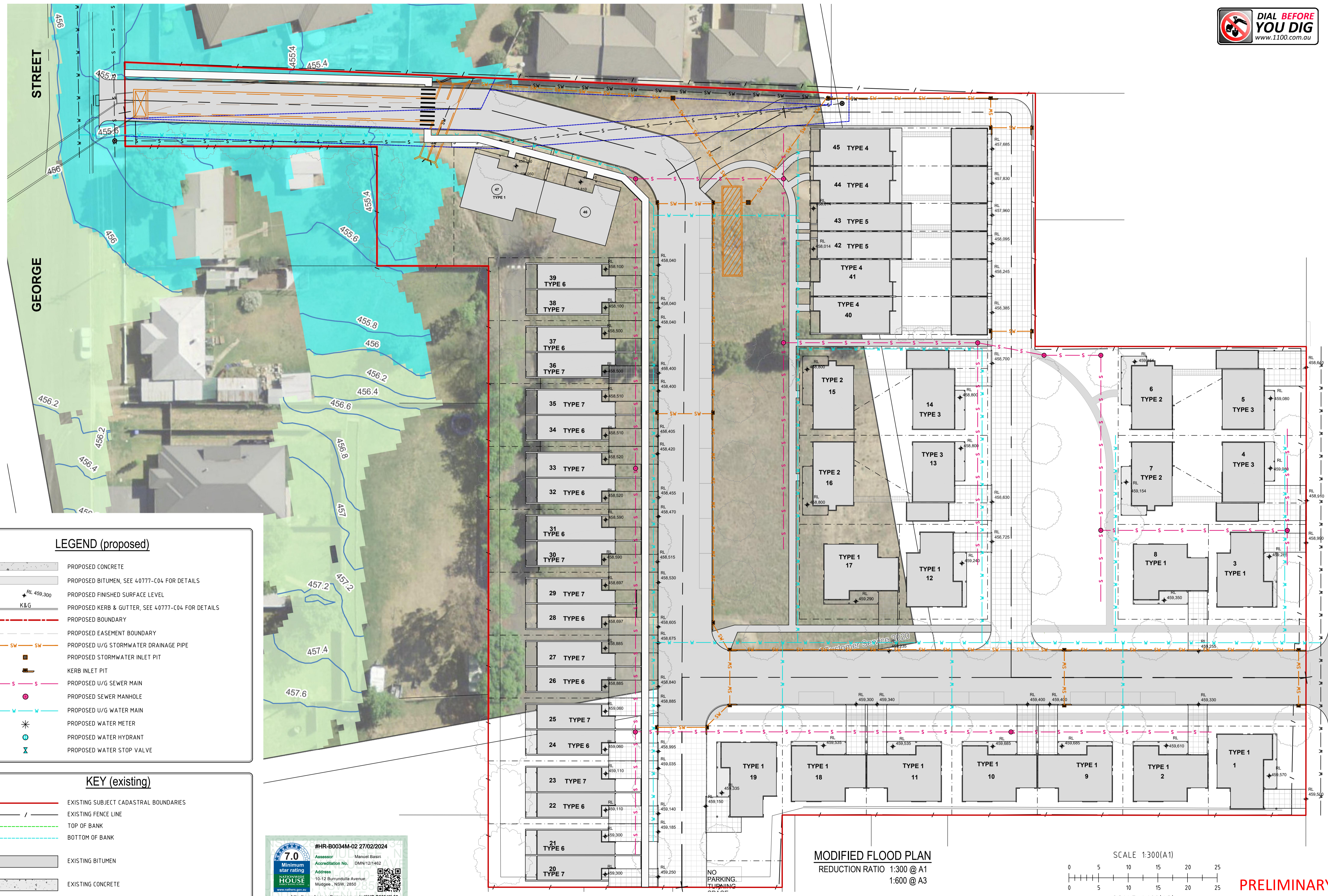
**PRELIMINARY DRAWING**  
 Not to be used for construction purposes



M.G.A.

AVENUE

BURRUNDULLA



**LEGEND (proposed)**

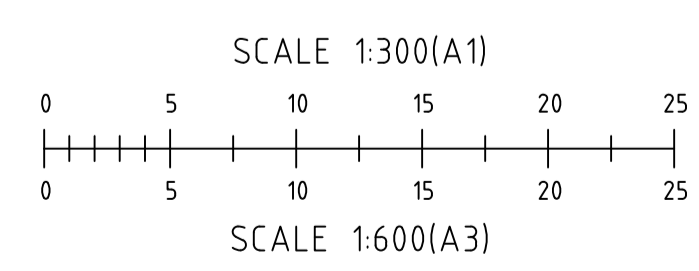
- PROPOSED CONCRETE
- PROPOSED BITUMEN, SEE 40777-C04 FOR DETAILS
- PROPOSED FINISHED SURFACE LEVEL
- PROPOSED KERB & GUTTER, SEE 40777-C04 FOR DETAILS
- PROPOSED BOUNDARY
- PROPOSED EASEMENT BOUNDARY
- PROPOSED U/G STORMWATER DRAINAGE PIPE
- PROPOSED STORMWATER INLET PIT
- KERB INLET PIT
- PROPOSED U/G SEWER MAIN
- PROPOSED SEWER MANHOLE
- PROPOSED U/G WATER MAIN
- PROPOSED WATER METER
- PROPOSED WATER HYDRANT
- PROPOSED WATER STOP VALVE

**KEY (existing)**

- EXISTING SUBJECT CADASTRAL BOUNDARIES
- EXISTING FENCE LINE
- TOP OF BANK
- BOTTOM OF BANK
- EXISTING BITUMEN
- EXISTING CONCRETE

#HR-B0034M-02 27/02/2024  
 7.0 Minimum star rating  
 Assessor: Manuel Basiri  
 Accreditation No. DMN/121462  
 Address: 10-12 Burrundulla Avenue, Mudgee, NSW, 2850  
 http://www.hero-software.com.au/pdf/HR-B0034M-02

**MODIFIED FLOOD PLAN**  
 REDUCTION RATIO 1:300 @ A1  
 1:600 @ A3



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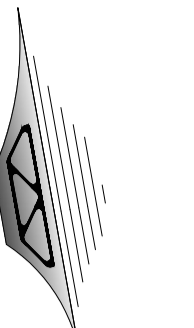
Rev	Date	Description
A	19-07-2023	PRELIMINARY DRAWING
B	07-02-2024	UPDATED DRAWING

Project  
**CIVIL DESIGN DOCUMENTATION**  
 LOT 122 IN DP 1074283  
 Site Address  
 10 - 12 BURRUNDULLA AVENUE  
 MUDGEE NSW 2850  
 Client  
 MID-WESTERN REGIONAL COUNCIL

Drawing Title  
**MODIFIED FLOOD PLAN**  
 Design LM  
 Drawn JS  
 Check LM

Original Sheet Size	Revision	Project No	Drawing No
A1	B	40777	C03

40777  
**C03**



M.G.A.

AVENUE

BURRUNDULLA

STREET

GEORGE

SEE PLAN 40777-C11 FOR DETAILS

NEW CONCRETE HEADWALL TO SUIT. D/S INVERT: 454.530m

NEW SW LINE WITH ORIFICE PLATE FROM OSD OUTLET TO NEW CONCRETE WING WALL

REMOVE EX. SW LINE

NEW KERB INLET PIT TO EXISTING SW PIT.

PRE-DEVELOPMENT AREAS  
TOTAL = 10,166 m<sup>2</sup>  
IMPERVIOUS = 0 m<sup>2</sup> = 0%  
PERVIOUS = 10,166 m<sup>2</sup> = 100%

POST-DEVELOPMENT FLOW (1% AEP)  
214 L/s (FROM DRAINS MODELING)

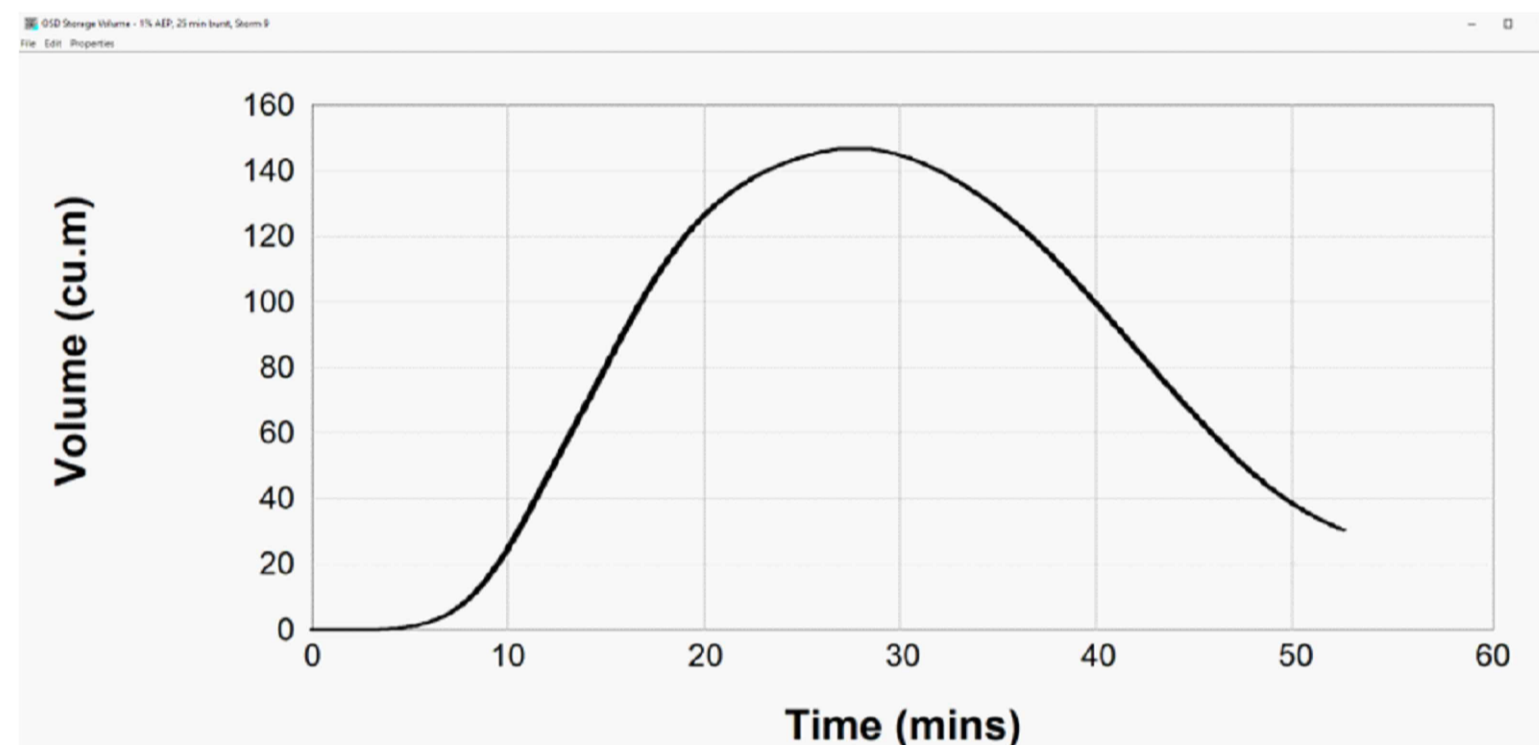
STORMWATER MANAGEMENT STRATEGY  
FROM THE DRAINS MODELING, APPROXIMATELY 150,000L IS REQUIRED OF ON-SITE DETENTION (OSD). A 100,000L OSD TANK IS PROPOSED AS SHOWN. THE REMAINING 50,000L OSD WILL COME FROM RAINWATER TANKS (RWT) FROM EACH UNIT. (1000L EACH APPROX):

MAIN OSD TANK OVERFLOW TO NEW SW SYSTEM. NEW ORIFICE PLATES TO TANK TO ENSURE POST DEVELOPMENT FLOW DOES NOT EXCEED PRE-DEVELOPMENT FLOW AS FOLLOWS:

1% AEP: 247 L/s  
2% AEP: 205 L/s  
5% AEP: 158 L/s  
10% AEP: 116 L/s  
20% AEP: 73 L/s

NEW ATLAN 'TANKSTOR' OSD TANK. 14.8m LONG, 3mØ. 100,000L STORAGE CAPACITY. TOP OF TANK: 457.00m. INV. OF TANK: 454.00m.

PIT LID: 457.70m  
PIT INV: 456.80m



ON-SITE DETENTION DRAINS MODEL

LEGEND (proposed)

- PROPOSED CONCRETE
- PROPOSED BITUMEN, SEE 40777-C04 FOR DETAILS
- PROPOSED FINISHED SURFACE LEVEL
- PROPOSED KERB & GUTTER, SEE 40777-C04 FOR DETAILS
- PROPOSED BOUNDARY
- PROPOSED EASEMENT BOUNDARY
- PROPOSED U/G STORMWATER DRAINAGE PIPE
- PROPOSED STORMWATER INLET PIT
- KERB INLET PIT
- PROPOSED U/G SEWER MAIN
- PROPOSED SEWER MANHOLE
- PROPOSED U/G WATER MAIN
- PROPOSED WATER METER
- PROPOSED WATER HYDRANT
- PROPOSED WATER STOP VALVE

KEY (existing)

- EXISTING SUBJECT CADASTRAL BOUNDARIES
- EXISTING FENCE LINE
- TOP OF BANK
- BOTTOM OF BANK
- EXISTING BITUMEN
- EXISTING CONCRETE

#HR-B0034M-02 27/02/2024

7.0 Minimum star rating

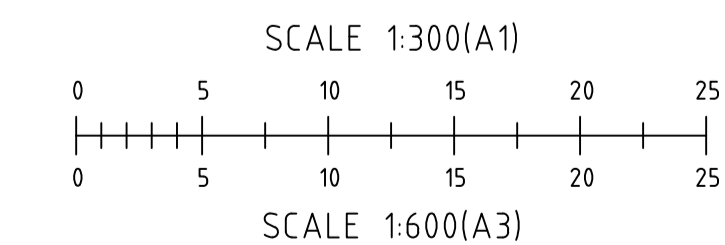
Assessor: Manuel Basiri  
Accreditation No.: DMN12/1462

Address: 10-12 Burrundulla Avenue, Mudgee, NSW, 2850

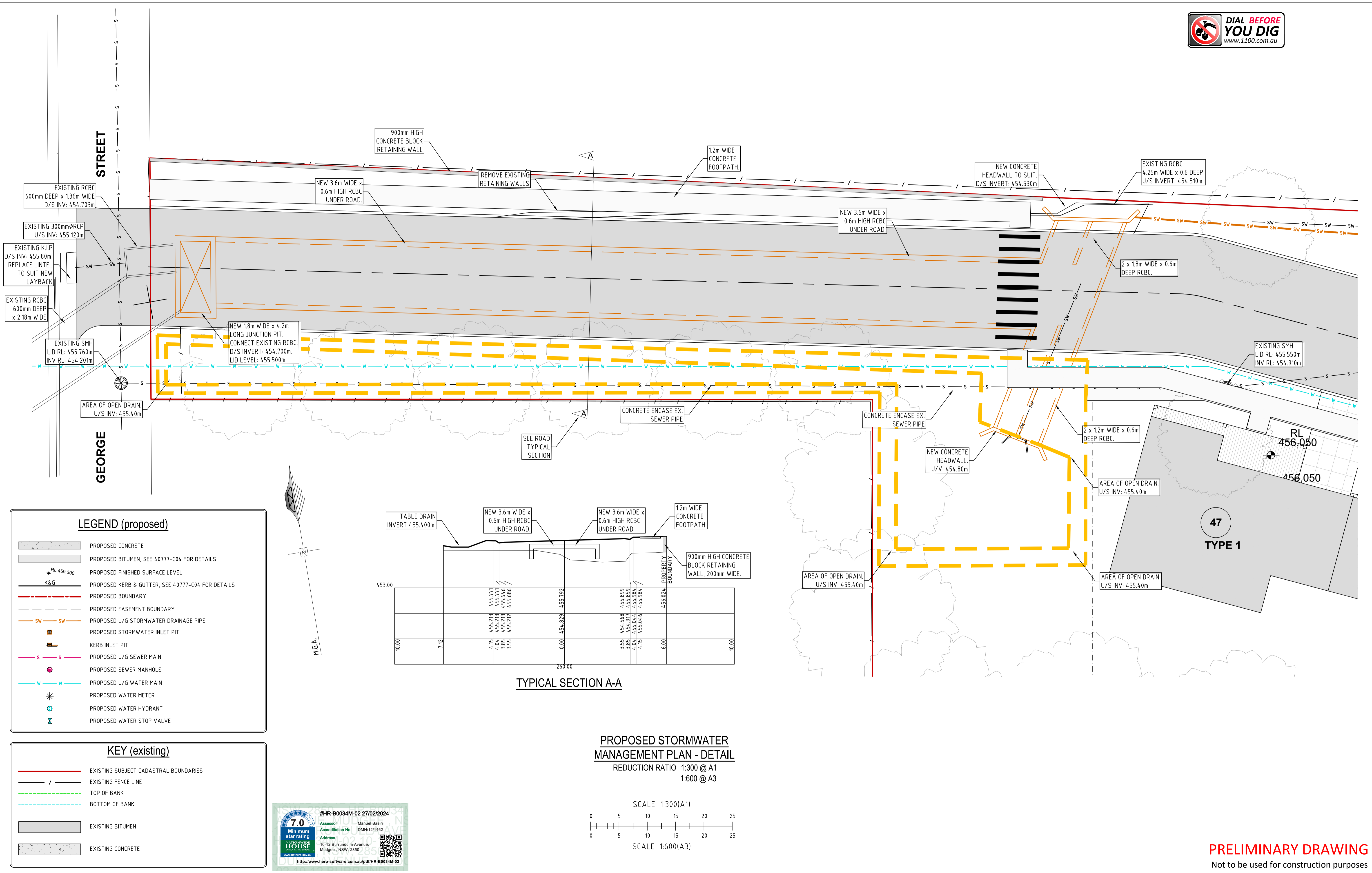
www.mudgee.gov.au

http://www.hero-software.com.au/pdf/HR-B0034M-02

PROPOSED STORMWATER MANAGEMENT PLAN  
REDUCTION RATIO 1:300 @ A1  
1:600 @ A3



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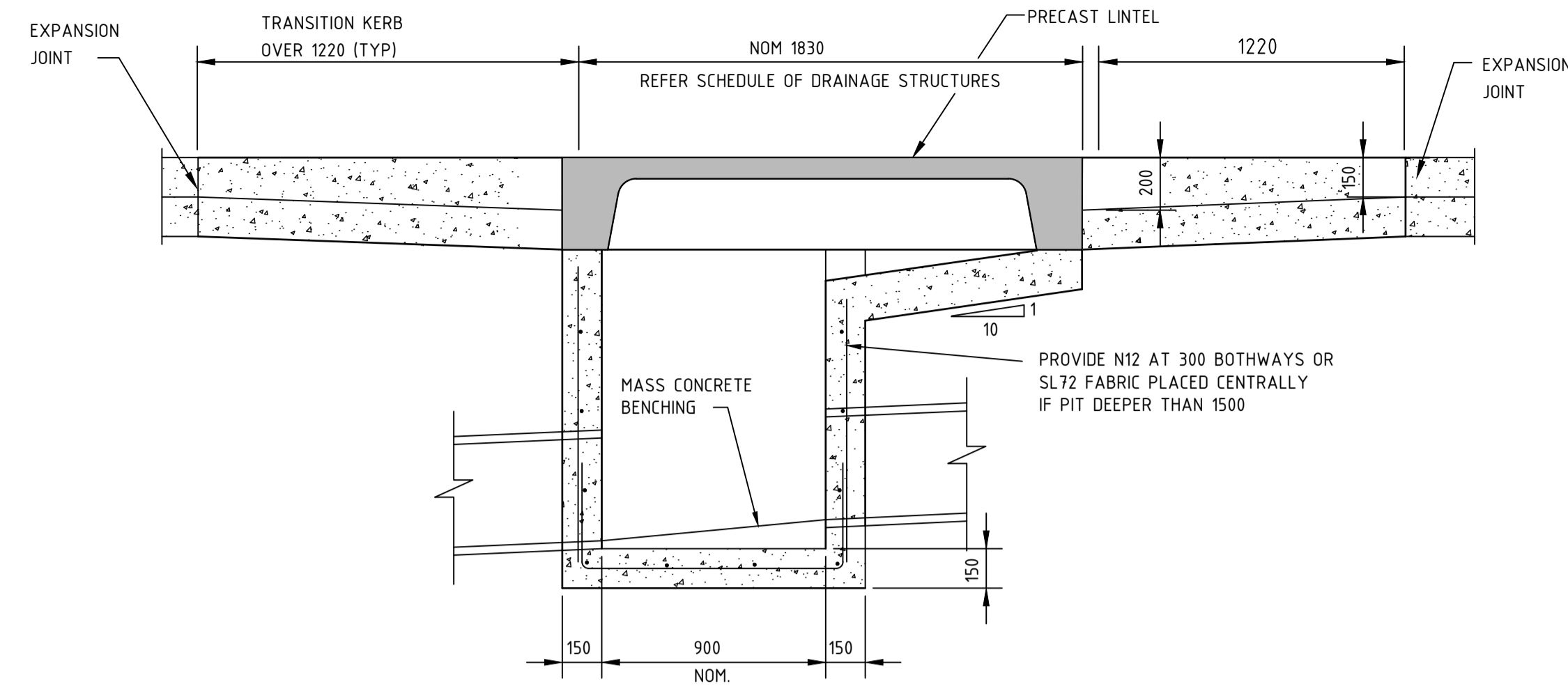
**PRELIMINARY DRAWING**  
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**STORMWATER NOTES**

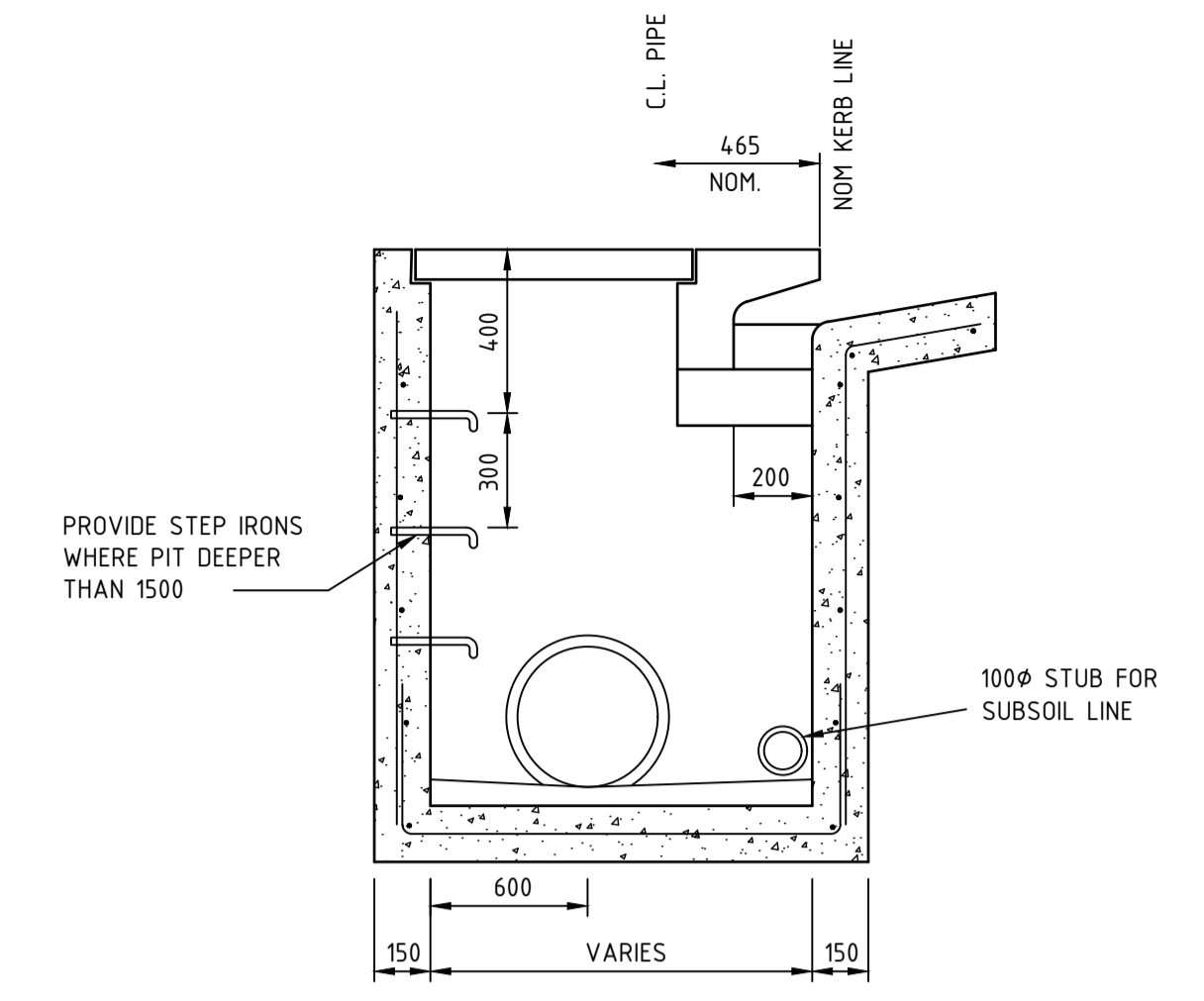
- CONTRACTOR IS TO ADEQUATELY INFORM HIMSELF AS TO THE DEPTH AND LOCATION OF ALL EXISTING SERVICES PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- PIPE IS TO BE LAID AT UNIFORM GRADE BETWEEN INVERT LEVELS SHOWN WITH MINIMUM COVER MAINTAINED UNLESS OTHERWISE APPROVED BY THE SUPERINTENDENT.
- MINIMUM COVER OVER ALL PIPES IN NON-TRAFFICABLE AREAS TO BE 450mm UNO. MINIMUM COVER OVER ALL PIPES IN TRAFFICABLE AREAS TO BE 600mm UNO. WHEN THIS CRITERIA CANNOT BE ACHIEVED, PIPES TO BE ENCASED IN 150 CONCRETE.
- ALL CONNECTIONS TO EXISTING DRAINAGE PITS SHALL BE MADE IN A TRADESMAN-LIKE MANNER AND THE INTERNAL WALL OF THE PIT AT THE POINT OF ENTRY SHALL BE CEMENT RENDERED TO ENSURE A SMOOTH FINISH.
- PRECAST PITS MAY BE USED AS APPROVED BY THE SUPERINTENDENT.
- ALL PIPES SHALL BE RUBBER RING JOINTED CLASS '2' UNLESS NOTED OTHERWISE.

**COMPACTION OF BACKFILL**

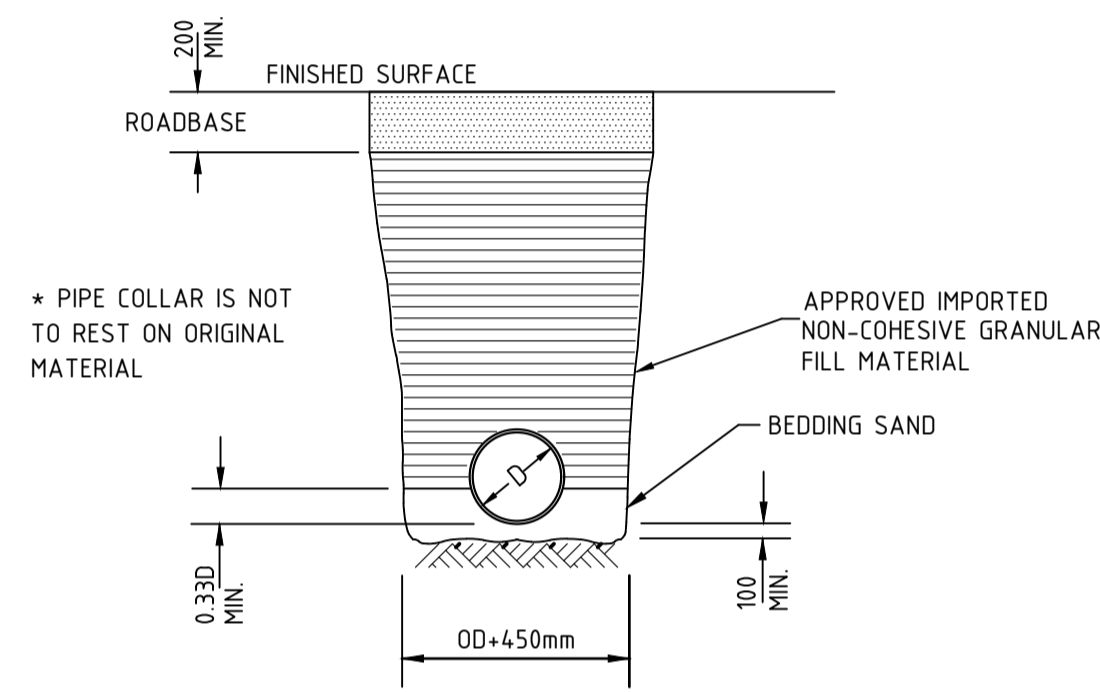
- BEDDING SAND**  
BEDDING SAND SHALL BE GRANULAR MATERIAL HAVING A LOW PERMEABILITY AND HIGH STABILITY WHEN SATURATED, CONFORMING TO THE GRADING LIMITS FOR BEDDING SAND AS INDICATED IN THE CONTRACT DOCUMENTS. BEDDING SAND SHALL BE COMPACTED TO A DENSITY INDEX OF 70% AS DETERMINED IN ACCORDANCE WITH AS1289.
- APPROVED IMPORTED GRANULAR FILL**  
ONLY IMPORTED GRANULAR FILL MATERIAL APPROVED BY THE SUPERINTENDENT SHALL BE USED. THIS FILL MATERIAL SHALL BE COMPACTED IN LAYERS NOT EXCEEDING 150mm THICK TO A DRY DENSITY OF 95% OF THE STANDARD MAXIMUM DRY DENSITY OF THE MATERIAL AND WITH A MOISTURE CONTENT NO MORE THAN 1% ABOVE OPTIMUM MOISTURE CONTENT AS DETERMINED IN ACCORDANCE WITH AS1289.
- ORDINARY EXCAVATED FILL MATERIAL**  
ORDINARY EXCAVATED FILL MATERIAL IS EXCAVATED TRENCH MATERIAL THAT IS FREE OF VEGETABLE MATTER, HUMUS, LARGE CLAY LUMPS AND ROCK BOULDERS. THIS FILL MATERIAL SHALL BE COMPACTED IN LAYERS NOT EXCEEDING 300mm THICK, TO A DENSITY OF 90% OF THE STANDARD MAXIMUM DRY DENSITY OF THE MATERIAL WITH A MOISTURE CONTENT OF NOT MORE THAN 1% ABOVE THE OPTIMUM MOISTURE CONTENT AS DETERMINED IN ACCORDANCE WITH AS1289.



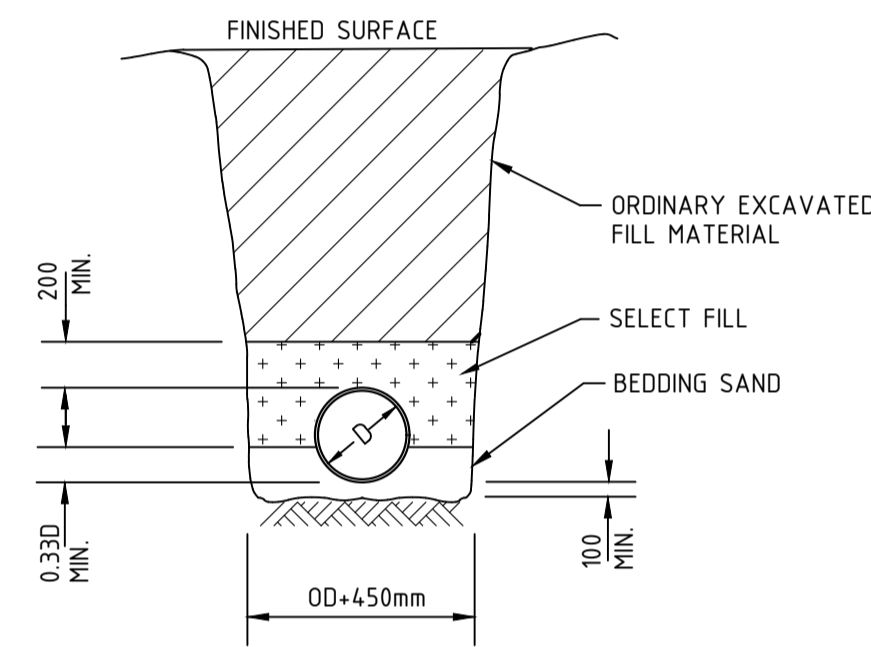
SECTION 1



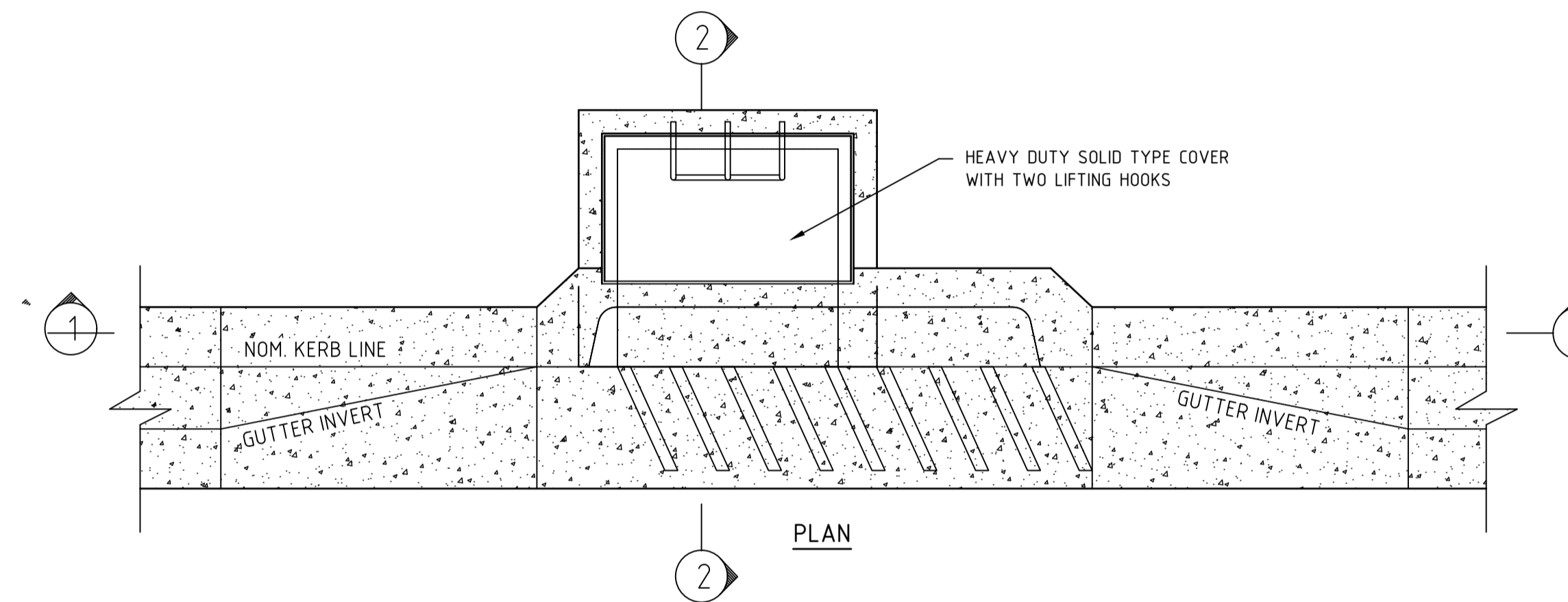
SECTION 2



TYPICAL SECTION - TRENCH IN ROADWAY  
N.T.S.

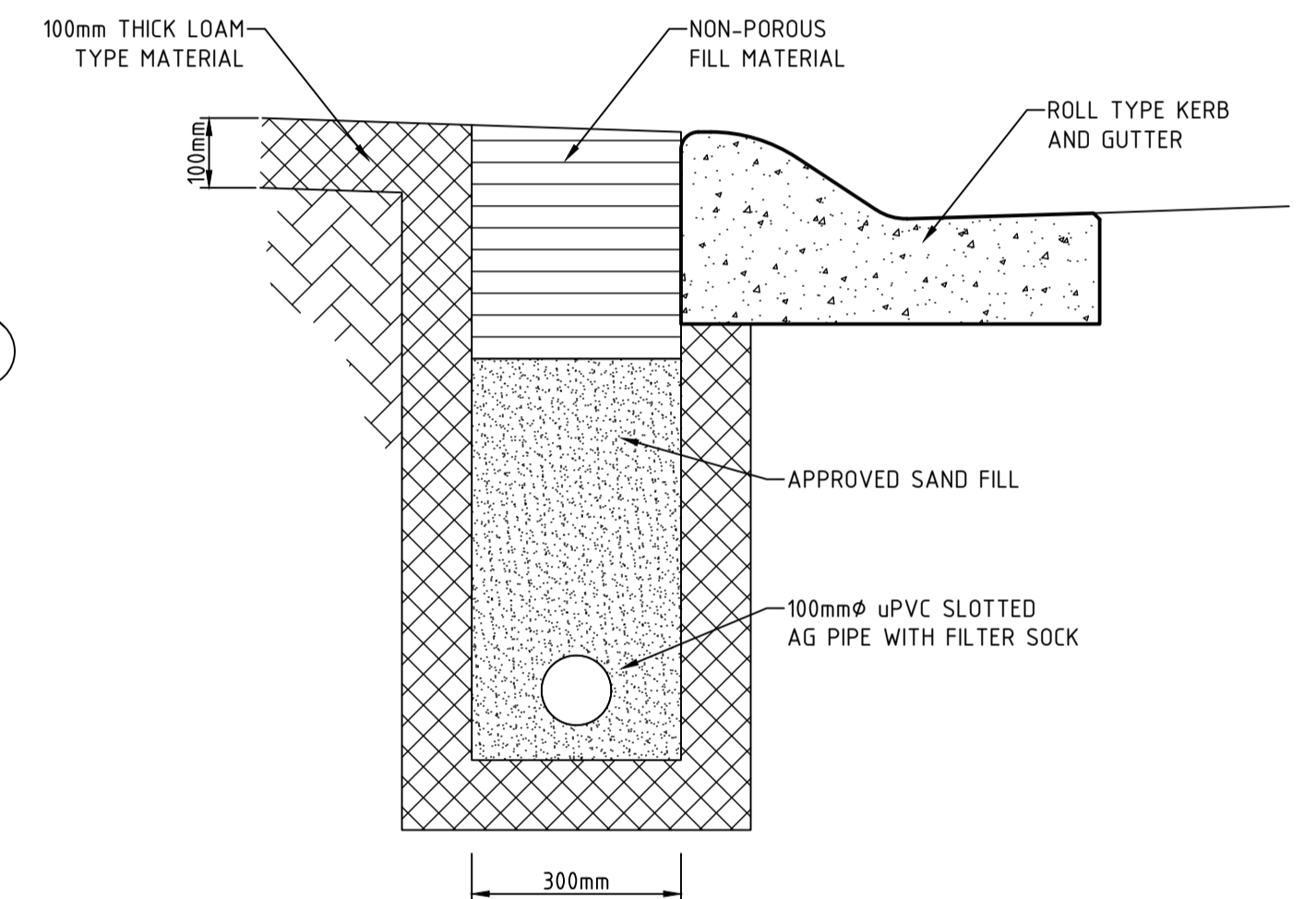


TYPICAL SECTION - EARTH FOUNDATION TRENCH  
N.T.S.



PLAN

KERB INLET PIT  
SCALE 1:20 (A1), 1:40 (A3)

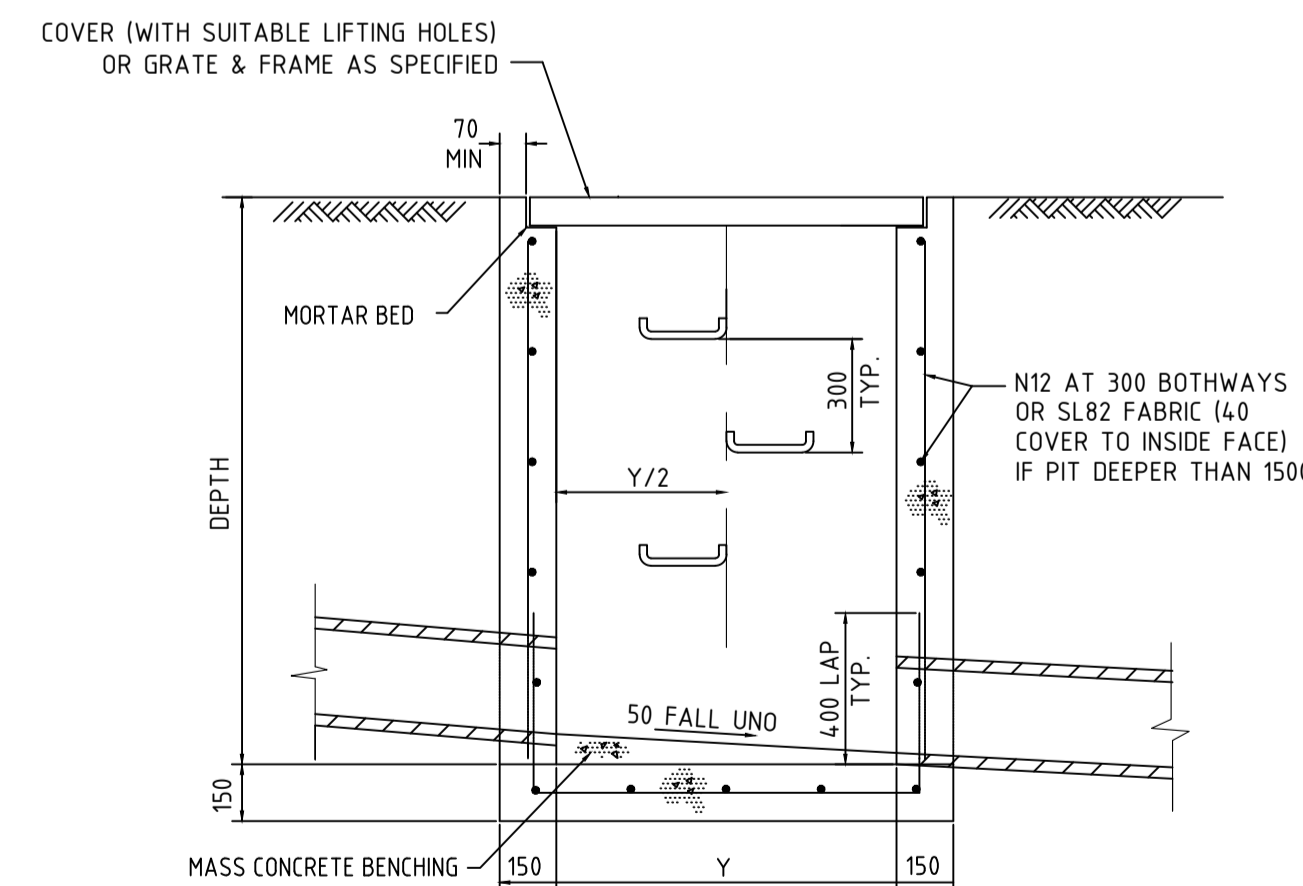


SUB-SOIL DRAINAGE DETAIL - TYPE 3  
SCALE 1:10 (A1), 1:20 (A3)

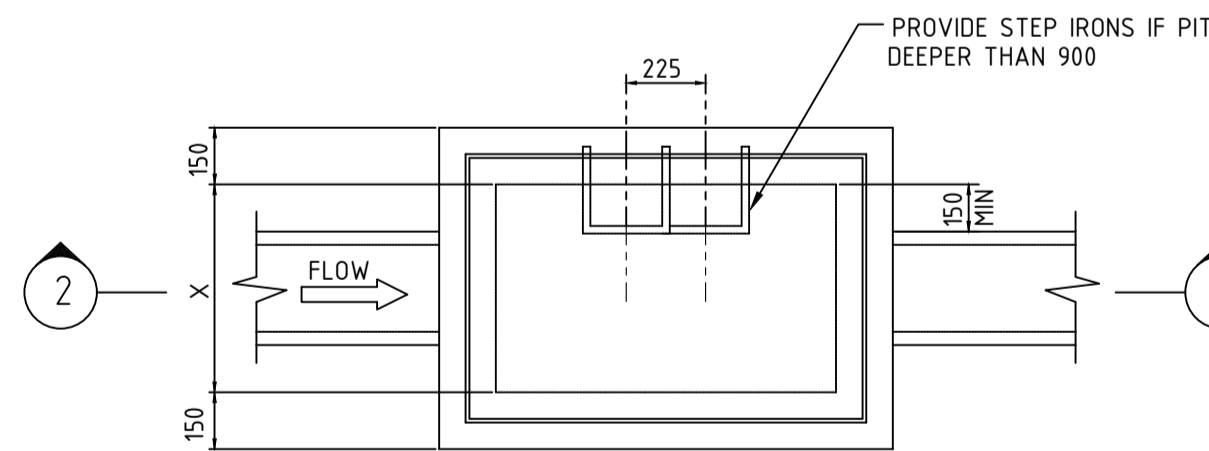
INSPECTION HOLD POINTS
1. INSTALLATION OF SEDIMENT & EROSION CONTROL MEASURES.
2. WATER & SEWER LINE INSTALLATION PRIOR TO BACKFILL.
3. ESTABLISHMENT OF LINE & LEVEL FOR KERB & GUTTER PLACEMENT.
4. ROAD PAVEMENT CONSTRUCTION.
5. ROAD PAVEMENT SURFACING.
6. PRACTICAL COMPLETION.

SERVICES INSTALLATION
1. INSTALLATION OF ALL UNDERGROUND PIPES BE INSTALLED PRIOR TO INSTALLATION OF ROAD PAVEMENT.



SECTION 2



PLAN

GRADED INLET PIT  
N.T.S.

PIT DIMENSIONS		
DEPTH	X	Y
D=600	450	450
D=1000	600	600
D=1500	600	900
1500<D<2400	900	900
D>2400	750	1200



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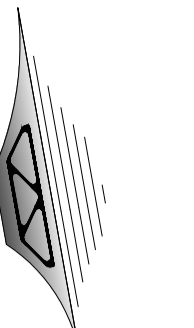
Project  
**CIVIL DESIGN DOCUMENTATION**  
LOT 122 IN DP 1074283  
Site Address  
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MUDGEES NSW 2850  
Client  
MID-WESTERN REGIONAL COUNCIL

Drawing Title		Certification	
<b>PROPOSED STORMWATER DETAILS</b>		Design	LM
Drawn	JS	Original Sheet Size	A1
Check	LM	Revision	A

Project No  
Drawing No



40777  
**C12**



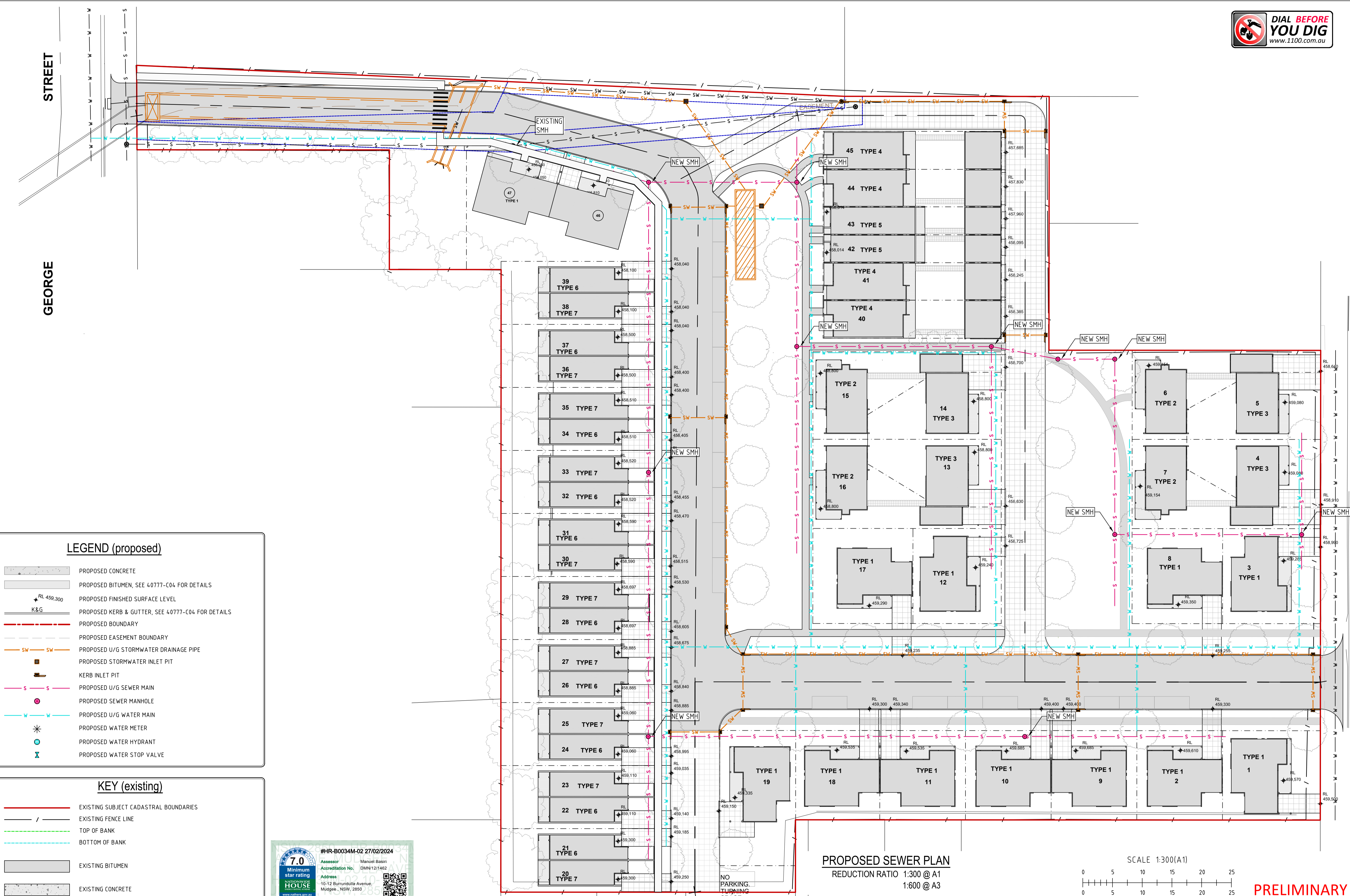
M.G.A.

AVENUE

BURRUNDULLA

STREET

GEORGE



**LEGEND (proposed)**

- PROPOSED CONCRETE
- PROPOSED BITUMEN, SEE 40777-C04 FOR DETAILS
- PROPOSED FINISHED SURFACE LEVEL
- PROPOSED KERB & GUTTER, SEE 40777-C04 FOR DETAILS
- PROPOSED BOUNDARY
- PROPOSED EASEMENT BOUNDARY
- PROPOSED U/G STORMWATER DRAINAGE PIPE
- PROPOSED STORMWATER INLET PIT
- KERB INLET PIT
- PROPOSED U/G SEWER MAIN
- PROPOSED SEWER MANHOLE
- PROPOSED U/G WATER MAIN
- PROPOSED WATER METER
- PROPOSED WATER HYDRANT
- PROPOSED WATER STOP VALVE

**KEY (existing)**

- EXISTING SUBJECT CADASTRAL BOUNDARIES
- EXISTING FENCE LINE
- TOP OF BANK
- BOTTOM OF BANK
- EXISTING BITUMEN
- EXISTING CONCRETE

#HR-B0034M-02 27/02/2024

7.0 Minimum star rating

Assessor: Manuel Basiri  
Accreditation No: DMN12/1462

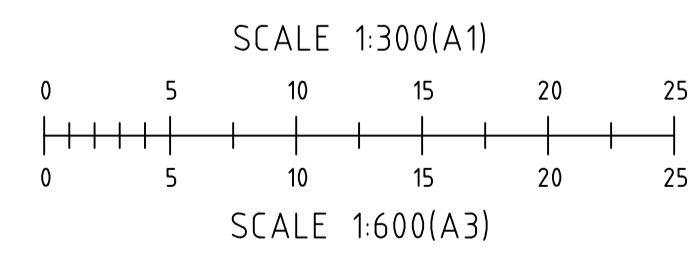
Address: 10-12 Burrundulla Avenue, Mudgee, NSW, 2850

www.mwrc.com.au

http://www.hero-software.com.au/pdf/HR-B0034M-02

**PROPOSED SEWER PLAN**

REDUCTION RATIO 1:300 @ A1  
1:600 @ A3



**PRELIMINARY DRAWING**  
Not to be used for construction purposes



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email generalenquiry@barnson.com.au  
web barnson.com.au

Rev	Date	Description
A	07-02-2024	PRELIMINARY DRAWING

Project  
**CIVIL DESIGN DOCUMENTATION**  
LOT 122 IN DP 1074283

Site Address  
10 - 12 BURRUNDULLA AVENUE  
MUDGEE NSW 2850

Client  
MID-WESTERN REGIONAL COUNCIL

Design	LM	Original Sheet Size	A1
Drawn	JS	Revision	A
Check	LM		

Certification

Project No  
A1

Drawing No  
A

40777  
**C13**

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH GENERAL BUILDING DRAWINGS, SPECIFICATIONS & OTHER CONSULTANTS DRAWINGS APPLICABLE TO THIS PROJECT. ALL DIMENSIONS IN MILLIMETRES. DO NOT SCALE. DIMENSIONS TO BE CHECKED ON SITE BEFORE COMMENCEMENT OF WORK. REPORT DISCREPANCIES TO BARNSON PTY LTD. NO PART OF THIS DRAWING MAY BE REPRODUCED IN ANY WAY WITHOUT THE WRITTEN PERMISSION OF BARNSON PTY LTD.

**NOTES**

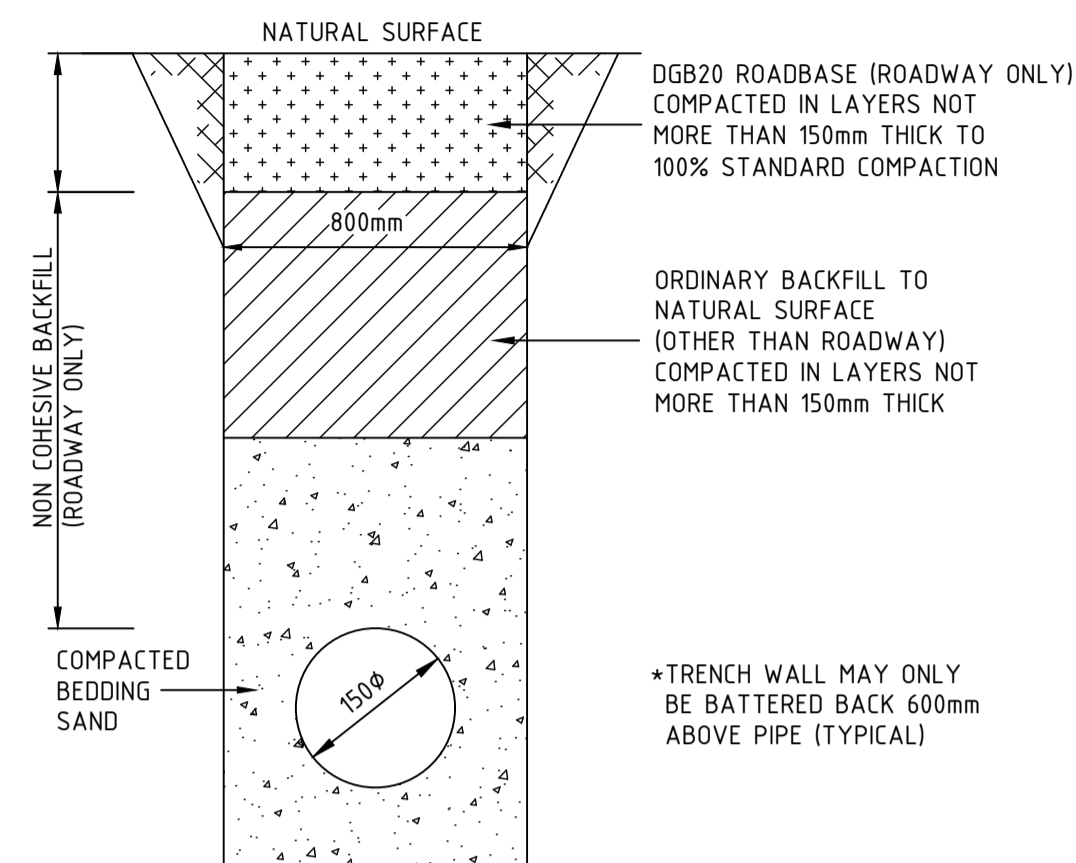
1. ALL SEWER MAINS SHALL BE 150Ø/225Ø CLASS SN8 RRJ UPVC PIPE. ALL GRAVITY LINES TO USE SEWER GRADE FITTINGS WHERE REQUIRED.
2. CONSTRUCTION OF SEWER MAINS AND MANHOLES SHALL BE CARRIED OUT IN ACCORDANCE WITH THE WSA SEWERAGE CODE, WSA-02, 2002.
3. ANY OTHER SERVICES INCLUDING TELSTRA, GAS, POWER, WATER AND STORMWATER MUST BE LOCATED BEFORE WORK COMMENCES.
4. MANHOLES SHALL BE PRECAST CONCRETE FROM A SUPPLIER APPROVED BY COUNCIL AND HAVE A ROUND REMOVABLE LIGHT DUTY GATIC COVER (UNO) AND A MINIMUM INTERNAL DIAMETER OF 1020mm.
5. 150mmØ BOUNDARY RISERS SHALL BE PROVIDED TO EACH LOT TO MID-WESTERN REGIONAL COUNCIL'S GUIDELINES FOR ENGINEERING WORKS.
6. RISERS AND SIDELINES TO BE CONSTRUCTED TO WSA-02 2002.
7. FLOW LINE CHANNELS AND INTERSECTIONS SHALL BE CONSTRUCTED THROUGH MANHOLES AS PER WSA-02 2002.
8. ALL SEWER MAINS TO BE PRESSURE TESTED AS PER WSA-02 2002 AND MID-WESTERN REGIONAL COUNCIL'S GUIDELINES FOR ENGINEERING WORKS.

**BEDDING NOTES**

1. THE MINIMUM DEPTH TO TOP OF PIPE SHALL BE 1000mm, EXCEPT UNDER ROAD PAVEMENT WHERE MINIMUM COVER TO TOP OF PIPE SHALL BE 1200mm MINIMUM UNLESS SHOWN OTHERWISE. PIPES WITH LESS COVER THAN THESE LIMITS TO BE CONCRETE ENCASED, AND DICL UNDER ROADS.
2. GRADES OF GRAVITY SEWER NOT TO BE FLATTER THAN 1:179 (0.55%) FOR 150mm DIAMETER PIPES AS PER WSA-2014.
3. MANHOLES SHALL BE PLACED AT EACH CHANGE IN DIRECTION OR GRADE OF THE PIPE LINE AT INTERVALS ALONG THE LINE NOT EXCEEDING 80m.

**INSPECTION HOLD POINTS**

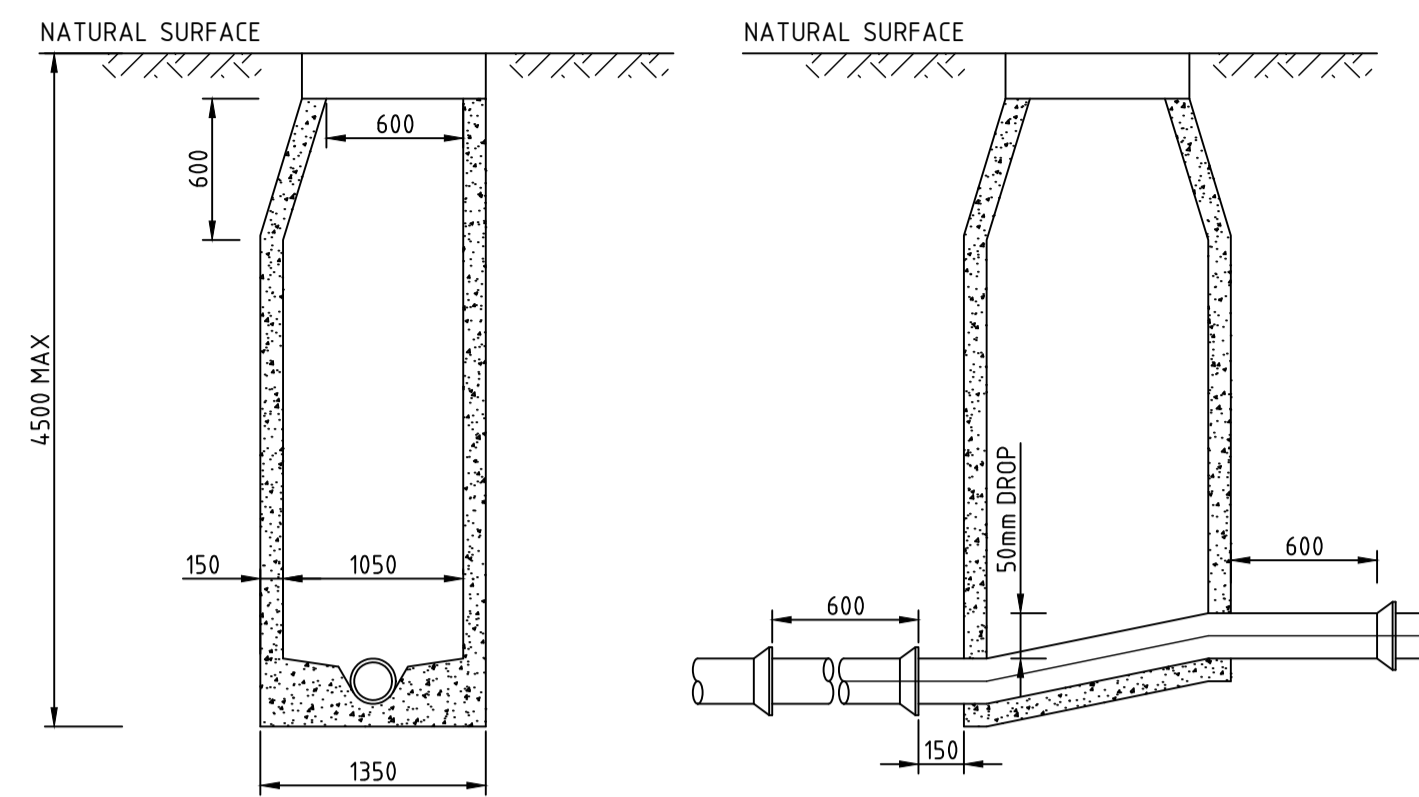
1. INSTALLATION OF SEDIMENT & EROSION CONTROL MEASURES.
2. SEWER LINE INSTALLATION PRIOR TO BACKFILL.
3. PRACTICAL COMPLETION.



**TYPICAL TRENCH SECTION**

N.T.S.

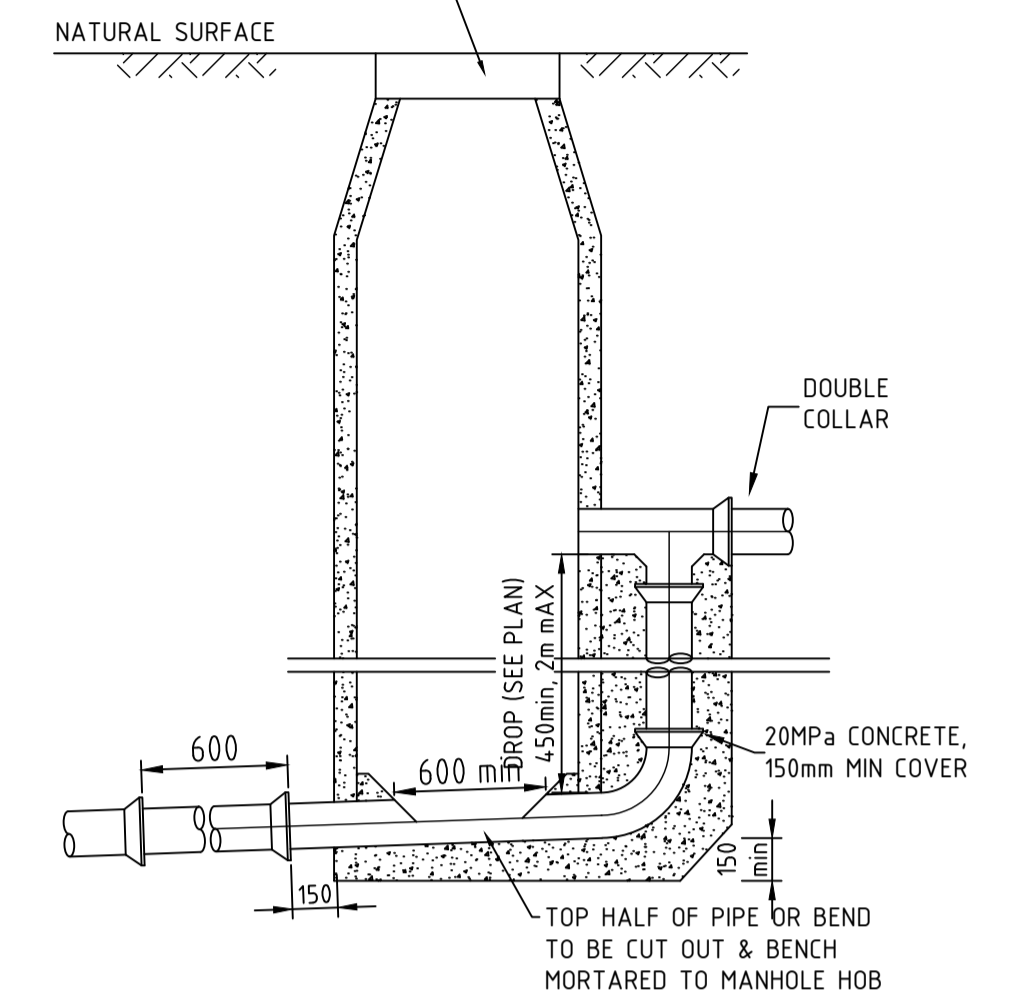
\* INSTALLATION OF UPVC PIPES SHALL TO CONFORM TO AS2032-1977 "INSTALLATION OF UPVC PIPE SYSTEMS", AS2566-1998 "BURIED FLEXIBLE PIPELINES", WSA-02 2002 AND MANUFACTURERS INSTRUCTIONS.



**TYPICAL MANHOLE SECTION (150mmØ)**

N.T.S.

COVERS TO BE ADJUSTED FOR LEVEL & GRADE OF SURROUNDING NATURAL SURFACE AND FLUSH SURFACE IN FOOTWAYS AND CARRIAGEWAYS & PROTRUDING 25mm IN GRASSSED AREAS & 75mm IN OPEN COUNTRY.



**TYPICAL EXTERNAL DROP (150mmØ)**

N.T.S.



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Rev	Date	Description
A	07-02-2024	PRELIMINARY DRAWING

Project  
**CIVIL DESIGN DOCUMENTATION**  
 LOT 122 IN DP 1074283  
 Site Address  
 10 - 12 BURRUNDULLA AVENUE  
 MUDGEES NSW 2850  
 Client  
 MID-WESTERN REGIONAL COUNCIL

Drawing Title  
**PROPOSED SEWER DETAILS**

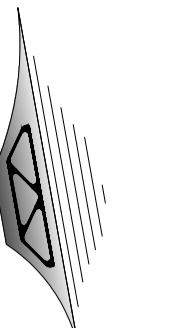
Design LM  
 Drawn JS  
 Check LM

Original Sheet Size  
 Revision

A1  
 A

Certification  
 Project No  
 Drawing No

40777  
**C14**



M.G.A.

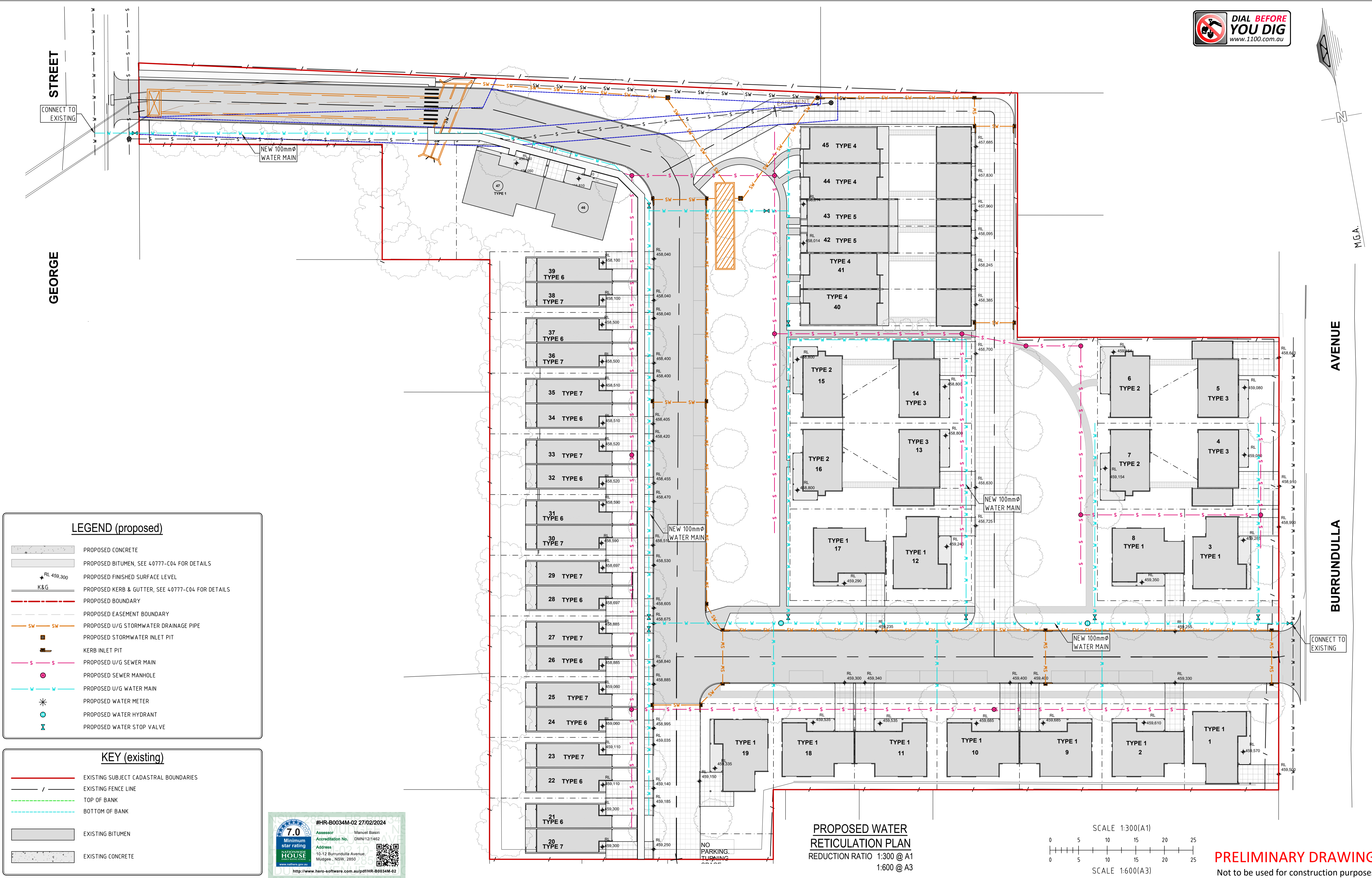
AVENUE

BURRUNDULLA

CONNECT TO EXISTING

STREET

GEORGE



**LEGEND (proposed)**

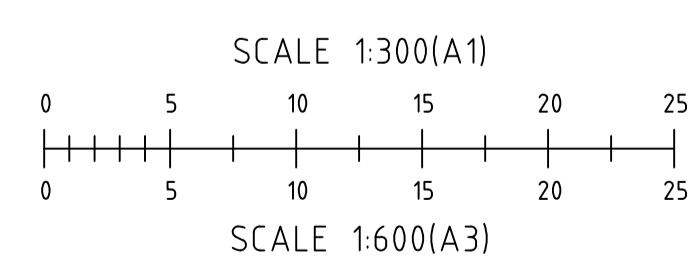
- PROPOSED CONCRETE
- PROPOSED BITUMEN, SEE 40777-C04 FOR DETAILS
- PROPOSED FINISHED SURFACE LEVEL
- PROPOSED KERB & GUTTER, SEE 40777-C04 FOR DETAILS
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**KEY (existing)**

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- TOP OF BANK
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#HR-B0034M-02 27/02/2024  
 7.0 Minimum star rating  
 Assessor: Manuel Basiri  
 Accreditation No.: OMN121482  
 Address: 10-12 Burrundulla Avenue, Mudgee, NSW, 2850  
 http://www.hero-software.com.au/pdf/HR-B0034M-02

**PROPOSED WATER RETICULATION PLAN**  
 REDUCTION RATIO 1:300 @ A1  
 1:600 @ A3



**PRELIMINARY DRAWING**  
 Not to be used for construction purposes



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 web barnson.com.au

Rev	Date	Description
A	07-02-2024	PRELIMINARY DRAWING
B	26-02-2024	ISSUED FOR REVIEW

Project  
**CIVIL DESIGN DOCUMENTATION**  
**LOT 122 IN DP 1074283**  
 Site Address  
**10 - 12 BURRUNDULLA AVENUE**  
**MUDGEJ NSW 2850**  
 Client  
**MID-WESTERN REGIONAL COUNCIL**

Drawing Title		Certification	
<b>PROPOSED WATER RETICULATION PLAN</b>		A1	Project No
Design	LM	B	Drawing No
Drawn	JS		
Check	LM		
Original Sheet Size			
Revision			

40777  
**C15**



## CONSTRUCTION NOTES

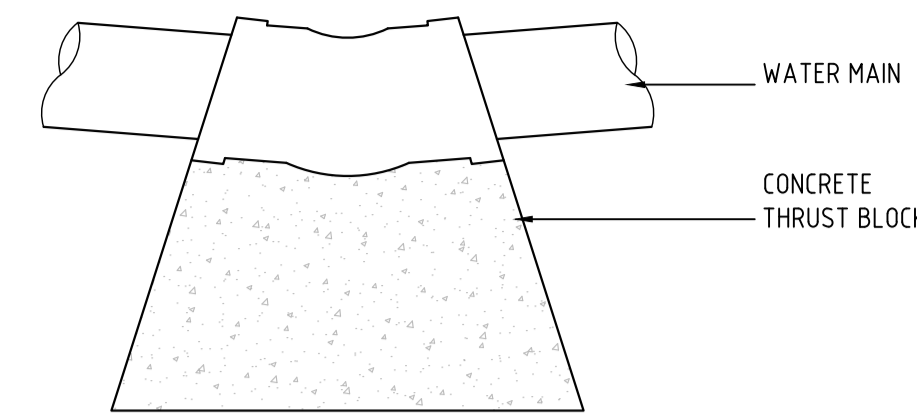
1. WATER MAINS TO HAVE MINIMUM 800mm COVER IN FOOTPATH AND 800mm COVER IN ROADWAYS.
2. PIPES TO BE RACKED & BENDS PLACED AS REQUIRED.
3. STOP VALVES TO BE FBE/RILSAN COATED, ANTI-CLOCKWISE CLOSING AND TABLE C FLANGES.
4. ALL PIPES AND FITTINGS AND MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS & WSA WATER RETICULATION CODE.
5. MAIN SHALL BE PRESSURE-TESTED TO AS PER MID-WESTERN REGIONAL COUNCIL'S ENGINEERING GUIDELINE'S.
6. ALL MAINS FOR CONNECTION TO THE PUBLIC WATER SUPPLY SYSTEM SHALL BE DISINFECTED TO THE SATISFACTION OF COUNCIL INSPECTOR.
7. ALL CONCRETE SHALL BE 20MPa.
8. WATER MAINS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH MID-WESTERN REGIONAL COUNCIL'S SPECIFICATIONS.
9. THE CONTRACTOR SHALL LOCATE AND POTHOLE ALL UTILITIES AND SERVICES INTERSECTING THE WORKS AND CONNECTIONS TO THE EXISTING WATER MAINS PRIOR TO COMMENCEMENT OF TRENCH EXCAVATION. PIPES SHALL BE DEFLECTED AT JOINTS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS SUCH THAT CLEARANCES ARE MAINTAINED TO MEET UTILITY OR SERVICE OWNERS REQUIREMENTS

## PIPE NOTES:

1. THE FOLLOWING PIPE MATERIALS MAY BE USED FOR WATER RETICULATION MAINS:
  - 1a. ALL WATER MAINS LESS THAN 300mm IN DIAMETER SHALL BE CONSTRUCTED FROM CLASS K9 DUCTILE IRON CEMENT LINED (DICL), SPIGOT AND SOCKET, RUBBER RING JOINTED PIPE MANUFACTURED IN ACCORDANCE WITH AUSTRALIAN STANDARD 2280 OR uPVC.
  - 1b. ALL WATER PIPES GREATER THAN 300MM IN DIAMETER SHALL BE CLASS K12 DICL. ALTERNATIVELY, CLASS 20 (MIN) "BLUE BRUTE" UPVC PIPE MAY BE USED, PROVIDED THAT OD COMPATIBILITY WITH DICL PIPING IS MAINTAINED.
  - 1c. POLYETHYLENE (AS/NZS4130) MINIMUM PN12.5, BLUE STRIPED FOR POTABLE SYSTEMS. LILAC STRIPED FOR RE-USE OR RAW WATER SYSTEMS. ALL JOINTING TO BE ELECTRO-FUSION OR BUTT-WELDED.
2. PRODUCTS IN CONTACT WITH POTABLE WATER SHALL BE TESTED AND COMPLY WITH THE REQUIREMENTS OF AS/NZS4020 FOR PRODUCTS IN CONTACT WITH DRINKING WATER.

## NOTES:

1. STOP VALVE & SCOUR VALVE CHAMBERS MAY EITHER BE CONSTRUCTED USING PREFABRICATED POLYPROPYLENE UNITS, 375mm DIAM. PVC OR CONCRETE PIPE, INTERLOCKING CONCRETE BLOCKS OR BRICKS WITH SAND/CEMENT MORTAR JOINTS.
2. THE BOTTOM OF THE BRICK, INTERLOCKING CONCRETE BLOCK OR PIPE CHAMBERS SHALL NOT REST DIRECTLY ON THE PIPE BUT ON A COURSE OF BRICKS OR A 100mm THICK CONCRETE FOUNDATION.
3. MINIMUM COVER OVER PIPELINES (ALL TYPES) SHALL BE 750mm IN AREAS SUBJECT TO VEHICULAR LOADING SUCH AS ROADS & FOOTPATHS AND 600mm ELSEWHERE.
4. IN AREAS PAVED WITH BITUMEN SEALING, ASPHALT, CONCRETE OR PAVING BLOCKS THE SURFACE OF VALVE AND HYDRANT COVERS SHALL FINISH FLUSH WITH THE PAVED SURFACE.
5. FOR STOP VALVES INSTALLATION, SOCKETS SHALL BE BUTTED UP TO SPIGOTS AND TRENCH WIDTHS SHALL BE KEPT TO A MINIMUM.
6. FILL SAND SHALL BE COMPACTED IN LAYERS NOT EXCEEDING 150mm AND COMPACTED TO ACHIEVE A MINIMUM 70 INDEX AND TO THE SATISFACTION OF THE SUPERINTENDENT.
7. INDICATOR POSTS SHALL BE WHITE IN COLOUR AND ONE OF THE FOLLOWING TYPES :
  - 100mm x 100mm REINFORCED CONCRETE WITH 20mm CHAMFERS.
  - POWDER COATED METAL SUCH AS "EZIDRIVE" POST OR EQUIVALENT.
  - RECYCLED PLASTIC POST WITH RECESSES FOR MARKER PLATES.
  - OTHER POSTS APPROVED BY COUNCIL.
8. DIMENSIONS OF SURFACE BOX COVERS SHOWN ON THIS DRAWING ARE NOMINAL. IF SURFACE BOX COVERS OTHER THAN THOSE SHOWN ARE SUPPLIED, THE DIMENSIONS OF THE CONCRETE SURROUNDS SHALL BE ADJUSTED ACCORDINGLY.
9. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 20 MPa AND COMPLY WITH THE AUS-SPEC SPECIFICATION FOR MINOR CONCRETE WORKS.
10. THE DIMENSION BETWEEN THE UNDERSIDE OF THE STOP VALVE SURFACE BOX LID AND THE TOP OF THE VALVE SPINDLE SHALL BE A MINIMUM OF 80mm. THE TOP OF VALVE SPINDLE SHALL BE NO MORE THAN 300mm BELOW TOP SURFACE OF SURFACE BOX LID. IF THIS CANNOT BE ATTAINED, A GALVANIZED OR EPOXY PAINTED VALVE KEY EXTENSION SECURED BY GRUB SCREWS SHALL BE FITTED. IF NECESSARY, TO ENSURE THAT THE KEY EXTENSION IS CENTERED CORRECTLY A SPIDER ASSEMBLY SHALL BE INCORPORATED IN THE EXTENSION.

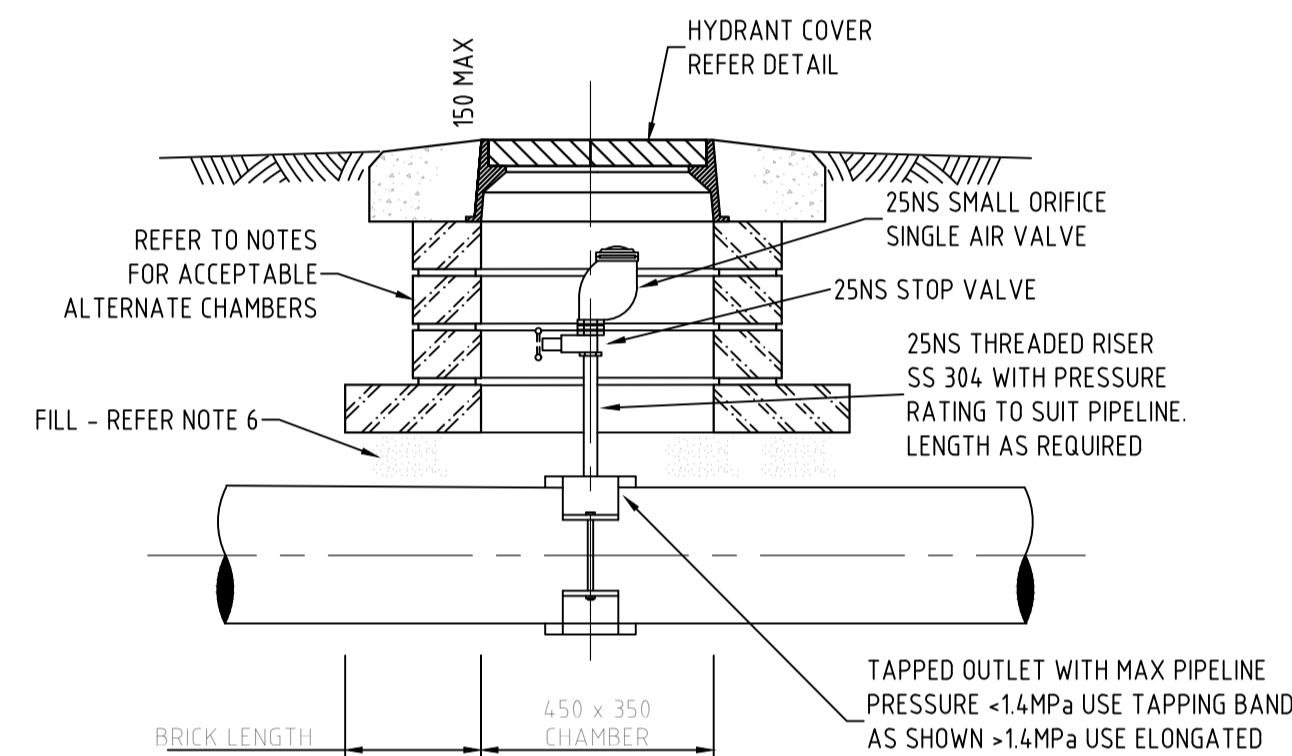


THRUST BLOCK PLAN DETAIL  
NTS

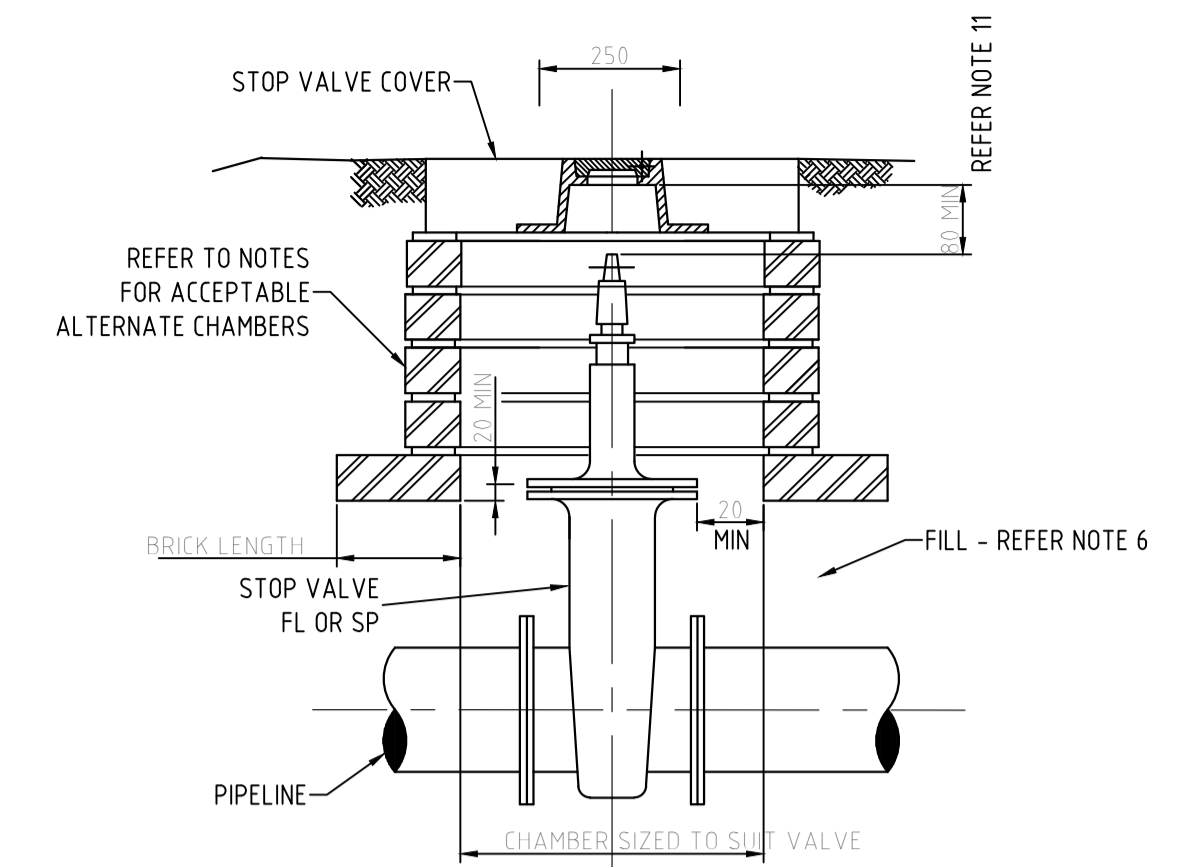
THRUST BLOCK SCHEDULE			
FITTINGS	FORCE (kN)	BEARING AREA (HxW)m <sup>2</sup>	DIMENSIONS (HxWxL)
BEND 90°	151	1.0000	1.0x1.0x0.5m
BEND 45°	81	0.8100	0.9x0.9x0.5m
BEND 22.5°	42	0.2500	0.5x0.5x0.5m
BEND 11.25°	21	0.2500	0.5x0.5x0.5m
TEE/CLOSED VALVE	108	1.0000	1.0x1.0x0.5m

### THRUST BLOCK DESIGN NOTES

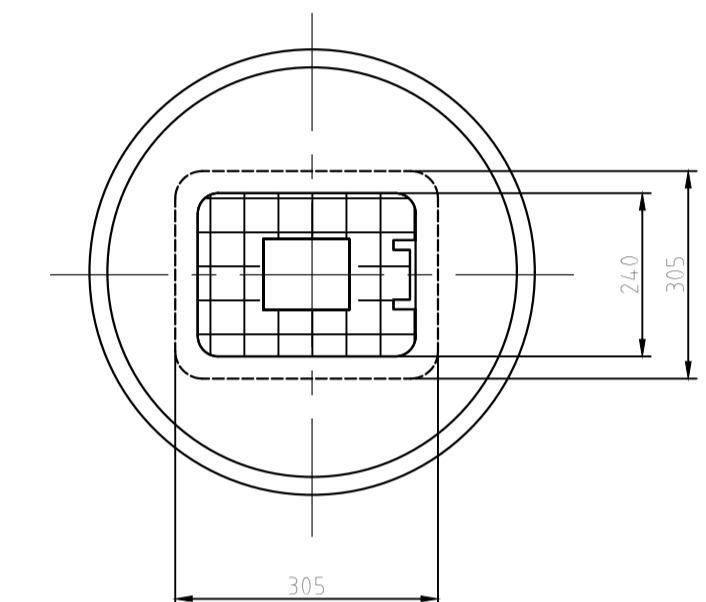
1. THE THRUST BLOCK FACE SHALL BE POURED AGAINST UNDISTURBED EARTH.
2. SOIL BEARING CAPACITY ASSUMED TO BE 100kPa TO BE CONFIRMED ON SITE. IF SITE CONDITIONS VARY CONTACT BARNSON PTY LTD.
3. FACTOR OF SAFETY = 2.0



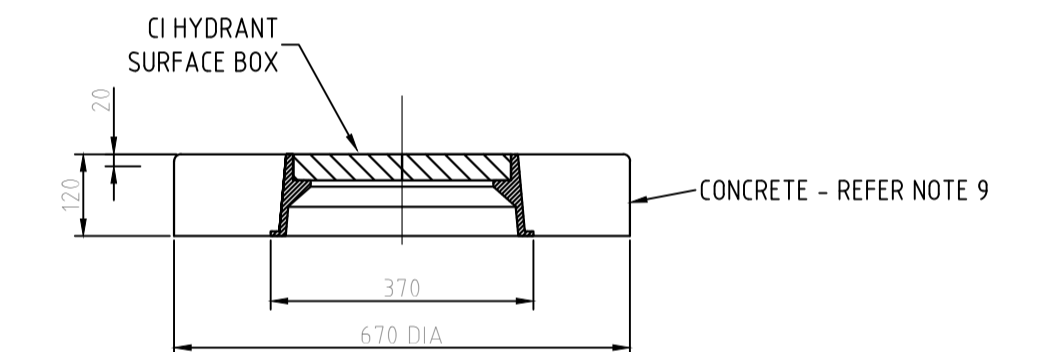
SINGLE AIR VALVE INSTALLATION  
SCALE = N.T.S.



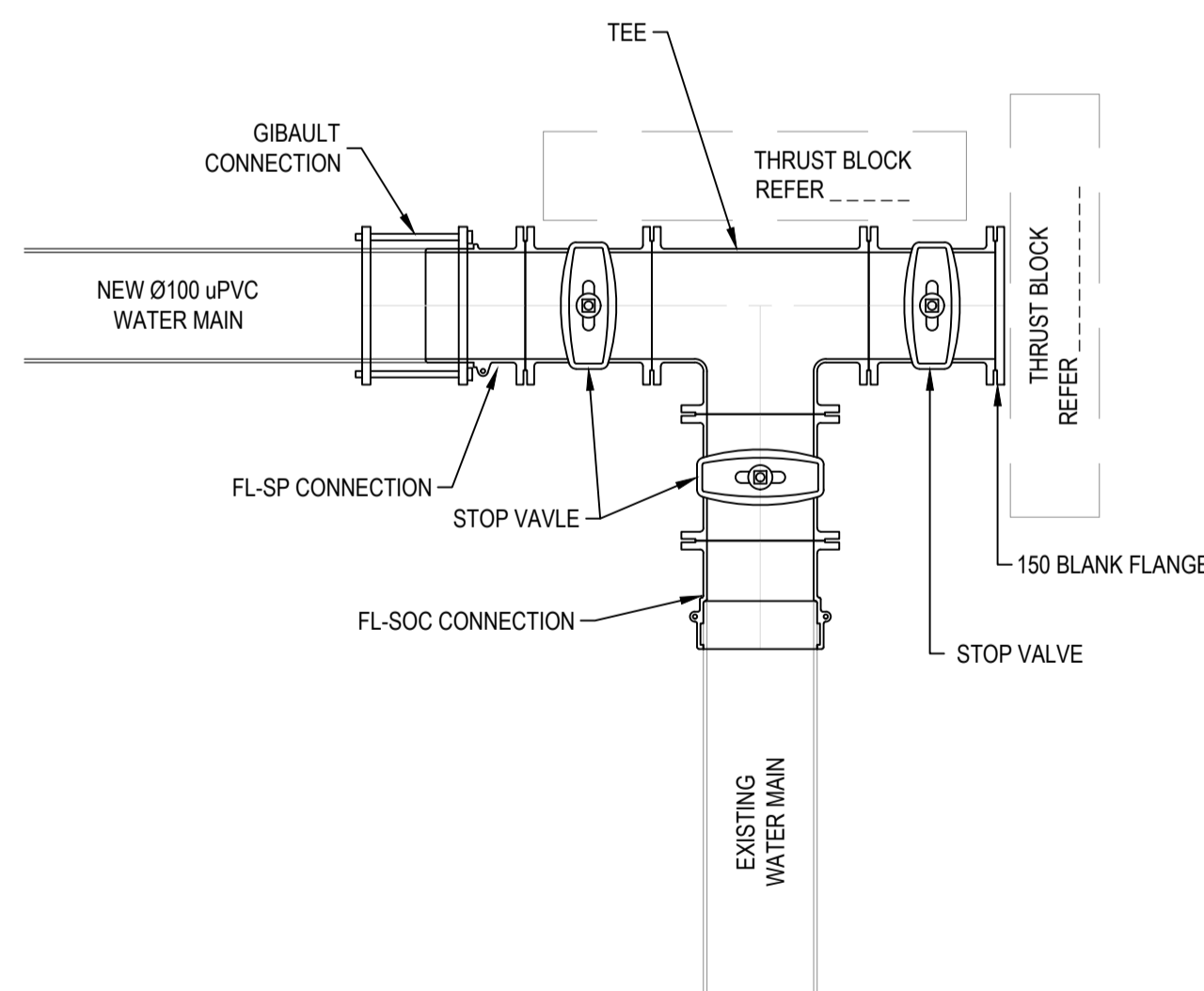
STOP VALVE INSTALLATION  
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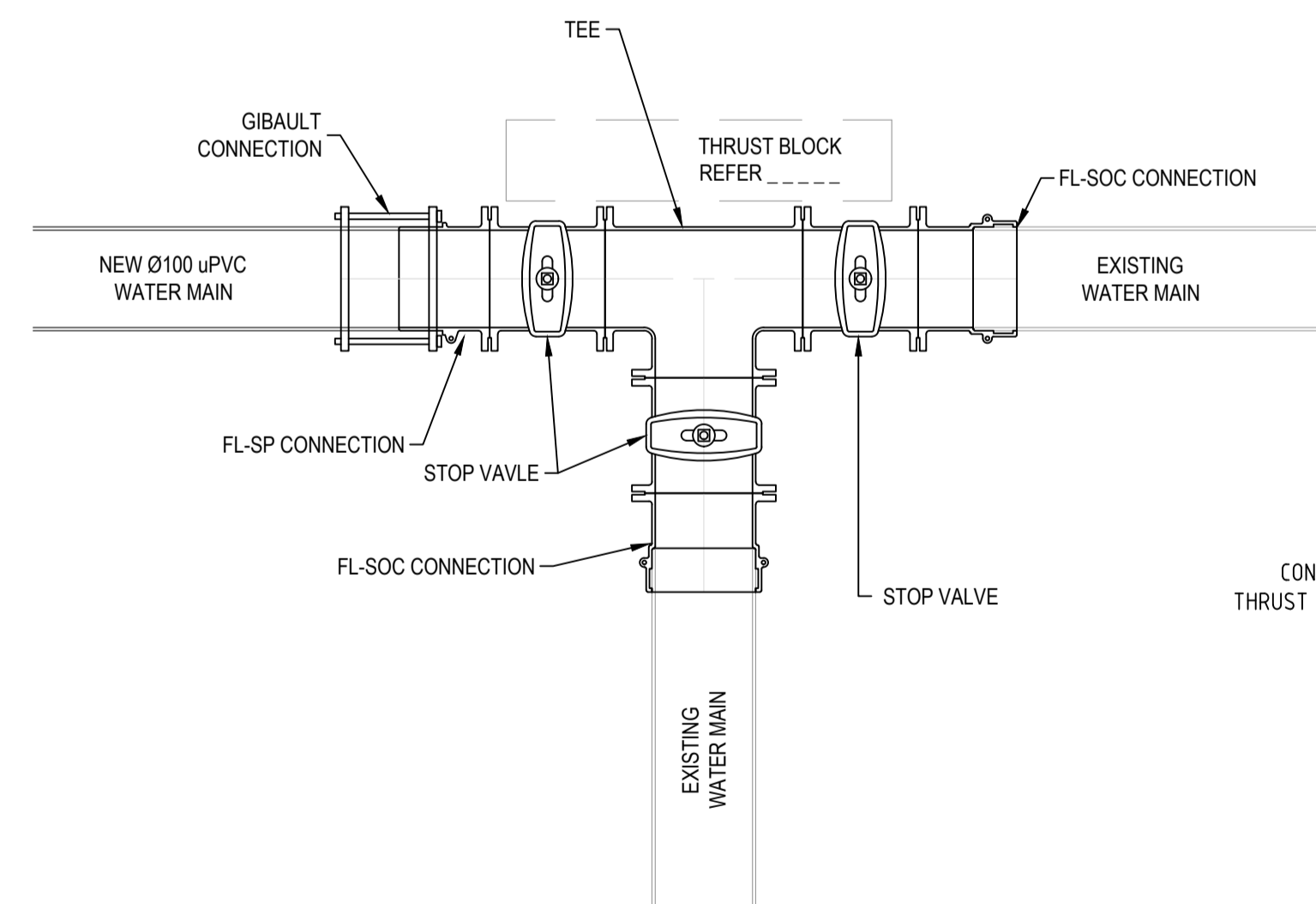
HYDRANT COVER - PLAN  
SCALE = N.T.S.



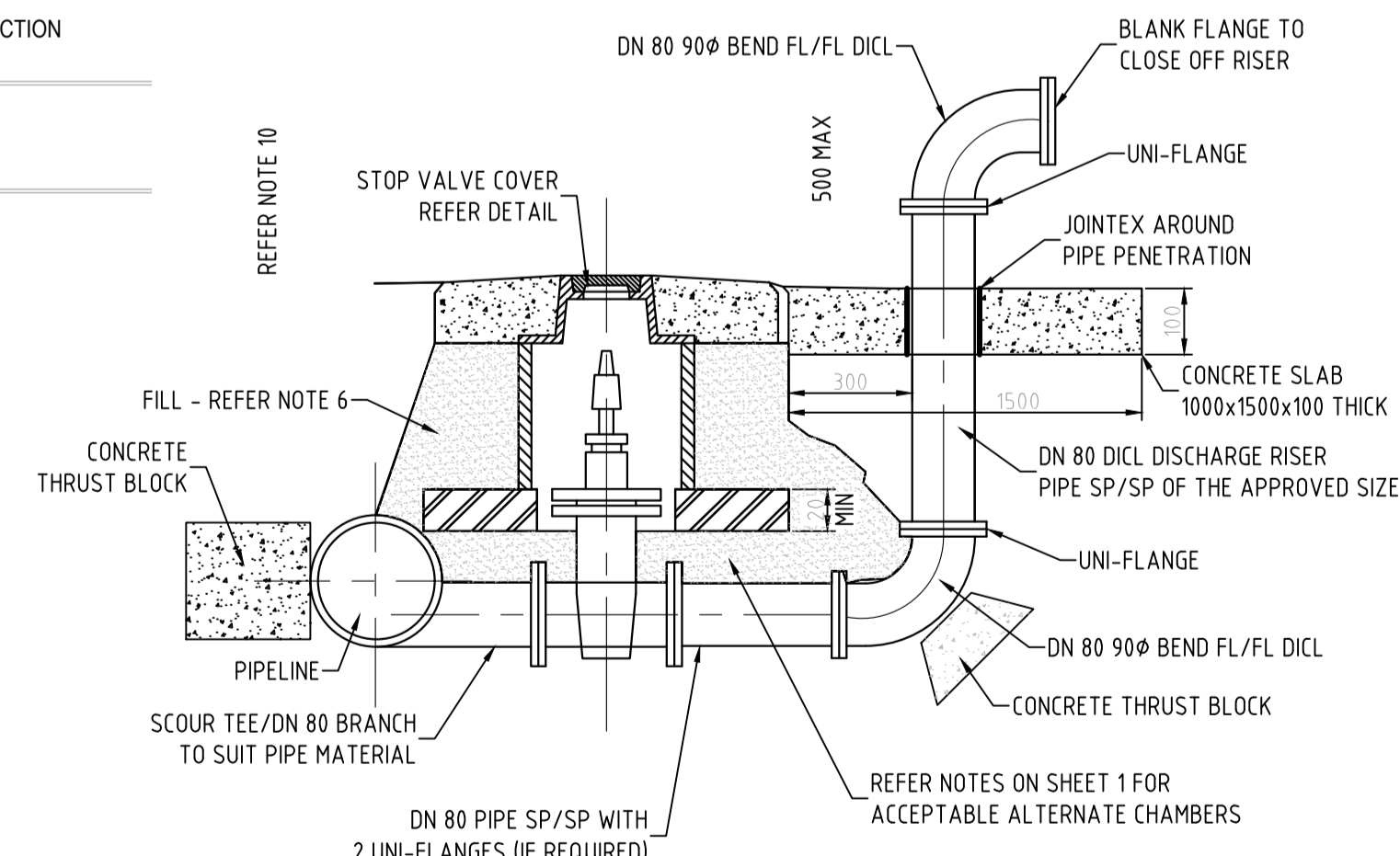
HYDRANT COVER - SECTION  
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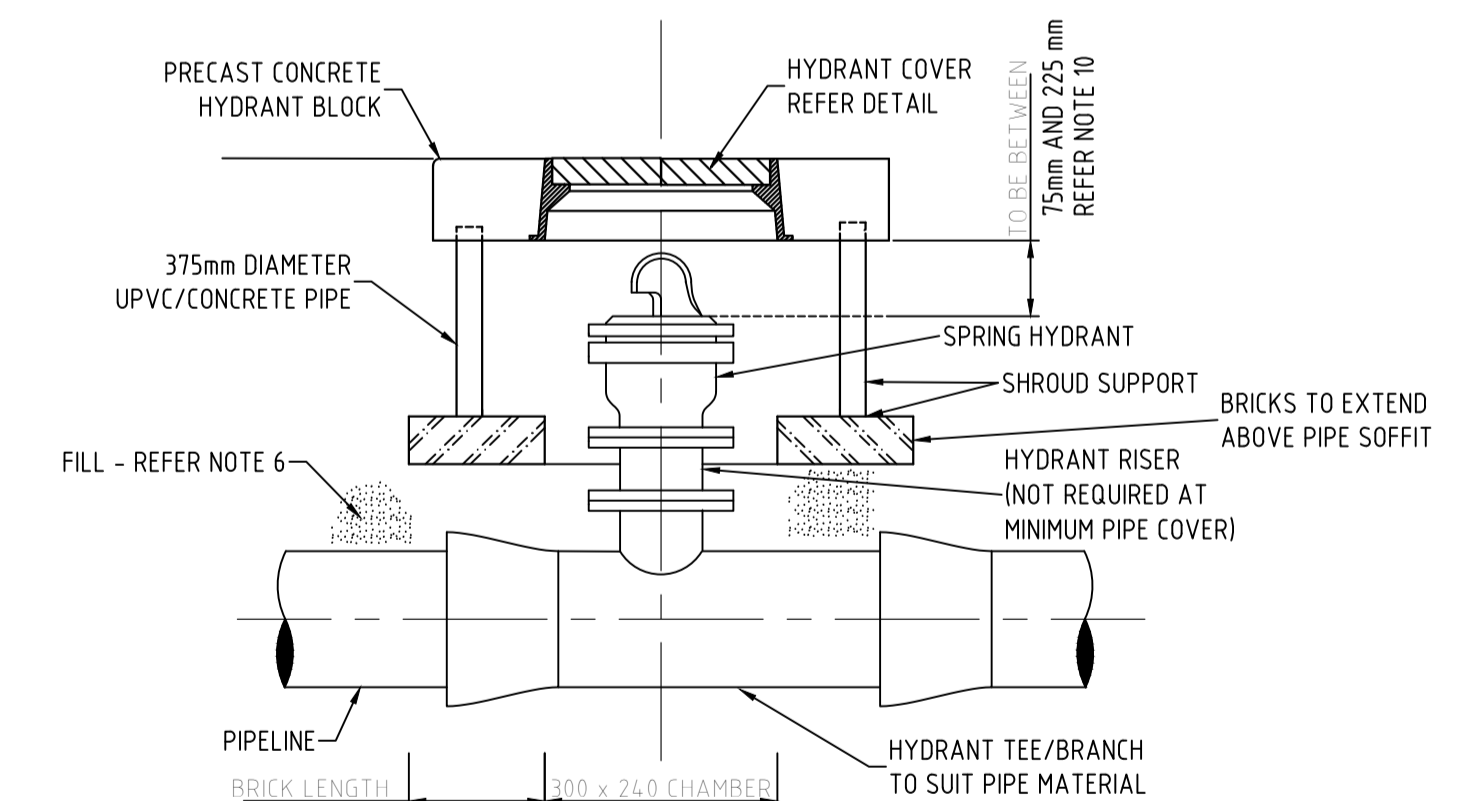
TYPICAL WATER CONNECTION PLAN - DETAIL  
REDUCTION RATIO 1:10 @ A1, 1:20 @ A3



TYPICAL WATER CONNECTION PLAN - DETAIL  
REDUCTION RATIO 1:10 @ A1, 1:20 @ A3



SCOUR VALVE INSTALLATION  
SCALE = N.T.S.



HYDRANT INSTALLATION WITH UPVC OR CONCRETE PIPE CHAMBER  
SCALE = N.T.S.

