

GENERAL NOTES

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- G2 DIMENSIONS SHALL NOT BE OBTAINED BY SCALING THE STRUCTURAL DRAWINGS.
- G3 SETTING OUT DIMENSIONS SHOWN ON THE DRAWINGS SHALL BE VERIFIED BY ON-SITE MEASUREMENT.
- G4 DURING CONSTRUCTION THE STRUCTURE SHALL BE MAINTAINED IN A STABLE CONDITION AND NO PART SHALL BE OVERSTRESSED.
- G5 ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT EDITIONS OF THE SAA CODE AND THE BY-LAWS AND ORDINANCES OF THE RELATIVE BUILDING AUTHORITY.
- G6 EXCAVATIONS SHALL NOT BE PERMITTED WITHIN 2 METRES OF AN EXISTING STRUCTURE WITHOUT PRIOR APPROVAL OR RECOMMENDATIONS FOR SHORING OR UNDERPINNING PROVIDED BY ENGINEER.

- FOUNDATIONS AND FOOTINGS
- F1 FOOTINGS HAVE BEEN DESIGNED FOR AN ALLOWABLE INTENSITY OF BEARING PRESSURE OF 150kPa. THE BUILDER SHALL OBTAIN APPROVAL OF THE FOUNDATION MATERIAL BEFORE PLACING CONCRETE.
- F2 FOOTINGS SHALL BE PLACED UNDER WALLS AND COLUMNS UNLESS OTHERWISE NOTED.

SUB-GRADE

SG1 UNDER ALL SLABS ON GRADE, WHETHER ON CUT OR FILL, REMOVE SOFT SPOTS AND REFILL BY COMPACTING CUT SURFACES OR FILL SURFACES IN LAYERS NOT EXCEEDING 200 mm TO 95% DRY DENSITY, ENSURING MINIMUM SETTLEMENT ON SLABS.

CONCRETE WORK

C1 ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600.

C2 CONCRETE QUALITY SHALL BE AS TABULATED AND SHALL BE VERIFIED BY TESTS.

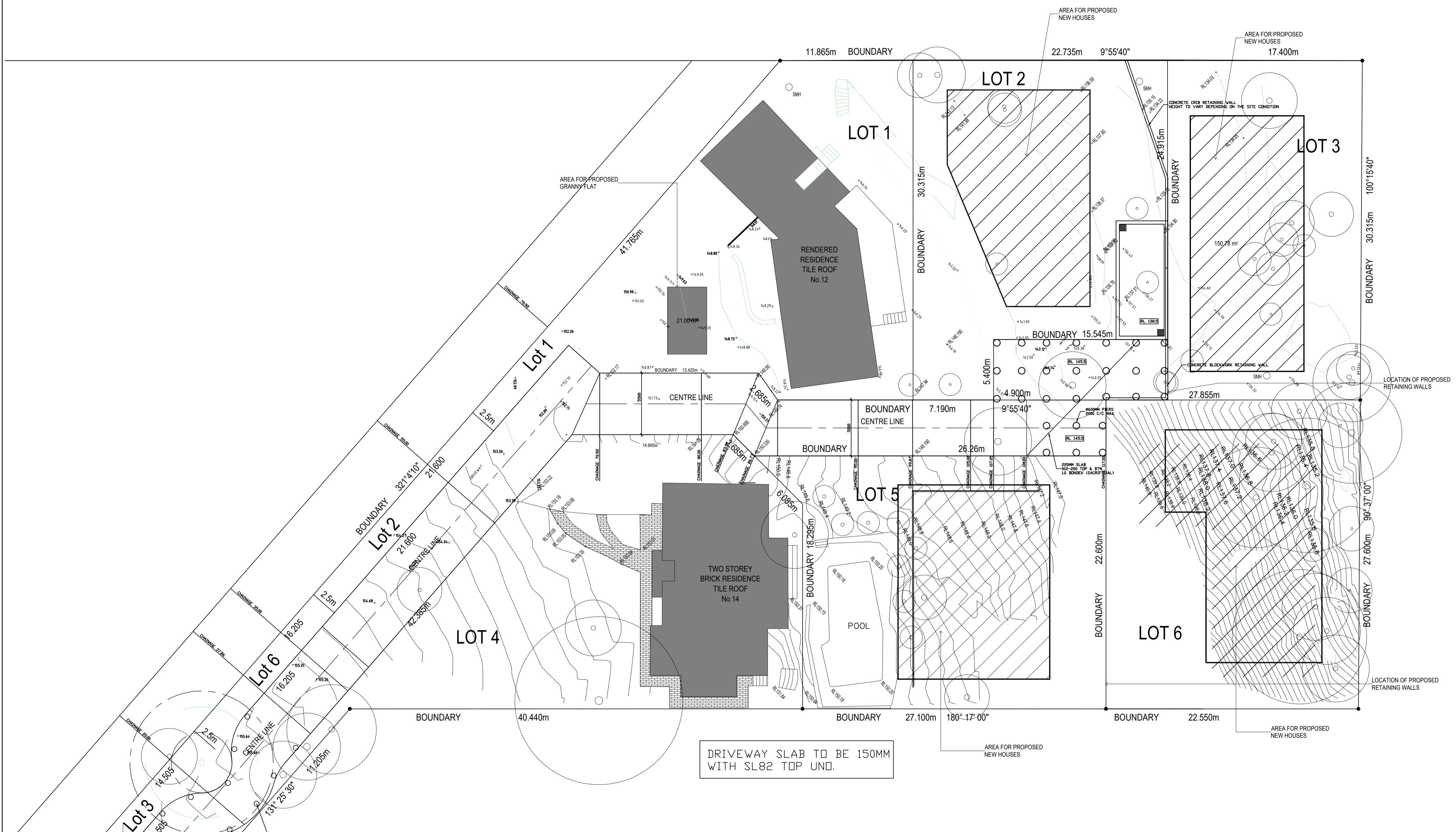
ELEMENT	SUMP	MAX. SIZE AGG.	CEMENT TYPE	ADMIXTURE	MPa CONCRETE GRADE
ALL	80	20	A	NL	32

C3 CLEAR CONCRETE COVERS TO REINFORCEMENT SHALL BE AS FOLLOWS UNLESS OTHERWISE SHOWN.

ELEMENT	CAST IN FORMS COMPLYING WITH AS 1509		
	CONDITION 1 NOT TO BE EXPOSED TO WEATHER GROUND WATER OR FRESH WATER	CONDITION 2 TO BE EXPOSED TO WEATHER GROUND WATER OR FRESH WATER	CONDITION 3 CAST AGAINST OTHER FORMWORK OR THE GROUND
PAD FOOTINGS & PILE CAPS	-	65	75
STRIP FOOTINGS	-	50	65
SORE OR CAST PIERS	-	50	75
COLUMNS	40	50	75
WALLS, INCLUDING RETAINING WALLS	20	30	65
BEAMS	25	40	65
SLABS INCLUDING JOISTS & HOLLOW BLOCK CONSTRUCTION	20	30	65
REINFORCEMENT ADJACENT TO HOLLOW BLOCKS INTERNAL WITH STRUCTURE	5	-	-

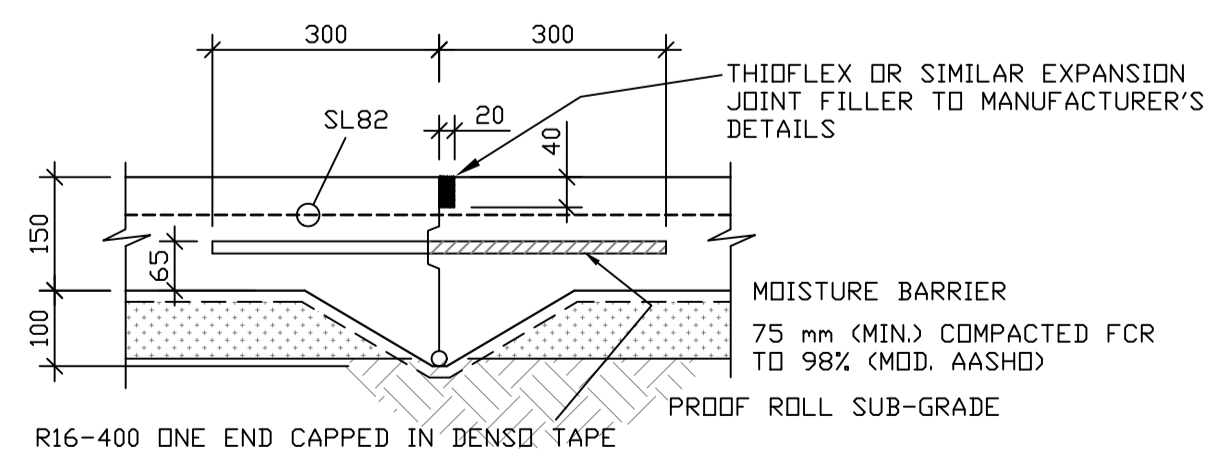
- NOTE:
- SLABS POURED OVER A MEMBRANE ON THE GROUND ARE INCLUDED AS CONDITION 2.
 - SLABS EXPOSED TO CORROSIVE VAPOURS, CORROSIVE GROUND WATER, SEA WATER OR SPRAY ARE TO HAVE REINFORCEMENT COVER AS NOTED OR NOT LESS THAN AS REQUIRED FOR CONDITION 3.

- C4 SIZES OF ELEMENTS DO NOT INCLUDE THICKNESS OF APPLIED FINISHES.
- C5 CONSTRUCTION JOINTS WHERE NOT SHOWN SHALL BE TO THE APPROVAL OF THE ENGINEER.
- C6 BEAM DEPTHS ARE WRITTEN FIRST AND INCLUDE SLAB THICKNESS, IF ANY, UNDO.
- C7 NO HOLES OR CHASES OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE MADE IN CONCRETE ELEMENTS WITHOUT PRIOR APPROVAL OF THE ENGINEER.
- C8 REINFORCEMENT IS REPRESENTED DIAGMATICALLY. IT IS NOT NECESSARILY SHOWN IN TRUE PROJECTION.
- C9 SPLICES IN REINFORCEMENT MADE IN POSITIONS OTHER THAN SHOWN SHALL BE TO THE APPROVAL OF THE ENGINEER, WHERE THE LAP LENGTH IS NOT SHOWN IT SHALL BE SUFFICIENT TO DEVELOP THE FULL STRENGTH OF THE REINFORCEMENT.
- C10 WELDING OF REINFORCEMENT SHALL NOT BE PERMITTED UNLESS SHOWN ON THE STRUCTURAL DRAWINGS.
- C11 PIPES OR CONDUITS SHALL NOT BE PLACED WITHIN THE CONCRETE COVER TO REINFORCEMENT WITHOUT THE APPROVAL OF THE ENGINEER.
- C12 ALL REINFORCING BARS SHALL COMPLY WITH AS 1302. ALL FABRIC SHALL COMPLY WITH AS 1903 AND AS 1904 AND SHALL BE SUPPLIED IN FLAT SHEETS.
- C13 REINFORCING SYMBOLS
S GRADE 2305 DEFORMED BAR
C GRADE 419C COLD WORKED DEFORMED BAR
Y GRADE 419R DEFORMED BAR
R GRADE 230R PLAIN BAR
F GRADE 450 WELDED WIRE FABRIC
N GRADE 500 DEFORMED BAR
THE NUMBER IMMEDIATELY FOLLOWING THESE SYMBOLS IS THE BAR DIAMETER IN MILLIMETRES.
- C14 FABRIC REINFORCEMENT TO BE LAPPED 300 MINIMUM AT ENDS AND SIDES UNDO. LAPS IN POSITION OF MAXIMUM MOMENT ARE NOT PERMITTED.
- C15 ALL REINFORCEMENT SHALL BE FULLY SUPPORTED ON INSULATED STEEL, PLASTIC OR CONCRETE CHAIRS SPALED AT 100 AND 750 CENTRES BOTH WAYS UNDER ROD AND FABRIC REINFORCEMENT RESPECTIVELY. RODS SHALL BE TIED AT ALTERNATE INTERSECTIONS.
- C16 MINIMUM STRIPPING TIMES FOR FORMWORK SHALL BE AS RECOMMENDED IN AS 1509 OR AS DIRECTED BY ENGINEER.

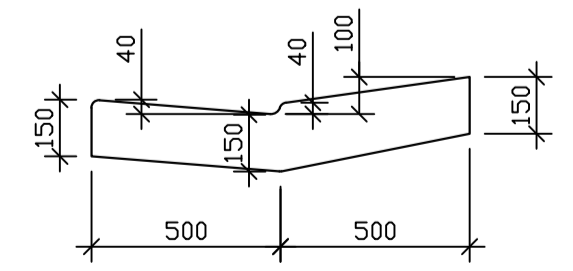


DRIVEWAY SLAB TO BE 150MM WITH SL82 TOP UNDO.

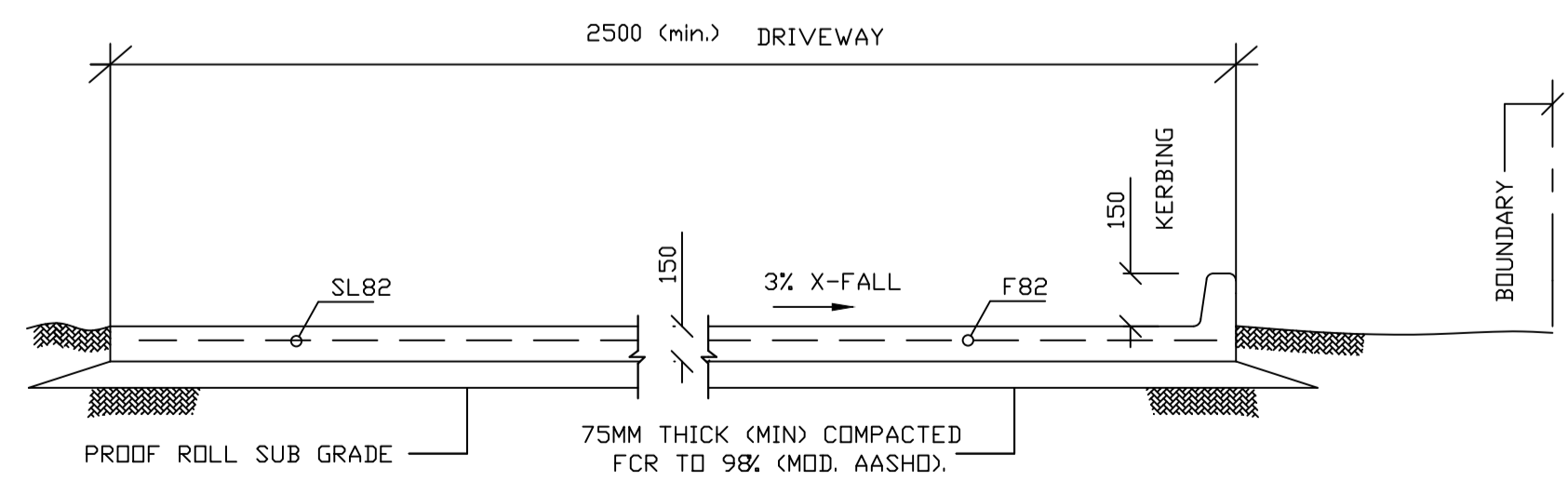
SITE PLAN
1:200



TYPICAL SECTION THRU DRIVEWAY SLAB & CONSTRUCTION JOINT
1:10



CROSS SECTION GUTTER CROSSING
1:20



DRIVEWAY CROSS-SECTION DETAIL
1:20

CIVIL & STRUCTURAL ENGINEERING
DESIGN SERVICES PTY. LTD. ACN 051 397 852

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CLIENT: MR JACK ZHANG
PROJECT: CIVIL-DRIVEWAY & VEHICULAR CROSSINGS
12-14 GLADYS AVENUE
FRENCHS FOREST, NSW

Drawn By: SD	Scale: AS SHOWN
Checked By: E. A. BENNETT M.I.E. Aust.	Drawing No: Z-11-267243-1C
Date: 12/06/2019	Amendment: C-14/08/2019

Registered Professional Engineer 198230
Mr Edward A. Bennett
MIEAust CPENg
Signature: Date 12 / 06 / 2019
Register on the NPER in the Category of
Civil/Environmental/Structural/Geotechnical
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 - F.2 FOOTINGS SHALL BE PLACED UNDER WALLS AND COLUMNS UNLESS OTHERWISE NOTED.
- SUB-GRADE
 - SG.1 UNDER ALL SLABS ON GRADE, WHETHER ON CUT OR FILL, REMOVE SOFT SPOTS AND RE-FILL BY COMPACTING CUT SURFACES OR FILL SURFACES IN LAYERS NOT EXCEEDING 200 mm TO 95% DRY DENSITY, ENSURING MINIMUM SETTLEMENT TO SLABS.

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C.2 CONCRETE QUALITY SHALL BE AS TABULATED AND SHALL BE VERIFIED BY TESTS.

ELEMENT	SLUMP	MAX. SIZE AGG.	CEMENT TYPE	ADMIXTURE	MPa CONCRETE GRADE
ALL	80	20	A	NL	32

C.3 CLEAR CONCRETE COVERS TO REINFORCEMENT SHALL BE AS FOLLOWS UNLESS OTHERWISE SHOWN.

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STRIP FOOTINGS	-	50	65
SOBE OR CAST PIERS	-	50	75
COLUMNS	40	50	75
WALLS, INCLUDING RETAINING WALLS	20	30	65
BEAMS	25	40	65
SLABS, INCLUDING JOISTS & HOLLOW BLOCK CONSTRUCTION	20	30	65
REINFORCEMENT ADJACENT TO HOLLOW BLOCKS INTEGRAL WITH STRUCTURE	5	-	-

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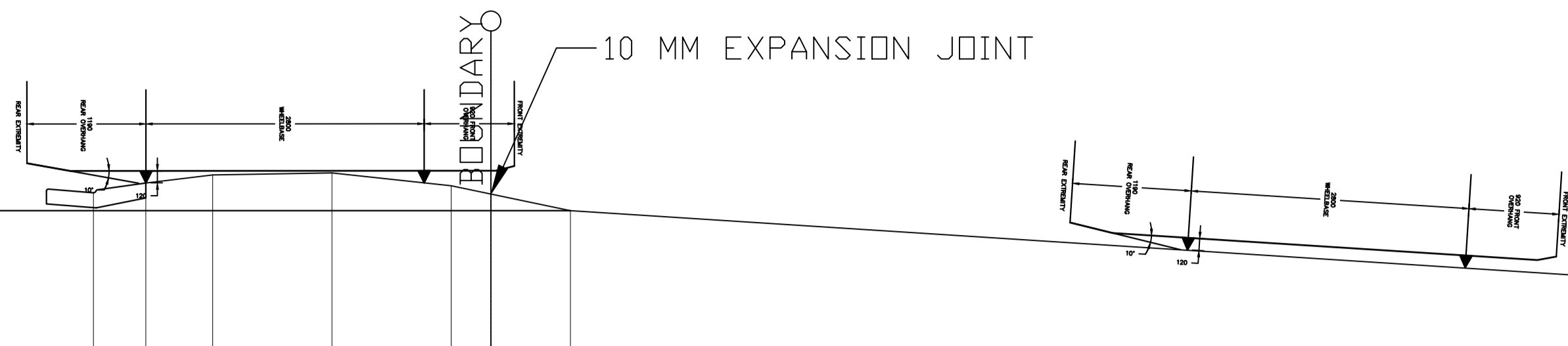
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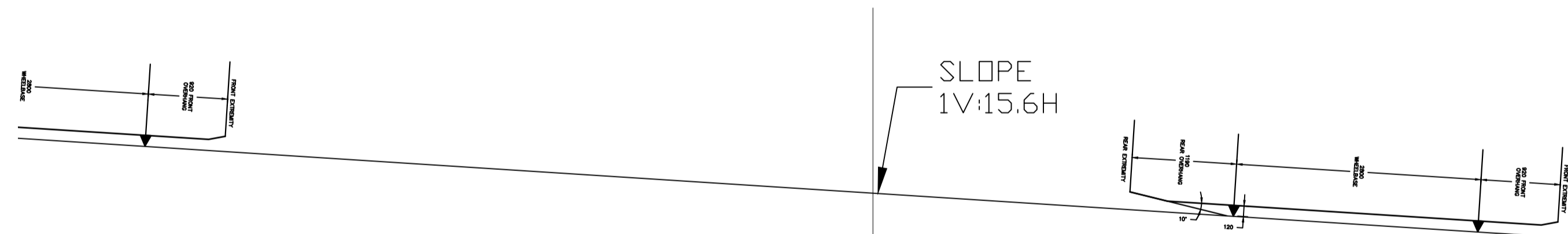
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DRIVEWAY RL(M)	0	156.60	156.60
	0.5	156.67	156.70
	1.2	156.78	156.78
	2.4	156.80	156.80
	3.6	156.67	156.67
	4.0	156.59	156.59
	4.8	156.42	156.42
CHAINAGE(m)	0		

DRIVEWAY LONGITUDINAL SECTION - PART A
1:50



DRIVEWAY RL(M)	154.48	154.48
GROUND RL(M)	154.48	153.19
CHAINAGE(m)	35.00	55.00

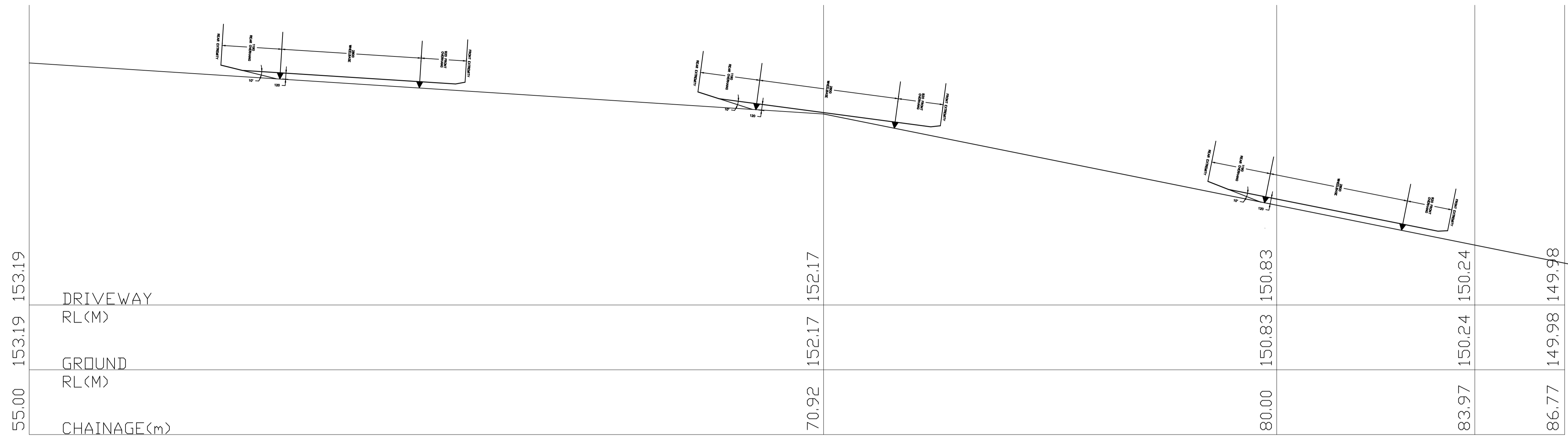
DRIVEWAY LONGITUDINAL SECTION - PART B
1:50

CONTINUES FROM PART B

CONTINUES TO PART C

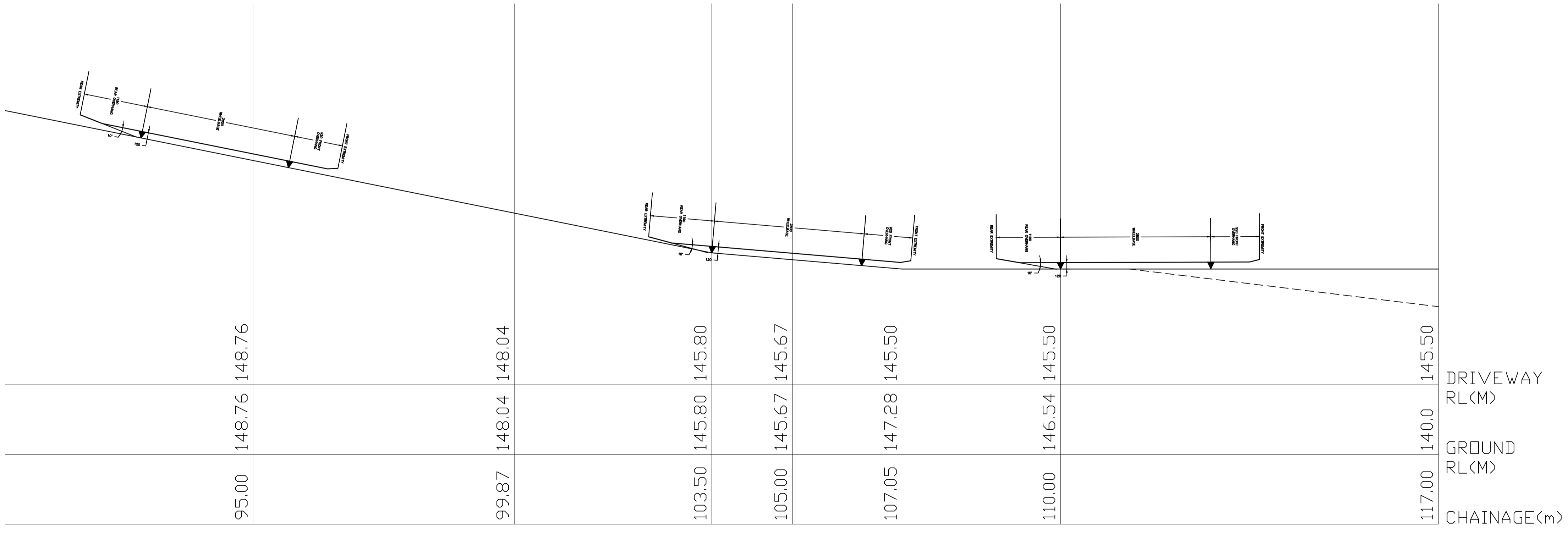
CONTINUES TO PART B

CONTINUES FROM PART B



DRIVEWAY LONGITUDINAL SECTION - PART C
1:50

CONTINUES FROM PART C



DRIVEWAY LONGITUDINAL SECTION - PART D
1:50

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STRIP FOOTINGS	-	50	65
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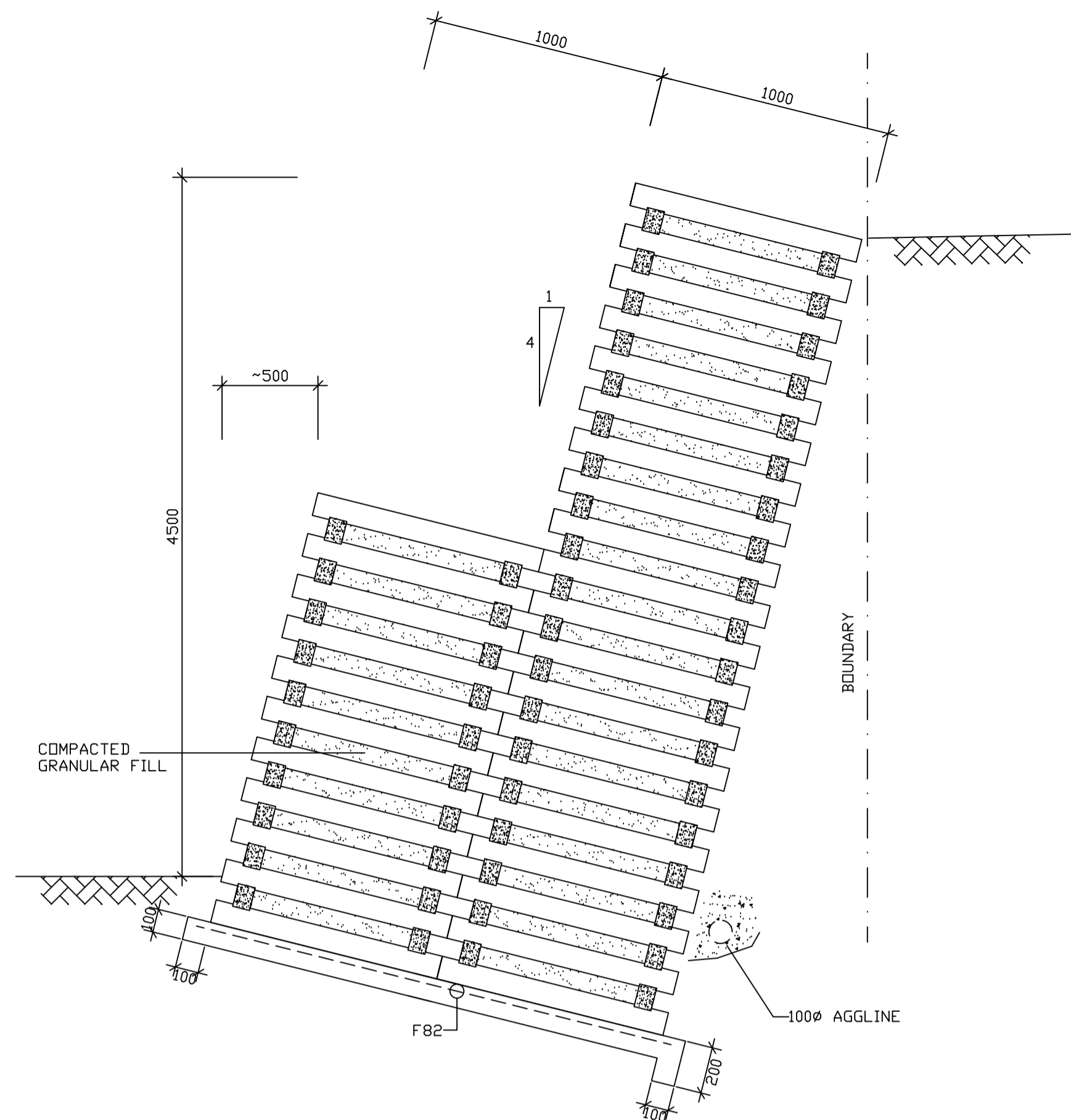
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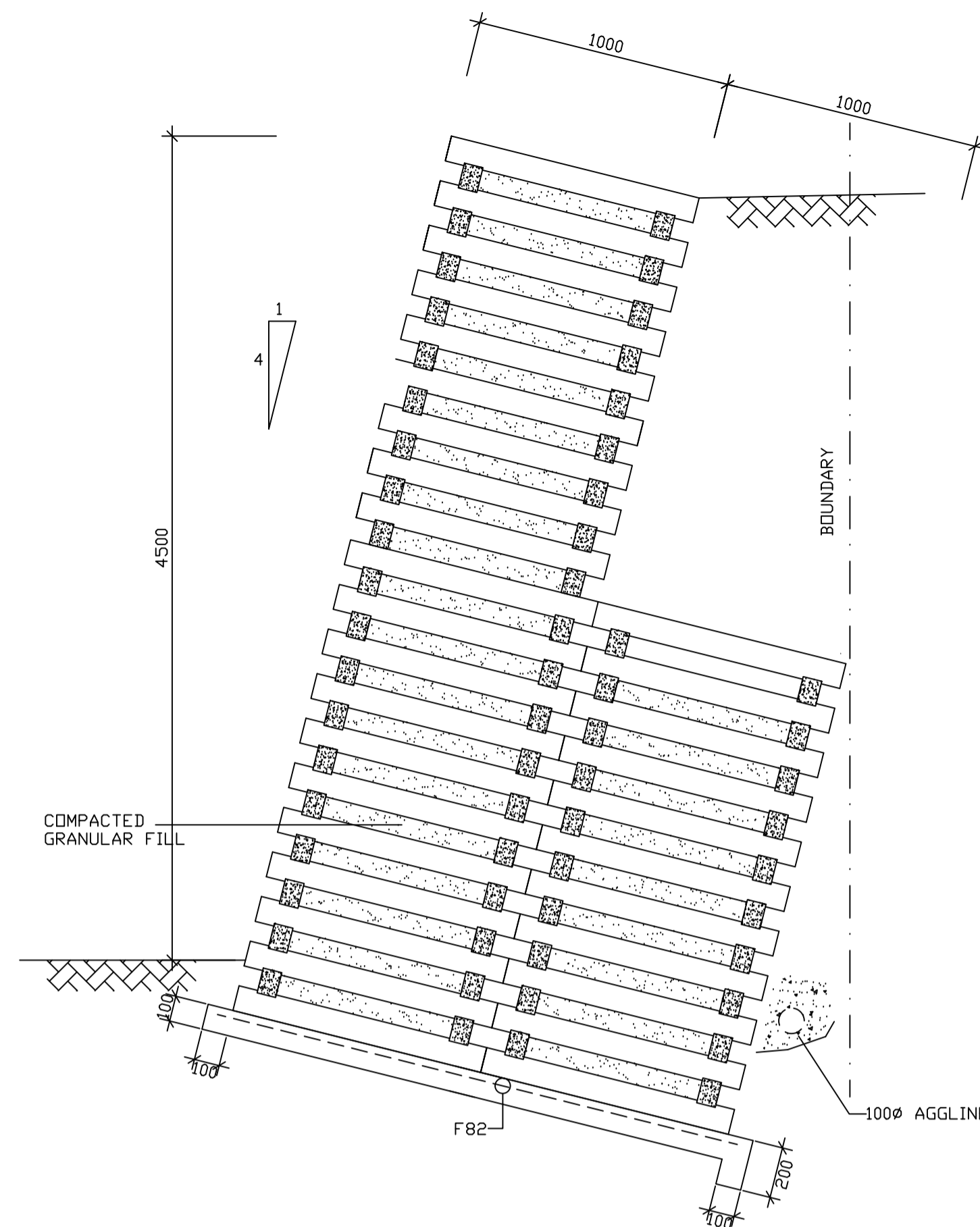
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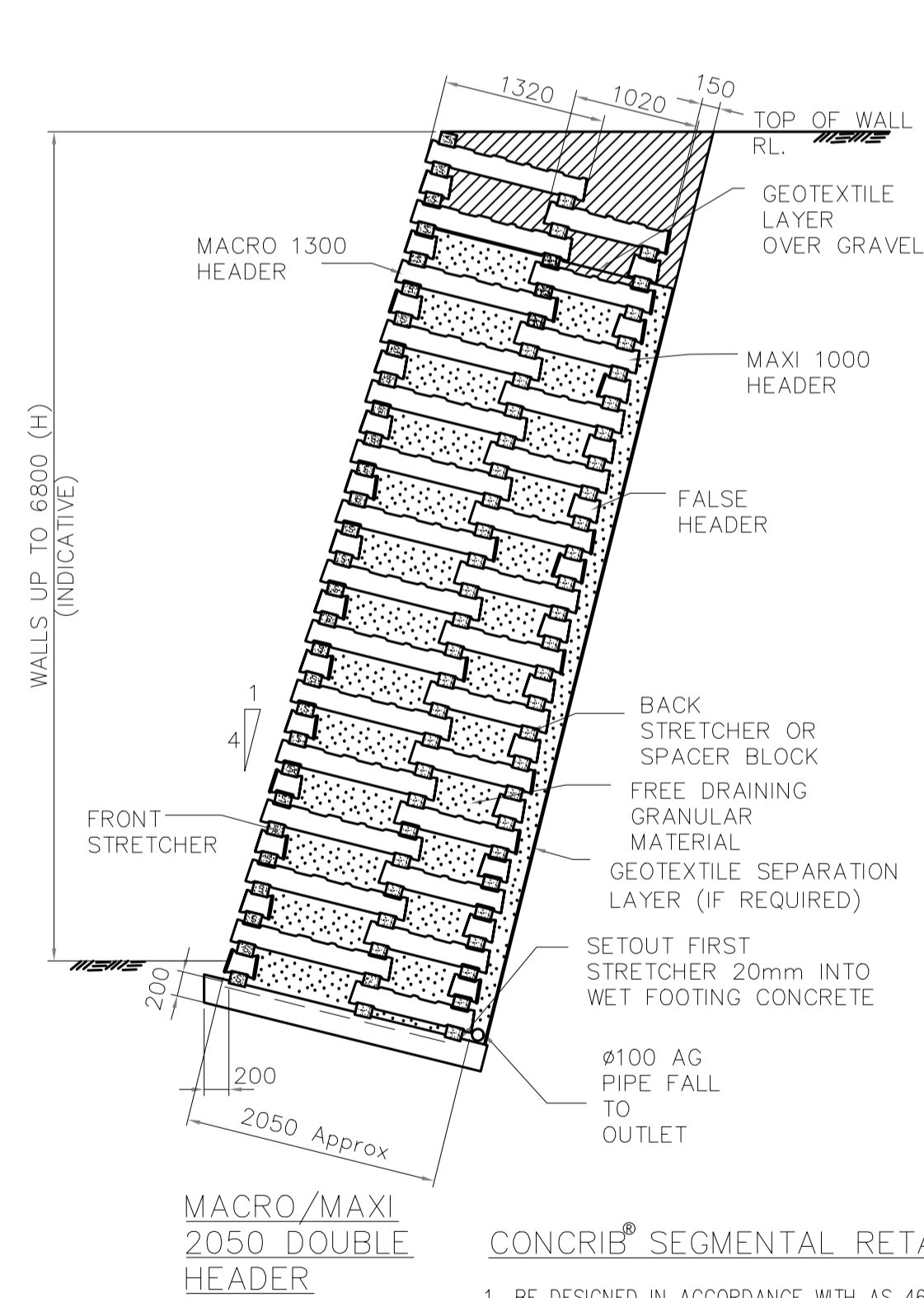
- C4 SIZES OF ELEMENTS DO NOT INCLUDE THICKNESS OF APPLIED FINISHES.
- C5 CONSTRUCTION JOINTS WHERE NOT SHOWN SHALL BE TO THE APPROVAL OF THE ENGINEER.
- C6 BEAM DEPTHS ARE WRITTEN FIRST AND INCLUDE SLAB THICKNESS, IF ANY, UNDO.
- C7 NO HOLES OR CHASES OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE MADE IN CONCRETE ELEMENTS WITHOUT PRIOR APPROVAL OF THE ENGINEER.
- C8 REINFORCEMENT IS REPRESENTED DIAGRAMATICALLY. IT IS NOT NECESSARILY SHOWN IN TRUE PROJECTION.
- C9 SPLICES IN REINFORCEMENT MADE IN POSITIONS OTHER THAN SHOWN SHALL BE TO THE APPROVAL OF THE ENGINEER. WHERE THE LAP LENGTH IS NOT SHOWN IT SHALL BE SUFFICIENT TO DEVELOP THE FULL STRENGTH OF THE REINFORCEMENT.
- C10 WELDING OF REINFORCEMENT SHALL NOT BE PERMITTED UNLESS SHOWN ON THE STRUCTURAL DRAWINGS.
- C11 PIPES OR CONDUITS SHALL NOT BE PLACED WITHIN THE CONCRETE COVER TO REINFORCEMENT WITHOUT THE APPROVAL OF THE ENGINEER.
- C12 ALL REINFORCING BARS SHALL COMPLY WITH AS 1302. ALL FABRIC SHALL COMPLY WITH AS 1303 AND AS 1304 AND SHALL BE SUPPLIED IN FLAT SHEETS.
- C13 REINFORCING SYMBOLS
S GRADE 230S DEFORMED BAR
C GRADE 430C COLD WORKED DEFORMED BAR
Y GRADE 430R DEFORMED BAR
R GRADE 230R PLAIN BAR
F GRADE 450 WELDED WIRE FABRIC
N GRADE 500 DEFORMED BAR
THE NUMBER IMMEDIATELY FOLLOWING THESE SYMBOLS IS THE BAR DIAMETER IN MILLIMETRES.
- C14 FABRIC REINFORCEMENT TO BE LAPPED 300 MINIMUM AT ENDS AND SIDES UNDO. LAPS IN POSITION OF MAXIMUM MOMENT ARE NOT PERMITTED.
- C15 ALL REINFORCEMENT SHALL BE FULLY SUPPORTED ON INSULATED STEEL, PLASTIC OR CONCRETE CHAIRS SPACED AT 100 AND 750 CENTRES BOTH WAYS UNDER ROD AND FABRIC REINFORCEMENT RESPECTIVELY. RODS SHALL BE TIED AT ALTERNATE INTERSECTIONS.
- C16 MINIMUM STRIPPING TIMES FOR FORMWORK SHALL BE AS RECOMMENDED IN AS 1599 OR AS DIRECTED BY ENGINEER.



DETAIL OF R/C CONC. CRIB WALL (ALT 1)
1:20

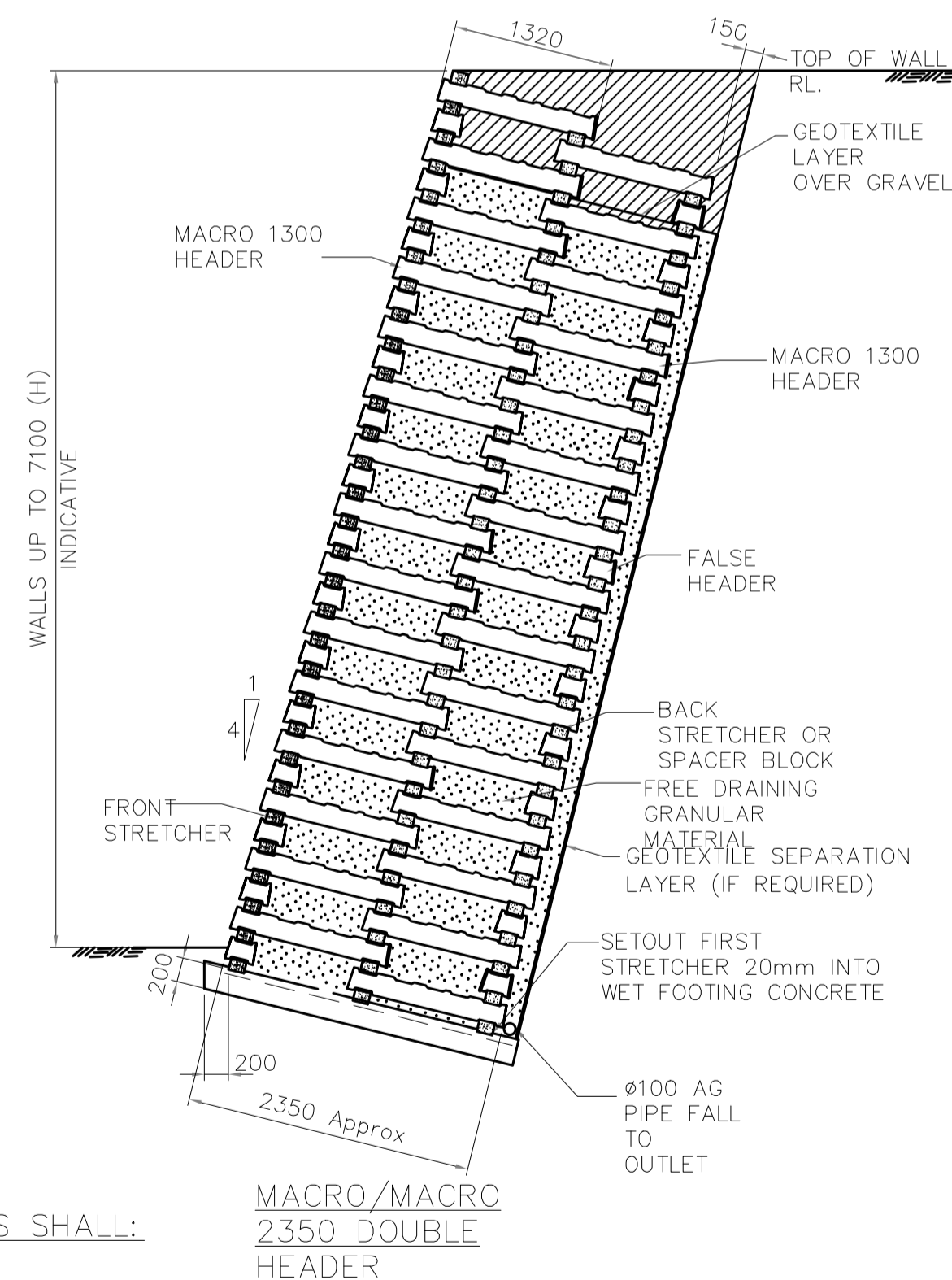


DETAIL OF R/C CONC. CRIB WALL (ALT 2)
1:20

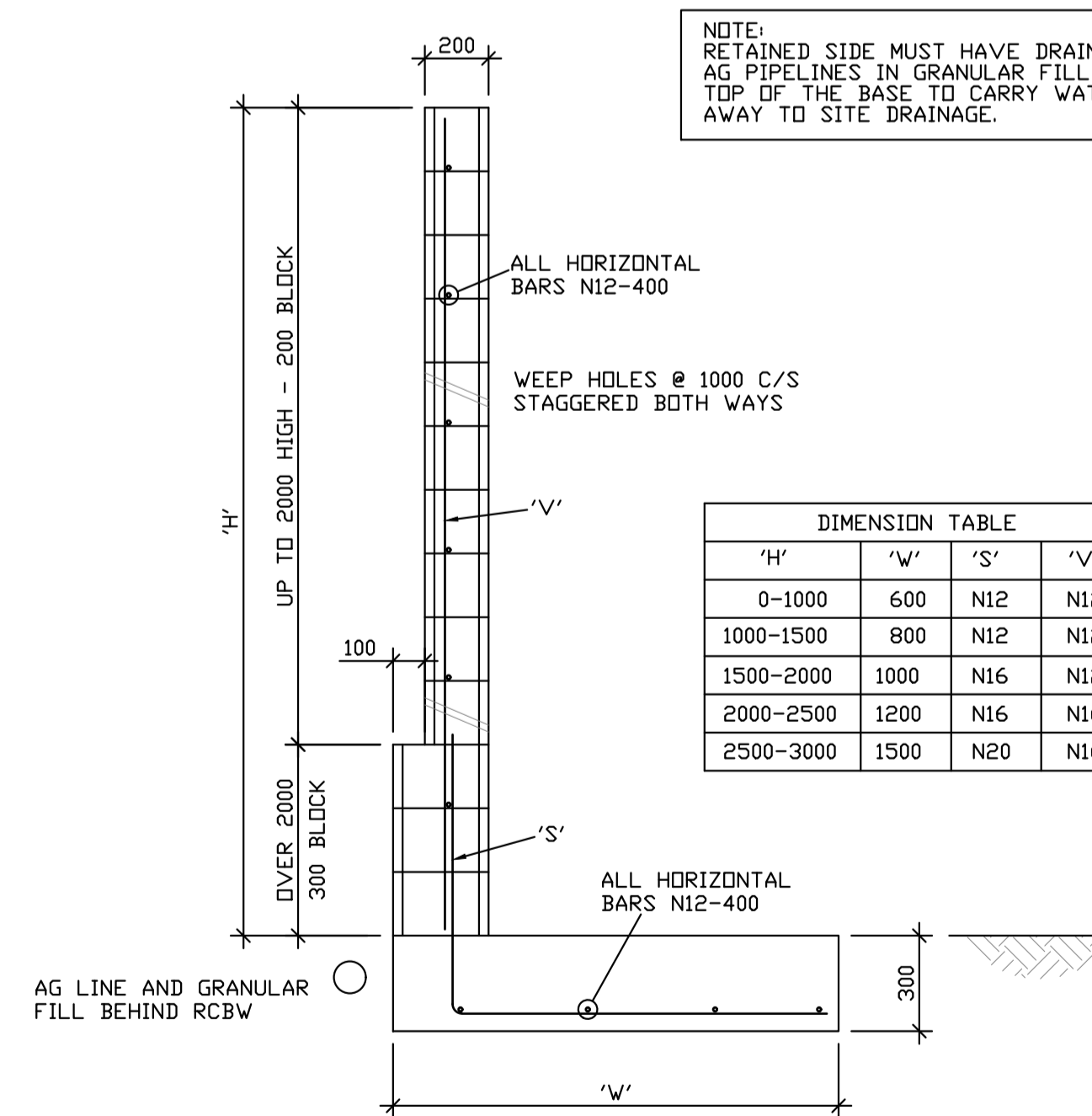


CONCRIB® SEGMENTAL RETAINING CRIBWALLS SHALL:

1. BE DESIGNED IN ACCORDANCE WITH AS 4678 - 2002
2. BE CONSTRUCTED IN ACCORDANCE WITH CONCRIB SPECIFICATION MC.01 & MANUFACTURERS RECOMMENDATIONS.
3. HAVE SURFACE AND SUBSURFACE DRAINAGE DESIGNED IN ACCORDANCE WITH AS4678 - 2002
4. HAVE GEOTECHNICAL DESIGN AND VERIFICATION CARRIED OUT BY A SUITABLY QUALIFIED AND EXPERIENCED GEOTECHNICAL ENGINEER (E.G FOUNDATION, SLOPE STABILITY & DRAINAGE DESIGN/SPECIFICATION)



MACRO/MAXI 2350 DOUBLE HEADER



NOTE: RETAINED SIDE MUST HAVE DRAINAGE AG PIPELINES IN GRANULAR FILL ON TOP OF THE BASE TO CARRY WATER AWAY TO SITE DRAINAGE.

DIMENSION TABLE			
'H'	'W'	'S'	'V'
0-1000	600	N12	N12
1000-1500	800	N12	N12
1500-2000	1000	N16	N12
2000-2500	1200	N16	N16
2500-3000	1500	N20	N16

TYPICAL CONCRETE BLOCKWORK
RETAINING WALL DETAIL
1:20

DETAIL OF R/C CONC. CRIB WALL (ALT 3)
1:50

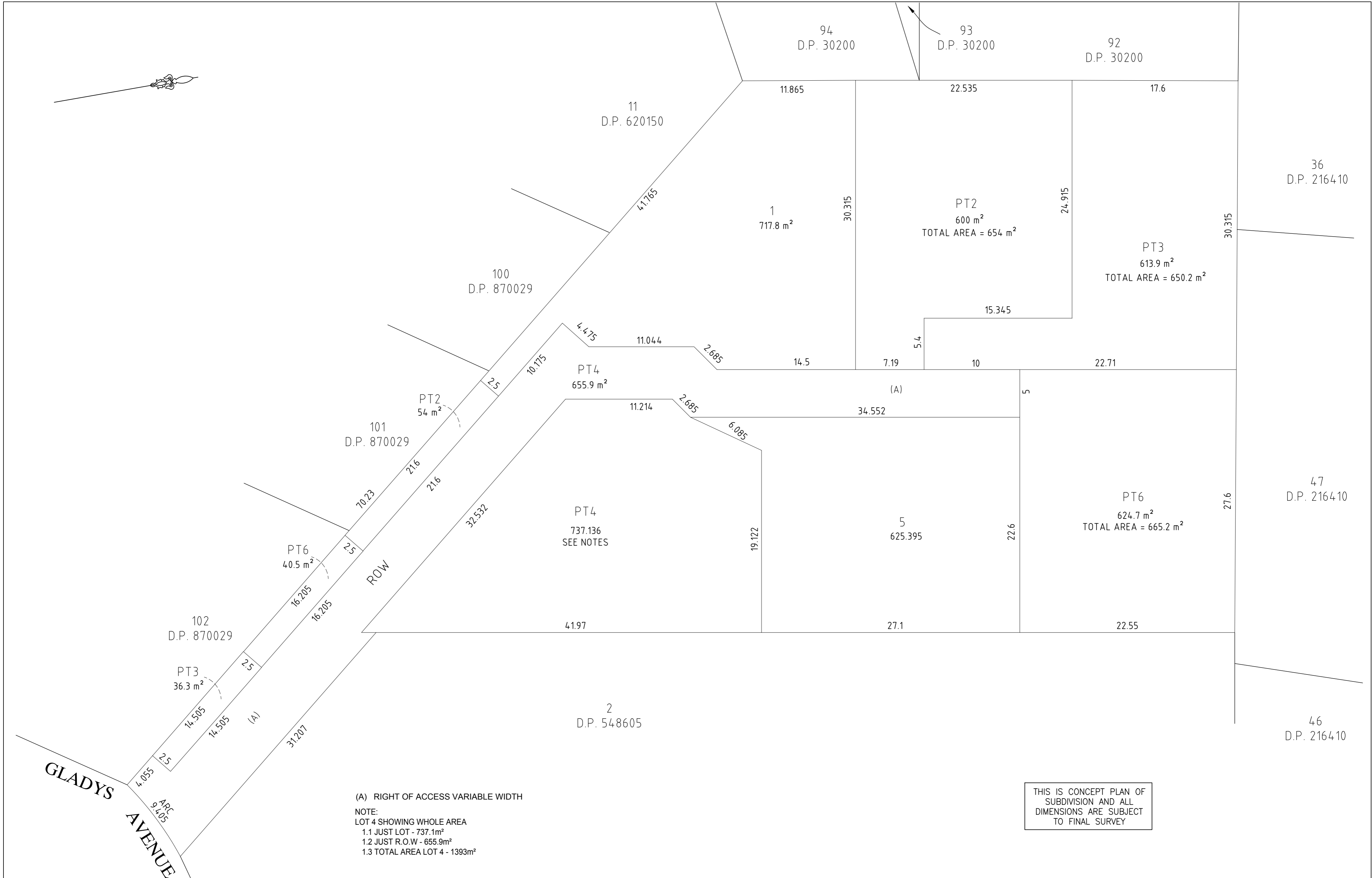
CIVIL & STRUCTURAL ENGINEERING
DESIGN SERVICES PTY. LTD.

ACN 051 397 852
CONSULTING STRUCTURAL, CIVIL, GEOTECHNICAL & ENVIRONMENTAL ENGINEERS
3 Varnit Road BELROSE 2085
PHONE 61-02 9975 3899
FAX 61-02 9975 1943
MOBILE 04-07 753 899
EMAIL hited@bigpond.net.au

CLIENT: MR JACK ZHANG
PROJECT: CIVIL-DRIVEWAY & VEHICULAR CROSSINGS
12-14 GLADYS AVENUE
FRENCHS FOREST, NSW

Drawn By: SD	Scale: AS SHOWN
Checked By: E. A. BENNETT M.I.E. Aust.	Drawing No.: Z-11-267243-4C
Date: 12/06/2019	Amendment: C-14/08/2019

Registered Professional Engineer 198230
Mr Edward A. Bennett
MIEAust CPENg
Signature: Date 12 / 06 / 2019
Register on the NPER in the Category of
Civil/Environmental/Structural/Geotechnical
National Professional Engineers Register



(A) RIGHT OF ACCESS VARIABLE WIDTH
 NOTE:
 LOT 4 SHOWING WHOLE AREA
 1.1 JUST LOT - 737.1m²
 1.2 JUST R.O.W - 655.9m²
 1.3 TOTAL AREA LOT 4 - 1393m²

THIS IS CONCEPT PLAN OF
 SUBDIVISION AND ALL
 DIMENSIONS ARE SUBJECT
 TO FINAL SURVEY

SUBDIVISION CONCEPT PLAN
 SHEET: 1 OF 1

Surveyor :SIMON PAK YAN HO Date of Survey : Surveyor's Ref : 2611 Date : 29-05-2019	LGA: WARRINGAH Locality : FRENCHS FOREST Subdivision No: Lengths are in metres. Reduction Ratio 1:250	Registered	DP DRAFT
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