



CIVIL CONSULTING ENGINEERS

WARNING:
CIVIL WORKS CONTRACTOR IS TO BE AWARE OF POWER LINES ABOVE WORKS & IS RESPONSIBLE TO ENSURE ALL WORKS ARE CARRIED OUT IN ACCORDANCE WITH THE REGULATORY AUTHORITY REQUIREMENTS. ALL SERVICES WITHIN COUNCIL VERGE MUST BE POTHOLED & ACCURATELY LOCATED BY A COMPETENT & LICENCED SERVICE LOCATOR PRIOR TO ANY CONSTRUCTION. www.dbylocator.com SERVICES SHOWN ARE INDICATIVE ONLY LOCATED FROM THE SUPPLIED SURVEY & DIAL BEFORE DIG INFORMATION. CIVIL WORKS CONTRACTOR MUST NOTIFY ENGINEER ONCE ALL SERVICES HAVE BEEN ACCURATELY LOCATED TO CONFIRM THE ACCURACY OF THE DESIGN.

EXTERNAL NOTES:

1. ALL ACTIVITIES AND WORKS EXTERNAL TO THE SITE, OR THAT AFFECT PUBLIC ROADS, ARE TO BE CARRIED OUT IN ACCORDANCE WITH COUNCIL'S CODES AND STANDARDS.
2. PUBLIC FOOTPATHS SHALL BE RECONSTRUCTED TO THE SATISFACTION OF COUNCIL'S DIRECTOR OF ENGINEERING SERVICES. A ROAD OPENING PERMIT SHALL BE OBTAINED FOR ALL WORKS CARRIED OUT IN A PUBLIC OR COUNCIL CONTROLLED LAND.
3. RESTORATION OF LANDSCAPING, ROADS AND PATHS SHALL BE TO COUNCIL'S REQUIREMENTS. ALL OTHER RESTORATION SHALL BE TO THE SATISFACTION OF THE AFFECTED PARTIES.
4. WHERE WORKS ARE UNDERTAKEN ON PUBLIC ROADS, ADEQUATE TRAFFIC CONTROL AND DIRECTIONS TO MOTORISTS SHALL BE PROVIDED BY OTHERS.

EARTHWORKS NOTES:

1. ORIGIN OF LEVELS: REFER TO SURVEYORS DRAWINGS
2. STRIP ALL TOPSOIL / ORGANIC MATERIAL (50mm NOMINAL) FROM CONSTRUCTION AREA AND REMOVE FROM SITE OR STOCK PILE AS DIRECTED BY SUPERINTENDENT.
3. EXCAVATED MATERIAL TO BE USED AS STRUCTURAL FILL PROVIDED THE PLACEMENT MOISTURE CONTENT OF THE MATERIAL IS +/- 2% OF THE OPTIMUM MOISTURE CONTENT.
4. WHERE REQUIRED, COMPACT FILL AREAS AND SUBGRADE TO NOT LESS THAN:

LOCATION	STANDARD DRY DENSITY (AS 1289 E 5.1.1.)
UNDER BUILDING SLABS ON GROUND	98 - 102%
UNDER ROADS, FOOTWAYS AND CARPARKS	98 - 102%
LANDSCAPED AREAS UNLESS NOTED OTHERWISE	98 - 102%

5. BEFORE PLACING FILL, PROOF ROLL NON-EXPOSED SUBGRADE WITH A 12 TONNE (MIN) DEADWEIGHT SMOOTH DRUM VIBRATORY ROLLER TO DETECT THEN REMOVE SOFT SPOTS (AREAS WITH MORE THAN 2mm MOVEMENT UNDER ROLLER).
6. FREQUENCY OF COMPACTION TESTING SHALL BE NOT LESS THAN:-
 - (a) 1 TEST PER 200m² OF FILL PLACED PER 150mm LAYER OF FILL OR
 - (b) 3 TESTS PER LAYER OR
 - (c) 1 TEST PER 1,000m² OF EXPOSED SUBGRADEWHICHEVER REQUIRES THE MOST TESTS. TESTING SHALL BE "LEVEL 1" TESTING IN ACCORDANCE WITH AS 3798-2007 U.N.O BY COUNCIL OR THE GEOTECHNICAL INSPECTION & TESTING AUTHORITY (GITA).
7. ALL TESTING OF EARTHWORKS SHALL BE DONE AT THE CONTRACTORS EXPENSE U.N.O.
8. SHALL A SUB-GRADE PROOF ROLL INSPECTION FAIL, OR ADDITIONAL INSPECTIONS BE REQUIRED FOR ANY OTHER REASON, THE CONTRACTOR WILL WEAR THE COSTS OF ANY SUBSEQUENT RE-INSPECTIONS U.N.O.
9. FILLING TO BE PLACED AND COMPACTED IN MAXIMUM 200mm LAYERS TO GEOTECHNICAL APPROVAL.
10. AFTER CLEARING, GRUBBING AND STRIPPING, NO FILLING SHALL TAKE PLACE TO EXPOSED SUBGRADE UNTIL THE AREA HAS BEEN PROOF ROLLED IN THE PRESENCE OF THE GEOTECHNICAL ENGINEER AND APPROVAL GIVEN IN WRITING THAT FILLING CAN PROCEED. WEAK SOILS ARE TO BE REMOVED AND REPLACED WITH COMPACTED FILL AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
11. WHERE GROUNDWATER DISCHARGE OCCURS IN BULK EXCAVATIONS OR CUT FACES, SUBSOIL DRAINAGE SHALL BE INSTALLED IN ACCORDANCE WITH THE SITE SUPERINTENDENT / GEOTECHNICAL ENGINEERS INSTRUCTIONS TO DIRECT DISCHARGE WATER TO THE NEAREST STORMWATER / SEDIMENTATION CONTROL DEVICE. THE SUBSOIL DRAINAGE MUST BE INSTALLED AS SOON AS PRACTICALLY POSSIBLE AFTER EXCAVATION. SUBSOIL DRAINAGE SHALL ALSO BE INSTALLED AT LOW POINTS IN THE FINISHED EARTHWORK PROFILE IN ACCORDANCE WITH THE SITE SUPERINTENDENT / GEOTECHNICAL ENGINEERS INSTRUCTIONS.
12. ENSURE TEMPORARY DIVERSION CHANNELS ARE CONSTRUCTED AROUND STOCKPILED MATERIALS AND DISTURBED AREAS GENERALLY AS DETAILED.
13. THE CONTRACTOR SHALL ALLOW FOR AND COORDINATE ALL MONITORING AND MAINTENANCE REQUIREMENTS IN RELATION TO SOIL AND GROUNDWATER CONDITIONS DURING CONSTRUCTION.
14. CIVIL CONTRACTOR IS RESPONSIBLE FOR CALCULATING BULK EARTHWORKS VOLUMES AND MUST CONFIRM QUANTITIES PRIOR TO CONSTRUCTION. BULK EARTHWORKS ARE ESTIMATED & ASSUMED ONLY, NO DETAILED DESIGN HAS BEEN UNDERTAKEN U.N.O.
15. ANY DAMAGE TO ROADWAYS OR SERVICES WILL BE RECTIFIED BY THE CONTRACTOR AS HIS EXPENSE.
16. ALL ENVIRONMENTAL MEASURE INCLUDING VEGETATION PROTECTION AND EROSION AND SEDIMENT CONTROL SHALL BE IN PLACE PRIOR TO THE COMMENCEMENT OF ANY WORK. ALL REMOVAL AND WORKS ASSOCIATED WITH VEGETATION MUST BE IN ACCORDANCE WITH THE COUNCIL APPROVED ARBORISIT REPORT.
17. IT IS THE CONTRACTORS RESPONSIBILITY TO ENSURE THAT THE SITE WORKS DO NOT COMPROMISE / UNDERMINE OR PLACE ADDITIONAL SURCHARGE ON AN EXISTING STRUCTURES.
18. BATTER ANGLES MUST COMPLY WITH LOCAL AUTHORITY REQUIREMENTS AND SHALL BE PROTECTED FROM EROSION. FILL BATTERS SHOULD BE OVERFILLED BY NOT LESS THAN 0.5m, THEN CUT BACK TO PROFILE.
19. EARTHWORKS EXTENT SHOWN IS FOR THE PROPOSED DEVELOPMENT AREA ONLY.
20. FOLLOWING THE INSPECTION OF SUBGRADE, THE ENGINEER (OR COUNCIL ENGINEER) MAY REQUIRE THE CONSTRUCTION OF SUB SOIL DRAINS (TO COUNCIL/ENGINEERS SPECIFICATIONS) TO DISCHARGE TO APPROVED OUTLETS AS DETERMINED ON SITE.
21. IMPORTED FILL MUST HAVE A SOAKED CBR NOT LESS THAN 15% AND A MAXIMUM AGGREGATE SIZE NOT GREATER THAN 50mm, MAXIMUM LIQUID LIMIT = 40; MAXIMUM P.L. = 15; MAXIMUM P.I. x % PASSING 425um = 450.
22. FILL UNDER BUILDING PLATFORMS TO BE CONTROLLED FILL PLACED IN ACCORDANCE WITH AS3798 & AS2870.
23. FILL NOT UNDER BUILDING PLATFORMS OR ROAD PAVEMENTS TO BE COMPACTED IN LAYERS NOT EXCEEDING 300mm & 95% STANDARD MODIFIED MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS1289.
24. FILL BATTERS SHOULD BE OVERFILLED BY NOT LESS THAN 0.5m, THEN CUT BACK TO PROFILE.
25. BACK FILLING FOR SERVICE TRENCHES SHOULD USE GOOD QUALITY MATERIAL FREE OF ORGANIC MATERIAL. THE BACK FILL SHOULD BE PLACED IN UNIFORM LAYERS OVER THE FULL WIDTH OF THE EXCAVATIONS WITH THE LAYERS NOT EXCEEDING 200mm THICKNESS. LOOSELY PLACED. THE BACK-FILL MATERIAL SHOULD BE COMPACTED TO SPECIFICATIONS OUTLINED ABOVE FOR INSITU OR IMPORTED MATERIAL. BENCHING OF BATTERED EXCAVATIONS SHOULD BE UNDERTAKEN WHEN BACKFILLING.
26. BACK FILLING FOR SERVICE TRENCHES UNDER ROADWAYS SHALL BE WITH A QUALITY MATERIAL OF NOT LESS THAN CBR 15% (SOAKED) TO THE UNDERSIDE OF PAVEMENT, COMPACTED AT OPTIMUM MOISTURE CONTENT TO ACHIEVE 98% MODIFIED MAXIMUM DRY DENSITY.
27. DEPRESSIONS FORMED BY REMOVAL OF VEGETATION, UNDERGROUND ELEMENTS ETC. SHOULD HAVE ALL DISTURBED WEAKENED SOIL CLEANED OUT AND BE BACKFILLED WITH COMPACTED SELECT MATERIAL. THIS IS OF PARTICULAR IMPORTANCE FOLLOWING THE REMOVAL OF ANY EXISTING STRUCTURES AND FOUNDATIONS.
28. IF IN DOUBT, ASK!

NOTE:

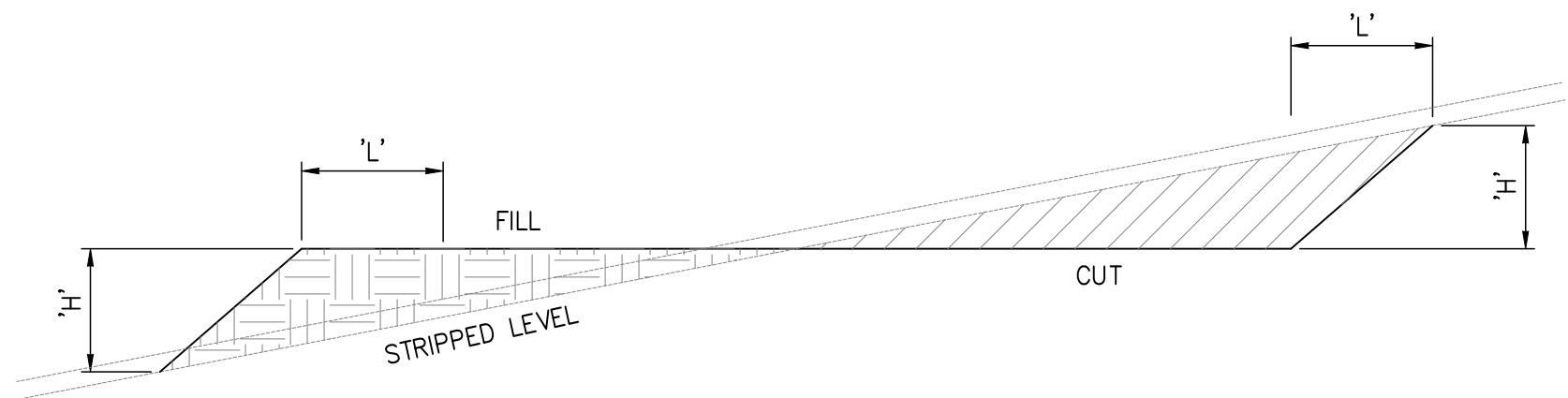
THE BUILDER/CONTRACTOR SHALL LOCATE ALL EXISTING PUBLIC UTILITY SERVICES WITHIN THE SITE, FOOTPATH AREA AND ROAD RESERVE PRIOR TO THE COMMENCEMENT OF ANY WORKS. ALL LOCATIONS AND LEVELS OF SERVICES SHALL BE REPORTED TO THE STORMWATER ENGINEER PRIOR TO THE COMMENCEMENT OF ANY WORKS TO ENSURE THAT THERE ARE NO OBSTRUCTIONS IN THE LINE OF THE DRAINAGE DISCHARGE PIPES.

NOTE:

COUNCIL AND/OR PRIVATE CERTIFYING AUTHORITY APPROVAL FOR ALL WORKS CONTAINED ON THE FOLLOWING DRAWINGS MUST BE OBTAINED (DEVELOPMENT APPLICATION, CONSTRUCTION CERTIFICATE, AND/OR COMPLYING DEVELOPMENT CERTIFICATE) PRIOR TO COMMENCEMENT OF CONSTRUCTION.

EARTHWORKS TECHNICAL NOTES & SPECIFICATIONS:

BATTER ANGLES FOR EMBANKMENTS:
IT IS THE BUILDERS RESPONSIBILITY TO ENSURE THAT THE SITE WORKS DO NOT UNDERMINE OR PLACE ADDITIONAL SURCHARGE ON ANY EXISTING STRUCTURES, ONSITE OR ADJACENT. IF THIS CAN NOT BE ACHIEVED RTS CIVIL CONSULTING ENGINEERS MUST BE CONTACTED PRIOR TO ANY SITE WORKS BEING UNDERTAKEN.
BATTER ANGLES MUST COMPLY WITH LOCAL GOVERNMENT REQUIREMENTS AND ARE TO CONFORM AS FOLLOWS (FIGURE 1).



SLOPE = H:L H < 2.0m	MATERIAL TYPE (REFER GEOTECH ENG.)	STABLE ROCK	SAND	SILT	CLAY		SOFT SOILS
					FIRM CLAY	SOFT CLAY	
EMBANKMENT SLOPES (HEIGHT LENGTH)	COMPACTED FILL	1:1	1:3	1:4	1:2	N/A	N/A
	CUTTING	N/A	1:3	1:4	1:2	1:3	N/A

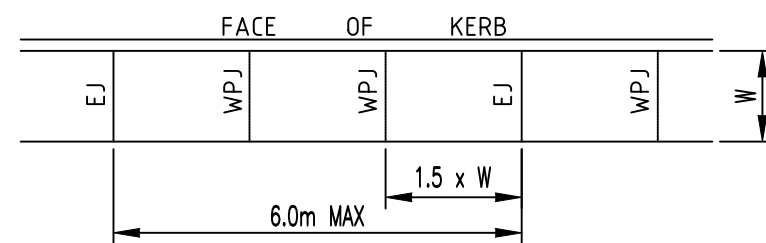
NOTE: RETAINING WALLS OR OTHER FORMS OF SOIL RETAINING METHODS MUST BE ADOPTED WHERE THE SLOPE RATIO IS GREATER THAN THAT INDICATED IN THE TABLE ABOVE. REFER TO GEOTECHNICAL REORT FOR TREATMENT OF UNSTABLE MATERIAL. ALL BATTER ANGLES APPROXIMATE ONLY AND ARE TO BE CONFIRMED BY GEOTECHNICAL AND CIVIL ENGINEER.

FILL MATERIAL AND COMPACTION:
ORGANIC MATERIAL, HIGHLY REACTIVE CLAYS AND LARGE ROCKS ARE NOT SUITABLE FOR USE AS FILL. THE FILL IS TO BE SPREAD IN 150mm LAYERS AND EXTENSIVELY TRACK ROLLED WITH A DROTT. ALL EARTHWORKS TO BE CARRIED OUT IN ACCORDANCE WITH THE FULL REQUIREMENTS OF AS3798, GUIDELINES FOR EARTHWORKS FOR COMMERCIAL AND RESIDENTIAL DEVELOPMENTS.
NOTE: IN THE INSTANCES WHERE BY SIGNIFICANT LEVELS OF FILLING ARE OBSERVED, THERE WILL ALWAYS REMAIN THE POSSIBILITY OF TILT AS A RESULT OF DIFFERENTIAL SETTLEMENT IN THE FILL. AUSTRALIAN STANDARD (AS2870-2011) DOES NOT CATER FOR TILTING OF SLABS AS A RESULT OF DIFFERENTIAL SETTLEMENT WITHIN CERTIFIED NOR DOES THE AUSTRALIAN STANDARD ADDRESS THE POSSIBLE OCCURRENCE WHEN SHALLOW FOUNDATIONS ARE ADOPTED.

DRAINAGE:
THE EXTERNAL FINISHED SURFACE SURROUNDING THE DWELLINGS MUST BE DRAINED TO MOVE SURFACE WATER AWAY FROM THE BUILDING AND GRADED TO GIVE A SLOPE OF NOT LESS THAN 50 MM OVER THE FIRST 1 M AWAY FROM THE BUILDING.

FOOTPATH AND PAVEMENT NOTES

1. ALL PAVEMENTS TO BE IN ACCORDANCE WITH THE CURRENT PAVEMENT REQUIREMENTS FOR COUNCIL CIVIL WORKS SPECIFICATIONS.
2. COMPACTION AND TESTING OF EACH PAVEMENT LAYER TO BE IN ACCORDANCE WITH THE CURRENT PAVEMENT REQUIREMENTS FOR COUNCIL CIVIL WORKS SPECIFICATIONS.
3. GEOTECHNICAL CBR VALUES TO BE OBTAINED ON SITE AND CIVIL ENGINEER TO ADJUST PAVEMENT DESIGN TO SUIT WHERE REQUIRED.
4. UNLESS NOTED OTHERWISE, ALL SUB BASE TO CONTAIN 3% CEMENT BY DRY WEIGHT AND TO BE COMPACTED TO AT LEAST 98% OF MMD, AT A MOISTURE CONTENT BETWEEN MOMC AND 3% DRY OF MOMC. ALL SUB BASE TO ACHIEVE AN ELASTIC MODULUS OF 3500MPa.
5. ALTERNATIVE PAVEMENT MATERIALS TO BE CONFIRMED BY LOCAL COUNCIL.
6. ALL PEDESTRIAN PAVEMENTS ARE TO BE JOINTED AS FOLLOWS. (U.N.O)
7. EXPANSION JOINTS (EJ) ARE TO BE LOCATED WHERE POSSIBLE AT TANGENT POINTS OF CURVES AND ELSEWHERE AT MAX. 6.0m CENTRES.
8. WEAKENED PLANE JOINTS (WPJ) ARE TO BE LOCATED AT A MAX. SPACING OF 1.5 x WIDTH OF THE PAVEMENT.
9. WHERE POSSIBLE JOINTS SHOULD BE LOCATED TO MATCH KERBING AND OR ADJACENT PAVEMENT JOINTS.
10. PEDESTRIAN PAVEMENT JOINT DETAIL.



CONCRETE NOTES

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600 CURRENT EDITION WITH AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
2. CONCRETE QUALITY ALL REQUIREMENTS OF THE CURRENT ACSE CONCRETE SPECIFICATION DOCUMENT 1 SHALL APPLY TO THE FORMWORK, REINFORCEMENT AND CONCRETE UNLESS NOTED OTHERWISE.

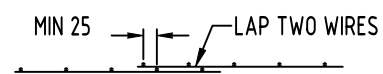
ELEMENT	AS 3600 Fc MPa AT 28 DAYS	SPECIFIED SLUMP	NOMINAL AGG. SIZE
VEHICULAR BASE	32	60	20
KERBS, PATHS, AND PITS	25	80	20
RETAINING WALLS	32	80	20

- CEMENT TYPE SHALL BE (ACSE SPECIFICATION) TYPE SL
 - PROJECT CONTROL TESTING SHALL BE CARRIED OUT IN ACCORDANCE WITH AS 1379.
3. NO ADMIXTURES SHALL BE USED IN CONCRETE UNLESS APPROVED IN WRITING BY AIKEN DESIGN & CONSULTING.
 4. CLEAR CONCRETE COVER TO ALL REINFORCEMENT FOR DURABILITY SHALL BE 40mm TOP AND 70mm FOR EXTERNAL EDGES UNLESS NOTED OTHERWISE.
 5. ALL REINFORCEMENT SHALL BE FIRMLY SUPPORTED ON MILD STEEL PLASTIC TIPPED CHAIRS, PLASTIC CHAIRS OR CONCRETE CHAIRS AT NOT GREATER THAN 1m CENTRES BOTH WAYS. BARS SHALL BE TIED AT ALTERNATE INTERSECTIONS.
 6. THE FINISHED CONCRETE SHALL BE A DENSE HOMOGENEOUS MASS, COMPLETELY FILLING THE FORMWORK, THOROUGHLY EMBEDDING THE REINFORCEMENT AND FREE OF STONE POCKETS. ALL CONCRETE INCLUDING SLABS ON GROUND AND FOOTINGS SHALL BE COMPACTED AND CURED IN ACCORDANCE WITH R.T.A. SPECIFICATION R83.
 7. REINFORCEMENT SYMBOLS:
N DENOTES GRADE 500 N BARS TO AS 4671 GRADE N
R DENOTES 250 R HOT ROLLED PLAIN BARS TO AS 4671
SL DENOTES COLD-DRAWN WIRE REINFORCING FABRIC TO AS 4671

NUMBER OF BARS IN GROUP $\left\{ \right.$ BAR GRADE AND TYPE
17N20-250
NOMINAL BAR SIZE in mm $\left\{ \right.$ SPACING in mm

THE FIGURE FOLLOWING THE FABRIC SYMBOL IS THE REFERENCE NUMBER FOR FABRIC TO AS 4671.

8. FABRIC SHALL BE LAPPED IN ACCORDANCE WITH THE FOLLOWING DETAIL:



INSPECTIONS BY ENGINEER

48-72 HOURS NOTICE IS REQUIRED BEFORE ANY SITE INSPECTION. ANY STRUCTURAL ELEMENT NOT INSPECTED BY RTS CIVIL WILL NOT BE CERTIFIED BY RTS CIVIL CONSULTING ENGINEERS PTY LTD.

1. BEARING STRATA OF ALL FOOTINGS PRIOR TO CONCRETE POUR BY GEOTECHNICAL ENGINEER.
2. ANY REINFORCEMENT PRIOR TO CONCRETE POUR.
3. TIMBER AND STEEL FRAMING PRIOR TO CLADDING OR LINING.
4. STEEL LINTELS AFTER INSTALLATION.
5. CONTACT YOUR PCA (PRINCIPAL CERTIFYING AUTHORITY) AS TO REQUIREMENTS FOR MANDATORY CRITICAL STAGE INSPECTIONS IN ACCORDANCE WITH REVISED EP&A ACT REGULATIONS EFFECTIVE JULY 1, 2004.
6. INSPECTION BY GEOTECHNICAL ENGINEER OVER 1.5m OF VERTICAL CUT THROUGH SANDSTONE BED ROCK TO PERMIT IDENTIFICATION OF DEFECTS AND REMEDIAL MEASURES INITIATED.
7. SCHEDULE OF CONSTRUCTION STAGES REQUIRING INSPECTION:
 - a. FOLLOWING PLACEMENT OF PIPE BEDDING MATERIAL. CONFIRM TRENCH/PIPE LOCATION, ADEQUACY OF DEPTH OF COVER, BEDDING MATERIAL AND DEPTH.
 - b. FOLLOWING JOINING OF PIPES AND CONNECTION TO COUNCIL'S STORMWATER SYSTEM.
 - c. FOR ON-SITE DETENTION SYSTEMS:-
 - (i) FOLLOWING SET OUT OF DETENTION TANK/AREA TO CONFIRM AREA AND VOLUME OF STORAGE.
 - (ii) FOLLOWING PLACEMENT OF WEEP-HOLES, ORIFICE AND/OR WEIR FLOW CONTROL, OUTLET SCREEN AND OVERFLOW PROVISION.
8. PLEASE NOTE THAT COUNCIL FORMWORK INSPECTIONS MUST BE BOOKED 3 BUSINESS DAYS IN ADVANCE. FORMWORK INSPECTIONS REQUIRE EITHER THE CONTRACTOR OR APPLICANT TO BE PRESENT ONSITE FOR THE INSPECTION. TO SCHEDULE A FORMWORK OR FINAL INSPECTION OF THE VEHICLE CROSSING, PLEASE VISIT www.northernbeaches.nsw.gov.au
9. THE APPOINTED CONTRACTOR MUST BE ON NORTHERN BEACHES COUNCIL'S APPROVED LIST OF AUTHORISED VEHICULAR CROSSING CONTRACTORS. IF THEY ARE NOT ON THE LIST, THEN THEY MUST APPLY TO BECOME ACCREDITED PRIOR TO COMMENCING CONSTRUCTION WORKS. FOR MORE INFORMATION, PLEASE VISIT www.northernbeaches.nsw.gov.au
10. PLEASE CONTACT COUNCIL ON 1300 434 434 FOR ANY ENQUIRIES ABOUT THIS APPLICATION.

KERB AND GUTTER NOTES

1. CLEAR ORGANIC MATERIAL AND TOPSOIL UNDER PROPOSED PAVEMENT.
2. ALL CONCRETE TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 25 MPa U.N.O IN REINFORCED CONCRETE NOTES.
2. ALL KERBS, GUTTERS, DISH DRAINS AND CROSSINGS TO BE CONSTRUCTED ON 100mm GRANULAR BASECOURSE COMPACTED TO MINIMUM 95% MODIFIED DRY DENSITY (AS 1289 5.2.1).
3. EXPANSION JOINTS (EJ) TO BE FORMED FROM 10mm COMPRESSIBLE CORK FILLER BOARD FOR THE FULL DEPTH OF THE SECTION AND CUT TO PROFILE. EXPANSION JOINTS TO BE LOCATED AT DRAINAGE PITS, ON TANGENT POINTS OF CURVES AND ELSEWHERE AT MAX 12m CENTRES EXCEPT FOR INTEGRAL KERBS WHERE THE EXPANSION JOINTS ARE TO MATCH THE JOINT LOCATIONS IN THE SLABS.
4. WEAKENED PLANE JOINTS (WPJ) TO BE MIN 3mm WIDE AND LOCATED AT 3m CENTRES EXCEPT FOR INTEGRAL KERBS WHERE THE WEAKENED PLANE JOINTS ARE TO MATCH THE JOINT LOCATIONS IN THE SLABS.
5. BROWED FINISH TO ALL RAMPED AND VEHICULAR CROSSINGS. ALL OTHER KERBING OR DISH DRAINS TO BE STEEL FLOAT FINISHED.
6. IN THE REPLACEMENT OF KERB AND GUTTER :-
 - (a) EXISTING ROAD PAVEMENT IS TO BE SAWCUT ALONG THE LIP OF GUTTER. UPON COMPLETION OF THE NEW KERB AND GUTTER NEW BASECOURSE AND SURFACE TO BE LAID 900mm WIDE U.N.O.
 - (b) EXISTING ALLOTMENT DRAINAGE PIPES TO CIVIL DRIVEWAY ACCESS PLAN.
 - (c) EXISTING KERB AND GUTTER IS TO BE COMPLETELY REMOVED AND A NEW KERB AND GUTTER IS TO BE CONSTRUCTED AS SHOWN.
7. ALL REINFORCEMENT SHALL BE SUPPORTED ON PLASTIC TIPPED WIRE CHAIRS, OR APPROVED BEARING CHAINS AT 800mm MAXIMUM CENTRES BOTH WAYS. CHAIRS SHALL HAVE SUITABLE BEARING PLATES ARRANGED AND SECURED TO PREVENT SINKING INTO THE MATERIAL OR MEMBRANE BELOW.

SURVEY NOTES:

1. THE EXISTING SITE CONDITIONS SHOWN ON THE FOLLOWING DRAWINGS HAVE BEEN INVESTIGATED BY THE PROJECT SURVEY. THE INFORMATION IS SHOWN TO PROVIDE A BASIS FOR DESIGN. RTS CIVIL CONSLTING ENGINEERS PTY LTD DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE SURVEY BASE.
2. SHOULD DISCREPANCIES BE ENCOUNTERED DURING CONSTRUCTION BETWEEN THE SURVEY DATA AND ACTUAL FIELD DATA, CONTACT THE ENGINEER.
3. REFERENCE SHOULD BE MADE DIRECTLY TO THE SURVEYOR BEFORE SETTING OUT.

EXISTING UNDERGROUND SERVICES NOTES:

1. THE LOCATIONS OF UNDERGROUND SERVICES SHOWN IN THIS SET OF DRAWINGS HAVE BEEN PLOTTED FROM SURVEY INFORMATION AND SERVICE AUTHORITY INFORMATION. THE SERVICE INFORMATION HAS BEEN PREPARED ONLY TO SHOW THE APPROXIMATE POSITIONS OF ANY KNOWN SERVICES AND MAY NOT BE AS CONSTRUCTED OR ACCURATE.
2. RTS CIVIL CONSULTING ENGINEERS PTY LTD CANNOT GUARANTEE THE SERVICES INFORMATION SHOWN ON THESE DRAWINGS ACCURATELY INDICATES THE PRESENCE OR ABSENCE OF SERVICES OR THEIR LOCATION AND WILL ACCEPT NO LIABILITY FOR INACCURACIES IN THE SERVICES INFORMATION SHOWN FROM ANY CAUSE WHATSOEVER.
3. CONTRACTORS SHALL TAKE DUE CARE WHEN EXCAVATING ONSITE INCLUDING HAND EXCAVATION WHERE NECESSARY.
4. CONTRACTORS ARE TO CONTACT THE RELEVANT SERVICE AUTHORITY PRIOR TO COMMENCEMENT OF EXCAVATION WORKS.
5. CONTRACTORS ARE TO UNDERTAKE A SERVICES SEARCH, PRIOR TO COMMENCEMENT OF WORKS ON SITE. SEARCH RESULTS ARE TO BE KEPT ON SITE AT ALL TIMES.
6. CONTRACTOR IS TO CONFIRM FINDINGS FOR THE LOCAL COUNCIL OR SYDNEY WATER IN RELATION TO THE SEWER OR WATER MAINS LOCATED. CONFIRMATION OF MAINS IS REQUIRED PRIOR TO CONSTRUCTION. POSSIBLE CONFLICT OF SERVICES ARE TO BE REPORTED TO THE SUPERINTENDENT OR ENGINEER FOR FURTHER DIRECTIONS.

DRAWING SCHEDULE:

CW001 - COVER PAGE, NOTES & CALCULATIONS
CW100 - CIVIL DRIVEWAY ACCESS PLAN
CW200 - DRIVEWAY LONGITUDINAL 1
CW201 - DRIVEWAY LONGITUDINAL 2
CW202 - DRIVEWAY LONGITUDINAL 3 & 4

NORTHERN BEACHES COUNCIL STANDARD DRAWINGS:

- TC1-STD-DWG-0001-FINAL (KERB DETAILS)
- TC1-STD-DWG-0002-FINAL (PAVEMENT DETAILS)
- TC1-STD-DWG-0003-FINAL (FOOTPATH DETAILS)
- TC1-STD-DWG-0009-FINAL (DRIVEWAY PROFILES)
- TC1-STD-DWG-0020-FINAL (PAVEMENT CONSTRUCTION)

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NO INVESTIGATION OF UNDERGROUND SERVICES HAS BEEN MADE. ALL RELEVANT AUTHORITIES SHOULD BE NOTIFIED PRIOR TO ANY EXCAVATION ON OR NEAR THE SITE.

DEVELOPERS & EXCAVATORS MAY BE HELD FINANCIALLY RESPONSIBLE BY THE ASSET OWNER SHOULD THEY DAMAGE UNDERGROUND NETWORKS.

CARELESS DIGGING CAN DIGGING CAN:

- CAUSE DEATH OR SERIOUS INJURY TO WORKERS AND THE GENERAL PUBLIC
- INCONVENIENCE USERS OF ELECTRICITY, GAS, WATER AND COMMUNICATIONS
- LEAD TO CRIMINAL PROSECUTION AND DAMAGES CLAIMS
- CAUSE EXPENSIVE FINANCIAL LOSSES TO BUSINESS
- CUT OFF EMERGENCY SERVICES
- DELAY PROJECT COMPLETION TIMES WHILE THE DAMAGE IS REPAIRED

MINIMISE YOUR RISK AND DIAL BEFORE YOU DIG. - TEL. 1100

ALL DIMENSIONS MUST BE VERIFIED ON SITE BY BULDER BEFORE COMMENCING WITH WORK.

A1 ORIGINAL				Issued for: DEVELOPEMENT APPLICATION		Title:	Initial:	Date:	Architect:		Project and Drawing Title:		Local Council:	
				Approved by:	DESIGN	R.M	15.04.2025		WALSH ARCHITECTS		94-96 PARK STREET & 4 KUNARI PLACE, MONA VALE		NORTHERN BEACHES	
				Date : 16.05.25	DRAWN	S.M	15.04.2025				COVERPAGE, NOTES & CALCULATIONS		Project Number: Drawing ID: Issue:	
A	16.05.25	CIVIL DRIVEWAY ACCESS PLAN FOR DA SUBMISSION	R.M	Rhys Mikhail	CHECKED	R.M	16.05.2025						250302 CW001 A	
Rev:	Date:	Description:	Reviewed:	The document is produced by RTS Civil Consulting Engineers Pty Ltd (RTS) solely for the benefit of and use by the client in accordance with the terms and conditions of RTS. RTS does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.										

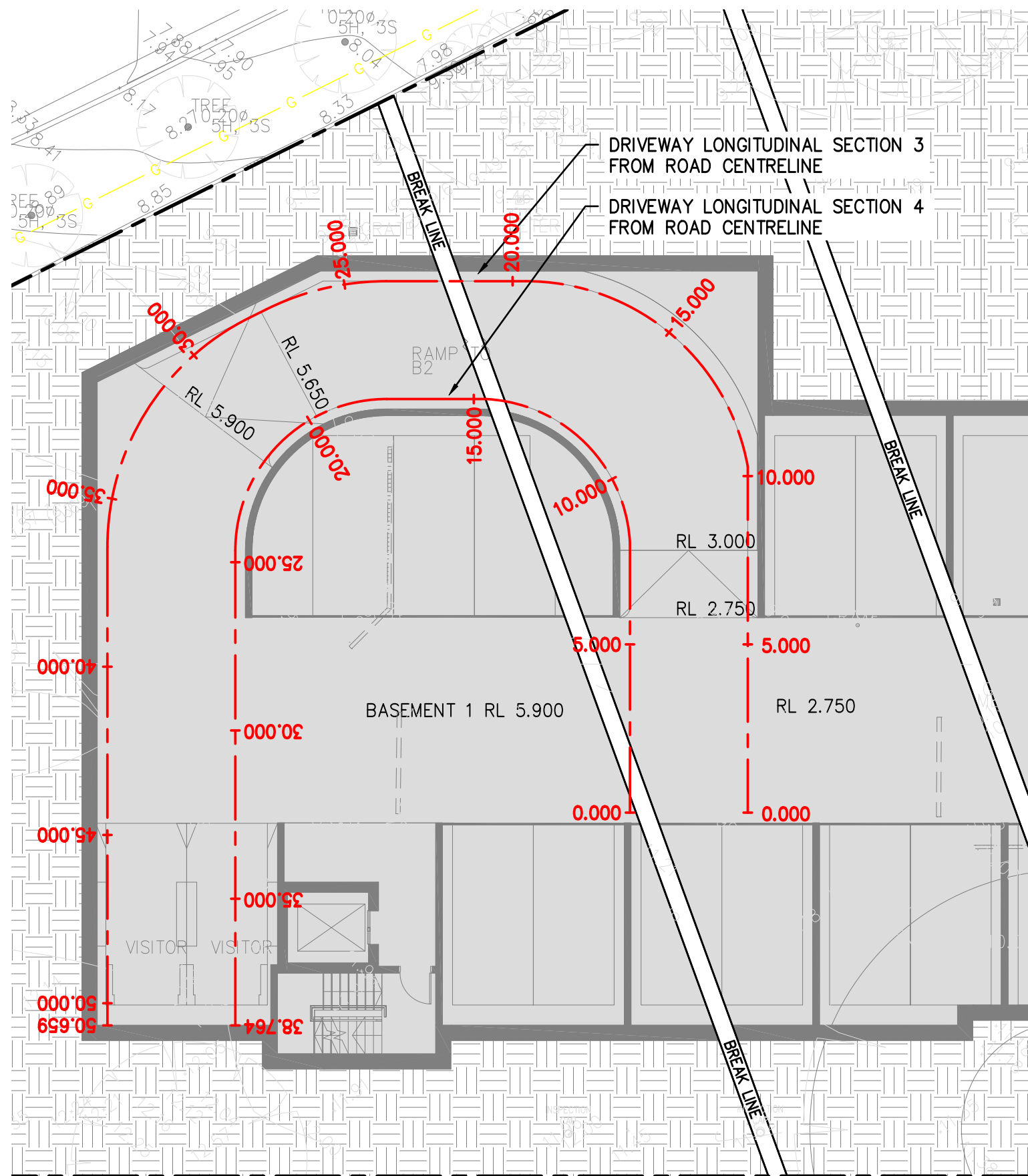
NOTES:
1. U.N.O REFER TO THE COVERPAGE 001 SERIES FOR DETAILED NOTES AND CALCULATIONS.
2. ALL DIMENSIONS SHALL BE VERIFIED ONSITE BY BUILDER BEFORE COMMENCING WITH WORK.

LEGEND

- BOUNDARY LINE
S EXISTING SEWER MAIN
OHP EXISTING OVERHEAD POWER LINES
E EXISTING ELECTRICITY LINE
W EXISTING WATER MAINS
T EXISTING TELECOMMUNICATIONS LINE
G EXISTING GAS MAINS

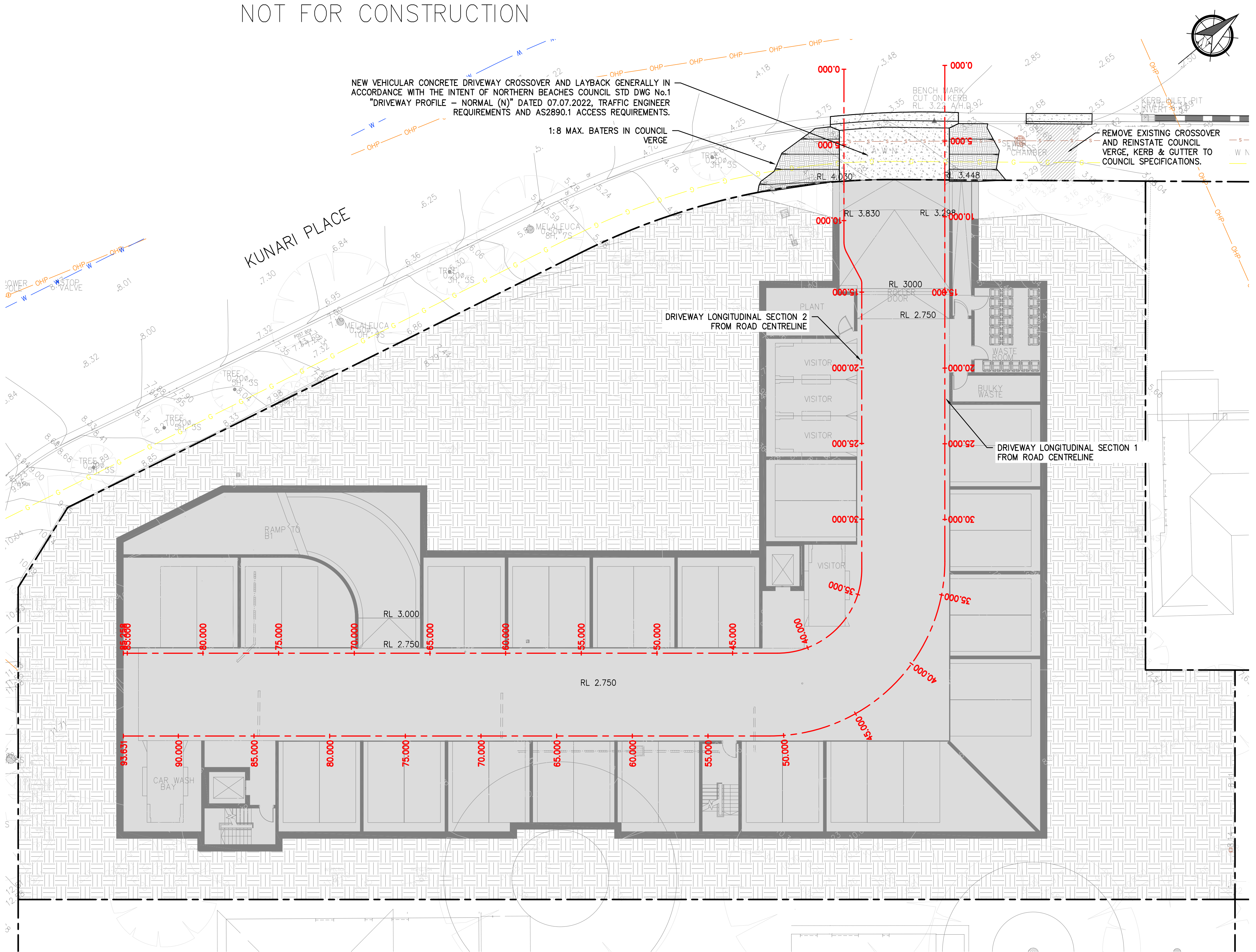
- NEW DRIVEWAY CROSSOVER
DEMOLISH EXISTING CROSSOVER

- DRIVEWAY LONGSECTIONS
00.000 DRIVEWAY CHAINAGES



INTERNAL DRIVEWAY ACCESS RAMP PLAN

SCALE = 1 : 150



DRIVEWAY ACCESS PLAN

SCALE = 1 : 150

NOTE:

THE BUILDER/CONTRACTOR SHALL LOCATE ALL EXISTING PUBLIC UTILITY SERVICES WITHIN THE SITE, FOOTPATH AREA AND ROAD RESERVE PRIOR TO THE COMMENCEMENT OF ANY WORKS. ALL LOCATIONS AND LEVELS OF SERVICES SHALL BE REPORTED TO THE STORMWATER ENGINEER PRIOR TO THE COMMENCEMENT OF ANY WORKS TO ENSURE THAT THERE ARE NO OBSTRUCTIONS IN THE LINE OF THE DRAINAGE DISCHARGE PIPES.



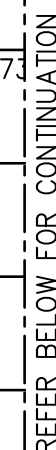
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A1 ORIGINAL				Issued for: DEVELOPEMENT APPLICATION			Title:			Initial:			Date:			Architect:			Project and Drawing Title:			Local Council:		
				Approved by:			DESIGN			R.M			15.04.2025			WALSH ARCHITECTS			94-96 PARK STREET & 4 KUNARI PLACE, MONA VALE CIVIL DRIVEWAY ACCESS PLAN			NORTHERN BEACHES		
				Date : 16.05.25 Rhys Mikhail			DRAWN			S.M			15.04.2025			Client:						Project Number:		
A				16.05.25			CIVIL DRIVEWAY ACCESS PLAN FOR DA SUBMISSION			R.M						MONA VALE CENTRAL PTY LTD						Drawing ID:		
Rev:				Date:			Description:			Reviewed:												Issue:		
																						250302		
																						CW100		
																						A		

NOTES:

1. U.N.O REFER TO THE COVERPAGE 001 SERIES FOR DETAILED NOTES AND CALCULATIONS.
2. ALL DIMENSIONS SHALL BE VERIFIED ONSITE BY BUILDER BEFORE COMMENCING WITH WORK.

NEW VEHICULAR CONCRETE DRIVEWAY CROSSOVER AND
LAYBACK GENERALLY IN ACCORDANCE WITH THE INTENT OF
NORTHERN BEACHES COUNCIL STD DWG No.1 "DRIVEWAY
PROFILE - NORMAL (N)" DATED 07.07.2022, TRAFFIC ENGINEER
REQUIREMENTS AND AS2890.1 ACCESS REQUIREMENTS.



SCALE = 1 : 100

THE BUILDER/CONTRACTOR SHALL LOCATE ALL EXISTING PUBLIC UTILITY SERVICES WITHIN THE SITE, FOOTPATH AREA AND ROAD RESERVE PRIOR TO THE COMMENCEMENT OF ANY WORKS. ALL LOCATIONS AND LEVELS OF SERVICES SHALL BE REPORTED TO THE STORMWATER ENGINEER PRIOR TO THE COMMENCEMENT OF ANY WORKS TO ENSURE THAT THERE ARE NO OBSTRUCTIONS IN THE LINE OF THE DRAINAGE DISCHARGE PIPES.

				Issued for: DEVELOPEMENT APPLICATION	Title:	Initial:	Date:
				Approved by:	DESIGN	R.M	15.04.2025
				Date : 16.05.25	DRAWN	S.M	15.04.2025
A	16.05.25	CIVIL DRIVEWAY ACCESS PLAN FOR DA SUBMISSION	R.M	Rhys Mikhail	CHECKED	R.M	16.05.2025
Rev:	Date:	Description:	Reviewed:	Director Principal Engineer NER: 2570082 RPEQ: 17480 BEng (Civil) Hons MIEAust CPEng NER RPEQ APEC IntPE(Aus)	APPROVED	R.M	16.05.2025

RTS | **CONSULTING ENGINEERS**
STORMWATER • CIVIL • FLOOD MITIGATION

ABN: 81 615 065 588 Phone: 0490 507 300 Email: admin@rtscivil.com.au Web: rtscivil.com.au

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Project and Drawing Title:

94-96 PARK STREET &
4 KUNARI PLACE, MONA VALE
DRIVEWAY LONGITUDINAL 1

Local Council:		
NORTHERN BEACHES		
Project Number:	Drawing ID:	Issue:
250302	CW200	A



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NEW VEHICULAR CONCRETE DRIVEWAY CROSSOVER AND
LAYBACK GENERALLY IN ACCORDANCE WITH THE INTENT OF
NORTHERN BEACHES COUNCIL STD DWG No.1 "DRIVEWAY
PROFILE - NORMAL (N)" DATED 07.07.2022, TRAFFIC ENGINEER
REQUIREMENTS AND AS2890.1 ACCESS REQUIREMENTS.

BOUNDARY

DATUM RL 1.000

HORIZONTAL CURVES

VERTICAL CURVES

VERTICAL GRADES

	CHAINAGE	SURVEY	DESIGN
	0	3.692	3.692
	3.122	3.601	3.601
	3.572	3.579	3.561
	3.582	3.654	3.591
	4.022	3.775	3.661
	5.522	3.935	3.699
	7.393	4.217	3.980
	9.393	4.837	4.030
	10	4.961	3.969
	11.393	6.029	3.830
	11.423	6.036	3.822
	12.117	6.125	3.651
	14.113	6.196	3.160
	14.416	6.229	3.085
	14.761	6.270	3.000
	16.761	6.494	2.750
	20	6.781	2.750
	30	7.872	2.750
	35.285	8.227	2.750
	40	9.099	2.750
	42.034	9.371	2.750
	50	9.509	2.750
	60	9.958	2.750
	70	9.984	2.750

100

SCALE = 1 : 100

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Approved by:

Date : 16.05.25
Rhys Mikhail
Director | Principal Engineer | NER: 2570082 | RPEQ: 17480
BEng (Civil) Hons MIEAust CPEng NER RPEQ APEC IntPE(Aus)

DESIGN	R M	15.04.2025
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DESIGN	TIME	TOTAL WEIGHT

DRAWN	S.M	15.04.2025
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CHECKED	B.M.	16.05.2025
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CHECKED	R.M	16.05.2025

APPROVED	R.M	16.05.2025
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**CIVIL CONSULTING
ENGINEERS**

ABN: 81 615 065 588 Phone: 0490 507 300 Email: admin@rtscivil.com.au Web: rtscivil.com.au

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Architect:

WALSH ARCHITECTS

Client:

MONA VALE CENTRAL PTY LTD

Project and Drawing Title:

94-96 PARK STREET &
4 KUNARI PLACE, MONA VALE
DRIVEWAY LONGITUDINAL 2

Local Council:

NORTHERN BEACHES

Project Number:

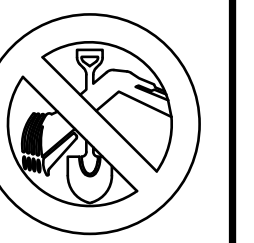
250302

Drawing ID:

CW201

ue:

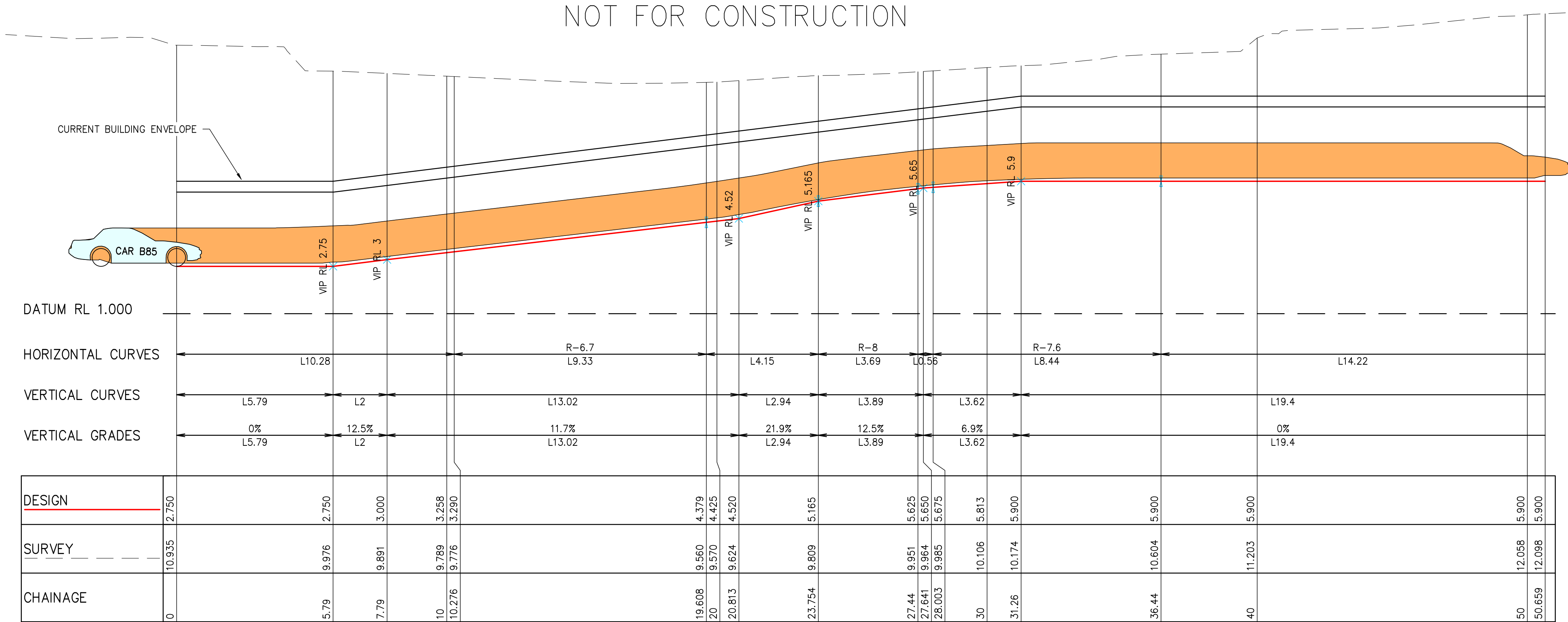
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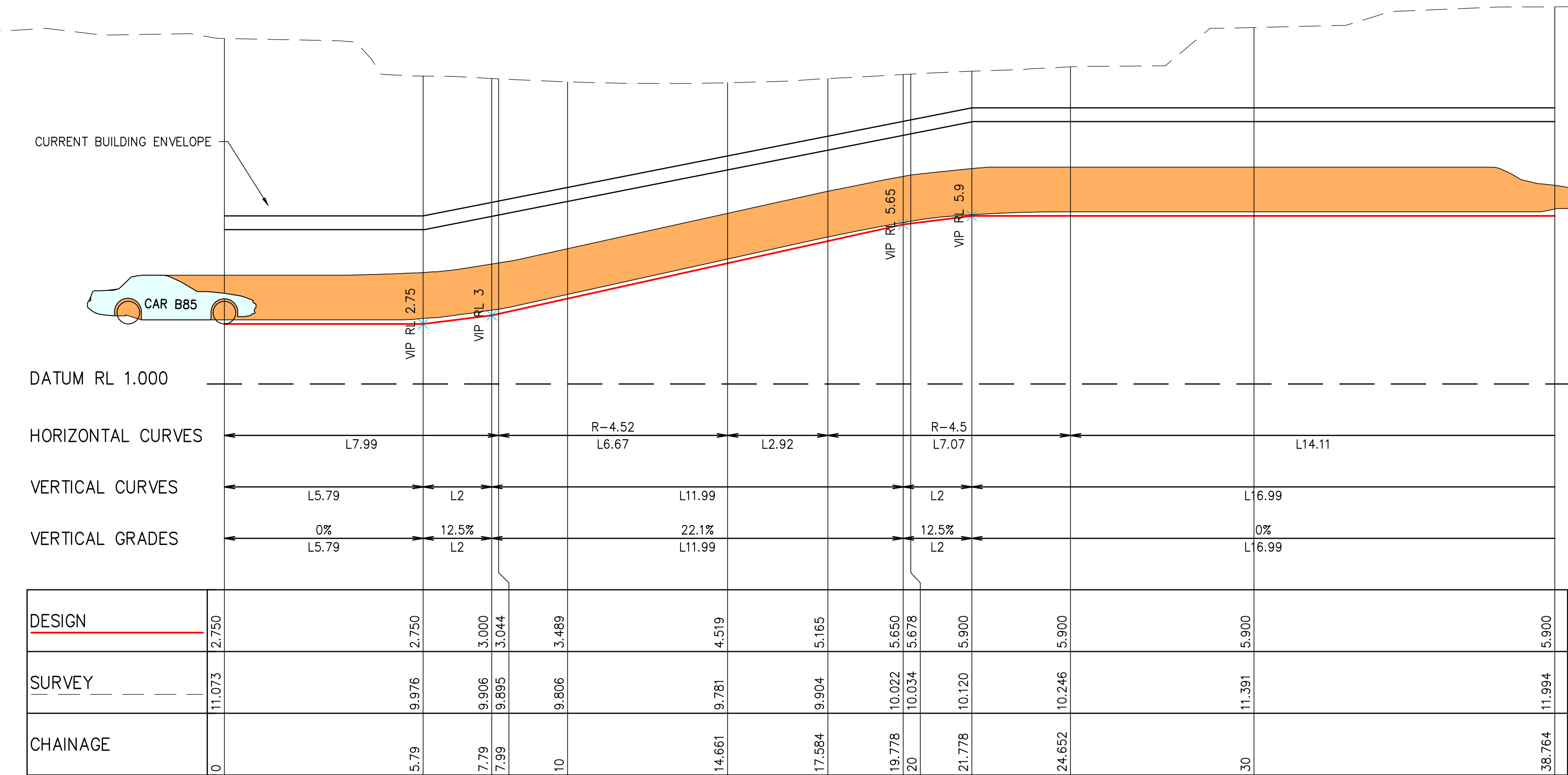
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NOT FOR CONSTRUCTION



DRIVEWAY LONGITUDINAL SECTION 3

SCALE = 1 : 100



DRIVEWAY LONGITUDINAL SECTION 4

SCALE = 1 : 100

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				Approved by:			DESIGN			R.M			15.04.2025			WALSH ARCHITECTS			94-96 PARK STREET & 4 KUNARI PLACE, MONA VALE DRIVEWAY LONGITUDINAL 3 & 4			NORTHERN BEACHES		
				Date : 16.05.25 Rhys Mikhail Director Principal Engineer NER: 2570082 RPEQ: 17480 BEng (Civil) Hons MIEAust. OPEng NER RPEQ APEC IntPE(Aus)			DRAWN			S.M			15.04.2025			Client:						Project Number:		
Rev:				Date:			Description:			Reviewed:			APPROVED			MONA VALE CENTRAL PTY LTD						Drawing ID:		
																						250302		
																						CW202		
																						A		