

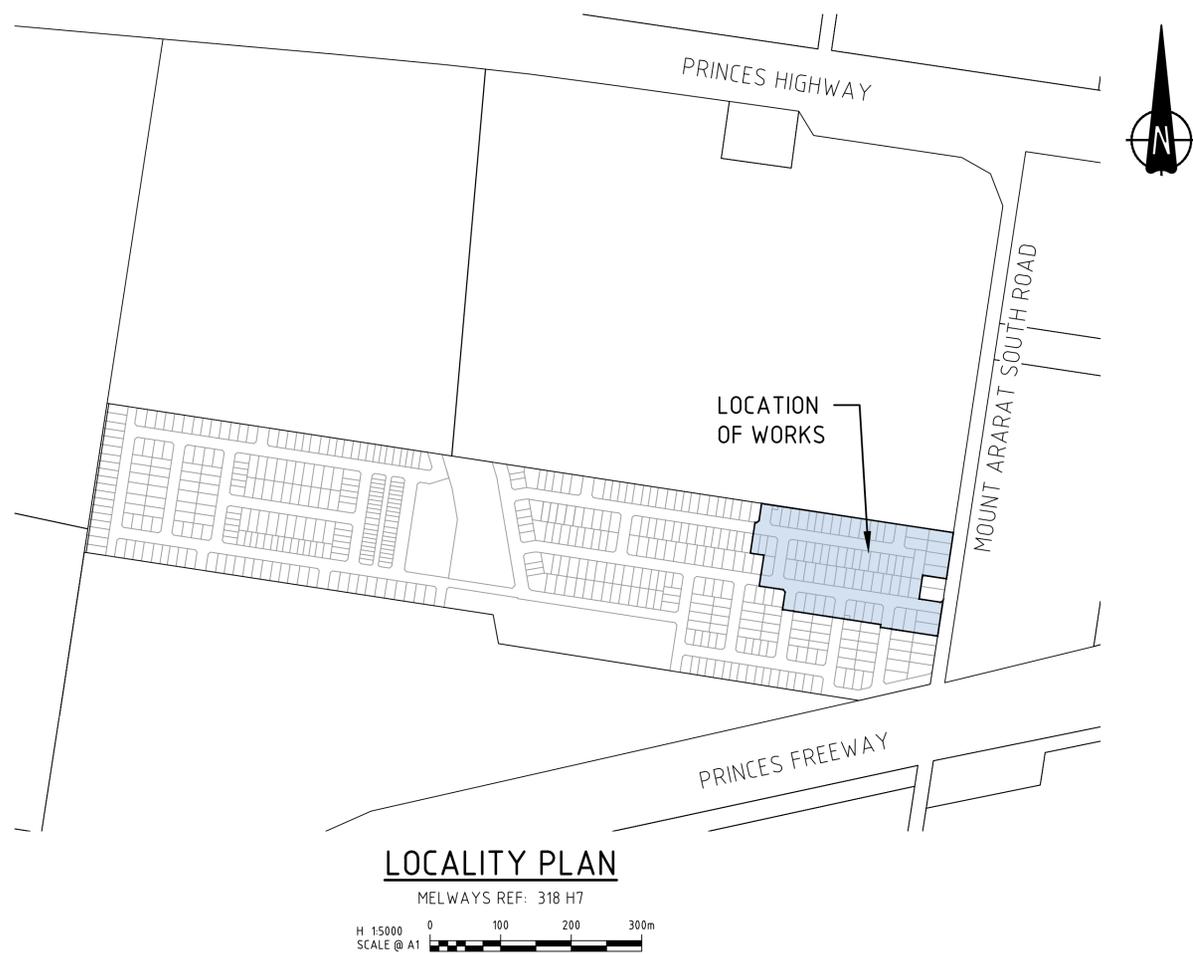
KALA ESTATE

STAGE 01

SUBDIVISIONAL WORKS

FOR SIG GROUP

CONSENT FOR CONSTRUCTION
 CARDINIA SHIRE COUNCIL
 Ref No.: S24-143, T220227
 Sheet: 1 of 56
 Approved by: Vithu Vijeyakumar
 CARDINIA SHIRE COUNCIL
 Date: Tuesday, 19 August 2025



SHEET LIST TABLE	
SHEET NUMBER	DESCRIPTION
3086-01-001	COVER SHEET
3086-01-010	GENERAL NOTES AND PAVEMENT DETAILS
3086-01-011	STANDARD DETAILS
3086-01-020	TYPICAL CROSS SECTIONS (SHEET 1 OF 2)
3086-01-021	TYPICAL CROSS SECTIONS (SHEET 2 OF 2)
3086-01-100	LAYOUT PLAN (SHEET 1 OF 2)
3086-01-101	LAYOUT PLAN (SHEET 2 OF 2)
3086-01-102	OUTLET SWALE SETOUT (SHEET 1 OF 4)
3086-01-103	OUTLET SWALE SETOUT (SHEET 2 OF 4)
3086-01-104	OUTLET SWALE SETOUT (SHEET 3 OF 4)
3086-01-105	OUTLET SWALE SETOUT (SHEET 4 OF 4)
3086-01-150	EARTHWORKS PLAN
3086-01-200	ROAD LONGITUDINAL SECTIONS (SHEET 1 OF 3)
3086-01-201	ROAD LONGITUDINAL SECTIONS (SHEET 2 OF 3)
3086-01-202	ROAD LONGITUDINAL SECTIONS (SHEET 3 OF 3)
3086-01-250	ROAD CROSS SECTIONS (SHEET 1 OF 6)

SHEET LIST TABLE	
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3086-01-253	ROAD CROSS SECTIONS (SHEET 4 OF 6)
3086-01-254	ROAD CROSS SECTIONS (SHEET 5 OF 6)
3086-01-255	ROAD CROSS SECTIONS (SHEET 6 OF 6)
3086-01-300	INTERSECTION DETAILS (SHEET 1 OF 4)
3086-01-301	INTERSECTION DETAILS (SHEET 2 OF 4)
3086-01-302	INTERSECTION DETAILS (SHEET 3 OF 4)
3086-01-303	INTERSECTION DETAILS (SHEET 4 OF 4)
3086-01-350	SIGNAGE AND LINEMARKING PLAN
3086-01-400	DRAINAGE LONGITUDINAL SECTIONS (SHEET 1 OF 4)
3086-01-401	DRAINAGE LONGITUDINAL SECTIONS (SHEET 2 OF 4)
3086-01-402	DRAINAGE LONGITUDINAL SECTIONS (SHEET 3 OF 4)
3086-01-403	DRAINAGE LONGITUDINAL SECTIONS (SHEET 4 OF 4)
3086-01-420	DRAINAGE PIT SCHEDULE

STREET NAME	GAS		NON-DRINKING WATER		DRINKING WATER		TELCO		ELECTRICITY		SEWER	
	SIDE	OFFSET	SIDE	OFFSET	SIDE	OFFSET	SIDE	OFFSET	SIDE	OFFSET	SIDE	OFFSET
KALAMATA BOULEVARD	-	-	N	2.30	N	2.80	S	1.85	S	2.60	S	1
BRANCH ROAD	-	-	W	2.30	W	2.80	E	1.85	E	-	-	-
DELPHI ROAD	-	-	W	2.30	W	2.80	E	1.85	E	-	-	-
LESTRA WAY	-	-	W	2.30	W	2.80	E	1.85	E	2.60	E	1
MT ARARAT SOUTH ROAD	-	-	W	2.30	W	2.80	W	3.80	W	4.30	-	-
OLEA WAY	-	-	E	2.30	E	2.80	W	1.85	W	2.60	-	-
OLIVE GROVE	-	-	E	2.30	E	2.80	W	1.85	W	2.60	-	-
TART STREET	-	-	S	2.30	S	2.80	N	1.85	N	2.60	N	1
TART STREET (LOT 123 & 124)	-	-	E	2.30	E	2.80	W	1.85	W	2.60	-	-
TART STREET (LOT 126 & 127)	-	-	S	2.30	S	2.80	N	0.50	S	1.00	-	-

1. TELECOMMUNICATIONS AND ELECTRICITY CABLES TO BE CONSTRUCTED IN A COMMON TRENCH IN ACCORDANCE WITH ELECTRICAL AUTHORITY STANDARD DRAWINGS.

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REV	DATE	DRN	CKD	APP	AMENDMENT
C	09.05.25	MA			SERVICE OFFSET TABLE AMENDED
B	20.01.25	AT	MA	K. LORRIMAR	ISSUED FOR COUNCIL SUBMISSION
A	13.11.24	NT	MA	K. LORRIMAR	INITIAL ISSUE

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SIG GROUP
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 APPROVED PE 0005927
 DESIGNED
 W. SANSON
 SCALE
 AS SHOWN

PROJECT
 KALA ESTATE - STAGE 01
 TITLE
 COVER SHEET
 MUNICIPALITY
 CARDINIA SHIRE COUNCIL
 PP No.
 T220227
 DRAWING No.
 3086-01-001
 REVISION
 C

ORIGINAL SIZE A1

NOTES:

GENERAL

- ALL LEVELS SHOWN ARE TO AUSTRALIAN HEIGHT DATUM (A.H.D.) AND ALL CO-ORDINATES ARE TO MAP GRID AUSTRALIA (MGA) ZONE 55.
- THE PLAN OF SUBDIVISION PREPARED BY MNG WILL BE PEGGED BY THE SURVEYOR. FOR SPECIFIC LOT DIMENSIONS REFER TO PLAN OF SUBDIVISION NO. PS 908880E LATEST VERSION.
- ALL ROAD AND DRAINAGE WORKS ARE TO BE CARRIED OUT IN ACCORDANCE WITH AS2124-1992, THE ROAD & DRAINAGE SPECIFICATION, STANDARD DRAWINGS AND TO THE SATISFACTION OF COUNCIL.
- THE CONTRACTOR IS TO CHECK BENCH MARKS PRIOR TO THE COMMENCEMENT OF WORKS AND IMMEDIATELY REPORT ANY DISCREPANCIES. TBM'S TO BE RE-ESTABLISHED BY THE LICENSED SURVEYOR IF FOUND TO BE MISSING AT THE COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR WILL BE RESPONSIBLE FOR CARE AND MAINTENANCE OF TBM'S THEREAFTER.
- FILL AREAS TO BE STRIPPED OF TOPSOIL, FILLED TO WITHIN 100mm OF REQUIRED LEVEL AND TOPSOIL REPLACED TO OBTAIN FINAL FILL LEVELS AS SHOWN ON PLANS. FILLING UNDER LEVEL 1 SUPERVISION TO BE CLEAN CLAY COMPACTED TO A DRY DENSITY NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY VALUE DETERMINED BY THE STANDARD COMPACTION TEST IN ACCORDANCE WITH AUSTRALIAN STANDARD AS1289.5.11-1993. TESTING TO COMPLY WITH AS1289.0-2000.
- EXISTING DAMS ARE TO BE BREACHED, DRAINED, DE-SLUDGED AND SHALL BE EXCAVATED TO A CLEAN FIRM BASE. THE SURFACE SHALL BE INSPECTED APPROVED AND LEVELLED BY THE ENGINEER PRIOR TO COMMENCEMENT OF FILLING. FILL IS TO BE PLACED AND COMPACTED AS SPECIFIED AND TO LEVEL 1 SUPERVISION. THE FILL SHALL BE APPROVED SELECTED ON SITE MATERIAL OR APPROVED IMPORTED MATERIAL. THE FILL SHALL BE PLACED UNDER CONTROLLED MOISTURE CONDITIONS OF BETWEEN 85% AND 125% OF OPTIMUM AND APPROPRIATE TO THE TYPE OF COMPACTION EQUIPMENT USED. THE FILL SHALL BE UNIFORMLY COMPACTED IN LAYERS NOT EXCEEDING 300mm DEPTH TO A MINIMUM OF 95% STANDARD DRY DENSITY.
- BEFORE COMMENCING WORK ON TRENCHES IN EXCESS OF 1.5M DEEP, NOTICE OF SUCH PROPOSAL IS TO BE SENT TO THE CHIEF MINING INSPECTOR OCCUPATIONAL HEALTH & SAFETY AUTHORITY IN ACCORDANCE WITH THE WORK SAFE REGULATIONS - "SAFETY PRECAUTIONS IN TRENCHING OPERATIONS" CODE OF PRACTICE No 8 1988. A FOREMAN QUALIFIED AS A MINES MANAGER MUST BE IN ATTENDANCE AT ALL TIMES DURING SUCH EXCAVATIONS.
- THE CONTRACTOR SHALL COMPLY WITH THE OCCUPATIONAL HEALTH AND SAFETY ACT 2004 AND ASSOCIATED CODE OF PRACTICE.
- PRIOR TO WORKS BEING PLACED ON MAINTENANCE ALL AREAS OF THE SUBDIVISION EXPOSED BY DE-VEGETATION INCLUDING NATURE STRIPS, LOTS AND RESERVES ARE TO BE HYDRO-SEEDED UNLESS OTHERWISE SPECIFIED.
- ALL CONCRETE TO BE 32MPa FOR PITS AND 25 MPa IN OTHER APPLICATIONS UNLESS SPECIFIED OTHERWISE. ALL CONCRETE OVER 125mm THICK TO BE VIBRATED USING MECHANICAL VIBRATORS.
- FOR CONCRETE ROAD PAVEMENTS, CONCRETE JOINTING DETAILS ARE TO BE PROVIDED IN ACCORDANCE WITH "CONCRETE PAVEMENT DESIGN FOR RESIDENTIAL STREETS" (1997-CCAA).
- ALL CHAINAGES REFER TO ROAD RESERVE CENTRELINES EXCEPT, IN COURT HEADS, DRAINAGE OUTFALLS AND KERB RETURNS CHAINAGES REFER TO LIP OF KERB.
- THE CONTRACTOR IS REQUIRED TO CONFINE CONSTRUCTION VEHICLES TO THE ROAD RESERVE AND EASEMENTS. ANY DAMAGE CAUSED TO ALLOTMENTS MUST BE MADE GOOD TO A STANDARD ACCEPTABLE BY THE SUPERINTENDENT.
- ANY BUILDINGS, TROUGHS, FENCES, DEBRIS AND OTHER STRUCTURES ON SITE ARE TO BE REMOVED AS DIRECTED BY THE ENGINEER OR UNLESS OTHERWISE SPECIFIED. THE COST OF REMOVAL IS TO BE INCLUDED IN THE OVERALL EARTHWORKS FIGURE UNLESS A SPECIFIC ITEM FOR REMOVAL IS DENOTED IN THE SCHEDULE.
- NO TOPSOIL IS TO BE REMOVED FROM SITE WITHOUT THE CONSENT OF THE SUPERINTENDENT.
- FOR PAVEMENT RECOMMENDATIONS AND SOIL CONDITIONS REFER TO GEOTECH REPORT.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN SITE GRADING AND DRAINAGE AND TO PROTECT AND MAINTAIN SUBGRADES IN A SUITABLE CONDITION IN ORDER TO ACHIEVE THE COMPACTIONS SPECIFIED. SHOULD SUBGRADES BECOME SATURATED ANY UNSUITABLE MATERIAL IS TO BE REMOVED AND MADE GOOD WITH TYPE B GENERAL FILL AT THE CONTRACTORS COST.
- IN NEW LANDSCAPE AREAS ALL REDUNDANT PAVEMENT MATERIAL SHALL BE REMOVED & REINSTATED WITH CLEAN FILL TO FINISHED SURFACE LEVEL. UNLESS NOTED OTHERWISE ON THE LANDSCAPE PLANS RESTATEMENT OF A MINIMUM 150mm OF CLEAN TOPSOIL SHALL BE PROVIDED TO ALL NATURE STRIP, LOT AND RESERVE.
- ALL EXISTING TREES IN THE VICINITY OF THE TRAFFICABLE AREAS THAT ARE TO BE RETAINED SHALL BE PRUNED, ROOTS CUT AND SEALED WHERE THEY EXTEND BENEATH NEW WORKS, BY APPROPRIATELY QUALIFIED PERSONNEL. TREES TO BE REMOVED SHALL HAVE ALL ROOTS GRUBBED OUT AND BE MADE GOOD WITH COMPACTED FILL.
- PRIOR TO COMPLETION, THE CONTRACTOR SHALL ENSURE THE SITE OF WORKS IS TIDIED AND OBTAIN A CLEARANCE FROM THE SUPERINTENDENT.
- CONDITION OF EXISTING PAVEMENT SURROUNDING THE DEVELOPMENT TO BE RECORDED. ANY DAMAGED AS A RESULT OF CONSTRUCTION ACTIVITIES TO BE REPAIRED TO COUNCIL'S SATISFACTION.
- PRIOR TO PC, PROVIDE ALLOCATED STREET NUMBER ON THE KERB IN FRONT OF EACH LOT. THE KERBSIDE NUMBERS MUST BE 100mm WHITE LETTERING ON A BLACK BACKGROUND LOCATED ON THE FRONT OF KERB AT THE PROPERTY FRONTAGE TO COUNCIL SATISFACTION.
- UPON COMPLETION OF CIVIL WORKS, CONTRACTOR SHALL PROVIDE AS CONSTRUCTED PLANS IN AutoCAD, D-SPEC AND R-SPEC IN DIGITAL FORMAT TO COUNCIL'S REQUIREMENT AND TO THE SATISFACTION OF ALL PARTIES.

ROADWORKS

- FILL BATTERS SHALL GENERALLY BE 1 IN 6 AND CUT BATTERS 1 IN 6 MAXIMUM CUT BATTERS ARE TO BE STABILISED TO THE SATISFACTION OF THE ENGINEER. ALL NATURE STRIPS AND BATTERS SHALL BE COVERED WITH 100mm MIN. DEPTH TOPSOIL AND SEEDED WITH AN APPROVED SEED AND FERTILIZER MIXTURE AS PER EDM GUIDELINES.
- FOOTPATH EXPANSION JOINTS SHALL BE PLACED ON EITHER SIDE OF DRIVEWAY CROSSINGS. EACH JOINT IS TO BE DOWELLED WITH 3x10mm DIAMETER DOWELS WHICH ARE TO HAVE A GREASED SLEEVE OVER ONE END TO PERMIT SLIP. JOINTS ARE TO BE FILLED WITH AN APPROVED COMPOSITE MATERIAL OR PLASTIC FILLER.
- ALL LINE MARKING IS TO BE APPLIED USING LONG LIFE THERMOPLASTIC PAINT, IN ACCORDANCE WITH AUSTRALIAN STANDARD AS 1742-1 AND AS 1742-2 AND COUNCIL REQUIREMENTS UNLESS OTHERWISE SPECIFIED. RRPMS ARE TO BE INSTALLED IN ACCORDANCE WITH VICROADS AND/OR COUNCIL SPECIFICATIONS.
- ALL TEMPORARY WARNING SIGNS DURING CONSTRUCTION SHALL BE IN ACCORDANCE WITH AS1742-3.
- CONTRACTOR TO CONFIRM STREET NAME WITH COUNCIL/SUPERINTENDENT PRIOR TO MANUFACTURE OF STREET SIGNS.
- ANY WORKS WITHIN ROADWAYS SHALL SATISFY COUNCIL'S REQUIREMENTS FOR OCCUPANCY OF ROAD RESERVES.
- WHERE PAVEMENT (INCLUDING FOOTPATHS AND VEHICLE CROSSINGS) IS CONSTRUCTED ON FILLING, FILL MATERIAL IS TO BE APPROVED BY THE SUPERINTENDENT AND COUNCIL, AND CONSTRUCTED IN ACCORDANCE WITH AS1289.0-2000.
- WHEN PAVEMENT EXCAVATION IS IN ROCK ALL LOOSE MATERIAL (INCLUDING ROCKS AND CLAY) MUST BE REMOVED. THE SUBGRADE MUST THEN BE REGULATED WITH COUNCIL APPROVED MATERIAL.
- WHEN WORKS ARE ON AN EXISTING ROAD THE CONTRACTOR SHALL OBTAIN ALL NECESSARY ROAD OPENING PERMITS AND AUTHORITY APPROVALS PRIOR TO COMMENCING WORKS.

DRAINAGE

- DRAINAGE PITS ARE TO BE SET OUT FROM OFFSETS AND CO-ORDINATES.
- PITS AT TANGENT POINTS OF KERB RADIALS ARE TO BE LOCATED IMMEDIATELY ADJACENT TO T.P.
- ALL DRAINS WITHIN ROAD RESERVE SHALL BE BACKFILLED WITH 20mm FCR CLASS 3. DRAINS UNDER ROAD PAVEMENT TO BE BACKFILLED WITH 20mm FCR CLASS 2 AS SHOWN ON THE DRAWINGS. COMPACTION SHALL BE IN ACCORDANCE WITH SPECIFICATION.
- ALL DRAINAGE PIPE CLASSES ARE TO BE AS PER THE DRAINAGE LONGITUDINAL SECTIONS.
- ALL PIPES ARE TO BE RUBBER RING JOINTED REINFORCED CONCRETE UNLESS OTHERWISE NOTED.
- 100mm DIAMETER CORRUGATED AGRICULTURAL PIPE DRAINS (AG's) ARE TO BE PLACED BEHIND ALL KERB AND CHANNEL, EDGE STRIP AND OTHER LOCATIONS WHERE SHOWN AND/OR DIRECTED BY THE ENGINEER.
- PROPERTY INLETS WITHIN DRAINAGE EASEMENT ARE TO BE PLACED 1.00m FROM LOW CORNERS OF ALLOTMENTS UNLESS OTHERWISE SPECIFIED.
- 100mm DIA HOUSE DRAINS IN ROADS TO BE PLACED 5.5m FROM LOW CORNER OF ALLOTMENT UNLESS OTHERWISE SPECIFIED. HOUSE DRAINS MARKED "H" STENCILLED ON FACE OF KERB.
- WATER DRAINS PASSING UNDERNEATH OR ADJACENT TO RETAINING WALLS SHALL BE CONSTRUCTED TO ACCOMMODATE INSPECTION OPENINGS AT APPROPRIATE INTERVALS, ENSURING EASY ACCESS FOR INSPECTION AND MAINTENANCE PURPOSES. CONTRACTOR SHALL ENSURE THAT THE INSPECTION OPENINGS UNDERNEATH RETAINING WALLS REMAIN ACCESSIBLE AND UNOBSTRUCTED.
- PIPES LAID AT MINIMUM DEPTH ARE TO BE PROTECTED DURING CONSTRUCTION USING ADDITIONAL COVER OR A HIGHER CLASS PIPE IS TO BE INSTALLED.

ENVIRONMENTAL CONTROL MEASURES

- NO NATIVE VEGETATION SHALL BE DESTROYED, FELLED, LOPPED RING BARKED OR UPROOTED WITHOUT THE CONSENT OF THE RESPONSIBLE AUTHORITY.
- ALL TREES ARE TO BE PROTECTED WITH APPROPRIATE EXCLUSION FENCING PRIOR TO COMMENCEMENT OF ANY WORKS UNLESS OTHERWISE SPECIFIED.
- PERMISSION IN WRITING IS REQUIRED FROM THE SUPERINTENDENT PRIOR TO THE REMOVAL OF ANY TREE EVEN IF MARKED FOR REMOVAL ON PLANS.
- PRIOR TO REMOVAL, TREES ARE TO BE MARKED BY CONTRACTOR AND APPROVED BY COUNCIL OR SUPERINTENDENT.
- CONTRACTOR TO PROVIDE ADEQUATE PROTECTION AGAINST SILT RUNOFF FROM THE SITE AS PART OF THE ENVIRONMENTAL MANAGEMENT PLAN (EMP).
- NO POLLUTED AND/OR SEDIMENT LADEN RUNOFF IS TO BE DISCHARGED, DIRECTLY OR INDIRECTLY, INTO COUNCIL OR MELBOURNE WATER DRAINS OR WATERCOURSES.

SERVICES

- WATER CONDUITS ARE TO BE INSPECTED BY THE SUPERVISING ENGINEER PRIOR TO BACKFILLING. CONDUITS TO EXTEND ON BOTH SIDES WHERE APPLICABLE TO 500mm BEYOND THE BUILDING LINE. ALL TRENCHES SHALL BE BACKFILLED WITH 20mm CLASS "2" FCR. WATER CONDUITS ARE TO BE LOCATED 1.4m FROM THE TITLE BOUNDARY OPPOSITE THE CROSSOVER OR 5.0m FROM THE TITLE BOUNDARY ADJACENT TO THE CROSSOVER, UNLESS OTHERWISE NOTED.
- ELECTRICAL AND TELECOMMUNICATIONS CONDUITS TO EXTEND 500mm BEYOND BOTH SIDES OF KERB.
- CONDUITS FOR TELECOMMUNICATIONS, GAS AND WATER SERVICES ARE TO BE POSITIONED TO AN APPROVED LOCATION UNLESS OTHERWISE NOTED AND ARE TO BE PLACED AT RIGHT ANGLES TO THE KERB AND SERVICE ALIGNMENT. TELECOMMUNICATIONS, GAS AND WATER CONDUITS ARE TO BE 50mm DIA PVC PIPES, CLASS 12. CONDUITS UNDER FOOTPATHS TO BE REFERENCED ON BACK OF PATH.
- SERVICE TRENCHES NEAR FOOTPATH SHALL BE BACKFILLED WITH APPROVED GRANULAR MATERIAL.
- ALL EXCAVATION FOR SERVICES MUST BE CONTAINED WITHIN EASEMENTS OR ROAD RESERVES. ANY EXCAVATION OUTSIDE THESE LIMITS MUST BE BACKFILLED WITH CLASS 3 OR CLASS 2 FCR AT 95% MODIFIED COMPACTION UNLESS NOTED OTHERWISE.
- BACKFILL MATERIAL FOR CONDUITS UNDER ROADS SHALL BE CLASS 3 OR CLASS 2 FCR (20 MM NOMINAL SIZE) UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- ALL SERVICE TRENCHES UNDER ROADS, DRIVEWAYS, FOOTPATHS AND PARKING BAYS TO BE BACKFILLED WITH COMPACTED CLASS 3 OR CLASS 2 CRUSHED ROCK. SERVICE TRENCHES LESS THAN 750mm BEHIND K&CH AND PARKING BAYS ARE ALSO TO BE BACKFILLED WITH COMPACTED CLASS 2 CRUSHED ROCK.
- EXISTING SERVICE LOCATIONS SHOWN HAVE BEEN OBTAINED FROM DIAL BEFORE YOU DIG RECORDS AND/OR SITE PLANS. EXISTING SERVICES SHOWN ON THESE DRAWINGS ARE OFFERED AS A GUIDE ONLY AND ARE NOT GUARANTEED AS CORRECT. PRIOR TO THE COMMENCEMENT OF WORKS, THE CONTRACTOR IS TO LOCATE ALL EXISTING SERVICES IN THE VICINITY OF PROPOSED WORKS AND UNDERTAKE ANY ON SITE INSPECTION WITH SERVICE AUTHORITIES AS NECESSARY. ANY DAMAGE CAUSED TO SERVICE AUTHORITIES ASSETS WHETHER SHOWN ON CONSTRUCTION PLANS OR NOT IS TO BE THE RESPONSIBILITY OF THE CONTRACTOR.
- ALL EXISTING PITS AND SERVICE FITTINGS THAT ARE TO REMAIN WITHIN THE PAVEMENT AREAS SHALL BE REBUILT TO MATCH PROPOSED LEVELS AND WHERE APPLICABLE FITTED WITHIN AN APPROPRIATE HEAVY DUTY, AUTHORITY APPROVED COVER. ELSEWHERE EXISTING SERVICES SHALL BE ADJUSTED TO SUIT NEW ADJACENT LEVELS. THE RELEVANT AUTHORITY IS TO BE NOTIFIED PRIOR TO ANY WORKS ON THEIR ASSETS AND SERVICES ARE TO BE ADJUSTED TO THE RELEVANT AUTHORITY REQUIREMENTS.

CONSTRUCTION MANAGEMENT

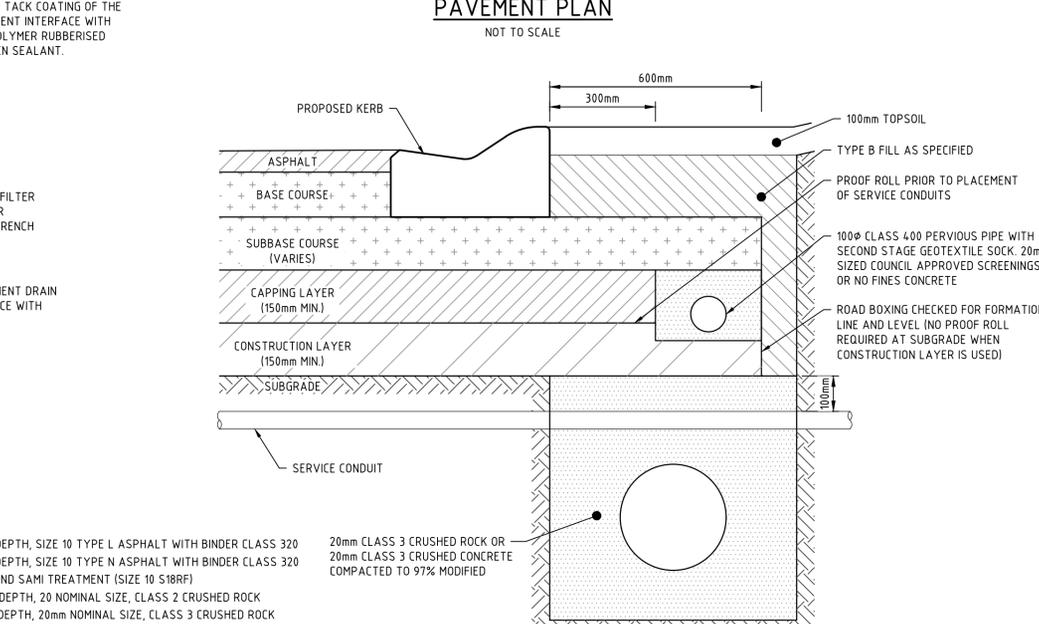
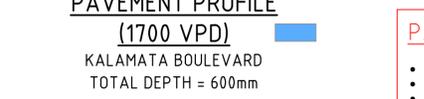
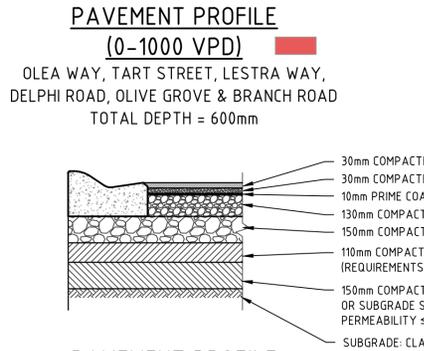
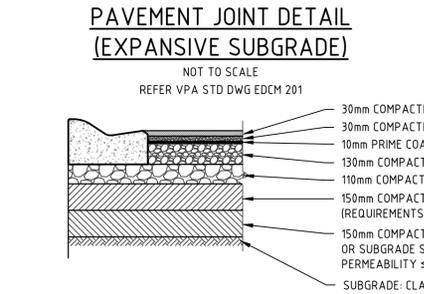
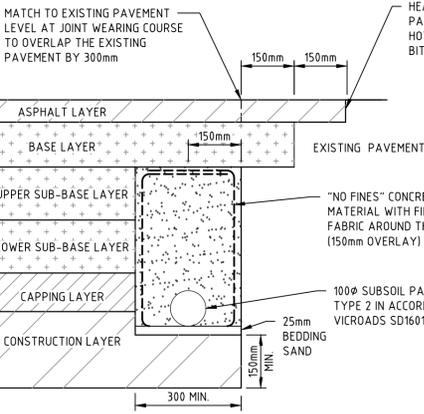
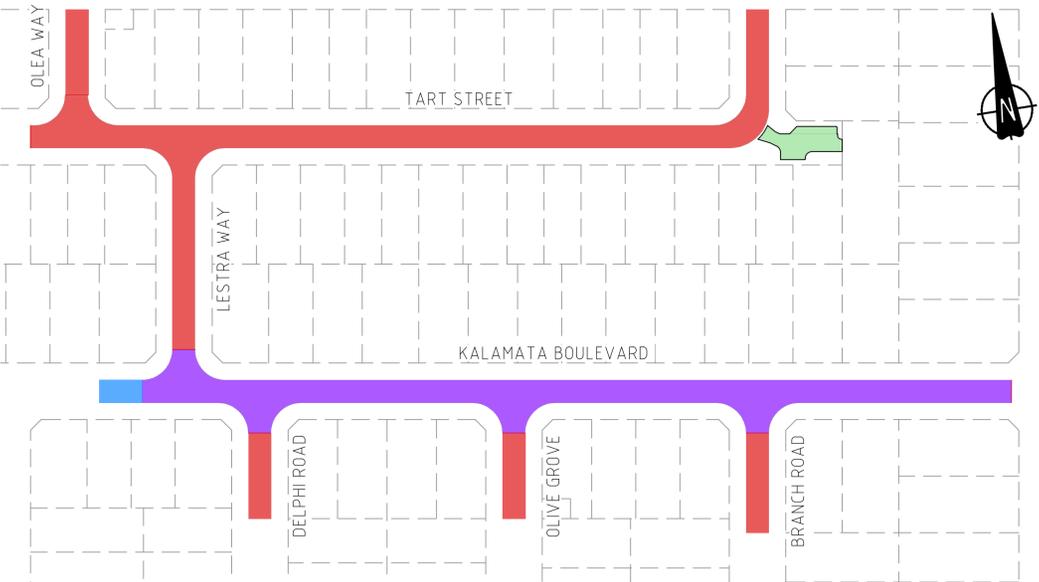
- CONTRACTOR SHALL BE REQUIRED PRIOR TO COMMENCING WORKS TO SUBMIT THE FOLLOWING DOCUMENTS:
 - PROJECT CONSTRUCTION PLAN
 - ENVIRONMENTAL MANAGEMENT PLAN
 - OH&S RISK ASSESSMENT
 - SITE MANAGEMENT PLAN
 - PROGRAM OF WORKS
 - COMPACTION TEST PLAN FOR ALL PAVEMENTS, FILLED AREAS AND DRAINAGE WORKS
 - AND ALL OTHER RELEVANT INSPECTION AND TEST PLANS

COUNCIL NOTES:

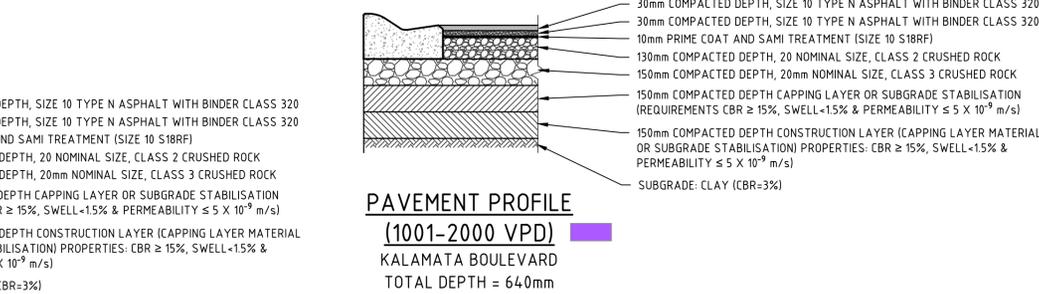
- COUNCIL WILL NOT ACCEPT ANY RESPONSIBILITY FOR WORKS WHERE AN INSPECTION IS NOT UNDERTAKEN WITH A COUNCIL APPOINTED REPRESENTATIVE. 24 HOURS NOTICE IS REQUIRED FOR INSPECTION AT THE FOLLOWING HOLD POINTS:
- PRIOR TO COMMENCEMENT OF THE WORKS.
 - INSPECTION OF THE SUBGRADE.
 - INSPECTION DURING DRAINAGE WORKS.
 - INSPECTION PRIOR TO POURING OF PITS.
 - INSPECTION OF SUB SOIL DRAINAGE.
 - INSPECTION OF KERB AND CHANNEL BEDDING.
 - INSPECTION PRIOR TO ANY CONCRETE WORKS.
 - INSPECTION AND TESTING OF EACH PAVEMENT LAYER (BY DEVELOPER OR CONTRACTOR) PRIOR TO PLACING ANY SUBSEQUENT PAVEMENT LAYER.
 - COMPACTION TEST RESULTS SHALL BE ISSUED TO COUNCIL.
 - INSPECTION PRIOR TO SEALING AND ASPHALT WORKS.
 - ANY OTHER INSPECTION HOLD POINTS AS PER EDM.

COUNCIL CONCRETE NOTES:

- PRIOR TO CASTING, THE UNBOUND GRANULAR SUBBASE MUST BE DAMP TO ENSURE NO EARLY 'DRYING OUT' OF FRESH CONCRETE.
- CONCRETE MUST BE ADEQUATELY CURED - IDEALLY BY MAINTAINING WET HESSIAN OR SEALING WITH PLASTIC SHEETING.
- SAW CUTTING OF CONCRETE MUST BE CARRIED OUT AS SOON AS CONCRETE PERMITS, BUT NO LATER THAN 12 HOURS AFTER POUR.
- ALL JOINTS TO BE APPROPRIATELY SEALED TO RESIST THE INTRUSION OF SAND AND GRAVEL AND TO MINIMISE INGRESS OF WATER.

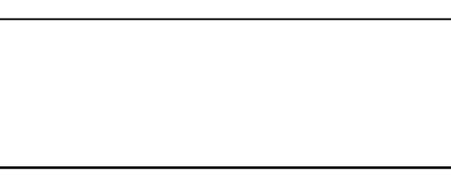
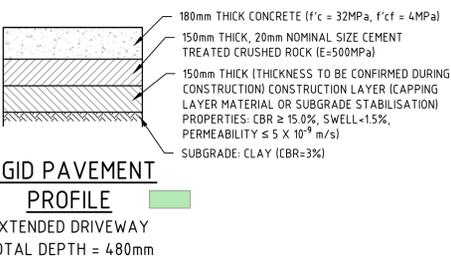


CONSENT FOR CONSTRUCTION
CARDINIA SHIRE COUNCIL
 Ref No.: S24-143, T220227
 Sheet: 2 of 56
 Approved by: Vithu Vijayakumar
 CARDINIA SHIRE COUNCIL
 Date: Tuesday, 19 August 2025



PAVEMENT DETAILS

- THE PAVEMENT DESIGNS SHOWN HAVE BEEN DESIGNED & PROVIDED BY SITE GEOTECHNICAL WHO ARE RESPONSIBLE FOR THE GEOTECHNICAL WORK ON THIS PROJECT.
- COSSILL & WEBLEY IS NOT RESPONSIBLE FOR THE WORK OF SITE GEOTECHNICAL.
- ALL PAVEMENT DESIGNS AND KEYING IN DETAILS ARE EXTRACTS FROM THE SITE GEOTECHNICAL REPORT "R9782-3-R1" AND "R9782-3-T1".
- THIS DOCUMENT SHOULD BE REVIEWED TO ENSURE THAT THE DESIGN HAS BEEN ACCURATELY REPRODUCED.
- COSSILL & WEBLEY DOES NOT ACCEPT ANY RESPONSIBILITY FOR THE ACCURACY, ADEQUACY OR APPROPRIATENESS OF THE GEOTECHNICAL WORK & / OR PAVEMENT DESIGNS.
- ANY QUERIES SHOULD BE ADDRESSED TO SITE GEOTECHNICAL AND SENT TO COSSILL & WEBLEY.



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REV	DATE	DRN	CKD	APP	AMENDMENT
E	07.08.25	E			ADDED 1700 VPD PAVEMENT DETAIL, AND AREA
D	27.05.25	EK	MA	K. LORRIMAR	COUNCIL SPECIFIC NOTES ADDED
C	09.05.25	MA	MA	K. LORRIMAR	NOTES ADDED AS PER COUNCIL COMMENTS
B	20.01.25	AT	MA	K. LORRIMAR	ISSUED FOR COUNCIL SUBMISSION
A	13.11.24	NT	MA	K. LORRIMAR	INITIAL ISSUE

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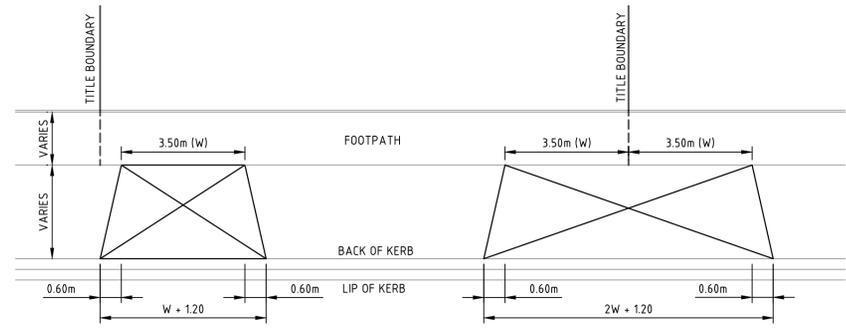
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SIG GROUP

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 DESIGNED W. SANSON
 SCALE NOT TO SCALE

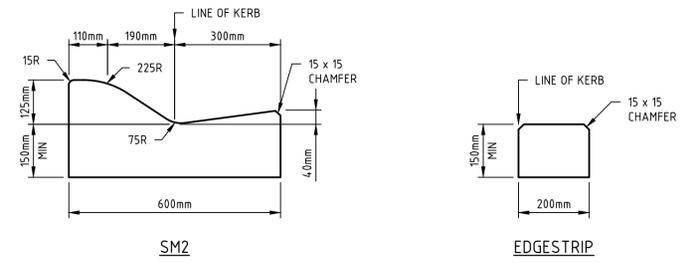
CLIENT
 PROJECT KALA ESTATE - STAGE 01
 TITLE GENERAL NOTES AND PAVEMENT DETAILS
 MUNICIPALITY CARDINIA SHIRE COUNCIL
 PP No. T220227
 DRAWING No. 3086-01-010
 REVISION E

ORIGINAL SIZE A1

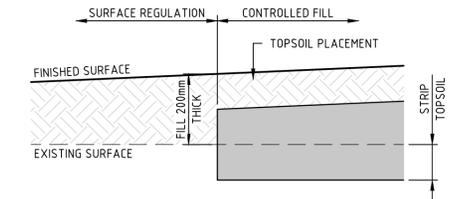


SINGLE DRIVEWAY
 NOT TO SCALE
 REFER VPA STD DWG EDM 501

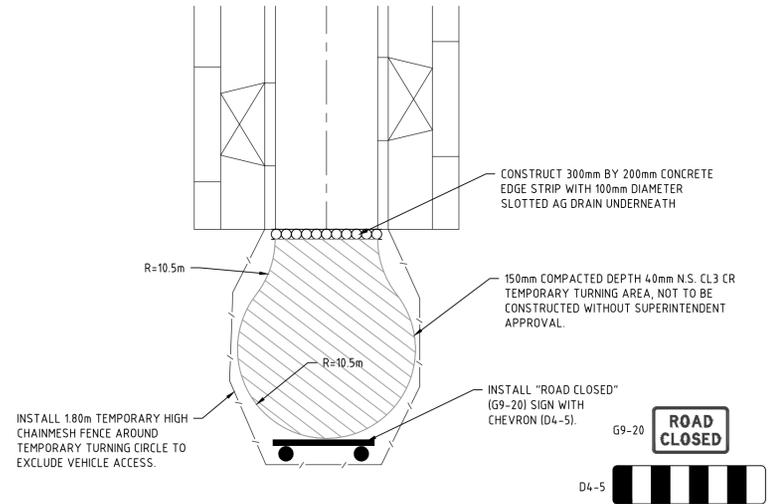
DOUBLE DRIVEWAY
 NOT TO SCALE
 REFER VPA STD DWG EDM 501



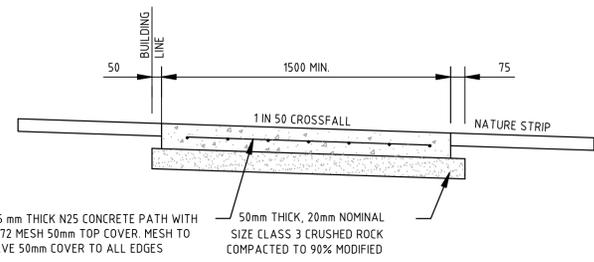
KERB PROFILES
 SCALE: 1:10 @ A1



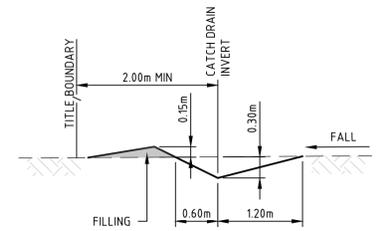
LOT REGRADING DETAIL
 SCALE 1:50 @ A1



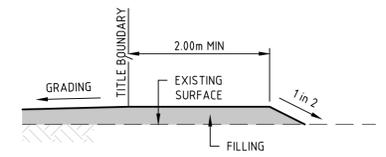
TEMPORARY TURN AREA DETAIL
 NOT TO SCALE



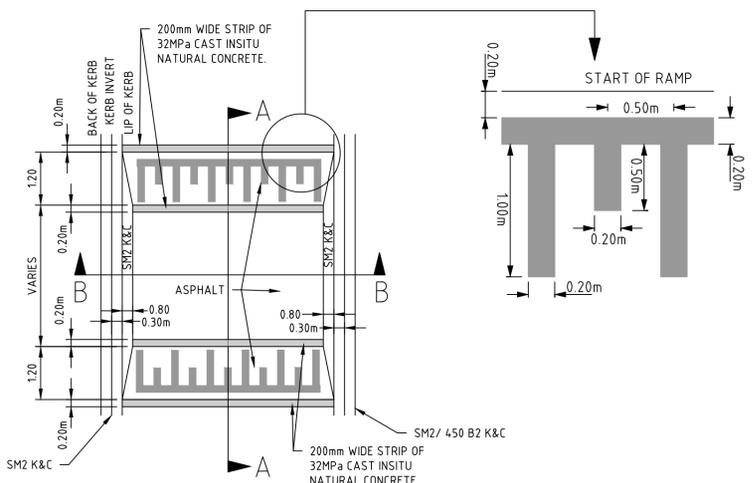
TYPICAL RESIDENTIAL FOOTPATH CROSS SECTION
 NOT TO SCALE



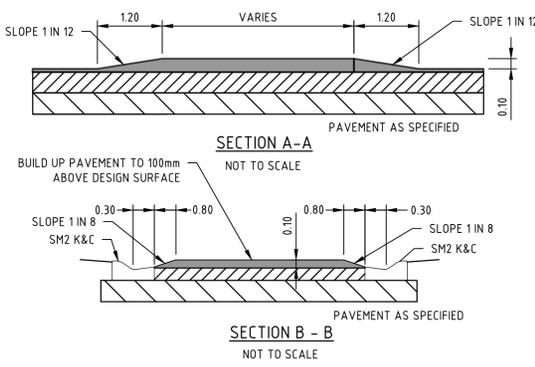
TYPICAL CATCH DRAIN SECTION
 SCALE 1:50 @ A1



STAGE BOUNDARY LOT FILLING
 SCALE 1:50 @ A1

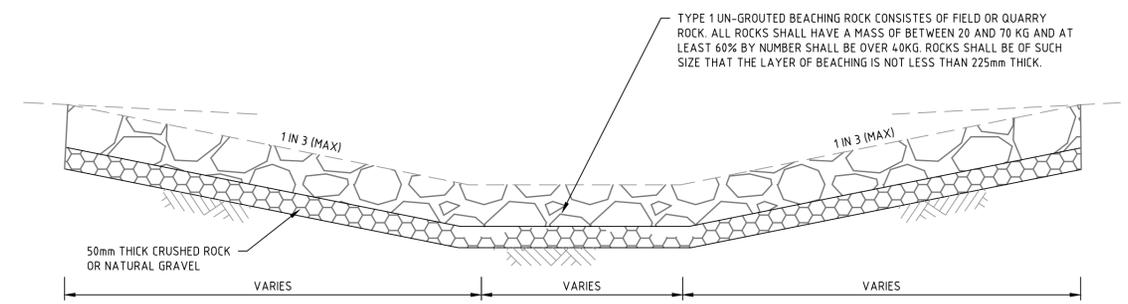


PROPOSED SPEED BUMP DETAIL
 NOT TO SCALE



SECTION A-A
 NOT TO SCALE

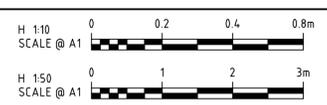
SECTION B-B
 NOT TO SCALE



TYPICAL CATCH DRAIN ROCK BEACHING DETAIL
 NOT TO SCALE
 REFER VICROADS STANDARD DRAWING SD 1521A

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C	09.05.25	MA			DRIVEWAYS REFERENCE NOTE ADDED, ROCK BEACHING DETAIL ADDED
B	20.01.25	AT	MA	K. LORRIMAR	ISSUED FOR COUNCIL SUBMISSION
A	13.11.24	NT	MA	K. LORRIMAR	INITIAL ISSUE
REV	DATE	DRN	CKD	APP	AMENDMENT



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SIG GROUP
 APPROVED PE 0005927
 DESIGNED
W. SANSON
 SCALE
 AS SHOWN

PROJECT	KALA ESTATE - STAGE 01	
TITLE	STANDARD DETAILS	
MUNICIPALITY	CARDINIA SHIRE COUNCIL	
PP No.	T220227	DRAWING No.
		3086-01-011
REVISION		C

ORIGINAL SIZE A1

NOTE:
RETAINING WALL DETAILS SHOWN ARE INDICATIVELY ONLY.
REFER TO STRUCTURAL ENGINEER'S RETAINING WALL
DRAWINGS "0253-S101-S104" FOR EXACT DETAILS/DESIGNS.

CONSENT FOR CONSTRUCTION
CARDINIA SHIRE COUNCIL
Ref No.: S24-143, T220227
Sheet: 4 of 56
Approved by: Vithu Vijayakumar
CARDINIA SHIRE COUNCIL
Date: Tuesday, 19 August 2025

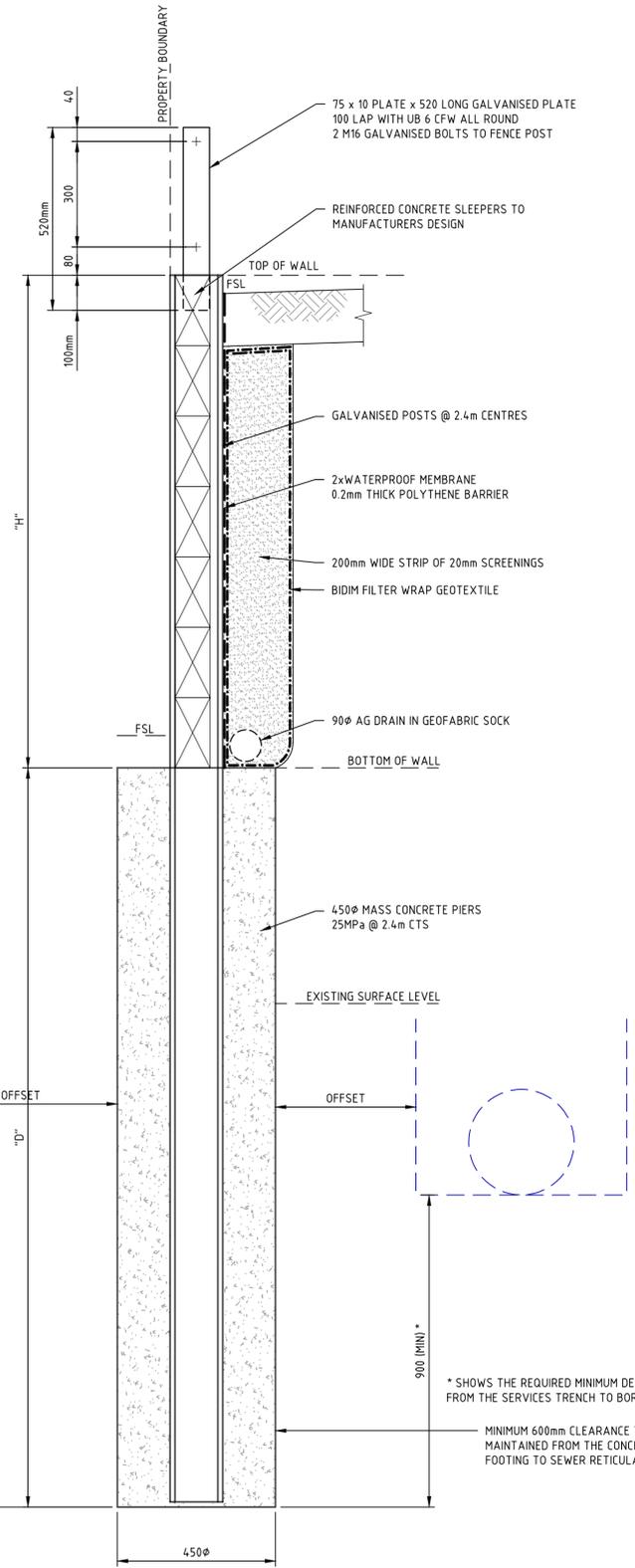
TABLE A:
RETAINING WALL SCHEDULE (MASS ROCK):

HEIGHT H (mm)	BASE WIDTH B (mm)	FRONT FACE SETBACK S (mm)
600	420	20
900	500	30

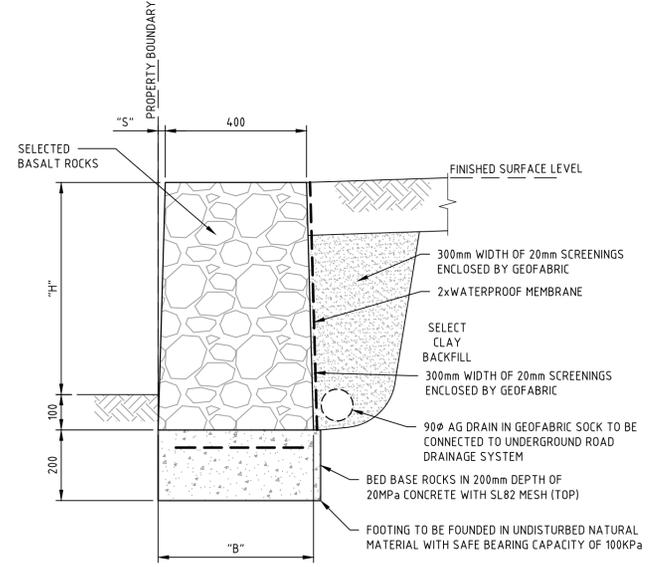
NOTE: ALL STEEL TO BE HOT DIP GALVANISED AFTER FABRICATION.

TABLE B:
RETAINING WALL SCHEDULE (CONCRETE SLEEPER):

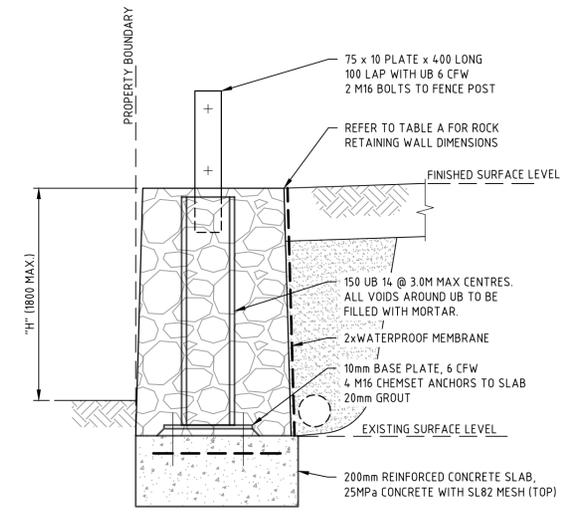
RETAINED HEIGHT H (mm)	DEPTH D (mm)	GALVANISED POST SIZE
200 - 600	900	150 UB 14
601 - 800	1200	150 UB 14
801 - 1000	1500	150 UB 14
1001 - 1200	1800	150 UB 14
1201 - 1400	2100	150 UB 14
1401 - 1600	2400	150 UB 18



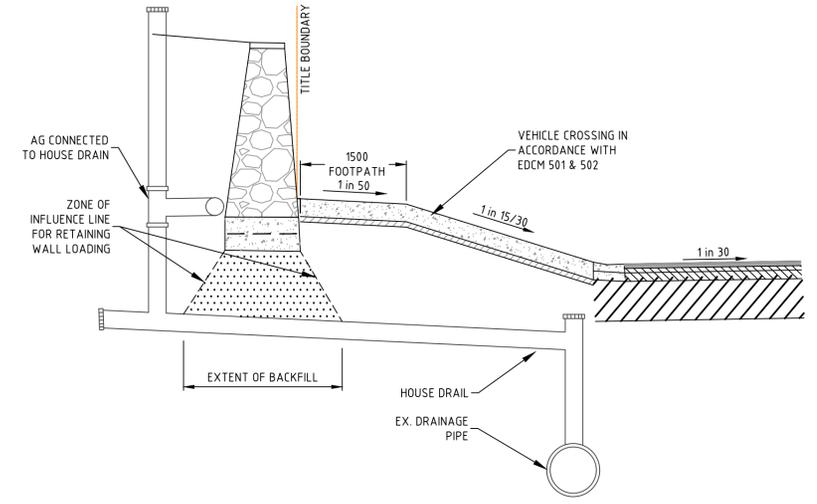
RETAINING WALL DETAIL (CONCRETE SLEEPER)
SCALE 1:10 @ A1



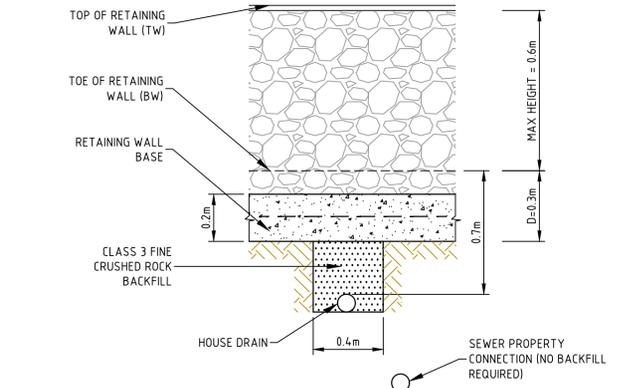
RETAINING WALL DETAIL (MASS ROCK)
SCALE 1:10 @ A1



RETAINING WALL DETAIL (MASS ROCK WITH FENCE)
SCALE 1:10 @ A1



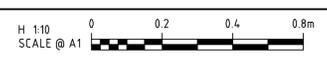
HOUSE DRAIN CONNECTION UNDER ROCK RETAINING WALL
NOT TO SCALE



HOUSE DRAIN CONNECTION UNDER ROCK RETAINING WALL
NOT TO SCALE

C:\Users\alexy\Documents\3086-01-101\Drawings\3086-01-101 NOTES.dwg 07/2025 3:30 PM ALEX FROMBITTA

REV	DATE	DRN	CKD	APP	AMENDMENT
B	07.08.25	AWT			RETAINING WALL NOTES & DETAILS UPDATED
A	09.05.25	EK	MA	K. LORRIMAR	ISSUED TO COUNCIL



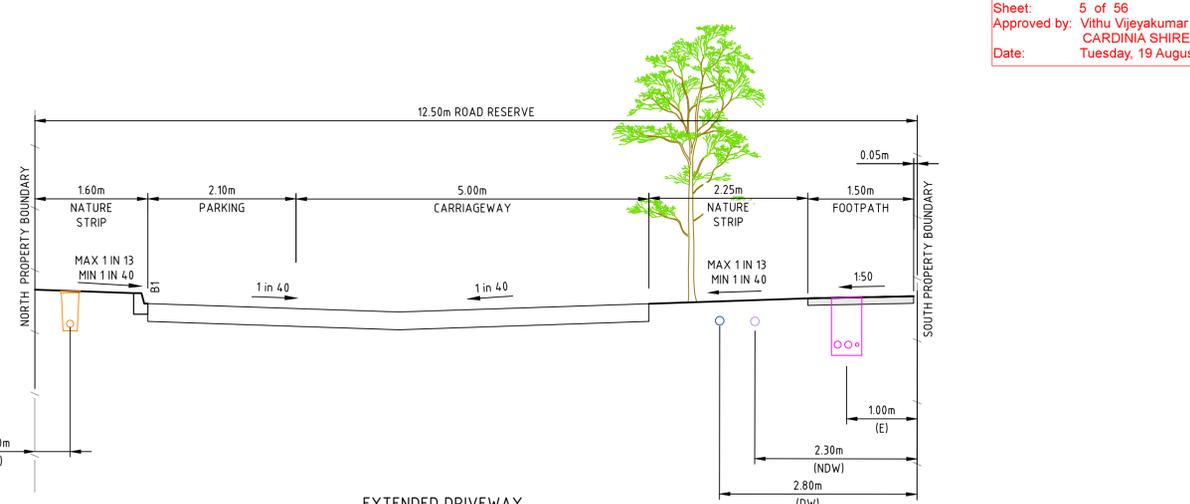
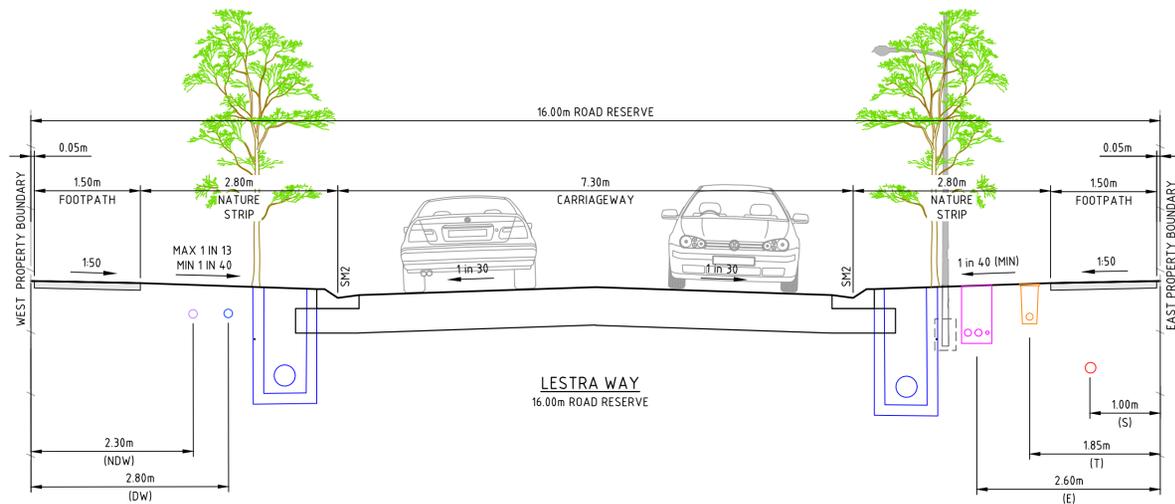
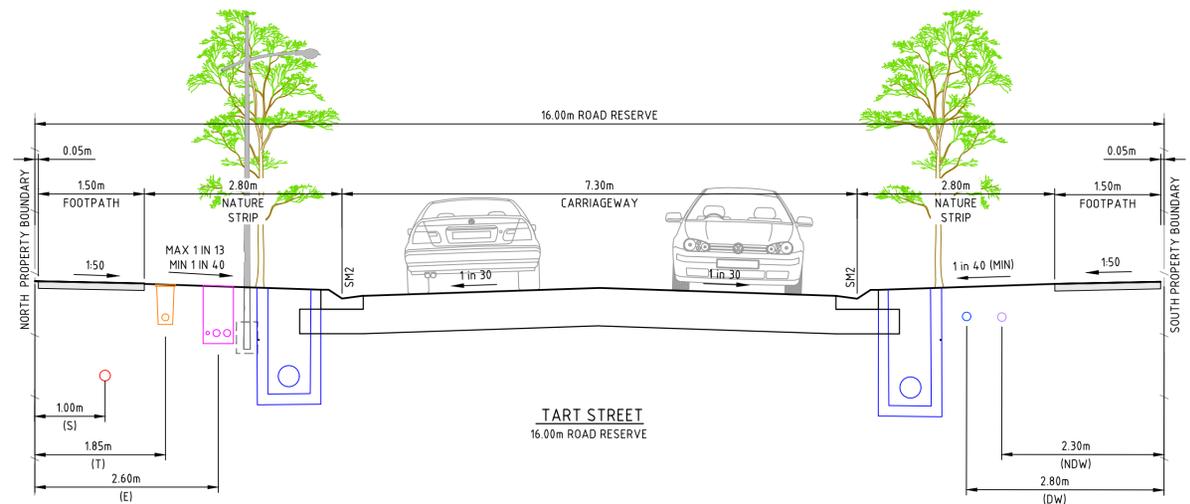
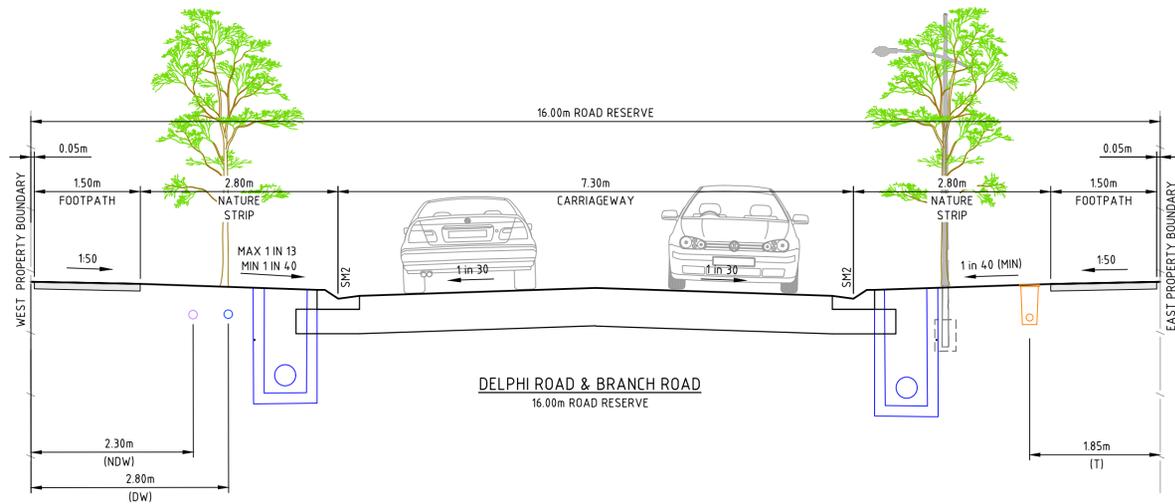
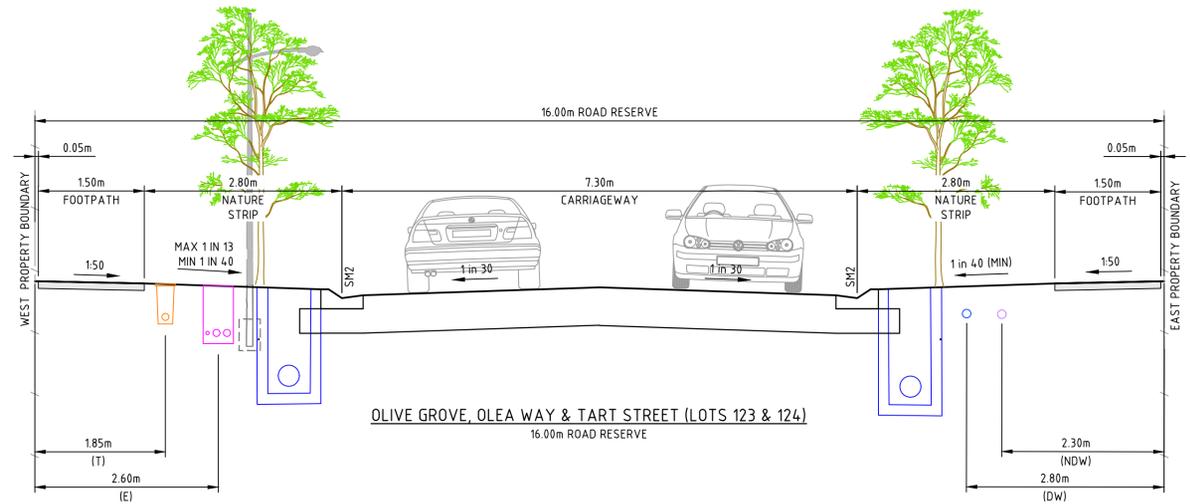
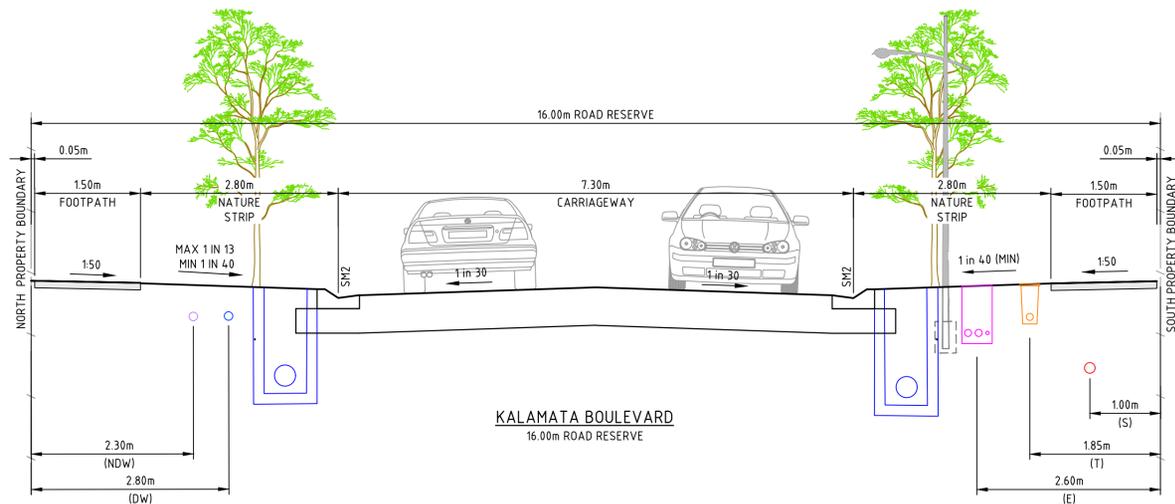
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SIG GROUP
APPROVED PE 0005927
DESIGNED
W. SANSON
SCALE
AS SHOWN

PROJECT
KALA ESTATE - STAGE 01
TITLE
RETAINING WALL DETAILS
MUNICIPALITY
CARDINIA SHIRE COUNCIL
PP No.
T220227
DRAWING No.
3086-01-012
REVISION
B

ORIGINAL SIZE A1



CONSENT FOR CONSTRUCTION
CARDINIA SHIRE COUNCIL
Ref No.: S24-143, T220227
Sheet: 5 of 56
Approved by: Vithu Vijayakumar
CARDINIA SHIRE COUNCIL
Date: Tuesday, 19 August 2025

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C	09.05.25	MA			ELECTRICITY REMOVED FROM DELPHI ROAD AND BRANCH ROAD
B	20.01.25	AT	MA	K. LORRIMAR	ISSUED FOR COUNCIL SUBMISSION
A	13.11.24	NT	MA	K. LORRIMAR	INITIAL ISSUE
REV	DATE	DRN	CKD	APP	AMENDMENT



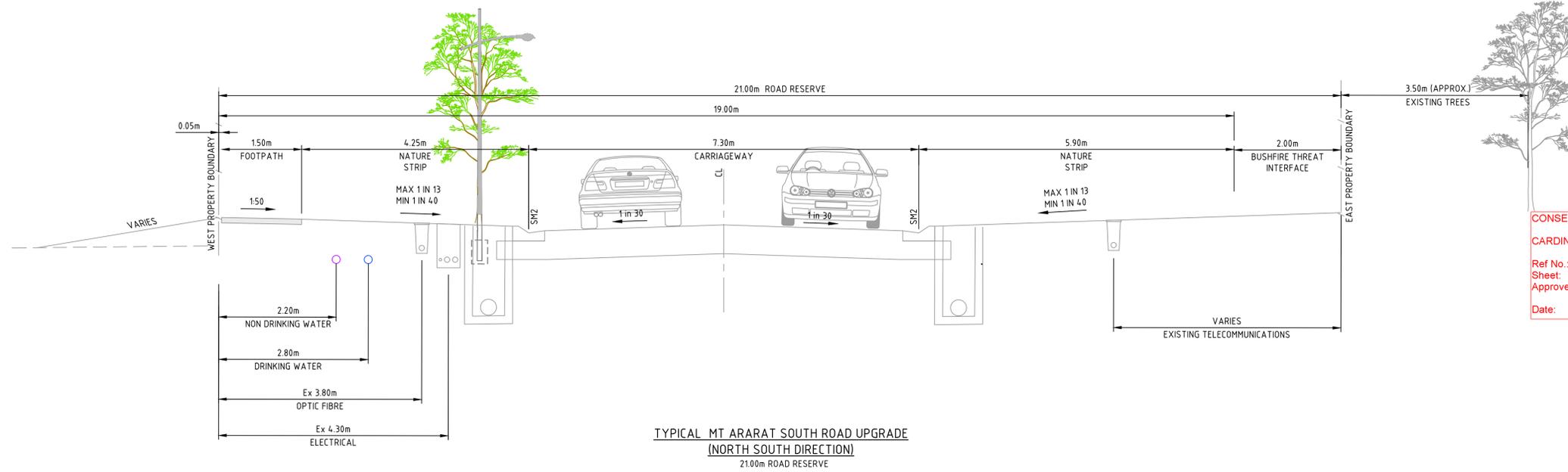
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DESIGNED
W. SANSON
SCALE
1:50 @ A1

PROJECT
KALA ESTATE - STAGE 01
TITLE
TYPICAL CROSS SECTIONS (SHEET 1 OF 2)
MUNICIPALITY
CARDINIA SHIRE COUNCIL
PP No. T220227
DRAWING No. 3086-01-020
REVISION C

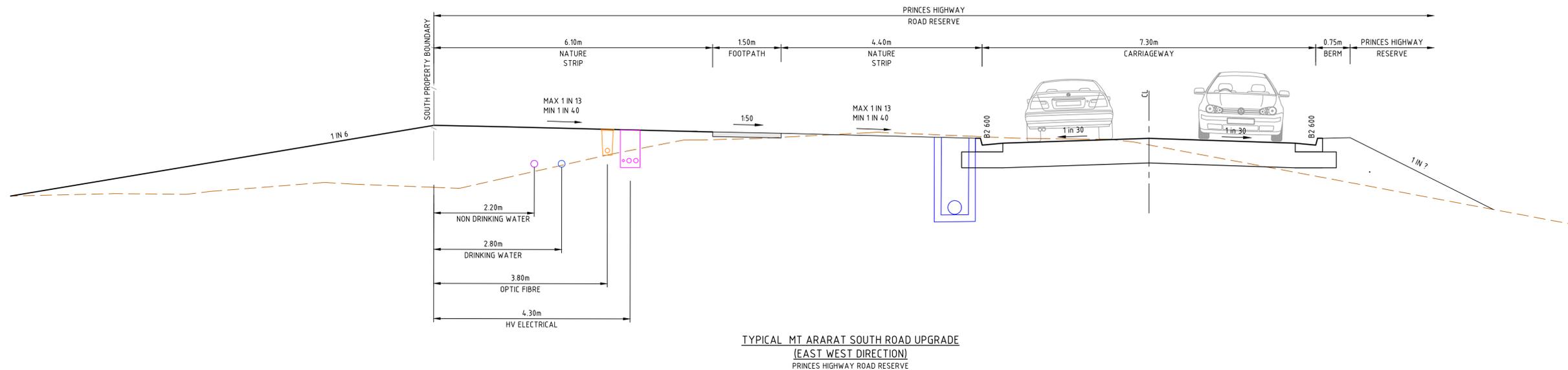
ORIGINAL SIZE A1



TYPICAL MT ARARAT SOUTH ROAD UPGRADE
(NORTH SOUTH DIRECTION)
21.00m ROAD RESERVE

UPGRADE OF MOUNT ARARAT SOUTH ROAD
TO BE HANDLED AS SEPARATE EXTERNAL
WORKS PACKAGE FROM STAGE 1

CONSENT FOR CONSTRUCTION
CARDINIA SHIRE COUNCIL
Ref No.: S24-143, T220227
Sheet: 6 of 56
Approved by: Vithu Vijeyakumar
CARDINIA SHIRE COUNCIL
Date: Tuesday, 19 August 2025



TYPICAL MT ARARAT SOUTH ROAD UPGRADE
(EAST WEST DIRECTION)
PRINCES HIGHWAY ROAD RESERVE

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B	23.01.25	AT			ISSUED FOR COUNCIL SUBMISSION
A	13.11.24	NT	MA	K. LORRIMAR	INITIAL ISSUE
REV	DATE	DRN	CKD	APP	AMENDMENT



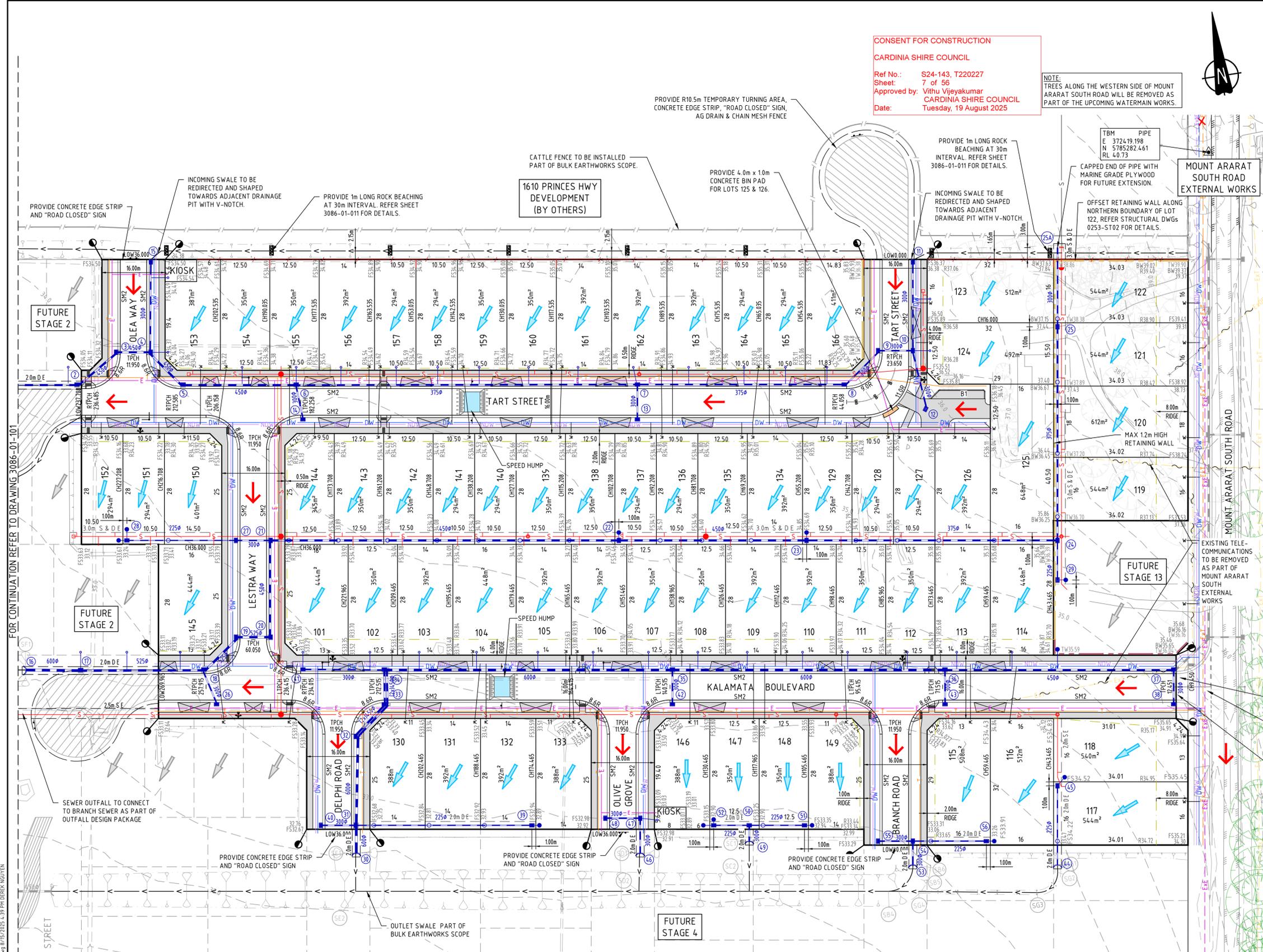
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APPROVED PE 0005927
DESIGNED
W. SANSOM
SCALE
1:50 @ A1

PROJECT	KALA ESTATE - STAGE 01		
TITLE	TYPICAL CROSS SECTIONS (SHEET 2 OF 2)		
MUNICIPALITY	CARDINIA SHIRE COUNCIL		
PP No.	T220227	DRAWING No.	3086-01-021
REVISION	B		

ORIGINAL SIZE A1



LEGEND		
DESCRIPTION	EXISTING	PROPOSED
WATER MAIN - DRINKING WATER	ExDW	DW
WATER MAIN - NON-DRINKING WATER	ExNDW	NDW
WATER CONDUITS	w	w
OVERHEAD ELECTRICITY	ExOE	OE
UNDERGROUND ELECTRICITY	ExE	E
TELECOMMUNICATION & SERVICE PIT	ExT	T
SEWER & MANHOLE	ExS	S
CENTRAL INVERT		
COUNCIL STORMWATER DRAIN, PIT & HOUSE DRAIN/PROPERTY INLET		
RIDGE / CHANGE OF GRADE LINE		
SURFACE LEVEL	4.3.21	FS4.33
RIDGE LEVEL		R4.3.55
TOP OF WALL LEVEL		T4.3.55
BOTTOM OF WALL LEVEL		B4.2.55
CONCRETE VEHICLE CROSSING		
CONCRETE FOOTPATH		
SURFACE CONTOUR	-51.20	
PERMANENT SURVEY MARK		
TEMPORARY BENCH MARK		
BOLLARD		
ROAD CHAINAGES	CH36.20 (L/R)TP	CH36.20 (L/R)TP
LOT CHAINAGE	CH28.50	CH28.50
SIGN AND POST		
FALL OF DESIGN SURFACE		
100 YEAR OVERLAND FLOW PATH		
LIMIT OF WORKS		
RETAINING WALL - CONCRETE SLEEPER		
RETAINING WALL - ROCK/STONE		
1.8M LAPPED AND CAPPED TIMBER PILING FENCE TO BE INSTALLED AS PART OF CIVIL WORKS		
BATTER		
SERVICE TO BE REMOVED/ABANDONED		
TREE TO BE RETAINED		
TREE REMOVED BY OTHERS		
CONNECT TO MOUNT ARARAT SOUTH ROAD DRAINAGE		
THRESHOLD TREATMENT INFORMATION ACROSS MOUNT ARARAT S ROAD AND KALAMATA BOULEVARD INTERSECTION TO BE PROVIDED IN 3086-RD1 DETAILED DESIGN PACKAGE.		
REMOVE TEMPORARY CONCRETE EDGE STRIP AND "ROAD CLOSED" SIGN		

NOTE:

- EXTERNAL WORKS - UPGRADE OF MOUNT ARARAT SOUTH ROAD FRONTING STAGE 1 TO INCLUDE THE NECESSARY DRIVEWAYS, FOOTPATHS, AND SERVICE WORKS REQUIRED FOR THE DEVELOPMENT OF LOTS 117 & 119 TO 122.
- HOUSE DRAINS MARKED "H" STENCILED ON FACE OF KERB.
- PRIOR TO PC, PROVIDE THE ALLOCATED STREET NUMBER ON THE KERB IN FRONT OF EACH LOT. THE KERBSIDE NUMBERS MUST BE 100mm WHITE LETTERING ON A BLACK BACKGROUND LOCATED ON THE FRONT OF THE KERB AT THE PROPERTY FRONTAGE TO COUNCIL SATISFACTION.
- DRAINAGE OUTFALL CHANNEL AND EXTENT OF WORKS BATTERS ARE PART OF THE BULK EARTHWORKS PACKAGE. REFER TO DRAWINGS 3086-01-800 TO 808 FOR FURTHER DETAILS.
- PARAWEBBING TO BE PROVIDED ACROSS EASTERN SIDE OF LOT 166 ABOVE RETAINING WALL.
- TEMPORARY FENCING TO BE PROVIDED AT SOUTHERN END OF DELPHI ROAD, OLIVE GROVE & BRANCH ROAD TO PREVENT VEHICLE ACCESS SOUTH OF THESE ROADS.

CONSENT FOR CONSTRUCTION
CARDINIA SHIRE COUNCIL
 Ref No.: S24-143, T220227
 Sheet: 7 of 56
 Approved by: Vithu Vijayakumar
CARDINIA SHIRE COUNCIL
 Date: Tuesday, 19 August 2025

NOTE:
 TREES ALONG THE WESTERN SIDE OF MOUNT ARARAT SOUTH ROAD WILL BE REMOVED AS PART OF THE UPCOMING WATERMAIN WORKS.



FOR CONTINUATION REFER TO DRAWING 3086-01-101

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REV	DATE	DRN	CKD	APP	AMENDMENT
F	18.08.25	DN			WATER CROSSINGS UPDATED. TART ROAD SPEED HUMP ADJUSTED & PRAM CROSSING ADDED
E	07.08.25	AWT	MA	K. LORRIMAR	UPDATED RRRP & NOTE. ADDED FENCE.
D	30.05.25	EK	MA	K. LORRIMAR	NOTE ADDED
C	09.05.25	MA	MA	K. LORRIMAR	RE-ISSUED TO COUNCIL FOR APPROVAL
B	20.01.25	AT	MA	K. LORRIMAR	ISSUED FOR COUNCIL SUBMISSION



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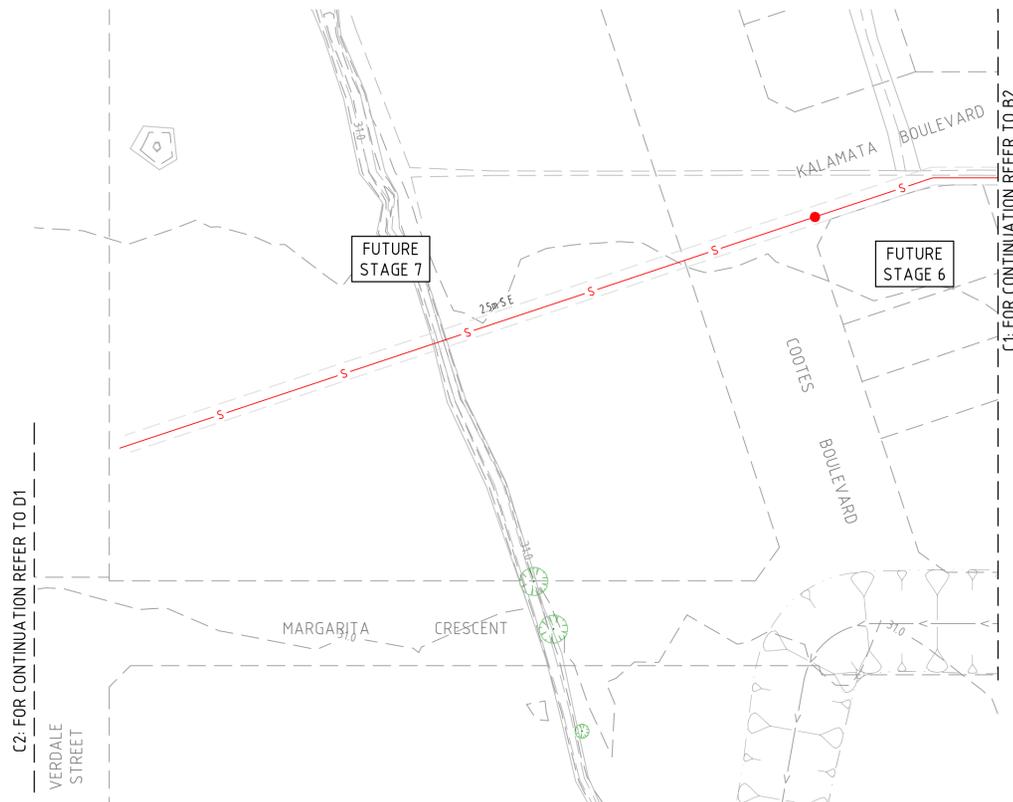
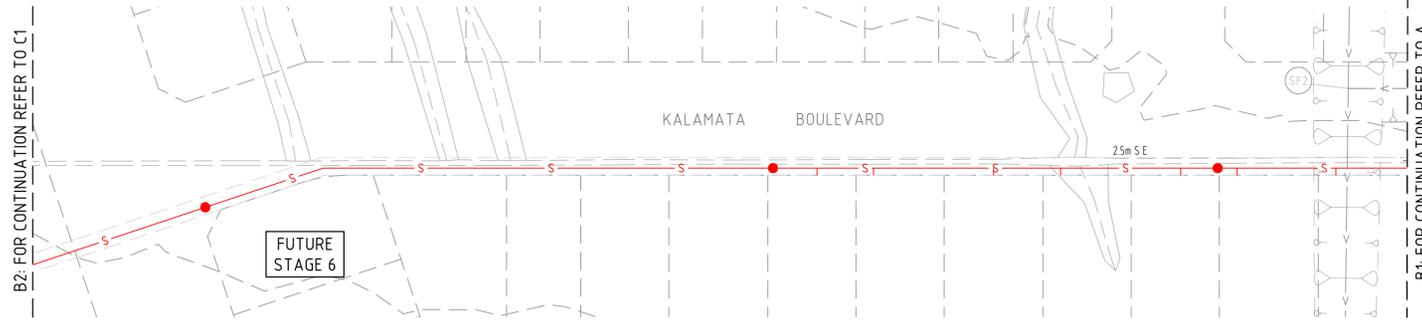
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SIG GROUP
 APPROVED PE 0005927
 DESIGNED
 W. SANSON
 SCALE
 1:500 @ A1

PROJECT
 KALA ESTATE - STAGE 01
TITLE
 LAYOUT PLAN (SHEET 1 OF 2)
MUNICIPALITY
 CARDINIA SHIRE COUNCIL
PP No.
 T220227
DRAWING No.
 3086-01-100
REVISION
 F
ORIGINAL SIZE
 A1

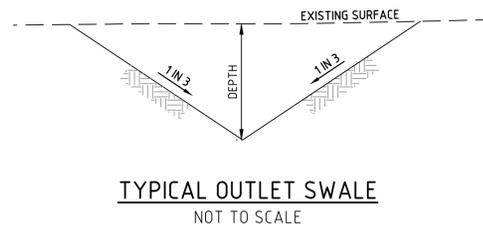
WARNING
 BEWARE OF UNDERGROUND/OVERHEAD SERVICES
 THE LOCATION OF SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. SPECIAL CONSIDERATION SHOULD BE GIVEN TO CONSTRUCTION PROCEDURES UNDER OVERHEAD ELECTRICITY TRANSMISSION LINES.





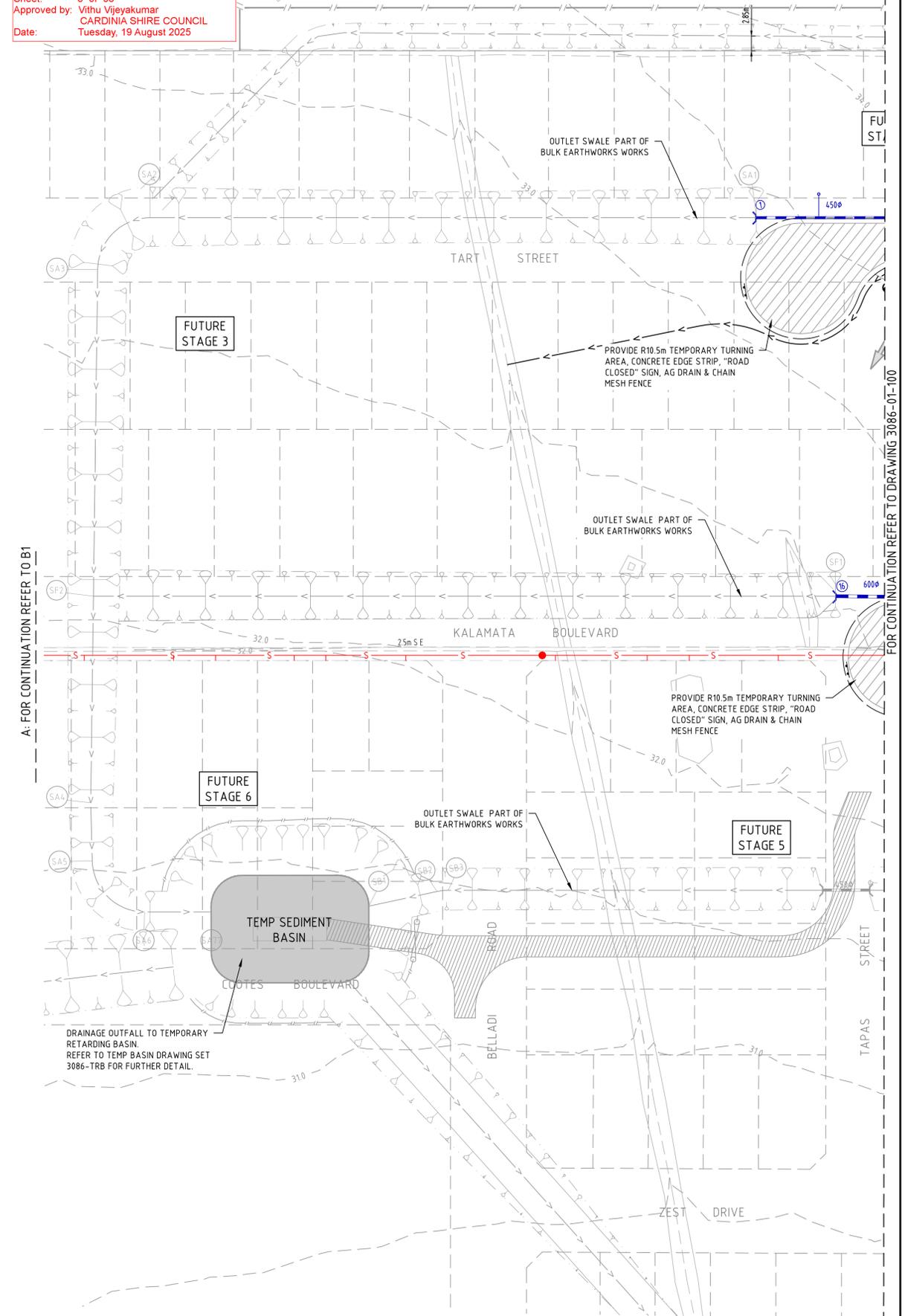
NOTES:
 1. DRAINAGE OUTFALL CHANNELS ARE PART OF THE BULK EARTHWORKS PACKAGE. REFER TO DRAWINGS 3086-01-800 TO 808 FOR FURTHER DETAILS.

LEGEND		
DESCRIPTION	EXISTING	PROPOSED
SEWER & MANHOLE	--- ExS --- ●	--- S --- ●
CENTRAL INVERT	--- > ---	--- > ---
COUNCIL STORMWATER DRAIN, PIT & HOUSE DRAIN/PROPERTY INLET	--- ● ---	--- ● ---
SURFACE CONTOUR	--- 51.20 ---	---
SIGN AND POST	--- ● ---	--- ● ---
TREE TO BE RETAINED		



CONSENT FOR CONSTRUCTION
CARDINIA SHIRE COUNCIL
 Ref No.: S24-143, T220227
 Sheet: 8 of 85
 Approved by: Vilhu Vijayakumar
CARDINIA SHIRE COUNCIL
 Date: Tuesday, 19 August 2025

1610 PRINCES HWY DEVELOPMENT (BY OTHERS)



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REV	DATE	DRN	CKD	APP	AMENDMENT
C	09.05.25	MA			RE-ISSUED TO COUNCIL FOR APPROVAL
B	20.01.25	AT	MA	K. LORRIMAR	ISSUED FOR COUNCIL SUBMISSION
A	21.11.24	NT	MA	K. LORRIMAR	INITIAL ISSUE



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 E Melbourne.Reception@cosweb.com.au

SIG GROUP
 APPROVED PE 0005927
 DESIGNED
W. SANSON
 SCALE
 1500 @ A1

PROJECT
KALA ESTATE - STAGE 01
 TITLE
LAYOUT PLAN (SHEET 2 OF 2)
 MUNICIPALITY
CARDINIA SHIRE COUNCIL
 PP No. T220227
 DRAWING No. 3086-01-101
 REVISION
C

ORIGINAL SIZE A1

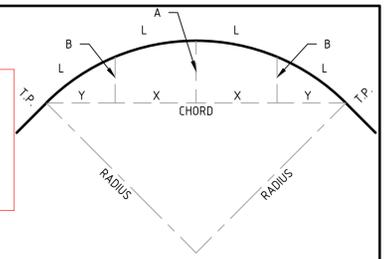
NOTES:
 1. DRAINAGE OUTFALL CHANNELS ARE PART OF THE BULK EARTHWORKS PACKAGE. REFER TO DRAWINGS 3086-01-800 TO 808 FOR FURTHER DETAILS.

ALIGNMENT SA

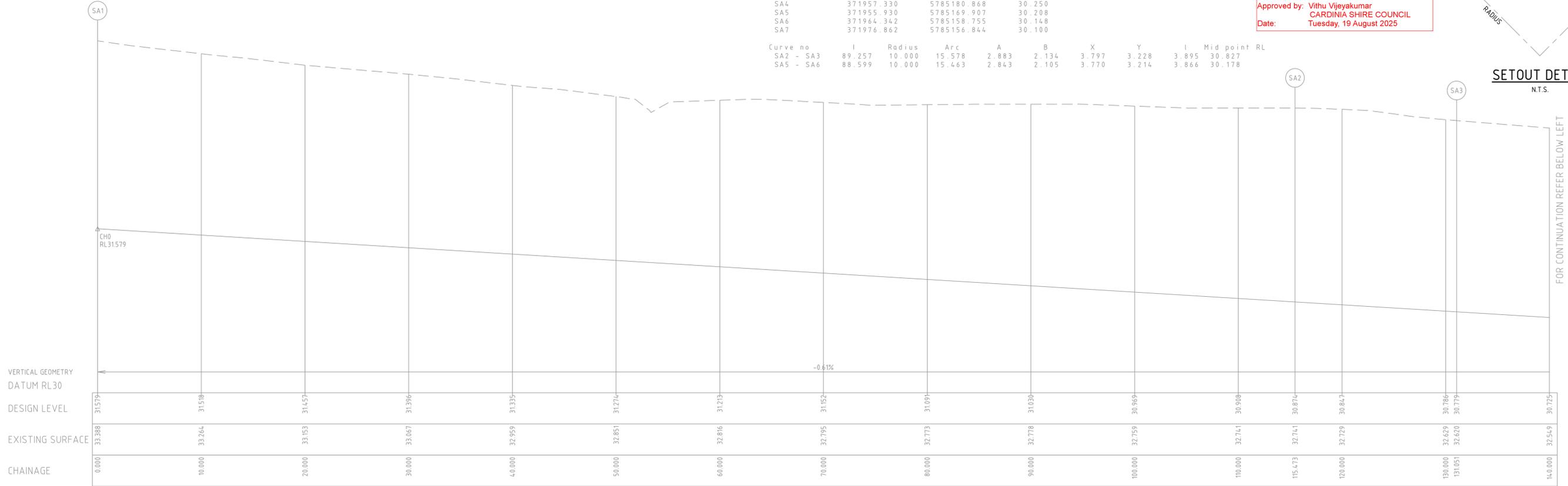
Point no	Easting	Northing	RL
SA1	372099.450	5785271.746	31.579
SA2	371985.298	5785289.164	30.874
SA3	371973.925	5785280.915	30.779
SA4	371957.330	5785180.868	30.250
SA5	371955.930	5785169.907	30.208
SA6	371964.342	5785158.755	30.148
SA7	371976.862	5785156.844	30.100

Curve no	L	Radius	Arc	A	B	X	Y	l	Mid point	RL
SA2 - SA3	89.257	10.000	15.578	2.883	2.134	3.797	3.228	3.895	30.827	
SA5 - SA6	88.599	10.000	15.463	2.843	2.105	3.770	3.214	3.866	30.178	

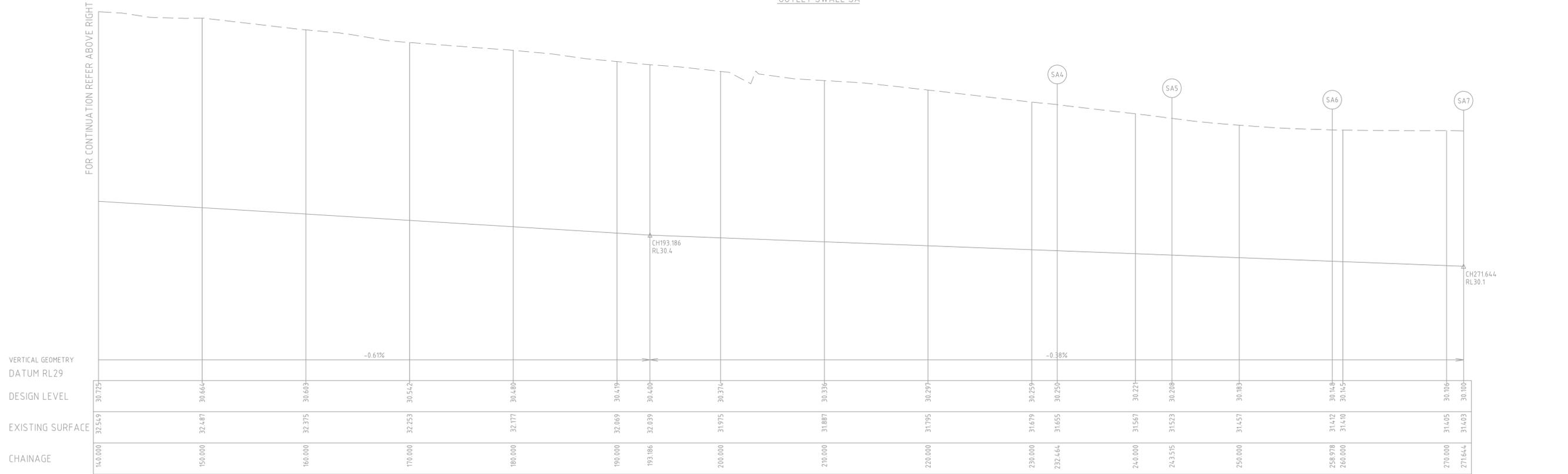
CONSENT FOR CONSTRUCTION
CARDINIA SHIRE COUNCIL
 Ref No.: S24-143, T220227
 Sheet: 9 of 56
 Approved by: Vithu Vijeyakumar
CARDINIA SHIRE COUNCIL
 Date: Tuesday, 19 August 2025



SETOUT DETAIL
N.T.S.



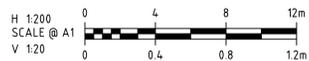
OUTLET SWALE SA



OUTLET SWALE SA

C:\3245\4414\5303\3086-01-100\Design\4414\5303\3086-01-100_Plan.dwg 5/8/2025 3:56 PM MWFA TABUENA

REV	DATE	DRN	CKD	APP	AMENDMENT
C	09.05.25	MA			DRAINAGE OUTFALL LONG SECTIONS AND SETOUT SHOWN AS EXISTING
B	20.01.25	AT	MA	K. LORRIMAR	ISSUED FOR COUNCIL SUBMISSION
A	13.11.24	NT	MA	K. LORRIMAR	INITIAL ISSUE



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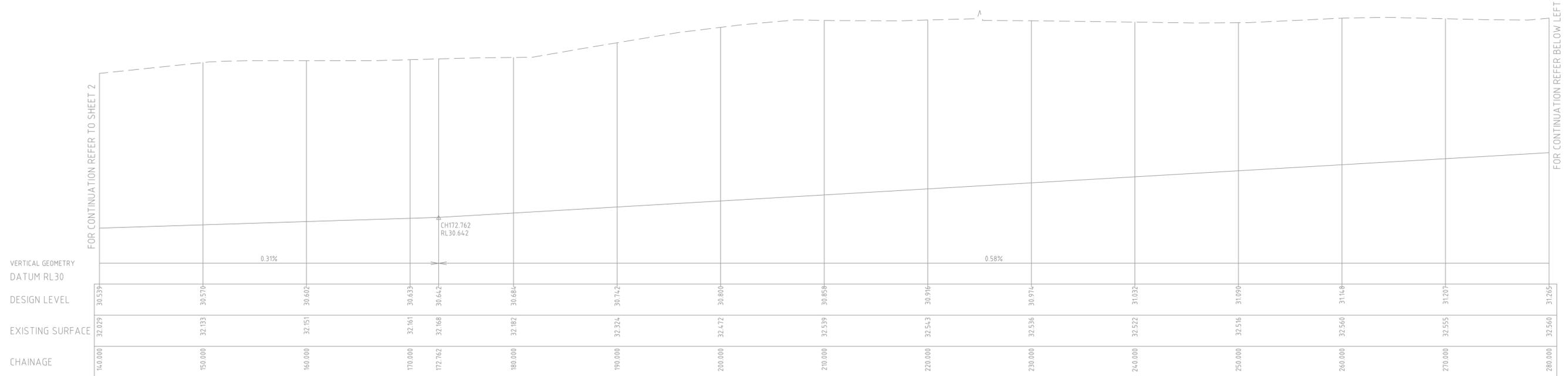


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CLIENT	SIG GROUP
APPROVED PE 0005927	DESIGNED W. SANSON
	SCALE AS SHOWN

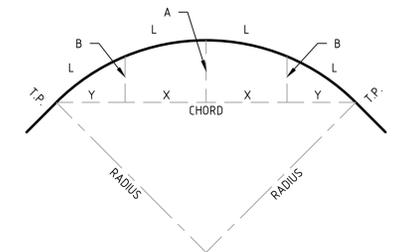
PROJECT	KALA ESTATE - STAGE 01	
TITLE	OUTLET SWALE SETOUT (SHEET 1 OF 4)	
MUNICIPALITY	CARDINIA SHIRE COUNCIL	
PP No.	T220227	DRAWING No. 3086-01-102
REVISION	C	

ORIGINAL SIZE A1



OUTLET SWALE SB

CONSENT FOR CONSTRUCTION
CARDINIA SHIRE COUNCIL
 Ref No.: S24-143, T220227
 Sheet: 11 of 56
 Approved by: Vithu Vijayakumar
 CARDINIA SHIRE COUNCIL
 Date: Tuesday, 19 August 2025



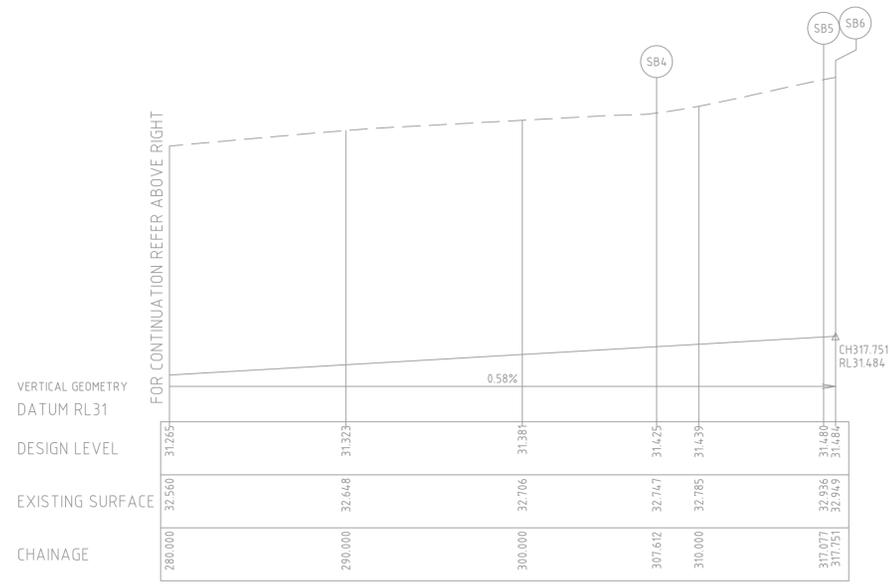
SETOUT DETAIL
N.T.S.

NOTES:
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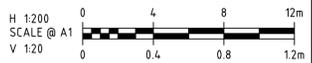
ALIGNMENT SB

Point no	Easting	Northing	RL
SB1	372006.721	5785153.401	30.100
SB2	372019.995	5785154.222	30.142
SB3	372022.120	5785154.127	30.148
SB4	372310.960	5785110.070	31.425
SB5	372317.944	5785115.072	31.480
SB6	372318.046	5785115.739	31.484

Curve no	l	Radius	Arc	A	B	X	Y	l	Mid point RL
SB2 - SB3	12.210	10.000	2.131	0.057	0.043	0.532	0.531	0.533	30.145
SB4 - SB5	86.562	6.265	9.465	1.704	1.263	2.310	1.985	2.366	31.453



OUTLET SWALE SB



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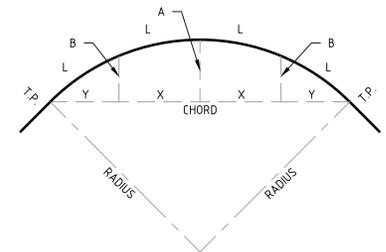
SIG GROUP
 APPROVED PE 0005927
 DESIGNED
W. SANSON
 SCALE
 AS SHOWN

PROJECT
KALA ESTATE - STAGE 01
 TITLE
OUTLET SWALE SETOUT (SHEET 3 OF 4)
 MUNICIPALITY
CARDINIA SHIRE COUNCIL
 PP No. T220227
 DRAWING No. 3086-01-104
 REVISION
 C

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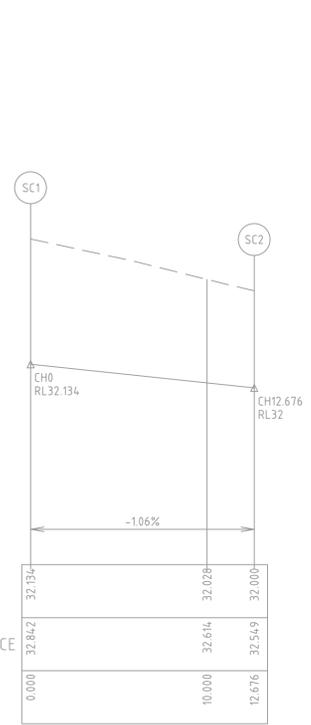
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C	09.05.25	MA			DRAINAGE OUTFALL LONG SECTIONS AND SETOUT SHOWN AS EXISTING
B	20.01.25	AT	MA	K. LORRIMAR	ISSUED FOR COUNCIL SUBMISSION
A	13.11.24	NT	MA	K. LORRIMAR	INITIAL ISSUE

ORIGINAL SIZE
A1

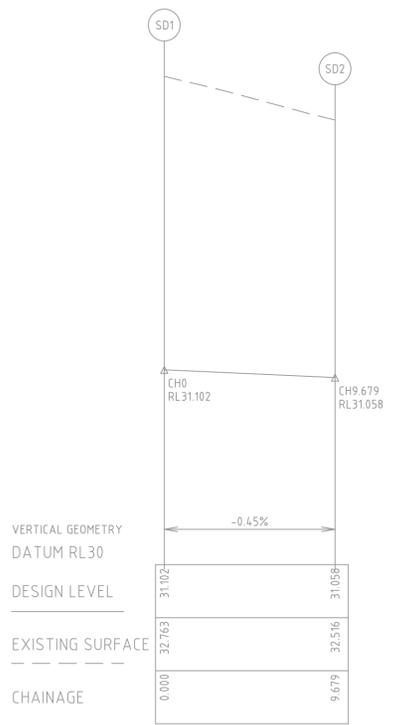


SETOUT DETAIL
N.T.S.

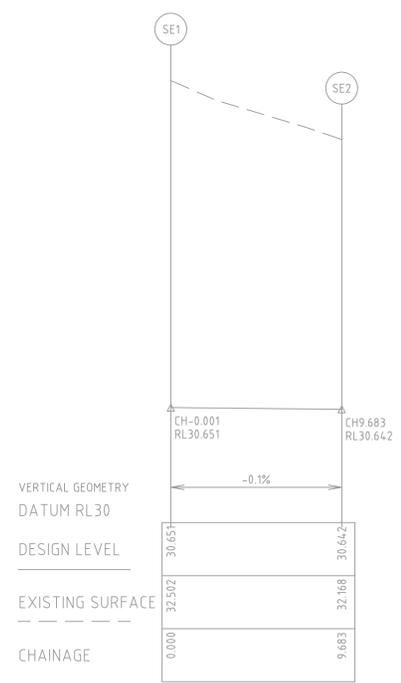
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1. DRAINAGE OUTFALL CHANNELS ARE PART OF THE BULK EARTHWORKS PACKAGE. REFER TO DRAWINGS 3086-01-800 TO 808 FOR FURTHER DETAILS.



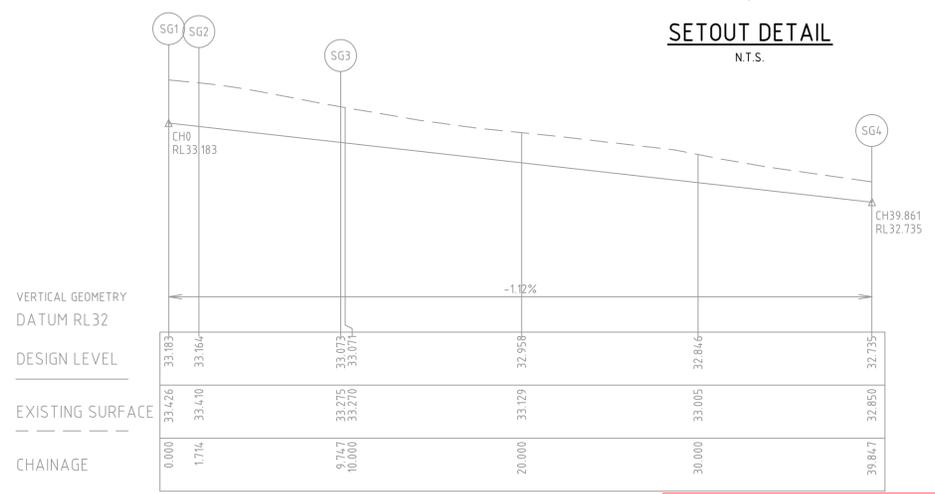
OUTLET SWALE SC



OUTLET SWALE SD



OUTLET SWALE SE



OUTLET SWALE SG

ALIGNMENT SC

Point no	Easting	Northing	RL
SC1	372278.025	5785127.917	32.134
SC2	372276.113	5785115.386	32.000

ALIGNMENT SD

Point no	Easting	Northing	RL
SD1	372250.140	5785129.137	31.102
SD2	372248.532	5785119.592	31.058

ALIGNMENT SE

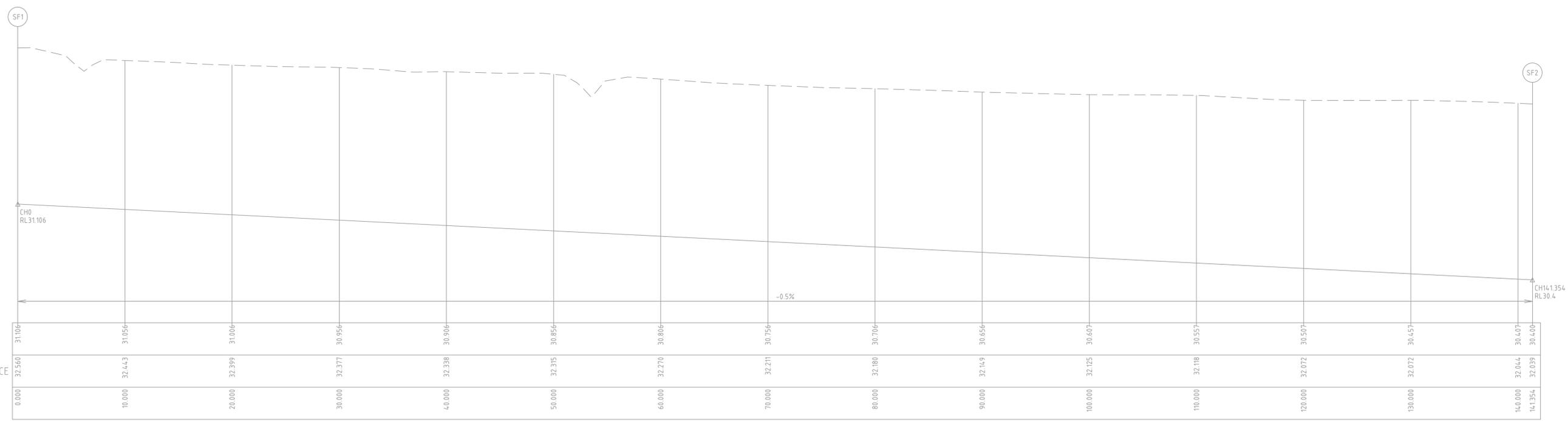
Point no	Easting	Northing	RL
SE1	372179.112	5785139.976	30.651
SE2	372177.652	5785130.404	30.642

ALIGNMENT SG

Point no	Easting	Northing	RL
SG1	372354.205	5785110.071	33.183
SG2	372353.992	5785108.370	33.164
SG3	372348.234	5785104.054	33.073
SG4	372318.498	5785108.723	32.735

Curve no	L	Radius	Arc	A	B	X	Y	L	Mid point RL
SG2 - SG3	92.048	5.000	8.033	1.528	1.130	1.955	1.644	2.008	33.119

CONSENT FOR CONSTRUCTION
CARDINIA SHIRE COUNCIL
Ref No.: S24-143_T220227
Sheet: 12 of 56
Approved by: Vithu Vijayakumar
CARDINIA SHIRE COUNCIL
Date: Tuesday, 19 August 2025



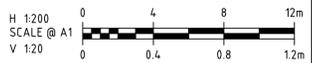
OUTLET SWALE SF

ALIGNMENT SF

Point no	Easting	Northing	RL
SF1	372103.494	5785198.296	31.106
SF2	371963.757	5785219.617	30.400

C:\3245\4414\5303\3086-01-105\Design\4414\3086-01-100\PLAN\4414_518\2025_335_Plan\NFA_TAB.BEM.A

REV	DATE	DRN	CKD	APP	AMENDMENT
C	09.05.25	MA			DRAINAGE OUTFALL LONG SECTIONS AND SETOUT SHOWN AS EXISTING
B	05.05.25	AT	MA	K. LORRIMAR	ISSUED FOR COUNCIL SUBMISSION
A	13.11.24	NT	AM	K. LORRIMAR	INITIAL ISSUE



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SIG GROUP
APPROVED PE 0005927
DESIGNED
W. SANSON
SCALE
AS SHOWN

PROJECT
KALA ESTATE - STAGE 01
TITLE
OUTLET SWALE SETOUT (SHEET 4 OF 4)
MUNICIPALITY
CARDINIA SHIRE COUNCIL
PP No. T220227
DRAWING No. 3086-01-105
REVISION
C

ORIGINAL SIZE A1

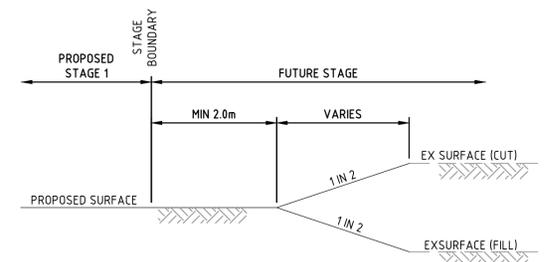
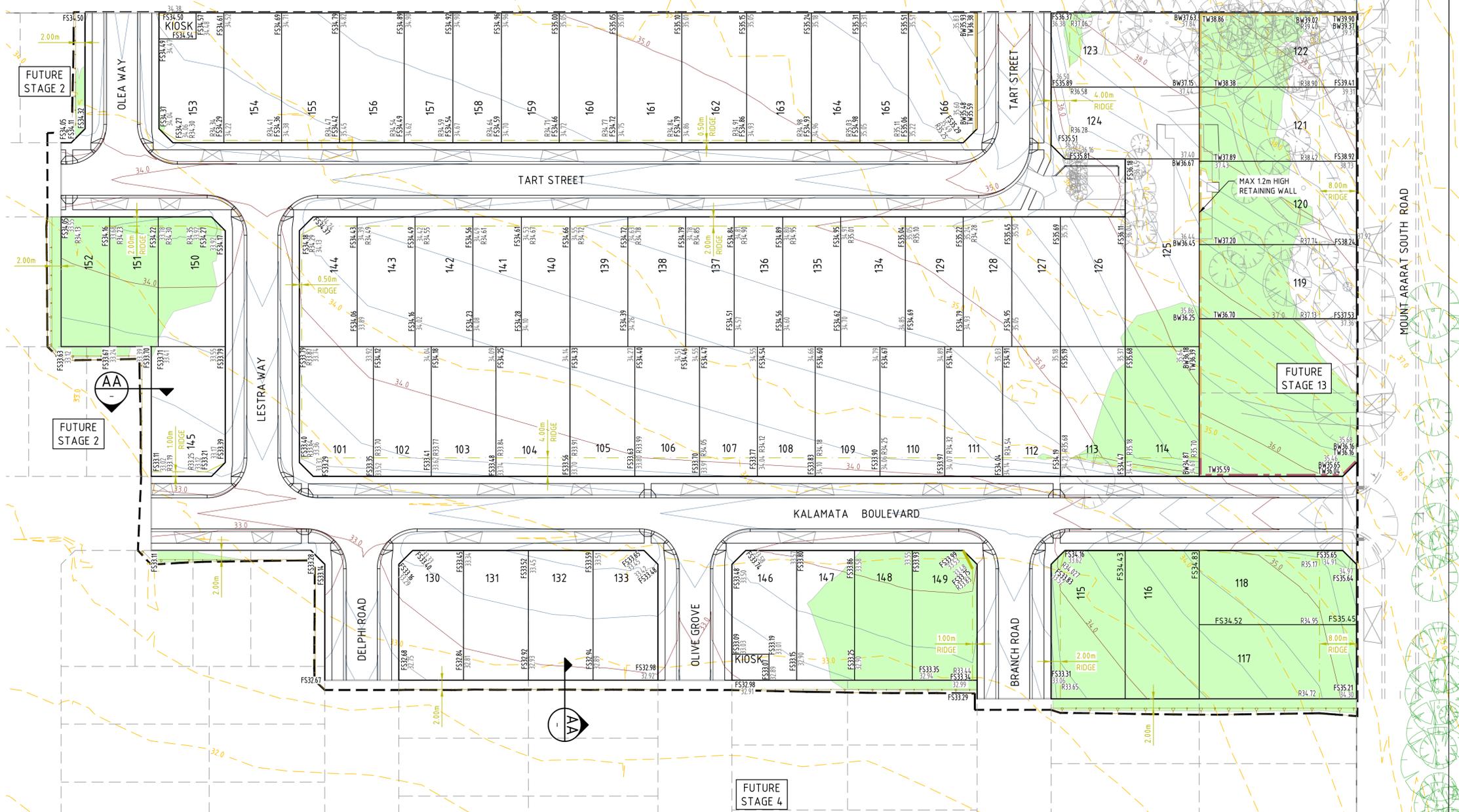
1610 PRINCES HWY
DEVELOPMENT
(BY OTHERS)

MOUNT ARARAT
SOUTH ROAD
EXTERNAL WORKS

CONSENT FOR CONSTRUCTION
CARDINIA SHIRE COUNCIL
Ref No.: S24-143, T220227
Sheet: 13 of 56
Approved by: Vithu Vijayakumar
CARDINIA SHIRE COUNCIL
Date: Tuesday, 19 August 2025



DESCRIPTION	EXISTING	PROPOSED
BOUNDARY OF WORKS		---
SURFACE CONTOUR MAJOR	-52.00-	-52.00-
SURFACE CONTOUR MINOR		
FINISHED SURFACE LEVEL	4.3.21	FS44.33
RIDGE LEVEL		R43.55
TOP OF WALL LEVEL		T43.55
BOTTOM OF WALL LEVEL		B42.55
RIDGE / CHANGE OF GRADE LINE		---
FILLING GREATER THAN 300mm		[Green Box]
RETAINING WALL - CONCRETE SLEEPER	---	---
RETAINING WALL - ROCK/STONE	---	---
TREE TO BE RETAINED	[Green Circle]	[Green Circle]
TREE REMOVED BY OTHERS	[White Circle]	[White Circle]



SECTION AA
N.T.S.

C:\Users\user\Documents\3086-01-150\Rev.dwg (22/08/2025 05:51 AM) MOHAMMAD_ALI

B	23.01.25	AT	MA	K. LORRIMAR	ISSUED FOR COUNCIL SUBMISSION
A	16.11.24	NT	MA	K. LORRIMAR	INITIAL ISSUE
REV	DATE	DRN	CKD	APP	AMENDMENT



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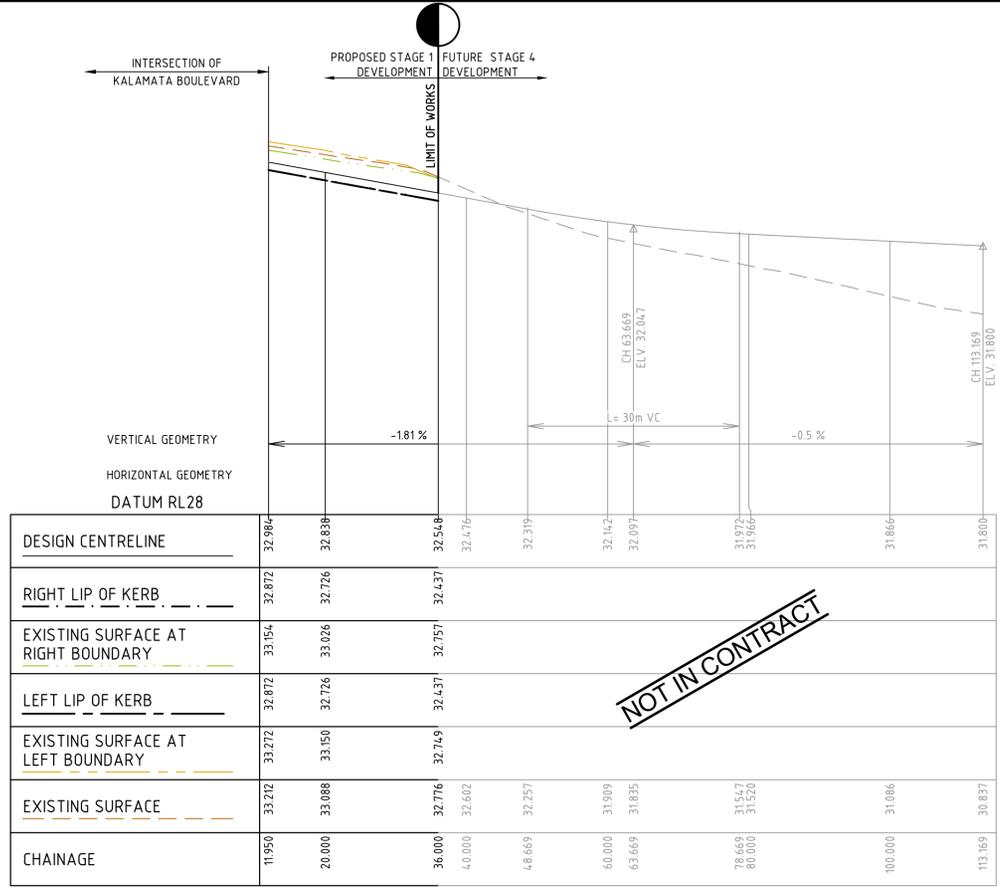
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SIG GROUP
APPROVED PE 0005927
DESIGNED
W. SANSON
SCALE
1:500 @ A1

PROJECT
KALA ESTATE - STAGE 01
TITLE
EARTHWORKS PLAN
MUNICIPALITY
CARDINIA SHIRE COUNCIL
PP No.
T220227
DRAWING No.
3086-01-150
REVISION
B
ORIGINAL SIZE
A1

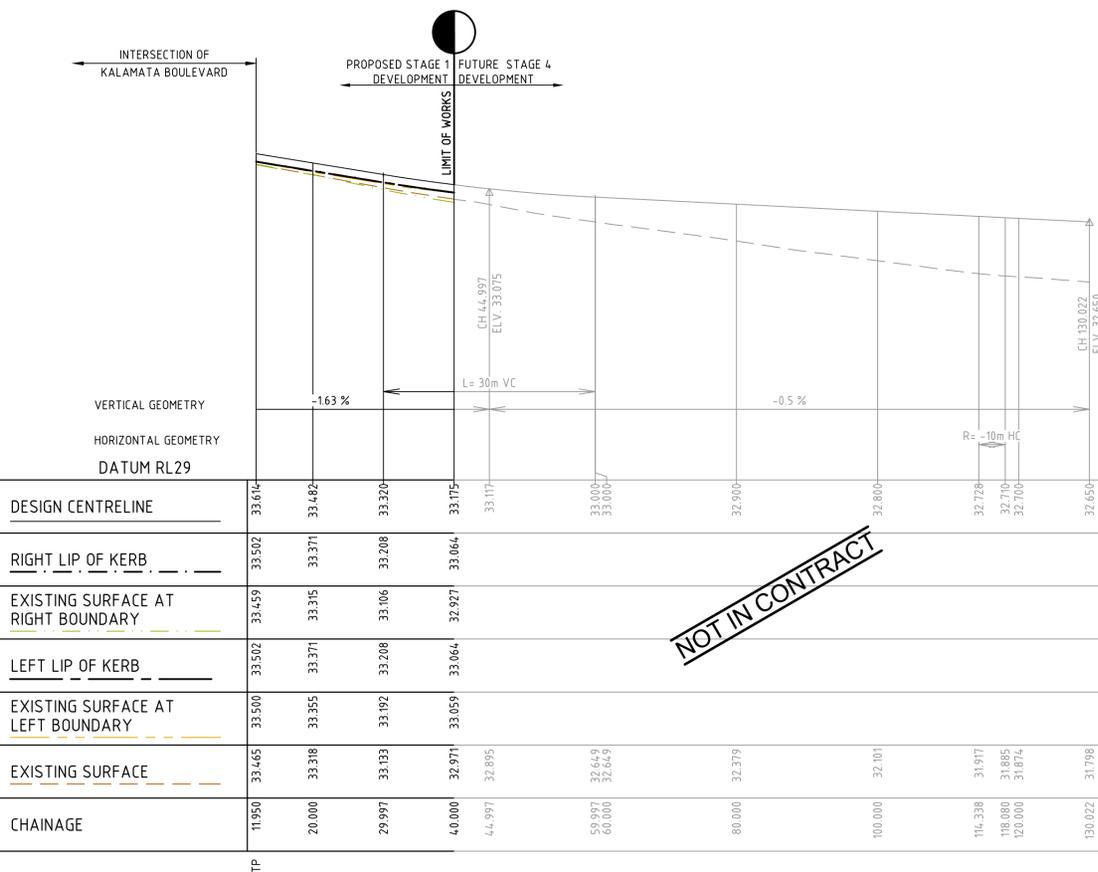
LEGEND	
DESCRIPTION	LINETYPE
EXISTING SURFACE	---
DESIGN LINE	—
FUTURE DESIGN LINE	- - -
EXISTING SURFACE AT RIGHT BOUNDARY	---
RIGHT LIP OF KERB	— · — · —
EXISTING SURFACE AT LEFT BOUNDARY	---
LEFT LIP OF KERB	— · — · —

CONSENT FOR CONSTRUCTION
CARDINIA SHIRE COUNCIL
 Ref No: S24-143, T220227
 Sheet: 16 of 56
 Approved by: Vithu Vijayakumar
 CARDINIA SHIRE COUNCIL
 Date: Tuesday, 19 August 2025



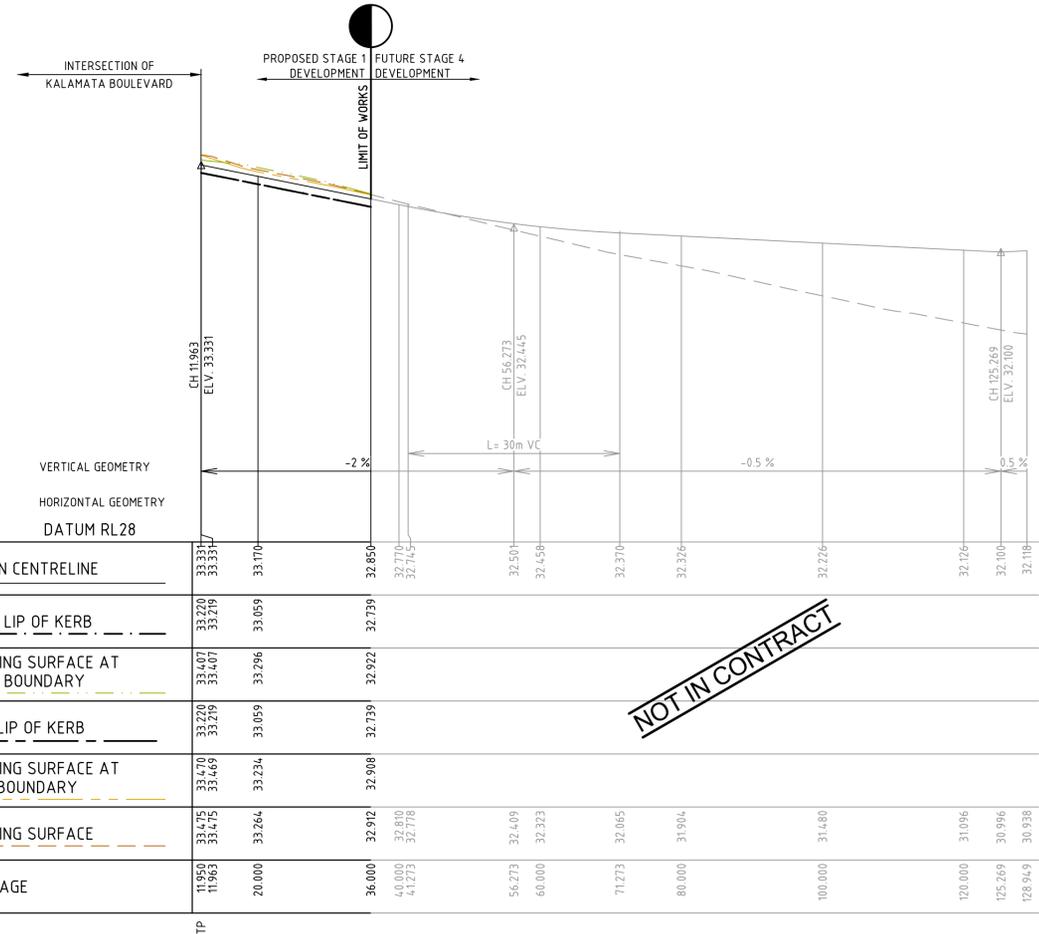
DESIGN CENTRELINE	32.984	32.838	32.548	32.476	32.319	32.142	32.097	31.972	31.866	31.800
RIGHT LIP OF KERB	32.872	32.726	32.437	32.437	32.319	32.142	32.097	31.972	31.866	31.800
EXISTING SURFACE AT RIGHT BOUNDARY	33.154	33.026	32.757	32.757	32.639	32.462	32.417	32.292	32.186	32.120
LEFT LIP OF KERB	32.872	32.726	32.437	32.437	32.319	32.142	32.097	31.972	31.866	31.800
EXISTING SURFACE AT LEFT BOUNDARY	33.272	33.150	32.749	32.749	32.631	32.454	32.409	32.284	32.178	32.112
EXISTING SURFACE	33.272	33.088	32.776	32.602	32.257	31.909	31.855	31.547	31.086	30.837
CHAINAGE	11.950	20.000	36.000	40.000	48.669	60.000	63.669	78.669	100.000	113.800

DELPHI ROAD LONGITUDINAL SECTION



DESIGN CENTRELINE	33.614	33.482	33.320	33.175	33.117	33.000	33.000	32.900	32.800	32.728	32.710	32.700	32.650
RIGHT LIP OF KERB	33.502	33.371	33.208	33.064	33.117	33.000	33.000	32.900	32.800	32.728	32.710	32.700	32.650
EXISTING SURFACE AT RIGHT BOUNDARY	33.459	33.315	33.106	32.927	33.064	33.000	33.000	32.900	32.800	32.728	32.710	32.700	32.650
LEFT LIP OF KERB	33.502	33.371	33.208	33.064	33.117	33.000	33.000	32.900	32.800	32.728	32.710	32.700	32.650
EXISTING SURFACE AT LEFT BOUNDARY	33.500	33.355	33.092	32.927	33.064	33.000	33.000	32.900	32.800	32.728	32.710	32.700	32.650
EXISTING SURFACE	33.465	33.318	33.133	32.971	32.895	32.649	32.649	32.379	32.101	31.917	31.885	31.874	31.798
CHAINAGE	11.950	20.000	29.997	40.000	44.997	59.997	60.000	80.000	100.000	114.338	118.080	120.000	130.022

BRANCH ROAD LONGITUDINAL SECTION



DESIGN CENTRELINE	33.331	33.170	32.850	32.770	32.714	32.501	32.458	32.370	32.376	32.276	32.176	32.100	32.118
RIGHT LIP OF KERB	33.220	33.219	32.739	32.739	32.739	32.739	32.739	32.739	32.739	32.739	32.739	32.739	32.739
EXISTING SURFACE AT RIGHT BOUNDARY	33.407	33.219	32.922	32.922	32.922	32.922	32.922	32.922	32.922	32.922	32.922	32.922	32.922
LEFT LIP OF KERB	33.220	33.219	32.739	32.739	32.739	32.739	32.739	32.739	32.739	32.739	32.739	32.739	32.739
EXISTING SURFACE AT LEFT BOUNDARY	33.470	33.469	32.908	32.908	32.908	32.908	32.908	32.908	32.908	32.908	32.908	32.908	32.908
EXISTING SURFACE	33.475	33.475	32.912	32.912	32.912	32.912	32.912	32.912	32.912	32.912	32.912	32.912	32.912
CHAINAGE	11.950	20.000	36.000	40.000	41.273	56.273	60.000	71.273	80.000	100.000	114.800	120.000	128.949

OLIVE GROVE LONGITUDINAL SECTION

C:\3245\4414\553\3086-01_165\Design\4414\3086-01-200 RL 28.dwg 1/20/2025 3:48 PM ALEX TOOMBETTA

B	23.01.25	AT	MA	K. LORRIMAR	ISSUED FOR COUNCIL SUBMISSION
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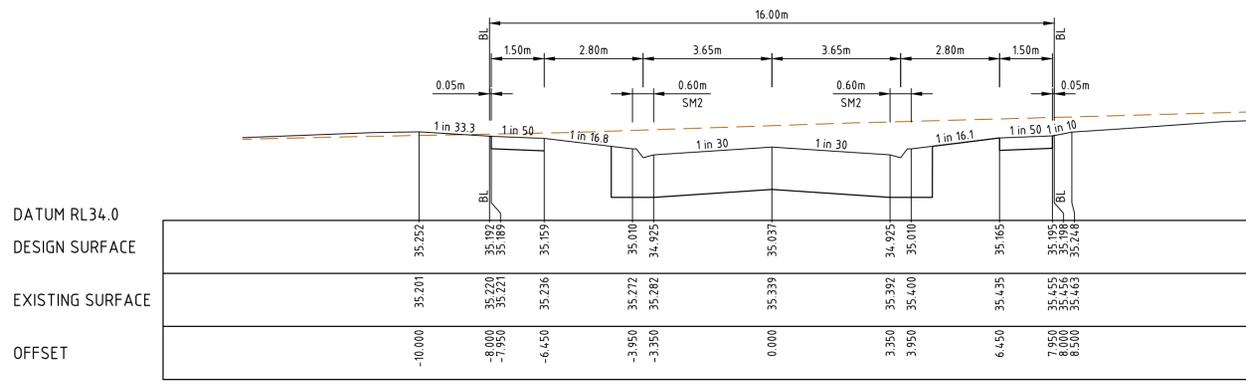
SIG GROUP
 APPROVED PE 0005927
 DESIGNED W. SANSON
 SCALE H 1:500 V 1:50 @ A1

PROJECT KALA ESTATE - STAGE 01
 TITLE ROAD LONGITUDINAL SECTIONS (SHEET 3 OF 3)
 MUNICIPALITY CARDINIA SHIRE COUNCIL
 PP No. T220227
 DRAWING No. 3086-01-202
 REVISION B

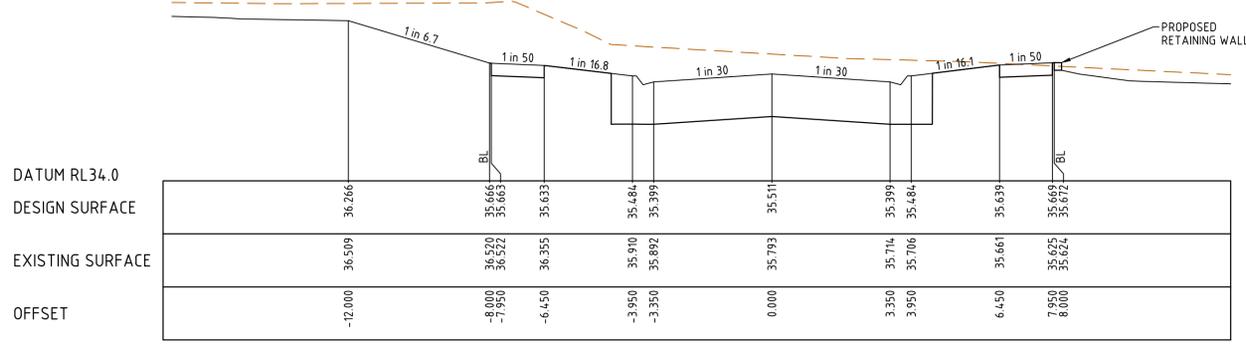
ORIGINAL SIZE A1

CONSENT FOR CONSTRUCTION
CARDINIA SHIRE COUNCIL
 Ref No.: S24-143, T220227
 Sheet: 17 of 66
 Approved by: Vithu Vijayakumar
CARDINIA SHIRE COUNCIL
 Date: Tuesday, 19 August 2025

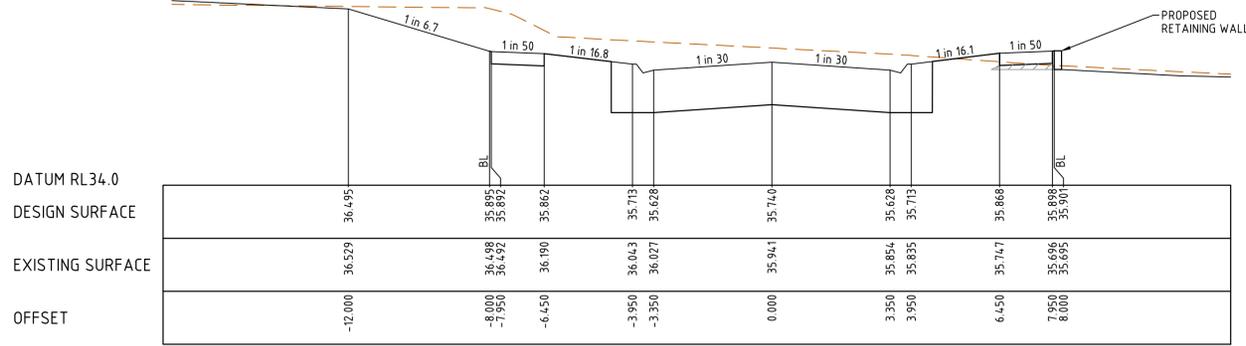
	EXISTING SURFACE
	DESIGN SURFACE
	COMPACTED STRUCTURAL FILL IN ACCORDANCE WITH THE RELEVANT SPECIFICATION



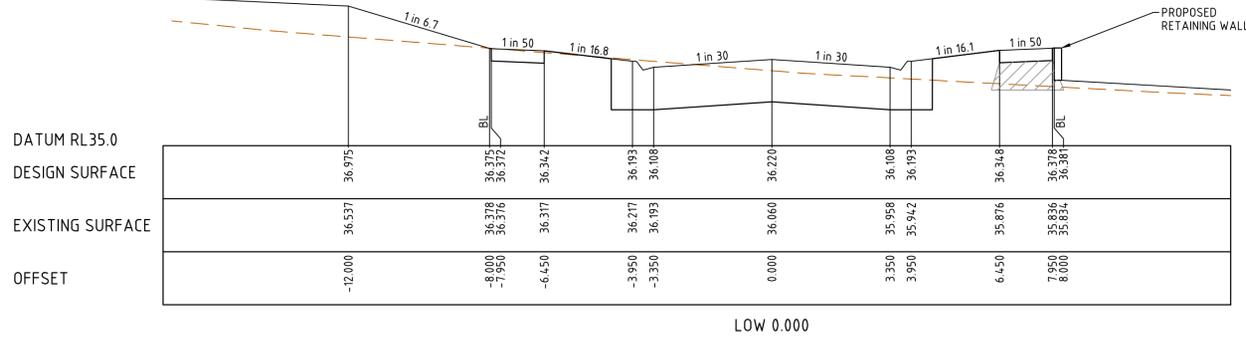
RTPCH 44.058



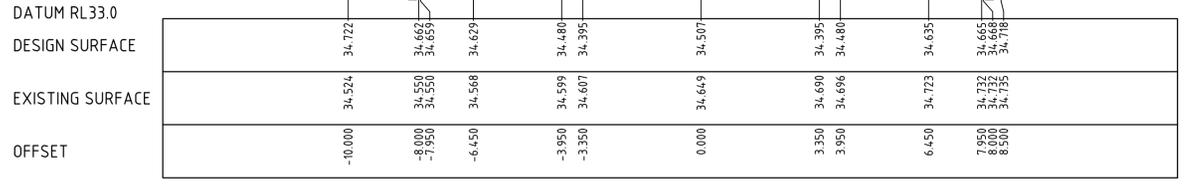
RTPCH 23.650



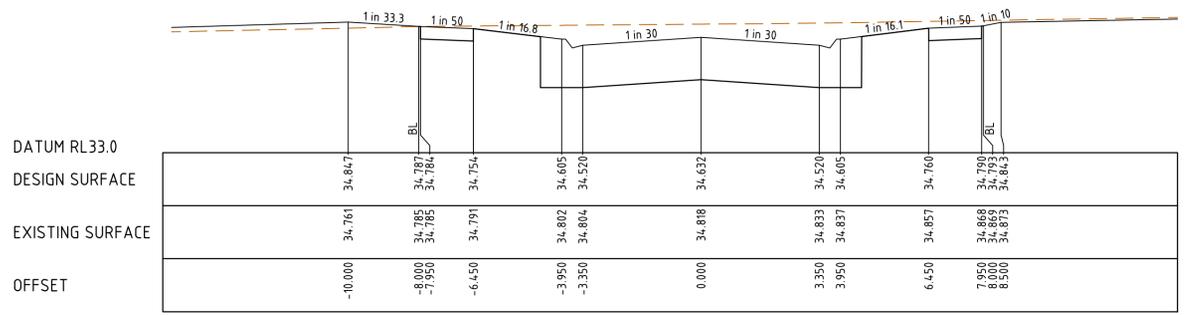
CH 16.000



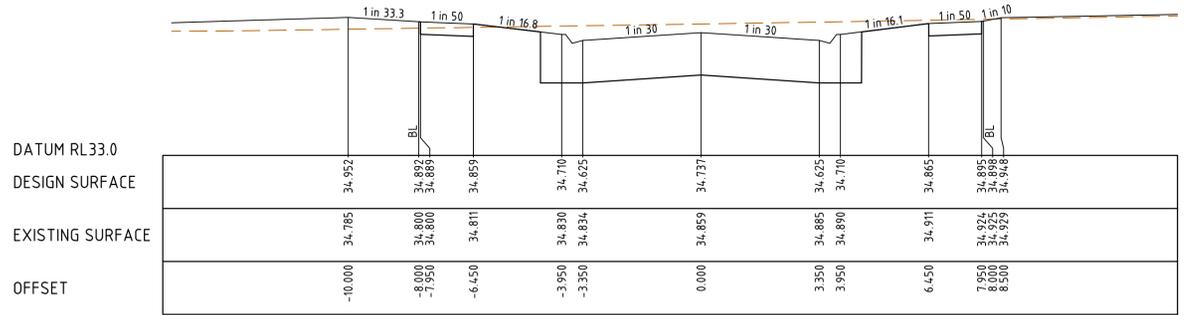
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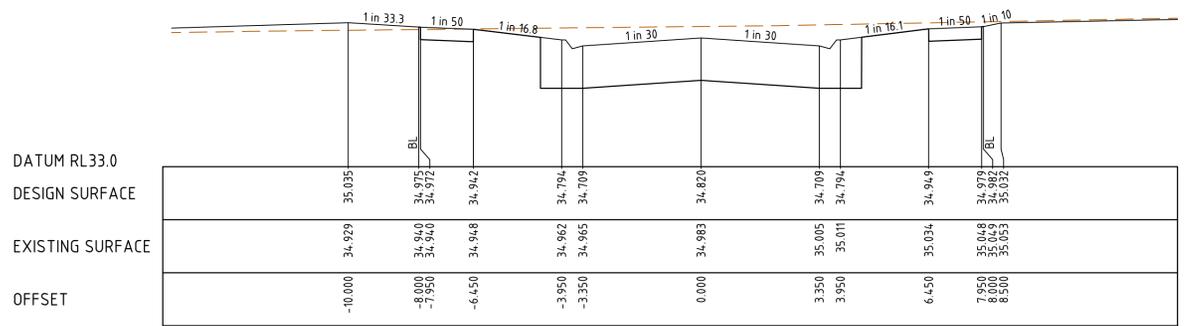
CH 127.708



CH 102.708



CH 81.708

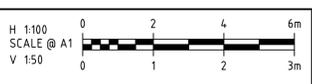


CH 65.035

TART STREET - ROAD CROSS SECTIONS

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B	23.01.25	AT			ISSUED FOR COUNCIL SUBMISSION
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REV	DATE	DRN	CKD	APP	AMENDMENT



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SIG GROUP

APPROVED PE 0005927

DESIGNED
W. SANSON

SCALE
 H 1:100 V 1:50 @ A1

PROJECT
KALA ESTATE - STAGE 01

TITLE
ROAD CROSS SECTIONS
(SHEET 1 OF 6)
CARDINIA SHIRE COUNCIL

MUNICIPALITY
CARDINIA SHIRE COUNCIL

PP No.
T220227

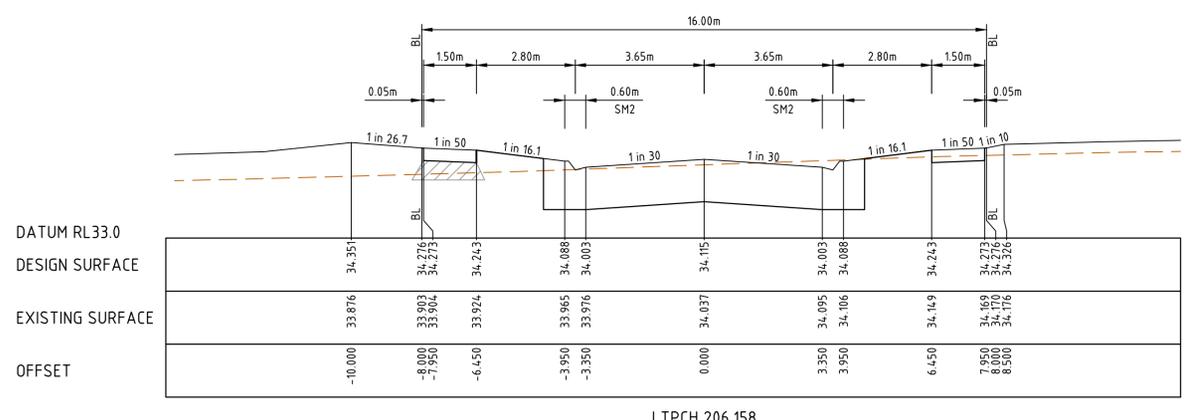
DRAWING No.
3086-01-250

REVISION
B

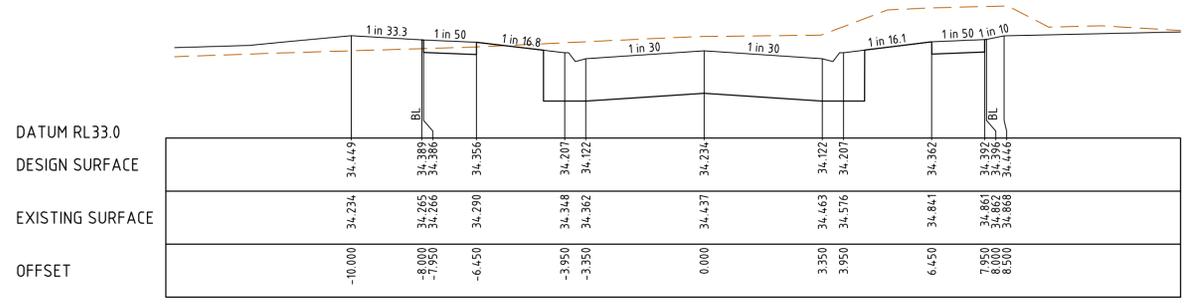
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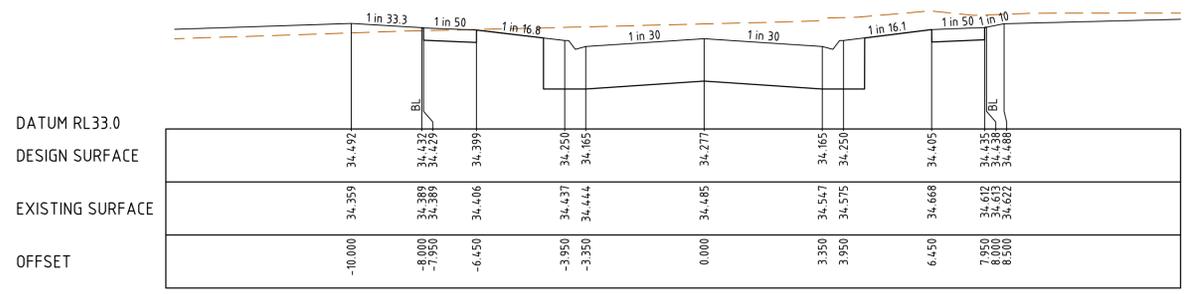
CONSENT FOR CONSTRUCTION
CARDINIA SHIRE COUNCIL
 Ref No.: S24-143, T220227
 Sheet: 18 of 56
 Approved by: Vithu Vijayakumar
 CARDINIA SHIRE COUNCIL
 Date: Tuesday, 19 August 2025



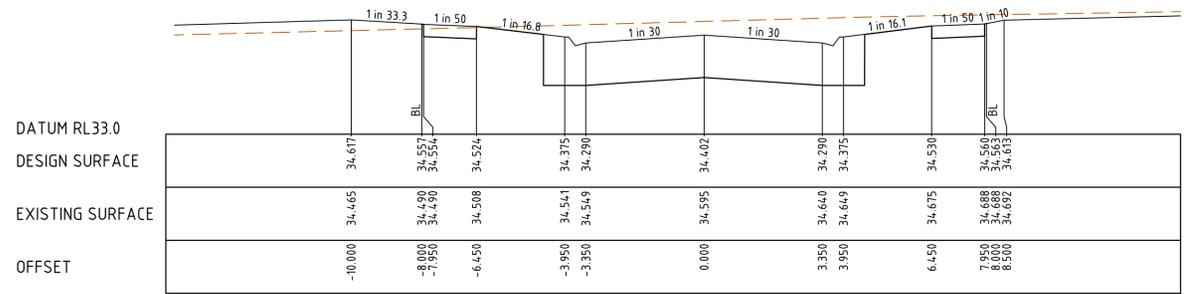
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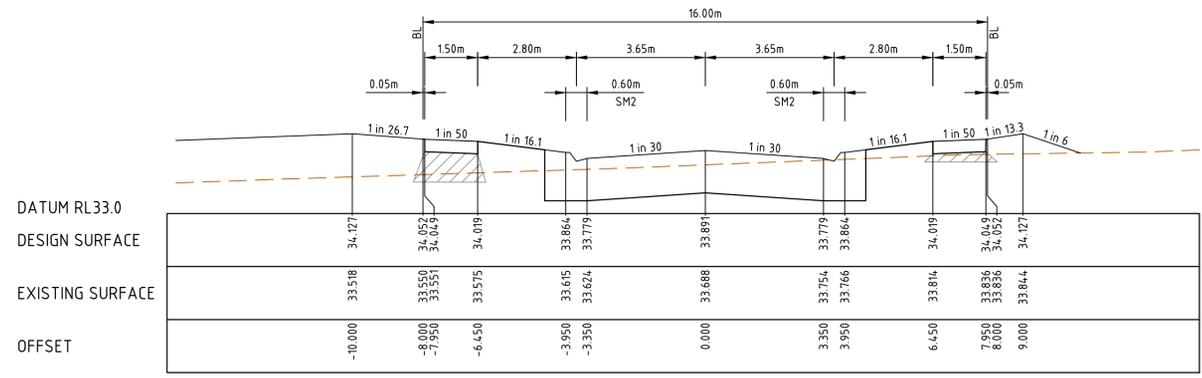
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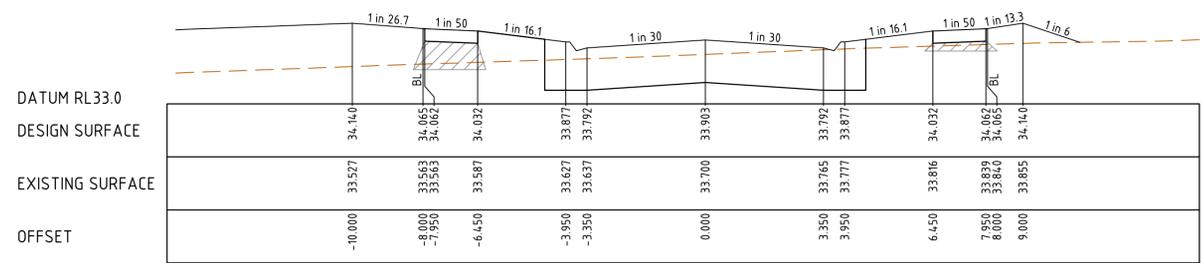
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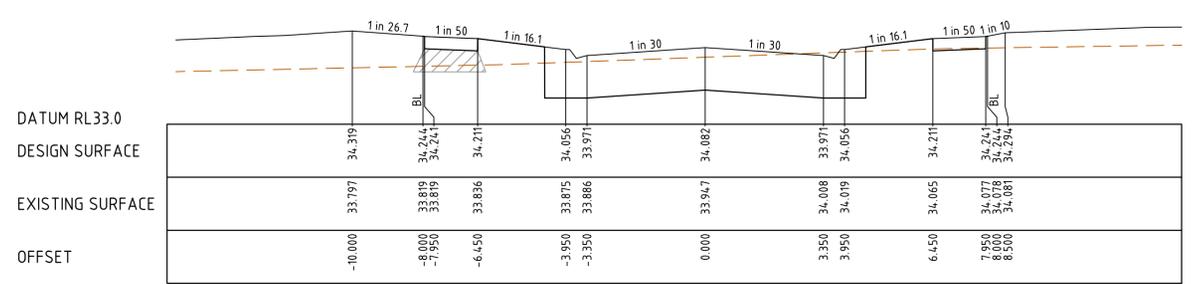
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LOW 237.708



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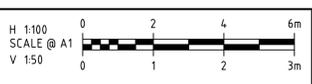


RTPCH 212.585

TART STREET - ROAD CROSS SECTIONS

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B	23.01.25	AT			ISSUED FOR COUNCIL SUBMISSION
A	14.11.24	NT	DW	K. LORRIMAR	INITIAL ISSUE
REV	DATE	DRN	CKD	APP	AMENDMENT



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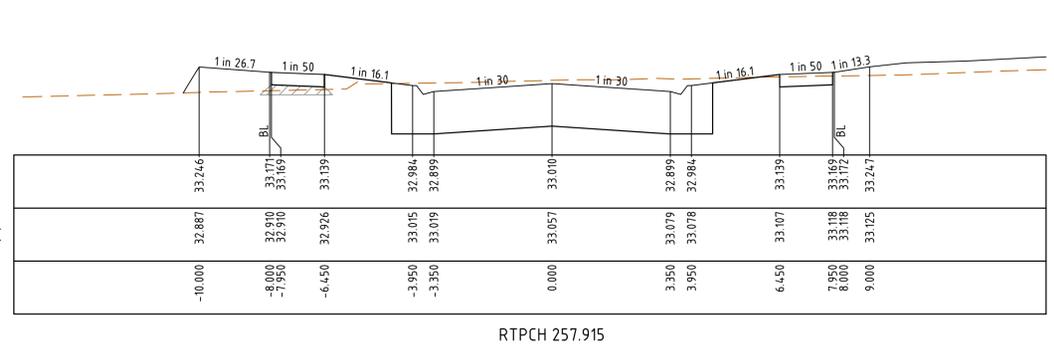
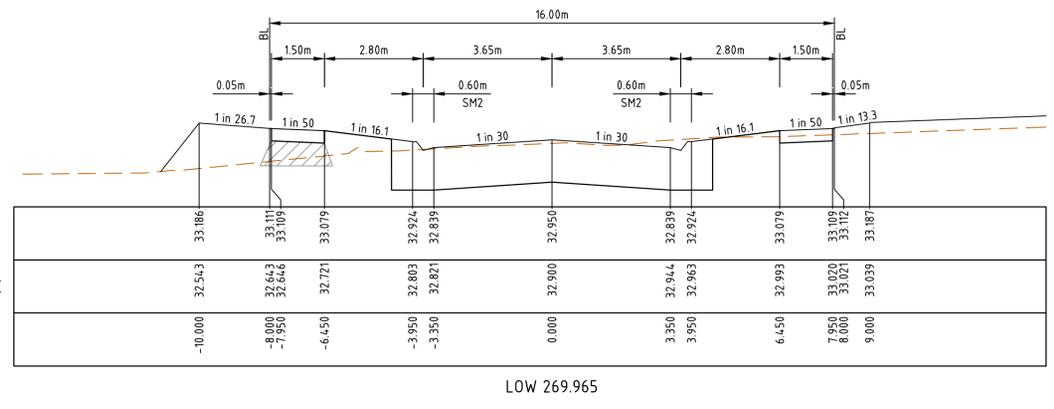
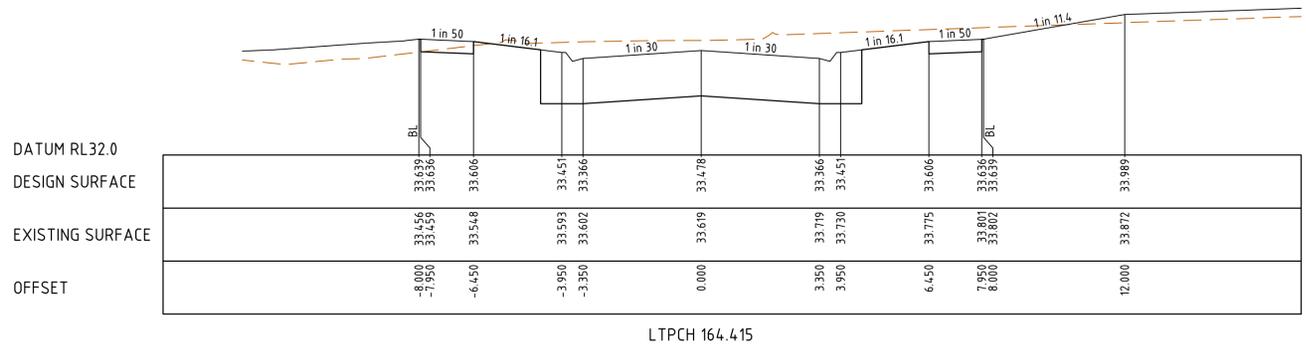
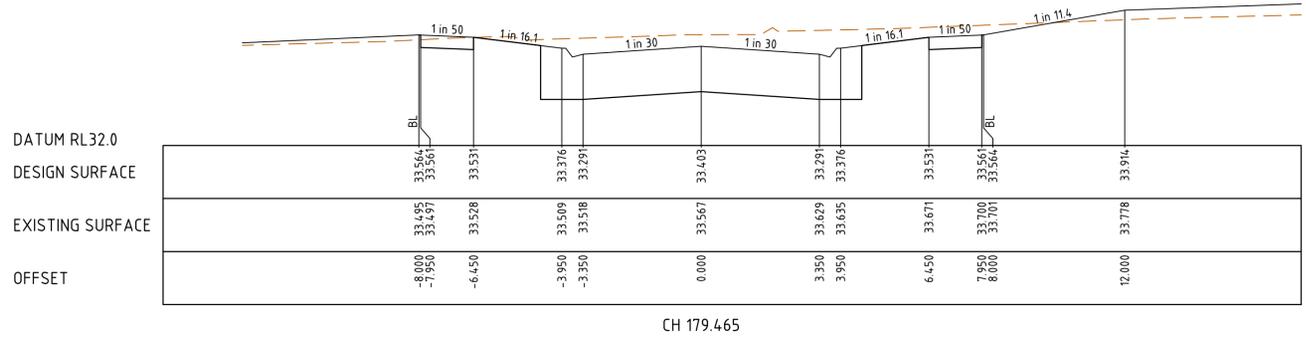
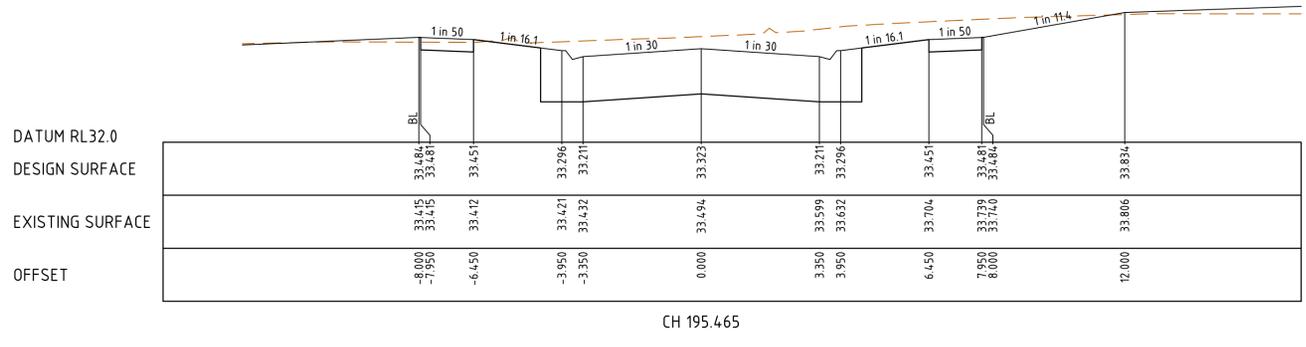
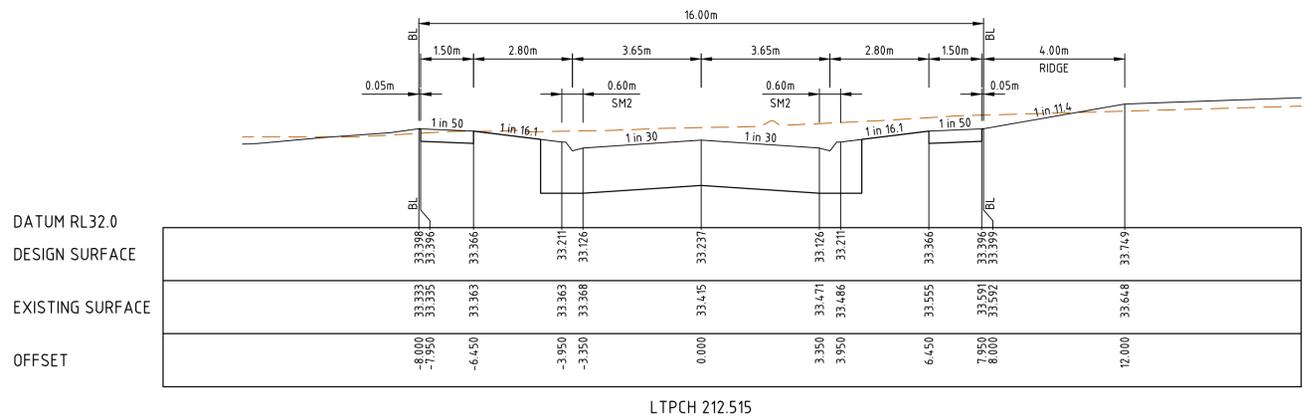
 DESIGNED
W. SANSON
 SCALE
 H 1:100 V 1:50 @ A1

PROJECT
KALA ESTATE - STAGE 01
 TITLE
ROAD CROSS SECTIONS
(SHEET 2 OF 6)
 MUNICIPALITY
CARDINIA SHIRE COUNCIL
 PP No. T220227
 DRAWING No. 3086-01-251
 REVISION
 B

ORIGINAL SIZE A1

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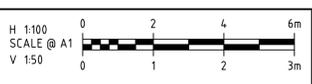
CONSENT FOR CONSTRUCTION
CARDINIA SHIRE COUNCIL
 Ref No.: S24-143, T220227
 Sheet: 20 of 56
 Approved by: Vithu Vijayakumar
 CARDINIA SHIRE COUNCIL
 Date: Tuesday, 19 August 2025



KALAMATA BOULEVARD - ROAD CROSS SECTIONS

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B	23.01.25	AT			ISSUED FOR COUNCIL SUBMISSION
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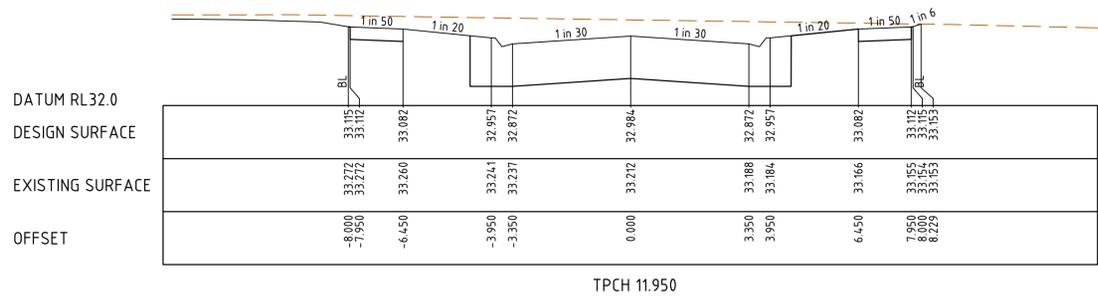
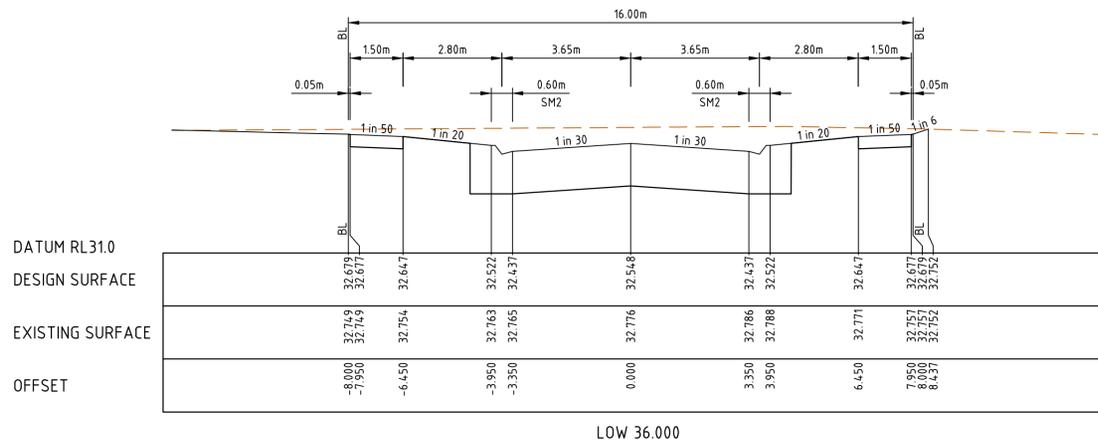
SIG GROUP
 APPROVED PE 0005927
 DESIGNED
W. SANSON
 SCALE
 H 1:100 V 1:50 @ A1

PROJECT	KALA ESTATE - STAGE 01	
TITLE	ROAD CROSS SECTIONS (SHEET 4 OF 6)	
MUNICIPALITY	CARDINIA SHIRE COUNCIL	
PP No.	T220227	DRAWING No. 3086-01-253
REVISION	B	

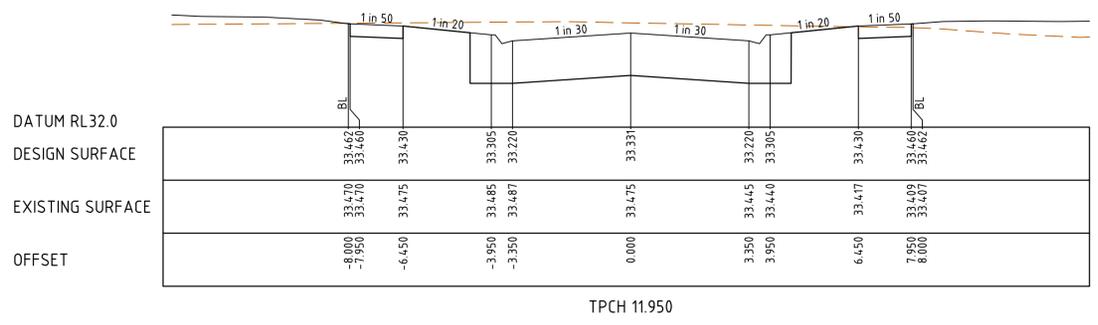
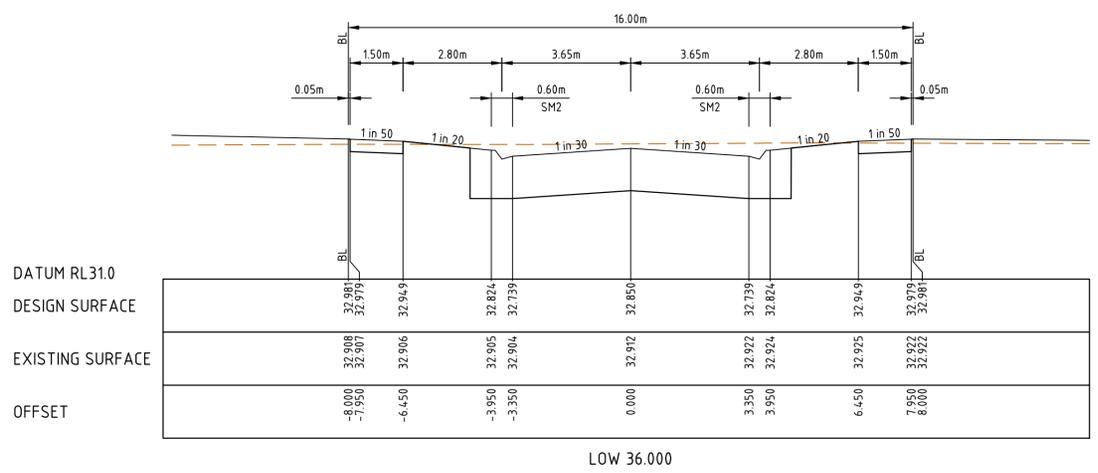
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LEGEND	
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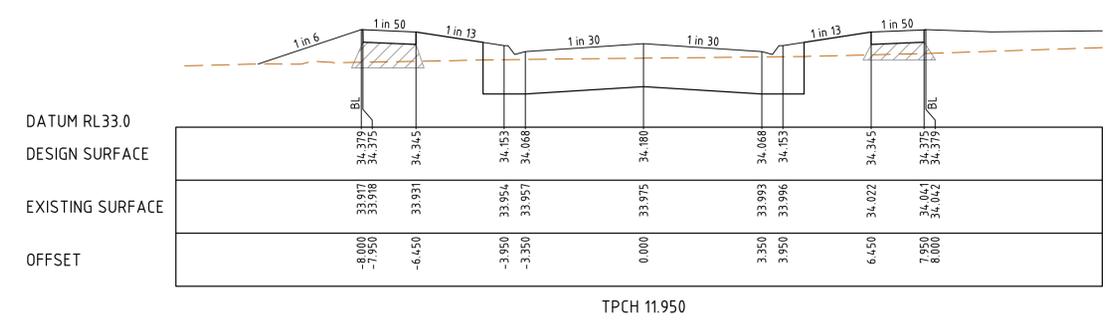
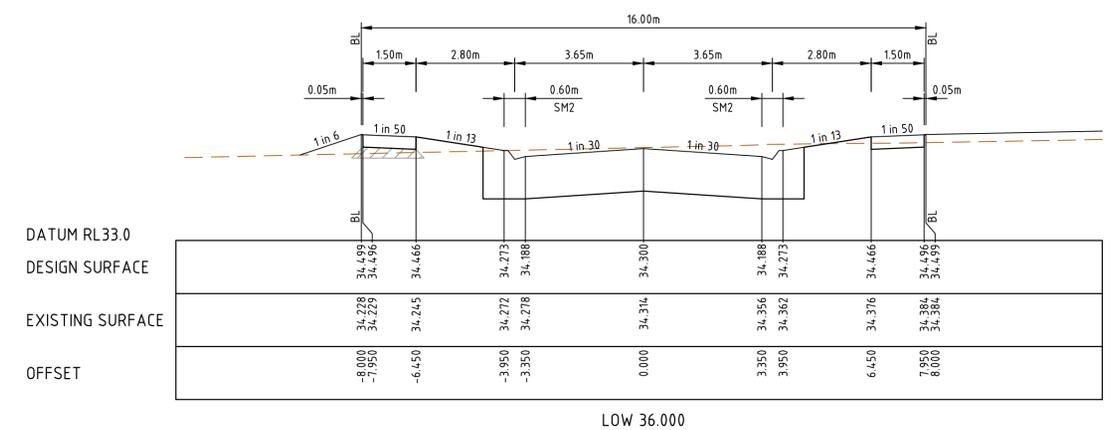
CONSENT FOR CONSTRUCTION
CARDINIA SHIRE COUNCIL
 Ref No.: S24-143, T220227
 Sheet: 22 of 56
 Approved by: Vithu Vijayakumar
 CARDINIA SHIRE COUNCIL
 Date: Tuesday, 19 August 2025



DELPHI ROAD - ROAD CROSS SECTIONS



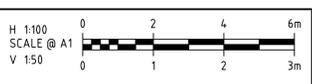
OLIVE GROVE - ROAD CROSS SECTIONS



OLEA WAY - ROAD CROSS SECTIONS

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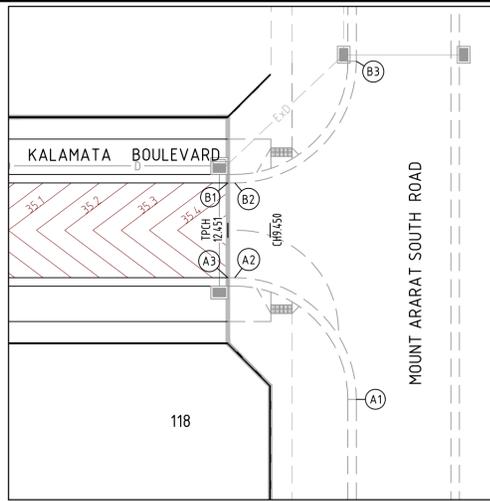
APPROVED PE 0005927

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W. SANSON

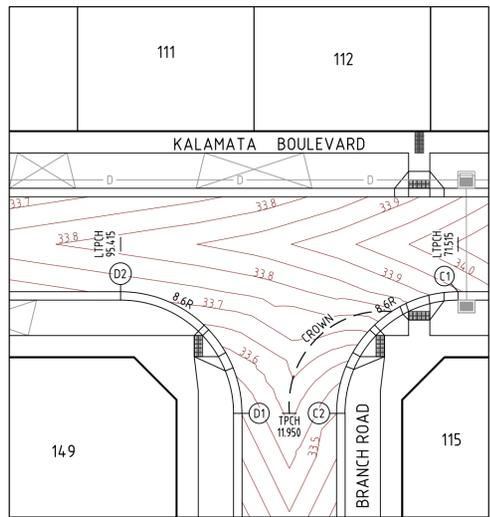
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PROJECT	KALA ESTATE - STAGE 01	
TITLE	ROAD CROSS SECTIONS (SHEET 6 OF 6)	
MUNICIPALITY	CARDINIA SHIRE COUNCIL	
PP No.	T220227	DRAWING No. 3086-01-255
REVISION	B	

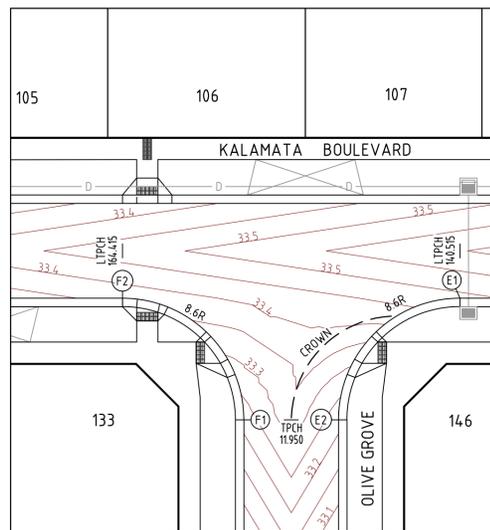
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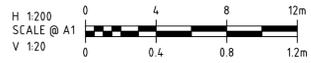
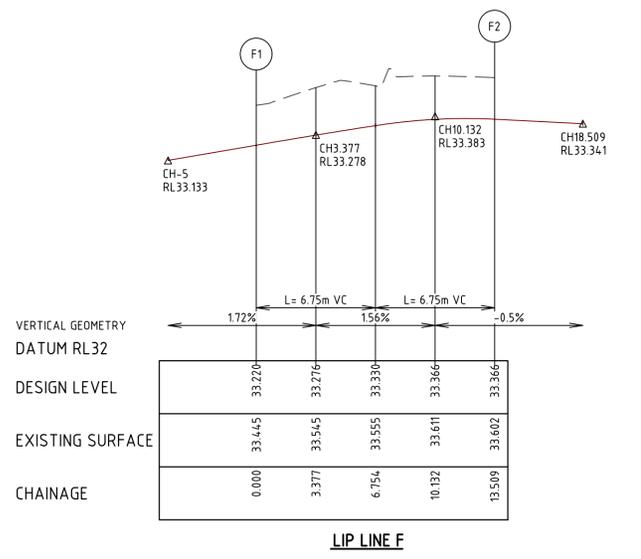
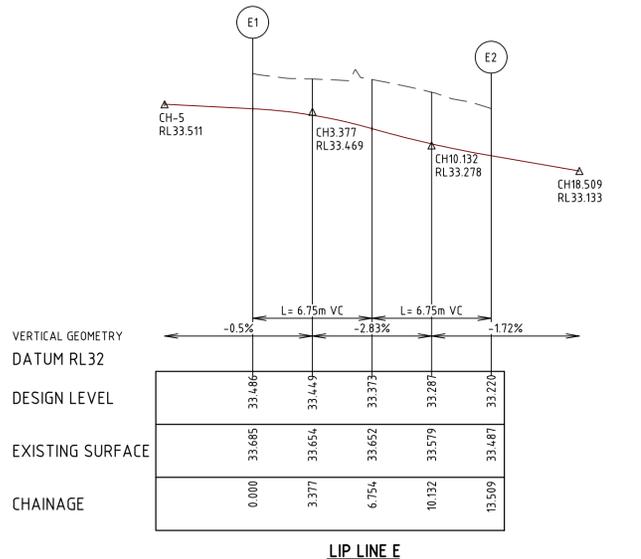
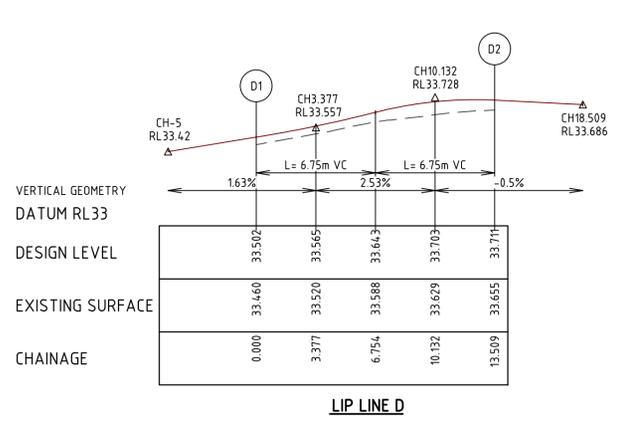
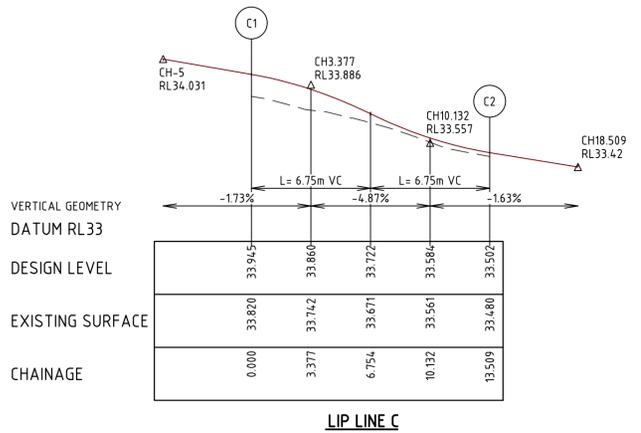
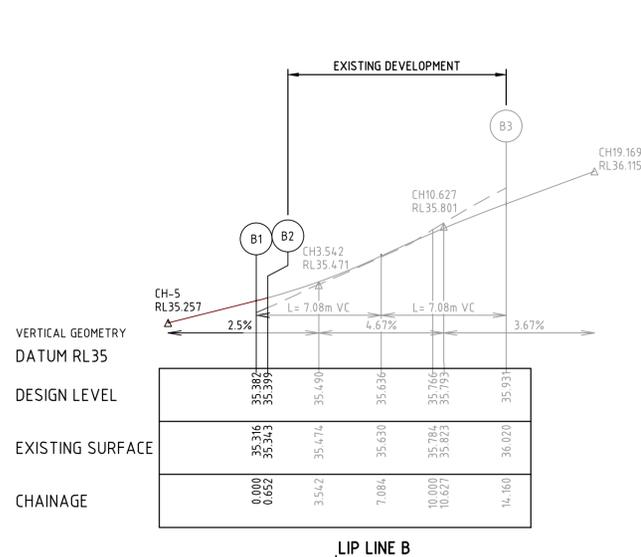
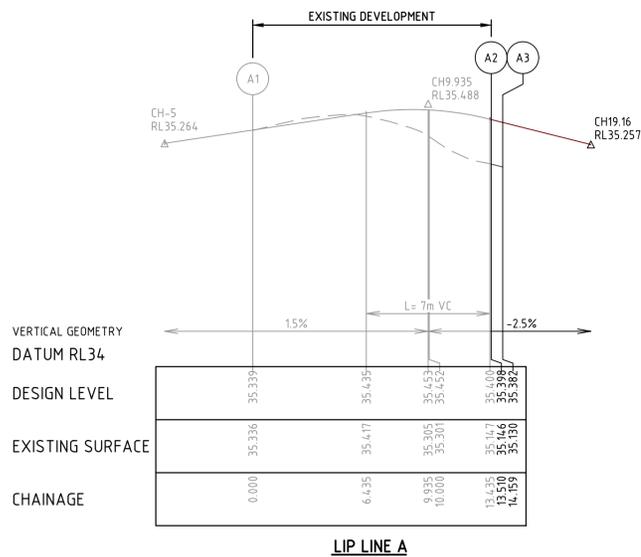
INTERSECTION OF KALAMATA BOULEVARD & MOUNT ARARAT SOUTH ROAD



INTERSECTION OF KALAMATA BOULEVARD & BRANCH ROAD

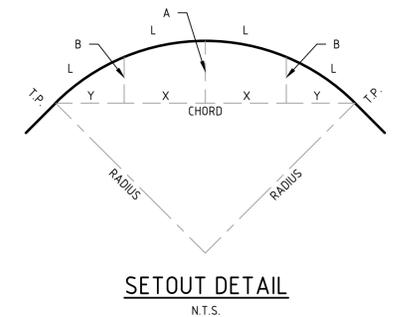


INTERSECTION OF KALAMATA BOULEVARD & OLIVE GROVE



LEGEND		
DESCRIPTION	EXISTING	PROPOSED
STORMWATER DRAIN & PIT	ExD	D
PAVEMENT CONTOUR	-52.00-	52.00

CONSENT FOR CONSTRUCTION
CARDINIA SHIRE COUNCIL
 Ref No.: S24-143, T220227
 Sheet: 23 of 56
 Approved by: Vithu Vijeyakumar
CARDINIA SHIRE COUNCIL
 Date: Tuesday, 19 August 2025



ALIGNMENT A

Point no	Easting	Northing	RL
A1	372398.049	5785137.115	35.339
A2	372390.845	5785146.915	35.398
A3	372390.203	5785147.013	35.382

Curve no	L	Radius	Arc	A	B	X	Y	I	Mid point RL
A1-A2	90.008	8.600	13.510	2.519	1.865	3.291	2.790	3.378	35.440

ALIGNMENT B

Point no	Easting	Northing	RL
B1	372391.168	5785153.340	35.382
B2	372391.813	5785153.241	35.399
B3	372401.612	5785160.445	35.931

Curve no	L	Radius	Arc	A	B	X	Y	I	Mid point RL
B2-B3	89.994	8.600	13.508	2.519	1.864	3.291	2.790	3.377	35.651

ALIGNMENT C

Point no	Easting	Northing	RL
C1	372331.792	5785155.774	33.945
C2	372321.993	5785148.569	33.502

Curve no	L	Radius	Arc	A	B	X	Y	I	Mid point RL
C1 - C2	90.000	8.600	13.509	2.519	1.864	3.291	2.790	3.377	33.722

ALIGNMENT D

Point no	Easting	Northing	RL
D1	372315.370	5785149.580	33.502
D2	372308.165	5785159.379	33.711

Curve no	L	Radius	Arc	A	B	X	Y	I	Mid point RL
D1 - D2	90.000	8.600	13.509	2.519	1.864	3.291	2.790	3.377	33.643

ALIGNMENT E

Point no	Easting	Northing	RL
E1	372263.581	5785166.181	33.486
E2	372253.783	5785158.977	33.220

Curve no	L	Radius	Arc	A	B	X	Y	I	Mid point RL
E1 - E	90.000	8.600	13.509	2.519	1.864	3.291	2.790	3.377	33.373

ALIGNMENT F

Point no	Easting	Northing	RL
F1	372247.159	5785159.988	33.220
F2	372239.955	5785169.786	33.366

Curve no	L	Radius	Arc	A	B	X	Y	I	Mid point RL
F1 - F2	90.000	8.600	13.509	2.519	1.864	3.291	2.790	3.377	33.330

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B	23.01.25	AT			ISSUED FOR COUNCIL SUBMISSION
A	14.11.24	NT	MA	K. LORRIMAR	INITIAL ISSUE
REV	DATE	DRN	CKD	APP	AMENDMENT

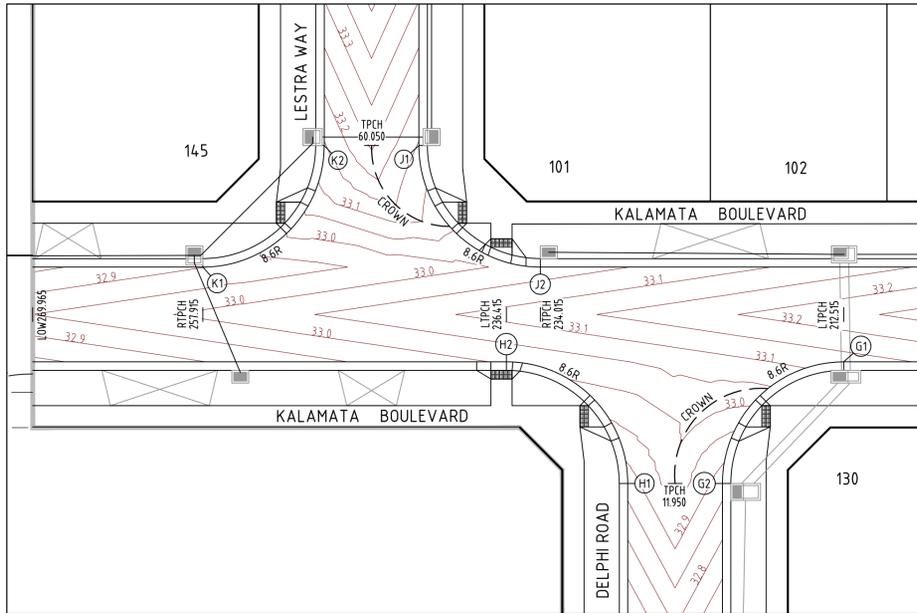
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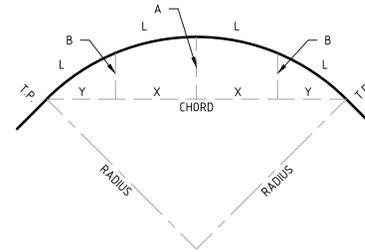
CLIENT
SIG GROUP
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 DESIGNED
W. SANSON
 SCALE
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PROJECT
KALA ESTATE - STAGE 01
 TITLE
INTERSECTION DETAILS
(SHEET 1 OF 4)
 MUNICIPALITY
CARDINIA SHIRE COUNCIL
 PP No. T220227
 DRAWING No. 3086-01-300
 REVISION
 B

ORIGINAL SIZE A1



INTERSECTION OF KALAMATA BOULEVARD & DELPHI ROAD / LESTRA WAY

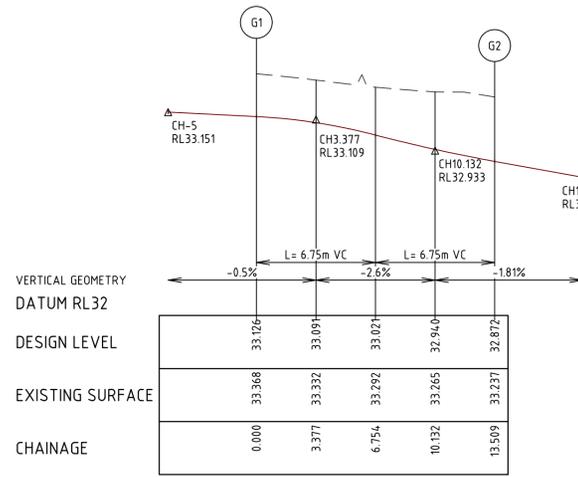


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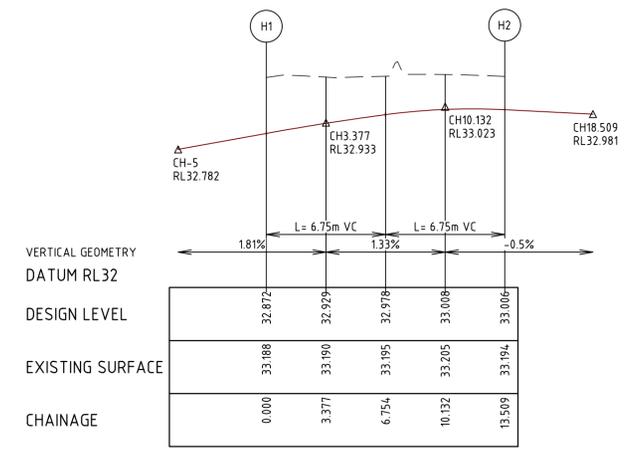
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LEGEND		
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STORMWATER DRAIN & PIT	--- ExD ---	--- D ---
PAVEMENT CONTOUR	--- -52.00 ---	--- 52.00 ---

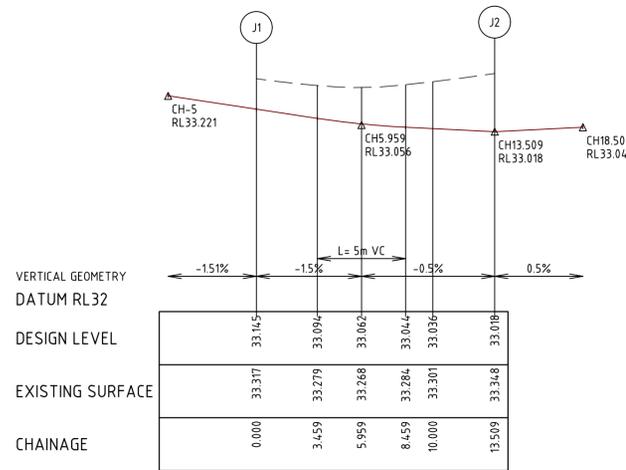
CONSENT FOR CONSTRUCTION
CARDINIA SHIRE COUNCIL
 Ref No.: S24-143_T220227
 Sheet: 24 of 56
 Approved by: Vithu Vijayakumar
 CARDINIA SHIRE COUNCIL
 Date: Tuesday, 19 August 2025



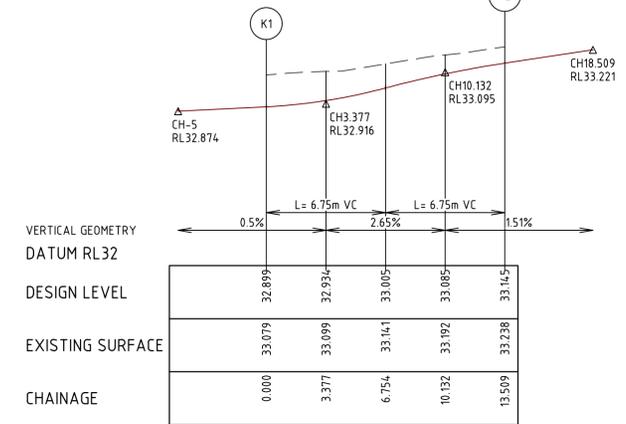
LIP LINE G



LIP LINE H



LIP LINE J



LIP LINE K

ALIGNMENT G

Point no	Easting	Northing	RL
G1	372192.405	5785177.042	33.126
G2	372182.606	5785169.837	32.872

Curve no	L	Radius	Arc	A	B	X	Y	l	Mid point RL
G1 - G2	90.000	8.600	13.509	2.519	1.864	3.291	2.790	3.377	33.021

ALIGNMENT H

Point no	Easting	Northing	RL
H1	372175.983	5785170.848	32.872
H2	372168.779	5785180.647	33.006

Curve no	L	Radius	Arc	A	B	X	Y	l	Mid point RL
H1 - H2	90.000	8.600	13.509	2.519	1.864	3.291	2.790	3.377	32.978

ALIGNMENT J

Point no	Easting	Northing	RL
J1	372164.957	5785196.707	33.145
J2	372172.162	5785186.908	33.018

Curve no	L	Radius	Arc	A	B	X	Y	l	Mid point RL
J1 - J2	90.000	8.600	13.509	2.519	1.864	3.291	2.790	3.377	33.055

ALIGNMENT K

Point no	Easting	Northing	RL
K1	372148.535	5785190.513	32.899
K2	372158.334	5785197.717	33.145

Curve no	L	Radius	Arc	A	B	X	Y	l	Mid point RL
K1 - K2	90.000	8.600	13.509	2.519	1.864	3.291	2.790	3.377	33.005



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C	09.05.25	MA			LIP LINE "J" LONG SECTION AMENDED
B	20.01.25	AT	MA	K. LORRIMAR	ISSUED FOR COUNCIL SUBMISSION
A	14.11.24	NT	MA	K. LORRIMAR	INITIAL ISSUE
REV	DATE	DRN	CKD	APP	AMENDMENT

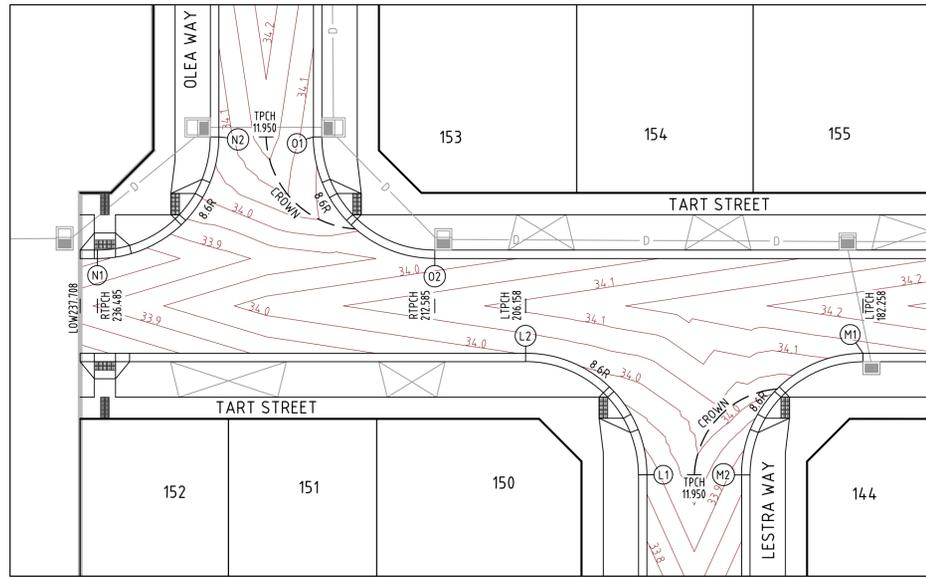
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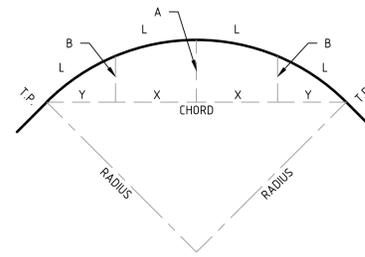
PROJECT
KALA ESTATE - STAGE 01
 TITLE
INTERSECTION DETAILS (SHEET 2 OF 4)
 MUNICIPALITY
CARDINIA SHIRE COUNCIL
 PP No. T220227
 DRAWING No. 3086-01-301
 REVISION
 C

ORIGINAL SIZE A1



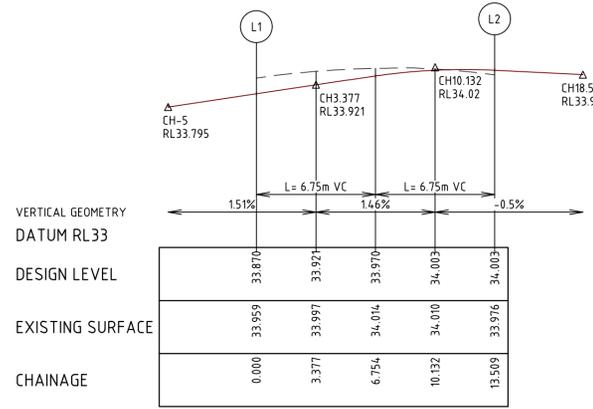
INTERSECTION OF TART STREET & LESTRA WAY / OLEA WAY

H 1:250
SCALE @ A1

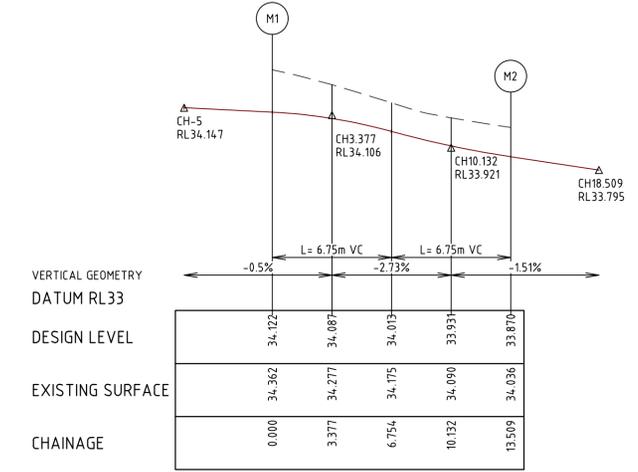


LEGEND		
DESCRIPTION	EXISTING	PROPOSED
STORMWATER DRAIN & PIT	— ExD —	— D —
PAVEMENT CONTOUR	— 52.00 —	— 52.00 —

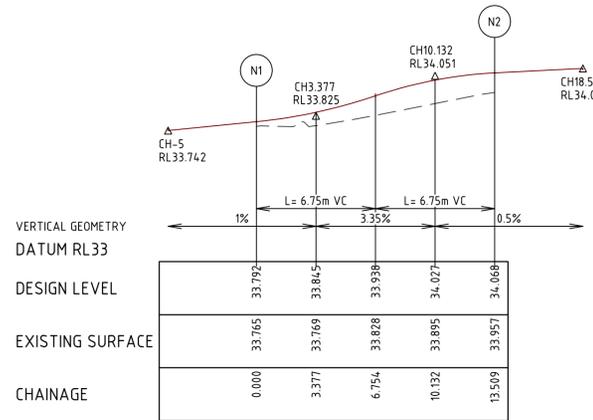
CONSENT FOR CONSTRUCTION
CARDINIA SHIRE COUNCIL
 Ref No.: S24-143, T220227
 Sheet: 25 of 56
 Approved by: Vithu Vijayakumar
 CARDINIA SHIRE COUNCIL
 Date: Tuesday, 19 August 2025



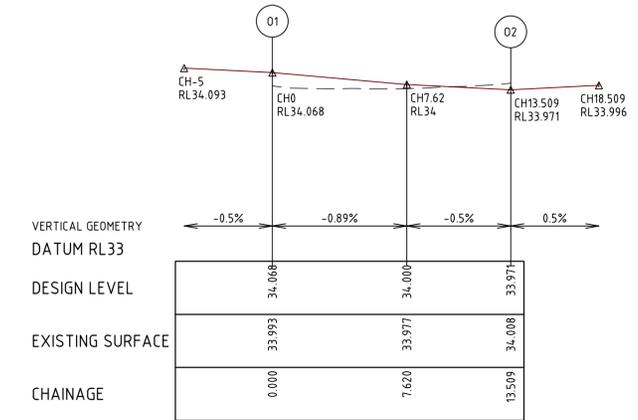
LIP LINE L



LIP LINE M



LIP LINE N



LIP LINE O

ALIGNMENT L

Point no	Easting	Northing	RL
L1	372165.589	5785245.267	33.870
L2	372158.385	5785255.066	34.003

Curve no	L	Radius	Arc	A	B	X	Y	L	Mid point RL
L1 - L2	90.000	8.600	13.509	2.519	1.864	3.291	2.790	3.377	33.970

ALIGNMENT M

Point no	Easting	Northing	RL
M1	372182.011	5785251.461	34.122
M2	372172.213	5785244.256	33.870

Curve no	L	Radius	Arc	A	B	X	Y	L	Mid point RL
M1 - M2	90.000	8.600	13.509	2.519	1.864	3.291	2.790	3.377	34.013

ALIGNMENT N

Point no	Easting	Northing	RL
N1	372129.416	5785266.264	33.792
N2	372139.214	5785273.468	34.068

Curve no	L	Radius	Arc	A	B	X	Y	L	Mid point RL
N1 - N2	90.000	8.600	13.509	2.519	1.864	3.291	2.790	3.377	33.938

ALIGNMENT O

Point no	Easting	Northing	RL
O1	372145.838	5785272.457	34.068
O2	372153.042	5785262.659	33.971

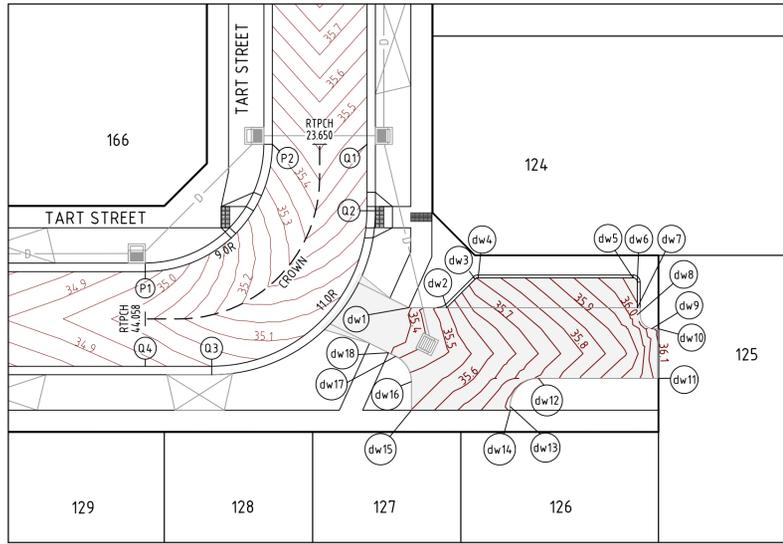
Curve no	L	Radius	Arc	A	B	X	Y	L	Mid point RL
O1 - O2	90.000	8.600	13.509	2.519	1.864	3.291	2.790	3.377	34.008

H 1:200
SCALE @ A1
V 1:20

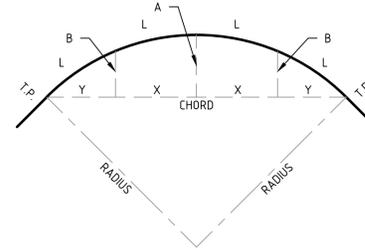
C:\Users\alek\OneDrive\Documents\3086-01-300\DWG\1/20/2025\4.03 PM ALEX.TROBETTA

REV	DATE	DRN	CKD	APP	AMENDMENT
B	23.01.25	AT			ISSUED FOR COUNCIL SUBMISSION
A	14.11.24	NT	MA	K. LORRIMAR	INITIAL ISSUE

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ROAD BEND FOR TART STREET



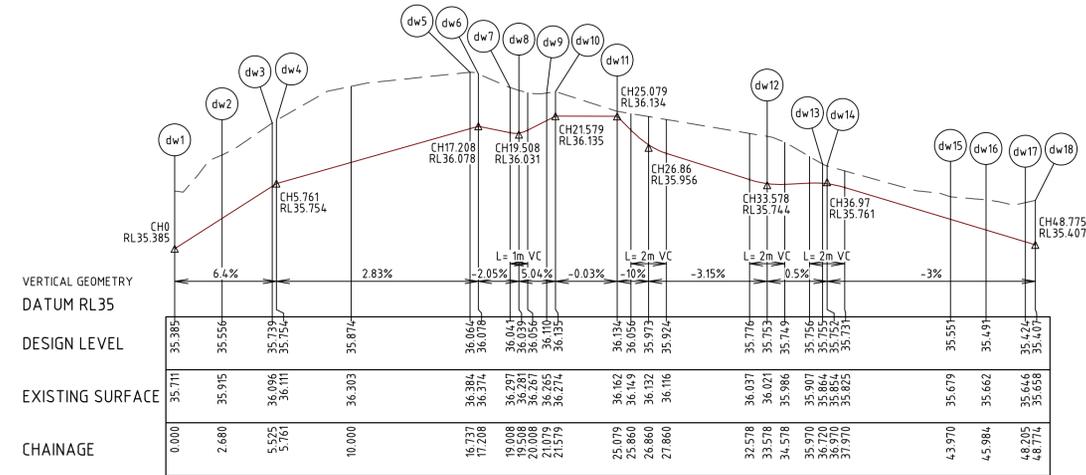
SETOUT DETAIL

N.T.S.

LEGEND		
DESCRIPTION	EXISTING	PROPOSED
STORMWATER DRAIN & PIT	— EXD —	— D —
PAVEMENT CONTOUR	--- 52.00 ---	— 52.00 —

CONSENT FOR CONSTRUCTION

CARDINIA SHIRE COUNCIL
 Ref No.: S24-143, T220227
 Sheet: 26 of 56
 Approved by: Vithu Vijayakumar
 CARDINIA SHIRE COUNCIL
 Date: Tuesday, 19 August 2025



LIP LINE dw

ALIGNMENT P

Point no	Easting	Northing	RL
P1	372319.641	5785237.238	34.925
P2	372329.895	5785244.778	35.399

Curve no	l	Radius	Arc	A	B	X	Y	l	Mid point RL
P1 - P2	90.000	9.000	14.137	2.636	1.951	3.444	2.920	3.534	35.140

ALIGNMENT Q

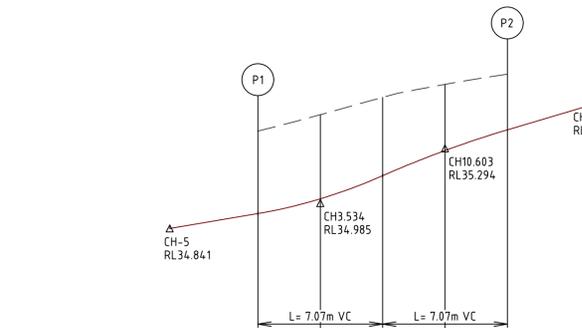
Point no	Easting	Northing	RL
Q1	372336.519	5785243.767	35.399
Q2	372335.810	5785239.121	35.274
Q3	372323.276	5785229.906	35.001
Q4	372318.630	5785230.615	34.925

Curve no	l	Radius	Arc	A	B	X	Y	l	Mid point RL
Q2 - Q3	90.000	11.000	17.279	3.222	2.385	4.210	3.569	4.320	35.120

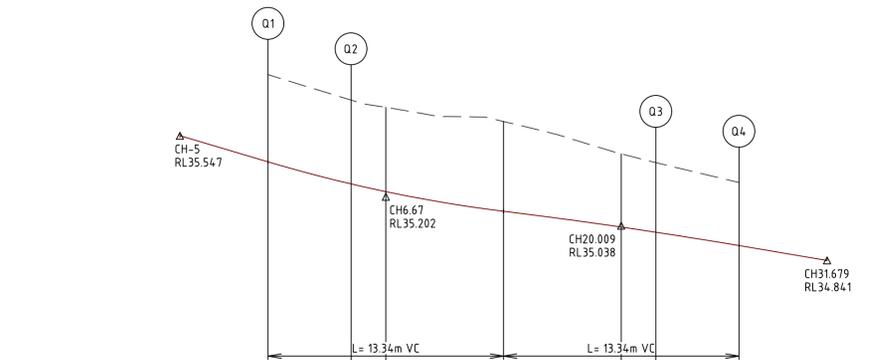
ALIGNMENT dw

Point no	Easting	Northing	RL
dw1	372337.713	5785231.901	35.385
dw2	372340.362	5785231.497	35.556
dw3	372342.655	5785233.183	35.739
dw4	372342.877	5785233.238	35.754
dw5	372353.728	5785231.582	36.064
dw6	372353.979	5785231.240	36.078
dw7	372353.707	5785229.461	36.041
dw8	372353.632	5785228.967	36.039
dw9	372354.470	5785227.827	36.110
dw10	372354.964	5785227.752	36.135
dw11	372354.436	5785224.292	36.134
dw12	372346.033	5785225.574	35.753
dw13	372343.755	5785223.899	35.755
dw14	372343.717	5785223.651	35.752
dw15	372336.797	5785224.707	35.551
dw16	372337.101	5785226.698	35.491
dw17	372336.272	5785228.637	35.424
dw18	372335.806	5785228.964	35.407

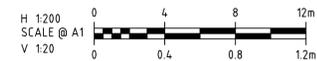
Curve no	l	Radius	Arc	A	B	X	Y	l	Mid point RL
dw3 - dw4	45.000	0.300	0.236	0.023	0.017	0.059	0.056	0.059	35.746
dw5 - dw6	90.000	0.300	0.471	0.088	0.065	0.115	0.097	0.118	36.071
dw8 - dw9	89.998	1.000	1.571	0.293	0.217	0.383	0.324	0.393	36.070
dw12 - dw13	90.001	2.000	3.142	0.586	0.434	0.765	0.649	0.785	35.752
dw16 - dw17	63.628	2.000	2.221	0.300	0.224	0.548	0.506	0.555	35.457



LIP LINE P



LIP LINE Q



C:\3245\4413\5533\3086-01_165\Design\4413-300\DWG\120\2025-08-19_P1_ALEX_TROBETTA

REV	DATE	DRN	CKD	APP	AMENDMENT
B	23.01.25	AT			ISSUED FOR COUNCIL SUBMISSION
A	14.11.24	NT	MA	K. LORRIMAR	INITIAL ISSUE

DATE	DESCRIPTION
23.01.25	ISSUED FOR COUNCIL SUBMISSION
14.11.24	INITIAL ISSUE

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 E Melbourne.Reception@cosweb.com.au

SIG GROUP

APPROVED PE 0005927

DESIGNED
W. SANSON

SCALE
 AS SHOWN

PROJECT
KALA ESTATE - STAGE 01

TITLE
INTERSECTION DETAILS
(SHEET 4 OF 4)

MUNICIPALITY
CARDINIA SHIRE COUNCIL

PP No. T220227

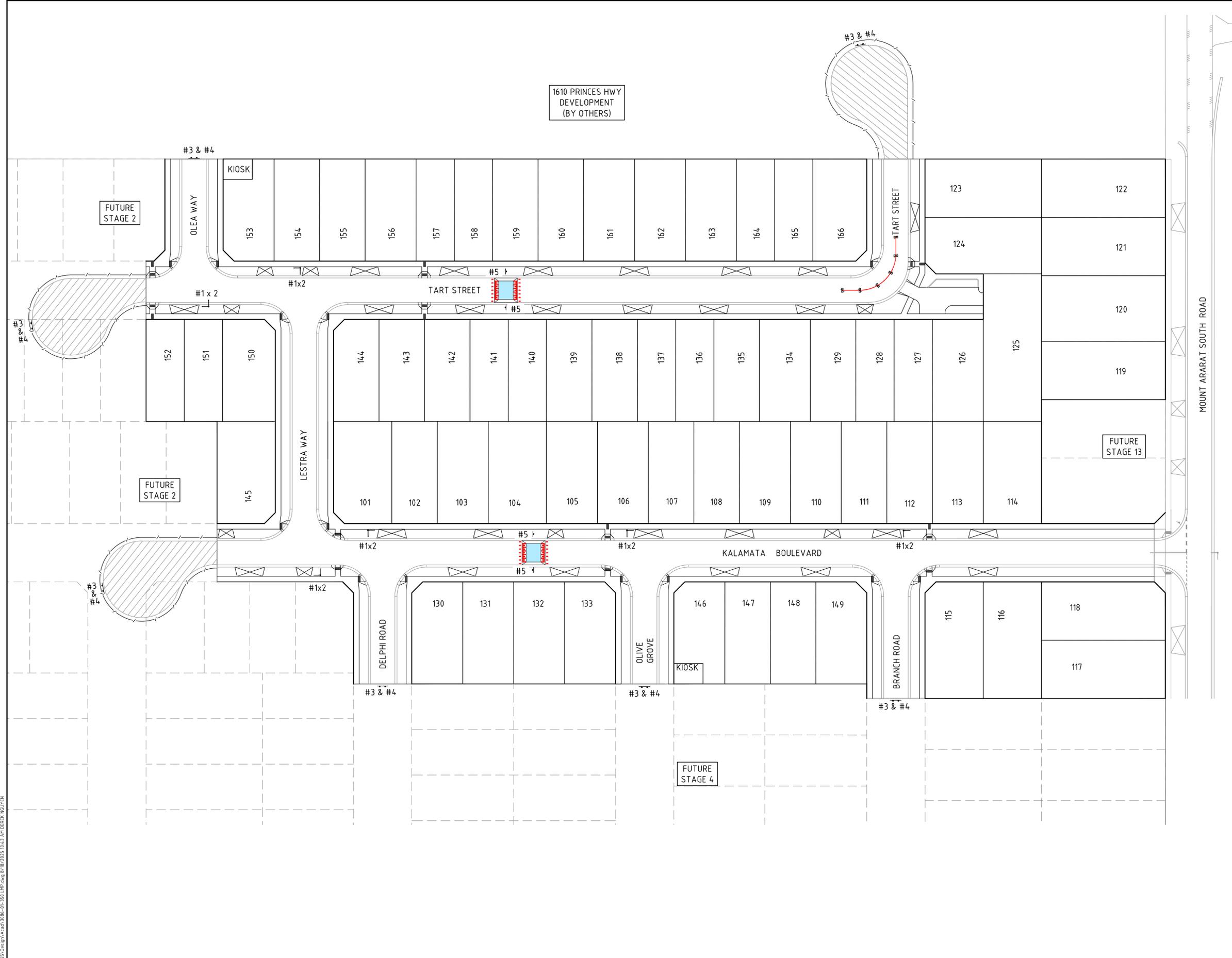
DRAWING No. 3086-01-303

REVISION
 B

ORIGINAL SIZE A1



CONSENT FOR CONSTRUCTION
CARDINIA SHIRE COUNCIL
 Ref No.: S24-143, T220227
 Sheet: 27 of 56
 Approved by: Vithu Vijeyakumar
 CARDINIA SHIRE COUNCIL
 Date: Tuesday, 19 August 2025



SIGNAGE SCHEDULE		
NO.	SIGN CODE	SIGN
#1	STREET NAME	
#2	R1-2	
#3	D4-5	
#4	G9-20	
#5	W5 - 10	
	W8 - 2	

- NOTES**
- RRPM'S IN INSTALLED IN ACCORDANCE WITH AS1742.2 CLAUSE 5.6.
 - LINEMARKING TO BE EXTENDED AT LEAST 6m FROM THE TANGENT POINT
 - LINEMARKING IN ACCORDANCE WITH AS1742.
 - TGSI TO BE INSTALLED IN ACCORDANCE WITH AS1428.4:2002 & MPA STANDARD DWG EDCM 4.03.
 - ALL STREET NAME SIGNS AT INTERSECTIONS TO INCLUDE RELEVANT STREET NUMBERING.
 - ALL LINE MARKING PAINT SHALL BE LONG LIFE TYPE. LATERAL WORKS AND ARROWS BEING COLD APPLIED PLASTIC TROWELLED INTO PLACE (MATERIAL DEGADUR PLASTELINE) AND LONGITUDINAL LINES BEING EXTRUDED THERMOPLASTIC MATERIAL.

REV	DATE	DRN	CKD	APP	AMENDMENT
F	18.08.25	DN			UPDATED SIGNS AND SPEED HUMP LOCATION
E	17.07.25	DN	MA	K. LORRIMAR	UPDATED RPM
D	30.05.25	EK	MA	K. LORRIMAR	GIVE-WAY SIGNS AT T INTERACTIONS REMOVED
C	20.04.25	MA	MA	K. LORRIMAR	NOTE 4 AMENDED AS PER COUNCIL COMMENTS
B	20.01.25	AT	MA	K. LORRIMAR	ISSUED FOR COUNCIL SUBMISSION

A 23.06.25 **SK MA K. LORRIMAR** **ISSUED FOR CONSTRUCTION**
 H 1:500
 SCALE @ A1

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 E Melbourne.Reception@cosweb.com.au

CLIENT
SIG GROUP
 APPROVED PE 0005927
 DESIGNED
W. SANSON
 SCALE
 1:500

PROJECT
 KALA ESTATE - STAGE 01
TITLE
 SIGNAGE AND LINEMARKING PLAN
MUNICIPALITY
 CARDINIA SHIRE COUNCIL
PP No.
 T220227
DRAWING No.
 3086-01-350
REVISION
 F

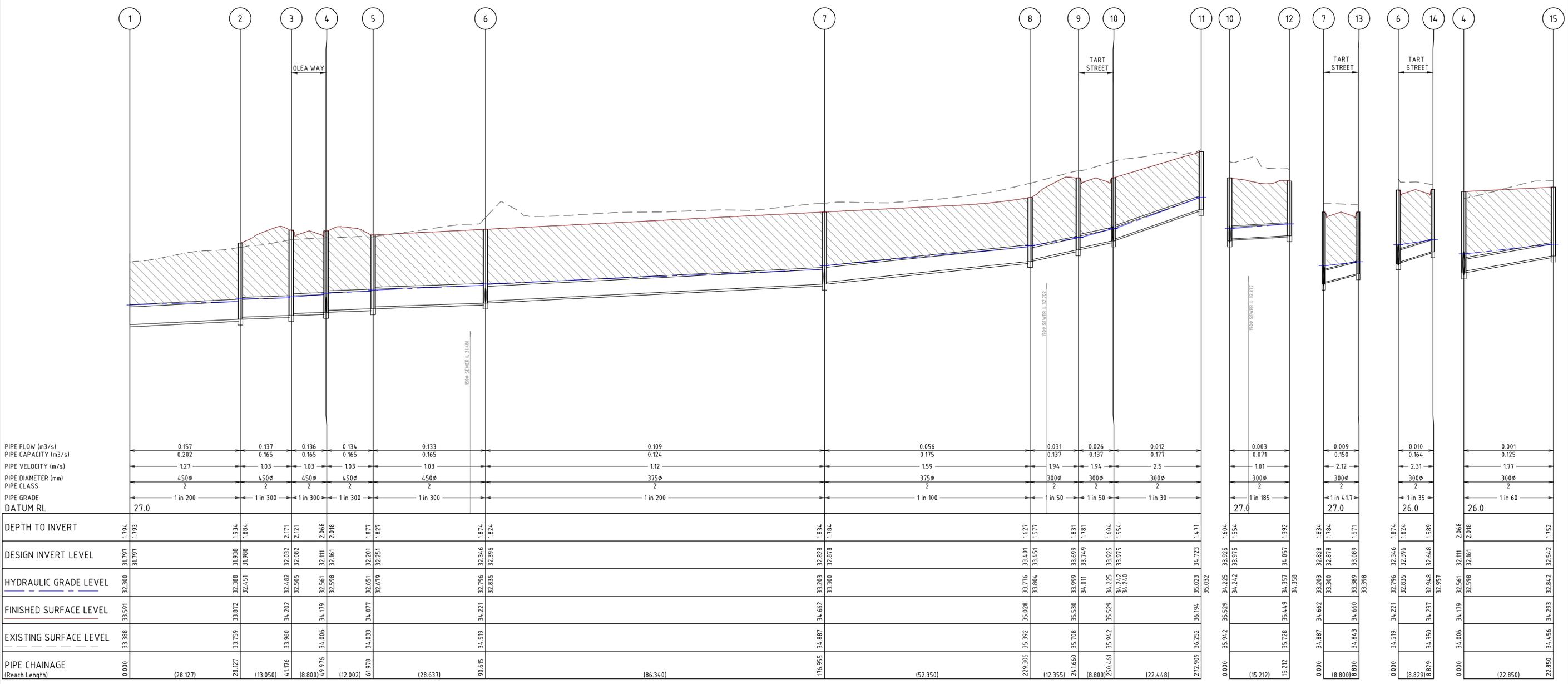
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ORIGINAL SIZE A1

DENOTES 20mm CLASS 3 FCR BACKFILL.

NOTES:
ALL STORMWATER DRAINS UP TO AND INCLUDING 750mm DIA. ARE TO BE CLASS 2 R.R.J. PIPES UNLESS NOTED OTHERWISE.

CONSENT FOR CONSTRUCTION
CARDINIA SHIRE COUNCIL
Ref No.: S24-143, T220227
Sheet: 28 of 56
Approved by: Vithu Vijayakumar
CARDINIA SHIRE COUNCIL
Date: Tuesday, 19 August 2025



PIPE FLOW (m ³ /s)	0.157	0.137	0.136	0.134	0.133	0.109	0.056	0.031	0.026	0.012	0.003	0.009	0.010	0.001
PIPE CAPACITY (m ³ /s)	0.202	0.165	0.165	0.165	0.165	0.124	0.175	0.137	0.137	0.177	0.071	0.150	0.164	0.125
PIPE VELOCITY (m/s)	1.27	1.03	1.03	1.03	1.03	1.12	1.59	1.94	1.94	2.5	1.01	2.12	2.31	1.77
PIPE DIAMETER (mm)	450φ	450φ	450φ	450φ	450φ	375φ	375φ	300φ	300φ	300φ	300φ	300φ	300φ	300φ
PIPE CLASS	2	2	2	2	2	2	2	2	2	2	2	2	2	2
PIPE GRADE	1 in 200	1 in 300	1 in 300	1 in 300	1 in 300	1 in 200	1 in 100	1 in 50	1 in 50	1 in 30	1 in 185	1 in 4.17	1 in 35	1 in 60
DATUM RL	27.0										27.0	27.0	26.0	26.0
DEPTH TO INVERT	1.794	1.793												
DESIGN INVERT LEVEL	31.797	31.797												
HYDRAULIC GRADE LEVEL	32.300	32.388	32.451	32.482	32.505	32.582	32.582	32.604	32.604	32.604	32.604	32.604	32.604	32.604
FINISHED SURFACE LEVEL	33.591	33.872	34.202	34.202	34.202	34.202	34.202	34.202	34.202	34.202	34.202	34.202	34.202	34.202
EXISTING SURFACE LEVEL	33.388	33.759	34.006	34.006	34.006	34.006	34.006	34.006	34.006	34.006	34.006	34.006	34.006	34.006
PIPE CHAINAGE (Reach Length)	0.000	(28.127)	(13.050)	(8.800)	(12.002)	(28.637)	(86.340)	(22.355)	(12.355)	(22.448)	(15.212)	(8.800)	(8.800)	(22.850)

C	09.05.25	MA			RE-ISSUED FOR COUNCIL APPROVAL
B	20.01.25	AT	MA	K. LORRIMAR	ISSUED FOR COUNCIL SUBMISSION
A	13.11.24	NT	MA	K. LORRIMAR	INITIAL ISSUE
REV	DATE	DRN	CKD	APP	AMENDMENT



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SIG GROUP
APPROVED PE 0005927
DESIGNED
W. SANSON
SCALE
H 1:500 V 1:50

PROJECT
KALA ESTATE - STAGE 01
TITLE
DRAINAGE LONGITUDINAL SECTIONS
(SHEET 1 OF 4)
MUNICIPALITY
CARDINIA SHIRE COUNCIL
PP No.
T220227
DRAWING No.
3086-01-400
REVISION
C
ORIGINAL SIZE
A1

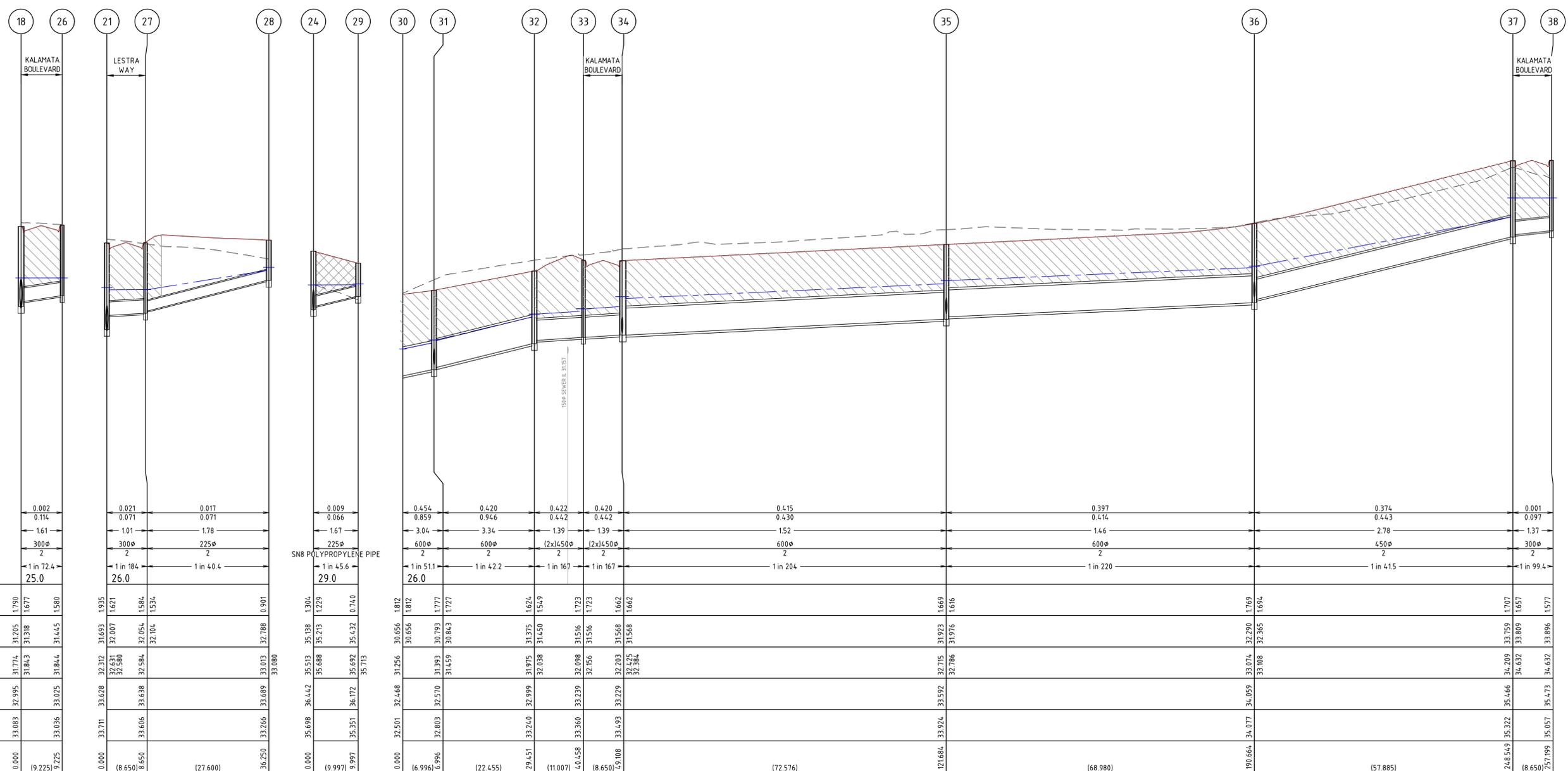
C:\Users\klorri\OneDrive\Documents\3086-01-400.DWG 5/19/2025 3:58 PM WVEA TABURENA

DENOTES 20mm CLASS 3 FCR BACKFILL.

NOTES:
ALL STORMWATER DRAINS UP TO AND INCLUDING 750mm DIA. ARE TO BE CLASS 2 R.R.J. PIPES UNLESS NOTED OTHERWISE.

TRAFFICABLE TYPE 'R' OR 'F' CONTROLLED COMPACTED FILL INSTALLED TO MRWA SPECIFICATION, ADJACENT TO RETAINING WALL.

CONSENT FOR CONSTRUCTION
CARDINIA SHIRE COUNCIL
Ref No.: S24-143, T220227
Sheet: 30 of 56
Approved by: Vithu Vijeyakumar
CARDINIA SHIRE COUNCIL
Date: Tuesday, 19 August 2025

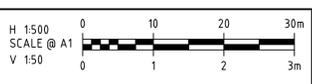


PIPE FLOW (m3/s)	0.002	0.021	0.017	0.009	0.454	0.420	0.422	0.420	0.415	0.397	0.374	0.001
PIPE CAPACITY (m3/s)	0.114	0.071	0.071	0.066	0.859	0.946	0.442	0.442	0.430	0.414	0.443	0.097
PIPE VELOCITY (m/s)	1.61	1.01	1.78	1.67	3.04	3.34	1.39	1.39	1.52	1.46	2.78	1.37
PIPE DIAMETER (mm)	300φ	300φ	225φ	225φ	600φ	600φ	(2x)450φ	(2x)450φ	600φ	600φ	450φ	300φ
PIPE CLASS	2	2	2	2	2	2	2	2	2	2	2	2
PIPE GRADE	1 in 72.4	1 in 184	1 in 40.4	1 in 45.6	1 in 51.1	1 in 42.2	1 in 167	1 in 167	1 in 204	1 in 220	1 in 41.5	1 in 99.4
DATUM RL	25.0	26.0		29.0	26.0							

DEPTH TO INVERT	1.780	1.677	1.935	1.621	1.904	1.229	1.304	1.229	1.812	1.812	1.777	1.777	1.624	1.549	1.723	1.723	1.662	1.662	1.662	1.616	1.616	1.769	1.769	1.657	1.577	
DESIGN INVERT LEVEL	31.205	31.308	31.774	31.843	31.844	31.844	31.844	31.844	31.844	31.844	31.844	31.844	31.844	31.844	31.844	31.844	31.844	31.844	31.844	31.844	31.844	31.844	31.844	31.844	31.844	31.844
HYDRAULIC GRADE LEVEL	31.774	31.843	31.844	31.844	31.844	31.844	31.844	31.844	31.844	31.844	31.844	31.844	31.844	31.844	31.844	31.844	31.844	31.844	31.844	31.844	31.844	31.844	31.844	31.844	31.844	31.844
FINISHED SURFACE LEVEL	32.995	32.995	32.995	32.995	32.995	32.995	32.995	32.995	32.995	32.995	32.995	32.995	32.995	32.995	32.995	32.995	32.995	32.995	32.995	32.995	32.995	32.995	32.995	32.995	32.995	32.995
EXISTING SURFACE LEVEL	33.083	33.083	33.083	33.083	33.083	33.083	33.083	33.083	33.083	33.083	33.083	33.083	33.083	33.083	33.083	33.083	33.083	33.083	33.083	33.083	33.083	33.083	33.083	33.083	33.083	33.083
PIPE CHAINAGE (Reach Length)	0.000	(9.225)																								

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REV	DATE	DRN	CKD	APP	AMENDMENT
D	18.08.25	DN			RE-ISSUED FOR COUNCIL APPROVAL
C	15.08.25	MA	MA	K. LORRIMAR	RE-ISSUED FOR COUNCIL APPROVAL
B	20.01.25	AT	MA	K. LORRIMAR	ISSUED FOR COUNCIL SUBMISSION
A	13.11.24	NT	MA	K. LORRIMAR	INITIAL ISSUE



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SIG GROUP
APPROVED PE 0005927
DESIGNED
W. SANSON
SCALE
H 1:500 V 1:50

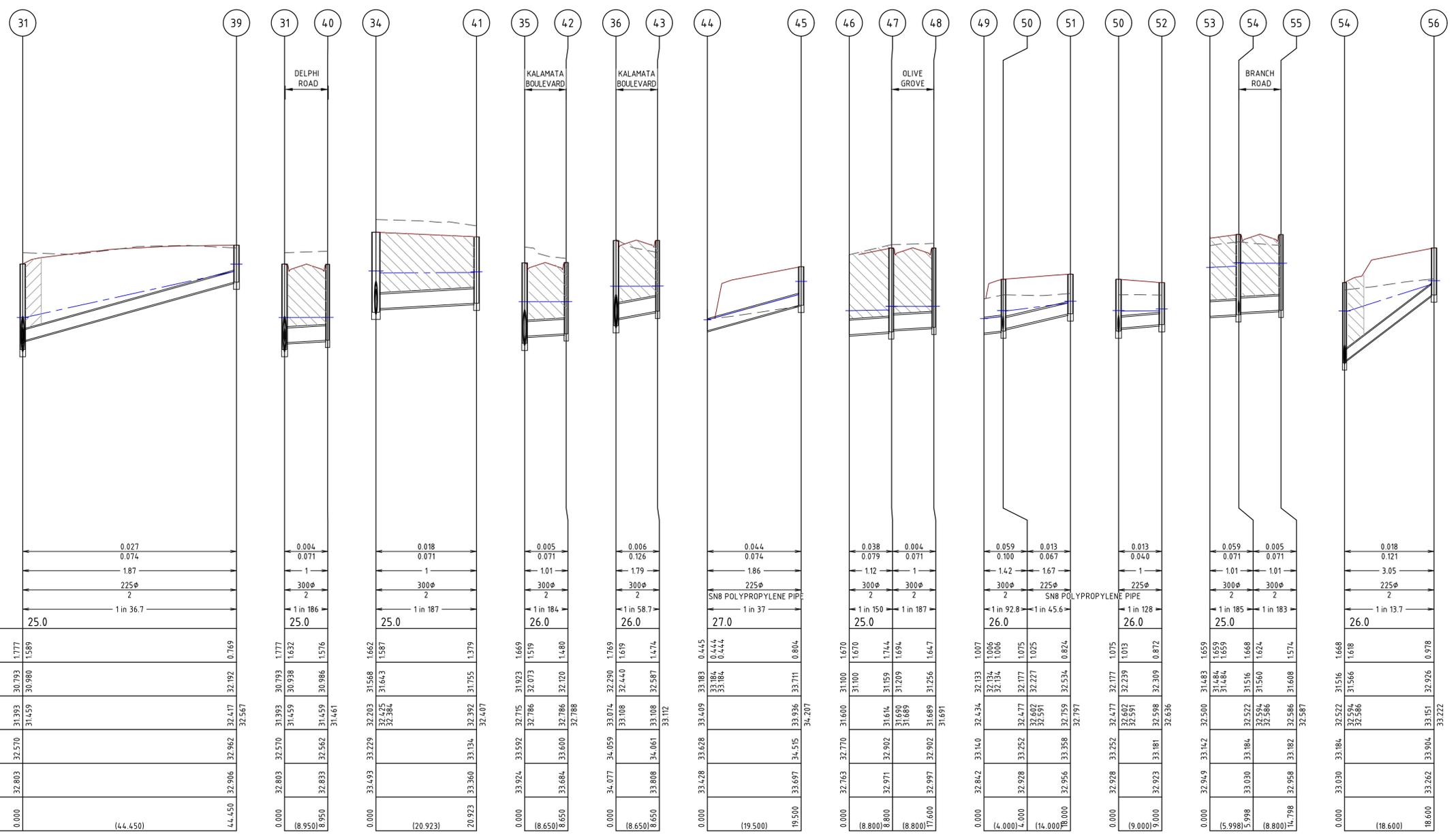
PROJECT
KALA ESTATE - STAGE 01
TITLE
DRAINAGE LONGITUDINAL SECTIONS (SHEET 3 OF 4)
MUNICIPALITY
CARDINIA SHIRE COUNCIL
PP No. **T220227**
DRAWING No. **3086-01-402**
REVISION
D

ORIGINAL SIZE A1

DENOTES 20mm CLASS 3 FCR BACKFILL.

NOTES:
ALL STORMWATER DRAINS UP TO AND INCLUDING 750mm DIA. ARE TO BE CLASS 2 R.R.J. PIPES UNLESS NOTED OTHERWISE.

CONSENT FOR CONSTRUCTION
CARDINIA SHIRE COUNCIL
Ref No.: S24-143, T220227
Sheet: 31 of 56
Approved by: Vithu Vijeyakumar
CARDINIA SHIRE COUNCIL
Date: Tuesday, 19 August 2025

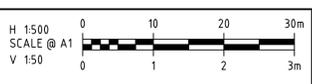


PIPE FLOW (m3/s) 0.027
PIPE CAPACITY (m3/s) 0.074
PIPE VELOCITY (m/s) 1.87
PIPE DIAMETER (mm) 225φ
PIPE CLASS 2
PIPE GRADE 1 in 36.7
DATUM RL 25.0

DEPTH TO INVERT	DESIGN INVERT LEVEL	HYDRAULIC GRADE LEVEL	FINISHED SURFACE LEVEL	EXISTING SURFACE LEVEL	PIPE CHAINAGE (Reach Length)
1.777	31.393	31.459	32.570	32.803	0.000
1.589	30.980	31.459	32.570	32.803	44.450
1.777	31.353	31.459	32.570	32.803	44.450
1.632	30.938	31.459	32.570	32.803	8.950
1.576	30.986	31.459	32.570	32.803	8.950
1.777	31.353	31.459	32.570	32.803	20.923
1.587	31.643	31.459	32.570	32.803	20.923
1.669	31.923	31.459	32.570	32.803	32.447
1.519	32.073	31.459	32.570	32.803	8.650
1.480	32.120	31.459	32.570	32.803	8.650
1.769	32.290	31.459	32.570	32.803	19.500
1.619	32.440	31.459	32.570	32.803	19.500
1.474	32.587	31.459	32.570	32.803	34.207
0.445	33.183	31.459	32.570	32.803	19.500
0.444	33.184	31.459	32.570	32.803	19.500
1.670	31.100	31.459	32.570	32.803	8.800
1.744	31.159	31.459	32.570	32.803	8.800
1.694	31.209	31.459	32.570	32.803	8.800
1.647	31.256	31.459	32.570	32.803	11.600
1.007	32.133	31.459	32.570	32.803	4.000
1.006	32.134	31.459	32.570	32.803	4.000
1.075	32.177	31.459	32.570	32.803	14.000
1.025	32.227	31.459	32.570	32.803	14.000
0.824	32.534	31.459	32.570	32.803	18.000
1.075	32.477	31.459	32.570	32.803	9.000
1.013	32.239	31.459	32.570	32.803	9.000
0.872	32.309	31.459	32.570	32.803	9.000
1.659	31.483	31.459	32.570	32.803	5.998
1.668	31.516	31.459	32.570	32.803	5.998
1.624	31.560	31.459	32.570	32.803	8.800
1.574	31.608	31.459	32.570	32.803	8.800
1.668	31.516	31.459	32.570	32.803	18.600
1.618	31.566	31.459	32.570	32.803	18.600
0.978	32.926	31.459	32.570	32.803	18.600
0.121	32.926	31.459	32.570	32.803	33.222

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C	09.05.25	MA			RE-ISSUED FOR COUNCIL APPROVAL
B	20.01.25	AT	MA	K. LORRIMAR	ISSUED FOR COUNCIL SUBMISSION
A	21.11.24	NT	MA	K. LORRIMAR	INITIAL ISSUE
REV	DATE	DRN	CKD	APP	AMENDMENT



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CLIENT
SIG GROUP

APPROVED PE 0005927
KLOR

DESIGNED
W. SANSON

SCALE
H 1:500 V 1:50

PROJECT
KALA ESTATE - STAGE 01

TITLE
DRAINAGE LONGITUDINAL SECTIONS
(SHEET 4 OF 4)

MUNICIPALITY
CARDINIA SHIRE COUNCIL

PP No. T220227

DRAWING No. 3086-01-403

REVISION
C

ORIGINAL SIZE
A1

PIT SCHEDULE

PIT NAME	TYPE	EASTING	NORTHING	INTERNAL WIDTH	INTERNAL LENGTH	INLET DIA	INLET IL	OUTLET DIA	OUTLET IL	PIT SETOUT RL	PIT DEPTH	REMARKS
1	ENDWALL	372099.450	5785271.746			450	31.797			33.591	1.793	
2	SIDE ENTRY PIT GRATED	372127.255	5785267.504	900	900	450	31.988	450	31.938	33.872	1.934	HAUNCHED PIT (HAUNCHED TOWARDS ROAD)
3	SIDE ENTRY PIT GRATED	372138.415	5785274.197	900	900	450	32.082	450	32.032	34.202	2.171	HAUNCHED PIT (HAUNCHED TOWARDS ROAD)
4	SIDE ENTRY PIT GRATED	372146.818	5785272.915	900	900	450	32.161	450	32.111	34.179	2.068	HAUNCHED PIT (HAUNCHED TOWARDS ROAD)
						300	32.161					
5	SIDE ENTRY PIT GRATED	372153.771	5785263.458	900	900	450	32.251	450	32.201	34.077	1.877	HAUNCHED PIT (HAUNCHED TOWARDS ROAD)
6	SIDE ENTRY PIT GRATED	372182.080	5785259.138	900	900	375	32.396	450	32.346	34.221	1.874	HAUNCHED PIT (HAUNCHED TOWARDS ROAD)
						300	32.396					
7	SIDE ENTRY PIT GRATED	372267.455	5785246.263	600	900	375	32.878	375	32.828	34.662	1.834	
						300	32.878					
8	SIDE ENTRY PIT GRATED	372319.206	5785238.367	600	900	300	33.451	375	33.401	35.028	1.627	
9	SIDE ENTRY PIT GRATED	372328.948	5785245.529	600	900	300	33.749	300	33.699	35.53	1.831	
10	SIDE ENTRY PIT GRATED	372337.648	5785244.202	600	900	300	33.975	300	33.925	35.529	1.604	
						300	33.975					
11	JUNCTION PIT	372341.033	5785266.394	600	900			300	34.723	36.194	1.471	CONSTRUCT V NOTCH ON NORTH WALL
12	GRATED PIT	372338.609	5785229.135	600	900			300	34.057	35.449	1.392	CONSTRUCT GRATED PIT BIKE SAFE, HEAVY DUTY & V-SHAPED GRATE.
13	SIDE ENTRY PIT GRATED	372266.123	5785237.565	600	900			300	33.089	34.660	1.571	
14	SIDE ENTRY PIT GRATED	372182.446	5785250.332	600	900			300	32.648	34.237	1.589	
15	JUNCTION PIT	372150.413	5785295.480	600	900			300	32.542	34.293	1.752	CONSTRUCT V NOTCH ON NORTH WALL
16	ENDWALL	372103.646	5785198.273			600	30.968			32.775	1.807	
17	SIDE ENTRY PIT GRATED	372117.262	5785196.043	900	900	525	31.064	600	31.014	32.834	1.821	HAUNCHED PIT (HAUNCHED TOWARDS ROAD)
18	SIDE ENTRY PIT GRATED	372148.066	5785191.419	1050	900	525	31.255	525	31.205	32.995	1.790	HAUNCHED PIT (HAUNCHED TOWARDS ROAD)
						300	31.318					
19	SIDE ENTRY PIT GRATED	372157.609	5785198.435	1050	900	525	31.360	525	31.310	33.254	1.944	HAUNCHED PIT (HAUNCHED TOWARDS ROAD)
20	SIDE ENTRY PIT GRATED	372165.938	5785197.164	900	900	450	31.448	525	31.398	33.259	1.861	HAUNCHED PIT (HAUNCHED TOWARDS ROAD)
21	SIDE ENTRY PIT GRATED	372169.626	5785221.334	900	900	450	31.743	450	31.693	33.628	1.935	HAUNCHED PIT (HAUNCHED TOWARDS ROAD)
						300	32.007					
22	JUNCTION PIT	372256.866	5785208.023	600	900	450	32.772	450	32.722	34.477	1.755	
23	JUNCTION PIT	372303.822	5785200.858	600	900	375	33.188	450	33.138	34.715	1.578	
24	JUNCTION PIT	372366.591	5785191.277	600	900	375	35.188	375	35.138	36.442	1.304	
						225	35.213					
25	JUNCTION PIT	372374.741	5785244.662	600	900	300	36.556	375	36.506	38.373	1.868	
25A	END PIPE	372377.758	5785264.426					300	37.000	37.926	0.926	BLOCK END OF PIPE WITH MARINE GRADE PLYWOOD FOR FUTURE EXTENTION
26	SIDE ENTRY PIT GRATED	372149.987	5785182.456	600	900			300	31.445	33.025	1.580	
27	SIDE ENTRY PIT GRATED	372161.074	5785222.639	600	900	225	32.104	300	32.054	33.638	1.584	
28	JUNCTION PIT	372133.790	5785226.802	600	900			225	32.788	33.689	0.901	
29	JUNCTION PIT	372365.087	5785181.394	600	900			225	35.432	36.172	0.740	
30	ENDWALL	372179.261	5785139.954			600	30.656			32.468	1.812	

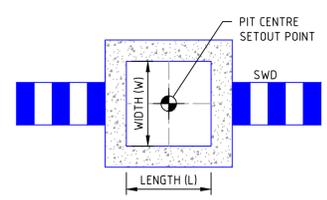
PIT SCHEDULE

PIT NAME	TYPE	EASTING	NORTHING	INTERNAL WIDTH	INTERNAL LENGTH	INLET DIA	INLET IL	OUTLET DIA	OUTLET IL	PIT SETOUT RL	PIT DEPTH	REMARKS
31	SIDE ENTRY PIT GRATED	372180.316	5785146.870	900	900	600	30.843	600	30.793	32.570	1.777	HAUNCHED PIT
						225	30.980					
						300	30.938					
32	JUNCTION PIT	372184.146	5785168.995	1800	900	(2x)450	31.450	600	31.375	32.999	1.624	HAUNCHED PIT
33	SIDE ENTRY PIT GRATED	372192.395	5785175.982	600	1800	(2x)450	31.516	(2x)450	31.516	33.239	1.723	HAUNCHED PIT
34	SIDE ENTRY PIT GRATED	372193.575	5785184.551	900	1500	600	31.568	(2x)450	31.568	33.229	1.662	HAUNCHED PIT
						300	31.643					
35	SIDE ENTRY PIT GRATED	372265.321	5785173.604	900	900	600	31.976	600	31.923	33.592	1.669	HAUNCHED PIT (HAUNCHED TOWARDS ROAD)
						300	32.073					
36	SIDE ENTRY PIT GRATED	372333.512	5785163.199	900	900	450	32.365	600	32.290	34.059	1.769	HAUNCHED PIT (HAUNCHED TOWARDS ROAD)
						300	32.440					
37	SIDE ENTRY PIT GRATED	372390.734	5785154.468	900	900	300	33.809	450	33.759	35.466	1.707	HAUNCHED PIT (HAUNCHED TOWARDS ROAD)
38	SIDE ENTRY PIT GRATED	372389.429	5785145.917	600	900			300	33.896	35.473	1.577	
39	JUNCTION PIT	372224.257	5785140.165	600	900			225	32.192	32.962	0.769	
40	SIDE ENTRY PIT GRATED	372171.468	5785148.220	600	900			300	30.986	32.562	1.576	
41	SIDE ENTRY PIT GRATED	372172.915	5785187.854	600	900			300	31.755	33.134	1.379	
42	SIDE ENTRY PIT GRATED	372264.016	5785165.053	600	900			300	32.120	33.600	1.480	
43	SIDE ENTRY PIT GRATED	372332.227	5785154.645	600	900			300	32.587	34.061	1.474	
44	ENDWALL	372354.227	5785110.218			225	33.184			33.628	0.444	
45	JUNCTION PIT	372357.169	5785129.495	600	900			225	33.711	34.515	0.804	
46	ENDWALL	372250.288	5785129.112			300	31.100			32.770	1.670	
47	SIDE ENTRY PIT GRATED	372251.615	5785137.812	600	900	300	31.209	300	31.159	32.902	1.744	
48	SIDE ENTRY PIT GRATED	372242.916	5785139.139	600	900			300	31.256	32.902	1.647	
49	ENDWALL	372278.025	5785127.915			300	32.134			33.140	1.006	
50	JUNCTION PIT	372278.628	5785131.869	600	900	225	32.227	300	32.177	33.252	1.075	
						225	32.239					
51	JUNCTION PIT	372292.468	5785129.757	600	900			225	32.534	33.358	0.824	
52	JUNCTION PIT	372269.731	5785133.227	600	900			225	32.309	33.181	0.872	
53	ENDWALL	372318.046	5785115.741			300	31.484			33.142	1.659	
54	SIDE ENTRY PIT GRATED	372318.951	5785121.670	600	900	300	31.560	300	31.516	33.184	1.668	
						225	31.566					
55	SIDE ENTRY PIT GRATED	372310.252	5785122.998	600	900			300	31.608	33.182	1.574	

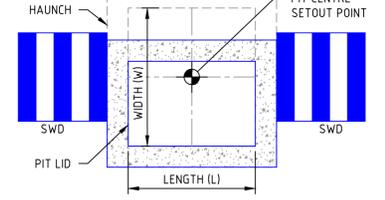
NOTES:

- ALL PITS ARE TO BE TO VPA STANDARDS UNLESS NOTED OTHERWISE.
- PITS DEEPER THAN 1.00m SHALL BE FITTED WITH STEPIRONS, FIRST STEPIRON TO BE 300mm FROM THE BOTTOM OF THE PIT.
- COVER LEVELS TO BE SET TO MATCH THE FINISHED SURFACE PROFILES AND ADJACENT CONSTRUCTION.
- UNLESS OTHERWISE SPECIFIED, PIT TYPES REFER TO VICTORIAN PLANNING AUTHORITY STANDARD DRAWINGS
 - FIGURE EDCM 601 SIDE ENTRY PIT GRATED B2 KERB AND CHANNEL
 - FIGURE EDCM 602 DOUBLE SIDE ENTRY PIT GRATED B2 KERB AND CHANNEL
 - FIGURE EDCM 603 SIDE ENTRY PIT GRATED SM2 KERB AND CHANNEL
 - FIGURE EDCM 605 JUNCTION PIT
- FOR HAUNCHED PITS REFER VPA STANDARD DRAWING FIGURE EDCM 607 & EDCM 608. PITS TO BE HAUNCHED TO COUNCIL STANDARD OPENINGS.
- STUBS AND PIPE ENDS TO BE BLOCKED OFF TO COUNCIL'S SATISFACTION.
- ALL GRATED PITS TO HAVE BICYCLE SAFE LOCKDOWN GRATES.
- ALL GRATED SIDE-ENTRY PITS TO HAVE MIN 100mm THICK CONCRETE APRON BETWEEN GRATE AND ASPHALT. REFER VPA STANDARD DRAWINGS.
- PIT LIDS TO BE IN ACCORDANCE WITH VPA STANDARD DRAWING EDCM 605.
- PITS WITHIN ROAD PAVEMENT, VEHICLE CROSSINGS OR WITHIN 0.75m OF A VEHICLE CROSSING, TO HAVE CLASS D CAST IRON LOCK DOWN LIDS.
- ALL PITS WITHIN ROAD TO BE CONSTRUCTED WITH 32 MPa CONCRETE WITH SL92 MESH IN WALLS AND BASE.
- CONTRACTOR TO VERIFY EXISTING SERVICES CONNECTION LEVELS PRIOR TO CONSTRUCTION. ANY DISCREPANCIES MUST BE IMMEDIATELY IDENTIFIED AND THE SUPERINTENDENT NOTIFIED PRIOR TO CONSTRUCTION COMMENCING.
- REFER TO RELEVANT AUTHORITY STANDARDS FOR PIT INTERFACE WITH KERB & CHANNEL.

CONSENT FOR CONSTRUCTION
CARDINIA SHIRE COUNCIL
 Ref No.: S24-143, T220227
 Sheet: 32 of 56
 Approved by: Vithu Vijayakumar
 CARDINIA SHIRE COUNCIL
 Date: Tuesday, 19 August 2025



TYPICAL DRAINAGE PIT SETOUT DETAIL



TYPICAL HAUNCH PIT SETOUT DETAIL

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C	09.05.25	MA	<i>[Signature]</i>	RE-ISSUED FOR COUNCIL APPROVAL
B	20.01.25	AT	MA	K. LORRIMAR ISSUED FOR COUNCIL SUBMISSION
A	13.11.24	NT	MA	K. LORRIMAR INITIAL ISSUE
REV	DATE	DRN	CKD	APP
				AMENDMENT

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SIG GROUP

APPROVED PE 0005927
[Signature]

DESIGNED
W. SANSON

SCALE
 AS SHOWN

CLIENT
KALA ESTATE - STAGE 01

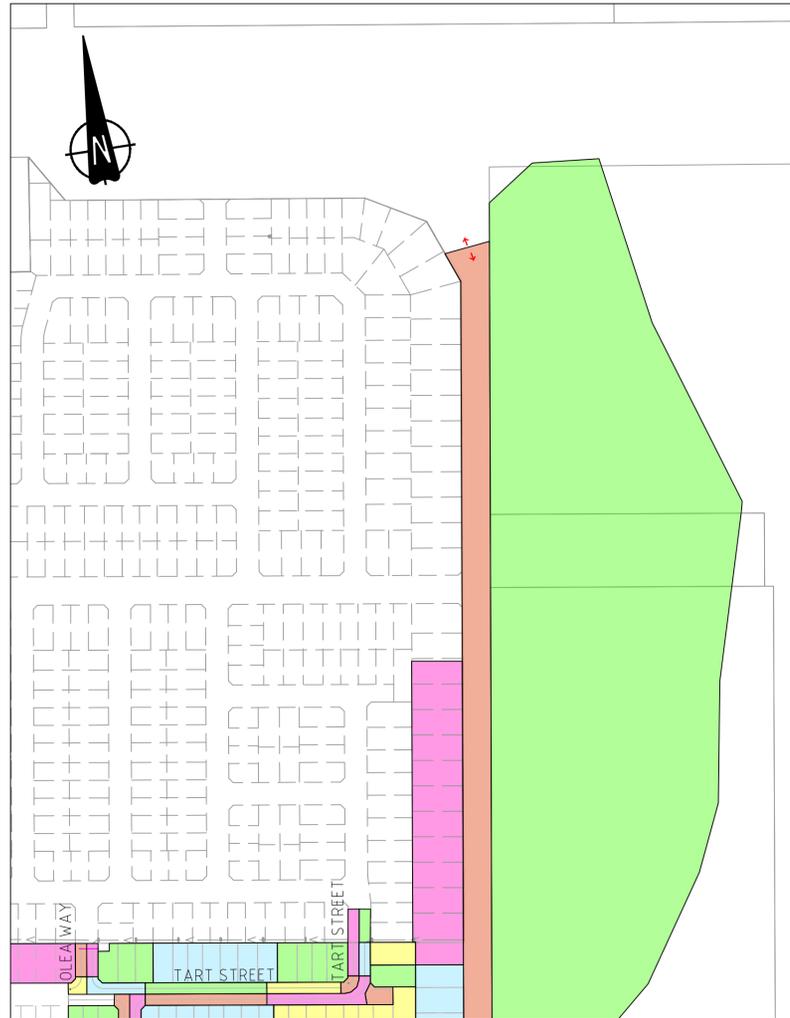
PROJECT
DRAINAGE PIT SCHEDULE

MUNICIPALITY
CARDINIA SHIRE COUNCIL

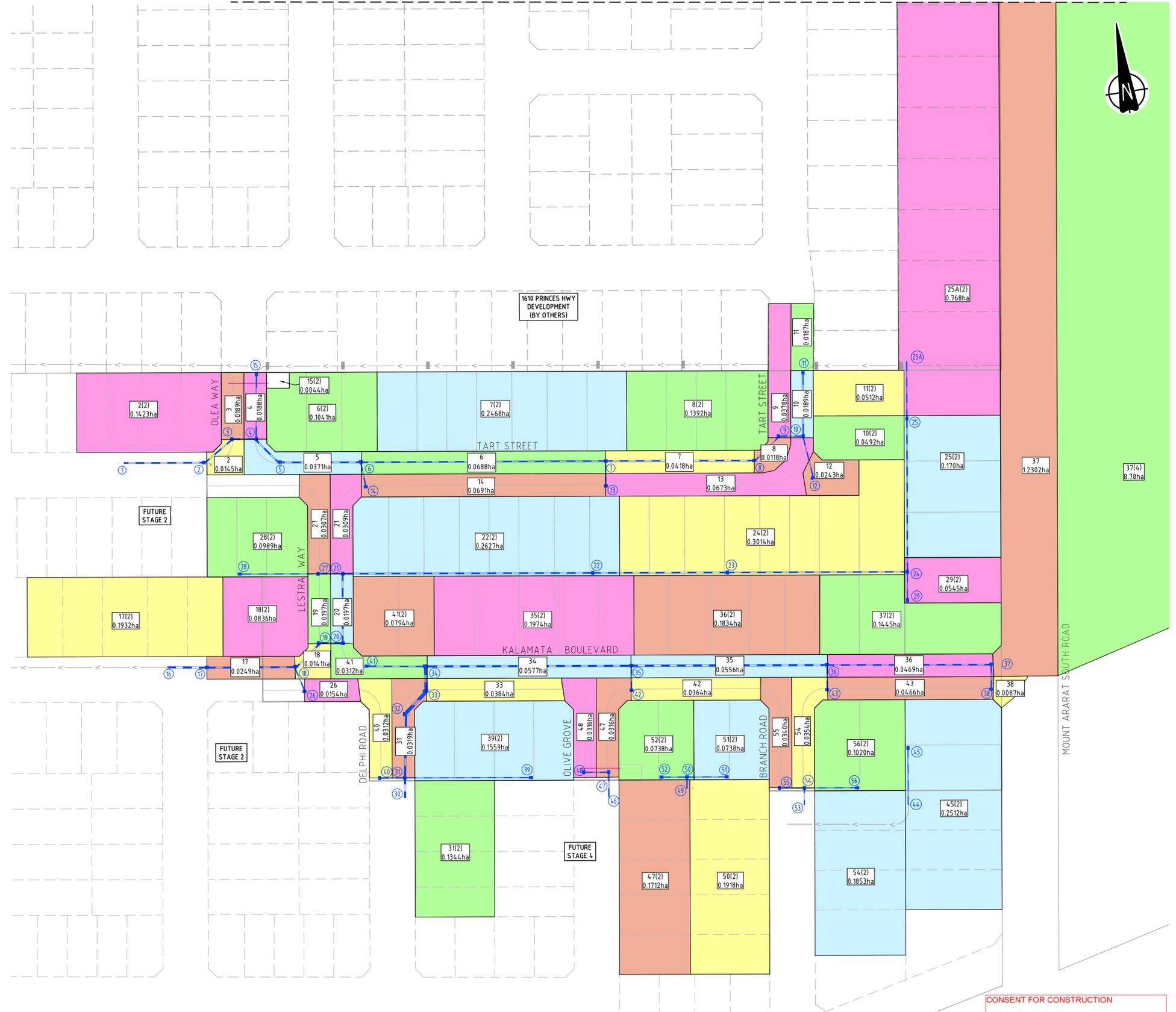
PP No. T220227
 DRAWING No. 3086-01-420
 REVISION
 C

ORIGINAL SIZE A1

FOR CONTINUATION REFER TO EXTERNAL CATCHMENT PLAN



EXTERNAL CATCHMENT PLAN
SCALE 1:2500 @ A1

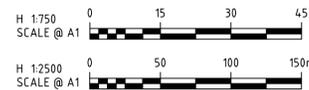


MINOR DRAINAGE CATCHMENT PLAN
SCALE 1:750

CONSENT FOR CONSTRUCTION
CARDINIA SHIRE COUNCIL
Ref No.: S24-143, T220227
Sheet: 33 of 56
Approved by: Vithu Vijeyakumar
CARDINIA SHIRE COUNCIL
Date: Tuesday, 19 August 2025

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B	09.05.25	MA	<i>[Signature]</i>	<i>[Signature]</i>	CATCHMENT PLAN UPDATED
A	20.01.25	AT	MA	K. LORRIMAR	ISSUED FOR COUNCIL SUBMISSION
REV	DATE	DRN	CKD	APP	AMENDMENT



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SIG GROUP
APPROVED PE 0005927
[Signature]
DESIGNED
W. SANSON
SCALE
AS SHOWN

PROJECT	KALA ESTATE - STAGE 01	
TITLE	5 YEAR ARI CATCHMENT	
MUNICIPALITY	CARDINIA SHIRE COUNCIL	
PP No.	T220227	DRAWING No.
		3086-01-430
REVISION	B	

ORIGINAL SIZE A1

CONSENT FOR CONSTRUCTION
 CARDINIA SHIRE COUNCIL
 Ref No.: S24-143, T220227
 Sheet: 36 of 56
 Approved by: Vithu Vijayakumar
 CARDINIA SHIRE COUNCIL
 Date: Tuesday, 19 August 2025

Project:	KALA ESTATE
Project No.	3086-01

Location	NAME	CATCHMENT AREAS					MINOR FLOW (20% AEP)					MAJOR FLOW (1% AEP)					Q _{GAP} m ³ /s	
		Lots ha	Road ha	Reserve ha	Ext Devlp ha	Ext Undevlp ha	A _e ha	t _c min	I mm/hr	Q m ³ /s	0.8xQ Total m ³ /s	A _e ha	t _c min	I mm/hr	Q m ³ /s	Q diversion m ³ /s		Q Total m ³ /s
(1) MT ARARAT STH ROAD	B1, B2	0.000	1.264	0.000	0.000	8.806	2.351	16.7	50.928	0.333	0.266	2.967	16.7	98.840	0.815	0.000	0.815	0.482
(2) KALAMATA BOULEVARD	A1,C,F,G,H,K,R	1.775	0.510	0.000	0.105	0.000	1.611	10.1	66.109	0.296	0.237	2.035	10.1	127.342	0.720	0.000	0.720	0.424
(3) KALAMATA BOULEVARD	C,F	1.181	0.164	0.000	0.000	0.000	0.925	9.1	69.273	0.178	0.142	1.169	9.1	132.801	0.431	0.000	0.431	0.253
(4) KALAMATA BOULEVARD	C	0.419	0.102	0.000	0.000	0.000	0.353	6.8	78.910	0.077	0.062	0.445	6.8	148.225	0.183	0.000	0.183	0.106
(5) TART STREET	A1, A2, G,H,I,J	0.442	0.325	0.000	0.475	0.000	0.828	10.5	64.829	0.149	0.119	1.046	10.5	125.081	0.363	0.000	0.363	0.214
(6) TART STREET	A1, A2, G,H	0.595	0.181	0.000	0.580	0.000	0.930	9.6	67.730	0.175	0.140	1.175	9.6	130.161	0.425	0.000	0.425	0.250
(7) TART STREET	A1, G	0.106	0.040	0.000	0.210	0.000	0.245	6.9	78.191	0.053	0.043	0.310	6.9	147.139	0.127	0.000	0.127	0.073
(8) DELPHI ROAD	L	0.000	0.103	0.000	0.000	0.000	0.057	6.7	79.316	0.013	0.010	0.072	6.7	148.835	0.030	0.000	0.030	0.017
(9) OLIVE GROVE	E	0.000	0.101	0.000	0.000	0.000	0.056	6.2	81.869	0.013	0.010	0.071	6.2	152.588	0.030	0.000	0.030	0.017
(10) BRANCH ROAD	D,C	0.000	0.109	0.000	0.000	0.000	0.061	6.4	80.653	0.014	0.011	0.077	6.4	150.817	0.032	0.000	0.032	0.018
(11) OLEA WAY	A2, J	0.088	0.080	0.000	0.000	0.000	0.107	6.2	81.693	0.024	0.019	0.135	6.2	152.333	0.057	0.000	0.057	0.033

Flow Length m
See tc below
57.000
140.000
107.000
55.000
158.000
116.000
102.000
72.000
86.000
74.000

COEFFICIENT OF RUNOFF

STORM EVENT		Lots	Road Reserve	Reserve	Ext Devlp	Ext Undevlp
		20% AEP	0.706	0.557	0.333	0.706
1% AEP		0.892	0.703	0.420	0.892	0.236

NAME	CATCHMENT AREAS					TOTAL ha
	Lots ha	Road ha	Reserve ha	Ext Devlp ha	Ext Undevlp ha	
EXT A1				0.210		0.210
EXT A2				0.370		0.370
EXT B1		1.010			6.960	7.970
EXT B2		0.254			1.846	2.100
C	0.419	0.102				0.521
D		0.058				0.058
E		0.101				0.101
F	0.762	0.113				0.875
G	0.106	0.040				0.146
H	0.489	0.281				0.770
I	0.088	0.080				0.168
J	0.109	0.084				0.193
K	0.243	0.146				0.389
L		0.103				0.103
R	0.000	0.039				0.039

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B	09.05.25	MA	<i>[Signature]</i>	RE-ISSUED TO COUNCIL FOR APPROVAL
A	20.01.25	AT	MA	K. LORRIMAR ISSUED FOR COUNCIL SUBMISSION
REV	DATE	DRN	CKD	APP
				AMENDMENT

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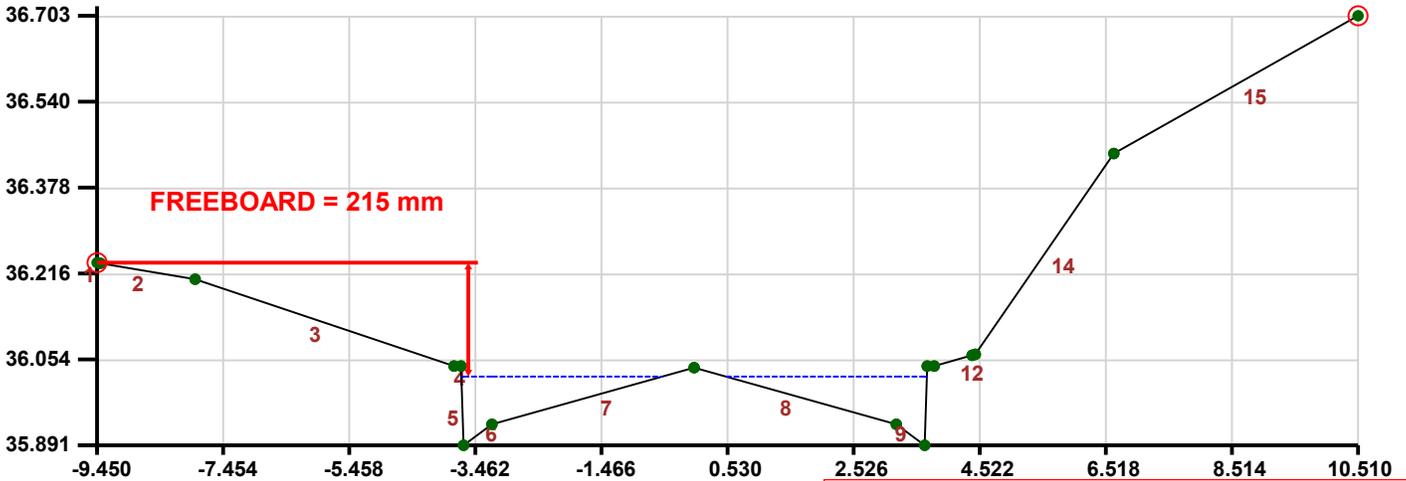
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PROJECT
 KALA ESTATE - STAGE 01
 TITLE
 100 YEAR ARI COMPUTATIONS
 MUNICIPALITY
 CARDINIA SHIRE COUNCIL
 PP No.
 T220227
 DRAWING No.
 3086-01-460
 REVISION
 B

ORIGINAL SIZE A1

1. CROSS-SECTION



CONSENT FOR CONSTRUCTION

CARDINIA SHIRE COUNCIL

Ref No.: S24-143, T220227
Sheet: 37 of 56
Approved by: Vithu Vijeyakumar
CARDINIA SHIRE COUNCIL
Date: Tuesday, 19 August 2025

2. DISCHARGE INFORMATION

1% AEP storm event
Design discharge after construction of retarding basin
Required overland / channel / watercourse discharge = 0.508 cumecs

3. RESULTS Water surface elevation = 36.021 m

High Flow Channel grade = 1 in 27.322, Main Channel / Low Flow Channel grade = 1 in 27.322.

	LEFT OVERBANK	MAIN CHANNEL	RIGHT OVERBANK	TOTAL CROSS-SECTION
Discharge (cumecs):	0.000	0.635	0.000	0.635
D(Max) = Max. Depth (m):	0.000	0.130	0.000	0.130
D(Ave) = Ave. Depth (m):	0.000	0.054	0.000	0.054
V = Ave. Velocity (m/s):	0.000	1.834	0.000	1.834
D(Max) x V (cumecs/m):	0.000	0.238	0.000	0.238
D(Ave) x V (cumecs/m):	0.000	0.100	0.000	0.100
Froude Number:	0.000	2.510	0.000	N/A
Area (m ²):	0.000	0.346	0.000	0.346
Wetted Perimeter (m):	0.000	6.574	0.000	6.574
Flow Width (m):	0.000	6.368	0.000	6.368
Hydraulic Radius (m):	0.000	0.053	0.000	0.053
Composite Manning's n:	0.000	0.015	0.000	N/A
Split Flow?	-	-	-	Yes

4. CROSS-SECTION DATA

SEGMENT NO.	LEFT HAND POINT		RIGHT HAND POINT		MANNING'S N
	CHAINAGE (m)	R.L. (m)	CHAINAGE (m)	R.L. (m)	
1	-9.450	36.237	-9.400	36.235	0.035
2	-9.400	36.235	-7.900	36.205	0.013
3	-7.900	36.205	-3.800	36.041	0.035
4	-3.800	36.041	-3.690	36.041	0.013
5	-3.690	36.041	-3.650	35.891	0.013
6	-3.650	35.891	-3.200	35.931	0.013
7	-3.200	35.931	0.000	36.038	0.015
8	0.000	36.038	3.200	35.931	0.015
9	3.200	35.931	3.650	35.891	0.013
10	3.650	35.891	3.690	36.041	0.013
11	3.690	36.041	3.800	36.041	0.013
12	3.800	36.041	4.400	36.061	0.035
13	4.400	36.061	4.450	36.063	0.035
14	4.450	36.063	6.640	36.442	0.035

4. CROSS-SECTION DATA (continued)

SEGMENT NO.	LEFT HAND POINT		RIGHT HAND POINT		MANNING'S N
	CHAINAGE (m)	R.L. (m)	CHAINAGE (m)	R.L. (m)	
15	6.640	36.442	10.510	36.703	0.035

CONSENT FOR CONSTRUCTION

CARDINIA SHIRE COUNCIL

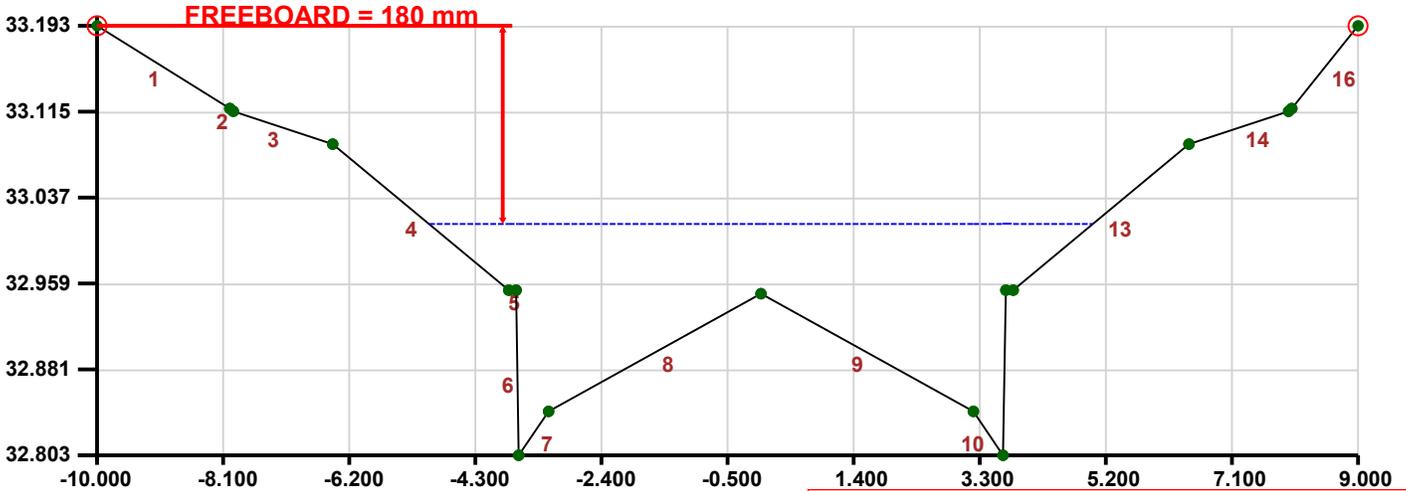
Ref No.: S24-143, T220227

Sheet: 38 of 56

Approved by: Vithu Vijeyakumar
CARDINIA SHIRE COUNCIL

Date: Tuesday, 19 August 2025

1. CROSS-SECTION



2. DISCHARGE INFORMATION

1% AEP storm event
Design discharge after construction of retarding basin
Required overland / channel / watercourse discharge = 0.71 cumecs

3. RESULTS Water surface elevation = 33.013 m

High Flow Channel grade = 1 in 200, Main Channel / Low Flow Channel grade = 1 in 200.

CONSENT FOR CONSTRUCTION

CARDINIA SHIRE COUNCIL

Ref No.: S24-143, T220227
Sheet: 39 of 56
Approved by: Vithu Vijeyakumar
CARDINIA SHIRE COUNCIL
Date: Tuesday, 19 August 2025

	LEFT OVERBANK	MAIN CHANNEL	RIGHT OVERBANK	TOTAL CROSS-SECTION
Discharge (cumecs):	0.000	0.721	0.000	0.721
D(Max) = Max. Depth (m):	0.000	0.210	0.000	0.210
D(Ave) = Ave. Depth (m):	0.000	0.101	0.000	0.101
V = Ave. Velocity (m/s):	0.000	0.712	0.000	0.712
D(Max) x V (cumecs/m):	0.000	0.149	0.000	0.149
D(Ave) x V (cumecs/m):	0.000	0.072	0.000	0.072
Froude Number:	0.000	0.714	0.000	0.714
Area (m^2):	0.000	1.014	0.000	1.014
Wetted Perimeter (m):	0.000	10.241	0.000	10.241
Flow Width (m):	0.000	10.000	0.000	10.000
Hydraulic Radius (m):	0.000	0.099	0.000	0.099
Composite Manning's n:	0.000	0.021	0.000	0.021
Split Flow?	-	-	-	No

4. CROSS-SECTION DATA

SEGMENT NO.	LEFT HAND POINT		RIGHT HAND POINT		MANNING'S N
	CHAINAGE (m)	R.L. (m)	CHAINAGE (m)	R.L. (m)	
1	-10.000	33.193	-8.000	33.118	0.035
2	-8.000	33.118	-7.950	33.116	0.035
3	-7.950	33.116	-6.450	33.086	0.013
4	-6.450	33.086	-3.800	32.953	0.035
5	-3.800	32.953	-3.690	32.953	0.013
6	-3.690	32.953	-3.650	32.803	0.013
7	-3.650	32.803	-3.200	32.843	0.013
8	-3.200	32.843	0.000	32.950	0.015
9	0.000	32.950	3.200	32.843	0.015
10	3.200	32.843	3.650	32.803	0.013
11	3.650	32.803	3.690	32.953	0.013
12	3.690	32.953	3.800	32.953	0.013
13	3.800	32.953	6.450	33.086	0.035
14	6.450	33.086	7.950	33.116	0.013

4. CROSS-SECTION DATA (continued)

SEGMENT NO.	LEFT HAND POINT		RIGHT HAND POINT		MANNING'S N
	CHAINAGE (m)	R.L. (m)	CHAINAGE (m)	R.L. (m)	
15	7.950	33.116	8.000	33.118	0.035
16	8.000	33.118	9.000	33.193	0.035

CONSENT FOR CONSTRUCTION

CARDINIA SHIRE COUNCIL

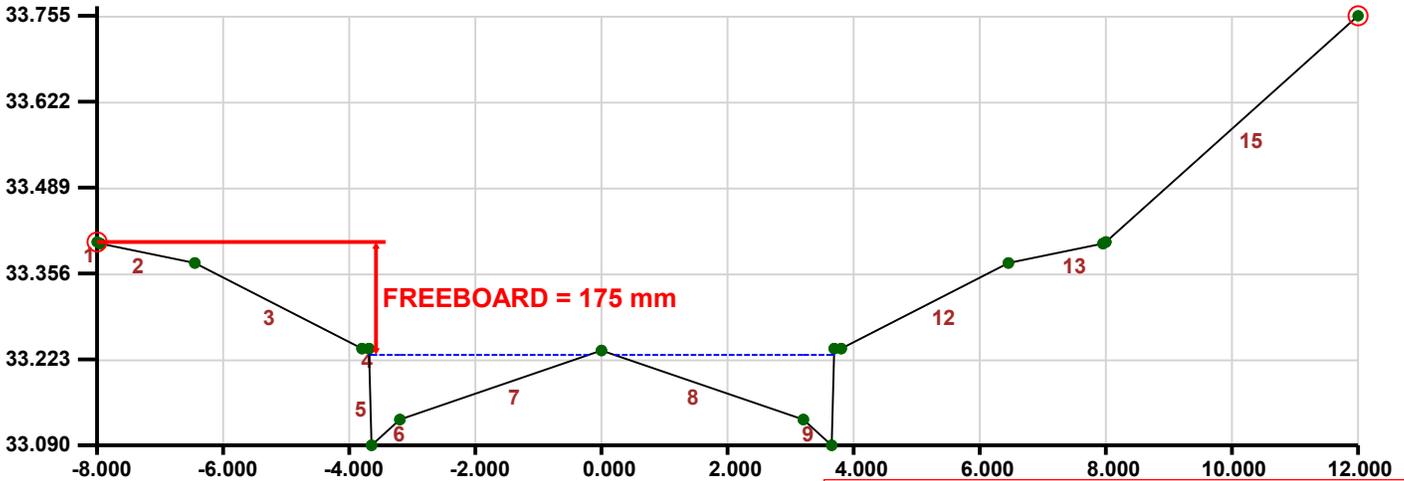
Ref No.: S24-143, T220227

Sheet: 40 of 56

Approved by: Vithu Vijeyakumar
CARDINIA SHIRE COUNCIL

Date: Tuesday, 19 August 2025

1. CROSS-SECTION



CONSENT FOR CONSTRUCTION

CARDINIA SHIRE COUNCIL

Ref No.: S24-143, T220227
Sheet: 41 of 56
Approved by: Vithu Vijeyakumar
CARDINIA SHIRE COUNCIL
Date: Tuesday, 19 August 2025

2. DISCHARGE INFORMATION

1% AEP storm event
Design discharge after construction of retarding basin
Required overland / channel / watercourse discharge = 0.253 cumecs

3. RESULTS Water surface elevation = 33.230 m

High Flow Channel grade = 1 in 200, Main Channel / Low Flow Channel grade = 1 in 200.

	LEFT OVERBANK	MAIN CHANNEL	RIGHT OVERBANK	TOTAL CROSS-SECTION
Discharge (cumecs):	0.000	0.296	0.000	0.296
D(Max) = Max. Depth (m):	0.000	0.140	0.000	0.140
D(Ave) = Ave. Depth (m):	0.000	0.059	0.000	0.059
V = Ave. Velocity (m/s):	0.000	0.717	0.000	0.717
D(Max) x V (cumecs/m):	0.000	0.100	0.000	0.100
D(Ave) x V (cumecs/m):	0.000	0.042	0.000	0.042
Froude Number:	0.000	0.940	0.000	N/A
Area (m ²):	0.000	0.413	0.000	0.413
Wetted Perimeter (m):	0.000	7.195	0.000	7.195
Flow Width (m):	0.000	6.973	0.000	6.973
Hydraulic Radius (m):	0.000	0.057	0.000	0.057
Composite Manning's n:	0.000	0.015	0.000	N/A
Split Flow?	-	-	-	Yes

4. CROSS-SECTION DATA

SEGMENT NO.	LEFT HAND POINT		RIGHT HAND POINT		MANNING'S N
	CHAINAGE (m)	R.L. (m)	CHAINAGE (m)	R.L. (m)	
1	-8.000	33.405	-7.950	33.403	0.035
2	-7.950	33.403	-6.450	33.373	0.013
3	-6.450	33.373	-3.800	33.240	0.035
4	-3.800	33.240	-3.690	33.240	0.013
5	-3.690	33.240	-3.650	33.090	0.013
6	-3.650	33.090	-3.200	33.130	0.013
7	-3.200	33.130	0.000	33.237	0.015
8	0.000	33.237	3.200	33.130	0.015
9	3.200	33.130	3.650	33.090	0.013
10	3.650	33.090	3.690	33.240	0.013
11	3.690	33.240	3.800	33.240	0.013
12	3.800	33.240	6.450	33.373	0.035
13	6.450	33.373	7.950	33.403	0.013
14	7.950	33.403	8.000	33.405	0.035

4. CROSS-SECTION DATA (continued)

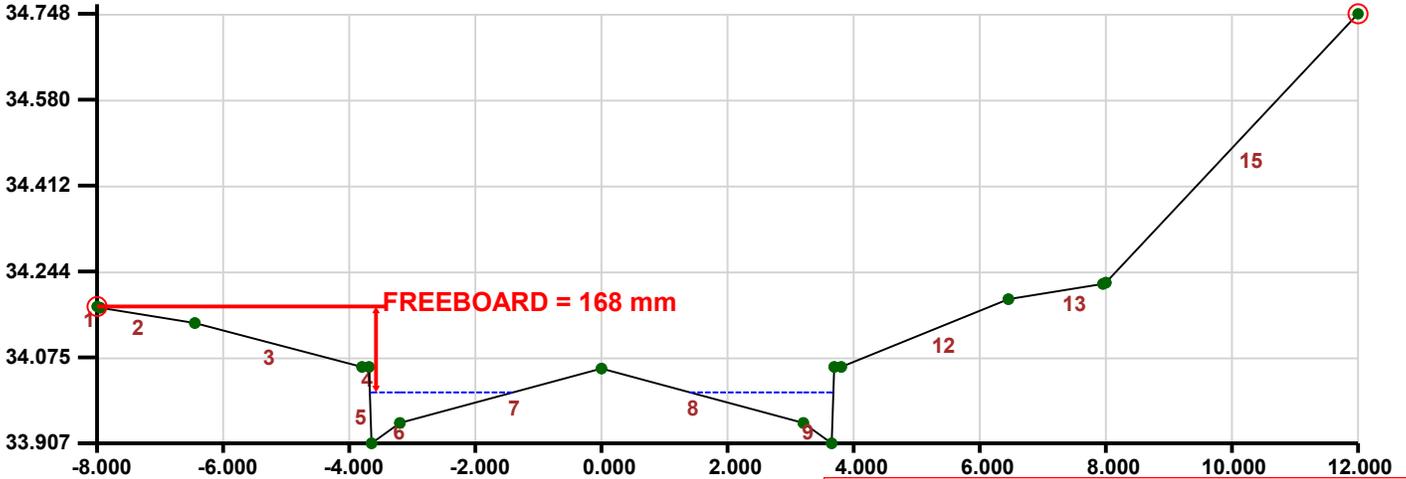
SEGMENT NO.	LEFT HAND POINT		RIGHT HAND POINT		MANNING'S N
	CHAINAGE (m)	R.L. (m)	CHAINAGE (m)	R.L. (m)	
15	8.000	33.405	12.000	33.755	0.035

CONSENT FOR CONSTRUCTION

CARDINIA SHIRE COUNCIL

Ref No.: S24-143, T220227
Sheet: 42 of 56
Approved by: Vithu Vijeyakumar
CARDINIA SHIRE COUNCIL
Date: Tuesday, 19 August 2025

1. CROSS-SECTION



CONSENT FOR CONSTRUCTION

CARDINIA SHIRE COUNCIL

Ref No.: S24-143, T220227
Sheet: 43 of 56
Approved by: Vithu Vijeyakumar
CARDINIA SHIRE COUNCIL
Date: Tuesday, 19 August 2025

2. DISCHARGE INFORMATION

1% AEP storm event
Design discharge after construction of retarding basin
Required overland / channel / watercourse discharge = 0.106 cumecs

3. RESULTS Water surface elevation = 34.007 m

High Flow Channel grade = 1 in 200, Main Channel / Low Flow Channel grade = 1 in 200.

	LEFT OVERBANK	MAIN CHANNEL	RIGHT OVERBANK	TOTAL CROSS-SECTION
Discharge (cumecs):	0.000	0.102	0.000	0.102
D(Max) = Max. Depth (m):	0.000	0.100	0.000	0.100
D(Ave) = Ave. Depth (m):	0.000	0.040	0.000	0.040
V = Ave. Velocity (m/s):	0.000	0.556	0.000	0.556
D(Max) x V (cumecs/m):	0.000	0.056	0.000	0.056
D(Ave) x V (cumecs/m):	0.000	0.022	0.000	0.022
Froude Number:	0.000	0.887	0.000	N/A
Area (m ²):	0.000	0.183	0.000	0.183
Wetted Perimeter (m):	0.000	4.715	0.000	4.715
Flow Width (m):	0.000	4.555	0.000	4.555
Hydraulic Radius (m):	0.000	0.039	0.000	0.039
Composite Manning's n:	0.000	0.015	0.000	N/A
Split Flow?	-	-	-	Yes

4. CROSS-SECTION DATA

SEGMENT NO.	LEFT HAND POINT		RIGHT HAND POINT		MANNING'S N
	CHAINAGE (m)	R.L. (m)	CHAINAGE (m)	R.L. (m)	
1	-8.000	34.175	-7.950	34.173	0.035
2	-7.950	34.173	-6.450	34.143	0.013
3	-6.450	34.143	-3.800	34.057	0.035
4	-3.800	34.057	-3.690	34.057	0.013
5	-3.690	34.057	-3.650	33.907	0.013
6	-3.650	33.907	-3.200	33.947	0.013
7	-3.200	33.947	0.000	34.054	0.015
8	0.000	34.054	3.200	33.947	0.015
9	3.200	33.947	3.650	33.907	0.013
10	3.650	33.907	3.690	34.057	0.013
11	3.690	34.057	3.800	34.057	0.013
12	3.800	34.057	6.450	34.190	0.035
13	6.450	34.190	7.950	34.220	0.013
14	7.950	34.220	8.000	34.222	0.035

4. CROSS-SECTION DATA (continued)

SEGMENT NO.	LEFT HAND POINT		RIGHT HAND POINT		MANNING'S N
	CHAINAGE (m)	R.L. (m)	CHAINAGE (m)	R.L. (m)	
15	8.000	34.222	12.000	34.748	0.035

CONSENT FOR CONSTRUCTION

CARDINIA SHIRE COUNCIL

Ref No.: S24-143, T220227

Sheet: 44 of 56

Approved by: Vithu Vijeyakumar
CARDINIA SHIRE COUNCIL

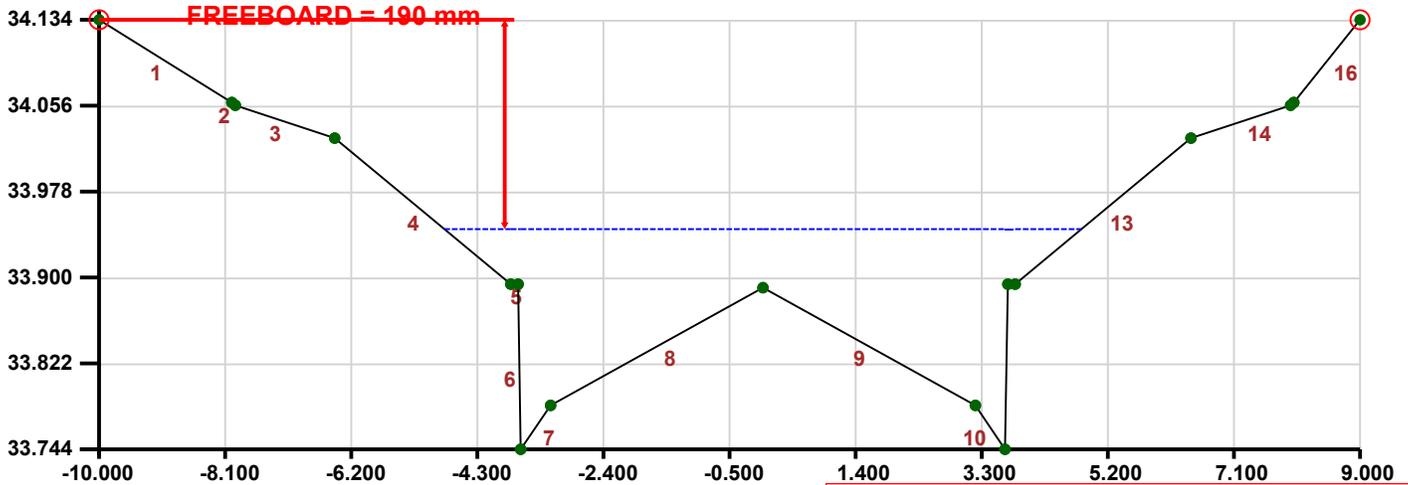
Date: Tuesday, 19 August 2025

PROJECT: 3086 01
Section 5 TART STREET Ch237.708

Print-out date: 19/09/2024 - Time: 2:39

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1. CROSS-SECTION



CONSENT FOR CONSTRUCTION

CARDINIA SHIRE COUNCIL

Ref No.: S24-143, T220227
 Sheet: 45 of 56
 Approved by: Vithu Vijeyakumar
CARDINIA SHIRE COUNCIL
 Date: Tuesday, 19 August 2025

2. DISCHARGE INFORMATION

1% AEP storm event
 Design discharge after construction of retarding basin
 Required overland / channel / watercourse discharge = 0.866 cumecs

3. RESULTS Water surface elevation = 33.944 m

High Flow Channel grade = 1 in 100, Main Channel / Low Flow Channel grade = 1 in 100.

	<u>LEFT OVERBANK</u>	<u>MAIN CHANNEL</u>	<u>RIGHT OVERBANK</u>	<u>TOTAL CROSS-SECTION</u>
Discharge (cumecs):	0.000	0.917	0.000	0.917
D(Max) = Max. Depth (m):	0.000	0.200	0.000	0.200
D(Ave) = Ave. Depth (m):	0.000	0.095	0.000	0.095
V = Ave. Velocity (m/s):	0.000	1.002	0.000	1.002
D(Max) x V (cumecs/m):	0.000	0.200	0.000	0.200
D(Ave) x V (cumecs/m):	0.000	0.096	0.000	0.096
Froude Number:	0.000	1.035	0.000	1.035
Area (m ²):	0.000	0.916	0.000	0.916
Wetted Perimeter (m):	0.000	9.840	0.000	9.840
Flow Width (m):	0.000	9.600	0.000	9.600
Hydraulic Radius (m):	0.000	0.093	0.000	0.093
Composite Manning's n:	0.000	0.021	0.000	0.021
Split Flow?	-	-	-	No

4. CROSS-SECTION DATA

<u>SEGMENT NO.</u>	<u>LEFT HAND POINT</u>		<u>RIGHT HAND POINT</u>		<u>MANNING'S N</u>
	<u>CHAINAGE (m)</u>	<u>R.L. (m)</u>	<u>CHAINAGE (m)</u>	<u>R.L. (m)</u>	
1	-10.000	34.134	-8.000	34.059	0.035
2	-8.000	34.059	-7.950	34.057	0.035
3	-7.950	34.057	-6.450	34.027	0.013
4	-6.450	34.027	-3.800	33.894	0.035
5	-3.800	33.894	-3.690	33.894	0.013
6	-3.690	33.894	-3.650	33.744	0.013
7	-3.650	33.744	-3.200	33.784	0.013
8	-3.200	33.784	0.000	33.891	0.015
9	0.000	33.891	3.200	33.784	0.015
10	3.200	33.784	3.650	33.744	0.013
11	3.650	33.744	3.690	33.894	0.013
12	3.690	33.894	3.800	33.894	0.013
13	3.800	33.894	6.450	34.027	0.035
14	6.450	34.027	7.950	34.057	0.013

4. CROSS-SECTION DATA (continued)

SEGMENT NO.	LEFT HAND POINT		RIGHT HAND POINT		MANNING'S N
	CHAINAGE (m)	R.L. (m)	CHAINAGE (m)	R.L. (m)	
15	7.950	34.057	8.000	34.059	0.035
16	8.000	34.059	9.000	34.134	0.035

CONSENT FOR CONSTRUCTION

CARDINIA SHIRE COUNCIL

Ref No.: S24-143, T220227

Sheet: 46 of 56

Approved by: Vithu Vijeyakumar
CARDINIA SHIRE COUNCIL

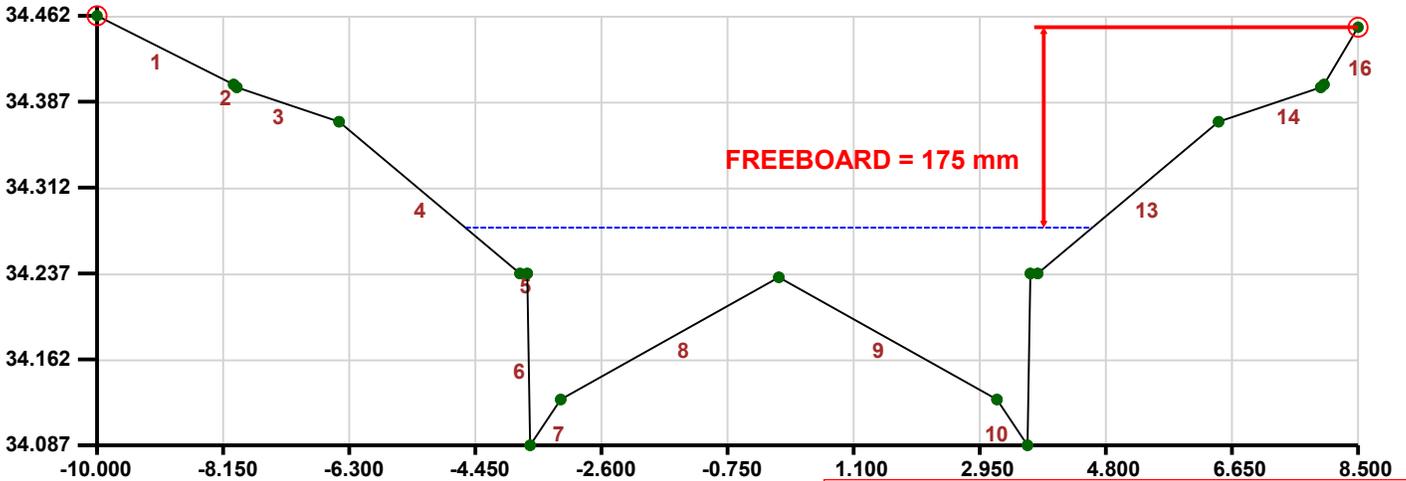
Date: Tuesday, 19 August 2025

PROJECT: 3086 01
Section 6 TART STREET Ch182.408

Print-out date: 19/09/2024 - Time: 2:45

Data File: C:\12dS\data\FS03\3086-01_165\Design\12d\3086 01.12dmodel\Section 6 TART STREET Ch182.408.pcc

1. CROSS-SECTION



CONSENT FOR CONSTRUCTION

CARDINIA SHIRE COUNCIL

Ref No.: S24-143, T220227
 Sheet: 47 of 56
 Approved by: Vithu Vijeyakumar
CARDINIA SHIRE COUNCIL
 Date: Tuesday, 19 August 2025

2. DISCHARGE INFORMATION

1% AEP storm event
 Design discharge after construction of retarding basin
 Required overland / channel / watercourse discharge = 0.537 cumecs

3. RESULTS Water surface elevation = 34.277 m

High Flow Channel grade = 1 in 200, Main Channel / Low Flow Channel grade = 1 in 200.

	LEFT OVERBANK	MAIN CHANNEL	RIGHT OVERBANK	TOTAL CROSS-SECTION
Discharge (cumecs):	0.000	0.581	0.000	0.581
D(Max) = Max. Depth (m):	0.000	0.190	0.000	0.190
D(Ave) = Ave. Depth (m):	0.000	0.089	0.000	0.089
V = Ave. Velocity (m/s):	0.000	0.707	0.000	0.707
D(Max) x V (cumecs/m):	0.000	0.134	0.000	0.134
D(Ave) x V (cumecs/m):	0.000	0.063	0.000	0.063
Froude Number:	0.000	0.755	0.000	0.755
Area (m ²):	0.000	0.822	0.000	0.822
Wetted Perimeter (m):	0.000	9.440	0.000	9.440
Flow Width (m):	0.000	9.200	0.000	9.200
Hydraulic Radius (m):	0.000	0.087	0.000	0.087
Composite Manning's n:	0.000	0.020	0.000	0.020
Split Flow?	-	-	-	No

4. CROSS-SECTION DATA

SEGMENT NO.	LEFT HAND POINT		RIGHT HAND POINT		MANNING'S N
	CHAINAGE (m)	R.L. (m)	CHAINAGE (m)	R.L. (m)	
1	-10.000	34.462	-8.000	34.402	0.035
2	-8.000	34.402	-7.950	34.399	0.035
3	-7.950	34.399	-6.450	34.369	0.013
4	-6.450	34.369	-3.800	34.237	0.035
5	-3.800	34.237	-3.690	34.237	0.013
6	-3.690	34.237	-3.650	34.087	0.013
7	-3.650	34.087	-3.200	34.127	0.013
8	-3.200	34.127	0.000	34.233	0.015
9	0.000	34.233	3.200	34.127	0.015
10	3.200	34.127	3.650	34.087	0.013
11	3.650	34.087	3.690	34.237	0.013
12	3.690	34.237	3.800	34.237	0.013
13	3.800	34.237	6.450	34.369	0.035
14	6.450	34.369	7.950	34.399	0.013

4. CROSS-SECTION DATA (continued)

SEGMENT NO.	LEFT HAND POINT		RIGHT HAND POINT		MANNING'S N
	CHAINAGE (m)	R.L. (m)	CHAINAGE (m)	R.L. (m)	
15	7.950	34.399	8.000	34.402	0.035
16	8.000	34.402	8.500	34.452	0.035

CONSENT FOR CONSTRUCTION

CARDINIA SHIRE COUNCIL

Ref No.: S24-143, T220227

Sheet: 48 of 56

Approved by: Vithu Vijeyakumar
CARDINIA SHIRE COUNCIL

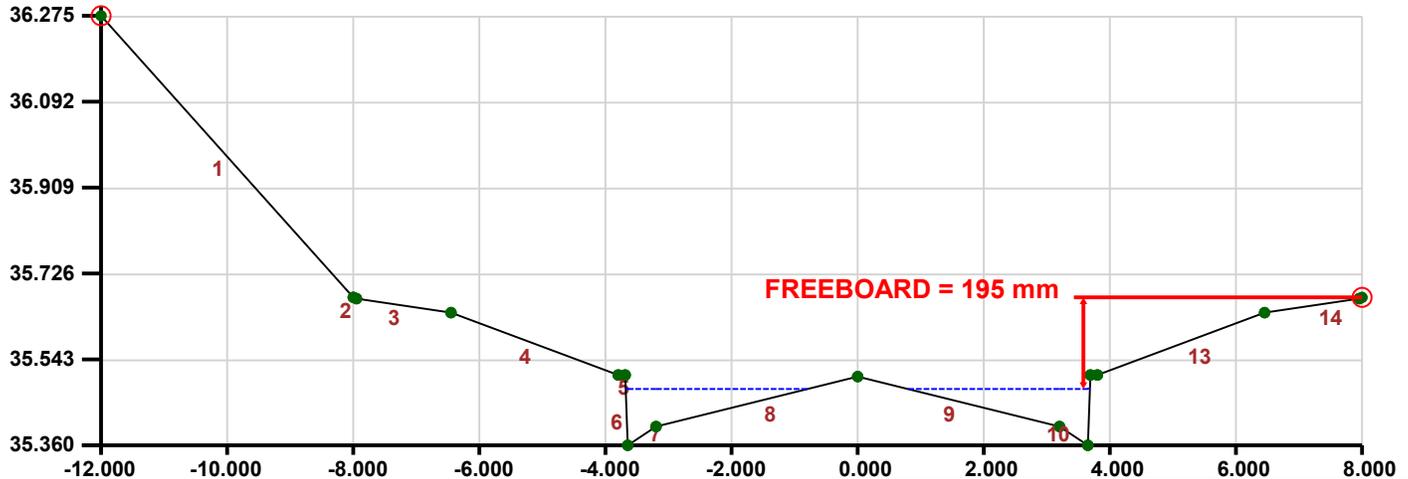
Date: Tuesday, 19 August 2025

PROJECT: 3086 01
Section 7 TART STREET Ch23.8

Print-out date: 19/09/2024 - Time: 2:52

Data File: C:\12d\data\FS03\3086-01_165\Design\12d\3086 01.12dmodel\Section 7 TART STREET Ch23.8.pcc

1. CROSS-SECTION



2. DISCHARGE INFORMATION

1% AEP storm event

Design discharge after construction of retarding basin

Required overland / channel / watercourse discharge = 0.443 cumecs

3. RESULTS Water surface elevation = 35.480 m

High Flow Channel grade = 1 in 33.3333, Main Channel / Low Flow Channel grade = 1 in 33.3333.

CONSENT FOR CONSTRUCTION

CARDINIA SHIRE COUNCIL

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	LEFT OVERBANK	MAIN CHANNEL	RIGHT OVERBANK	TOTAL CROSS-SECTION
Discharge (cumecs):	0.000	0.447	0.000	0.447
D(Max) = Max. Depth (m):	0.000	0.120	0.000	0.120
D(Ave) = Ave. Depth (m):	0.000	0.050	0.000	0.050
V = Ave. Velocity (m/s):	0.000	1.563	0.000	1.563
D(Max) x V (cumecs/m):	0.000	0.188	0.000	0.188
D(Ave) x V (cumecs/m):	0.000	0.078	0.000	0.078
Froude Number:	0.000	2.241	0.000	N/A
Area (m ²):	0.000	0.286	0.000	0.286
Wetted Perimeter (m):	0.000	5.953	0.000	5.953
Flow Width (m):	0.000	5.762	0.000	5.762
Hydraulic Radius (m):	0.000	0.048	0.000	0.048
Composite Manning's n:	0.000	0.015	0.000	N/A
Split Flow?	-	-	-	Yes

4. CROSS-SECTION DATA

SEGMENT NO.	LEFT HAND POINT		RIGHT HAND POINT		MANNING'S N
	CHAINAGE (m)	R.L. (m)	CHAINAGE (m)	R.L. (m)	
1	-12.000	36.275	-8.000	35.675	0.035
2	-8.000	35.675	-7.950	35.672	0.035
3	-7.950	35.672	-6.450	35.642	0.013
4	-6.450	35.642	-3.800	35.510	0.035
5	-3.800	35.510	-3.690	35.510	0.013
6	-3.690	35.510	-3.650	35.360	0.013
7	-3.650	35.360	-3.200	35.400	0.013
8	-3.200	35.400	0.000	35.506	0.015
9	0.000	35.506	3.200	35.400	0.015
10	3.200	35.400	3.650	35.360	0.013
11	3.650	35.360	3.690	35.510	0.013
12	3.690	35.510	3.800	35.510	0.013
13	3.800	35.510	6.450	35.642	0.035
14	6.450	35.642	7.950	35.672	0.013

4. CROSS-SECTION DATA (continued)

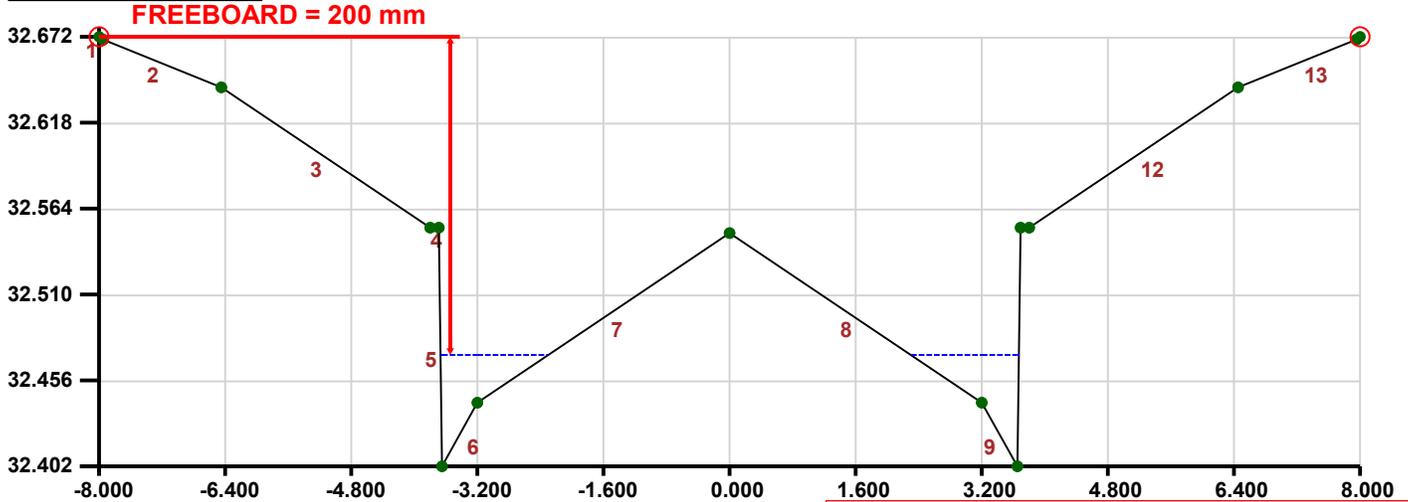
SEGMENT NO.	LEFT HAND POINT		RIGHT HAND POINT		MANNING'S N
	CHAINAGE (m)	R.L. (m)	CHAINAGE (m)	R.L. (m)	
15	7.950	35.672	8.000	35.675	0.035

CONSENT FOR CONSTRUCTION

CARDINIA SHIRE COUNCIL

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CARDINIA SHIRE COUNCIL
Date: Tuesday, 19 August 2025

1. CROSS-SECTION



CONSENT FOR CONSTRUCTION

CARDINIA SHIRE COUNCIL

Ref No.: S24-143, T220227
 Sheet: 51 of 56
 Approved by: Vithu Vijeyakumar
CARDINIA SHIRE COUNCIL
 Date: Tuesday, 19 August 2025

2. DISCHARGE INFORMATION

1% AEP storm event

Design discharge after construction of retarding basin

Required overland / channel / watercourse discharge = 0.051 cumecs

3. RESULTS Water surface elevation = 32.472 m

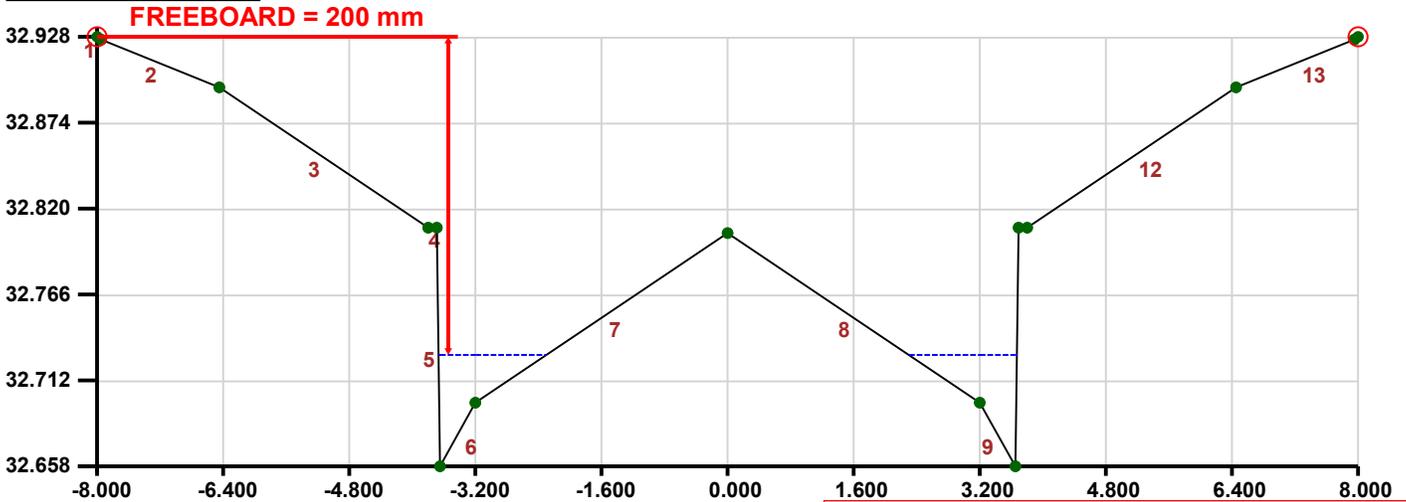
High Flow Channel grade = 1 in 55.25, Main Channel / Low Flow Channel grade = 1 in 55.25.

	LEFT OVERBANK	MAIN CHANNEL	RIGHT OVERBANK	TOTAL CROSS-SECTION
Discharge (cumecs):	0.000	0.060	0.000	0.060
D(Max) = Max. Depth (m):	0.000	0.070	0.000	0.070
D(Ave) = Ave. Depth (m):	0.000	0.027	0.000	0.027
V = Ave. Velocity (m/s):	0.000	0.820	0.000	0.820
D(Max) x V (cumecs/m):	0.000	0.057	0.000	0.057
D(Ave) x V (cumecs/m):	0.000	0.022	0.000	0.022
Froude Number:	0.000	1.600	0.000	N/A
Area (m ²):	0.000	0.073	0.000	0.073
Wetted Perimeter (m):	0.000	2.849	0.000	2.849
Flow Width (m):	0.000	2.737	0.000	2.737
Hydraulic Radius (m):	0.000	0.026	0.000	0.026
Composite Manning's n:	0.000	0.014	0.000	N/A
Split Flow?	-	-	-	Yes

4. CROSS-SECTION DATA

SEGMENT NO.	LEFT HAND POINT		RIGHT HAND POINT		MANNING'S N
	CHAINAGE (m)	R.L. (m)	CHAINAGE (m)	R.L. (m)	
1	-8.000	32.672	-7.950	32.670	0.035
2	-7.950	32.670	-6.450	32.640	0.013
3	-6.450	32.640	-3.800	32.552	0.035
4	-3.800	32.552	-3.690	32.552	0.013
5	-3.690	32.552	-3.650	32.402	0.013
6	-3.650	32.402	-3.200	32.442	0.013
7	-3.200	32.442	0.000	32.548	0.015
8	0.000	32.548	3.200	32.442	0.015
9	3.200	32.442	3.650	32.402	0.013
10	3.650	32.402	3.690	32.552	0.013
11	3.690	32.552	3.800	32.552	0.013
12	3.800	32.552	6.450	32.640	0.035
13	6.450	32.640	7.950	32.670	0.013
14	7.950	32.670	8.000	32.672	0.035

1. CROSS-SECTION



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 Approved by: Vithu Vijeyakumar
 CARDINIA SHIRE COUNCIL
 Date: Tuesday, 19 August 2025

2. DISCHARGE INFORMATION

1% AEP storm event
 Design discharge after construction of retarding basin
 Required overland / channel / watercourse discharge = 0.049 cumecs

3. RESULTS Water surface elevation = 32.728 m

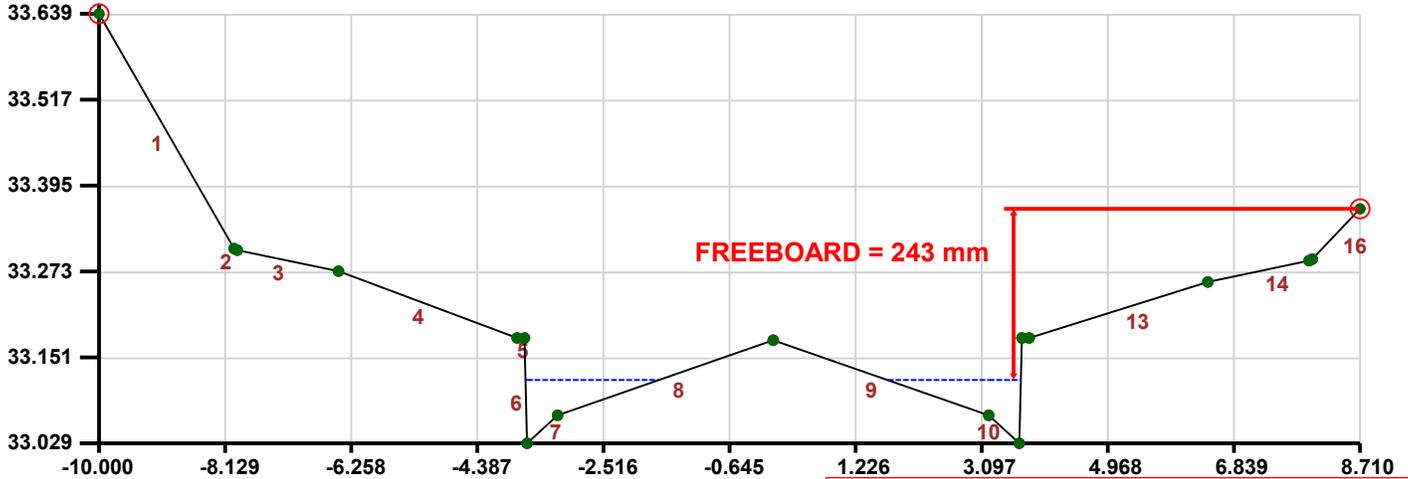
High Flow Channel grade = 1 in 56.433, Main Channel / Low Flow Channel grade = 1 in 56.433.

	LEFT OVERBANK	MAIN CHANNEL	RIGHT OVERBANK	TOTAL CROSS-SECTION
Discharge (cumecs):	0.000	0.059	0.000	0.059
D(Max) = Max. Depth (m):	0.000	0.070	0.000	0.070
D(Ave) = Ave. Depth (m):	0.000	0.027	0.000	0.027
V = Ave. Velocity (m/s):	0.000	0.811	0.000	0.811
D(Max) x V (cumecs/m):	0.000	0.057	0.000	0.057
D(Ave) x V (cumecs/m):	0.000	0.022	0.000	0.022
Froude Number:	0.000	1.583	0.000	N/A
Area (m ²):	0.000	0.073	0.000	0.073
Wetted Perimeter (m):	0.000	2.849	0.000	2.849
Flow Width (m):	0.000	2.737	0.000	2.737
Hydraulic Radius (m):	0.000	0.026	0.000	0.026
Composite Manning's n:	0.000	0.014	0.000	N/A
Split Flow?	-	-	-	Yes

4. CROSS-SECTION DATA

SEGMENT NO.	LEFT HAND POINT		RIGHT HAND POINT		MANNING'S N
	CHAINAGE (m)	R.L. (m)	CHAINAGE (m)	R.L. (m)	
1	-8.000	32.928	-7.950	32.926	0.035
2	-7.950	32.926	-6.450	32.896	0.013
3	-6.450	32.896	-3.800	32.808	0.035
4	-3.800	32.808	-3.690	32.808	0.013
5	-3.690	32.808	-3.650	32.658	0.013
6	-3.650	32.658	-3.200	32.698	0.013
7	-3.200	32.698	0.000	32.804	0.015
8	0.000	32.804	3.200	32.698	0.015
9	3.200	32.698	3.650	32.658	0.013
10	3.650	32.658	3.690	32.808	0.013
11	3.690	32.808	3.800	32.808	0.013
12	3.800	32.808	6.450	32.896	0.035
13	6.450	32.896	7.950	32.926	0.013
14	7.950	32.926	8.000	32.928	0.035

1. CROSS-SECTION



CONSENT FOR CONSTRUCTION
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CARDINIA SHIRE COUNCIL
 Date: Tuesday, 19 August 2025

2. DISCHARGE INFORMATION

1% AEP storm event
 Design discharge after construction of retarding basin
 Required overland / channel / watercourse discharge = 0.064 cumecs

3. RESULTS Water surface elevation = 33.119 m

High Flow Channel grade = 1 in 200, Main Channel / Low Flow Channel grade = 1 in 200.

	LEFT OVERBANK	MAIN CHANNEL	RIGHT OVERBANK	TOTAL CROSS-SECTION
Discharge (cumecs):	0.000	0.072	0.000	0.072
D(Max) = Max. Depth (m):	0.000	0.090	0.000	0.090
D(Ave) = Ave. Depth (m):	0.000	0.036	0.000	0.036
V = Ave. Velocity (m/s):	0.000	0.515	0.000	0.515
D(Max) x V (cumecs/m):	0.000	0.046	0.000	0.046
D(Ave) x V (cumecs/m):	0.000	0.018	0.000	0.018
Froude Number:	0.000	0.872	0.000	N/A
Area (m ²):	0.000	0.140	0.000	0.140
Wetted Perimeter (m):	0.000	4.091	0.000	4.091
Flow Width (m):	0.000	3.947	0.000	3.947
Hydraulic Radius (m):	0.000	0.034	0.000	0.034
Composite Manning's n:	0.000	0.014	0.000	N/A
Split Flow?	-	-	-	Yes

4. CROSS-SECTION DATA

SEGMENT NO.	LEFT HAND POINT		RIGHT HAND POINT		MANNING'S N
	CHAINAGE (m)	R.L. (m)	CHAINAGE (m)	R.L. (m)	
1	-10.000	33.639	-8.000	33.306	0.035
2	-8.000	33.306	-7.950	33.303	0.035
3	-7.950	33.303	-6.450	33.273	0.013
4	-6.450	33.273	-3.800	33.179	0.035
5	-3.800	33.179	-3.690	33.179	0.013
6	-3.690	33.179	-3.650	33.029	0.013
7	-3.650	33.029	-3.200	33.069	0.013
8	-3.200	33.069	0.000	33.175	0.015
9	0.000	33.175	3.200	33.069	0.015
10	3.200	33.069	3.650	33.029	0.013
11	3.650	33.029	3.690	33.179	0.013
12	3.690	33.179	3.800	33.179	0.013
13	3.800	33.179	6.450	33.258	0.035
14	6.450	33.258	7.950	33.288	0.013

4. CROSS-SECTION DATA (continued)

SEGMENT NO.	LEFT HAND POINT		RIGHT HAND POINT		MANNING'S N
	CHAINAGE (m)	R.L. (m)	CHAINAGE (m)	R.L. (m)	
15	7.950	33.288	8.000	33.291	0.035
16	8.000	33.291	8.710	33.362	0.035

CONSENT FOR CONSTRUCTION

CARDINIA SHIRE COUNCIL

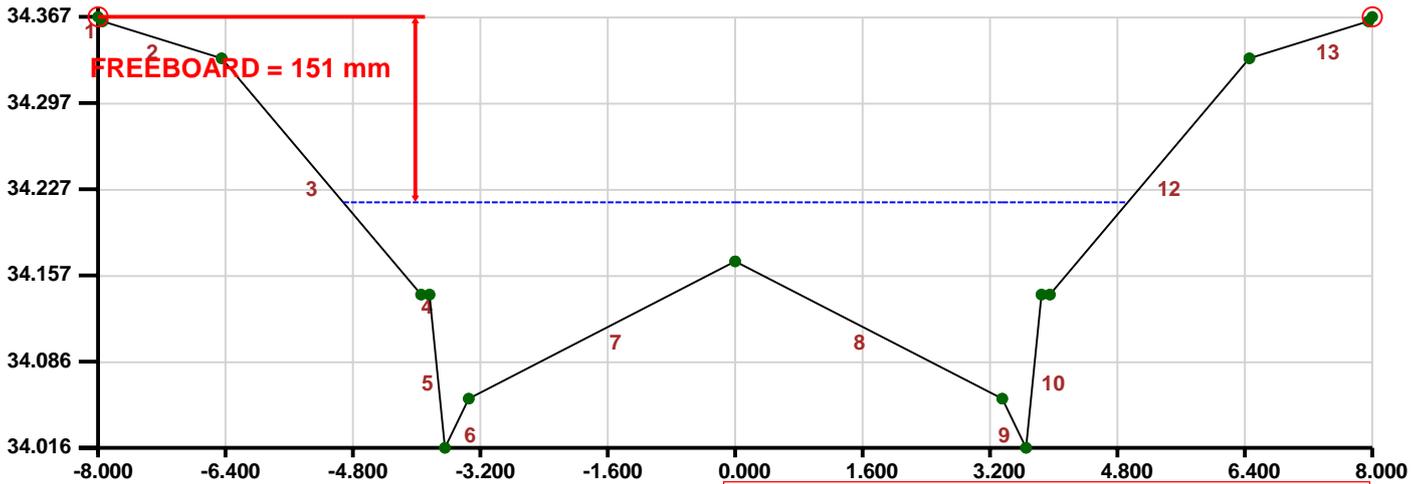
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CARDINIA SHIRE COUNCIL

Date: Tuesday, 19 August 2025

1. CROSS-SECTION:



CONSENT FOR CONSTRUCTION

CARDINIA SHIRE COUNCIL

Ref No.: S24-143, T220227
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 Approved by: Vithu Vijeyakumar
CARDINIA SHIRE COUNCIL
 Date: Tuesday, 19 August 2025

2. DISCHARGE INFORMATION:

100 year (1%) storm event

Total discharge = 0.62 cumecs

There is no pipe discharge

Overland / Channel / Watercourse discharge = 0.62 cumecs

3. RESULTS: Water surface elevation = 34.216 m

High Flow Channel grade = 1 in 200, Main Channel / Low Flow Channel grade = 1 in 200.

	LEFT OVERBANK	MAIN CHANNEL	RIGHT OVERBANK	TOTAL CROSS-SECTION
Discharge (cumecs):	0.000	0.699	0.000	0.699
D(Max) = Max. Depth (m):	0.000	0.200	0.000	0.200
D(Ave) = Ave. Depth (m):	0.000	0.096	0.000	0.096
V = Ave. Velocity (m/s):	0.000	0.738	0.000	0.738
D(Max) x V (cumecs/m):	0.000	0.148	0.000	0.148
D(Ave) x V (cumecs/m):	0.000	0.071	0.000	0.071
Froude Number:	0.000	0.760	0.000	0.760
Area (m ²):	0.000	0.948	0.000	0.948
Wetted Perimeter (m):	0.000	9.940	0.000	9.940
Flow Width (m):	0.000	9.850	0.000	9.850
Hydraulic Radius (m):	0.000	0.095	0.000	0.095
Composite Manning's n:	0.000	0.020	0.000	0.020
Split Flow?	-	-	-	No

4. CROSS-SECTION DATA:

SEGMENT NO.	LEFT HAND POINT		RIGHT HAND POINT		MANNING'S N
	CHAINAGE (m)	R.L. (m)	CHAINAGE (m)	R.L. (m)	
1	-8.000	34.367	-7.950	34.363	0.020
2	-7.950	34.363	-6.450	34.333	0.020
3	-6.450	34.333	-3.950	34.141	0.020
4	-3.950	34.141	-3.840	34.141	0.020
5	-3.840	34.141	-3.650	34.016	0.020
6	-3.650	34.016	-3.350	34.056	0.020
7	-3.350	34.056	0.000	34.168	0.020
8	0.000	34.168	3.350	34.056	0.020
9	3.350	34.056	3.650	34.016	0.020
10	3.650	34.016	3.840	34.141	0.020
11	3.840	34.141	3.950	34.141	0.020
12	3.950	34.141	6.450	34.333	0.020

4. CROSS-SECTION DATA: (continued)

<u>SEGMENT NO.</u>	<u>LEFT HAND POINT</u>		<u>RIGHT HAND POINT</u>		<u>MANNING'S N</u>
	<u>CHAINAGE (m)</u>	<u>R.L. (m)</u>	<u>CHAINAGE (m)</u>	<u>R.L. (m)</u>	
13	6.450	34.333	7.950	34.363	0.020
14	7.950	34.363	8.000	34.367	0.020

CONSENT FOR CONSTRUCTION

CARDINIA SHIRE COUNCIL

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Approved by: Vithu Vijeyakumar
CARDINIA SHIRE COUNCIL
Date: Tuesday, 19 August 2025