

# ALAMORA

## STAGE 15

# WYNDHAM CITY COUNCIL

Planning and Environment Act 1987  
Wyndham Planning Scheme

Approved Plan As Required  
under Condition 40  
Permit No WYP10817/18  
Date 19/02/2025

### NOTES:

- GENERAL:**
- ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH THE DRAWINGS, CURRENT COUNCIL STANDARD DRAWINGS AND SPECIFICATIONS AND VPA EDM GUIDELINES TO THE SATISFACTION OF COUNCIL'S SUPERINTENDENT & A.S.2124-1992 GENERAL CONDITIONS OF CONTRACT.
  - PRIOR TO COMMENCEMENT OF WORKS ON SITE, THE CONTRACTOR MUST ENSURE THAT ALL MATTERS RELATING TO THE OCCUPATIONAL HEALTH AND SAFETY ACT 1985, INCLUDING ALL RELEVANT REGULATIONS, HAVE BEEN ADDRESSED IN PARTICULAR THE REQUIRED NOTIFICATIONS MUST BE CONVEYED TO THE VICTORIAN WORK COVER AUTHORITY - HEALTH AND SAFETY DIVISION WITH RESPECT TO TRENCHING OPERATIONS. DETAILS OF THE CONTRACTORS OCCUPATIONAL HEALTH AND SAFETY PROCEDURES MUST BE LODGED WITH THE SUPERINTENDENT PRIOR TO COMMENCEMENT OF WORKS.
  - THE CONTRACTOR IS TO NOTIFY COUNCIL AND ALL SERVICE AUTHORITIES SEVEN (7) DAYS PRIOR TO COMMENCING CONSTRUCTION.
  - THE CONTRACTOR SHALL CO-OPERATE WITH OTHER CONTRACTORS AND/OR AUTHORITIES AND SHALL ENSURE THAT ALL SERVICES ARE INSTALLED PRIOR TO THE FINAL PAVEMENT COURSE. THE CONTRACTOR SHALL CHECK WITH THE ENGINEER THE EXACT LOCATION OF ALL PROPOSED SERVICES PRIOR TO THE INSTALLATION OF CONDUITS. ALL WORKS ARE TO BE CARRIED OUT TO THE SATISFACTION OF COUNCIL'S SUPERINTENDENT.
  - THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UNDERGROUND SERVICES PRIOR TO COMMENCING EXCAVATIONS AND THE VARIOUS AUTHORITIES ARE TO BE NOTIFIED. SHOULD ANY EXISTING SERVICES BE DAMAGED DURING CONSTRUCTION WORKS, THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR REPAIRS. ALL COSTS FOR THIS SHALL BE BORNE BY THE CONTRACTOR.
  - PRIOR TO COMMENCING WORK ON TRENCHES IN EXCESS OF 1.50m DEEP, NOTICE OF SUCH PROPOSAL IS TO BE SENT TO THE SECRETARY OF MINERALS AND ENERGY IN ACCORDANCE WITH CLAUSE 202 OF THE MINES (TRENCHES) REGULATIONS 1982. A FOREMAN QUALIFIED AS A MINES MANAGER MUST BE IN ATTENDANCE AT ALL TIMES DURING SUCH EXCAVATION WORKS.
  - THE CONTRACTOR SHALL ERECT AND MAINTAIN ALL NECESSARY SHORING, PLANKING AND STRUTTING, DEWATERING DEVICES, BARRICADES, SIGNS, LIGHTS, ETC. NECESSARY TO KEEP THE WORKS IN A SAFE AND STABLE CONDITION TO PROTECT THE PUBLIC FROM THE WORKS. UPON COMPLETION OF CONSTRUCTION, THE WHOLE SITE SHALL BE CLEANED UP & GRADED OVER AND ALL RUBBISH IS TO BE REMOVED. THE SITE IS TO BE LEFT CLEAN & TIDY AND TO THE SATISFACTION OF COUNCIL'S SUPERINTENDENT.
  - UPON COMPLETION OF THE CIVIL WORKS, THE CONTRACTOR SHALL PROVIDE "AS CONSTRUCTED" PLANS IN A D-SPEC AND R-SPEC DIGITAL FORMAT TO COUNCIL'S REQUIREMENTS AND TO THE SATISFACTION OF ALL PARTIES.
  - THE INFRASTRUCTURE MANAGER OR HIS REPRESENTATIVE SHALL BE GIVE ACCESS TO THE SITE AT ALL TIMES. ALL CONSTRUCTION WORKS SHALL BE COMPLETED TO THE SATISFACTION OF COUNCIL'S SUPERINTENDENT.
  - BLASTING REQUIRES BLASTING PERMIT FROM COUNCIL.
  - ANY EXISTING PAVEMENT OR DRAINAGE DAMAGED DURING CONSTRUCTION OR THE MAINTENANCE PERIOD IS TO BE REINSTATED BY THE CONTRACTOR TO THE SATISFACTION OF THE SUPERINTENDENT.

- SURVEY & SETOUT:**
- ALL LEVELS ARE TO AUSTRALIAN HEIGHT DATUM (AHD).
  - PERMANENT SURVEY MARK SKETCH PLANS ARE TO BE PREPARED ESTABLISHING A.H.D. LEVELS AND A.M.G. CO-ORDINATES FOR REGISTRATION WITH THE C.P.O. BY A LICENSED SURVEYOR.
  - ALL TBMS AND CONTROL POINTS ARE TO BE MAINTAINED AND PROTECTED AT ALL TIMES DURING CONSTRUCTION. SHOULD ANY MARKS BE DISTURBED, THE CONTRACTOR WILL IMMEDIATELY NOTIFY THE CONSULTANT TO ARRANGE REINSTATEMENT AT THE CONTRACTORS EXPENSE.

- EARTHWORKS:**
- EARTHWORKS ARE TO BE PERFORMED IN ACCORDANCE WITH A.S.3798-2007 (GUIDELINES ON EARTHWORKS FOR COMMERCIAL AND RESIDENTIAL DEVELOPMENTS). FILLING TO BE CARRIED OUT USING APPROVED CLAY FILL. COMPACTED TO 95% AASHO. DAMS AND OPEN CHANNELS TO BE EXCAVATED TO A FIRM BASE TO THE SATISFACTION OF A SUITABLY QUALIFIED GEOTECHNICAL ENGINEER PRIOR TO COMMENCEMENT OF FILLING. ALL FILLING MUST COMPLY WITH A.S. 3798-2007 LEVEL 1 AND BE COMPACTED IN 150mm LAYERS. CONTRACTOR TO TAKE LEVELS IN EXISTING DAMS AND CHANNELS PRIOR TO FILLING & LEVELS RECORDED TO BE SUPPLIED TO THE ENGINEER FOR AS CONSTRUCTED PLAN FILLING TO BE CARRIED OUT USING APPROVED MATERIAL. TOPSOIL AND ALL VEGETABLE MATERIAL TO BE STRIPPED FROM FILL SITE PRIOR TO ANY PLACEMENT OF MATERIAL. ALL FILLING TO BE CARRIED OUT IN 150mm LAYERS AND COMPACTED TO 95% OF MAXIMUM DRY DENSITY.
  - FILL AREAS TO BE STRIPPED OF TOPSOIL, THEN REPLACED TO OBTAIN FINAL LEVELS AS SHOWN ON THE DRAWINGS. ALL FILLING TO BE COMPACTED AS SPECIFIED.
  - NO TOP SOIL TO BE REMOVED FROM THE SITE WITHOUT THE APPROVAL OF COUNCIL.
  - THE NATURE STRIPS IN CUT OR FILLED AREAS ARE TO BE TOPSOILED WITH 100mm OF APPROVED TOPSOIL MATERIAL. IF THE SOIL ON THE SITE, IS NOT SUITABLE, IT SHALL BE IMPORTED AT THE CONTRACTORS EXPENSE. THE APPROVED TOPSOIL MATERIAL IS TO BE TO THE SATISFACTION OF COUNCIL'S SUPERINTENDENT.
  - ALL ALLOTMENTS TO BE GRADED AT A MINIMUM OF 1 IN 150 TO THE LOW CORNER. UNLESS OTHERWISE SHOWN BATTERS INTO ALLOTMENTS SHALL NOT BE STEEPER THAN 1 IN 6. ALL BATTERS ARE TO BE GRASSED AND MULCHED WITH A MIXTURE OF CHOPPED GRASS, HAY, STRAW AND BITUMINOUS EMULSION. ALL TO THE SATISFACTION OF COUNCIL'S SUPERINTENDENT.
  - FOR THE TERM OF THE CONTRACT PERIOD THE CONTRACTOR SHALL TAKE ADEQUATE PRECAUTION TO PREVENT THE EMISSION OF DUST, WHETHER FROM THE OPERATION OF CONSTRUCTION EQUIPMENT OR EXPOSURE OF SOIL TO WINDS.
  - APPROPRIATE SILTATION CONTROL IS TO BE CARRIED OUT DURING CONSTRUCTION AND MAINTENANCE PERIOD.
  - ON COMMENCEMENT OF CONSTRUCTION WORKS THE CONTRACTOR MUST COMPLY WITH THE RECOMMENDATIONS OF THE EPA PUBLICATION "CONSTRUCTION TECHNIQUES FOR SEDIMENT POLLUTION CONTROL" (PUBLICATION NO. 275).
  - COMPACTION RESULTS OF EASEMENTS TO BE PROVIDED TO COUNCILS CONSTRUCTION ENGINEER.

### ROADS:

- ALL DIMENSIONS AND RADII ARE GIVEN TO LIP OF KERBS, CHAINAGES ARE WITH RESPECT TO CENTRE LINE OF ROAD RESERVE, UNLESS OTHERWISE SHOWN.
- ALL PAVEMENT MATERIALS ARE TO BE VICROADS APPROVED MATERIALS.
- PAVEMENT SUB-BASE AND BEDDING TO KERB & CHANNEL IS TO EXTEND 600mm BEHIND BACK OF KERB.
- ALL SERVICES ARE TO BE CONSTRUCTED PRIOR TO PLACEMENT OF CAPPING LAYER UNDER ROADS.
- ALL DRIVEWAYS ARE TO BE 3.5m WIDE AND OFFSET 0.75m FROM THE SIDE BOUNDARY OR EASEMENT, UNLESS OTHERWISE SHOWN - REFER EDM 501 & 502. DRIVEWAY LAYBACK AND WINGS TO BE CONSTRUCTED AS A SINGLE SEGMENT OF CONCRETE.
- ACCESS RAMPS (DRIVEWAYS INTO LOTS) SHOULD HAVE A MAXIMUM GRADE OF 1 IN 10.
- CONCRETE SHALL BE 25 MPa FOR BOTH KERB AND CHANNEL AND FOOTPATH, HAVING A MINIMUM CEMENT CONTENT OF 280kg PER CUBIC METRE.
- FOOTPATHS AND VEHICLE CROSSINGS TO BE DOWELLED AT THE END OF EACH DAY'S POUR OF CONCRETE.
- SIGNS, LINEMARKING AND DELINEATORS ARE TO BE INSTALLED AS APPLICABLE ON ROADS IN ACCORDANCE WITH A.S.1742.2.
- STREET SIGNS ARE TO BE PROVIDED TO THE WYNDHAM CITY COUNCIL STANDARD, INCLUDING THE PROVISION OF LOGOS.
- INSTALL BLUE RAISED REFLECTIVE PAVEMENT MARKER ON ALL ROAD CENTRELINE AND "GROUND BALL" MARKER POST TO INDICATE THE LOCATION OF ALL FIREPLUGS.

### DRAINAGE:

- DRAINAGE PIPES SHALL BE RUBBER RING JOINTS REINFORCED CONCRETE CLASS 2, UNLESS OTHERWISE SHOWN.
- ALL PVC STORM WATER DRAINAGE PIPES TO BE SEWER QUALITY PVC.
- NO PVC STORM WATER DRAINAGE PIPES TO BE LAID UNDER ROADS.
- DRAINAGE PIPES AND PITS ARE SET OUT FROM OFFSETS, RATHER THAN FROM CENTRELINE PIPE CHAINAGES. CURVILINEAR DRAINAGE PIPES MUST BE INSTALLED IN ACCORDANCE WITH MANUFACTURES GUIDELINES.
- DRAINAGE PIPES SHALL NOT BE SUBJECTED TO CONSTRUCTION TRAFFIC LOADING DURING CONSTRUCTION UNLESS THE PIPE STRENGTH CHARACTERISTICS HAVE BEEN APPROVED BY THE CONTRACTORS ENGINEER. COMPUTATIONS ARE TO ACCORD WITH AS.3725-2007, LOADS ON BURIED PIPES.
- PROPERTY INLET PITS ARE TO BE LOCATED 1.00m FROM LOW SIDE BOUNDARY, UNLESS OTHERWISE SHOWN. INVERTS OF PROPERTY INLETS ARE TO BE A MINIMUM OF 400mm BELOW FINISHED SURFACE.
- HOUSE DRAINS ARE TO BE CONNECTED DIRECTLY INTO UNDERGROUND DRAINAGE PIPES OR PITS AND OFFSET FROM SIDE BOUNDARY 5.0m WHERE POSSIBLE AS PER EDM 701. THE LOCATION OF THE HOUSE DRAIN TO BE MARKED AS PER EDM 303. HOUSE DRAIN LEVEL TO BE A MINIMUM 0.4m BELOW THE LOWEST CORNER OF THE LOT.
- ALL DRAINAGE PIPES UNDER ROAD PAVEMENT, DRIVEWAY, FOOTPATH & KERB AND CHANNEL SHALL BE BACKFILLED WITH CLASS 3 F.C.R.
- PRIOR TO THE ISSUE OF STATEMENT OF COMPLIANCE, ALL DRAINS ARE TO BE CCTV TESTED AND THE RESULTS PROVIDED TO COUNCIL.
- SUBSURFACE DRAINS ARE TO BE LAID BEHIND ALL KERB AND CHANNEL AS PER EDM 202.
- WHEN ROADS ARE TRUNCATED AGAINST RISING LAND PENDING DEVELOPMENT OF FUTURE STAGES, TEMPORARY A.G. DRAINS SHALL BE INSTALLED ACROSS THE END OF THE ROAD TO PREVENT SEEPAGE INTO PAVEMENT.

### UTILITIES:

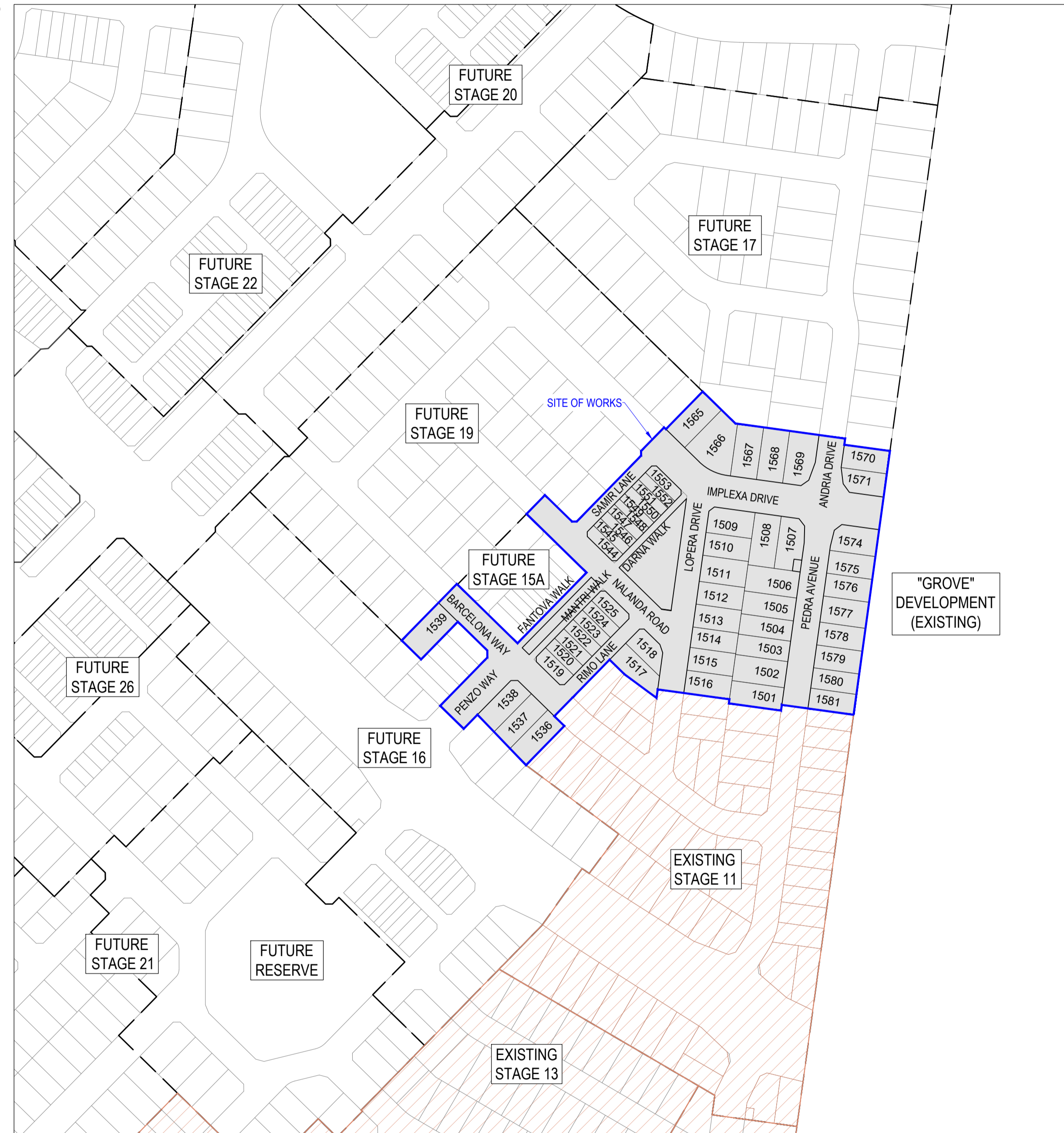
- SERVICE CONDUITS ARE TO BE INSTALLED AT THE LOCATIONS SHOWN ON THIS DRAWING. LOCATION OF ALL UNDERGROUND SERVICE CONDUITS TO BE MARKED ON KERB & CHANNEL AS PER EDM 303. SERVICE CONDUITS THAT ARE SUBJECT TO AMENDMENT SHALL NOT BE LAID UNTIL WRITTEN APPROVAL IS GIVEN BY THE SUPERINTENDENT.
- ALL CONDUIT TRENCHES UNDER ROAD PAVEMENT, DRIVEWAY, FOOTPATH & KERB AND CHANNEL SHALL BE BACKFILLED WITH CLASS 2 F.C.R.
- NBN TO BE NOTIFIED AT LEAST SEVEN (7) DAYS PRIOR TO CONCRETE WORKS BEING PLACED. NBN PITS ARE TO BE CLEAR OF PATHS - WITH THE EXCEPTION OF NEMI PARADE (WEST SIDE).
- LOCATION OF ELECTRICITY AND VUF CONDUITS WILL BE PROVIDED ON SEPARATE DRAWINGS.
- CONCRETE IS TO BE PLACED AROUND ELECTRICAL DISTRIBUTION PITS TO A MINIMUM DEPTH OF 125mm. DISTRIBUTION PITS WITHIN FOOTPATHS ARE TO A MINIMUM OF 300mm WITHIN THE EDGE OF PATH.

### VEGETATION:

- ALL EXISTING TREES ARE TO BE PROTECTED DURING CONSTRUCTION.
- ANY TREE REMOVAL MUST BE IN ACCORDANCE WITH THE APPROVED LANDSCAPE PLAN OR AS DIRECTED ONSITE BY THE LANDSCAPE APPROVALS OFFICER. TREES SHOWN ON THE PLANS ARE TO BE RETAINED AND PROTECTED FROM DAMAGE DURING CONSTRUCTION.
- ALL ROOTS AND DECOMPOSABLE MATERIAL UNDER ROAD PAVEMENTS SHALL BE REMOVED TO THE SATISFACTION OF COUNCIL'S SUPERINTENDENT.
- NO SURPLUS TREES OR VEGETATION ARE TO BE BURNT ON SITE.

### STRUCTURAL:

- A BUILDING PERMIT MUST BE OBTAINED FOR ANY STRUCTURE/RETAINING WALL EXCEEDING 1.0m IN HEIGHT PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, IN ACCORDANCE WITH THE BUILDING CODE OF AUSTRALIA. COPY OF BUILDING PERMITS AND 'CERTIFICATE F COMPLIANCE-CONSTRUCTION' TO BE SUBMITTED TO COUNCIL PRIOR TO STATEMENT OF COMPLIANCE.
- ALL STRUCTURAL WORK MUST BE SUPERVISED BY A QUALIFIED STRUCTURAL ENGINEER.



LOCALITY PLAN

MELWAYS REF: 234 E7

### Drawing Index

Drawing No.	Drawing Title	Revision
R100	COVER SHEET	2
R200	LAYOUT PLAN	1
R201	SERVICES PLAN	1
R202	EARTHWORKS PLAN	0
R203	TYPICAL CROSS SECTIONS	0
R300	INTERSECTION DETAILS - 1	1
R301	INTERSECTION DETAILS - 2	1
R302	INTERSECTION DETAILS - 3	1
R303	INTERSECTION DETAILS - 4	2
R400	ROAD LONGITUDINAL SECTIONS - 1	0
R401	ROAD LONGITUDINAL SECTIONS - 2	0
R402	ROAD LONGITUDINAL SECTIONS - 3	0
R500	ROAD CROSS SECTIONS - 1	0
R501	ROAD CROSS SECTIONS - 2	0
R502	ROAD CROSS SECTIONS - 3	0
R503	ROAD CROSS SECTIONS - 4	0
R504	ROAD CROSS SECTIONS - 5	0
R505	ROAD CROSS SECTIONS - 6	0
R506	ROAD CROSS SECTIONS - 7	0
R507	ROAD CROSS SECTIONS - 8	0
R600	DRAINAGE LONG SECTIONS - 1	0
R601	DRAINAGE LONG SECTIONS - 2	0
R602	DRAINAGE LONG SECTIONS - 3	0
R603	DRAINAGE LONG SECTIONS - 4	0
R604	DRAINAGE LONG SECTIONS - 5	0
R605	PIT SCHEDULE	0
R700	PAVEMENT PLAN	1
R701	TYPICAL DETAILS	1
R702	PIT DETAILS	0
R800	SIGNAGE & LINEMARKING PLAN	1
R900	CONCRETE JOINTING PLAN - 1	0
R901	CONCRETE JOINTING PLAN - 2	0

**WARNING**  
BEWARE OF UNDERGROUND & OVERHEAD SERVICES  
THE LOCATIONS OF UNDERGROUND & OVERHEAD SERVICES ARE APPROXIMATE ONLY & THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. LOCATE ALL UNDERGROUND SERVICES BEFORE COMMENCEMENT OF WORKS  
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**NOTE:**  
THE SITE OF WORKS IS SUBJECT TO THE PROVISIONS OF CULTURAL HERITAGE MANAGEMENT PLAN No.15676.  
ALL WORKS AND PERSONNEL MUST OBSERVE THE REQUIREMENTS OF THE MANAGEMENT PLAN AT ALL TIMES.

P:\2020\20202 - ALAMORA - TOWNSET\20202 - SCHEDULE 2 DRAWINGS\AC\ROADS & DRAINAGE\20202 - 15 - R100 - COVER SHEET.DWG

REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED
1					
2	29/01/25	UPDATED DRAWING INDEX - RAISED PAVEMENT	S.M	A.W	M.T
1	11/11/24	UPDATED DRAWING INDEX - ADDITIONAL LIP PROFILE ADDED	S.M	A.W	M.T
0	19/09/24	ISSUED FOR CONSTRUCTION	M.P	A.W	M.T
D	27/08/24	COUNCIL COMMENTS	A.W	A.W	M.T
C	18/07/24	COUNCIL COMMENTS	A.W	A.W	M.T
B	30/05/24	AMENDED LOTS ORIENTATION - LOT1517/1518	S.M	A.W	M.T
A	17/05/24	ISSUED FOR TENDER	S.M	S.M	M.T

CLIENT

Communities Designed for Living

PROJECT

Level 7, 176 Wellington Parade  
East Melbourne, VIC, Australia 3002

DRAWING TITLE

**ALAMORA - STAGE 15**  
**COVER SHEET**

STATUS

**ISSUED FOR CONSTRUCTION**

SCALE @ A1 : 1:2000

DESIGNED

S.M

DRAWN

S.M

PROJECT ENGINEER

S.M

PROJECT MANAGER

M.T

PROJECT No.

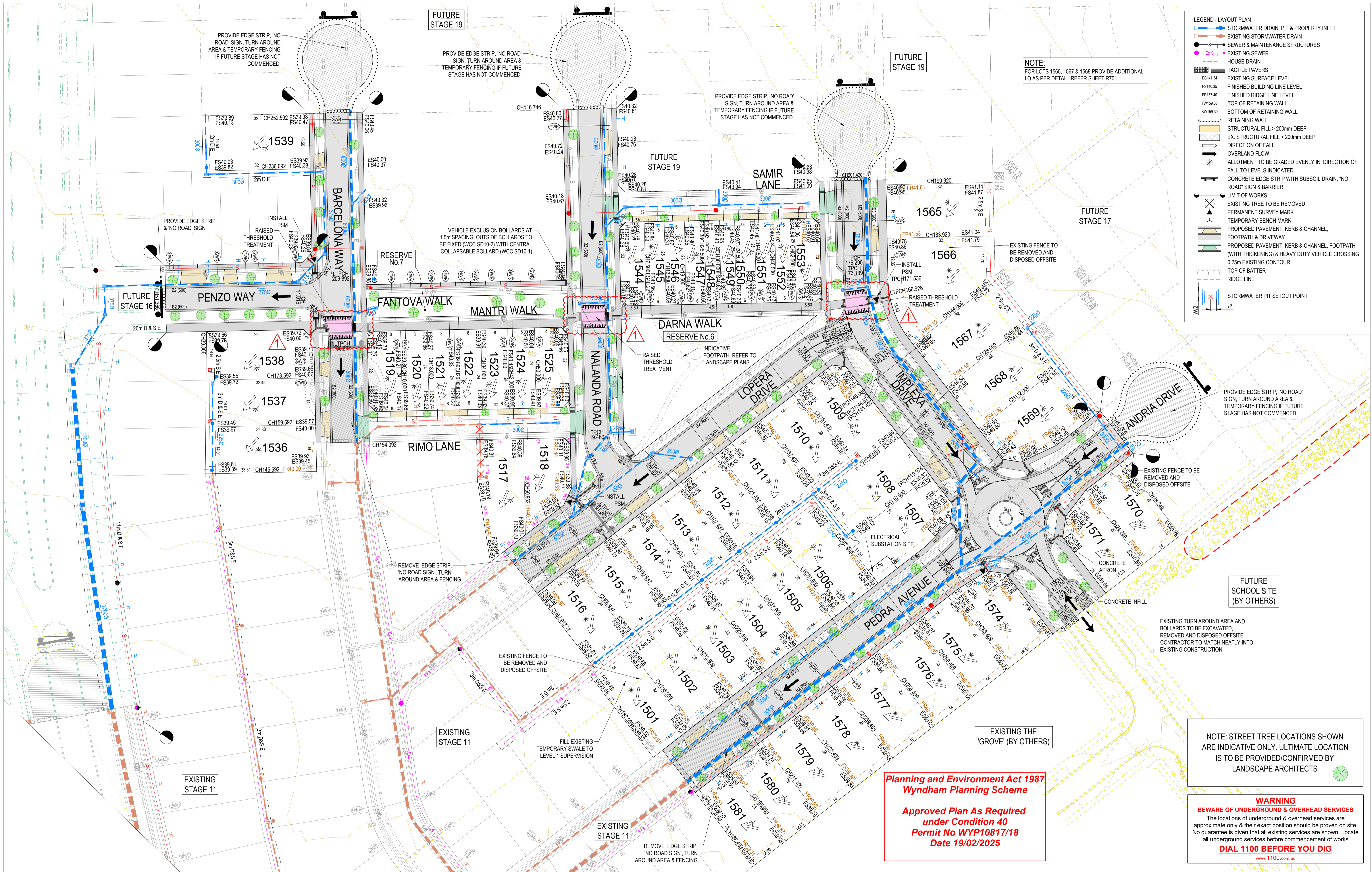
**200282.15**

DRAWING No.

**R100**

REVISION

**2**



REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED
1	29/01/25	RAISED PAVEMENT/TGSI UPDATED	S.M	A.W	M.T
0	19/09/24	ISSUED FOR CONSTRUCTION	M.P	A.W	M.T
D	27/08/24	COUNCIL COMMENTS - GENERAL	A.W	A.W	M.T
C	18/07/24	COUNCIL COMMENTS	A.W	A.W	M.T
B	30/05/24	AMENDED LOTS ORIENTATION - LOT1517/1518	S.M	A.W	M.T
A	17/05/24	ISSUED FOR TENDER	S.M	S.M	M.T

**villawood**  
properties  
Communities Designed for Living

**creo**  
CIVIL  
Level 7, 176 Wellington Parade  
East Melbourne, VIC, Australia 3002

**ALAMORA**  
parceit

DRAWING TITLE  
**ALAMORA - STAGE 15  
LAYOUT PLAN**

STATUS  
**ISSUED FOR  
CONSTRUCTION**

SCALE @ A1: 1:500  
0 5 10 20 30

DESIGNED	PROJECT ENGINEER	
S.M	S.M	
DRAWN	PROJECT MANAGER	
S.M	M.T	
PROJECT No.	DRAWING No.	REVISION
<b>200282.15</b>	<b>R200</b>	<b>1</b>

**Planning and Environment Act 1987  
Wyndham Planning Scheme**

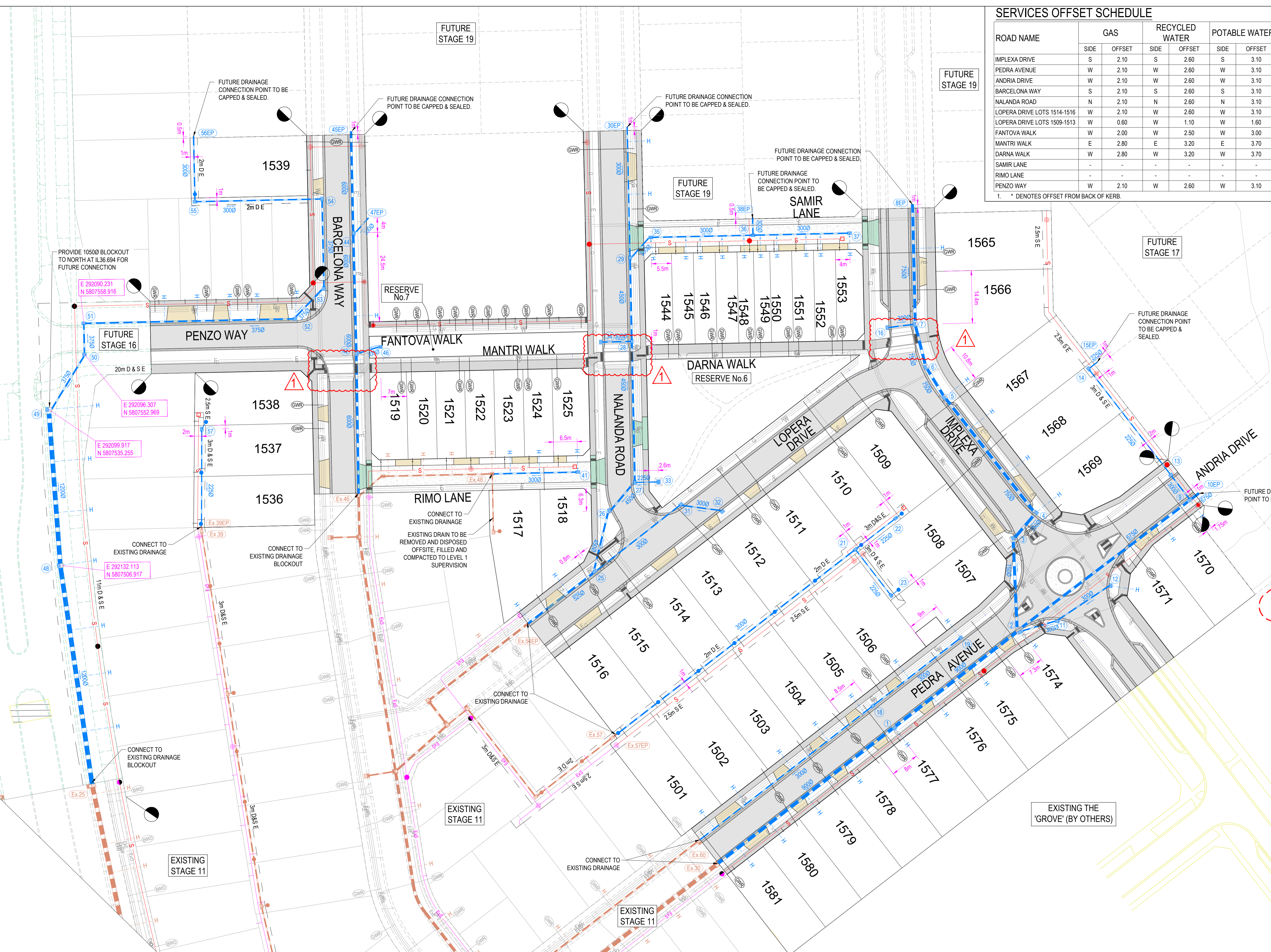
**Approved Plan As Required  
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Date 19/02/2025**

**WARNING**  
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SERVICES OFFSET SCHEDULE

ROAD NAME	GAS		RECYCLED WATER		POTABLE WATER		OPTIC FIBRE		ELECTRICITY		PUBLIC LIGHTING	
	SIDE	OFFSET	SIDE	OFFSET	SIDE	OFFSET	SIDE	OFFSET	SIDE	OFFSET	SIDE	OFFSET
IMPLEXA DRIVE	S	2.10	S	2.60	S	3.10	N	2.80	N	3.25	N	1.00*
PEDRA AVENUE	W	2.10	W	2.60	W	3.10	E	1.80	E	2.45	E	1.00*
ANDRIA DRIVE	W	2.10	W	2.60	W	3.10	E	1.80	E	2.45	E	1.00*
BARCELONA WAY	S	2.10	S	2.60	S	3.10	N	1.80	N	2.45	N	1.00*
NALANDA ROAD	N	2.10	N	2.60	N	3.10	S	1.80	S	2.45	S	1.00*
LOPERA DRIVE LOTS 1514-1516	W	2.10	W	2.60	W	3.10	E	1.80	E	2.40	E	1.00*
LOPERA DRIVE LOTS 1509-1513	W	0.60	W	1.10	W	1.60	E	1.80	E	2.40	E	1.00*
FANTOVA WALK	W	2.00	W	2.50	W	3.00	-	-	-	-	-	-
MANTRI WALK	E	2.80	E	3.20	E	3.70	-	-	-	-	-	-
DARNA WALK	W	2.80	W	3.20	W	3.70	-	-	-	-	-	-
SAMIR LANE	-	-	-	-	-	-	W	0.60	W	1.20	-	-
RIMO LANE	-	-	-	-	-	-	E	0.60	E	1.20	-	-
PENZO WAY	W	2.10	W	2.60	W	3.10	E	2.80	E	3.40	E	1.00*

1. \* DENOTES OFFSET FROM BACK OF KERB.



**LEGEND - SERVICES PLAN**

- STORMWATER DRAIN, PIT & PROPERTY INLET
- EXISTING STORMWATER DRAIN
- SEWER & MAINTENANCE STRUCTURES
- EXISTING SEWER
- HOUSE DRAIN
- SERVICE CONDUITS
- PROPOSED ELECTRICITY (UNDERGROUND)
- PROPOSED GAS
- PROPOSED OPTIC FIBRE
- PROPOSED TELSTRA
- PROPOSED WATER
- PROPOSED RECYCLED WATER
- EXISTING ELECTRICITY (UNDERGROUND)
- EXISTING ELECTRICITY (OVERHEAD)
- EXISTING GAS
- EXISTING OPTIC FIBRE
- EXISTING TELSTRA
- EXISTING WATER
- EXISTING RECYCLED WATER
- PROPOSED PAVEMENT, KERB & CHANNEL, FOOTPATH & DRIVEWAY
- PROPOSED PAVEMENT, KERB & CHANNEL, FOOTPATH (WITH THICKENING) & HEAVY DUTY VEHICLE CROSSING
- STORMWATER PIT SETOUT POINT

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NOTE: STREET TREE LOCATIONS SHOWN ARE INDICATIVE ONLY. ULTIMATE LOCATION IS TO BE PROVIDED/CONFIRMED BY LANDSCAPE ARCHITECTS

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1	29/01/25	RAISED PAVEMENT/TGSI UPDATED	S.M	A.W	M.T
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B	30/05/24	AMENDED LOTS ORIENTATION - LOT1517/1518	S.M	A.W	M.T
A	17/05/24	ISSUED FOR TENDER	S.M	S.M	M.T

**villawood properties**  
Communities Designed for Living

**creo CIVIL**  
Level 7, 176 Wellington Parade  
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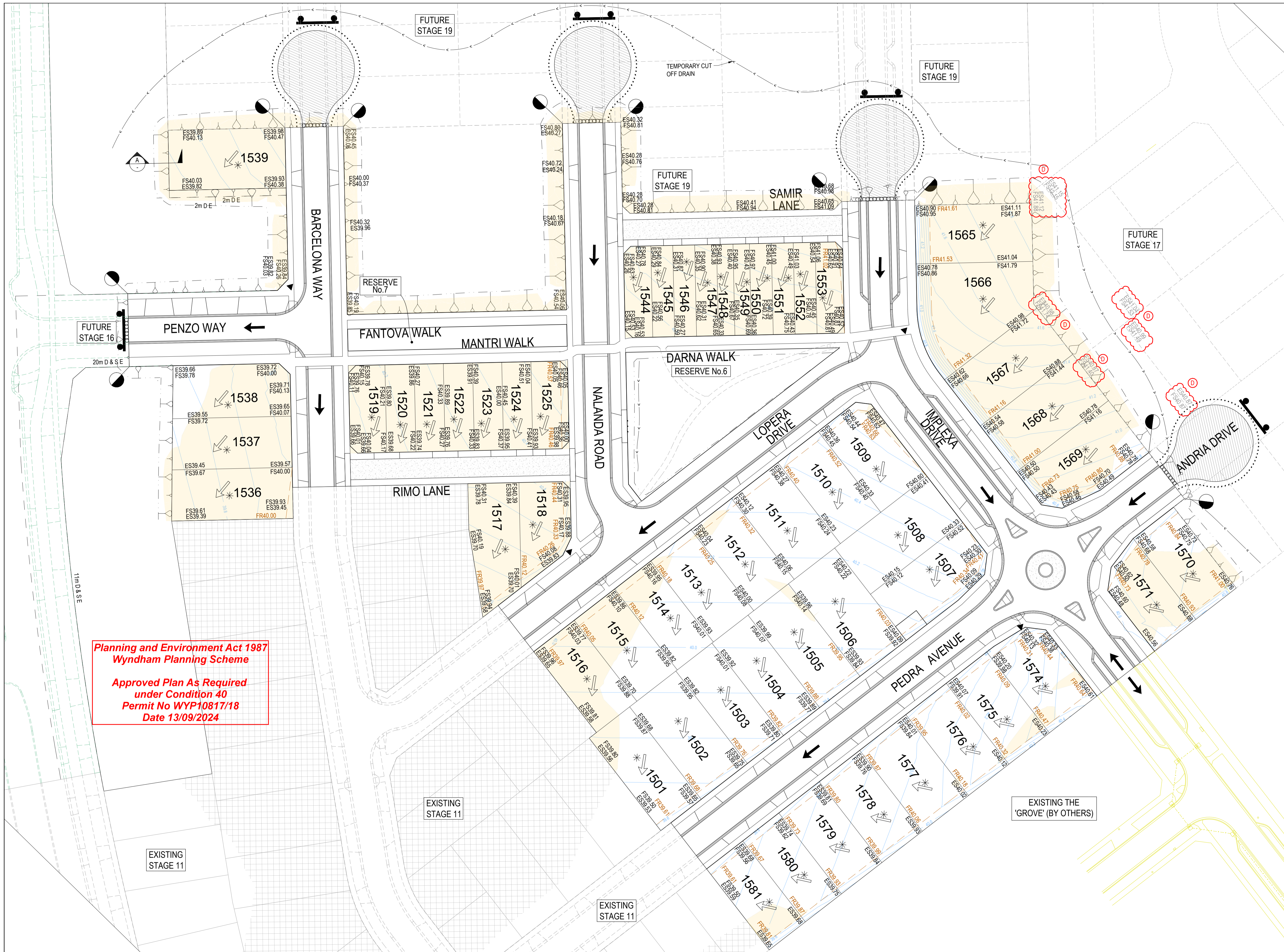
**ALAMORA**  
Tarnait

DRAWING TITLE  
**ALAMORA - STAGE 15  
SERVICES PLAN**

STATUS  
**ISSUED FOR CONSTRUCTION**

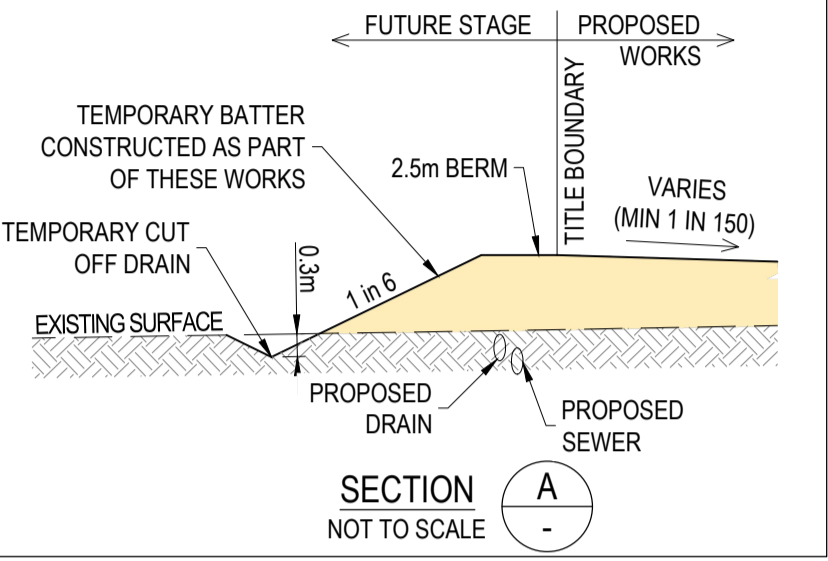
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DESIGNED	S.M	PROJECT ENGINEER	S.M
DRAWN	S.M	PROJECT MANAGER	M.T
PROJECT No.	<b>200282.15</b>	DRAWING No.	<b>R201</b>
REVISION			<b>1</b>



**LEGEND - EARTHWORKS PLAN**

- RIDGE LINE
- TOE OF BATTER
- SWALE DRAIN
- ES141.34 EXISTING SURFACE LEVEL
- FS140.35 FINISHED BUILDING LINE LEVEL
- FR157.40 FINISHED RIDGE LINE LEVEL
- TW159.30 TOP OF RETAINING WALL
- BW159.30 BOTTOM OF RETAINING WALL
- RETAINING WALL
- STRUCTURAL FILL > 200mm DEEP
- EX. STRUCTURAL FILL > 200mm DEEP
- DIRECTION OF FILL
- OVERLAND FLOW
- \* ALLOTMENT TO BE GRADED EVENLY IN DIRECTION OF FALL TO LEVELS INDICATED
- 0.10m CONTOUR



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REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED
D	27/08/24	COUNCIL COMMENTS - FUT. STAGE 17 LEVELS ADDED	A.W	A.W	M.T
C	18/07/24	COUNCIL COMMENTS	A.W	A.W	M.T
B	30/05/24	AMENDED LOTS ORIENTATION - LOT1517/1518	S.M	A.W	M.T
A	17/05/24	ISSUED FOR TENDER	S.M	S.M	M.T

**villawood**  
properties  
Communities Designed for Living

**creo**  
CIVIL  
Level 7, 176 Wellington Parade  
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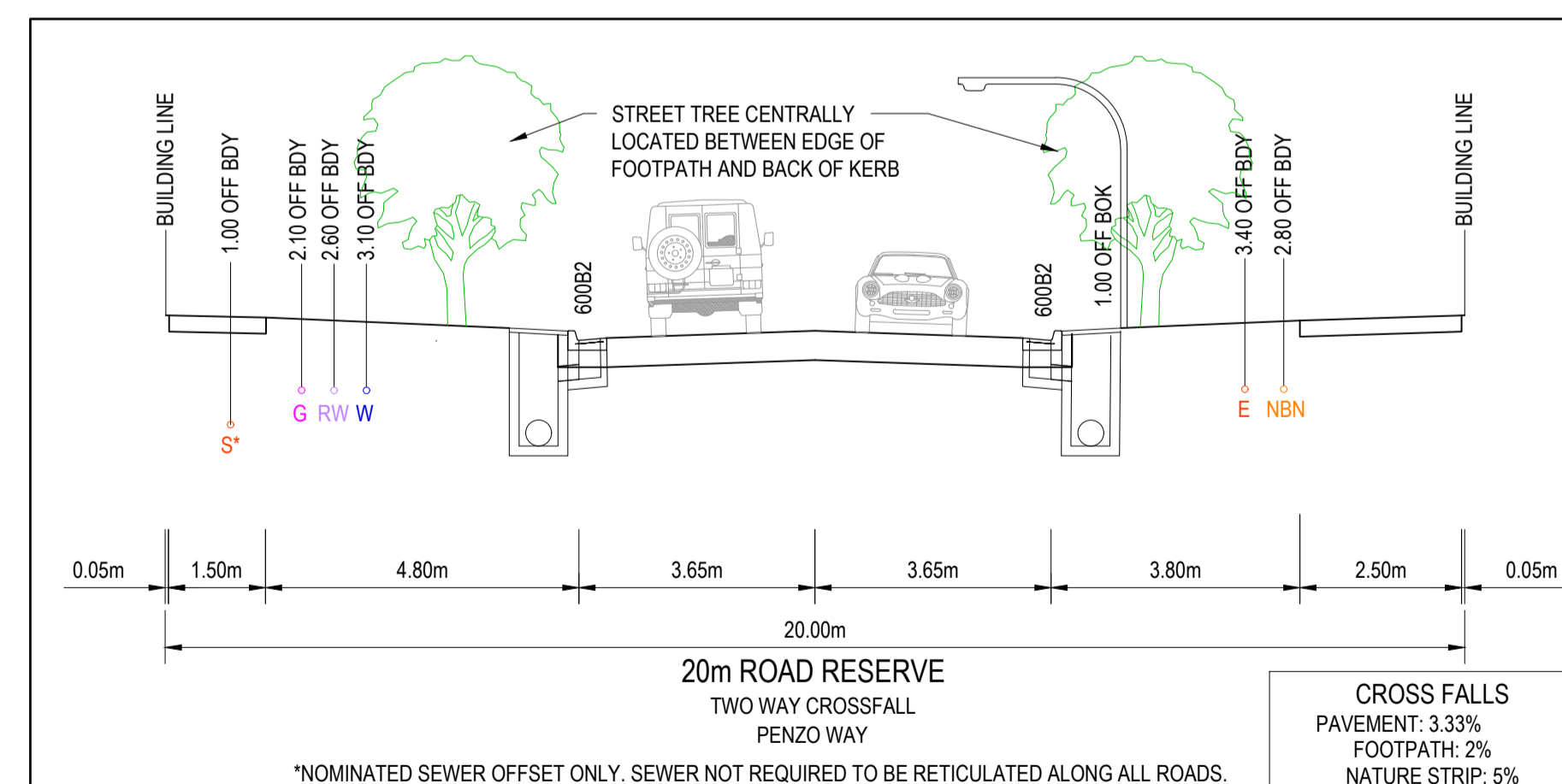
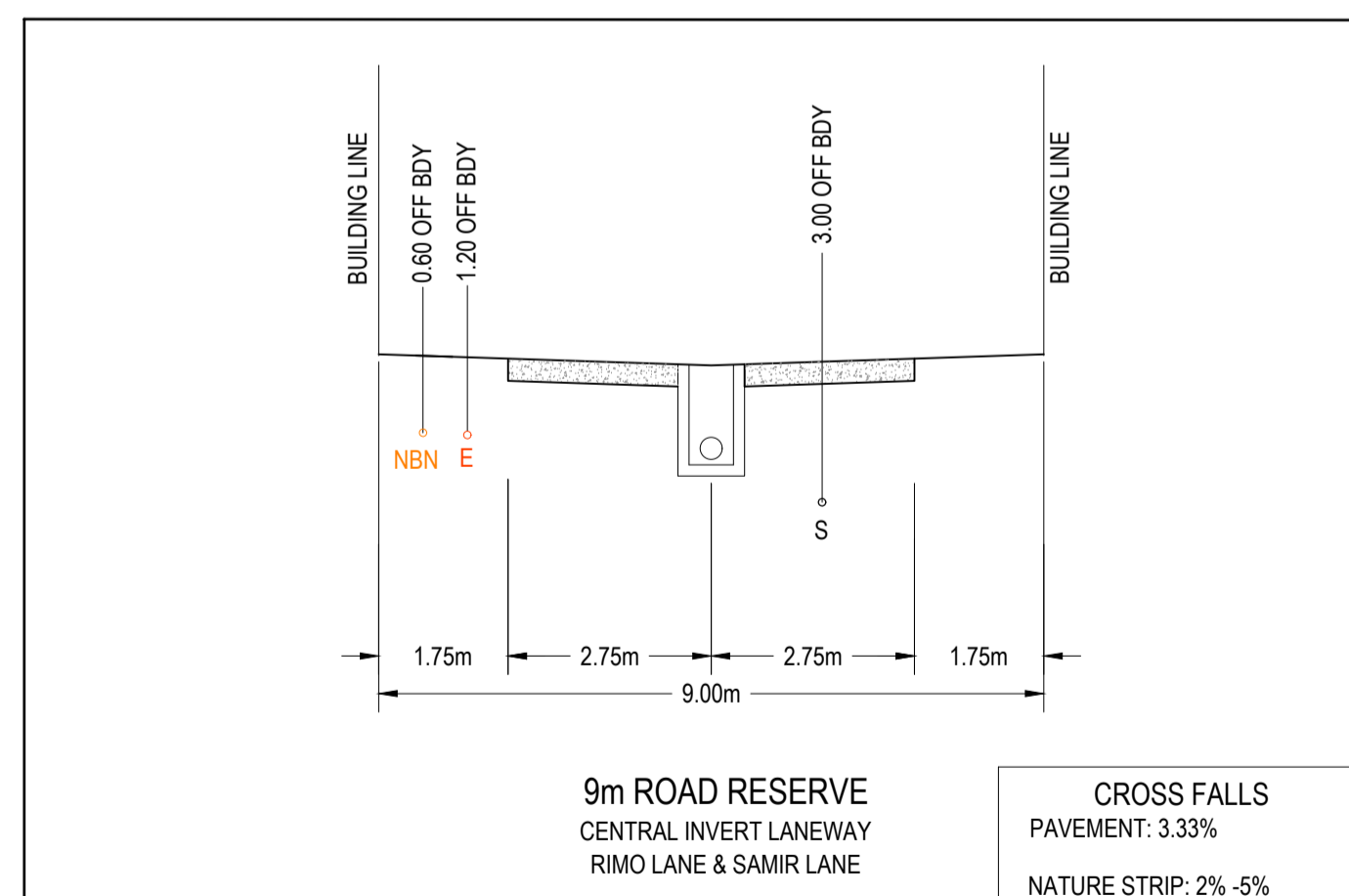
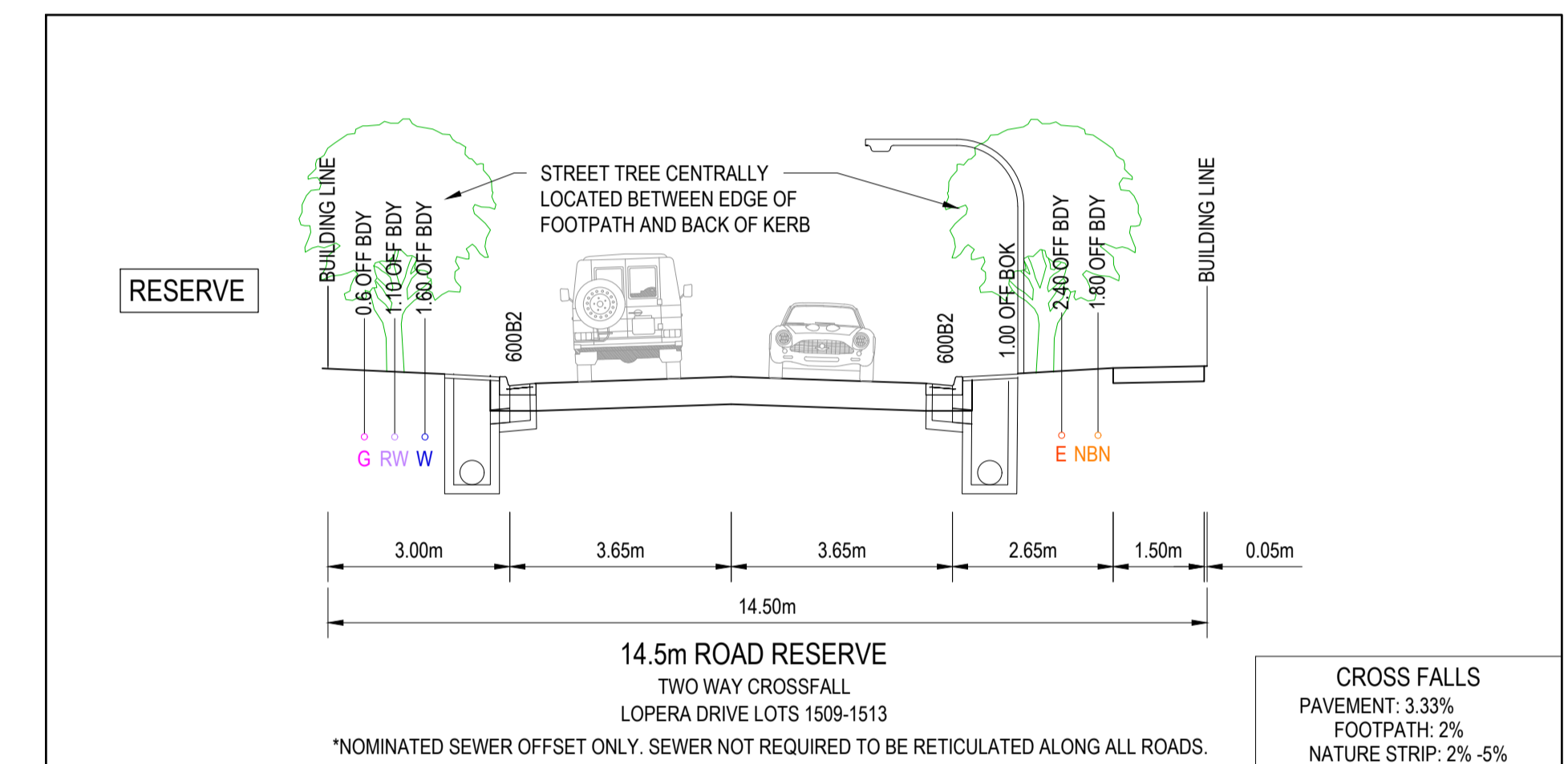
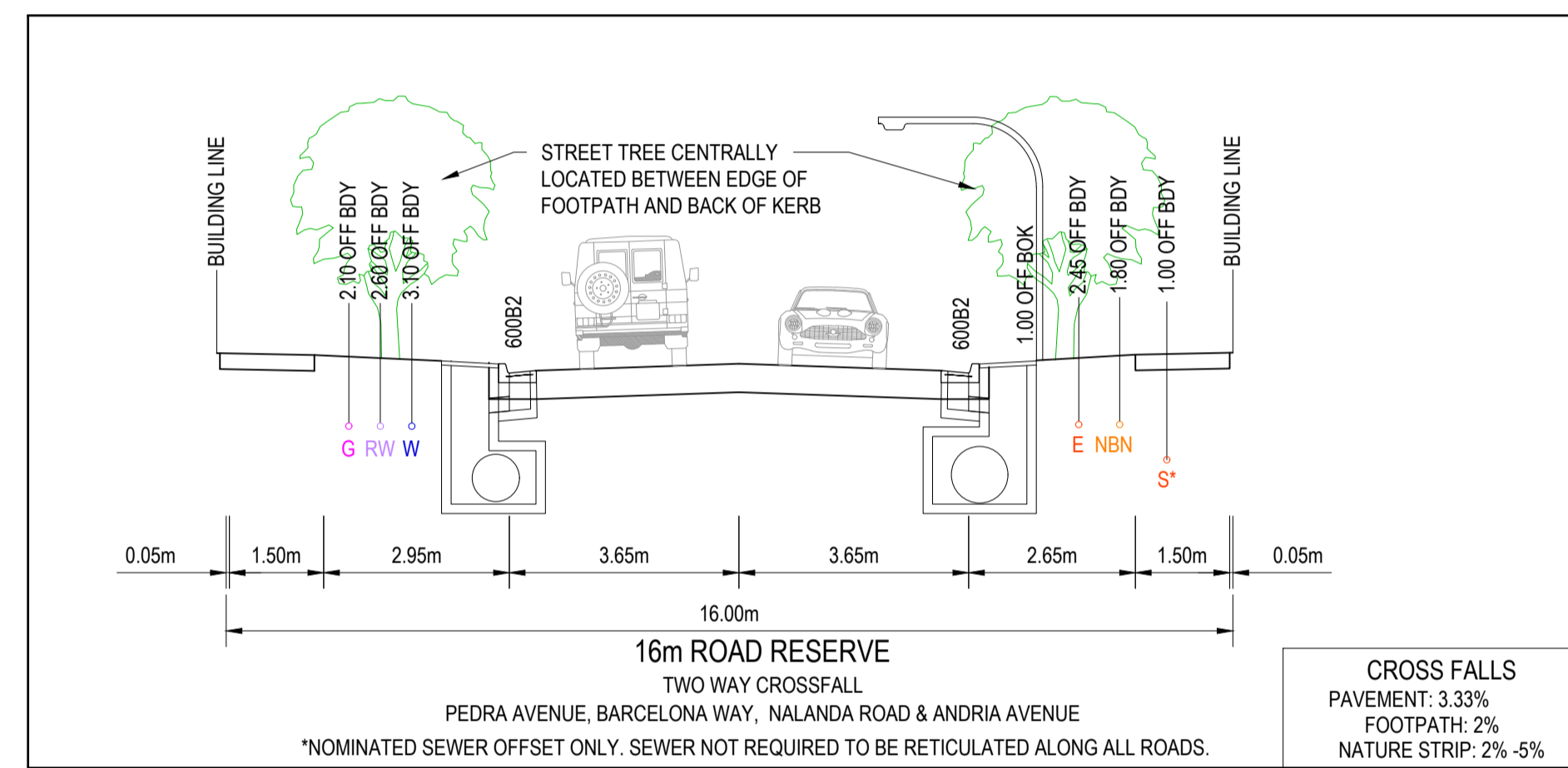
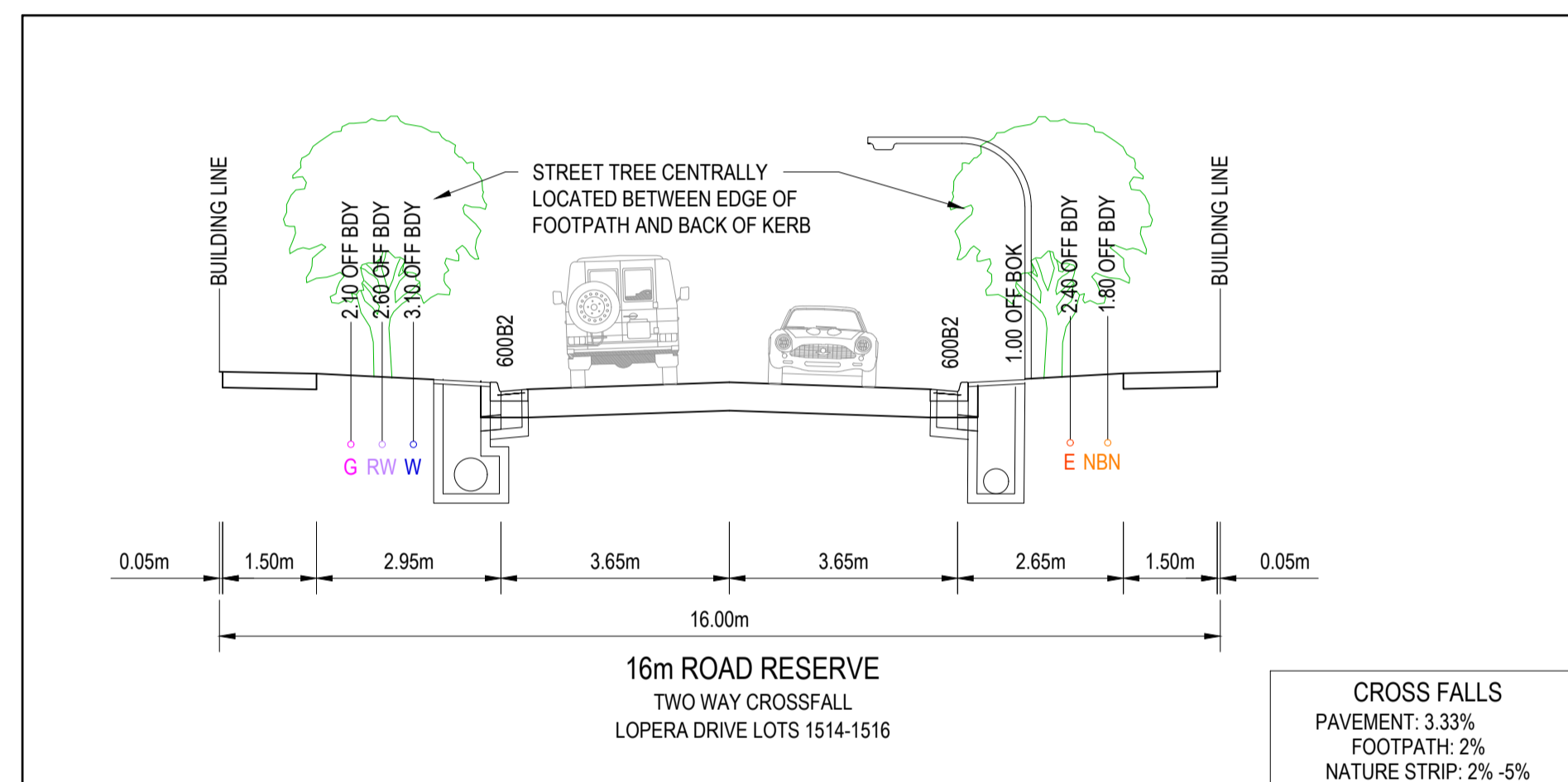
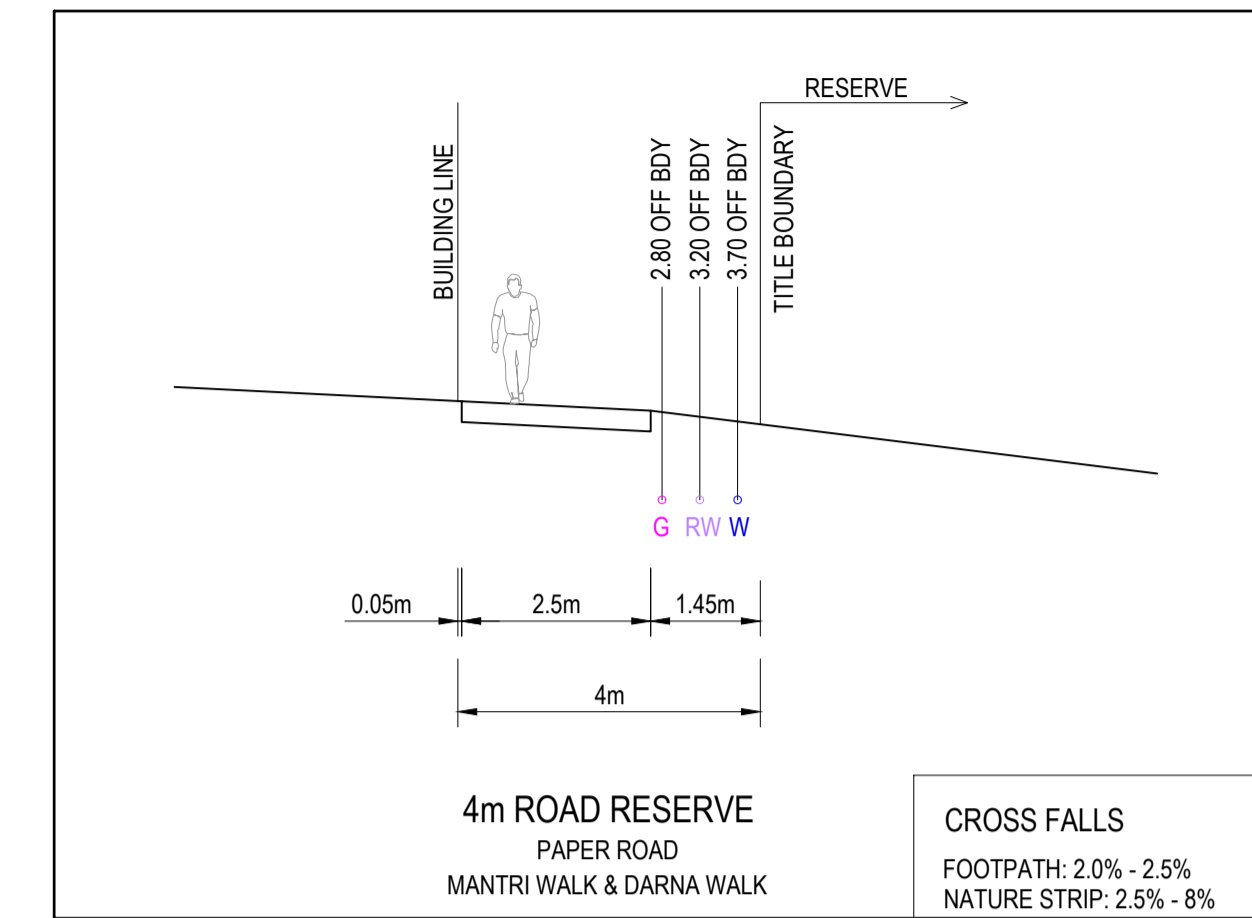
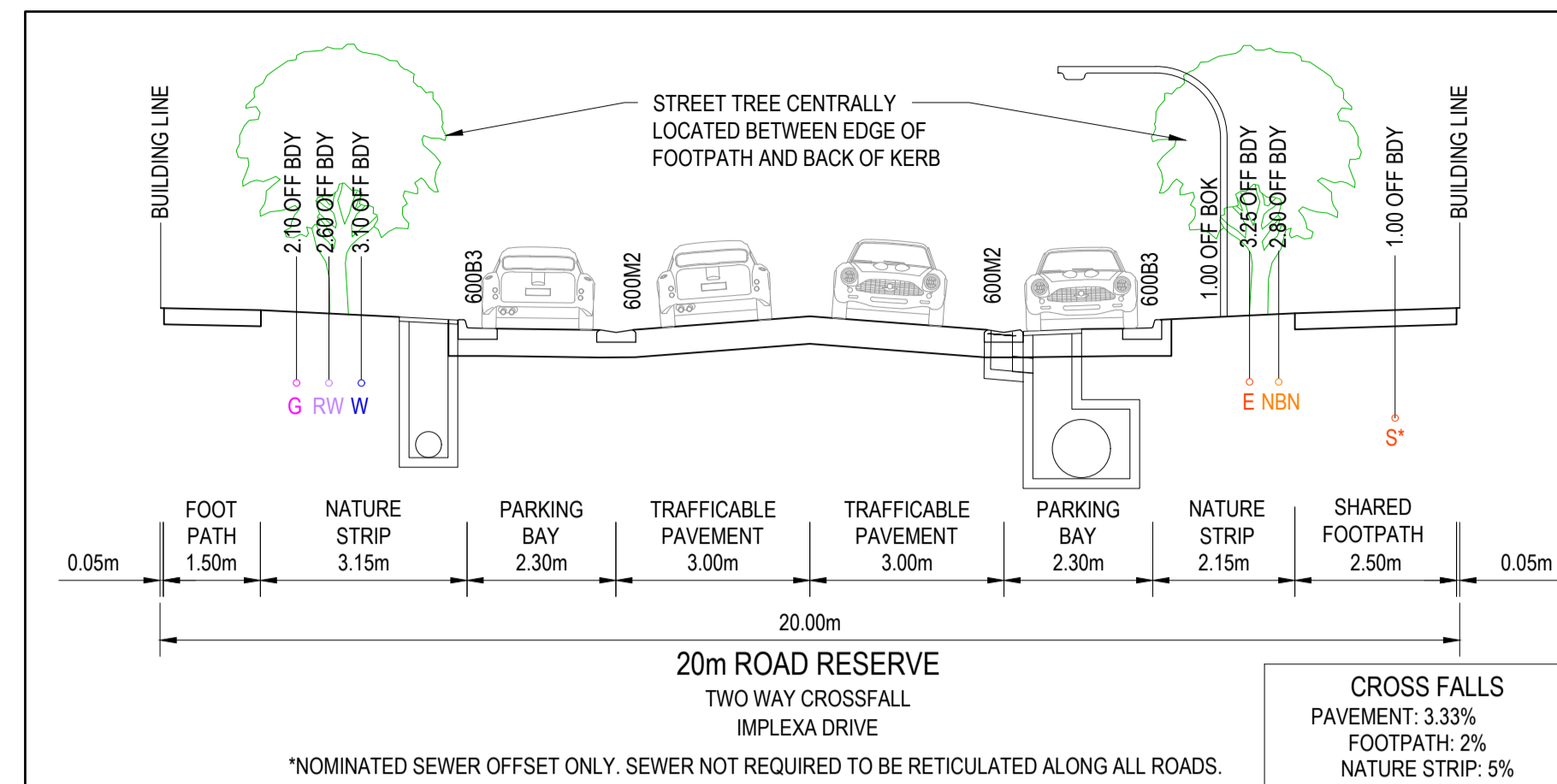
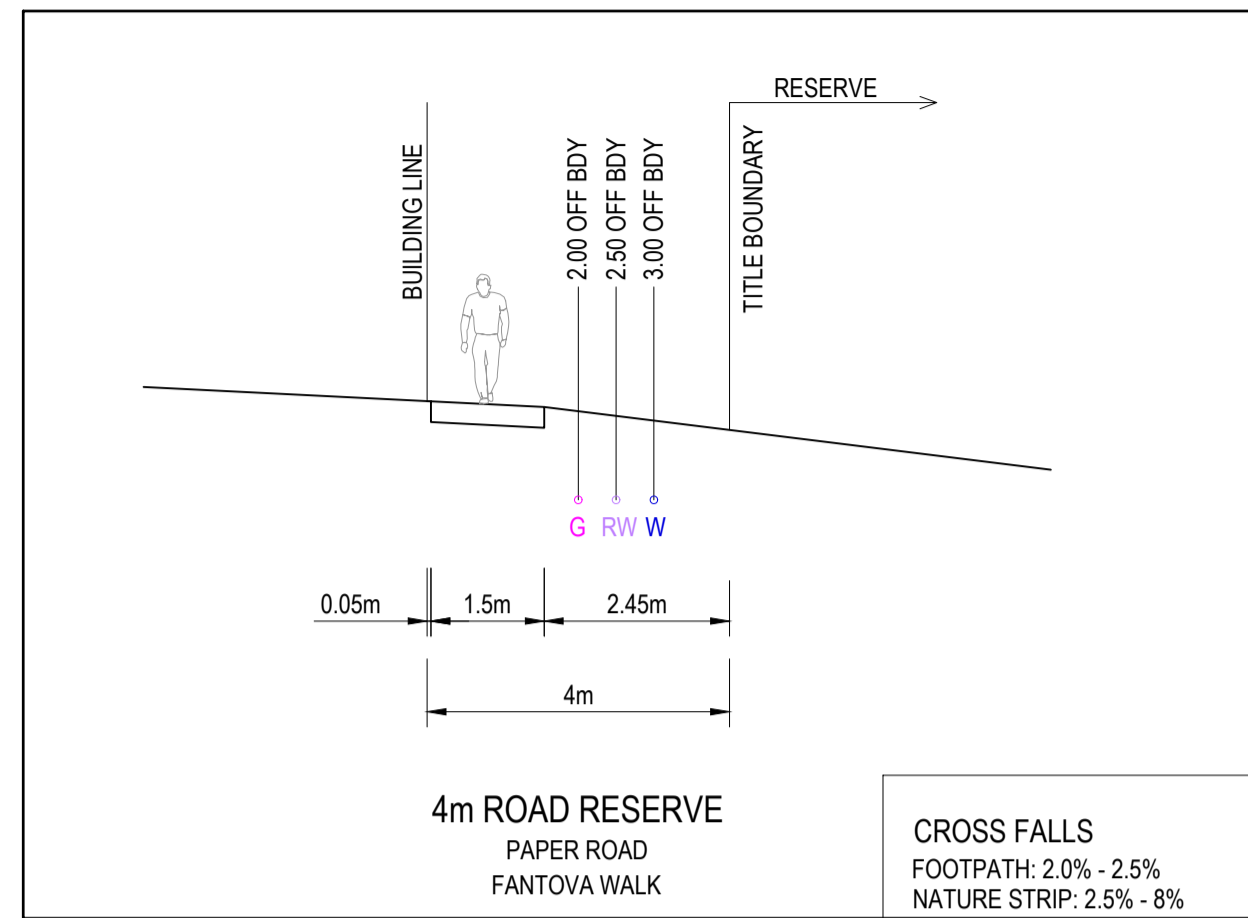
**ALAMORA**  
Partners

**ALAMORA - STAGE 15  
EARTHWORKS PLAN**

**ISSUED FOR APPROVAL  
NOT FOR CONSTRUCTION**

SCALE @ A1: 1:500

DESIGNED	S.M	PROJECT ENGINEER	S.M
DRAWN	S.M	PROJECT MANAGER	M.T
PROJECT No.	<b>200282.15</b>	DRAWING No.	<b>R202</b>
		REVISION	<b>D</b>



**Planning and Environment Act 1987**  
**Wyndham Planning Scheme**

**Approved Plan As Required**  
**under Condition 40**  
**Permit No WYP10817/18**  
**Date 13/09/2024**

**WARNING**  
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[www.1100.com.au](http://www.1100.com.au)

REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED
B	19/07/24	COUNCIL COMMENTS	A.W	A.W	M.T
A	17/05/24	ISSUED FOR TENDER	S.M	S.M	M.T

CLIENT

**villawood**  
properties

Communities Designed for Living

PROJECT

**creo**  
CIVIL

Level 7, 176 Wellington Parade  
East Melbourne, VIC, Australia 3002

DRAWING TITLE

**ALAMORA - STAGE 15**  
**TYPICAL CROSS SECTIONS**

STATUS

**ISSUED FOR APPROVAL**  
**NOT FOR CONSTRUCTION**

SCALE @ A1:

DESIGNED

S.M

DRAWN

S.M

PROJECT No.

**200282.15**

PROJECT ENGINEER

S.M

PROJECT MANAGER

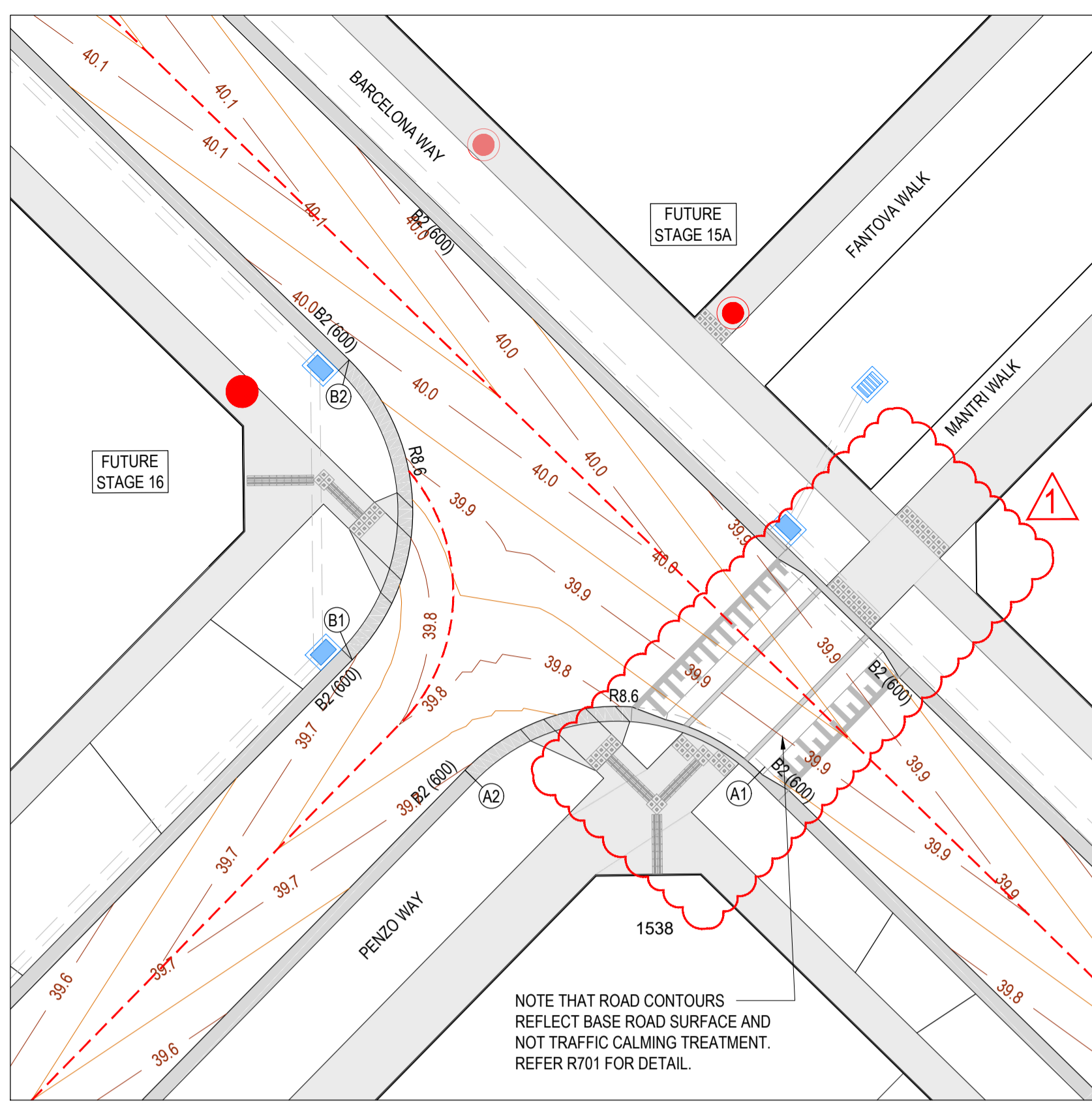
M.T

DRAWING No.

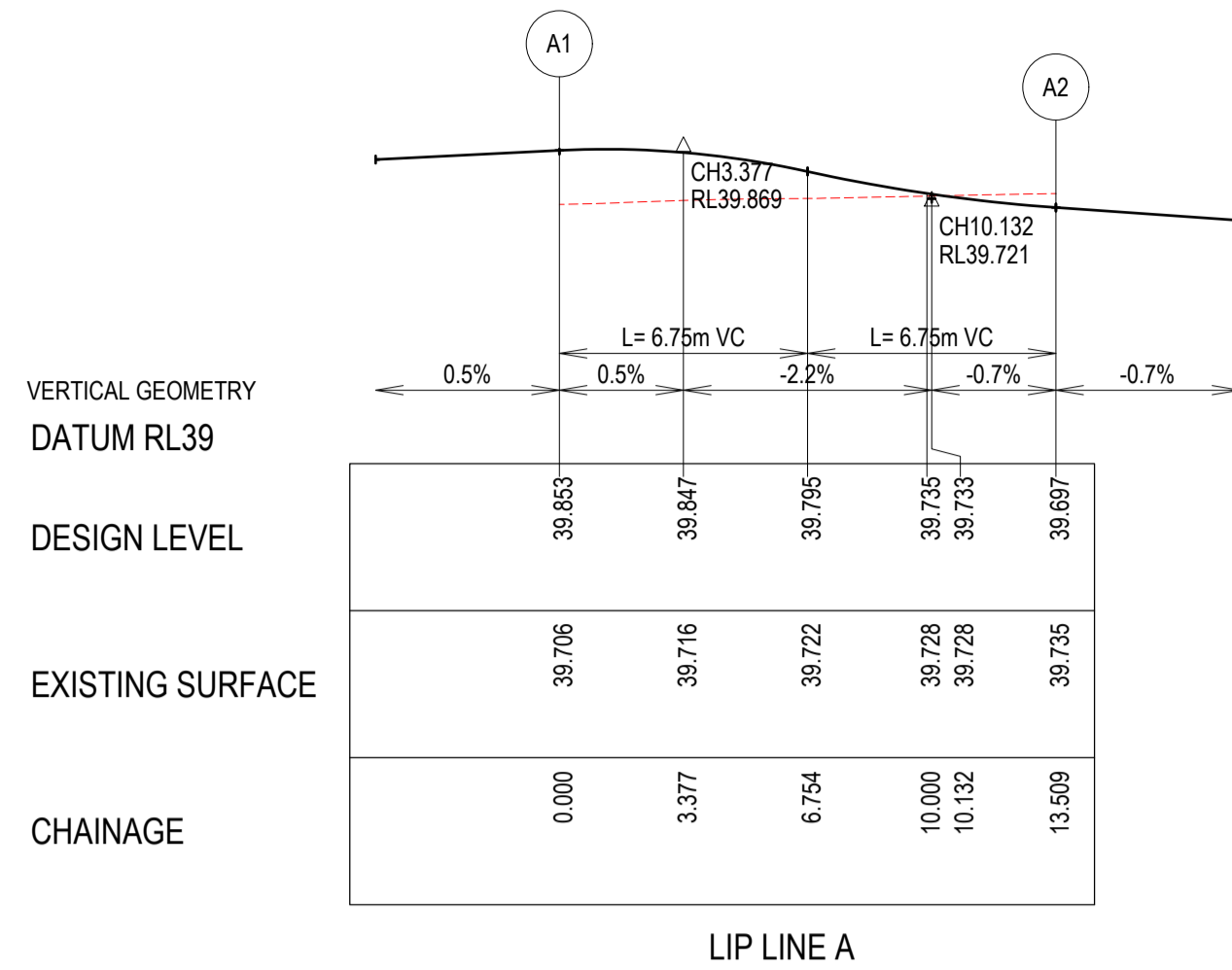
**R203**

REVISION

**B**



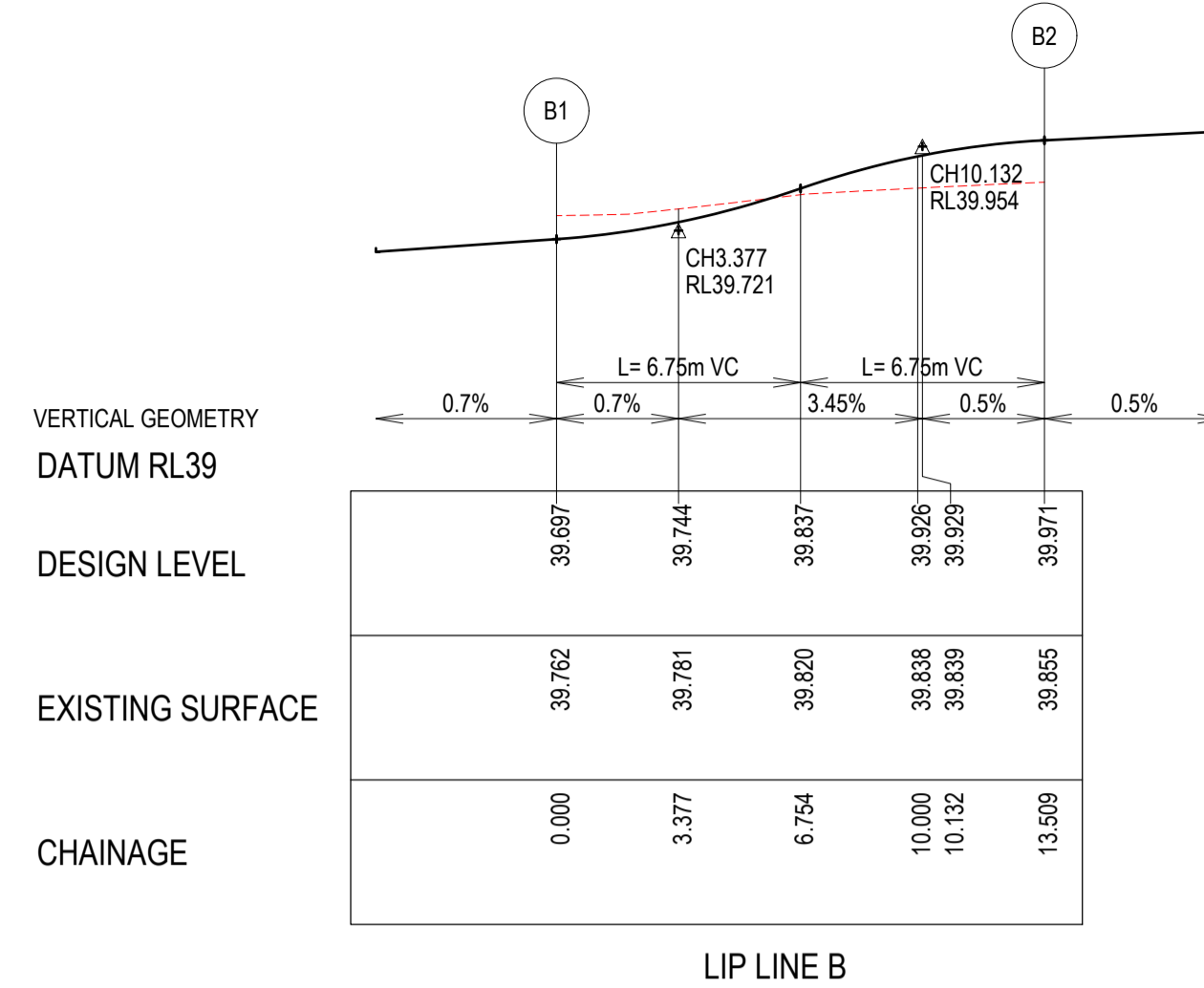
PENZO WAY & BARCELONA WAY INTERSECTION



ALIGNMENT A

PT NO	EASTING	NORTHING	RL
A1	292148.701	5807595.713	39.853
A2	292136.539	5807595.582	39.697

CURVE NO	I	RAD.	ARC	A	B	X	Y	I	MID POINT RL
A1 - A2	90	8.6	13.509	2.519	1.864	3.291	2.79	3.377	39.795



ALIGNMENT B

PT NO	EASTING	NORTHING	RL
B1	292131.965	5807600.058	39.697
B2	292131.834	5807612.22	39.971

CURVE NO	I	RAD.	ARC	A	B	X	Y	I	MID POINT RL
B1 - B2	90	8.6	13.509	2.519	1.864	3.291	2.79	3.377	39.837

**LEGEND - INTERSECTION PLAN**

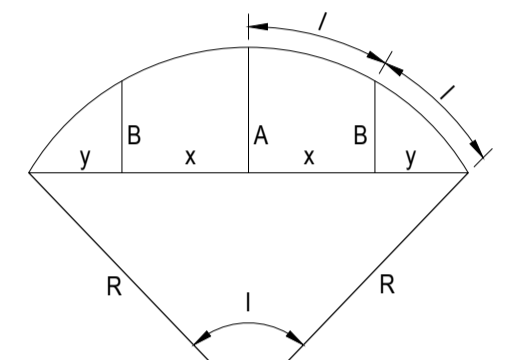
- STORMWATER DRAIN & PIT
- TACTILE PAVERS
- PROPOSED PAVEMENT, KERB & CHANNEL, FOOTPATH & DRIVEWAY
- CROWN
- MINOR CONTOUR
- MAJOR CONTOUR

**LEGEND - SECTION**

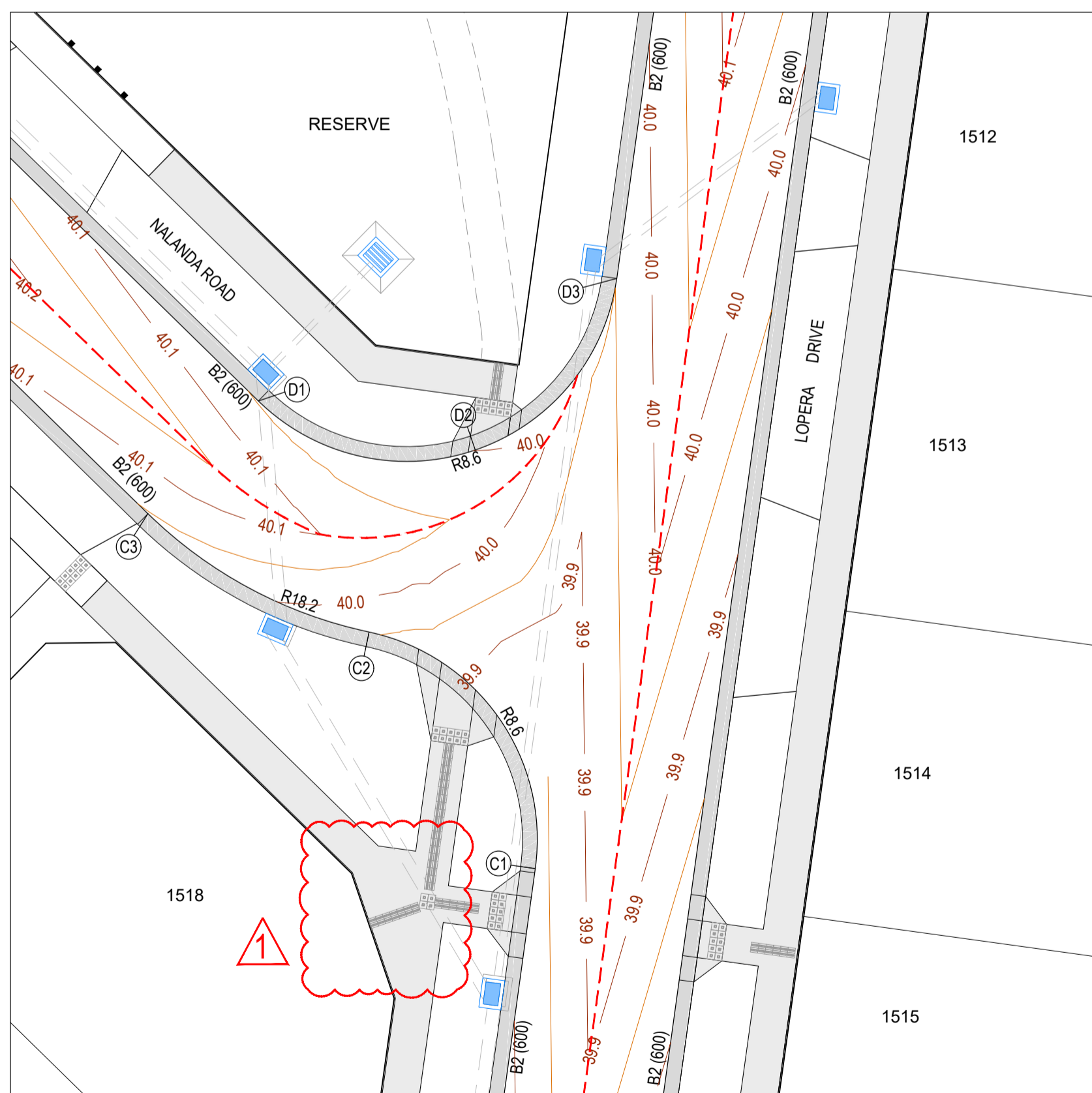
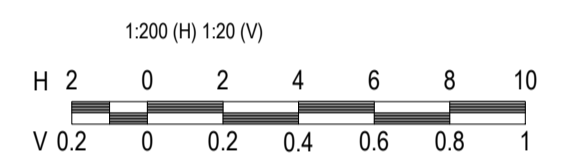
- EXISTING SURFACE
- DESIGN LINE

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 www.1100.com.au

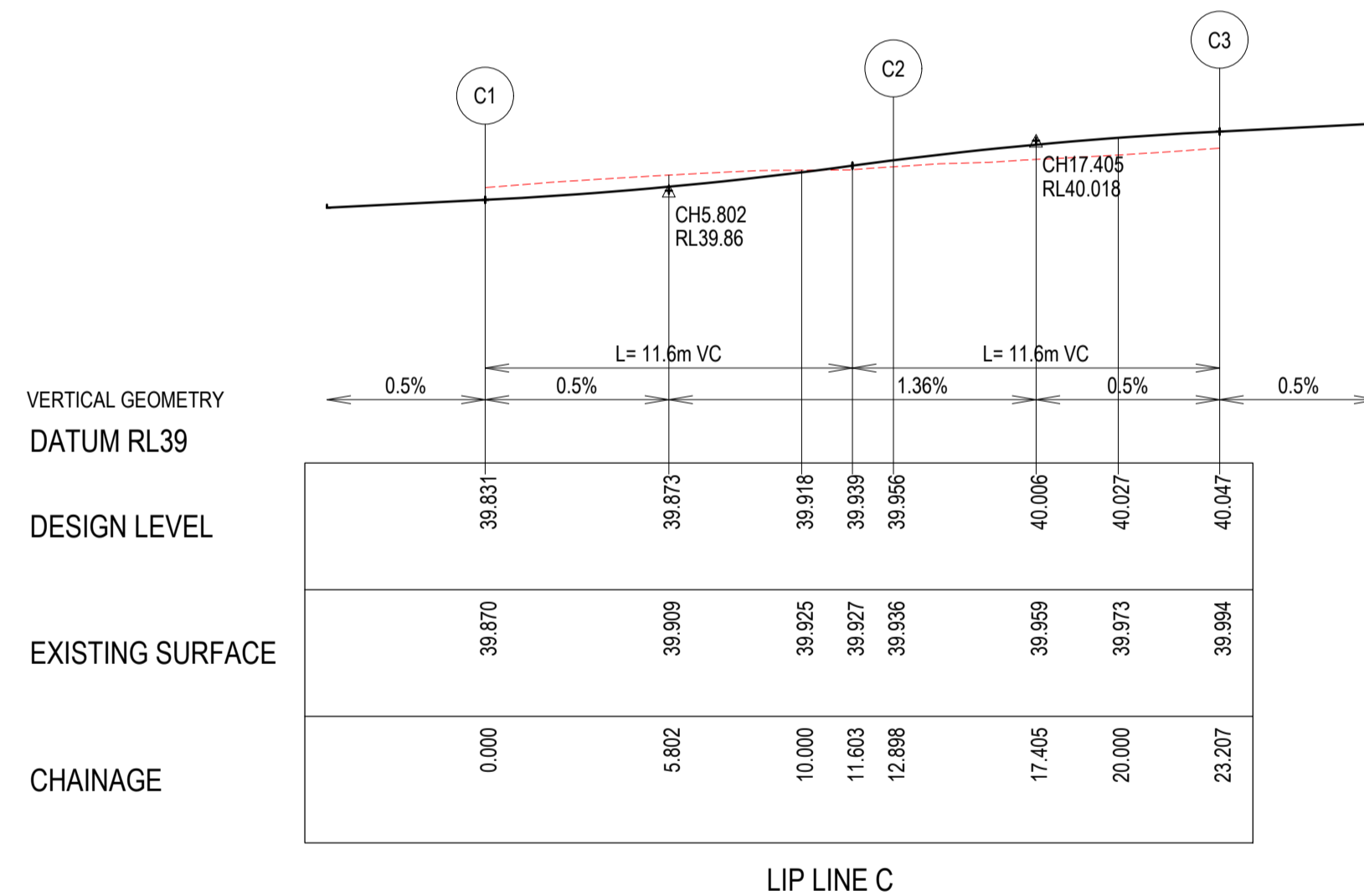
**NOTE**  
 FOR SIGNS & LINEMARKING PLAN  
 REFER SHEETS R800.



LIP PROFILE SETOUT



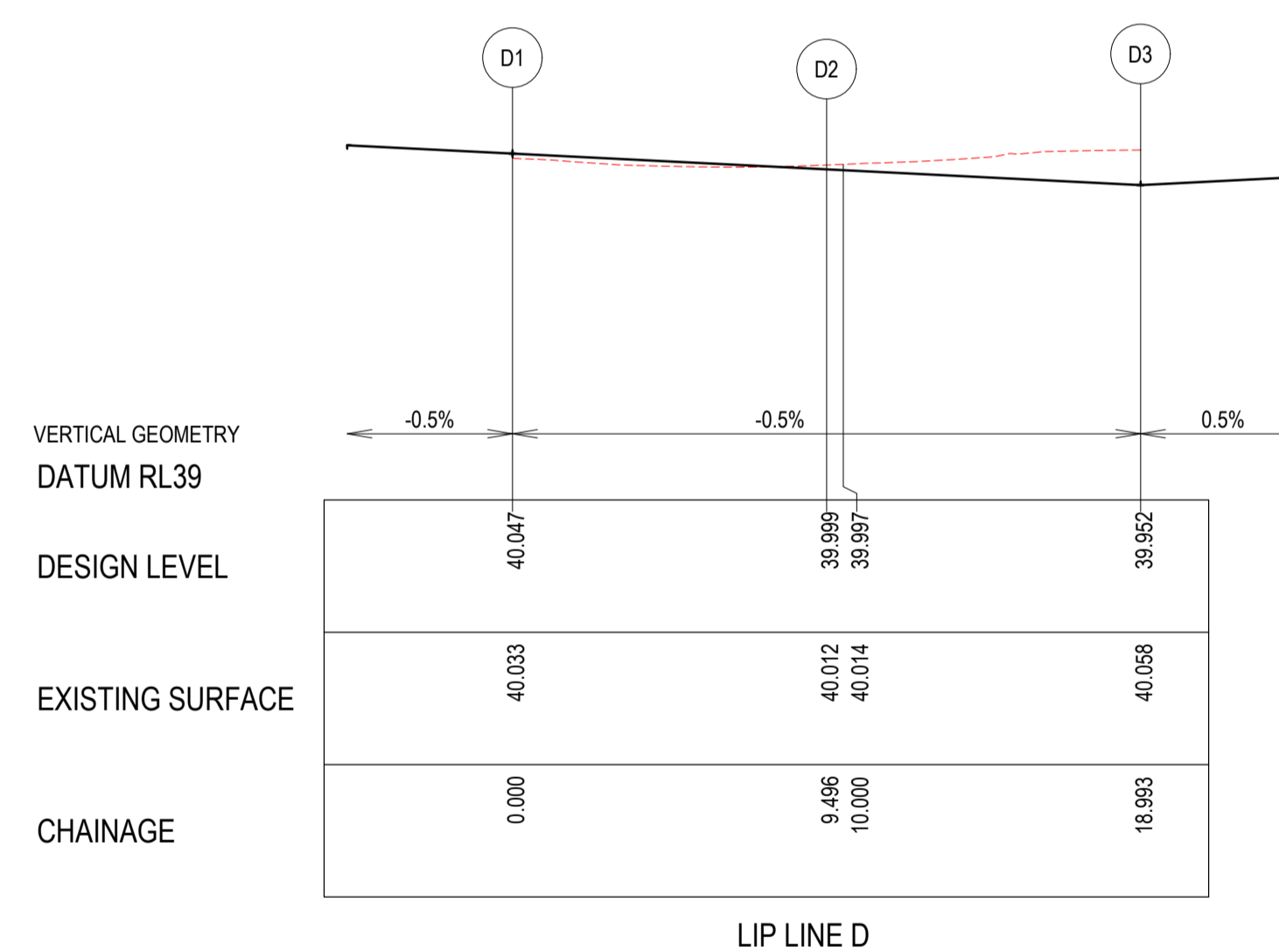
NALANDA ROAD & LOPERA DRIVE INTERSECTION



ALIGNMENT C

PT NO	EASTING	NORTHING	RL
C1	292239.861	5807613.4	39.831
C2	292233.12	5807622.99	39.956
C3	292224.152	5807627.79	40.047

CURVE NO	I	RAD.	ARC	A	B	X	Y	I	MID POINT RL
C1 - C2	85.931	8.6	12.898	2.307	1.709	3.15	2.712	3.225	39.879
C2 - C3	32.453	18.2	10.309	0.725	0.543	2.569	2.517	2.577	40.011



ALIGNMENT D

PT NO	EASTING	NORTHING	RL
D1	292228.629	5807632.363	40.047
D2	292237.428	5807630.37	39.999
D3	292243.166	5807637.331	39.952

CURVE NO	I	RAD.	ARC	A	B	X	Y	I	MID POINT RL
D1 - D2	63.268	8.6	9.496	1.278	0.952	2.344	2.167	2.374	40.023
D2 - D3	63.268	8.6	9.496	1.278	0.952	2.344	2.167	2.374	39.976

**Planning and Environment Act 1987**  
**Wyndham Planning Scheme**  
**Approved Plan As Required**  
**under Condition 40**  
**Permit No WYP10817/18**  
**Date 19/02/2025**

REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED
1	29/01/25	RAISED PAVEMENT/TGSI UPDATED	S.M	A.W	M.T
0	19/09/24	ISSUED FOR CONSTRUCTION	M.P	A.W	M.T
B	30/05/24	AMENDED LOTS ORIENTATION - LOT1517/1518	S.M	A.W	M.T
A	17/05/24	ISSUED FOR TENDER	S.M	S.M	M.T

**villawood properties**  
 Communities Designed for Living

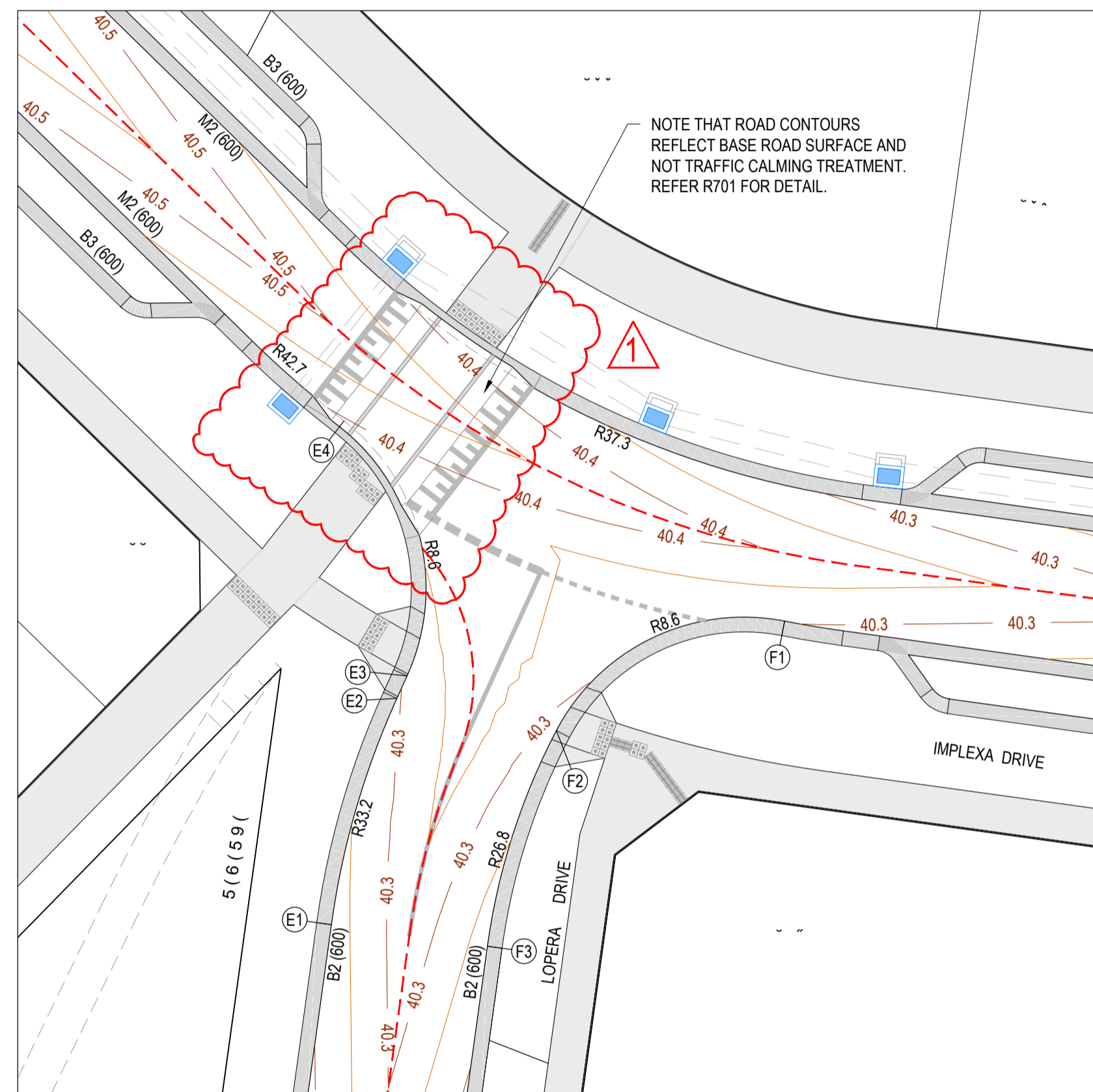
**creo CIVIL**  
 Level 7, 176 Wellington Parade  
 East Melbourne, VIC, Australia 3002

**ALAMORA**  
*Tarnait*

**ALAMORA - STAGE 15**  
**INTERSECTION DETAILS - 1**

**ISSUED FOR CONSTRUCTION**  
 SCALE @ A1 : 1:200

DESIGNED	PROJECT ENGINEER	
S.M	S.M	
DRAWN	PROJECT MANAGER	
S.M	M.T	
PROJECT No.	DRAWING No.	REVISION
200282.15	R300	1



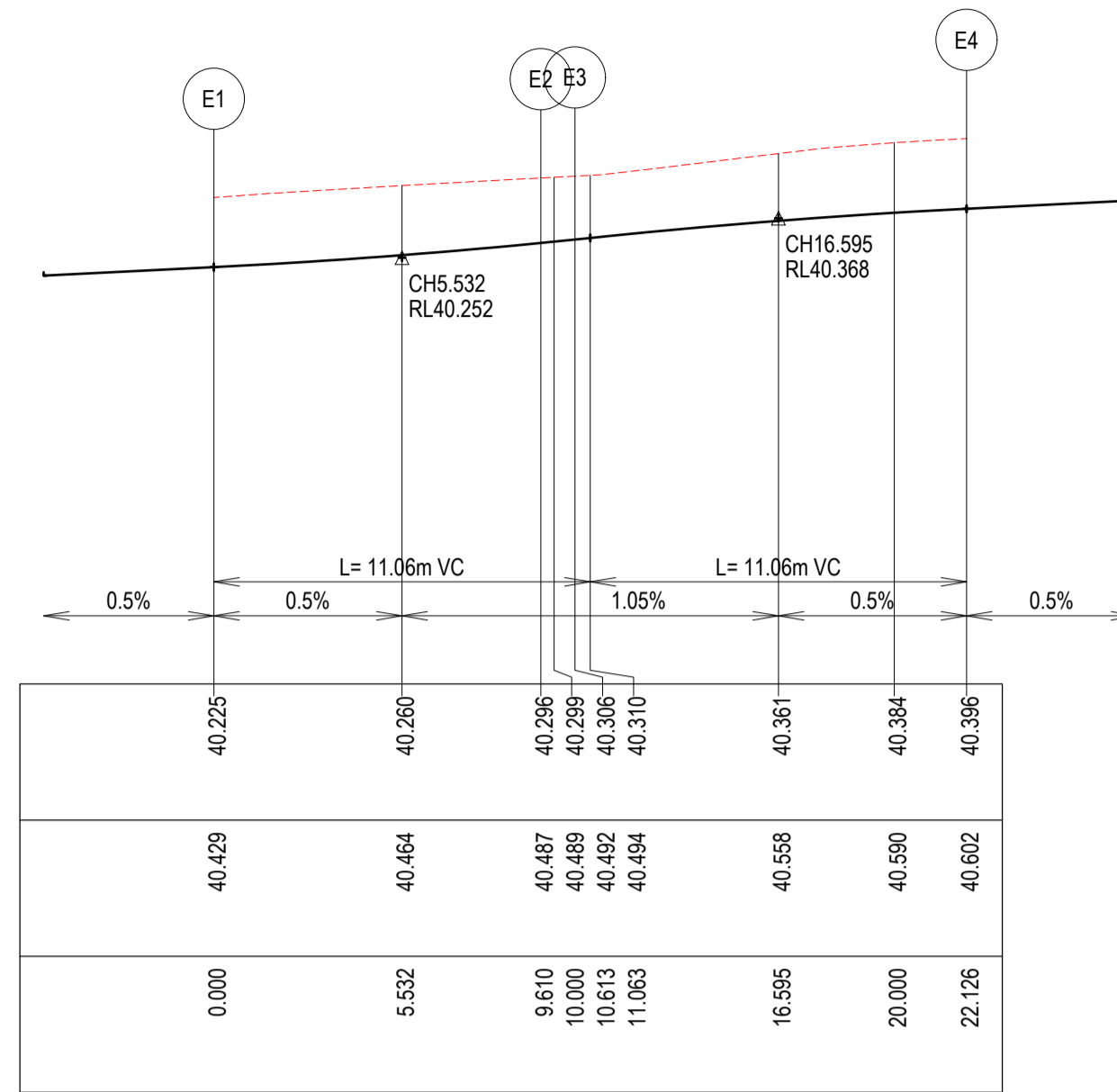
IMPREXA DRIVE & LOPERA DRIVE INTERSECTION

VERTICAL GEOMETRY  
DATUM RL39

DESIGN LEVEL

EXISTING SURFACE

CHAINAGE



LIP LINE E

ALIGNMENT E

PT NO	EASTING	NORTHING	RL
E1	292250.626	5807691.356	40.225
E2	292253.29	5807700.553	40.296
E3	292253.706	5807701.467	40.306
E4	292251.141	5807711.827	40.396

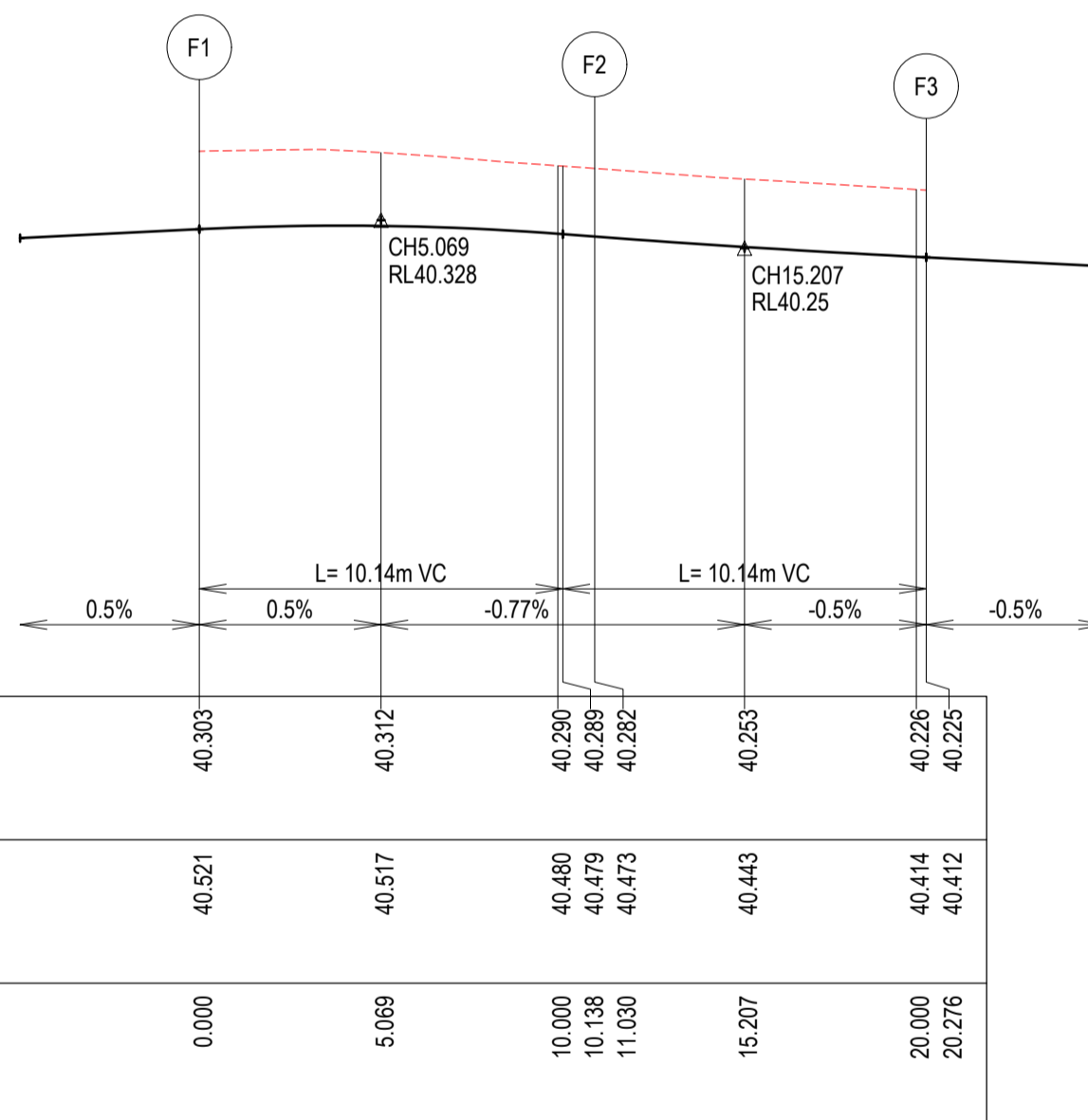
CURVE NO	I	RAD.	ARC	A	B	X	Y	I	MID POINT RL
E1 - E2	16.584	33.2	9.61	0.347	0.26	2.4	2.388	2.402	40.254
E3 - E4	76.702	8.6	11.513	1.856	1.379	2.825	2.511	2.878	40.359

VERTICAL GEOMETRY  
DATUM RL39

DESIGN LEVEL

EXISTING SURFACE

CHAINAGE



LIP LINE F

ALIGNMENT F

PT NO	EASTING	NORTHING	RL
F1	292269.047	5807703.693	40.303
F2	292259.77	5807699.242	40.282
F3	292256.966	5807690.48	40.225

CURVE NO	I	RAD.	ARC	A	B	X	Y	I	MID POINT RL
F1 - F2	73.487	8.6	11.03	1.709	1.27	2.711	2.434	2.758	40.312
F2 - F3	19.766	26.8	9.246	0.398	0.298	2.309	2.291	2.311	40.251

**LEGEND - INTERSECTION PLAN**

- STORMWATER DRAIN & PIT
- TACTILE PAVERS
- PROPOSED PAVEMENT, KERB & CHANNEL, FOOTPATH & DRIVEWAY
- CROWN
- MINOR CONTOUR
- MAJOR CONTOUR

**LEGEND - SECTION**

- EXISTING SURFACE
- DESIGN LINE

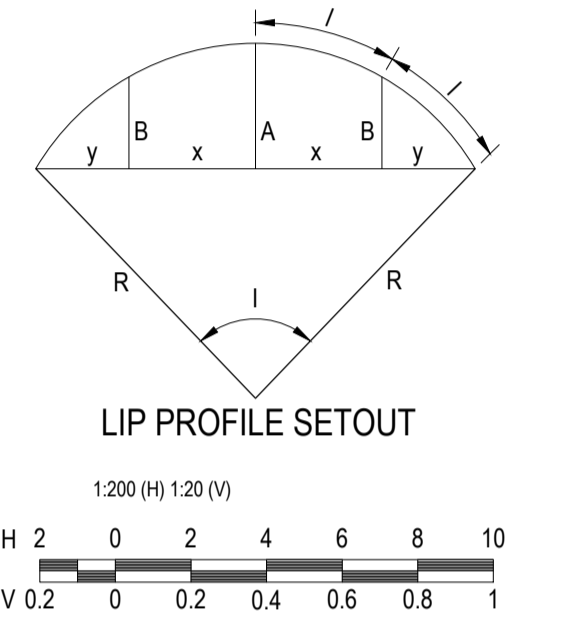
**WARNING**  
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**DIAL 1100 BEFORE YOU DIG**

Z Z Z F R D X

**NOTE**  
FOR SIGNS & LINEMARKING PLAN  
REFER SHEETS R800.



**Planning and Environment Act 1987**  
**Wyndham Planning Scheme**

**Approved Plan As Required**  
**under Condition 40**  
**Permit No WYP10817/18**  
**Date 19/02/2025**

REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED
1	29/01/25	RAISED PAVEMENT/TGSI UPDATED	S.M	A.W	M.T
0	19/09/24	ISSUED FOR CONSTRUCTION	M.P	A.W	M.T
A	17/05/24	ISSUED FOR TENDER	S.M	S.M	M.T

**villawood properties**  
Communities Designed for Living

**creo CIVIL**  
Level 7, 176 Wellington Parade  
East Melbourne, VIC, Australia 3002

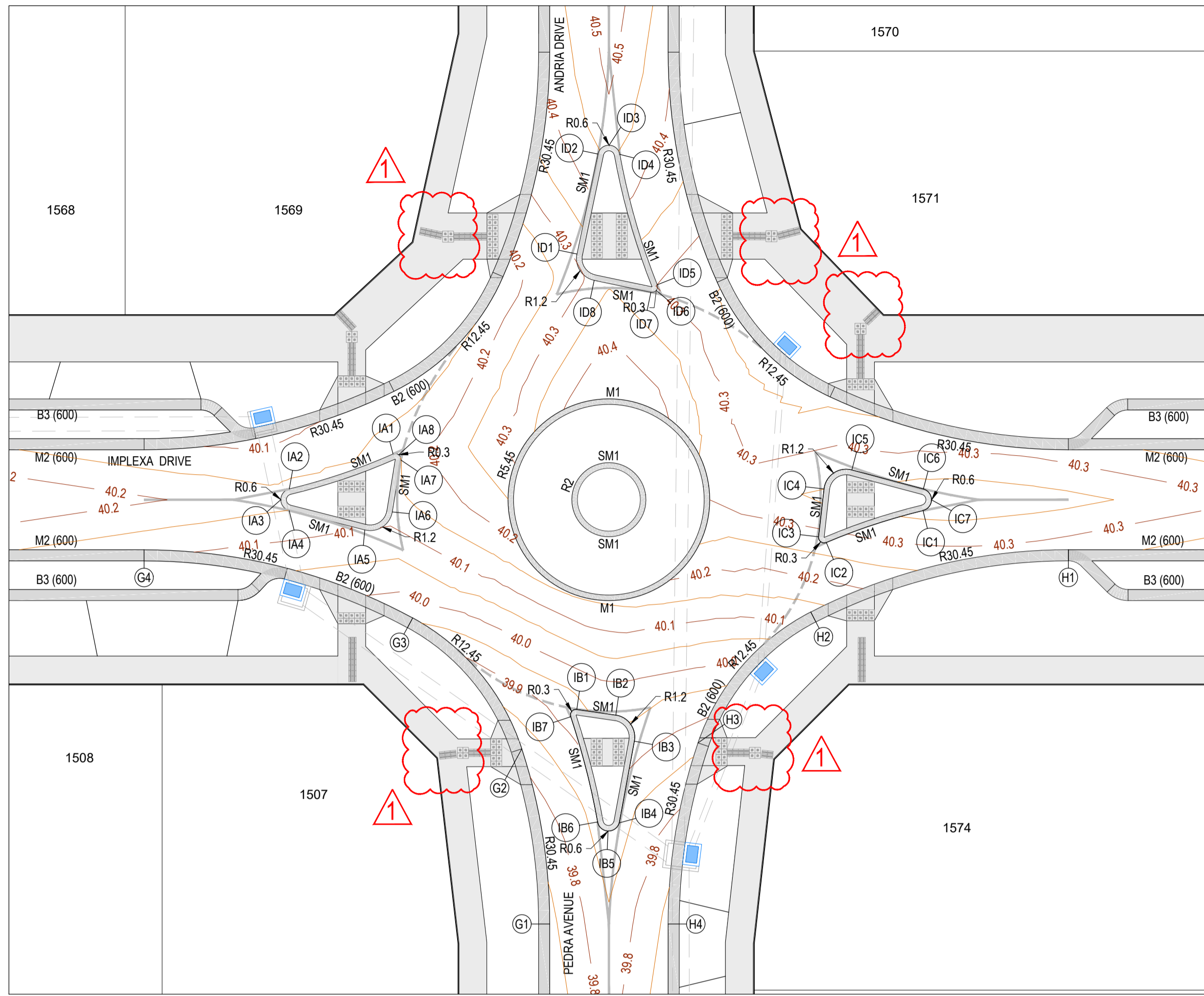
**ALAMORA**  
Tarnait

**ALAMORA - STAGE 15**  
**INTERSECTION DETAILS - 2**

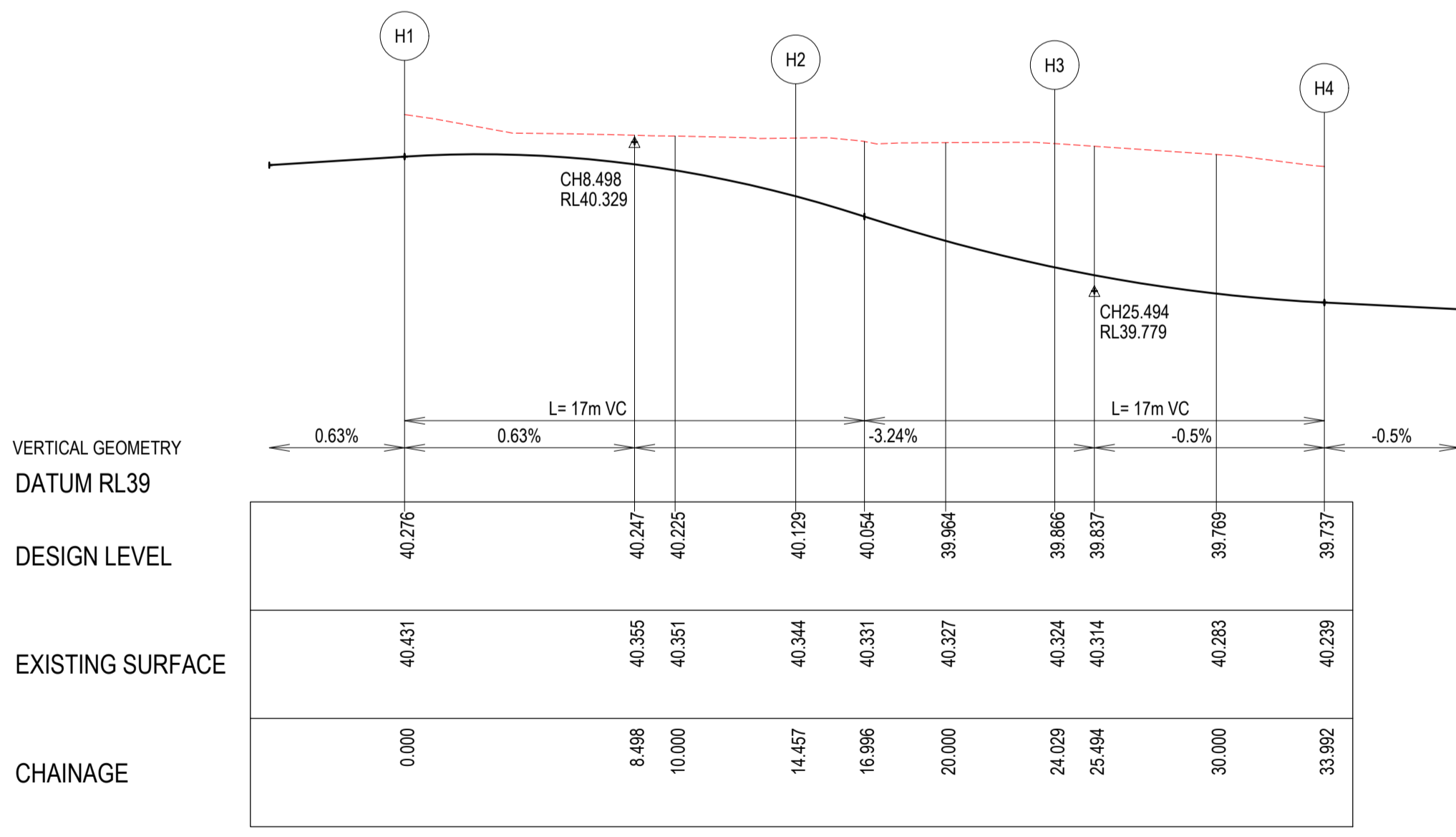
**ISSUED FOR CONSTRUCTION**

SCALE @ A1 : 1:200

DESIGNED	PROJECT ENGINEER	
S.M	S.M	
DRAWN	PROJECT MANAGER	
S.M	M.T	
PROJECT No.	DRAWING No.	REVISION
<b>200282.15</b>	<b>R301</b>	<b>1</b>



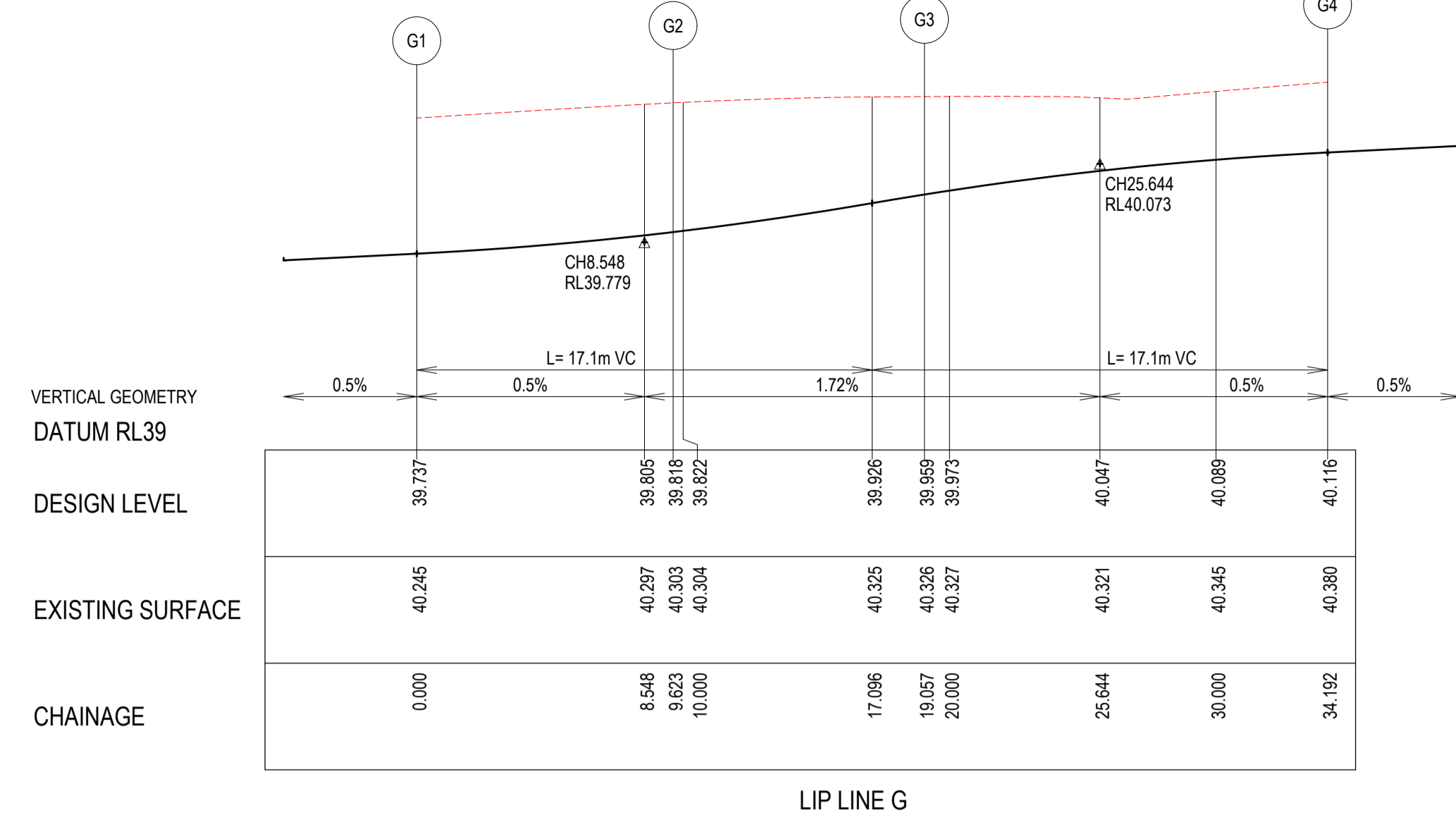
PEDRA AVENUE, IMPLEXA DRIVE & ANDRIA DRIVE ROUNDABOUT



ALIGNMENT H LIP LINE H

PT NO	EASTING	NORTHING	RL
H1	292355.688	5807691.658	40.276
H2	292341.439	5807690.226	40.129
H3	292334.431	5807684.055	39.866
H4	292331.491	5807674.582	39.737

CURVE NO	I	RAD.	ARC	A	B	X	Y	I	MID POINT RL
H1 - H2	27.203	30.45	14.457	0.854	0.64	3.606	3.555	3.614	40.262
H2 - H3	44.05	12.45	9.572	0.909	0.679	2.378	2.291	2.393	39.985
H3 - H4	18.748	30.45	9.964	0.407	0.305	2.488	2.471	2.491	39.781



ALIGNMENT G LIP LINE G

PT NO	EASTING	NORTHING	RL
G1	292325.152	5807675.457	39.737
G2	292324.952	5807685.038	39.818
G3	292320.079	5807692.852	39.959
G4	292306.2	5807698.489	40.116

CURVE NO	I	RAD.	ARC	A	B	X	Y	I	MID POINT RL
G1 - G2	18.107	30.45	9.623	0.379	0.284	2.403	2.388	2.406	39.769
G2 - G3	43.414	12.45	9.434	0.883	0.66	2.344	2.26	2.358	39.882
G3 - G4	28.479	30.45	15.135	0.936	0.701	3.774	3.716	3.784	40.058

ALIGNMENT IA

PT NO	EASTING	NORTHING	RL
IA1	292320.239	5807701.775	40.153
IA2	292314.425	5807700.671	40.162
IA3	292313.891	5807700.16	40.169
IA4	292314.258	5807699.518	40.149
IA5	292318.165	5807697.921	40.100
IA6	292319.766	5807698.677	40.121
IA7	292320.607	5807701.398	40.149
IA8	292320.535	5807701.696	40.151

CURVE NO	I	RAD.	ARC	A	B	X	Y	I	MID POINT RL
IA1 - IA2	10.134	33.5	5.925	0.131	0.098	1.481	1.478	1.481	40.157
IA2 - IA3	76.04	0.6	0.796	0.127	0.095	0.195	0.174	0.199	40.163
IA3 - IA4	76.04	0.6	0.796	0.127	0.095	0.195	0.174	0.199	40.158
IA5 - IA6	95.047	1.2	1.991	0.39	0.288	0.484	0.402	0.498	40.100
IA7 - IA8	61.504	0.3	0.322	0.042	0.031	0.08	0.074	0.081	40.150
IA8 - IA1	61.504	0.3	0.322	0.042	0.031	0.08	0.074	0.081	40.152

ALIGNMENT IB

PT NO	EASTING	NORTHING	RL
IB1	292328.187	5807686.742	39.936
IB2	292330.232	5807686.148	39.968
IB3	292331.037	5807684.618	39.922
IB4	292329.623	5807680.356	39.870
IB5	292328.963	5807680.000	39.882
IB6	292328.471	5807680.566	39.867
IB7	292327.809	5807686.399	39.921

CURVE NO	I	RAD.	ARC	A	B	X	Y	I	MID POINT RL
IB2 - IB3	92.141	1.2	1.93	0.367	0.272	0.47	0.395	0.482	39.946
IB4 - IB5	77.34	0.6	0.81	0.132	0.098	0.199	0.176	0.202	39.874
IB5 - IB6	77.34	0.6	0.81	0.132	0.098	0.199	0.176	0.202	39.871
IB6 - IB7	8.247	40.819	5.876	0.106	0.079	1.469	1.467	1.469	39.888
IB7 - IB1	116.567	0.3	0.61	0.142	0.104	0.146	0.109	0.153	39.928

**Planning and Environment Act 1987**  
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**Approved Plan As Required**  
**under Condition 40**  
**Permit No WYP10817/18**  
**Date 19/02/2025**

**LEGEND - INTERSECTION PLAN**

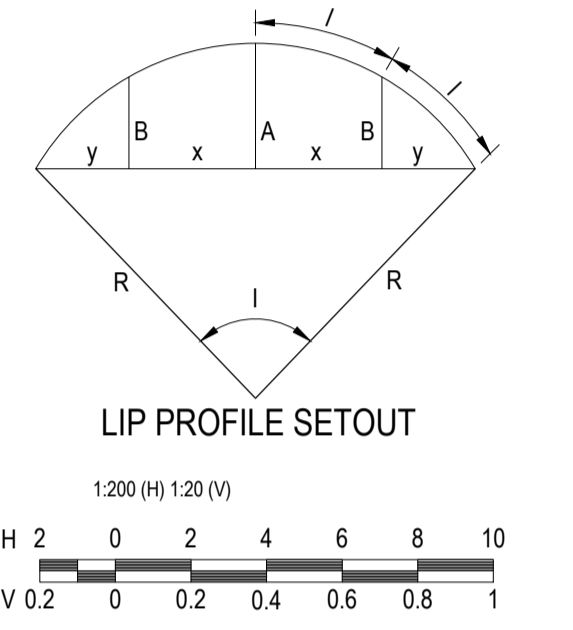
- STORMWATER DRAIN & PIT
- TACTILE PAVERS
- PROPOSED PAVEMENT, KERB & CHANNEL
- FOOTPATH & DRIVEWAY
- CROWN
- MINOR CONTOUR
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**LEGEND - SECTION**

- EXISTING SURFACE
- DESIGN LINE

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**NOTE**  
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REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED
1	29/01/25	TGSI UPDATED	S.M	A.W	M.T
0	19/09/24	ISSUED FOR CONSTRUCTION	M.P	A.W	M.T
A	17/05/24	ISSUED FOR TENDER	S.M	S.M	M.T

**villawood**  
 properties  
 Communities Designed for Living

**creo**  
 CIVIL  
 Level 7, 176 Wellington Parade  
 East Melbourne, VIC, Australia 3002

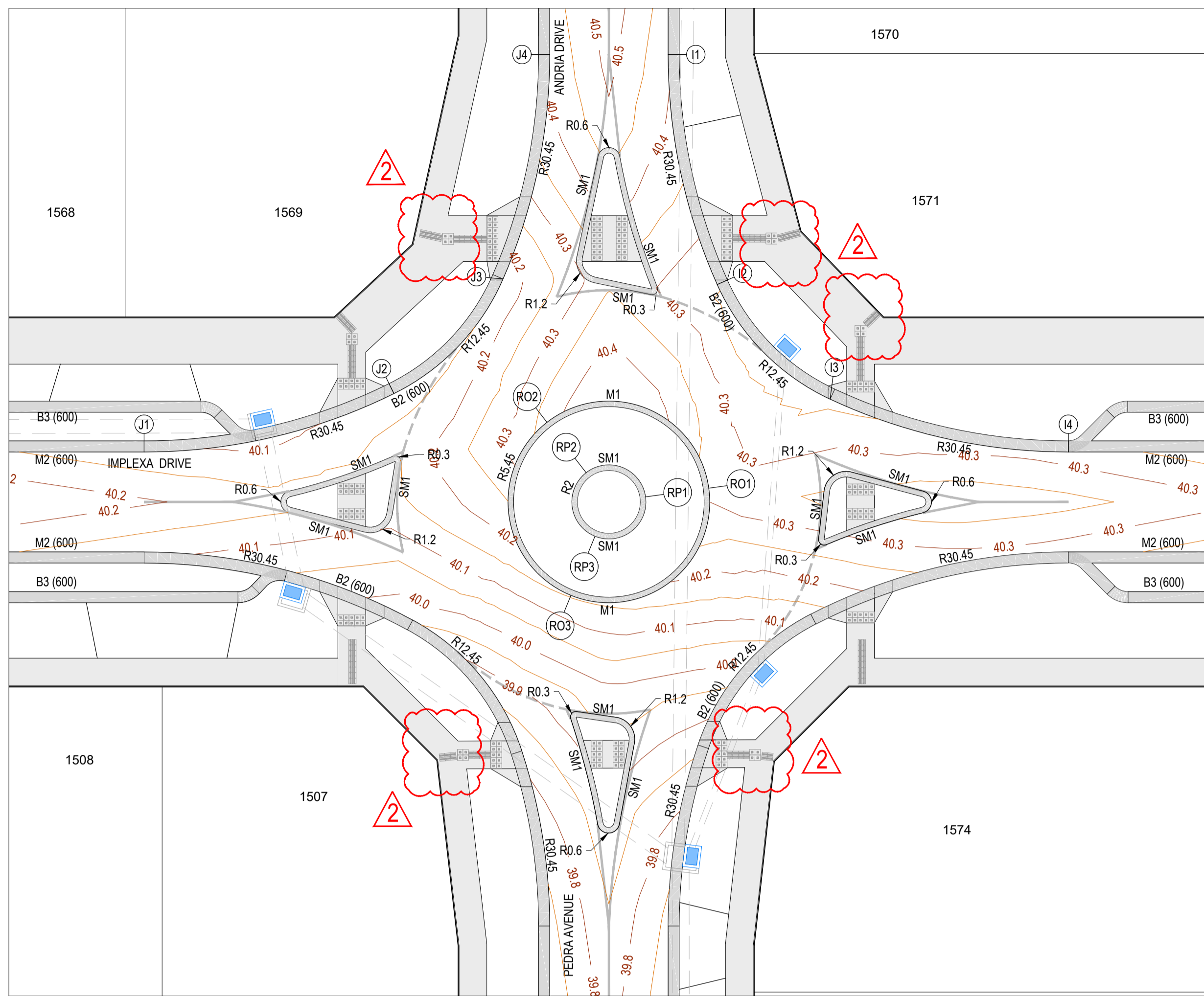
**ALAMORA**  
 Jarrett

**ALAMORA - STAGE 15**  
**INTERSECTION DETAILS - 3**

**ISSUED FOR CONSTRUCTION**  
 SCALE @ A1: 1:200

DESIGNED	S.M	PROJECT ENGINEER	S.M
DRAWN	S.M	PROJECT MANAGER	M.T
PROJECT No.	<b>200282.15</b>	DRAWING No.	<b>R302</b>
REVISION			<b>1</b>





PEDRA AVENUE, IMPLEXA DRIVE & ANDRIA DRIVE ROUNDABOUT

**LEGEND - INTERSECTION PLAN**

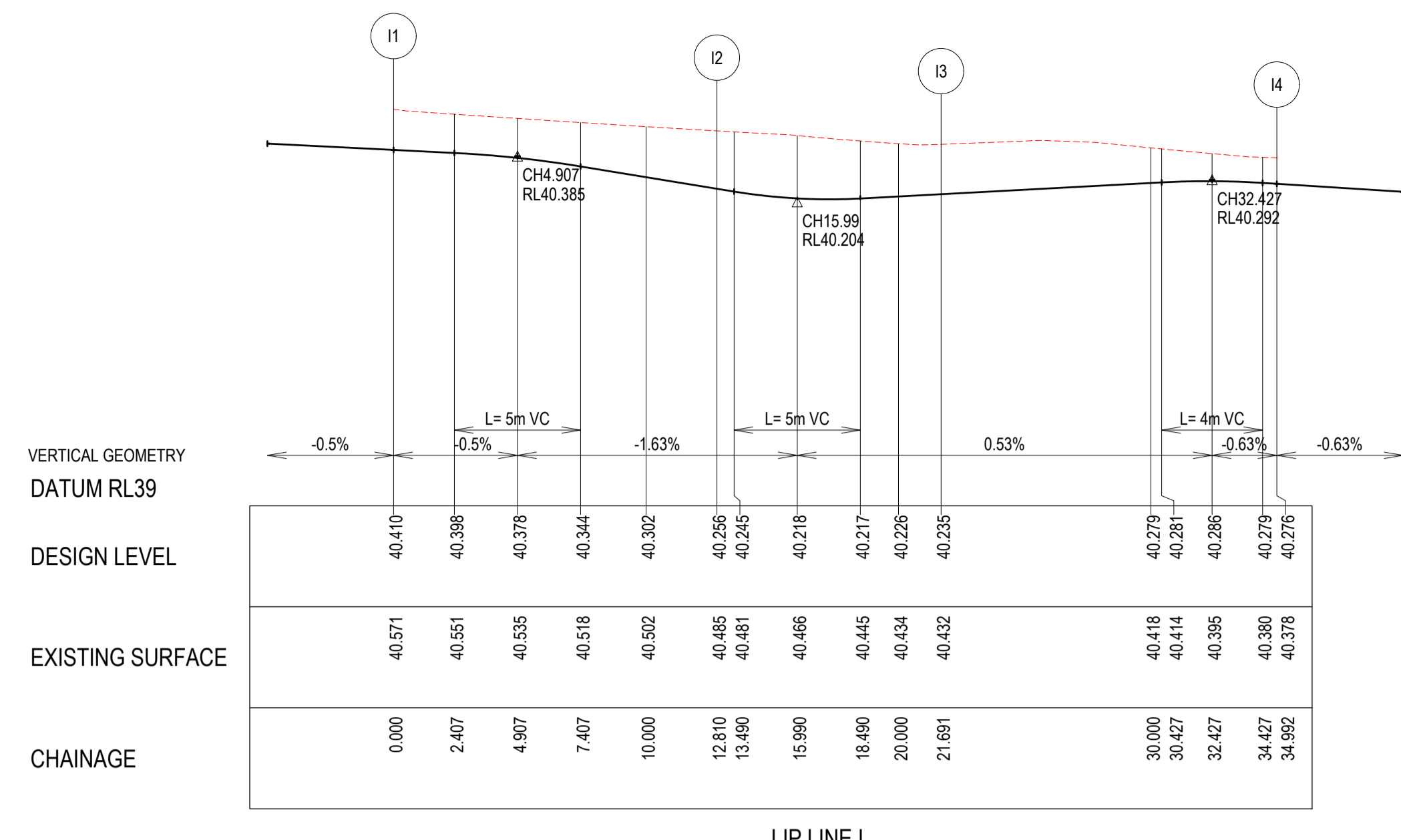
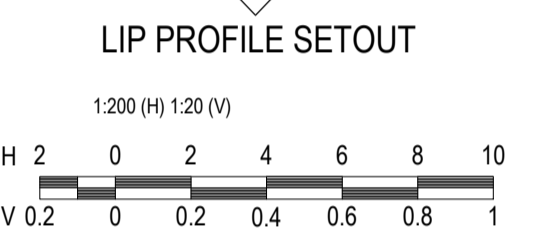
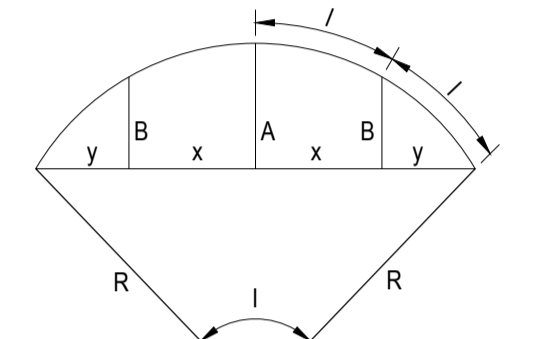
- STORMWATER DRAIN & PIT
- TACTILE PAVERS
- PROPOSED PAVEMENT, KERB & CHANNEL, FOOTPATH & DRIVEWAY
- CROWN
- MINOR CONTOUR
- MAJOR CONTOUR

**LEGEND - SECTION**

- EXISTING SURFACE
- DESIGN LINE

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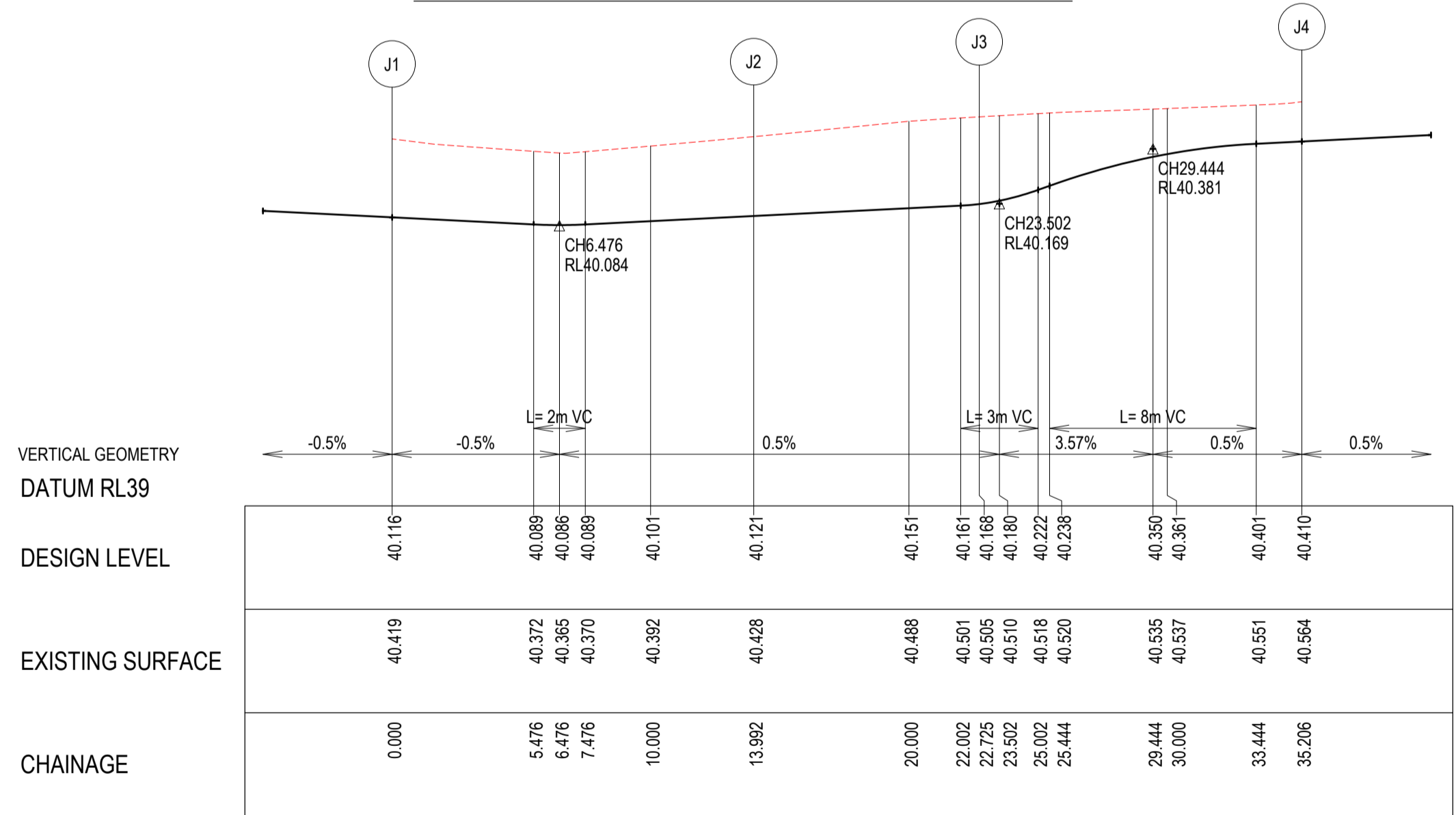


**Planning and Environment Act 1987**  
**Wyndham Planning Scheme**  
**Approved Plan As Required**  
**under Condition 40**  
**Permit No WYP10817/18**  
**Date 19/02/2025**

**ALIGNMENT I**

PT NO	EASTING	NORTHING	RL
I1	292337.937	5807721.256	40.41
I2	292338.866	5807708.574	40.256
I3	292344.059	5807701.601	40.235
I4	292356.429	5807697.008	40.276

CURVE NO	I	RAD.	ARC	A	B	X	Y	I	MID POINT RL	
I1 - I2	12	24.103	30.45	12.81	0.671	0.503	3.196	3.161	3.202	40.36
I2 - I3	13	40.873	12.45	8.881	0.784	0.586	2.209	2.139	2.22	40.214
I3 - I4	14	25.027	30.45	13.301	0.723	0.542	3.319	3.279	3.325	40.27

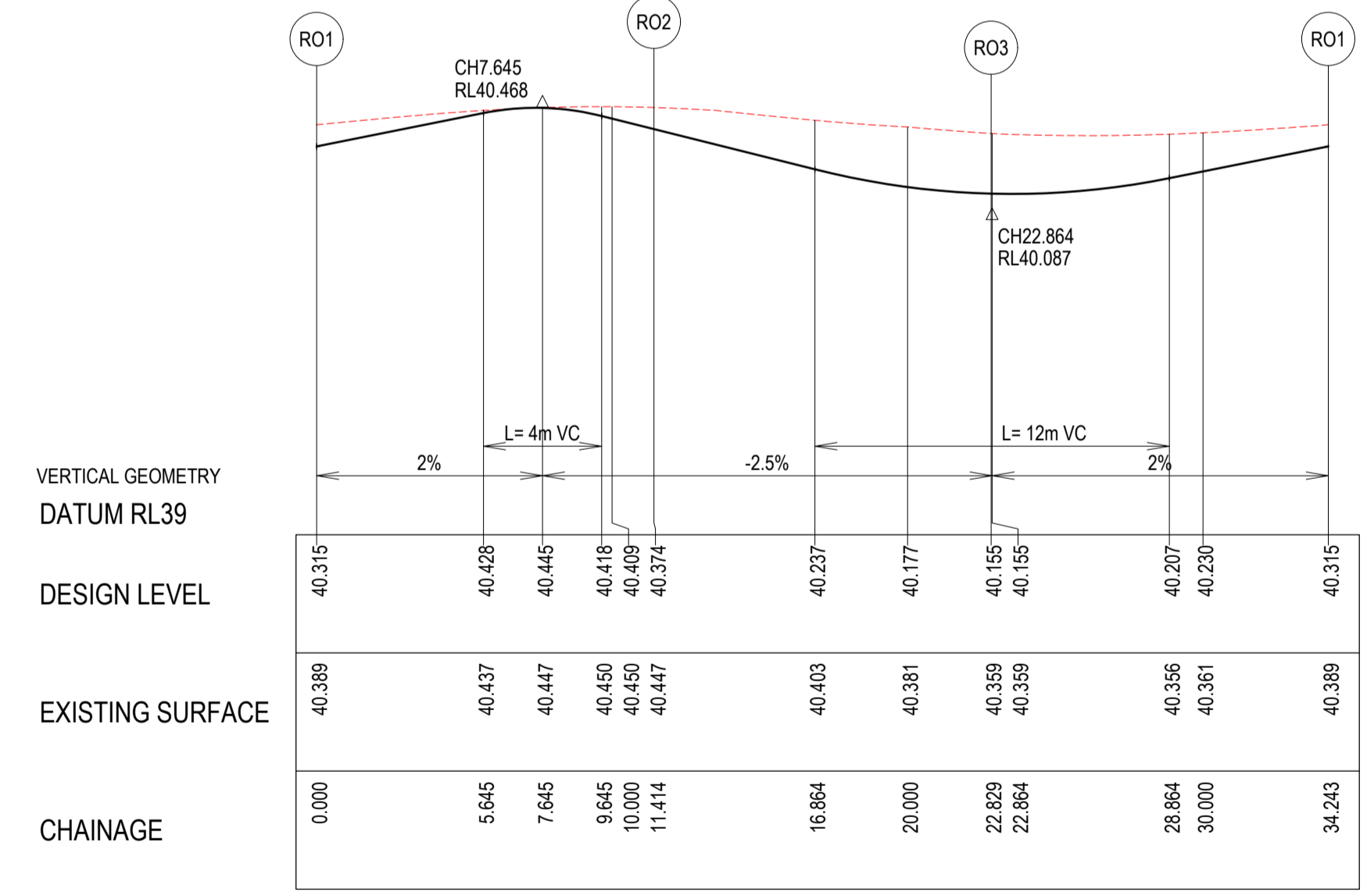


**ALIGNMENT J**

PT NO	EASTING	NORTHING	RL
J1	292306.939	5807703.842	40.116
J2	292320.749	5807705.123	40.121
J3	292327.438	5807710.456	40.168
J4	292331.597	5807722.131	40.41

**LIP LINE J**

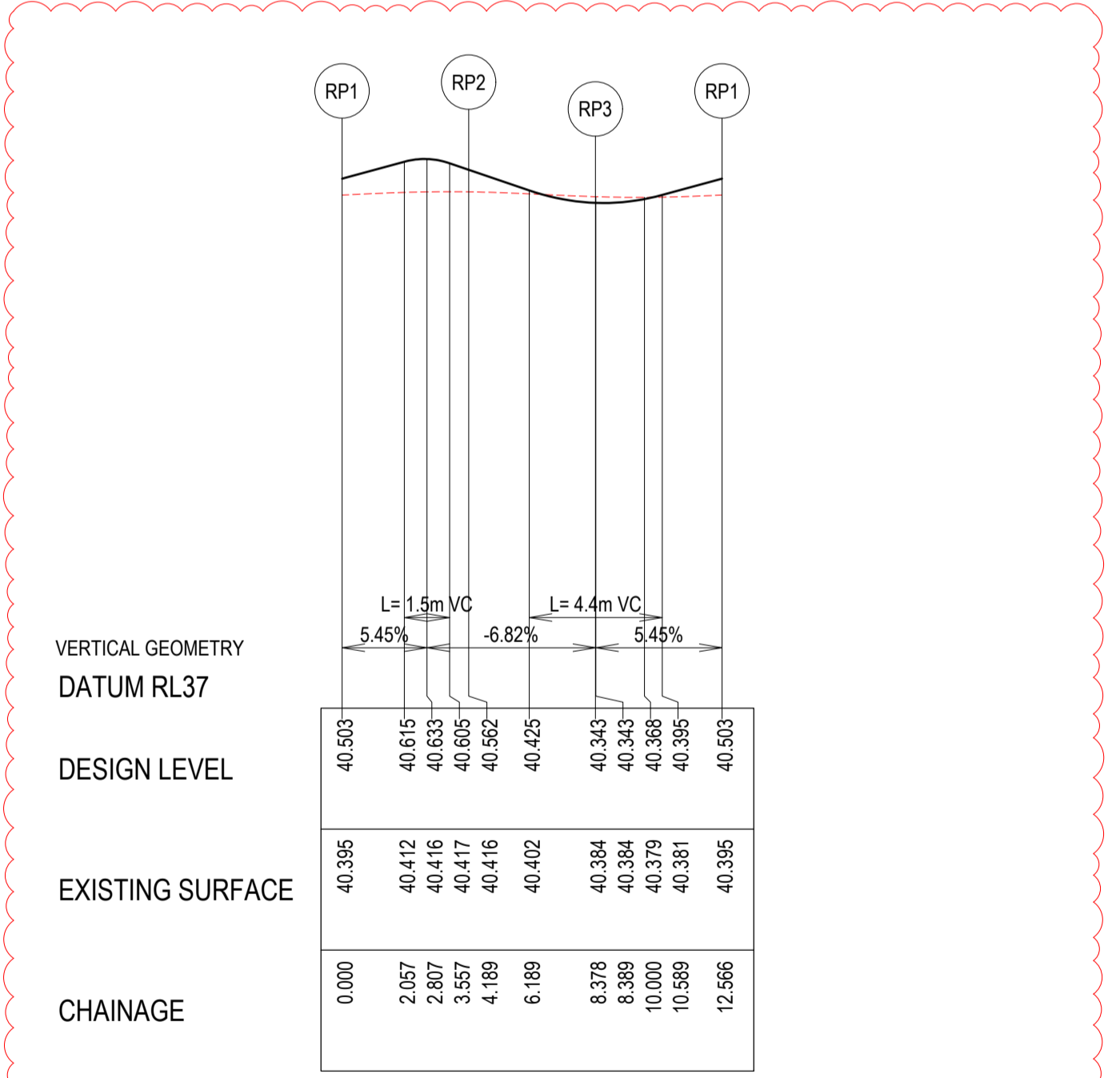
CURVE NO	I	RAD.	ARC	A	B	X	Y	I	MID POINT RL	
J1 - J2	26	328	30.45	13.992	0.8	0.599	3.49	3.444	3.498	40.087
J2 - J3	40	186	12.45	8.732	0.758	0.567	2.172	2.105	2.183	40.143
J3 - J4	23	485	30.45	12.481	0.637	0.478	3.115	3.082	3.12	40.34



**ALIGNMENT RO**

PT NO	EASTING	NORTHING	RL
RO1	292336.908	5807697.73	40.315
RO2	292328.733	5807702.45	40.374
RO3	292328.733	5807693.011	40.155

CURVE NO	I	RAD.	ARC	A	B	X	Y	I	MID POINT RL
RO1 - RO2	120	5.45	11.414	2.725	1.995	2.725	1.995	2.854	40.429
RO2 - RO3	120	5.45	11.414	2.725	1.995	2.725	1.995	2.854	40.231
RO3 - RO1	120	5.45	11.414	2.725	1.995	2.725	1.995	2.854	40.201



**ALIGNMENT RP**

PT NO	EASTING	NORTHING	RL
RP1	292333.458	5807697.73	40.503
RP2	292330.458	5807699.462	40.562
RP3	292330.458	5807695.998	40.343

CURVE NO	I	RAD.	ARC	A	B	X	Y	I	MID POINT RL
RP1 - RP2	120	2	4.189	1	0.732	1	0.732	1.047	40.616
RP2 - RP3	120	2	4.189	1	0.732	1	0.732	1.047	40.420
RP3 - RP1	120	2	4.189	1	0.732	1	0.732	1.047	40.390

REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED
2	29/01/25	TGSI UPDATED	S.M	A.W	M.T
1	11/11/24	ADDED LIP PROFILE ALIGNMENT RP	S.M	A.W	M.T
0	19/09/24	ISSUED FOR CONSTRUCTION	M.P	A.W	M.T
A	17/05/24	ISSUED FOR TENDER	S.M	S.M	M.T

**villawood properties**  
 Communities Designed for Living

**creo CIVIL**  
 Level 7, 176 Wellington Parade  
 East Melbourne, VIC, Australia 3002

**ALAMORA**  
 Jarrett

**ALAMORA - STAGE 15**  
**INTERSECTION DETAILS - 4**

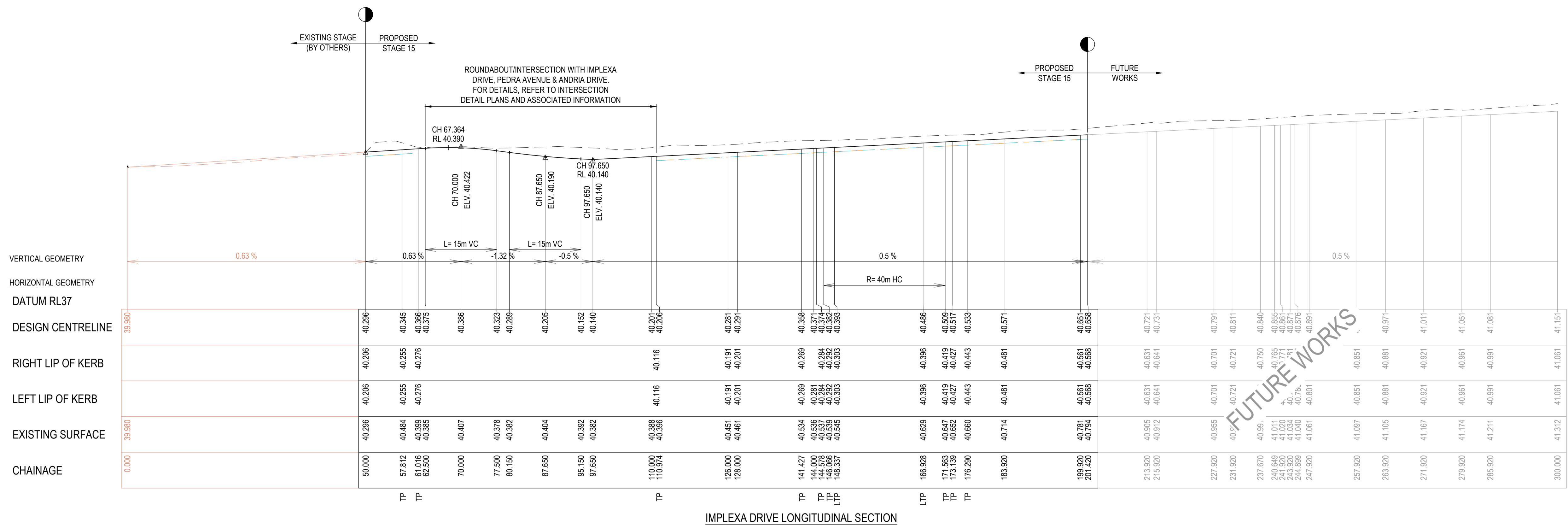
**ISSUED FOR CONSTRUCTION**  
 SCALE @ A1 : 1:200

DESIGNED	PROJECT ENGINEER	
S.M	S.M	
DRAWN	PROJECT MANAGER	
S.M	M.T	
PROJECT No.	DRAWING No.	REVISION
200282.15	R303	2

**LEGEND**

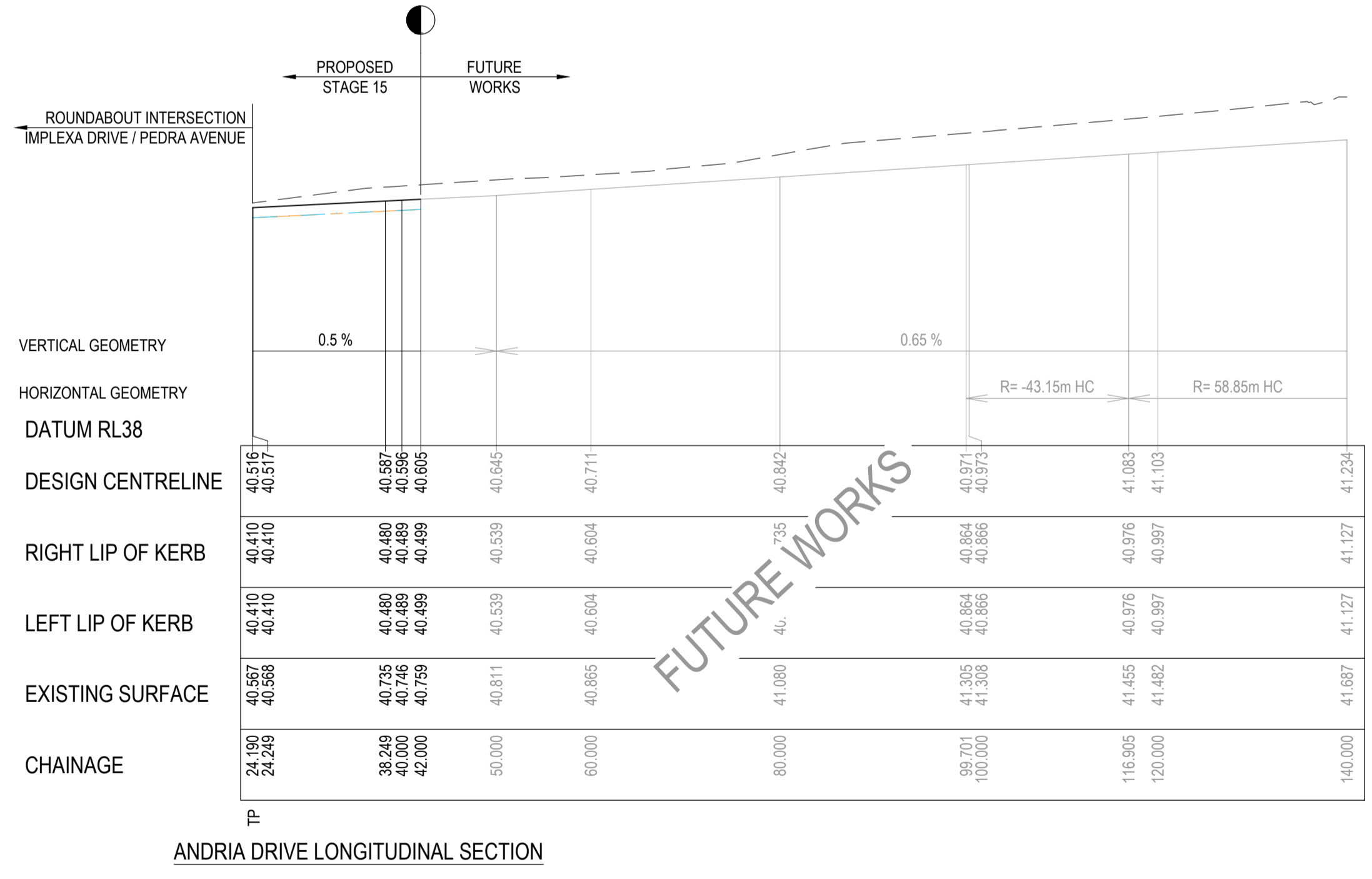
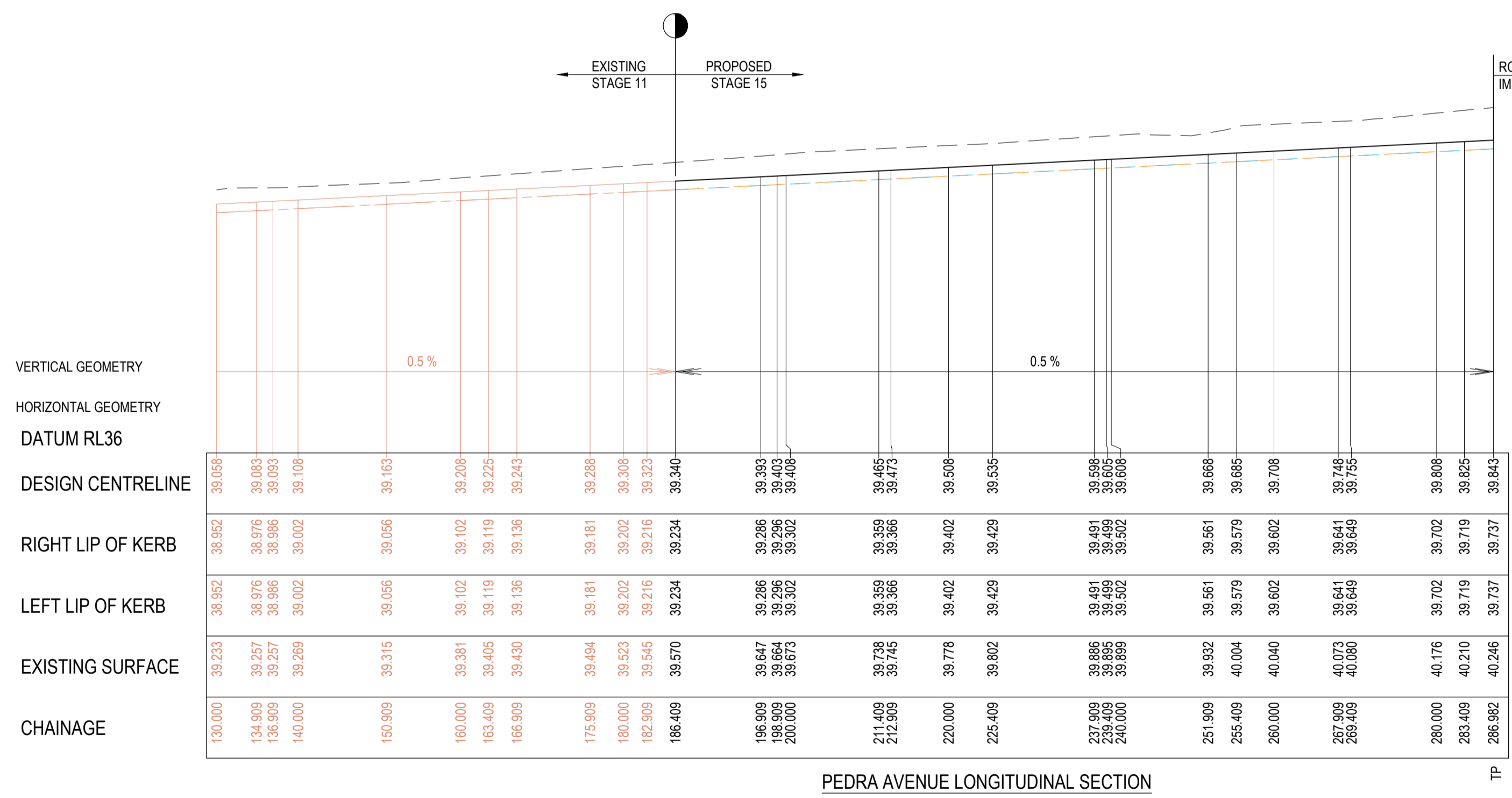
- EXISTING SURFACE
- DESIGN LINE
- FUTURE DESIGN LINE
- EXISTING DESIGN LINE
- LEFT LIP OF KERB
- RIGHT LIP OF KERB

NOTE: REFER TO GENERAL NOTES REGARDING STRUCTURAL FILL



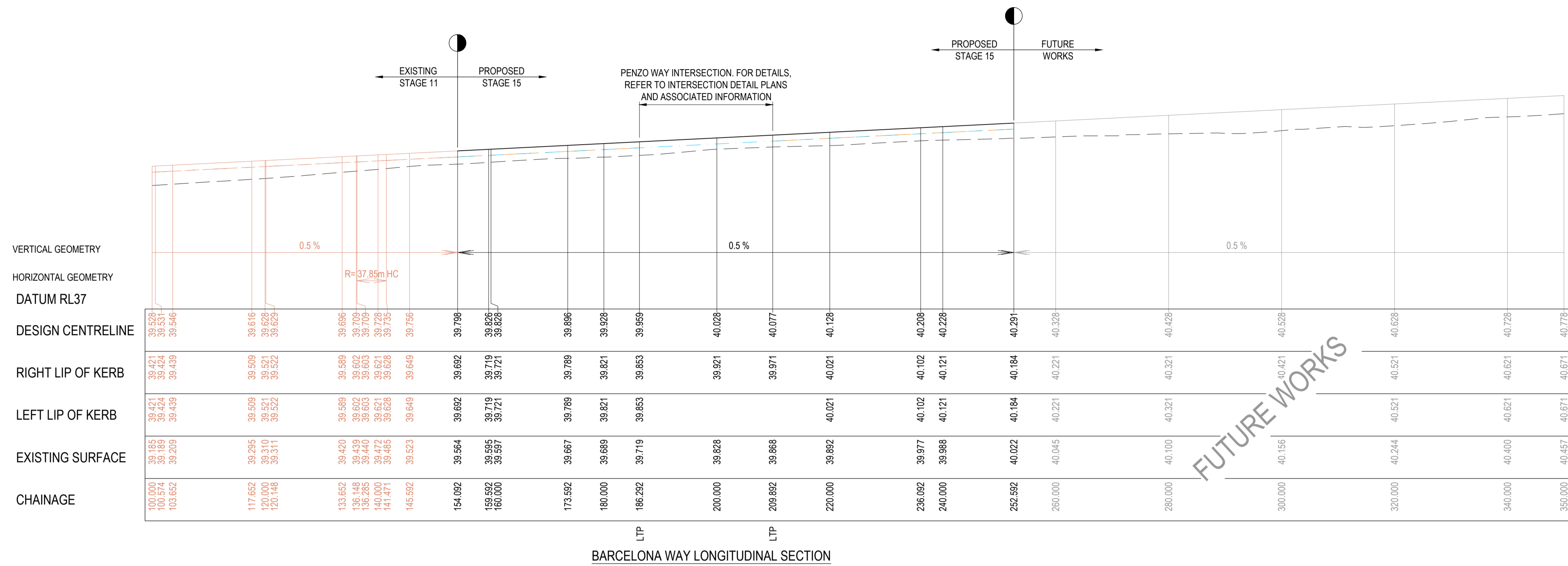
**Planning and Environment Act 1987**  
**Wyndham Planning Scheme**

**Approved Plan As Required**  
**under Condition 40**  
**Permit No WYP10817/18**  
**Date 13/09/2024**

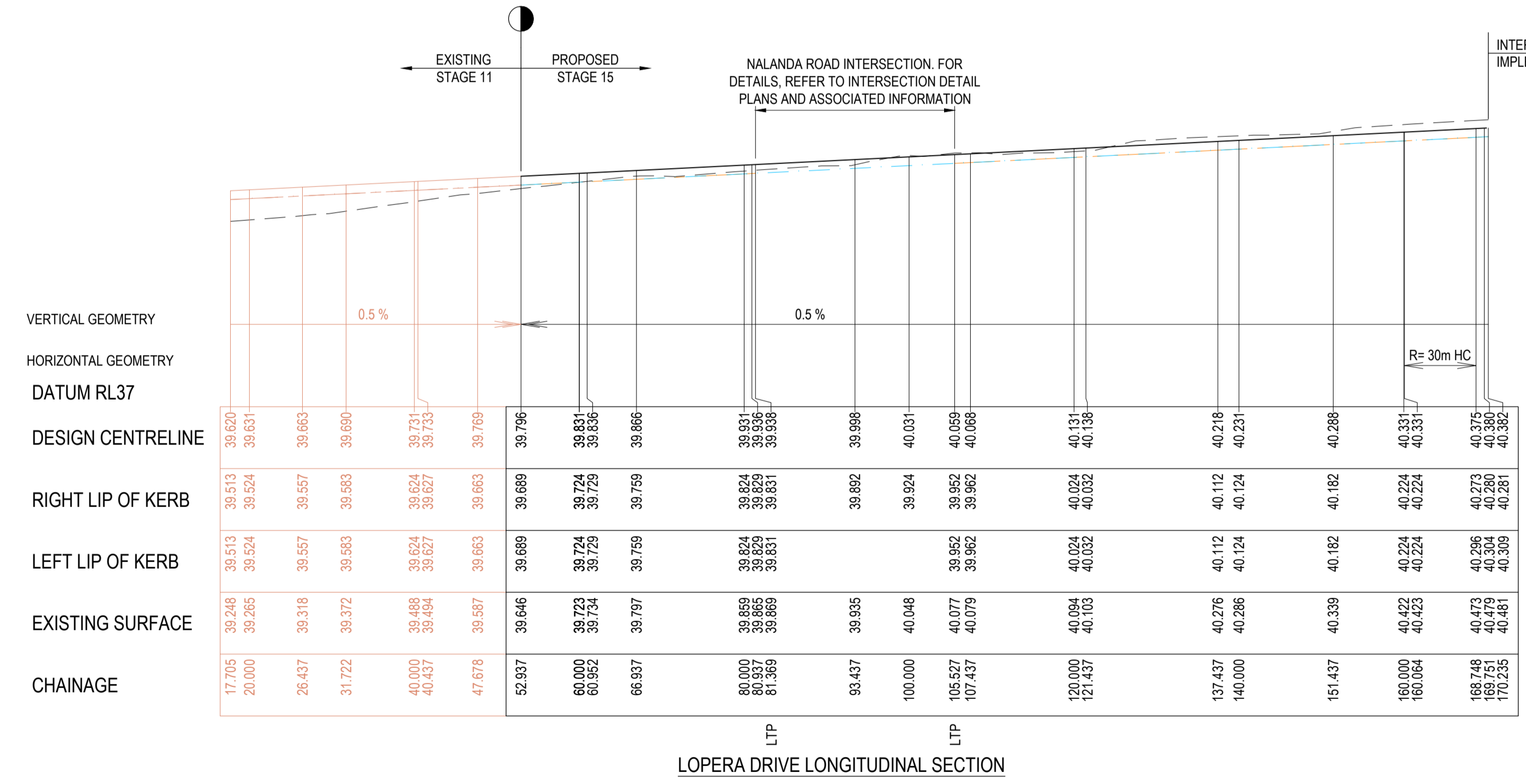
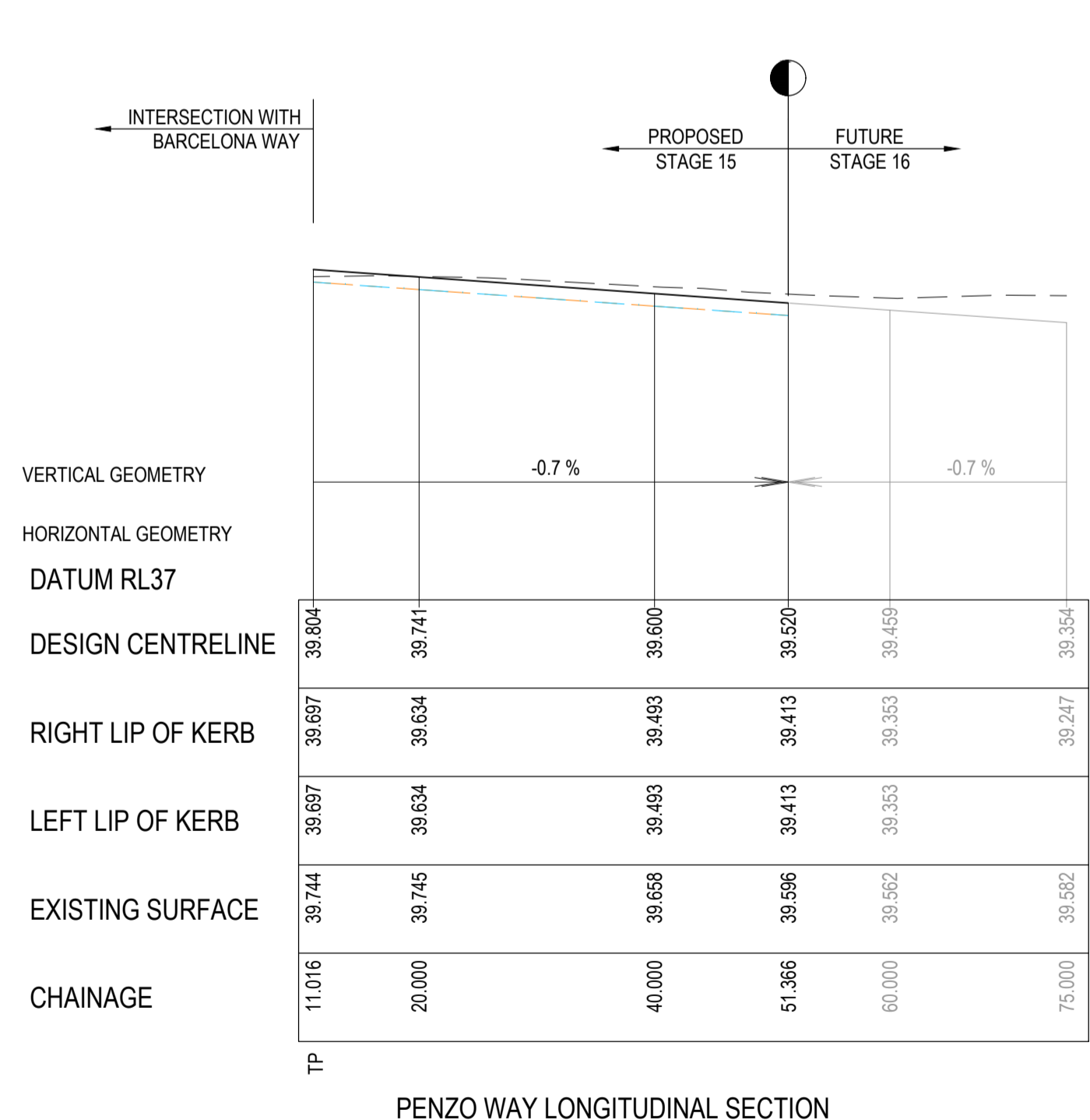


REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED	CLIENT	PROJECT	DRAWING TITLE	STATUS	DESIGNED	PROJECT ENGINEER	
A	17/05/24	ISSUED FOR TENDER	S.M	S.M	M.T	 Communities Designed for Living	 Level 7, 176 Wellington Parade East Melbourne, VIC, Australia 3002	 <b>ALAMORA - STAGE 15</b> <b>ROAD LONGITUDINAL SECTIONS - 1</b>	<b>ISSUED FOR APPROVAL</b> <b>NOT FOR CONSTRUCTION</b>	S.M	S.M	
										DRAWN	PROJECT MANAGER	
										S.M	M.T	
										PROJECT No.	DRAWING No.	REVISION
										200282.15	R400	A

LEGEND	
	EXISTING SURFACE
	DESIGN LINE
	FUTURE DESIGN LINE
	EXISTING DESIGN LINE
	LEFT LIP OF KERB
	RIGHT LIP OF KERB
NOTE: REFER TO GENERAL NOTES REGARDING STRUCTURAL FILL	

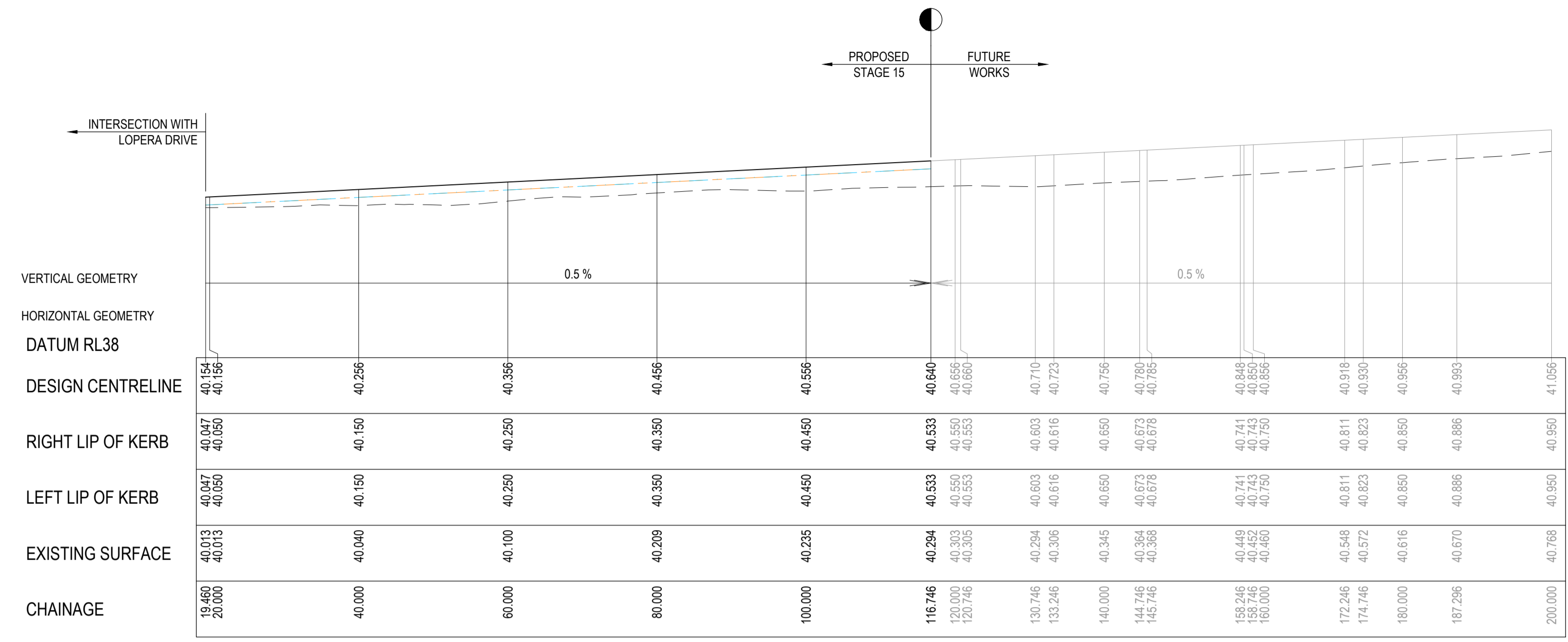


**Planning and Environment Act 1987**  
**Wyndham Planning Scheme**  
  
**Approved Plan As Required**  
**under Condition 40**  
**Permit No WYP10817/18**  
**Date 13/09/2024**



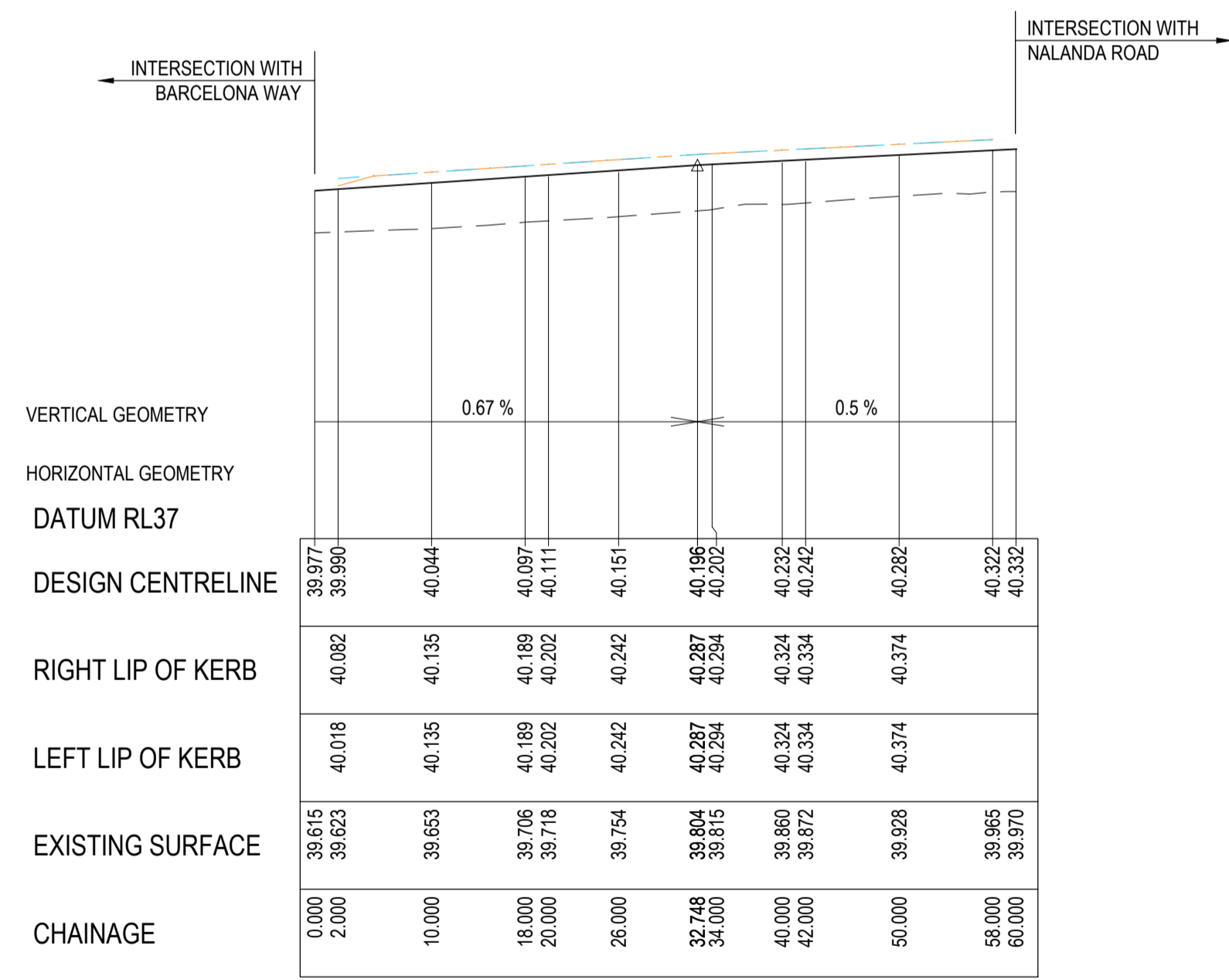
REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED	CLIENT	PROJECT	DRAWING TITLE	STATUS	DESIGNED	PROJECT ENGINEER	
B	30/05/24	AMENDED LOTS ORIENTATION - LOT1517/1518	S.M	A.W	M.T	 <b>Communities Designed for Living</b>	 Level 7, 176 Wellington Parade East Melbourne, VIC, Australia 3002	 <b>ALAMORA - STAGE 15</b> <b>ROAD LONGITUDINAL SECTIONS - 2</b>	<b>ISSUED FOR APPROVAL</b> <b>NOT FOR CONSTRUCTION</b> SCALE @ A1: 1:500 (H) 1:50 (V) 	S.M	S.M	
A	17/05/24	ISSUED FOR TENDER	S.M	S.M	M.T					S.M	M.T	
										PROJECT No.	DRAWING No.	REVISION
										200282.15	R401	B

LEGEND	
	EXISTING SURFACE
	DESIGN LINE
	FUTURE DESIGN LINE
	EXISTING DESIGN LINE
	LEFT LIP OF KERB
	RIGHT LIP OF KERB
NOTE: REFER TO GENERAL NOTES REGARDING STRUCTURAL FILL	

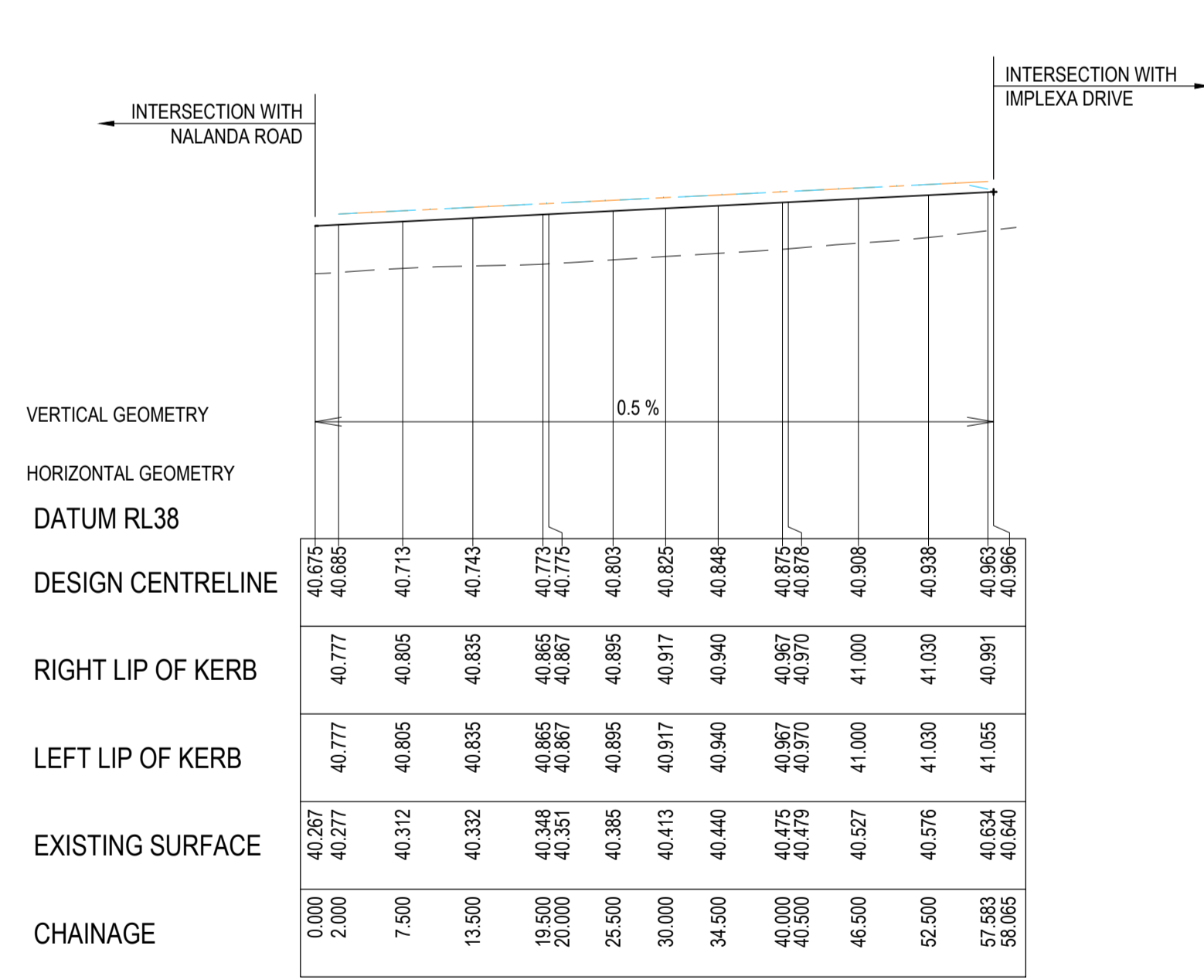


**Planning and Environment Act 1987**  
**Wyndham Planning Scheme**  
**Approved Plan As Required**  
**under Condition 40**  
**Permit No WYP10817/18**  
**Date 13/09/2024**

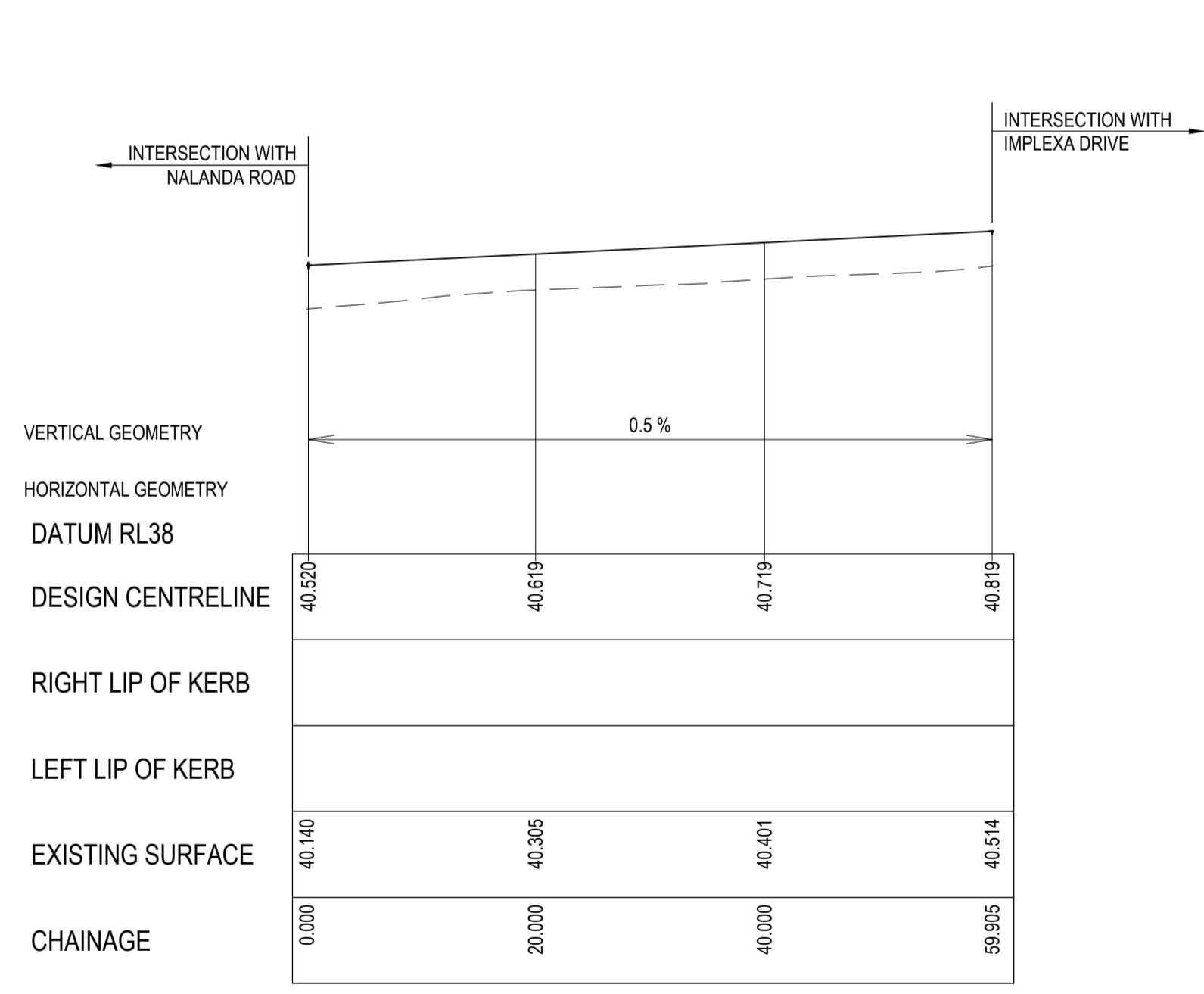
NALANDA ROAD LONGITUDINAL SECTION



RIMO LANE LONGITUDINAL SECTION



SAMIR LANE LONGITUDINAL SECTION



DARNA WALK LANE LONGITUDINAL SECTION

REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED
A	17/05/24	ISSUED FOR TENDER	S.M	S.M	M.T



**ALAMORA - STAGE 15**  
**ROAD LONGITUDINAL SECTIONS - 3**

**ISSUED FOR APPROVAL**  
**NOT FOR CONSTRUCTION**

SCALE @ A1: 1:500 (H) 1:50 (V)

DESIGNED	S.M	PROJECT ENGINEER	S.M
DRAWN	S.M	PROJECT MANAGER	M.T
PROJECT No.	<b>200282.15</b>	DRAWING No.	<b>R402</b>
REVISION			<b>A</b>

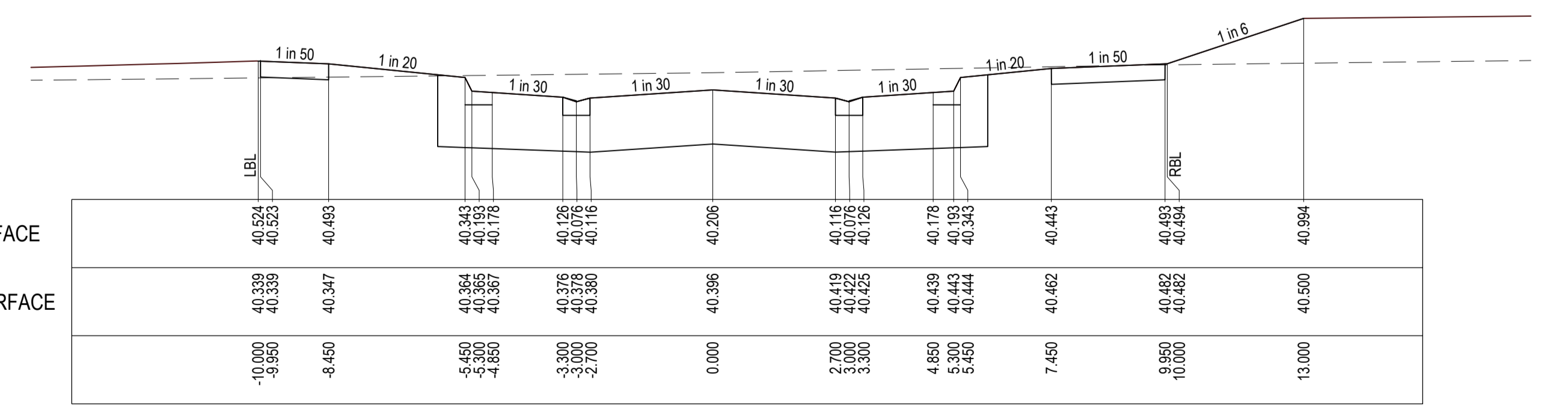
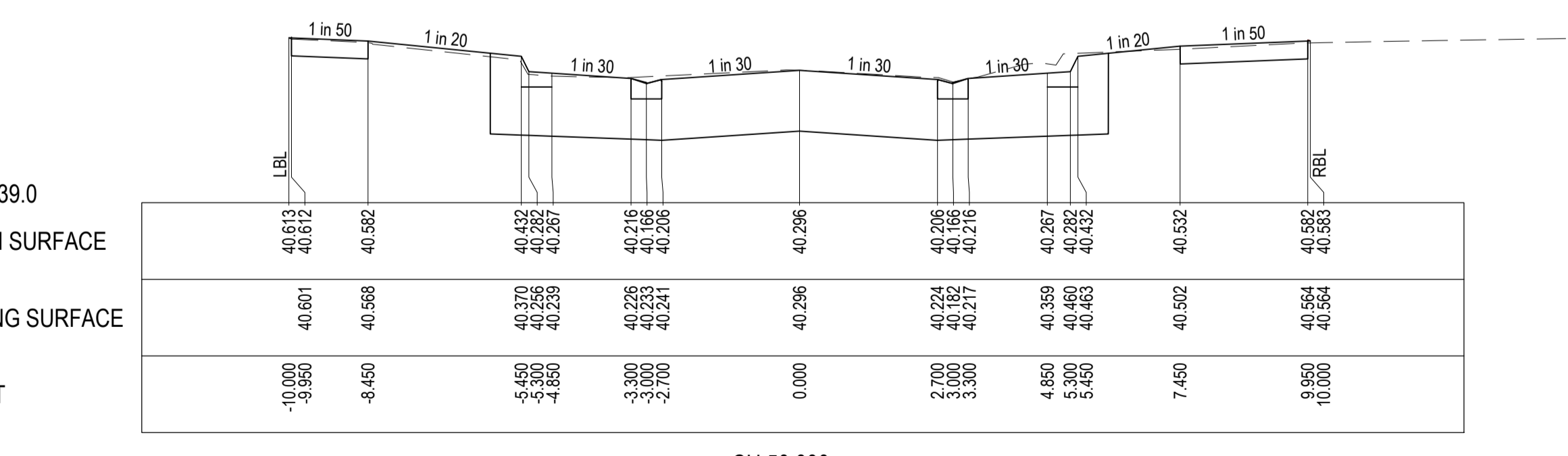
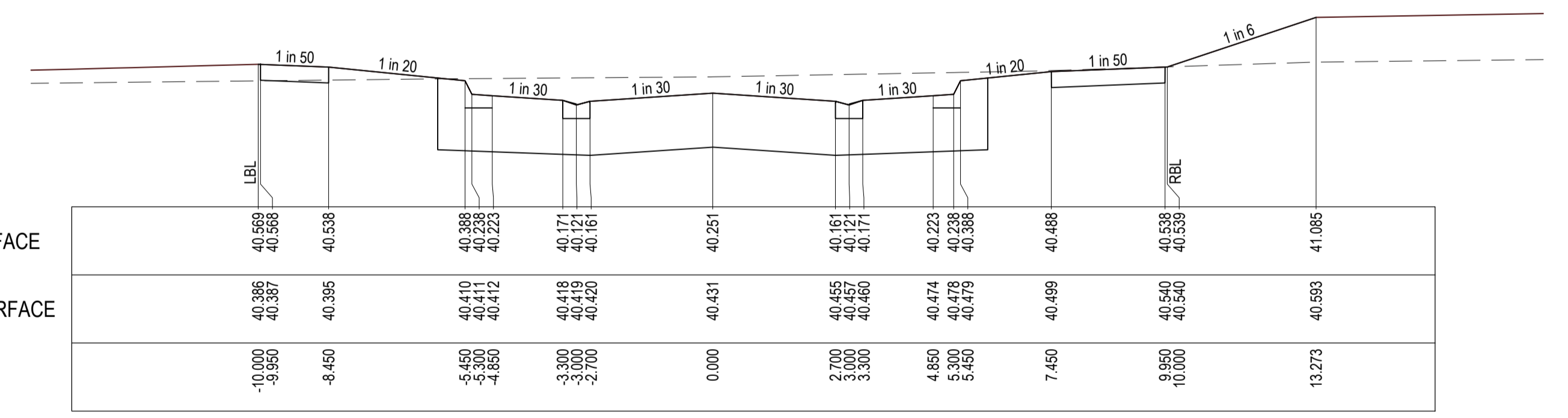
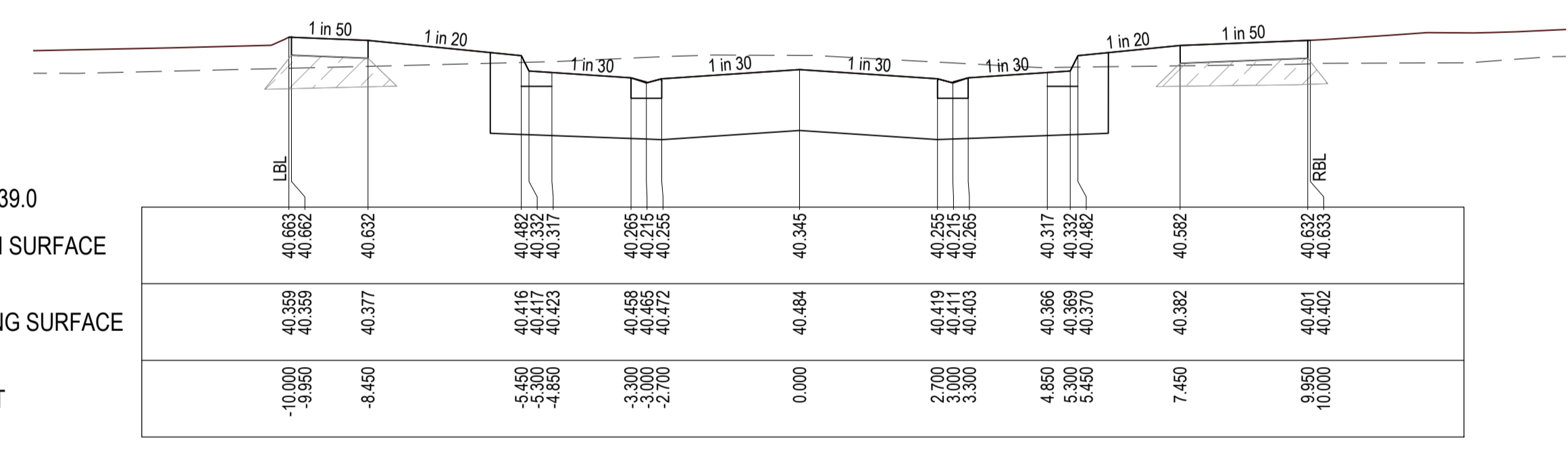
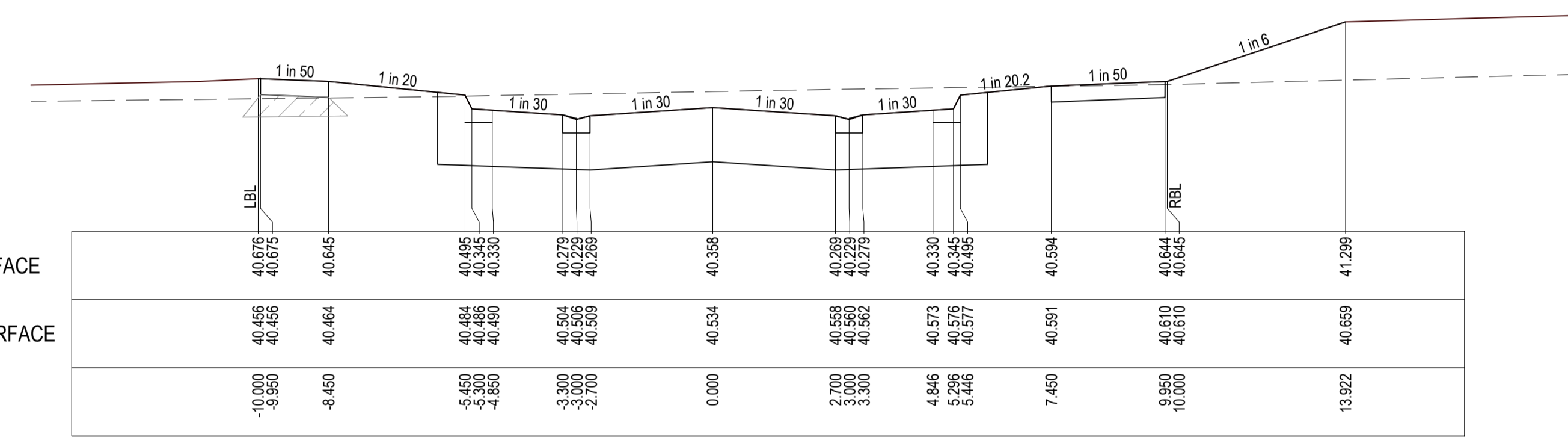
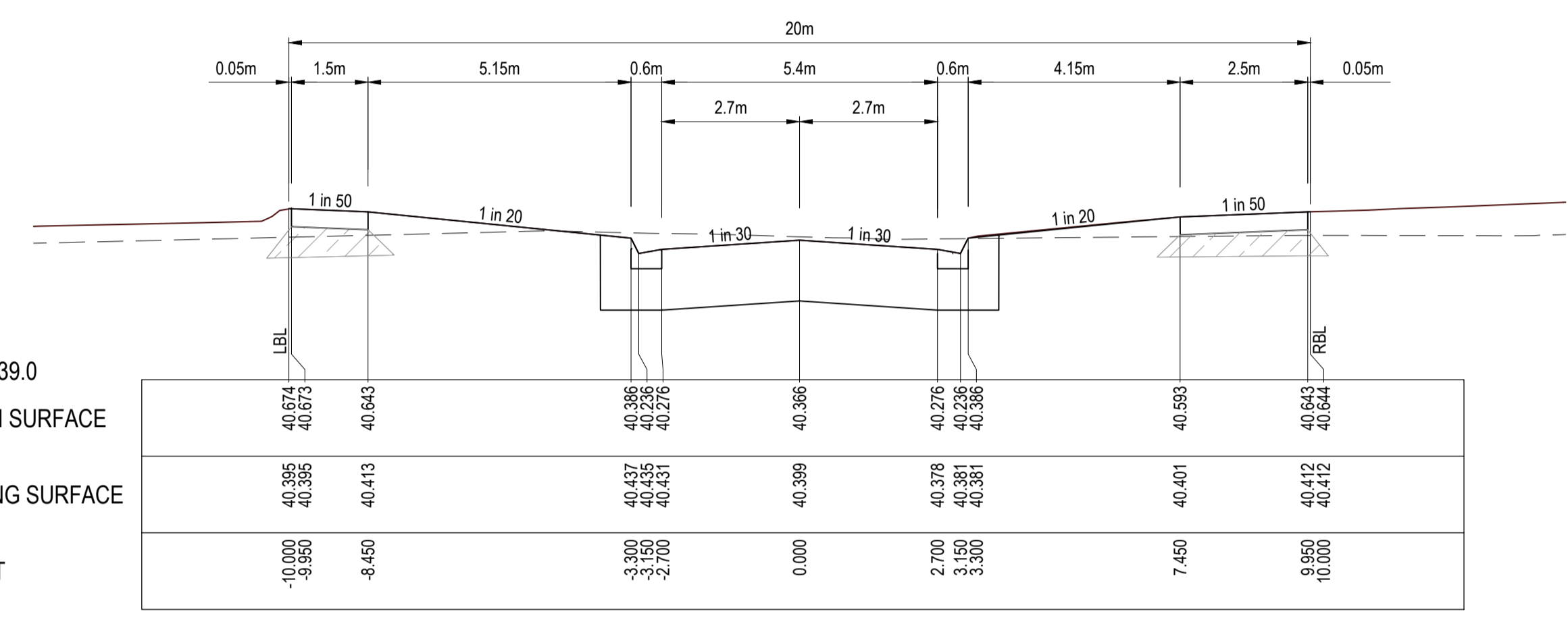
**WARNING**  
**BEWARE OF UNDERGROUND & OVERHEAD SERVICES**  
 The locations of underground & overhead services are approximate only & their exact position should be proven on site. No guarantee is given that all existing services are shown. Locate all underground services before commencement of works  
**DIAL 1100 BEFORE YOU DIG**  
 www.1100.com.au

NOTE:  
 CROSS SECTIONS LBL & RBL LABELS REFER TO LEFT AND RIGHT TITLE BOUNDARY RESPECTIVELY. READ IN ASCENDING ORDER ALONG THE RELEVANT LONG SECTION CHAINAGES

NOTE:  
 SELECT STRUCTURAL FILL IN ACCORDANCE WITH WYNDHAM CITY COUNCIL SPECIFICATIONS & REQUIREMENTS IS REQUIRED UNDER PAVEMENT AND FOOTPATHS @ 45° WHERE CONSTRUCTED ABOVE EXISTING SURFACE.

**LEGEND**  
 - - - - - EXISTING SURFACE  
 ———— DESIGN LINE  
 ▨▨▨▨▨ SELECT STRUCTURAL FILL

**Planning and Environment Act 1987**  
**Wyndham Planning Scheme**  
**Approved Plan As Required**  
**under Condition 40**  
**Permit No WYP10817/18**  
**Date 13/09/2024**



P:\2020\2022 - ALAMORA\_TANFET\2022 - SCHEDULE DRAFTING\ROADS & DRAINAGE\2022.15 - F500 - ROAD CROSS SECTIONS.DWG

REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED
A	17/05/24	ISSUED FOR TENDER	S.M	S.M	M.T



**ALAMORA - STAGE 15**  
**ROAD CROSS SECTIONS - 1**  
**IMPLEXA DRIVE - 01**

**ISSUED FOR APPROVAL**  
**NOT FOR CONSTRUCTION**  
 SCALE @ A1: 1:100 (H) 1:50 (V)  
 H 2 1 0 2 4  
 V 1 0.5 0 1 2

DESIGNED	PROJECT ENGINEER	
S.M	S.M	
DRAWN	PROJECT MANAGER	
S.M	M.T	
PROJECT No.	DRAWING No.	REVISION
200282.15	R500	A

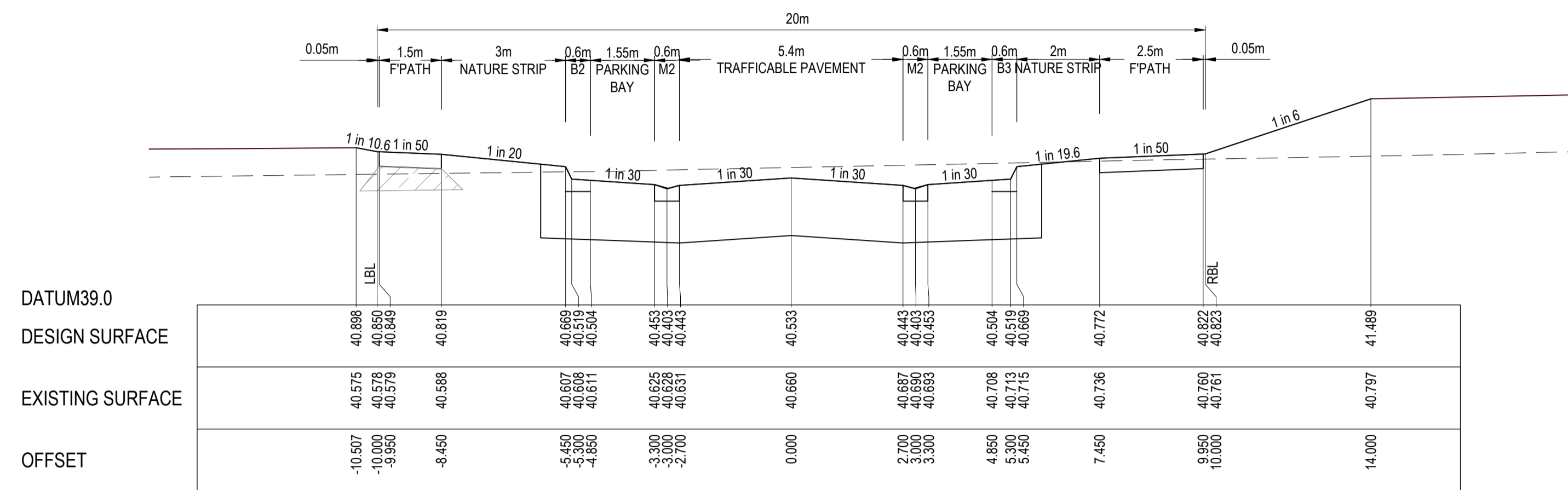
**WARNING**  
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NOTE:  
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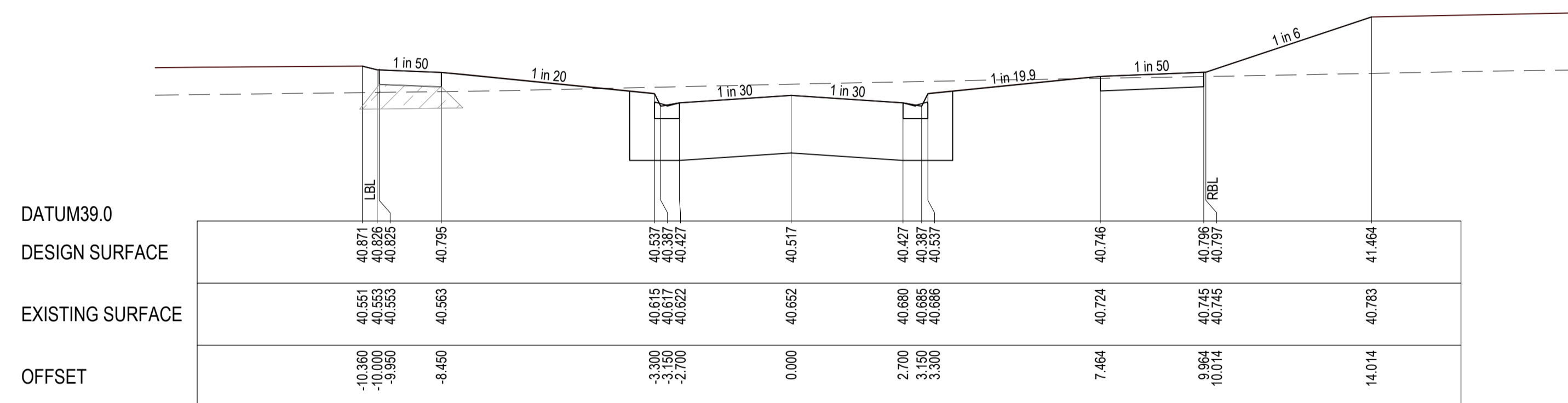
NOTE:  
 SELECT STRUCTURAL FILL IN ACCORDANCE WITH WYNDHAM CITY COUNCIL SPECIFICATIONS & REQUIREMENTS IS REQUIRED UNDER PAVEMENT AND FOOTPATHS @ 45° WHERE CONSTRUCTED ABOVE EXISTING SURFACE.

**LEGEND**  
 - - - - - EXISTING SURFACE  
 ——— DESIGN LINE  
 ▨ SELECT STRUCTURAL FILL

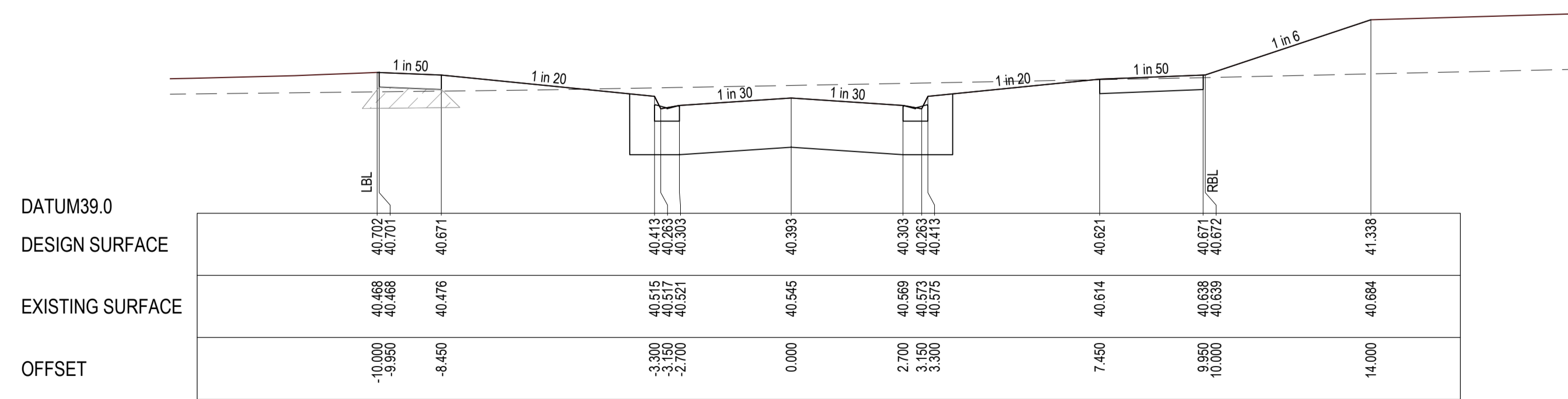
**Planning and Environment Act 1987**  
**Wyndham Planning Scheme**  
**Approved Plan As Required**  
**under Condition 40**  
**Permit No WYP10817/18**  
**Date 13/09/2024**



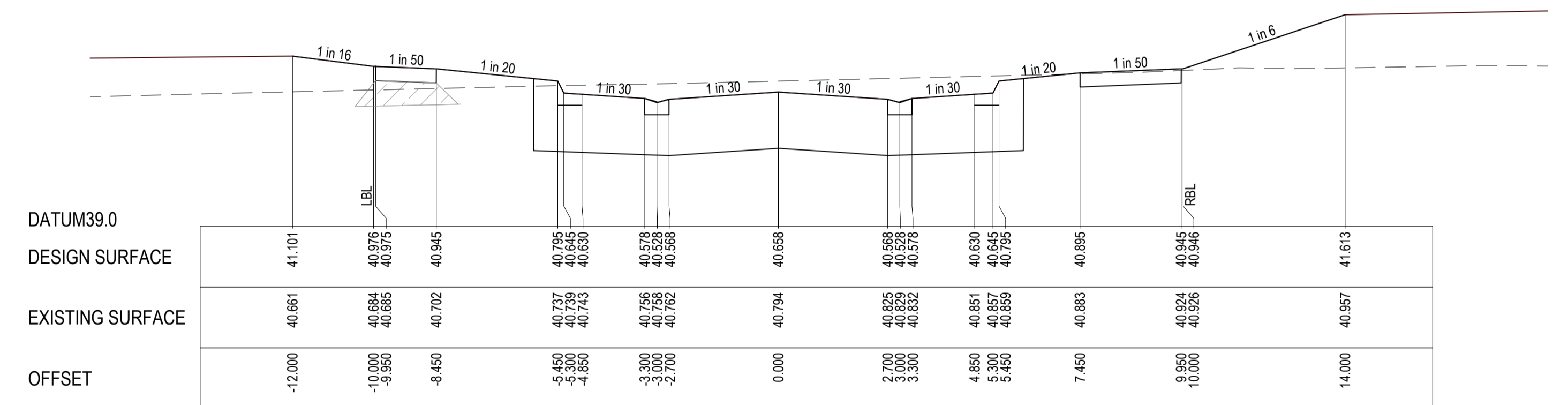
TPCH 176.290



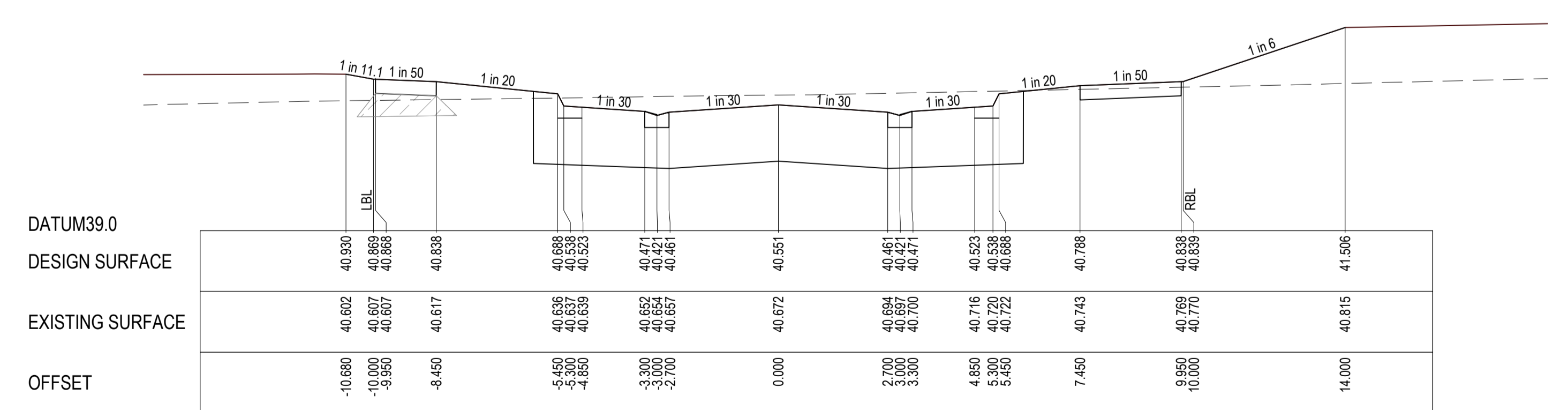
TPCH 173.139



LTPCH 148.337



CH 201.420



CH 180.000

P:\2020\20282- ALAMORA\_TOWNSET\20282-15- R500- ROAD CROSS SECTIONS.DWG

REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED
A	17/05/24	ISSUED FOR TENDER	S.M	S.M	M.T

CLIENT

Communities Designed for Living

Level 7, 176 Wellington Parade  
 East Melbourne, VIC, Australia 3002

PROJECT

DRAWING TITLE

**ALAMORA - STAGE 15**  
**ROAD CROSS SECTIONS - 2**  
**IMPLEXA DRIVE - 02**

STATUS

**ISSUED FOR APPROVAL**  
**NOT FOR CONSTRUCTION**

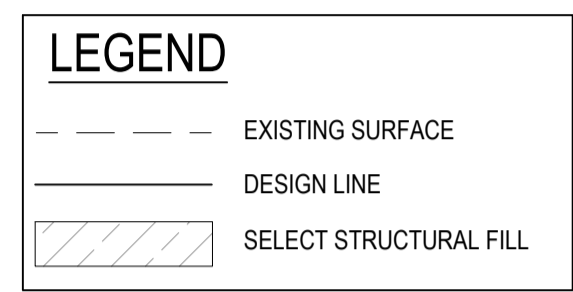
SCALE @ A1: 1:100 (H) 1:50 (V)

DESIGNED	PROJECT ENGINEER	
S.M	S.M	
DRAWN	PROJECT MANAGER	
S.M	M.T	
PROJECT No.	DRAWING No.	REVISION
200282.15	R501	A

**WARNING**  
**BEWARE OF UNDERGROUND & OVERHEAD SERVICES**  
 The locations of underground & overhead services are approximate only & their exact position should be proven on site. No guarantee is given that all existing services are shown. Locate all underground services before commencement of works  
**DIAL 1100 BEFORE YOU DIG**  
 www.1100.com.au

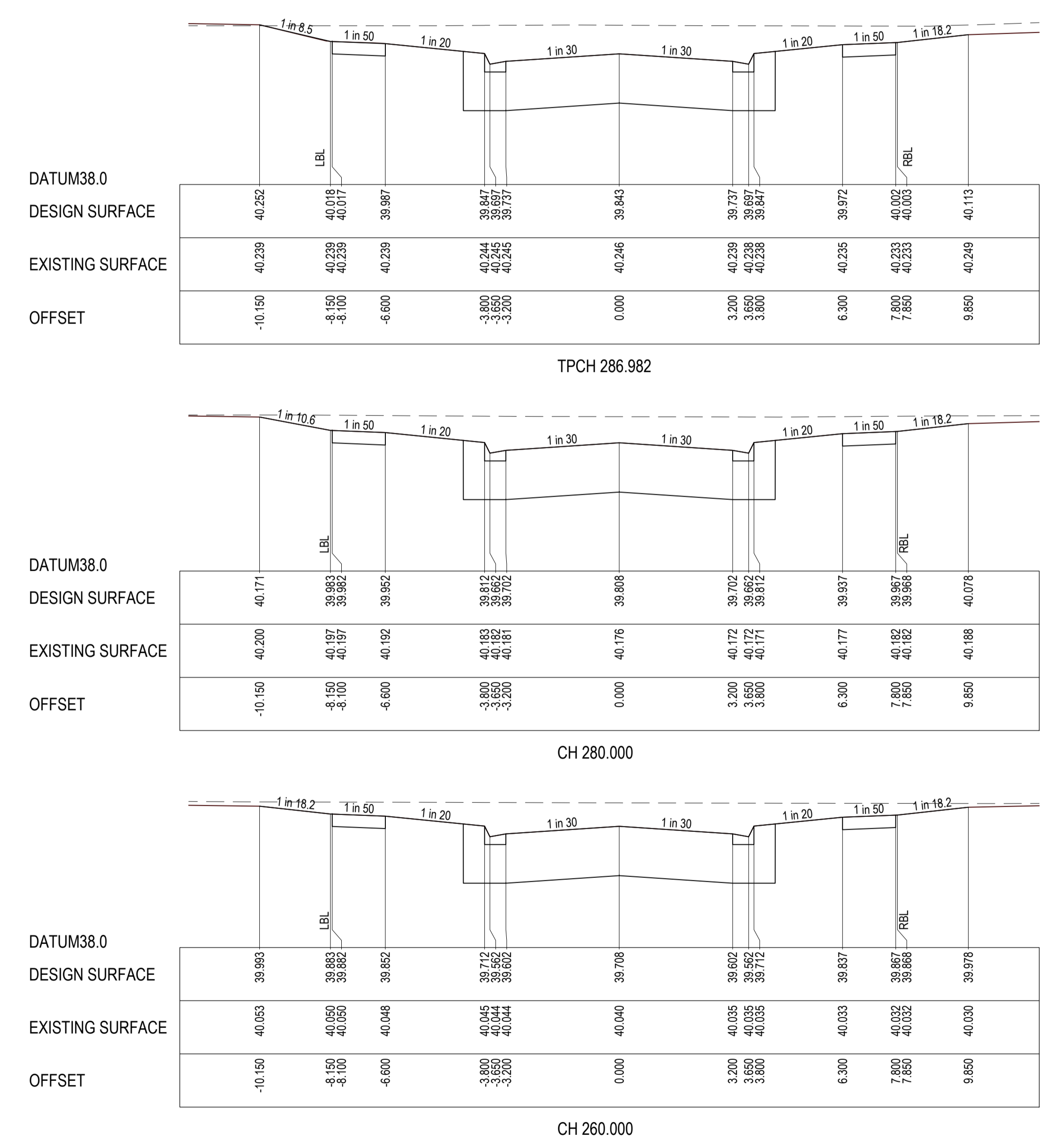
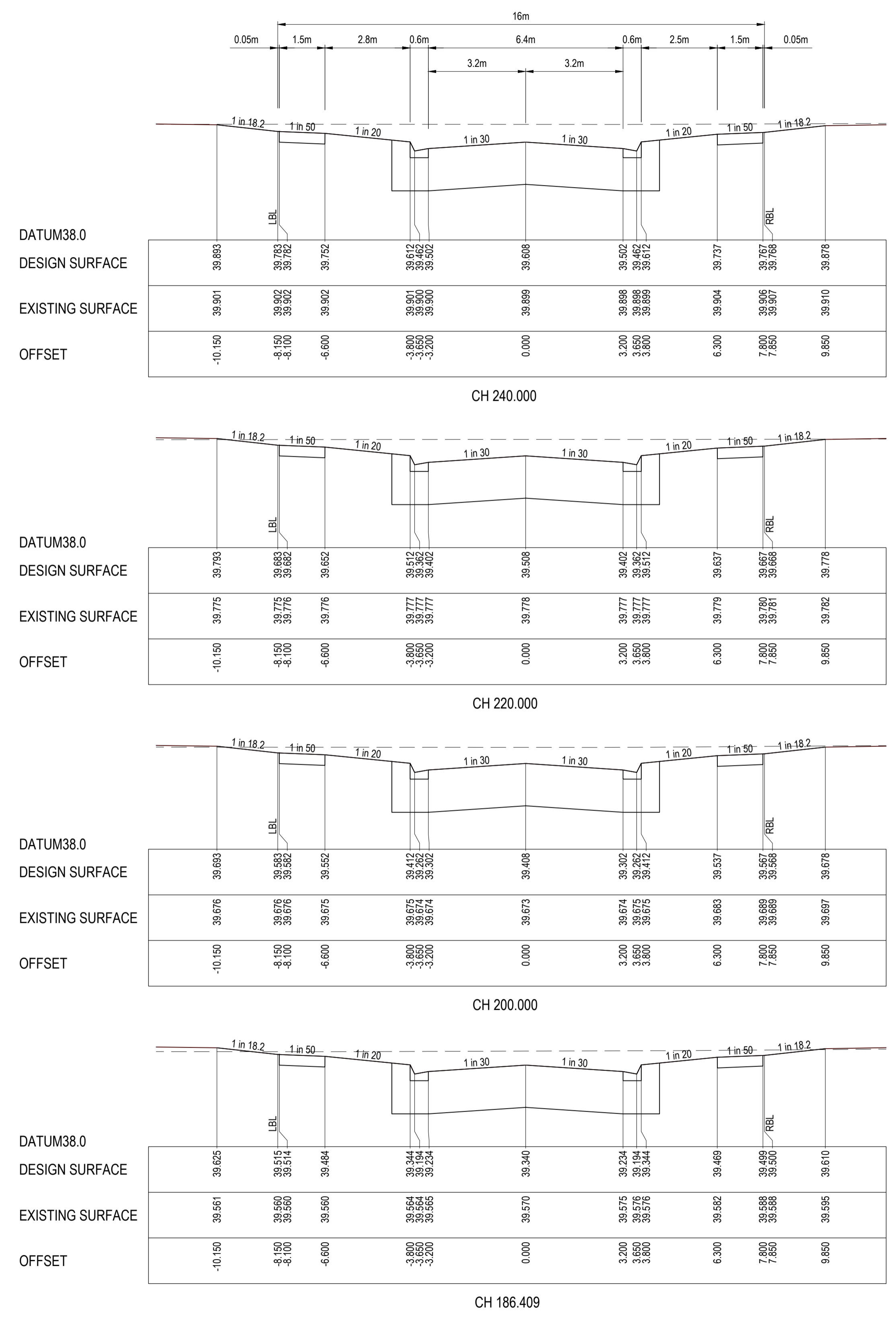
NOTE:  
 CROSS SECTIONS LBL & RBL LABELS REFER TO LEFT AND RIGHT TITLE BOUNDARY RESPECTIVELY. READ IN ASCENDING ORDER ALONG THE RELEVANT LONG SECTION CHAINAGES

NOTE:  
 SELECT STRUCTURAL FILL IN ACCORDANCE WITH WYNDHAM CITY COUNCIL SPECIFICATIONS & REQUIREMENTS IS REQUIRED UNDER PAVEMENT AND FOOTPATHS @ 45° WHERE CONSTRUCTED ABOVE EXISTING SURFACE.



**Planning and Environment Act 1987**  
**Wyndham Planning Scheme**

**Approved Plan As Required**  
**under Condition 40**  
**Permit No WYP10817/18**  
**Date 13/09/2024**



P:\2020\20202 - ALAMORA\_TOWNSET\20202 - SCHEDULE DRAFTING\ROADS & DRAINAGE\20202 - S - R500 - ROAD CROSS SECTIONS.DWG

REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED
A	17/05/24	ISSUED FOR TENDER	S.M	S.M	M.T

CLIENT

Communities Designed for Living

creo CIVIL

Level 7, 176 Wellington Parade  
 East Melbourne, VIC, Australia 3002

PROJECT

DRAWING TITLE

**ALAMORA - STAGE 15**  
**ROAD CROSS SECTIONS - 3**  
**PEDRA AVENUE**

STATUS

**ISSUED FOR APPROVAL**  
**NOT FOR CONSTRUCTION**

SCALE @ A1: 1:100 (H) 1:50 (V)

DESIGNED	PROJECT ENGINEER	
S.M	S.M	
DRAWN	PROJECT MANAGER	
S.M	M.T	
PROJECT No.	DRAWING No.	REVISION
200282.15	R502	A

**Planning and Environment Act 1987  
Wyndham Planning Scheme**

**Approved Plan As Required  
under Condition 40  
Permit No WYP10817/18  
Date 13/09/2024**

**WARNING**  
**BEWARE OF UNDERGROUND & OVERHEAD SERVICES**

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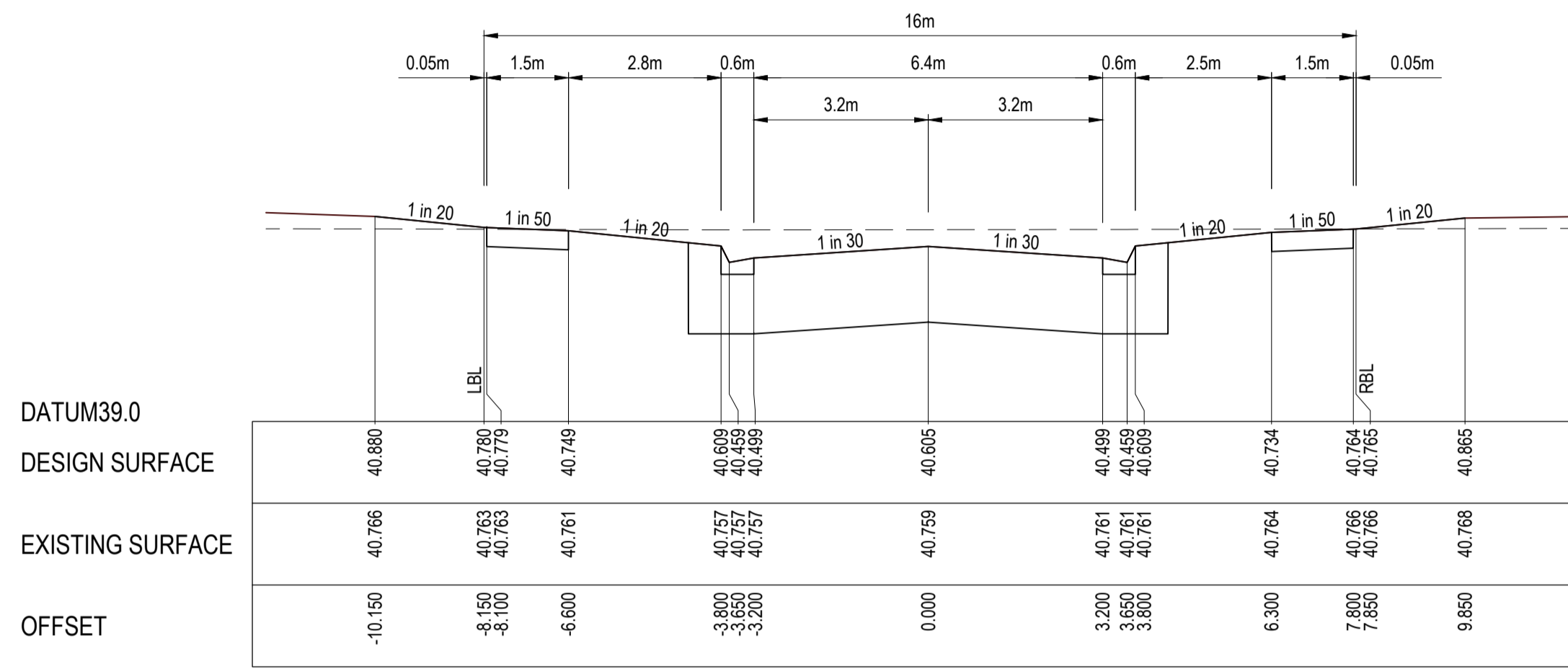
**DIAL 1100 BEFORE YOU DIG**  
www.1100.com.au

NOTE:  
CROSS SECTIONS LBL & RBL LABELS REFER TO LEFT AND RIGHT TITLE BOUNDARY RESPECTIVELY. READ IN ASCENDING ORDER ALONG THE RELEVANT LONG SECTION CHAINAGES

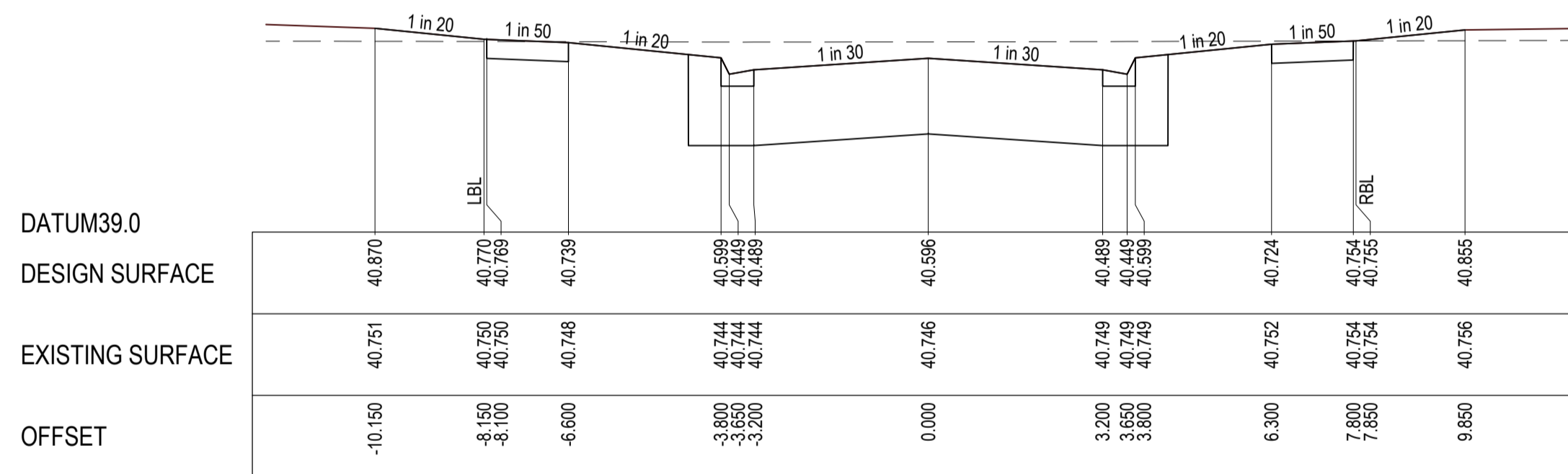
NOTE:  
SELECT STRUCTURAL FILL IN ACCORDANCE WITH WYNDHAM CITY COUNCIL SPECIFICATIONS & REQUIREMENTS IS REQUIRED UNDER PAVEMENT AND FOOTPATHS @ 45° WHERE CONSTRUCTED ABOVE EXISTING SURFACE.

**LEGEND**

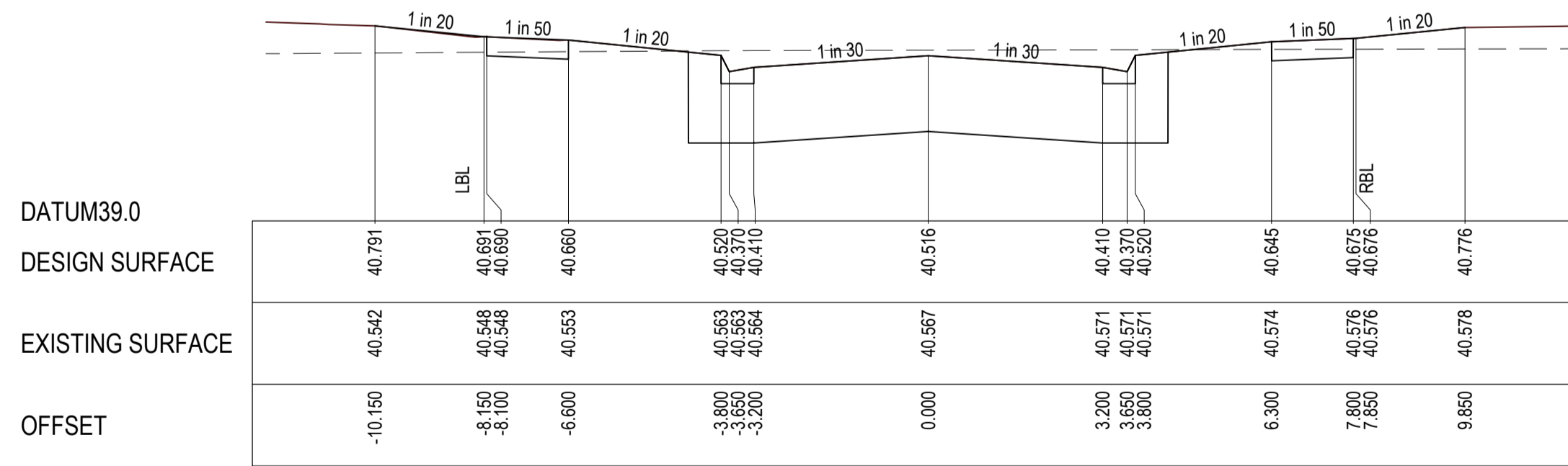
--- EXISTING SURFACE  
— DESIGN LINE  
▨ SELECT STRUCTURAL FILL



CH 42.000

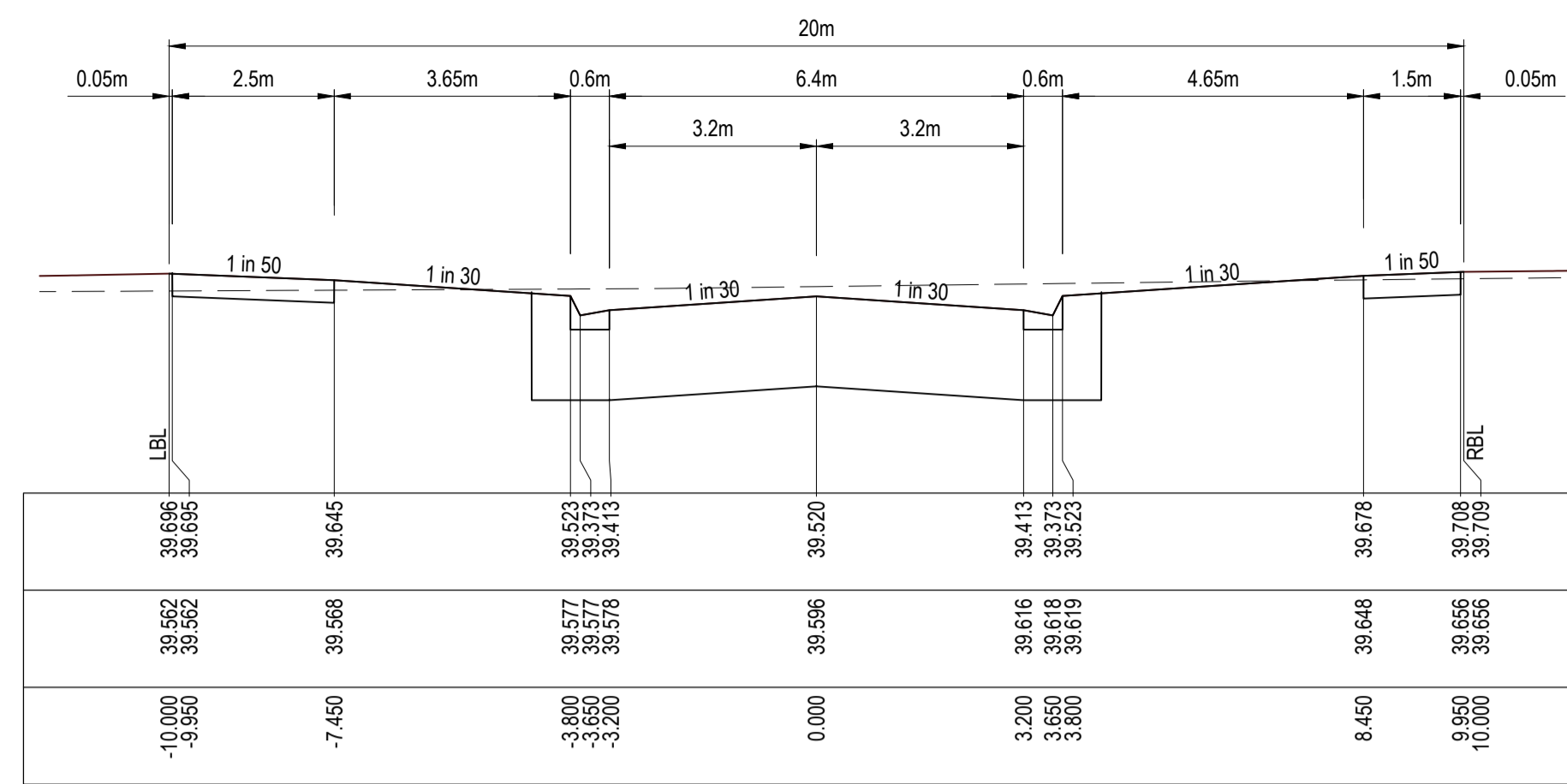


CH 40.000

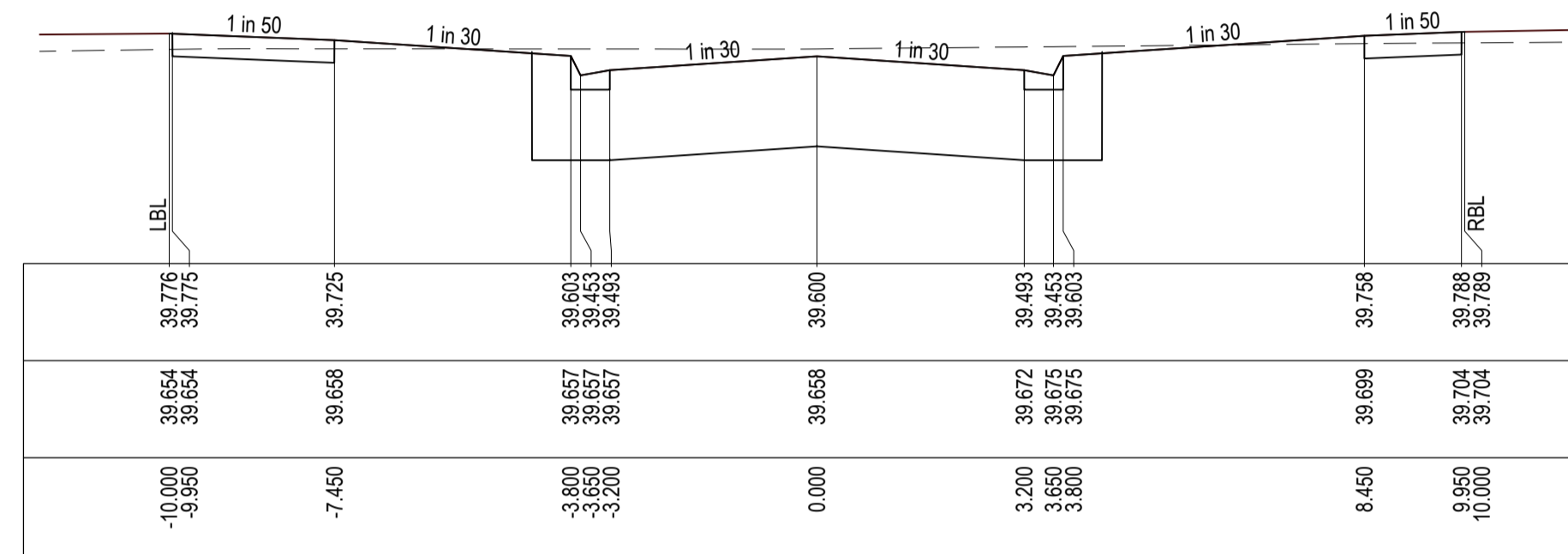


TPCH 24.190

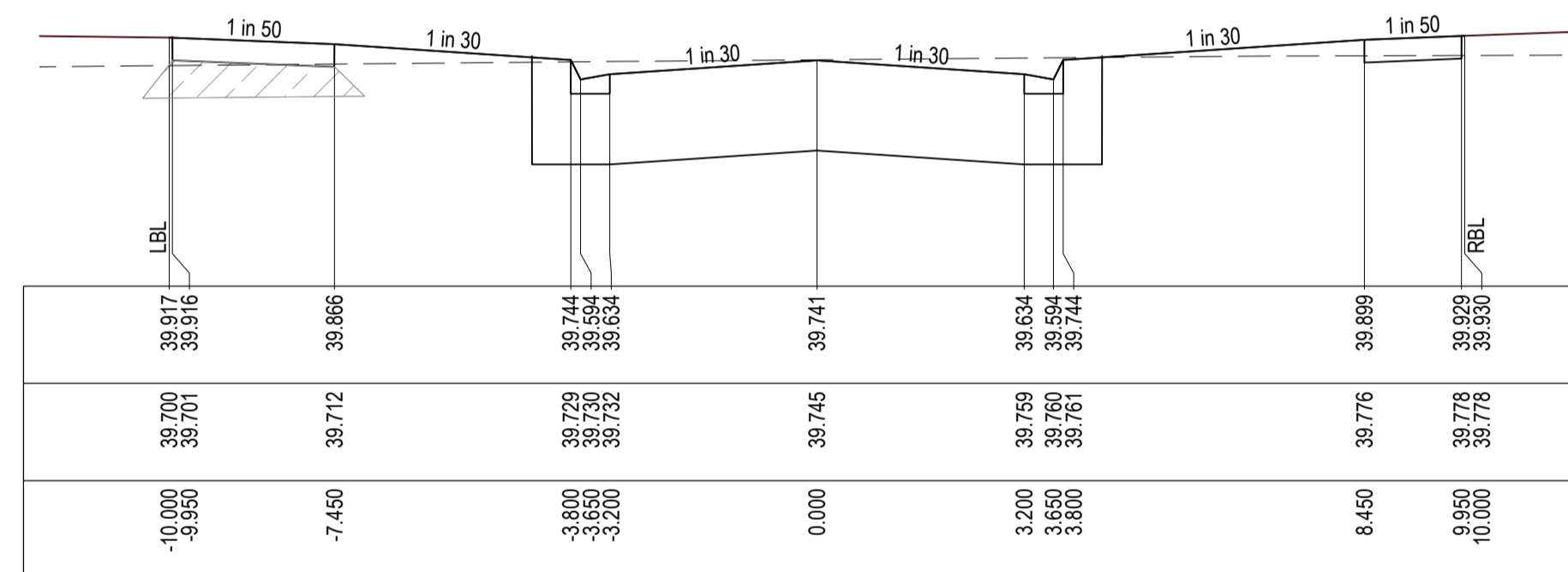
**ANDRIA DRIVE SECTION**



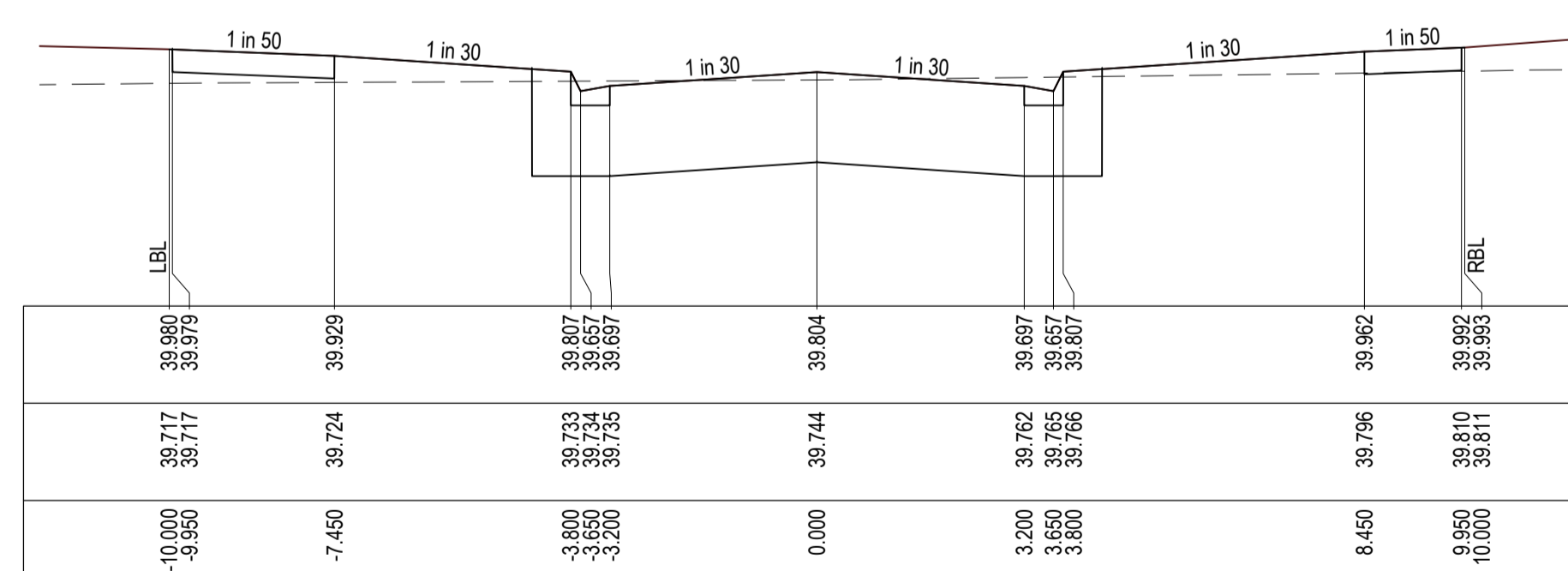
CH 51.366



CH 40.000



CH 20.000



TPCH 11.016

**PENZO WAY SECTION**

REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED
A	17/05/24	ISSUED FOR TENDER	S.M	S.M	M.T



**ALAMORA - STAGE 15  
ROAD CROSS SECTIONS - 4  
ANDRIA DR & PENZO WAY**

**ISSUED FOR APPROVAL  
NOT FOR CONSTRUCTION**

SCALE @ A1: 1:100 (H) 1:50 (V)

DESIGNED	PROJECT ENGINEER	
S.M	S.M	
DRAWN	PROJECT MANAGER	
S.M	M.T	
PROJECT No.	DRAWING No.	REVISION
200282.15	R503	A

P:\2024\20282 - ALAMORA - TENDER\20282 - CIVIL\2 - DRAFTING\ROADS & DRAINAGE\20282\_15\_1500 - ROAD CROSS SECTIONS.DWG





**WARNING**  
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**DIAL 1100 BEFORE YOU DIG**  
 www.1100.com.au

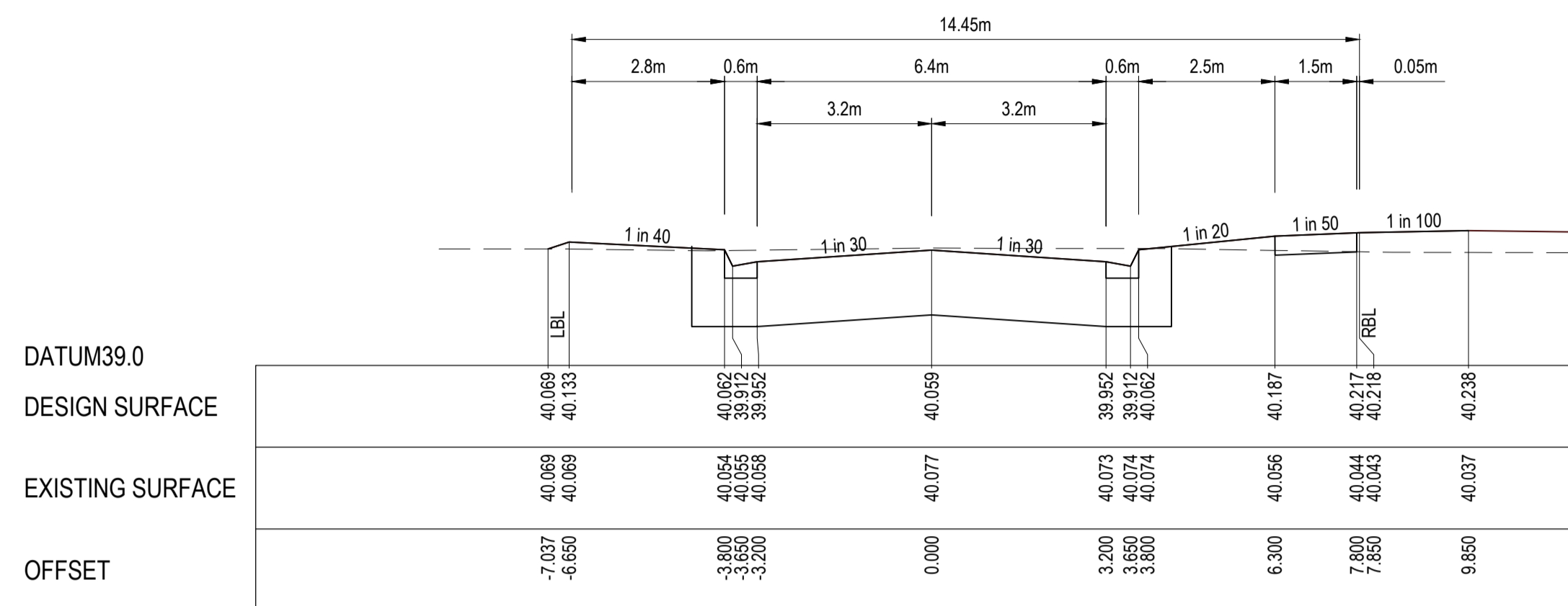
NOTE:  
 CROSS SECTIONS LBL & RBL LABELS REFER TO LEFT AND RIGHT TITLE BOUNDARY RESPECTIVELY. READ IN ASCENDING ORDER ALONG THE RELEVANT LONG SECTION CHAINAGES

NOTE:  
 SELECT STRUCTURAL FILL IN ACCORDANCE WITH WYNDHAM CITY COUNCIL SPECIFICATIONS & REQUIREMENTS IS REQUIRED UNDER PAVEMENT AND FOOTPATHS @ 45° WHERE CONSTRUCTED ABOVE EXISTING SURFACE.

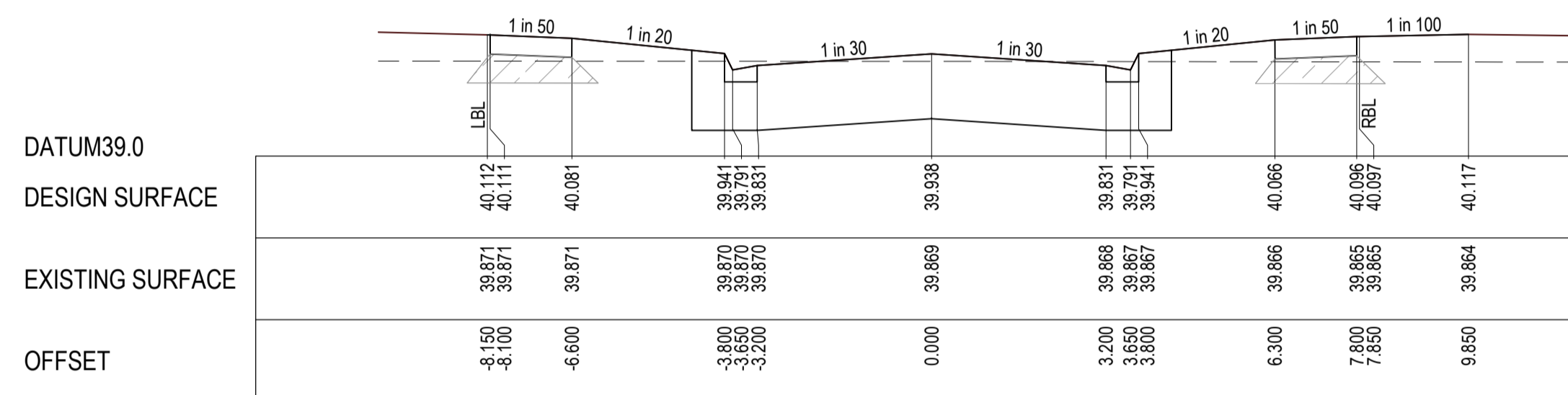
**LEGEND**

	EXISTING SURFACE
	DESIGN LINE
	SELECT STRUCTURAL FILL

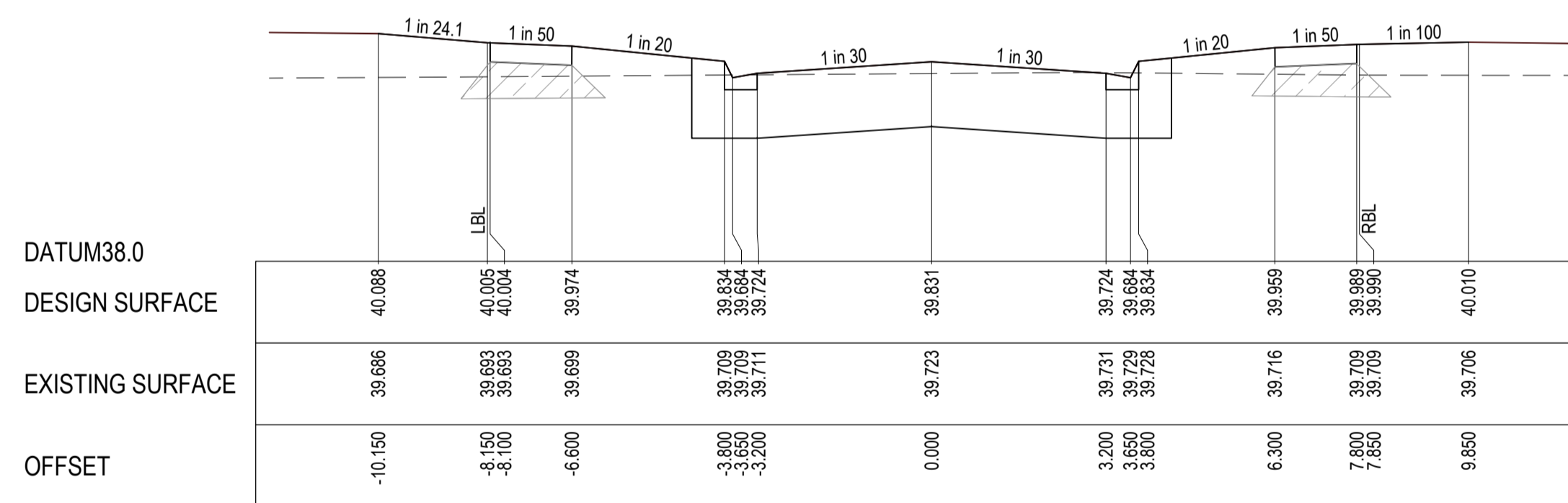
**Planning and Environment Act 1987**  
**Wyndham Planning Scheme**  
**Approved Plan As Required**  
**under Condition 40**  
**Permit No WYP10817/18**  
**Date 13/09/2024**



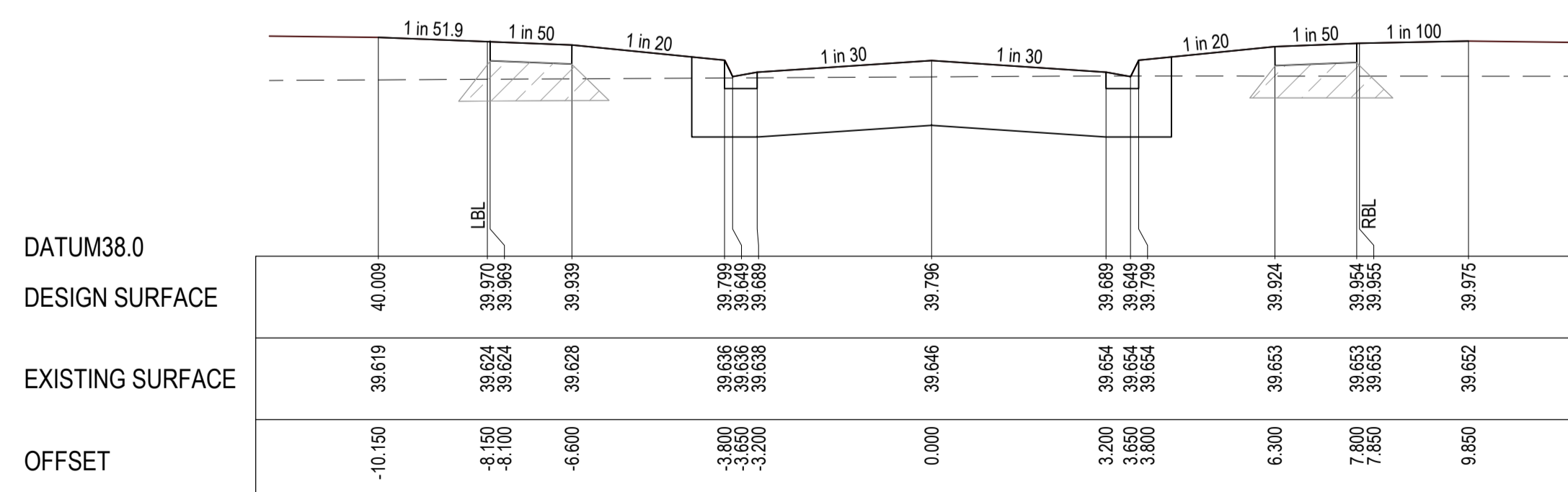
LTPCH 105.527



LTPCH 81.369

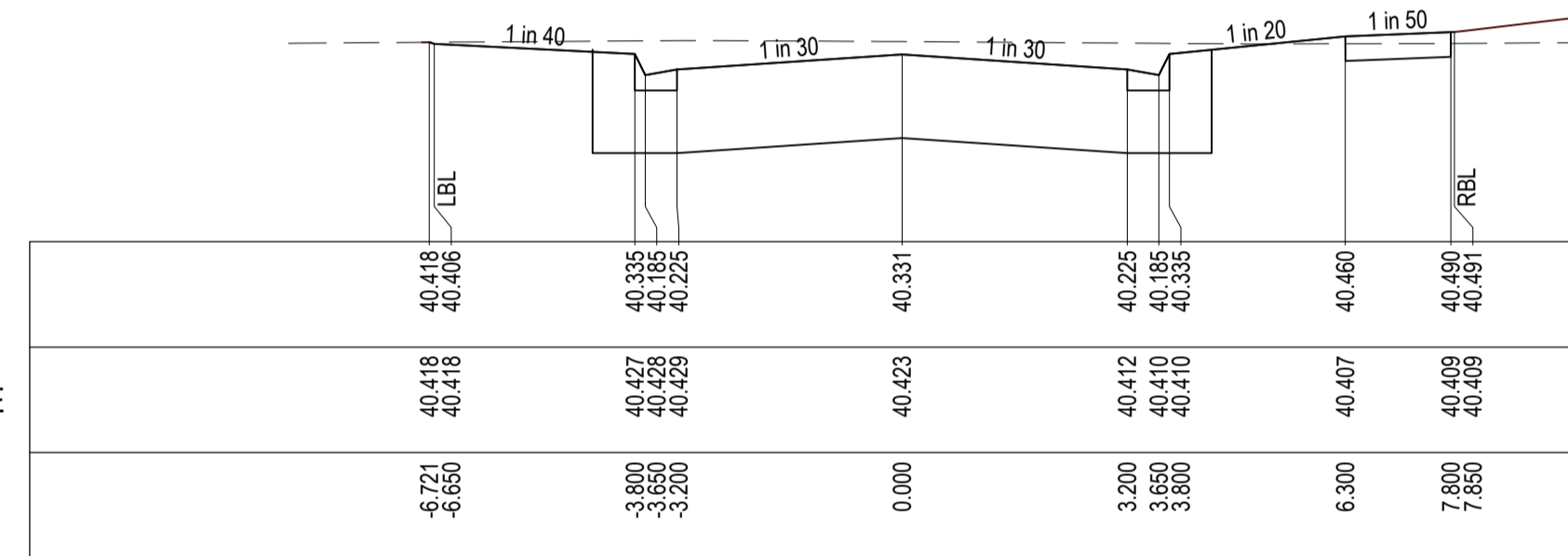


CH 60.000



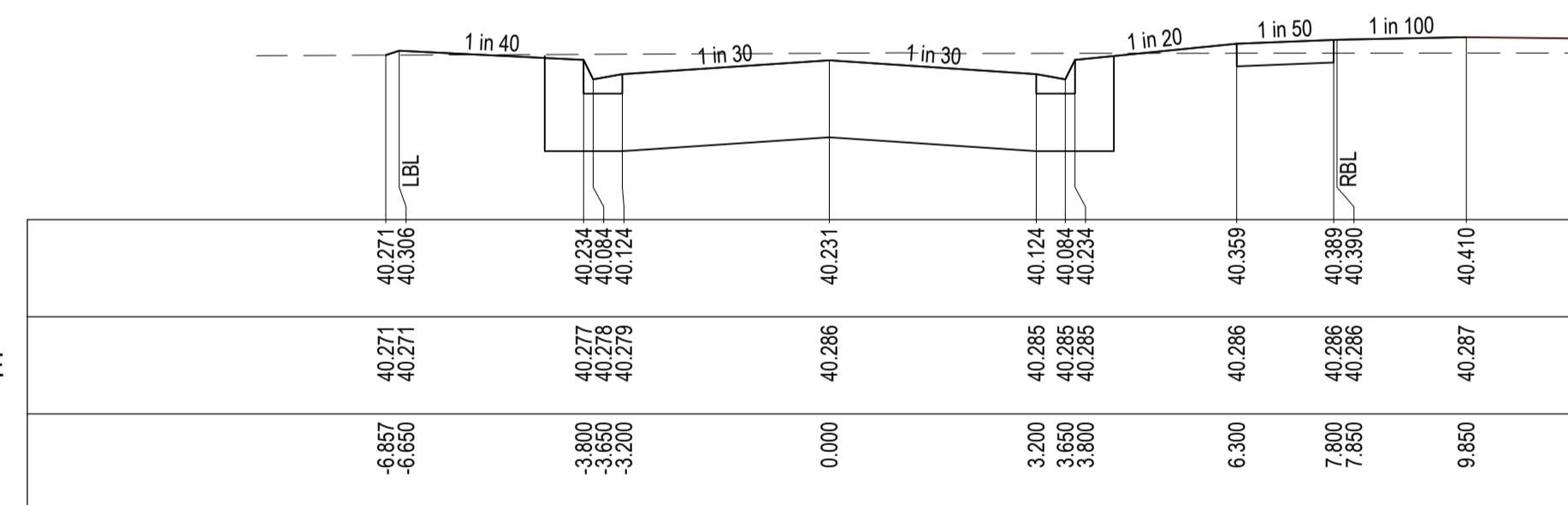
CH 52.937

DATUM39.0  
 DESIGN SURFACE  
 EXISTING SURFACE  
 OFFSET



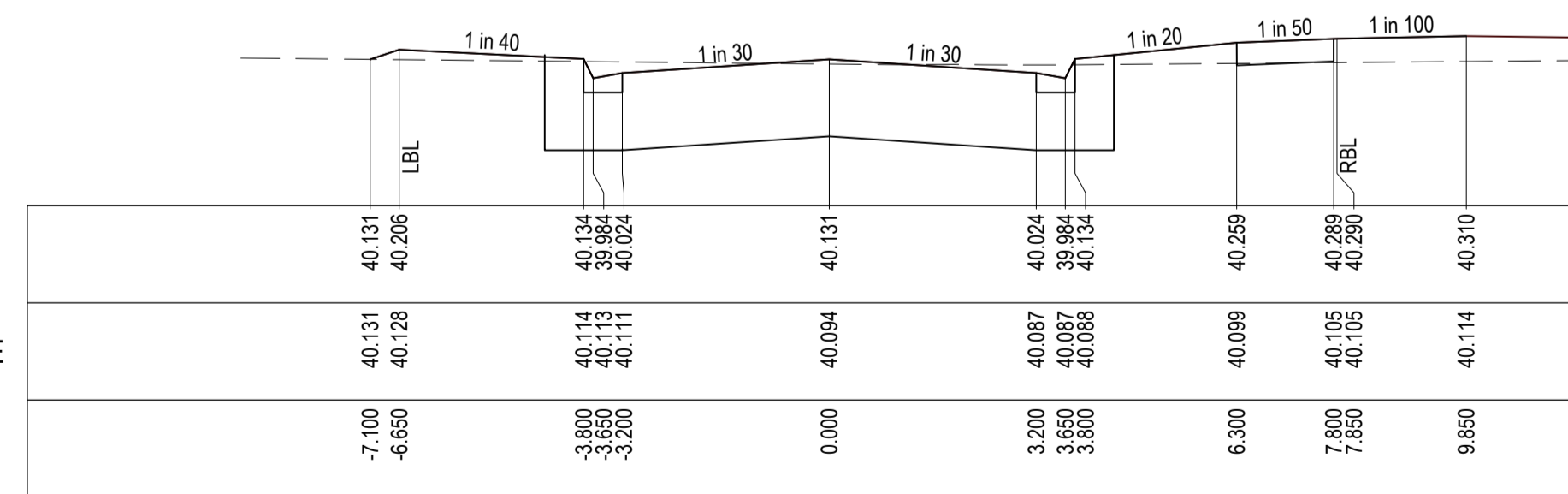
TPCH 160.064

DATUM39.0  
 DESIGN SURFACE  
 EXISTING SURFACE  
 OFFSET



CH 140.000

DATUM39.0  
 DESIGN SURFACE  
 EXISTING SURFACE  
 OFFSET



CH 120.000

REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED
A	17/05/24	ISSUED FOR TENDER	S.M	S.M	M.T

CLIENT

Communities Designed for Living

Level 7, 176 Wellington Parade  
 East Melbourne, VIC, Australia 3002

PROJECT

DRAWING TITLE

**ALAMORA - STAGE 15**  
**ROAD CROSS SECTIONS - 6**  
**LOPERA DRIVE**

STATUS

**ISSUED FOR APPROVAL**  
**NOT FOR CONSTRUCTION**

SCALE @ A1: 1:100 (H) 1:50 (V)

DESIGNED	S.M	PROJECT ENGINEER	S.M
DRAWN	S.M	PROJECT MANAGER	M.T
PROJECT No.	<b>200282.15</b>	DRAWING No.	<b>R505</b>
		REVISION	<b>A</b>


P:\2020\20282 - ALAMORA - TOWNSET\20282 - ALAMORA - ROAD CROSS SECTIONS.DWG

**WARNING**  
**BEWARE OF UNDERGROUND & OVERHEAD SERVICES**  
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**DIAL 1100 BEFORE YOU DIG**  
 www.1100.com.au

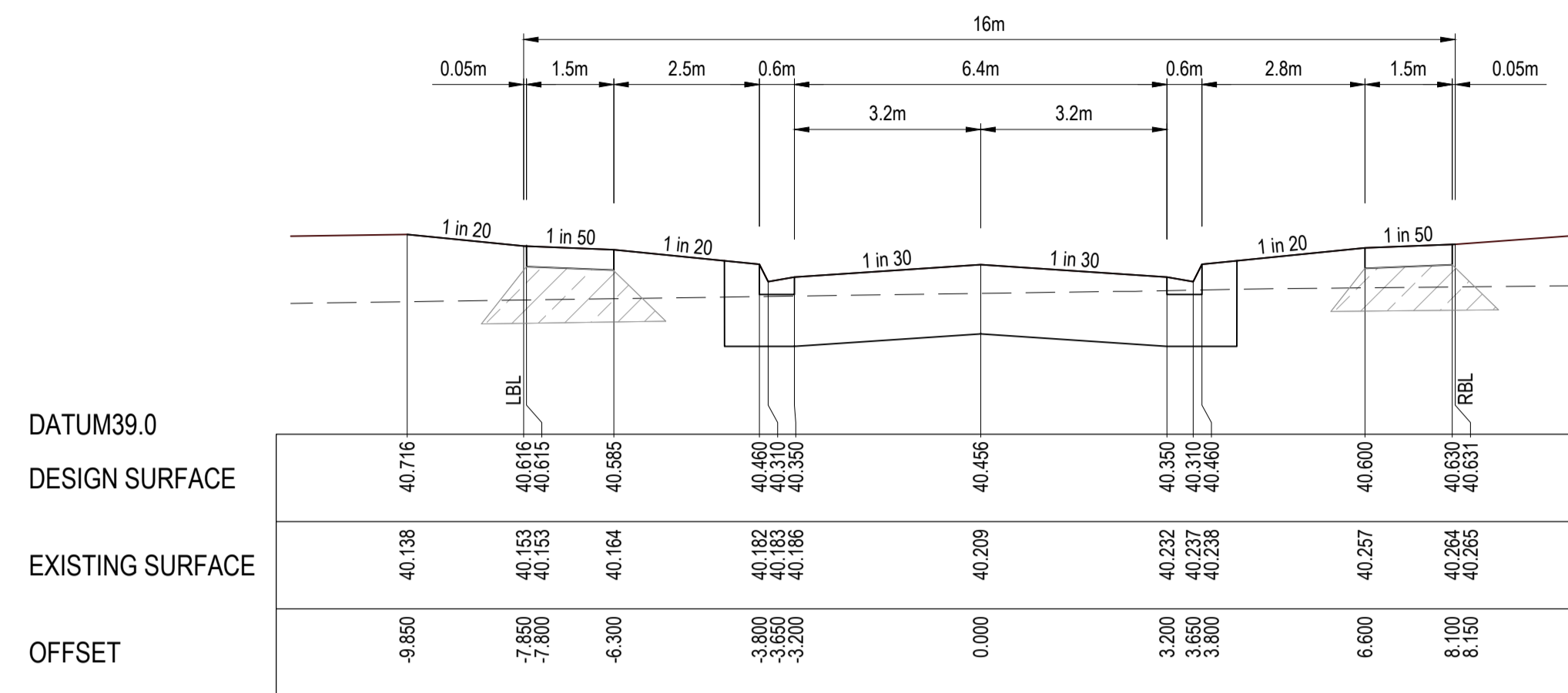
NOTE:  
 CROSS SECTIONS LBL & RBL LABELS REFER TO LEFT AND RIGHT TITLE BOUNDARY RESPECTIVELY. READ IN ASCENDING ORDER ALONG THE RELEVANT LONG SECTION CHAINAGES

NOTE:  
 SELECT STRUCTURAL FILL IN ACCORDANCE WITH WYNDHAM CITY COUNCIL SPECIFICATIONS & REQUIREMENTS IS REQUIRED UNDER PAVEMENT AND FOOTPATHS @ 45° WHERE CONSTRUCTED ABOVE EXISTING SURFACE.

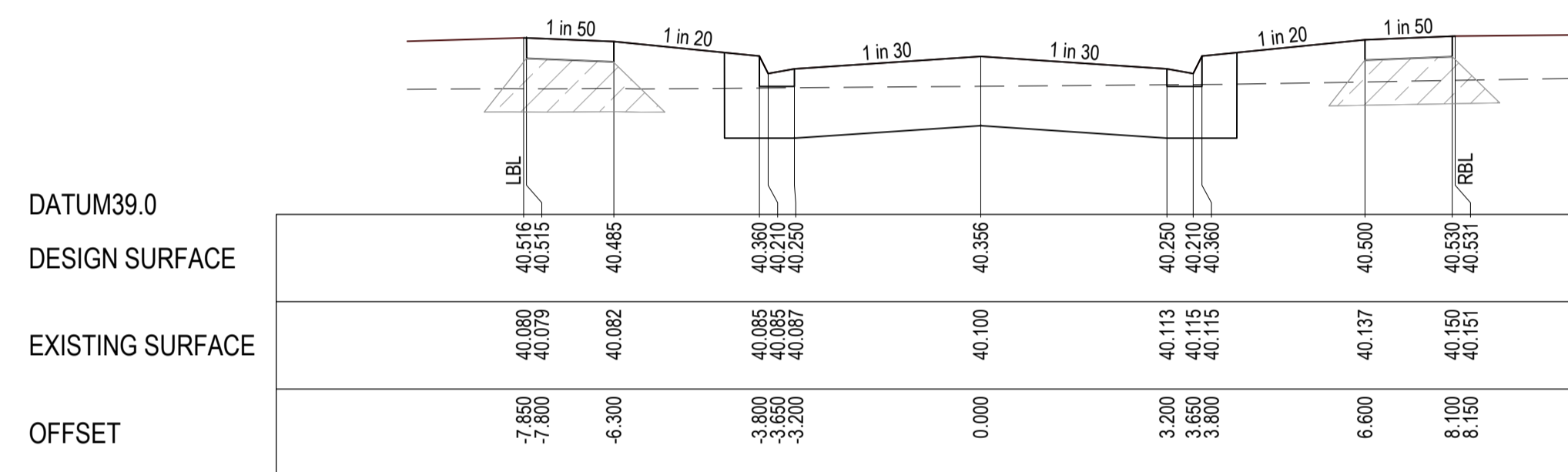
**LEGEND**

- EXISTING SURFACE
- DESIGN LINE
-  SELECT STRUCTURAL FILL

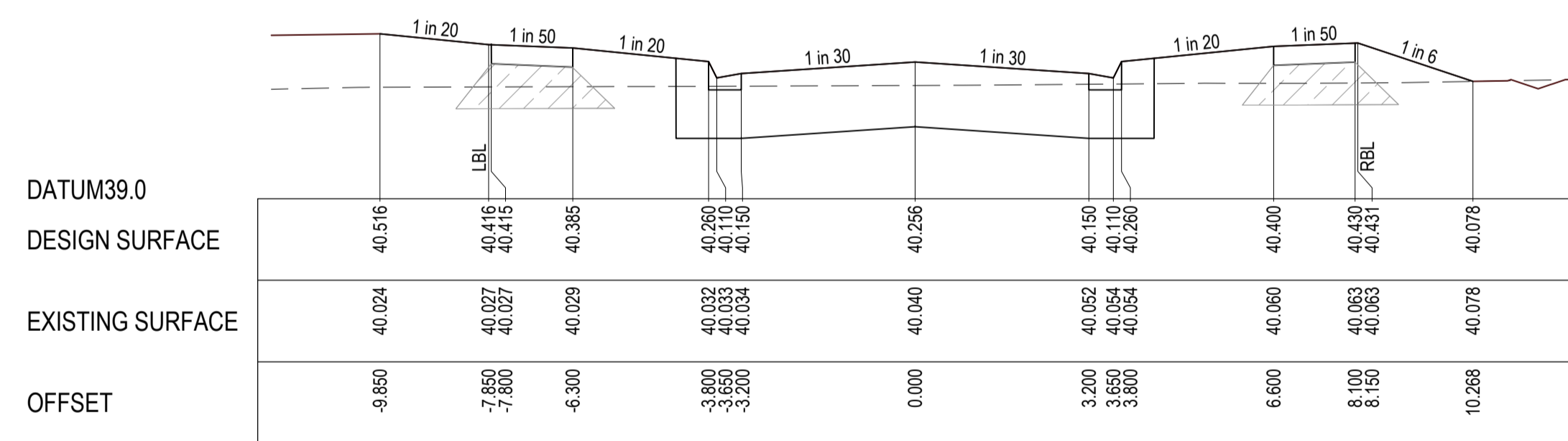
**Planning and Environment Act 1987**  
**Wyndham Planning Scheme**  
**Approved Plan As Required**  
**under Condition 40**  
**Permit No WYP10817/18**  
**Date 13/09/2024**



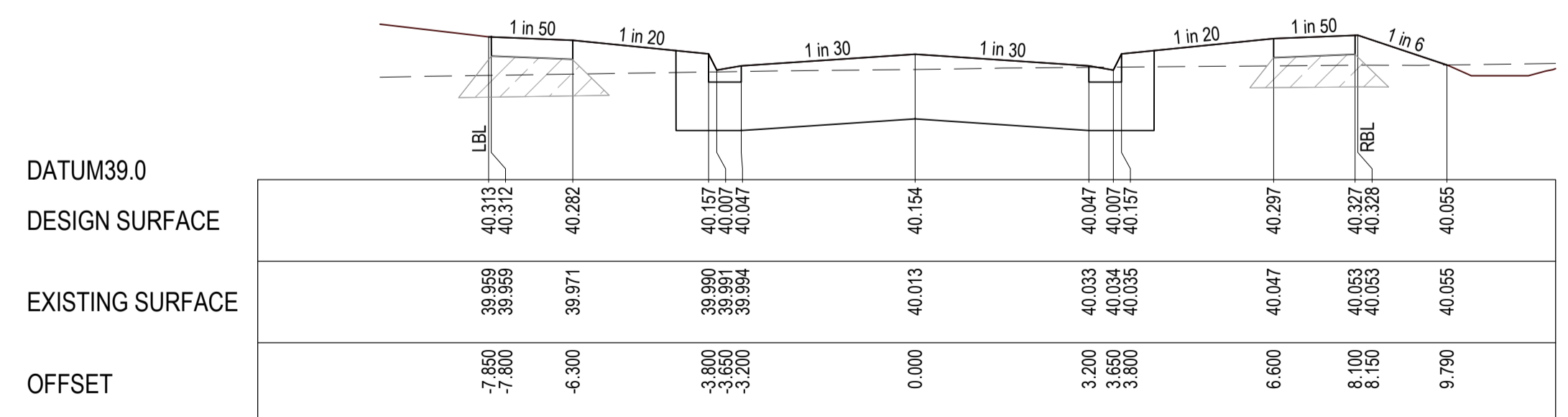
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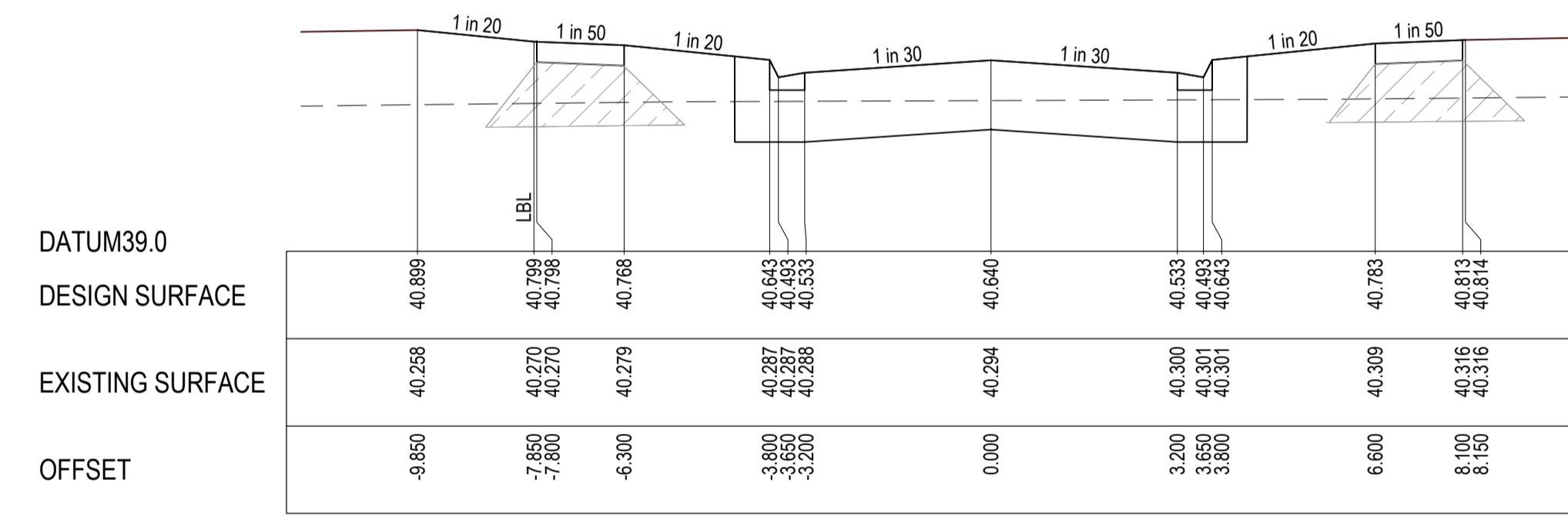
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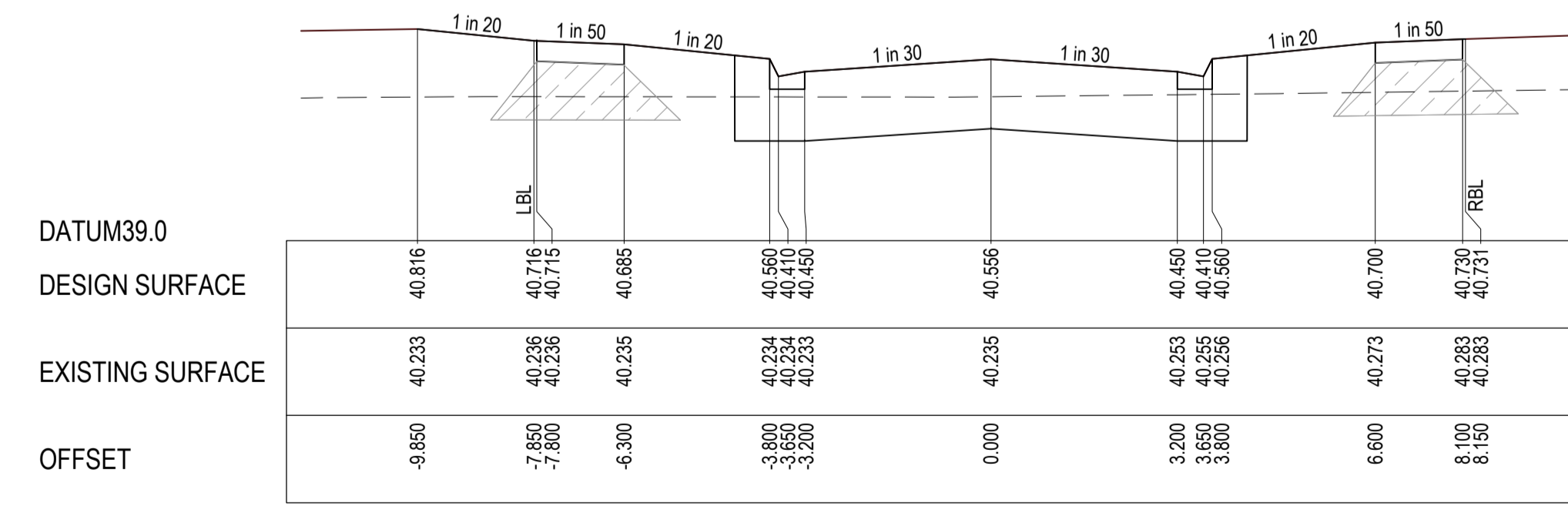
CH 40.000



TPCH 19.460



CH 116.746



CH 100.000

REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED
A	17/05/24	ISSUED FOR TENDER	S.M	S.M	M.T

CLIENT



Communities Designed for Living

creo CIVIL

Level 7, 176 Wellington Parade  
 East Melbourne, VIC, Australia 3002

PROJECT



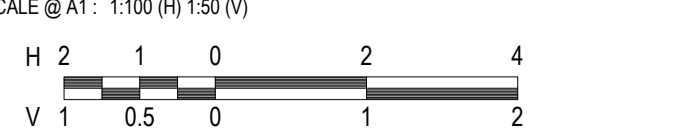
DRAWING TITLE

**ALAMORA - STAGE 15**  
**ROAD CROSS SECTIONS - 7**  
**NALANDA ROAD**

STATUS

**ISSUED FOR APPROVAL**  
**NOT FOR CONSTRUCTION**

SCALE @ A1: 1:100 (H) 1:50 (V)



DESIGNED	S.M	PROJECT ENGINEER	S.M
DRAWN	S.M	PROJECT MANAGER	M.T
PROJECT No.	<b>200282.15</b>	DRAWING No.	<b>R506</b>
		REVISION	<b>A</b>

P:\2020\20282 - ALAMORA - TOWNSET\20282 - ALAMORA - ROAD CROSS SECTIONS.DWG

**WARNING**  
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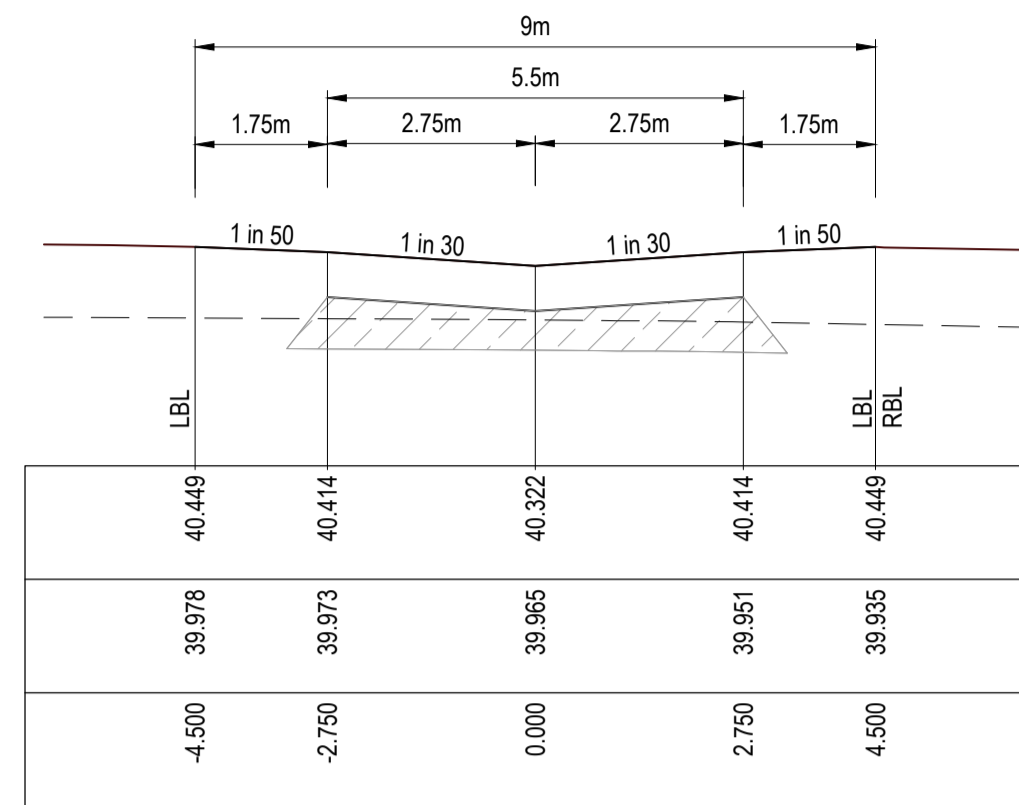
NOTE:  
 CROSS SECTIONS LBL & RBL LABELS REFER TO LEFT AND RIGHT TITLE BOUNDARY RESPECTIVELY. READ IN ASCENDING ORDER ALONG THE RELEVANT LONG SECTION CHAINAGES

NOTE:  
 SELECT STRUCTURAL FILL IN ACCORDANCE WITH WYNDHAM CITY COUNCIL SPECIFICATIONS & REQUIREMENTS IS REQUIRED UNDER PAVEMENT AND FOOTPATHS @ 45° WHERE CONSTRUCTED ABOVE EXISTING SURFACE.

**LEGEND**

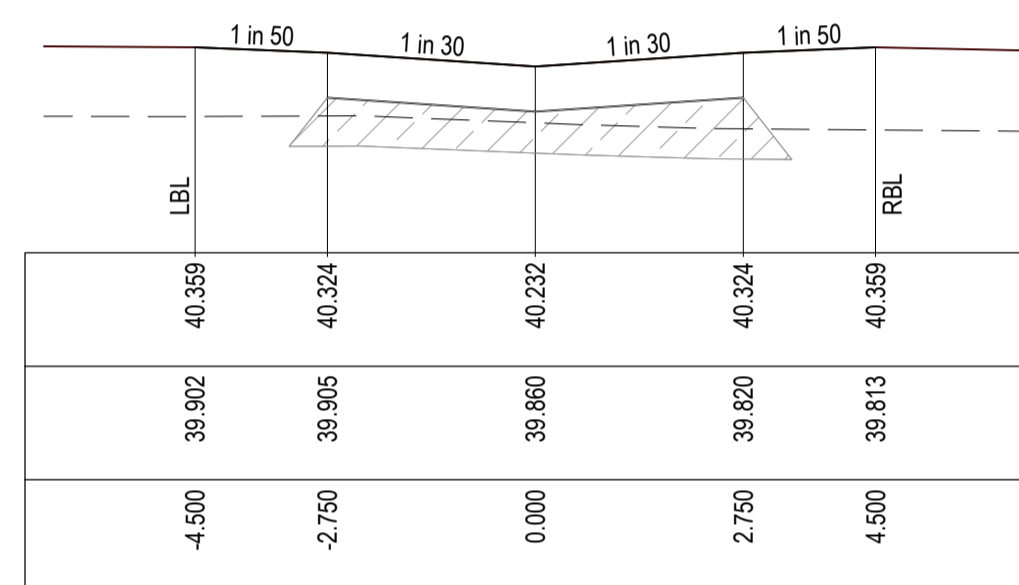
- - - - - EXISTING SURFACE
- DESIGN LINE
- SELECT STRUCTURAL FILL

**Planning and Environment Act 1987**  
**Wyndham Planning Scheme**  
  
**Approved Plan As Required**  
**under Condition 40**  
**Permit No WYP10817/18**  
**Date 13/09/2024**



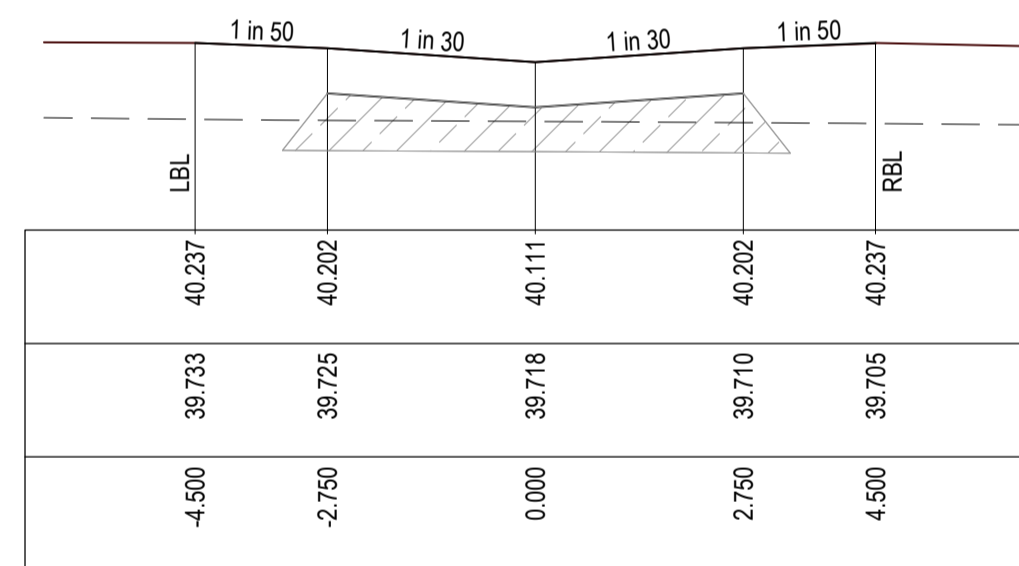
DATUM39.0					
DESIGN SURFACE	40.449	40.414	40.322	40.414	40.449
EXISTING SURFACE	39.978	39.973	39.965	39.951	39.935
OFFSET	-4.500	-2.750	0.000	2.750	4.500

CH 58.000



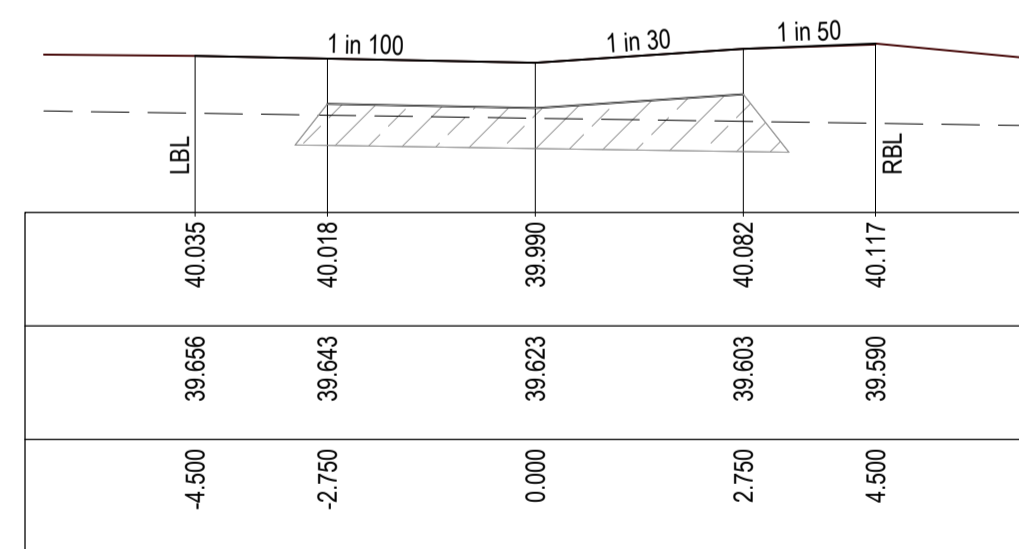
DATUM39.0					
DESIGN SURFACE	40.399	40.324	40.232	40.324	40.399
EXISTING SURFACE	39.902	39.905	39.860	39.820	39.813
OFFSET	-4.500	-2.750	0.000	2.750	4.500

CH 40.000



DATUM39.0					
DESIGN SURFACE	40.237	40.202	40.111	40.202	40.237
EXISTING SURFACE	39.733	39.725	39.718	39.710	39.705
OFFSET	-4.500	-2.750	0.000	2.750	4.500

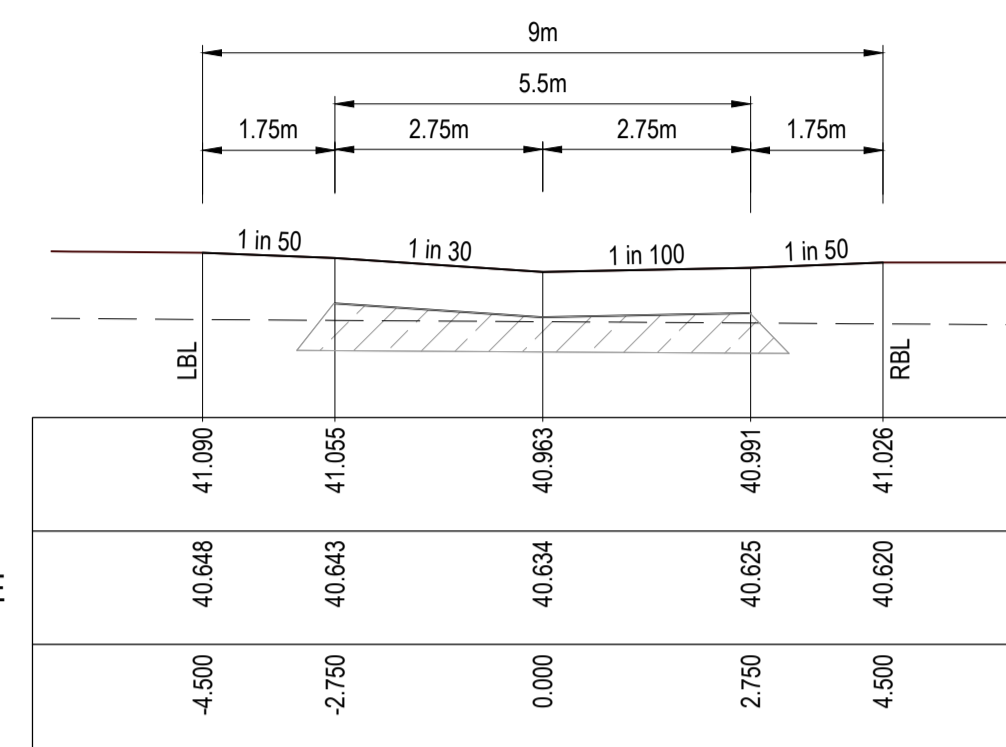
CH 20.000



DATUM39.0					
DESIGN SURFACE	40.035	40.018	39.990	40.082	40.117
EXISTING SURFACE	38.656	38.643	38.623	38.603	38.590
OFFSET	-4.500	-2.750	0.000	2.750	4.500

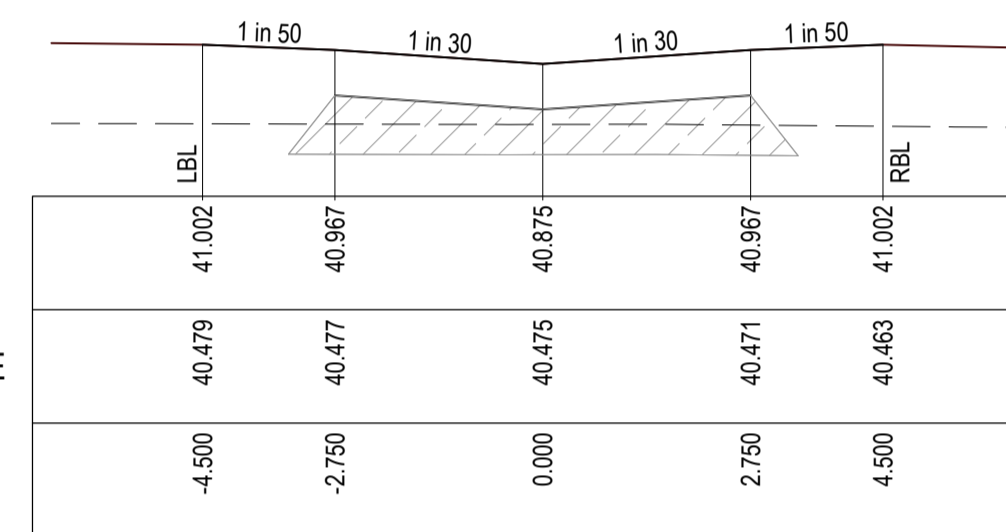
CH 2.000

**RIMO LANE SECTION**



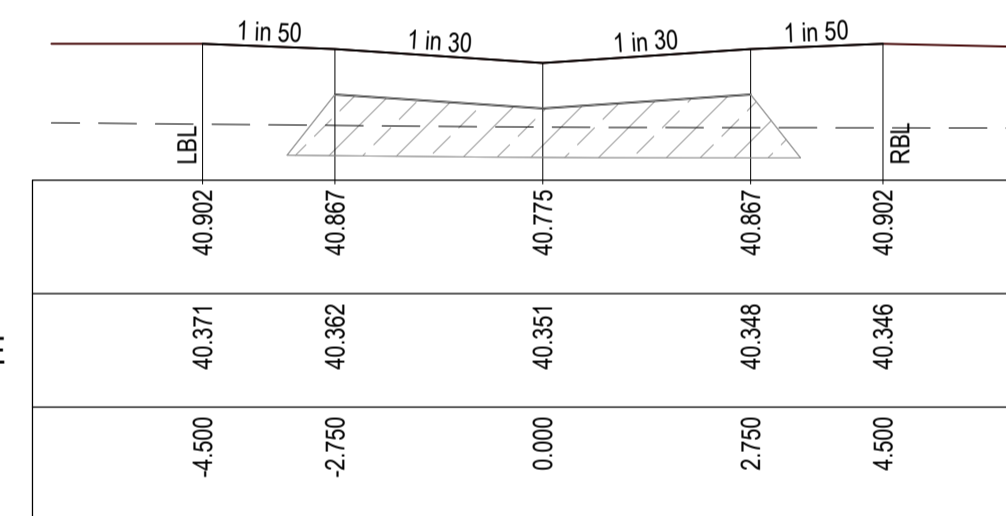
DATUM40.0					
DESIGN SURFACE	41.090	41.055	40.963	40.991	41.026
EXISTING SURFACE	40.648	40.643	40.634	40.625	40.620
OFFSET	-4.500	-2.750	0.000	2.750	4.500

CH 57.583



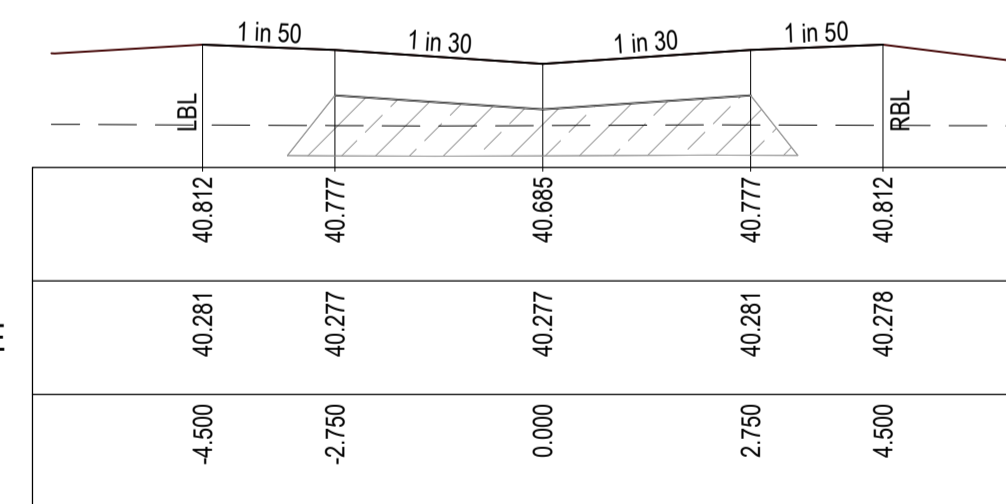
DATUM40.0					
DESIGN SURFACE	41.002	40.967	40.875	40.967	41.002
EXISTING SURFACE	40.479	40.477	40.475	40.471	40.463
OFFSET	-4.500	-2.750	0.000	2.750	4.500

CH 40.000



DATUM40.0					
DESIGN SURFACE	40.902	40.867	40.775	40.867	40.902
EXISTING SURFACE	40.371	40.362	40.351	40.348	40.346
OFFSET	-4.500	-2.750	0.000	2.750	4.500

CH 20.000



DATUM40.0					
DESIGN SURFACE	40.812	40.777	40.685	40.777	40.812
EXISTING SURFACE	40.281	40.277	40.277	40.281	40.278
OFFSET	-4.500	-2.750	0.000	2.750	4.500

CH 2.000

**SAMIR LANE SECTION**

REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED
A	17/05/24	ISSUED FOR TENDER	S.M	S.M	M.T

CLIENT



Communities Designed for Living

creo CIVIL

Level 7, 176 Wellington Parade  
 East Melbourne, VIC, Australia 3002

PROJECT



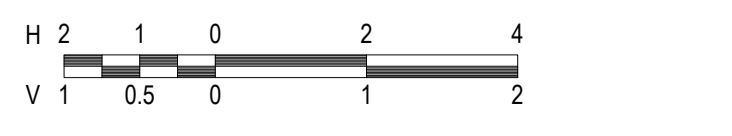
DRAWING TITLE

**ALAMORA - STAGE 15**  
**ROAD CROSS SECTIONS - 8**  
**RIMO & SAMIR LANE**

STATUS

**ISSUED FOR APPROVAL**  
**NOT FOR CONSTRUCTION**

SCALE @ A1: 1:100 (H) 1:50 (V)



DESIGNED	S.M	PROJECT ENGINEER	S.M
DRAWN	S.M	PROJECT MANAGER	M.T
PROJECT No.	<b>200282.15</b>	DRAWING No.	<b>R507</b>
		REVISION	<b>A</b>

P:\2020\2022\ALAMORA\_TENDER\2022\_SCH\12\_DRAWING\ROADS & DRAINAGE\2022\_15\_15001 - ROAD CROSS SECTIONS.DWG

**Planning and Environment Act 1987  
Wyndham Planning Scheme**

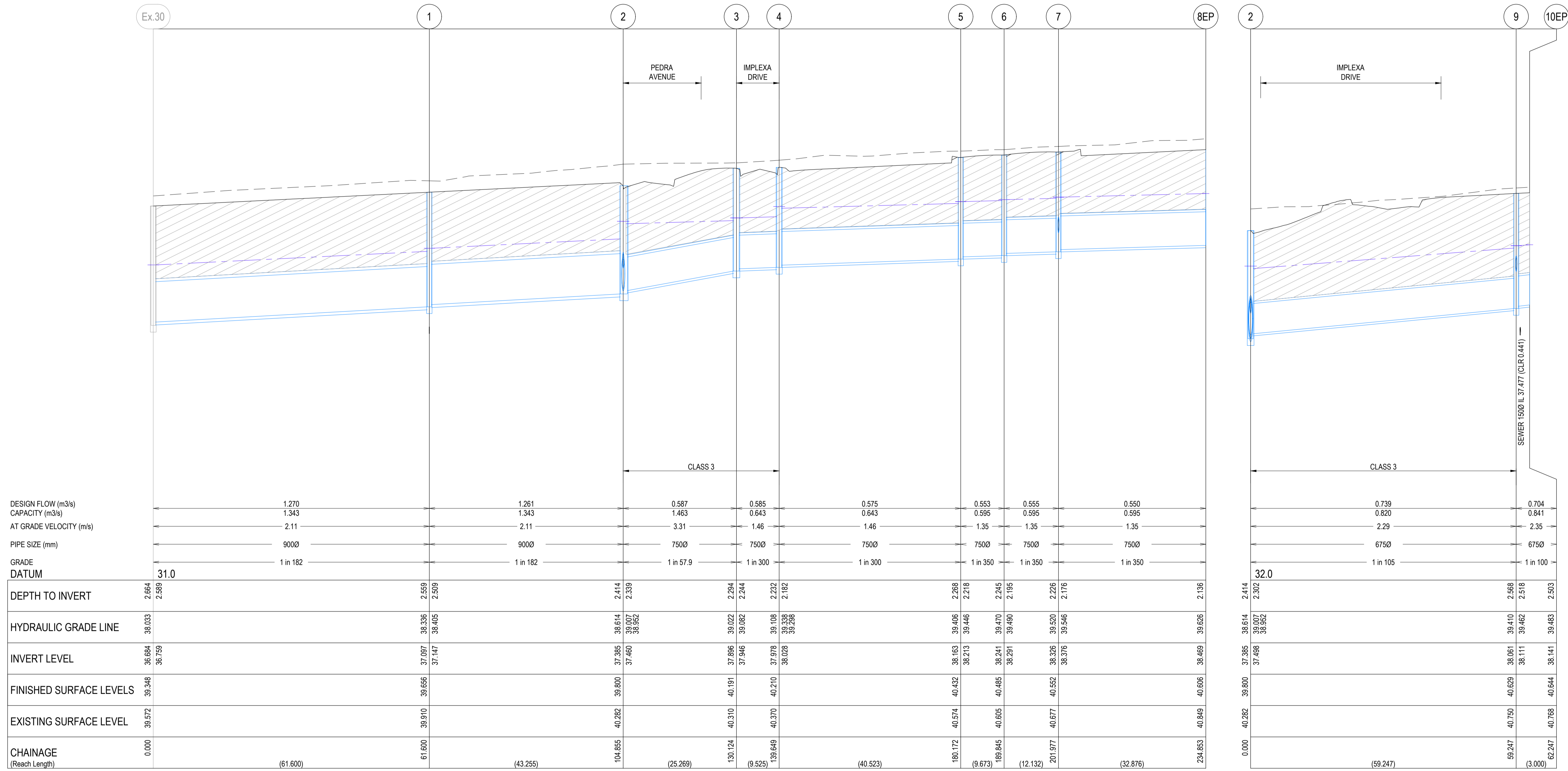
**Approved Plan As Required  
under Condition 40  
Permit No WYP10817/18  
Date 13/09/2024**

**WARNING**  
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[www.1100.com.au](http://www.1100.com.au)

LEGEND	
	EXISTING SURFACE
	DESIGN SURFACE
	DRAINAGE PIPE/PIT
	HYDRUALIC GRADE LINE
	CRUSHED ROCK BACKFILL
	PROPOSED SEWER MAIN



P:\2020\20282 - ALAMORA TOWN\20282 - CIVIL\2 - DRAINAGE\LONG SECTIONS.DWG

REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED
A	17/05/24	ISSUED FOR TENDER	S.M	S.M	M.T

CLIENT

Communities Designed for Living

PROJECT

Level 7, 176 Wellington Parade  
East Melbourne, VIC, Australia 3002

DRAWING TITLE

**ALAMORA - STAGE 15  
DRAINAGE LONG SECTIONS - 1**

STATUS

**ISSUED FOR APPROVAL  
NOT FOR CONSTRUCTION**

SCALE @ A1: 1:500 (H) 1:50 (V)

DESIGNED

S.M

DRAWN

S.M

PROJECT No.

**200282.15**

PROJECT ENGINEER

S.M

PROJECT MANAGER

M.T

DRAWING No.

**R600**

REVISION

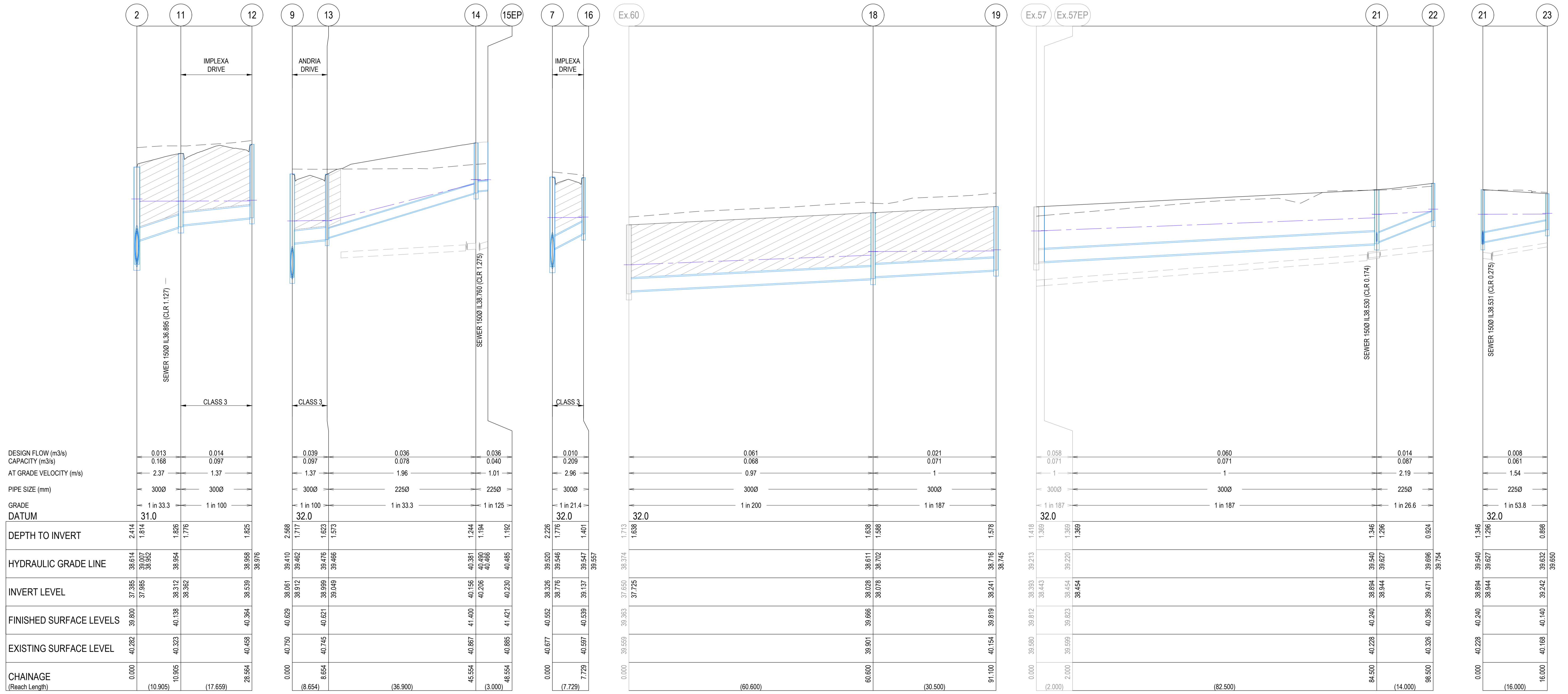
**A**

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 www.1100.com.au

**LEGEND**

	EXISTING SURFACE
	DESIGN SURFACE
	DRAINAGE PIPE/PIT
	HYDRAULIC GRADE LINE
	CRUSHED ROCK BACKFILL
	PROPOSED SEWER MAIN

**Planning and Environment Act 1987**  
**Wyndham Planning Scheme**  
**Approved Plan As Required**  
**under Condition 40**  
**Permit No WYP10817/18**  
**Date 13/09/2024**



P:\2020\20282 - ALAMORA TOWN\20282 - CIVIL\2 - DRAINAGE\LONG SECTIONS.DWG

REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED
A	17/05/24	ISSUED FOR TENDER	S.M	S.M	M.T

CLIENT

Communities Designed for Living

PROJECT

Level 7, 176 Wellington Parade  
 East Melbourne, VIC, Australia 3002

DRAWING TITLE

**ALAMORA - STAGE 15**  
**DRAINAGE LONG SECTIONS - 2**

STATUS

**ISSUED FOR APPROVAL**  
**NOT FOR CONSTRUCTION**

SCALE @ A1: 1:500 (H) 1:50 (V)

DESIGNED

S.M

DRAWN

S.M

PROJECT No.

**200282.15**

PROJECT ENGINEER

S.M

PROJECT MANAGER

M.T

DRAWING No.

**R601**

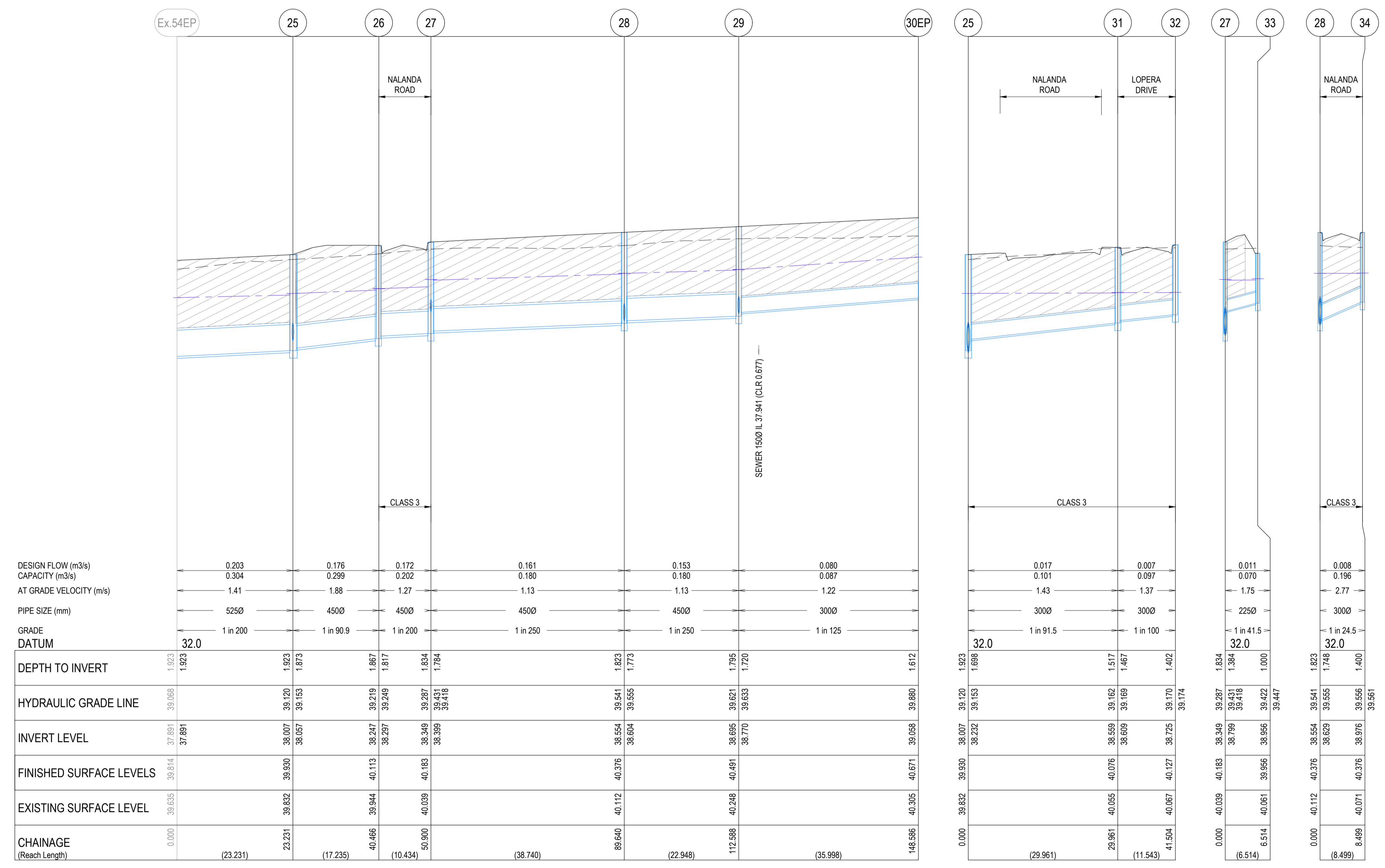
REVISION

**A**

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LEGEND	
	EXISTING SURFACE
	DESIGN SURFACE
	DRAINAGE PIPE/PIT
	HYDRUALIC GRADE LINE
	CRUSHED ROCK BACKFILL
	PROPOSED SEWER MAIN

**Planning and Environment Act 1987**  
**Wyndham Planning Scheme**  
**Approved Plan As Required**  
**under Condition 40**  
**Permit No WYP10817/18**  
**Date 13/09/2024**



P:\2020\20282 - ALAMORA TOWN\20282 - CIVIL\2 - DRAFTING\CAD\ROADS & DRAINAGE\20282\_15\_R602 - DRAINAGE LONG SECTIONS.DWG

REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED
A	17/05/24	ISSUED FOR TENDER	S.M	S.M	M.T

CLIENT

**villawood**  
 properties  
 Communities Designed for Living

creo  
 CIVIL

Level 7, 176 Wellington Parade  
 East Melbourne, VIC, Australia 3002

PROJECT

**ALAMORA**  
 Town

DRAWING TITLE

**ALAMORA - STAGE 15**  
**DRAINAGE LONG SECTIONS - 3**

STATUS

**ISSUED FOR APPROVAL**  
**NOT FOR CONSTRUCTION**

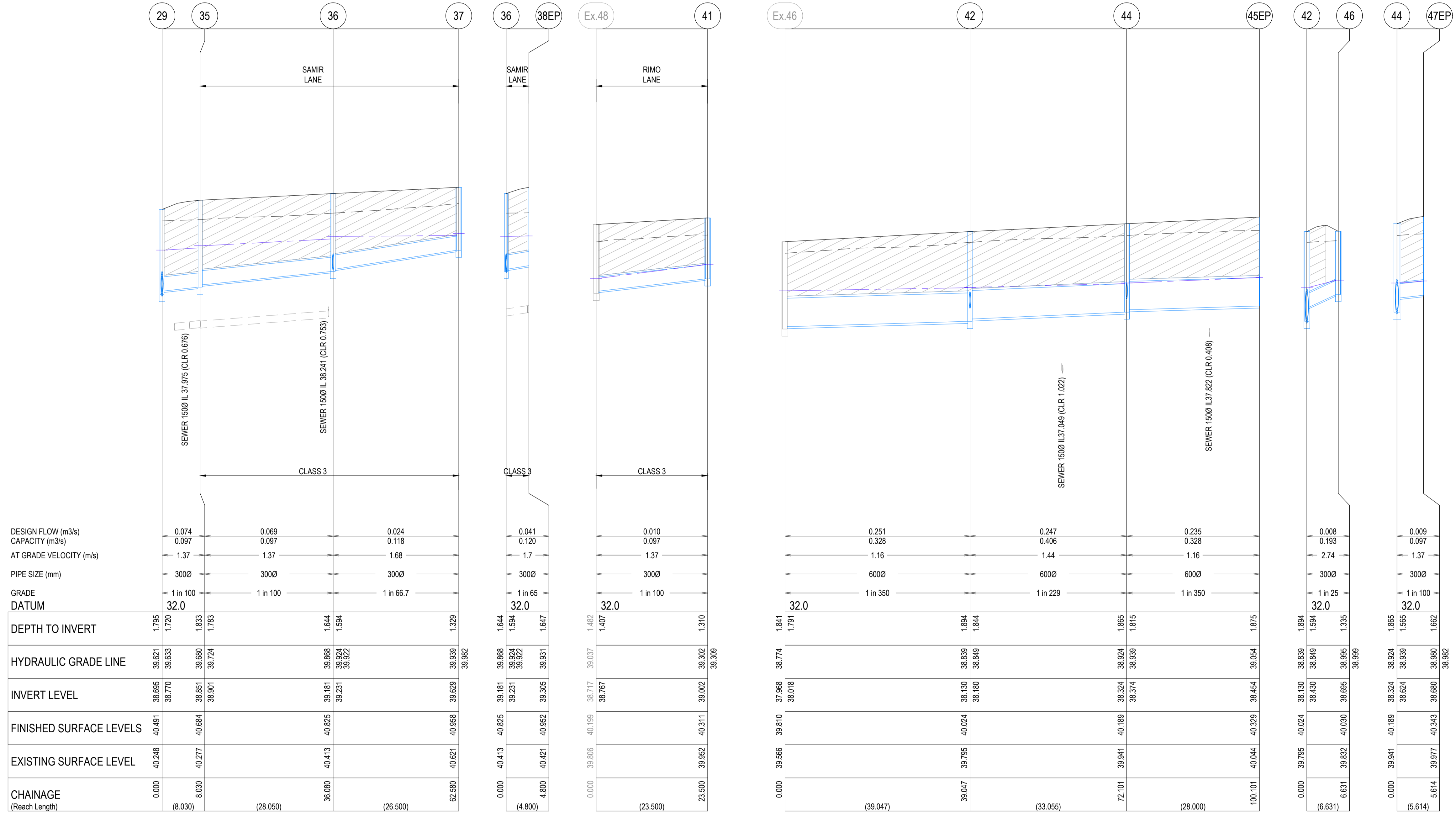
SCALE @ A1: 1:500 (H) 1:50 (V)

DESIGNED	PROJECT ENGINEER	
S.M	S.M	
DRAWN	PROJECT MANAGER	
S.M	M.T	
PROJECT No.	DRAWING No.	REVISION
200282.15	R602	A

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LEGEND	
	EXISTING SURFACE
	DESIGN SURFACE
	DRAINAGE PIPE/PIST
	HYDRUALIC GRADE LINE
	CRUSHED ROCK BACKFILL
	PROPOSED SEWER MAIN

**Planning and Environment Act 1987**  
**Wyndham Planning Scheme**  
 Approved Plan As Required  
 under Condition 40  
 Permit No WYP10817/18  
 Date 13/09/2024



P:\2020\20282 - ALAMORA - TOWNSET\20282 - SCHEDULE DRAFTING\AC\ROADS & DRAINAGE\20282\_15\_DRNAGE\_LONG\_SECTIONS.DWG

REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED
A	17/05/24	ISSUED FOR TENDER	S.M	S.M	M.T

CLIENT

Communities Designed for Living

Level 7, 176 Wellington Parade  
 East Melbourne, VIC, Australia 3002

PROJECT

DRAWING TITLE

**ALAMORA - STAGE 15  
 DRAINAGE LONG SECTIONS - 4**

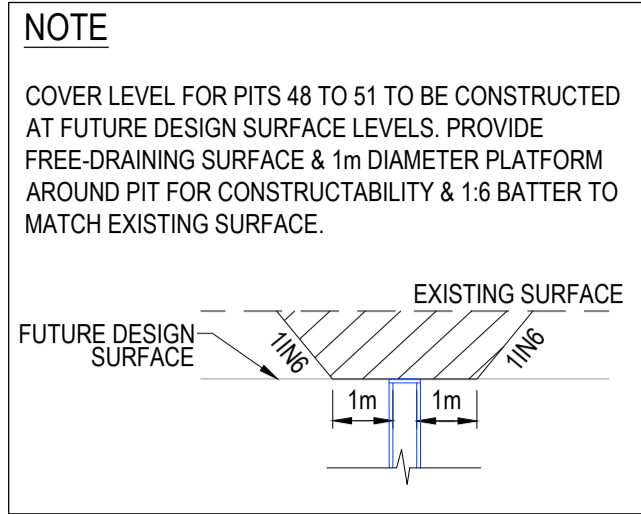
STATUS

**ISSUED FOR APPROVAL  
 NOT FOR CONSTRUCTION**

SCALE @ A1: 1:500 (H) 1:50 (V)

DESIGNED	S.M	PROJECT ENGINEER	S.M
DRAWN	S.M	PROJECT MANAGER	M.T
PROJECT No.	<b>200282.15</b>	DRAWING No.	<b>R603</b>
		REVISION	<b>A</b>

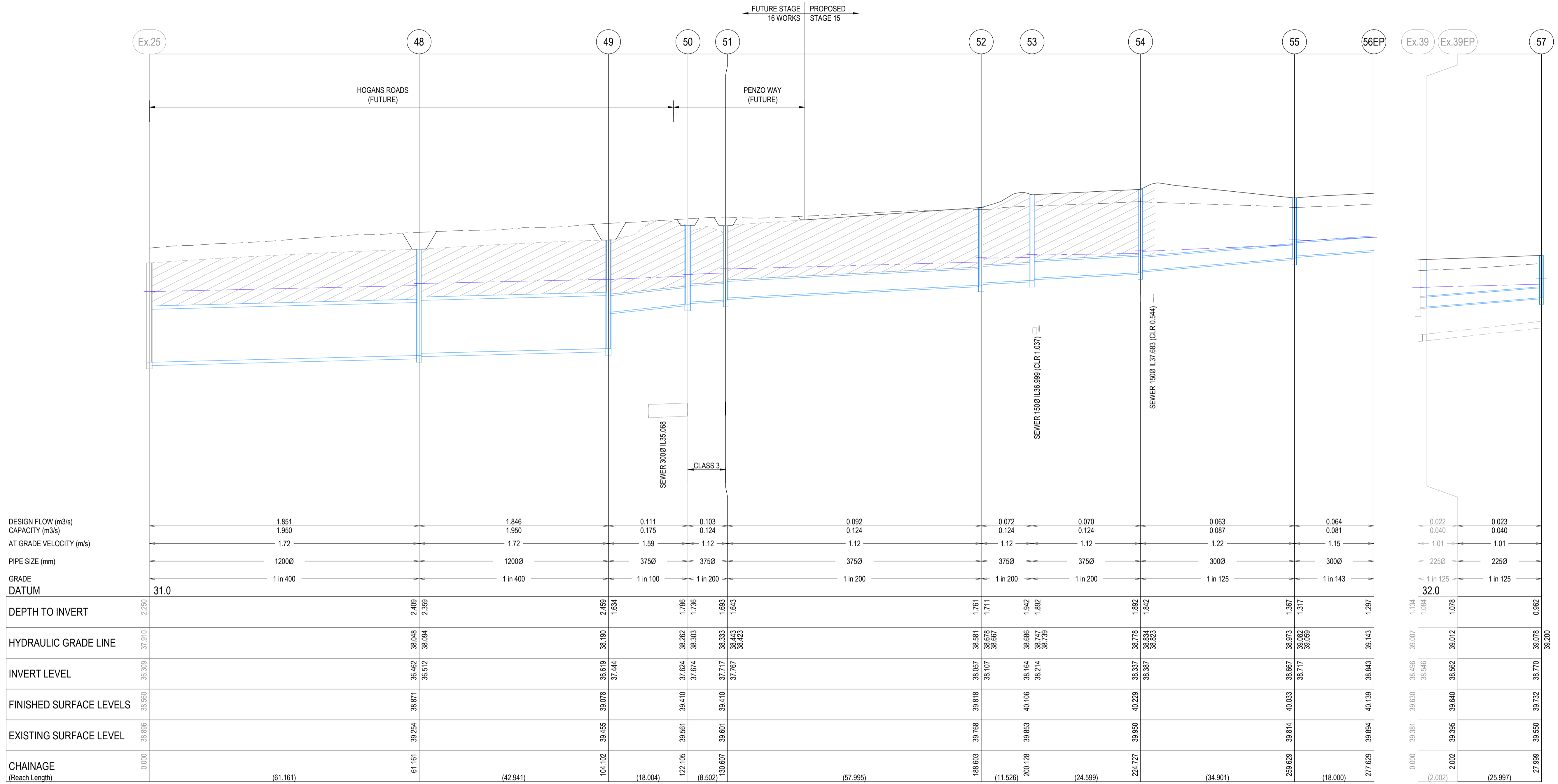
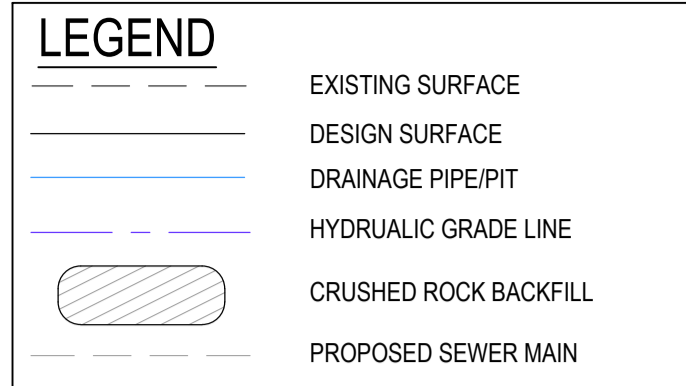




**Planning and Environment Act 1987  
Wyndham Planning Scheme**

**Approved Plan As Required  
under Condition 40  
Permit No WYP10817/18  
Date 13/09/2024**

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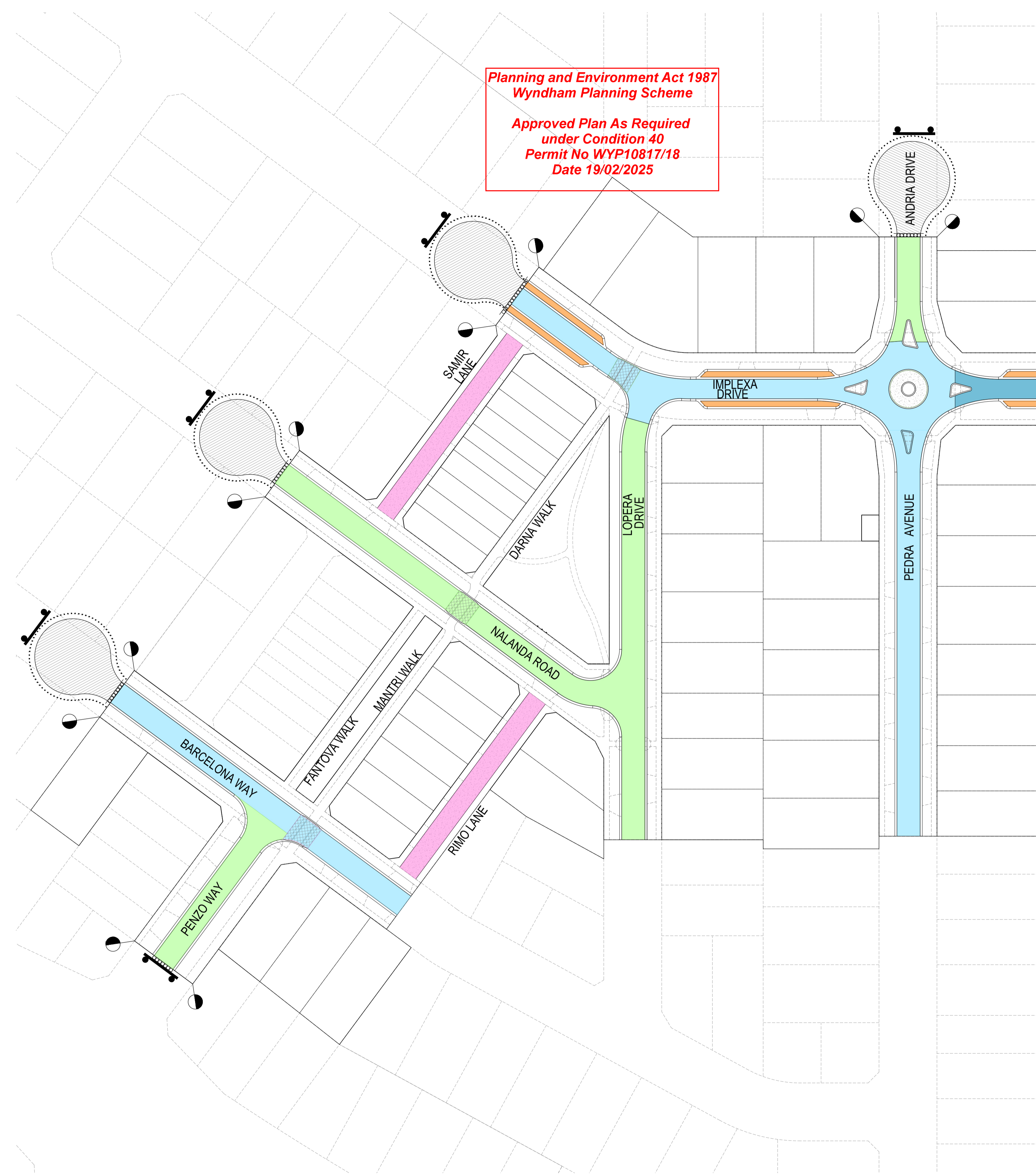
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REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED	CLIENT	PROJECT	DRAWING TITLE	STATUS	DESIGNED	PROJECT ENGINEER	
A	17/05/24	ISSUED FOR TENDER	S.M	S.M	M.T	 Communities Designed for Living	 Level 7, 176 Wellington Parade East Melbourne, VIC, Australia 3002	 ALAMORA - STAGE 15 DRAINAGE LONG SECTIONS - 5	<b>ISSUED FOR APPROVAL</b> <b>NOT FOR CONSTRUCTION</b> SCALE @ A1: 1:500 (H) 1:50 (V)	S.M	S.M	
										S.M	M.T	
										PROJECT No.	DRAWING No.	REVISION
										<b>200282.15</b>	<b>R604</b>	<b>A</b>



**Planning and Environment Act 1987  
Wyndham Planning Scheme**

**Approved Plan As Required  
under Condition 40  
Permit No WYP10817/18  
Date 19/02/2025**

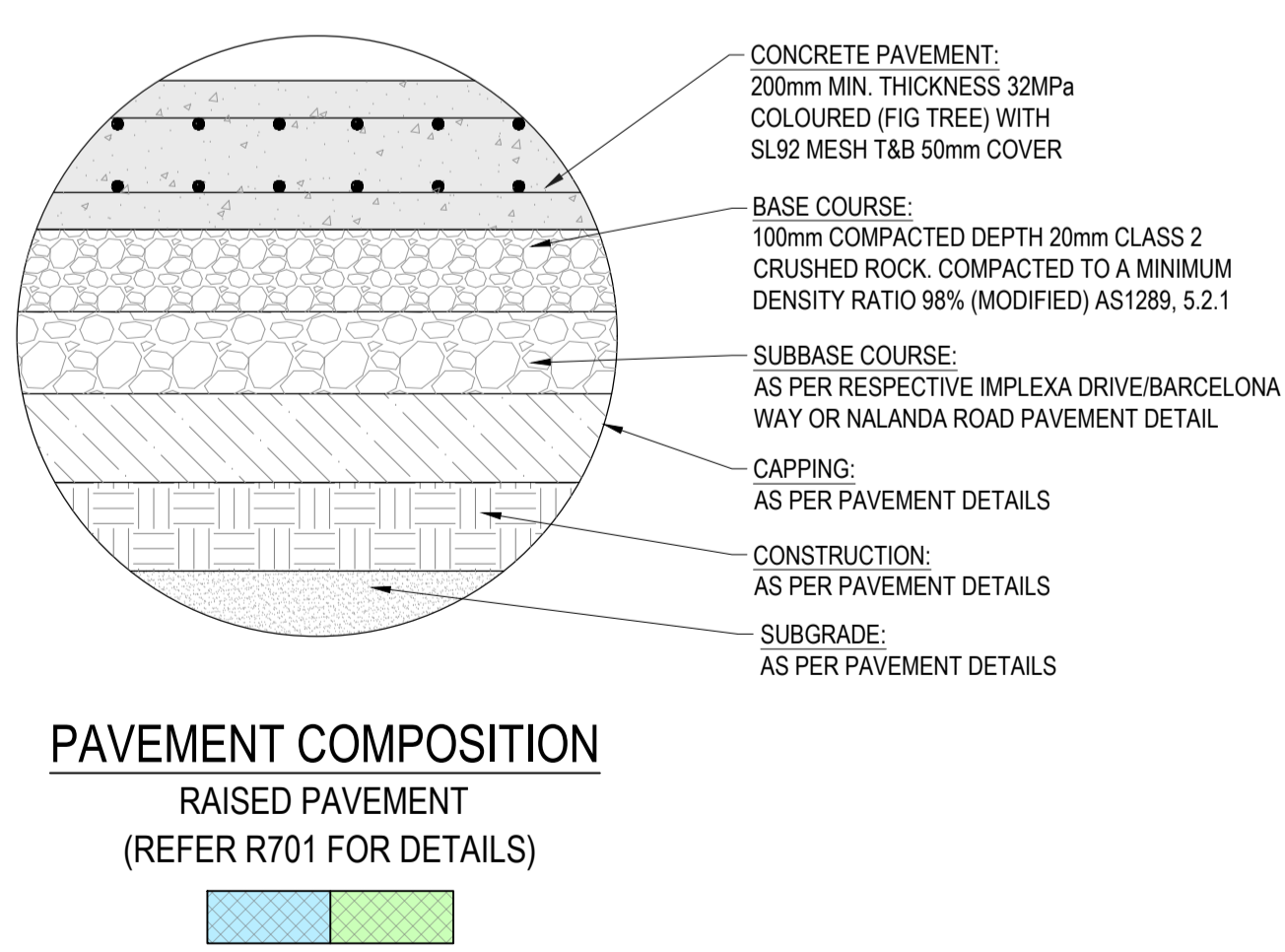
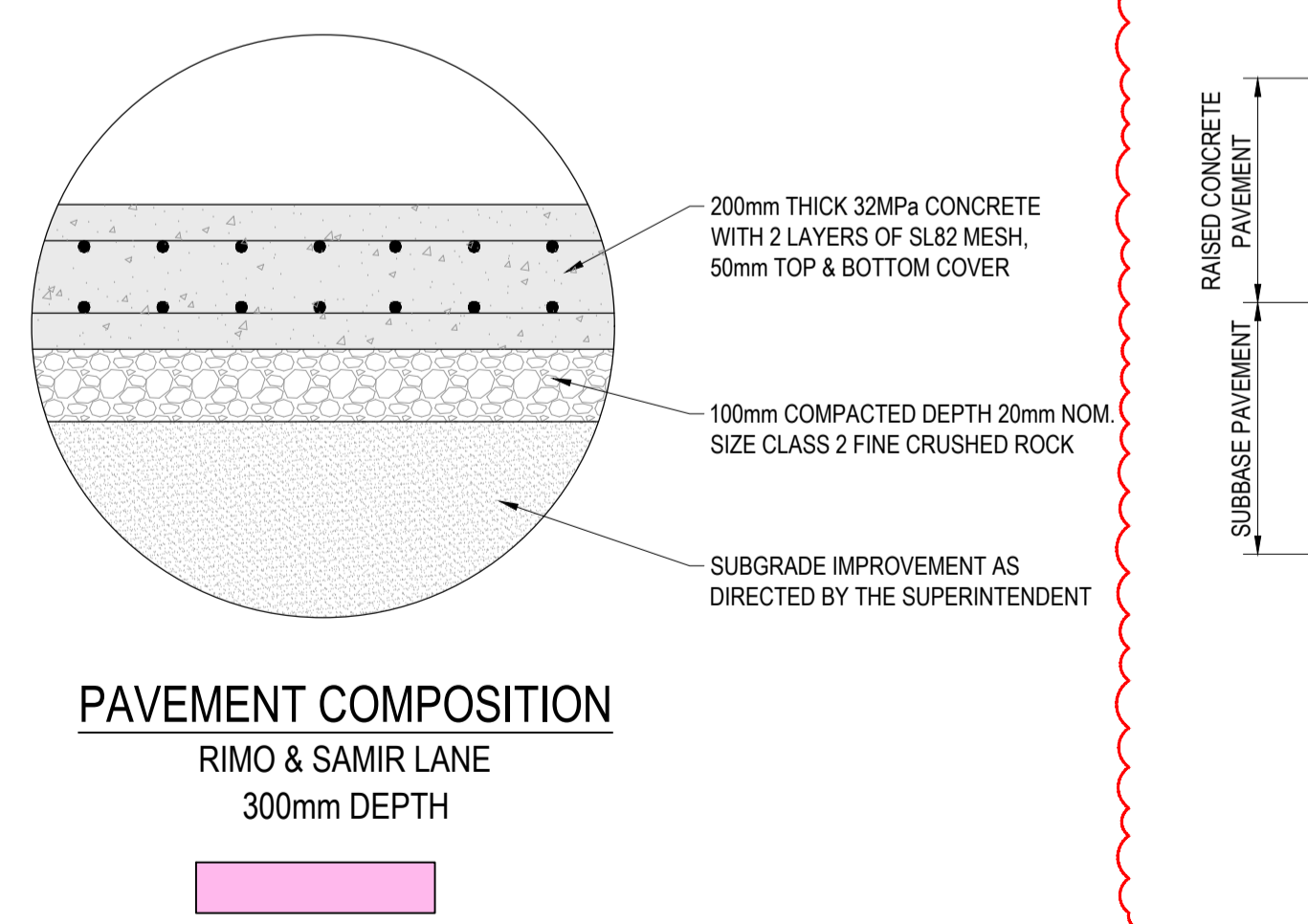
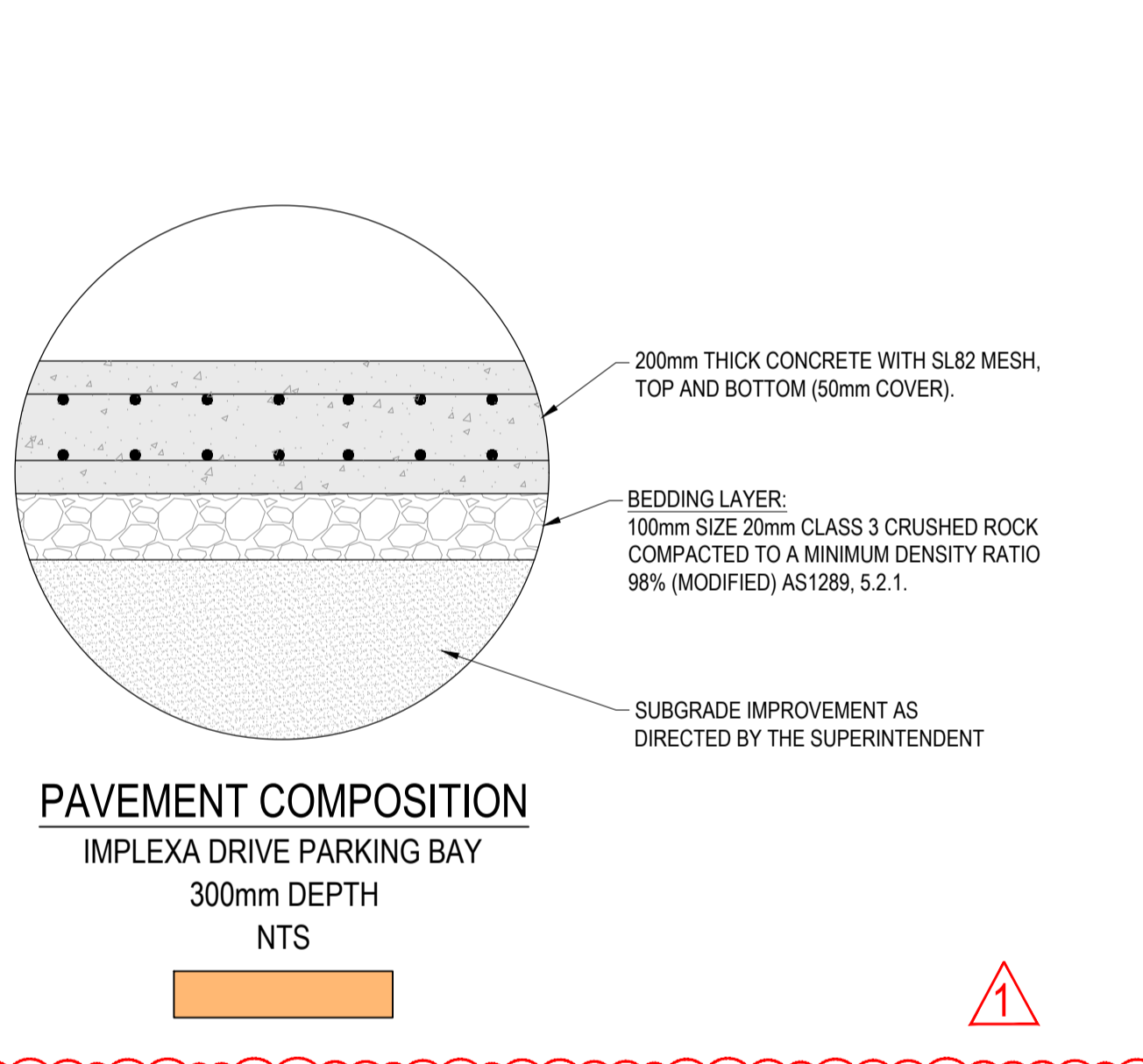
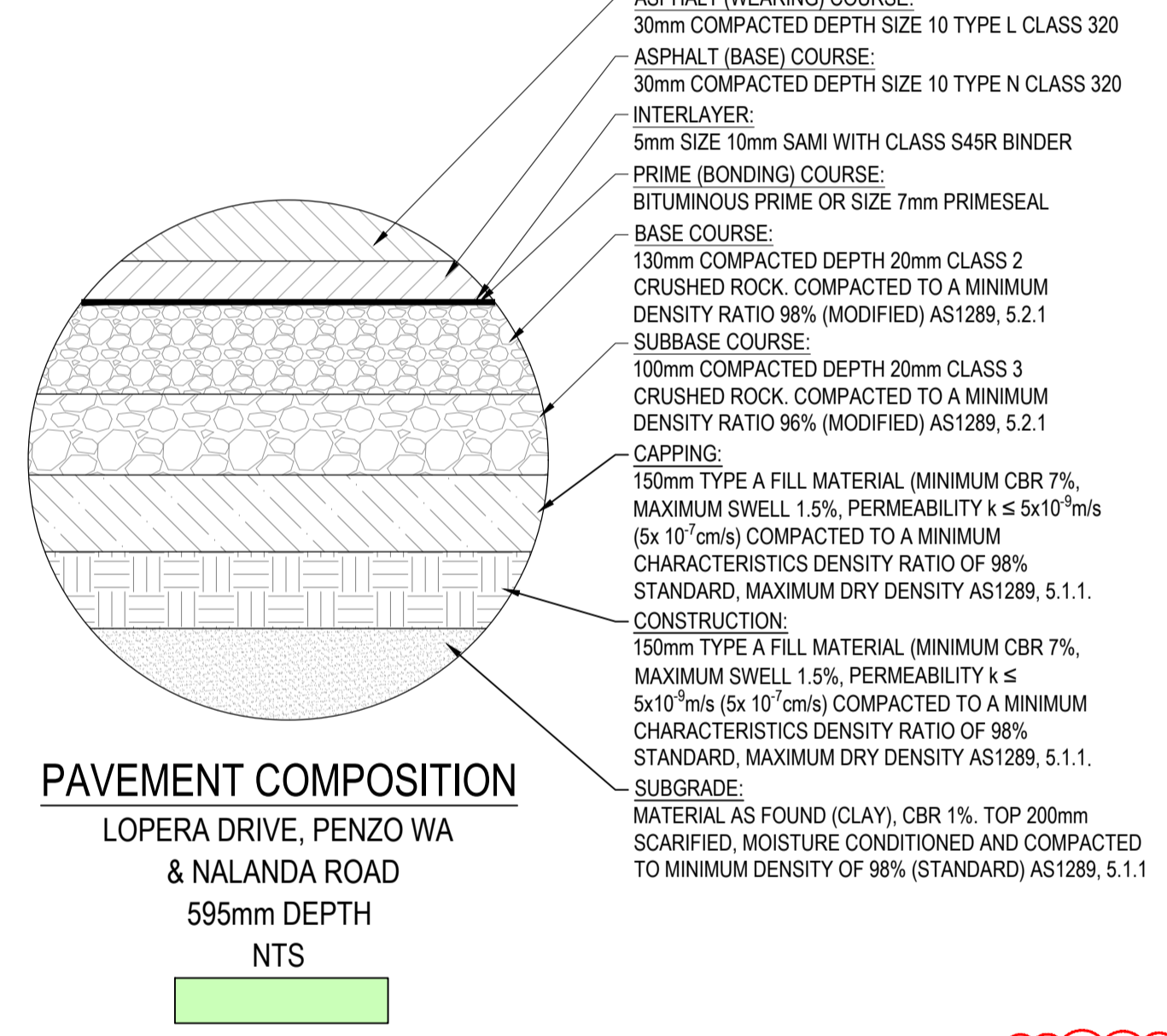
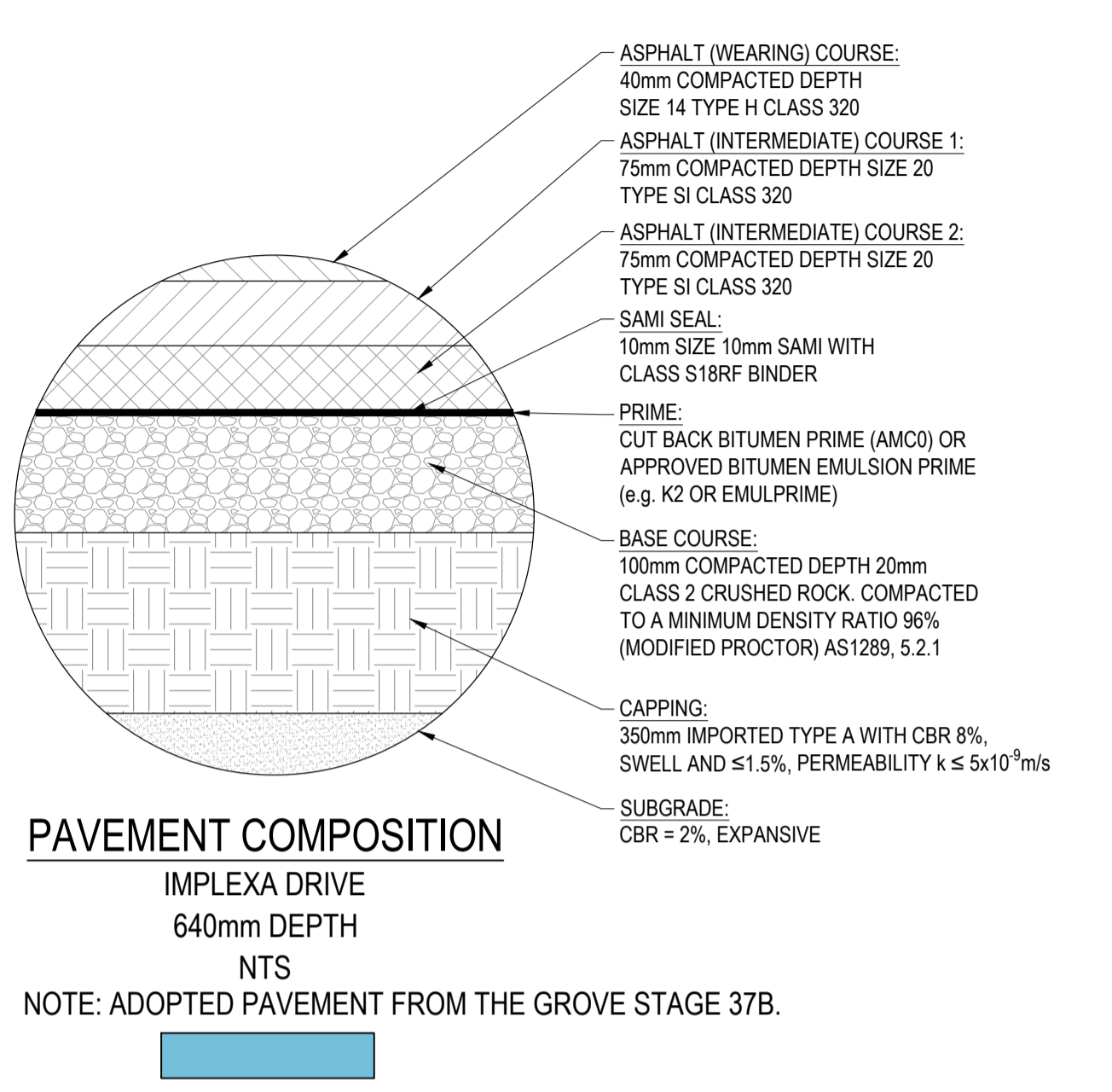
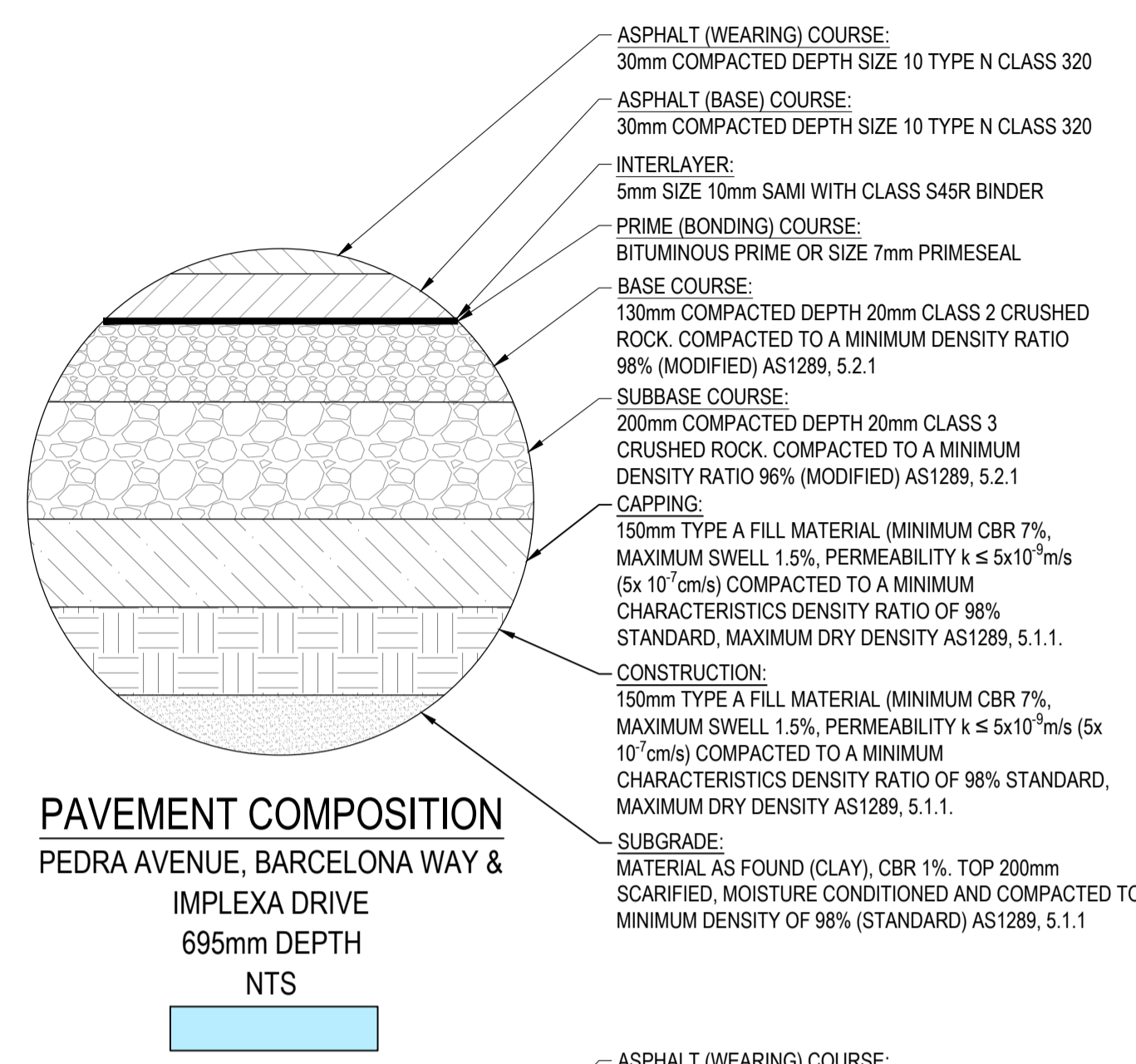


**PAVEMENT PLAN**

**NOTE**  
PAVEMENT LAYERS ARE TO BE CONSTRUCTED AND COMPACTED IN ACCORDANCE WITH WYNDHAM CITY COUNCIL SPECIFICATIONS AND REQUIREMENTS.

**PAVEMENT DESIGNS**  
ALL PAVEMENT DESIGNS HAVE BEEN PROVIDED BY TONKIN TAYLOR. CREO IS NOT RESPONSIBLE FOR GEOTECHNICAL OR PAVEMENT RELATED DESIGNS AND IS NOT RESPONSIBLE FOR THE ACCURACY, ADEQUACY OR APPROPRIATENESS OF THESE DESIGNS. THE PAVEMENT COMPOSITIONS SHOWN ON THIS DRAWING HAVE BEEN REPRODUCED FROM THE PAVEMENT REPORT FOR THIS DEVELOPMENT. THIS DOCUMENT SHOULD BE REVIEWED BY THE CONTRACTOR TO ENSURE DESIGN HAS BEEN INTERPRETED CORRECTLY. A COPY OF THIS DOCUMENT WILL BE MADE AVAILABLE UPON REQUEST.

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REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED
1	29/01/25	RAISED PAVEMENT	S.M	A.W	M.T
0	19/09/24	ISSUED FOR CONSTRUCTION	M.P	A.W	M.T
C	18/07/24	COUNCIL COMMENTS	A.W	A.W	M.T
B	30/05/24	AMENDED LOTS ORIENTATION - LOT1517/1518	S.M	A.W	M.T
A	17/05/24	ISSUED FOR TENDER	S.M	S.M	M.T

**villawood**  
properties  
Communities Designed for Living

**creo**  
CIVIL  
Level 7, 176 Wellington Parade  
East Melbourne, VIC, Australia 3002

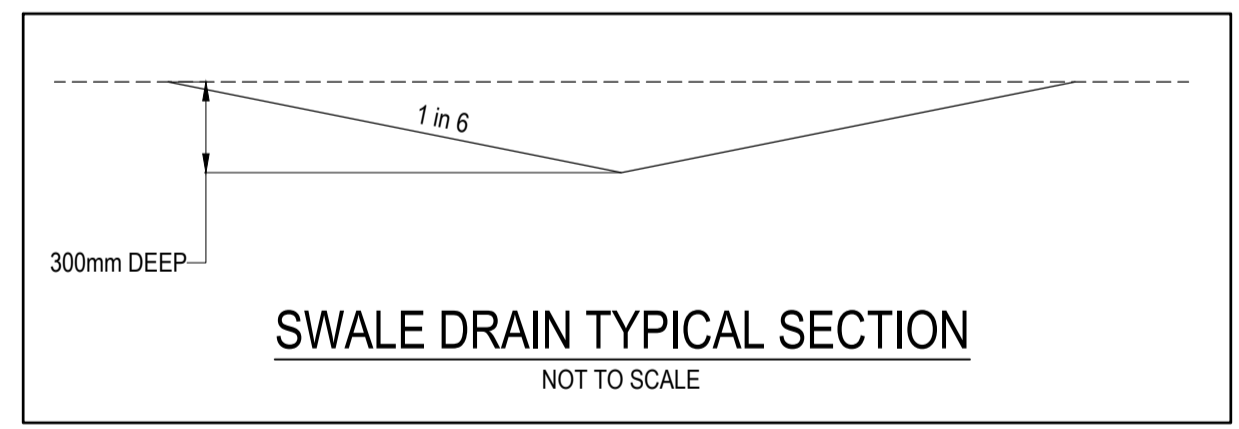
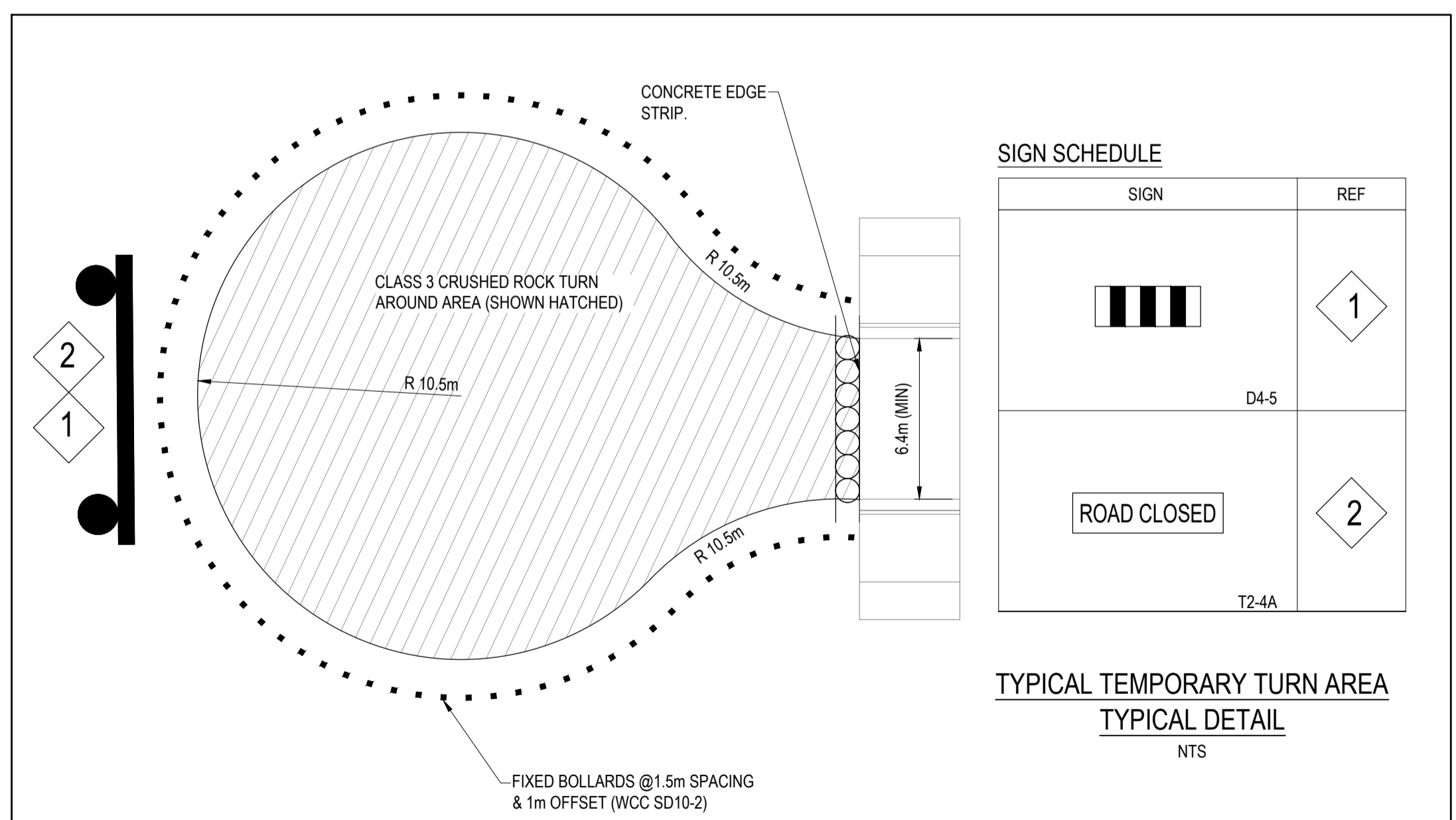
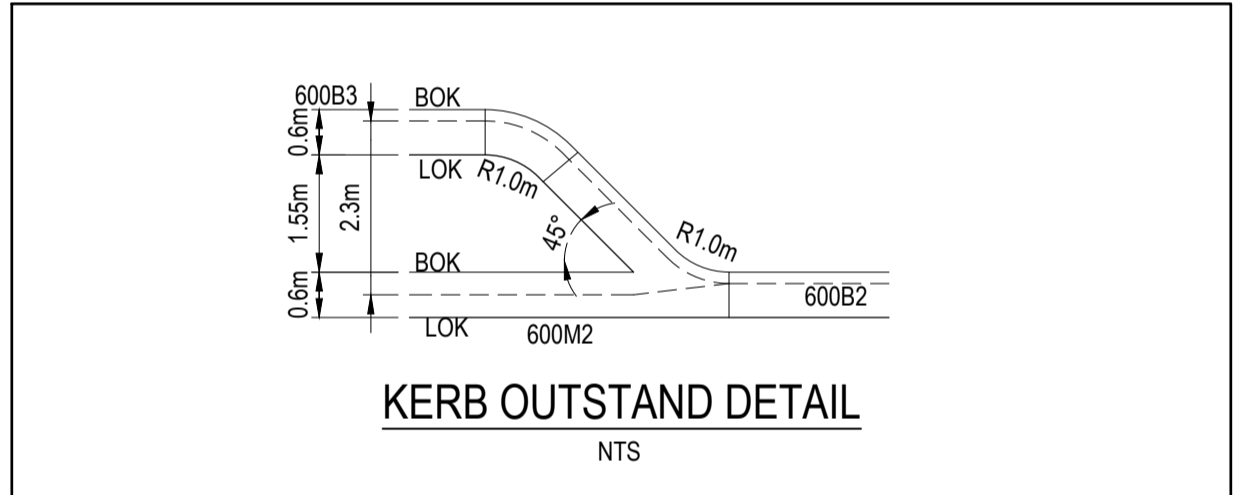
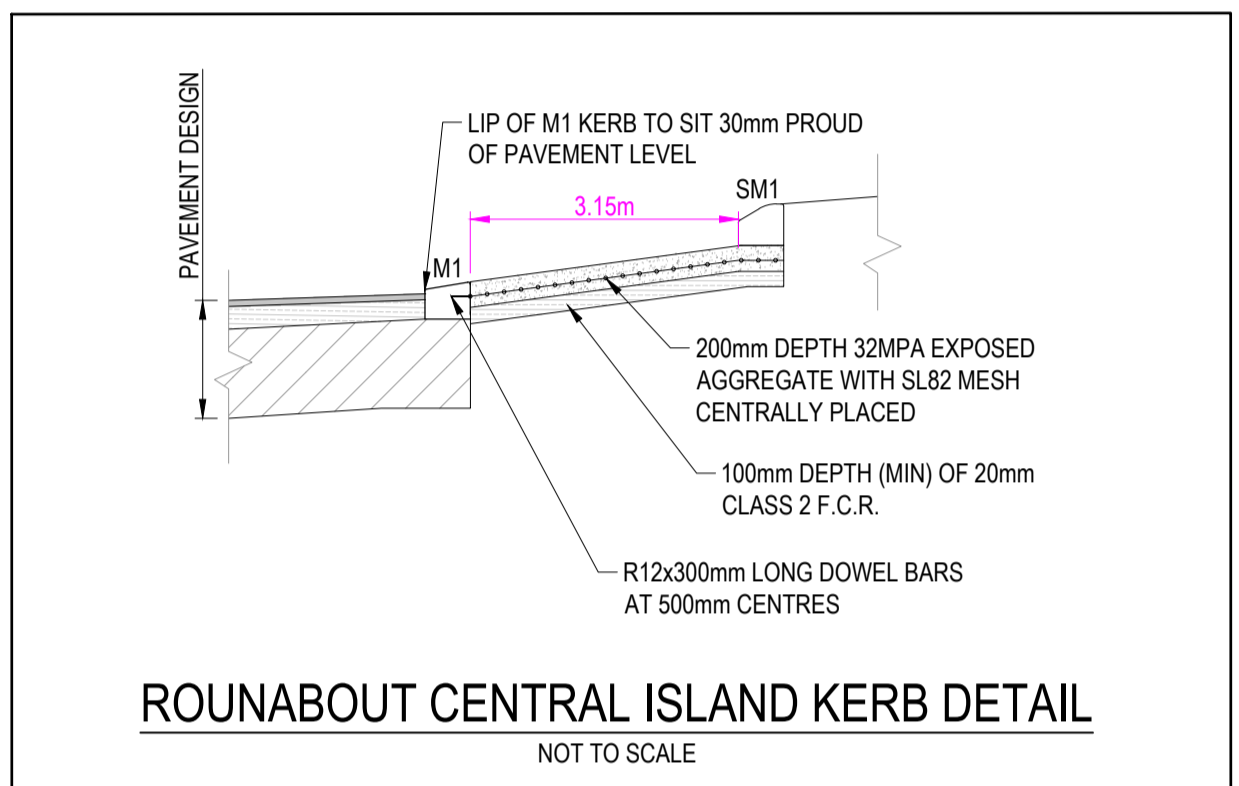
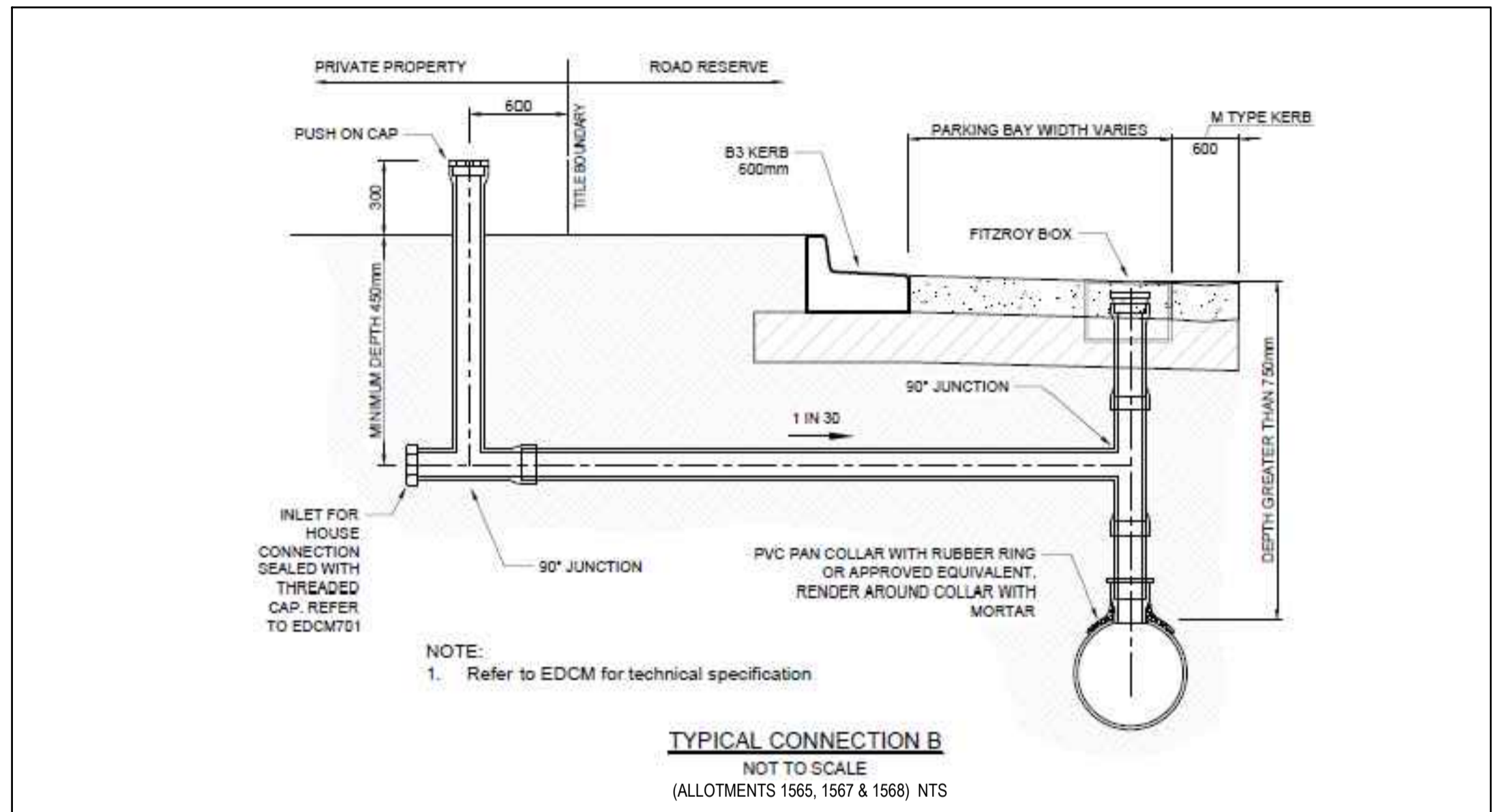
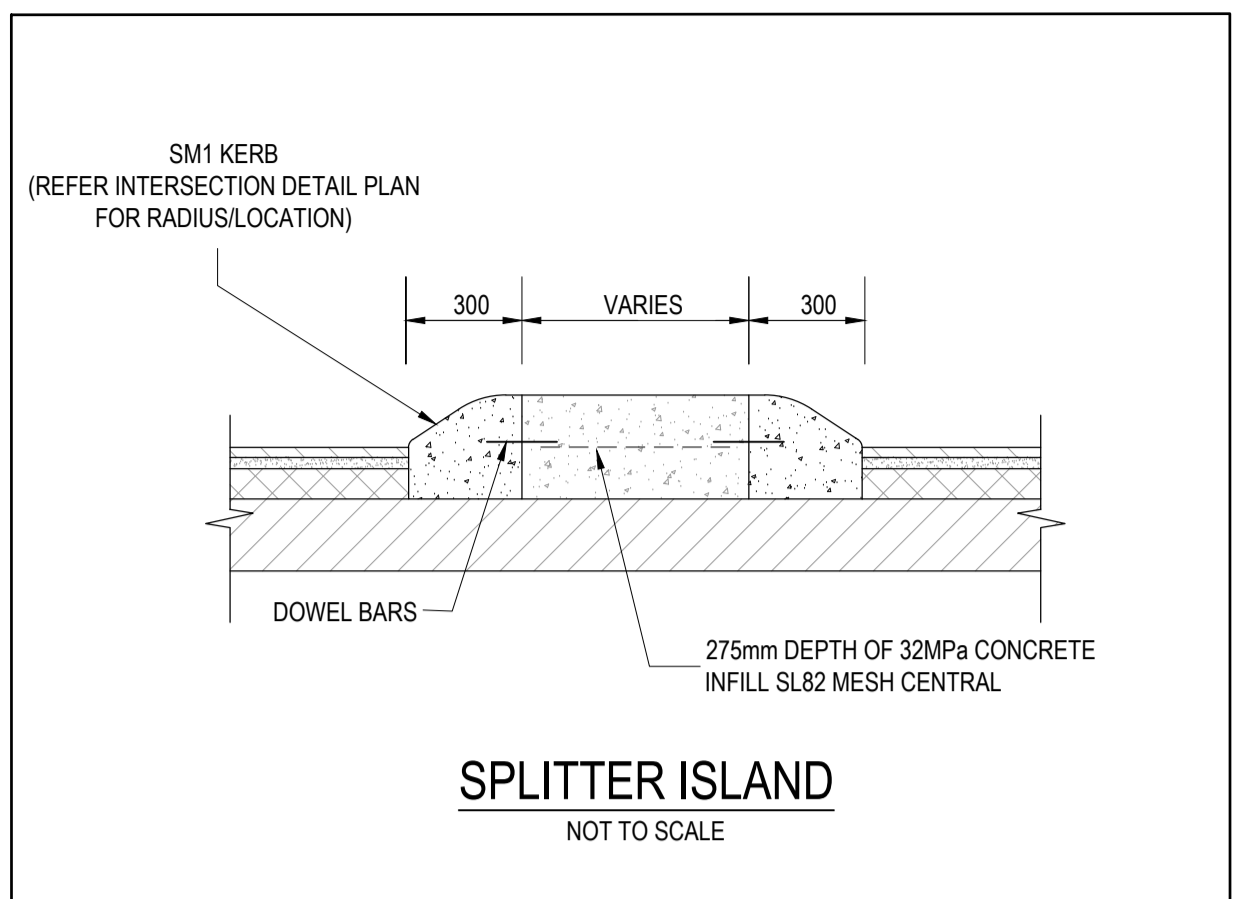
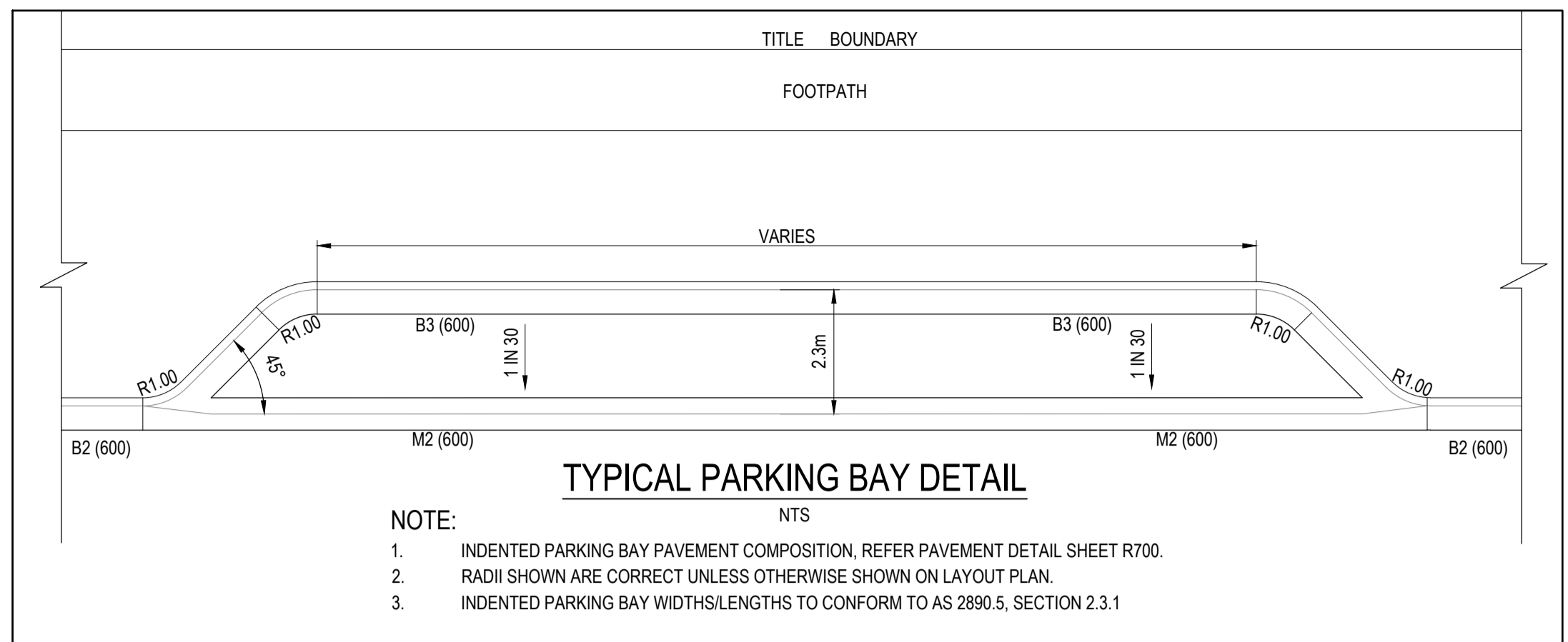
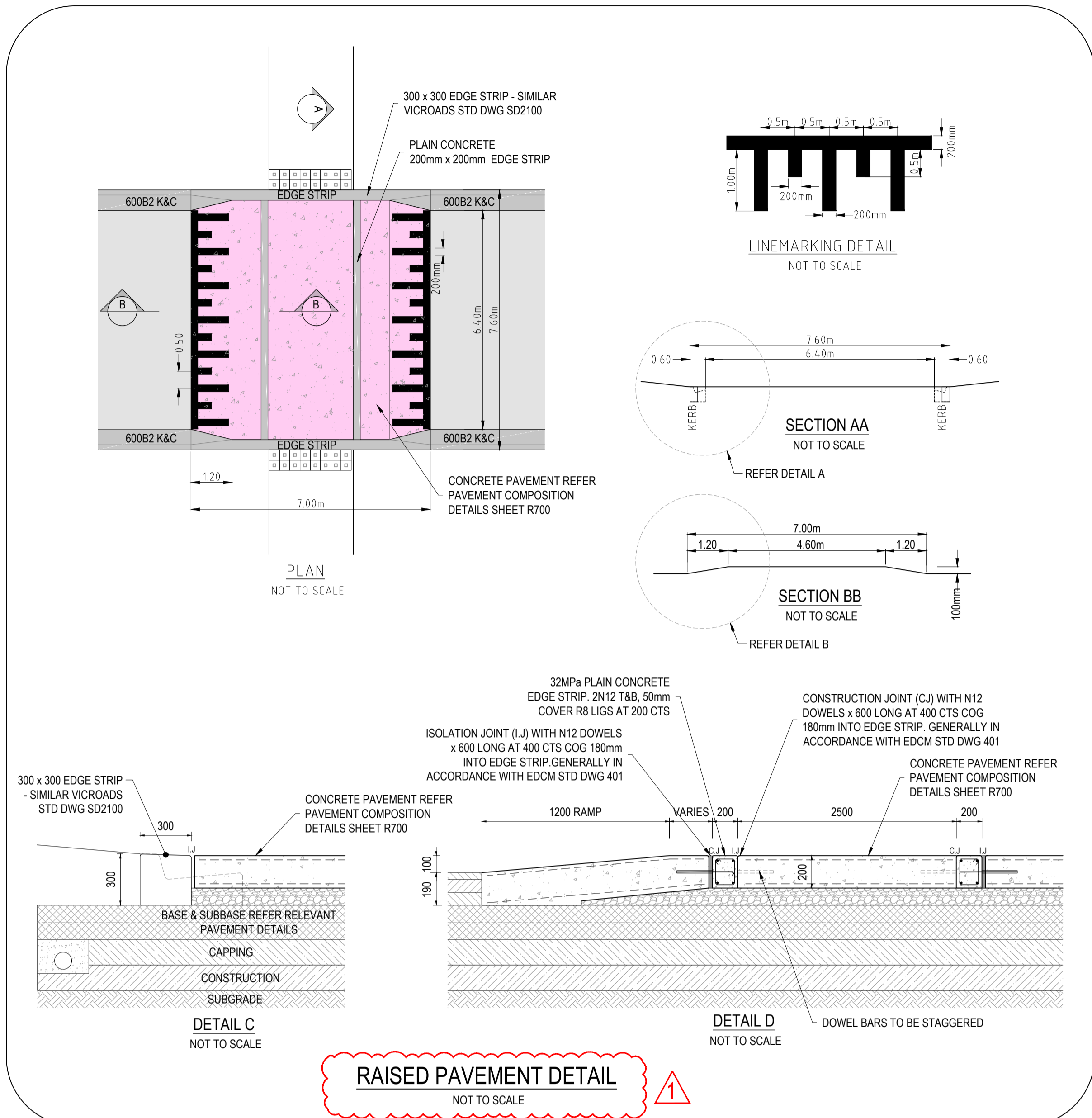
**ALAMORA**  
Tarnait

**ALAMORA - STAGE 15  
PAVEMENT PLAN**

**ISSUED FOR CONSTRUCTION**

SCALE @ A1 : 1/750

DESIGNED	PROJECT ENGINEER	
S.M	S.M	
DRAWN	PROJECT MANAGER	
S.M	M.T	
PROJECT No.	DRAWING No.	REVISION
200282.15	R700	1



**Planning and Environment Act 1987**  
**Wyndham Planning Scheme**

**Approved Plan As Required**  
**under Condition 40**  
**Permit No WYP10817/18**  
**Date 19/02/2025**

REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED
1	29/01/25	RAISED PAVEMENT	S.M	A.W	M.T
0	19/09/24	ISSUED FOR CONSTRUCTION	M.P	A.W	M.T
C	27/08/24	COUNCIL COMMENTS - DRAINAGE CONNECTION TYPE B ADDED	A.W	A.W	M.T
B	19/07/24	COUNCIL COMMENTS	A.W	A.W	M.T
A	17/05/24	ISSUED FOR TENDER	S.M	S.M	M.T

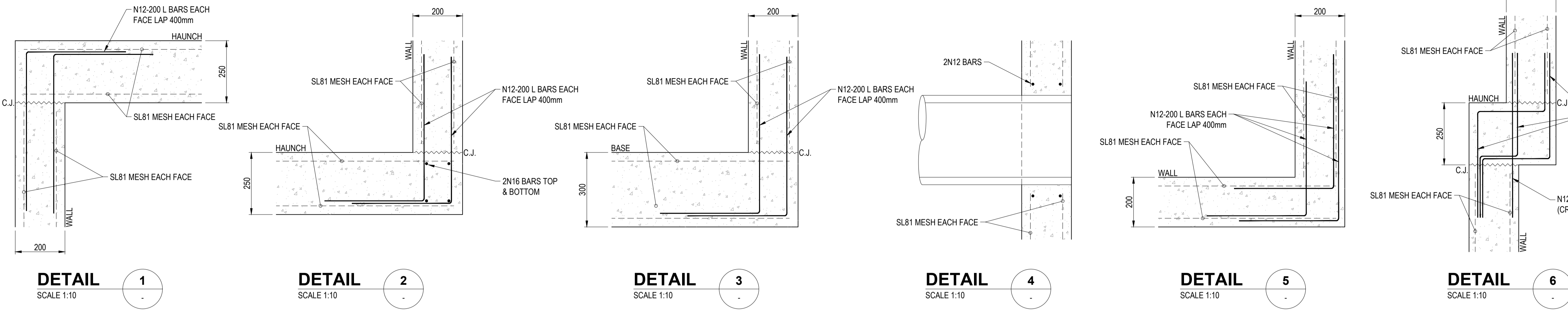


DRAWING TITLE  
**ALAMORA - STAGE 15 TYPICAL DETAILS**

STATUS  
**ISSUED FOR CONSTRUCTION**

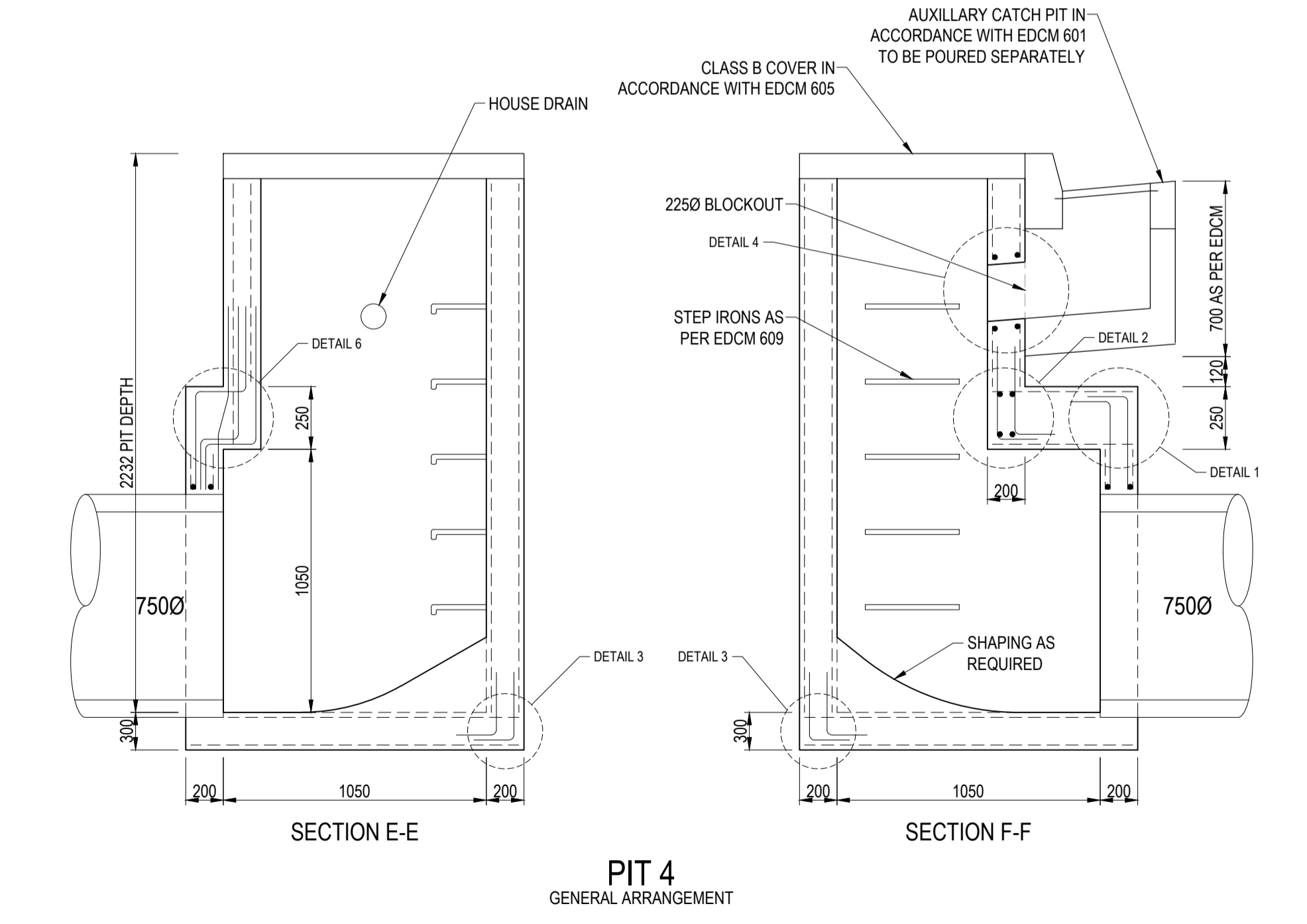
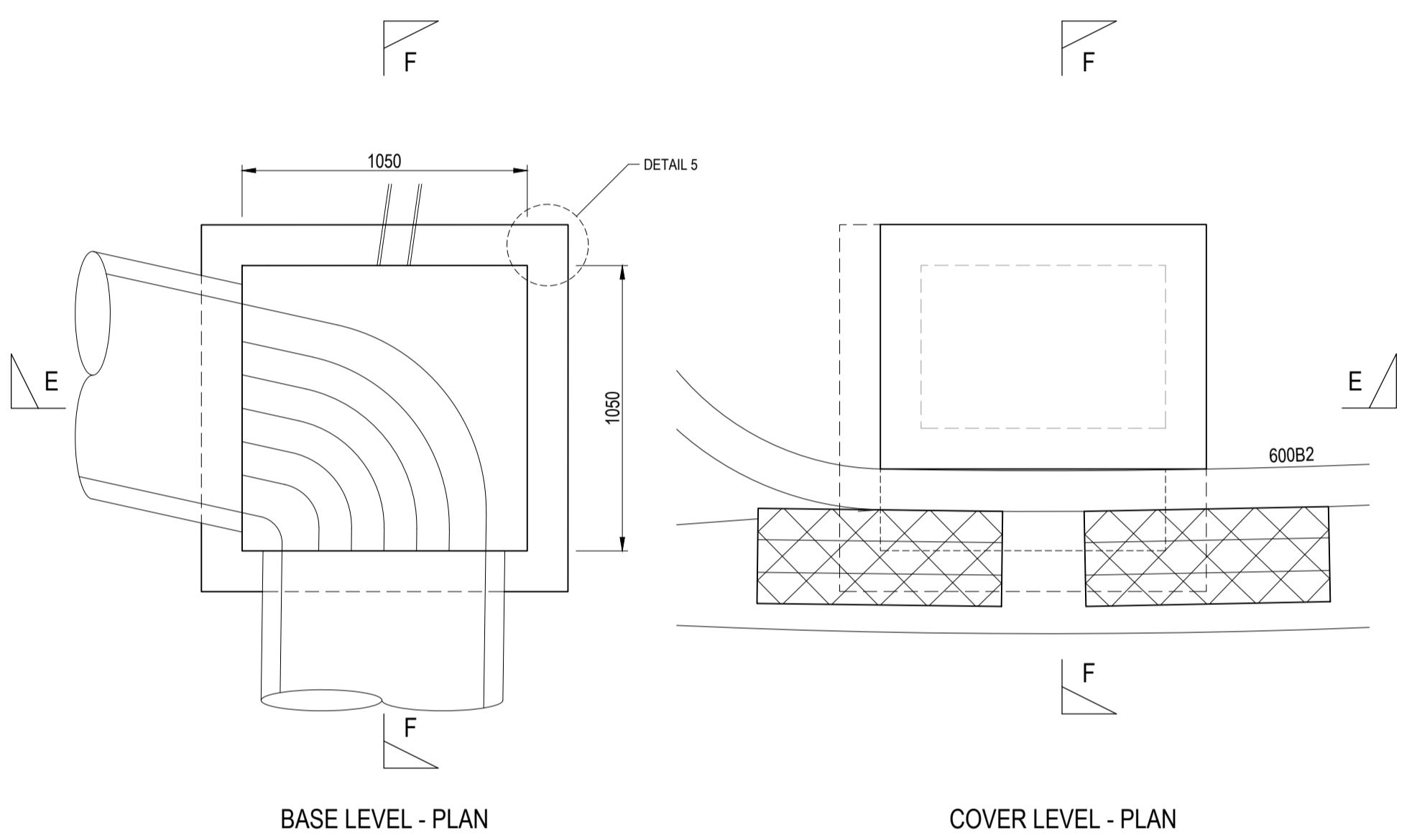
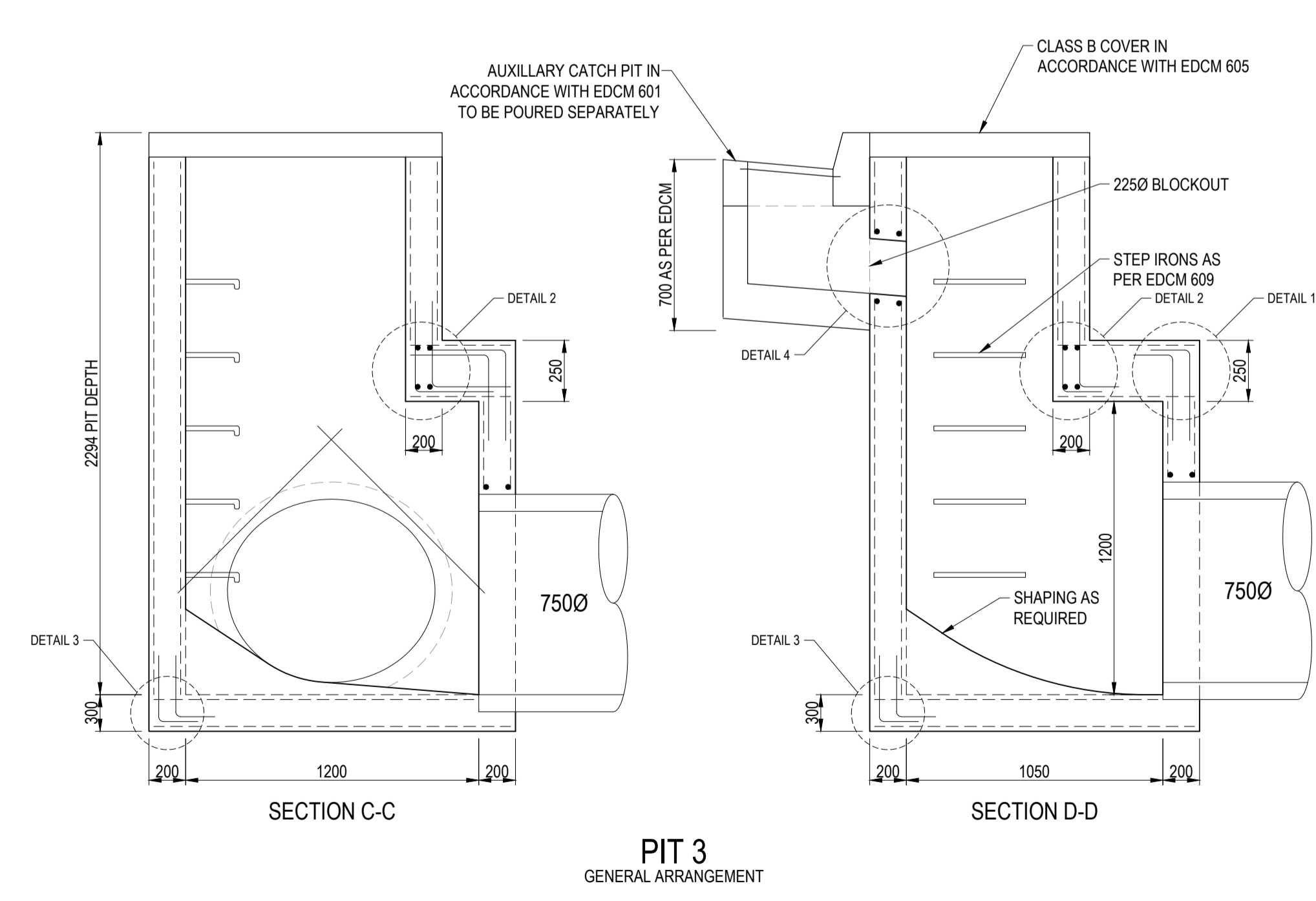
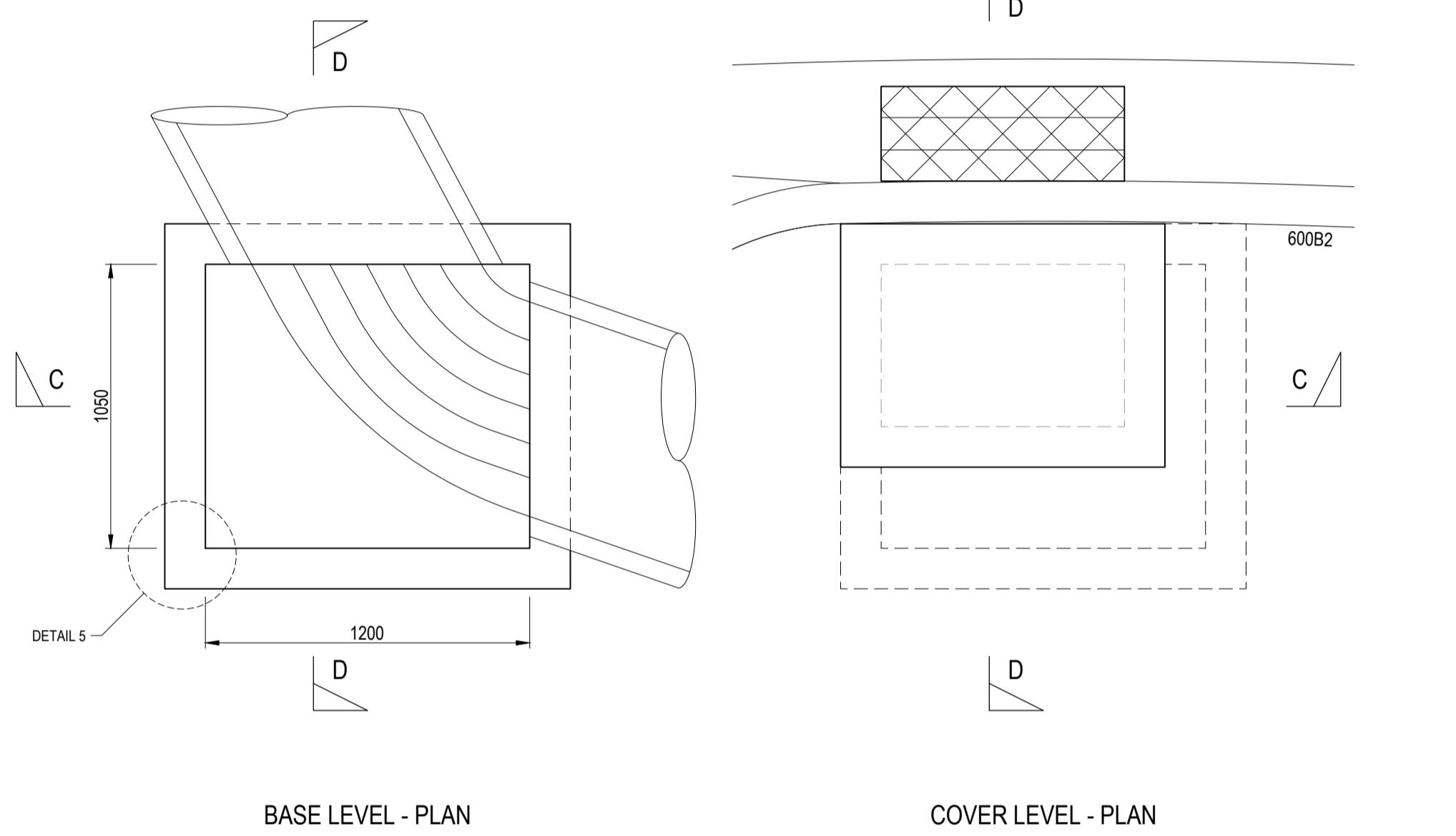
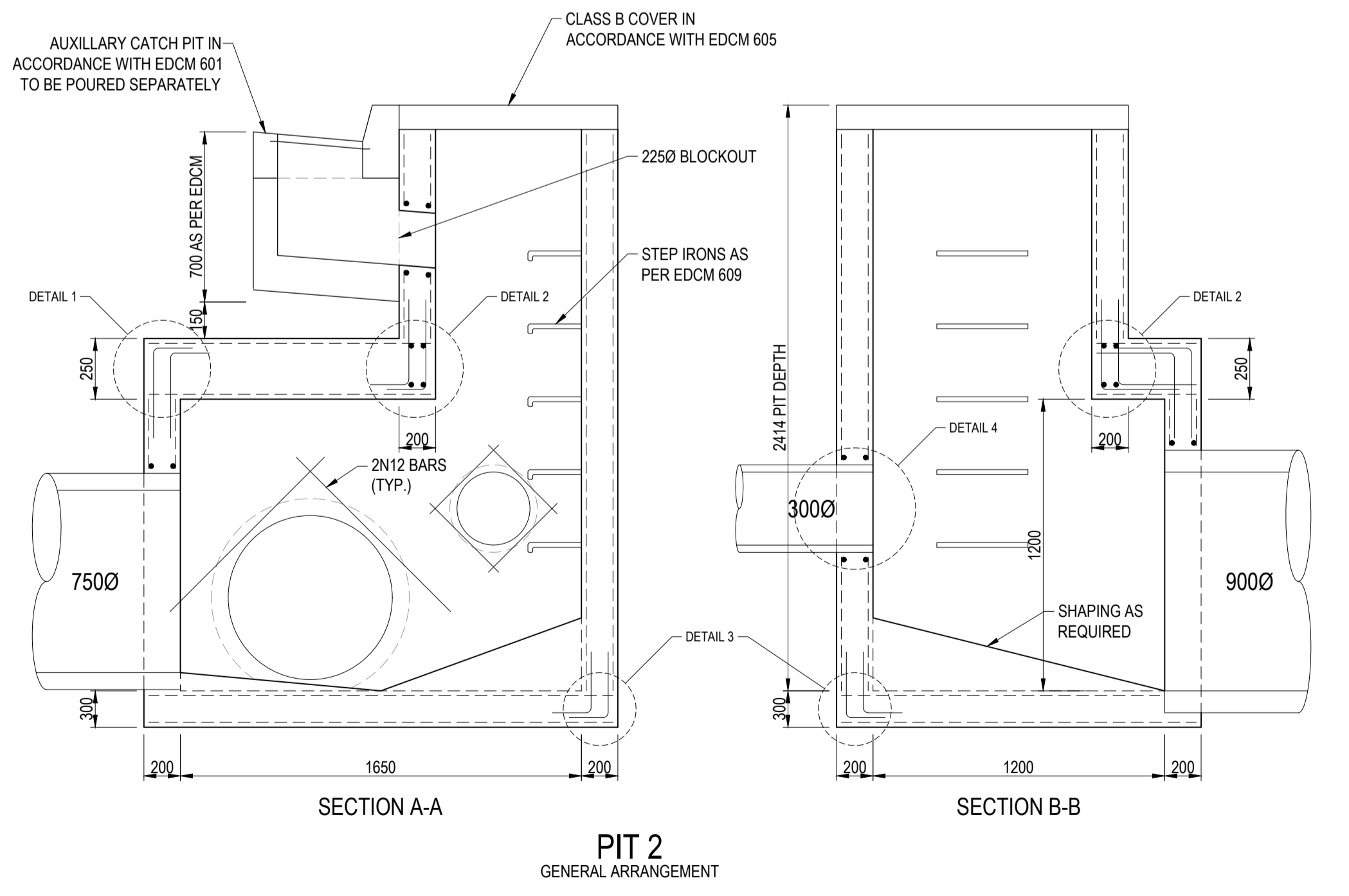
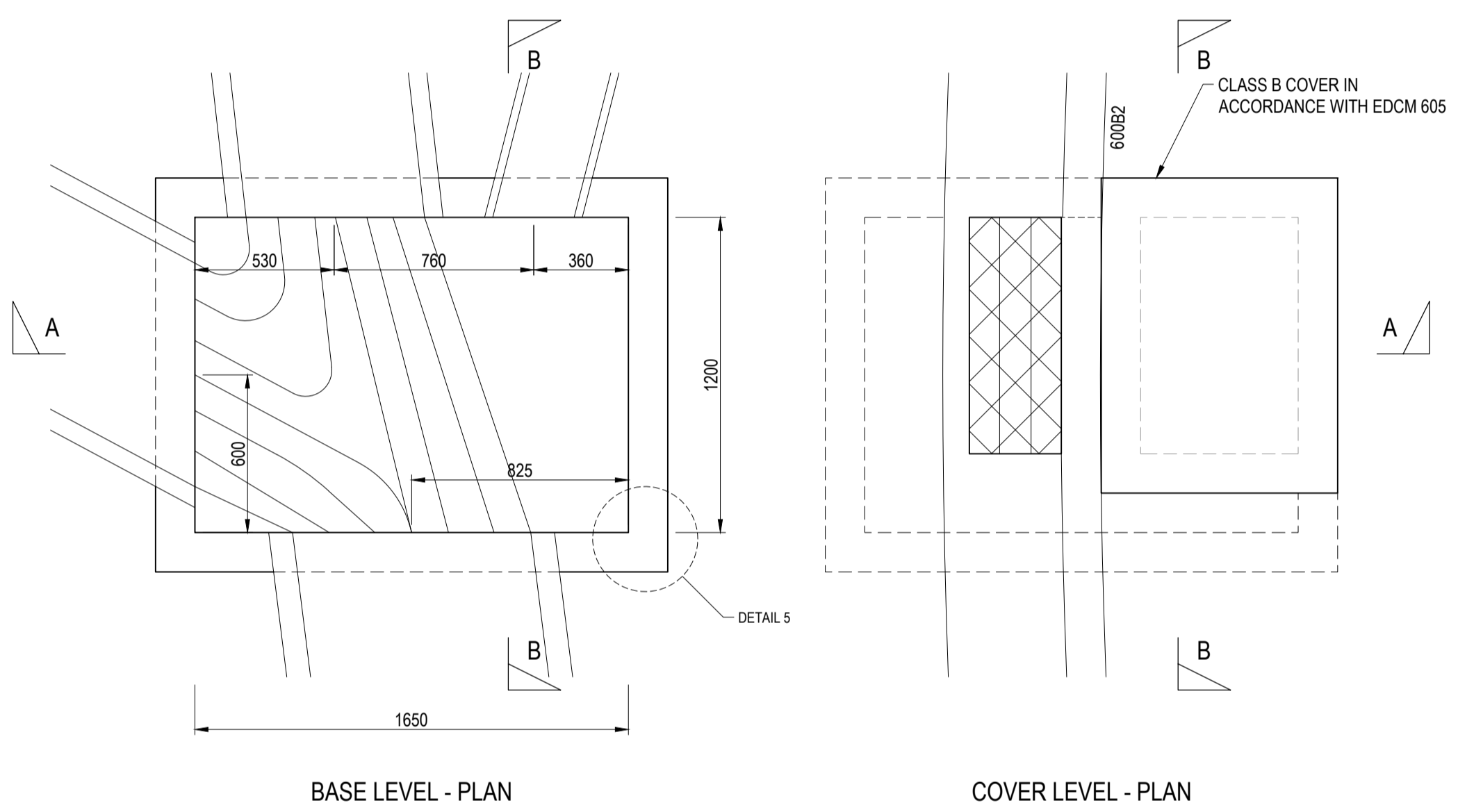
SCALE @ A1:  
**AS SHOWN**

DESIGNED	PROJECT ENGINEER	
S.M	S.M	
DRAWN	PROJECT MANAGER	
S.M	M.T	
PROJECT No.	DRAWING No.	REVISION
<b>200282.15</b>	<b>R701</b>	<b>1</b>



- NOTES:**
- CONCRETE:**
1. CONCRETE STRENGTH GRADE TO BE N32 STANDARD STRENGTH OR HIGHER COMPLYING WITH THE REQUIREMENTS OF AS1379.
  2. ALL CORNERS SHALL HAVE 20 x 20 FILLETS OF CHAMFERS UNO.
- REINFORCEMENT:**
3. COVER - 35mm UNO.
  4. SPACING - TAKEN AS EQUAL UNO.
  5. GRADE - 500VN TO AS4671.
  6. WELDED WIRE REINFORCING FABRIS SHALL COMPLY WITH AS4671.
  7. WELDING - SHALL NOT BE PERMITTED UNO.
  8. STEELWORK SHALL BE HOT DIPPED GALVANISED AFTER FABRICATION IN ACCORDANCE WITH AS4680.

**Planning and Environment Act 1987**  
**Wyndham Planning Scheme**  
**Approved Plan As Required**  
**under Condition 40**  
**Permit No WYP10817/18**  
**Date 13/09/2024**



REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED
0	19/09/24	ISSUED FOR CONSTRUCTION	M.P	A.W	M.T
B	17/09/24	STRUCTURAL DETAILS UPDATED	A.W	A.W	M.T
A	27/08/24	COUNCIL COMMENTS - SHEET ADDED	A.W	A.W	M.T



**DRAWING TITLE**  
**ALAMORA - STAGE 15**  
**PIT DETAILS**

**STATUS**  
**ISSUED FOR CONSTRUCTION**

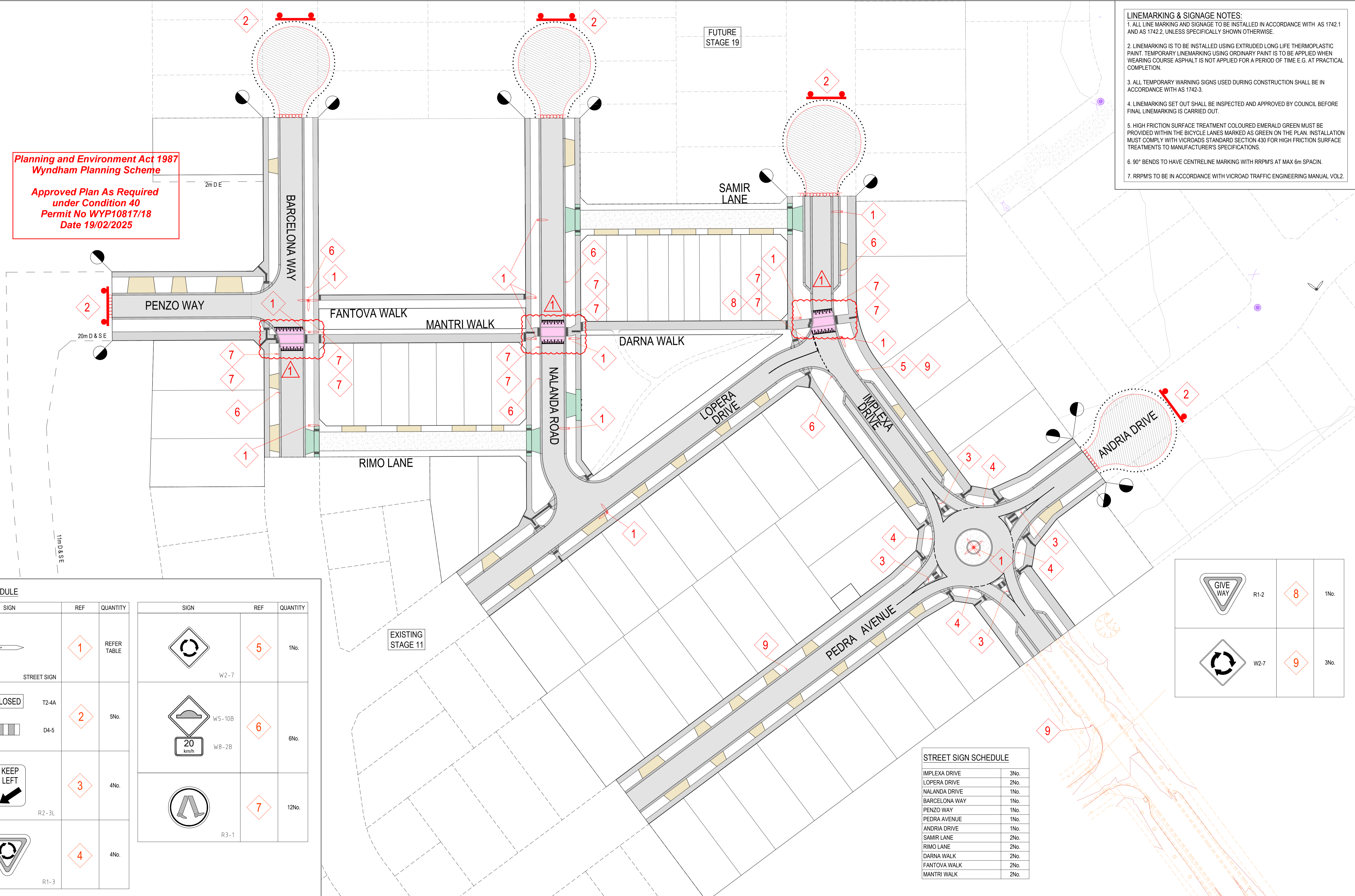
SCALE @ A1:  
**AS SHOWN**

DESIGNED	PROJECT ENGINEER	
S.M	S.M	
DRAWN	PROJECT MANAGER	
S.M	M.T	
PROJECT No.	DRAWING No.	REVISION
<b>200282.15</b>	<b>R702</b>	<b>0</b>

**Planning and Environment Act 1987  
Wyndham Planning Scheme**

**Approved Plan As Required  
under Condition 40  
Permit No WYP10817/18  
Date 19/02/2025**

- LINEMARKING & SIGNAGE NOTES:**
1. ALL LINE MARKING AND SIGNAGE TO BE INSTALLED IN ACCORDANCE WITH AS 1742.1 AND AS 1742.2, UNLESS SPECIFICALLY SHOWN OTHERWISE.
  2. LINEMARKING IS TO BE INSTALLED USING EXTRUDED LONG LIFE THERMOPLASTIC PAINT. TEMPORARY LINEMARKING USING ORDINARY PAINT IS TO BE APPLIED WHEN WEARING COURSE ASPHALT IS NOT APPLIED FOR A PERIOD OF TIME E.G. AT PRACTICAL COMPLETION.
  3. ALL TEMPORARY WARNING SIGNS USED DURING CONSTRUCTION SHALL BE IN ACCORDANCE WITH AS 1742-3.
  4. LINEMARKING SET OUT SHALL BE INSPECTED AND APPROVED BY COUNCIL BEFORE FINAL LINEMARKING IS CARRIED OUT.
  5. HIGH FRICTION SURFACE TREATMENT COLOURED EMERALD GREEN MUST BE PROVIDED WITHIN THE BICYCLE LANES MARKED AS GREEN ON THE PLAN. INSTALLATION MUST COMPLY WITH VICROADS STANDARD SECTION 430 FOR HIGH FRICTION SURFACE TREATMENTS TO MANUFACTURER'S SPECIFICATIONS.
  6. 90° BENDS TO HAVE CENTRELINE MARKING WITH RRPMS AT MAX 6m SPACIN.
  7. RRPMS TO BE IN ACCORDANCE WITH VICROAD TRAFFIC ENGINEERING MANUAL VOL2.



**SIGN SCHEDULE**

SIGN	REF	QUANTITY	SIGN	REF	QUANTITY
	1	REFER TABLE		5	1No.
ROAD CLOSED	2	5No.		6	6No.
	3	4No.		7	12No.
	4	4No.			

	R1-2	8	1No.
	W2-7	9	3No.

**STREET SIGN SCHEDULE**

IMPLEXA DRIVE	3No.
LOPERA DRIVE	2No.
NALANDA ROAD	1No.
BARCELONA WAY	1No.
PENZO WAY	1No.
PEDRA AVENUE	1No.
ANDRIA DRIVE	1No.
SAMIR LANE	2No.
RIMO LANE	2No.
DARNA WALK	2No.
FANTOVA WALK	2No.
MANTRI WALK	2No.

REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED
1	29/01/25	RAISED PAVEMENT/TGSI UPDATED	S.M	A.W	M.T
0	19/09/24	ISSUED FOR CONSTRUCTION	M.P	A.W	M.T
D	27/08/24	COUNCIL COMMENTS - TGSI ADDED & GIVE WAY LINEMARKING ADDED.	A.W	A.W	M.T
C	18/07/24	COUNCIL COMMENTS	A.W	A.W	M.T
B	30/05/24	AMENDED LOTS ORIENTATION - LOT1517/1518	S.M	A.W	M.T
A	17/05/24	ISSUED FOR TENDER	S.M	S.M	M.T

**villawood properties**  
Communities Designed for Living

**creo CIVIL**  
Level 7, 176 Wellington Parade  
East Melbourne, VIC, Australia 3002

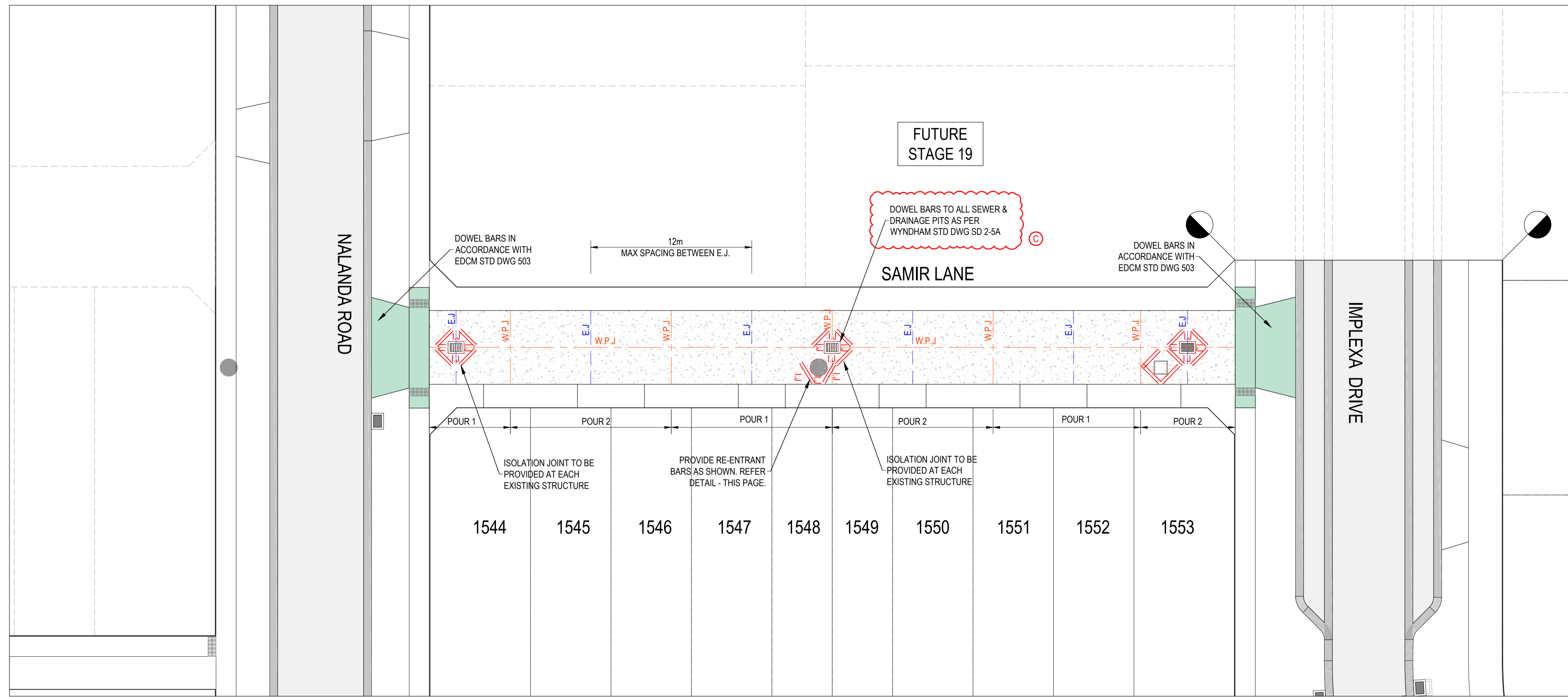
**ALAMORA**  
Tarnait

**ALAMORA - STAGE 15  
SIGNAGE & LINEMARKING PLAN**

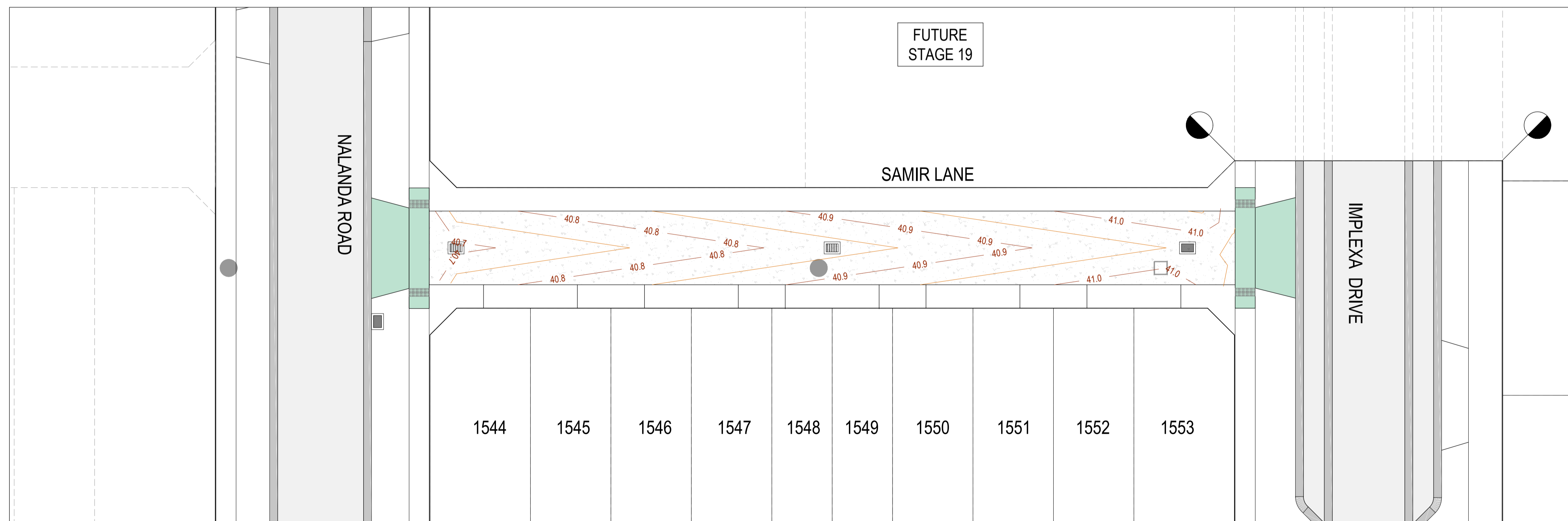
**ISSUED FOR CONSTRUCTION**

SCALE @ A1 : 1:500

DESIGNED	S.M	PROJECT ENGINEER	S.M
DRAWN	S.M	PROJECT MANAGER	M.T
PROJECT No.	<b>200282.15</b>	DRAWING No.	<b>R800</b>
REVISION			<b>1</b>



CONCRETE JOINTING LAYOUT PLAN - SAMIR LANE  
SCALE 1:200 @ A1

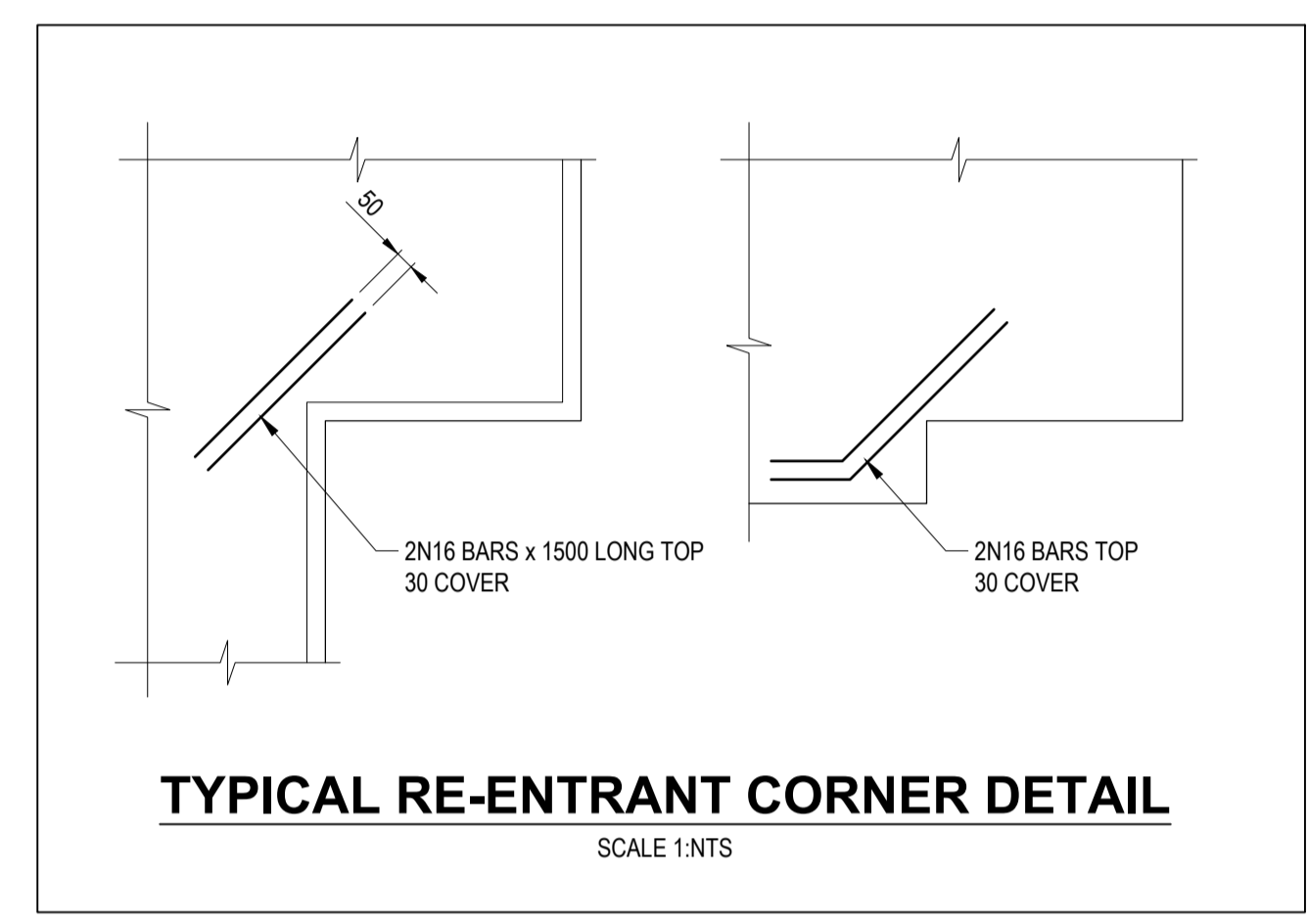


CONCRETE CONTOUR PLAN - SAMIR LANE  
SCALE 1:200 @ A1

**LEGEND**

**CONCRETE JOINTING PLAN:**

- STORMWATER DRAIN, PIT & PROPERTY INLET
- MELBOURNE WATER DRAIN
- SWALE DRAIN
- SEWER & MAINTENANCE STRUCTURES
- BRANCH SEWER
- HOUSE DRAIN
- TACTILE PAVERS
- EXISTING HOUSE DRAIN
- RETAINING WALL
- PAVEMENT TREATMENT
- CONCRETE EDGE STRIP WITH SUBSOIL DRAIN, "NO ROAD" SIGN & BARRIER
- LIMIT OF WORKS
- EXISTING TREE TO BE REMOVED
- PERMANENT SURVEY MARK
- TEMPORARY BENCH MARK
- PROPOSED DRIVEWAY
- MINOR CONTOUR
- MAJOR CONTOUR



**CONCRETE JOINT LEGEND**

- I.J. ISOLATION JOINT
- W.P.J. WEAKENED PLANE JOINT
- E.J. EXPANSION CONTROL JOINT (12m Max)

FOR JOINT DETAILS REFER STD DWG EDCM 401 & 402

**NOTE:**

1. CONTRACTOR TO PROVIDE 1.2m x 1.2m UNPAVED PUBLIC LIGHTING AREAS WITHIN LANEWAYS. CONTRACTOR TO REFER LATEST ELECTRICAL DRAWINGS FOR INFORMATION.

**Planning and Environment Act 1987**  
**Wyndham Planning Scheme**

**Approved Plan As Required**  
**under Condition 40**  
**Permit No WYP10817/18**  
**Date 13/09/2024**

**WARNING**  
**BEWARE OF UNDERGROUND & OVERHEAD SERVICES**

The locations of underground & overhead services are approximate only & their exact position should be proven on site. No guarantee is given that all existing services are shown. Locate all underground services before commencement of works

**DIAL 1100 BEFORE YOU DIG**  
www.1100.com.au

REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED
B	19/07/24	COUNCIL COMMENTS	A.W.	A.W.	M.T.
A	17/05/24	ISSUED FOR TENDER	S.M.	S.M.	M.T.

CLIENT

**villawood**  
properties  
Communities Designed for Living

PROJECT

**creo**  
CIVIL  
Level 7, 176 Wellington Parade  
East Melbourne, VIC, Australia 3002

DRAWING TITLE

**ALAMORA**  
Tarnait

DRAWING TITLE

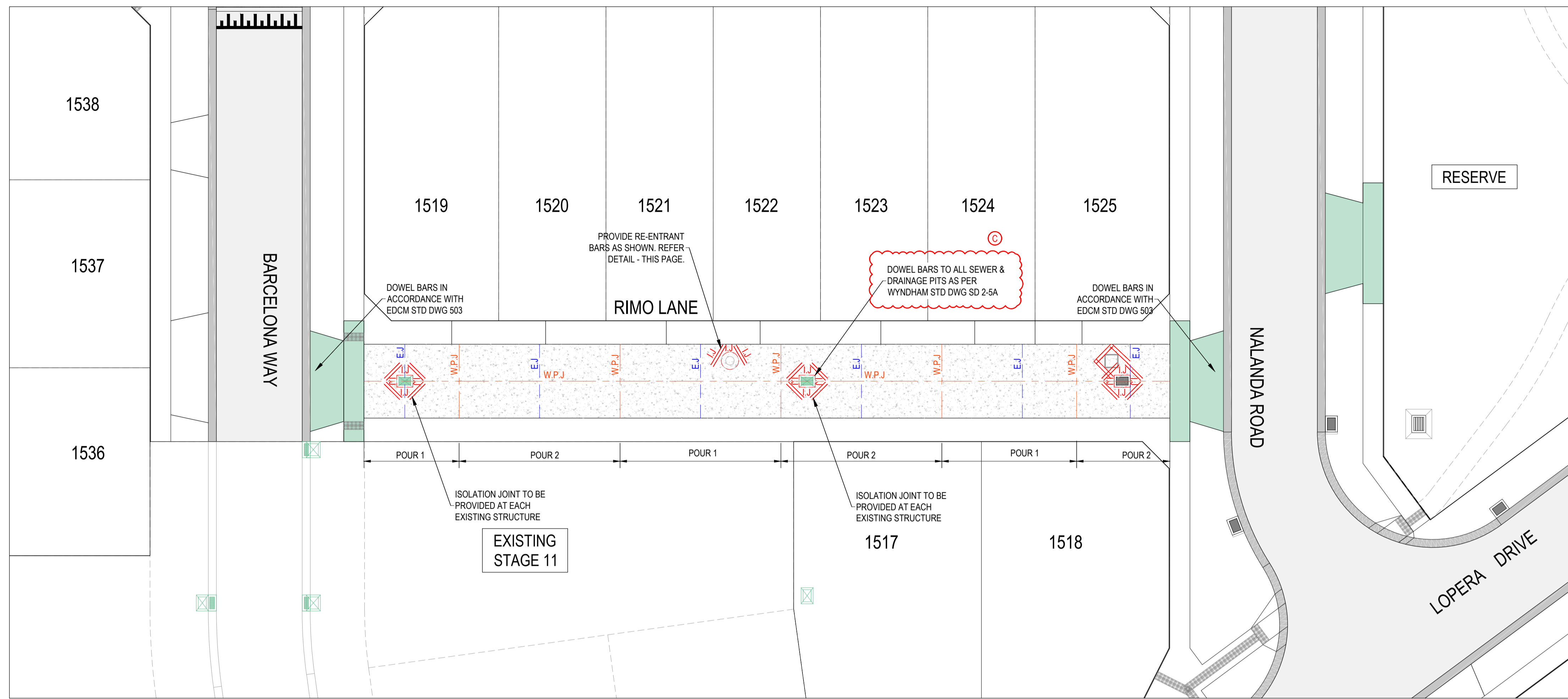
**ALAMORA - STAGE 15**  
**CONCRETE JOINTING PLAN - 1**

STATUS

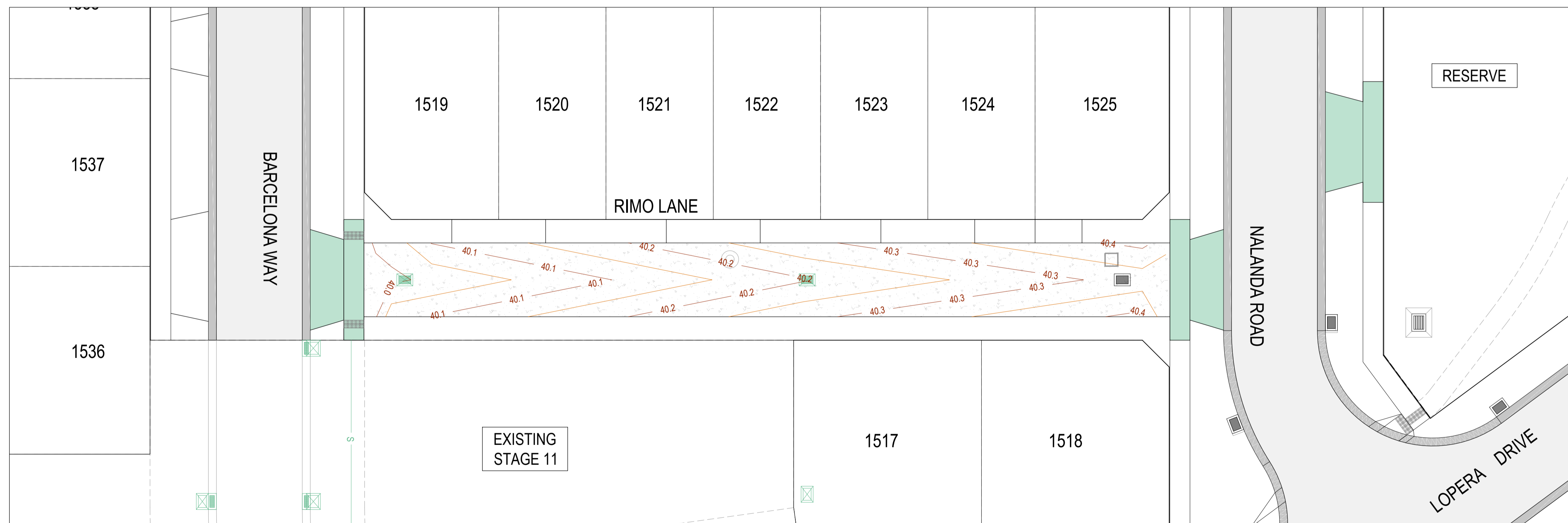
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**NOT FOR CONSTRUCTION**

SCALE @ A1: 1:200

DESIGNED	S.M.	PROJECT ENGINEER	S.M.
DRAWN	S.M.	PROJECT MANAGER	M.T.
PROJECT No.	<b>200282.15</b>	DRAWING No.	<b>R900</b>
REVISION			<b>B</b>



CONCRETE JOINTING LAYOUT PLAN - RIMO LANE  
SCALE 1:200 @ A1

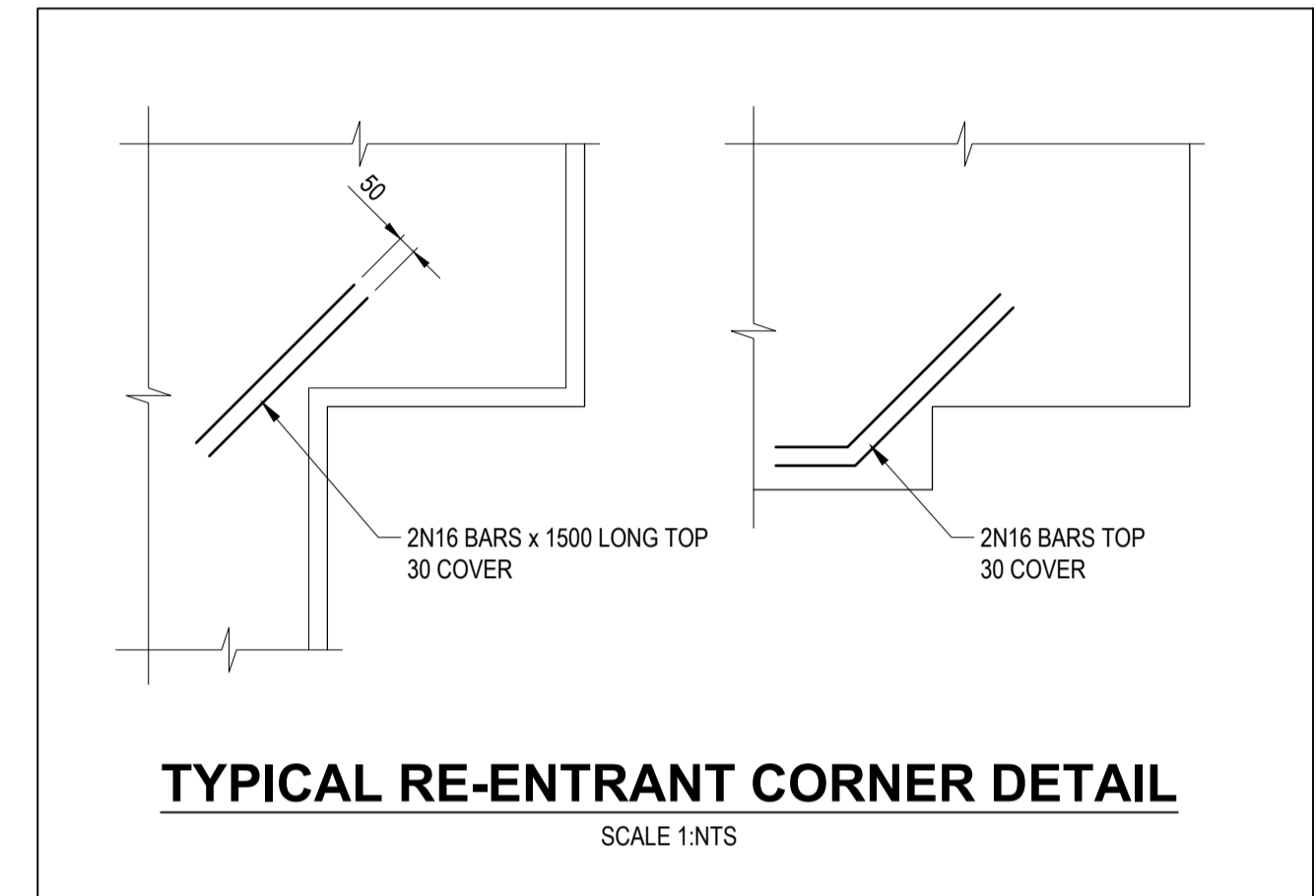


CONCRETE CONTOUR PLAN - RIMO LANE  
SCALE 1:200 @ A1

**LEGEND**

CONCRETE JOINTING PLAN:

- STORMWATER DRAIN, PIT & PROPERTY INLET
- MELBOURNE WATER DRAIN
- SWALE DRAIN
- SEWER & MAINTENANCE STRUCTURES
- BRANCH SEWER
- HOUSE DRAIN
- TACTILE PAVERS
- EXISTING HOUSE DRAIN
- RETAINING WALL
- PAVEMENT TREATMENT
- CONCRETE EDGE STRIP WITH SUBSOIL DRAIN, "NO ROAD" SIGN & BARRIER
- LIMIT OF WORKS
- EXISTING TREE TO BE REMOVED
- PERMANENT SURVEY MARK
- TEMPORARY BENCH MARK
- PROPOSED DRIVEWAY
- MINOR CONTOUR
- MAJOR CONTOUR



**CONCRETE JOINT LEGEND**

- I.J. ISOLATION JOINT
- W.P.J. WEAKENED PLANE JOINT
- E.J. EXPANSION CONTROL JOINT (12m Max)

FOR JOINT DETAILS REFER STD DWG EDCEM 401 & 402

**NOTE:**

1. CONTRACTOR TO PROVIDE 1.2m x 1.2m UNPAVED PUBLIC LIGHTING AREAS WITHIN LANEWAYS. CONTRACTOR TO REFER LATEST ELECTRICAL DRAWINGS FOR INFORMATION.

**Planning and Environment Act 1987  
Wyndham Planning Scheme**

**Approved Plan As Required  
under Condition 40  
Permit No WYP10817/18  
Date 13/09/2024**

**WARNING**  
**BEWARE OF UNDERGROUND & OVERHEAD SERVICES**

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REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED
C	18/07/24	COUNCIL COMMENTS	A.W.	A.W.	M.T.
B	30/05/24	AMENDED LOTS ORIENTATION - LOT1517/1518	S.M.	A.W.	M.T.
A	17/05/24	ISSUED FOR TENDER	S.M.	S.M.	M.T.

CLIENT

**villawood**  
properties  
Communities Designed for Living

PROJECT

**creo**  
CIVIL  
Level 7, 176 Wellington Parade  
East Melbourne, VIC, Australia 3002

DRAWING TITLE

**ALAMORA - STAGE 15  
CONCRETE JOINTING PLAN - 2**

STATUS

**ISSUED FOR APPROVAL  
NOT FOR CONSTRUCTION**

SCALE @ A1 : 1:200

DESIGNED

S.M.

DRAWN

S.M.

PROJECT No.

**200282.15**

PROJECT ENGINEER

S.M.

PROJECT MANAGER

M.T.

DRAWING No.

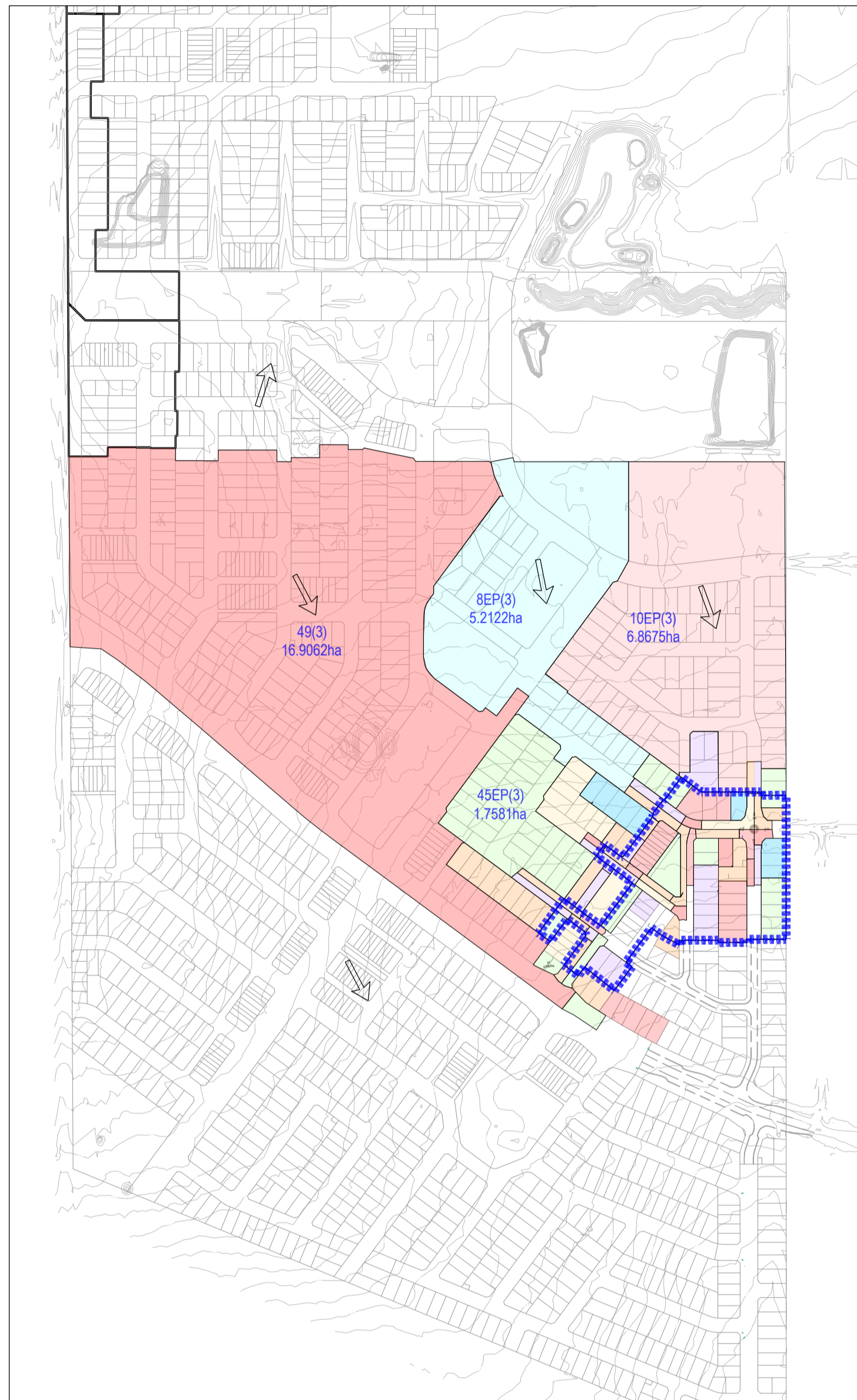
**R901**

REVISION

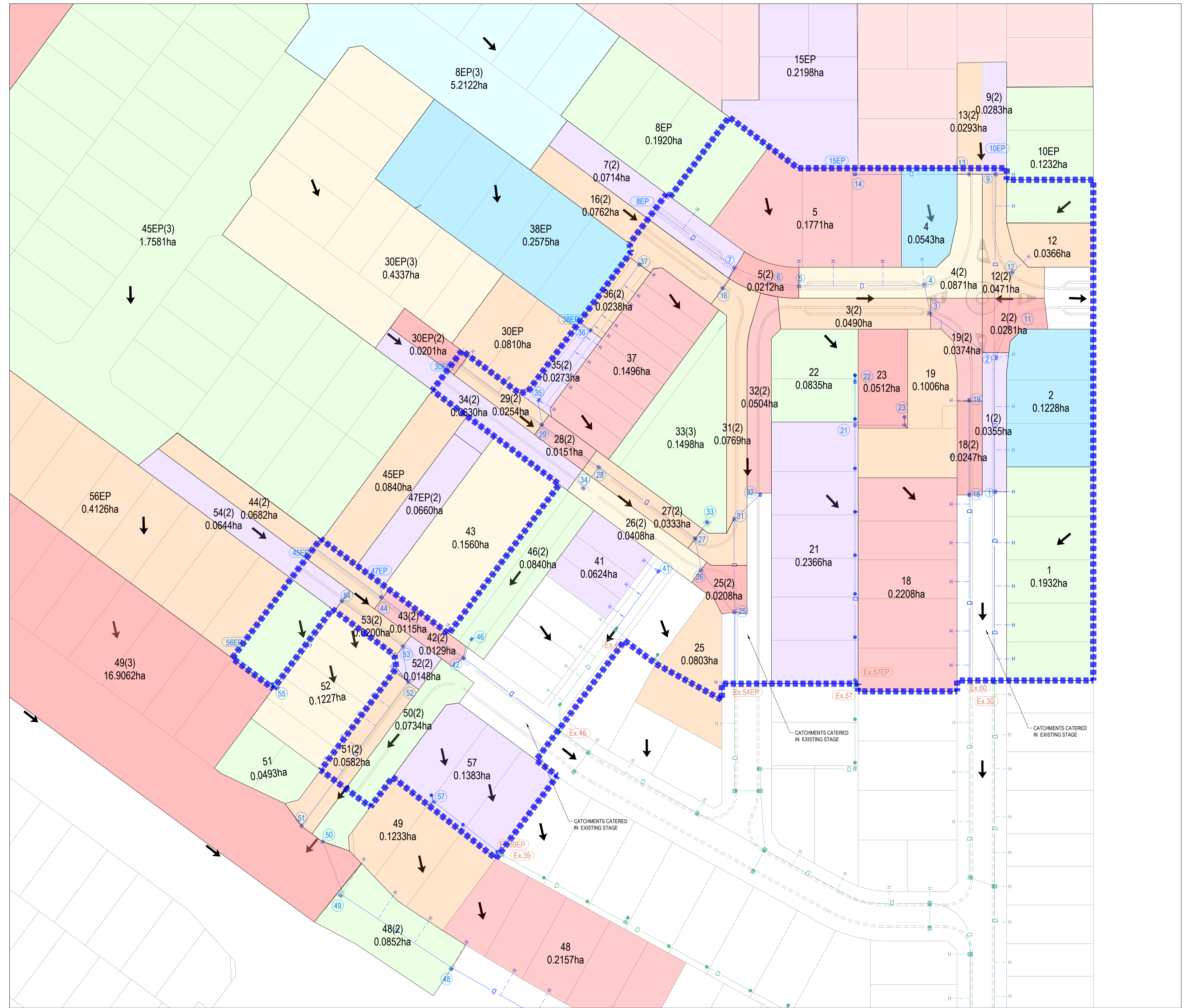
**C**



OVERALL CATCHMENT



LEGEND	
	PROPOSED DRAINAGE ALIGNMENT
	EXISTING DRAINAGE ALIGNMENT



REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED
A	24/05/24	ISSUED FOR APPROVAL	SM	AW	ES

CLIENT

**villawood**  
properties  
Communities Designed for Living

CLIENT

**creo**  
CONSULTANTS  
Level 7, 176 Wellington Parade  
East Melbourne, VIC, Australia 3002

PROJECT

**ALAMORA**  
Tarnet

DRAWING TITLE

**ALAMORA - STAGE 15  
Q5 CATCHMENT PLAN**

STATUS

**ISSUED FOR APPROVAL  
NOT FOR CONSTRUCTION**

SCALE @ A1: 1:750

DESIGNED	S.M	PROJECT ENGINEER	A.W
DRAWN	S.M	PROJECT MANAGER	M.T
PROJECT No.	<b>200282.15</b>	DRAWING No.	<b>C200</b>
REVISION			<b>A</b>

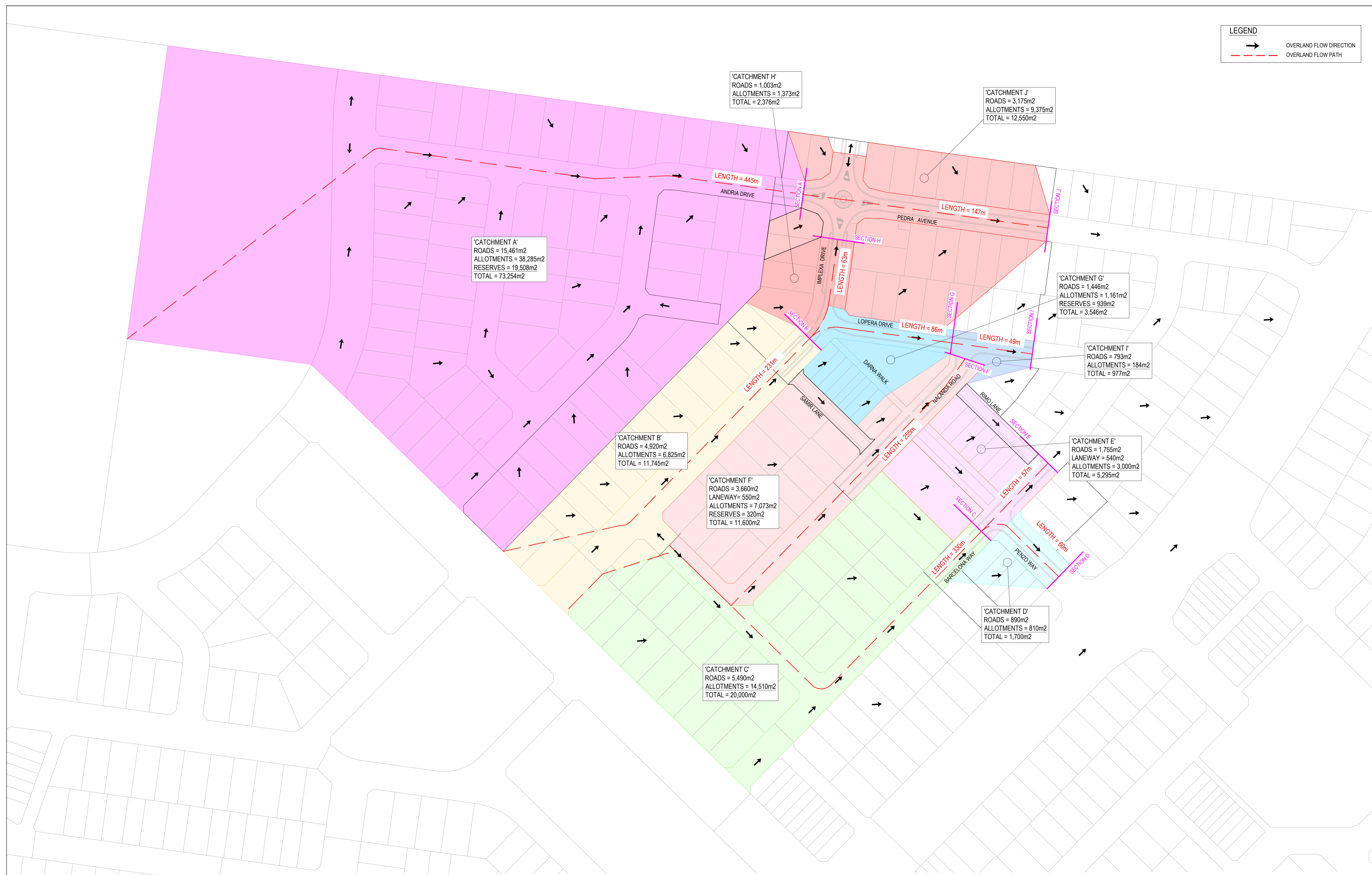
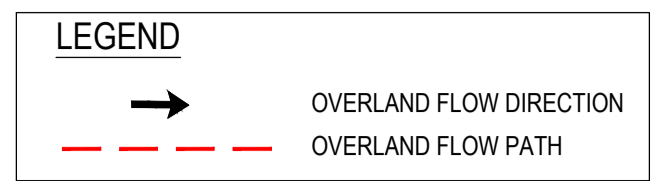


Alamora - STAGE 15  
DRAINAGE COMPUTATIONS - HYDROLOGY

DATE:	24/05/2024
REVISION:	A



Pit	Pit Type	Setout			Catch ID	Tc (min)	Intensity (mm/hr)	CofR	Area (ha)	Ae (ha)	Sum Ae (ha)	Approach Flow l/s
		Easting (m)	Northing (m)	RL (m)								
Ex.30	ExpIT	292318.39	5807574.26	39.35								
1	SEP	292326.82	5807635.28	39.66	1P	5	82.4	0.71	0.1932	0.1377	0.1626	37.2
					2P	5	82.4	0.7	0.0355	0.0248		
2	SEP	292332.74	5807678.13	39.8	1P	5	82.4	0.71	0.1228	0.0876	0.1072	24.5
					2P	5	82.4	0.7	0.0281	0.0197		
3	SEP	292313.9	5807694.97	40.19	2P	5	82.4	0.57	0.049	0.028	0.028	6.4
4	SEP	292313.48	5807704.48	40.21	1P	5	82.4	0.71	0.0543	0.0387	0.0997	22.8
					2P	5	82.4	0.7	0.0871	0.0609		
5	SEP	292273.3	5807709.79	40.43	1P	5	82.4	0.71	0.1771	0.1263	0.1384	31.7
					2P	5	82.4	0.57	0.0212	0.0121		
6	JP	292263.93	5807712.17	40.49								
7	SEP	292253.56	5807718.47	40.55	2P	5	82.4	0.57	0.0714	0.0409	0.0409	9.4
8EP	ENDPIPE	292230.74	5807740.73	40.61	1P	9.8	62.62	0.71	0.192	0.1369	3.16	549.7
					3P	5	82.4	0.58	5.2122	3.0231		
9	SEP	292341.3	5807736.85	40.63	2P	5	82.4	0.7	0.0283	0.0198	0.0198	4.5
10EP	ENDPIPE	292341.63	5807739.23	40.64	1P	8.5	67.98	0.71	0.1232	0.0878	3.7276	703.9
					3P	5	82.4	0.53	6.8675	3.6398		
11	JP	292338.49	5807687.4	40.14								
12	SEP	292342.14	5807704.67	40.36	1P	5	82.4	0.71	0.0366	0.0261	0.0591	13.5
					2P	5	82.4	0.7	0.0471	0.033		
13	SEP	292332.73	5807738.03	40.62	2P	5	82.4	0.57	0.0293	0.0167	0.0167	3.8
14	JP	292296.18	5807743.08	41.4								
15EP	ENDPIPE	292296.51	5807745.46	41.42	1P	5.1	81.99	0.71	0.2198	0.1567	0.1567	35.7
16	SEP	292248.76	5807712.42	40.54	2P	5	82.4	0.57	0.0762	0.0436	0.0436	10
Ex.60	ExpIT	292310.27	5807575.38	39.36								
18	SEP	292318.56	5807635.41	39.67	1P	5	82.4	0.71	0.2208	0.1574	0.1747	40
					2P	5	82.4	0.7	0.0247	0.0173		
19	SEP	292322.73	5807665.62	39.82	1P	5	82.4	0.71	0.1006	0.0717	0.0931	21.3
					2P	5	82.4	0.57	0.0374	0.0214		
Ex.57	ExpIT	292273.53	5807579.04	39.81								
Ex.57EP	ExpEP	292273.8	5807581.02	39.82								
21	JP	292285.09	5807662.74	40.24	1P	5	82.4	0.71	0.2366	0.1687	0.1687	38.6
22	JP	292287	5807676.61	40.4	1P	5	82.4	0.71	0.0835	0.0596	0.0596	13.6
23	JP	292300.94	5807660.56	40.14	1P	5	82.4	0.71	0.0512	0.0365	0.0365	8.4
Ex.54EP	ExpEP	292235.08	5807585.36	39.81								
25	SEP	292238.26	5807608.37	39.93	1P	5	82.4	0.71	0.0803	0.0572	0.0691	15.8
					2P	5	82.4	0.57	0.0208	0.0119		
26	SEP	292229.32	5807623.11	40.11	2P	5	82.4	0.57	0.0408	0.0234	0.0234	5.3
27	SEP	292228.94	5807633.53	40.18	2P	5	82.4	0.57	0.0333	0.019	0.019	4.4
28	SEP	292201.25	5807660.63	40.38	2P	5	82.4	0.57	0.0151	0.0086	0.0086	2
29	SEP	292184.85	5807676.68	40.49	2P	5	82.4	0.57	0.0254	0.0145	0.0145	3.3
30EP	ENDPIPE	292159.83	5807701.16	40.67	1P	6.2	77.46	0.71	0.081	0.0577	0.3728	80.2
					2P	5	82.4	0.57	0.0201	0.0115		
					3P	5	82.4	0.7	0.4337	0.3036		
31	SEP	292242.21	5807638.07	40.08	2P	5	82.4	0.57	0.0769	0.044	0.044	10.1
32	SEP	292251.7	5807644.64	40.13	2P	5	82.4	0.57	0.0504	0.0288	0.0288	6.6
33	GP	292232.43	5807637.11	39.96	3P	5	82.4	0.32	0.1498	0.0485	0.0485	11.1
34	SEP	292195.3	5807654.55	40.38	2P	5	82.4	0.57	0.063	0.036	0.036	8.2
35	GP	292185.01	5807684.71	40.68	2P	5	82.4	0.9	0.0273	0.0246	0.0246	5.6
36	GP	292204.63	5807704.76	40.83	2P	5	82.4	0.9	0.0238	0.0214	0.0214	4.9
37	JP	292223.17	5807723.69	40.96	1P	5	82.4	0.71	0.1496	0.1067	0.1067	24.4
38EP	ENDPIPE	292201.41	5807707.9	40.95	1P	5.5	80.34	0.71	0.2575	0.1836	0.1836	41
Ex.48	ExpIT	292199.31	5807607.82	40.2								
41	JP	292215.75	5807624.61	40.31	1P	5	82.4	0.71	0.0624	0.0445	0.0445	10.2
Ex.46	ExpIT	292177.2	5807577.93	39.81								
42	SEP	292149.56	5807605.52	40.02	2P	5	82.4	0.57	0.025	0.0143	0.0143	3.3
44	SEP	292125.93	5807628.63	40.19	2P	5	82.4	0.57	0.0682	0.039	0.039	8.9
45EP	ENDPIPE	292106.57	5807647.46	40.33	1P	7.9	70.45	0.71	0.084	0.0599	1.2027	235.4
					3P	5	82.4	0.65	1.7581	1.1428		
46	GP	292152.95	5807611.22	40.03	1P	5	82.4	0.71	0.156	0.1112	0.1448	33.1
					2P	5	82.4	0.4	0.084	0.0336		
47EP	ENDPIPE	292125.84	5807634.25	40.34	2P	5	82.4	0.57	0.066	0.0378	0.0378	8.6
Ex.25	ExpIT	292180.73	5807469.8	38.56								
48	SEP	292132.16	5807506.97	38.87	1P	5	82.4	0.71	0.2157	0.1538	0.2025	46.4
					2P	5	82.4	0.57	0.0852	0.0487		
49	SEP	292099.91	5807535.33	39.08	1P	5	82.4	0.71	0.1233	0.0879	11.0769	1758.8
					3P	12	57.16	0.65	16.9062	10.989		
50	SEP	292096.31	5807552.97	39.41	2P	5	82.4	0.57	0.0734	0.042	0.042	9.6
51	SEP	292090.23	5807558.92	39.41	1P	5	82.4	0.71	0.0493	0.0352	0.0684	15.7
					2P	5	82.4	0.57	0.0582	0.0333		
52	SEP	292130.79	5807600.37	39.82	1P	5	82.4	0.71	0.1227	0.0875	0.096	22
					2P	5	82.4	0.57	0.0148	0.0085		
53	SEP	292130.67	5807611.89	40.11	2P	5	82.4	0.57	0.02	0.0115	0.0115	2.6
54	SEP	292113.09	5807629.1	40.23	2P	5	82.4	0.57	0.0644	0.0368	0.0368	8.4
55	JP	292088.68	5807604.15	40.03								
56EP	ENDPIPE	292076.17	5807616.39	40.14	1P	6	78.28	0.71	0.4126	0.2942	0.2942	64
Ex.39	ExpIT	292153.24	5807540.75	39.63								
Ex.39EP	ExpEP	292151.85	5807542.19	39.64								
57	JP	292133.71	5807560.81	39.73	1P	5	82.4	0.71	0.1383	0.0986	0.0986	22.6



REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED
A	24/05/24	ISSUED FOR APPROVAL	SM	AW	MT



**ALAMORA - STAGE 15**  
**Q100 CATCHMENT PLAN**

**ISSUED FOR APPROVAL**  
**NOT FOR CONSTRUCTION**

SCALE @ A1: 1:1000

DESIGNED	S.M	PROJECT ENGINEER	A.W
DRAWN	S.M	PROJECT MANAGER	M.T
PROJECT No.	<b>200282.15</b>	DRAWING No.	<b>C100</b>
REVISION			<b>A</b>

Project:	Alamora Stage 15
Job No.:	200282.15
Council:	WYNDHAM
Region:	SOUTH WEST / WEST REGION
Design Standard:	GAA

Residential high: High densities. (Allotment size <450m2)  
 Road Zone Category 1: Major roads and freeways.  
 Road Zone Category 2: Secondary and local roads.  
 Main zone for public open space, incl. golf courses.



Prepared by: S.Murad  
 Revision: A  
 Date: 24/05/2024

ZONE	Residential	Roads	Roads	Public Land
LAND USE	Residential high	Road Zone Category 1	Road Zone Category 2	Public Park and Recreation Zone
C5	0.71	0.86	0.57	0.32
C10	0.75	0.90	0.60	0.34
C100	0.90	1.00	0.72	0.41

CATCHMENT AREAS	ha	ha	ha	ha	Sub Area
A	3.83		1.55	1.95	7.33
B	0.68		0.49		1.17
C	1.45		0.55		2.00
D	0.08		0.09		0.17
E	0.30	0.05	0.18		0.53
F	0.71	0.06	0.37	0.03	1.16
G	0.12		0.14	0.09	0.35
H	0.14		0.10		0.24
I	0.02		0.08		0.10
J	0.94		0.32		1.26
<b>TOTAL</b>	<b>8.26</b>	<b>0.11</b>	<b>3.86</b>	<b>2.08</b>	<b>14.3046</b>

NODE	DESCRIPTION	CONTRIBUTING CATCHMENTS	Residential high ha	Road Zone Category 1 ha	Road Zone Category 2 ha	Public Park and Recreation Zone ha	Total Area ha	CATCHMENT RATIONAL METHOD			Tc Method	Sub-catchment tc w/o Sat. min	TIME OF CONCENTRATION		5 YEAR FLOW			100 YEAR FLOW			PIPE ARI	GAP FLOW EXCESS Q100 - QPIPE m³/s
								Length m	Velocity m/s	Saturation Time min			Critical Catchment	Calculated Tc min	A <sub>c</sub> ha	I mm/hr	Q m³/s	A <sub>c</sub> ha	I mm/hr	Q m³/s		
A	SECTION A	A	3.83		1.55	1.95	7.33	456	0.9	5	RATIONAL METHOD	8.3	A	13.3	4.25	53.6	0.63	5.36	112.9	1.68	5 YEAR FLOW	1.050
B	SECTION B	B	0.68		0.49		1.17	231	0.7	5	RATIONAL METHOD	5.5	B	10.5	0.77	60.4	0.13	0.97	126.8	0.34	5 YEAR FLOW	0.213
C	SECTION C	C	1.45		0.55		2.00	330	0.8	5	RATIONAL METHOD	6.9	C	11.9	1.35	56.8	0.21	1.70	119.4	0.57	5 YEAR FLOW	0.352
D	SECTION D	(C/2) + D	0.81		0.36		1.17	60	0.8	5	RATIONAL METHOD	1.3	C	13.1	0.78	53.9	0.12	0.99	113.5	0.31	5 YEAR FLOW	0.195
E	SECTION E	(C/2) + E	1.03	0.05	0.45		1.53	57	0.7	5	RATIONAL METHOD	1.3	C	13.2	1.03	53.8	0.15	1.30	113.3	0.41	5 YEAR FLOW	0.255
F	SECTION F	F	0.71	0.06	0.37	0.03	1.16	255	0.7	5	RATIONAL METHOD	6.1	F	11.1	0.77	58.8	0.13	0.97	123.6	0.33	5 YEAR FLOW	0.207
G	SECTION G	(B/2) + G	0.46		0.39	0.09	0.94	86	0.6	5	RATIONAL METHOD	2.4	B	12.9	0.58	54.4	0.09	0.73	114.6	0.23	5 YEAR FLOW	0.145
H	SECTION H	(B/2) + H	0.48		0.35		0.82	75	0.5	5	RATIONAL METHOD	2.5	B	13.0	0.54	54.2	0.08	0.68	114.1	0.22	5 YEAR FLOW	0.135
I	SECTION I	(B/2)+F+G+H	1.18	0.06	0.84	0.13	2.20	49	0.8	5	RATIONAL METHOD	1.0	G	13.9	1.41	52.3	0.20	1.78	110.1	0.54	5 YEAR FLOW	0.339
J	SECTION J	(B/2)+A+H+J	5.24		2.21	1.95	9.41	137	0.9	5	RATIONAL METHOD	2.7	A	15.9	5.64	48.6	0.76	7.12	102.4	2.03	5 YEAR FLOW	1.264

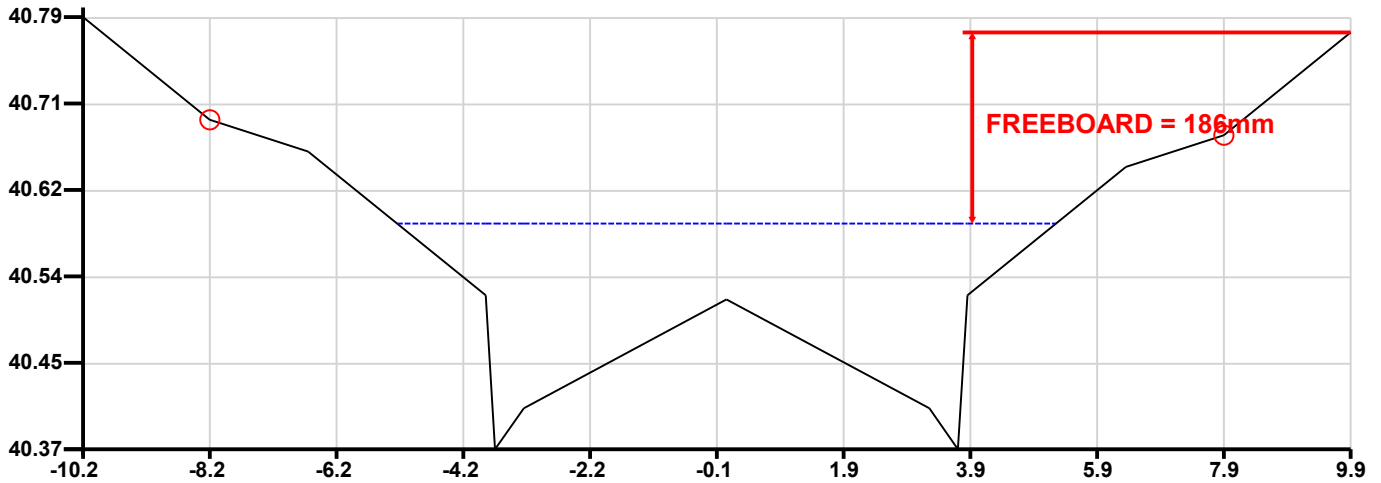
**PROJECT: Alamora Stage 15**

**Section A Ch24.19**

Print-out date: 08/05/2024 - Time: 10:14

Data File: Section A Ch24.190 Andria Drive.dat

**1. CROSS-SECTION:**



**2. DISCHARGE INFORMATION:**

100 year (1%) storm event

Total discharge = 1.05 cumecs

There is no pipe discharge

Overland / Channel / Watercourse discharge = 1.050 cumecs

**3. RESULTS: Water surface elevation = 40.590m**

Main Waterway grade = 1 in 160, Main Channel / Low Flow Channel grade = 1 in 160.

	LEFT OVERBANK	MAIN CHANNEL	RIGHT OVERBANK	TOTAL CROSS-SECTION
Discharge (cumecs):	0.00	1.05	0.00	1.05
D(Max) = Max. Depth (m):	0.00	0.22	0.00	0.22
D(Ave) = Ave. Depth (m):	0.00	0.11	0.00	0.11
V = Ave. Velocity (m/s):	0.00	0.92	0.00	0.92
D(Max) x V (cumecs/m):	0.00	0.20	0.00	0.20
D(Ave) x V (cumecs/m):	0.00	0.10	0.00	0.10
Froude Number:	0.00	0.89	0.00	0.89
Area (m <sup>2</sup> ):	0.00	1.13	0.00	1.13
Wetted Perimeter (m):	0.00	10.53	0.00	10.53
Flow Width (m):	0.00	10.40	0.00	10.40
Hydraulic Radius (m):	0.00	0.11	0.00	0.11
Composite Manning's n:	0.000	0.019	0.000	0.019
Split Flow?	-	-	-	No

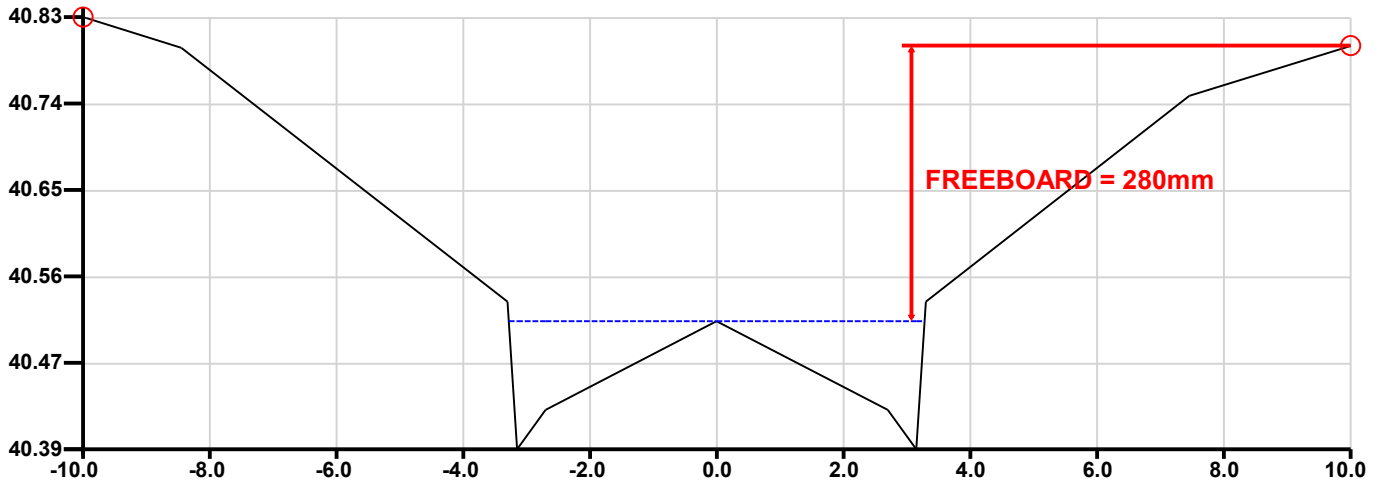
**4. CROSS-SECTION DATA:**

SEGMENT NO.	LEFT HAND POINT		RIGHT HAND POINT		MANNING'S N
	CHAINAGE (m)	R.L. (m)	CHAINAGE (m)	R.L. (m)	
1	-10.150	40.791	-8.150	40.691	0.035
2	-8.150	40.691	-8.100	40.690	0.035
3	-8.100	40.690	-6.600	40.660	0.013
4	-6.600	40.660	-3.800	40.520	0.020
5	-3.800	40.520	-3.650	40.370	0.013
6	-3.650	40.370	-3.200	40.410	0.013
7	-3.200	40.410	0.000	40.516	0.015
8	0.000	40.516	3.200	40.410	0.015
9	3.200	40.410	3.650	40.370	0.013
10	3.650	40.370	3.800	40.520	0.013
11	3.800	40.520	6.300	40.645	0.035
12	6.300	40.645	7.800	40.675	0.013

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	7.800	40.675	7.850	40.676	0.035
14	7.850	40.676	9.850	40.776	0.035

1. CROSS-SECTION:



2. DISCHARGE INFORMATION:

100 year (1%) storm event

Total discharge = 0.213 cumecs

There is no pipe discharge

Overland / Channel / Watercourse discharge = 0.213 cumecs

3. RESULTS: Water surface elevation = 40.517m

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

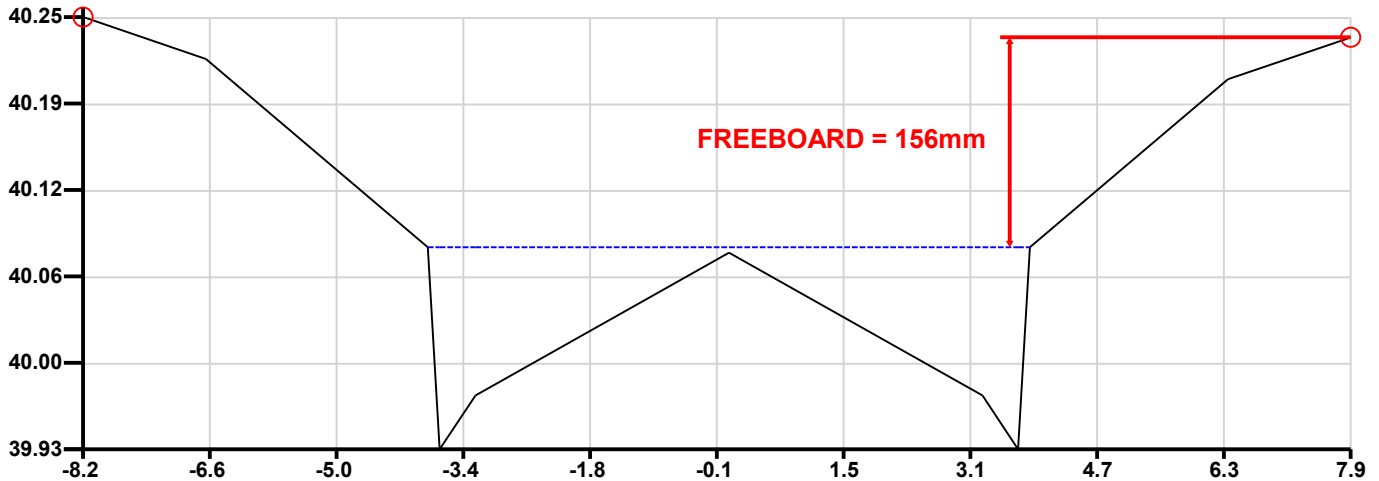
	LEFT OVERBANK	MAIN CHANNEL	RIGHT OVERBANK	TOTAL CROSS-SECTION
Discharge (cumecs):	0.00	0.25	0.00	0.25
D(Max) = Max. Depth (m):	0.00	0.13	0.00	0.13
D(Ave) = Ave. Depth (m):	0.00	0.05	0.00	0.05
V = Ave. Velocity (m/s):	0.00	0.69	0.00	0.69
D(Max) x V (cumecs/m):	0.00	0.09	0.00	0.09
D(Ave) x V (cumecs/m):	0.00	0.04	0.00	0.04
Froude Number:	0.00	0.94	0.00	N/A
Area (m <sup>2</sup> ):	0.00	0.36	0.00	0.36
Wetted Perimeter (m):	0.00	6.67	0.00	6.67
Flow Width (m):	0.00	6.56	0.00	6.56
Hydraulic Radius (m):	0.00	0.05	0.00	0.05
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	-10.000	40.826	-9.950	40.825	0.020
2	-9.950	40.825	-8.450	40.795	0.013
3	-8.450	40.795	-3.300	40.537	0.020
4	-3.300	40.537	-3.150	40.387	0.013
5	-3.150	40.387	-2.700	40.427	0.013
6	-2.700	40.427	0.000	40.517	0.015
7	0.000	40.517	2.700	40.427	0.015
8	2.700	40.427	3.150	40.387	0.013
9	3.150	40.387	3.300	40.537	0.013
10	3.300	40.537	7.460	40.746	0.020
11	7.460	40.746	9.960	40.796	0.013
12	9.960	40.796	10.010	40.797	0.020



1. CROSS-SECTION:



2. DISCHARGE INFORMATION:

100 year (1%) storm event

Total discharge = 0.352 cumecs

There is no pipe discharge

Overland / Channel / Watercourse discharge = 0.352 cumecs

3. RESULTS: Water surface elevation = 40.081m

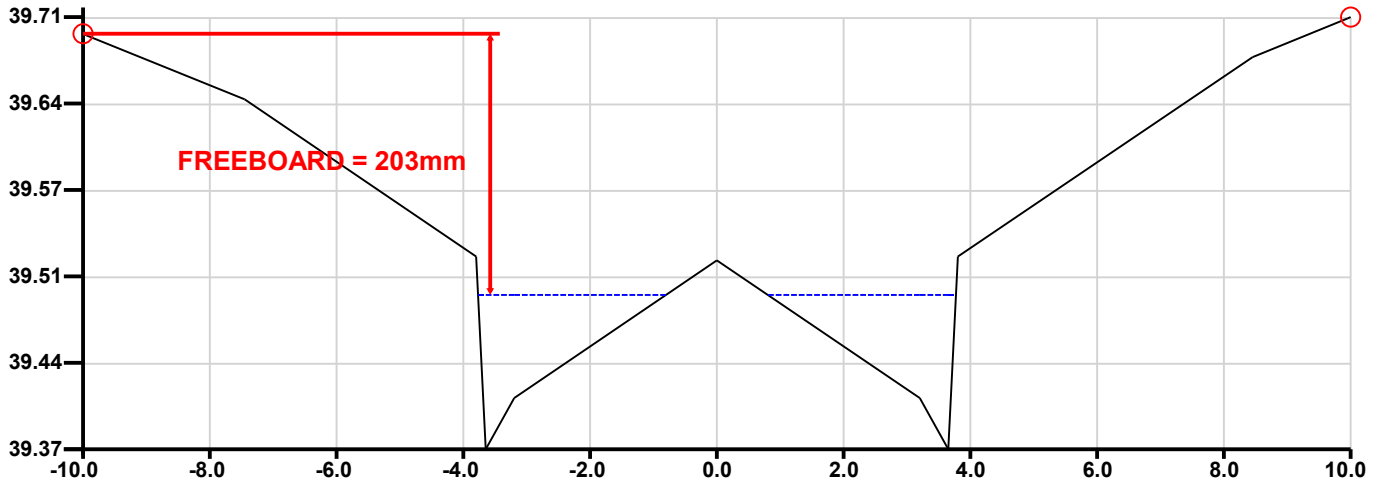
Main Waterway grade = 1 in 200, Main Channel / Low Flow Channel grade = 1 in 200.

	LEFT OVERBANK	MAIN CHANNEL	RIGHT OVERBANK	TOTAL CROSS-SECTION
Discharge (cumecs):	0.00	0.39	0.00	0.39
D(Max) = Max. Depth (m):	0.00	0.15	0.00	0.15
D(Ave) = Ave. Depth (m):	0.00	0.07	0.00	0.07
V = Ave. Velocity (m/s):	0.00	0.78	0.00	0.78
D(Max) x V (cumecs/m):	0.00	0.12	0.00	0.12
D(Ave) x V (cumecs/m):	0.00	0.05	0.00	0.05
Froude Number:	0.00	0.97	0.00	0.97
Area (m <sup>2</sup> ):	0.00	0.50	0.00	0.50
Wetted Perimeter (m):	0.00	7.73	0.00	7.73
Flow Width (m):	0.00	7.60	0.00	7.60
Hydraulic Radius (m):	0.00	0.07	0.00	0.07
Composite Manning's n:	0.000	0.015	0.000	0.015
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	-8.150	40.252	-8.100	40.251	0.035
2	-8.100	40.251	-6.600	40.221	0.013
3	-6.600	40.221	-3.800	40.081	0.020
4	-3.800	40.081	-3.650	39.931	0.013
5	-3.650	39.931	-3.200	39.971	0.013
6	-3.200	39.971	0.000	40.077	0.015
7	0.000	40.077	3.200	39.971	0.015
8	3.200	39.971	3.650	39.931	0.013
9	3.650	39.931	3.800	40.081	0.013
10	3.800	40.081	6.300	40.206	0.035
11	6.300	40.206	7.800	40.236	0.013
12	7.800	40.236	7.850	40.237	0.035

1. CROSS-SECTION:



2. DISCHARGE INFORMATION:

100 year (1%) storm event

Total discharge = 0.195 cumecs

There is no pipe discharge

Overland / Channel / Watercourse discharge = 0.195 cumecs

3. RESULTS: Water surface elevation = 39.493m

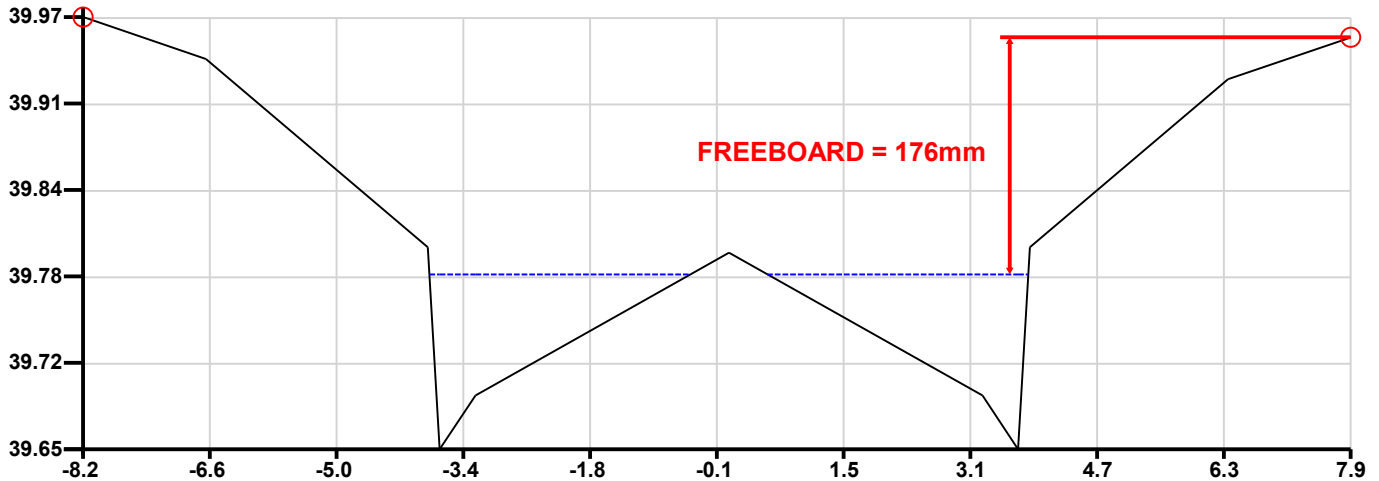
Main Waterway grade = 1 in 140, Main Channel / Low Flow Channel grade = 1 in 140.

	LEFT OVERBANK	MAIN CHANNEL	RIGHT OVERBANK	TOTAL CROSS-SECTION
Discharge (cumecs):	0.00	0.23	0.00	0.23
D(Max) = Max. Depth (m):	0.00	0.12	0.00	0.12
D(Ave) = Ave. Depth (m):	0.00	0.05	0.00	0.05
V = Ave. Velocity (m/s):	0.00	0.78	0.00	0.78
D(Max) x V (cumecs/m):	0.00	0.09	0.00	0.09
D(Ave) x V (cumecs/m):	0.00	0.04	0.00	0.04
Froude Number:	0.00	1.11	0.00	N/A
Area (m <sup>2</sup> ):	0.00	0.30	0.00	0.30
Wetted Perimeter (m):	0.00	6.03	0.00	6.03
Flow Width (m):	0.00	5.93	0.00	5.93
Hydraulic Radius (m):	0.00	0.05	0.00	0.05
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	-10.000	39.696	-9.950	39.695	0.035
2	-9.950	39.695	-7.450	39.645	0.013
3	-7.450	39.645	-3.800	39.523	0.020
4	-3.800	39.523	-3.650	39.373	0.013
5	-3.650	39.373	-3.200	39.413	0.013
6	-3.200	39.413	0.000	39.520	0.015
7	0.000	39.520	3.200	39.413	0.015
8	3.200	39.413	3.650	39.373	0.013
9	3.650	39.373	3.800	39.523	0.013
10	3.800	39.523	8.450	39.678	0.020
11	8.450	39.678	9.950	39.708	0.013
12	9.950	39.708	10.000	39.709	0.035

1. CROSS-SECTION:



2. DISCHARGE INFORMATION:

100 year (1%) storm event

Total discharge = 0.255 cumecs

There is no pipe discharge

Overland / Channel / Watercourse discharge = 0.255 cumecs

3. RESULTS: Water surface elevation = 39.782m

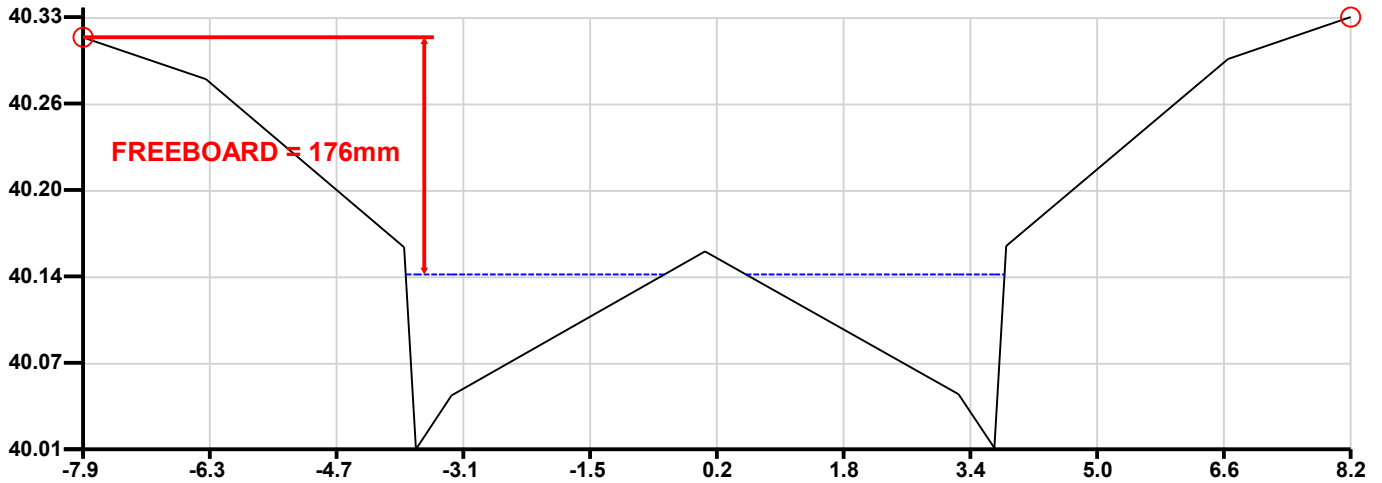
Main Waterway grade = 1 in 200, Main Channel / Low Flow Channel grade = 1 in 200.

	LEFT OVERBANK	MAIN CHANNEL	RIGHT OVERBANK	TOTAL CROSS-SECTION
Discharge (cumecs):	0.00	0.25	0.00	0.25
D(Max) = Max. Depth (m):	0.00	0.13	0.00	0.13
D(Ave) = Ave. Depth (m):	0.00	0.05	0.00	0.05
V = Ave. Velocity (m/s):	0.00	0.69	0.00	0.69
D(Max) x V (cumecs/m):	0.00	0.09	0.00	0.09
D(Ave) x V (cumecs/m):	0.00	0.04	0.00	0.04
Froude Number:	0.00	0.94	0.00	N/A
Area (m <sup>2</sup> ):	0.00	0.36	0.00	0.36
Wetted Perimeter (m):	0.00	6.71	0.00	6.71
Flow Width (m):	0.00	6.59	0.00	6.59
Hydraulic Radius (m):	0.00	0.05	0.00	0.05
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	-8.150	39.973	-8.100	39.972	0.035
2	-8.100	39.972	-6.600	39.942	0.013
3	-6.600	39.942	-3.800	39.802	0.020
4	-3.800	39.802	-3.650	39.652	0.013
5	-3.650	39.652	-3.200	39.692	0.013
6	-3.200	39.692	0.000	39.798	0.015
7	0.000	39.798	3.200	39.692	0.015
8	3.200	39.692	3.650	39.652	0.013
9	3.650	39.652	3.800	39.802	0.013
10	3.800	39.802	6.300	39.927	0.035
11	6.300	39.927	7.800	39.957	0.013
12	7.800	39.957	7.850	39.958	0.035

**1. CROSS-SECTION:**



**2. DISCHARGE INFORMATION:**

100 year (1%) storm event

Total discharge = 0.207 cumecs

There is no pipe discharge

Overland / Channel / Watercourse discharge = 0.207 cumecs

**3. RESULTS: Water surface elevation = 40.137m**

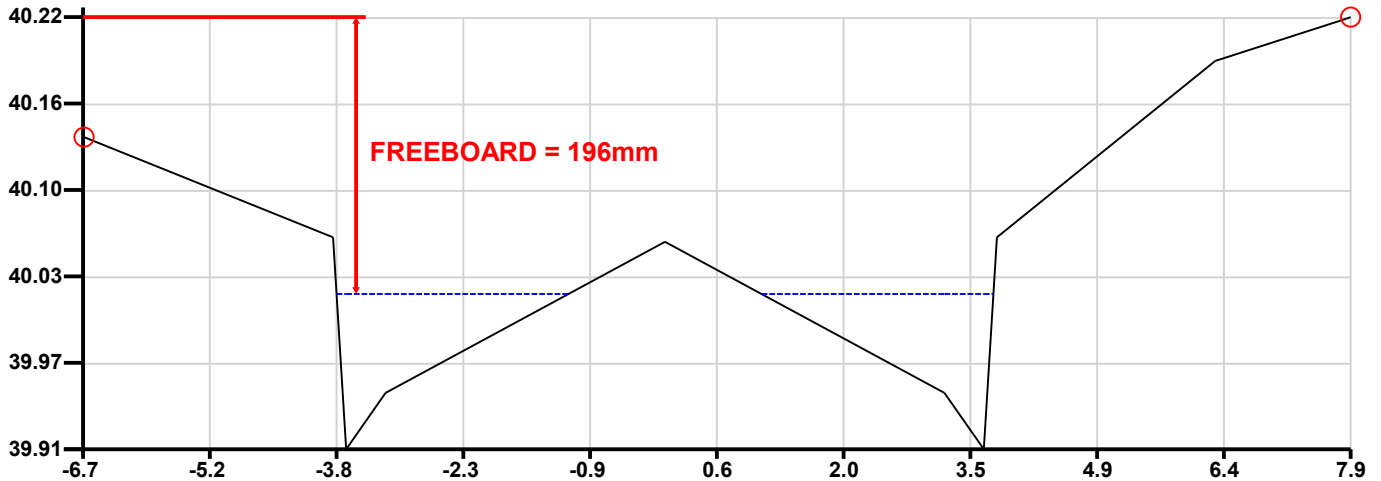
Main Waterway grade = 1 in 200, Main Channel / Low Flow Channel grade = 1 in 200.

	LEFT OVERBANK	MAIN CHANNEL	RIGHT OVERBANK	TOTAL CROSS-SECTION
Discharge (cumecs):	0.00	0.24	0.00	0.24
D(Max) = Max. Depth (m):	0.00	0.13	0.00	0.13
D(Ave) = Ave. Depth (m):	0.00	0.05	0.00	0.05
V = Ave. Velocity (m/s):	0.00	0.69	0.00	0.69
D(Max) x V (cumecs/m):	0.00	0.09	0.00	0.09
D(Ave) x V (cumecs/m):	0.00	0.04	0.00	0.04
Froude Number:	0.00	0.94	0.00	N/A
Area (m <sup>2</sup> ):	0.00	0.36	0.00	0.36
Wetted Perimeter (m):	0.00	6.65	0.00	6.65
Flow Width (m):	0.00	6.54	0.00	6.54
Hydraulic Radius (m):	0.00	0.05	0.00	0.05
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	-7.850	40.313	-7.800	40.312	0.035
2	-7.800	40.312	-6.300	40.282	0.013
3	-6.300	40.282	-3.800	40.157	0.020
4	-3.800	40.157	-3.650	40.007	0.013
5	-3.650	40.007	-3.200	40.047	0.013
6	-3.200	40.047	0.000	40.154	0.015
7	0.000	40.154	3.200	40.048	0.015
8	3.200	40.048	3.650	40.008	0.013
9	3.650	40.008	3.800	40.158	0.013
10	3.800	40.158	6.600	40.297	0.035
11	6.600	40.297	8.100	40.327	0.013
12	8.100	40.327	8.150	40.328	0.035

1. CROSS-SECTION:



2. DISCHARGE INFORMATION:

100 year (1%) storm event

Total discharge = 0.145 cumecs

There is no pipe discharge

Overland / Channel / Watercourse discharge = 0.145 cumecs

3. RESULTS: Water surface elevation = 40.022m

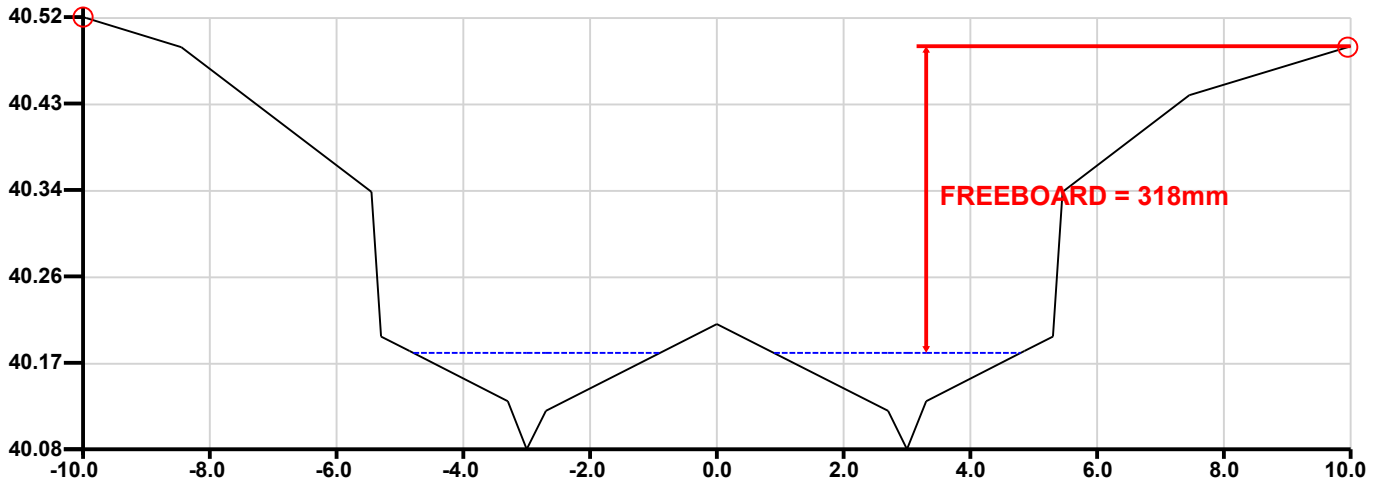
Main Waterway grade = 1 in 200, Main Channel / Low Flow Channel grade = 1 in 200.

	LEFT OVERBANK	MAIN CHANNEL	RIGHT OVERBANK	TOTAL CROSS-SECTION
Discharge (cumecs):	0.00	0.15	0.00	0.15
D(Max) = Max. Depth (m):	0.00	0.11	0.00	0.11
D(Ave) = Ave. Depth (m):	0.00	0.05	0.00	0.05
V = Ave. Velocity (m/s):	0.00	0.61	0.00	0.61
D(Max) x V (cumecs/m):	0.00	0.07	0.00	0.07
D(Ave) x V (cumecs/m):	0.00	0.03	0.00	0.03
Froude Number:	0.00	0.91	0.00	N/A
Area (m <sup>2</sup> ):	0.00	0.24	0.00	0.24
Wetted Perimeter (m):	0.00	5.40	0.00	5.40
Flow Width (m):	0.00	5.31	0.00	5.31
Hydraulic Radius (m):	0.00	0.04	0.00	0.04
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	-6.660	40.218	-6.650	40.133	0.035
2	-6.650	40.133	-3.800	40.062	0.035
3	-3.800	40.062	-3.650	39.912	0.013
4	-3.650	39.912	-3.200	39.952	0.013
5	-3.200	39.952	0.000	40.059	0.015
6	0.000	40.059	3.200	39.952	0.015
7	3.200	39.952	3.650	39.912	0.013
8	3.650	39.912	3.800	40.062	0.013
9	3.800	40.062	6.300	40.187	0.020
10	6.300	40.187	7.800	40.217	0.013
11	7.800	40.217	7.850	40.218	0.020

**1. CROSS-SECTION:**



**2. DISCHARGE INFORMATION:**

100 year (1%) storm event

Total discharge = 0.135 cumecs

There is no pipe discharge

Overland / Channel / Watercourse discharge = 0.135 cumecs

**3. RESULTS: Water surface elevation = 40.176m**

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

	LEFT OVERBANK	MAIN CHANNEL	RIGHT OVERBANK	TOTAL CROSS-SECTION
Discharge (cumecs):	0.00	0.14	0.00	0.14
D(Max) = Max. Depth (m):	0.00	0.10	0.00	0.10
D(Ave) = Ave. Depth (m):	0.00	0.04	0.00	0.04
V = Ave. Velocity (m/s):	0.00	0.52	0.00	0.52
D(Max) x V (cumecs/m):	0.00	0.05	0.00	0.05
D(Ave) x V (cumecs/m):	0.00	0.02	0.00	0.02
Froude Number:	0.00	0.88	0.00	N/A
Area (m <sup>2</sup> ):	0.00	0.28	0.00	0.28
Wetted Perimeter (m):	0.00	7.80	0.00	7.80
Flow Width (m):	0.00	7.78	0.00	7.78
Hydraulic Radius (m):	0.00	0.04	0.00	0.04
Composite Manning's n:	0.000	0.015	0.000	N/A
Split Flow?	-	-	-	Yes

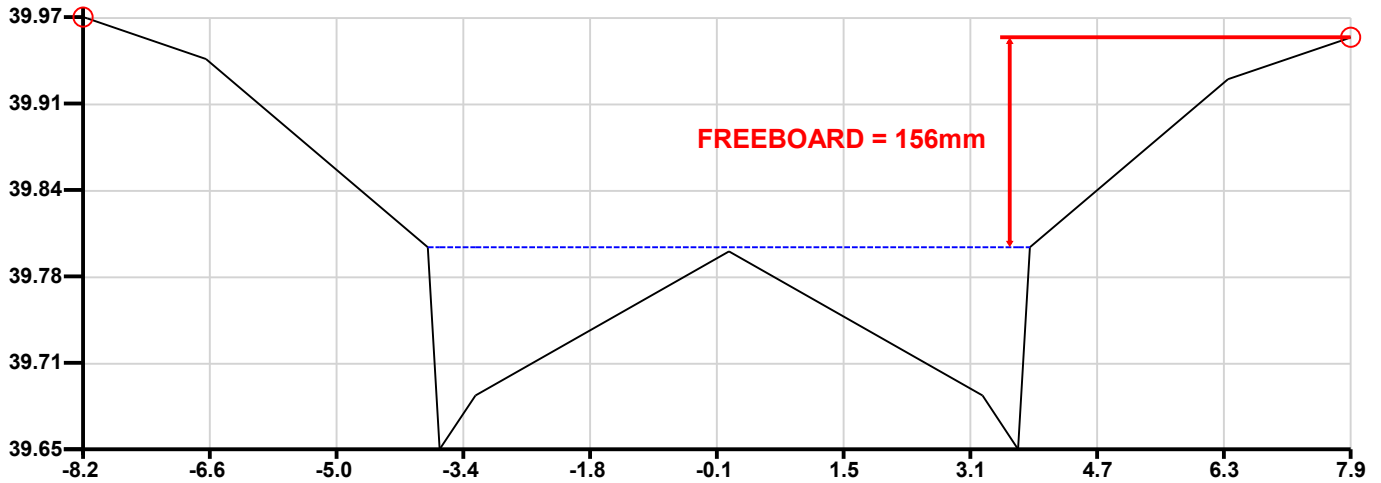
**4. CROSS-SECTION DATA:**

SEGMENT NO.	LEFT HAND POINT		RIGHT HAND POINT		MANNING'S N
	CHAINAGE (m)	R.L. (m)	CHAINAGE (m)	R.L. (m)	
1	-10.000	40.524	-9.950	40.523	0.035
2	-9.950	40.523	-8.450	40.493	0.013
3	-8.450	40.493	-5.450	40.343	0.020
4	-5.450	40.343	-5.300	40.193	0.013
5	-5.300	40.193	-4.850	40.178	0.013
6	-4.850	40.178	-3.300	40.126	0.015
7	-3.300	40.126	-3.000	40.076	0.013
8	-3.000	40.076	-2.700	40.116	0.013
9	-2.700	40.116	0.000	40.206	0.015
10	0.000	40.206	2.700	40.116	0.015
11	2.700	40.116	3.000	40.076	0.013
12	3.000	40.076	3.300	40.126	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)	
13	3.300	40.126	4.850	40.178	0.015
14	4.850	40.178	5.300	40.193	0.013
15	5.300	40.193	5.450	40.343	0.013
16	5.450	40.343	7.450	40.443	0.020
17	7.450	40.443	9.950	40.493	0.013
18	9.950	40.493	10.000	40.494	0.035

**1. CROSS-SECTION:**



**2. DISCHARGE INFORMATION:**

100 year (1%) storm event

Total discharge = 0.339 cumecs

There is no pipe discharge

Overland / Channel / Watercourse discharge = 0.339 cumecs

**3. RESULTS: Water surface elevation = 39.799m**

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

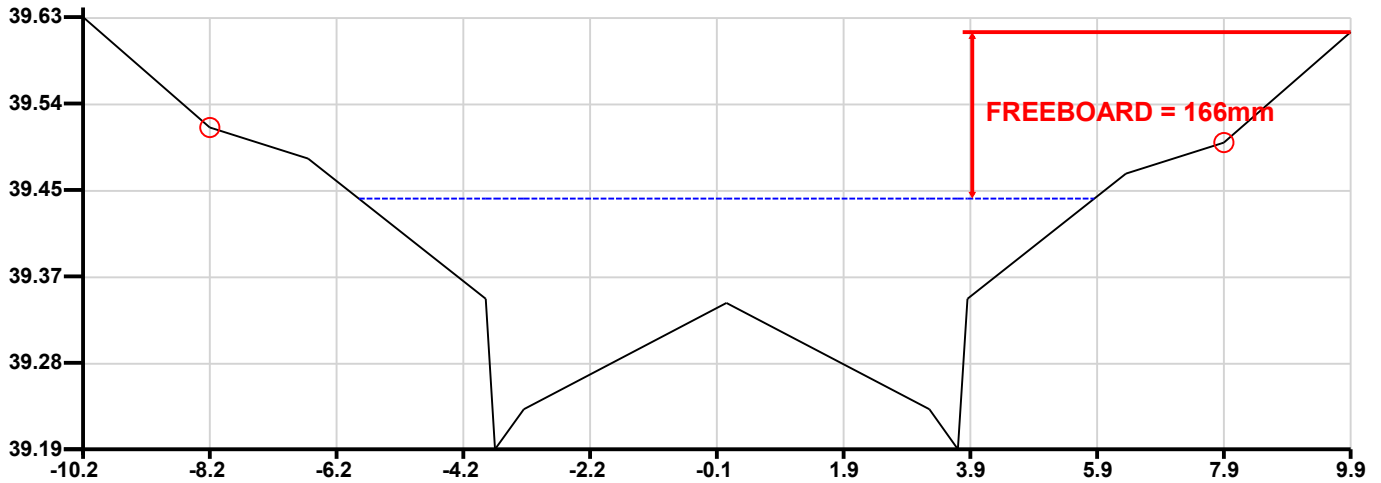
	LEFT OVERBANK	MAIN CHANNEL	RIGHT OVERBANK	TOTAL CROSS-SECTION
Discharge (cumecs):	0.00	0.39	0.00	0.39
D(Max) = Max. Depth (m):	0.00	0.15	0.00	0.15
D(Ave) = Ave. Depth (m):	0.00	0.07	0.00	0.07
V = Ave. Velocity (m/s):	0.00	0.78	0.00	0.78
D(Max) x V (cumecs/m):	0.00	0.12	0.00	0.12
D(Ave) x V (cumecs/m):	0.00	0.05	0.00	0.05
Froude Number:	0.00	0.97	0.00	0.97
Area (m <sup>2</sup> ):	0.00	0.50	0.00	0.50
Wetted Perimeter (m):	0.00	7.73	0.00	7.73
Flow Width (m):	0.00	7.60	0.00	7.60
Hydraulic Radius (m):	0.00	0.06	0.00	0.06
Composite Manning's n:	0.000	0.015	0.000	0.015
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	-8.150	39.970	-8.100	39.969	0.035
2	-8.100	39.969	-6.600	39.939	0.013
3	-6.600	39.939	-3.800	39.799	0.020
4	-3.800	39.799	-3.650	39.649	0.013
5	-3.650	39.649	-3.200	39.689	0.013
6	-3.200	39.689	0.000	39.796	0.015
7	0.000	39.796	3.200	39.689	0.015
8	3.200	39.689	3.650	39.649	0.013
9	3.650	39.649	3.800	39.799	0.013
10	3.800	39.799	6.300	39.924	0.035
11	6.300	39.924	7.800	39.954	0.013
12	7.800	39.954	7.850	39.955	0.035



**1. CROSS-SECTION:**



**2. DISCHARGE INFORMATION:**

100 year (1%) storm event

Total discharge = 1.26 cumecs

There is no pipe discharge

Overland / Channel / Watercourse discharge = 1.264 cumecs

**3. RESULTS: Water surface elevation = 39.444m**

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

	LEFT OVERBANK	MAIN CHANNEL	RIGHT OVERBANK	TOTAL CROSS-SECTION
Discharge (cumecs):	0.00	1.26	0.00	1.26
D(Max) = Max. Depth (m):	0.00	0.25	0.00	0.25
D(Ave) = Ave. Depth (m):	0.00	0.13	0.00	0.13
V = Ave. Velocity (m/s):	0.00	0.86	0.00	0.86
D(Max) x V (cumecs/m):	0.00	0.22	0.00	0.22
D(Ave) x V (cumecs/m):	0.00	0.11	0.00	0.11
Froude Number:	0.00	0.77	0.00	0.77
Area (m <sup>2</sup> ):	0.00	1.46	0.00	1.46
Wetted Perimeter (m):	0.00	11.74	0.00	11.74
Flow Width (m):	0.00	11.60	0.00	11.60
Hydraulic Radius (m):	0.00	0.12	0.00	0.12
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	-10.150	39.625	-8.150	39.515	0.035
2	-8.150	39.515	-8.100	39.514	0.035
3	-8.100	39.514	-6.600	39.484	0.013
4	-6.600	39.484	-3.800	39.344	0.020
5	-3.800	39.344	-3.650	39.194	0.013
6	-3.650	39.194	-3.200	39.234	0.013
7	-3.200	39.234	0.000	39.340	0.015
8	0.000	39.340	3.200	39.234	0.015
9	3.200	39.234	3.650	39.194	0.013
10	3.650	39.194	3.800	39.344	0.013
11	3.800	39.344	6.300	39.469	0.035
12	6.300	39.469	7.800	39.499	0.013

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	7.800	39.499	7.850	39.500	0.035
14	7.850	39.500	9.850	39.610	0.035

**Building Act 1993**  
*Section 238(1)(a)*  
**Building Regulations 2018**  
*Regulation 126*

**CERTIFICATE OF COMPLIANCE FOR PROPOSED BUILDING WORK**

**This certificate is issued to:**

Postal address

Postcode

Email

**This certificate is issued in relation to the proposed building work at:**

Address of: Alamora, Tarneit Stage 15

Postcode: 3029

**Nature of proposed building work**

Proposed stormwater pits

Storeys contained: N/A

Rise in storeys (for Class 2-9 building only) : N/A

Effective height: N/A

Type of construction C

Version of BCA applicable to certificate 2022

**Building classification**

Part of building: All

BCA Classification 10b

**Prescribed class of building work for which this certificate is issued:**

Design or part of the design of building work relating to Structural matter of the stormwater pits

**Documents setting out the design that is certified by this certificate**

Document no.	Revision	Document date	Type of document	Number of pages	Prepared by
200282.15 R702	0	19/09/2024	Drawings	1	Creo Civil
240380 - Computations	0	13/09/2024	Calculations	3	Creo Structures

Notes

- The builder/contractor is to provide all temporary structures – barriers, propping and bracing as required to maintain safety and stability during construction. Temporary structures are excluded from this certification.
- This certification is to be read with project general notes.

**The design certified by this certificate complies with the following provisions of Building Act 1993, Building Regulations 2018 or National Construction Code**

Act, Regulation or NCC	Section, Regulation, Part, Performance Requirement or other provision
AS/NZS 1170.0	Structural design actions – General principles
AS/NZS 1170.1	Structural design actions – Permanent, imposed and other actions
AS 3600	Concrete Structures Code
AS 4678	Earth-retaining Structures
NCC 2022 Volume 1 Building Code of Australia	Part B1

I prepared the design, or part of the design, set out in the documents listed above.

I certify that the design set out in the documents listed above complies with the provisions set out above.

I believe that I hold the required skills, experience and knowledge to issue this certificate and can demonstrate this if requested to do so.

**Engineer**

Name: Terry Leach

Address: Level 7, 176 Wellington Parade, East Melbourne, VIC, 3002

Email: terry.leach@creostructures.com.au

Endorsed building engineer area of engineering: civil engineering

Endorsed building engineer registration no.: PE0002946

Date of issue of certificate: 19/09/2024

Signature:



REINFORCED CONCRETE ONE-WAY SLABS  
FLEXURE, SHEAR & DEFLECTION ANALYSIS

VERSION 1.0  
Sheet 1/1

Date: 13-Sept-24  
Time: 14:47  
Proj.No: 230380  
Engineer: TL

ALAMORMA STAGE 15 PITS - SIDE WALL

SPANS :

CL to CL Span  mm

SLAB GEOMETRY :

DEPTH  mm WIDTH  mm

LOADS & END FIXITY:

Uniform Loads

						TOTAL (kN/m)	FACTORED (kN/m)
DL	Self Weight of slab	<input type="text" value="4.80"/>	x	<input type="text" value="1.00"/>	=	4.8	
	Soil	<input type="text" value="22.80"/>	x	<input type="text" value="1.00"/>	=	22.8	
			x		=	0.0	27.6
LL	Surcharge (20kPa)	<input type="text" value="12.00"/>	x	<input type="text" value="1.00"/>	=	12.0	29.2
				=	0.0		0.0
<b>Total</b>						<b>39.6</b>	<b>62.3</b>

Point Loads

	DL (kN)	LL (kN)	'x' from LHS (mm)
P1			
P2			
P3			

End Fixity

	Left Support	Right Support	
Maximum M-ve	<input type="text" value="-0.090"/> x wl <sup>2</sup>	<input type="text" value="-0.090"/> x wl <sup>2</sup>	Input -ve factor for hogging moment
Minimum M-ve	<input type="text" value="0.000"/> x wl <sup>2</sup>	<input type="text" value="-0.050"/> x wl <sup>2</sup>	

CONCRETE :

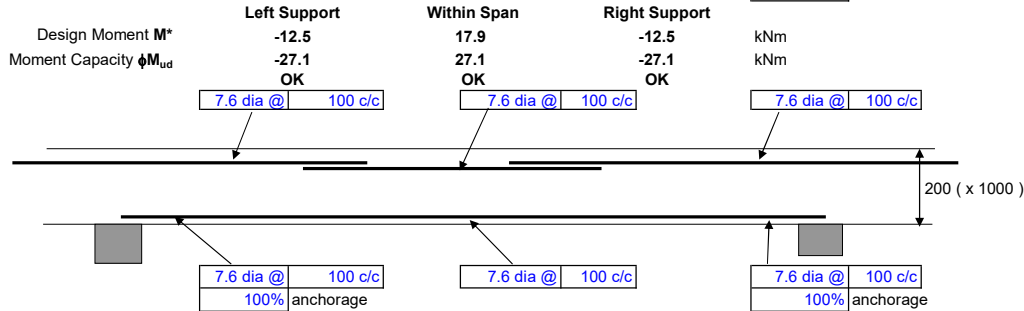
f<sub>c</sub> =  Mpa

REINFORCEMENT :

FLEXURE :

f<sub>sy</sub> =  Mpa

Top cover  mm  
Bot cover  mm



	Left Support	Within Span	Right Support
Design Moment M*	-12.5	17.9	-12.5
Moment Capacity φM <sub>ud</sub>	-27.1	27.1	-27.1
	OK	OK	OK
Reinforcement	7.6 dia @ 100 c/c	7.6 dia @ 100 c/c	7.6 dia @ 100 c/c
Effective depth (d)	161 mm	161 mm	161 mm
Area of steel (A <sub>st</sub> )	454 mm <sup>2</sup>	454 mm <sup>2</sup>	454 mm <sup>2</sup>
Clear cover (d <sub>c</sub> )	39 mm	39 mm	39 mm
Area of steel (A <sub>sc</sub> )	454 mm <sup>2</sup>	454 mm <sup>2</sup>	454 mm <sup>2</sup>

SHEAR :

	Left Support	Right Support
Design Shear V* (@ d)	35.5	39.7
Shear Capacity φV <sub>uc</sub>	80.0	80.0
	OK	OK

DEFLECTIONS :

AS 3600 Method :

	Left Support	Within Span	Right Support	
ψ <sub>sa</sub>	<input type="text" value="0.7"/>	<input type="text" value="0.4"/>	<input type="text" value="0.7"/>	Hypothetical thickness (t <sub>h</sub> ): <input type="text" value="167"/> mm
ψ <sub>cr</sub>	<input type="text" value="3.39"/>	<input type="text" value="3.39"/>	<input type="text" value="3.39"/>	
ε <sub>cs</sub>	<input type="text" value="750"/> x 10 <sup>-6</sup>	<input type="text" value="750"/> x 10 <sup>-6</sup>	<input type="text" value="750"/> x 10 <sup>-6</sup>	φ = <input type="text" value="2.60"/> creep factor
E <sub>c</sub>	28600 Mpa			
p	0.28%	0.28%	0.28%	
f <sub>cs</sub>	0.56	0.56	0.56	Mpa
M <sub>cr</sub>	-18.9	18.9	-18.9	kNm
M <sub>s</sub>	0.0	9.9	-8.8	kNm
M <sub>long term</sub>	0.0	8.9	-4.4	kNm
I <sub>cr</sub>	63.7	63.7	63.7	x 10 <sup>6</sup> mm <sup>4</sup>
I <sub>ef</sub>	667	667	667	x 10 <sup>6</sup> mm <sup>4</sup>
I <sub>ef</sub> (End Span)	667	667	667	x 10 <sup>6</sup> mm <sup>4</sup>
k <sub>cs</sub>	0.80	0.80	0.80	
				long term deflection
				<b>Total</b> <input type="text" value="0.2"/> mm
				L / 7259

Gilbert Modification :  
(Electronic Journal of Structural Engineering, 1 (2001) p 15 - 37)

	Left Support	Within Span	Right Support	
I <sub>gross</sub>	687	687	687	x 10 <sup>6</sup> mm <sup>4</sup> transformed section
f <sub>cs</sub>	0.93	0.93	0.93	Mpa
M <sub>cr</sub>	17.0	17.0	-17.0	kNm
I <sub>ef</sub>	687	687	687	x 10 <sup>6</sup> mm <sup>4</sup>
Uncracked section				
κ <sub>i</sub>	0	4.5462E-07	-2.245E-07	
α	1.24	1.24	1.24	
κ <sub>(t)</sub>	0.000E+00	1.408E-06	-6.953E-07	
k <sub>r</sub>	0.000	0.000	0.000	
κ <sub>sh</sub>	0.000E+00	0.000E+00	0.000E+00	
				long term deflection
				loads 0.4 mm
				shrinkage 0.0 mm
				<b>Total</b> <input type="text" value="0.4"/> mm
				L / 4591

SOLID SLABS SPANNING IN TWO DIRECTIONS

Version 1.0

DATE: 13-Sept-24  
PROJECT: 240380  
ENGINEER:

ALAMORMA STAGE 15 PITTS - SIDE WALL

**SLAB GEOMETRY :**

**LOADS:**

DL : SLAB SELF WEIGHT	4.80	SLS	4.80	ULS
SUPERIMPOSED DEAD LOAD	22.80	TOTAL DL	27.60	33.12
LL : APPLIED LIVE LOAD	12.00		39.60 kPa	51.12 kPa

SLAB THICKNESS: 200 mm

**CONCRETE :**  $f_c = 32$  Mpa

**REINFORCEMENT :**  $f_{sy} = 500$  Mpa

Top cover: 35 mm, Bot cover: 35 mm

Mesh  $\phi = 0.64$

SPAN DIRECTION 1:

	Left Support	Within Span	Right Support
Moment Coefficient	0.000	0.076	0.000
Design Moment $M^*$	0.0	10.6	0.0
Moment Capacity $\phi M_{ud}$	29.3	29.3	29.3
	OK	OK	OK
Reinforcement	##### 1000 c/c	8.6 dia @ 1000 c/c	##### 1000 c/c
Reinforcement	##### 100 c/c 100% anchorage	8.6 dia @ 100 c/c	##### 100 c/c 100% anchorage
d	160	160	160
Ast	581	581	581
d <sub>c</sub>	40	40	40
Asc	58	58	58

SPAN DIRECTION 2:

	Left Support	Within Span	Right Support
Moment Coefficient	0.000	0.049	0.000
Design Moment $M^*$	0.0	6.8	0.0
Moment Capacity $\phi M_{ud}$	30.4	30.4	30.4
	OK	OK	OK
Reinforcement	##### 200 c/c	8.6 dia @ 200 c/c	8.6 dia @ 200 c/c
Reinforcement	##### 100 c/c 100% anchorage	8.6 dia @ 100 c/c	8.6 dia @ 100 c/c 100% anchorage
d	151	151	151
Ast	581	581	581
d <sub>c</sub>	49	49	49
Asc	290	290	290

DEFLECTIONS :

AS 3600 Method :

$\alpha = 1.00$	Hypothetical thickness ( $t_h$ ): 167 mm
load ratio = 0.82	$\phi = 2.60$ creep factor
$\psi_s = 0.7$	$\psi_l = 0.4$
$I_{gross} = 667 \times 10^6 \text{ mm}^4$	$E_c = 28600 \text{ Mpa}$
$f_{cs} = 0.69$	$f_{cs} = 0.69$ Mpa
$M_{pr} = 18.0$	$M_{pr} = 18.0$ kNm
$M_s = 0.0$	$M_s = 0.0$ kNm
$M_{long term} = 0.0$	$M_{long term} = 0.0$ kNm
$I_{cr} = 77.5$	$I_{cr} = 77.5 \times 10^6 \text{ mm}^4$
$I_{ef} = 667$	$I_{ef} = 667 \times 10^6 \text{ mm}^4$
(Simple Span)	$k_{cs} = 667$
	$k_{ca} = 1.88$

Gilbert Modification :  
(Electronic Journal of Structural Engineering, 1 (2001) p 15 - 37)

Left Support	Within Span	Right Support
$I_{gross} = 680$	$I_{gross} = 680$	$I_{gross} = 680$
$f_{cs} = 1.15$	$f_{cs} = 1.15$	$f_{cs} = 1.15$
$M_{pr} = 15.4$	$M_{pr} = 15.4$	$M_{pr} = 15.4$
$I_{cr} = 680$	$I_{cr} = 680$	$I_{cr} = 680$
Uncracked section	Uncracked section	Uncracked section
$k_1 = 0$	$k_1 = 4.63233E-07$	$k_1 = 0$
$\alpha = 0.97$	$\alpha = 0.97$	$\alpha = 0.97$
$k_{(f)} = 0.000E+00$	$k_{(f)} = 1.705E-06$	$k_{(f)} = 0.000E+00$
$k_f = 0.173$	$k_f = 0.173$	$k_f = 0.173$
$k_{sh} = 6.477E-07$	$k_{sh} = 6.477E-07$	$k_{sh} = 6.477E-07$
$k_r =$	$k_r =$	$k_r =$
$k_{sh} =$	$k_{sh} =$	$k_{sh} =$

long term deflection  
Total 0.4 mm  
L / 4274

long term deflection  
loads 0.5 mm  
shrinkage 0.2 mm  
Total 0.7 mm  
L / 2411

**REINFORCED CONCRETE ONE-WAY SLABS  
FLEXURE, SHEAR & DEFLECTION ANALYSIS**

VERSION 1.0  
Sheet 1/1

Date: 13-Sept-24  
Time: 14:50  
Proj.No: 240380  
Engineer: TL

**ALAMORMA STAGE 15 PITS - HAUNCH SLAB**

**SPANS :**

CL to CL Span  mm

**SLAB GEOMETRY :**

DEPTH  mm WIDTH  mm

**LOADS & END FIXITY:**

**Uniform Loads**

						TOTAL (kN/m)	FACTORED (kN/m)
DL	Self Weight of slab	<input type="text" value="6.00"/>	x	<input type="text" value="1.00"/>	=	6.0	
	Soil	<input type="text" value="17.10"/>	x	<input type="text" value="1.00"/>	=	17.1	
			x		=	0.0	
LL	Surcharge (20kPa)	<input type="text" value="20.00"/>	x	<input type="text" value="0.00"/>	=	0.0	
				=	0.0		
<b>Total</b>						<b>23.1</b>	<b>27.7</b>

**Point Loads**

	DL (kN)	LL (kN)	'x' from LHS (mm)
P1			
P2			
P3			

**End Fixity**

	Left Support	Right Support	
Maximum M-ve	<input type="text" value="0.000"/> x $wl^2$	<input type="text" value="0.000"/> x $wl^2$	Input -ve factor for hogging moment
Minimum M-ve	<input type="text" value="0.000"/> x $wl^2$	<input type="text" value="0.000"/> x $wl^2$	

**CONCRETE :**

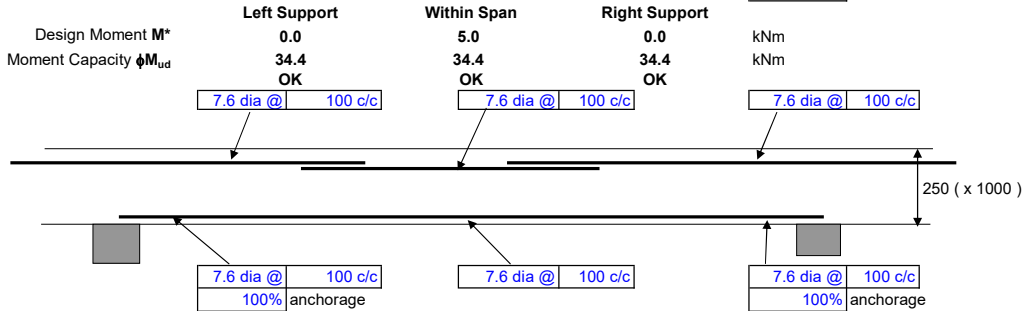
$f_c =$   Mpa

**REINFORCEMENT :**

**FLEXURE :**

$f_{sy} =$   Mpa

Top cover  mm  
Bot cover  mm



	Left Support	Within Span	Right Support
Design Moment $M^*$	0.0	5.0	0.0
Moment Capacity $\phi M_{ud}$	34.4	34.4	34.4
	OK	OK	OK
	7.6 dia @ 100 c/c	7.6 dia @ 100 c/c	7.6 dia @ 100 c/c
	7.6 dia @ 100 c/c	7.6 dia @ 100 c/c	7.6 dia @ 100 c/c
	100% anchorage	100% anchorage	100% anchorage
d	211	211	211
Ast	454	454	454
dc	39	39	39
Asc	454	454	454

**SHEAR :**

	Left Support	Right Support
Design Shear $V^*$ (@ d)	10.8	10.8
Shear Capacity $\phi V_{uc}$	92.5	92.5
	OK	OK

**DEFLECTIONS :**

**AS 3600 Method :**

	Left Support	Within Span	Right Support
$\psi_{sa} =$	<input type="text" value="0.7"/>	<input type="text" value="0.4"/>	<input type="text" value="0.7"/>
$I_{gross} =$	$1302 \times 10^6 \text{ mm}^4$	$1302 \times 10^6 \text{ mm}^4$	$1302 \times 10^6 \text{ mm}^4$
$f_{cr} =$	3.39	3.39	3.39
$\epsilon_{cs} =$	$750 \times 10^{-6}$	$750 \times 10^{-6}$	$750 \times 10^{-6}$
Hypothetical thickness ( $t_h$ ):	200	200	200
$\phi =$	<input type="text" value="2.60"/>	<input type="text" value="2.60"/>	<input type="text" value="2.60"/>
creep factor			
$E_c =$	28600	28600	28600
	Mpa	Mpa	Mpa
$p =$	0.21%	0.21%	0.21%
$f_{cs} =$	0.44	0.44	0.44
$M_{cr} =$	30.8	30.8	30.8
$M_s =$	0.0	4.2	0.0
$M_{long term} =$	0.0	4.2	0.0
$I_{cr} =$	112.6	112.6	112.6
$I_{ef} =$	1302	1302	1302
$I_{ef} =$	1302	1302	1302
$k_{cs} =$	0.80	0.80	0.80
long term deflection			
<b>Total</b>			<b>0.0 mm</b>
			L / 39805

**Gilbert Modification :**  
(Electronic Journal of Structural Engineering, 1 (2001) p 15 - 37)

	Left Support	Within Span	Right Support
$I_{gross} =$	1342	1342	1342
$f_{cs} =$	0.73	0.73	0.73
$M_{cr} =$	28.6	28.6	28.6
$I_{ef} =$	1342	1342	1342
Uncracked section			
$\kappa_i =$	0	1.0831E-07	0.000E+00
$\alpha =$	1.16	1.16	1.16
$\kappa_{(t)} =$	0.000E+00	3.506E-07	0.000E+00
$k_r =$	0.000	0.000	0.000
$\kappa_{sh} =$	0.000E+00	0.000E+00	0.000E+00
$k_r =$			
$\kappa_{sh} =$			

**long term deflection**

loads	0.1 mm
shrinkage	0.0 mm
<b>Total</b>	<b>0.1 mm</b>
	L / 23784