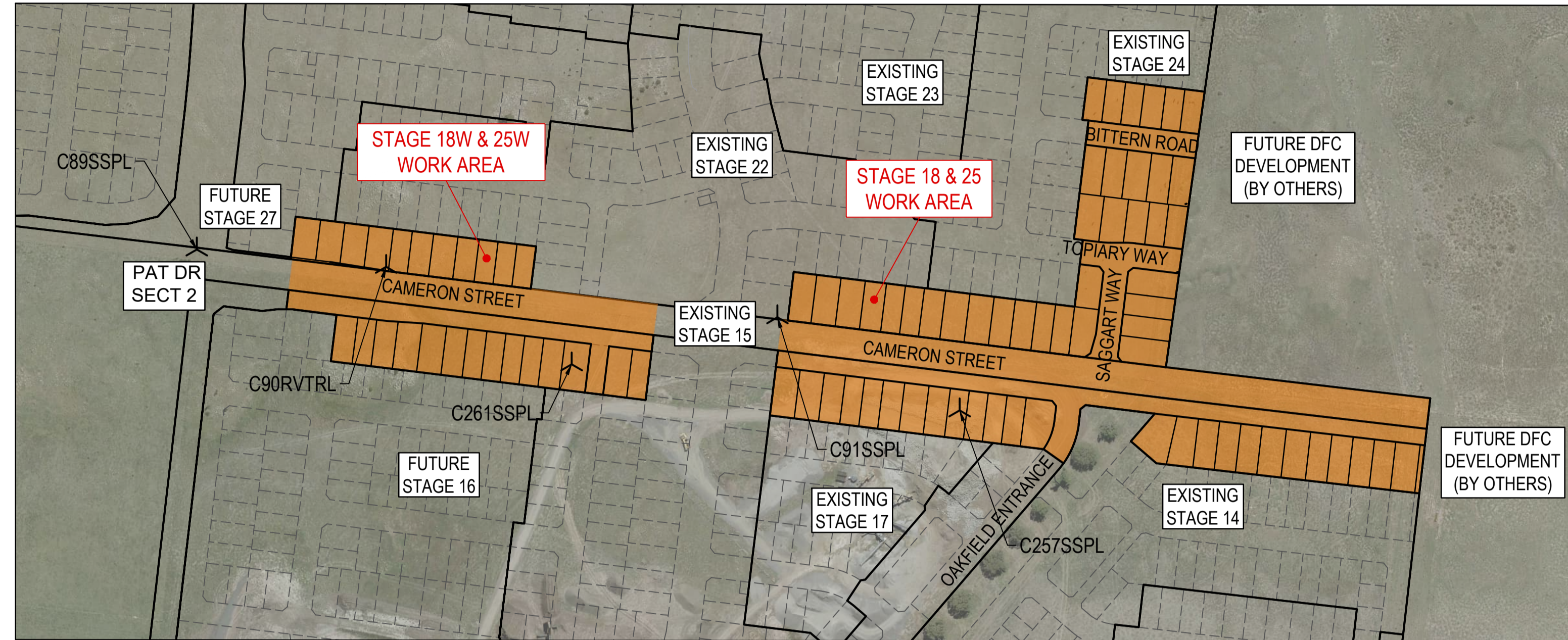


Olivine Estate

Stage 18W & 25W and Stage 18 & 25

- GENERAL NOTES (WHITTLESEA CITY COUNCIL)**
- THE WORKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT COUNCIL STANDARD DRAWINGS AND SPECIFICATIONS. WORKS TO BE CARRIED OUT TO THE SATISFACTION OF COUNCIL'S SURVEILLANCE COORDINATOR OR HIS REPRESENTATIVE.
 - THE CONTRACTOR IS RESPONSIBLE FOR SAFETY OF WORK ON SITE IN ACCORDANCE WITH APPROPRIATE LEGISLATION. THEY SHALL ERECT AND MAINTAIN ALL SHORING, PLANKING AND STRUTTING, DEWATERING DEVICES, BARRICADES, SIGNS, LIGHTS, ETC. NECESSARY TO KEEP WORKS IN A SAFE AND STABLE CONDITION, AND TO PROTECT THE PUBLIC FROM HAZARDS ASSOCIATED WITH THE WORKS.
 - THE CONTRACTOR SHALL:
 - COMPLY WITH THE SAFETY REQUIREMENTS OF THE MINES ACT, GENERAL REGULATIONS AND STATUTORY RULES, AND THE MINES (TRENCHES) REGULATIONS 1982.
 - NOTIFY THE OCCUPATIONAL HEALTH AND SAFETY AUTHORITY OF THEIR INTENTION TO COMMENCE TRENCHING OPERATIONS WHERE TRENCHES ARE 1.5 METRES OR DEEPER.
 - ENSURE THAT THE MINE MANAGER OR THEIR DEPUTY AS REQUIRED BY THE REGULATIONS IS IN ATTENDANCE WHEN TRENCHING OPERATIONS ARE IN PROGRESS.
 - THE CONTRACTOR IS TO NOTIFY COUNCIL'S SENIOR SURVEILLANCE ENGINEER AND ALL SERVICE AUTHORITIES SEVEN (7) DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
 - ALL ROAD CHAINAGES ARE MEASURED ALONG THE ROAD CENTRELINE EXCEPT KERB RETURNS AND COURTHEADS, WHERE LIP OF KERB CHAINAGES ARE SPECIFIED. ALL DIMENSIONS AND RADII ARE GIVEN TO THE LIP OF KERB. DO NOT SCALE OFF THESE DRAWINGS. WRITTEN DIMENSIONS ONLY SHALL BE USED.
 - ALL LEVELS ARE TO AUSTRALIAN HEIGHT DATUM.
 - THE CONTRACTOR SHALL COOPERATE WITH OTHER AUTHORITIES AND SHALL ENSURE THAT ALL SERVICES ARE INSTALLED PRIOR TO THE FINAL PAVEMENT COURSE. THE CONTRACTOR SHALL CHECK WITH THE SUPERINTENDENT THE EXACT LOCATION OF ALL SERVICES PRIOR TO THE INSTALLATION OF CONDUITS.
 - ANY EXISTING PAVEMENT OR DRAINAGE WORKS DAMAGED DURING CONSTRUCTION OR THE MAINTENANCE PERIOD TO BE REINSTATED TO THE SATISFACTION OF THE COUNCIL REPRESENTATIVE.
 - WHEN ENGAGED IN BLASTING OPERATIONS THE CONTRACTOR SHALL NOT BLAST WITHIN 4.5m OF AN EXISTING LINE OF WATER, GAS OR SEWER PIPES OR WITHIN 15m OF ANY COMPLETED PART OF THE WORKS WITHOUT THE CONSENT OF THE SUPERINTENDENT. BLASTING REQUIRES A BLASTING PERMIT FROM COUNCIL. APPROPRIATE SILTATION CONTROL IS TO BE CARRIED OUT DURING THE CONSTRUCTION AND MAINTENANCE PERIODS.
 - THE LOCATION OF EXISTING SERVICES SHOULD BE DETERMINED BY THE CONTRACTOR PRIOR TO COMMENCING ANY EXCAVATION BY CONTACTING ALL RELEVANT SERVICE AUTHORITIES. ANY EXISTING SERVICES SHOWN ON THE DRAWINGS ARE OFFERED AS A GUIDE ONLY AND ARE NOT GUARANTEED AS CORRECT.
 - ALL TREES AND SHRUBS TO BE RETAINED UNLESS PRIOR APPROVAL HAS BEEN OBTAINED FROM THE RELEVANT AUTHORITY BECAUSE ROAD CONSTRUCTION NECESSITATES THEIR REMOVAL, OR REMOVAL IS DIRECTED BY THE AUTHORISED ENGINEER. TREES TO BE REMOVED ARE TO BE SUITABLY LABELLED. WHEN IT IS PROPOSED TO REMOVE EXISTING TREES IN ROAD RESERVES OR COUNCIL RESERVES, CONSULTATION IS TO OCCUR WITH COUNCIL'S PARKS AND GARDENS DEPARTMENT.
 - VICROADS ROADWORK SIGNING CODE OF PRACTICE WHICH COMPLIES WITH THE AUSTRALIAN STANDARD 1742.3-2002 IS TO BE ADHERED TO DURING THE CONSTRUCTION WORKS.
 - CONDUIT LOCATIONS ARE SUBJECT TO AMENDMENT AND CONDUITS SHALL NOT BE LAID UNTIL WRITTEN APPROVAL IS GIVEN BY THE SUPERINTENDENT. CONDUITS TO BE EXTENDED TO PROPERTY LINE AND ARE REQUIRED WHEN CONNECTIONS EXTEND UNDER ROAD PAVEMENT, FOOTPATH OR UNDER INFRASTRUCTURE. BOTH KERBS ARE TO BE MARKED WITH THE LETTERS H (PROPERTY STORMWATER CONNECTION), E (ELECTRICAL), G (GAS), T (TELEPHONE), W (WATER), R (RECYCLED WATER) AND C (COUNCIL COMMUNICATION) AS PER STANDARD DRAWING EDM 303.
 - ALL EARTHWORKS TO BE CARRIED OUT IN ACCORDANCE WITH COUNCIL'S EARTHWORK SPECIFICATION AND THE EARTHWORKS SECTION OF SMEC'S CONTRACT SPECIFICATION.
 - BATTERS INTO ALLOTMENTS SHALL NOT BE STEEPER THAN 1 IN 6 UNLESS NOTED OTHERWISE.
 - ALL EXCAVATED OR FILLED AREAS OUTSIDE THE ROAD RESERVE AND NATURESTRIPS TO BE STRIPPED OF TOPSOIL AND STOCKPILED PRIOR TO EARTHWORK COMMENCING.
 - NO FILLING OR STOCKPILING OF MATERIAL IS TO BE PLACED ON ANY RESERVE UNLESS DIRECTED BY THE SUPERINTENDENT.
 - NO TOPSOIL TO BE REMOVED FROM SITE UNLESS OTHERWISE APPROVED.
 - LOTS SHALL BE EVENLY GRADED TO ENSURE MINIMUM LOT FALLS AS SPECIFIED ON DRAWINGS ARE ACHIEVED.
 - ALL DRAINAGE PIPES TO BE CLASS 2 RCP UNLESS NOTED OTHERWISE. ALL DRAINAGE PIPE UP TO AND INCLUDING 750mm IN DIAMETER SHALL BE RUBBER RING JOINTED. PIPES ABOVE THIS SIZE MAY BE FLUSH JOINTED WITH EXTERNAL SEALING BANDS. RUBBER RING PIPES TO BE PRESSURE RESISTANT, I.E. SPECIFIC MANUFACTURERS RUBBER RING TO BE USED, SUITED TO PRESSURE CONDITIONS AND THE PIPES ARE NOT TO HAVE ANY PLUGS.
 - ALL PITS GRATER THAN OR EQUAL TO 1000mm DEPTH TO BE PROVIDED WITH STEP IRONS IN ACCORDANCE WITH EDM 609.
 - ALL DRAINAGE TRENCHES UNDER ROAD PAVEMENTS, KERB & CHANNEL, PARKING BAYS, DRIVEWAYS, FOOTPATHS AND BEHIND KERBS & CHANNEL SHALL BE BACKFILLED WITH COMPACTED CRUSHED ROCK AS SPECIFIED. OFFSETS TO DRAINAGE IN EASEMENTS AS SHOWN ARE TO THE CENTRELINE OF THE DRAIN.
 - AG DRAINS TO BE PROVIDED BEHIND ALL KERBS AND SHALL HAVE SUITABLE OUTLET. CONSTRUCTION TO BE IN ACCORDANCE WITH EDM 605-608.
 - HOUSE DRAINS ARE TO BE CONNECTED DIRECT TO UNDERGROUND DRAIN UNLESS NOTED OTHERWISE.
 - PROPERTY INLET PITS AS PER EDM 701-704.
 - DRIVEWAYS TO BE CONSTRUCTED IN ACCORDANCE WITH COUNCILS STANDARDS AND CLEAR OF DRAINAGE PITS, SEWER MAINTENANCE HOLES AND EXISTING TREES.
 - FOOTPATHS ARE TO BE OFFSET 50mm FROM THE BUILDING LINE.
 - ALL PAVEMENT MARKINGS AND TRAFFIC SIGNS SHOULD BE TO AS1742.2 AND 1742.1 STANDARD RESPECTIVELY. TEMPORARY LINEMARKING TO BE PLACED DURING MAINTENANCE PERIOD PRIOR TO PLACEMENT OF WEARING COURSE. FINAL LINEMARKING TO BE LONG LIFE ROAD MARKING WITH LONGITUDINAL LINES IN THERMOPLASTIC AND TRANSVERSE MARKINGS IN COLD APPLIED.
 - UPON COMPLETION OF CONSTRUCTION, THE WHOLE SITE SHALL BE CLEANED UP AND GRADED OVER. ALL RUBBISH IS TO BE REMOVED AND THE SITE IS TO BE LEFT IN A CLEAN AND TIDY CONDITION TO THE SATISFACTION OF THE SUPERINTENDENT.
 - ALL SERVICE TRENCHES UNDER FOOTPATH, ROAD PAVEMENTS, VEHICLE CROSSINGS AND OTHER ROAD STRUCTURES ARE TO BE BACKFILLED IN ACCORDANCE WITH RELEVANT COUNCIL AND AUTHORITY STANDARDS.
 - FOOTPATHS ARE TO BE CONTINUOUSLY REINFORCED CONCRETE IN ACCORDANCE WITH EDM 403 UNLESS OTHERWISE SPECIFIED.
 - A BUILDING PERMIT MUST BE OBTAINED FOR ANY STRUCTURE/RETAINING WALL EXCEEDING 1.0m IN HEIGHT PRIOR TO COMMENCEMENT OF CONSTRUCTION, IN ACCORDANCE WITH THE BUILDING CODE OF AUSTRALIA. COPY OF BUILDING PERMITS AND 'CERTIFICATE OF COMPLIANCE - CONSTRUCTION' (REGARDLESS OF HEIGHT) FOR ALL COMPONENTS OF RETAINING WALL INCLUDING AG DRAINS TO BE SUBMITTED TO COUNCIL PRIOR TO STATEMENT OF COMPLIANCE.



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TBM SETOUT TABLE				
POINT	EAST	NORTHING	ELEVATION	DESCRIPTION
C89SSPL	322,731.47	5,844,398.54	247.61	STAR PICKET
C90RVTRL	322,156.34	5,844,387.18	249.01	RIVET
C91SSPL	323,111.41	5,844,354.26	246.33	STAR PICKET
C257SSPL	323,230.60	5,844,293.25	247.43	STAR PICKET
C261SSPL	322,976.76	5,844,323.39	244.79	STAR PICKET

WARNING
SAFETY MEASURES REQUIRED

Please note there are risks attached to the construction of this project, and any ongoing maintenance of structures. Consider the safety of all. For potential risks, consequences and controls refer to Safety In Design Risk Register SID P4.E6. 1700E-018_025-500

ASSESS THE RISK - STAY SAFE

WARNING
BEWARE OF UNDERGROUND SERVICES

The locations of underground services are approximate only and 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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AS CONSTRUCTED PLANS

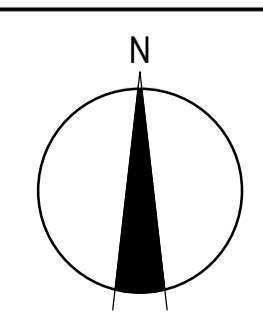
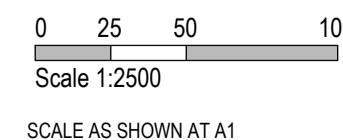
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PLAN OF SUB. NO. PS913483L & PS905205M
 PS913482N & PS905209D
 PERMIT REF. NO. 717158 & 719067

AS CONSTRUCTED



SMEC

Member of the Surlana Jurong Group

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Olivine Estate - Stage 18W & 25W and Stage 18 & 25
Whittlesea City Council
Road and Drainage
Cover Plan & General Notes

MELWAYS REF 367 G11	PROJECT / DRAWING No. 1700E-018_025-101	SHEET No. 01 of 51	REVISION 3
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LEGEND - LAYOUT PLAN
ALL PROPOSED, FUTURE & EXISTING SERVICE LOCATIONS ARE SHOWN INDICATIVELY

	STORMWATER DRAIN, PIT & PROPERTY INLET
	MAIN DRAIN
	SWALE DRAIN
	SEWER & MAINTENANCE STRUCTURES
	HOUSE DRAIN
	ELECTRICITY (U.GROUND)
	ELECTRICITY (O.HEAD)
	GAS
	TELSTRA
	OPTIC FIBRE
	WATER
	RECYCLE WATER
	AG. DRAIN
	SERVICE CONDUITS
	TACTILE PAVERS
	EXISTING STORMWATER DRAIN
	EXISTING MAIN DRAIN
	EXISTING SWALE DRAIN
	EXISTING SEWER & MAINTENANCE STRUCTURES
	EXISTING HOUSE DRAIN
	EXISTING ELECTRICITY (UNDER GROUND)
	EXISTING ELECTRICITY OVERHEAD
	EXISTING GAS
	EXISTING TELSTRA
	EXISTING OPTIC FIBRE
	EXISTING WATER
	EXISTING RECYCLED WATER
	EXISTING AG. DRAIN
	EXISTING SERVICE CONDUITS
	EXISTING TACTILE PAVERS
	FUTURE STORMWATER DRAIN
	FUTURE MAIN DRAIN
	FUTURE SWALE DRAIN
	FUTURE SEWER & MAINTENANCE STRUCTURES
	FUTURE HOUSE DRAIN
	FUTURE ELECTRICITY (UNDER GROUND)
	FUTURE ELECTRICITY OVERHEAD
	FUTURE GAS
	FUTURE TELSTRA

LEGEND - LAYOUT PLAN
ALL PROPOSED, FUTURE & EXISTING SERVICE LOCATIONS ARE SHOWN INDICATIVELY

	FUTURE OPTIC FIBRE
	FUTURE WATER
	FUTURE RECYCLED WATER
	FUTURE AG. DRAIN
	FUTURE SERVICE CONDUITS
	FUTURE TACTILE PAVERS
	ZERO LOT LINES
	EXISTING SURFACE LEVEL
	FINISHED BUILDING LINE LEVEL
	FINISHED RIDGE LINE LEVEL
	CHAINAGE
	TOP OF RETAINING WALL LEVEL
	BOTTOM OF RETAINING WALL LEVEL
	EXISTING RETAINING WALL
	RETAINING WALL
	FUTURE RETAINING WALL
	STRUCTURAL FILL > 200mm DEEP
	EXISTING STRUCTURAL FILL > 200mm DEEP
	CUT > 200mm DEEP
	DIRECTION OF FALL
	OVERLAND FLOW
	GRADED IN DIRECTION OF FALL TO LEVEL INDICATED
	EDGE STRIP, SUBSOIL DRAIN, "NO ROAD" SIGN & BARRIER
	EXISTING TREE TO BE RETAINED
	EXISTING TREE TO BE REMOVED
	PERMANENT SURVEY MARK
	TEMPORARY BENCH MARK
	PROPOSED DRIVEWAY & FOOTPATH
	PROPOSED INDUSTRIAL DRIVEWAY
	PROPOSED SHARED FOOTPATH
	PROPOSED ROAD PAVING
	EXISTING ROAD PAVING

SERVICES OFFSET SCHEDULE

ROAD NAME	GAS		NON-DRINKING WATER		DRINKING WATER		ELECTRICITY		NBN	
	SIDE	OFFSET (m)	SIDE	OFFSET (m)	SIDE	OFFSET (m)	SIDE	OFFSET (m)	SIDE	OFFSET (m)
CAMERON STREET	SOUTH	1.90	SOUTH / NORTH	2.70 / 2.00	SOUTH / NORTH	3.50 / 2.80	SOUTH	8.40	SOUTH	7.80
BITTERN ROAD	SOUTH	2.10	SOUTH	2.60	SOUTH	3.10	NORTH	2.45	NORTH	1.85
TOPIARY WAY	SOUTH	2.10	SOUTH	2.60	SOUTH	3.10	NORTH	2.40	NORTH	1.85
SAGGART WAY	WEST	2.10	WEST	2.60	WEST	3.10	EAST	2.45	EAST	1.85
OAKFIELD ENTRANCE	WEST	2.10	WEST	2.60	WEST	3.10	EAST	2.25	EAST	0.50

ROAD LAYOUT TABLE

ROAD NAME	RESERVE WIDTH (m)	ROAD WIDTH (m)			KERB TYPE		VERGE WIDTH (m)	
		LIP TO LIP	INV TO INV	BACK TO BACK	NTH/WEST	STH/EAST	NTH/WEST	STH/EAST
CAMERON STREET (37.3m)	31.00	15.30 / 4.85	16.20 / 5.60	16.50 / 6.05	B2 / SM3	B2 / SM3	4.50	10.30
BITTERN ROAD	16.00	6.40	7.30	7.60	B2	B2	4.35	4.35
TOPIARY WAY	16.00	6.40	7.30	7.60	B2	B2	4.35	4.35
SAGGART WAY	16.00	6.40	7.30	7.60	B2	B2	4.35	4.35
OAKFIELD ENTRANCE	16.00	6.40	7.30	7.60	B2	B2	5.10	3.60



FOR CONTINUATION REFER SHEET 1700E-018_025-113

FOR CONTINUATION REFER SHEET 1700E-018_025-112

AS CONSTRUCTED PLANS

The purpose of these as-constructed plans is to update the design drawings to show significant changes which occurred during construction. Note that the levels shown on these plans are design levels, and have not been verified by survey. All information shown on these plans should be verified on site. SMEC Australia Pty Ltd accept no responsibility for loss or damages resulting from the inappropriate usage of these plans. **As constructed details on this revision of plans relate to works west of Cameron Street roundabout only. Balance of works are still under construction.**

Quality Management ISO 9001
OHS Management AS/NZS 4801
Environmental Management ISO 14001

PLAN OF SUB. NO. P5913483L & P5906203M
P5913482N & P5906209D
PERMIT REF. NO. 711758 & 719067

AS CONSTRUCTED

Scale 1:500
SCALE AS SHOWN AT A1

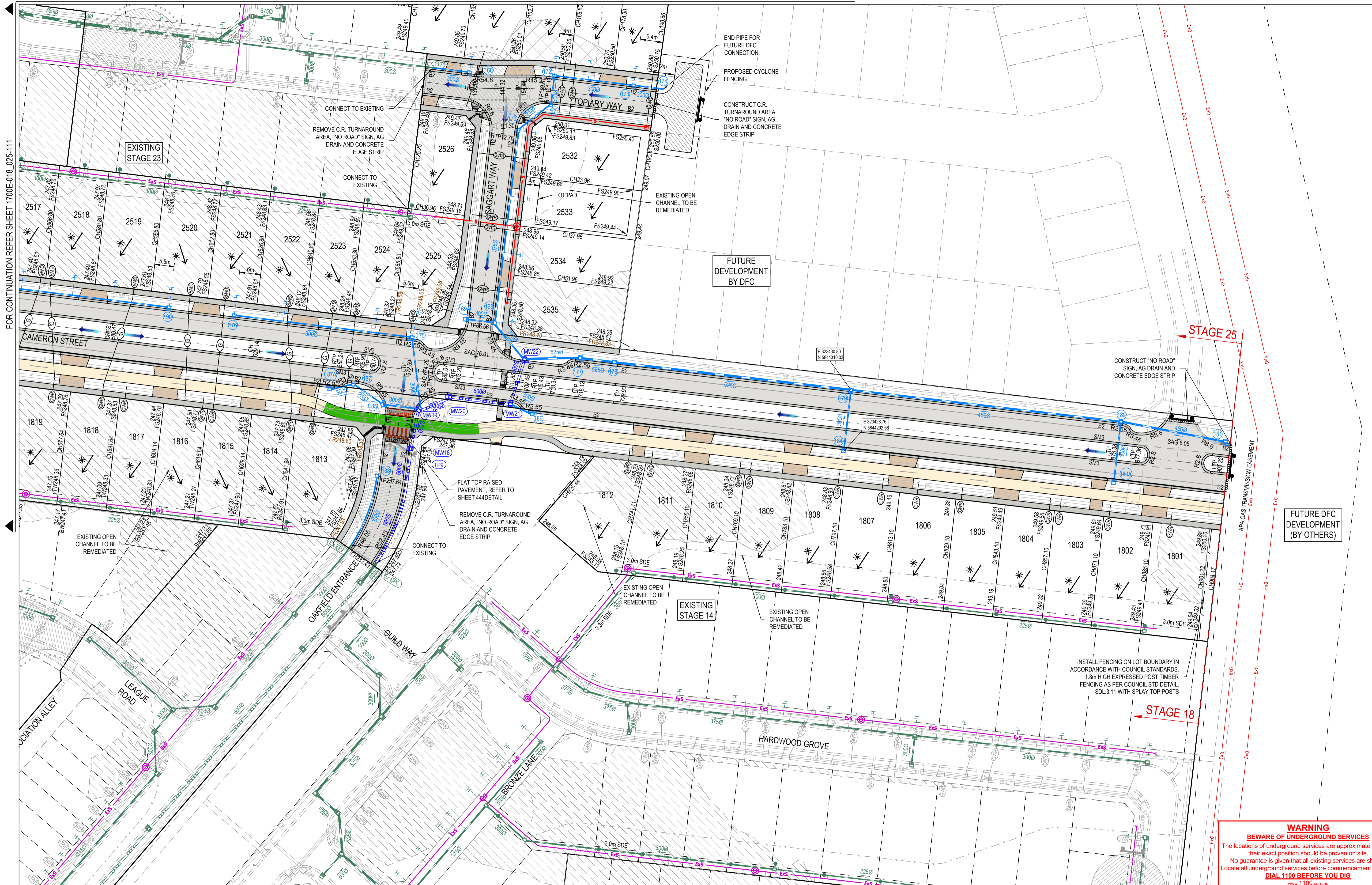
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mirvac

Olivine Estate - Stage 18W & 25W and Stage 18 & 25
Whittlesea City Council
Road and Drainage
Layout Plan - 1

MELBAYS REF: 367 G11
PROJECT / DRAWING No: 1700E-018_025-111
SHEET No: 02 of 51
REVISION: 4

WARNING
BEWARE OF UNDERGROUND SERVICES
The locations of underground services are approximate only and 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. www.1100.com.au



FOR CONTINUATION REFER SHEET 1700E-018_025-111

STAGE 25

EXISTING STAGE 14

STAGE 18

WARNING
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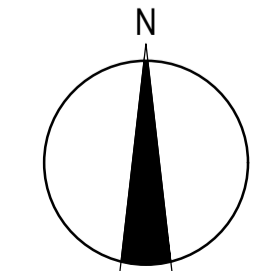
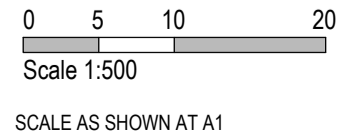
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PLAN OF SUB. NO. PS913483L & PS902205M
 PS913482N & PS902209D
 PERMIT REF. NO. 717158 & 719067

AS CONSTRUCTED



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mirvac

Olivine Estate - Stage 18W & 25W and Stage 18 & 25
 Whittlesea City Council
 Road and Drainage
 Layout Plan - 2

MELWAYS REF 367 G11	PROJECT / DRAWING No. 1700E-018_025-112	SHEET No. 03 of 51	REVISION 4
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NOTE
ENSURE RETAINING WALL PIERS STAGGERED
CLEAR OF UNDERGROUND SERVICES



FOR CONTINUATION REFER SHEET 1700E-018_025-111

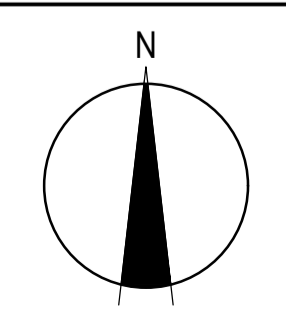
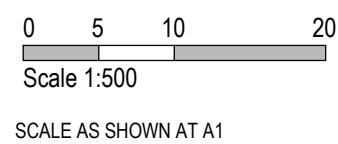
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AS CONSTRUCTED

PLAN OF SUB. NO.
P3913483L & P3905205M
P3913482N & P3905209D
PERMIT REF. NO.
711758 & 719067

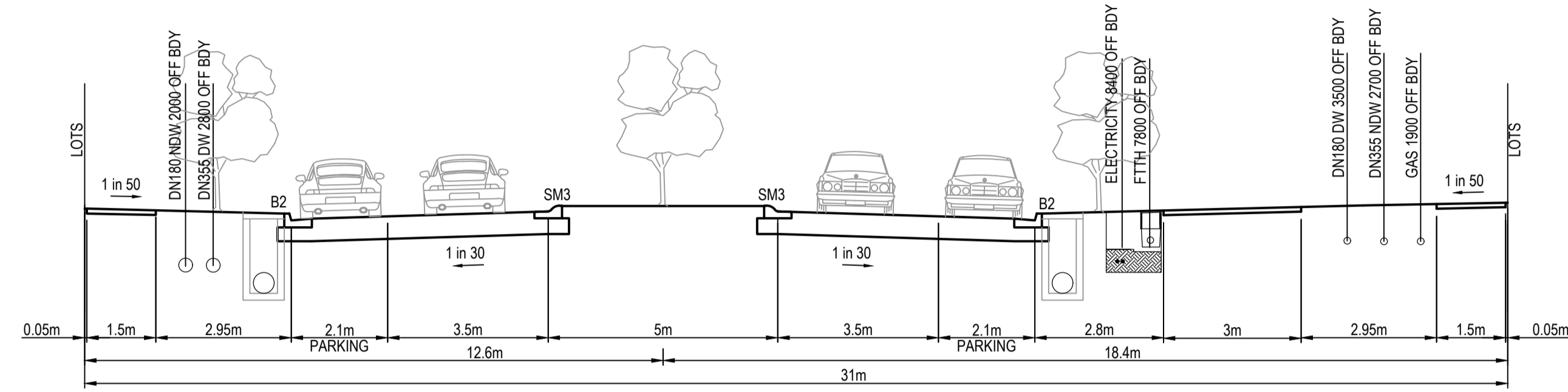


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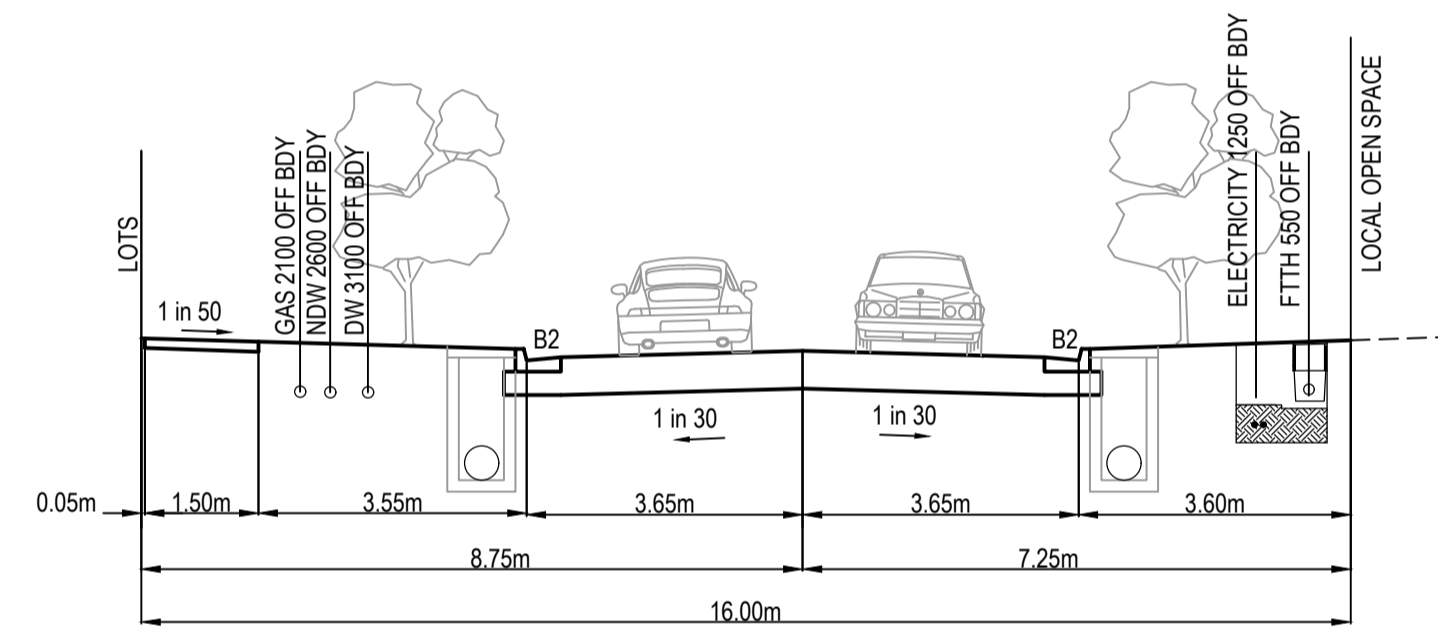


Olivine Estate - Stage 18W & 25W and Stage 18 & 25
Whittlesea City Council
Road and Drainage
Layout Plan - 3

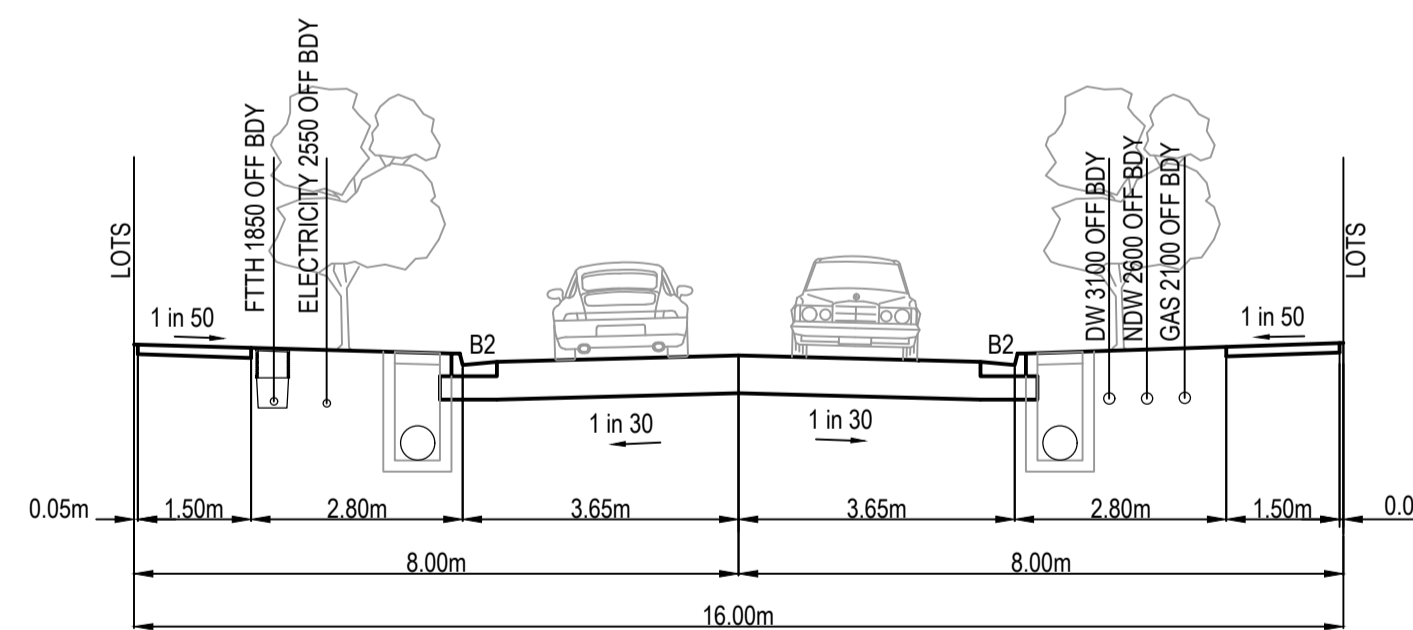
MELWAYS REF 367 G11	PROJECT / DRAWING No. 1700E-018_025-113	SHEET No. 04 of 51	REVISION 2
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31m CONNECTOR STREET
CAMERON STREET



16m ACCESS STREET
OAKFIELD ENTRANCE



16m ACCESS STREET
SAGGART WAY, TOPIARY WAY & BITTERN ROAD

AS CONSTRUCTED PLANS

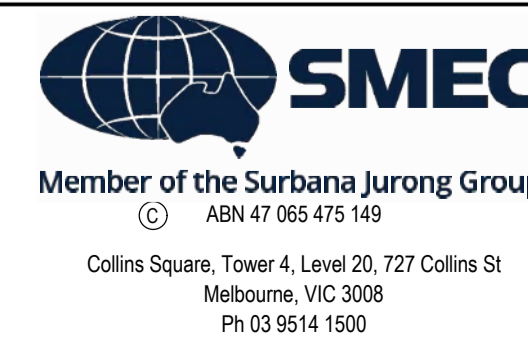
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PLAN OF SUB. NO.
PS913483L & PS905205M
PS913482N & PS905209D
PERMIT REF. NO.
717158 & 719067

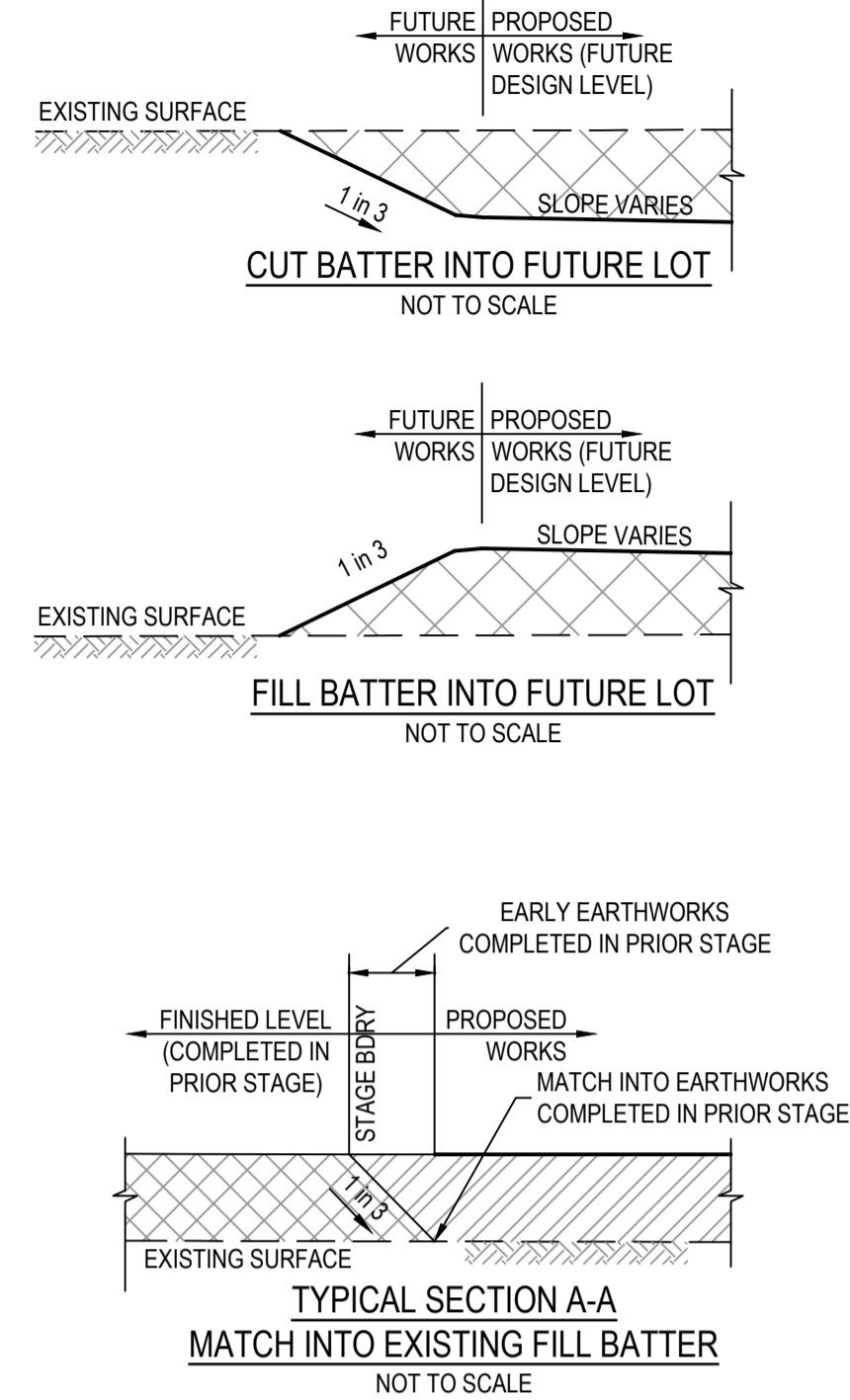
AS CONSTRUCTED

SCALE AS SHOWN AT A1



Olivine Estate - Stage 18W & 25W and Stage 18 & 25
Whittlesea City Council
Road and Drainage
Typical Cross Sections

MELWAYS REF 367 G11	PROJECT / DRAWING No. 1700E-018_025-114	SHEET No. 05 of 51	REVISION 2
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LEGEND - EARTHWORKS PLAN	
ALL PROPOSED, FUTURE & EXISTING SERVICE LOCATIONS ARE SHOWN INDICATIVELY	
	STORMWATER DRAIN, PIT & PROPERTY INLET
	MAIN DRAIN
	SWALE DRAIN
	SEWER & MAINTENANCE STRUCTURES
	HOUSE DRAIN
	ELECTRICITY (U.GROUND)
	ELECTRICITY (O.HEAD)
	GAS
	TELSTRA
	OPTIC FIBRE
	WATER
	RECYCLE WATER
	AG. DRAIN
	SERVICE CONDUITS
	TACTILE PAVERS
	EXISTING STORMWATER DRAIN
	EXISTING MAIN DRAIN
	EXISTING SWALE DRAIN
	EXISTING SEWER & MAINTENANCE STRUCTURES
	EXISTING HOUSE DRAIN
	EXISTING ELECTRICITY (UNDER GROUND)
	EXISTING ELECTRICITY OVERHEAD
	EXISTING GAS
	EXISTING TELSTRA
	EXISTING OPTIC FIBRE
	EXISTING WATER
	EXISTING RECYCLED WATER
	EXISTING AG. DRAIN
	EXISTING SERVICE CONDUITS
	EXISTING TACTILE PAVERS
	FUTURE STORMWATER DRAIN
	FUTURE MAIN DRAIN
	FUTURE SWALE DRAIN
	FUTURE SEWER & MAINTENANCE STRUCTURES
	FUTURE HOUSE DRAIN
	FUTURE ELECTRICITY (UNDER GROUND)
	FUTURE ELECTRICITY OVERHEAD
	FUTURE GAS
	FUTURE TELSTRA
	FUTURE OPTIC FIBRE
	FUTURE WATER
	FUTURE RECYCLED WATER
	FUTURE AG. DRAIN
	FUTURE SERVICE CONDUITS
	FUTURE TACTILE PAVERS
	ZERO LOT LINES
	141.34 EXISTING SURFACE LEVEL
	FS140.35 FINISHED BUILDING LINE LEVEL
	FR157.40 FINISHED RIDGE LINE LEVEL
	CH270.00 CHAINAGE
	TW159.60 TOP OF RETAINING WALL LEVEL
	BW159.00 BOTTOM OF RETAINING WALL LEVEL
	EXISTING RETAINING WALL
	RETAINING WALL
	FUTURE RETAINING WALL
	STRUCTURAL FILL > 200mm DEEP
	EXISTING STRUCTURAL FILL > 200mm DEEP
	CUT > 200mm DEEP
	DIRECTION OF FALL
	OVERLAND FLOW
	GRADED IN DIRECTION OF FALL TO LEVEL INDICATED
	EDGE STRIP, SUBSOIL DRAIN, "NO ROAD" SIGN & BARRIER
	EXISTING TREE TO BE RETAINED
	EXISTING TREE TO BE REMOVED
	PERMANENT SURVEY MARK
	TEMPORARY BENCH MARK
	PROPOSED DRIVEWAY & FOOTPATH
	PROPOSED INDUSTRIAL DRIVEWAY
	PROPOSED SHARED FOOTPATH
	PROPOSED ROAD PAVING
	EXISTING ROAD PAVING

FOR CONTINUATION REFER SHEET 1700E-018_025-132

FOR CONTINUATION REFER SHEET 1700E-018_025-133

FOR CONTINUATION REFER SHEET 1700E-018_025-132

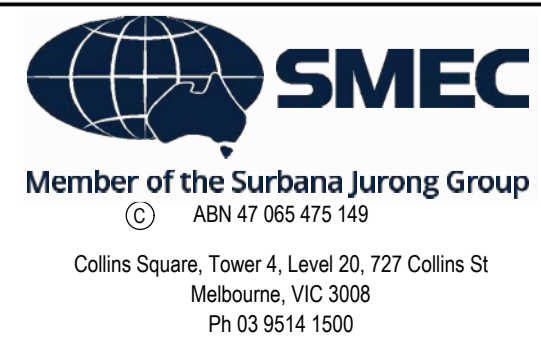
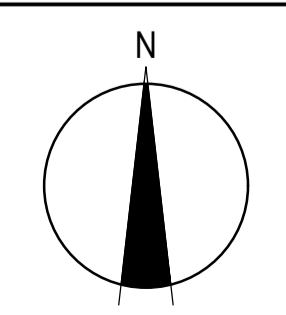
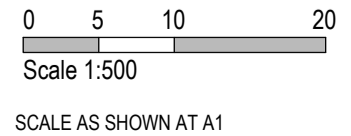
AS CONSTRUCTED PLANS

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PLAN OF SUB. NO.
P3913483 & P3905203M
P3913482N & P3905203D
PERMIT REF. NO.
711758 & 719067

AS CONSTRUCTED



Olivine Estate - Stage 18W & 25W and Stage 18 & 25
Whittlesea City Council
Road and Drainage
Earthworks & Retaining Wall - 1

MELBAYS REF 367 G11	PROJECT / DRAWING No. 1700E-018_025-131	SHEET No. 06 of 51	REVISION 4
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FOR CONTINUATION REFER SHEET 1700E-018_025-131

WARNING
BWARE OF UNDERGROUND SERVICES
 The locations of underground services are approximate only and 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

AS CONSTRUCTED PLANS
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Quality Management - ISO 9001
 OHS Management - AS/NZS 4801
 Environmental Management - ISO 14001

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AS CONSTRUCTED

PLAN OF SUB. NO. PS913483L & PS902020M
 PS913482N & PS902020D
 PERMIT REF. NO. 717158 & 719067

0 5 10 20
 Scale 1:500
 SCALE AS SHOWN AT A1

N

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 Melbourne, VIC 3008
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mirvac

Olivine Estate - Stage 18W & 25W and Stage 18 & 25
 Whittlesea City Council
 Road and Drainage
 Earthworks & Retaining Wall - 2

MELWAYS REF 367 G11	PROJECT / DRAWING No. 1700E-018_025-132	SHEET No. 07 of 51	REVISION 4
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FOR CONTINUATION REFER SHEET 1700E-018_025-131

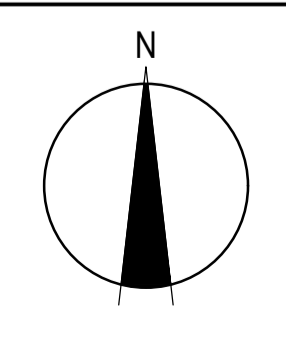
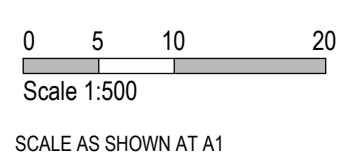
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AS CONSTRUCTED PLANS

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PLAN OF SUB. NO.
 P5913483 & P5905205M
 P5913482N & P5905209D
 PERMIT REF. NO.
 717158 & 719067

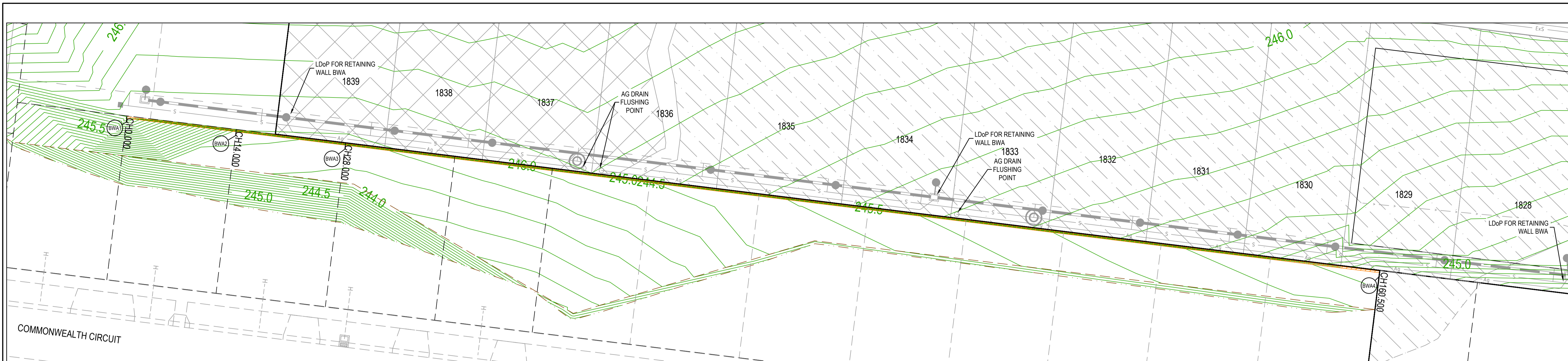
AS CONSTRUCTED



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Olivine Estate - Stage 18W & 25W and Stage 18 & 25
 Whittlesea City Council
 Road and Drainage
 Earthworks & Retaining Wall - 3

MELBOURNE REF 367 G11	PROJECT / DRAWING No. 1700E-018_025-133	SHEET No. 08 of 51	REVISION 2
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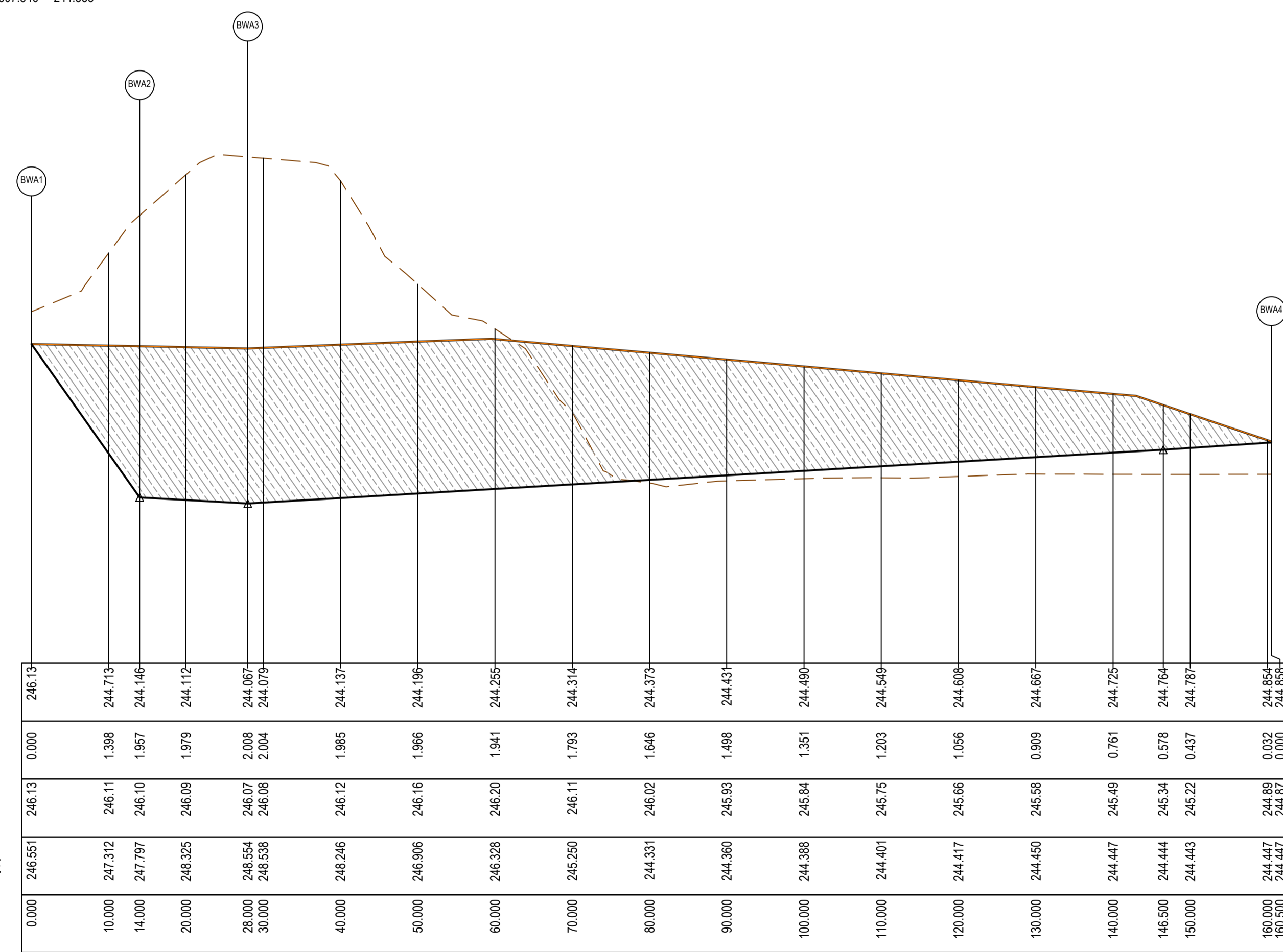


ALIGNMENT BWA

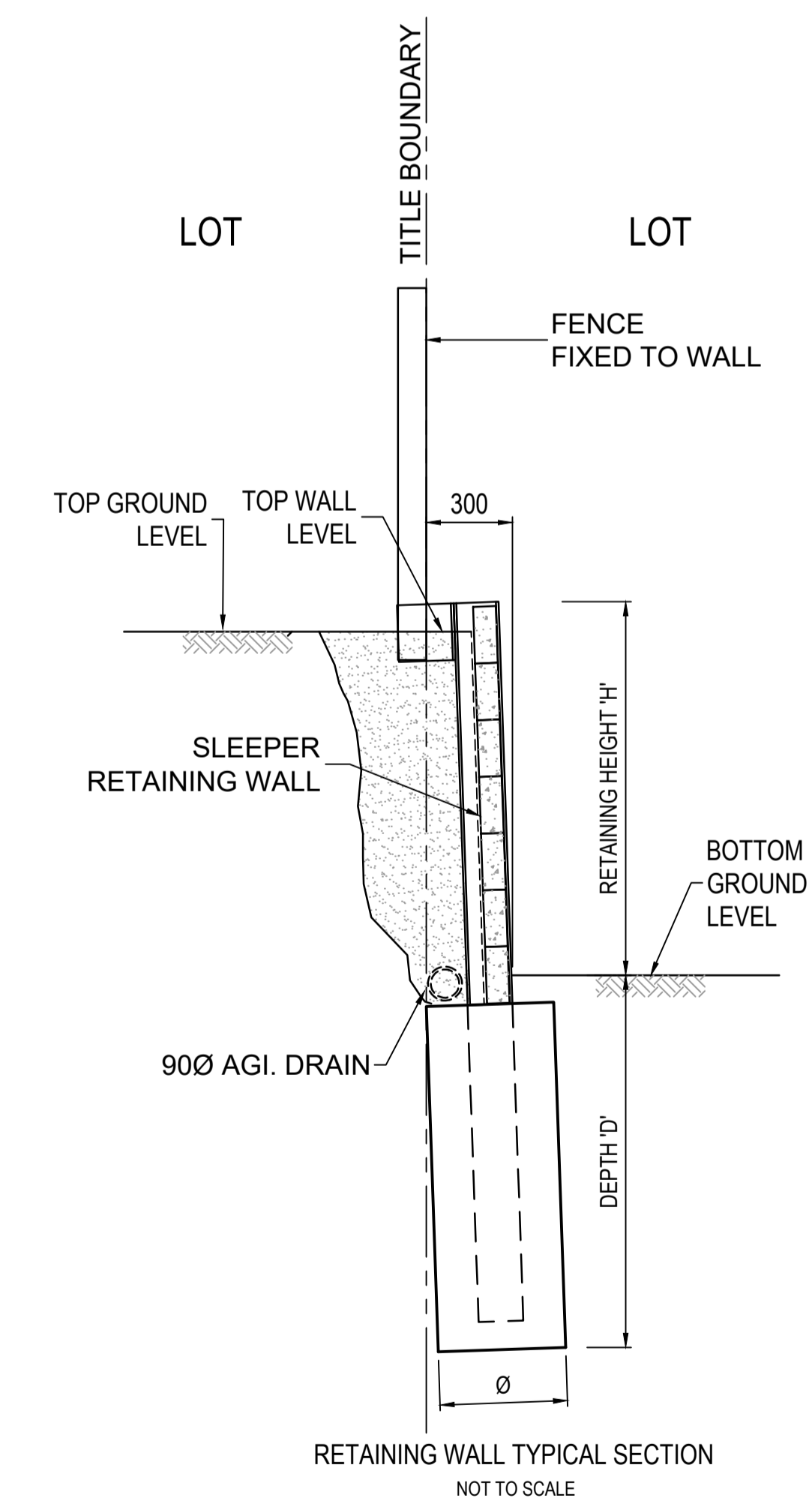
POINT NO	EASTING	NORTHING	RL
BWA1	322800.275	5844327.500	246.130
BWA2	322814.170	5844325.786	244.146
BWA3	322828.064	5844324.071	244.067
BWA4	322959.567	5844307.846	244.858

RETAINING WALL DESIGN AND APPROVALS REQUIREMENTS

NOTE: RETAINING WALL DETAILS AND DESIGN CERTIFICATION TO BE SUBMITTED TO COUNCIL PRIOR TO COMMENCEMENT OF CONSTRUCTION OF WALLS



RETAINING WALL - LONGITUDINAL SECTION



RETAINING WALL TYPICAL SECTION
NOT TO SCALE

LEGEND
ALL PROPOSED, FUTURE & EXISTING SERVICE LOCATIONS ARE SHOWN INDICATIVELY

	STORMWATER DRAIN, PIT & PROPERTY INLET
	MAIN DRAIN
	SWALE DRAIN
	SEWER & MAINTENANCE STRUCTURES
	HOUSE DRAIN
	ELECTRICITY (U.GROUND)
	ELECTRICITY (O.HEAD)
	GAS
	TELSTRA
	OPTIC FIBRE
	WATER
	RECYCLE WATER
	AG DRAIN
	SERVICE CONDUITS
	CHAINAGE
	TOP OF RETAINING WALL LEVEL
	BOTTOM OF RETAINING WALL LEVEL
	EXISTING RETAINING WALL
	RETAINING WALL - CONCRETE SLEEPER
	RETAINING WALL - ROCK
	AG DRAIN

LEGEND

	EXISTING SURFACE
	DESIGN LINE
	RETAINING WALL - CONCRETE SLEEPER
	RETAINING WALL - ROCK

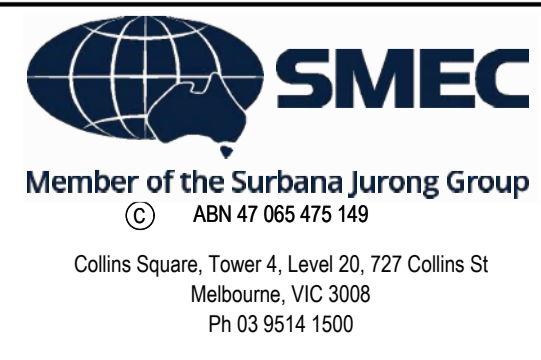
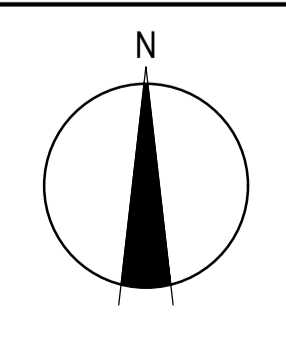
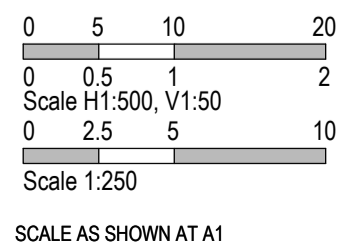
AS CONSTRUCTED PLANS

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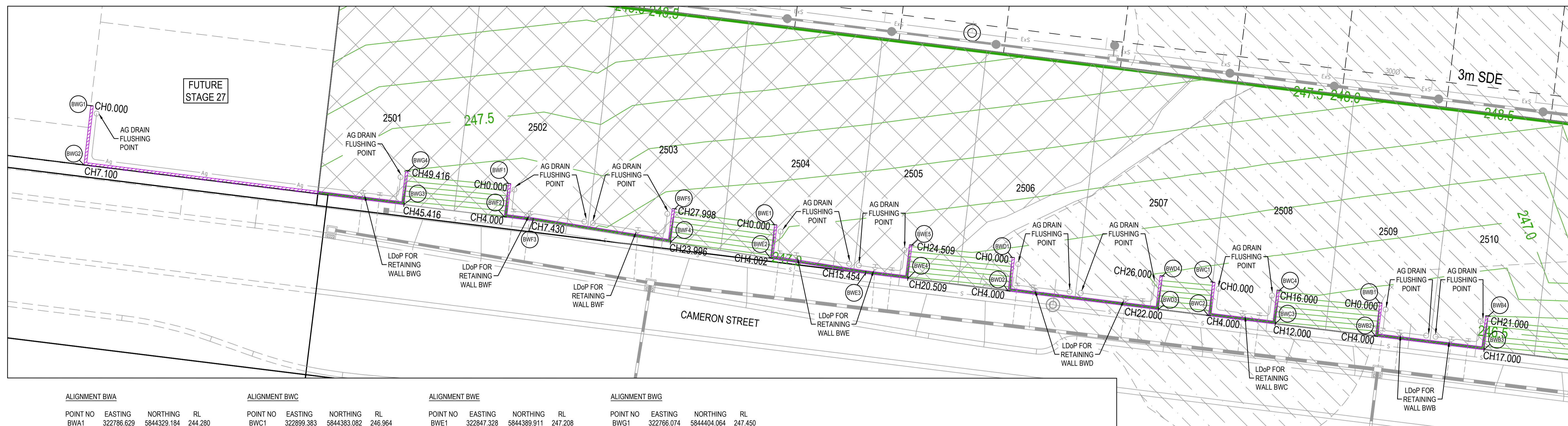
PLAN OF SUB. NO.
PS913483L & PS905205M
PS913482N & PS905209D
PERMIT REF. NO.
717158 & 719067

AS CONSTRUCTED



Olivine Estate - Stage 18W & 25W and Stage 18 & 25
Whittlesea City Council
Road and Drainage
Retaining Wall Setout Plan - 1

MELWAYS REF	PROJECT / DRAWING No	SHEET No	REVISION
367 G11	1700E-018_025-134	09 of 51	2



ALIGNMENT BWA

POINT NO	EASTING	NORTHING	RL
BWA1	322786.629	5844329.184	244.280
BWA2	322828.064	5844324.071	244.067
BWA3	322945.673	5844309.561	244.764
BWA4	322959.567	5844307.846	244.858

ALIGNMENT BWC

POINT NO	EASTING	NORTHING	RL
BWC1	322899.383	5844383.082	246.964
BWC2	322898.893	5844379.112	246.297
BWC3	322906.833	5844378.133	246.257
BWC4	322907.323	5844382.103	246.924

ALIGNMENT BWE

POINT NO	EASTING	NORTHING	RL
BWE1	322847.328	5844389.911	247.208
BWE2	322846.837	5844385.939	246.543
BWE3	322858.146	5844384.140	246.489
BWE4	322863.164	5844383.521	246.465
BWE5	322863.654	5844387.491	247.132

ALIGNMENT BWB

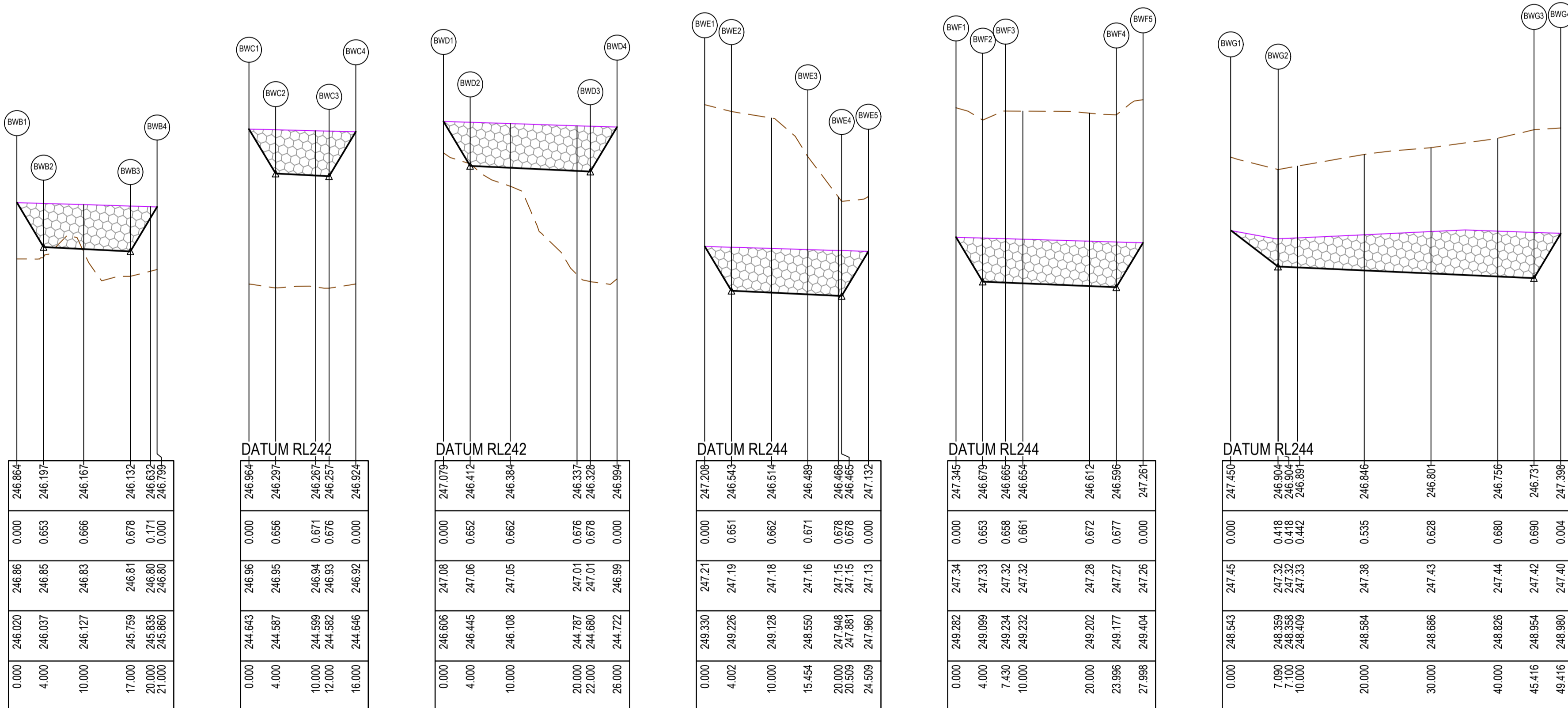
POINT NO	EASTING	NORTHING	RL
BWG1	322766.074	5844404.064	247.450
BWG2	322765.263	5844397.010	246.904
BWG3	322803.291	5844392.319	246.731
BWG4	322803.781	5844396.288	247.398

ALIGNMENT BWD

POINT NO	EASTING	NORTHING	RL
BWD1	322919.233	5844380.633	246.864
BWD2	322918.743	5844376.663	246.197
BWD3	322931.645	5844375.072	246.132
BWD4	322932.135	5844379.041	246.799

ALIGNMENT BWF

POINT NO	EASTING	NORTHING	RL
BWF1	322815.690	5844394.819	247.345
BWF2	322815.215	5844390.847	246.679
BWF3	322816.619	5844390.427	246.665
BWF4	322834.979	5844387.825	246.596
BWF5	322835.469	5844391.797	247.261



RETAINING WALL - LONGITUDINAL SECTION

RETAINING WALL - LONGITUDINAL SECTION

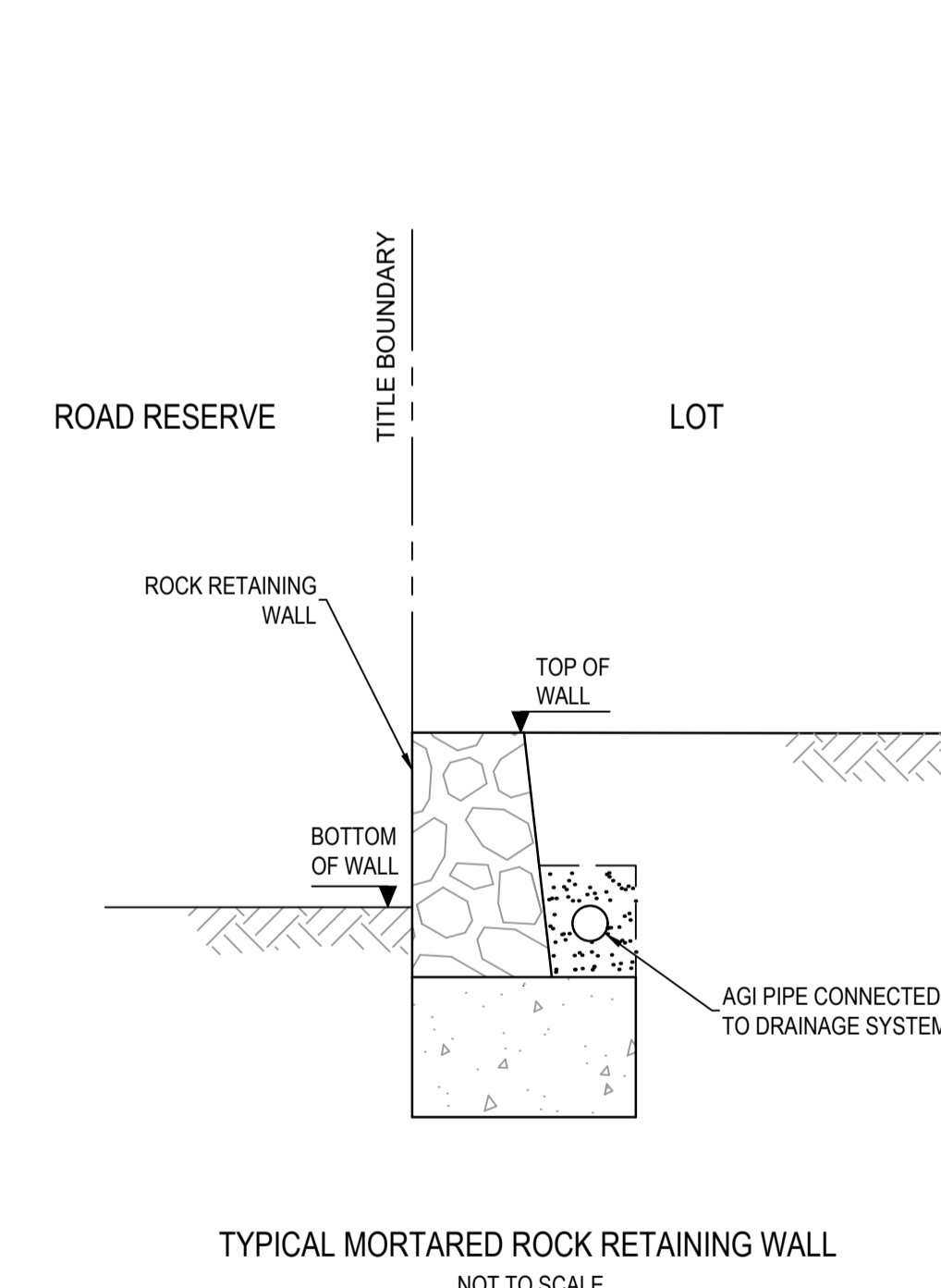
RETAINING WALL - LONGITUDINAL SECTION

RETAINING WALL - LONGITUDINAL SECTION

RETAINING WALL - LONGITUDINAL SECTION

RETAINING WALL - LONGITUDINAL SECTION

RETAINING WALL - LONGITUDINAL SECTION



TYPICAL MORTARED ROCK RETAINING WALL
NOT TO SCALE

RETAINING WALL DESIGN AND APPROVALS REQUIREMENTS

NOTE: RETAINING WALL DETAILS AND DESIGN CERTIFICATION TO BE SUBMITTED TO COUNCIL PRIOR TO COMMENCEMENT OF CONSTRUCTION OF WALLS

ROCK RETAINING WALLS

- CONTRACTOR TO OBTAIN ANY RELEVANT BUILDING PERMITS. COPY OF BUILDING PERMIT TO BE PROVIDED TO PRINCIPAL.
- CONTRACTOR TO PROVIDE STRUCTURAL ENGINEER INSPECTION AND CERTIFICATION FOR CONSTRUCTION OF ALL WALLS, IRRESPECTIVE OF NEED FOR PERMIT OR OTHERWISE.
- CONTRACTOR TO ENSURE ALL REQUIREMENTS OF BUILDING PERMIT HAVE BEEN ADDRESSED.

LEGEND
ALL PROPOSED, FUTURE & EXISTING SERVICE LOCATIONS ARE SHOWN INDICATIVELY

	STORMWATER DRAIN, PIT & PROPERTY INLET
	MAIN DRAIN
	SWALE DRAIN
	SEWER & MAINTENANCE STRUCTURES
	HOUSE DRAIN
	ELECTRICITY (U.GROUND)
	ELECTRICITY (O.HEAD)
	GAS
	TELSTRA
	OPTIC FIBRE
	WATER
	RECYCLE WATER
	AG DRAIN
	SERVICE CONDUITS
	CHAINAGE
	TOP OF RETAINING WALL LEVEL
	BOTTOM OF RETAINING WALL LEVEL
	EXISTING RETAINING WALL
	RETAINING WALL - CONCRETE SLEEPER
	RETAINING WALL - ROCK
	AG DRAIN

LEGEND

	EXISTING SURFACE
	DESIGN LINE
	RETAINING WALL - CONCRETE SLEEPER
	RETAINING WALL - ROCK

AS CONSTRUCTED PLANS

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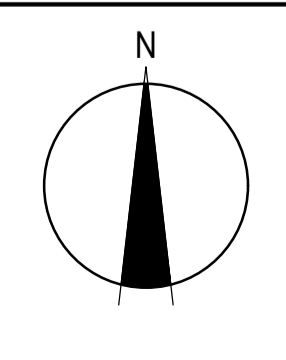
Quality Management - ISO 9001
 OHS Management - AS/NZS 4801
 Environmental Management - ISO 14001

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AS CONSTRUCTED

PLAN OF SUB. NO. PS913483L & PS905205M
 PS913482N & PS905205D
 PERMIT REF. NO. 717158 & 719067

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 Scale H1:500, V1:50
 0 2.5 5 10
 Scale 1:250
 SCALE AS SHOWN AT 1

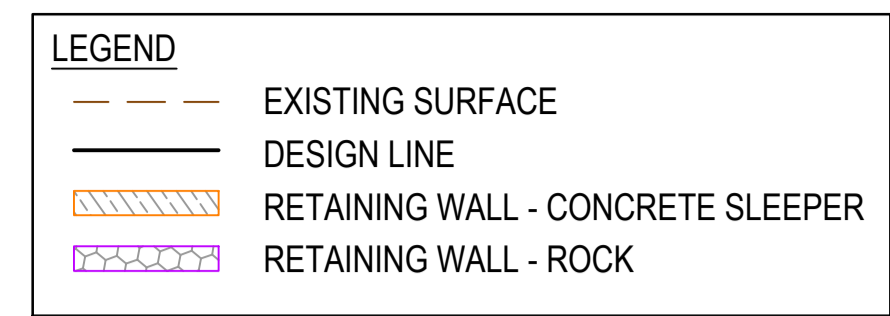
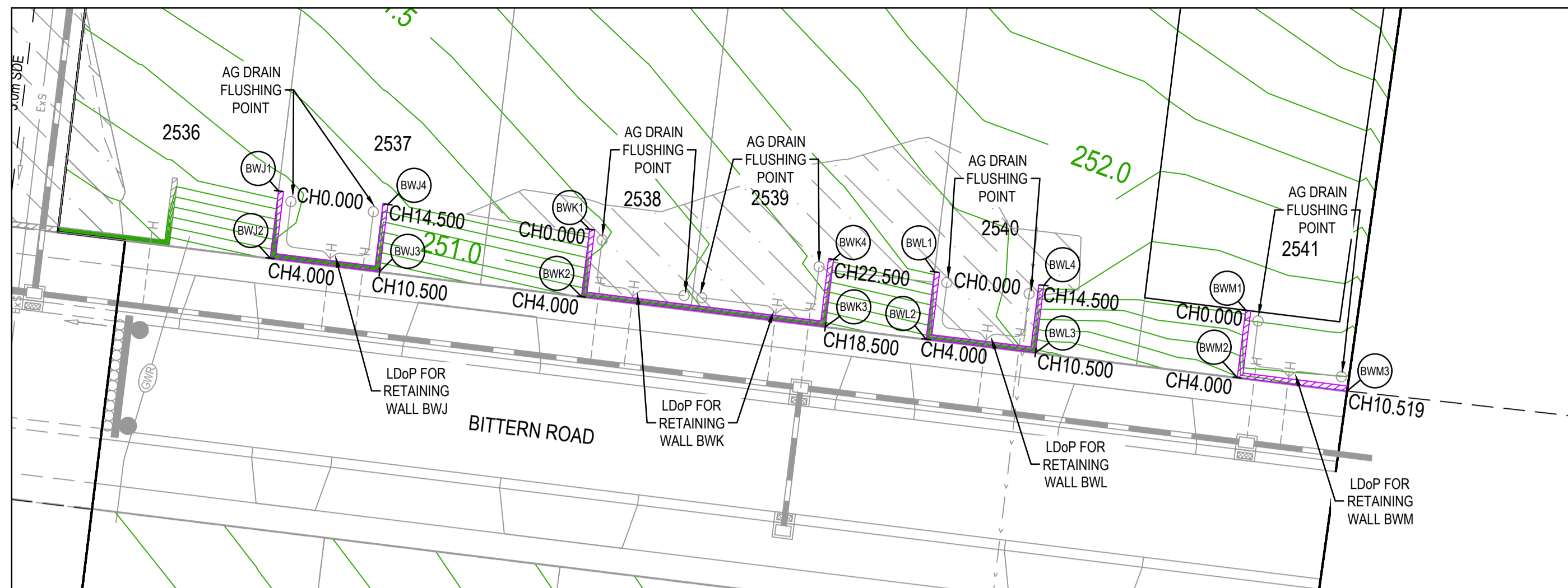
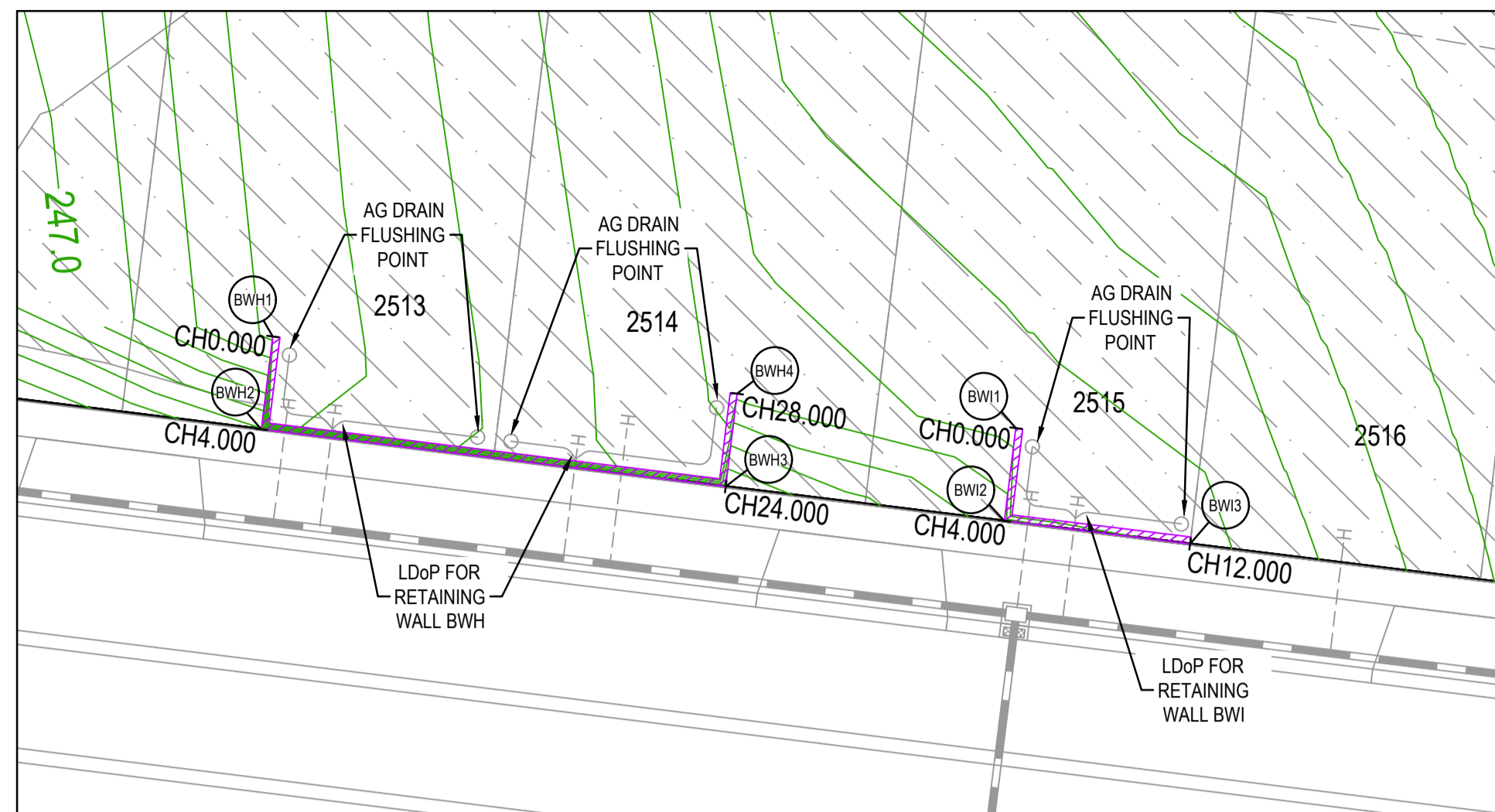


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Olivine Estate - Stage 18W & 25W and Stage 18 & 25
 Whittlesea City Council
 Road and Drainage
 Retaining Wall Setout Plan - 2

MELBAYS REF	PROJECT / DRAWING No	SHEET No	REVISION
367 G11	1700E-018_025-135	10 of 51	3



LEGEND
ALL PROPOSED, FUTURE & EXISTING SERVICE LOCATIONS ARE SHOWN INDICATIVELY

	STORMWATER DRAIN, PIT & PROPERTY INLET
	MAIN DRAIN
	SWALE DRAIN
	SEWER & MAINTENANCE STRUCTURES
	HOUSE DRAIN
	ELECTRICITY (U.GROUND)
	ELECTRICITY (O.HEAD)
	GAS
	TELSTRA
	OPTIC FIBRE
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	RECYCLE WATER
	AG DRAIN
	SERVICE CONDUITS
	CH270.00 CHAINAGE
	TW159.60 TOP OF RETAINING WALL LEVEL
	BW159.00 BOTTOM OF RETAINING WALL LEVEL
	EXISTING RETAINING WALL
	RETAINING WALL - CONCRETE SLEEPER
	RETAINING WALL - ROCK
	Ag DRAIN

ALIGNMENT BWH

POINT NO	EASTING	NORTHING	RL
BWH1	323139.664	5844353.436	247.321
BWH2	323139.175	5844349.466	246.791
BWH3	323159.024	5844347.017	247.324
BWH4	323159.514	5844350.987	247.724

ALIGNMENT BWI

POINT NO	EASTING	NORTHING	RL
BWI1	323171.424	5844349.518	247.842
BWI2	323170.934	5844345.548	247.642
BWI3	323178.874	5844344.568	247.853

ALIGNMENT BWJ

POINT NO	EASTING	NORTHING	RL
BWJ1	323323.990	5844485.862	251.178
BWJ2	323323.500	5844481.892	250.512
BWJ3	323329.952	5844481.096	250.612
BWJ4	323330.441	5844485.066	251.279

ALIGNMENT BWK

POINT NO	EASTING	NORTHING	RL
BWK1	323342.351	5844483.596	251.480
BWK2	323341.861	5844479.626	250.813
BWK3	323356.252	5844477.851	251.059
BWK4	323356.742	5844481.821	251.725

ALIGNMENT BWL

POINT NO	EASTING	NORTHING	RL
BWL1	323362.697	5844478.086	251.827
BWL2	323362.207	5844477.116	251.161
BWL3	323368.658	5844476.320	251.271
BWL4	323369.148	5844480.290	251.937

ALIGNMENT BWM

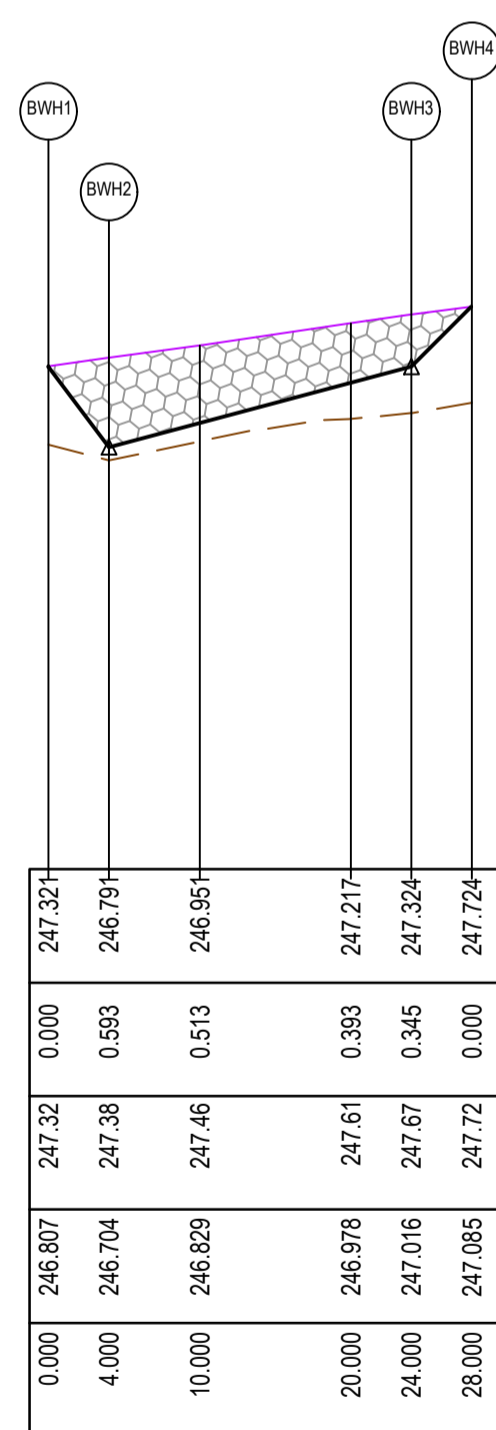
POINT NO	EASTING	NORTHING	RL
BWM1	323381.058	5844478.821	251.696
BWM2	323380.568	5844474.851	251.496
BWM3	323387.038	5844474.053	251.678

RETAINING WALL DESIGN AND APPROVALS REQUIREMENTS

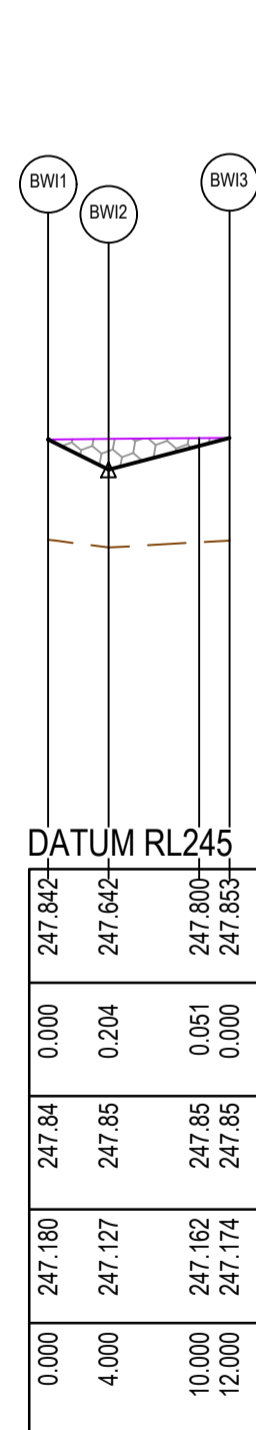
NOTE: RETAINING WALL DETAILS AND DESIGN CERTIFICATION TO BE SUBMITTED TO COUNCIL PRIOR TO COMMENCEMENT OF CONSTRUCTION OF WALLS

ROCK RETAINING WALLS

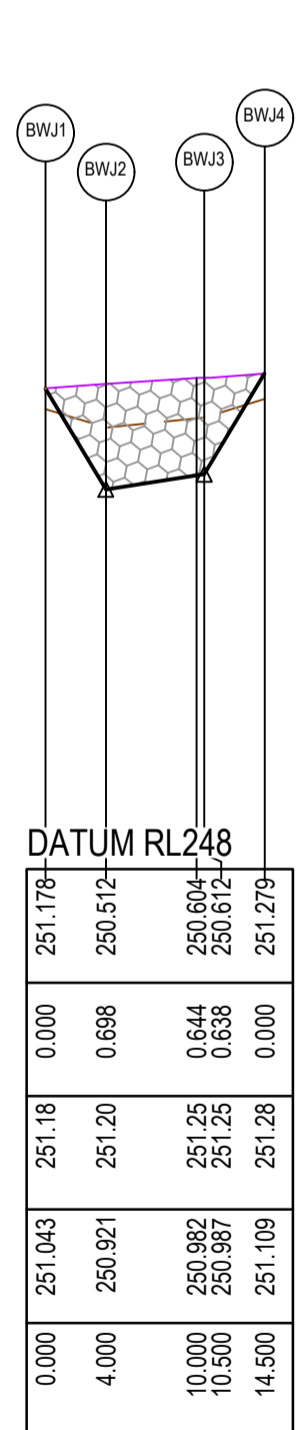
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- CONTRACTOR TO PROVIDE STRUCTURAL ENGINEER INSPECTION AND CERTIFICATION FOR CONSTRUCTION OF ALL WALLS, IRRESPECTIVE OF NEED FOR PERMIT OR OTHERWISE.
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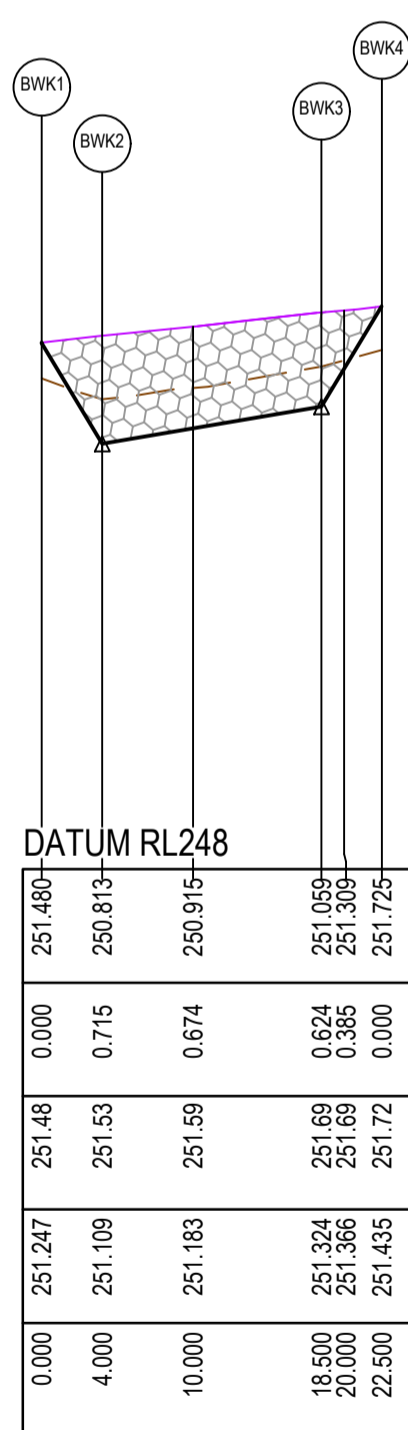
RETAINING WALL - LONGITUDINAL SECTION



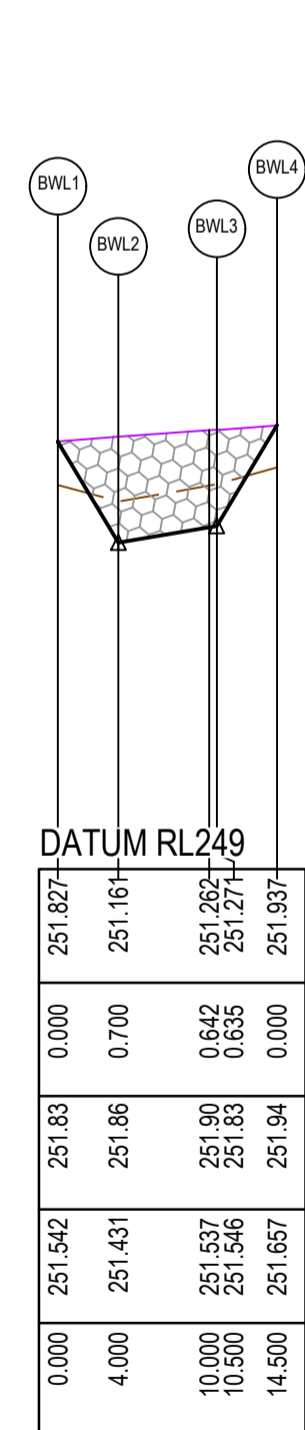
RETAINING WALL - LONGITUDINAL SECTION



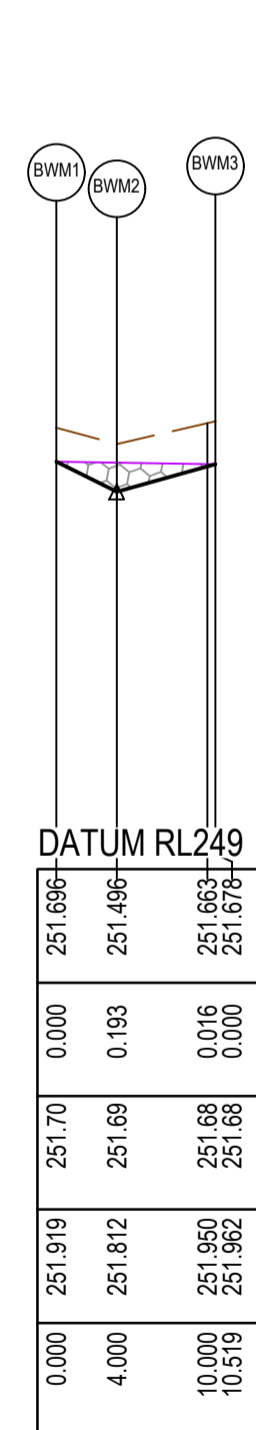
RETAINING WALL - LONGITUDINAL SECTION



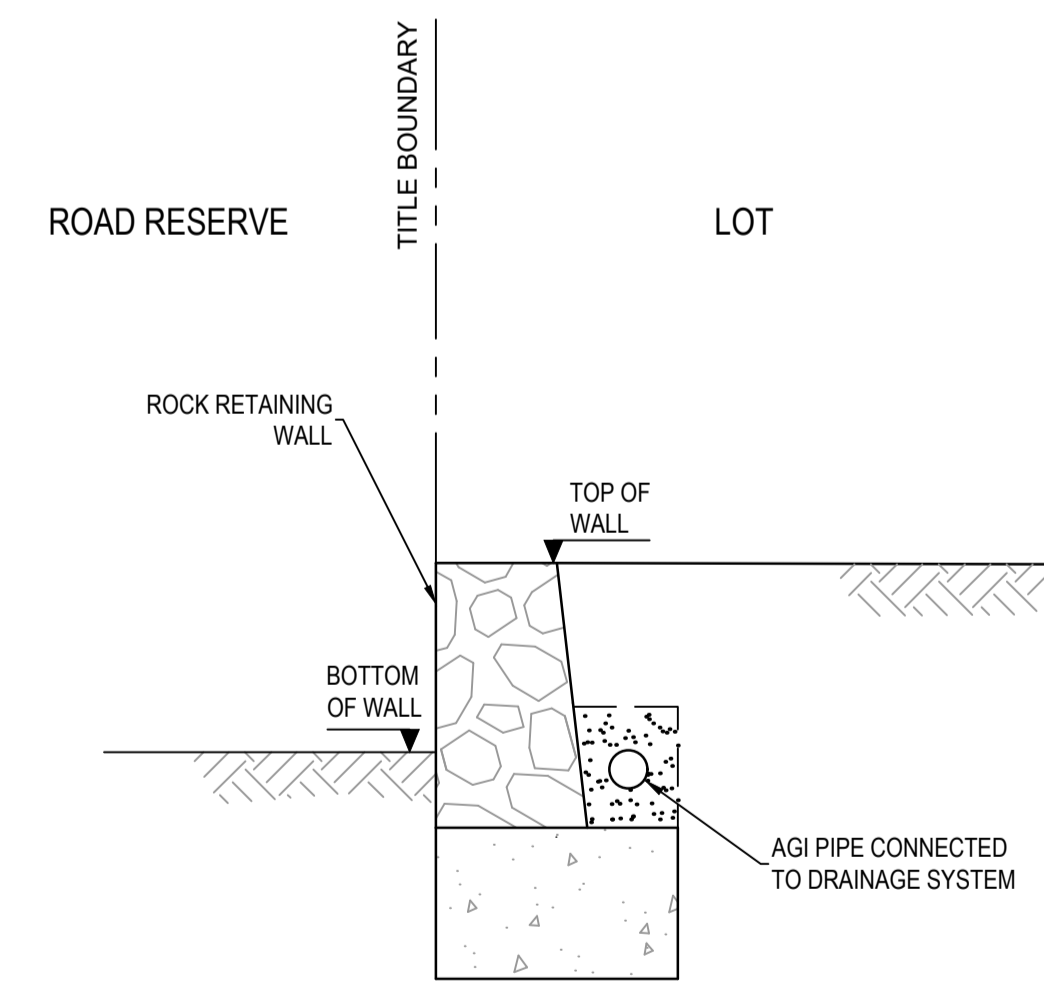
RETAINING WALL - LONGITUDINAL SECTION



RETAINING WALL - LONGITUDINAL SECTION



RETAINING WALL - LONGITUDINAL SECTION



TYPICAL MORTARED ROCK RETAINING WALL
NOT TO SCALE

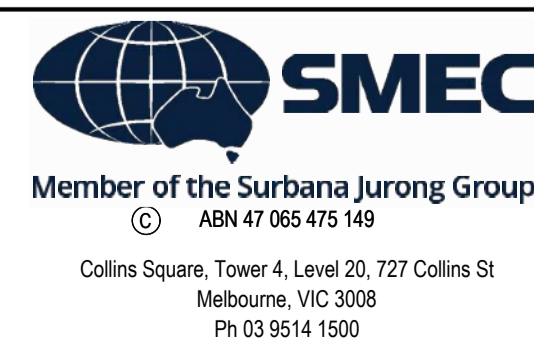
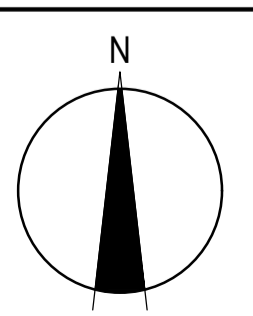
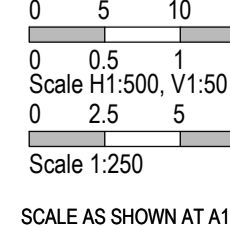
AS CONSTRUCTED PLANS

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AS CONSTRUCTED

PLAN OF SUB. NO.
P5913483 & P5905205M
P5913482N & P5905209D
PERMIT REF. NO.
717158 & 719067

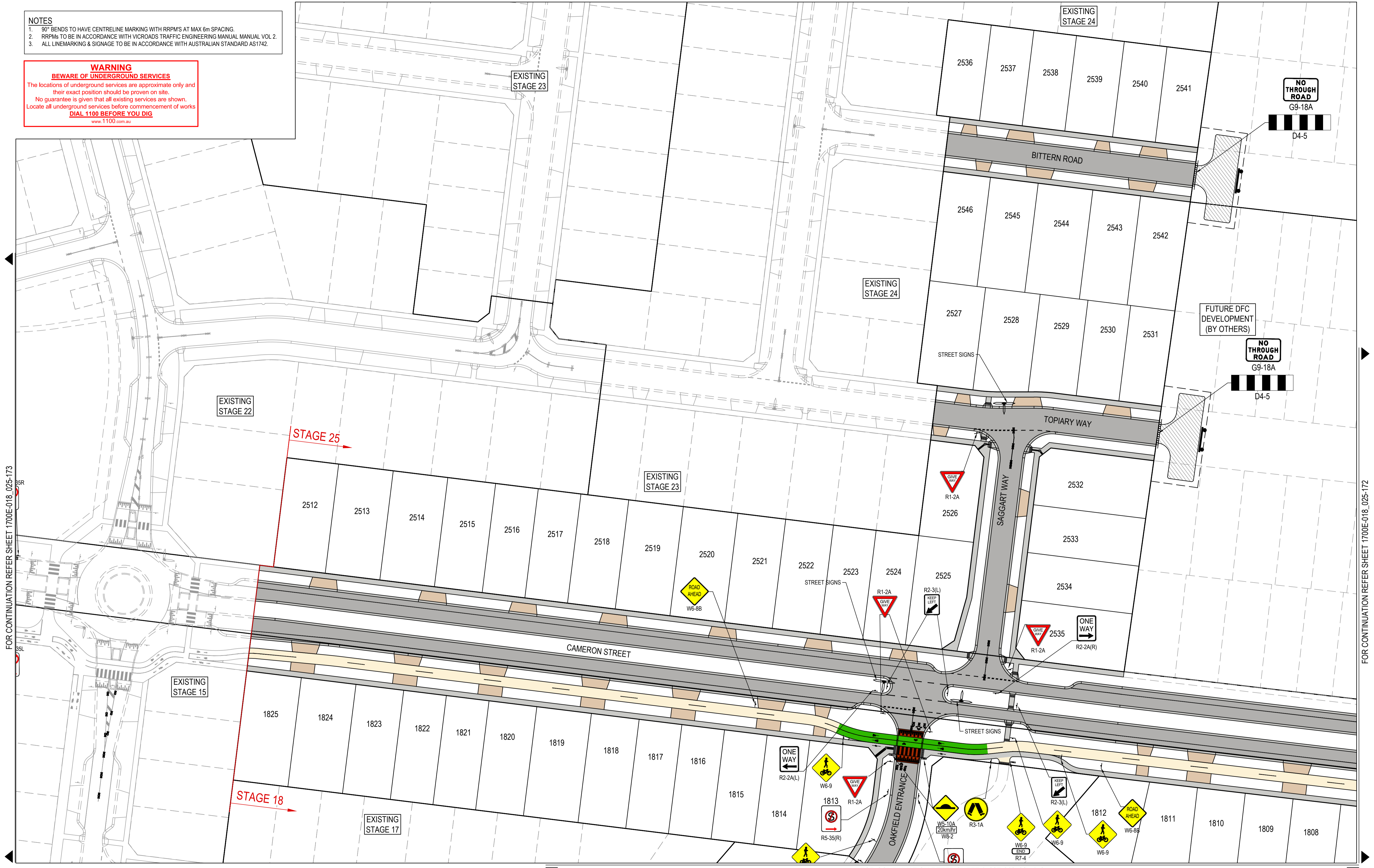


Olivine Estate - Stage 18W & 25W and Stage 18 & 25
Whittlesea City Council
Road and Drainage
Retaining Wall Setout Plan - 3

MELWAYS REF 367 G11	PROJECT / DRAWING No. 1700E-018_025-136	SHEET No. 11 of 51	REVISION 2
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- NOTES**
- 90° BENDS TO HAVE CENTRELINE MARKING WITH RRPMS AT MAX 6m SPACING.
 - RRPMs TO BE IN ACCORDANCE WITH VICROADS TRAFFIC ENGINEERING MANUAL VOL 2.
 - ALL LINEMARKING & SIGNAGE TO BE IN ACCORDANCE WITH AUSTRALIAN STANDARD AS1742.

WARNING
BEWARE OF UNDERGROUND SERVICES
 The locations of underground services are approximate only and 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



FOR CONTINUATION REFER SHEET 1700E-018_025-173

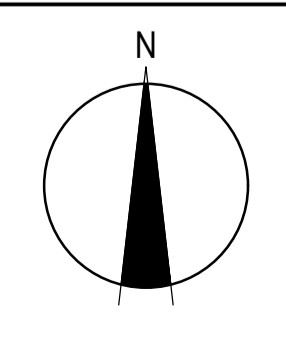
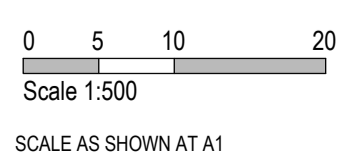
FOR CONTINUATION REFER SHEET 1700E-018_025-172

FOR CONTINUATION REFER SHEET 1700E-018_025-172

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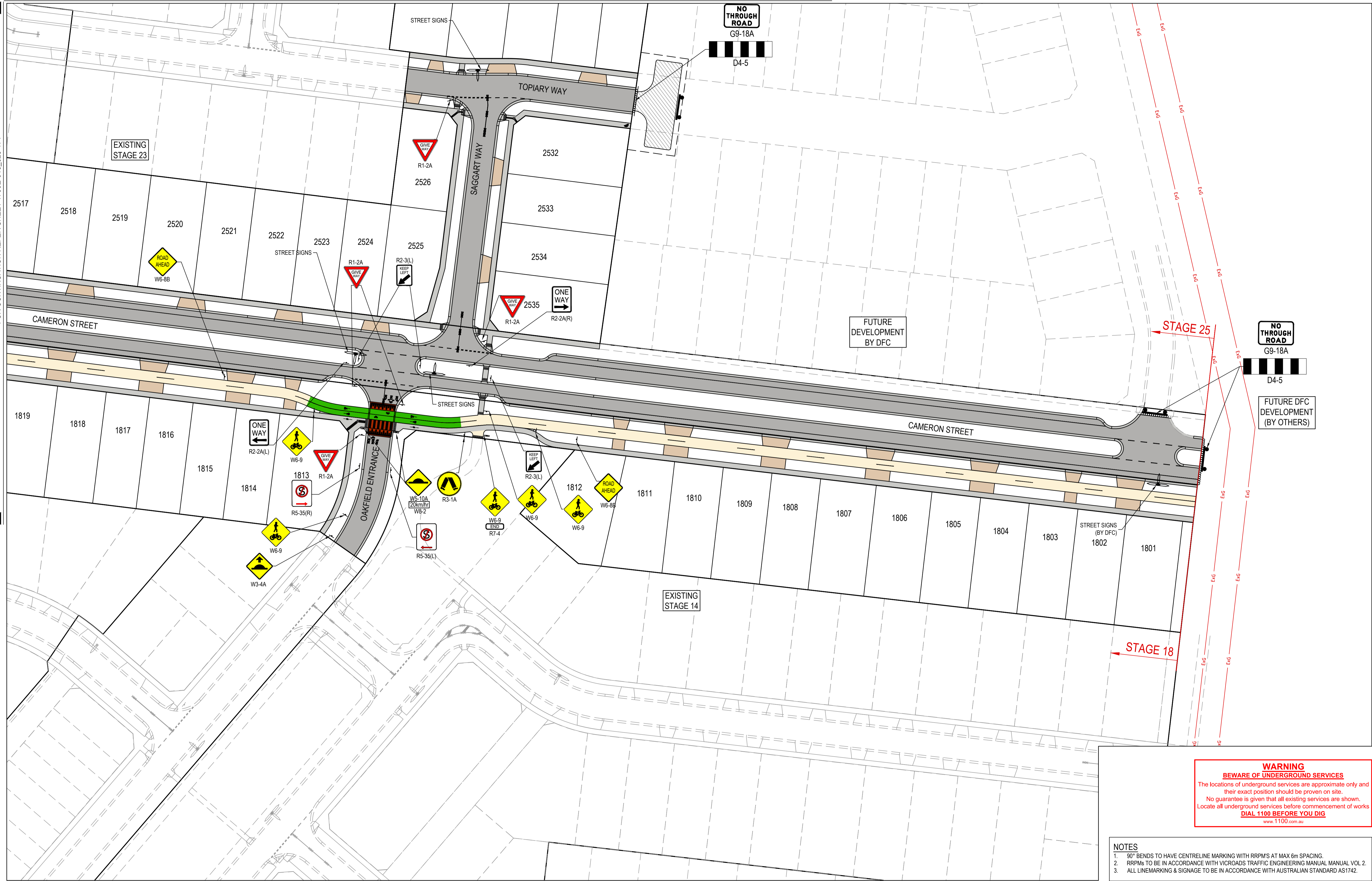
PLAN OF SUB. NO. PS913483L & PS905203M
 PS913482N & PS905209D
 PERMIT REF. NO. 717158 & 719067
AS CONSTRUCTED



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 Melbourne, VIC 3008
 Ph 03 9514 1500

Olivine Estate - Stage 18W & 25W and Stage 18 & 25
 Whittlesea City Council
 Road and Drainage
 Signage & Linemarking Plan - 1

MELWAYS REF 367 G11	PROJECT / DRAWING No. 1700E-018_025-171	SHEET No. 12 of 51	REVISION 3
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 - ALL LINEMARKING & SIGNAGE TO BE IN ACCORDANCE WITH AUSTRALIAN STANDARD AS1742.

AS CONSTRUCTED PLANS

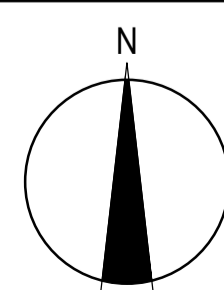
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PLAN OF SUB. NO.
 P3913483L & P3905203M
 P3913482N & P3905209D
 PERMIT REF. NO.
 717158 & 719067

AS CONSTRUCTED

Scale 1:500
 SCALE AS SHOWN AT A1

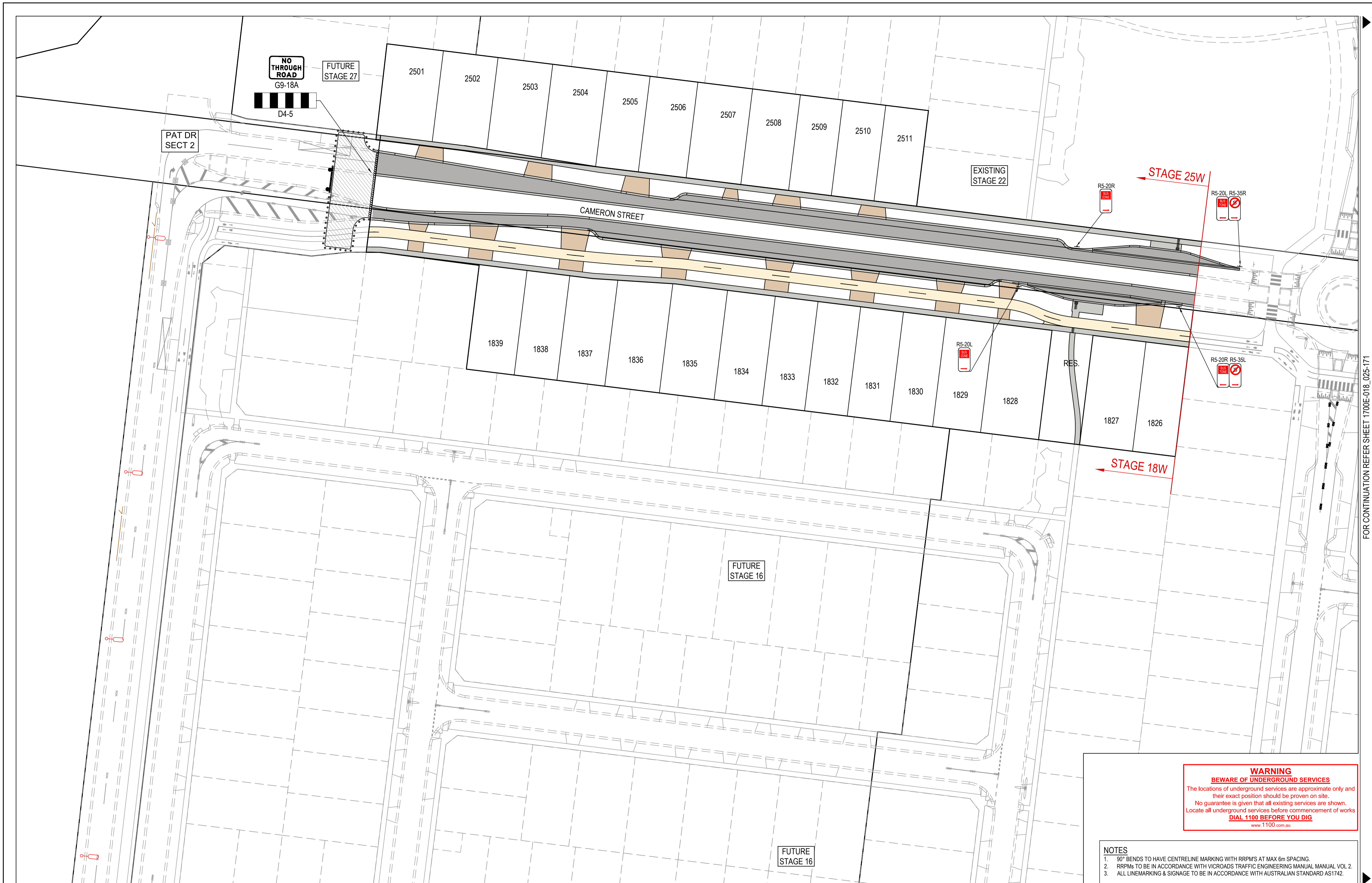


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 Melbourne, VIC 3008
 Ph 03 9514 1500



Olivine Estate - Stage 18W & 25W and Stage 18 & 25
 Whittlesea City Council
 Road and Drainage
 Signage & Linemarking Plan - 2

MELWAYS REF 367 G11	PROJECT / DRAWING No. 1700E-018_025-172	SHEET No. 13 of 51	REVISION 3
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FOR CONTINUATION REFER SHEET 1700E-018_025-171

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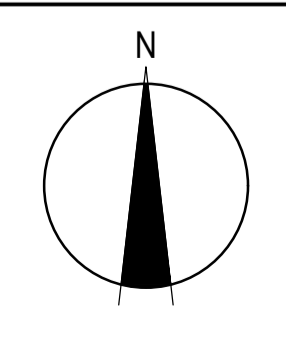
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PLAN OF SUB. NO. PS913483L & PS905205M
 PS913482N & PS905209D
 PERMIT REF. NO. 717158 & 719067

AS CONSTRUCTED

0 5 10 20
 Scale 1:500
 SCALE AS SHOWN AT A1

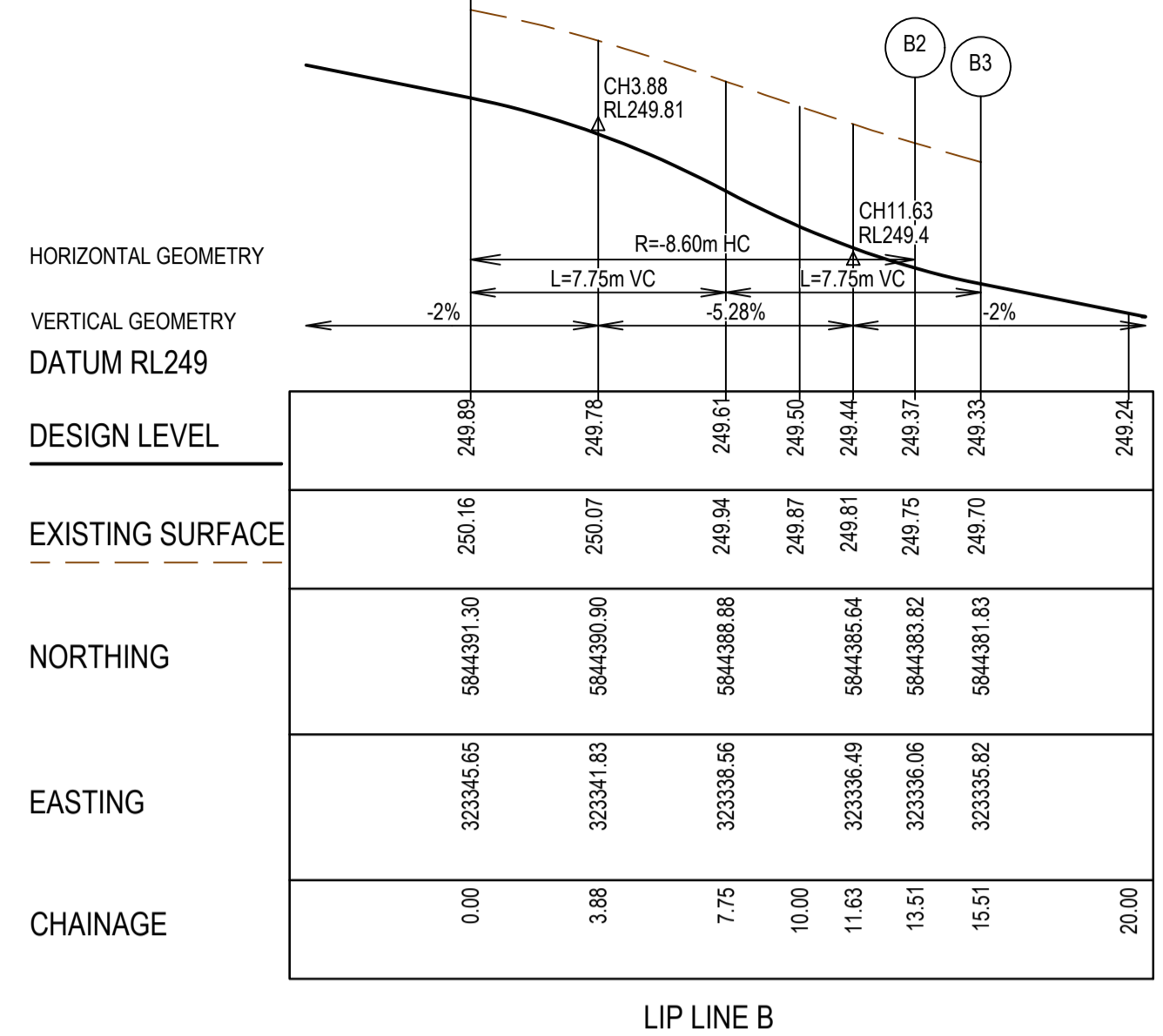
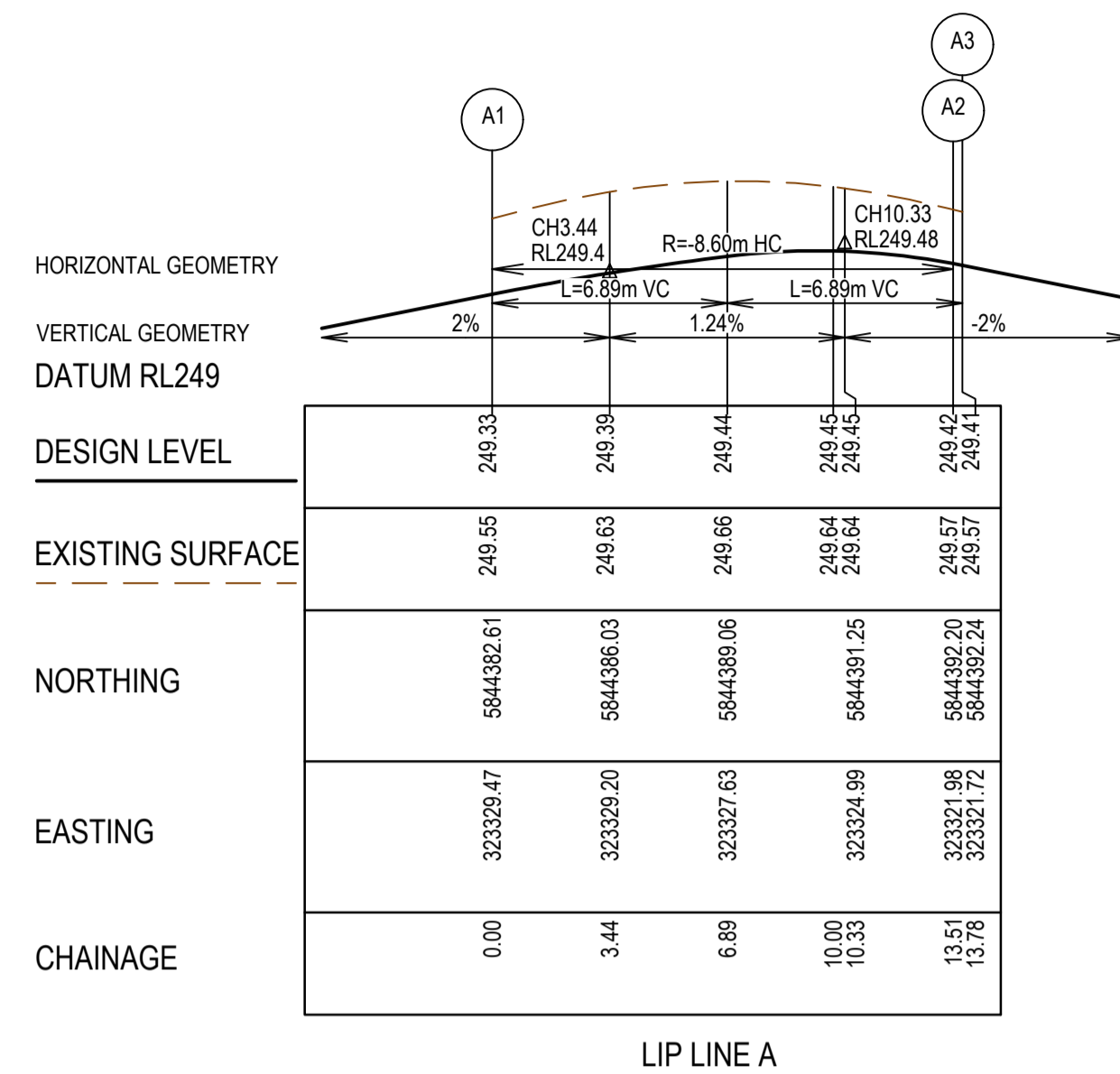
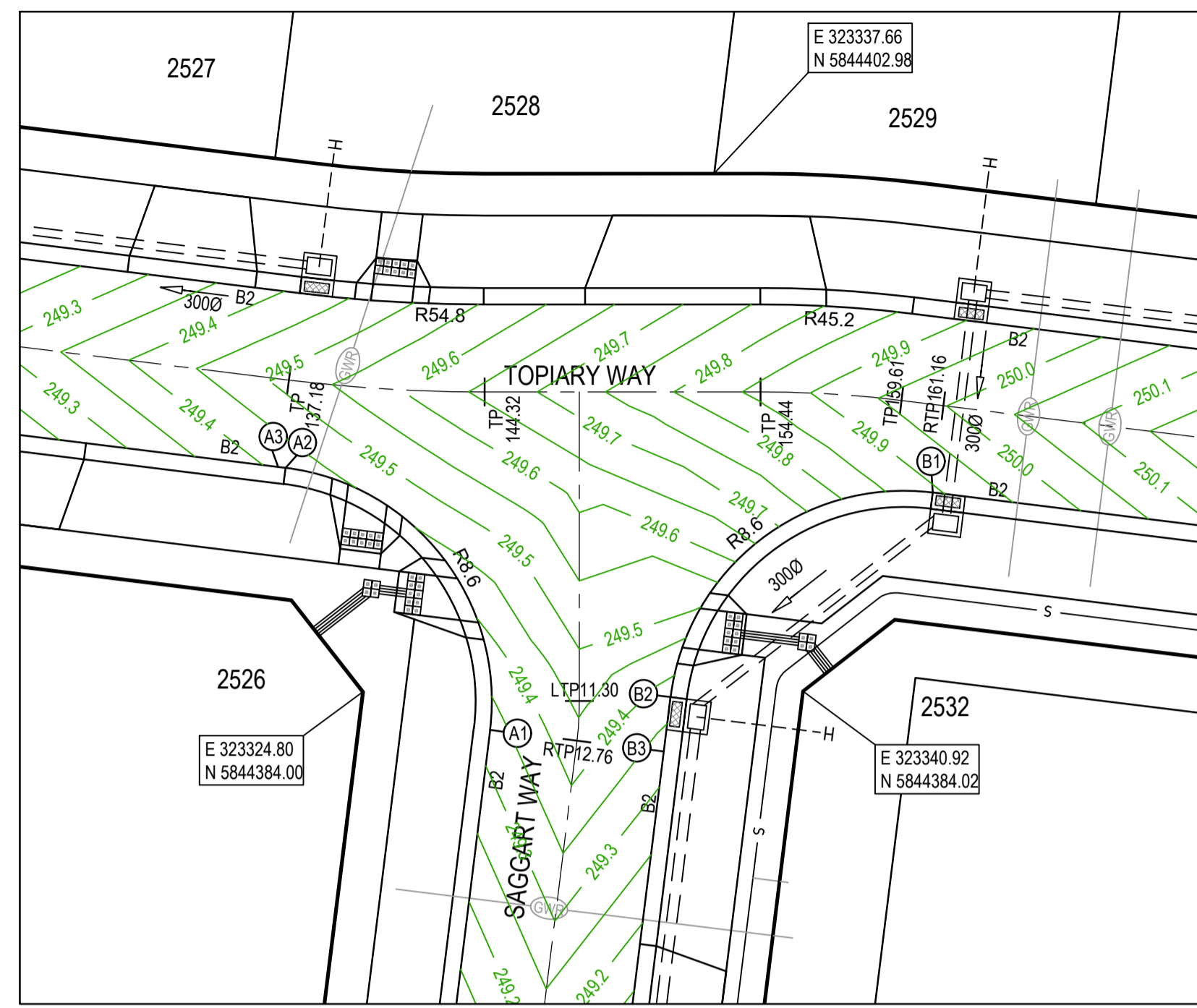


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 Melbourne, VIC 3008
 Ph 03 9514 1500

Olivine Estate - Stage 18W & 25W and Stage 18 & 25
 Whittlesea City Council
 Road and Drainage
 Signage & Linemarking Plan - 3

MELWAYS REF 367 G11	PROJECT / DRAWING No. 1700E-018_025-173	SHEET No. 14 of 51	REVISION 2
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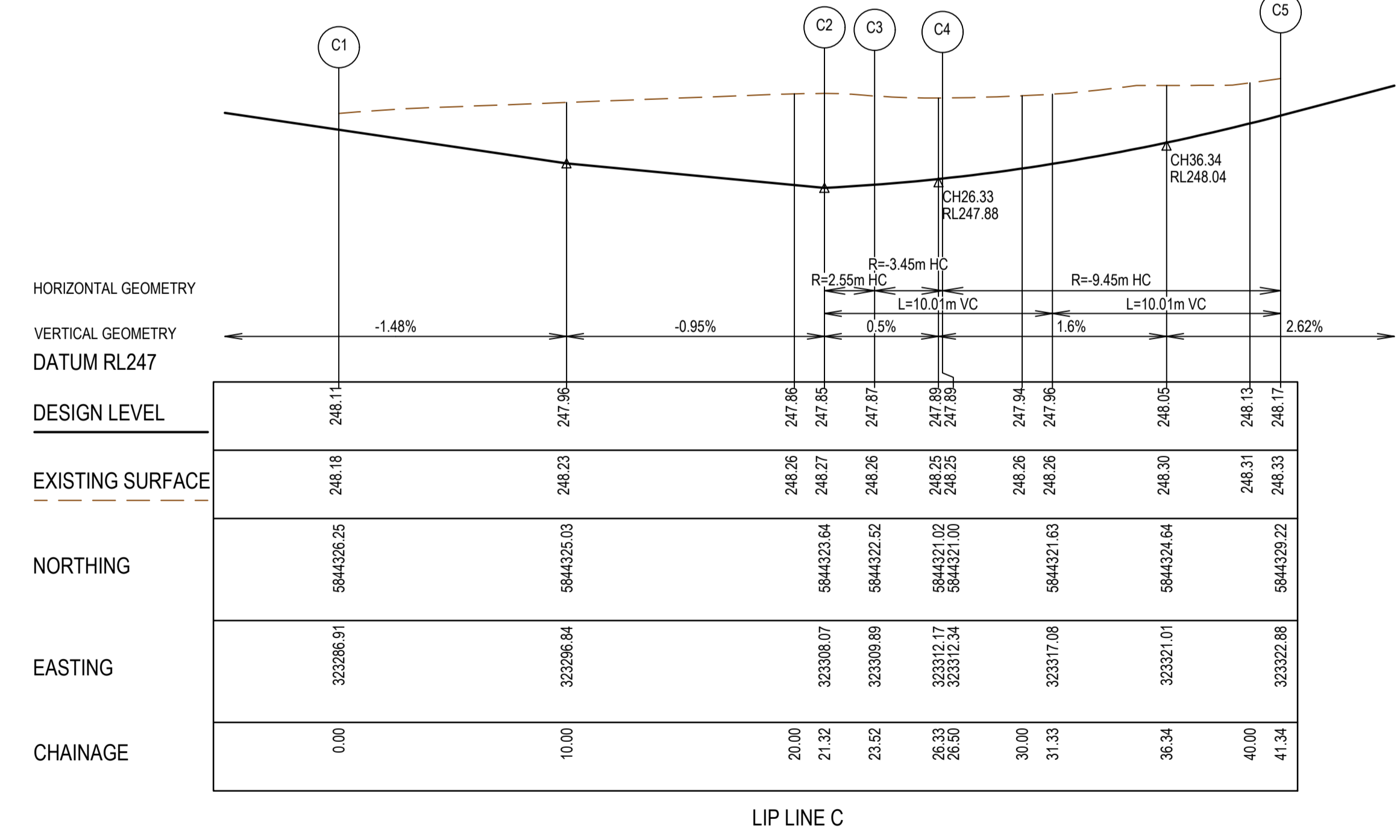
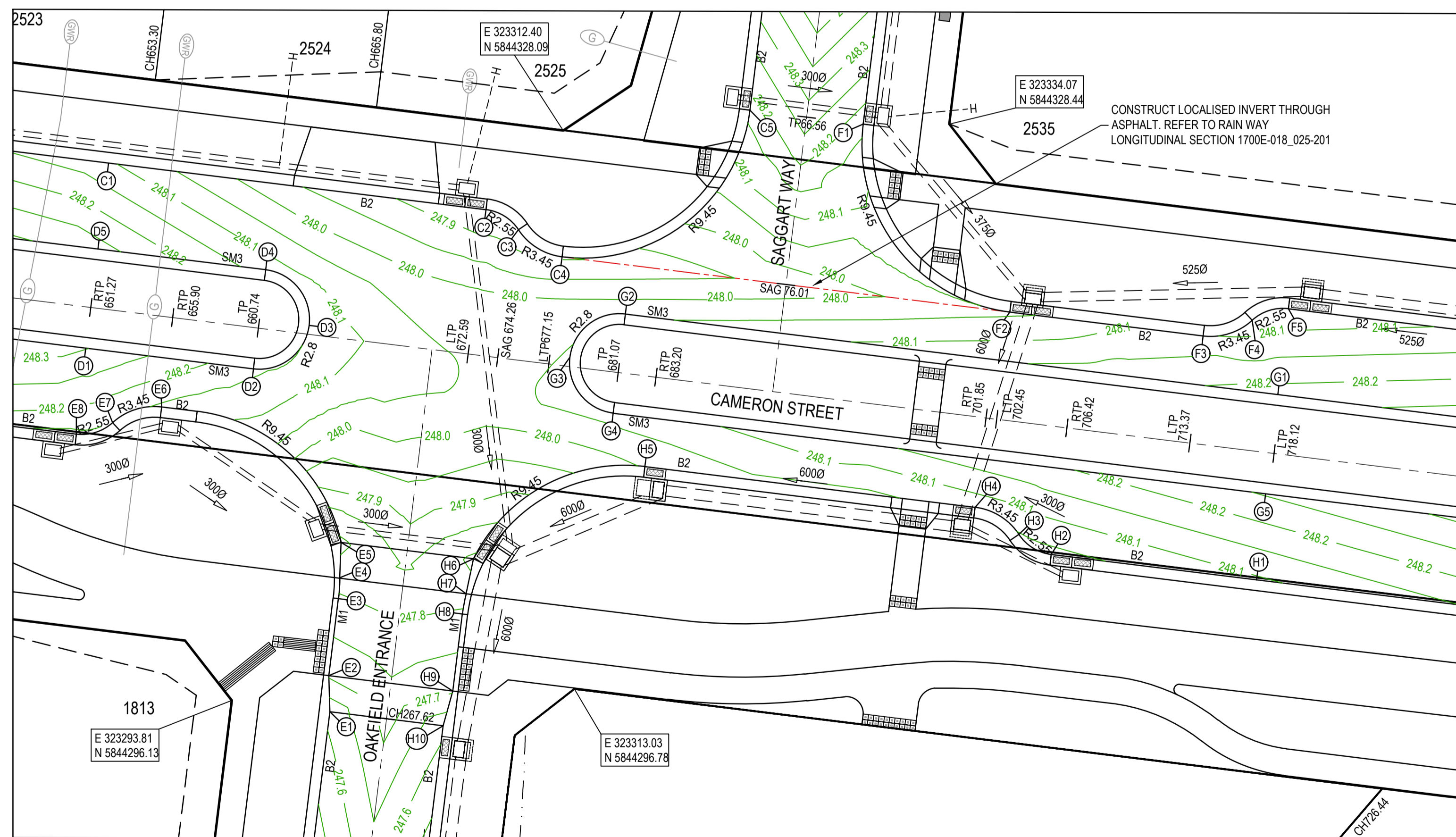
- NOTES**
1. ALL VEHICLE CROSSINGS AND PRAM CROSSINGS TO BE MINIMUM OF 0.75m FROM PITTS.
 2. ALL PRAM CROSSINGS TO BE MINIMUM OF 2.0m FROM VEHICLE CROSSINGS.
 3. VEHICLE EXCLUSION MEASURES BETWEEN ROAD RESERVE AND RESERVE TO FORM PART OF THE LANDSCAPE WORKS.
 4. INDUSTRIAL DRIVEWAYS TO COUNCIL RESERVES TO BE PROVIDED AS PART OF LANDSCAPE WORKS.
 5. SHARE PATH THROUGH CREEK CORRIDOR TO FORM PART OF LANDSCAPE WORKS.



LEGEND - INTERSECTION DETAIL PLAN

ALL PROPOSED, FUTURE & EXISTING SERVICE LOCATIONS ARE SHOWN INDICATIVELY

	STORMWATER DRAIN PIT & PROPERTY INLET
	MAIN DRAIN
	SEWER & MAINTENANCE STRUCTURES
	HOUSE DRAIN
	SERVICE CONDUITS
	TACTILE PAVERS
	EXISTING STORMWATER DRAIN
	EXISTING MAIN DRAIN
	EXISTING SEWER & MAINTENANCE STRUCTURES
	EXISTING SERVICE CONDUITS
	EXISTING TACTILE PAVERS
	FUTURE STORMWATER DRAIN
	FUTURE MAIN DRAIN
	FUTURE SEWER & MAINTENANCE STRUCTURES
	FUTURE HOUSE DRAIN
	FUTURE SERVICE CONDUITS
	FUTURE TACTILE PAVERS
	EXISTING RETAINING WALL
	RETAINING WALL
	FUTURE RETAINING WALL
	EDGE STRIP, SUBSOIL DRAIN, "NO ROAD" SIGN & BARRIER
	PERMANENT SURVEY MARK
	TEMPORARY BENCH MARK
	PROPOSED DRIVEWAY & FOOTPATH



AS CONSTRUCTED PLANS

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Quality Management - ISO 9001
Global-Mark.com.au®

OH&S Management - AS/NZS 4801
Global-Mark.com.au®

Environmental Management - ISO 14001
Global-Mark.com.au®

PLAN OF SUB. NO. PS913483L & PS906205M
PS913482N & PS905209D
PERMIT REF. NO. 717158 & 719067

AS CONSTRUCTED

SCALE AS SHOWN AT A1

SMEC

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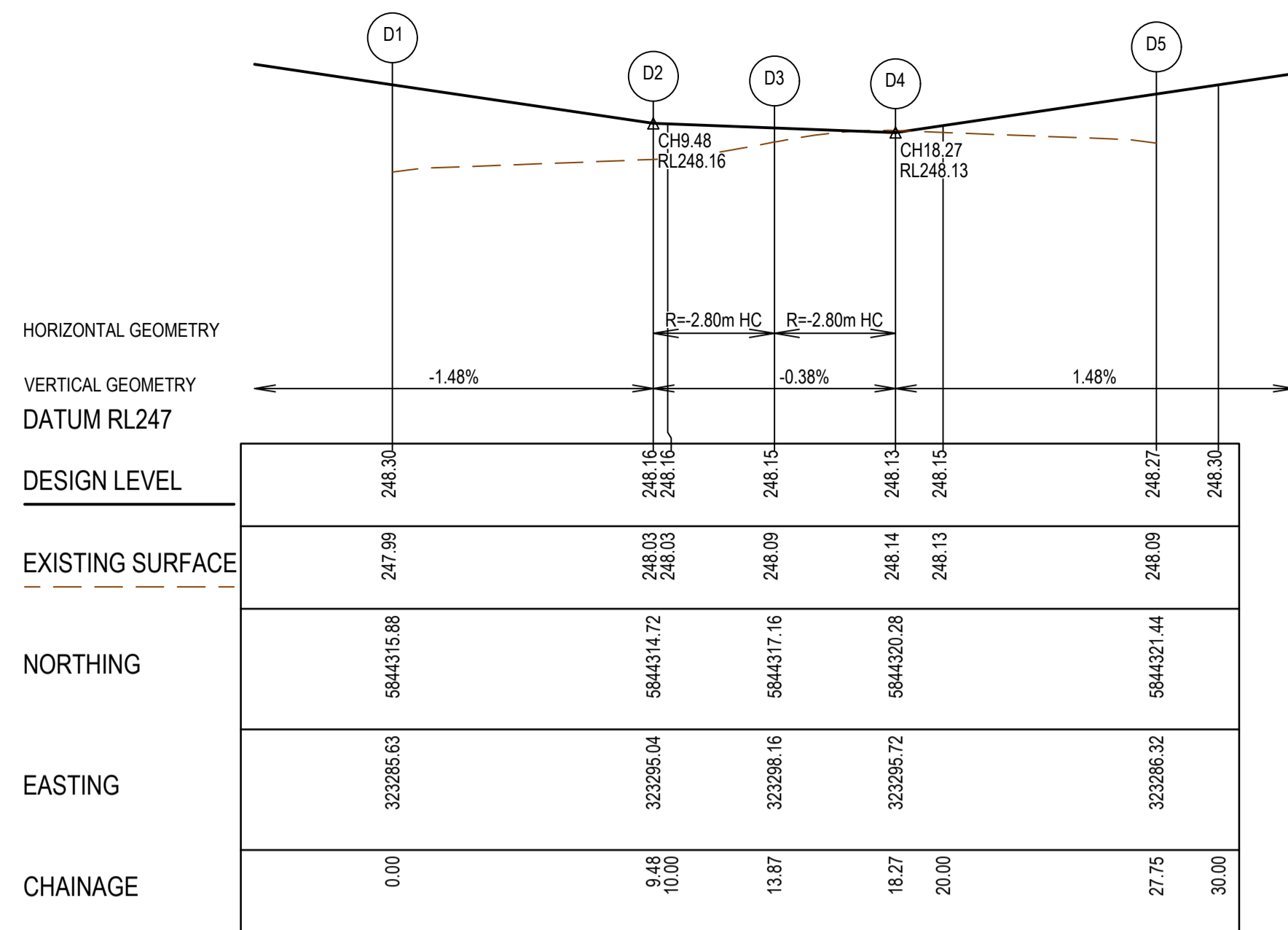
ABN 47 065 475 149

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Melbourne, VIC 3008
Ph 03 9514 1500

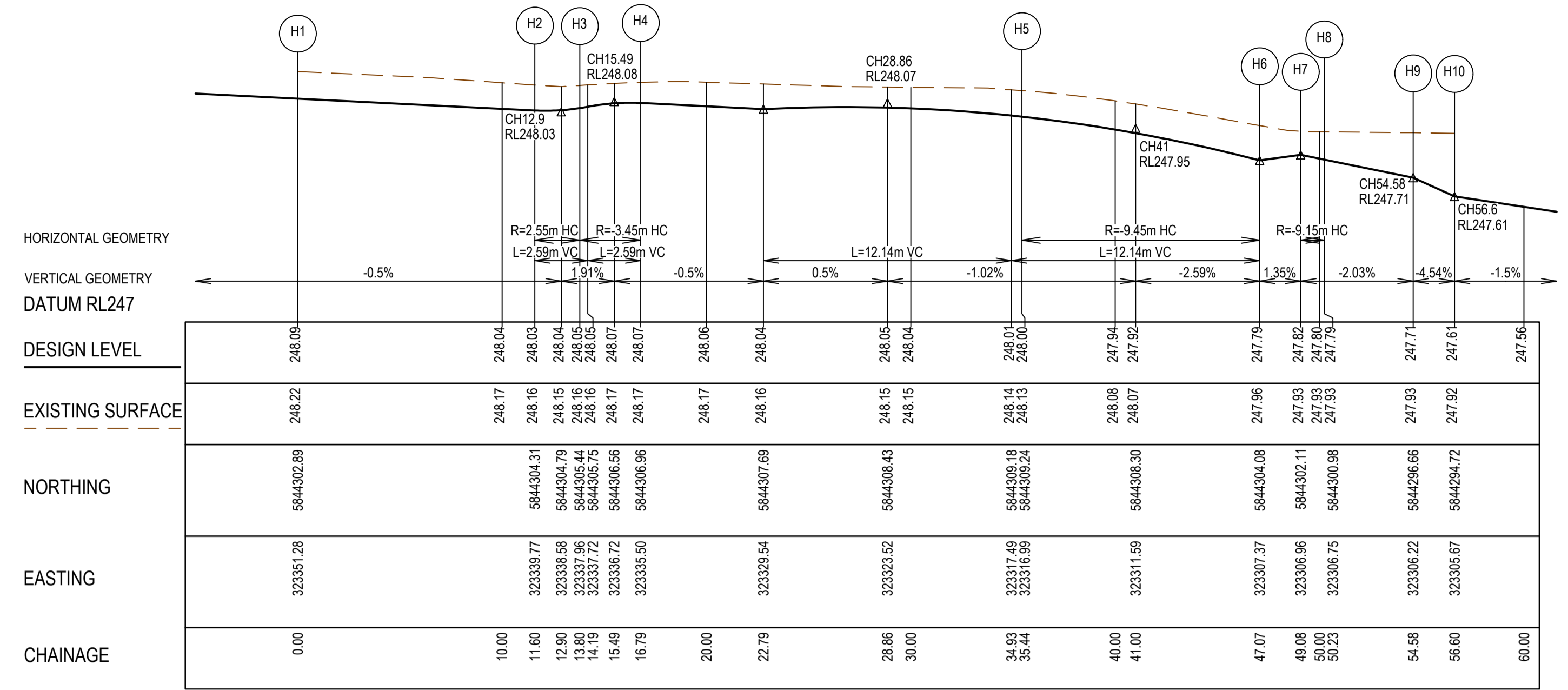
mirvac

Olivine Estate - Stage 18W & 25W and Stage 18 & 25
Whittlesea City Council
Road and Drainage
Intersection Detail Plan - 1

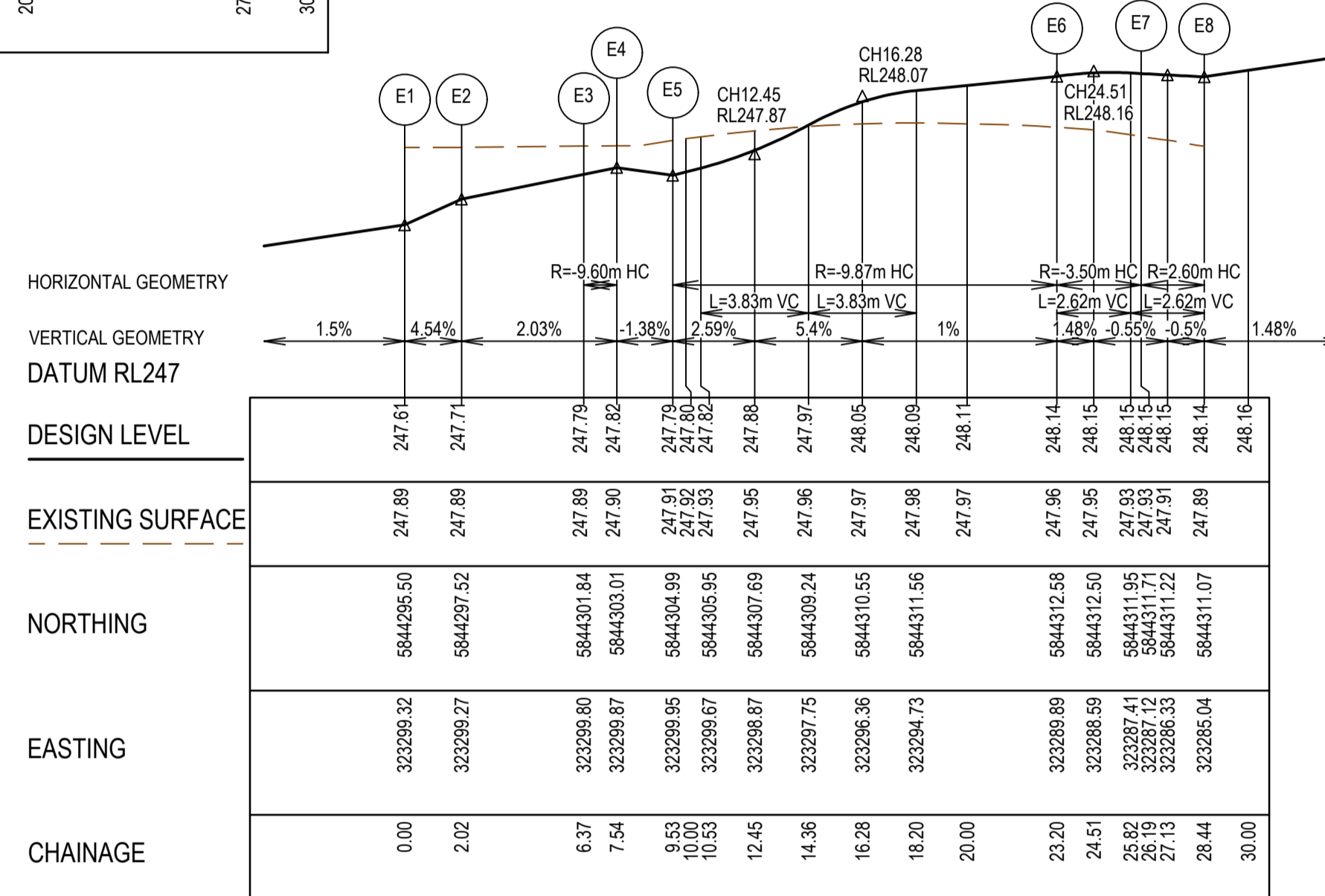
MELWAYS REF 367 G11 PROJECT / DRAWING No. 1700E-018_025-181 SHEET No. 15 of 51 REVISION 3



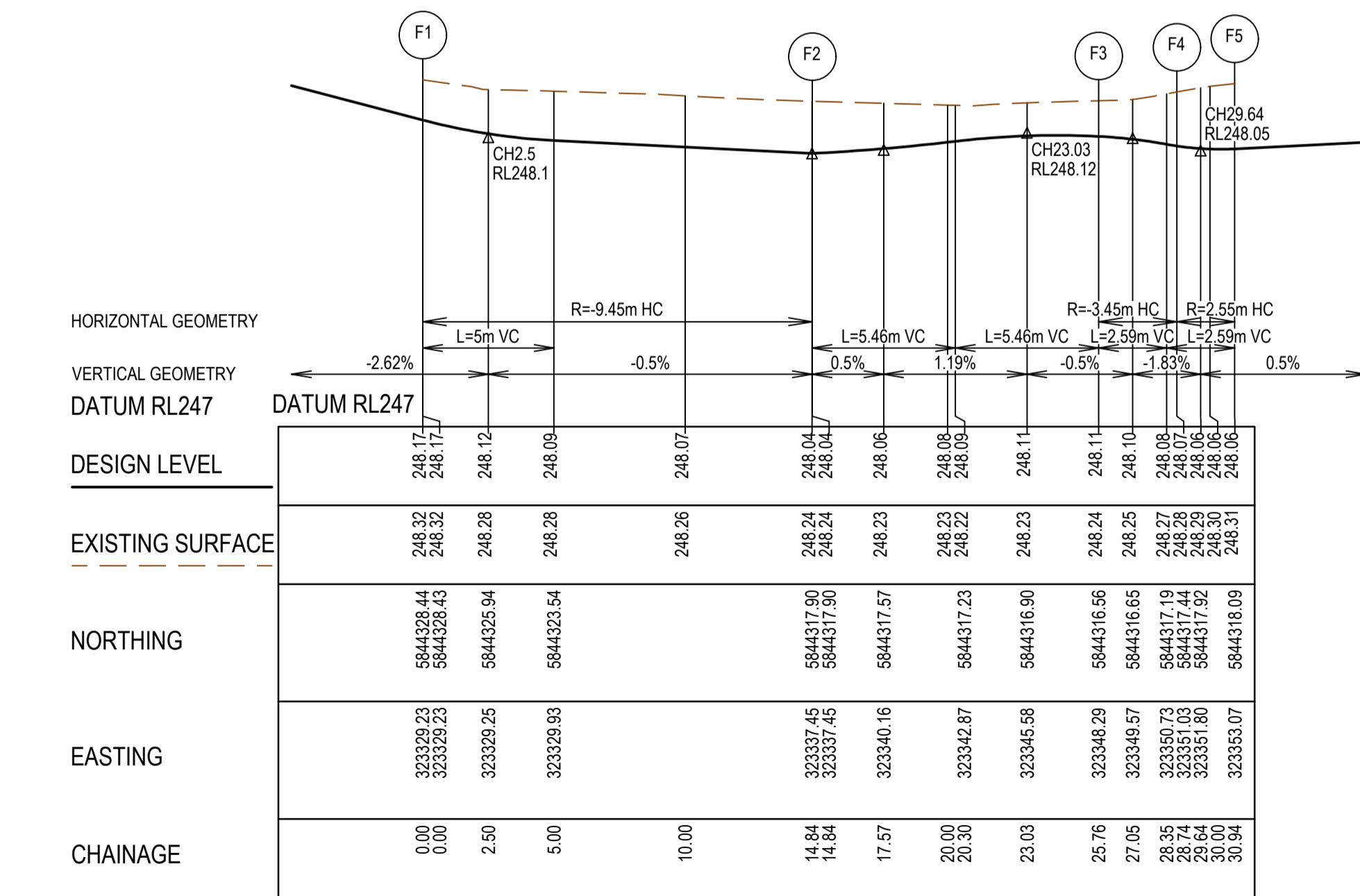
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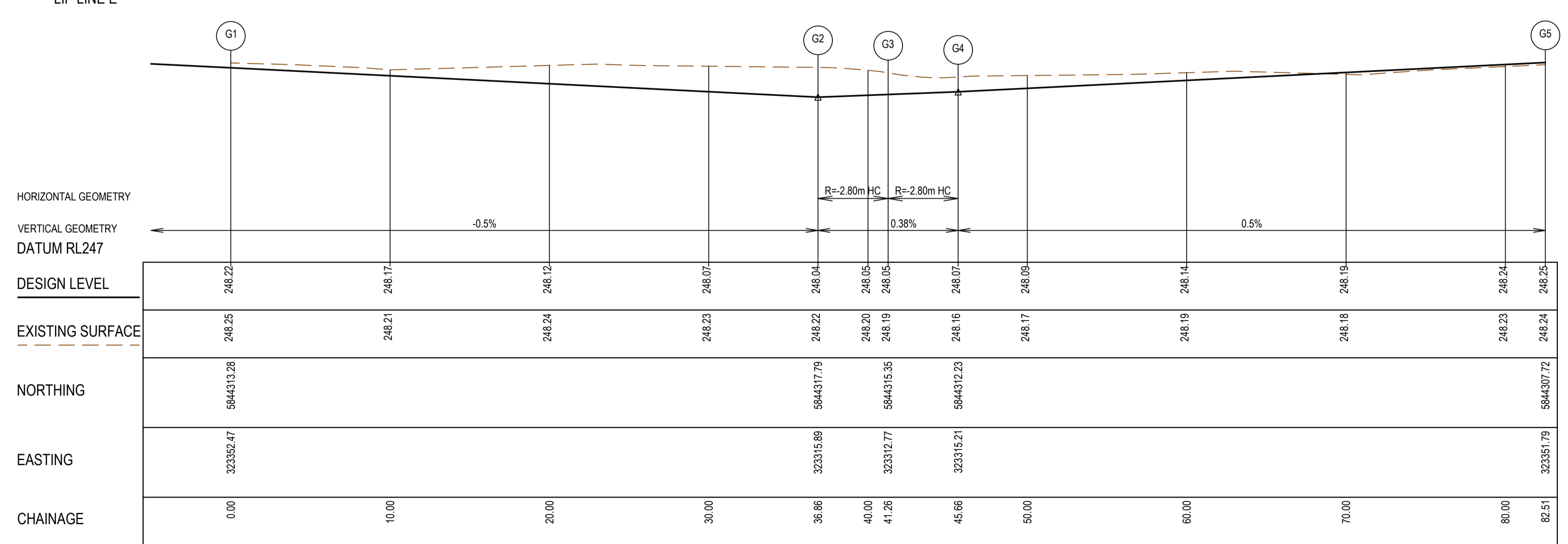
LIP LINE H



LIP LINE E



LIP LINE F



LIP LINE G

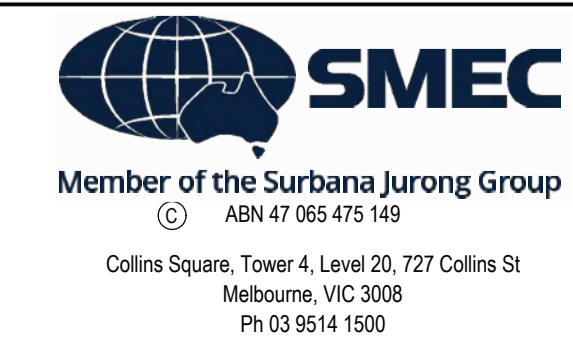
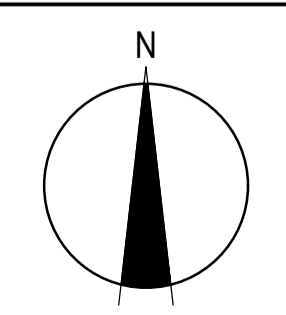
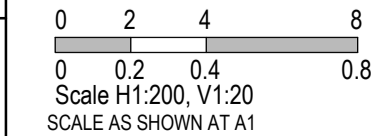
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AS CONSTRUCTED

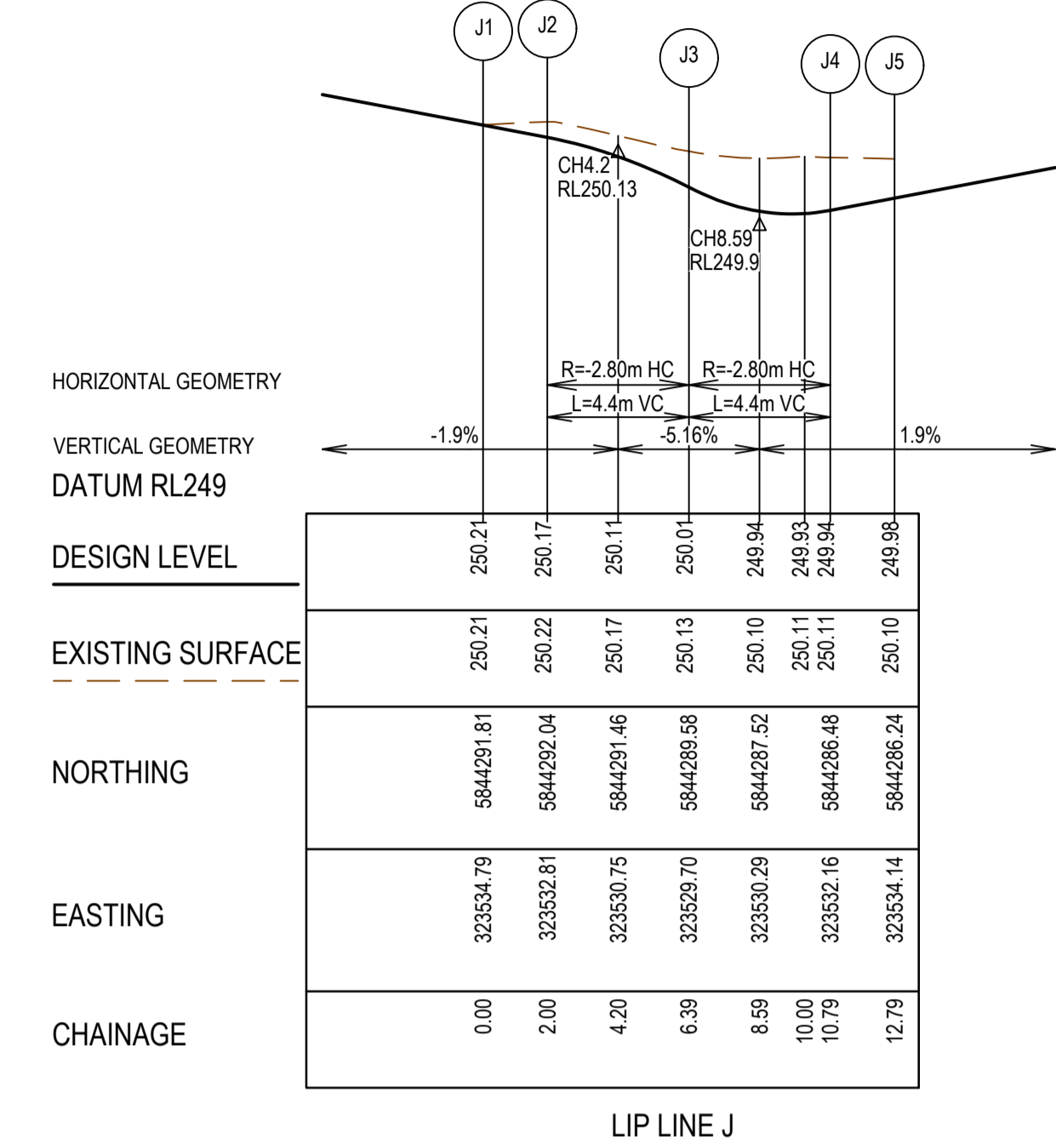
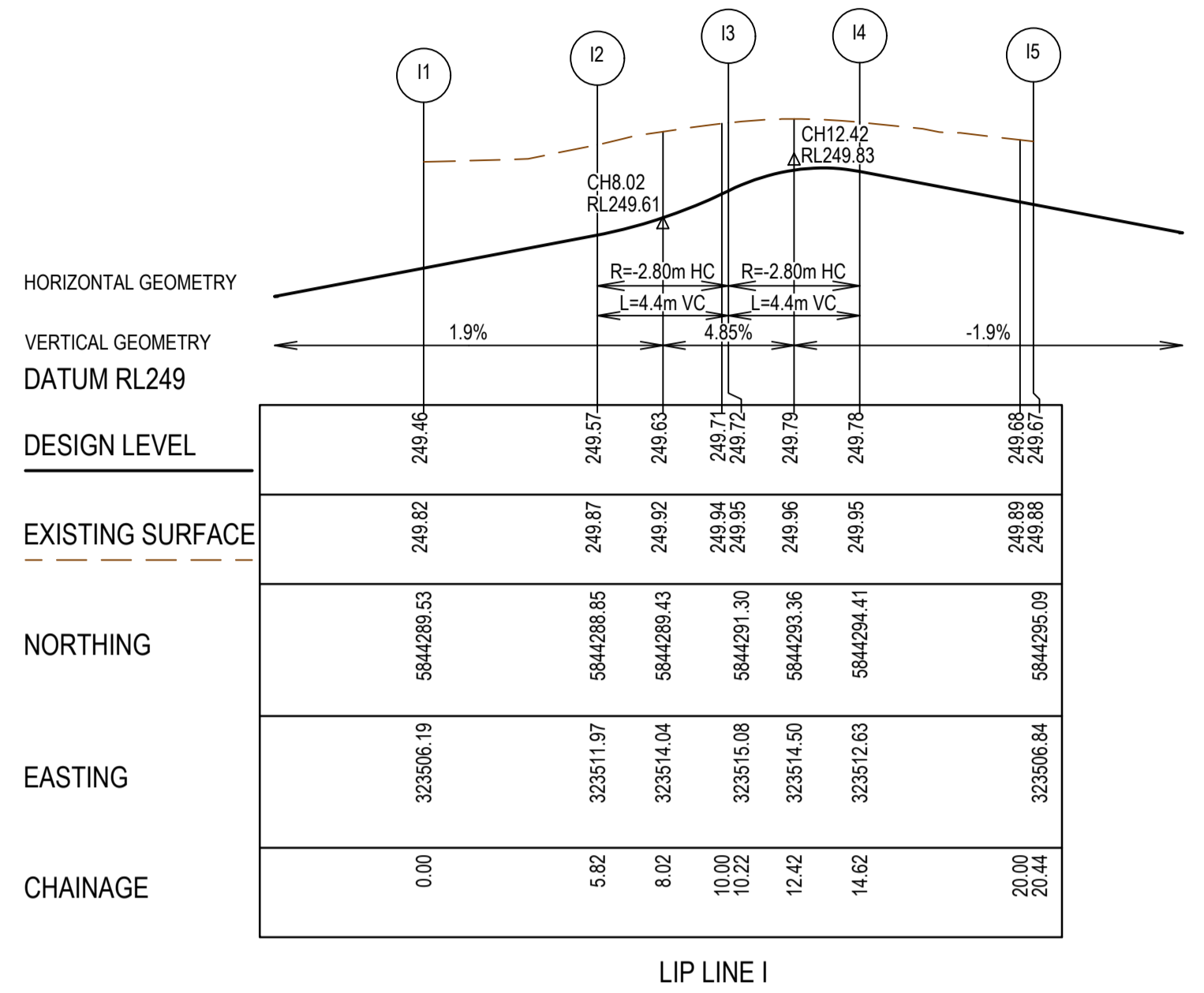
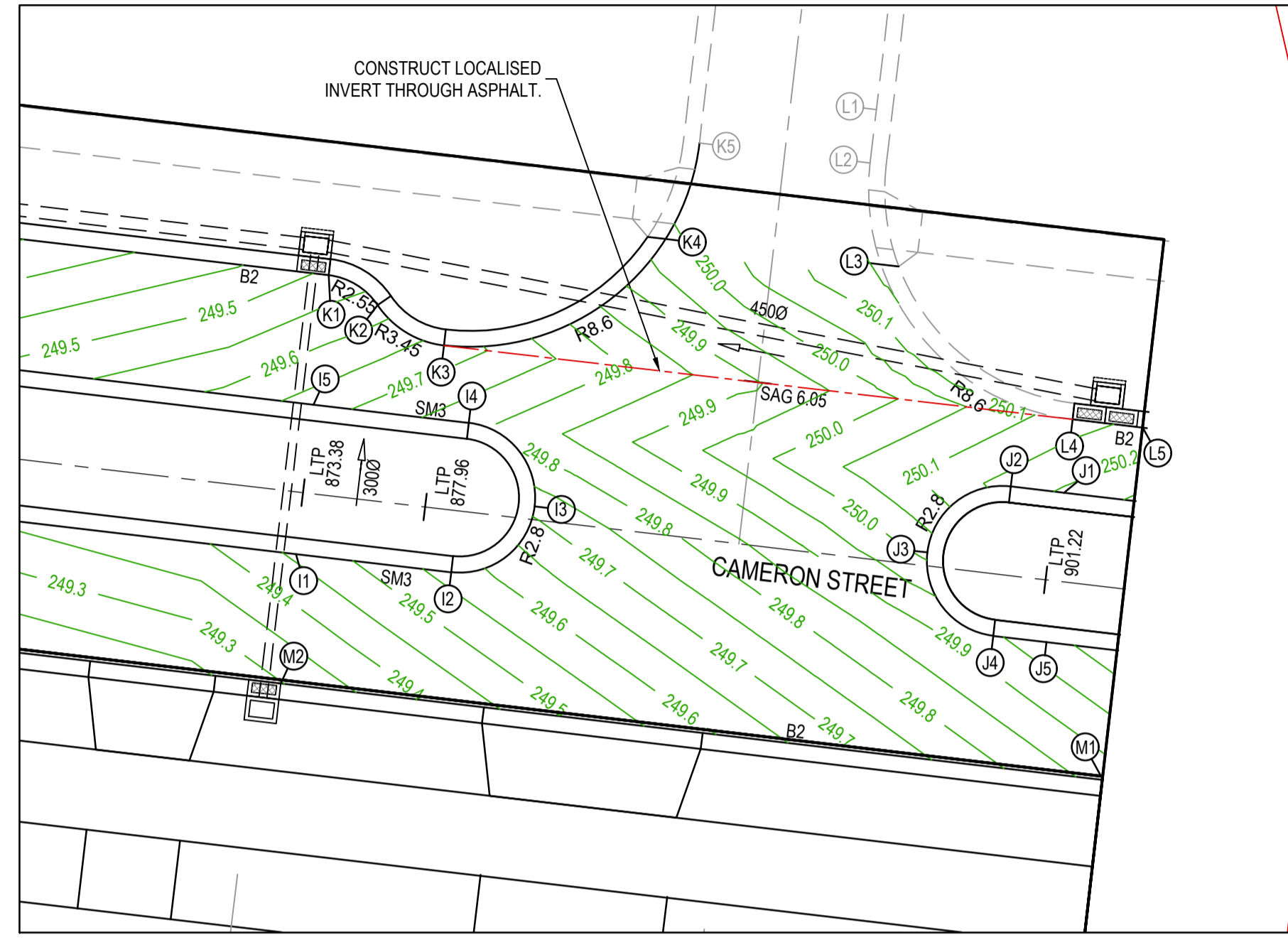
PLAN OF SUB. NO.
 P5913483L & P5905205M
 P5913482N & P5905209D
 PERMIT REF. NO.
 717158 & 719067



Olivine Estate - Stage 18W & 25W and Stage 18 & 25
 Whittlesea City Council
 Road and Drainage
 Intersection Detail Plan - 2

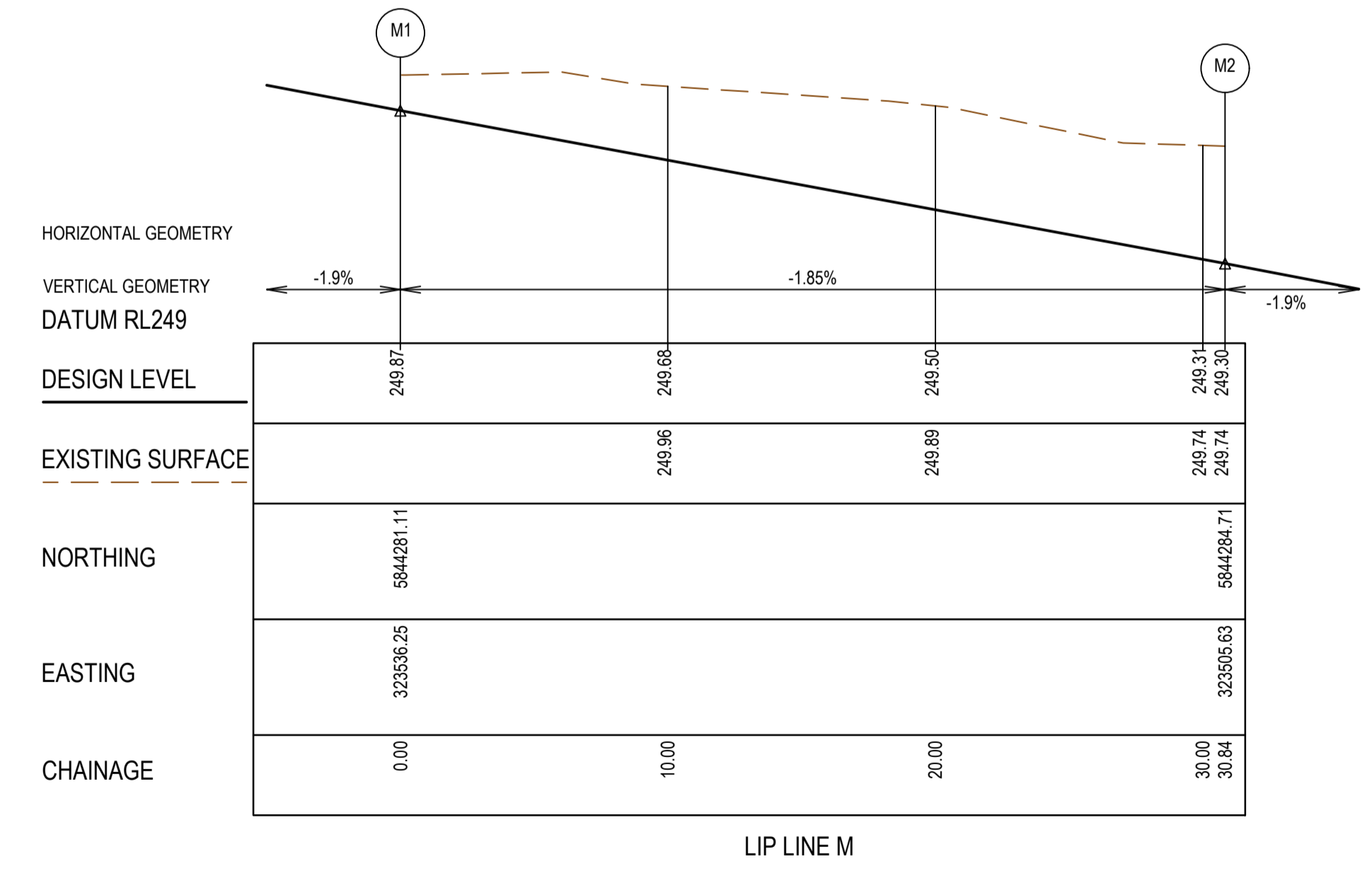
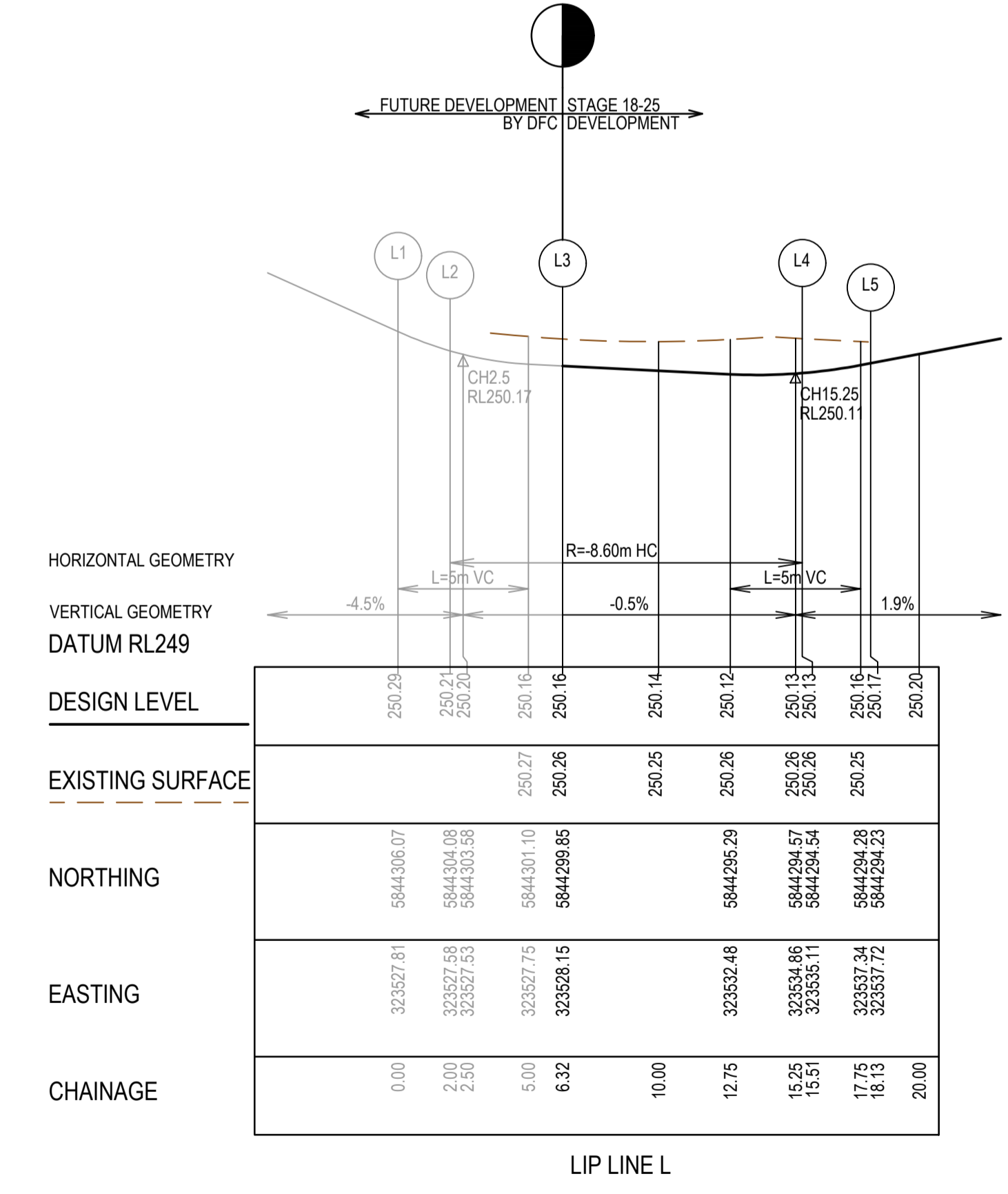
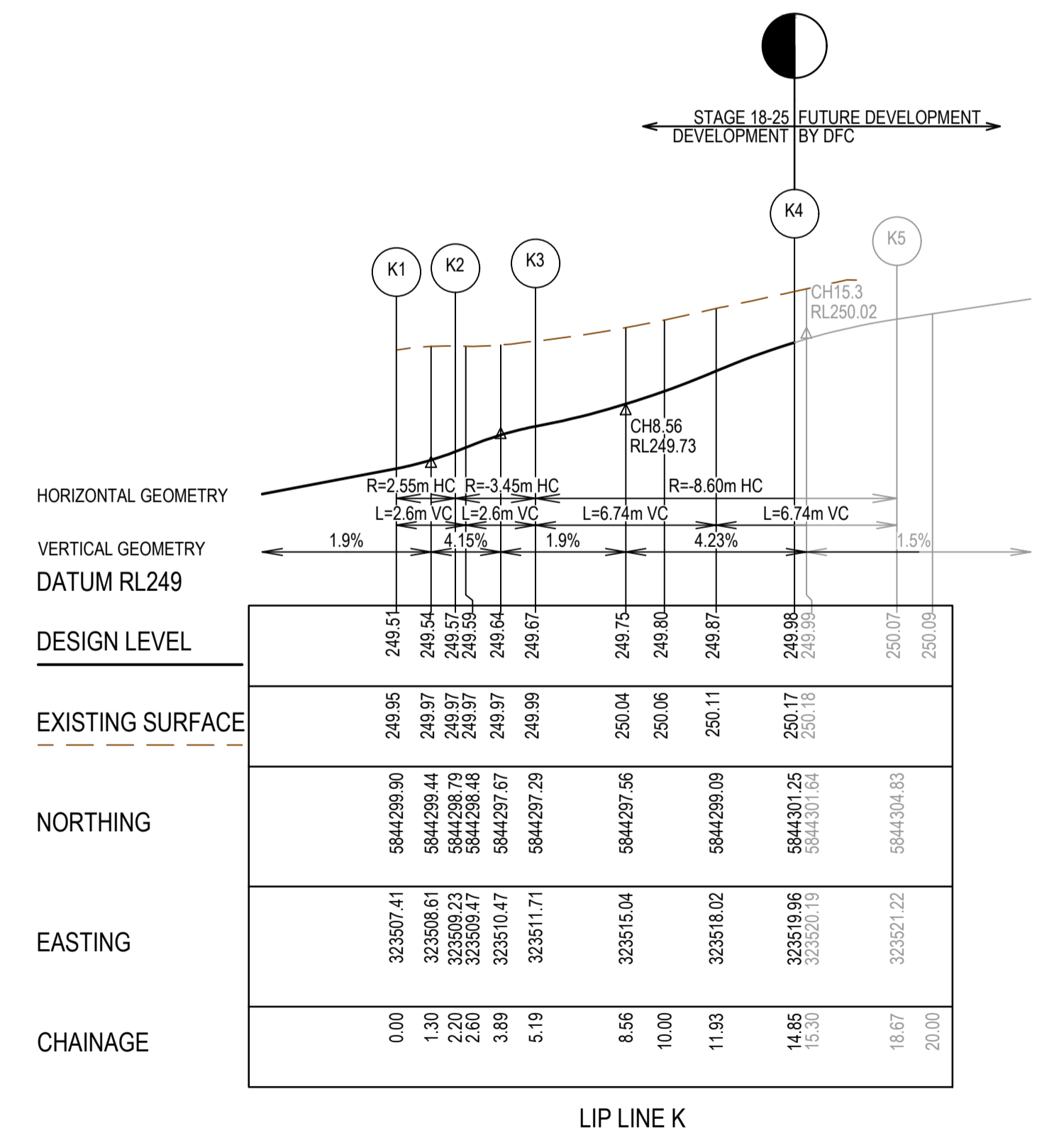
MELWAYS REF 367 G11	PROJECT / DRAWING No. 1700E-018_025-182	SHEET No. 16 of 51	REVISION 2
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- NOTES**
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LEGEND - INTERSECTION DETAIL PLAN
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	SERVICE CONDUITS
	TACTILE PAVERS
	EXISTING STORMWATER DRAIN
	EXISTING MAIN DRAIN
	EXISTING SEWER & MAINTENANCE STRUCTURES
	EXISTING SERVICE CONDUITS
	EXISTING TACTILE PAVERS
	FUTURE STORMWATER DRAIN
	FUTURE MAIN DRAIN
	FUTURE SEWER & MAINTENANCE STRUCTURES
	FUTURE SERVICE CONDUITS
	FUTURE TACTILE PAVERS
	EXISTING RETAINING WALL
	RETAINING WALL
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	TEMPORARY BENCH MARK
	PROPOSED DRIVEWAY & FOOTPATH



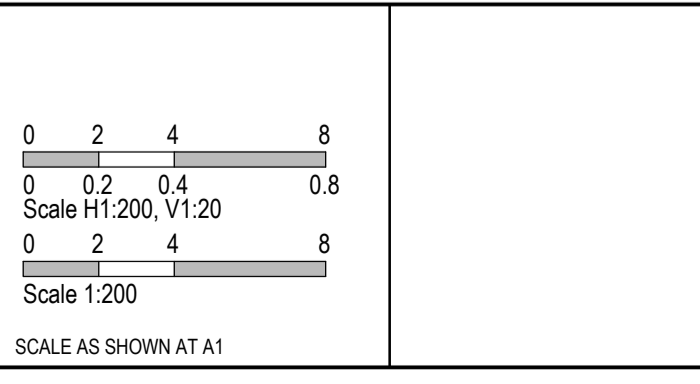
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Quality Management - ISO 9001
OH&S Management - AS/NZS 4500
Environmental Management - ISO 14001

PLAN OF SUB. NO. P3913483L & P3905203M
P3913482N & P3905209D
PERMIT REF. NO. 717158 & 719067

AS CONSTRUCTED

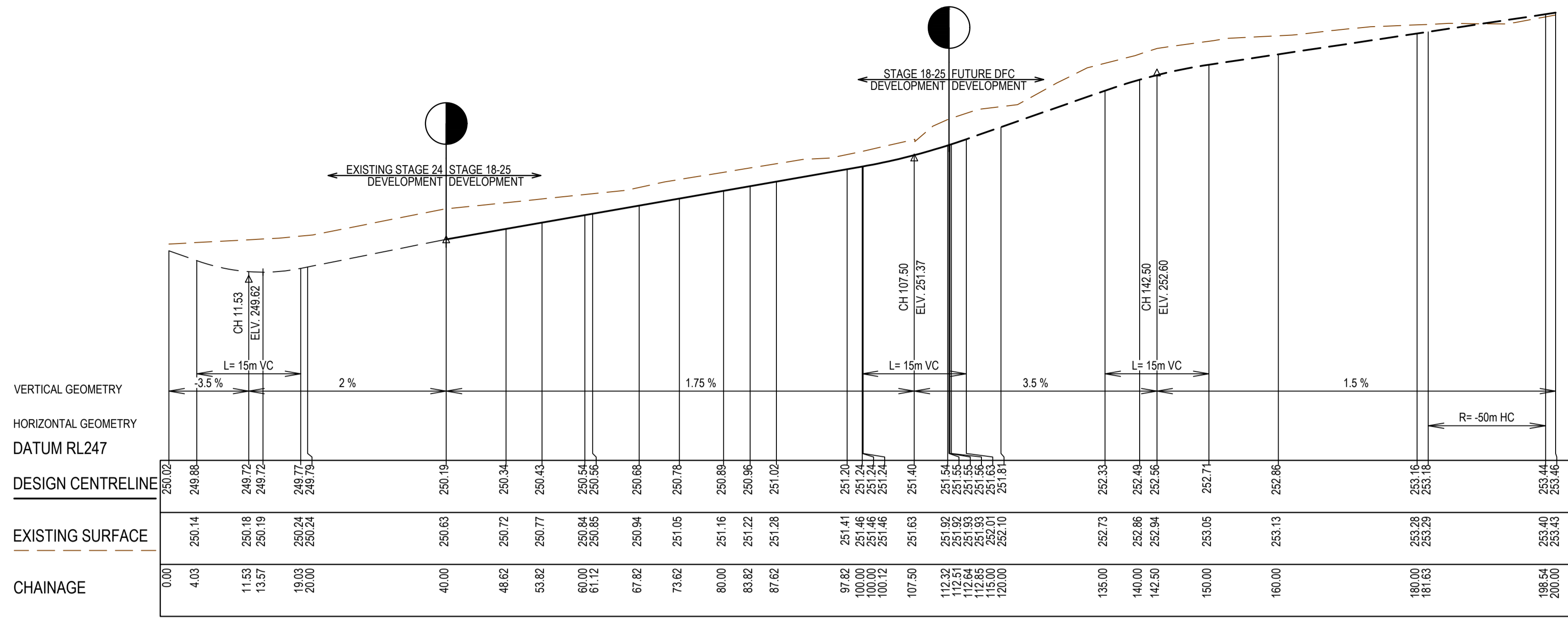


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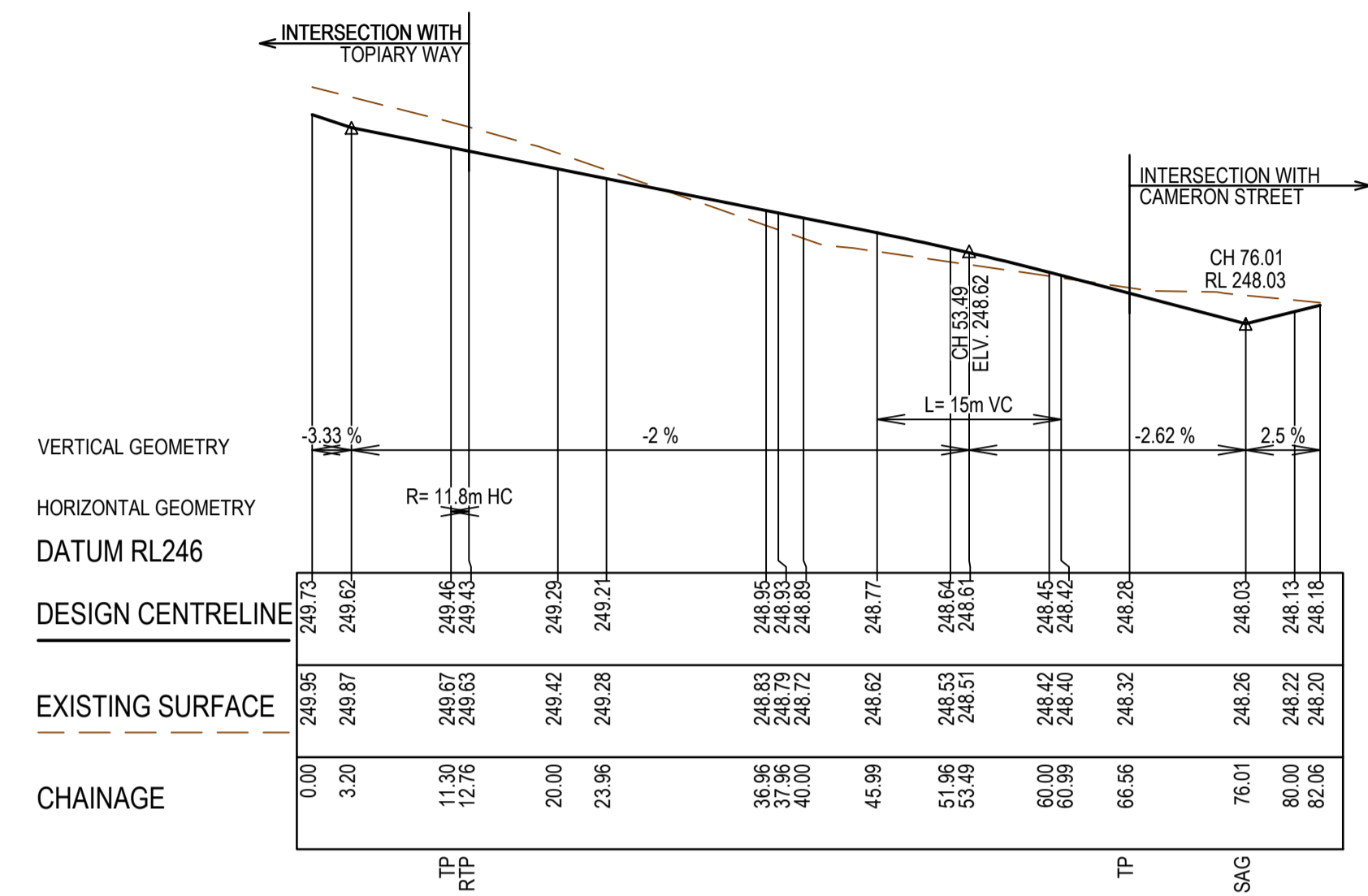
mirvac

Olivine Estate - Stage 18W & 25W and Stage 18 & 25
Whittlesea City Council
Road and Drainage
Intersection Detail Plan - 3

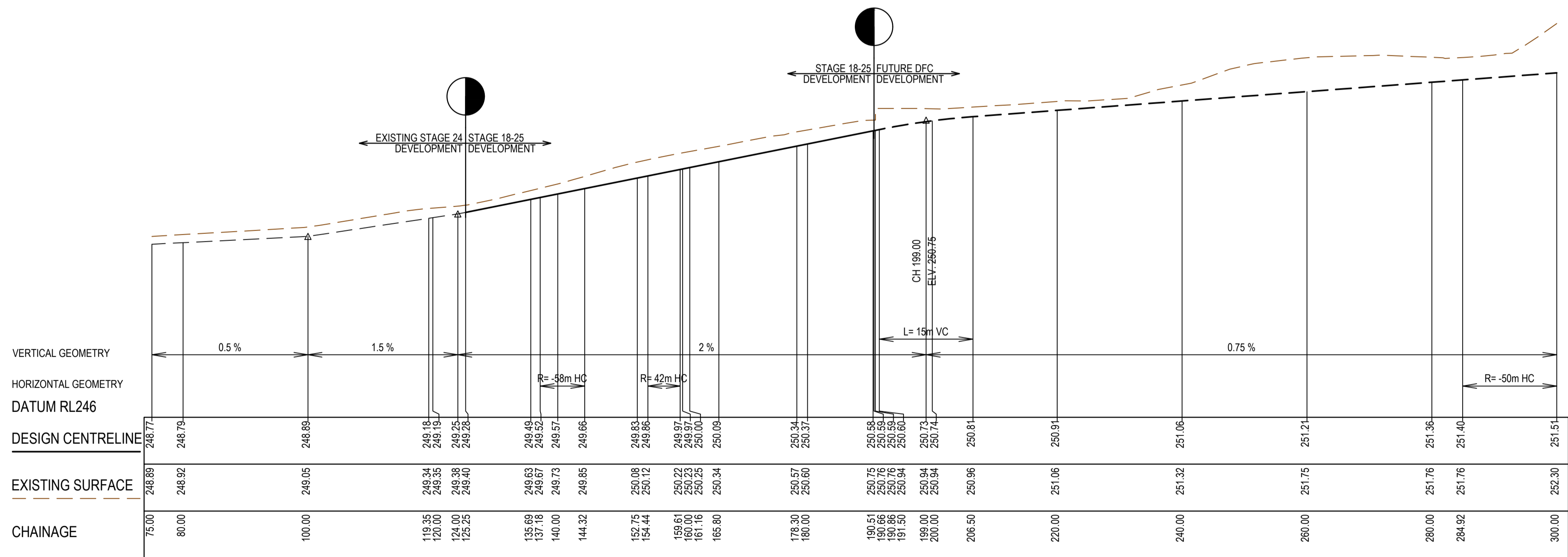
MELWAYS REF: 367 G11
PROJECT / DRAWING No: 1700E-018_025-183
SHEET No: 17 of 51
REVISION: 2



BITTERN ROAD LONGITUDINAL SECTION



SAGGART WAY LONGITUDINAL SECTION



TOPIARY WAY LONGITUDINAL SECTION

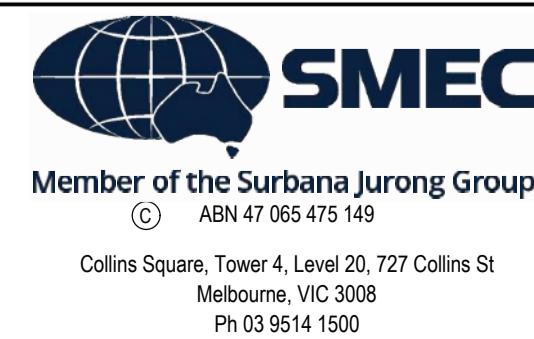
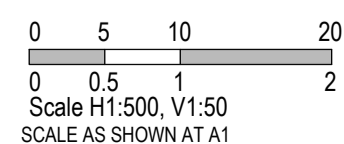
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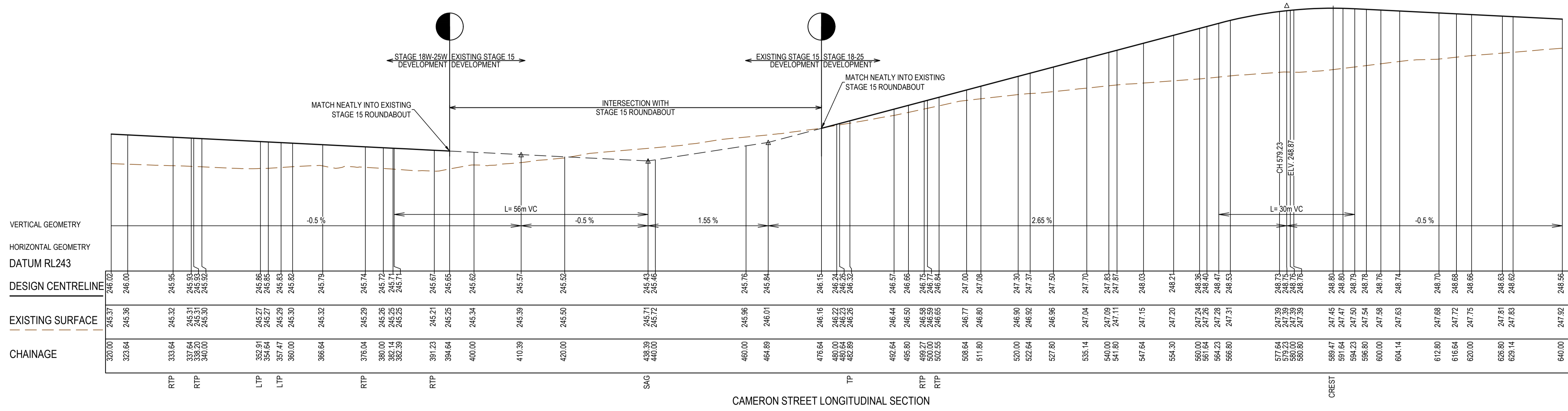
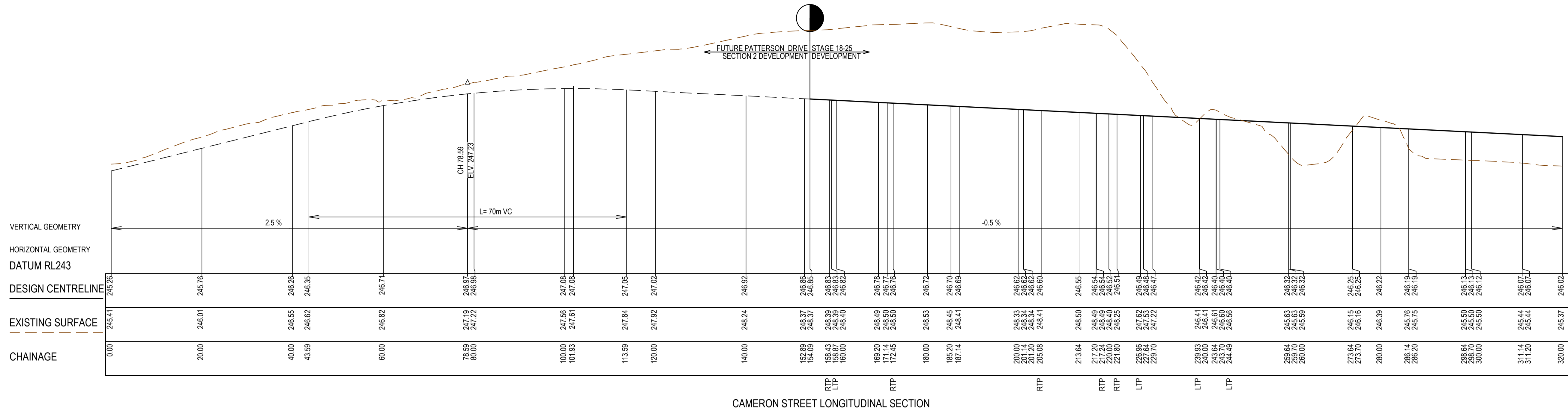
PLAN OF SUB. NO.
P3913483L & P3905203M
P3913482N & P3905203D
PERMIT REF. NO.
717158 & 719067

AS CONSTRUCTED



Olivine Estate - Stage 18W & 25W and Stage 18 & 25
Whittlesea City Council
Road and Drainage
Longitudinal Sections - 1

MELWAYS REF 367 G11	PROJECT / DRAWING No. 1700E-018_025-201	SHEET No. 18 of 51	REVISION 2
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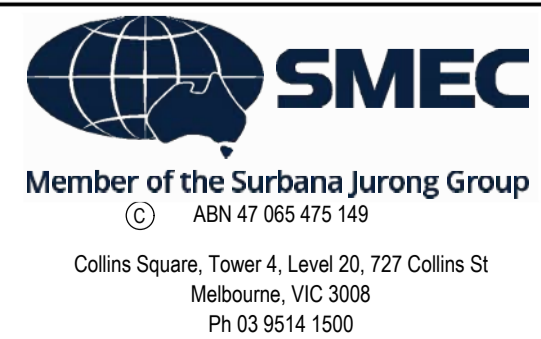
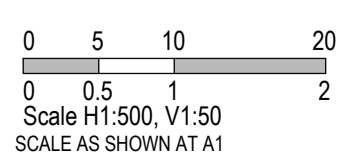
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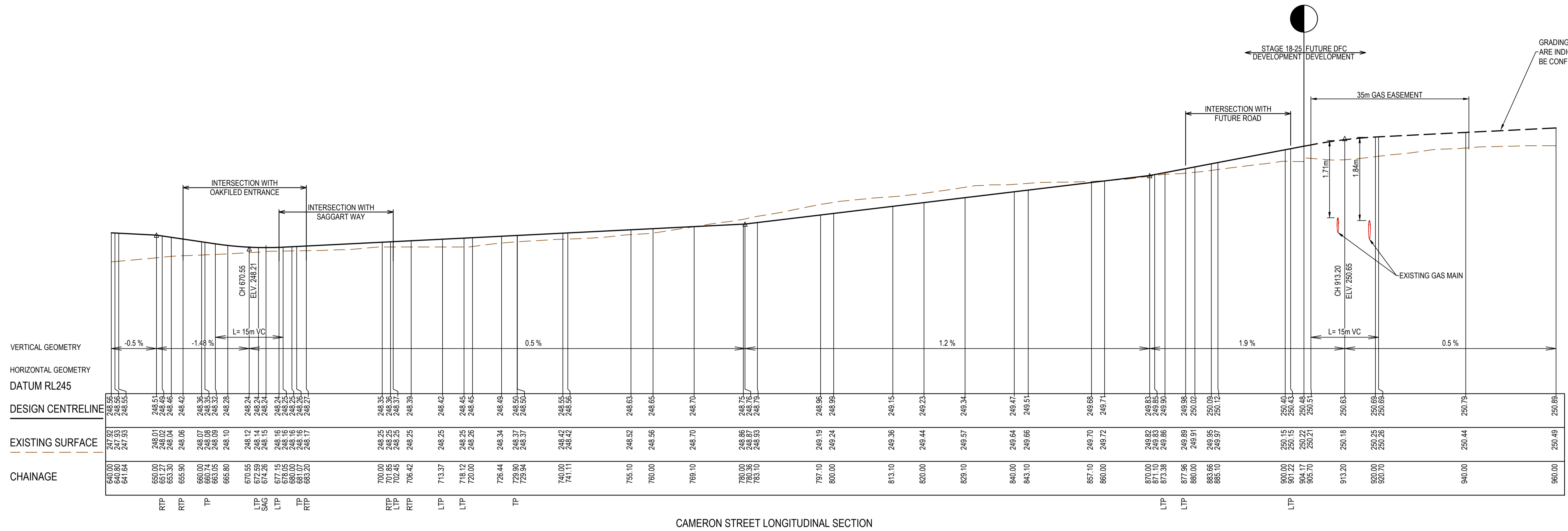
PLAN OF SUB. NO.
PS913483L & PS90203M
PS913482N & PS90203D
PERMIT REF. NO.
717158 & 719067

AS CONSTRUCTED

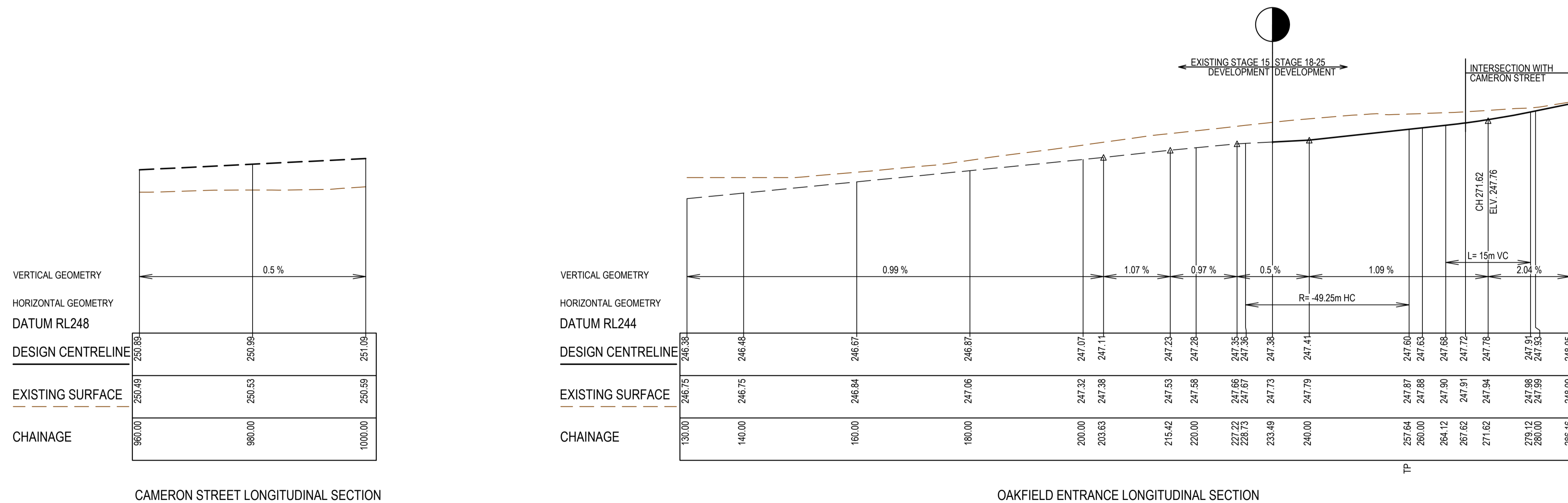


Olivine Estate - Stage 18W & 25W and Stage 18 & 25
Whittlesea City Council
Road and Drainage
Longitudinal Sections - 2

MELWAYS REF 367 G11	PROJECT / DRAWING No. 1700E-018_025-202	SHEET No. 19 of 51	REVISION 2
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CAMERON STREET LONGITUDINAL SECTION



OAKFIELD ENTRANCE LONGITUDINAL SECTION

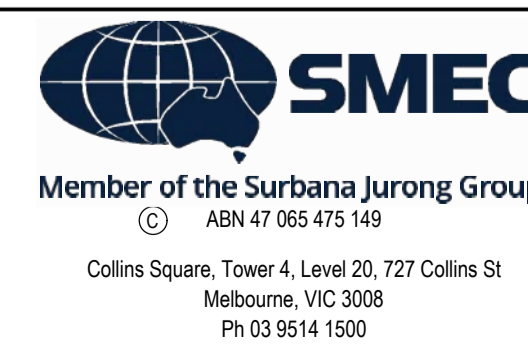
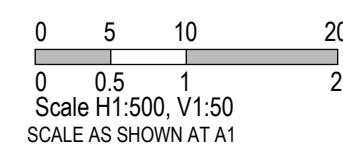
AS CONSTRUCTED PLANS

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PLAN OF SUB. NO.
PS913483L & PS905205M
PS913482N & PS905209D
PERMIT REF. NO.
717158 & 719067

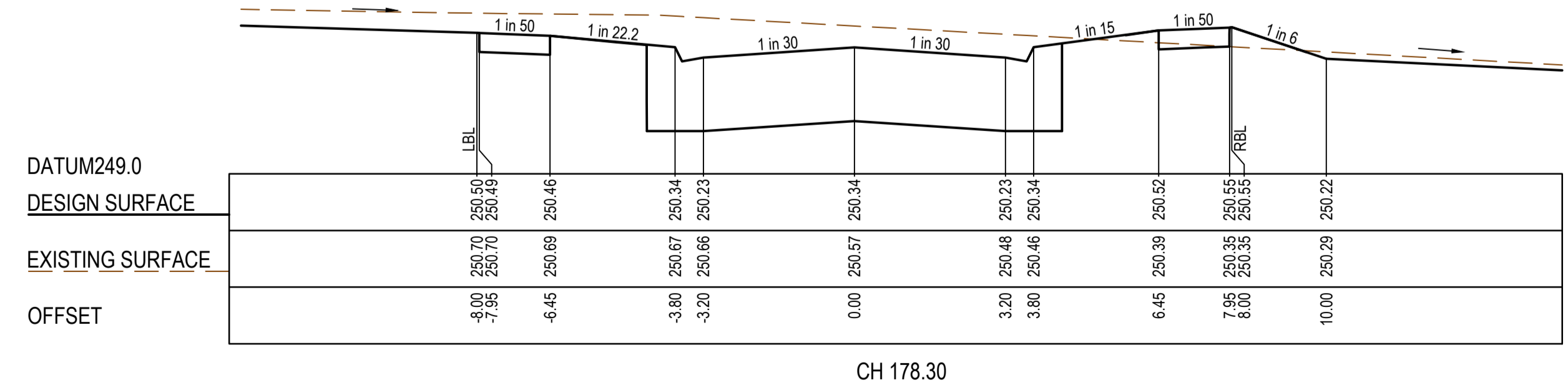
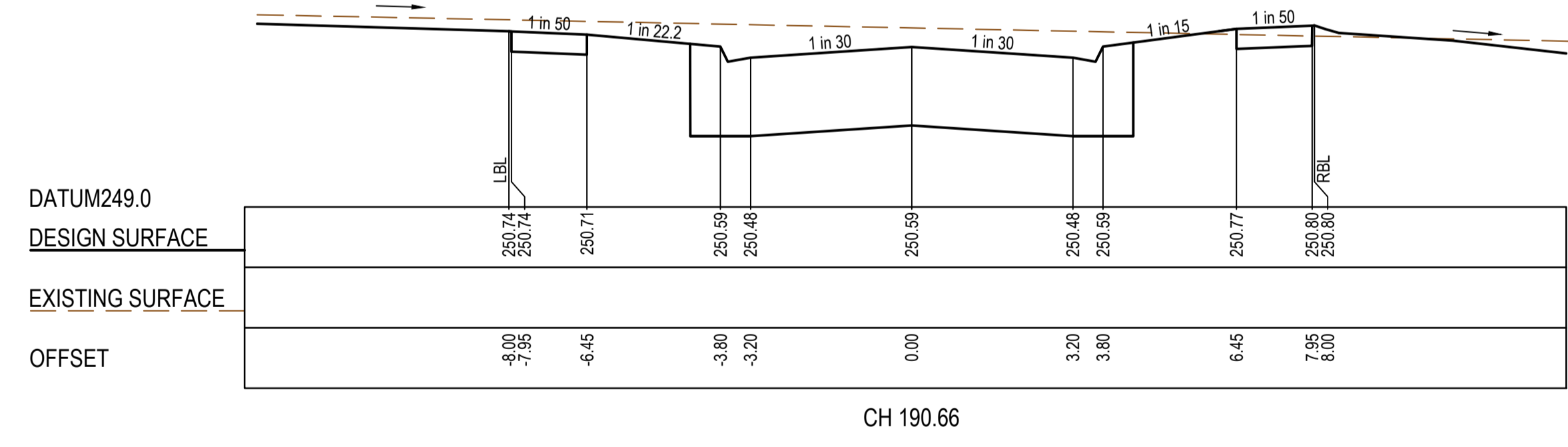
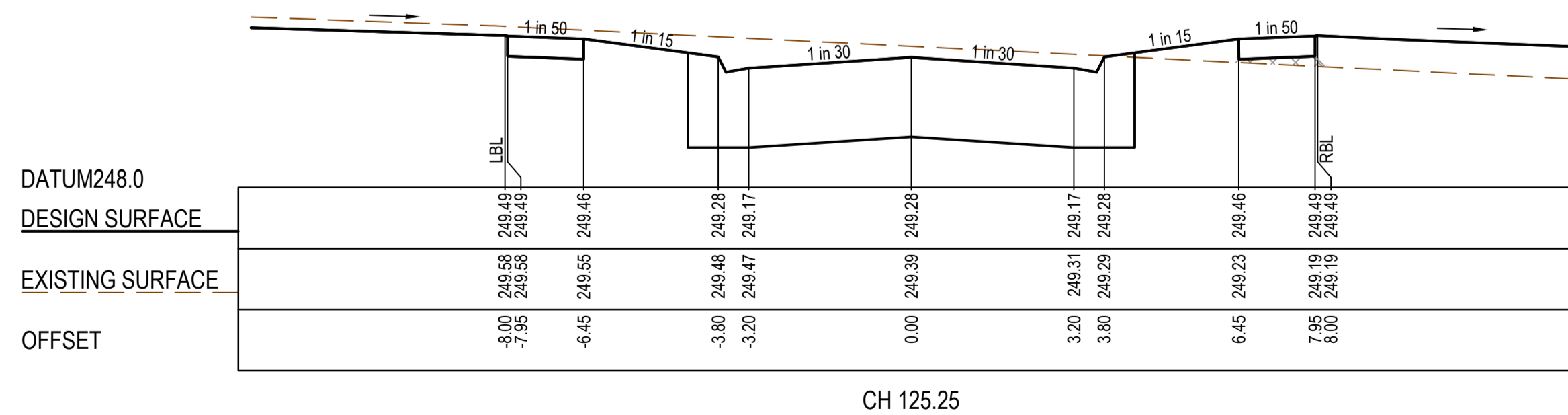
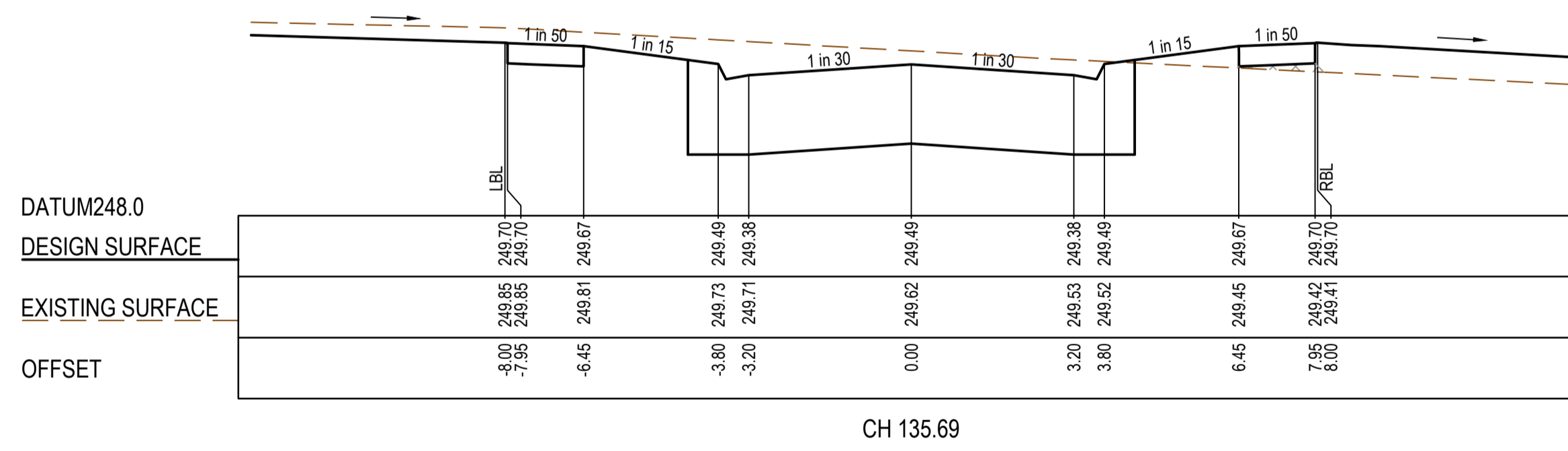
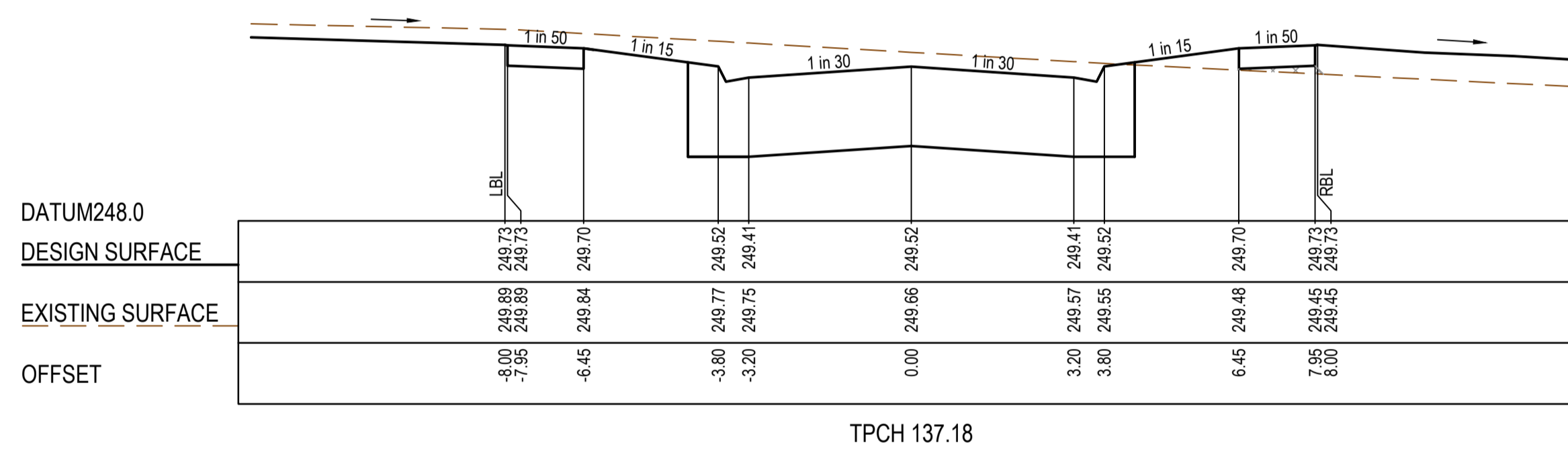
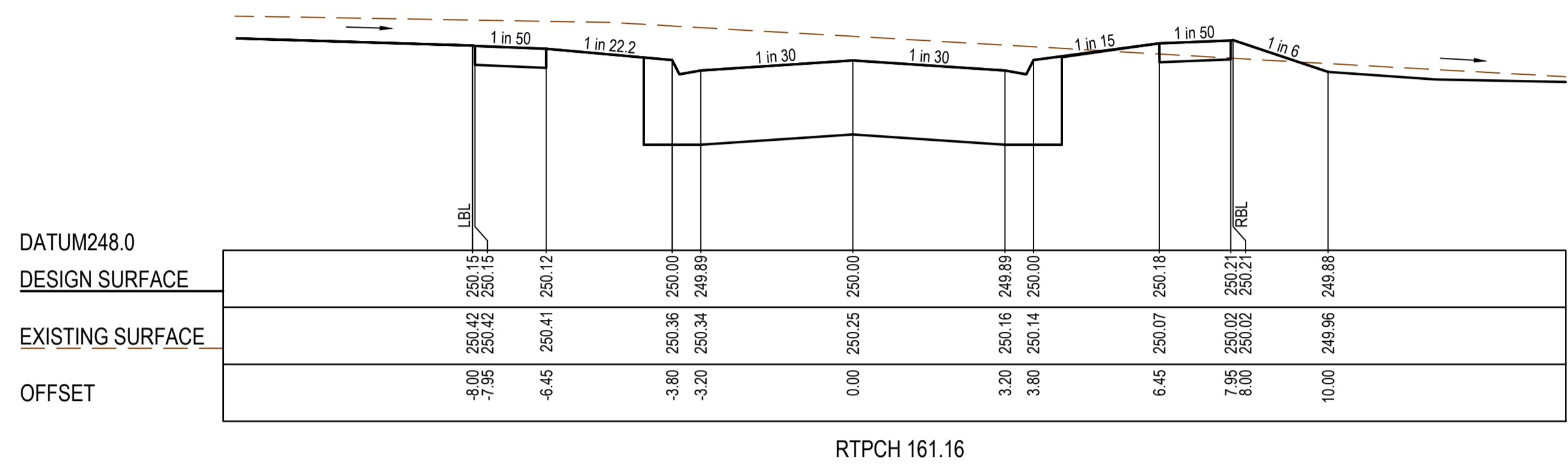
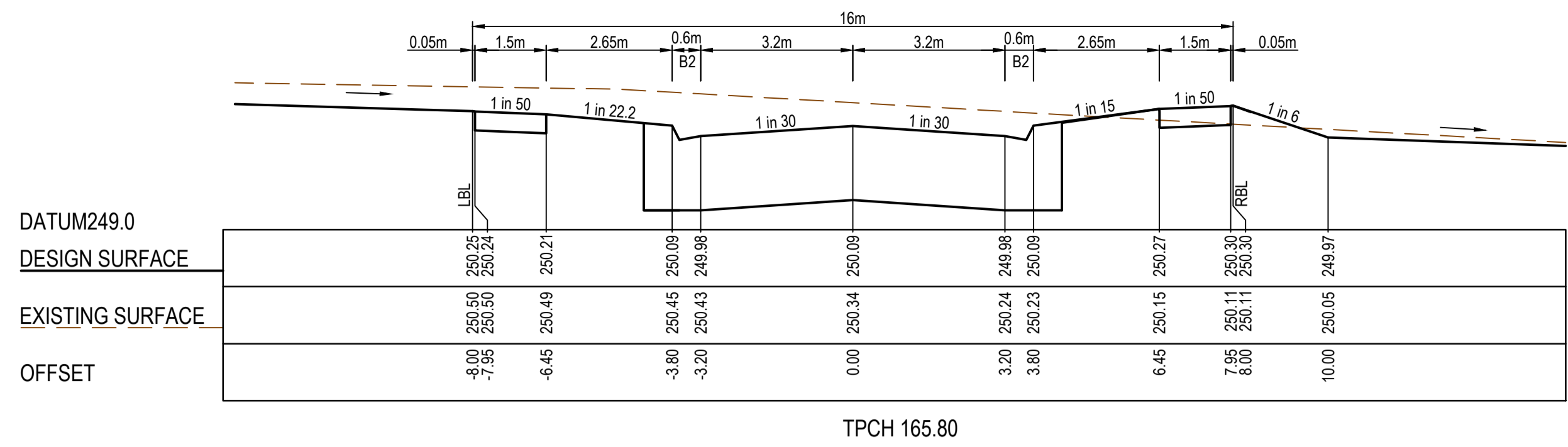
AS CONSTRUCTED



Olivine Estate - Stage 18W & 25W and Stage 18 & 25
Whittlesea City Council
Road and Drainage
Longitudinal Sections - 3

MELWAYS REF 367 G11	PROJECT / DRAWING No. 1700E-018_025-203	SHEET No. 20 of 51	REVISION 2
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TYPE A STRUCTURAL FILL AT A 45° ANGLE OF REPOSE REQUIRED UNDER PAVEMENT AND FOOTPATHS WHERE CONSTRUCTED ABOVE EXISTING SURFACE



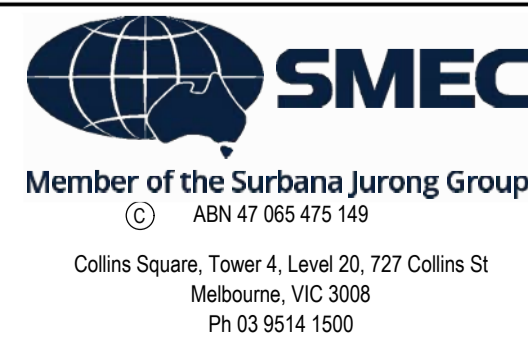
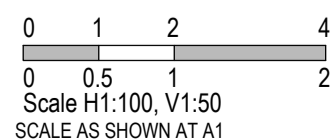
AS CONSTRUCTED PLANS

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PLAN OF SUB. NO.
PS913483L & PS905205M
PS913482N & PS905209D
PERMIT REF. NO.
717158 & 719067

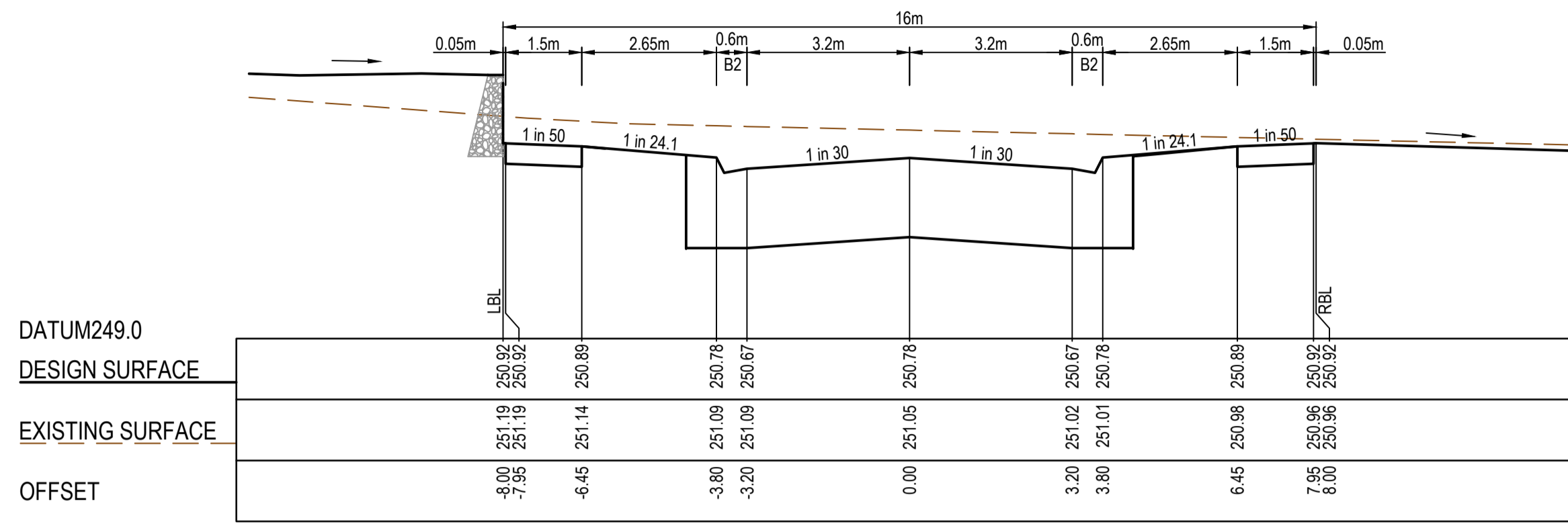
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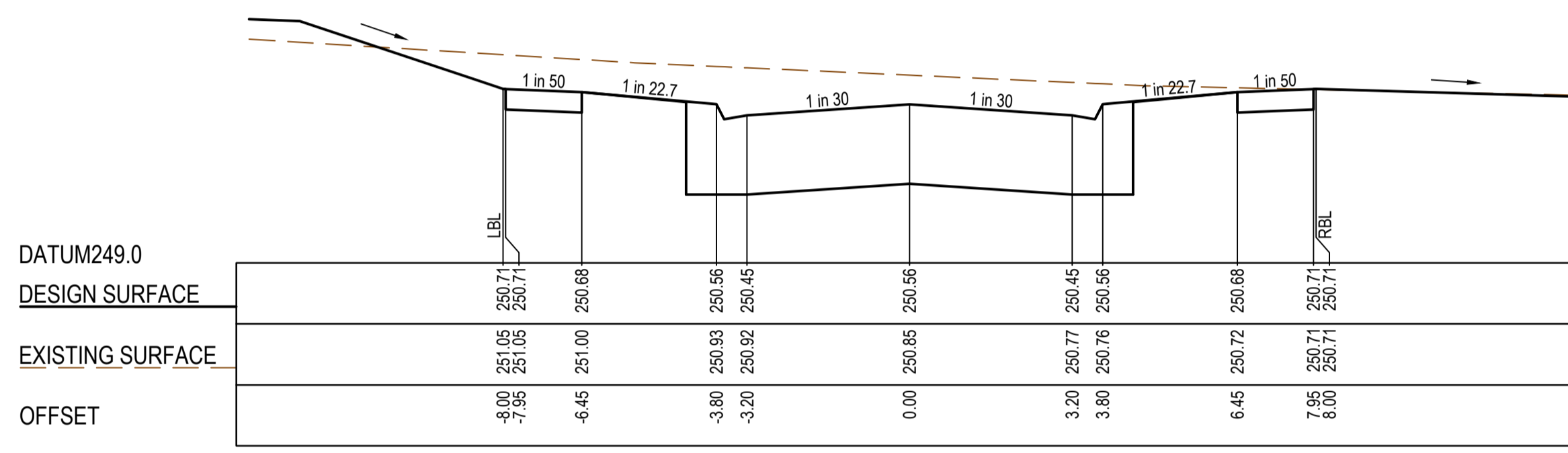
Olivine Estate - Stage 18W & 25W and Stage 18 & 25
Whittlesea City Council
Road and Drainage
Cross Sections: Topiary Way

MELWAYS REF 367 G11	PROJECT / DRAWING No. 1700E-018_025-251	SHEET No. 21 of 51	REVISION 2
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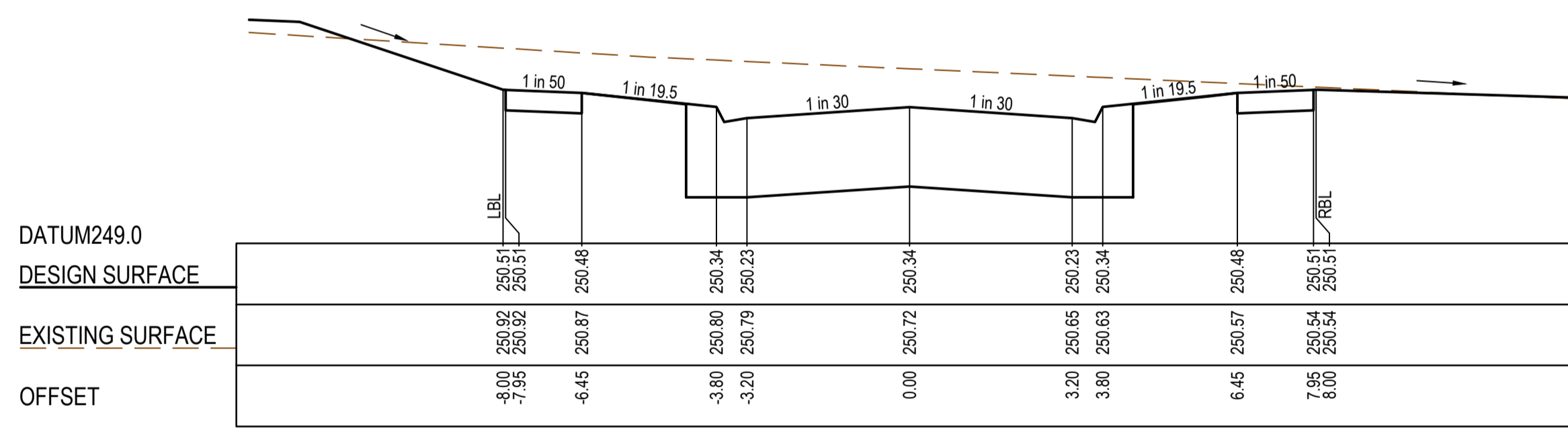
TYPE A STRUCTURAL FILL AT A 45° ANGLE OF REPOSE REQUIRED UNDER PAVEMENT AND FOOTPATHS WHERE CONSTRUCTED ABOVE EXISTING SURFACE



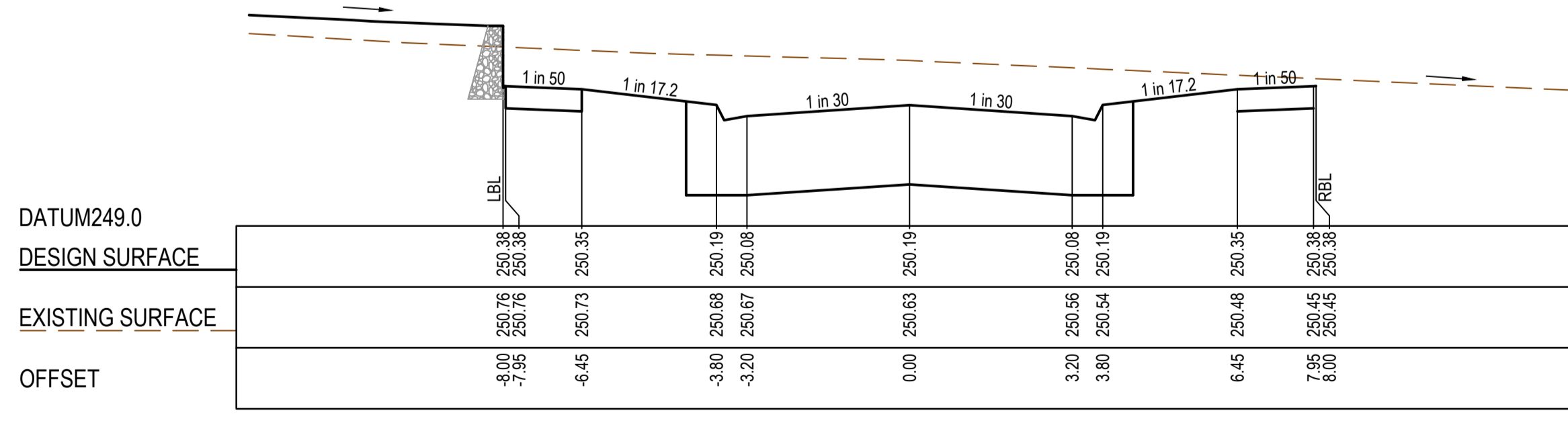
CH 73.62



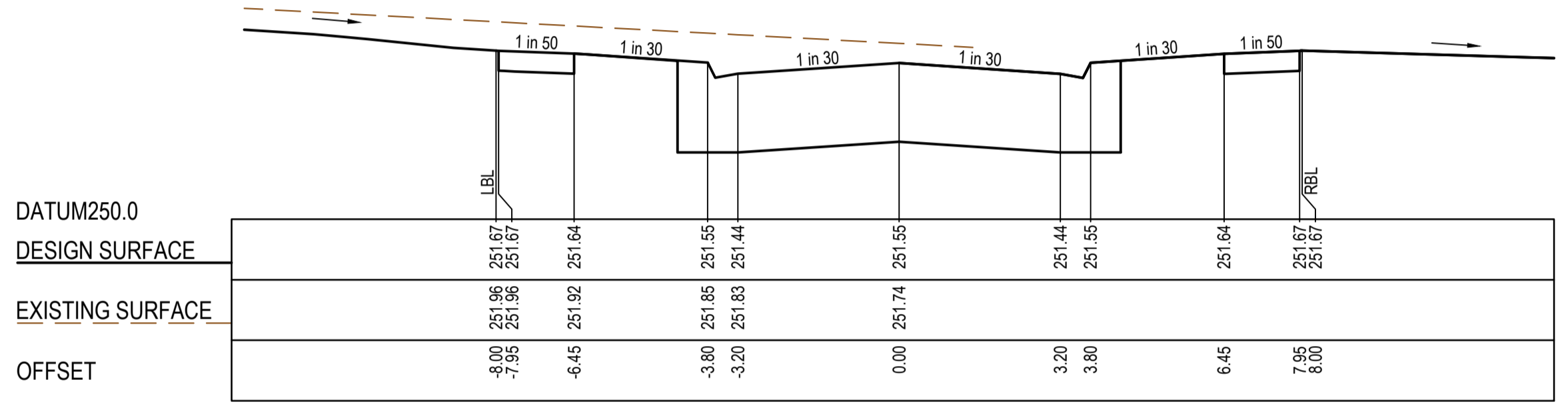
CH 61.12



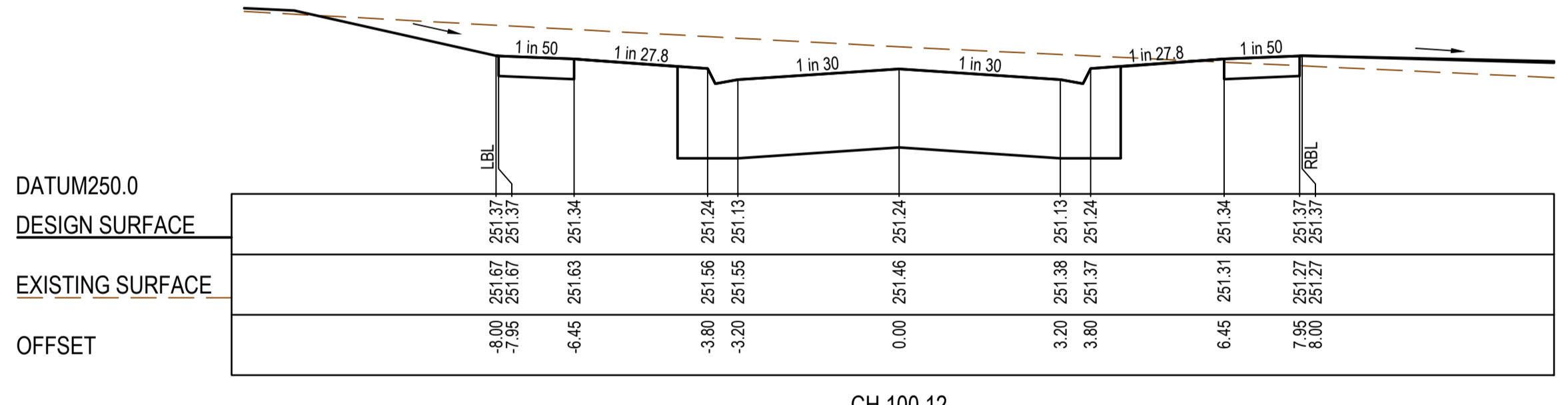
CH 48.62



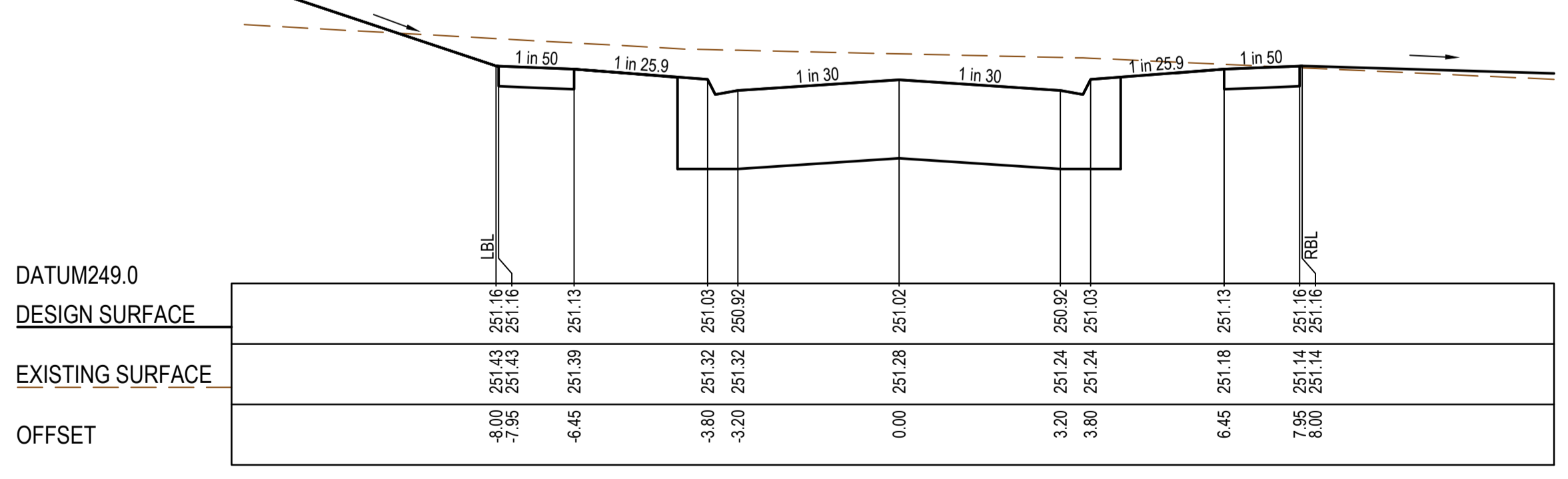
CH 40.00



CH 112.51



CH 100.12



CH 87.62

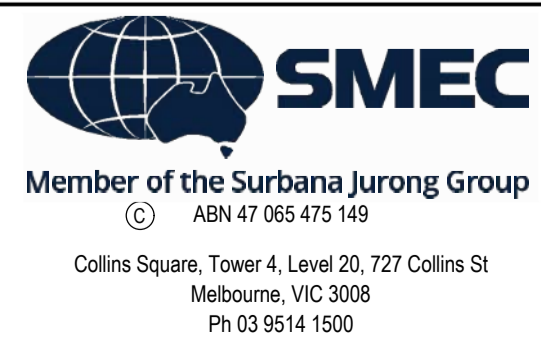
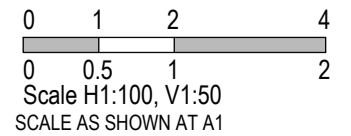
AS CONSTRUCTED PLANS

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PLAN OF SUB. NO.
P5913483L & P5905209M
P5913482N & P5905209D
PERMIT REF. NO.
717158 & 719067

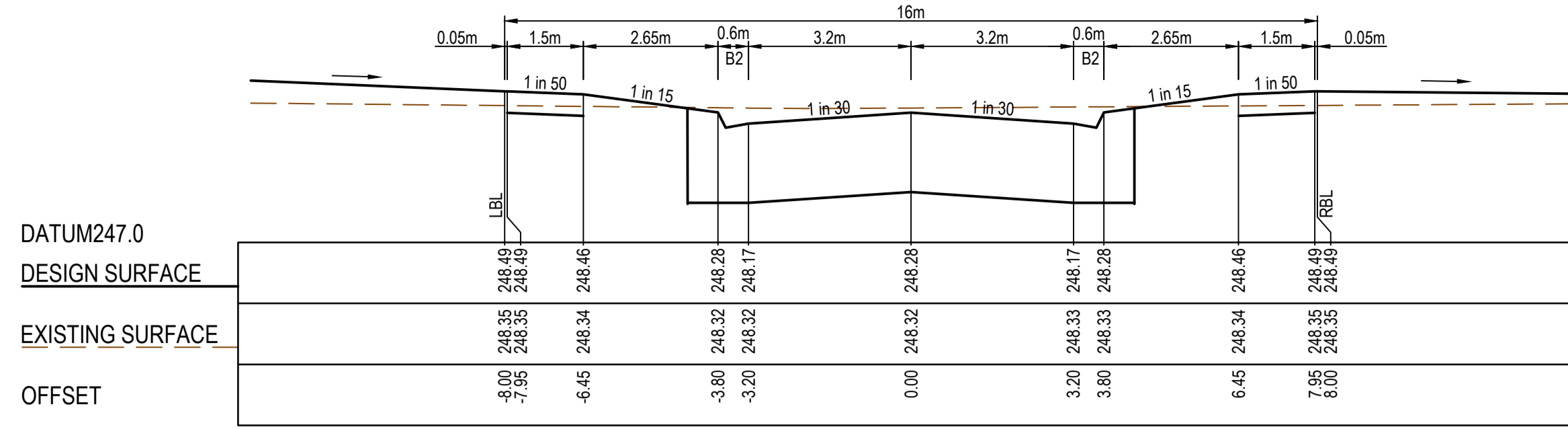
AS CONSTRUCTED



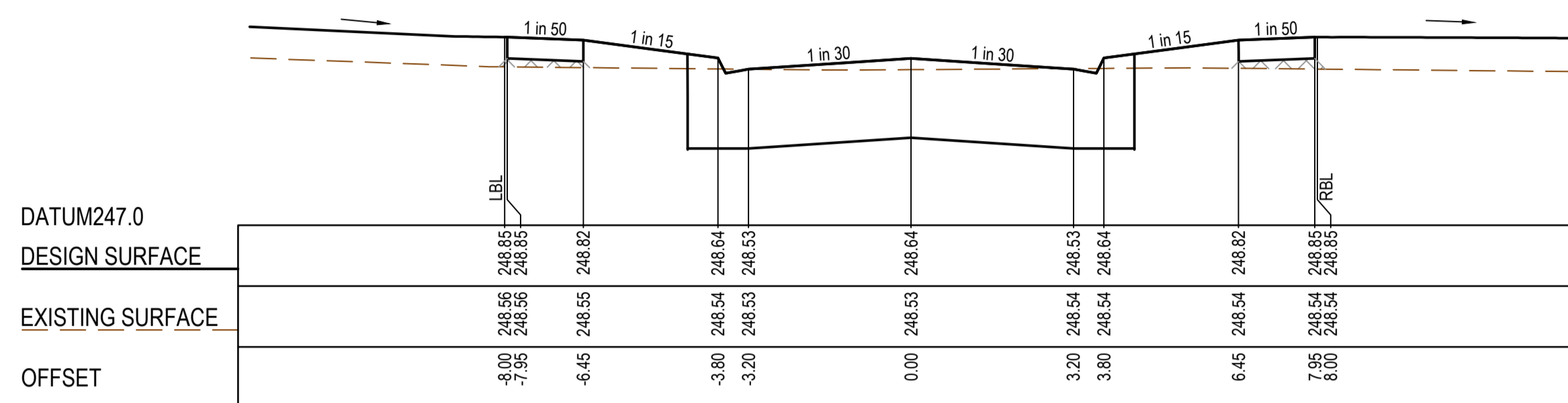
Olivine Estate - Stage 18W & 25W and Stage 18 & 25
Whittlesea City Council
Road and Drainage
Cross Sections: Bittern Road

MELWAYS REF 367 G11	PROJECT / DRAWING No. 1700E-018_025-252	SHEET No. 22 of 51	REVISION 2
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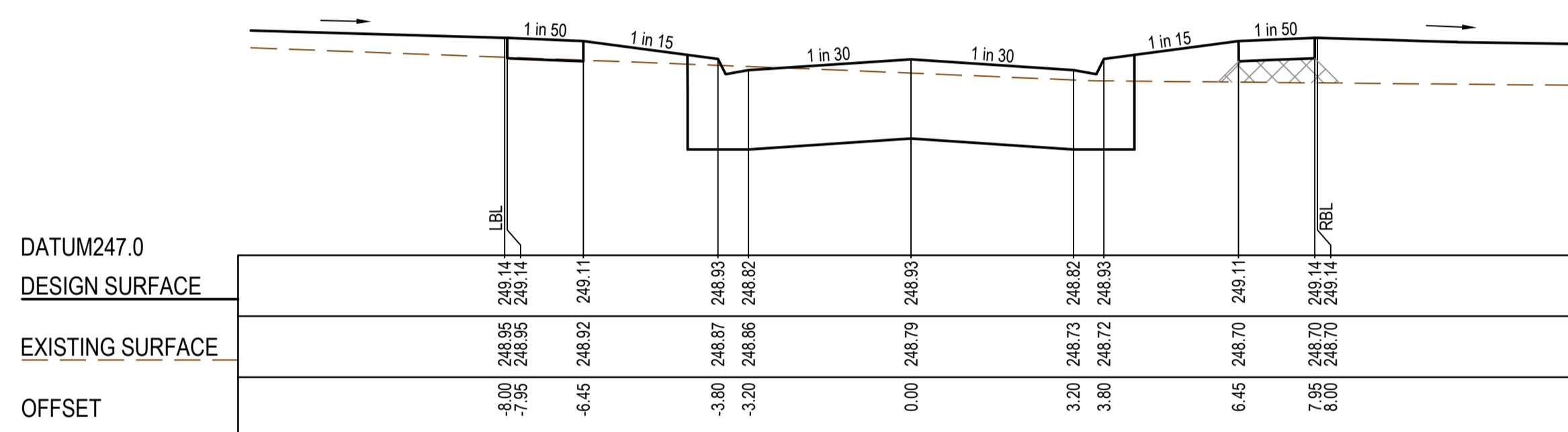
TYPE A STRUCTURAL FILL AT A 45° ANGLE OF REPOSE REQUIRED UNDER PAVEMENT AND FOOTPATHS WHERE CONSTRUCTED ABOVE EXISTING SURFACE



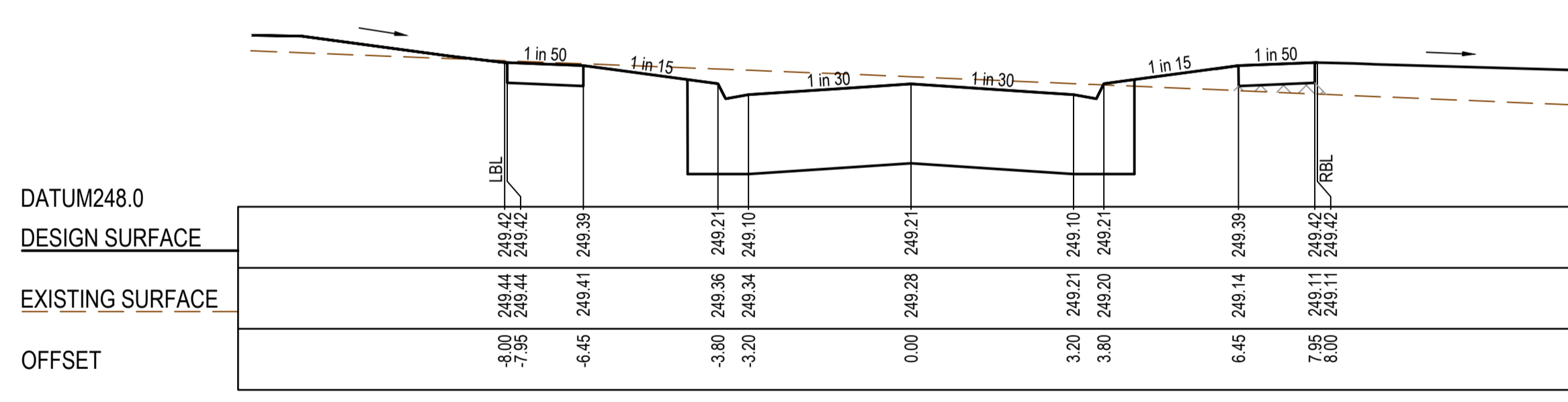
TPCH 66.56



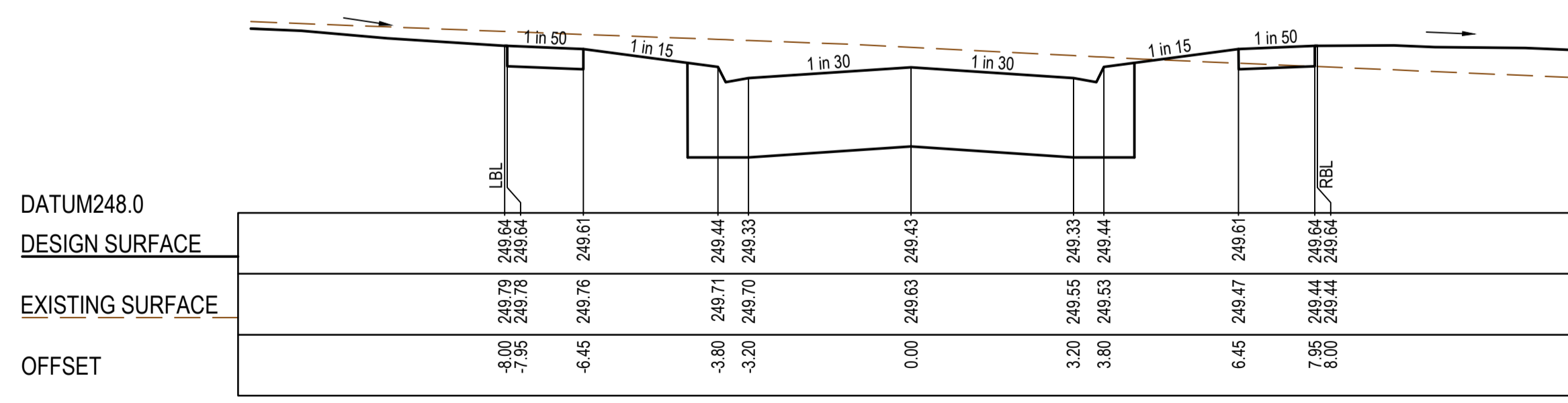
CH 51.96



CH 37.96

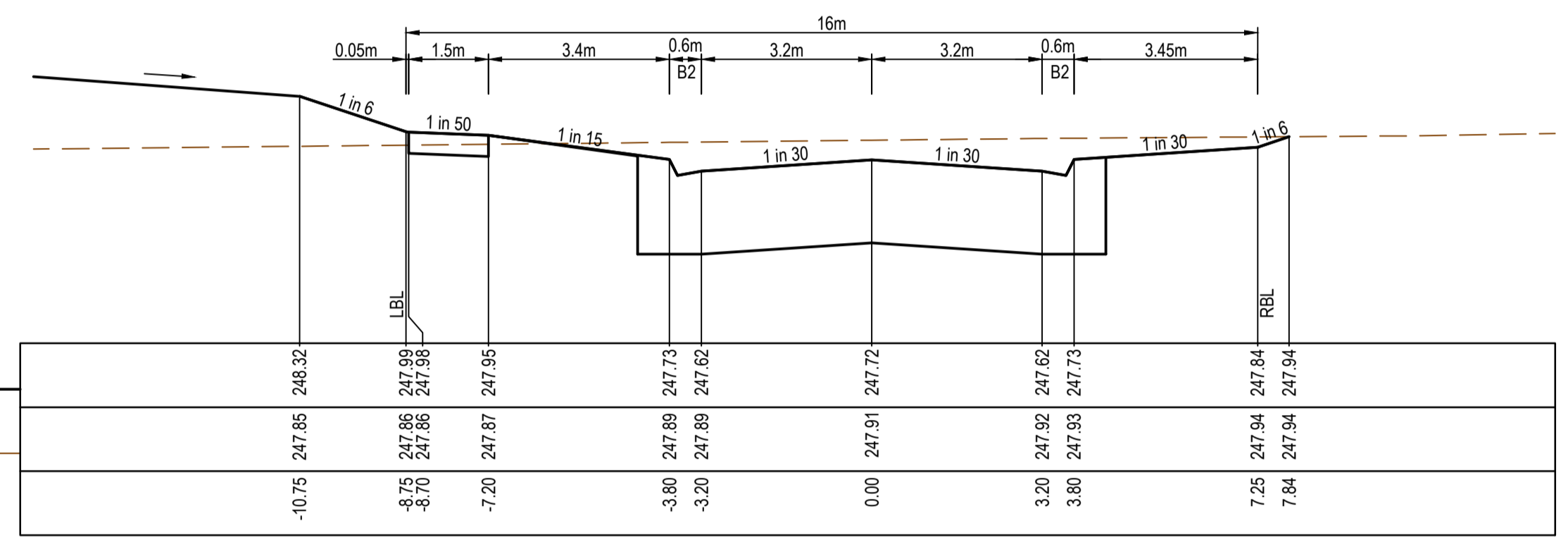


CH 23.96

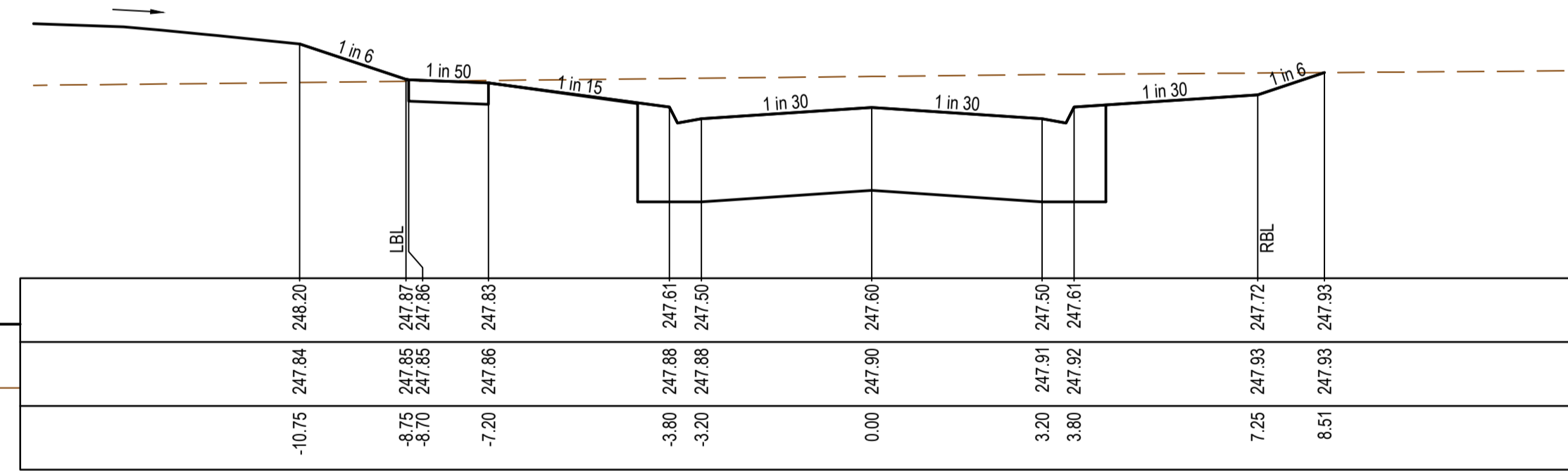


RTPCH 12.76

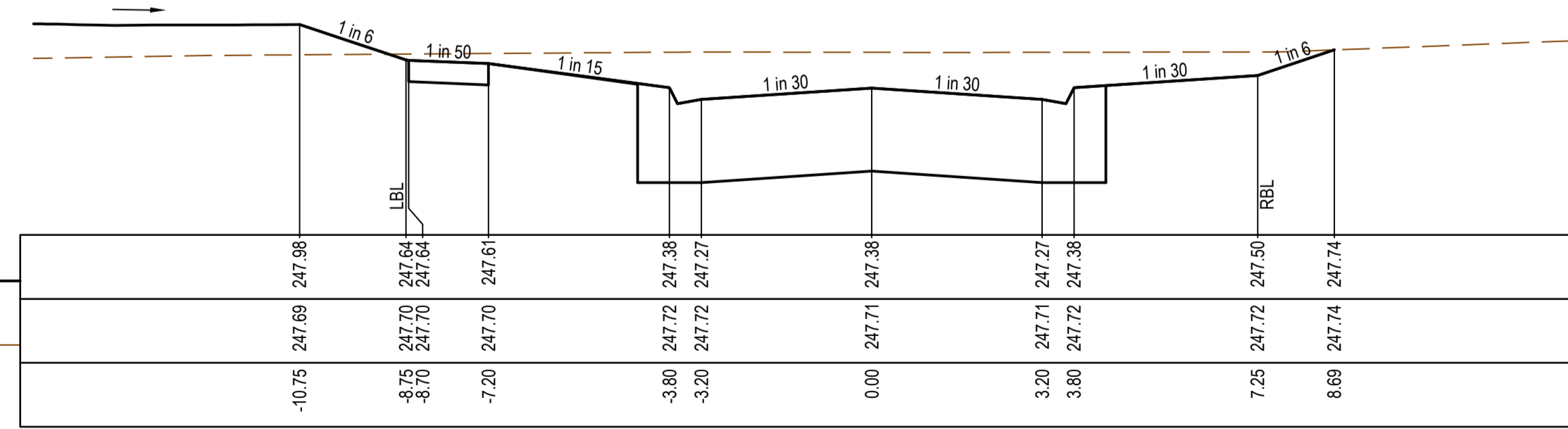
SAGGART WAY



CH 267.62



TPCH 257.64



CH 233.49

OAKFILED ENTRANCE

AS CONSTRUCTED PLANS

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Quality Management ISO 9001
 OHS Management AS/NZS 4801
 Environmental Management ISO 14001

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AS CONSTRUCTED

PLAN OF SUB. NO. PS913483L & PS905205M
 PS913482N & PS905209D
 PERMIT REF. NO. 717158 & 719067

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 SCALE AS SHOWN AT 1

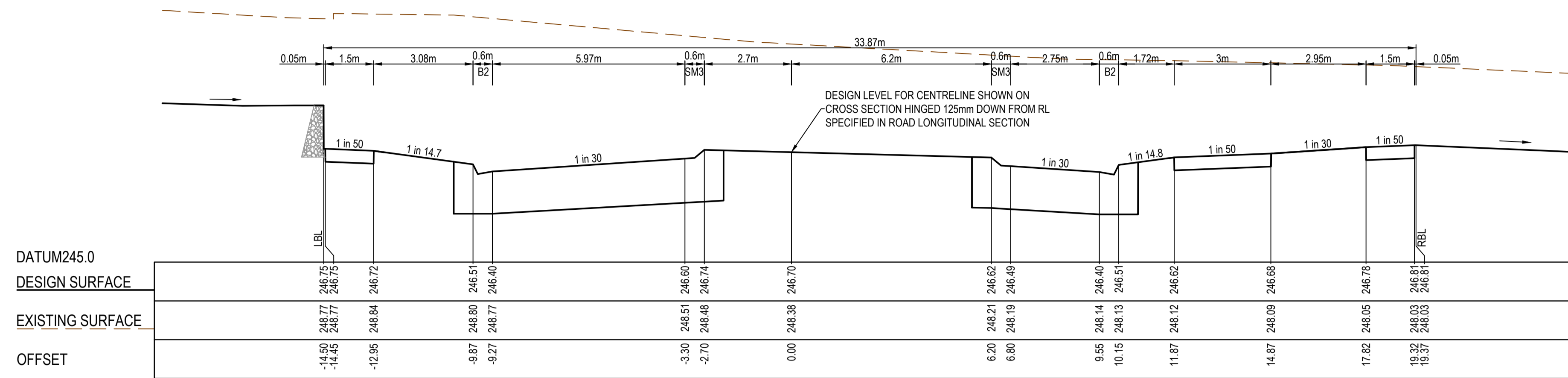
SMEC
 Member of the Surlana Jurong Group
 ABN 47 065 475 149
 Collins Square, Tower 4, Level 20, 727 Collins St
 Melbourne, VIC 3008
 Ph 03 9514 1500

mirvac

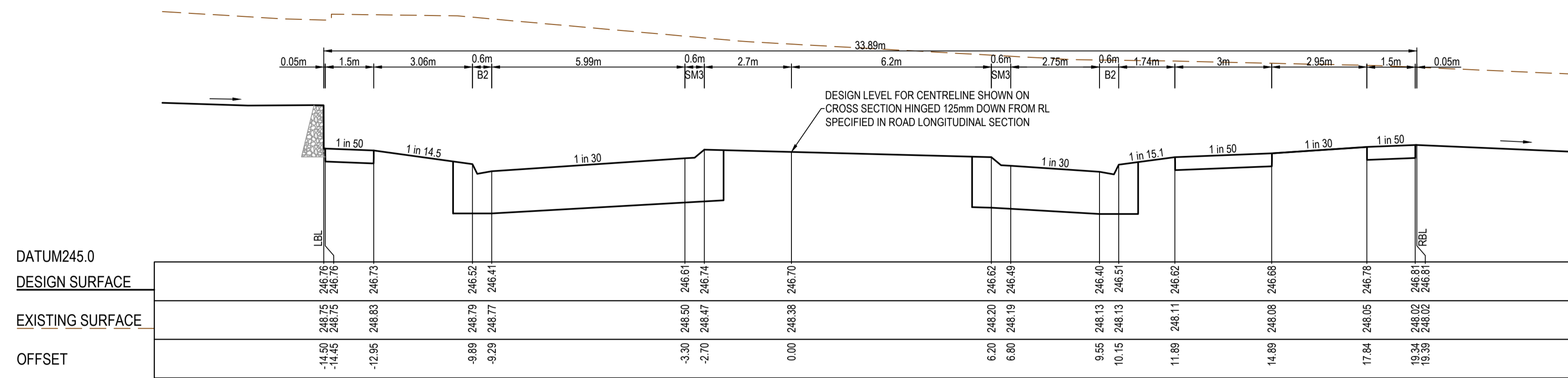
Olivine Estate - Stage 18W & 25W and Stage 18 & 25
 Whittlesea City Council
 Road and Drainage
 Cross Sections: Saggart Way & Oakfiled Entrance

MELWAYS REF: 367 G11
 PROJECT / DRAWING No: 1700E-018_025-253
 SHEET No: 23 of 51
 REVISION: 2

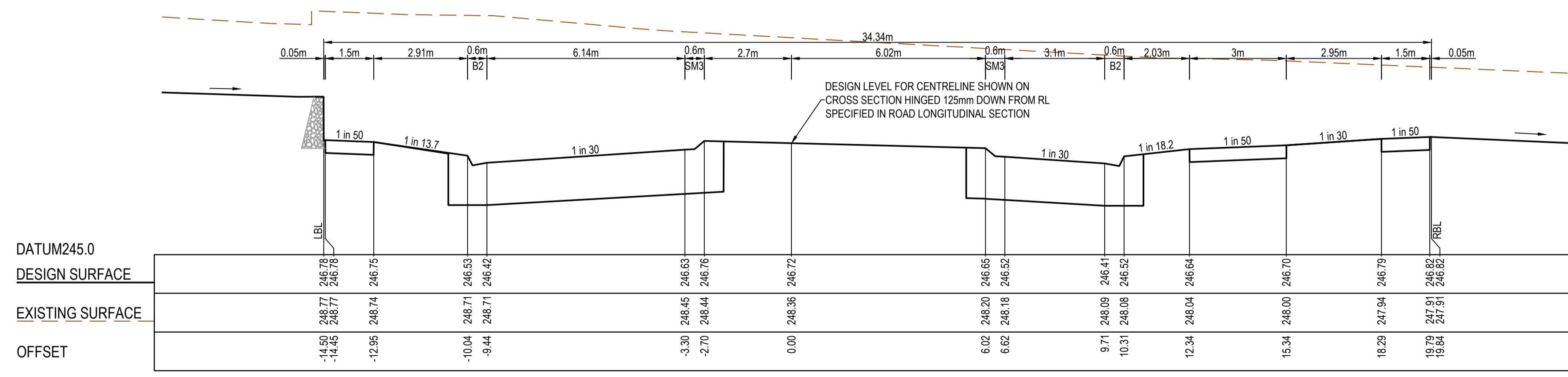
TYPE A STRUCTURAL FILL AT A 45° ANGLE OF REPOSE REQUIRED UNDER PAVEMENT AND FOOTPATHS WHERE CONSTRUCTED ABOVE EXISTING SURFACE



LTPCH 158.87



RTPCH 158.43



CH 154.09

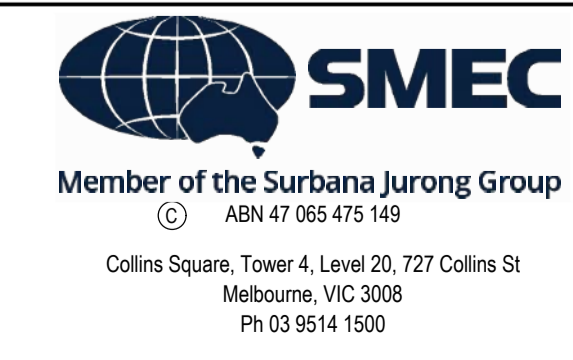
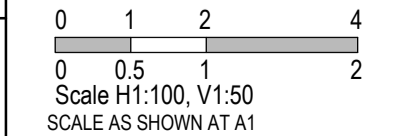
AS CONSTRUCTED PLANS

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PLAN OF SUB. NO.
PS913483L & PS905205M
PS913482N & PS905209D
PERMIT REF. NO.
717158 & 719067

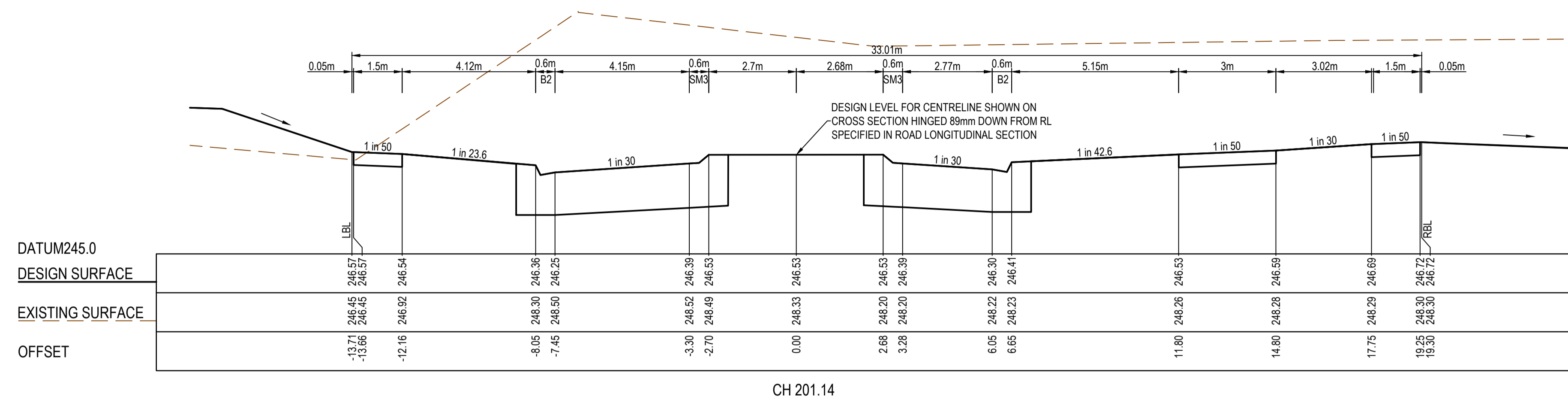
AS CONSTRUCTED



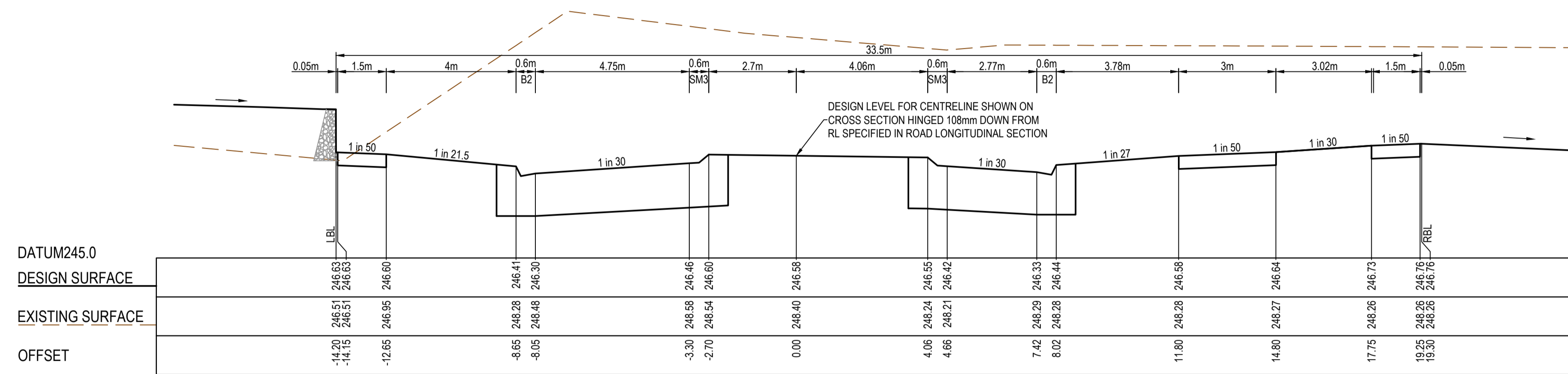
Olivine Estate - Stage 18W & 25W and Stage 18 & 25
Whittlesea City Council
Road and Drainage
Cross Sections: Cameron Street - 1
Ch 154.09 - Ch 158.87

MELWAYS REF 367 G11	PROJECT / DRAWING No. 1700E-018_025-254	SHEET No. 24 of 51	REVISION 2
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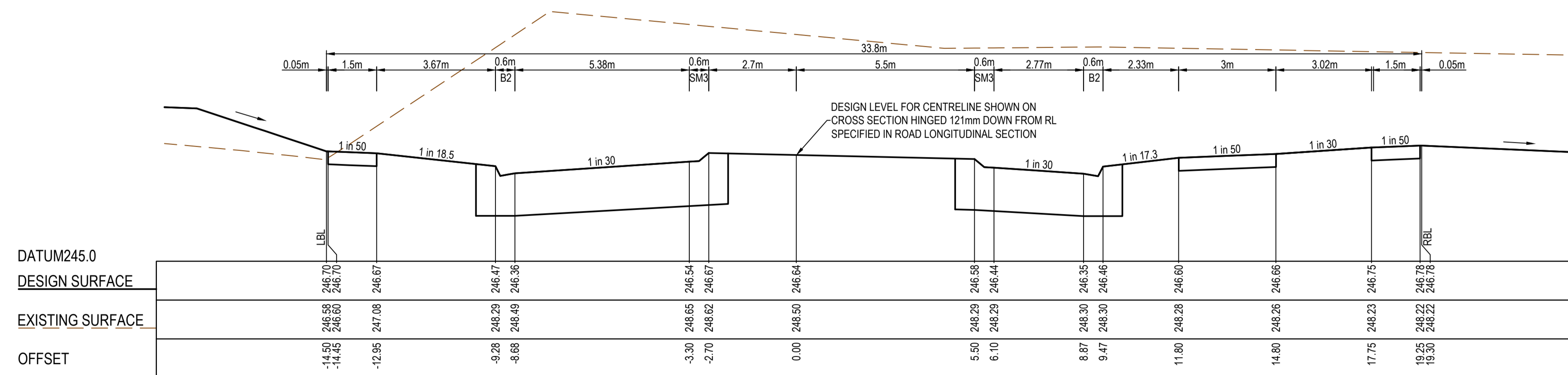
TYPE A STRUCTURAL FILL AT A 45° ANGLE OF REPOSE REQUIRED UNDER PAVEMENT AND FOOTPATHS WHERE CONSTRUCTED ABOVE EXISTING SURFACE



CH 201.14



CH 187.14



RTPCH 172.45

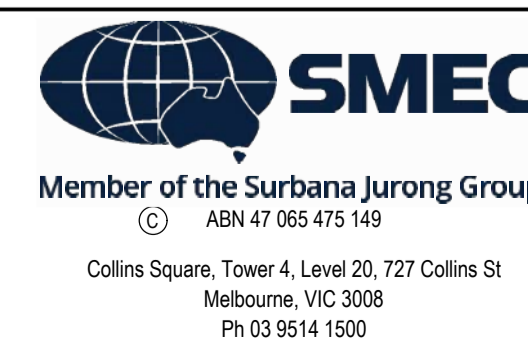
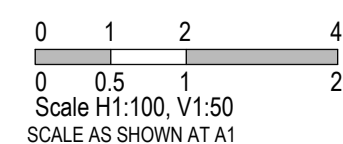
AS CONSTRUCTED PLANS

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PLAN OF SUB. NO.
PS913483L & PS905203M
PS913482N & PS905203D
PERMIT REF. NO.
717158 & 719067

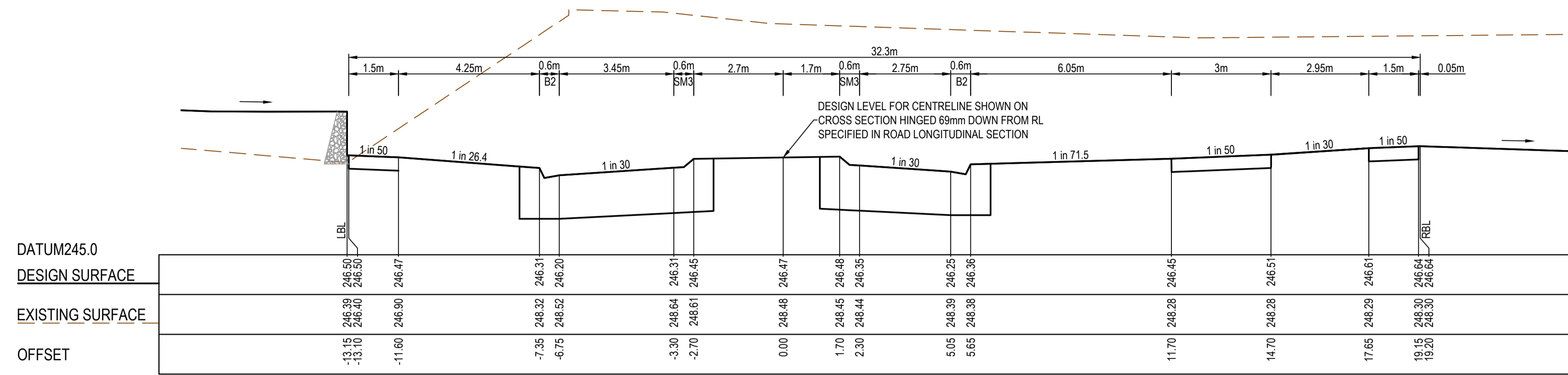
AS CONSTRUCTED



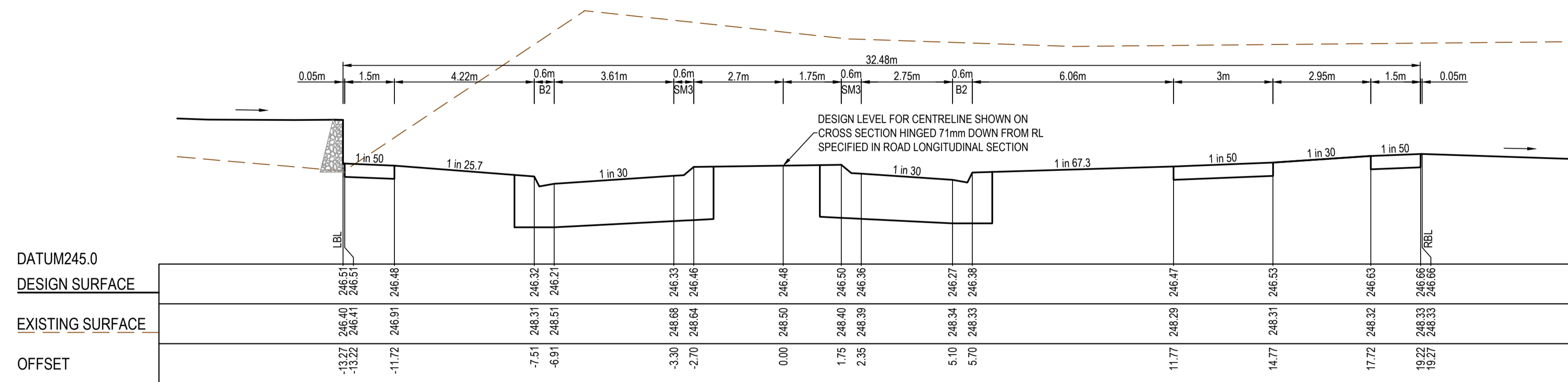
Olivine Estate - Stage 18W & 25W and Stage 18 & 25
Whittlesea City Council
Road and Drainage
Cross Sections: Cameron Street - 2
Ch 172.45 - Ch 201.14

MELWAYS REF 367 G11	PROJECT / DRAWING No. 1700E-018_025-255	SHEET No. 25 of 51	REVISION 2
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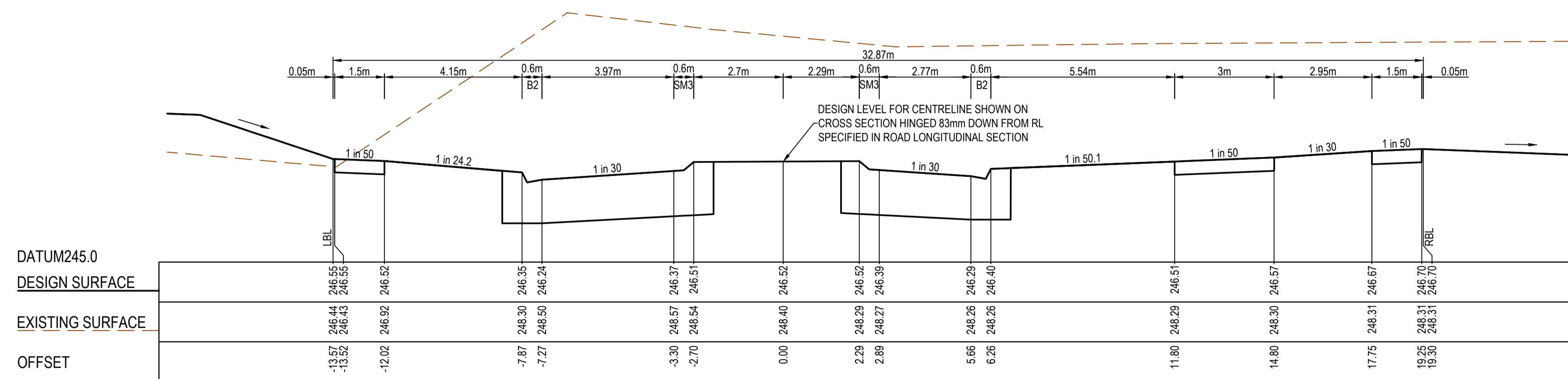
TYPE A STRUCTURAL FILL AT A 45° ANGLE OF REPOSE REQUIRED UNDER PAVEMENT AND FOOTPATHS WHERE CONSTRUCTED ABOVE EXISTING SURFACE



RTPCH 217.24



CH 213.64



RTPCH 205.08

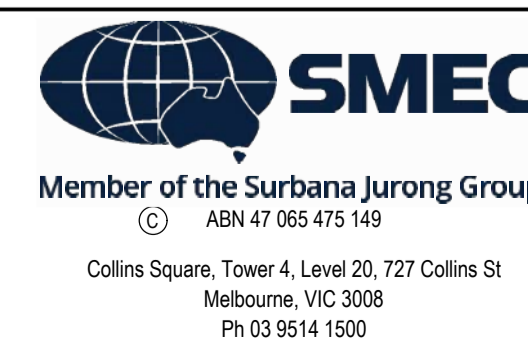
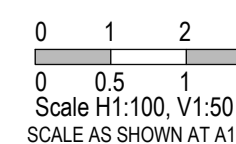
AS CONSTRUCTED PLANS

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PLAN OF SUB. NO.
PS913483L & PS905203M
PS913482N & PS905209D
PERMIT REF. NO.
717158 & 719067

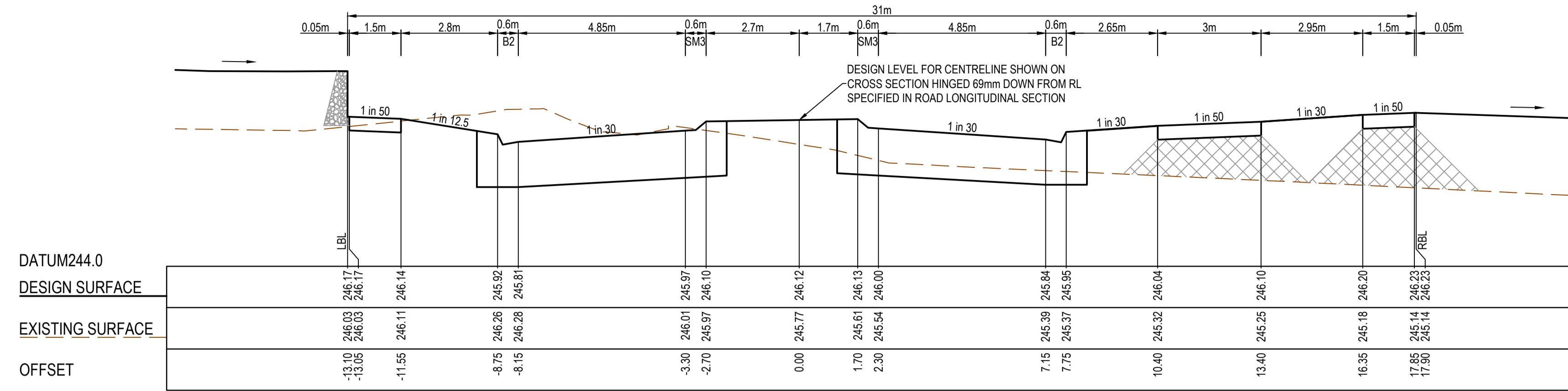
AS CONSTRUCTED



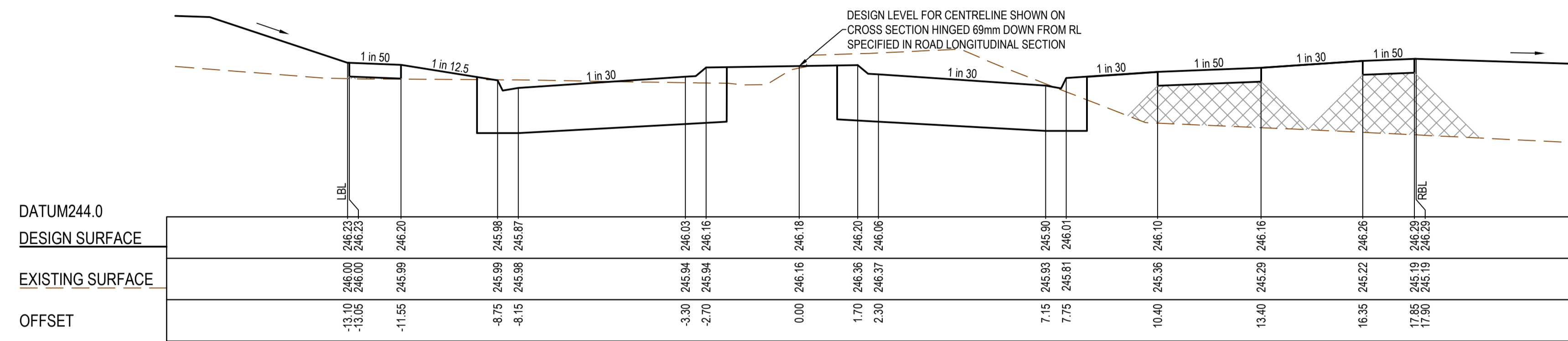
Olivine Estate - Stage 18W & 25W and Stage 18 & 25
Whittlesea City Council
Road and Drainage
Cross Sections: Cameron Street - 3
Ch 205.08 - Ch 217.20

MELWAYS REF 367 G11	PROJECT / DRAWING No. 1700E-018_025-256	SHEET No. 26 of 51	REVISION 2
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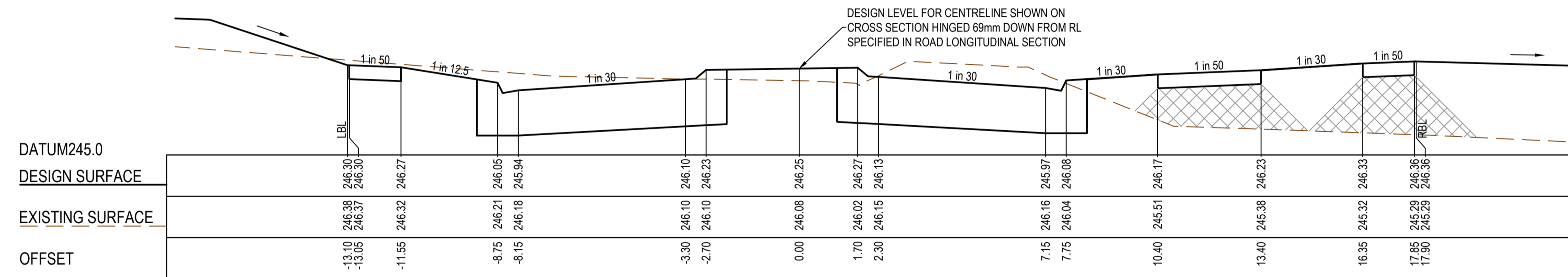
TYPE A STRUCTURAL FILL AT A 45° ANGLE OF REPOSE REQUIRED UNDER PAVEMENT AND FOOTPATHS WHERE CONSTRUCTED ABOVE EXISTING SURFACE



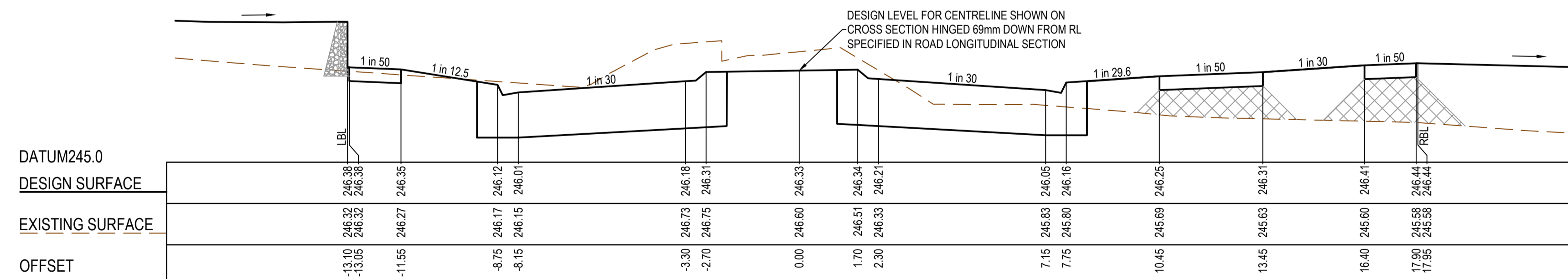
CH 286.14



CH 273.64



CH 259.64



LTPCH 244.49

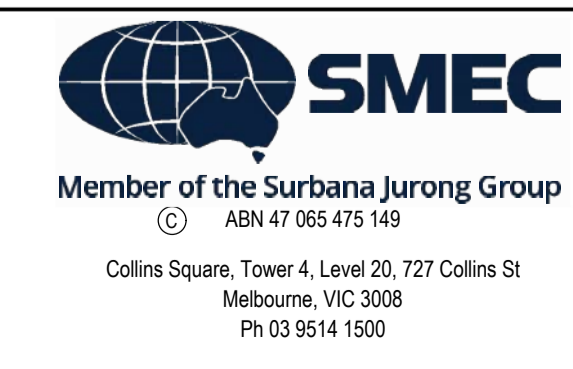
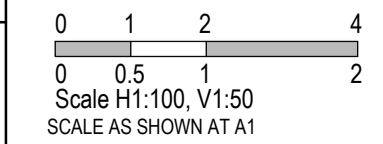
AS CONSTRUCTED PLANS

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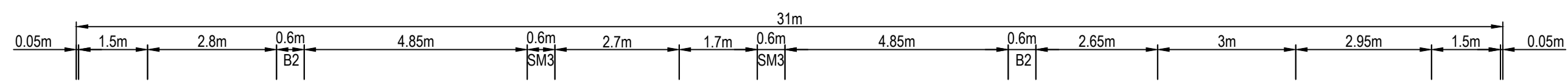
PLAN OF SUB. NO.
PS913483L & PS905205M
PS913482N & PS905205D
PERMIT REF. NO.
717158 & 719067

AS CONSTRUCTED

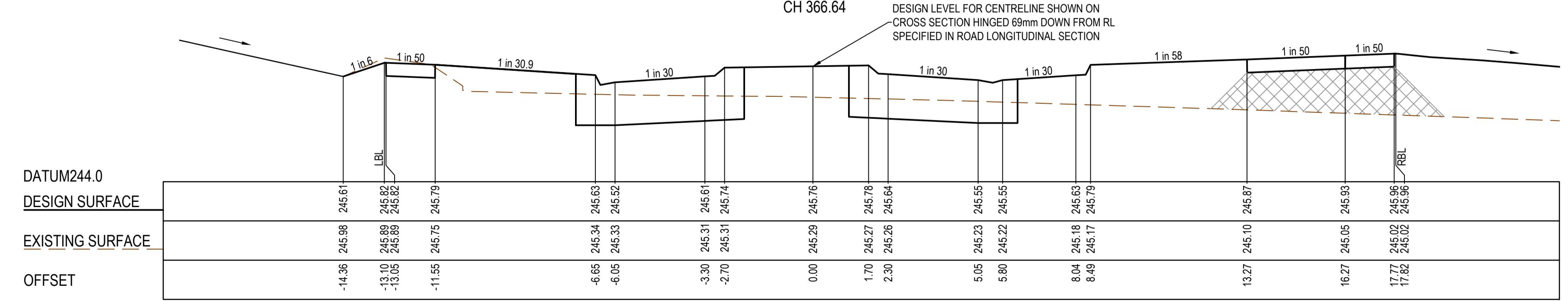
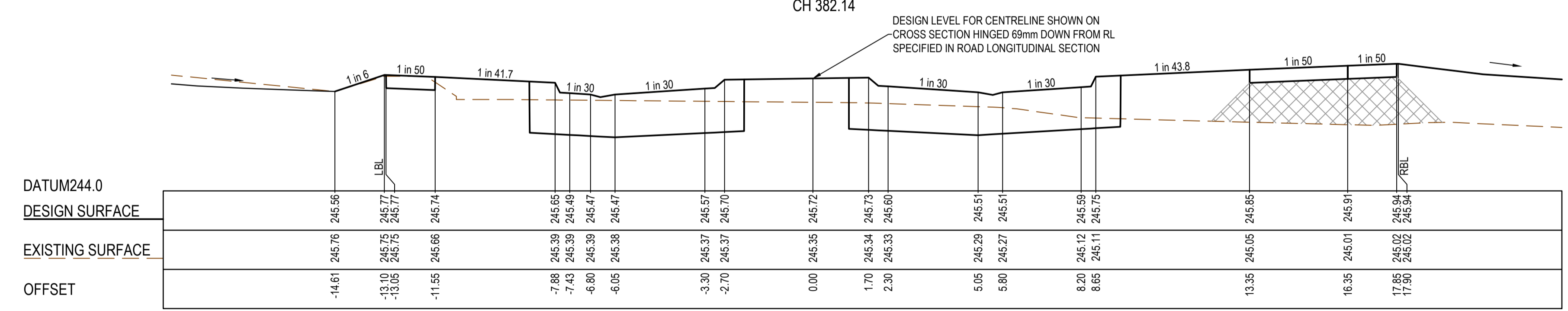
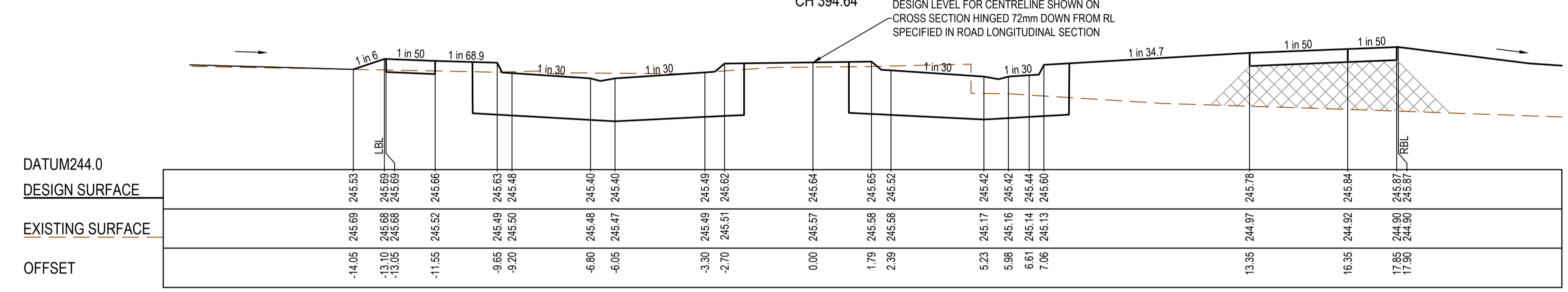
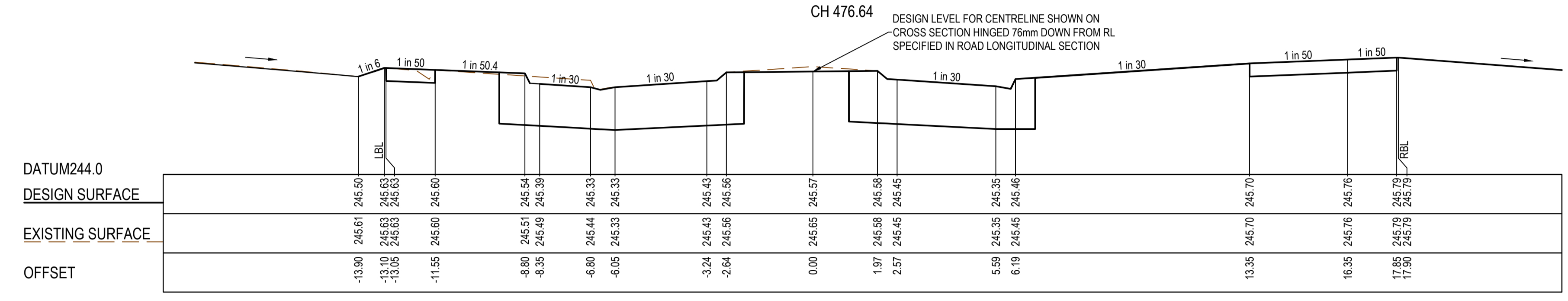
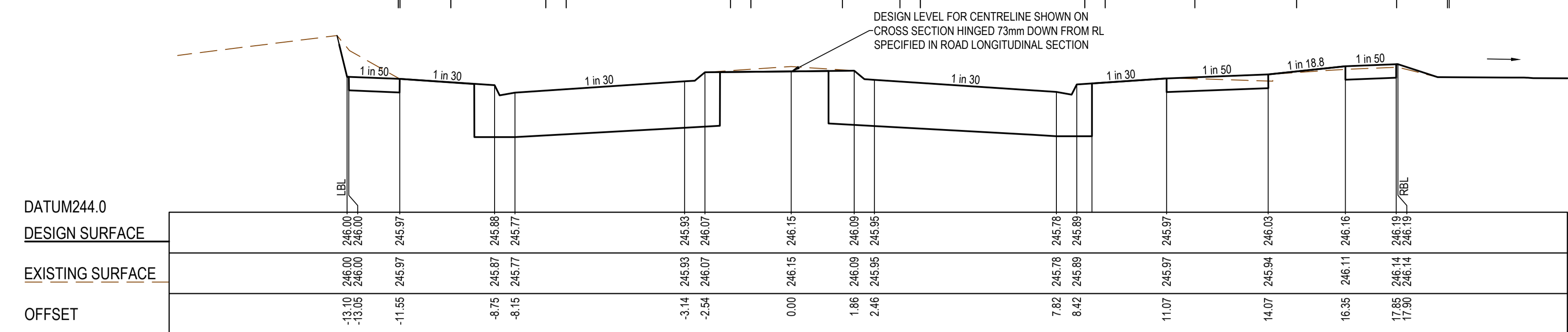


Olivine Estate - Stage 18W & 25W and Stage 18 & 25
Whittlesea City Council
Road and Drainage
Cross Sections: Cameron Street - 5
Ch 244.49 - Ch 286.14

MELWAYS REF 367 G11	PROJECT / DRAWING No. 1700E-018_025-258	SHEET No. 28 of 51	REVISION 2
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TYPE A STRUCTURAL FILL AT A 45° ANGLE OF REPOSE REQUIRED UNDER PAVEMENT AND FOOTPATHS WHERE CONSTRUCTED ABOVE EXISTING SURFACE



AS CONSTRUCTED PLANS
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AS CONSTRUCTED

PLAN OF SUB. NO.
P5913483L & P5905203M
P5913482N & P5905209D

PERMIT REF. NO.
7117158 & 719067

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SCALE AS SHOWN AT 1

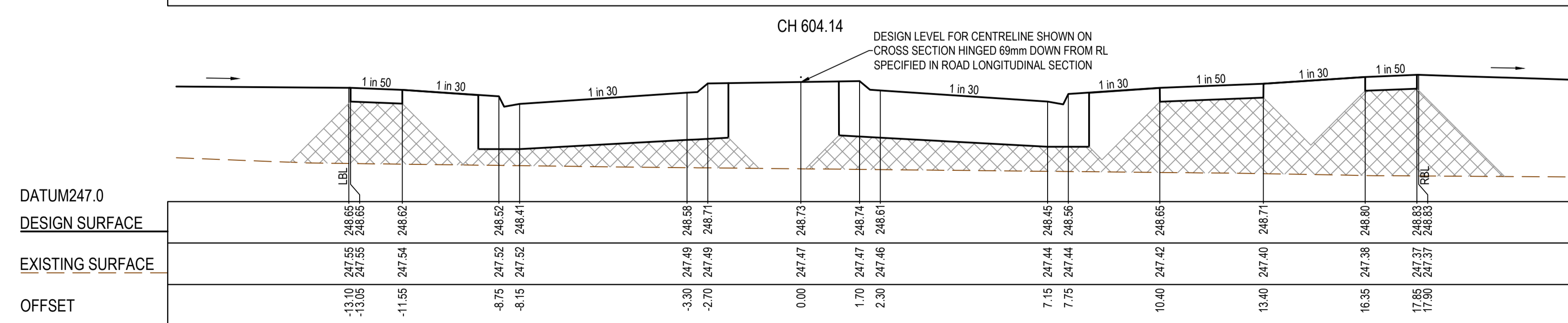
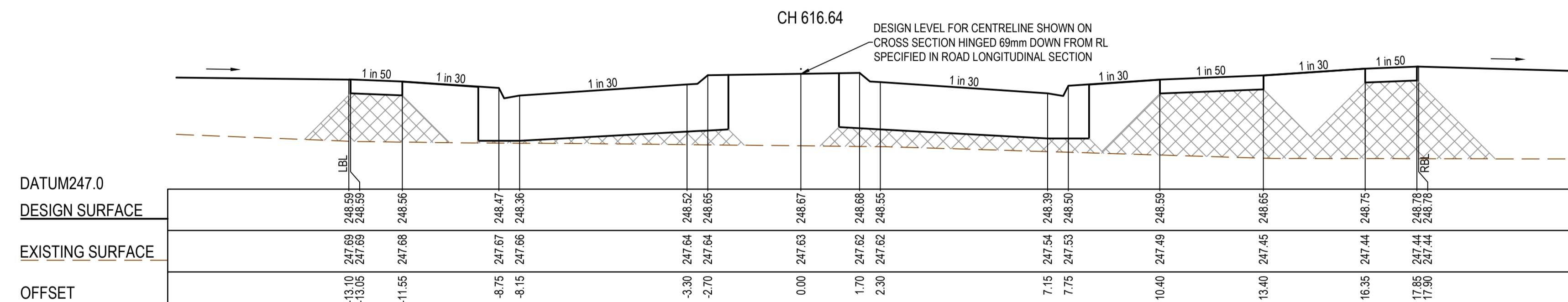
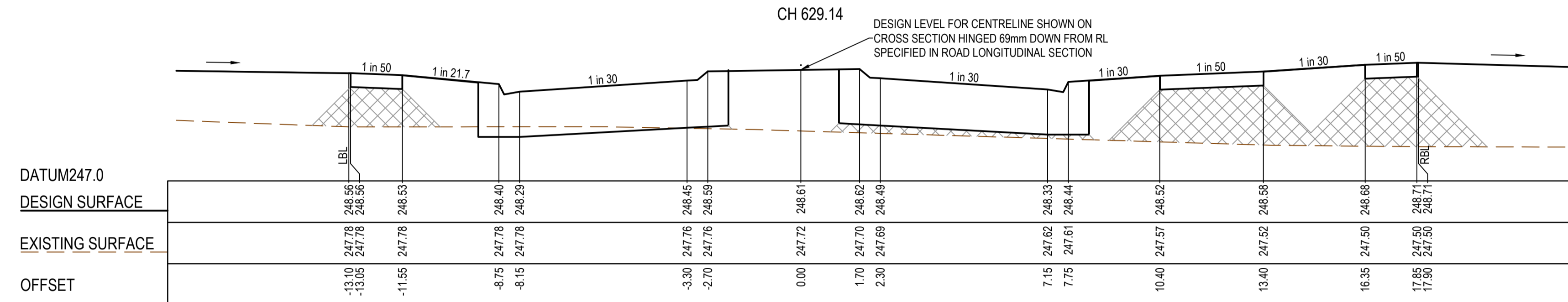
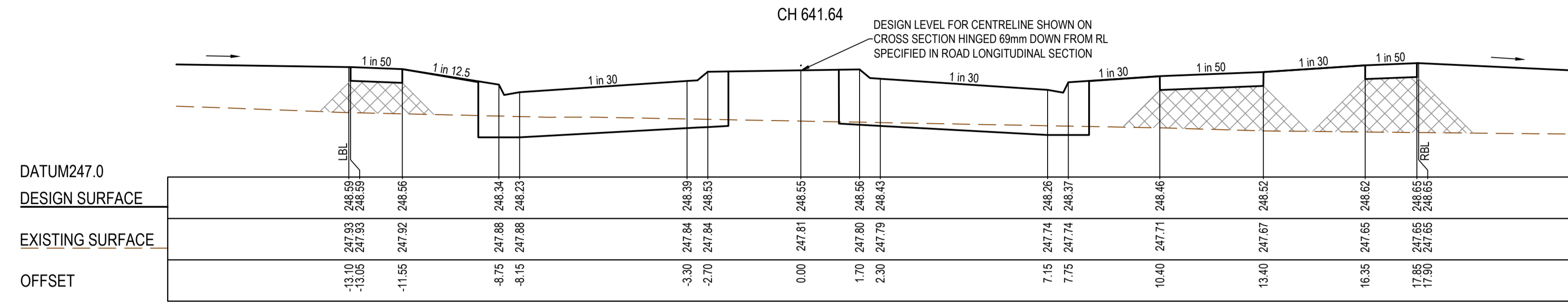
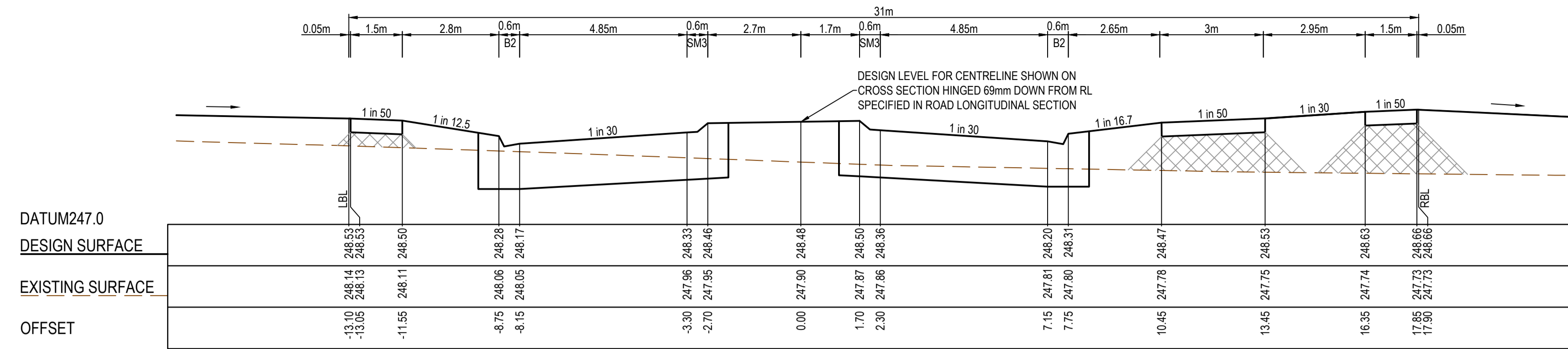
SMC
Member of the Surlana Jurong Group
ABN 47 065 475 149
Collins Square, Tower 4, Level 20, 727 Collins St
Melbourne, VIC 3008
Ph 03 9514 1900

mirvac

Olivine Estate - Stage 18W & 25W and Stage 18 & 25
Whittlesea City Council
Road and Drainage
Cross Sections: Cameron Street - 8
Ch 357.47 - Ch 476.64

MELWAYS REF	PROJECT / DRAWING No	SHEET No	REVISION
367 G11	1700E-018_025-261	31 of 51	3

TYPE A STRUCTURAL FILL AT A 45° ANGLE OF REPOSE REQUIRED UNDER PAVEMENT AND FOOTPATHS WHERE CONSTRUCTED ABOVE EXISTING SURFACE



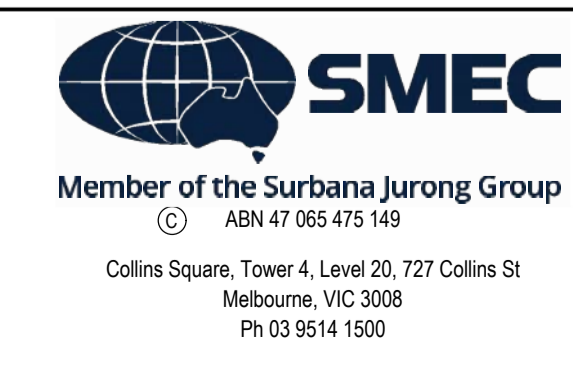
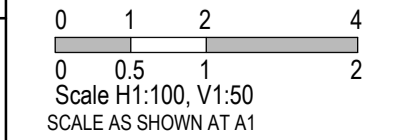
AS CONSTRUCTED PLANS

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PLAN OF SUB. NO.
PS913483L & PS905209M
PS913482N & PS905209D
PERMIT REF. NO.
717158 & 719067

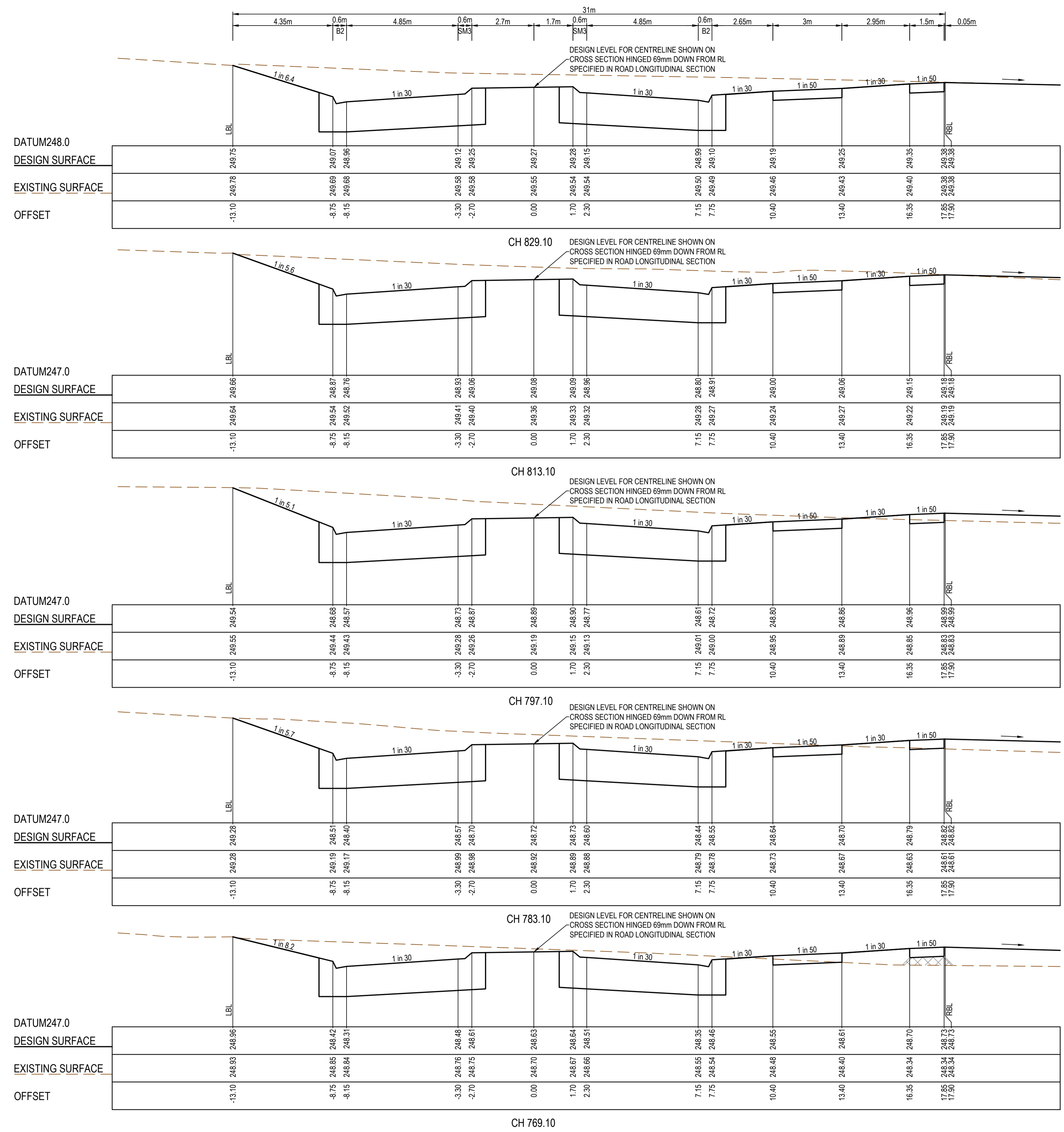
AS CONSTRUCTED



Olivine Estate - Stage 18W & 25W and Stage 18 & 25
Whittlesea City Council
Road and Drainage
Cross Sections: Cameron Street - 11
Ch 591.64 - Ch 641.64

MELWAYS REF 367 G11	PROJECT / DRAWING No. 1700E-018_025-264	SHEET No. 34 of 51	REVISION 2
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TYPE A STRUCTURAL FILL AT A 45° ANGLE OF REPOSE REQUIRED UNDER PAVEMENT AND FOOTPATHS WHERE CONSTRUCTED ABOVE EXISTING SURFACE



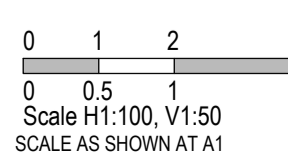
AS CONSTRUCTED PLANS

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Quality Management - ISO 9001
 OHS Management - AS/NZS 4801
 Environmental Management - ISO 14001
 Global-Mark.com.au®

PLAN OF SUB. NO. PS913483L & PS905205M
 PS913482N & PS905209D
 PERMIT REF. NO. 717158 & 719067

AS CONSTRUCTED



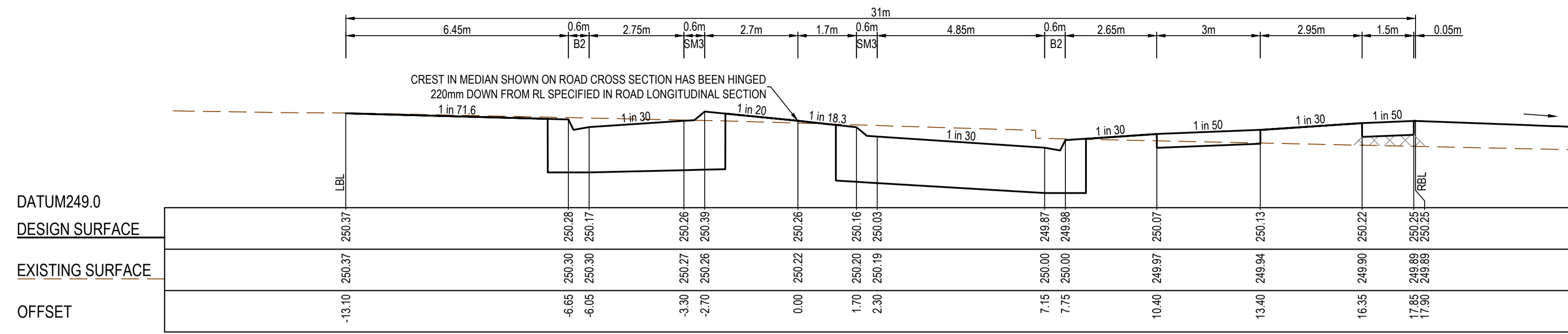
SMEC
 Member of the Surlana Jurong Group
 ABN 47 065 475 149
 Collins Square, Tower 4, Level 20, 727 Collins St
 Melbourne, VIC 3008
 Ph 03 9514 1500

mirvac

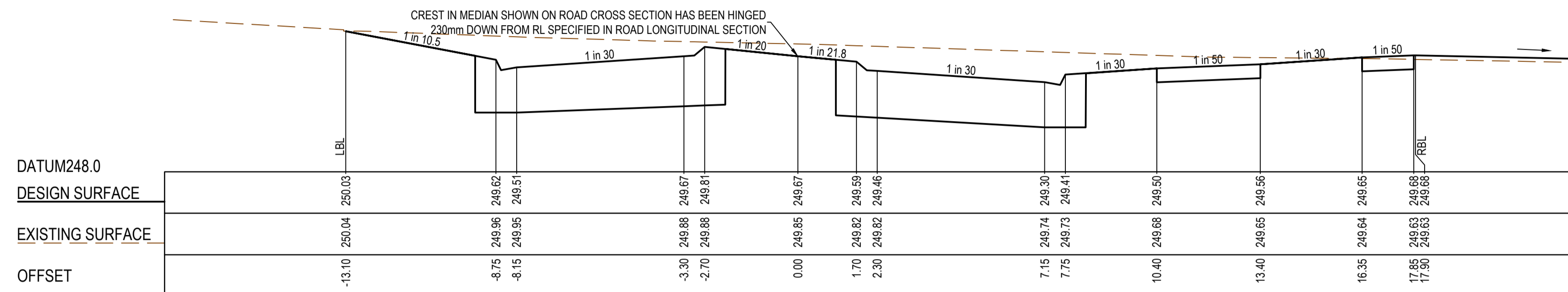
Olivine Estate - Stage 18W & 25W and Stage 18 & 25
 Whittlesea City Council
 Road and Drainage
 Cross Sections: Cameron Street - 13
 Ch 769.10 - Ch 829.10

MELWAYS REF 367 G11	PROJECT / DRAWING No. 1700E-018_025-266	SHEET No. 36 of 51	REVISION 2
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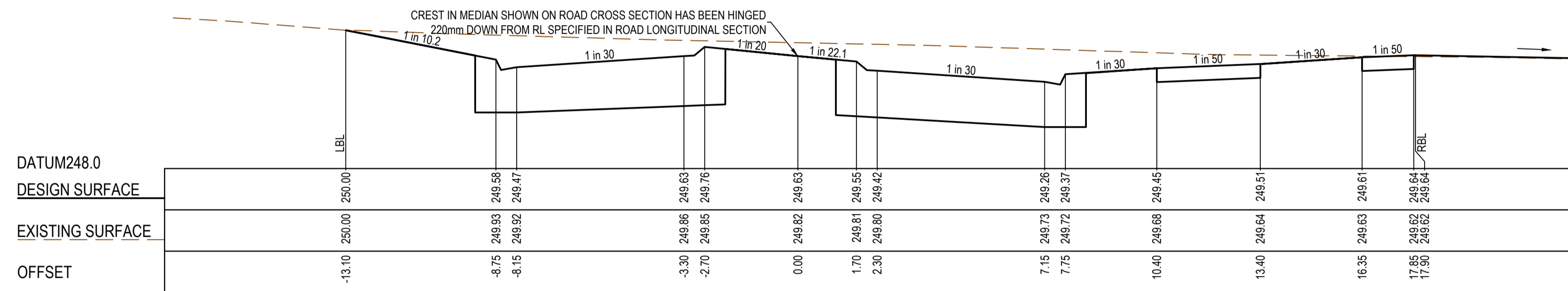
TYPE A STRUCTURAL FILL AT A 45° ANGLE OF REPOSE REQUIRED UNDER PAVEMENT AND FOOTPATHS WHERE CONSTRUCTED ABOVE EXISTING SURFACE



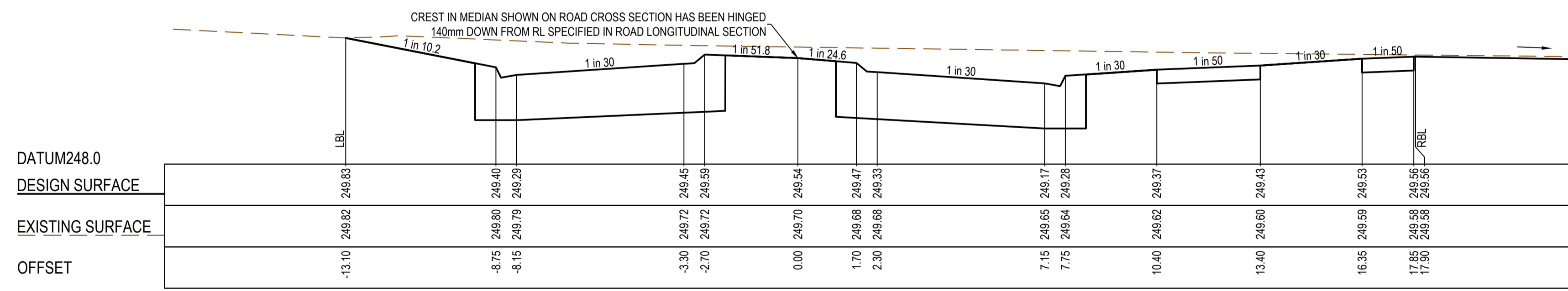
CH 904.17



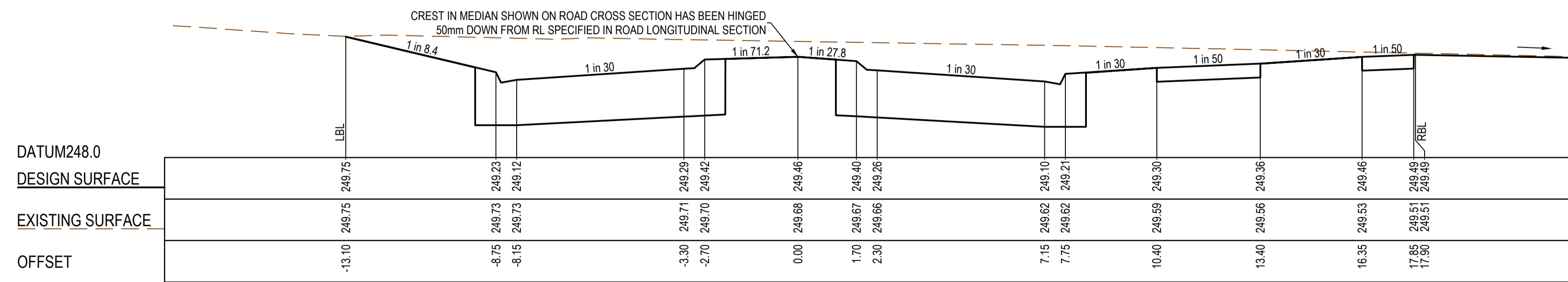
LTPCH 873.38



CH 871.10



CH 857.10



CH 843.10

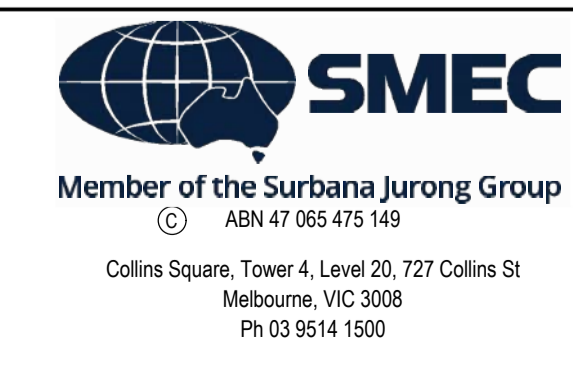
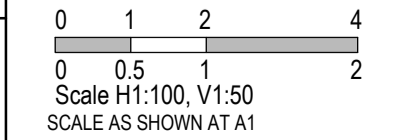
AS CONSTRUCTED PLANS

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PLAN OF SUB. NO. PS913483L & PS9052020M PS913482N & PS9052020D
 PERMIT REF. NO. 717158 & 719067

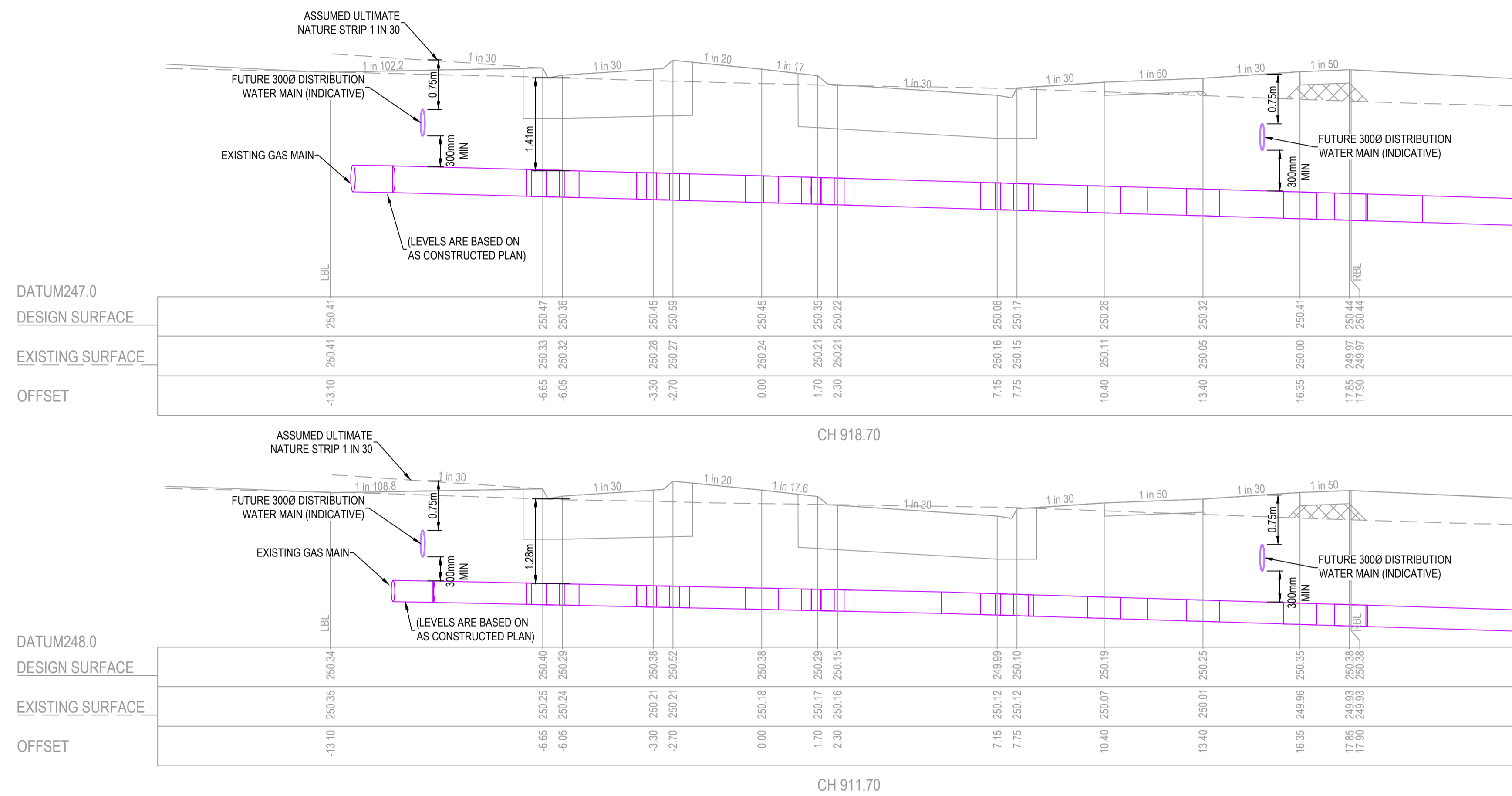
AS CONSTRUCTED



Olivine Estate - Stage 18W & 25W and Stage 18 & 25
 Whittlesea City Council
 Road and Drainage
 Cross Sections: Cameron Street - 14
 Ch 843.10 - Ch 904.17

MELWAYS REF 367 G11	PROJECT / DRAWING No. 1700E-018_025-267	SHEET No. 37 of 51	REVISION 2
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STRUCTURAL FILL REQUIRED UNDER PAVEMENT AND FOOTPATHS WHERE CONSTRUCTED ABOVE EXISTING SURFACE



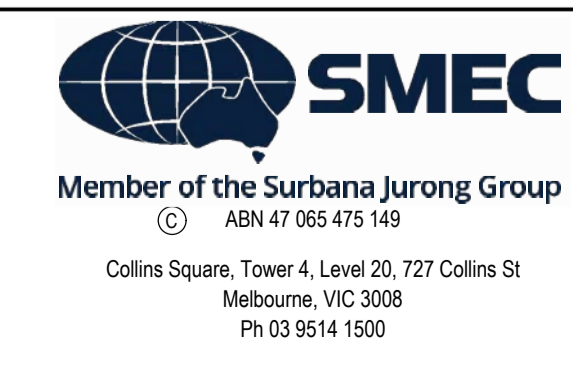
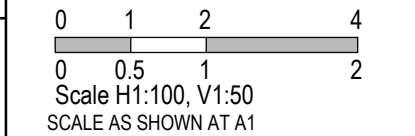
AS CONSTRUCTED PLANS

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PLAN OF SUB. NO.
PS913483L & PS905205M
PS913482N & PS905209D
PERMIT REF. NO.
717158 & 719067

AS CONSTRUCTED

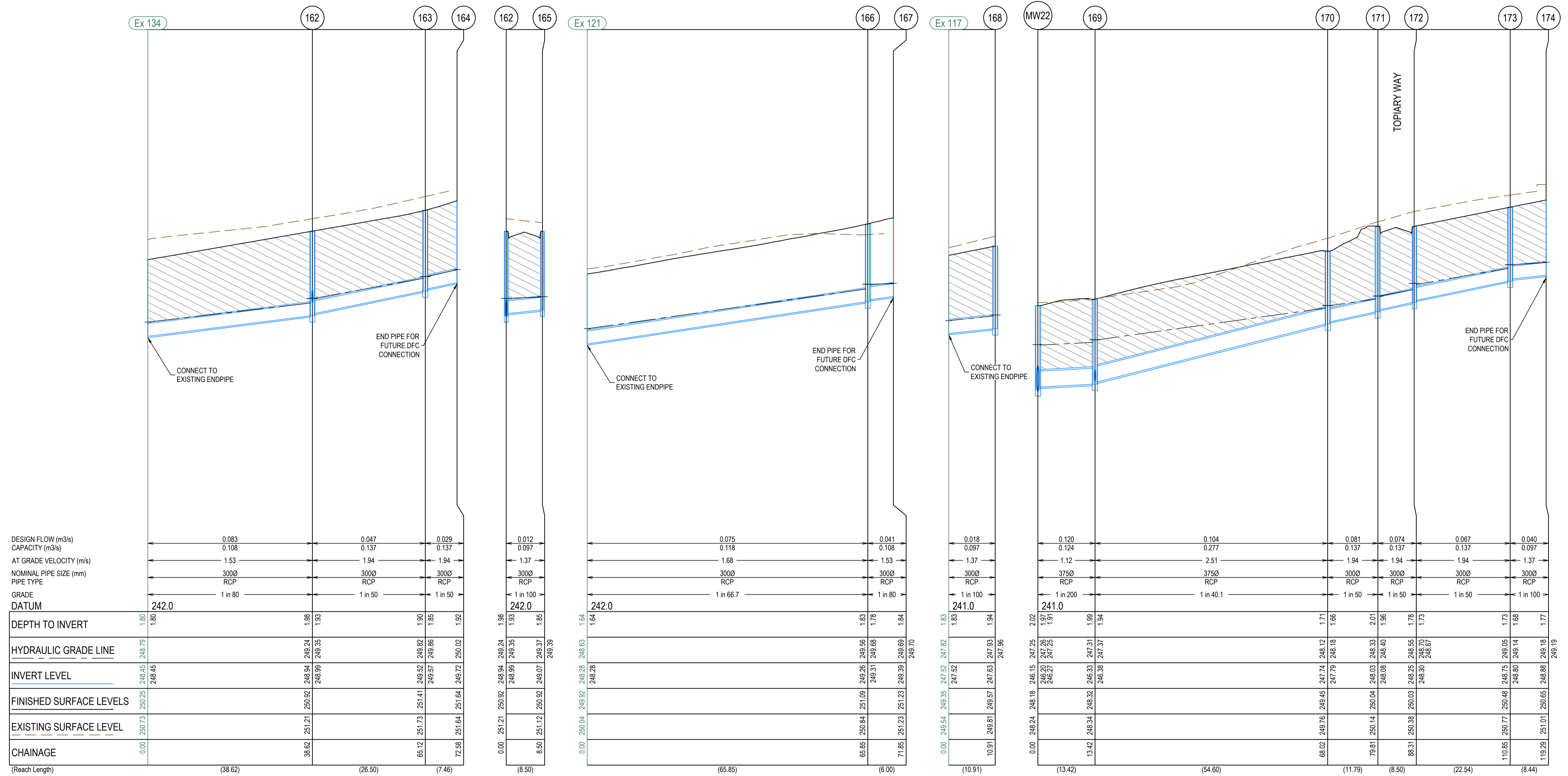


Olivine Estate - Stage 18W & 25W and Stage 18 & 25
Whittlesea City Council
Road and Drainage
Cross Sections: Cameron Street - 15 (Future)
Ch 911.70 - Ch 918.70

MELWAYS REF 367 G11	PROJECT / DRAWING No. 1700E-018_025-268	SHEET No. 38 of 51	REVISION 2
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CRUSHED ROCK BACKFILL
 CRB INDICATES CRUSHED ROCK BACKFILL COMPACTED IN ACCORDANCE WITH COUNCIL STANDARDS & SPECIFICATIONS, CLASS 3 UNLESS SPECIFIED OTHERWISE

PIT 162 TO PIT 191 IN STAGE 18 & 25
 PIT 192 TO PIT 200 IN STAGE 18W & 25W



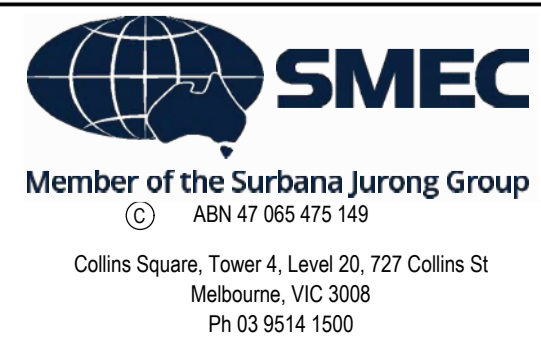
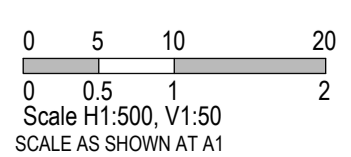
AS CONSTRUCTED PLANS

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PLAN OF SUB. NO.
 PS913483L & PS905205M
 PS913482N & PS905209D
 PERMIT REF. NO.
 717158 & 719067

AS CONSTRUCTED

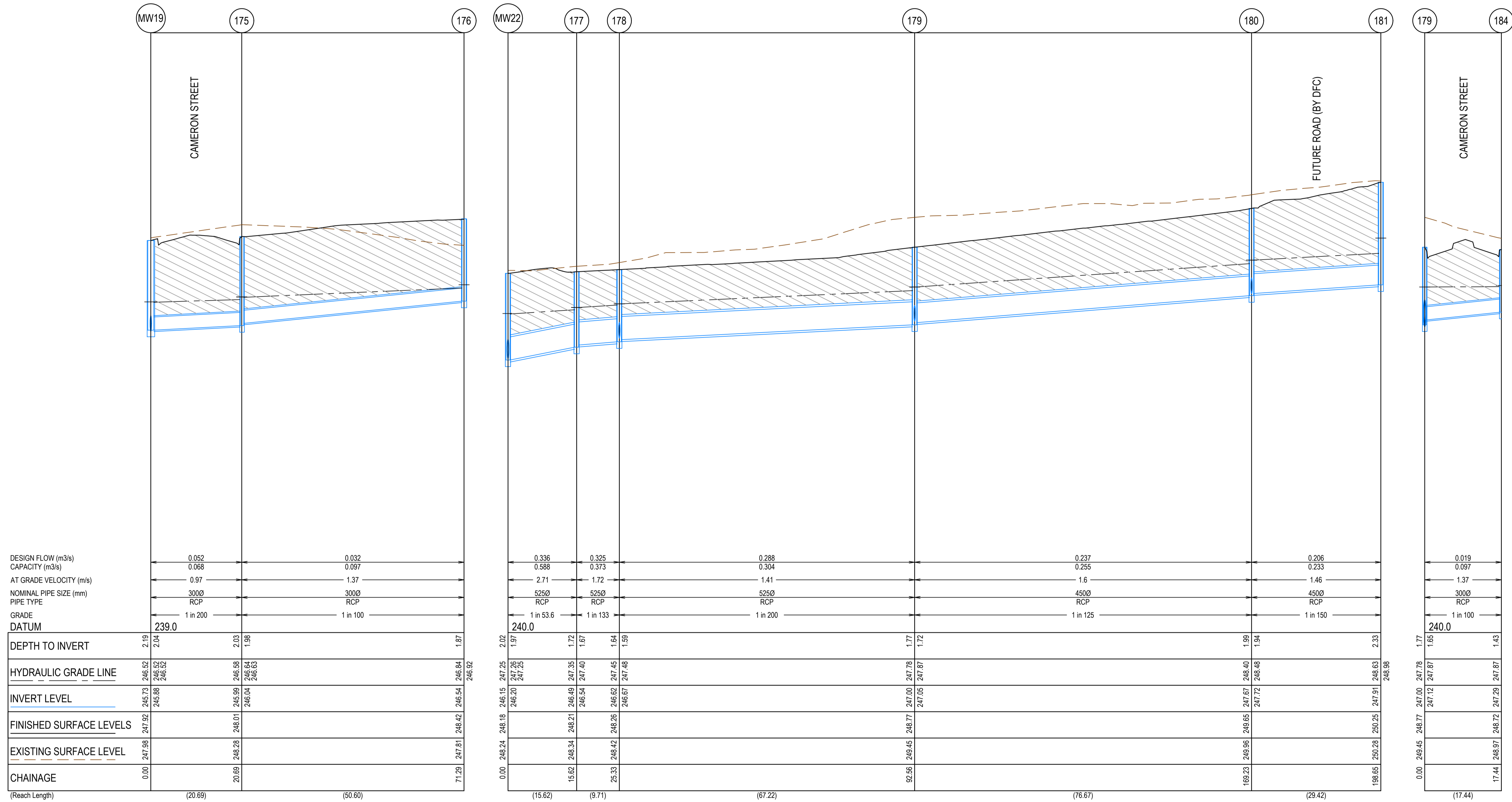


Olivine Estate - Stage 18W & 25W and Stage 18 & 25
 Whittlesea City Council
 Road and Drainage
 Drainage Longitudinal Sections - 1

MELBOURNE REF 367 G11	PROJECT / DRAWING No. 1700E-018_025-301	SHEET No. 39 of 51	REVISION 2
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CRUSHED ROCK BACKFILL
 CRB INDICATES CRUSHED ROCK BACKFILL COMPACTED IN ACCORDANCE WITH COUNCIL STANDARDS & SPECIFICATIONS, CLASS 3 UNLESS SPECIFIED OTHERWISE

PIT 162 TO PIT 191 IN STAGE 18 & 25
 PIT 192 TO PIT 200 IN STAGE 18W & 25W



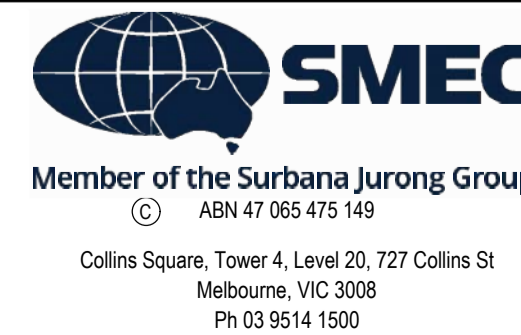
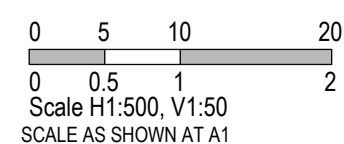
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PLAN OF SUB. NO.
 PS913483L & PS905205M
 PS913482N & PS905209D
 PERMIT REF. NO.
 717158 & 719067

AS CONSTRUCTED

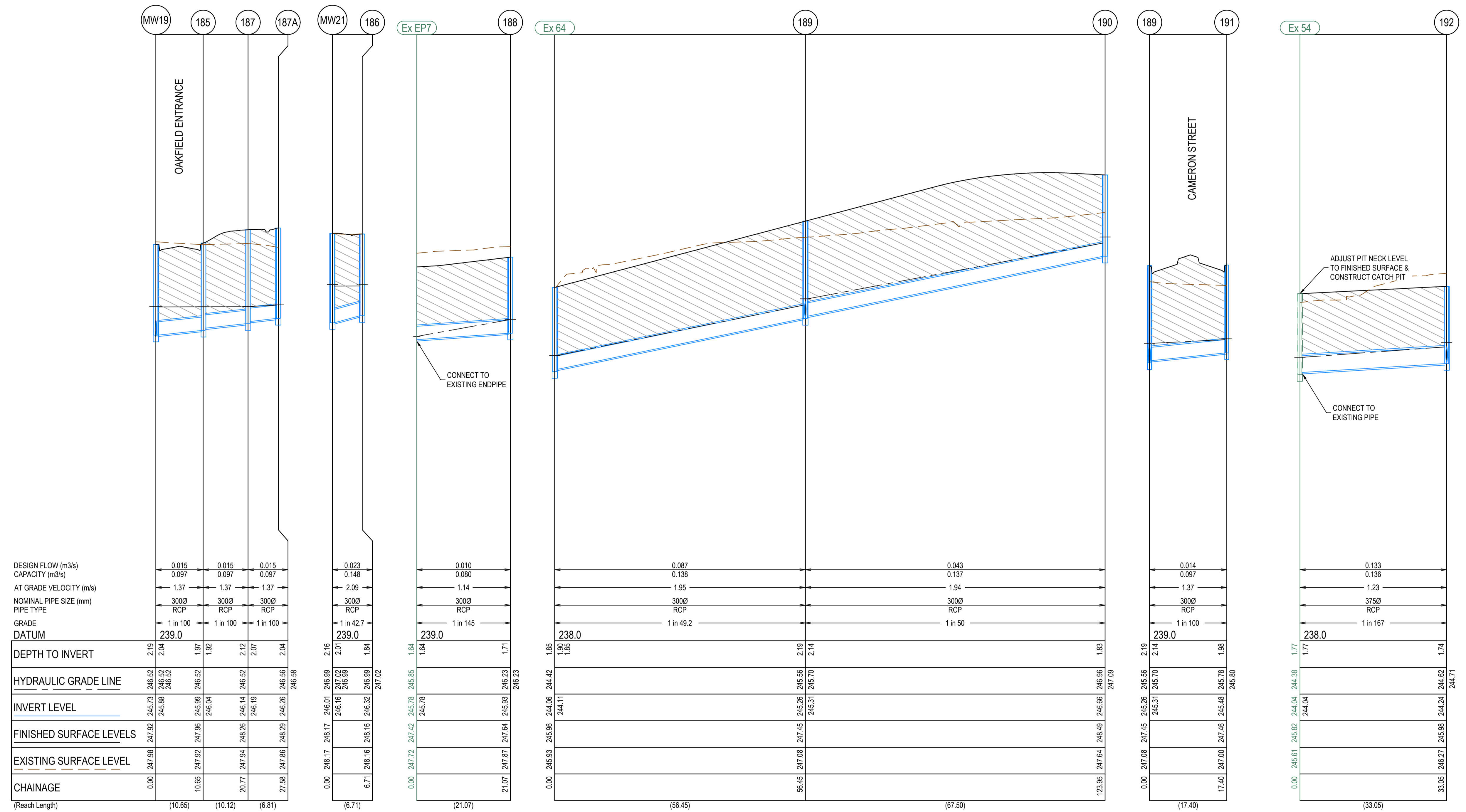


Olivine Estate - Stage 18W & 25W and Stage 18 & 25
 Whittlesea City Council
 Road and Drainage
 Drainage Longitudinal Sections - 2

MELWAYS REF 367 G11	PROJECT / DRAWING No. 1700E-018_025-302	SHEET No. 40 of 51	REVISION 3
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CRUSHED ROCK BACKFILL
 CRB INDICATES CRUSHED ROCK BACKFILL COMPACTED IN ACCORDANCE WITH COUNCIL STANDARDS & SPECIFICATIONS, CLASS 3 UNLESS SPECIFIED OTHERWISE

PIT 162 TO PIT 191 IN STAGE 18 & 25
 PIT 192 TO PIT 200 IN STAGE 18W & 25W



DESIGN FLOW (m ³ /s)	CAPACITY (m ³ /s)	AT GRADE VELOCITY (m/s)	NOMINAL PIPE SIZE (mm)	PIPE TYPE	GRADE	DATUM
0.015	0.097	1.37	3000	RCP	1 in 100	239.0
0.015	0.097	1.37	3000	RCP	1 in 100	239.0
0.015	0.097	1.37	3000	RCP	1 in 100	239.0
0.023	0.148	2.09	3000	RCP	1 in 42.7	239.0
0.010	0.080	1.14	3000	RCP	1 in 145	239.0
0.087	0.138	1.95	3000	RCP	1 in 49.2	238.0
0.043	0.137	1.94	3000	RCP	1 in 50	238.0
0.014	0.097	1.37	3000	RCP	1 in 100	239.0
0.133	0.136	1.23	3750	RCP	1 in 167	238.0

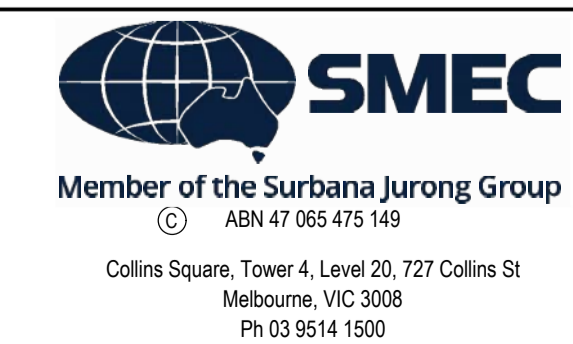
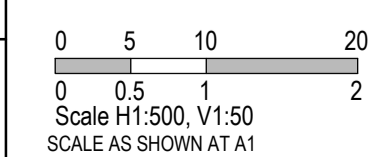
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PLAN OF SUB. NO.
 PS913483L & PS905205M
 PS913482N & PS905209D
 PERMIT REF. NO.
 717158 & 719067

AS CONSTRUCTED

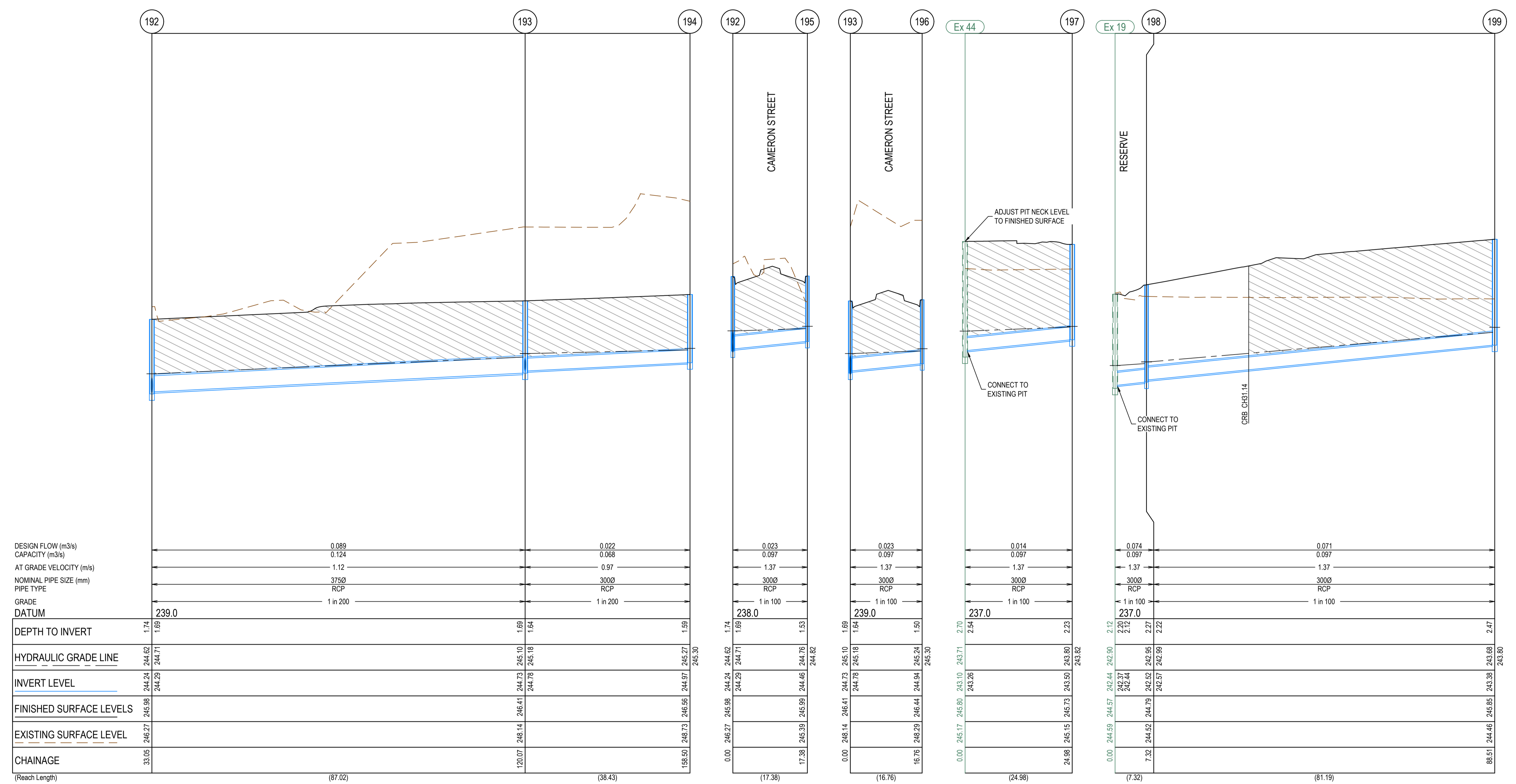


Olivine Estate - Stage 18W & 25W and Stage 18 & 25
 Whittlesea City Council
 Road and Drainage
 Drainage Longitudinal Sections - 3

MELWAYS REF 367 G11	PROJECT / DRAWING No. 1700E-018_025-303	SHEET No. 41 of 51	REVISION 2
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CRUSHED ROCK BACKFILL
 CRB INDICATES CRUSHED ROCK BACKFILL COMPACTED IN ACCORDANCE WITH COUNCIL STANDARDS & SPECIFICATIONS, CLASS 3 UNLESS SPECIFIED OTHERWISE

PIT 162 TO PIT 191 IN STAGE 18 & 25
 PIT 192 TO PIT 200 IN STAGE 18W & 25W



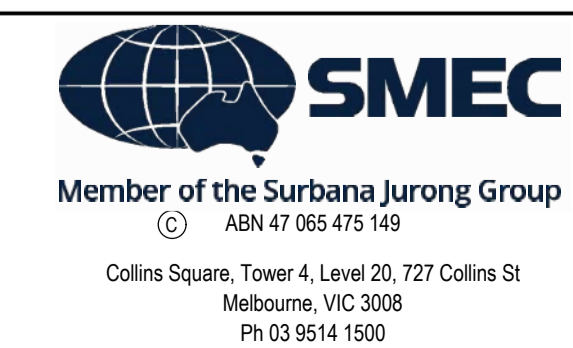
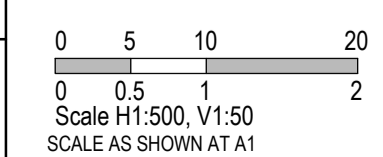
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 PS913482N & PS905209D
 PERMIT REF. NO.
 717158 & 719067

AS CONSTRUCTED

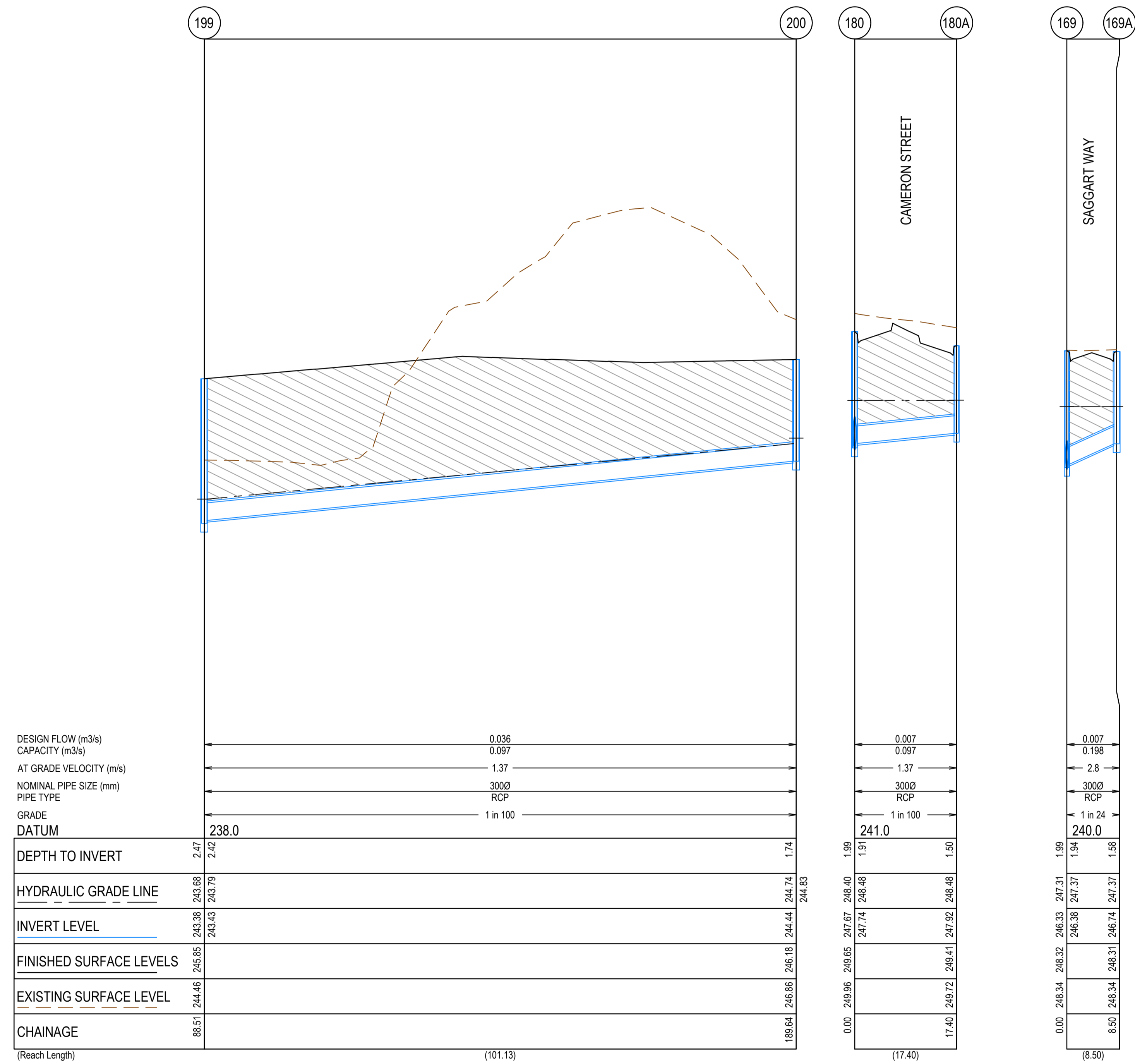


Olivine Estate - Stage 18W & 25W and Stage 18 & 25
 Whittlesea City Council
 Road and Drainage
 Drainage Longitudinal Sections - 4

MELWAYS REF 367 G11	PROJECT / DRAWING No. 1700E-018_025-304	SHEET No. 42 of 51	REVISION 2
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CRUSHED ROCK BACKFILL
 CRB INDICATES CRUSHED ROCK BACKFILL COMPACTED IN ACCORDANCE WITH COUNCIL STANDARDS & SPECIFICATIONS, CLASS 3 UNLESS SPECIFIED OTHERWISE

PIT 162 TO PIT 191 IN STAGE 18 & 25
 PIT 192 TO PIT 200 IN STAGE 18W & 25W



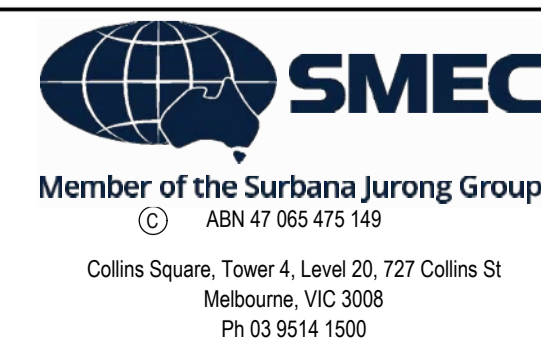
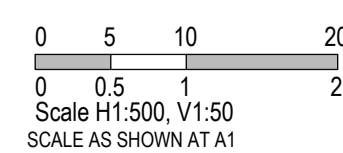
AS CONSTRUCTED PLANS

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PLAN OF SUB. NO.
 PS913483L & PS905205M
 PS913482N & PS905209D
 PERMIT REF. NO.
 717158 & 719067

AS CONSTRUCTED



Olivine Estate - Stage 18W & 25W and Stage 18 & 25
 Whittlesea City Council
 Road and Drainage
 Drainage Longitudinal Sections - 5

MELWAYS REF 367 G11	PROJECT / DRAWING No. 1700E-018_025-305	SHEET No. 43 of 51	REVISION 2
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PIT NUMBER	TYPE	INTERNAL		INLET		OUTLET		F.S.L.	DEPTH	STANDARD DRAWING	REMARKS
		WIDTH (mm)	LENGTH (mm)	DIAMETER (mm)	INV R.L. (m)	DIAMETER (mm)	INV R.L. (m)				
Ex.134	ENDPIPE			300				250.25	1.8		CONNECT TO ENDPIPE
162	SIDE ENTRY PIT	600	900	300	248.99	300	248.94	250.92	1.98	EDCM 601 & 605	
				300	248.99						
163	SIDE ENTRY PIT	600	900	300	249.57	300	249.52	251.41	1.9	EDCM 601 & 605	
164	ENDPIPE					300	249.72	251.64	1.92		BLANK OFF ENDPIPE
165	SIDE ENTRY PIT	600	900			300	249.07	250.92	1.85	EDCM 601 & 605	
Ex.121	ENDPIPE			300				249.92	1.64		CONNECT TO ENDPIPE
166	JUNCTION PIT	600	900	300	249.32	300	249.27	251.09	1.83	EDCM 605	
167	ENDPIPE					300	249.39	251.23	1.84		BLANK OFF ENDPIPE
Ex.117	ENDPIPE			300				249.35	1.83		CONNECT TO ENDPIPE
168	SIDE ENTRY PIT	600	900			300	247.63	249.57	1.94	EDCM 601 & 605	
MW22	DOUBLE SIDE ENTRY PIT	900	900	375	246.27	600	246.15	248.18	2.02		REFER TO MAIN DRAIN DRAWINGS FOR DETAIL
				525	246.2						
169	SIDE ENTRY PIT	600	900	375	246.38	375	246.33	248.33	1.99	EDCM 601 & 605	
				300	246.38						
170	SIDE ENTRY PIT	750	900	300	247.79	375	247.74	249.45	1.71	EDCM 601 & 607	PIT TO BE HAUNCHED TO 600 x 900 COVER
171	SIDE ENTRY PIT	750	900	300	248.08	300	248.03	250.04	2.01	EDCM 601 & 607	PIT TO BE HAUNCHED TO 600 x 900 COVER
172	SIDE ENTRY PIT	600	900	300	248.3	300	248.25	250.03	1.78	EDCM 601 & 605	
173	SIDE ENTRY PIT	600	900	300	248.8	300	248.75	250.48	1.73	EDCM 601 & 605	
174	ENDPIPE					300	248.89	250.65	1.77		BLANK OFF ENDPIPE
169A	SIDE ENTRY PIT	900	600			300	246.74	248.31	1.58	EDCM 601 & 605	
MW19	DOUBLE SIDE ENTRY PIT	900	1350	300	245.88	600	245.73	247.92	2.19		REFER TO MAIN DRAIN DRAWINGS FOR DETAIL
				600	245.78						
				300	245.88						
175	DOUBLE SIDE ENTRY PIT	600	900	300	246.04	300	245.99	248.01	2.03	EDCM 602 & 605	
176	SIDE ENTRY PIT	600	900			300	246.54	248.42	1.87	EDCM 601 & 605	
177	DOUBLE SIDE ENTRY PIT	900	900	525	246.54	525	246.49	248.21	1.72	EDCM 602 & 607	PIT TO BE HAUNCHED TO 600 x 900 COVER
178	JUNCTION PIT	750	900	525	246.67	525	246.62	248.26	1.64	EDCM 607	PIT TO BE HAUNCHED TO 600 x 900 COVER
				300	246.73						REMOVED FROM SCOPE
179	SIDE ENTRY PIT	750	900	450	247.05	525	247	248.77	1.77	EDCM 601 & 607	PIT TO BE HAUNCHED TO 600 x 900 COVER
				300	247.12						
180	SIDE ENTRY PIT	750	900	450	247.72	450	247.67	249.65	1.99	EDCM 601 & 607	PIT TO BE HAUNCHED TO 600 x 900 COVER
				300	247.74						
181	DOUBLE SIDE ENTRY PIT	750	900			450	247.91	250.25	2.33	EDCM 602 & 607	PIT TO BE HAUNCHED TO 600 x 900 COVER
182	JUNCTION PIT	600	900	300	247.57	300	247.52	249.35	1.83	EDCM 605	REMOVED FROM SCOPE
183	ENDPIPE					300	247.6	249.36	1.76		BLANK OFF ENDPIPE. REMOVED FROM SCOPE
184	SIDE ENTRY PIT	600	900			300	247.29	248.72	1.43	EDCM 601 & 605	
180A	SIDE ENTRY PIT	600	900			300	247.92	249.41	1.5	EDCM 601 & 605	
185	DOUBLE SIDE ENTRY PIT	600	900	300	246.04	300	245.99	247.96	1.97	EDCM 602 & 605	
187	JUNCTION PIT	600	900	300	246.19	300	246.14	248.26	2.12	EDCM 605	
187A	SIDE ENTRY PIT	600	900			300	246.26	248.3	2.04	EDCM 601 & 605	
MW21	SIDE ENTRY PIT	900	900	300	246.16	600	246.01	248.17	2.16		REFER TO MAIN DRAIN DRAWINGS FOR DETAIL
				600	246.06						
186	DOUBLE SIDE ENTRY PIT	600	900			300	246.32	248.16	1.84	EDCM 602 & 605	
EP7	ENDPIPE			300	245.78			247.42			CONNECT TO STAGE 15 END PIPE
188	SIDE ENTRY PIT	600	900			300	245.93	247.64	1.71	EDCM 601 & 605	
Ex.64	SIDE ENTRY PIT	600	900	300	244.11			245.96	1.9		
189	SIDE ENTRY PIT	600	900	300	245.31	300	245.29	247.45	2.19	EDCM 601 & 605	
				300	245.31						
190	JUNCTION PIT	600	900			300	246.66	248.49	1.83	EDCM 605	
191	SIDE ENTRY PIT	600	900			300	245.48	247.46	1.98	EDCM 601 & 605	
Ex.54	JUNCTION PIT	600	900	375	243.99			245.82	1.83		CONNECT TO EXISTING PIT, CONSTRUCT CATCH PIT, ADJUST NECK LEVEL TO FINISHED SURFACE
192	SIDE ENTRY PIT	600	900	375	244.29	375	244.24	245.98	1.74	EDCM 601 & 605	
				300	244.29						
193	SIDE ENTRY PIT	600	900	300	244.78	375	244.73	246.41	1.69	EDCM 601 & 605	
				300	244.78						
194	SIDE ENTRY PIT	600	900			300	244.97	246.56	1.59	EDCM 601 & 605	
195	SIDE ENTRY PIT	600	900			300	244.46	245.99	1.53	EDCM 601 & 605	
196	SIDE ENTRY PIT	600	900			300	244.94	246.44	1.5	EDCM 601 & 605	
Ex.44	JUNCTION PIT	600	900	300	243.1			245.8	2.7		CONNECT TO EXISTING PIT, ADJUST NECK LEVEL TO FINISHED SURFACE
197	DOUBLE SIDE ENTRY PIT	600	900			300	243.5	245.73	2.23	EDCM 602 & 605	
Ex.19	JUNCTION PIT	900	900	300	242.44			244.57	2.2		BREAK INTO EXISTING PIT WESTERN WALL AT IL242.44
198	JUNCTION PIT	600	900	300	242.57	300	242.52	244.79	2.27	EDCM 605	
199	JUNCTION PIT	600	900	300	243.43	300	243.38	245.85	2.47	EDCM 605	
200	JUNCTION PIT	600	900	300	244.44	300	244.44	246.18	1.74	EDCM 605	
Ex.45	DOUBLE SIDE ENTRY PIT	600	900	600	243.51	600	243.1	245.64	2.13	EDCM 602 & 605	CONSTRUCT DOUBLE CATCH PITS, ADJUST NECK LEVEL TO FINISHED SURFACE

PIT 162 TO PIT 191 IN STAGE 18 & 25
PIT 192 TO PIT 200 IN STAGE 18W & 25W

AS CONSTRUCTED PLANS

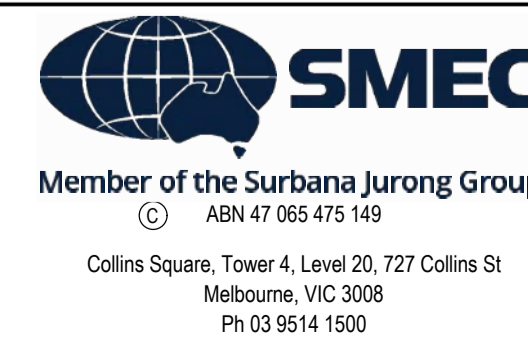
The purpose of these as-constructed plans is to update the design drawings to show significant changes which occurred during construction. Note that the levels shown on these plans are design levels, and have not been verified by survey. All information shown on these plans should be verified on site. SMEC Australia Pty Ltd accept no responsibility for loss or damages resulting from the inappropriate usage of these plans. **As constructed details on this revision of plans relate to works west of Cameron Street roundabout only. Balance of works are still under construction.**



PLAN OF SUB. NO.
PS913483L & PS90203M
PS913482N & PS90203D
PERMIT REF. NO.
717158 & 719067

AS CONSTRUCTED

SCALE AS SHOWN AT A1



Olivine Estate - Stage 18W & 25W and Stage 18 & 25
Whittlesea City Council
Road and Drainage
Pit Schedules

MELWAYS REF 367 G11	PROJECT / DRAWING No. 1700E-018_025-351	SHEET No. 44 of 51	REVISION 3
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CAMERON STREET PAVEMENT COMPOSITION

655mm DEPTH PAVEMENT COMPOSITION		LAYER	MATERIAL
PAVEMENT LAYER	THICKNESS (mm)		
ASPHALT	WEARING COURSE	40	SIZE 14mm TYPE H (CLASS 320 BINDER) ASPHALT
	INTERMEDIATE COURSE	75	SIZE 20mm TYPE SI (CLASS 320 BINDER) ASPHALT
	BASE COURSE	75	SIZE 20mm TYPE SI (CLASS 320 BINDER) ASPHALT
	BITUMINOUS PRIME	-	PRIME OR PRIMESEAL
BASE COURSE	BASE	130	20mm NOMINAL SIZE CLASS 3 CEMENT TREATED CRUSHED ROCK, COMPACTED TO AT LEAST 98% MODIFIED DRY DENSITY RATIO WITHIN 2% OF THE MODIFIED OPTIMUM MOISTURE CONTENT WITH A MINIMUM YOUNG'S MODULUS OF 500MPa
SUBBASE COURSE	UPPER SUBBASE	150	CLASS 4 CRUSHED ROCK OR CLASS C4 CRUSHED CONCRETE (OR HIGHER QUALITY MATERIAL) COMPACTED TO A MINIMUM DENSITY OF 98% (MODIFIED) AS1289.5.2.1
CAPPING	CAPPING LAYER	200	IMPORTED TYPE A FILL WITH CBR ≥ 8%, SWELL ≤ 1.5% AND PERMEABILITY ≥ 5 x 10 ⁻⁹ m/sec OR LIME STABILISED SITE WON CLAY WHICH CONFORMS TO THE PARAMETERS ABOVE
SUBGRADE		-	CBR VARIES BETWEEN 1.0% AND 3.0%. SUBGRADE DESIGN CBR = 2% EXPANSIVE

SAGGART WAY, TOPIARY WAY & BITTERN ROAD PAVEMENT COMPOSITION

780mm DEPTH PAVEMENT COMPOSITION		LAYER	MATERIAL
PAVEMENT LAYER	THICKNESS (mm)		
ASPHALT	WEARING COURSE	30	SIZE 10mm TYPE L (CLASS 320 BINDER) ASPHALT
	BASE COURSE	30	SIZE 10mm TYPE N (CLASS 320 BINDER) ASPHALT
	BITUMINOUS PRIME	6.7	SAMI 10 S18RF
	PRIME	YES	
BASE COURSE	BASE	130	20mm CLASS 2 CRUSHED ROCK COMPACTED TO A MINIMUM DENSITY OF 98% OF MDD (MODIFIED PROCTOR) AS1289.5.2.1
SUBBASE COURSE	UPPER SUBBASE	110	CLASS 3 CRUSHED ROCK (OR HIGHER QUALITY MATERIAL) COMPACTED TO A MINIMUM DENSITY OF 98% OF MDD (MODIFIED PROCTOR) AS1289.5.2.1
SUBBASE COURSE	LOWER SUBBASE	180	CLASS 4 CRUSHED ROCK (OR HIGHER QUALITY MATERIAL) COMPACTED TO A MINIMUM DENSITY OF 98% OF MDD (MODIFIED PROCTOR) AS1289.5.2.1
CAPPING	CAPPING LAYER	150	IMPORTED TYPE A FILL WITH CBR ≥ 8%, SWELL ≤ 1.5% AND PERMEABILITY ≤ 5 X 10 ⁻⁹ M/SEC COMPACTED TO 98% OF MDD (STANDARD PROCTOR)
CONSTRUCTION LAYER		150	IMPORTED TYPE A FILL WITH CBR ≥ 8%, SWELL ≤ 1.5% AND PERMEABILITY ≤ 5 X 10 ⁻⁹ M/SEC COMPACTED TO 98% OF MDD (STANDARD PROCTOR)
SUBGRADE		-	CBR VARIES BETWEEN 1.0% AND 3.0%. SUBGRADE DESIGN CBR = 2% EXPANSIVE

OAKFIELD ENTERANCE PAVEMENT COMPOSITION

780mm DEPTH PAVEMENT COMPOSITION		LAYER	MATERIAL
PAVEMENT LAYER	THICKNESS (mm)		
ASPHALT	WEARING COURSE	30	SIZE 10mm TYPE L (CLASS 320 BINDER) ASPHALT
	BASE COURSE	30	SIZE 10mm TYPE N (CLASS 320 BINDER) ASPHALT
	BITUMINOUS PRIME	-	SAMI 10 S18RF
	PRIME	YES	
BASE COURSE	BASE	130	20mm CLASS 2 CRUSHED ROCK COMPACTED TO A MINIMUM DENSITY OF 98% OF MDD (MODIFIED PROCTOR) AS1289.5.2.1
SUBBASE COURSE	UPPER SUBBASE	120	CLASS 3 CRUSHED ROCK (OR HIGHER QUALITY MATERIAL) COMPACTED TO A MINIMUM DENSITY OF 98% OF MDD (MODIFIED PROCTOR) AS1289.5.2.1
SUBBASE COURSE	LOWER SUBBASE	170	CLASS 4 CRUSHED ROCK (OR HIGHER QUALITY MATERIAL) COMPACTED TO A MINIMUM DENSITY OF 98% OF MDD (MODIFIED PROCTOR) AS1289.5.2.1
CAPPING	CAPPING LAYER	150	IMPORTED TYPE A FILL WITH CBR ≥ 8%, SWELL ≤ 1.5% AND PERMEABILITY ≤ 5 X 10 ⁻⁹ M/SEC COMPACTED TO 98% OF MDD (STANDARD PROCTOR)
CONSTRUCTION LAYER		150	IMPORTED TYPE A FILL WITH CBR ≥ 8%, SWELL ≤ 1.5% AND PERMEABILITY ≤ 5 X 10 ⁻⁹ M/SEC COMPACTED TO 98% OF MDD (STANDARD PROCTOR)
SUBGRADE		-	CBR VARIES BETWEEN 1.0% AND 3.0%. SUBGRADE DESIGN CBR = 2% EXPANSIVE

WARNING
BEWARE OF UNDERGROUND SERVICES
 The locations of underground services are approximate only and 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

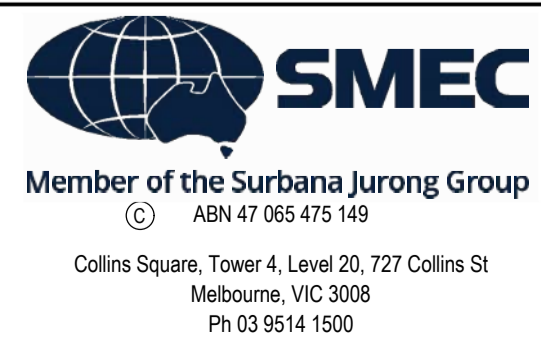
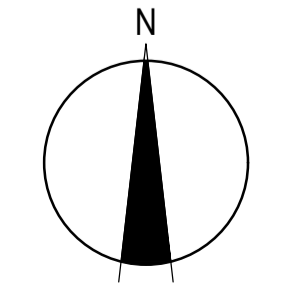
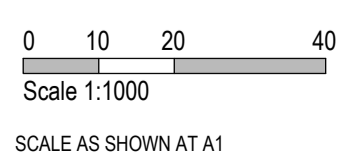
AS CONSTRUCTED PLANS

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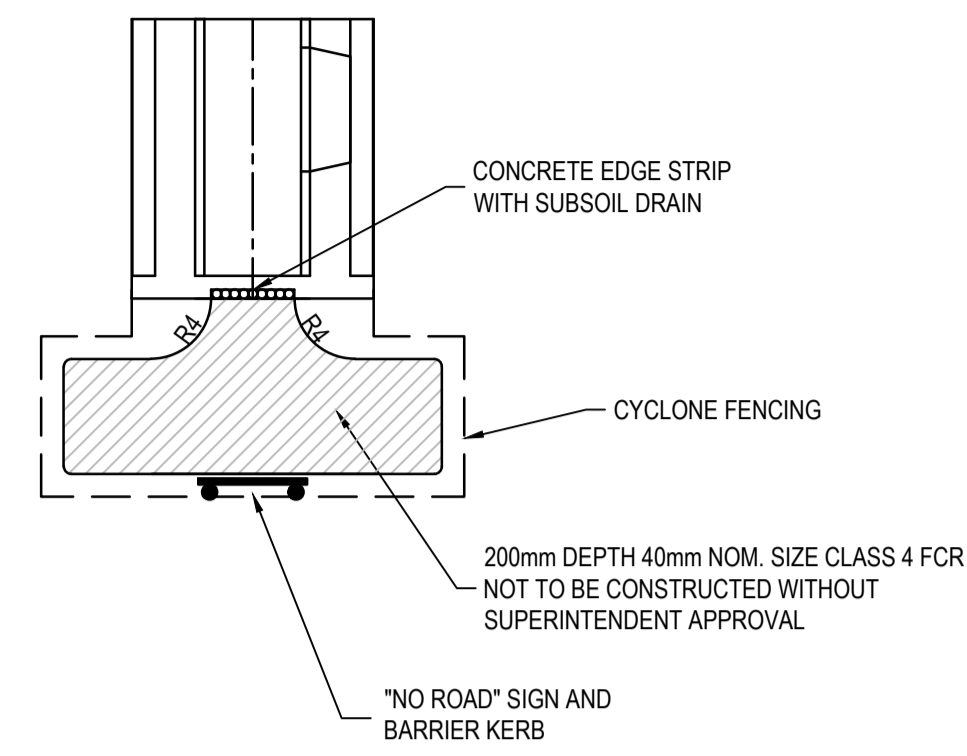
PLAN OF SUB. NO. PS913483L & PS905209M
 PS913482N & PS905209D
 PERMIT REF. NO. 717158 & 719067

AS CONSTRUCTED

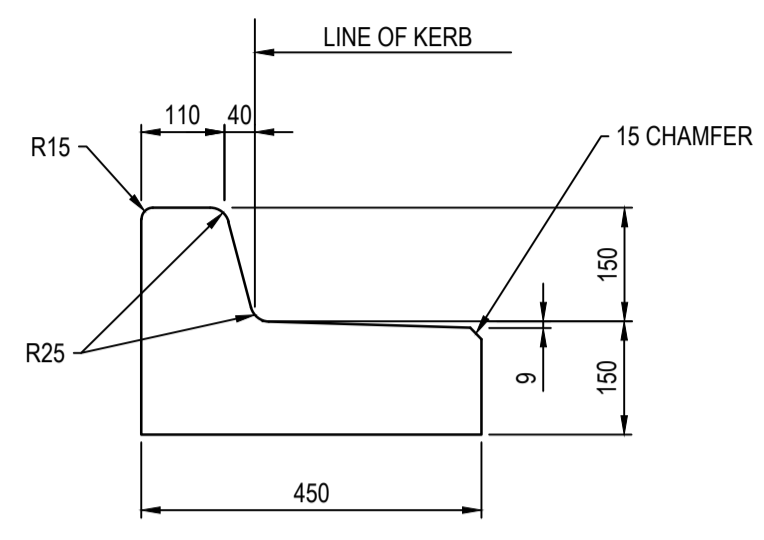


Olivine Estate - Stage 18W & 25W and Stage 18 & 25
 Whittlesea City Council
 Road and Drainage
 Pavement Details

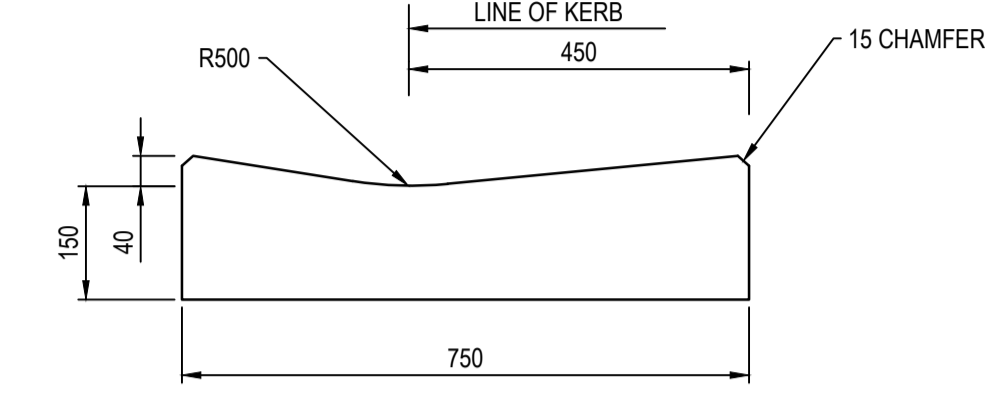
MELWAYS REF 367 G11	PROJECT / DRAWING No. 1700E-018_025-411	SHEET No. 45 of 51	REVISION 3
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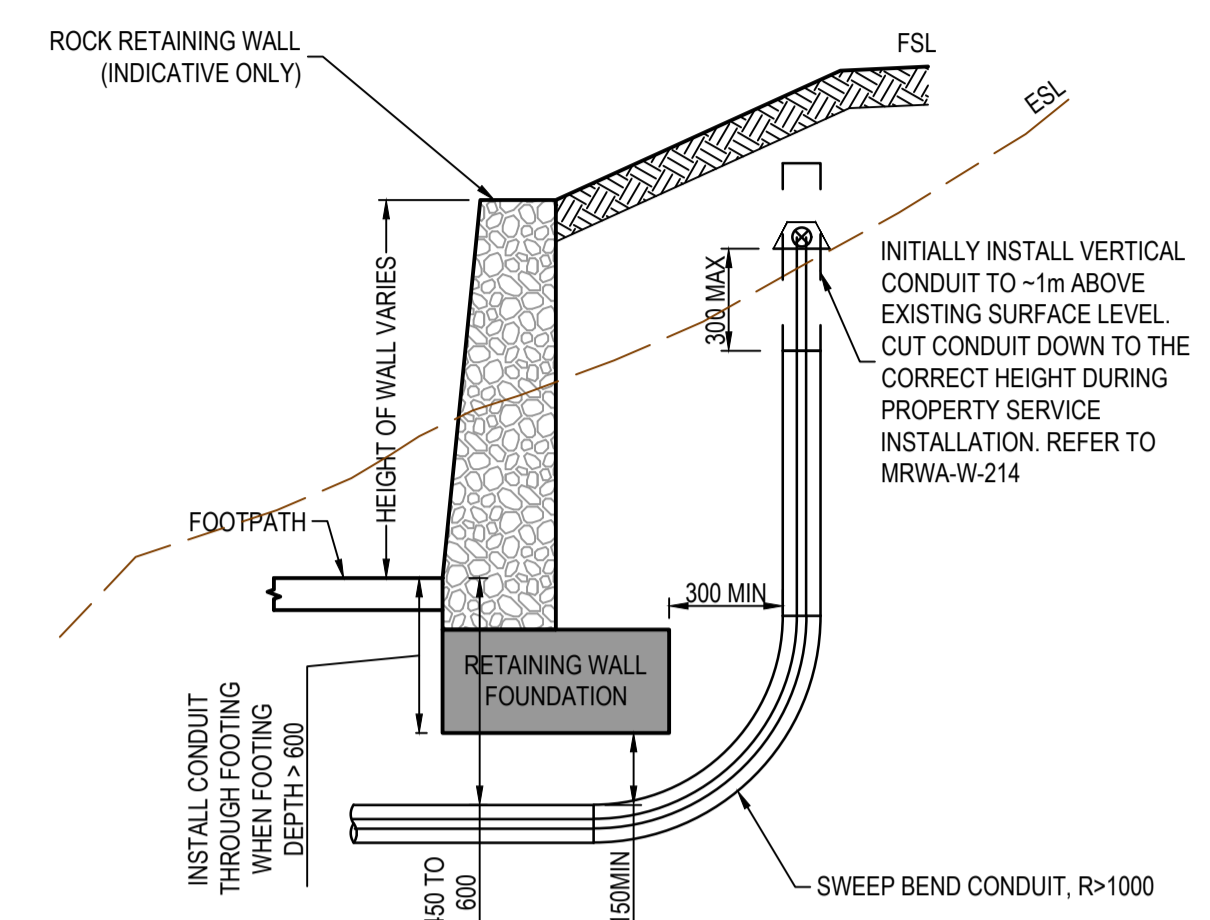
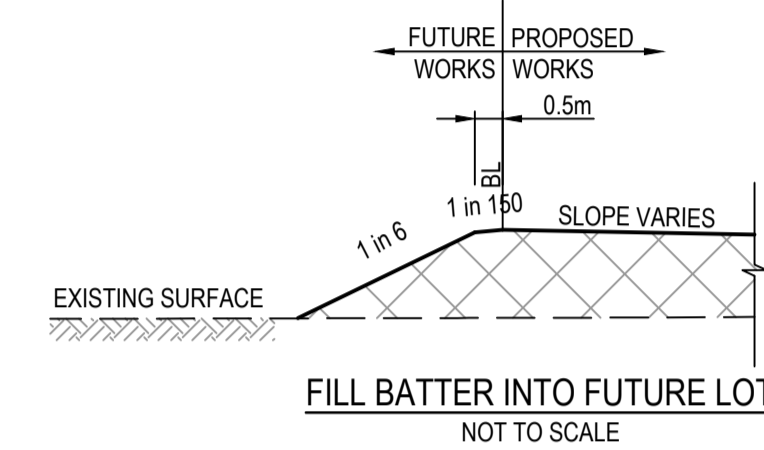
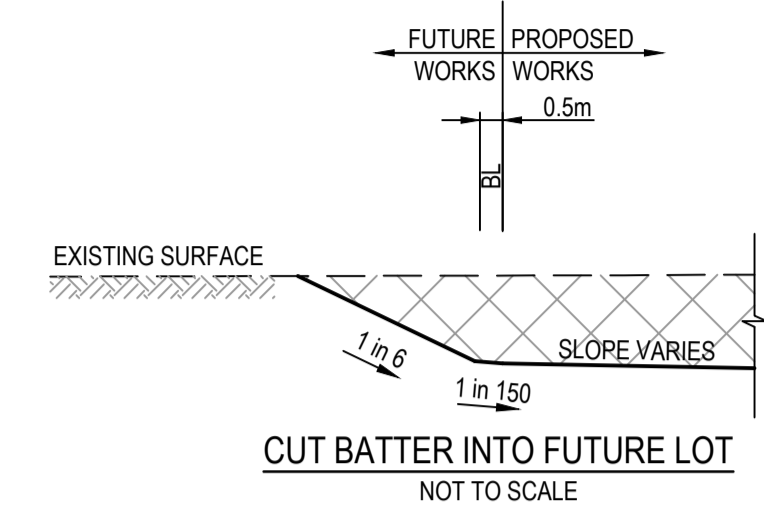
TEMPORARY TURN AREA DETAIL
NOT TO SCALE



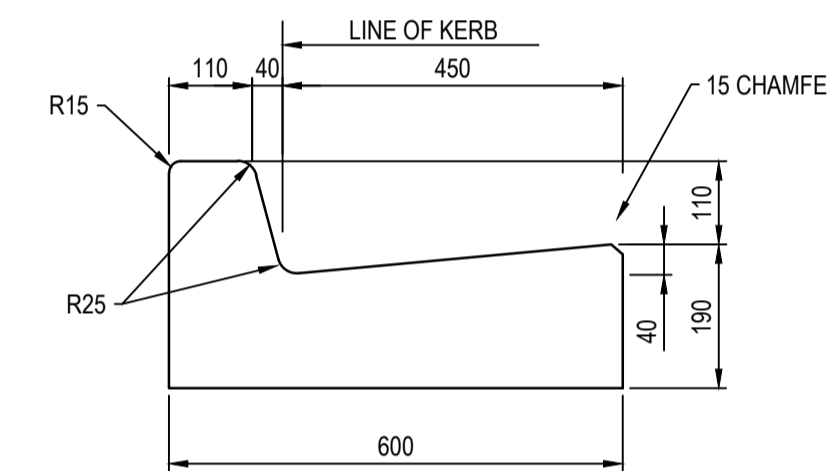
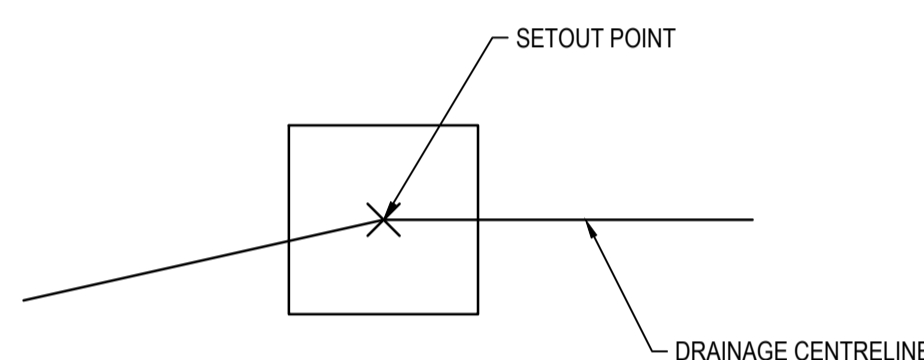
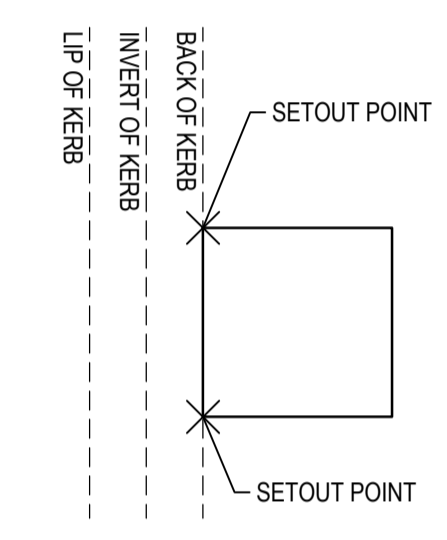
B3 KERB DETAIL
SCALE 1:10
EDCM



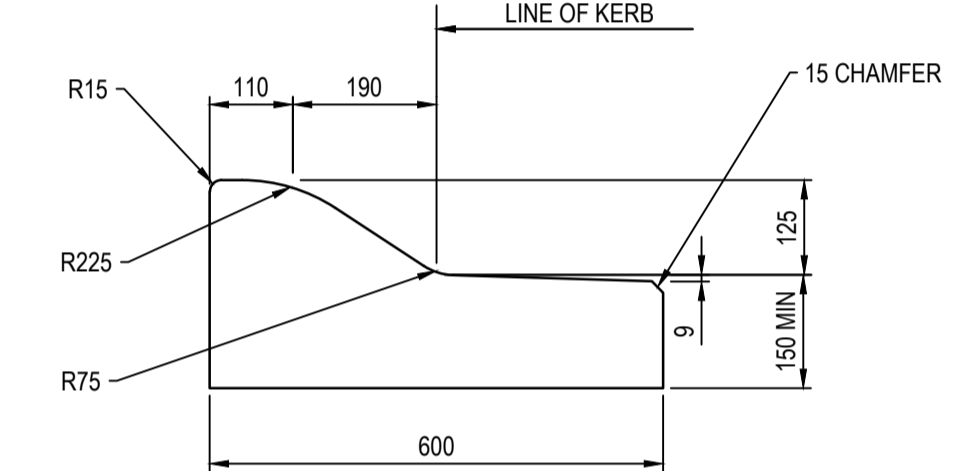
750 INVERT CHANNEL DETAIL TO INTERSECT WITH 600 WIDTH BARRIER KERB AND CHANNEL DETAIL
SCALE 1:10
EDCM



CONDUIT AROUND ROCK RETAINING WALLS WITH FOOTINGS
NOT TO SCALE

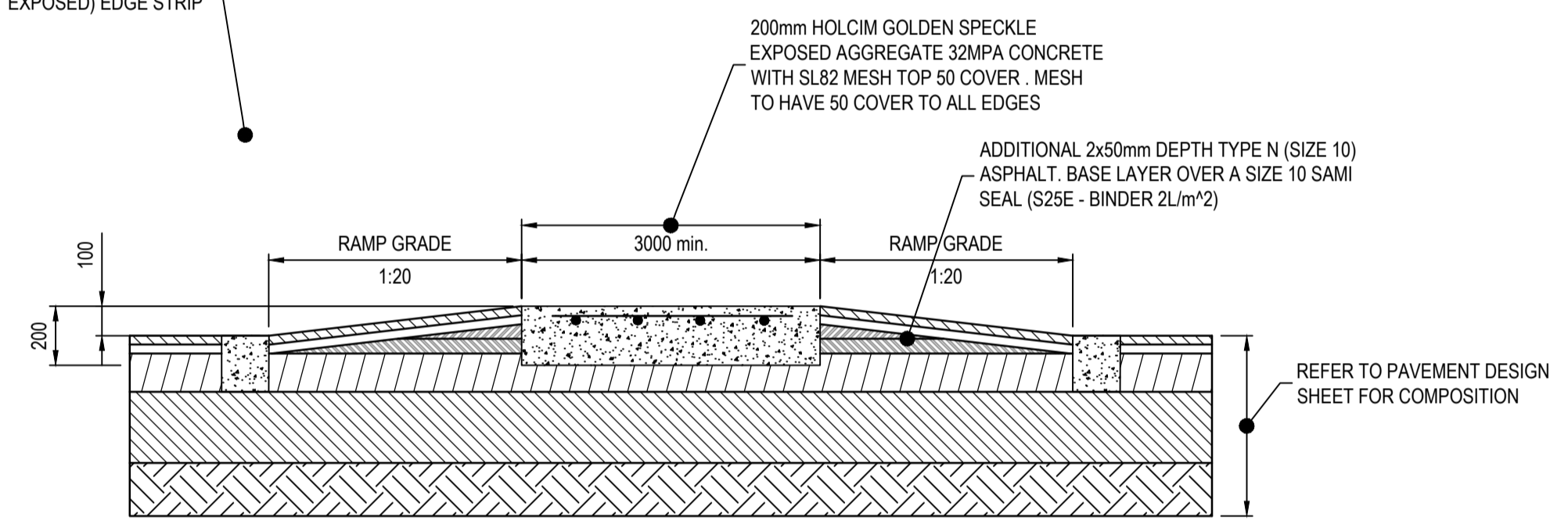


600 B2 KERB DETAIL
SCALE 1:10
EDCM

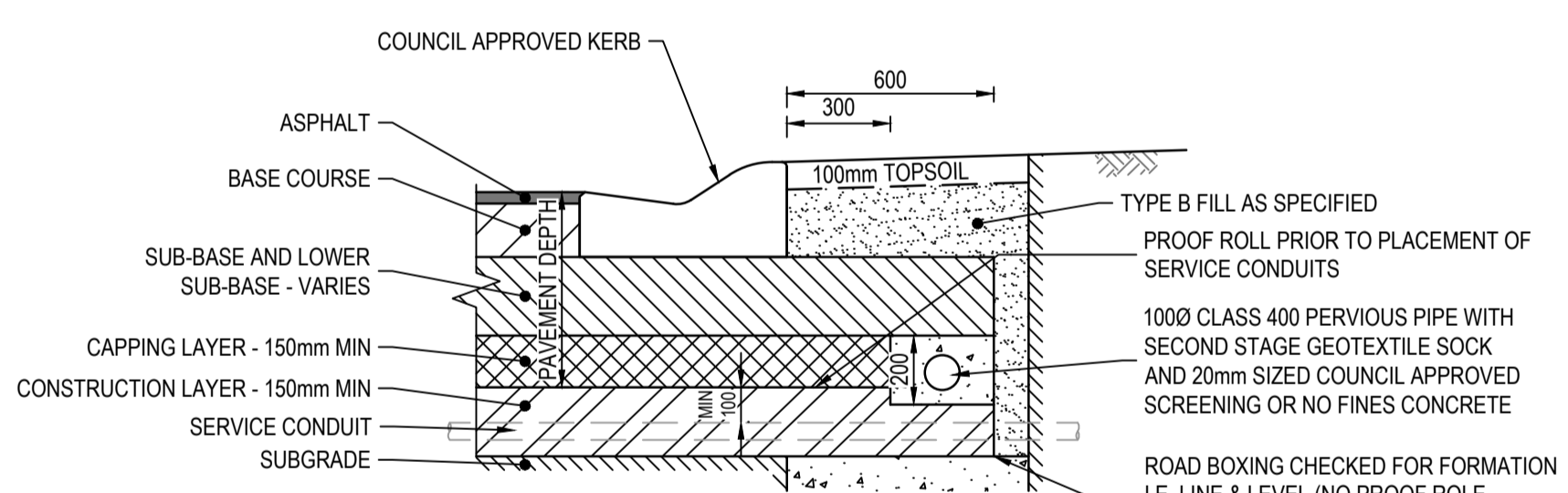


SM3 KERB DETAIL
SCALE 1:10
EDCM

200mm WIDE HOLCIM GOLDEN SPECKLE CONCRETE (NOT EXPOSED) EDGE STRIP

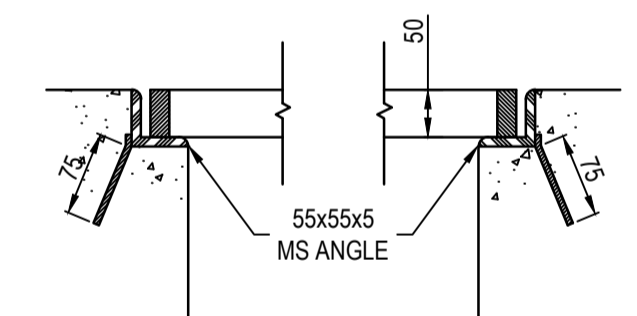
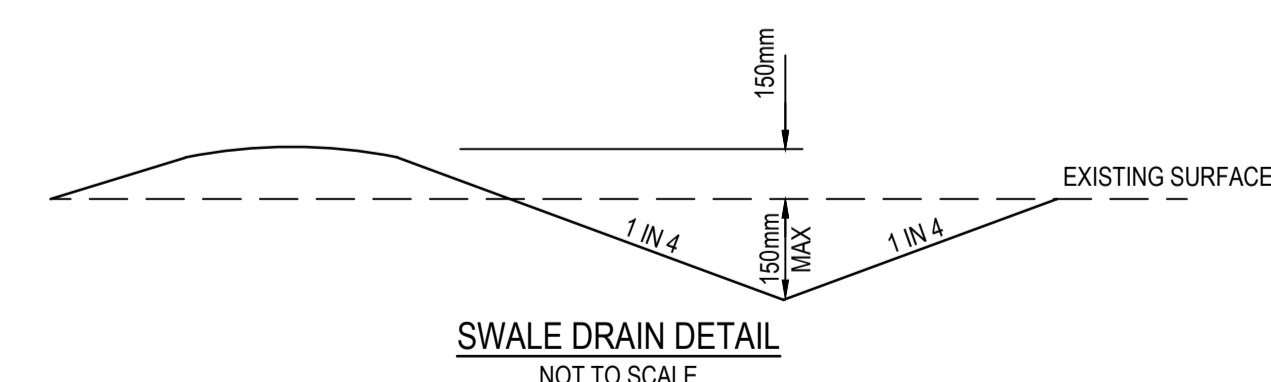


FLAT TOP RAISED PAVEMENT
NOT TO SCALE

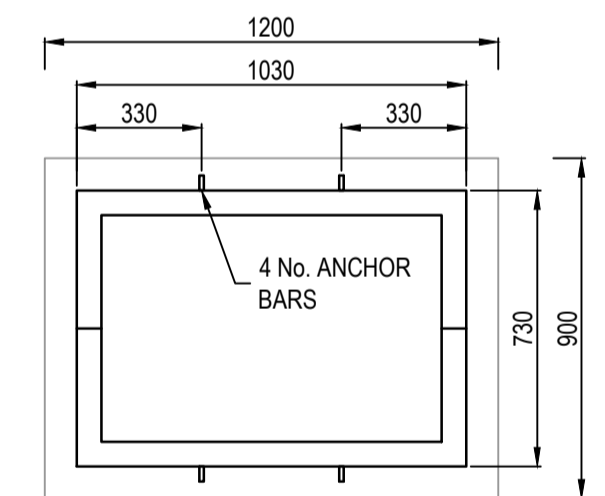


NOTES:
CONDUITS FOR GAS, WATER, SEWER, ELECTRICITY AND TELECOM SERVICES TO BE LAID WITHIN THE SUBGRADE OR CONSTRUCTION LAYER, WITH A 100mm MIN CLEARANCE REQUIRED TO UNDERSIDE OF CAPPING LAYER. CONDUITS SHALL NOT BE PLACED WITHIN THE PAVEMENT NOR THE CAPPING LAYER.

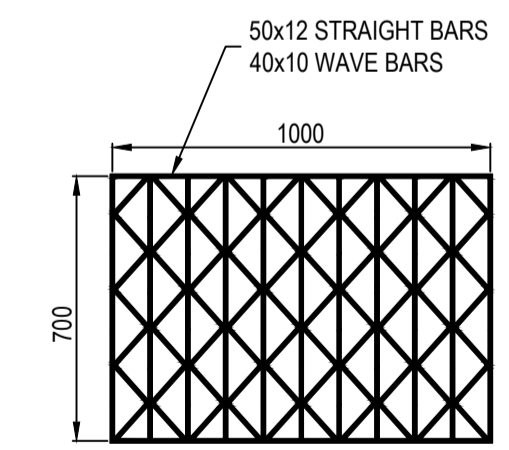
SUBSOIL DRAIN (EXPANSIVE SOILS)
REFER EDCM STD DWG 202A
NOT TO SCALE



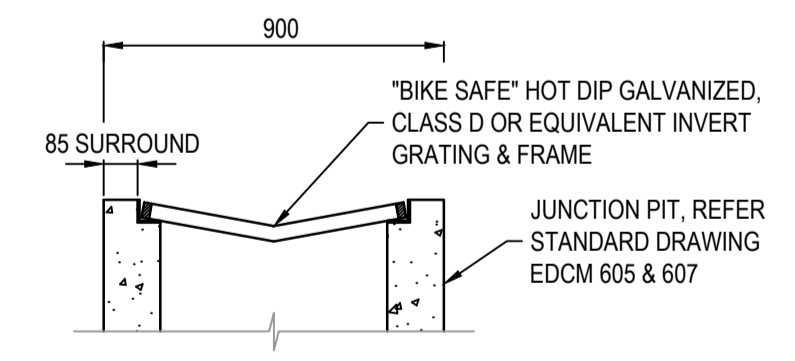
SECTION THROUGH GRATE



GRATE FRAME



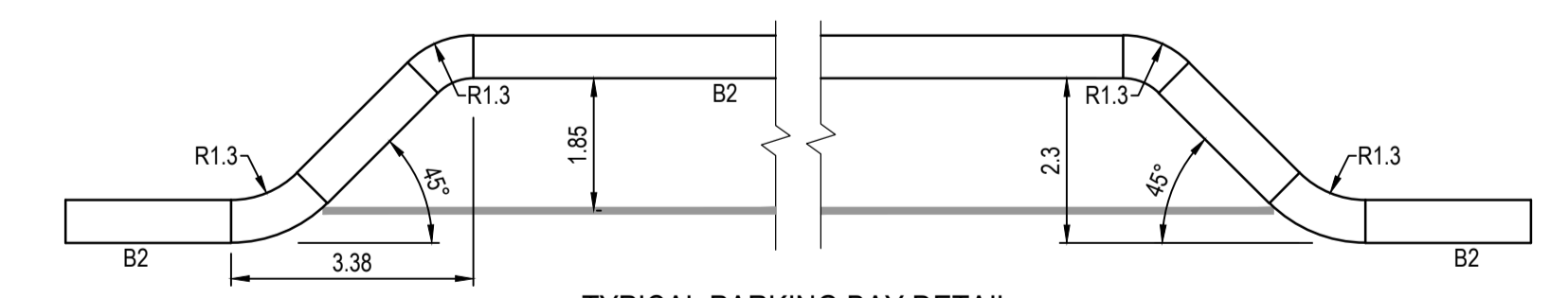
GRATE



SECTION THROUGH PIT

NOTES
1. REFER TO EDCM STANDARD DRAWINGS 605, 606 & 607 FOR PIT DETAILS.
2. GRATE FRAME TO BE "BIKE SAFE" TO AS3996-1992

GRATED JUNCTION PIT DETAIL
NOT TO SCALE



TYPICAL PARKING BAY DETAIL
NOT TO SCALE

AS CONSTRUCTED PLANS

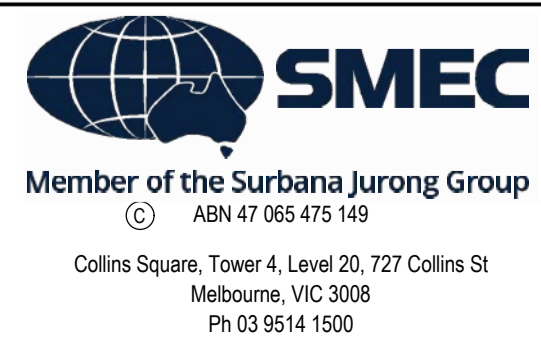
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AS CONSTRUCTED

PLAN OF SUB. NO.
PS913483L & PS905205M
PS913482N & PS905209D
PERMIT REF. NO.
717158 & 719067

SCALE AS SHOWN AT A1



Olivine Estate - Stage 18W & 25W and Stage 18 & 25
Whittlesea City Council
Road and Drainage
General Details

MELWAYS REF 367 G11	PROJECT / DRAWING No 1700E-018_025-421	SHEET No 46 of 51	REVISION 2
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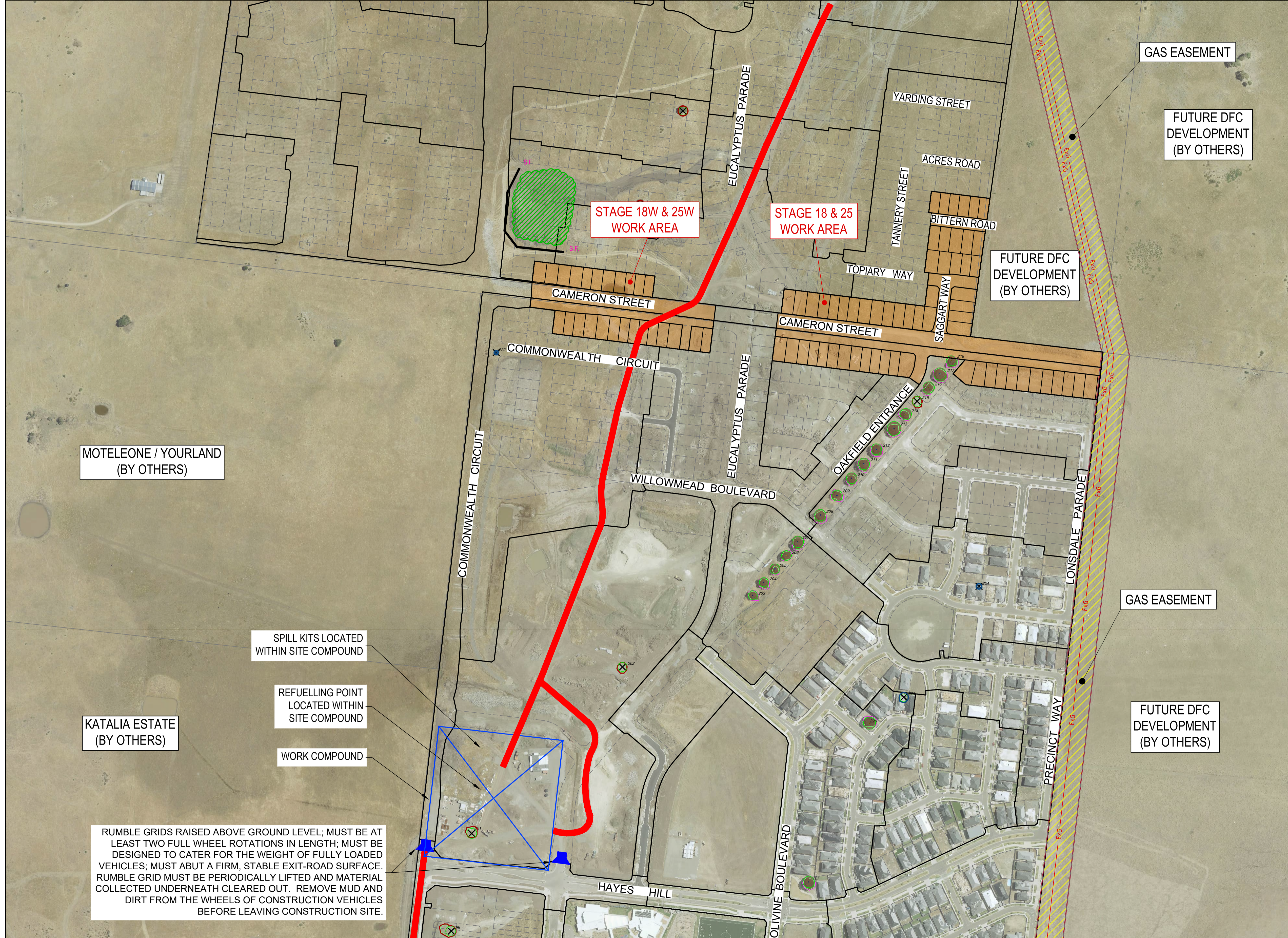
THE FOLLOWING HAVE BEEN IDENTIFIED AS SIGNIFICANT ENVIRONMENTAL ASPECTS FOR THE SITE:
 • CHMP, REF. 12653_12112014
 • KANGAROO MANAGEMENT PLAN, REF. 6406_FINAL_24062016
 • RIVER RED GUM TREE MANAGEMENT PLAN, REF. 00853_22032018
 • CEMP, REF. 9930_FINAL(V1)_26102017
 THESE ASPECTS SHALL BE MANAGED WITH THE ENVIRONMENTAL PROTECTION MEASURES OUTLINED ON THIS PLAN.

I HAVE PREPARED THIS ENVIRONMENTAL MANAGEMENT PLAN AND AGREE TO UNDERTAKE WORKS AND ENSURE SUB-CONTRACTORS UNDERTAKE WORKS IN ACCORDANCE WITH THIS PLAN.

DEVELOPER Mirvac
 Level 5, Building Q3, 6 Riverside Quay
 Southbank VIC 3006
 NAME: Chris Kiparoglou
 0466 941 870
 chris.kiparoglou@mirvac.com

CONSULTANT SMEC - URBAN DEVELOPMENT
 Collins Square, Tower 4, Level 20
 727 Collins St, Melbourne, VIC 3008
 NAME: Shankar Tisseverasinghe
 0434 581 518
 shankar.tisseverasinghe@smec.com

CONTRACTOR Winslow Constructors Pty Ltd
 50 Barry Road
 Campbellfield VIC 3061
 NAME: Adam Stojanovski
 0427 446 501
 adams@winslow.com.au



LEGEND - ENVIRONMENTAL MANAGEMENT PLAN	
ALL PROPOSED, FUTURE & EXISTING SERVICE LOCATIONS ARE SHOWN INDICATIVELY	
	STORMWATER DRAINAGE PITS
	SWALE DRAIN
	EXISTING STORMWATER DRAINAGE PITS
	EXISTING SWALE DRAIN
	EXISTING RETAINING WALL
	SLEEPER RETAINING WALL
	ROCK RETAINING WALL
	TREE PROTECTION FENCING REFER ARBORICULTURE REPORT
	PROPOSED DRIVEWAY & FOOTPATH
	SILT FENCE OR SIMILAR APPROVED EROSION PROTECTION FENCE
	TEMPORARY CHAINWIRE FENCE
	EXISTING CHAINWIRE FENCE
	CATCH DRAIN ALONG LOW POINTS WITH SILT CURTAINS OR SIMILAR PLACED AT MIN. 150M
	SUGGESTED STOCKPILE LOCATION
	STORMWATER PIT PROTECTION
	EXISTING MAJOR CONTOUR LINE
	EXISTING MINOR CONTOUR LINE
	VEGETATION TO BE REMOVED
	NO GO ZONE / GAS EASEMENT
	LOT GRADE DIRECTION OF FALL
	OVERLAND FLOW
	STABILIZED ACCESS POINT FITTED WITH MUD REMOVAL DEVICES
	SITE COMPOUND (INCLUDING WASTE STORAGE, BINS, SPILL KITS, WASH DOWN BAYS AND AMENITIES)
	HAUL ROADS
	EXISTING RED GUM TREE & CANOPY TO BE REMOVED
	EXISTING OTHER SPECIES TREE & CANOPY TO BE REMOVED

MOTELONE / YOURLAND (BY OTHERS)

KATALIA ESTATE (BY OTHERS)

SPILL KITS LOCATED WITHIN SITE COMPOUND

REFUELLING POINT LOCATED WITHIN SITE COMPOUND

WORK COMPOUND

RUMBLE GRIDS RAISED ABOVE GROUND LEVEL; MUST BE AT LEAST TWO FULL WHEEL ROTATIONS IN LENGTH; MUST BE DESIGNED TO CATER FOR THE WEIGHT OF FULLY LOADED VEHICLES; MUST ABUT A FIRM, STABLE EXIT-ROAD SURFACE. RUMBLE GRID MUST BE PERIODICALLY LIFTED AND MATERIAL COLLECTED UNDERNEATH CLEARED OUT. REMOVE MUD AND DIRT FROM THE WHEELS OF CONSTRUCTION VEHICLES BEFORE LEAVING CONSTRUCTION SITE.

AS CONSTRUCTED PLANS

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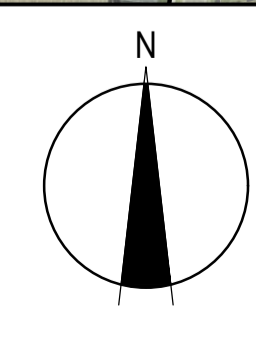
Quality Management ISO 9001
 OHS Management AS/NZS 4801
 Environmental Management ISO 14001

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PLAN OF SUB. NO. P5913483L & P5930203M
 P5913482N & P5930209D
 PERMIT REF. NO. 717158 & 719067

AS CONSTRUCTED

Scale 1:2500
 SCALE AS SHOWN AT A1



SMEC
 Member of the Surlana Jurong Group
 ABN 47 065 475 149
 Collins Square, Tower 4, Level 20, 727 Collins St
 Melbourne, VIC 3008
 Ph 03 9514 1500

mirvac

Olivine Estate - Stage 18W & 25W and Stage 18 & 25
 Whittlesea City Council
 Road and Drainage
 Environmental Management Plan
 Overall Plan

MELWAYS REF 367 G11	PROJECT / DRAWING No. 1700E-018_025-451	SHEET No. 47 of 51	REVISION 2
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THE FOLLOWING HAVE BEEN IDENTIFIED AS SIGNIFICANT ENVIRONMENTAL ASPECTS FOR THE SITE:

- CHMP REF: 12653_12112014
- KANGAROO MANAGEMENT PLAN REF: 6406_FINAL_24062016
- RIVER RED GUM TREE MANAGEMENT PLAN REF: 008833_22032018
- CEMP REF: 9930_FINAL(V1)_26102017

THESE ASPECTS SHALL BE MANAGED WITH THE ENVIRONMENTAL PROTECTION MEASURES OUTLINED ON THIS PLAN.

I HAVE PREPARED THIS ENVIRONMENTAL MANAGEMENT PLAN AND AGREE TO UNDERTAKE WORKS AND ENSURE SUB-CONTRACTORS UNDERTAKE WORKS IN ACCORDANCE WITH THIS PLAN.

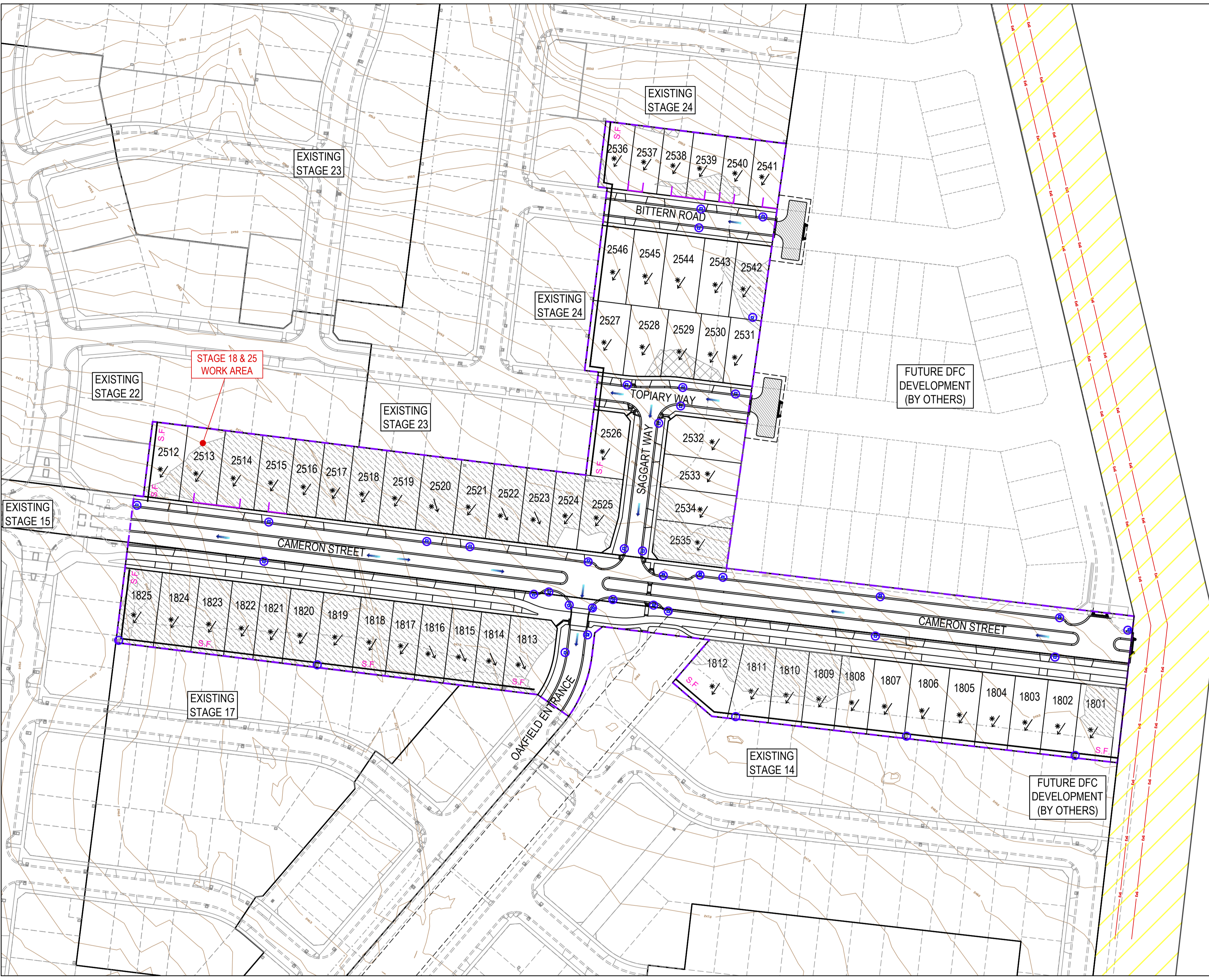
DEVELOPER Mirvac
Level 5, Building Q3, 6 Riverside Quay
Southbank VIC 3006
NAME: Chris Kiparoglou
0466 941 870
chris.kiparoglou@mirvac.com

CONSULTANT SMEC - URBAN DEVELOPMENT
Collins Square, Tower 4, Level 20
727 Collins St, Melbourne, VIC 3008
NAME: Shankar Tisseverasinghe
0434 581 518
shankar.tisseverasinghe@smec.com

CONTRACTOR Winslow Constructors Pty Ltd
50 Barry Road
Campbellfield VIC 3061
NAME: Adam Stojanovski
0427 446 501
adams@winslow.com.au

MANAGEMENT	
1. RESPONSIBILITIES: Civil Contractor: WINSLOW CONSTRUCTORS PTY LTD Superintendent: SMEC Site Responsibilities Contact: Adam Stojanovski (Winslow) - 0427 446 501 EMERGENCY CONTACTS: 1. SHANKAR TISSEVERASINGHE - (03) 9889047 2. JASON EDGE - (03) 9541512	4. STAGING OF WORKS: DEVELOPMENT SEQUENCING MUST BE IN ACCORDANCE WITH THE ENDORSED PRECINCT INFRASTRUCTURE AND STAGING PLAN (UNLESS OTHERWISE AGREED IN WRITING BY THE RESPONSIBLE AUTHORITY). ENVIRONMENTAL PROTECTION DEVICES ARE TO BE INSTALLED PRIOR TO CIVIL WORKS COMMENCING ON SITE.
2. COMMUNICATION OF EMP REQUIREMENTS: INDUCTION OF ALL PERSONS WORKING ON SITE REGARDING REQUIREMENTS AS SET OUT ON THE EMP EMP TO BE DISPLAYED IN VISIBLE LOCATION WITHIN SITE COMPOUND EG. ON WALLS OF SITE SHEDS / OFFICE.	5. INFORMING RESIDENTS: AS REQUIRED.
3. INSPECTIONS AND MAINTENANCE: SEDIMENT AND EROSION CONTROL MEASURES TO BE INSPECTED WEEKLY PRIOR TO AND AFTER STORM EVENT AND/OR HEAVY RAIN SEDIMENT CONTROLS ARE TO BE REPAIRED AND RECTIFIED IMMEDIATELY WHEN FAILURES ARE IDENTIFIED.	6. ASSOCIATED DOCUMENTS: PERMIT 719067, BUSHFIRE MANAGEMENT PLAN, EPA PUBLICATION 1834, CHMP REF 12653_12112014, KANGAROO MANAGEMENT PLAN REF 6406_FINAL_24062016, RIVER RED GUM TREE MANAGEMENT PLAN REF 008833_22032018, CEMP REF 9930_FINAL(V1)_26102017, INSPECTION LOGS, MSDS AND OTHER DOCUMENTS AS REQUIRED.
NOISE	RISK: SIGNIFICANT
REQUIREMENT: EPA VICTORIA AND COUNCIL REQUIREMENTS MUST BE ADHERED TO IN RELATION TO THE LEVEL OF NOISE AND WORKING HOURS, TO ENSURE THAT RESIDENTS AND OTHER APPLICABLE NEIGHBOURS TO THE SITE ARE NOT DISTURBED UNREASONABLY. THE GENERATION OF NOISE MUST BE MINIMISED.	
7. WORKING HOURS: 08:00 TO 16:30 MON - FRI 09:00 TO 13:00 SATURDAY	
8. NOISE MINIMISATION METHODS: - MAINTAIN WORKING HOUR - RESTRICT USE OF NOISY EQUIPMENT AND PROCESSES TO AVOID DISTURBANCES TO ADJACENT RESIDENTS. - FOLLOW EPA NOISE CONTROL GUIDELINES - T630292.	9. OTHER: - REGULAR MAINTENANCE AND INSPECTION OF MACHINERY.
DUST	RISK: SIGNIFICANT
REQUIREMENT: DUST GENERATION MUST BE MINIMISED TO ENSURE THERE IS NO HEALTH RISK OR LOSS OF AMENITY.	
10. MINIMISING DUST GENERATION: - AVOID STRIPPING LARGE AREAS OF THE SITE WHEN NOT REQUIRED. - WATER SPRAYING AS REQUIRED. - MINIMISE STRIPPED AREAS. - MINIMISE ACTIVITIES ON HIGH WIND DAYS. - ASSESS RISK FACTORS AND MITIGATION STRATEGIES AS PER SPECIFICATIONS IN APPROVED DUST MANAGEMENT PLAN.	12. CONTINGENCIES: - IF HIGH WIND IS EXPECTED WHILE LARGE AREAS OF THE SITE ARE STRIPPED, SPRAY WATER IN ORDER TO ESTABLISH A THICK CRUST OVER UNVEGETATED LAND. ALSO MONITOR DRYNESS OF EXPOSED EARTH. SHOULD GROUND DRY OUT SIGNIFICANTLY, CONSIDER WATER SPRAYING OR COVER AREA WITH SOIL OR GRASS. - ASSESS RISK FACTORS AND MITIGATION STRATEGIES AS PER SPECIFICATIONS IN APPROVED DUST MANAGEMENT PLAN. NOTE: IF A HOSE IS USED FOR WATER SPRAYING, THE HOSE IS TO BE FILLED WITH A LARGE TRIGGER NOZZLE. CHECK WATER RESTRICTIONS WITH LOCAL AUTHORITY FOR GUIDELINES.
11. DUST SUPPRESSION: - WATER SPRAYING - REDUCE ACTIVITY ON WINDY DAYS. - ASSESS RISK FACTORS AND MITIGATION STRATEGIES AS PER SPECIFICATIONS IN APPROVED DUST MANAGEMENT PLAN.	13. OTHER: REFER TO DUST MANAGEMENT PLAN FOR FURTHER INFORMATION STOP WORKS WHERE DUST CANNOT BE STOPPED OFF-SITE/DAYS ASSESS RISK FACTORS AND MITIGATION STRATEGIES AS PER SPECIFICATIONS IN APPROVED DUST MANAGEMENT PLAN.
EROSION AND SEDIMENT	RISK: SIGNIFICANT
REQUIREMENT: EROSION AND SEDIMENT MUST BE MANAGED IN ACCORDANCE WITH CURRENT BEST PRACTICE ENVIRONMENTAL MANAGEMENT PRACTICES, TO PREVENT SEDIMENT-LOADED WATER FROM ENTERING ANY DRAINAGE SYSTEM OR NATURAL WATERWAY.	
14. DRAINAGE MANAGEMENT: - STORMWATER FLOWING ONTO SITE WILL BE CONTROLLED BY CUT SWALES/ DRAINS AND SILT FENCE OR OTHER CONTROLS TO FILTER PLAN WHERE APPLICABLE. - ENSURE STORMWATER PITS AND DRAINS ARE PROTECTED FROM SILT/SEDIMENT BY USING APPROPRIATE METHODS. REFER TO SHEET 1700E-018-025-452 FOR DETAILS.	17. SEDIMENT TRAPS: - SEDIMENT BASIN/SILT FENCE AS REQUIRED. - PITS MUST BE FITTED AS SOON AS POSSIBLE - USE TEMPORARY PITS UNTIL INSTALLED. USE SILT FENCES, SILT SAUSAGES, CUT OFF DRAINS AND OTHER SILT PROTECTION METHODS WHERE NECESSARY AS DETAILED IN THIS EMP PLAN AND AS REQUIRED BY THE SITUATION. - IMMEDIATE REPAIR OF SEDIMENT CONTROL MEASURES DAMAGES. - ALL SEDIMENT CONTROL MEASURES MUST BE MAINTAINED AND INTACT FOR THE DURATION OF THE WORKS (INCLUDING REINSTATEMENT PERIOD) AND INSPECTED REGULARLY INCLUDING PRIOR TO (AND AFTER) RAIN EVENTS TO ENSURE THEY ARE FUNCTIONING PROPERLY.
15. SOIL STABILISATION DURING CONSTRUCTION: GRADE AND SEAL SOIL AS REQUIRED, RE-INSTATE DISTURBED AREAS AS SOON AS PRACTICAL.	18. DEWATERING: WHERE POSSIBLE WATER SHALL BE DIRECTED OVER EXISTING GRASS & PLANTED AREAS FRO FURTHER SEDIMENT CONTROL, PRIOR TO DISCHARGE INTO STORMWATER SYSTEM. ALL WATER LEAKING OR DISCHARGED FROM THE WORKS AREA MUST MEET EPA WATER QUALITY REQUIREMENTS. IF THIS IS NOT POSSIBLE, WATER TO BE COLLECTED INTO A TEMPORARY SUMP AND THEN SENT THROUGH SILT TRAPS BEFORE ENTERING INTO THE DRAINAGE SYSTEM.
POST WORKS: - SITE MATING RETAINED. - TOPSOILING AND GRASSING DISTURBED SOIL AREAS TO BE CARRIED OUT AS SOON AS PRACTICAL.	19. VEHICLE AND ROAD MANAGEMENT: SITE ACCESS: REFER TO OVERALL PLAN FOR ACCESS POINTS CONTRACTORS TO ENSURE THERE IS SPACE FOR VEHICLE CLEANING NEARBY. - HAVE A DEDICATED BUNDED CLEANING AND WASHING UP AREA ON SITE, AWAY FROM ALL STORMWATER DRAINS. CLEANING VEHICLES: ALL VEHICLES LEAVING THE SITE MUST REMOVE ANY EXCESS SEDIMENTS/CLAY COLLECTED ON THE VEHICLES WHILST ON SITE. EACH OPERATOR MUST MANUALLY REMOVE EXCESS CLAY SUCH THAT IT MINIMISES DEPOSITS ON THE ROAD.
16. STOCKPILE PROTECTION: SILT FENCES TO BE ERRECTED AROUND THE DOWNSTREAM SIDE OF STOCKPILES WHERE APPLICABLE. STOCKPILES TO BE PLACED AWAY FROM DRAINAGE INLETS, OPEN DRAINS, WATER COURSES & PAVED AREAS. A CUT-OFF DRAIN WITH EARTH BOUND TO BE INSTALLED ON THE UPDRAPE SIDE OF THE STOCKPILE TO DIVERT RUN-OFF AWAY FROM THE STOCKPILE. MINIMISE THE NUMBER OF STOCKPILES WHERE POSSIBLE. - STOCKPILES - 5m MAXIMUM HEIGHT, 2:1 BATTERS, 10m MINIMUM SETBACK FROM ADJACENT PROPERTIES, 30m MINIMUM SETBACK FROM WATERWAYS (NATURAL OR MAN-MADE). TEMPORARY GRASSING OF STOCKPILES > 14DAYS.	20. OTHER: ROADS ARE TO BE CLEANED PRIOR TO RAINSTORMWATER EVENTS. STORMWATER PITS ALONG THE ESTABLISHED ROADWAY, WHICH ARE SUBJECT TO SEDIMENT DEPOSITS, WILL BE EITHER FITTED WITH HOSE INLET PROTECTORS OR SHALL BE FITTED WITH (GEO-FABRIC) FILTER MATERIAL TO CAPTURE SEDIMENTS. ROADS ARE TO BE INSPECTED AND ANY SEDIMENT DEPOSITED ON THESE ROADS REMOVED.
WASTE	RISK: SIGNIFICANT
REQUIREMENT: LITTER AND WASTE MUST BE CONTAINED ON SITE, BEFORE DISPOSAL IN A RESPONSIBLE MANNER. WASTE GENERATION MUST BE MINIMISED.	
21. MOVEMENT OF SOIL: CONTAMINANT STATUS: CLEAN	23. WASTE STORAGE AND DISPOSAL: WASTE BINS TO BE PLACED IN COMPOUND FRO DAILY RUBBISH AND REMOVED OFFSITE AS REQUIRED. - BINS TO BE LIDDED - SITE MUST BE KEPT FREE OF LITTER - ANY VISIBLE LITTER ON SITE MUST BE COLLECTED DAILY.
22. WASTE MINIMISATION METHODS: - THE COLLECTION OF SURVEY PEGS AND OTHER MATERIALS ARE TO BE COLLECTED AND RE-USED ONSITE AND RECYCLED FRO FUTURE PROJECTS. - MATERIALS TO BE STORED IN COMPOUND OR SITE CONTAINER.	24. OTHER: N/A
CHEMICALS	RISK: SIGNIFICANT
REQUIREMENT: STORAGE AND SPILL MANAGEMENT PRACTICES MUST BE IMPLEMENTED TO ENSURE THAT NO ENVIRONMENTAL DAMAGE CAN RESULT FROM THE ESCAPE OR SPILLAGE OF CHEMICALS OR FUELS.	
25. STORAGE: - MINIMAL QUANTITIES STORED IN SITE CONTAINER. - ALL FUELS, OILS, CHEMICALS AND OTHER HAZARDOUS MATERIALS MUST BE STORED IN APPROPRIATE DESIGNATED AND BUNDED AREA. ENSURE THAT THE CAPACITY OF THE BUNDED AREA IS ADEQUATE FOR THE VOLUME OF STORED CHEMICALS/FUELS.	27. REFUELLING PROCEDURE: ALL REFUELLING TO BE CARRIED OUT BY EXTERNAL CONTRACTOR WITH PROCEDURES AND SPILL KITS AVAILABLE DURING REFUELLING. REFER TO OVERALL PLAN FOR REFUELLING POINT. ALL SIGNIFICANT FLORA AND FAUNA AND OTHER HAZARDOUS MATERIALS MUST BE DONE ONLY WITHIN APPROPRIATE BUNDED OR PORTABLE SEALED BUNDED AREA. - AVOID REFUELLING WITHIN MINIMUM 10M OF ANY DRAINAGE INLET, OPEN DRAIN, WETLAND, WATERWAY OR ANY PROTECTED AREA SUCH AS CONSERVATION AREAS, TREE PROTECTION ZONES AND RECREATIONAL INFRASTRUCTURE.
26. SPILL MANAGEMENT: - SEE ITEM 27. REFUELLING UNDERTAKEN BY EXTENDED FUEL CONTRACTOR WHO CARRIES ALL THE REQUIRED SPILL KITS ETC. - IMMEDIATELY CLEAN UP ALL SPILLS TO PREVENT CONTAMINATION OF SOIL & WATER COURSE. - ALL SPILLS MUST BE REPORTED TO THE SUPERINTENDENT AND RELEVANT AUTHORITIES.	28. OTHER: N/A
SIGNIFICANT FLORA / FAUNA RISK: SIGNIFICANT	
ARCHAEOLOGICAL / HERITAGE RISK: SIGNIFICANT	
REQUIREMENT: ALL SIGNIFICANT FLORA AND FAUNA ON AND ADJACENT TO THE SITE MUST BE PROTECTED. 29. YES/NO - DETAILS: REFER TO ENDORSED LANDSCAPE MASTER PLAN	REQUIREMENT: PLACES, SITES AND OBJECTS OF ARCHAEOLOGICAL OR HERITAGE SIGNIFICANCE MUST BE PROTECTED. 30. YES/NO - DETAILS: THE RECOMMENDATIONS WITHIN APPROVED CULTURAL HERITAGE MANAGEMENT PLAN No 12015 PREPARED BY HERITAGE INSIGHT Pty Ltd DATED 18TH JANUARY 2011, AS APPROVED BY THE SECRETARY, DEPARTMENT OF PLANNING AND COMMUNITY DEVELOPMENT ON 15TH APRIL 2012, OR ANY SUBSEQUENT APPROVED PLAN, MUST BE UNDERTAKEN, PRIOR TO AND DURING, THE CONSTRUCTION OF THE DEVELOPMENT HEREBY APPROVED.
31.	32.

REFER 1700E-018_025-452 FOR CONTINUATION



LEGEND - ENVIRONMENTAL MANAGEMENT PLAN	
[Symbol]	STORMWATER DRAINAGE PITS
[Symbol]	SWALE DRAIN
[Symbol]	EXISTING STORMWATER DRAINAGE PITS
[Symbol]	EXISTING SWALE DRAIN
[Symbol]	EXISTING RETAINING WALL
[Symbol]	SLEEPER RETAINING WALL
[Symbol]	ROCK RETAINING WALL
[Symbol]	TREE PROTECTION FENCING REFER ARBORICULTURE REPORT
[Symbol]	PROPOSED DRIVEWAY & FOOTPATH
[Symbol]	SILT FENCE OR SIMILAR APPROVED EROSION PROTECTION FENCE
[Symbol]	TEMPORARY CHAINWIRE FENCE
[Symbol]	EXISTING CHAINWIRE FENCE
[Symbol]	CATCH DRAIN ALONG LOW POINTS WITH SILT CURTAINS OR SIMILAR PLACED AT MIN. 150M
[Symbol]	SUGGESTED STOCKPILE LOCATION
[Symbol]	STORMWATER PIT PROTECTION
[Symbol]	EXISTING MAJOR CONTOUR LINE
[Symbol]	EXISTING MINOR CONTOUR LINE
[Symbol]	VEGETATION TO BE REMOVED
[Symbol]	NO GO ZONE / GAS EASEMENT
[Symbol]	LOT GRADE DIRECTION OF FALL
[Symbol]	OVERLAND FLOW
[Symbol]	STABILIZED ACCESS POINT FITTED WITH MUD REMOVAL DEVICES
[Symbol]	WORK COMPOUND
[Symbol]	SITE COMPOUND (INCLUDING WASTE STORAGE, BINS, SPILL KITS, WASH DOWN BAYS AND AMENITIES)
[Symbol]	HAUL ROADS
[Symbol]	EXISTING RED GUM TREE & CANOPY TO BE REMOVED
[Symbol]	EXISTING OTHER SPECIES TREE & CANOPY TO BE REMOVED

GAS AND DUST MANAGEMENT NOTES
ALL WORKS TO BE UNDERTAKEN SHOULD REFER TO SMEC DUST MANAGEMENT PLAN REPORT DATED 20TH SEPTEMBER 2019 AND SMEC CONSTRUCTION MANAGEMENT PLAN WORKS IN VICINITY OF GAS TRANSMISSION MAIN DATED 3RD OCTOBER 2019.

AS CONSTRUCTED PLANS
The purpose of these as-constructed plans is to update the design drawings to show significant changes which occurred during construction. Note that the levels shown on these plans are design levels, and have not been verified by survey. All information shown on these plans should be verified on site. SMEC Australia Pty Ltd accept no responsibility for loss or damages resulting from the inappropriate usage of these plans. **As constructed details on this revision of plans relate to works west of Cameron Street roundabout only. Balance of works are still under construction.**

Quality Management - ISO 9001
OHS Management - AS/NZS 4500
Environmental Management - ISO 14001
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PLAN OF SUB. NO. P5913483L & P5906209M
P5913482N & P5906209D
PERMIT REF. NO. 717158 & 719067

AS CONSTRUCTED

Scale 1:1000
SCALE AS SHOWN AT A1

0 10 20 40

N

SMEC
Member of the Surlana Jurong Group
ABN 47 065 475 149
Collins Square, Tower 4, Level 20, 727 Collins St
Melbourne, VIC 3008
Ph 03 9514 1500

mirvac

Olivine Estate - Stage 18W & 25W and Stage 18 & 25
Whittlesea City Council
Road and Drainage
Environmental Management Plan
Layout Plan - 1

MELWAYS REF 367 G11	PROJECT / DRAWING No 1700E-018_025-452	SHEET No 48 of 51	REVISION 4
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THE FOLLOWING HAVE BEEN IDENTIFIED AS SIGNIFICANT ENVIRONMENTAL ASPECTS FOR THE SITE:

- CHMP, REF. 12653_12112014
- KANGAROO MANAGEMENT PLAN, REF. 6406_FINAL_24062016
- RIVER RED GUM TREE MANAGEMENT PLAN, REF. 008833_22032018
- CEMP, REF. 9930_FINAL(V1)_26102017

THESE ASPECTS SHALL BE MANAGED WITH THE ENVIRONMENTAL PROTECTION MEASURES OUTLINED ON THIS PLAN.

I HAVE PREPARED THIS ENVIRONMENTAL MANAGEMENT PLAN AND AGREE TO UNDERTAKE WORKS AND ENSURE SUB-CONTRACTORS UNDERTAKE WORKS IN ACCORDANCE WITH THIS PLAN.

DEVELOPER Mirvac
Level 5, Building Q3, 6 Riverside Quay
Southbank VIC 3006
NAME: Chris Kiparoglou
0466 941 870
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CONSULTANT SMEC - URBAN DEVELOPMENT
Collins Square, Tower 4, Level 20
727 Collins St, Melbourne, VIC 3008
NAME: Shankar Tisseverasinghe
0434 581 518
shankar.tisseverasinghe@smec.com

CONTRACTOR Winslow Constructors Pty Ltd
50 Barry Road
Campbellfield VIC 3061
NAME: Adam Stojanovski
0427 446 501
adams@winslow.com.au

MANAGEMENT

1. RESPONSIBILITIES: Civil Contractor: WINSLOW CONSTRUCTORS PTY LTD Superintendent: SMEC Site Responsibilities Contact: Adam Stojanovski (Winslow) - 0427 446 501 EMERGENCY CONTACTS: 1. SHANKAR TISSEVERASINGHE - (03) 98890947 2. JASON EDGE - (03) 95415172	4. STAGING OF WORKS: DEVELOPMENT SEQUENCING MUST BE IN ACCORDANCE WITH THE ENDORSED PRECINCT INFRASTRUCTURE AND STAGING PLAN (UNLESS OTHERWISE AGREED IN WRITING BY THE RESPONSIBLE AUTHORITY). ENVIRONMENTAL PROTECTION DEVICES ARE TO BE INSTALLED PRIOR TO CIVIL WORKS COMMENCING ON SITE.
2. COMMUNICATION OF EMP REQUIREMENTS: INDUCTION OF ALL PERSONS WORKING ON SITE REGARDING REQUIREMENTS AS SET OUT ON THE EMP EMP TO BE DISPLAYED IN VISIBLE LOCATION WITHIN SITE COMPOUND EG. ON WALLS OF SITE SHEDS / OFFICE.	5. INFORMING RESIDENTS: AS REQUIRED.
3. INSPECTIONS AND MAINTENANCE: SEDIMENT AND EROSION CONTROL MEASURES TO BE INSPECTED WEEKLY PRIOR TO AND AFTER STORM EVENT AND/OR HEAVY RAIN SEDIMENT CONTROLS ARE TO BE REPAIRED AND RECTIFIED IMMEDIATELY WHEN FAILURES ARE IDENTIFIED.	6. ASSOCIATED DOCUMENTS: PERMIT 719067, BUSHFIRE MANAGEMENT PLAN, EPA PUBLICATION 1834, CHMP REF 12653_12112014, KANGAROO MANAGEMENT PLAN REF 6406_FINAL_24062016, RIVER RED GUM TREE MANAGEMENT PLAN REF 008833_22032018, CEMP REF 9930_FINAL(V1)_26102017, INSPECTION LOGS, MSDS AND OTHER DOCUMENTS AS REQUIRED.

NOISE RISK: SIGNIFICANT

REQUIREMENT:
EPA VICTORIA AND COUNCIL REQUIREMENTS MUST BE ADHERED TO IN RELATION TO THE LEVEL OF NOISE AND WORKING HOURS, TO ENSURE THAT RESIDENTS AND OTHER APPLICABLE NEIGHBOURS TO THE SITE ARE NOT DISTURBED UNREASONABLY. THE GENERATION OF NOISE MUST BE MINIMISED.

7. WORKING HOURS: 08:00 TO 16:30 MON - FRI 09:00 TO 13:00 SATURDAY

8. NOISE MINIMISATION METHODS:
- MAINTAIN WORKING HOUR.
- RESTRICT USE OF NOISY EQUIPMENT AND PROCESSES TO AVOID DISTURBANCES TO ADJACENT RESIDENTS.
- FOLLOW EPA NOISE CONTROL GUIDELINES - TG30292.

9. OTHER:
- REGULAR MAINTENANCE AND INSPECTION OF MACHINERY.

DUST RISK: SIGNIFICANT

REQUIREMENT:
DUST GENERATION MUST BE MINIMISED TO ENSURE THERE IS NO HEALTH RISK OR LOSS OF AMENITY.

10. MINIMISING DUST GENERATION:
- AVOID STRIPPING LARGE AREAS OF THE SITE WHEN NOT REQUIRED.
- WATER SPRAYING AS REQUIRED.
- MINIMISE STRIPPED AREAS.
- MINIMISE ACTIVITIES ON HIGH WIND DAYS.
- ASSESS RISK FACTORS AND MITIGATION STRATEGIES AS PER SPECIFICATIONS IN APPROVED DUST MANAGEMENT PLAN.

11. DUST SUPPRESSION:
- WATER SPRAYING.
- REDUCE ACTIVITY ONSTE WINDY DAYS.
- ASSESS RISK FACTORS AND MITIGATION STRATEGIES AS PER SPECIFICATIONS IN APPROVED DUST MANAGEMENT PLAN.

12. CONTINGENCIES:
- IF HIGH WIND IS EXPECTED WHILE LARGE AREAS OF THE SITE ARE STRIPPED, SPRAY WATER IN ORDER TO ESTABLISH A THICK CRUST OVER UNVEGETATED LAND. ALSO MONITOR DRYNESS OF EXPOSED EARTH. SHOULD GROUND DRY OUT SIGNIFICANTLY, CONSIDER WATER SPRAYING OR COVER AREA WITH SOIL OR GRASS.
- ASSESS RISK FACTORS AND MITIGATION STRATEGIES AS PER SPECIFICATIONS IN APPROVED DUST MANAGEMENT PLAN.
NOTE: IF A HOSE IS USED FOR WATER SPRAYING, THE HOSE IS TO BE FILLED WITH A LARGE TRIGGER NOZZLE. CHECK WATER RESTRICTIONS WITH LOCAL AUTHORITY FOR GUIDELINES.

13. OTHER:
REFER TO DUST MANAGEMENT PLAN FOR FURTHER INFORMATION.
STOP WORKS WHERE DUST CANNOT BE STOPPED OFF-SITES/DAYS.
ASSESS RISK FACTORS AND MITIGATION STRATEGIES AS PER SPECIFICATIONS IN APPROVED DUST MANAGEMENT PLAN.

EROSION AND SEDIMENT RISK: SIGNIFICANT

REQUIREMENT:
EROSION AND SEDIMENT MUST BE MANAGED IN ACCORDANCE WITH CURRENT BEST PRACTICE ENVIRONMENTAL MANAGEMENT PRACTICES, TO PREVENT SEDIMENT LOADED WATER FROM ENTERING ANY DRAINAGE SYSTEM OR NATURAL WATERWAY.

14. DRAINAGE MANAGEMENT:
- STORMWATER FLOWING ONTO SITE WILL BE CONTROLLED BY CUT SWALES/ DRAINS AND SILT FENCE OR OTHER CONTROLS TO FILTER PLAN WHERE APPLICABLE.
- ENSURE STORMWATER PITS AND DRAINS ARE PROTECTED FROM SILT/SEDIMENT BY USING APPROPRIATE METHODS.
REFER TO SHEET 1700E-024-456 FOR DETAILS.

15. SOIL STABILISATION DURING CONSTRUCTION:
GRADE AND SEAL SOIL AS REQUIRED, RE-INSTATE DISTURBED AREAS AS SOON AS PRACTICAL.

POST WORKS:
- SITE MATTING RETAINED.
- TOPSOILING AND GRASSING DISTURBED SOIL AREAS TO BE CARRIED OUT AS SOON AS PRACTICAL.

16. STOCKPILE PROTECTION:
- SILT FENCES TO BE ERRECTED AROUND THE DOWNSTREAM SIDE OF STOCKPILES WHERE APPLICABLE. STOCKPILES TO BE PLACED AWAY FROM DRAINAGE INLETS, OPEN DRAINS, WATER COURSES & PAVED AREAS. A CUT-OFF DRAIN WITH EARTH BOUND TO BE INSTALLED ON THE UPSLOPE SIDE OF THE STOCKPILE TO DIVERT RUN-OFF AWAY FROM THE STOCKPILE. MINIMISE THE NUMBER OF STOCKPILES WHERE POSSIBLE.
- STOCKPILES - 5m MAXIMUM HEIGHT, 2:1 BATTERS, 10m MINIMUM SETBACK FROM ADJACENT PROPERTIES, 30m MINIMUM SETBACK FROM WATERWAYS (NATURAL OR MAN-MADE).
TEMPORARY GRASSING OF STOCKPILES > 14DAYS.

17. SEDIMENT TRAPS:
- SEDIMENT BASIN / SILT FENCE AS REQUIRED.
- PITS MUST BE FITTED AS SOON AS POSSIBLE - USE TEMPORARY PITS UNTIL INSTALLED. USE SILT FENCES, SILT SAUSAGES, CUT OFF DRAINS AND OTHER SILT PROTECTION METHODS WHERE NECESSARY AS DETAILED IN THIS EMP PLAN AND AS REQUIRED BY THE SITUATION.
- IMMEDIATE REPAIR OF SEDIMENT CONTROL MEASURE DAMAGES.
- ALL SEDIMENT CONTROL MEASURES MUST BE MAINTAINED AND INTACT FOR THE DURATION OF THE WORKS (INCLUDING REINSTATEMENT PERIOD) AND INSPECTED REGULARLY INCLUDING PRIOR TO (AND AFTER) RAIN EVENTS TO ENSURE THEY ARE FUNCTIONING PROPERLY.

18. DEWATERING:
- WHERE POSSIBLE WATER SHALL BE DIRECTED OVER EXISTING GRASS & PLANTED AREAS FRO FURTHER SEDIMENT CONTROL.
- ALL WATER LEAKING OR DISCHARGED FROM THE WORKS AREA MUST MEET EPA WATER QUALITY REQUIREMENTS.
- IF THIS IS NOT POSSIBLE, WATER TO BE COLLECTED INTO A TEMPORARY SUMP AND THEN SENT THROUGH SILT TRAPS BEFORE ENTERING INTO THE DRAINAGE SYSTEM.

19. VEHICLE AND ROAD MANAGEMENT: SITE ACCESS:
- REFER TO OVERALL PLAN FOR ACCESS POINTS.
- CONTRACTORS TO ENSURE THERE IS SPACE FOR VEHICLE CLEANING NEARBY.
- HAVE A DEDICATED BUNDED CLEANING AND WASHING UP AREA ON SITE, AWAY FROM ALL STORMWATER DRAINS.
CLEANING VEHICLES:
ALL VEHICLES LEAVING THE SITE MUST REMOVE ANY EXCESS SEDIMENT/CLAY COLLECTED ON THE VEHICLES WHILST ON SITE. EACH OPERATOR MUST MANUALLY REMOVE EXCESS CLAY SUCH THAT IT MINIMISES DEPOSITS ON THE ROAD.

20. OTHER:
ROADS ARE TO BE CLEANED PRIOR TO RAIN/STORMWATER EVENTS.
STORMWATER PITS ALONG THE ESTABLISHED ROADWAY, WHICH ARE SUBJECT TO SEDIMENT DEPOSITS, WILL BE EITHER FITTED WITH HERO INLET PROTECTORS OR SHALL BE FITTED WITH (GEO-FABRIC) FILTER MATERIAL TO CAPTURE SEDIMENTS. ROADS ARE TO BE INSPECTED AND ANY SEDIMENT DEPOSITED ON THESE ROADS REMOVED.

WASTE RISK: SIGNIFICANT

REQUIREMENT:
LITTER AND WASTE MUST BE CONTAINED ON SITE, BEFORE DISPOSAL IN A RESPONSIBLE MANNER. WASTE GENERATION MUST BE MINIMISED.

21. MOVEMENT OF SOIL:
CONTAMINANT STATUS: CLEAN

22. WASTE MINIMISATION METHODS:
- THE COLLECTION OF SURVEY PEGS AND OTHER MATERIALS ARE TO BE COLLECTED AND RE-USED ONSITE AND RECYCLED FRO FUTURE PROJECTS.
- MATERIALS TO BE STORED IN COMPOUND OR SITE CONTAINER.

23. WASTE STORAGE AND DISPOSAL:
- WASTE BINS TO BE PLACED IN COMPOUND FRO DAILY RUBBISH AND REMOVED OFFSITE AS REQUIRED.
- BINS TO BE LIDDED.
- SITE MUST BE KEPT FREE OF LITTER - ANY VISIBLE LITTER ON SITE MUST BE COLLECTED DAILY.

24. OTHER:
N/A

CHEMICALS RISK: SIGNIFICANT

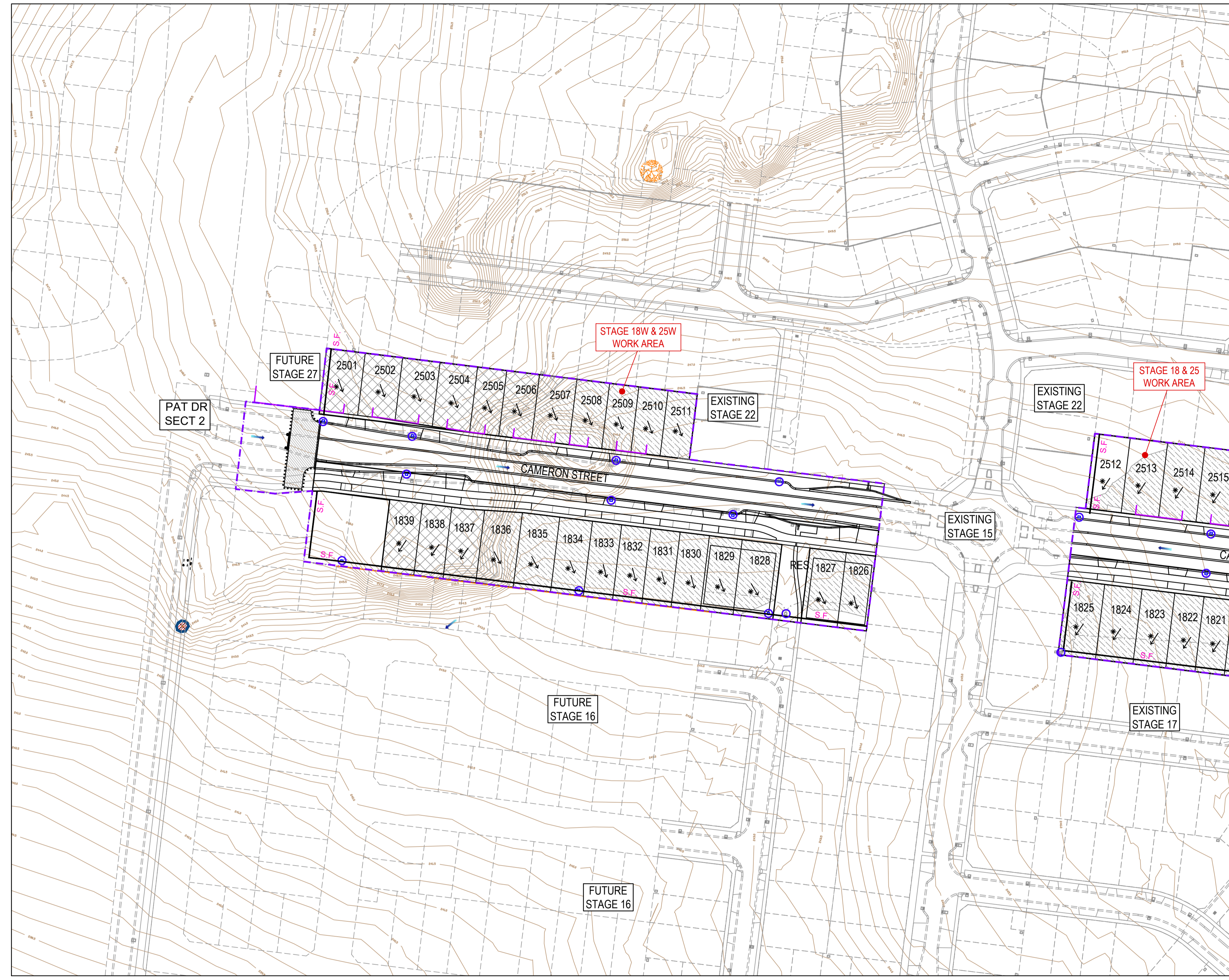
REQUIREMENT:
STORAGE AND SPILL MANAGEMENT PRACTICES MUST BE IMPLEMENTED TO ENSURE THAT NO ENVIRONMENTAL DAMAGE CAN RESULT FROM THE ESCAPE OR SPILLAGE OF CHEMICALS OR FUELS.

25. STORAGE:
- MINIMAL QUANTITIES STORED IN SITE CONTAINER.
- ALL FUELS, OILS, CHEMICALS AND OTHER HAZARDOUS MATERIALS MUST BE STORED IN APPROPRIATE DESIGNATED AND BUNDED AREA. ENSURE THAT THE CAPACITY OF THE BUNDED AREA IS ADEQUATE FOR THE VOLUME OF STORED CHEMICALS/FUELS.

26. SPILL MANAGEMENT:
- SEE ITEM 27. REFUELLING UNDERTAKEN BY EXTENDED FUEL CONTRACTOR WHO CARRIES ALL THE REQUIRED SPILL KITS ETC.
- IMMEDIATELY CLEAN UP ALL SPILLS TO PREVENT CONTAMINATION OF SOIL & WATER COURSE.
- ALL SPILLS MUST BE REPORTED TO THE SUPERINTENDENT AND RELEVANT AUTHORITIES.

27. REFUELLING PROCEDURE:
- ALL REFUELLING TO BE CARRIED OUT BY EXTERNAL CONTRACTOR WITH PROCEDURES AND SPILL KITS AVAILABLE DURING REFUELLING.
- REFER TO OVERALL PLAN FOR REFUELLING POINT.
- ALL SIGNIFICANT FLORA AND FAUNA AND OTHER HAZARDOUS MATERIALS MUST BE DONE ONLY WITHIN APPROPRIATE BUNDED OR PORTABLE SEALED BUNDED AREA.
- AVOID REFUELLING WITHIN MINIMUM 10M OF ANY DRAINAGE INLET, OPEN DRAIN, WETLAND, WATERWAY OR ANY PROTECTED AREA SUCH AS CONSERVATION AREAS, TREE PROTECTION ZONES AND RECREATIONAL INFRASTRUCTURE.

28. OTHER:
N/A



LEGEND - ENVIRONMENTAL MANAGEMENT PLAN
ALL PROPOSED, FUTURE & EXISTING SERVICE LOCATIONS ARE SHOWN INDICATIVELY

	STORMWATER DRAINAGE PITS
	SWALE DRAIN
	EXISTING STORMWATER DRAINAGE PITS
	EXISTING SWALE DRAIN
	EXISTING RETAINING WALL
	SLEEPER RETAINING WALL
	ROCK RETAINING WALL
	TREE PROTECTION FENCING REFER ARBORICULTURE REPORT
	PROPOSED DRIVEWAY & FOOTPATH
	SILT FENCE OR SIMILAR APPROVED EROSION PROTECTION FENCE
	TEMPORARY CHAINWIRE FENCE
	EXISTING CHAINWIRE FENCE
	CATCH DRAIN ALONG LOW POINTS WITH SILT CURTAINS OR SIMILAR PLACED AT MIN. 150M
	SUGGESTED STOCKPILE LOCATION
	STORMWATER PIT PROTECTION
	EXISTING MAJOR CONTOUR LINE
	EXISTING MINOR CONTOUR LINE
	VEGETATION TO BE REMOVED
	NO GO ZONE / GAS EASEMENT
	LOT GRADE DIRECTION OF FALL
	OVERLAND FLOW
	STABILIZED ACCESS POINT FITTED WITH MUD REMOVAL DEVICES
	SITE COMPOUND (INCLUDING WASTE STORAGE, BINS, SPILL KITS, WASH DOWN BAYS AND AMENITIES)
	HAUL ROADS
	EXISTING RED GUM TREE & CANOPY TO BE REMOVED
	EXISTING OTHER SPECIES TREE & CANOPY TO BE REMOVED

REFER 1700E-018_025-453 FOR CONTINUATION

GAS AND DUST MANAGEMENT NOTES

ALL WORKS TO BE UNDERTAKEN SHOULD REFER TO SMEC DUST MANAGEMENT PLAN REPORT DATED 20TH SEPTEMBER 2019 AND SMEC CONSTRUCTION MANAGEMENT PLAN WORKS IN VICINITY OF GAS TRANSMISSION MAIN DATED 3RD OCTOBER 2019.

29. SIGNIFICANT FLORA / FAUNA RISK: SIGNIFICANT REQUIREMENT: ALL SIGNIFICANT FLORA AND FAUNA ON AND ADJACENT TO THE SITE MUST BE PROTECTED. 29. YES/NO: DETAILS: REFER TO ENDORSED LANDSCAPE MASTER PLAN	ARCHAEOLOGICAL / HERITAGE RISK: SIGNIFICANT REQUIREMENT: PLACES, SITES AND OBJECTS OF ARCHAEOLOGICAL OR HERITAGE SIGNIFICANCE MUST BE PROTECTED. 30. YES/NO: DETAILS: THE RECOMMENDATIONS WITHIN APPROVED CULTURAL HERITAGE MANAGEMENT PLAN No 12015 PREPARED BY HERITAGE INSIGHT Pty Ltd DATED 18TH JANUARY 2011, AS APPROVED BY THE SECRETARY, DEPARTMENT OF PLANNING AND COMMUNITY DEVELOPMENT ON 15TH APRIL 2012, OR ANY SUBSEQUENT APPROVED PLAN, MUST BE UNDERTAKEN, PRIOR TO AND DURING, THE CONSTRUCTION OF THE DEVELOPMENT HEREBY APPROVED.	RISK: REQUIREMENT: 31.	RISK: REQUIREMENT: 32.
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AS CONSTRUCTED PLANS

The purpose of these as-constructed plans is to update the design drawings to show significant changes which occurred during construction. Note that the levels shown on these plans are design levels, and have not been verified by survey. All information shown on these plans should be verified on site. SMEC Australia Pty Ltd accept no responsibility for loss or damages resulting from the inappropriate usage of these plans. **As constructed details on this revision of plans relate to works west of Cameron Street roundabout only. Balance of works are still under construction.**

PLAN OF SUB. NO. P5913483L & P5906205M P5913482N & P5906209D
PERMIT REF. NO. 717158 & 719067

AS CONSTRUCTED

Scale 1:1000
SCALE AS SHOWN AT A1

SMEC
Member of the Surbana Jurong Group
Collins Square, Tower 4, Level 20, 727 Collins St
Melbourne, VIC 3008
Ph 03 9514 1500

mirvac

Olivine Estate - Stage 18W & 25W and Stage 18 & 25
Whittlesea City Council
Road and Drainage
Environmental Management Plan
Layout Plan - 2

MELWAYS REF: 367 G11 PROJECT / DRAWING No: 1700E-018_025-453 SHEET No: 49 of 51 REVISION: 2

RISK ASSESSMENT CHECKLIST	
NOISE ISSUES: - NATURE OF NOISE GENERATING WORKS: VEHICLES, FIXED MACHINERY, CONSTRUCTION ACTIVITIES. - POTENTIAL NOISE RECEPTORS: SURROUNDING RESIDENTS / CONTRACTORS: - PROXIMITY OF WORKS TO NOISE RECEPTORS: ADJACENT RESIDENTS - THE RESIDENTS OF CRESSY WAY & EMINENCE DRIVE LIVE, 100m FROM THE SITE	LIKELIHOOD LIKELY CONSEQUENCE MAJOR OVERALL RISK LOW
DUST ISSUES: - DUST SOURCES: MOVEMENTS OF VEHICLES - POTENTIAL DUST RECEPTORS: SURROUNDING RESIDENTS / CONTRACTORS - PROXIMITY OF WORKS TO DUST RECEPTORS: ADJACENT RESIDENTS - EXTENT OF EXPOSED EARTH AND DURATION OF TIME EXPOSED: DURATION OF STAGED WORKS - WIND CONDITIONS:	LIKELIHOOD LIKELY CONSEQUENCE MAJOR OVERALL RISK LOW
EROSION AND SEDIMENT ISSUES: - EROSION AND SEDIMENT SOURCES: EXPOSED TOPSOIL - POTENTIAL EROSION AND SEDIMENT RECEPTORS: STORMWATER SYSTEM, CREEK SYSTEM. - PROXIMITY OF WORKS TO EROSION AND SEDIMENT RECEPTORS: ADJACENT RESIDENTS - EXTENT OF EXPOSED EARTH AND DURATION OF TIME EXPOSED: AREA APPROXIMATELY 5 HA EXPOSED FOR 8 MONTHS. - SLOPE: MINIMAL - 3 METRES OVER 250M - SITE DRAINAGE REGIME: SURFACE SWALES AND UNDERGROUND DRAINAGE - RAINFALL: 400 - 600MM / YEAR - VEHICLE MOVEMENTS ON AND OFF SITE: TO BE KEPT TO A MINIMUM AND VIA A SINGLE ENTRY / EXIT.	LIKELIHOOD LIKELY CONSEQUENCE MAJOR OVERALL RISK LOW
WASTE ISSUES: - NATURE OF WASTE TO BE GENERATED: BUILDING AND CONSTRUCTION PRODUCTS, LITTER. - PRESENCE OF WASTE ON SITE PRIOR TO WORK COMMENCEMENT: EXISTING SHEDS. - POTENTIAL WASTE RECEPTORS: SURROUNDING RESIDENTS. - PROXIMITY TO POTENTIAL WASTE RECEPTORS: ADJACENT RESIDENTS - THE RESIDENTS AT CRESSY WAY & EMINENCE DRIVE LIVE < 100M FROM THE SITE	LIKELIHOOD LIKELY CONSEQUENCE MAJOR OVERALL RISK LOW
CHEMICALS ISSUES: - TYPES OF CHEMICALS AND FUELS USED AND/OR STORED ON SITE: REFER TO MATERIAL SAFETY DATA SHEET (MSDS) - QUANTITIES OF CHEMICALS AND FUELS USED AND/OR STORED ON SITE: REFER TO MATERIAL SAFETY DATA SHEET (MSDS) - POTENTIAL CHEMICAL RECEPTORS: SURROUNDING RESIDENTS / CONTRACTORS / WATERWAYS - PROXIMITY TO POTENTIAL CHEMICAL RECEPTORS: 200 METRES	LIKELIHOOD LIKELY CONSEQUENCE MAJOR OVERALL RISK LOW
SIGNIFICANT FLORA/FAUNA ISSUES: - TYPES OF FLORA/FAUNA: NIL - VULNERABILITY OF FLORA/FAUNA: NIL - PROXIMITY OF FLORA/FAUNA TO WORKS: NIL - WORK ACTIVITIES WHICH MAY THREATEN FLORA/FAUNA: NIL - POTENTIAL IMPACTS ON FLORA/FAUNA: NIL - REFER TO 0697-06-81, ITEM No.29 FOR DETAILS.	LIKELIHOOD LIKELY CONSEQUENCE MAJOR OVERALL RISK LOW
ARCHAEOLOGICAL/HERITAGE ISSUES: - TRADITIONAL LAND OWNERS CONSULTED? YES - SURVEY OR ASSESSMENT CONDUCTED? YES - PROBABILITY OF ENCOUNTERING ARCHAEOLOGICAL/HERITAGE ITEMS DURING WORKS: LOW - TYPES OF ARCHAEOLOGICAL/HERITAGE ITEMS ON SITE: NIL - PROXIMITY OF ARCHAEOLOGICAL/HERITAGE ITEMS TO WORKS ON SITE: NIL - WORK ACTIVITIES WHICH MAY THREATEN ARCHAEOLOGICAL/HERITAGE ITEMS: NIL - REFER TO 0697-06-81, ITEM No.30 FOR DETAILS.	LIKELIHOOD LIKELY CONSEQUENCE MAJOR OVERALL RISK LOW

I HAVE PREPARED THIS ENVIRONMENTAL MANAGEMENT PLAN AND AGREE TO UNDERTAKE WORKS AND ENSURE SUB-CONTRACTORS UNDERTAKE WORKS IN ACCORDANCE WITH THIS PLAN.

DEVELOPER Mirvac
 Level 5, Building Q3, 6 Riverside Quay
 Southbank VIC 3006
 NAME: Chris Kiparoglou 0466 941 870
 chris.kiparoglou@mirvac.com

SIGNED: DATE:

CONSULTANT SMEC - URBAN DEVELOPMENT
 COLLINS SQUARE, TOWER 4, LEVEL 20
 727 COLLINS ST, MELBOURNE, VIC, 3008
 NAME: Shankar Tisseverasinghe 0434 581 518
 shankar.tisseverasinghe@smec.com

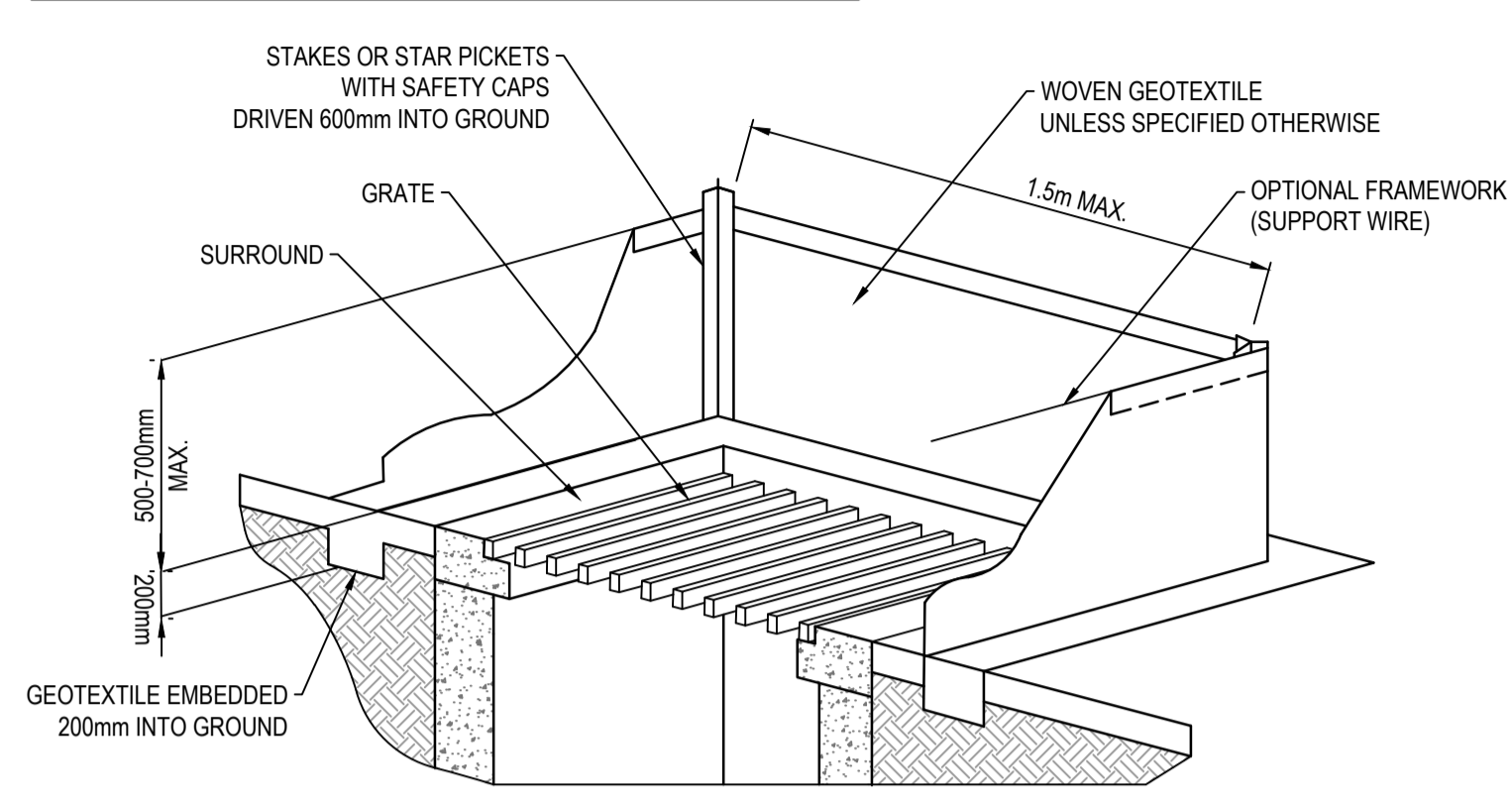
SIGNED: DATE:

CONTRACTOR Winslow Constructors Pty Ltd
 50 Barry Road
 Campbellfield VIC 3061
 NAME: Adam Stojanovski 0427 446 501
 adams@winslow.com.au

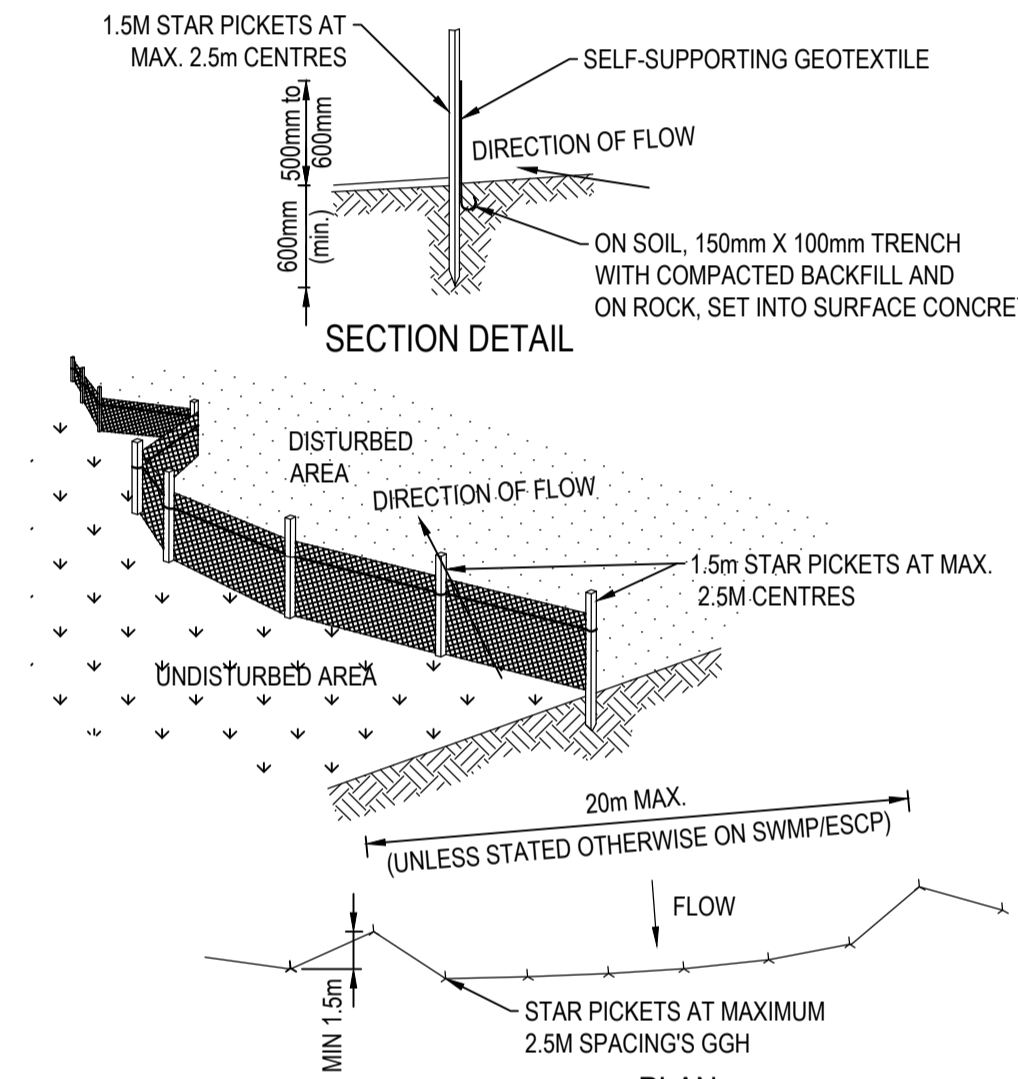
SIGNED: DATE:

ENVIRONMENTAL PROTECTION MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING DESIGNS.

GEOTEXTILE INLET GUARD - PHASE B**

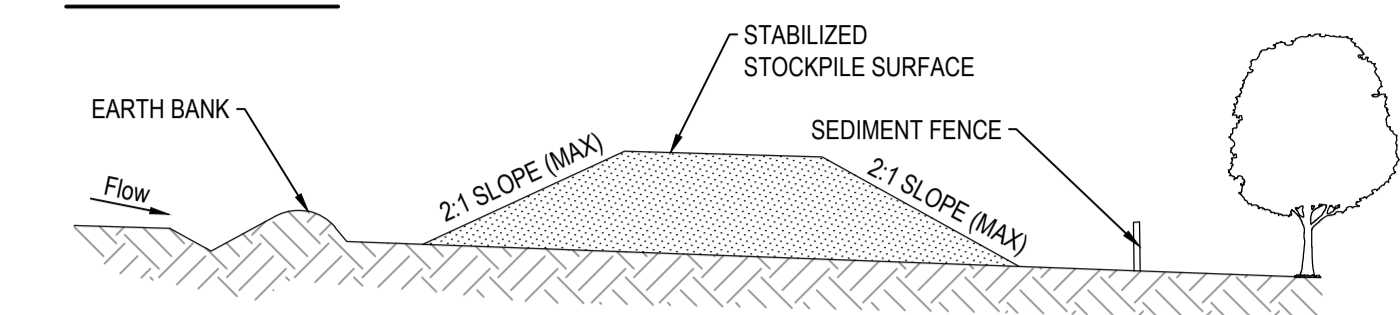


SILT/DRIFT FENCE - PHASE A**



- CONSTRUCTION NOTES:**
- CONSTRUCT SEDIMENT FENCES AS CLOSE AS POSSIBLE TO BEING PARALLEL TO THE CONTOURS OF THE SITE, BUT WITH SMALL RETURNS AS SHOWN IN THE DRAWING TO LIMIT THE CATCHMENT AREA OF ANY ONE SECTION. THE CATCHMENT AREA SHOULD BE SMALL ENOUGH TO LIMIT WATER FLOW IF CONCENTRATED AT ONE POINT TO 50 LITRES PER SECOND IN THE DESIGN STORM EVENT, USUALLY THE 10-YEAR EVENT.
 - CUT A 150MM DEEP TRENCH ALONG THE UPSIDE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.
 - DRIVE 1.5 METRE LONG STAR PICKETS INTO GROUND AT 2.5 METRE INTERVALS (MAX) AT THE DOWNSLOPE EDGE OF THE TRENCH. ENSURE ANY STAR PICKETS ARE FITTED WITH SAFETY CAPS
 - FIX SELF-SUPPORTING GEOTEXTILE TO THE UPSLOPE SIDE OF THE POSTS ENSURING IT GOES TO THE BASE OF THE TRENCH. FIX THE GEOTEXTILE WITH WIRE TIES OR AS RECOMMENDED BY THE MANUFACTURER. ONLY USE GEOTEXTILE SPECIFICALLY PRODUCED FOR SEDIMENT FENCING. THE USE OF SHADE CLOTH FOR THIS PURPOSE IS NOT SATISFACTORY.
 - JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH A 150MM OVERLAP.
 - BACKFILL THE TRENCH OVER THE BASE OF THE FABRIC AND COMPACT IT THOROUGHLY OVER THE GEOTEXTILE.
 - SEDIMENT FENCE ENDS TO BE BOWED UPSLOPE. SEDIMENT FENCES REQUIRE DESILTING (REMOVAL OF COLLECTED SEDIMENT) WHEN SEDIMENT HAS BUILT UP TO 1/3 THE HEIGHT OF THE MEASURE OR WHEN BUILT UP SEDIMENT IS PREVENTING THE FENCE FROM WORKING EFFECTIVELY

STOCKPILES



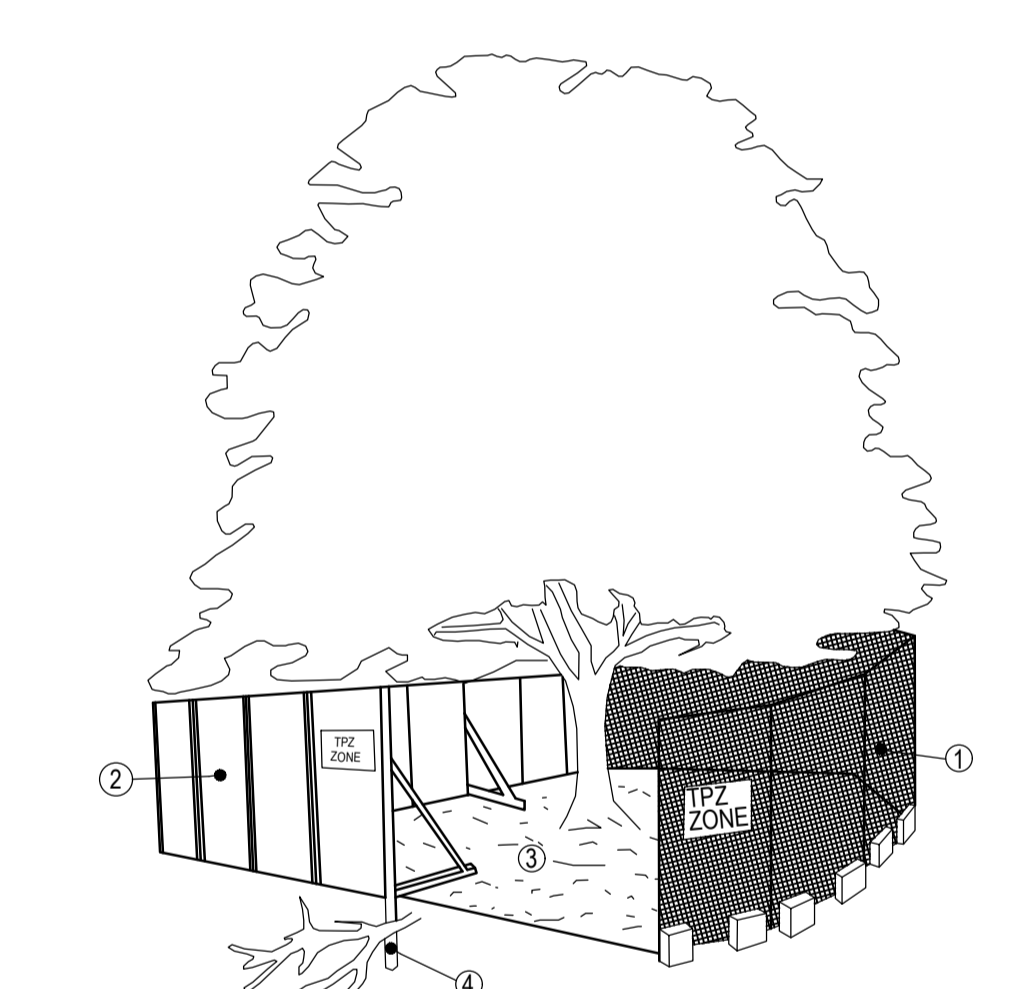
- CONSTRUCTION NOTES:**
- WHERE POSSIBLE LOCATE STOCKPILE AT LEAST 5 METRES FROM EXISTING VEGETATION, CONCENTRATED WATER FLOWS, ROADS AND HAZARD AREAS.
 - CONSTRUCT ON THE CONTOUR AS A LOW, FLAT, ELONGATED MOUND.
 - WHERE THERE IS SUFFICIENT AREA TOPSOIL STOCKPILES SHALL BE LESS THAN 2 METRES IN HEIGHT.
 - REHABILITATE IN ACCORDANCE WITH THE SWMP/ESCP.
 - CONSTRUCT EARTH BANK (STANDARD DRAWING 5-5) ON THE UPSLOPE SIDE TO DIVERT RUN OFF AROUND THE STOCKPILE AND A SEDIMENT FENCE (STANDARD DRAWING 6-8) 1 TO 2 METRES DOWNSLOPE OF STOCKPILE.
 - THE PLACEMENT OF FILL MUST BE DESIGNED TO ENSURE THAT IT DOES NOT COMPROMISE NATIVE VEGETATION TO BE PROTECTED.
 - SOIL MUST NOT BE STOCKPILED ON NATIVE VEGETATION

WARNING
BWARE OF UNDERGROUND SERVICES
 The locations of underground services are approximate only and 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

PRELIMINARY
 NOT APPROVED FOR CONSTRUCTION
 THIS PLAN HAS BEEN PREPARED FOR INFORMATION ONLY IN ACCORDANCE WITH CLAUSE XX
 THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRODUCING THE FINAL EMP AS PART OF THE LUMP SUM PRICE FOR THE WORKS

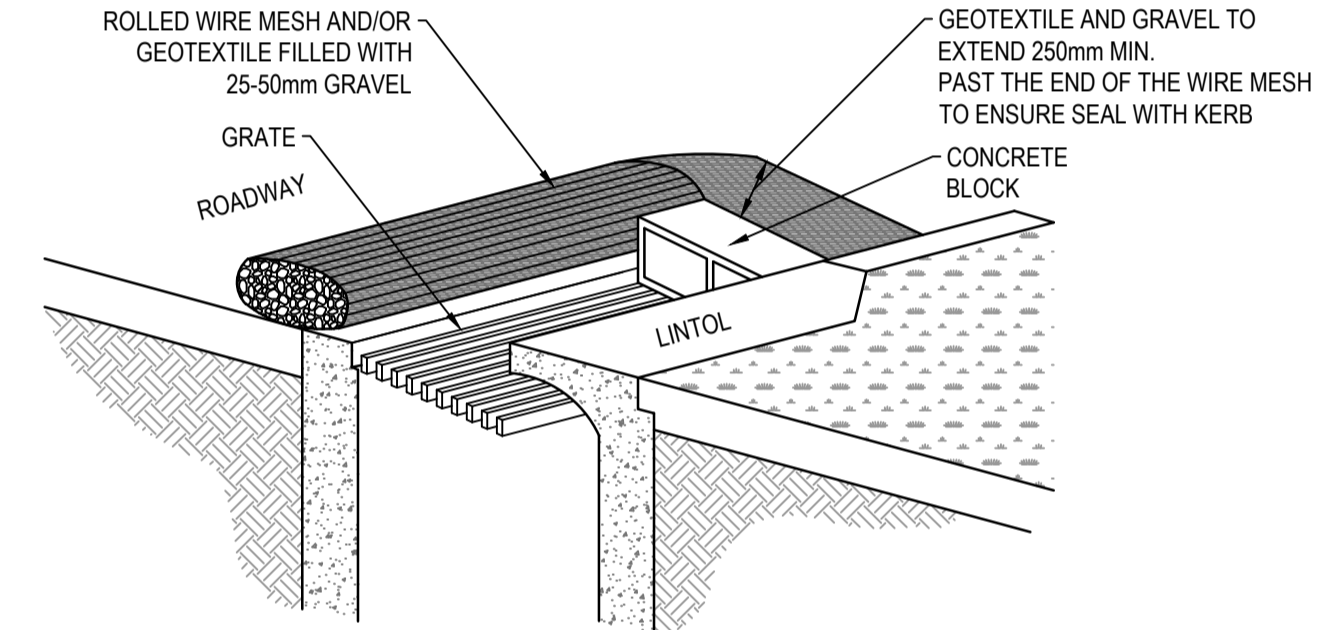
TREE PROTECTIVE FENCING

- TREE PROTECTION/NO-GO FENCING**
- ALL INDIGENOUS TREES TO TWICE THE CANOPY
 - PROTECTIVE FENCING (HIGHLY VISIBLE) AROUND TWICE THE CANOPY DISTANCE OF EACH SCATTERED TREE AND MORE THAN 2 METRES FROM AREAS OF NATIVE VEGETATION IDENTIFIED TO BE PROTECTED.
 - SIGNAGE MUST BE ATTACHED TO FENCE AT REGULAR INTERVALS
 - SIGNAGE MUST READ "TREE PROTECTION ZONE. NO ENTRY EXCEPT TO AUTHORISED PERSONNEL. FINES SHALL BE IMPOSED FOR REMOVAL OR DAMAGE OF FENCING AND/OR TREES"



- CONSTRUCTION NOTES:**
- CHAIN WIRE MESH PANELS WITH SHADE CLOTH (IF REQUIRED) ATTACHED, HELD IN PLACE WITH CONCRETE FEET.
 - ALTERNATIVE PLYWOOD OR WOODEN PALING FENCE PANELS. THIS FENCING MATERIAL ALSO PREVENTS BUILDING MATERIALS OR SOIL ENTERING THE TPZ.
 - MULCH INSTALLATION ACROSS SURFACE OF TPZ (AT THE DISCRETION OF THE PROJECT ARBORIST). NO EXCAVATION, CONSTRUCTION ACTIVITY, GRADE CHANGES, SURFACE TREATMENT OR STORAGE OF MATERIALS OF ANY KIND IS PERMITTED WITHIN THE TPZ.
 - BRACING IS PERMISSIBLE WITHIN THE TPZ. INSTALLATION OF SUPPORTS SHOULD AVOID DAMAGING ROOTS.

INLET FILTER BAG - PHASE B**



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Global-Mark.com.au
 Quality Management - ISO 9001
 OHS Management - AS/NZS 4500
 Environmental Management - ISO 14001
 PLAN OF SUB. NO. PS913483L & PS905209M
 PS913482N & PS905209D
 PERMIT REF. NO. 717158 & 719067

AS CONSTRUCTED

SCALE AS SHOWN AT A1

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Olivine Estate - Stage 18W & 25W and Stage 18 & 25
 Whittlesea City Council
 Road and Drainage
 Environmental Management Plan
 Details Plan

MELWAYS REF 367 G11	PROJECT / DRAWING No. 1700E-018_025-456	SHEET No. 50 of 51	REVISION 2
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PHASE	DISCIPLINE CODE	POTENTIAL RISK (Construction, Operations, Maintenance)	RISK OWNER	POTENTIAL CONSEQUENCES	POTENTIAL ELIMINATION MEASURE, DESIGN INITIATIVE or CONTROL (Identify any Standard or Code of practice used)	HOW ISSUE ADDRESSED IN DESIGN AND/OR CONSTRUCTION OF THE WORKS	IS THE RISK ELIMINATED? YES / NO	RESIDUAL RISK LIKELIHOOD (0-5)	RESIDUAL RISK CONSEQUENCE (0-5)	RESIDUAL RISK RATING	RESIDUAL RISK OWNER		
Road Furniture / Roadside Features													
Construction	RD	Roads	Construction close to live traffic	New works will be constructed adjacent to live traffic when abutting existing stages.	Contractor	Disruptions to live traffic, construction incident involving live traffic.	Provide safe temporary traffic control (TCP)	TCP provided within contract	N	5	3	15	Constructor
Construction	RD	Roads	Culverts	Potential risk from culverts under construction and height / fall hazards	Contractor	Falling from a height	Temporary barriers to be provided	Temporary barrier provided in contract	N	2	5	10	Constructor
Construction	US	Utilities or Services	Utilities become a hazard within clear zones	Vehicle conflict with utility / pit	Contractor	Personal injury, vehicle damage	Sequence works and protect with temp barrier or traffic control (TCP)	TCP provided within contract	N	1	5	5	Constructor
Operational	RD	Roads	Sight Lines	Inadequate drivers response time.	Road Authority	Increased potential for accidents	Ensure design complies with relevant standard. Undertake thorough Safety Audit	Vis lines checked and discussed with approval authority as part of design approval process	N	1	4	4	Road Authority
Operational	LS	Lines and Signs	Signs and street lights	Potential for drivers / riders to strike signs and street lights	Road Authority	Increased potential for accidents	Ensure design complies with relevant standard. Undertake thorough Safety Audit	Refer to appropriate standard for sign and lighting offsets	N	1	4	4	Road Authority
Operational	RF	Road Furniture	Headwalls	Potential vehicle conflict within clear zone	Road Authority	Increased potential for accidents	Establish adequate clear zone provision	Adequate barrier provided as per appropriate standard where within clear zone. Culvert headwall selection in accordance with authority standard	N	2	4	8	Road Authority
Operational	RD	Roads	Culverts	Potential fall hazard during maintenance, by vehicles and pedestrians	Relevant Authority	Falling from a height	Barriers to be provided in accordance with road standards	Barriers to be provided and safe batter slopes (>1:3)	N	2	5	10	Constructor
Retaining Walls													
Construction	RW	Retaining Walls	Retaining Wall Alignment	Falling from height during construction or commissioning of walls and adjacent structures eg. sewer manholes	Contractor	Falling from a height	Provide temporary and permanent fencing at top of wall.	Provide fencing (at heights) during design process	N	1	1	1	Constructor
Operational	RW	Retaining Walls	Retaining Wall Alignment	Lack of safe access/setback from road	Road/ Local Authority	Increased potential for accidents	Establish adequate and accessible clear zone provision. Provide guardrail where required	Wall located in suitable position during design process and approved by authority	N	1	1	1	Authority
Operational	RW	Retaining Walls	Retaining Wall Height	Potential for falling from height	Road/ Local Authority	Personal injury	Provide temporary and permanent fencing at top of wall.	Provide fencing (at heights) during design process	N	1	5	5	Authority
Operational	RW	Retaining Walls	Retaining Wall Design	Potential for wall failure	Road/ Local Authority	Increased potential for accidents	Structural design in accordance with standards, geotechnical conditions, end use and good practise.	Refer to structural drawings and calculations	N	1	5	5	Authority
Drainage													
Operational	DR	Drainage	Grated Pits	Trip/fall hazard with large spaced grate	Relevant Authority	Increased potential for accidents	Provide pedestrian/bicycle friendly grates where applicable. Refer to pit schedule	Design in accordance with authority and manufacturers standards	N	3	2	6	Authority
Operational	DR	Drainage	Non Standard Large Pits	Potential for pit failure	Relevant Authority	Increased risk to maintenance crews/ vehicles	Structural design in accordance with relevant design principles.	Refer to structural drawings and calculations	N	1	4	4	Authority
Operational	DR	Drainage	Culvert Endwalls/Headwalls	Potential for falling from height	Relevant Authority	Increased potential for accidents	Fencing to be provided where culverts/headwalls are at height in accordance with relevant authority standards	Allow for fencing in Design Process	N	1	4	4	Authority
Operational	DR	Drainage	Culvert Endwall/Headwall Outlets	Children playing in large pipes / watercourses and access for maintenance	Relevant Authority	Increased potential for accidents	Grate provided to authority standards	Design in accordance with authority and manufacturers standards	N	2	5	10	Authority
Maintenance	DR	Drainage	Access to Pits	Lack of safe access for maintenance	Relevant Authority	Increased risk to maintenance crews	Provide safe working conditions for maintenance. Provide safe landing/ access arrangements as per relevant authority standards	Where possible design pit in location for easy access and outside of permanent water bodies	N	2	5	10	Authority
Maintenance	DR	Drainage	Deep Pits	Lack of safe entry for maintenance	Relevant Authority	Increased potential for accidents	Contractor to be certified for work in confined spaces, step irons to be provided to appropriate authority standards. Refer to pit schedule	Design in accordance with authority standards	N	1	5	5	Authority
Maintenance	DR	Drainage	Access to drains / culverts	Lack of safe access for maintenance	Relevant Authority	Increased risk to maintenance crews	Provide safe working conditions for maintenance. Access as approved by authority	Design pit in location for easy access as agreed with authority	N	2	3	6	Authority
Sewer													
Construction	SE	Sewer	Sewer Manhole located adjacent to Retaining Wall Alignment	Falling from height during construction or commissioning of adjacent sewer manholes	Contractor	Falling from a height	Provide temporary fencing until such time that permanent fencing is constructed	Provide fencing (at heights) during design process	N	1	1	1	Constructor
Maintenance	SE	Sewer	Deep Manholes	Lack of safe entry for maintenance	Relevant Authority	Increased potential for accidents	Contractor to be certified for work in confined spaces, landings and step access provided as per authority standards and schedule	Design in accordance with authority standards. Refer pit schedule on drawings	N	1	5	5	Authority
Maintenance	SE	Sewer	Access to Manholes	Lack of safe access for maintenance	Relevant Authority	Increased risk to maintenance crews	Provide safe working conditions for maintenance. Manholes located in compliance with authority standards	Where possible design manhole in location for easy access	N	1	5	5	Authority
Maintenance	SE	Sewer	Pump Station Access	Lack of safe access for maintenance	Relevant Authority	Increased risk to maintenance crews	Provide safe working conditions for maintenance	Design pump station in location for easy access	N	2	4	8	Authority
Electricity													
Operational	ES	Electrical Services	Electrical Design	Location of assets within clear zones e.g. pits/ substations	Relevant Authority	Increased potential for accidents	Electrical designed by sub consultant with appropriate accreditation and in accordance with authority standards	Pits designed below ground. Where above ground adequate offset from vehicle clear zones has been provided or barrier protection provided	N	2	3	6	Authority
Telstra													
Operational	TE	Telstra	Telstra Design	Location of assets within clear zones e.g. pits	Relevant Authority	Increased potential for accidents	Telecommunications designed by authority consultant with appropriate accreditation and in accordance with authority standards	Pits designed below ground. Where above ground adequate offset from vehicle clear zones has been provided or barrier protection provided	N	2	3	6	Authority
Water													
Operational	WA	Water	Water Design	Location of assets within clear zones e.g. pits/ substations	Relevant Authority	Increased potential for accidents	Water pits designed in accordance with authority standards	Pits designed below ground. Where above ground adequate offset from vehicle clear zones has been provided or barrier protection provided	N	2	3	6	Authority
Gas													
Operational	GA	Gas	Gas Design	Location of assets within clear zones e.g. pits/ substations	Relevant Authority	Increased potential for accidents	Water pits designed in accordance with authority standards	Pits designed below ground. Where above ground adequate offset from vehicle clear zones has been provided or barrier protection provided	N	1	1	1	Authority

AS CONSTRUCTED PLANS

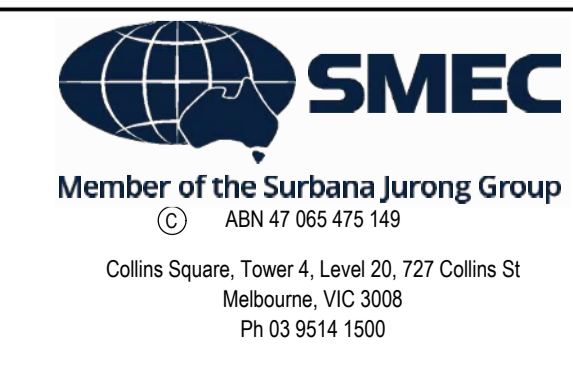
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AS CONSTRUCTED

SCALE AS SHOWN AT A1



Olivine Estate - Stage 18W & 25W and Stage 18 & 25
Whittlesea City Council
Road and Drainage
Safety In Design

MELWAYS REF 367 G11	PROJECT / DRAWING No. 1700E-018_025-500	SHEET No. 51 of 51	REVISION 2
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