

# Olivine Estate

## Stage 9



### GENERAL NOTES (WHITTLESEA CITY COUNCIL)

- THE WORKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE VPA MANUAL AND SPECIFICATIONS. WORKS TO BE CARRIED OUT TO THE SATISFACTION OF COUNCIL'S SUPERVISING OFFICER.
- 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 HIS INTENTION TO COMMENCE TRENCHING OPERATIONS WHERE TRENCHES ARE 1.5 METRES OR DEEPER.
  - ENSURE THAT THE MINE MANAGER OR HIS DEPUTY AS REQUIRED BY THE REGULATIONS IS IN ATTENDANCE WHEN TRENCHING OPERATIONS ARE IN PROGRESS.
- THE CONTRACTOR IS TO NOTIFY COUNCIL AND ALL SERVICE AUTHORITIES SEVEN (7) DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- 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.
- REDGUM TREES MARKED ON THE APPROVED PLANS FOR REMOVAL MUST BE REMOVED IN ACCORDANCE WITH COUNCIL'S PLANNING PERMIT. NO EXCAVATION SHALL BE CARRIED OUT WITHIN 5.0m OF ANY EXISTING TREE WITHOUT WRITTEN APPROVAL FROM COUNCIL'S SUPERVISING OFFICER.
- 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.
- 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.
- ALL EXCAVATED OR FILLED AREAS OUTSIDE THE ROAD RESERVES TO BE STRIPPED OF TOPSOIL AND STOCKPILED PRIOR TO EARTHWORKS COMMENCING. THESE AREAS SHALL BE SURFACED WITH A 100mm MINIMUM TO 200mm MAXIMUM LAYER OF TOPSOIL AS SPECIFIED.
- NO TOPSOIL TO BE REMOVED FROM SITE.
- NO FILL OR STOCKPILING OF MATERIAL IS TO BE PLACED ON ANY RESERVE UNLESS DIRECTED BY THE SUPERINTENDENT.
- FILLING ON ALLOTMENTS AND UNDER ROAD PAVEMENTS TO HAVE LEVEL 1 SUPERVISION IN ACCORDANCE WITH AS3798-1996. INDIVIDUAL LOT CERTIFICATES ARE TO BE PROVIDED TO THE SUPERINTENDENT.
- FILLING UNDER DRIVEWAYS AND FOOTPATH IS TO BE APPROVED BY THE SUPERINTENDENT AND CONSTRUCTED IN LAYERS 150mm DEPTH. COMPACTION ACHIEVING 98% AUSTRALIAN STANDARD DENSITY.
- CUT AND FILL BATTERS ARE NOT TO EXCEED 1 in 6 UNLESS SHOWN OTHERWISE.
- ALLOTMENTS TO BE GRADED TO ENSURE A MINIMUM GRADE OF 1 in 150.
- ALL DRAINAGE PIPES UP TO AND INCLUDING 750mm IN DIAMETER SHALL BE RUBBER RING JOINTED. PIPES ABOVE THIS SIZE MUST BE FLUSH JOINTED WITH EXTERNAL SEALING BANDS.
- ALL DRAINAGE TRENCHES UNDER ROAD PAVEMENTS, KERB & CHANNEL, PARKING BAYS, DRIVEWAYS, FOOTPATHS AND BEHIND KERBS & CHANNEL SHALL BE BACKFILLED WITH CRUSHED ROCK AS SPECIFIED.
- PITS GREATER THAN OR EQUAL TO 900mm DEPTH TO BE PROVIDED WITH STEP IRONS IN ACCORDANCE WITH SD1041 AND COUNCIL STANDARD DRAWING EDMC 609.
- PROPERTY INLETS AS PER WHITTLESEA CITY COUNCIL STANDARD DRAWING EDMC 701-704 AND ARE TO BE LOCATED 1.0m FROM LOW SIDE BOUNDARY UNLESS SHOWN OTHERWISE.
- ALL HOUSE DRAIN CONNECTIONS ARE TO BE LOCATED NO CLOSER THAN 7.0m FROM THE SIDE BOUNDARY OR FROM EASEMENT ALONG THE SIDE BOUNDARY UNLESS NOTED OTHERWISE AND CONNECTED DIRECTLY TO UNDERGROUND DRAIN OR PIT. HOUSE DRAIN LOCATION TO BE MARKED (50mm STAMPED IMPRESSION) ON THE TOP OF THE KERB. SUBSOIL DRAINS SHALL BE INSTALLED BEHIND OR BELOW ALL KERB AND CHANNEL AS PER STANDARD DRAWING EDMC 202.
- 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 OTHER INFRASTRUCTURE. BOTH KERBS ARE TO BE MARKED WITH THE LETTERS H (PROPERTY STORMWATER CONNECTION), E (ELECTRICAL), G (GAS), T (TELEPHONE), W (WATER) AND C (COUNCIL COMMUNICATION) AS PER STANDARD DRAWING EDMC 303.
- ALL SERVICING TRENCHES UNDER ROADS, DRIVEWAYS, FOOTPATHS ETC. ARE TO BE BACKFILLED & COMPACTED WITH F.C.R. IN THE CASE OF TRENCHES UNDER ROADS WHERE BACKFILLING HAS NOT ACHIEVED THE SPECIFIED COMPACTION OR SHOWS EXCESSIVE MOVEMENT UNDER PROFFROLLING, THE BACKFILLING SHALL BE REMOVED AND REPLACED WITH 2% STABILISED COMPACTED F.C.R. ALL SERVICES ARE TO BE PLACED PRIOR TO THE CAPPING LAYER.
- NO TELSTRA PITS ARE TO BE LOCATED IN THE FOOTPATH.
- VEHICULAR CROSSINGS TO BE LOCATED CLEAR OF DRAINAGE PITS, SEWER MAINTENANCE HOLES AND EXISTING TREES. VEHICLE CROSSINGS TO BE 1.5m FROM PROPERTY BOUNDARY OR EASEMENT UNLESS OTHERWISE SHOWN. VEHICULAR CROSSINGS TO BE CONSTRUCTED AS PER WHITTLESEA CITY COUNCIL'S SPECIFICATIONS AND EDMC 501 TO 503.
- ALL PEDESTRIAN CROSSING THROUGH SPLITTER ISLANDS TO BE IN ACCORDANCE WITH SD606.
- ALL STREET SIGNS TO BE IN ACCORDANCE WITH SD812. STREET SIGNS TO BE ATTACHED TO LIGHT POLES USING 'SINGLE DIRECTION COLLAR' OR '90° RIGHT ANGLE COLLAR' UNLESS SHOWN OTHERWISE.
- ALL PAVEMENT MARKINGS AND TRAFFIC SIGNS SHOULD BE TO AS1742.2 AND AS1742.1 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.
- THE CAPPING LAYER MUST BE DEMONSTRATED THROUGH TESTING THAT ITS PROPERTIES (C.B.R. PERMEABILITY, ETC.) SATISFY LIMITS AS OUTLINED IN THE TECHNICAL SPECIFICATION TABLE 20.3.5B WITH A MINIMUM MODULUS OF 100MPa. UPON COMPLETION OF CONSTRUCTION THE WHOLE SITE SHALL BE CLEANED UP, GRADED, ALL RUBBISH REMOVED AND LEFT IN A CLEAN AND TIDY CONDITION TO THE SATISFACTION OF THE SUPERINTENDENT.
- ALL FOOTPATHS & SHARED PATHS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH EDMC 401.

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| ROAD NAME              | SERVICES OFFSET SCHEDULE |            |                    |            |                |            |             |            |            |            |
|------------------------|--------------------------|------------|--------------------|------------|----------------|------------|-------------|------------|------------|------------|
|                        | GAS                      |            | NON-DRINKING WATER |            | DRINKING WATER |            | ELECTRICITY |            | NBN        |            |
|                        | SIDE                     | OFFSET (m) | SIDE               | OFFSET (m) | SIDE           | OFFSET (m) | SIDE        | OFFSET (m) | SIDE       | OFFSET (m) |
| METROPOLIS WAY         | SOUTH                    | 2.10       | SOUTH              | 2.50       | SOUTH          | 3.00       | NORTH       | 2.35       | NORTH      | 1.85       |
| DOWNTOWN AVENUE        | EAST/SOUTH               | 2.10       | EAST/SOUTH         | 2.50       | EAST/SOUTH     | 3.00       | WEST/NORTH  | 2.35       | WEST/NORTH | 1.85       |
| HAMLET DRIVE           | SOUTH                    | 2.10       | SOUTH              | 2.50       | SOUTH          | 3.00       | NORTH       | 2.35       | NORTH      | 1.85       |
| SOCIETY VISTA          | WEST                     | 3.50       | WEST               | 4.00       | WEST           | 4.50       | EAST        | 2.45       | EAST       | 1.85       |
| QUARTER CIRCUIT (EAST) | EAST                     | 2.10       | EAST               | 2.50       | EAST           | 3.00       | WEST        | 2.35       | WEST       | 1.85       |
| QUARTER CIRCUIT (WEST) | EAST                     | 2.10       | EAST               | 2.50       | EAST           | 3.00       | WEST        | 0.85       | WEST       | 0.35       |
| OLIVINE BOULEVARD      | EAST                     | 2.10       | EAST               | 2.60       | EAST           | 3.10       | WEST        | 4.30       | WEST       | 3.60       |

| ROAD NAME              | RESERVE WIDTH (m) | ROAD LAYOUT TABLE |            |              |           |          |                 |          |  |
|------------------------|-------------------|-------------------|------------|--------------|-----------|----------|-----------------|----------|--|
|                        |                   | 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 |  |
| METROPOLIS WAY         | 16.00             | 6.40              | 7.30       | 7.60         | B2        | B2       | 4.35            | 4.35     |  |
| DOWNTOWN AVENUE        | 16.00             | 6.40              | 7.30       | 7.60         | B2        | B2       | 4.35            | 4.35     |  |
| HAMLET DRIVE           | 16.00             | 6.40              | 7.30       | 7.60         | B2        | B2       | 4.35            | 4.35     |  |
| SOCIETY VISTA          | 21.50             | 6.40              | 7.30       | 7.60         | B2        | B2       | 7.85            | 6.35     |  |
| QUARTER CIRCUIT (EAST) | 16.00             | 6.40              | 7.30       | 7.60         | B2        | B2       | 4.35            | 4.35     |  |
| QUARTER CIRCUIT (WEST) | 14.50             | 6.40              | 7.30       | 7.60         | B2        | B2       | 2.85            | 4.35     |  |
| OLIVINE BOULEVARD      | 22.00             | 5.10              | 6.00       | 6.30         | B2        | B2       | 8.75            | 7.25     |  |

**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-05A-01

**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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All setting out should be carried out in accordance with MPA/Council's standard drawings or as nominated on hard copy plans provided by SMEC. Any digital information supplied by this office is for information only. Any discrepancies should be discussed with the superintendent.

TITLE: DRAFTER: R.Barua  
 DESIGNER: J.Jones  
 CHECKED: Z.Gosev  
 AUTHORISED: A.Burrows  
 REFERENCE No. 1  
 REFERENCE No. 2

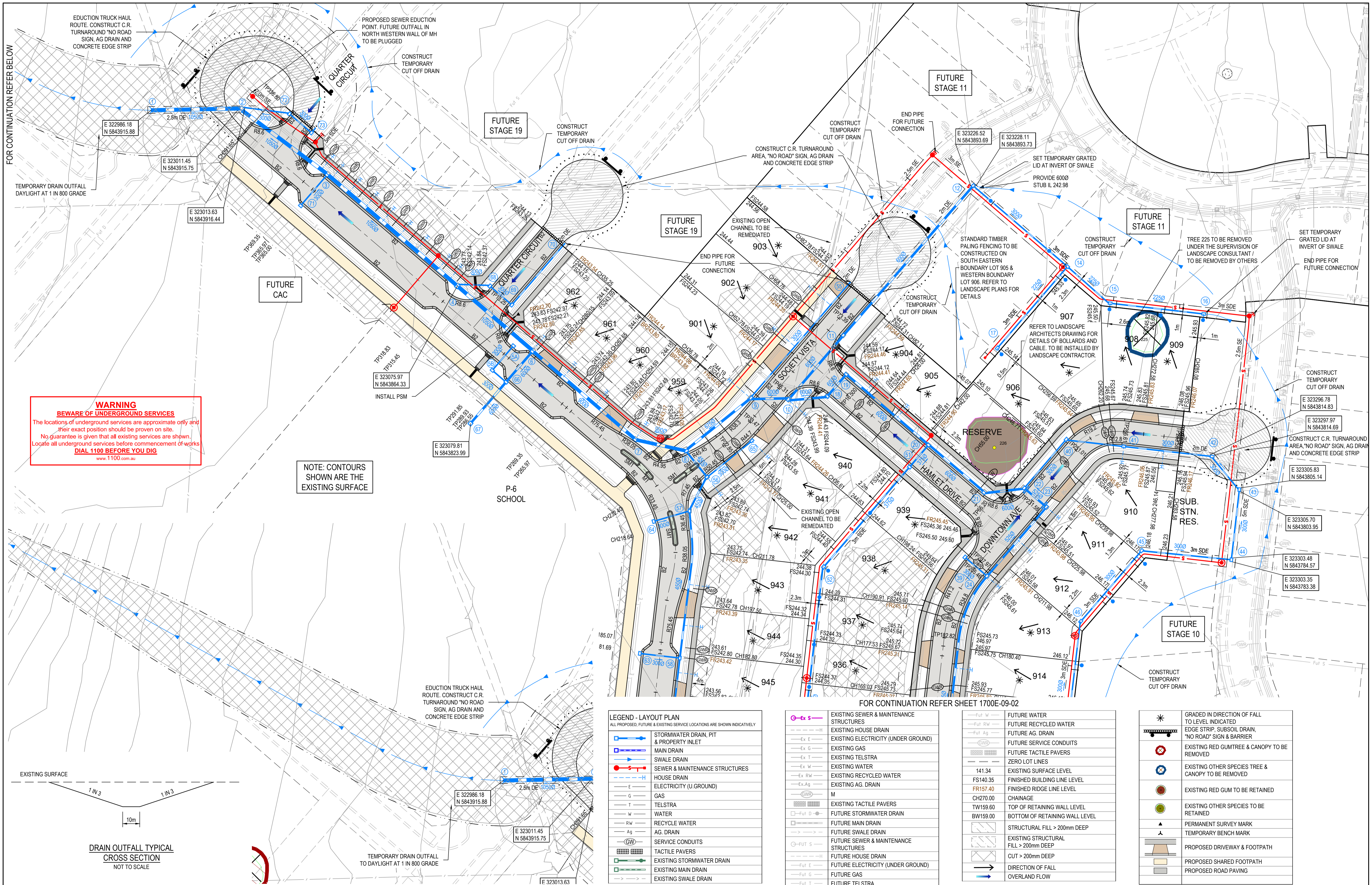
SCALE AS SHOWN AT A1

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Olivine Estate - Stage 9  
Whittlesea City Council  
Road and Drainage  
Cover Plan

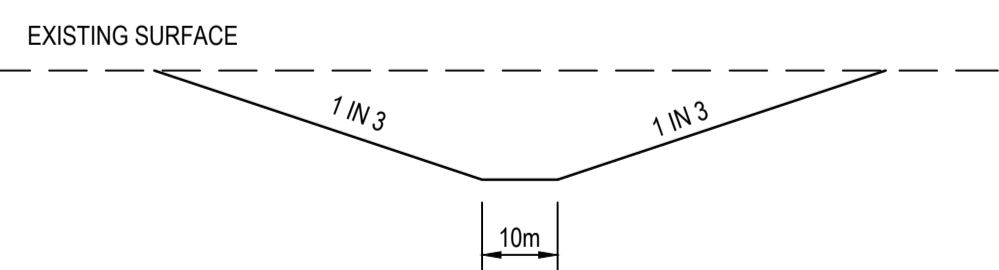
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| MELBOURNE REF<br><b>8M2</b> | PROJECT / DRAWING No.<br><b>1700E-09-01</b> | SHEET No.<br><b>01 of 34</b> | REVISION<br><b>0</b> |
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NOTE: CONTOURS SHOWN ARE THE EXISTING SURFACE



DRAIN OUTFALL TYPICAL CROSS SECTION  
 NOT TO SCALE

**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)                 |
|  | GAS                                    |
|  | TELSTRA                                |
|  | 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 GAS                            |
|  | EXISTING TELSTRA                        |
|  | EXISTING WATER                          |
|  | EXISTING RECYCLED WATER                 |
|  | EXISTING AG. DRAIN                      |
|  | EXISTING TACTILE PAVERS                 |
|  | FUTURE STORMWATER DRAIN                 |
|  | FUTURE MAIN DRAIN                       |
|  | FUTURE SWALE DRAIN                      |
|  | FUTURE SEWER & MAINTENANCE STRUCTURES   |
|  | FUTURE HOUSE DRAIN                      |
|  | FUTURE ELECTRICITY (UNDER GROUND)       |
|  | FUTURE GAS                              |
|  | FUTURE TELSTRA                          |

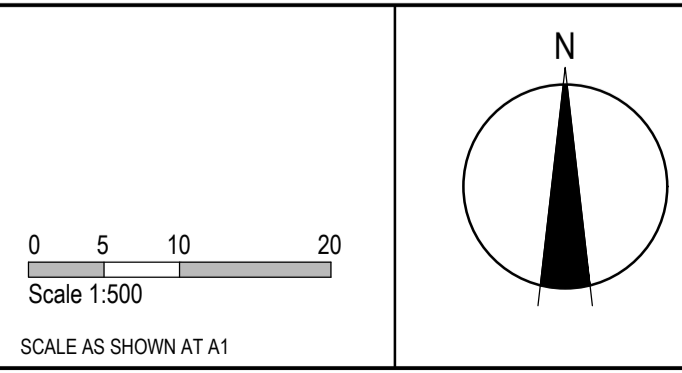
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|--|---------------------------------------|
|  | FUTURE WATER                          |
|  | FUTURE RECYCLED WATER                 |
|  | FUTURE AG. DRAIN                      |
|  | FUTURE SERVICE CONDUITS               |
|  | FUTURE TACTILE PAVERS                 |
|  | 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        |
|  | 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 RED GUM TREE & CANOPY TO BE REMOVED        |
|  | EXISTING OTHER SPECIES TREE & CANOPY TO BE REMOVED  |
|  | EXISTING RED GUM TO BE RETAINED                     |
|  | EXISTING OTHER SPECIES TO BE RETAINED               |
|  | PERMANENT SURVEY MARK                               |
|  | TEMPORARY BENCH MARK                                |
|  | PROPOSED DRIVEWAY & FOOTPATH                        |
|  | PROPOSED SHARED FOOTPATH                            |
|  | PROPOSED ROAD PAVING                                |

|     |          |                                  |        |          |
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**ISSUED FOR CONSTRUCTION**

|                                                                                                                                                                                                                                                                                       |           |       |      |
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| DESIGNER                                                                                                                                                                                                                                                                              | R.Barua   |       |      |
| CHECKED                                                                                                                                                                                                                                                                               | Z.Gosev   |       |      |
| AUTHORISED                                                                                                                                                                                                                                                                            | A.Burrows |       |      |
| REFERENCE No. 1                                                                                                                                                                                                                                                                       |           |       |      |
| REFERENCE No. 2                                                                                                                                                                                                                                                                       |           |       |      |

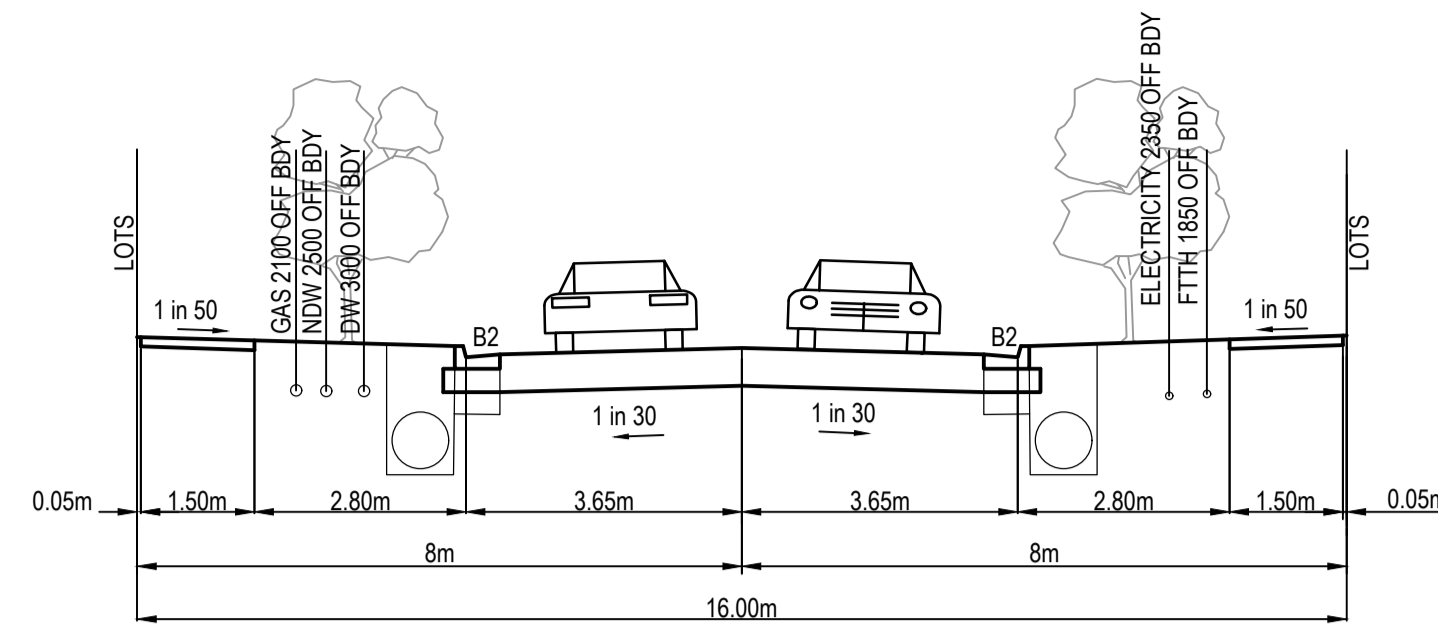


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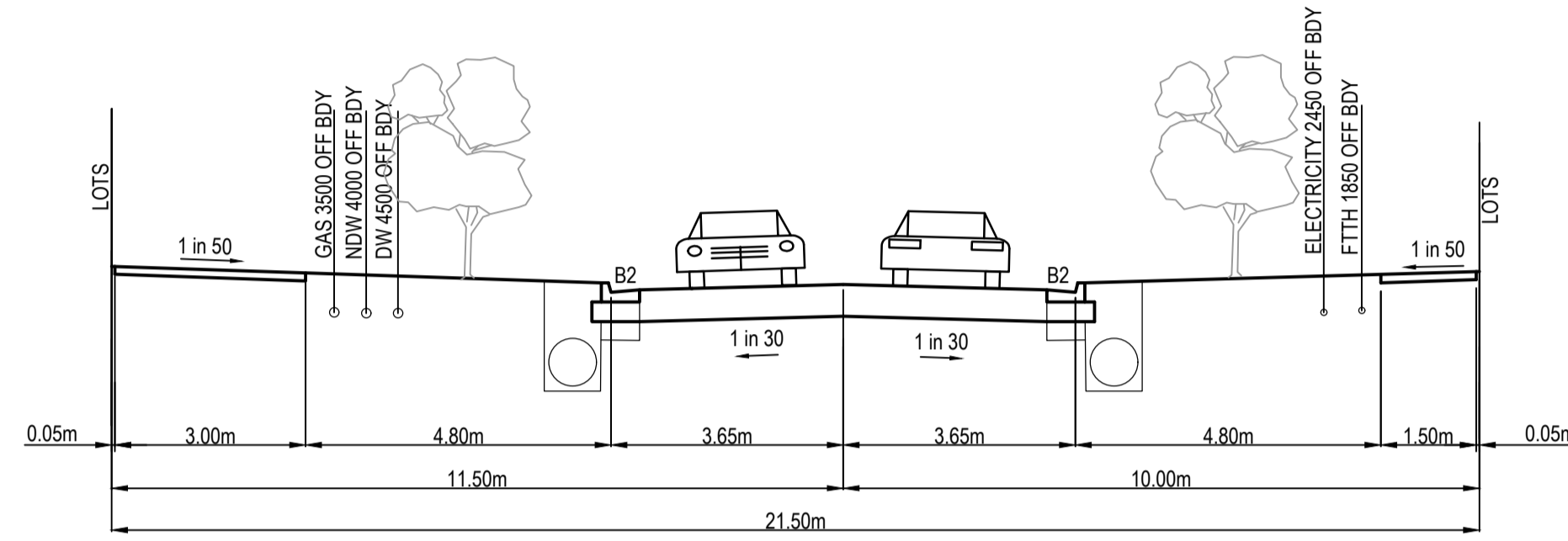
**mirvac**

Olive Estate - Stage 9  
 Whittlesea City Council  
 Road and Drainage  
 Layout Plan - 2

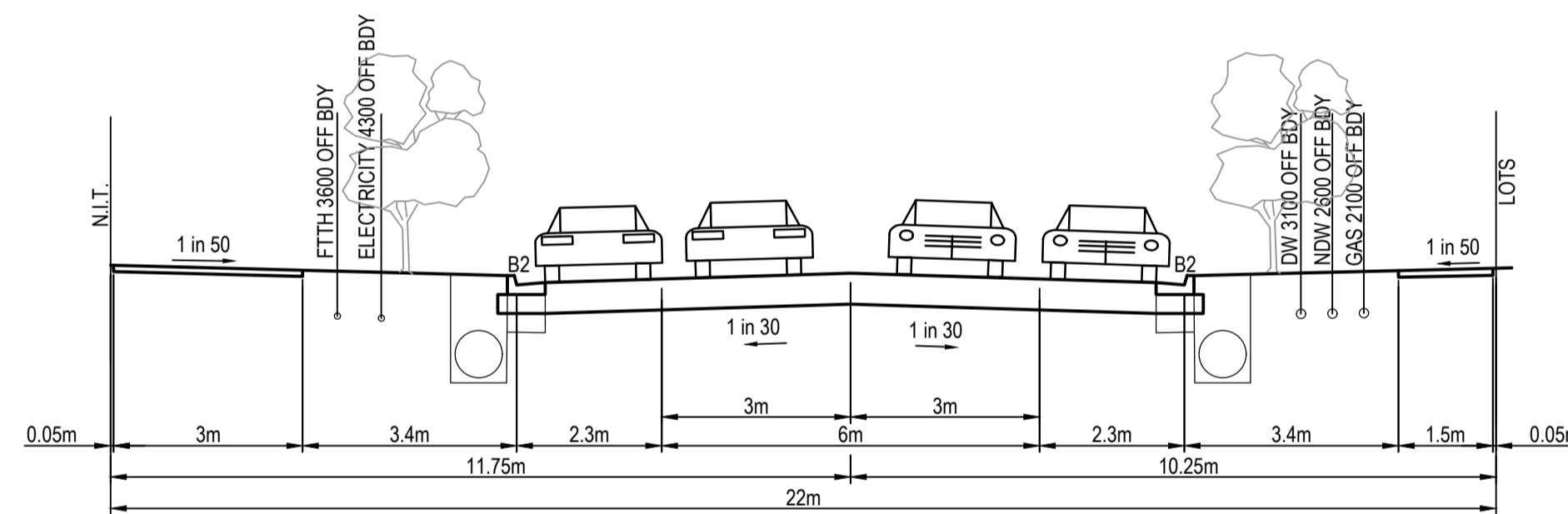
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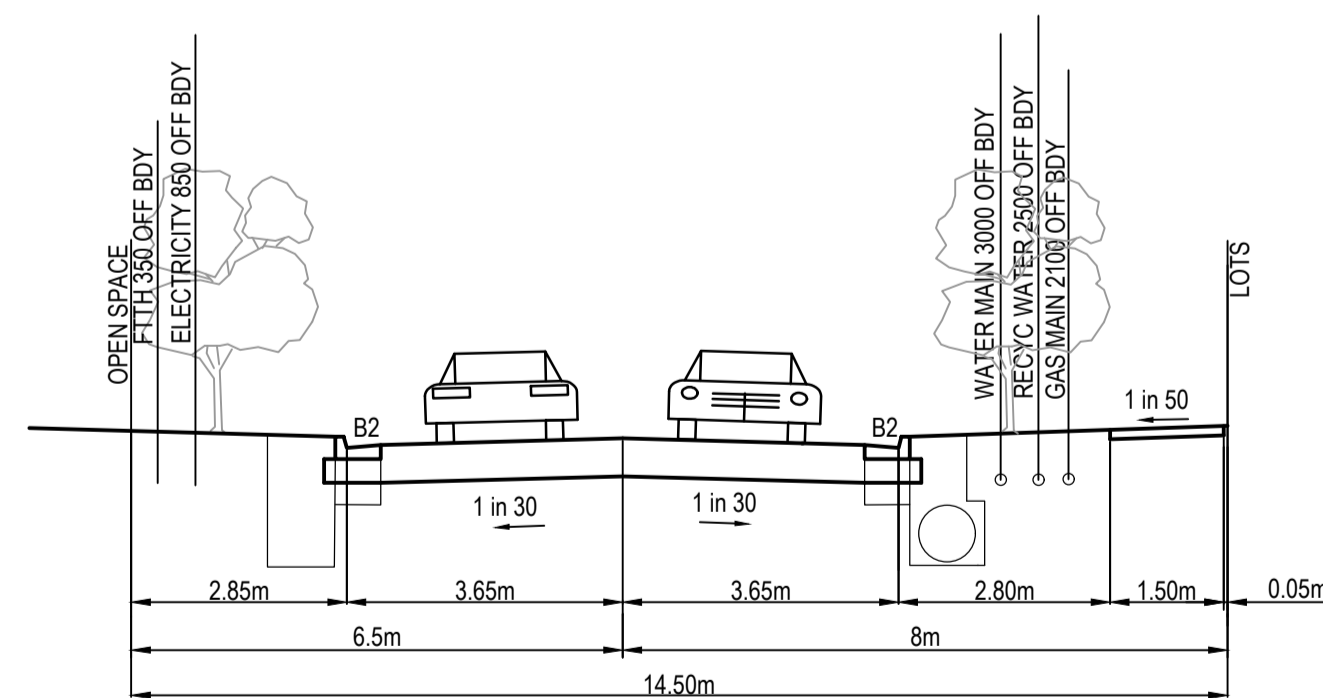
**16m ACCESS STREET**  
METROPOLIS WAY, DOWNTOWN AVENUE, HAMLET DRIVE  
& QUARTER CIRCUIT (EAST)



**21.5m ACCESS STREET**  
SOCIETY VISTA



**22.0m MODIFIED ACCESS STREET 2**  
OLIVINE BOULEVARD



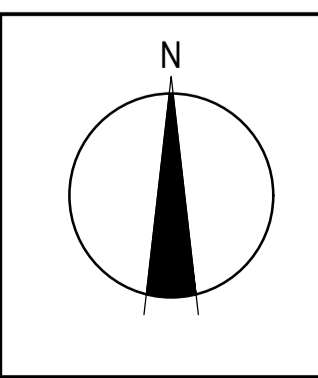
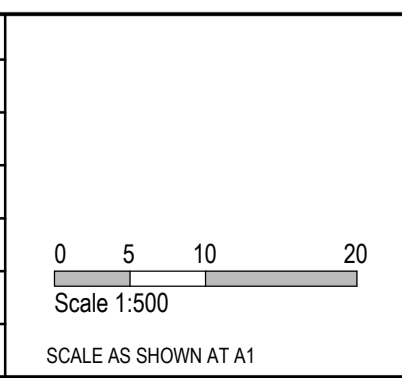
**14.5m ACCESS STREET ADJACENT OPEN SPACE**  
QUARTER CIRCUIT (WEST)

**WARNING**  
**BWARE OF UNDERGROUND SERVICES**  
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| DESIGNER        | J.Jones   |
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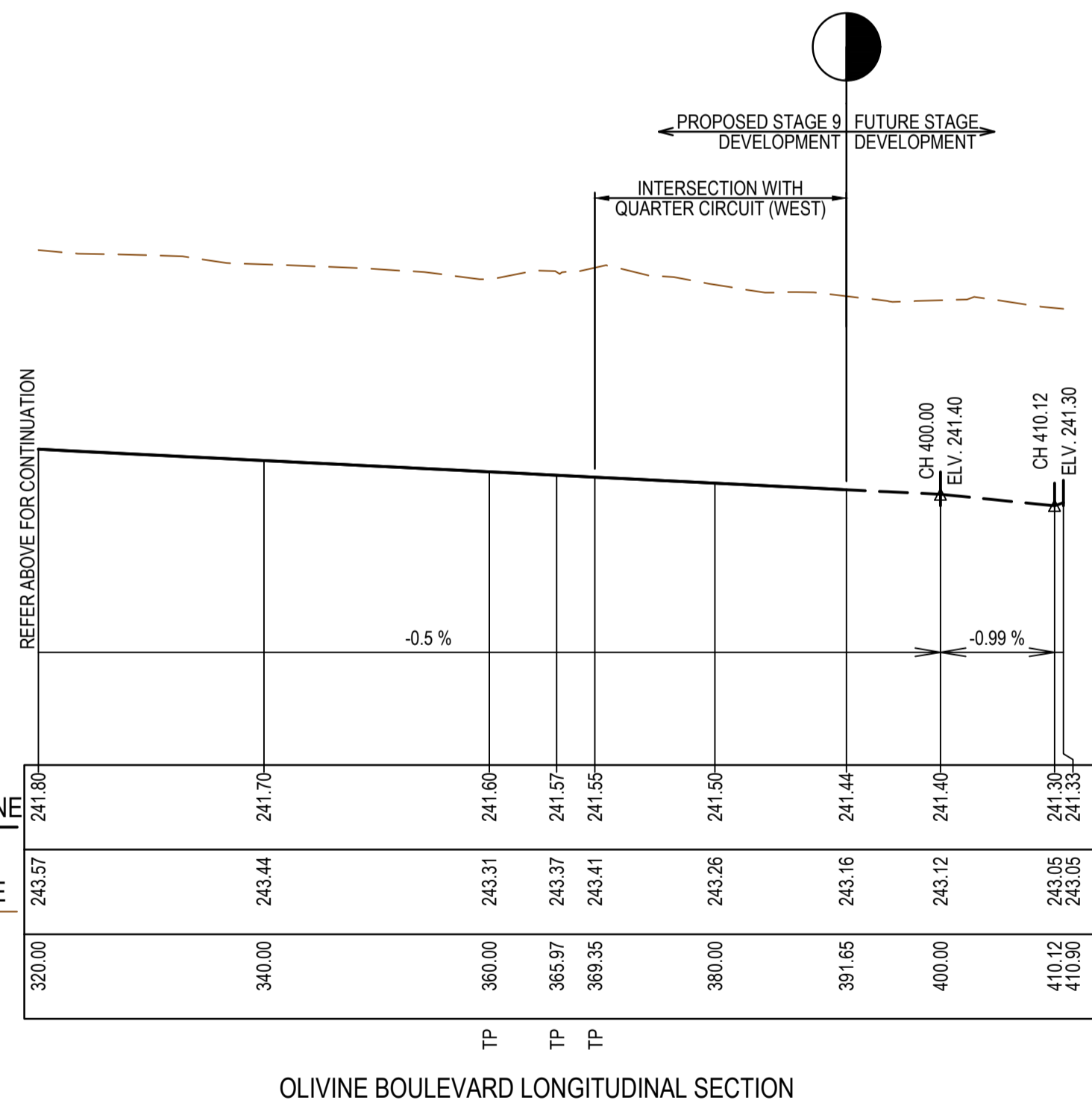
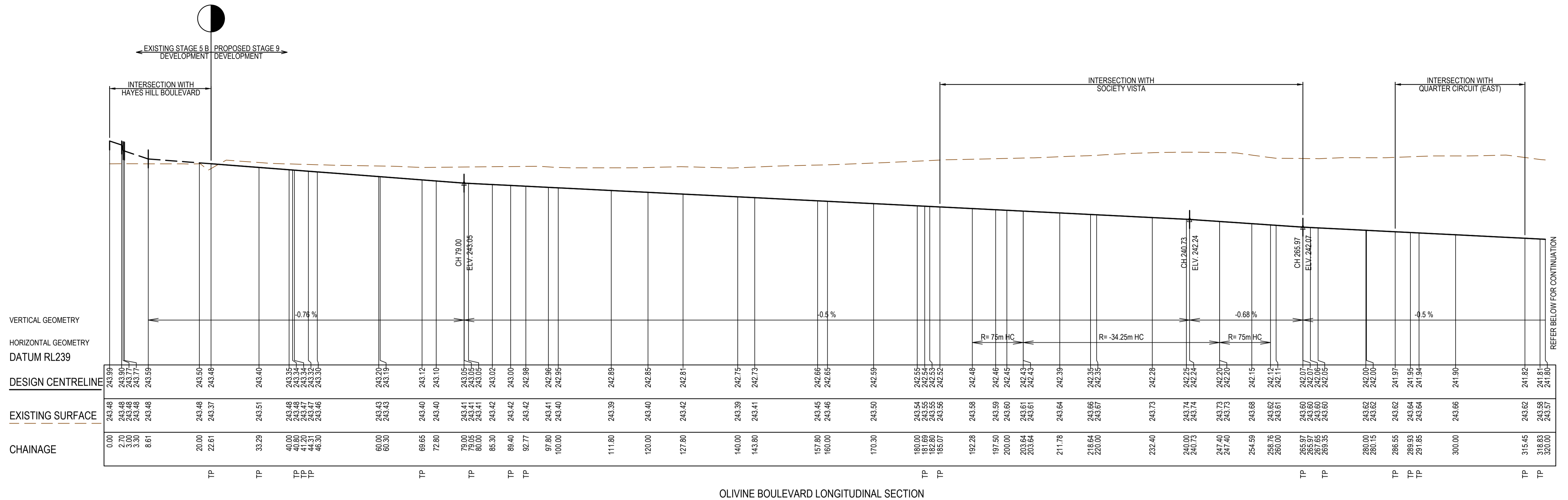


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Olivine Estate - Stage 9  
Whittlesea City Council  
Road and Drainage  
Typical Cross Sections

| MELWAYS REF | PROJECT / DRAWING No. | SHEET No. | REVISION |
|-------------|-----------------------|-----------|----------|
| 8M2         | 1700E-09-04           | 04 of 34  | 0        |



**HAMLET DRIVE DESIGN LINE**

| IP | CHAINAGE | X COORD    | Y COORD     | Z COORD | TYPE | BEARING       | LENGTH | RADIUS |
|----|----------|------------|-------------|---------|------|---------------|--------|--------|
| 1  | 0.000    | 323117.829 | 5843843.240 | 243.773 | IP   | 130°40'01.58" |        |        |
| 2  | 78.000   | 323236.992 | 5843792.411 | 245.291 | IP   | 130°40'01.58" |        |        |

**OLIVINE BOULEVARD DESIGN LINE**

| IP      | CHAINAGE   | X COORD     | Y COORD     | Z COORD | TYPE          | BEARING     | LENGTH  | RADIUS |
|---------|------------|-------------|-------------|---------|---------------|-------------|---------|--------|
| 1       | 22.606     | 323117.340  | 5843598.408 | 243.481 | IP            | 6°31'30.21" |         |        |
| 192.281 | 323136.622 | 5843766.984 | 242.484     | TC      | 6°31'30.21"   |             |         |        |
| 2       | 197.959    | 323137.268  | 5843772.637 | 242.455 | IP            | 11.357      | 75.000  |        |
| 203.638 | 323138.760 | 5843778.127 | 242.427     | CT      | 15°12'03.45"  |             |         |        |
| 203.638 | 323138.760 | 5843778.127 | 242.427     | CT      | 15°12'03.45"  |             |         |        |
| 3       | 225.519    | 323145.431  | 5843802.677 | 242.317 | IP            | 43.762      | -34.249 |        |
| 247.400 | 323123.855 | 5843816.155 | 242.196     | CT      | 301°59'29.62" |             |         |        |
| 247.401 | 323123.854 | 5843816.155 | 242.196     | TC      | 301°59'29.62" |             |         |        |
| 4       | 253.079    | 323119.029  | 5843819.169 | 242.158 | IP            | 11.356      | 75.000  |        |
| 258.757 | 323114.714 | 5843822.877 | 242.119     | CT      | 310°40'01.58" |             |         |        |
| 391.654 | 323013.910 | 5843909.481 | 241.442     | IP      | 310°40'01.58" |             |         |        |

**SOCIETY VISTA DESIGN LINE**

| IP     | CHAINAGE   | X COORD     | Y COORD     | Z COORD | TYPE         | BEARING      | LENGTH  | RADIUS |
|--------|------------|-------------|-------------|---------|--------------|--------------|---------|--------|
| 1      | 0.000      | 323135.683  | 5843803.678 | 242.295 | IP           | 53°03'57.36" |         |        |
| 24.129 | 323154.970 | 5843818.177 | 242.716     | TC      | 53°03'57.36" |              |         |        |
| 2      | 28.798     | 323158.716  | 5843820.994 | 242.926 | IP           | 9.338        | -43.150 |        |
| 33.467 | 323161.771 | 5843824.549 | 243.147     | CT      | 40°40'01.58" |              |         |        |
| 3      | 82.783     | 323193.908  | 5843861.956 | 244.043 | IP           | 40°40'01.58" |         |        |

**DOWNTOWN AVENUE DESIGN LINE**

| IP      | CHAINAGE   | X COORD     | Y COORD     | Z COORD | TYPE          | BEARING       | LENGTH | RADIUS |
|---------|------------|-------------|-------------|---------|---------------|---------------|--------|--------|
| 1       | 20.765     | 323209.595  | 5843600.702 | 245.438 | IP            | 343°36'47.86" |        |        |
| 36.559  | 323205.139 | 5843615.855 | 245.548     | TC      | 343°36'47.86" |               |        |        |
| 2       | 44.157     | 323202.966  | 5843623.243 | 245.590 | IP            | 15.196        | 38.000 |        |
| 51.755  | 323203.842 | 5843630.894 | 245.632     | CT      | 6°31'31.38"   |               |        |        |
| 182.822 | 323218.736 | 5843761.111 | 245.489     | TC      | 6°31'31.38"   |               |        |        |
| 3       | 194.143    | 323220.063  | 5843772.705 | 245.428 | IP            | 22.644        | 38.000 |        |
| 205.465 | 323227.667 | 5843781.556 | 245.366     | CT      | 40°40'01.66"  |               |        |        |
| 251.008 | 323257.345 | 5843816.100 | 245.410     | TC      | 40°40'01.66"  |               |        |        |
| 4       | 258.807    | 323262.872  | 5843822.534 | 245.508 | IP            | 15.598        | 16.000 |        |
| 266.606 | 323271.299 | 5843821.570 | 245.606     | CT      | 96°31'31.28"  |               |        |        |
| 5       | 283.580    | 323288.164  | 5843819.641 | 245.818 | IP            | 96°31'31.28"  |        |        |

**METROPOLIS WAY DESIGN LINE**

| IP     | CHAINAGE   | X COORD     | Y COORD     | Z COORD | TYPE         | BEARING      | LENGTH  | RADIUS |
|--------|------------|-------------|-------------|---------|--------------|--------------|---------|--------|
| 1      | 0.000      | 323211.074  | 5843694.127 | 245.830 | IP           | 96°31'31.43" |         |        |
| 25.405 | 323236.315 | 5843691.240 | 245.942     | TC      | 96°31'31.43" |              |         |        |
| 2      | 33.995     | 323244.912  | 5843690.256 | 245.968 | IP           | 17.180       | -58.000 |        |
| 3      | 42.585     | 323253.422  | 5843691.825 | 246.033 | IP           | 79°33'14.48" |         |        |

**QUARTER CIRCUIT (EAST) DESIGN LINE**

| IP | CHAINAGE | X COORD    | Y COORD     | Z COORD | TYPE | BEARING      | LENGTH | RADIUS |
|----|----------|------------|-------------|---------|------|--------------|--------|--------|
| 1  | 0.000    | 323080.659 | 5843852.134 | 241.882 | IP   | 40°40'01.63" |        |        |
| 2  | 35.250   | 323103.630 | 5843878.872 | 243.010 | IP   | 40°40'01.63" |        |        |

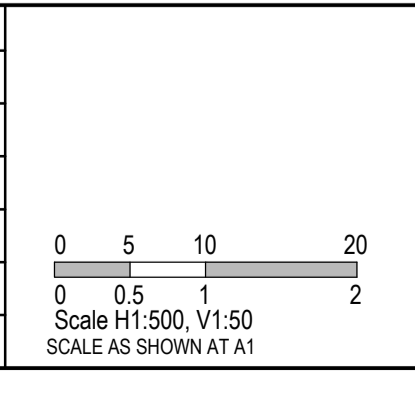
**QUARTER CIRCUIT (WEST) DESIGN LINE**

| IP | CHAINAGE | X COORD    | Y COORD     | Z COORD | TYPE | BEARING       | LENGTH | RADIUS |
|----|----------|------------|-------------|---------|------|---------------|--------|--------|
| 1  | 336.799  | 323030.509 | 5843912.688 | 241.756 | IP   | 220°40'01.58" |        |        |
| 2  | 350.049  | 323021.875 | 5843902.638 | 241.494 | IP   | 220°40'01.58" |        |        |

| REV | DATE     | AMENDMENT / REVISION DESCRIPTION | DES/DT | APPROVAL |
|-----|----------|----------------------------------|--------|----------|
| 0   | 24.06.19 | ISSUED FOR CONSTRUCTION          | SM/SM  | AB       |

**ISSUED FOR CONSTRUCTION**

| TITLE           | NAME      |
|-----------------|-----------|
| DRAFTER         | R.Barua   |
| DESIGNER        | J.Jones   |
| CHECKED         | Z.Gosev   |
| AUTHORISED      | A.Burrows |
| REFERENCE No. 1 |           |
| REFERENCE No. 2 |           |

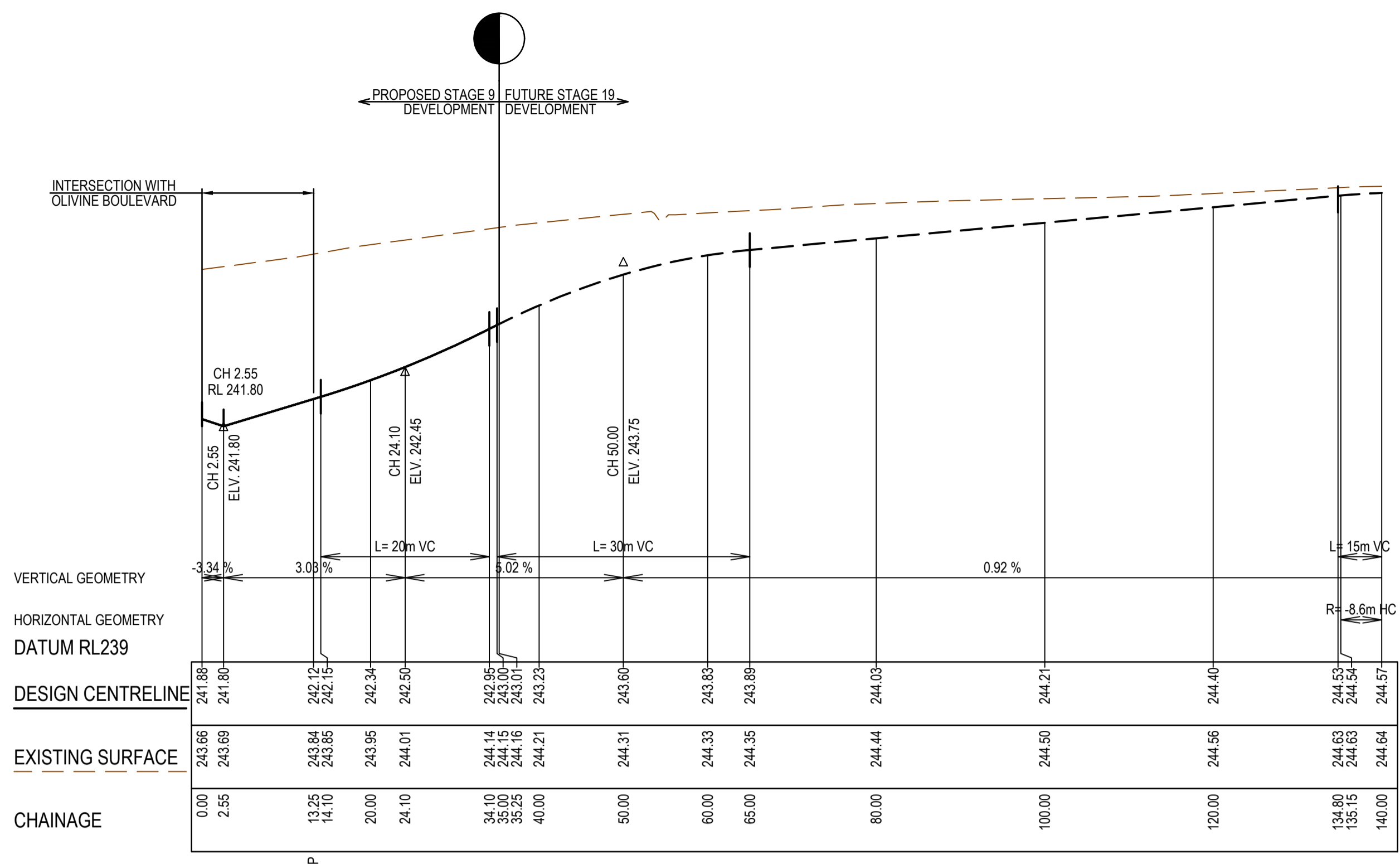


**SMEC**  
Member of the Surbana Jurong Group  
ABN 47 065 475 149  
Tower 4, Level 20, 727 Collins Street  
Melbourne, VIC 3008  
Ph 03 9514 1500

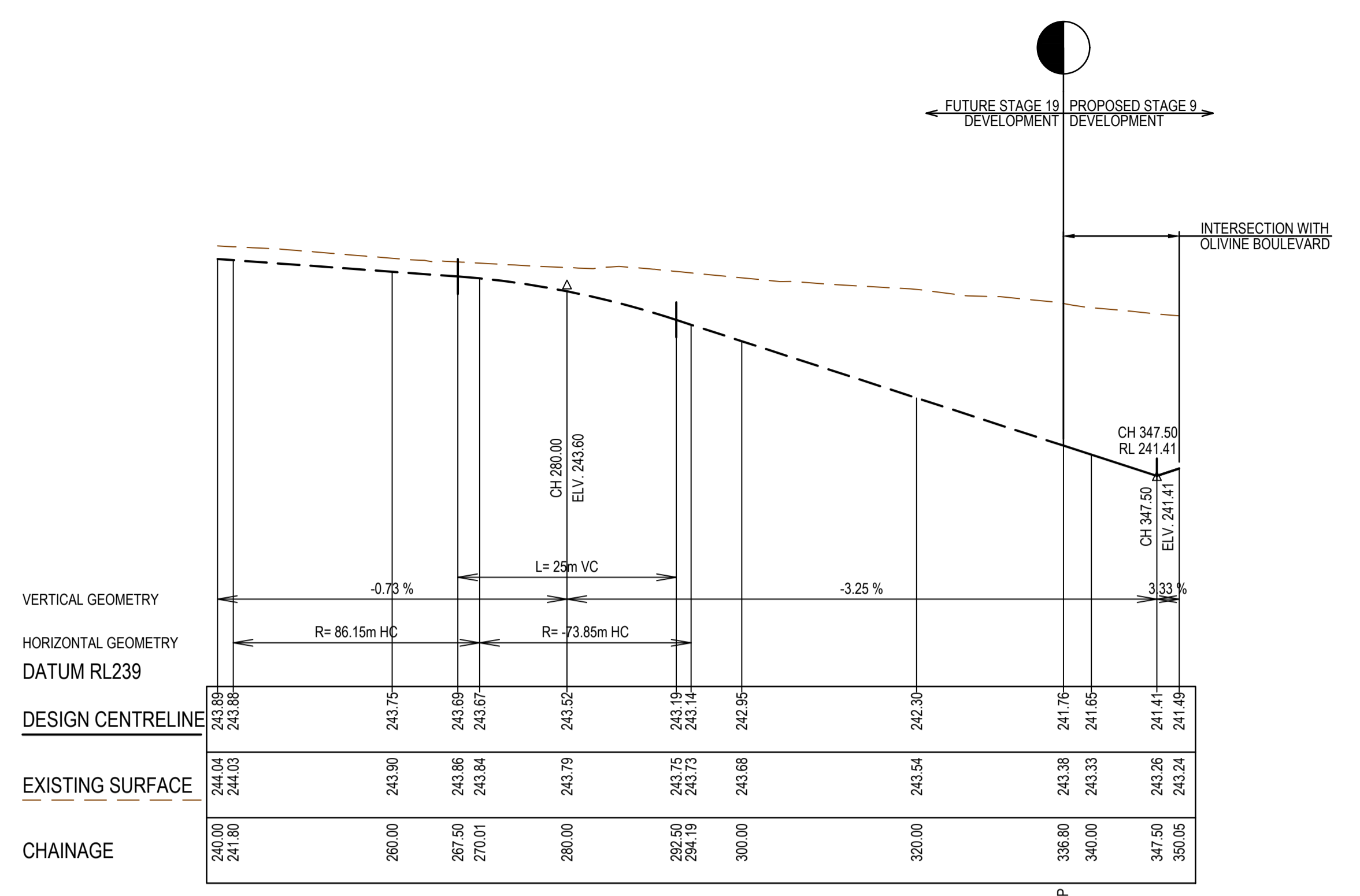
**mirvac**

| MELWAYS REF | PROJECT / DRAWING No | SHEET No | REVISION |
|-------------|----------------------|----------|----------|
| 8M2         | 1700E-09-05          | 05 of 34 | 0        |

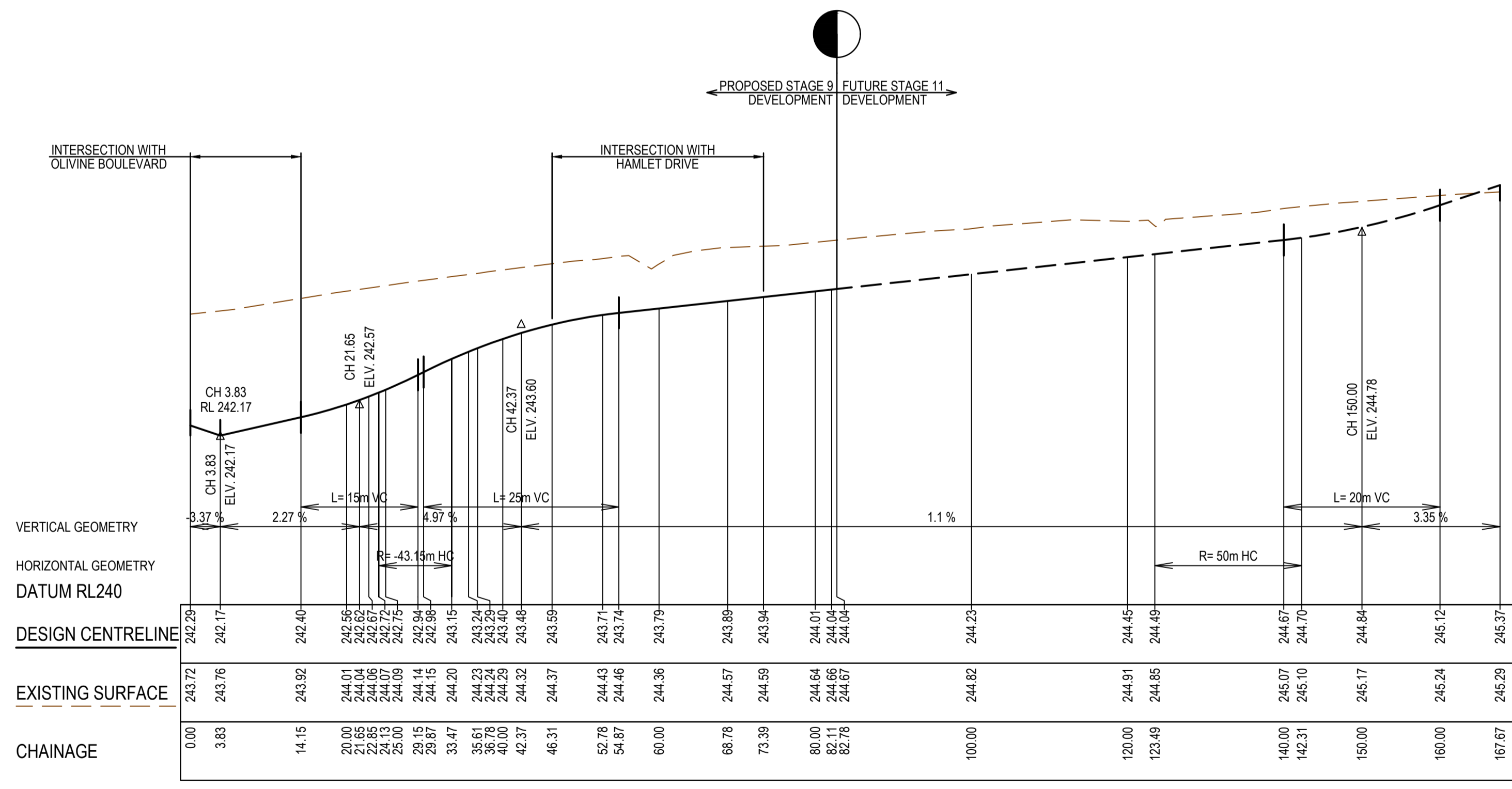
Olivine Estate - Stage 9  
Whittlesea City Council  
Road and Drainage  
Longitudinal Sections - 1



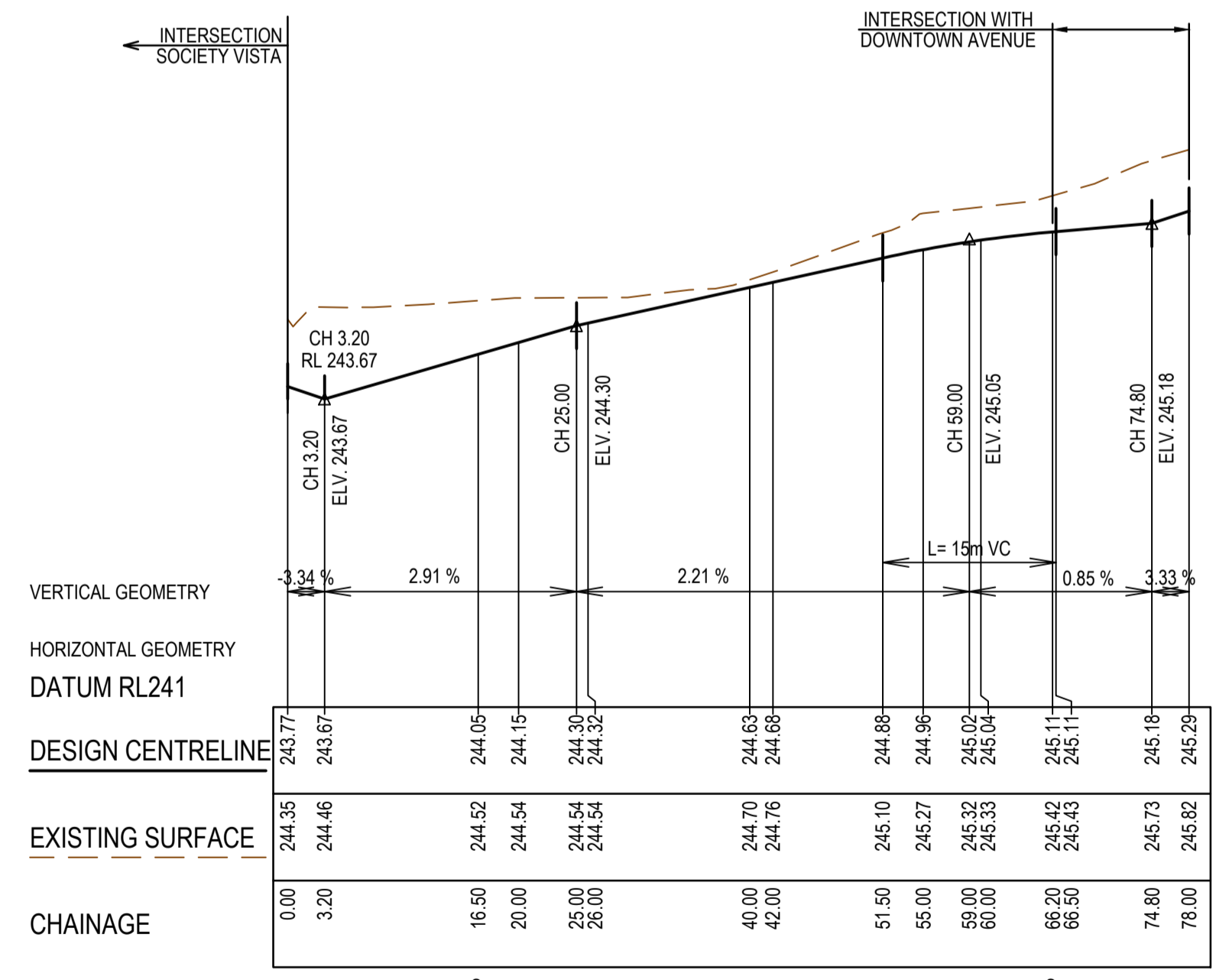
QUARTER CIRCUIT (EAST) LONGITUDINAL SECTION



QUARTER CIRCUIT (WEST) LONGITUDINAL SECTION



SOCIETY VISTA LONGITUDINAL SECTION

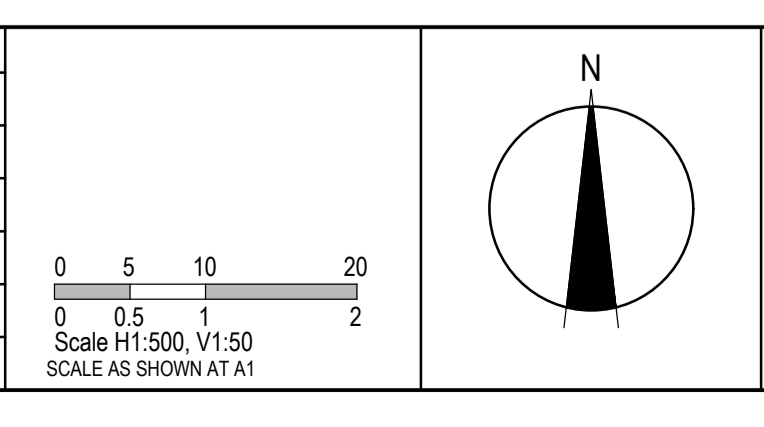


HAMLET DRIVE LONGITUDINAL SECTION

| REV | DATE     | AMENDMENT / REVISION DESCRIPTION | DES/DT | APPROVAL |
|-----|----------|----------------------------------|--------|----------|
| 0   | 24.06.19 | ISSUED FOR CONSTRUCTION          | SM/SM  | AB       |

**ISSUED FOR CONSTRUCTION**

| TITLE           | NAME      |
|-----------------|-----------|
| DRAFTER         | R.Barua   |
| DESIGNER        | J.Jones   |
| CHECKED         | Z.Gosev   |
| AUTHORISED      | A.Burrows |
| REFERENCE No. 1 |           |
| REFERENCE No. 2 |           |



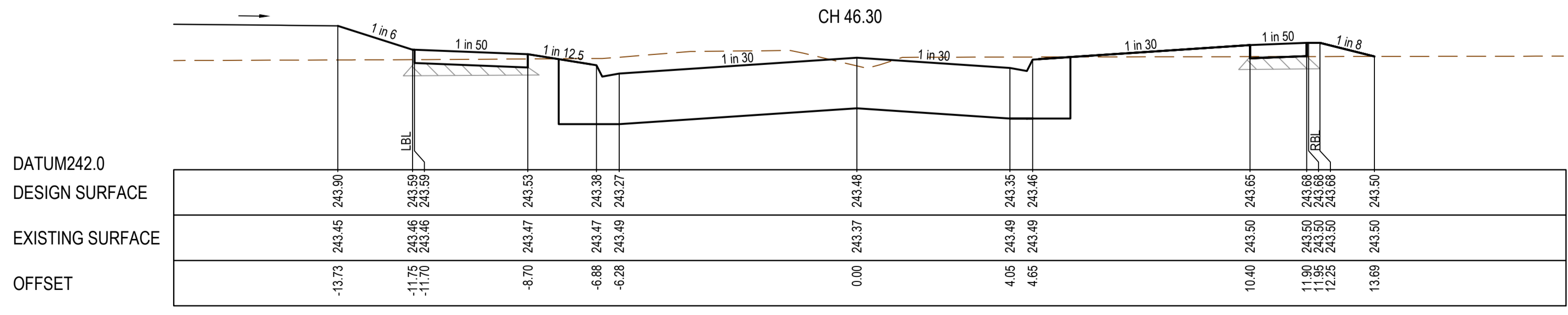
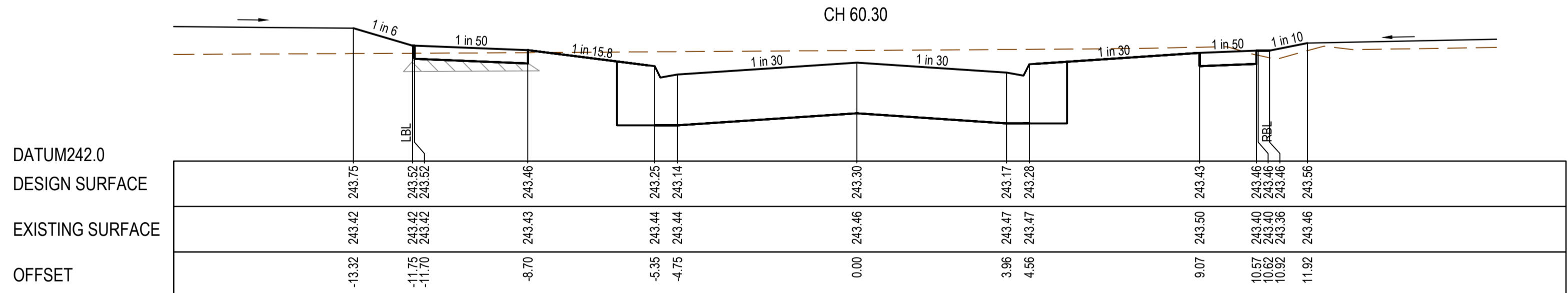
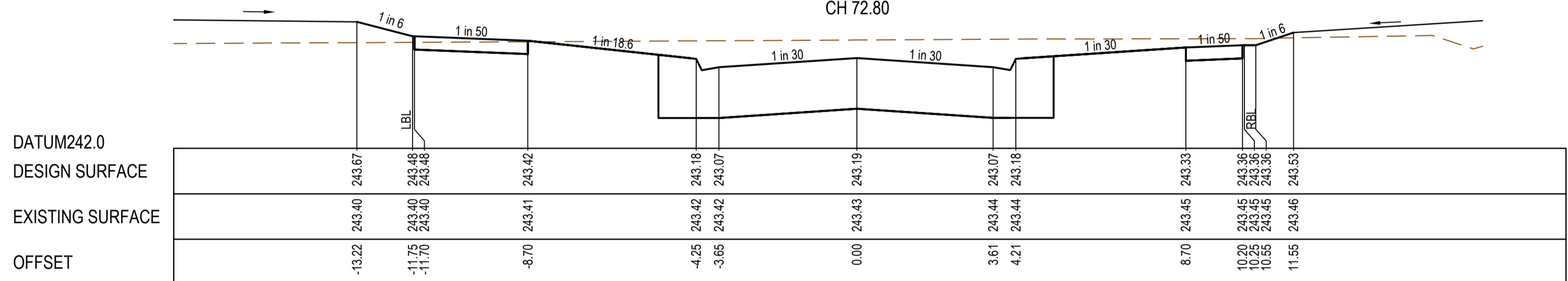
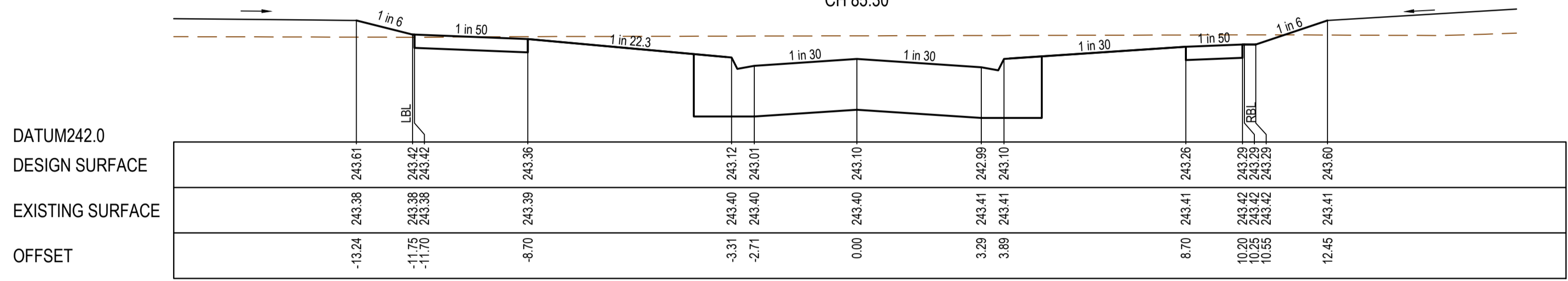
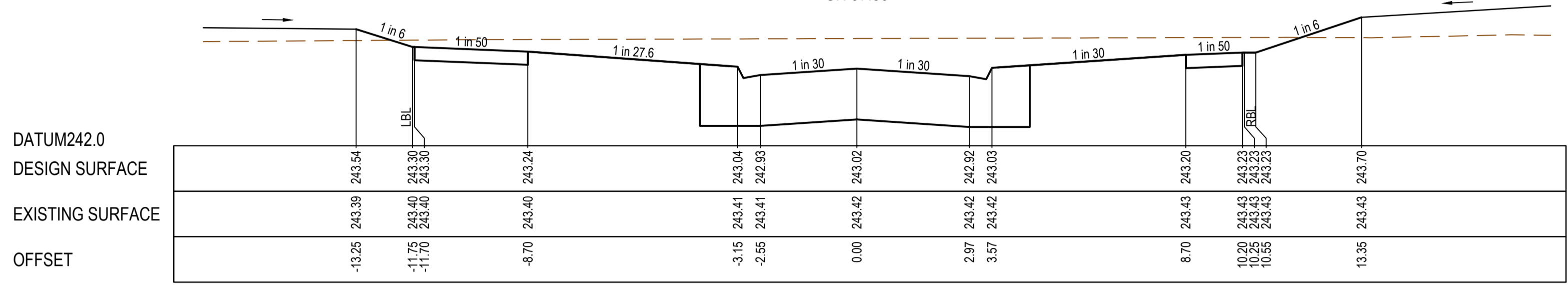
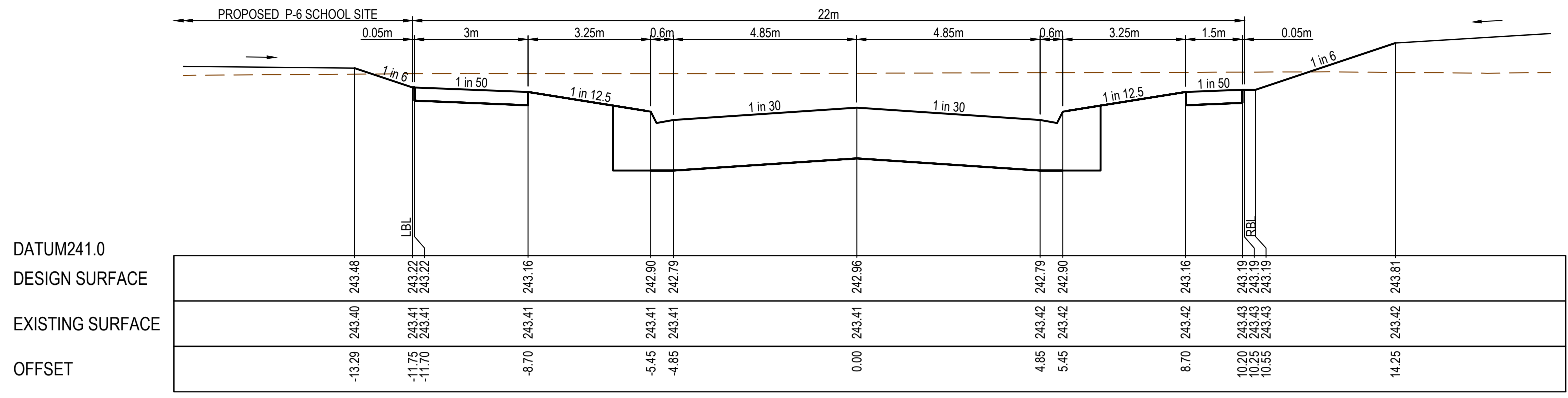
**SMEC**  
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ABN 47 065 475 149  
Tower 4, Level 20, 727 Collins Street  
Melbourne, VIC 3008  
Ph 03 9514 1500

**mirvac**

|                                                                                                       |  |                           |                                             |                              |                      |
|-------------------------------------------------------------------------------------------------------|--|---------------------------|---------------------------------------------|------------------------------|----------------------|
| Olivine Estate - Stage 9<br>Whittlesea City Council<br>Road and Drainage<br>Longitudinal Sections - 2 |  | MELWAYS REF<br><b>8M2</b> | PROJECT / DRAWING No.<br><b>1700E-09-06</b> | SHEET No.<br><b>06 of 34</b> | REVISION<br><b>0</b> |
|-------------------------------------------------------------------------------------------------------|--|---------------------------|---------------------------------------------|------------------------------|----------------------|



STRUCTURAL FILL REQUIRED UNDER PAVEMENT AND FOOTPATHS WHERE CONSTRUCTED ABOVE EXISTING SURFACE

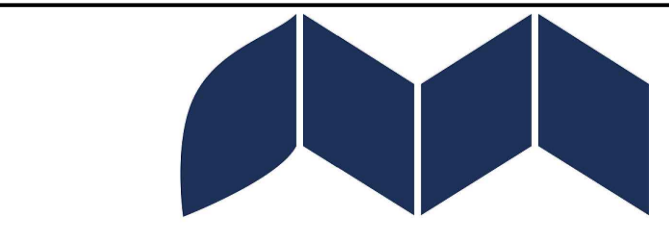
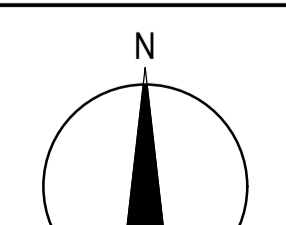


TP 22.61

| REV | DATE     | AMENDMENT / REVISION DESCRIPTION | DESIGN | APPROVAL |
|-----|----------|----------------------------------|--------|----------|
| 0   | 24.06.19 | ISSUED FOR CONSTRUCTION          | SM/SM  | AB       |

All setting out should be carried out in accordance with MPA/Council's standard drawings or as nominated on hard copy plans provided by SMEC. Any digital information supplied by this office is for information only. Any discrepancies should be discussed with the superintendent.

| TITLE           | NAME      |
|-----------------|-----------|
| DRAFTER         | R.Barua   |
| DESIGNER        | J.Jones   |
| CHECKED         | Z.Gosev   |
| AUTHORISED      | A.Burrows |
| REFERENCE No. 1 |           |
| REFERENCE No. 2 |           |



Olivine Estate - Stage 9  
Whittlesea City Council  
Road and Drainage  
Cross Sections: Olivine Boulevard  
Ch 22.61 - Ch 97.80

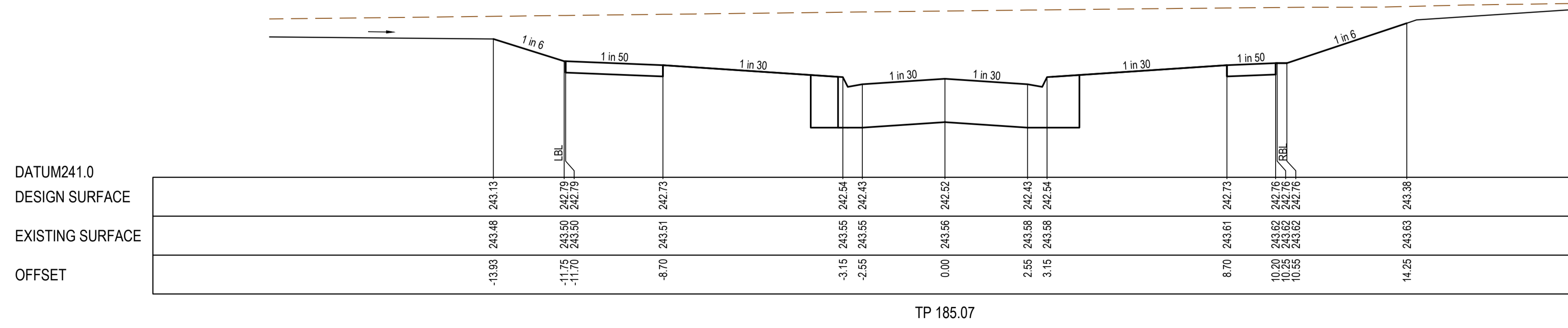
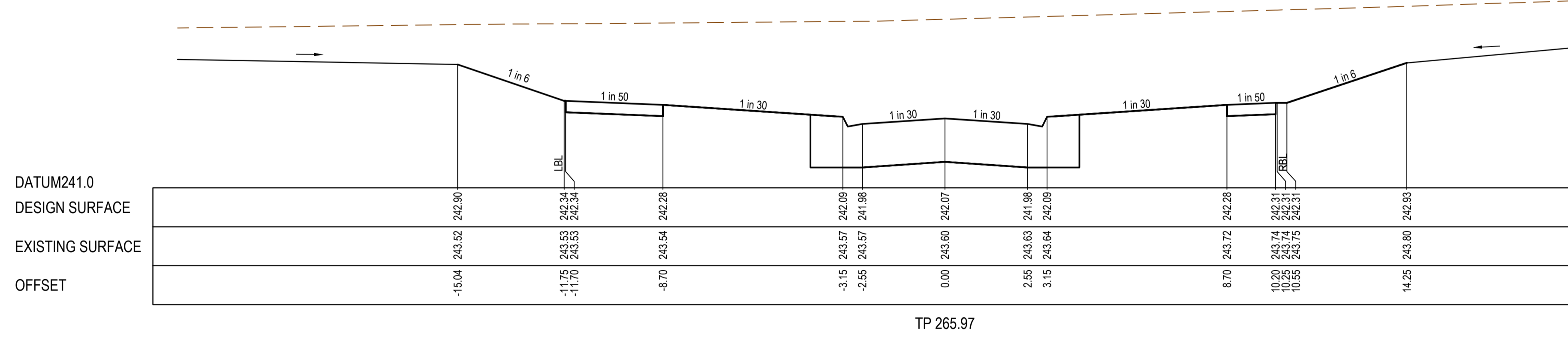
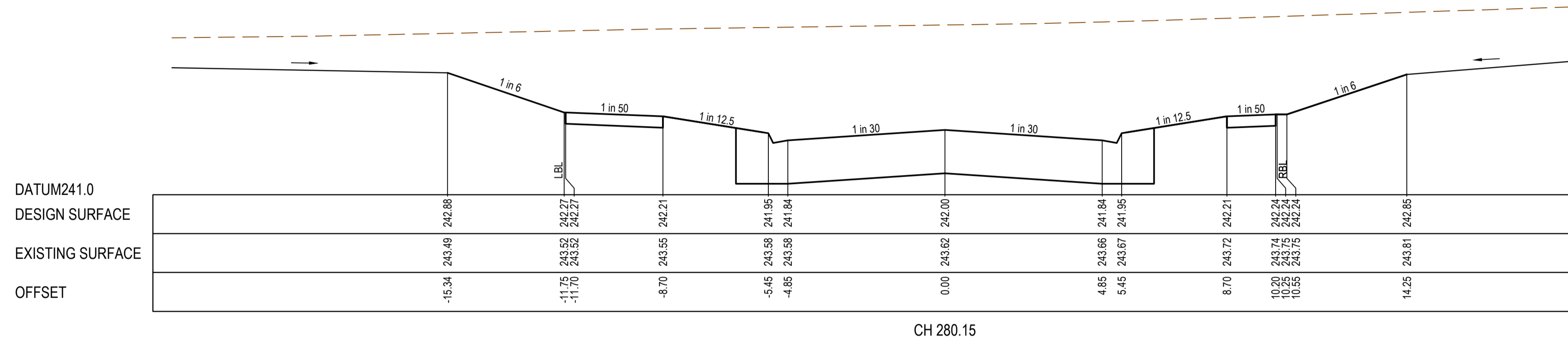
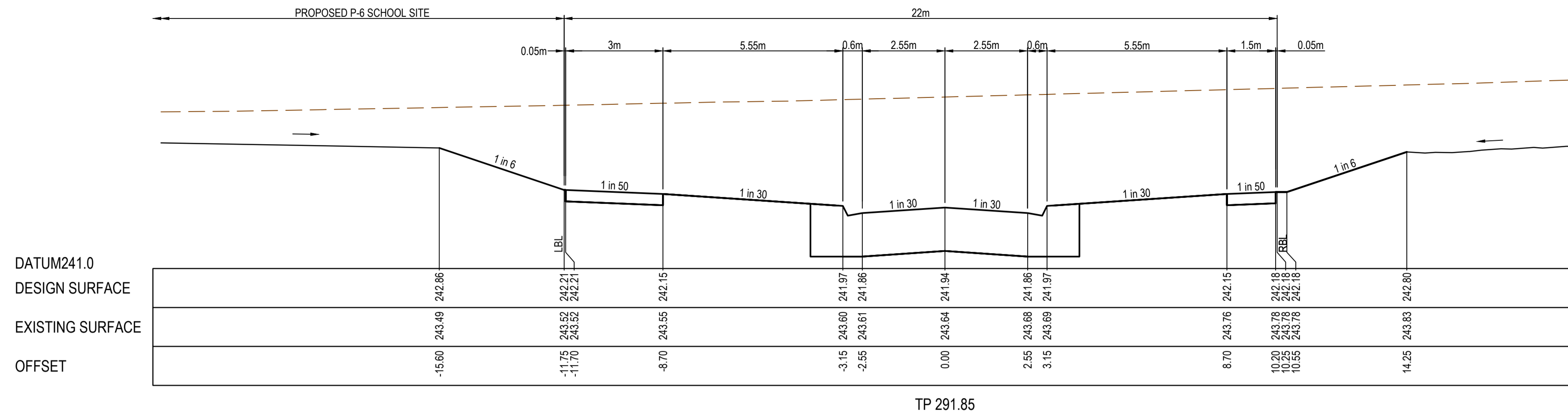
**ISSUED FOR CONSTRUCTION**



|             |                      |          |          |
|-------------|----------------------|----------|----------|
| MELWAYS REF | PROJECT / DRAWING No | SHEET No | REVISION |
| 8M2         | 1700E-09-08          | 08 of 34 | 0        |



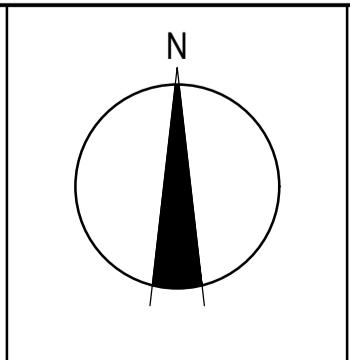
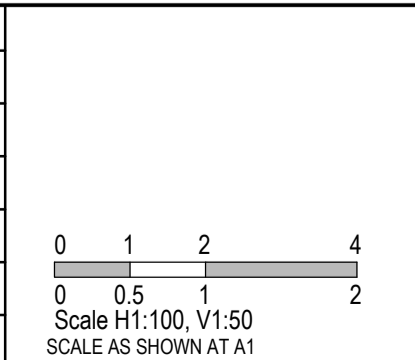




| REV | DATE     | AMENDMENT / REVISION DESCRIPTION | DES/DT | APPROVAL |
|-----|----------|----------------------------------|--------|----------|
| 0   | 24.06.19 | ISSUED FOR CONSTRUCTION          | SM/SM  | AB       |

**ISSUED FOR CONSTRUCTION**

|                                                                                                                                                                                                                                                                                       |  |                 |           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------|-----------|
| All setting out should be carried out in accordance with MPA/Council's standard drawings or as nominated on hard copy plans provided by SMEC. Any digital information supplied by this office is for information only. Any discrepancies should be discussed with the superintendent. |  | TITLE           | NAME      |
| <br><br>                                                                                                                                                                                                                                                                              |  | DRAFTER         | R.Barua   |
|                                                                                                                                                                                                                                                                                       |  | DESIGNER        | J.Jones   |
|                                                                                                                                                                                                                                                                                       |  | CHECKED         | Z.Gosev   |
|                                                                                                                                                                                                                                                                                       |  | AUTHORISED      | A.Burrows |
|                                                                                                                                                                                                                                                                                       |  | REFERENCE No. 1 |           |
|                                                                                                                                                                                                                                                                                       |  | REFERENCE No. 2 |           |

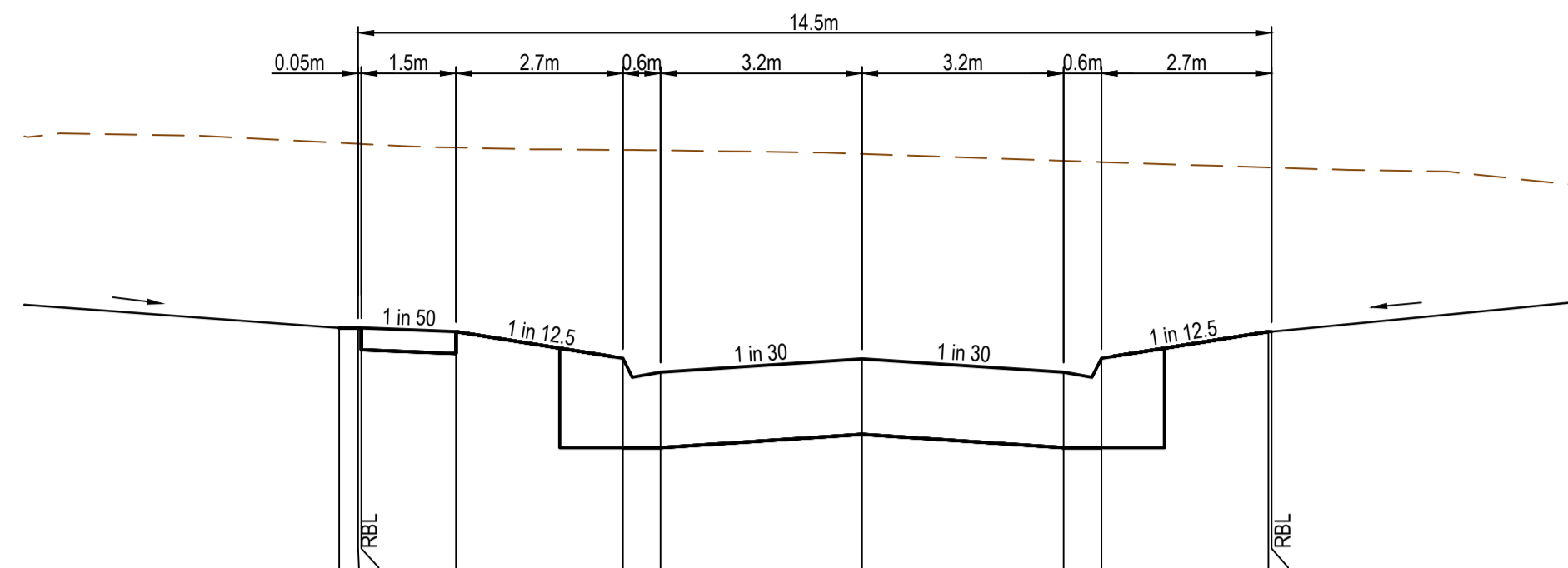


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Olivine Estate - Stage 9  
 Whittlesea City Council  
 Road and Drainage  
 Cross Sections: Olivine Boulevard  
 Ch 188.07 - Ch 291.85

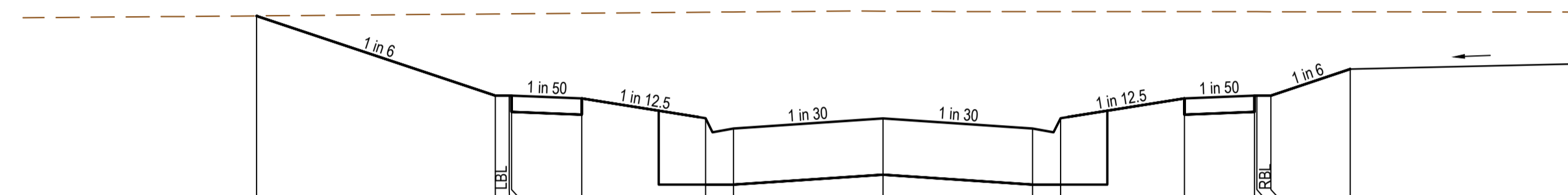
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| MELWAYS REF<br>8M2 | PROJECT / DRAWING No.<br>1700E-09-10 | SHEET No.<br>10 of 34 | REVISION<br>0 |
|--------------------|--------------------------------------|-----------------------|---------------|





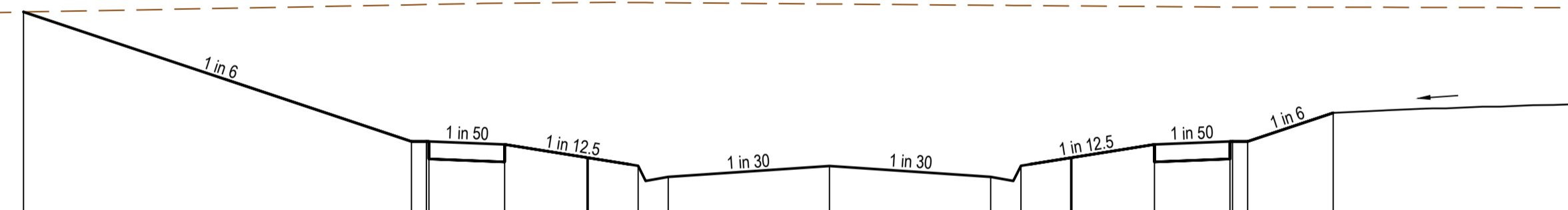
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| DATUM            | 240.0                                                                  |
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| EXISTING SURFACE | 243.47, 243.46, 243.46, 243.43, 243.41, 243.41, 243.38, 243.33, 243.28 |
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TP 336.80



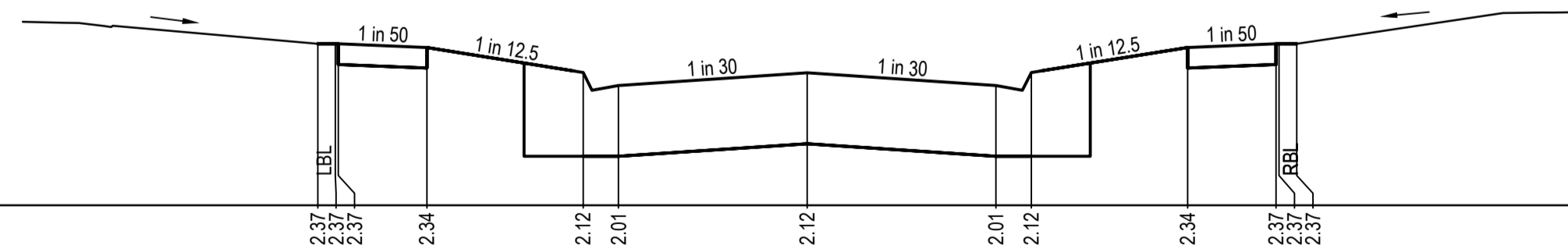
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| EXISTING SURFACE | 244.11, 244.13, 244.13, 244.13, 244.14, 244.15, 244.16, 244.15, 244.15, 244.15, 244.15, 244.15    |
| OFFSET           | -13.41, -8.30, -8.00, -7.95, -6.45, -3.80, -3.20, 0.00, 3.20, 3.80, 6.45, 7.95, 6.00, 6.30, 10.00 |

CH 35.25



|                  |                                                                                                        |
|------------------|--------------------------------------------------------------------------------------------------------|
| DATUM            | 241.0                                                                                                  |
| DESIGN SURFACE   | 243.87, 242.59, 242.59, 242.56, 242.35, 242.24, 242.34, 242.24, 242.35, 242.56, 242.59, 242.59, 242.87 |
| EXISTING SURFACE | 243.87, 243.94, 243.95, 243.95, 243.96, 243.97, 243.96, 243.95, 243.94, 243.93, 243.92, 243.92, 243.92 |
| OFFSET           | -16.00, -8.30, -8.00, -7.95, -6.45, -3.80, -3.20, 0.00, 3.20, 3.80, 6.45, 7.95, 6.00, 6.30, 10.00      |

CH 20.00



|                  |                                                                                        |
|------------------|----------------------------------------------------------------------------------------|
| DATUM            | 241.0                                                                                  |
| DESIGN SURFACE   | 242.37, 242.37, 242.34, 242.12, 242.01, 242.12, 242.01, 242.34, 242.37, 242.37, 242.37 |
| EXISTING SURFACE | 243.84, 243.84, 243.84, 243.86, 243.85, 243.84, 243.83, 243.83, 243.83, 243.83, 243.83 |
| OFFSET           | -8.30, -8.00, -7.95, -6.45, -3.80, -3.20, 0.00, 3.20, 3.80, 6.45, 7.95, 6.00, 6.30     |

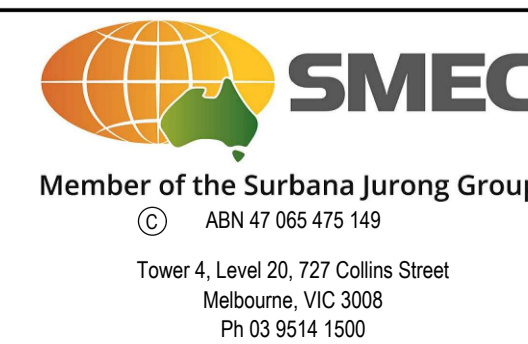
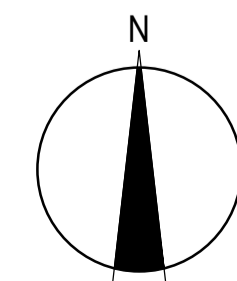
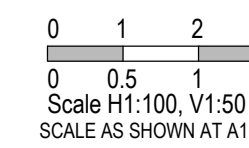
TP 13.25

| REV | DATE     | AMENDMENT / REVISION DESCRIPTION | DES/DT | APPROVAL |
|-----|----------|----------------------------------|--------|----------|
| 0   | 24.06.19 | ISSUED FOR CONSTRUCTION          | SM/SM  | AB       |

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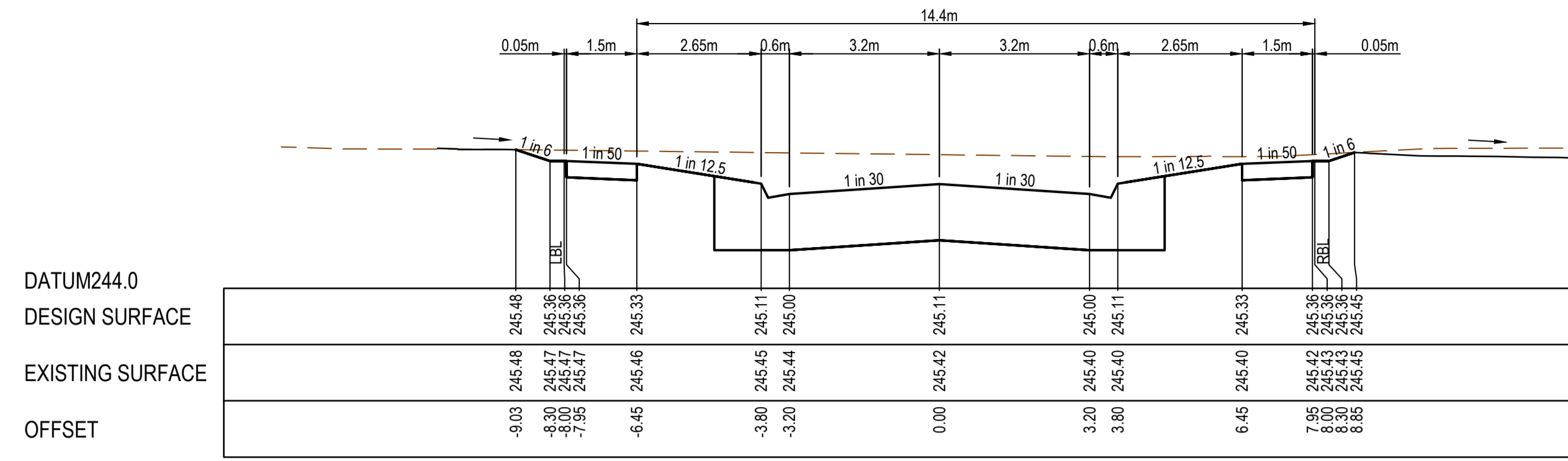
| TITLE           | NAME      |
|-----------------|-----------|
| DRAFTER         | R.Barua   |
| DESIGNER        | J.Jones   |
| CHECKED         | Z.Gosev   |
| AUTHORISED      | A.Burrows |
| REFERENCE No. 1 |           |
| REFERENCE No. 2 |           |



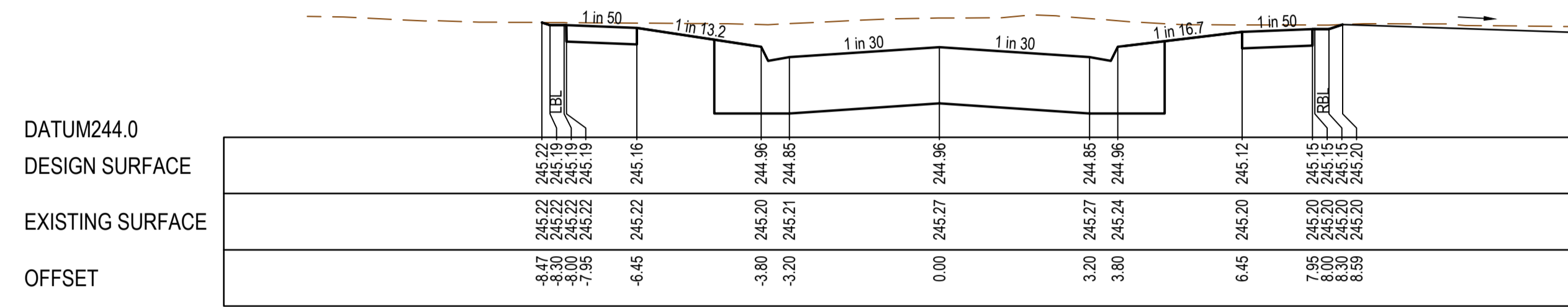
Olivine Estate - Stage 9  
Whittlesea City Council  
Road and Drainage  
Cross Sections: Quarter Circuit

|                    |                                      |                       |               |
|--------------------|--------------------------------------|-----------------------|---------------|
| MELWAYS REF<br>8M2 | PROJECT / DRAWING No.<br>1700E-09-12 | SHEET No.<br>12 of 34 | REVISION<br>0 |
|--------------------|--------------------------------------|-----------------------|---------------|

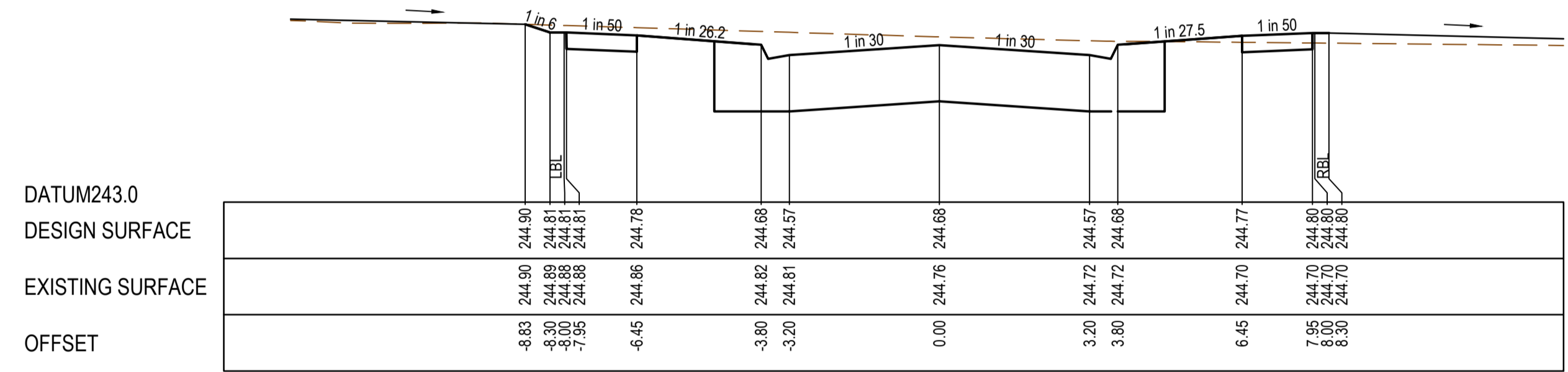




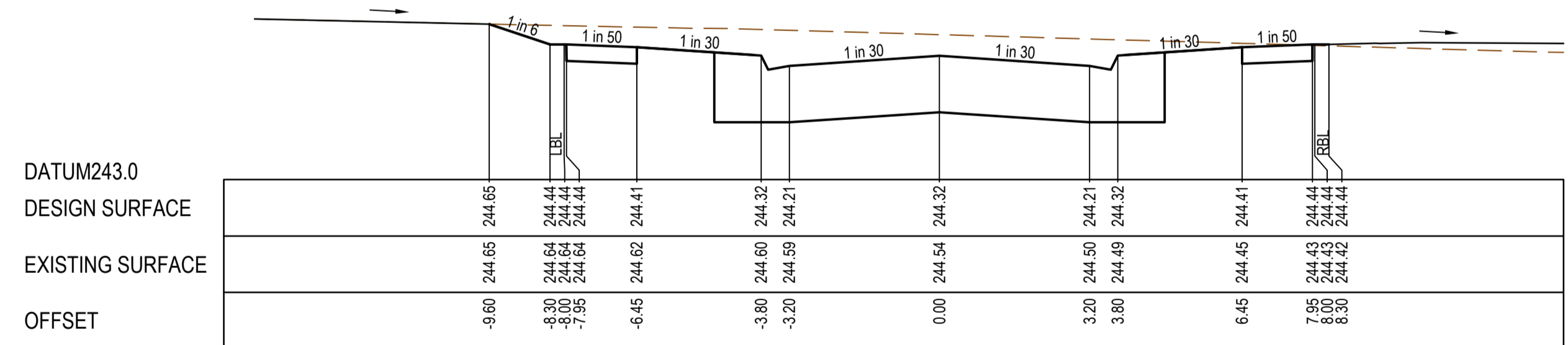
TP 66.20



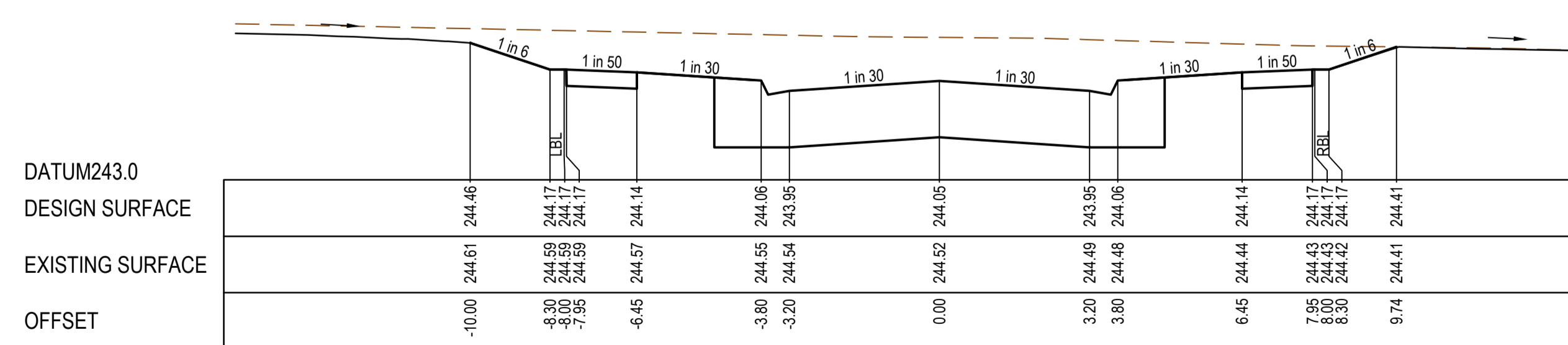
CH 55.00



CH 42.00



CH 26.00

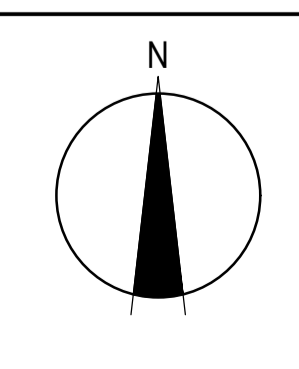
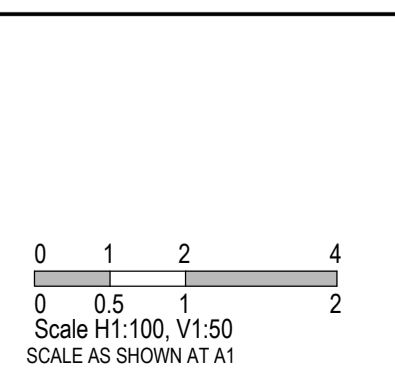


TP 16.50

| REV | DATE     | AMENDMENT / REVISION DESCRIPTION | DES/DT | APPROVAL |
|-----|----------|----------------------------------|--------|----------|
| 0   | 24.06.19 | ISSUED FOR CONSTRUCTION          | SM/SM  | AB       |

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| TITLE           | NAME      |
|-----------------|-----------|
| DRAFTER         | R.Barua   |
| DESIGNER        | J.Jones   |
| CHECKED         | Z.Gosev   |
| AUTHORISED      | A.Burrows |
| REFERENCE No. 1 |           |
| REFERENCE No. 2 |           |

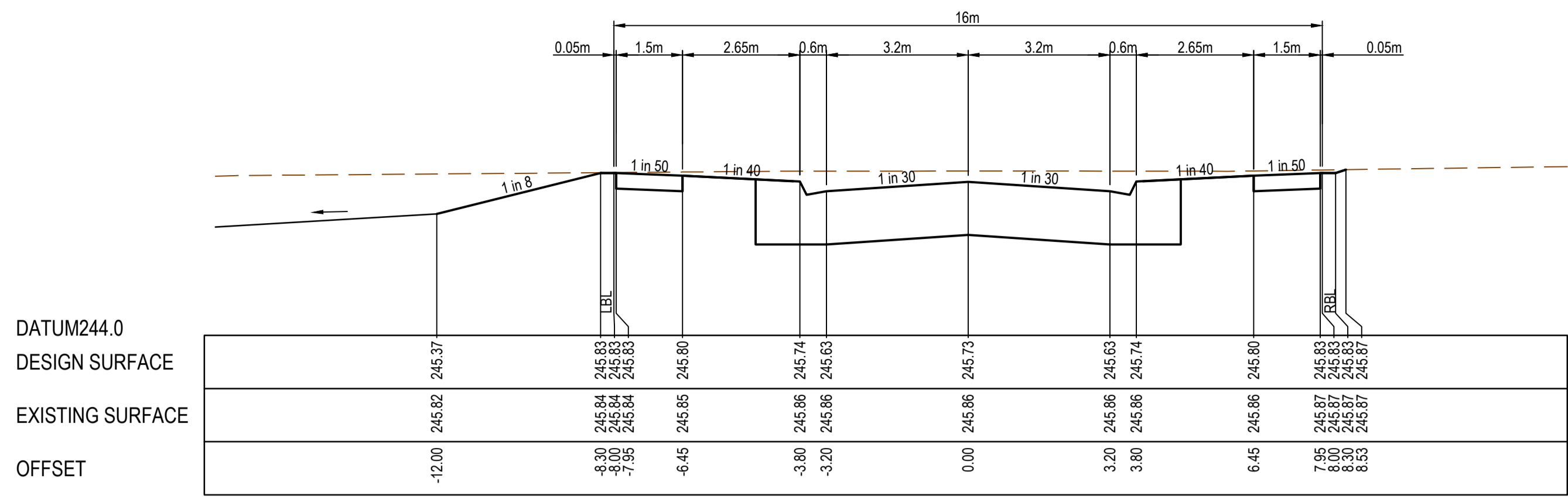


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 ABN 47 065 475 149
   
 Tower 4, Level 20, 727 Collins Street
   
 Melbourne, VIC 3008
   
 Ph 03 9514 1500

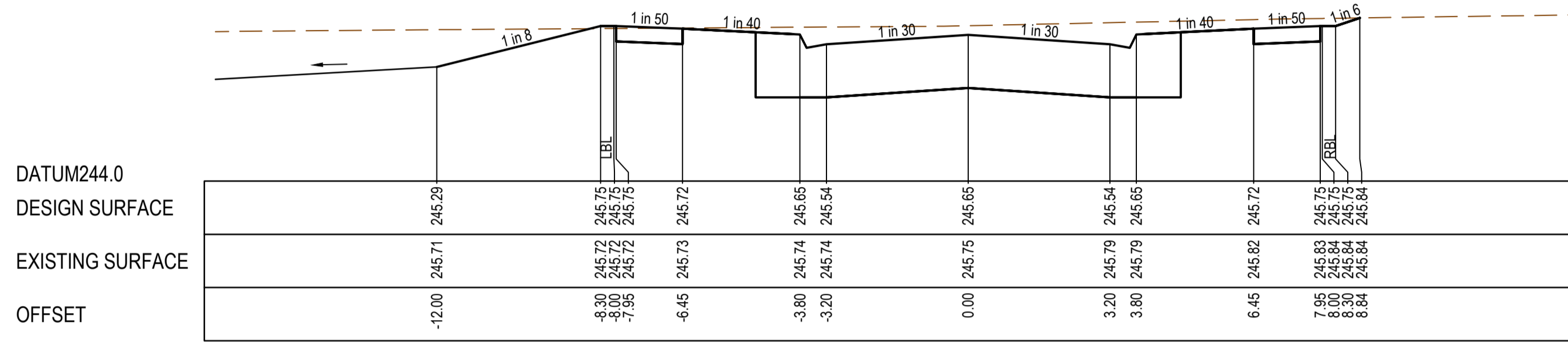


Olivine Estate - Stage 9  
Whittlesea City Council  
Road and Drainage  
Cross Sections: Hamlet Drive

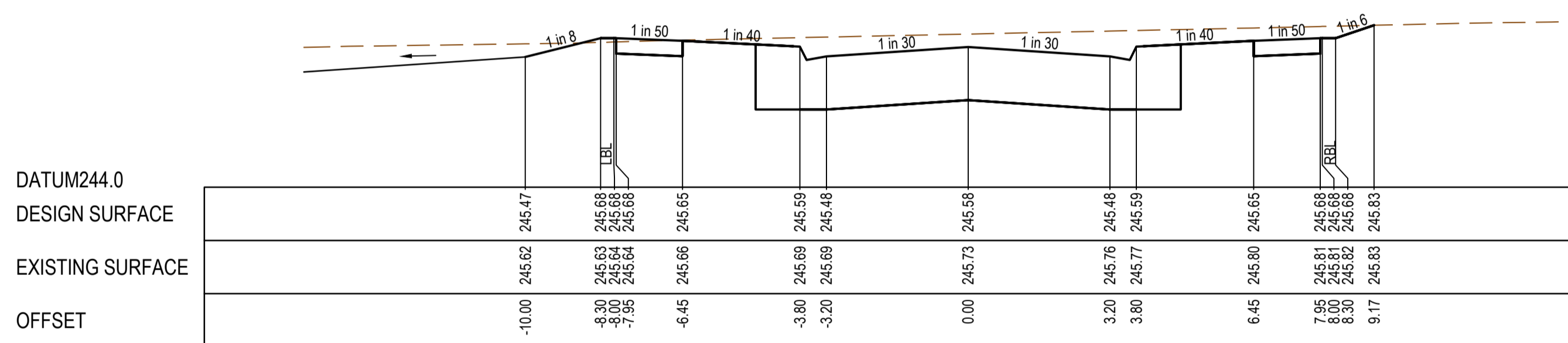
|                    |                                      |                       |               |
|--------------------|--------------------------------------|-----------------------|---------------|
| MELWAYS REF<br>8M2 | PROJECT / DRAWING No.<br>1700E-09-14 | SHEET No.<br>14 of 34 | REVISION<br>0 |
|--------------------|--------------------------------------|-----------------------|---------------|



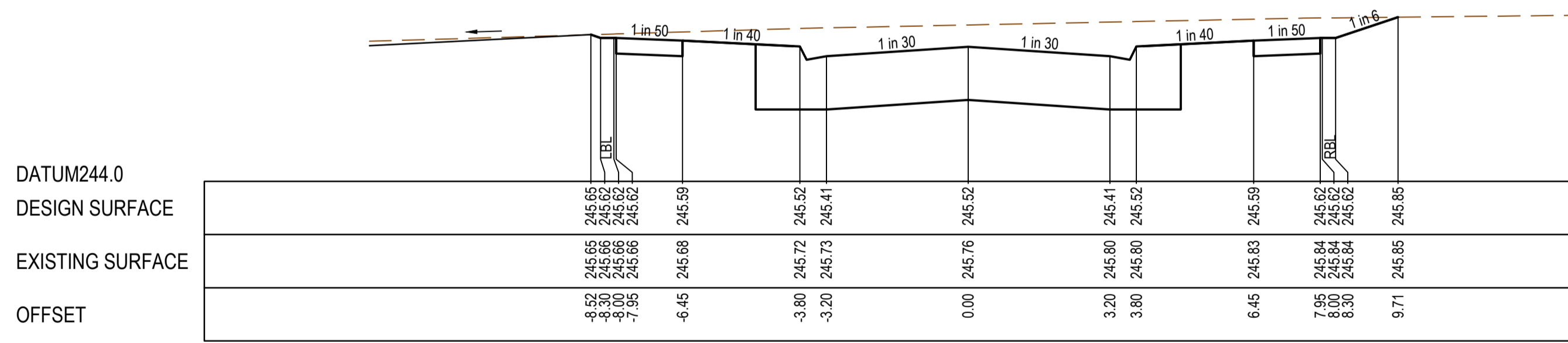
CH 67.53



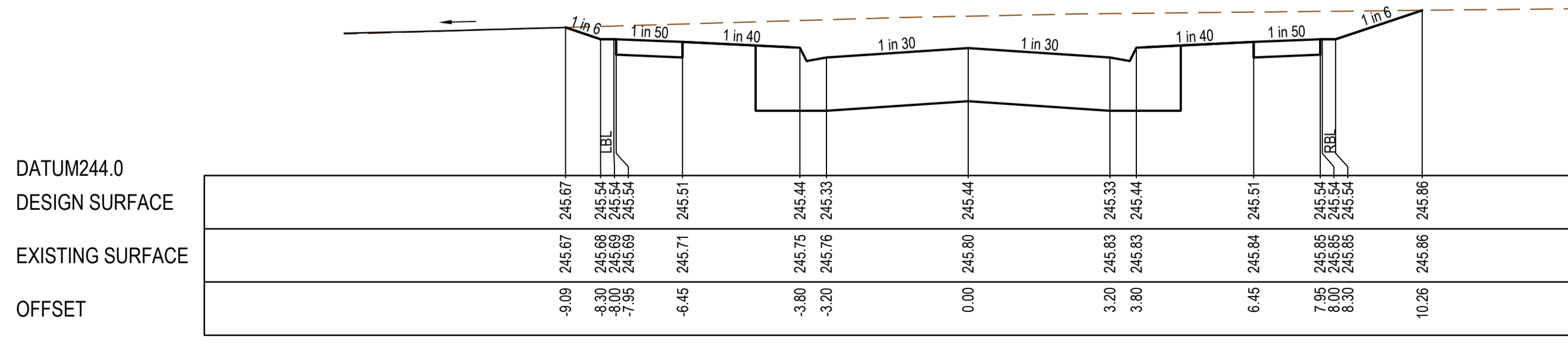
CH 55.03



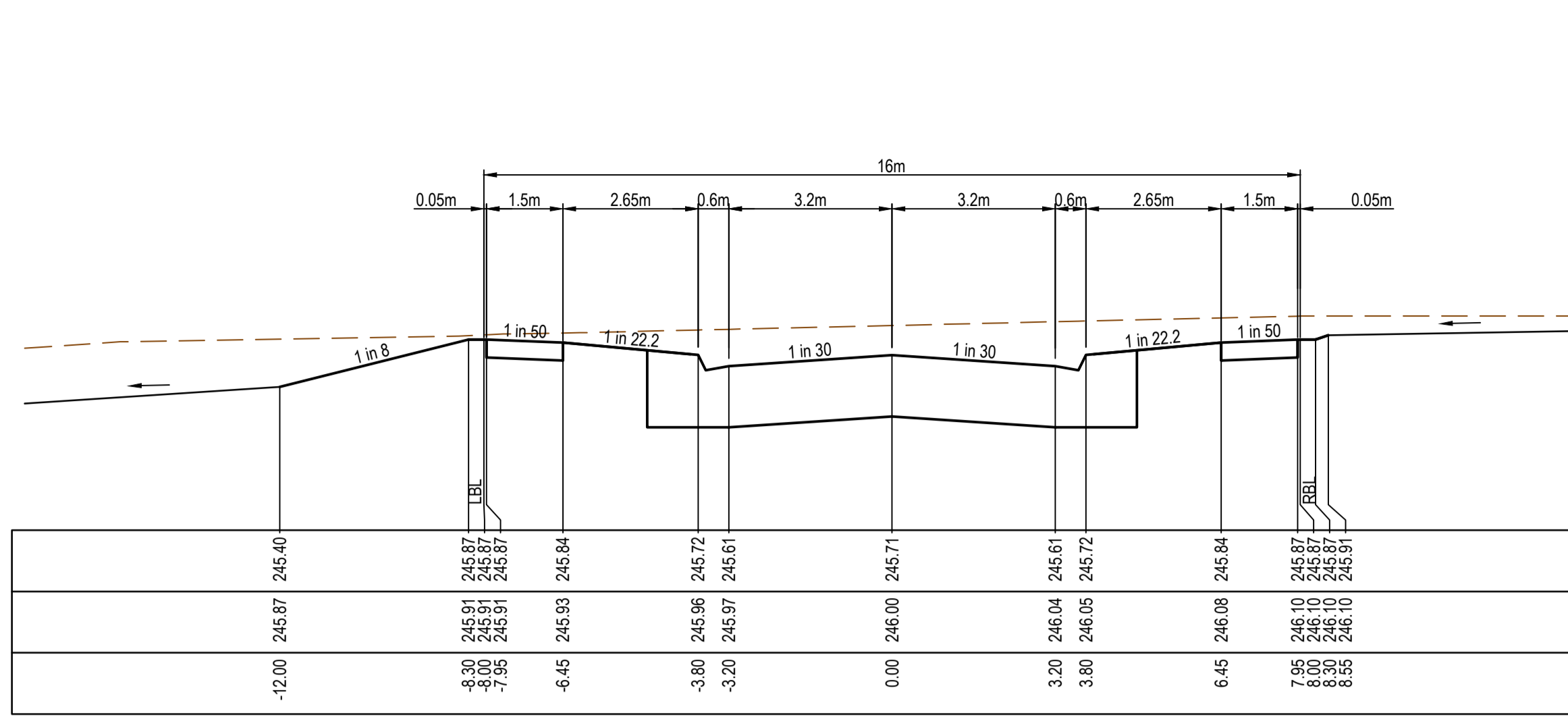
CH 42.82



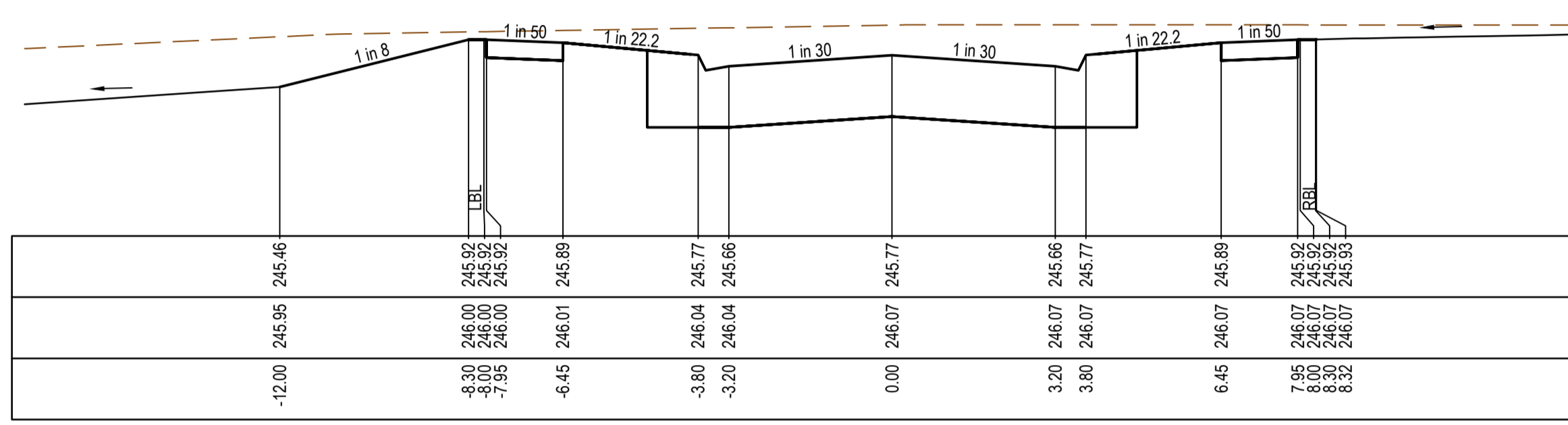
CH 30.89



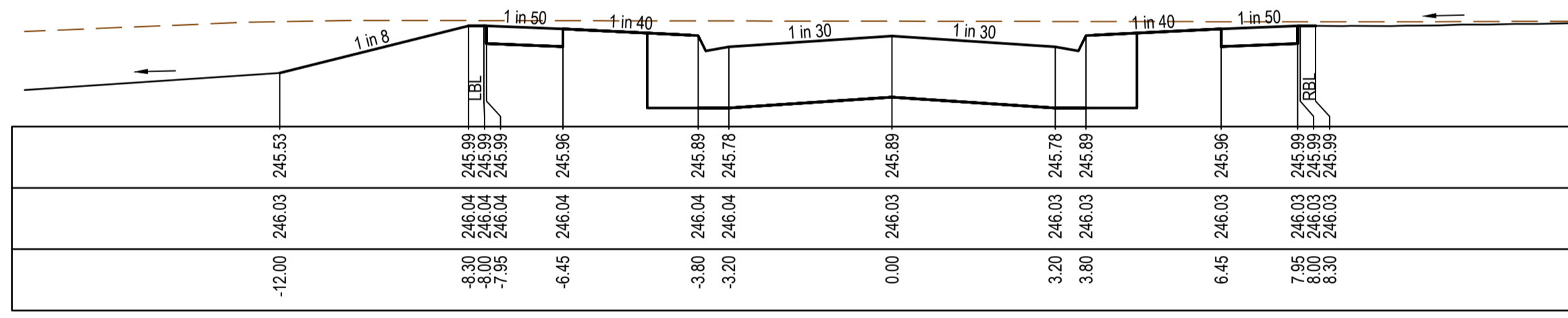
TP 20.77



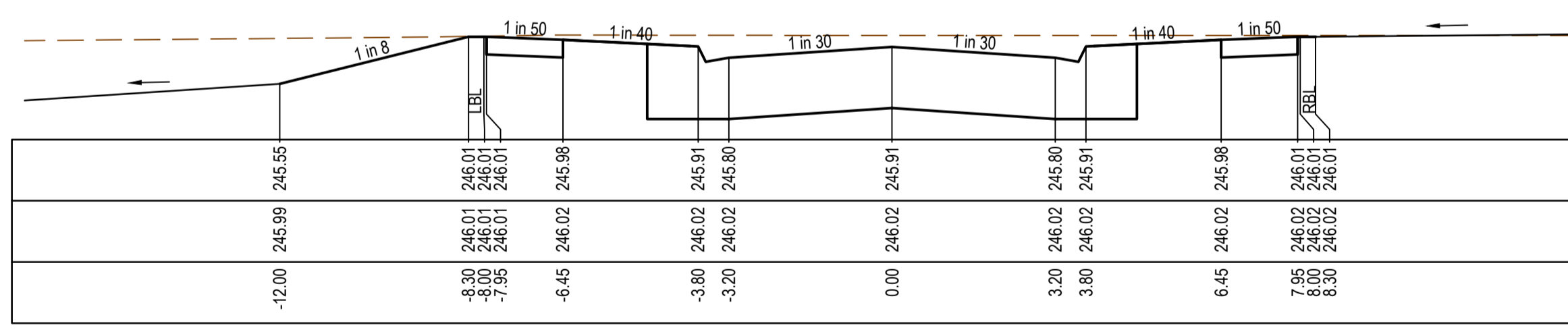
CH 138.53



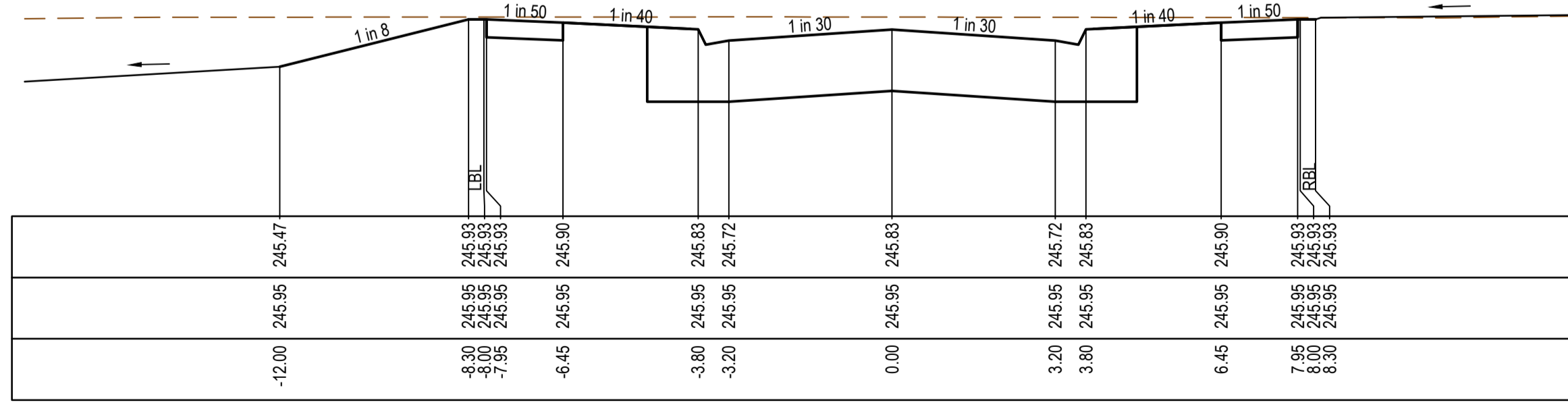
TP 127.20



TP 103.60



CH 92.53

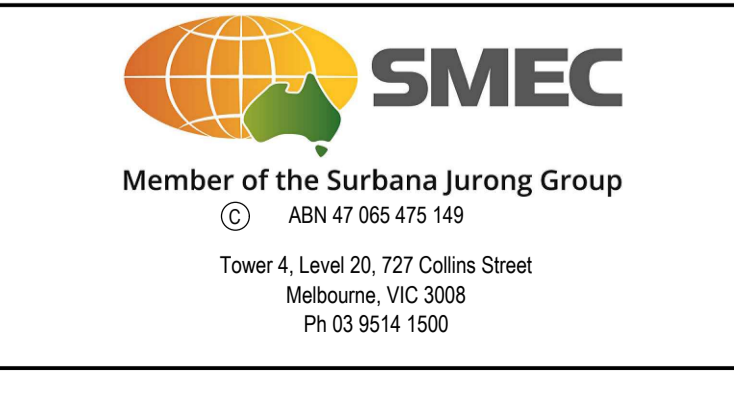
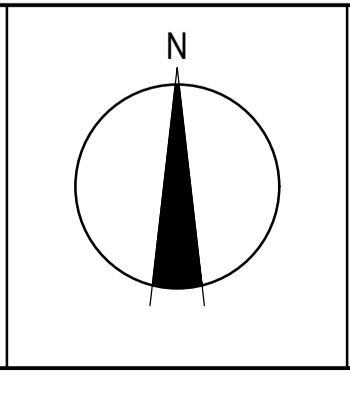
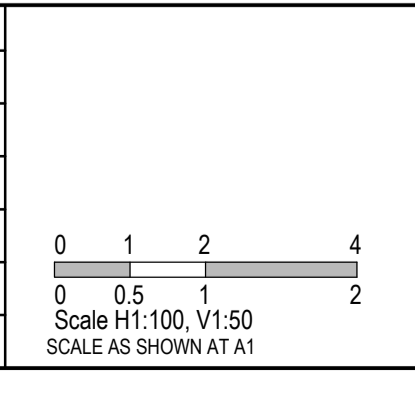


CH 80.03

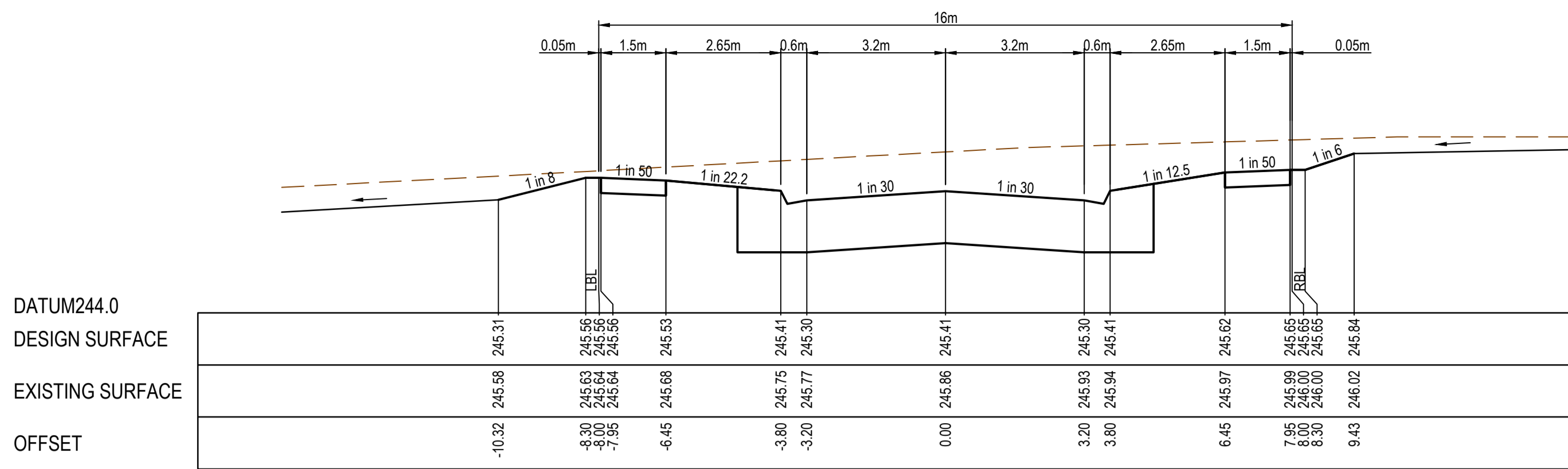
| REV | DATE     | AMENDMENT / REVISION DESCRIPTION | DESIGN | APPROVAL |
|-----|----------|----------------------------------|--------|----------|
| 0   | 24.06.19 | ISSUED FOR CONSTRUCTION          | SM/SM  | AB       |

**ISSUED FOR CONSTRUCTION**

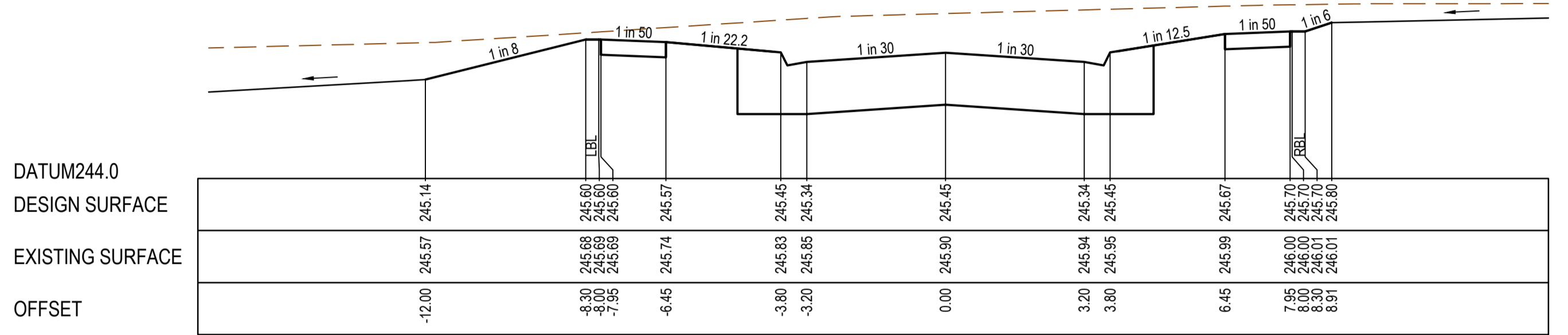
| All setting out should be carried out in accordance with MPA/Council's standard drawings or as nominated on hard copy plans provided by SMEC. Any digital information supplied by this office is for information only. Any discrepancies should be discussed with the superintendent. |                       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| TITLE                                                                                                                                                                                                                                                                                 | DRAFTER: R.Barua      |
| NAME                                                                                                                                                                                                                                                                                  | DESIGNER: J.Jones     |
| DESIGNER                                                                                                                                                                                                                                                                              | CHECKED: Z.Gosev      |
| CHECKED                                                                                                                                                                                                                                                                               | AUTHORISED: A.Burrows |
| AUTHORISED                                                                                                                                                                                                                                                                            | REFERENCE No. 1       |
| REFERENCE No. 1                                                                                                                                                                                                                                                                       | REFERENCE No. 2       |



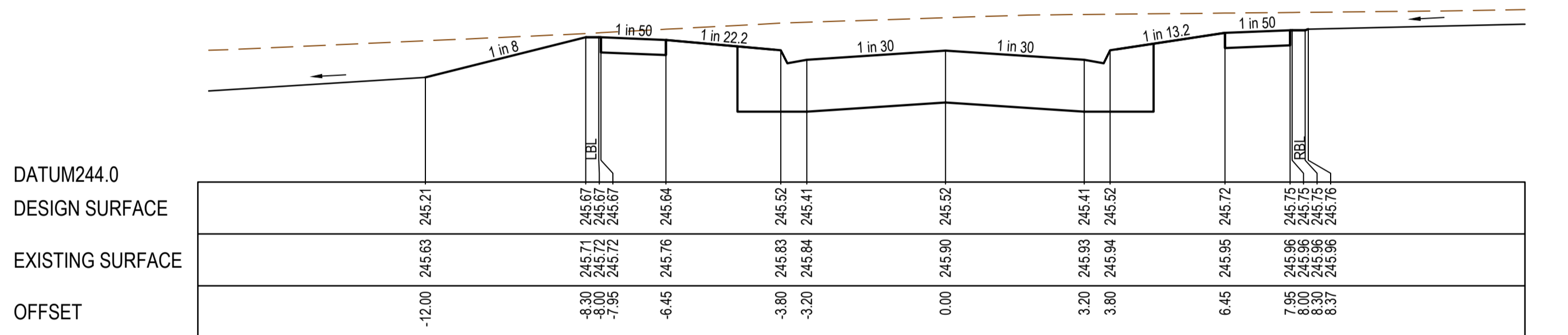
|                                                                                                                                     |                                   |
|-------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|
| Olivine Estate - Stage 9<br>Whittlesea City Council<br>Road and Drainage<br>Cross Sections: Downtown Avenue<br>Ch 20.77 - Ch 138.53 |                                   |
| MELWAYS REF: 8M2                                                                                                                    | PROJECT / DRAWING No: 1700E-09-15 |
| SHEET No: 15 of 34                                                                                                                  | REVISION: 0                       |



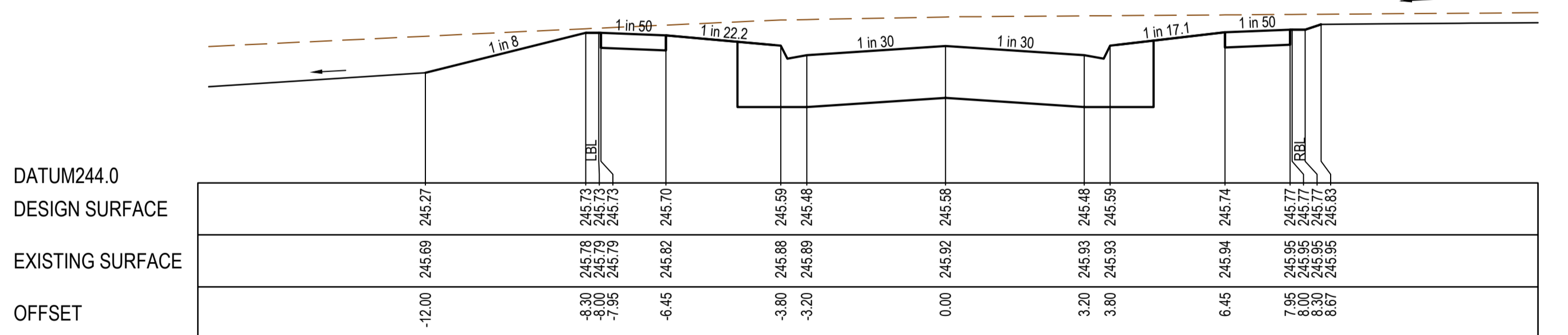
CH 198.24



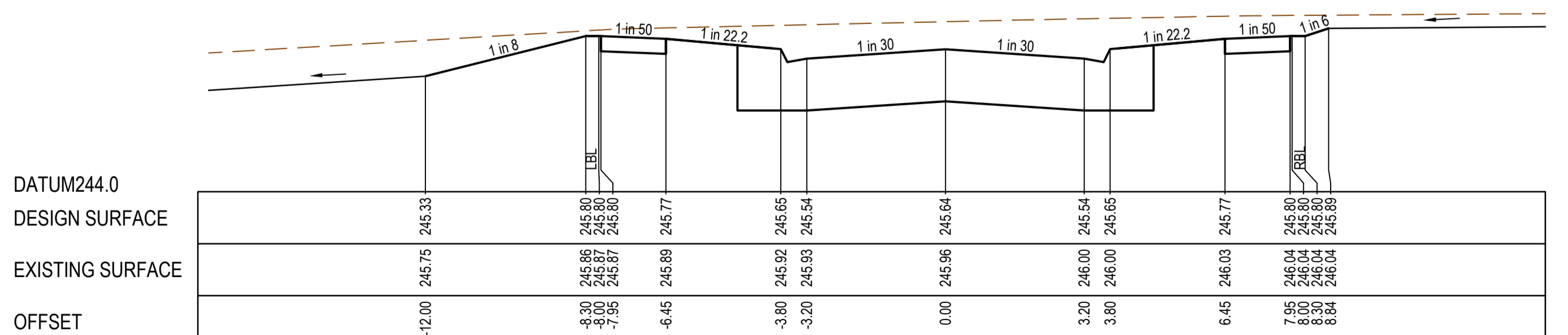
CH 190.06



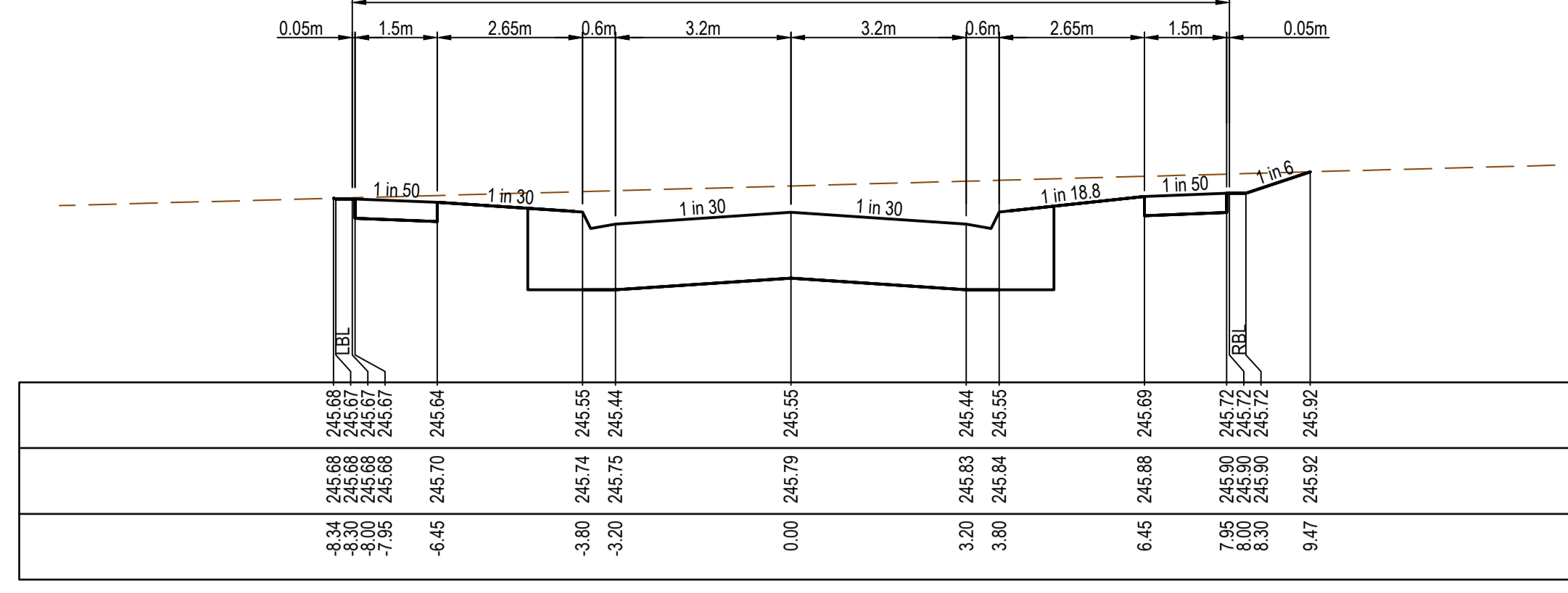
CH 177.53



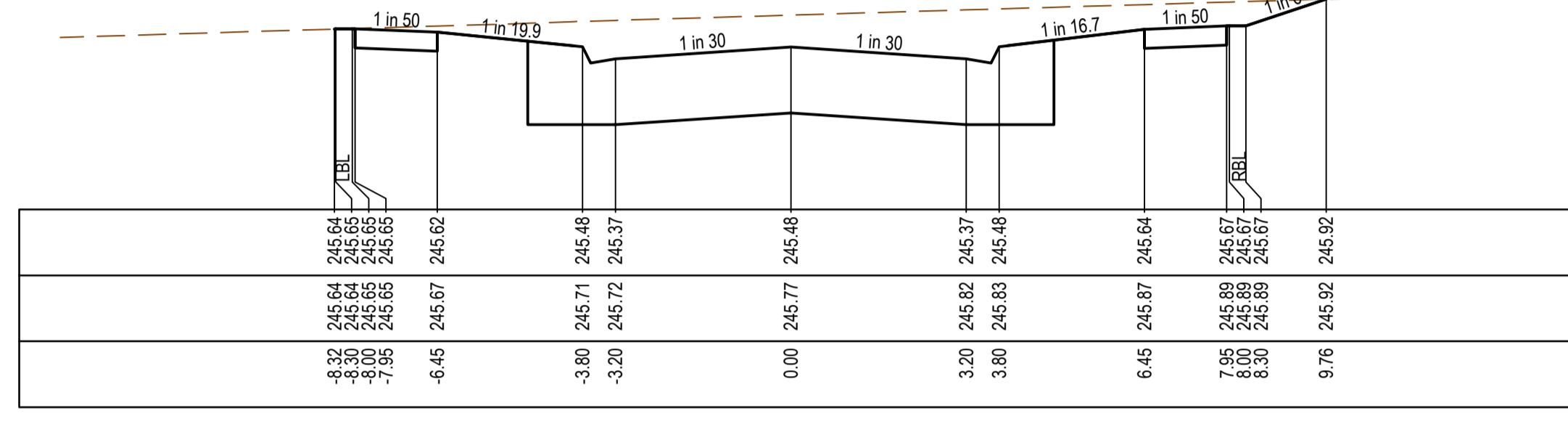
CH 165.03



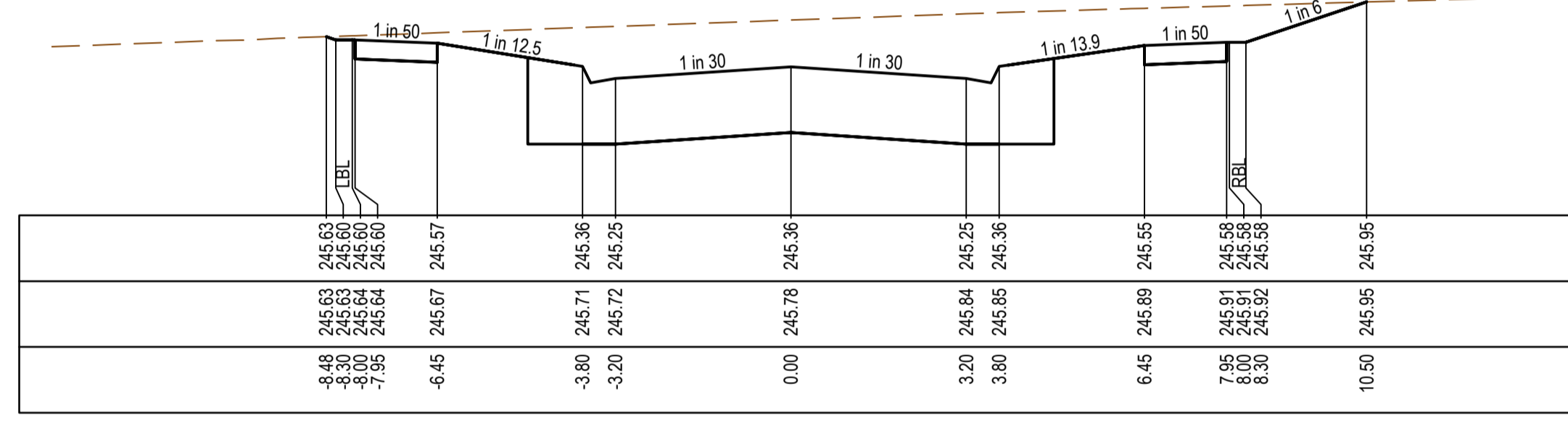
CH 152.53



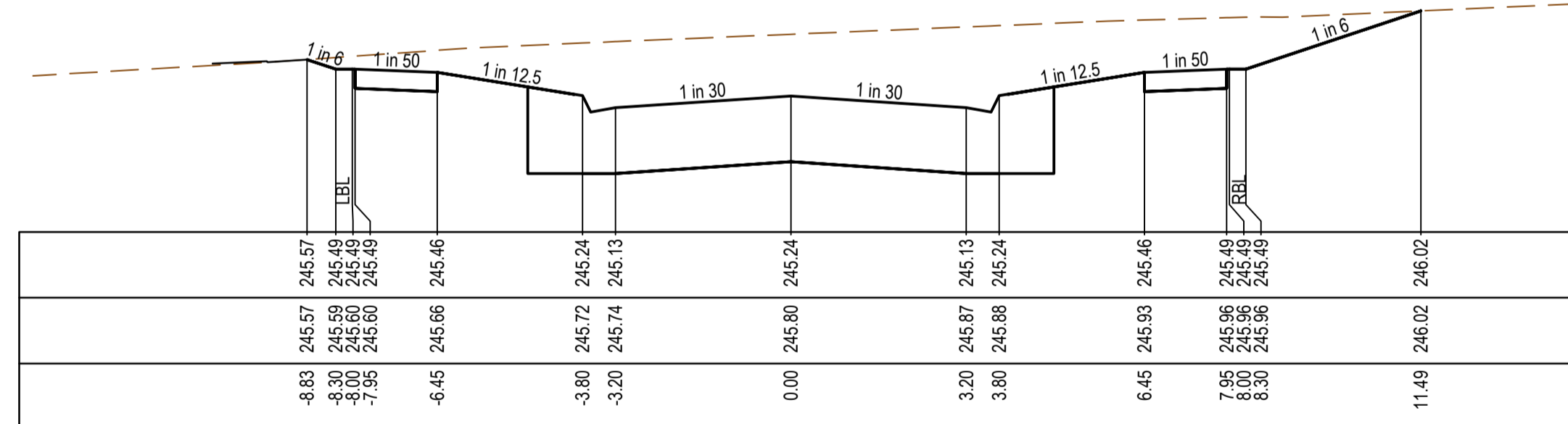
CH 262.20



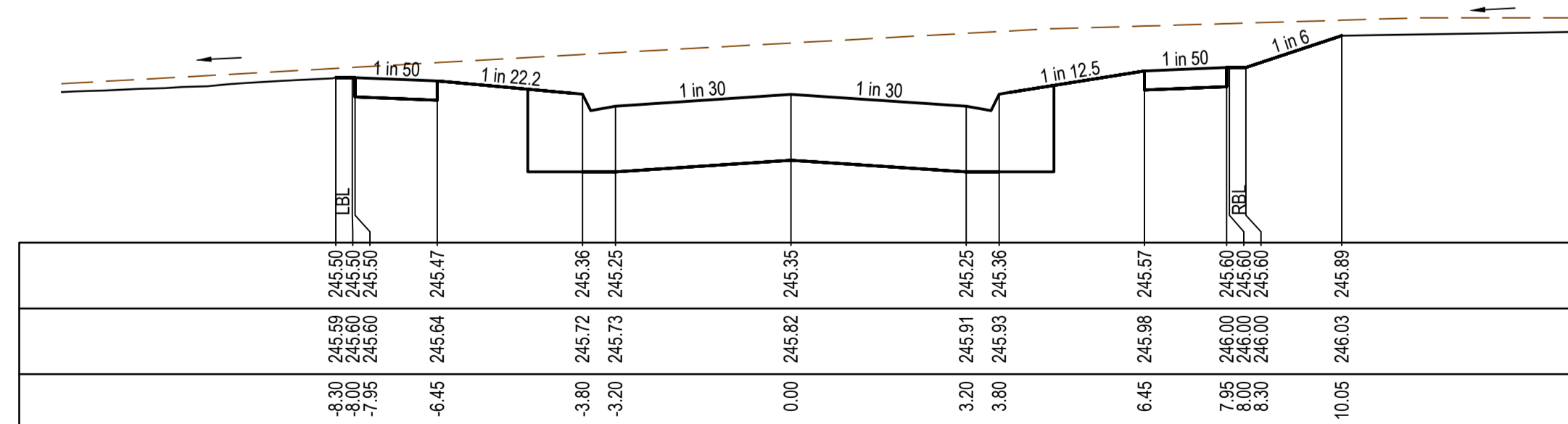
CH 256.59



CH 246.71



TP 231.58



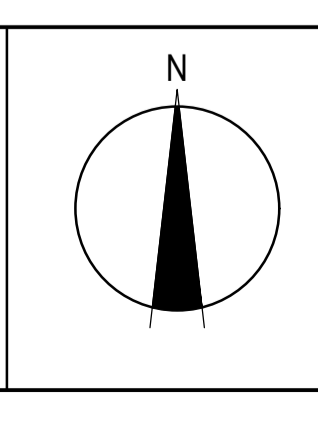
TP 207.97

| REV | DATE     | AMENDMENT / REVISION DESCRIPTION | DESIGN | APPROVAL |
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| TITLE           | NAME      |
|-----------------|-----------|
| DRAFTER         | R.Barua   |
| DESIGNER        | J.Jones   |
| CHECKED         | Z.Gosev   |
| AUTHORISED      | A.Burrows |
| REFERENCE No. 1 |           |
| REFERENCE No. 2 |           |

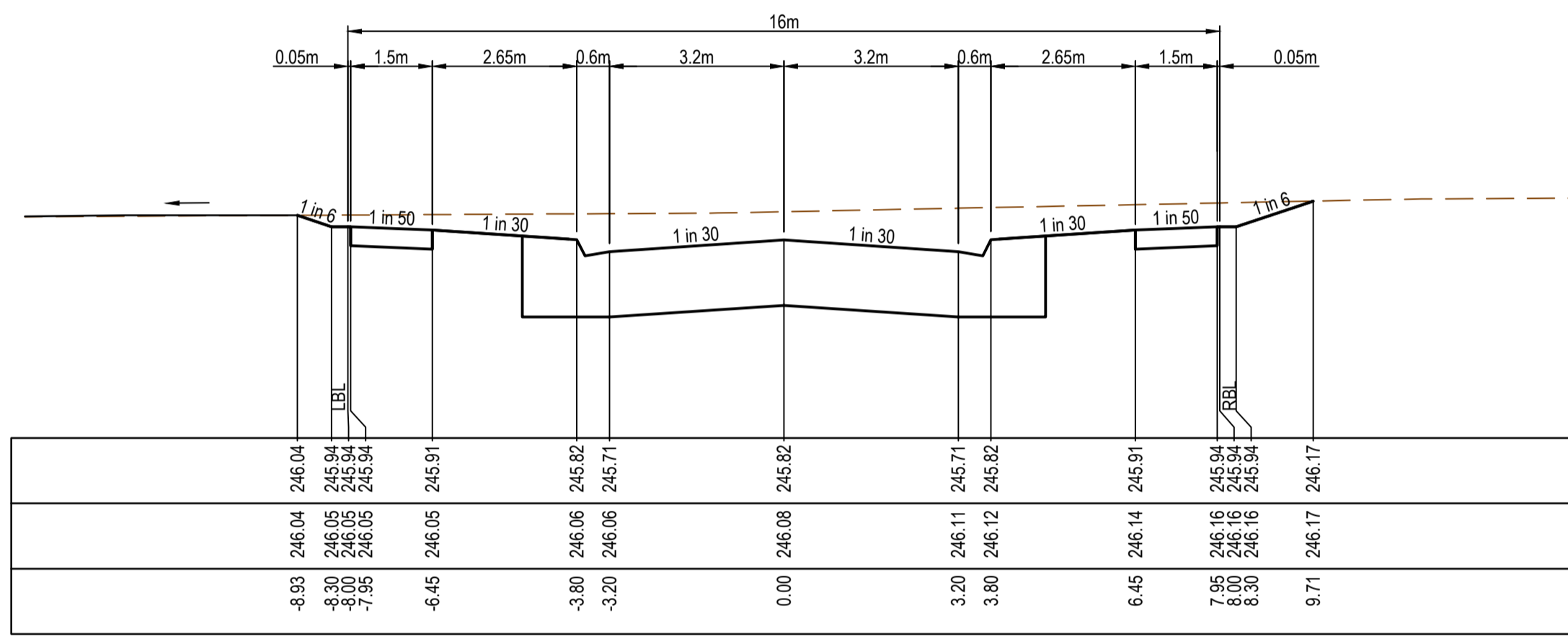


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 ABN 47 065 475 149  
 Tower 4, Level 20, 727 Collins Street  
 Melbourne, VIC 3008  
 Ph 03 9514 1500

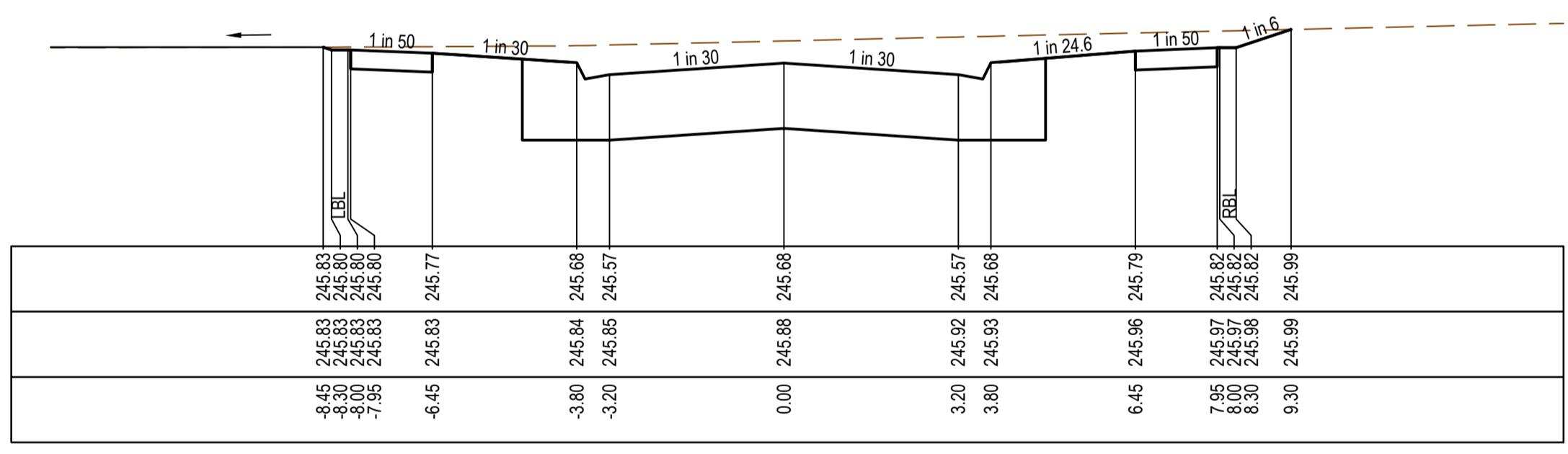
Olivine Estate - Stage 9  
 Whittlesea City Council  
 Road and Drainage  
 Cross Sections: Dntown Avenue  
 Ch 152.53 - Ch 262.20

| MELWAYS REF | PROJECT / DRAWING No | SHEET No | REVISION |
|-------------|----------------------|----------|----------|
| 8M2         | 1700E-09-16          | 16 of 34 | 0        |





TP 283.58

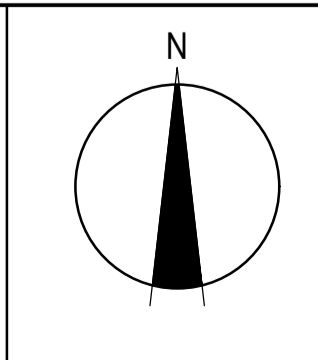
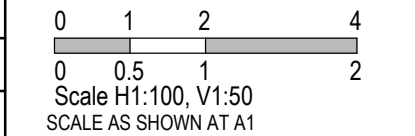


CH 272.58

| REV | DATE     | AMENDMENT / REVISION DESCRIPTION | DES/DT | APPROVAL |
|-----|----------|----------------------------------|--------|----------|
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| TITLE           | NAME      |
|-----------------|-----------|
| DRAFTER         | R.Barua   |
| DESIGNER        | J.Jones   |
| CHECKED         | Z.Gosev   |
| AUTHORISED      | A.Burrows |
| REFERENCE No. 1 |           |
| REFERENCE No. 2 |           |

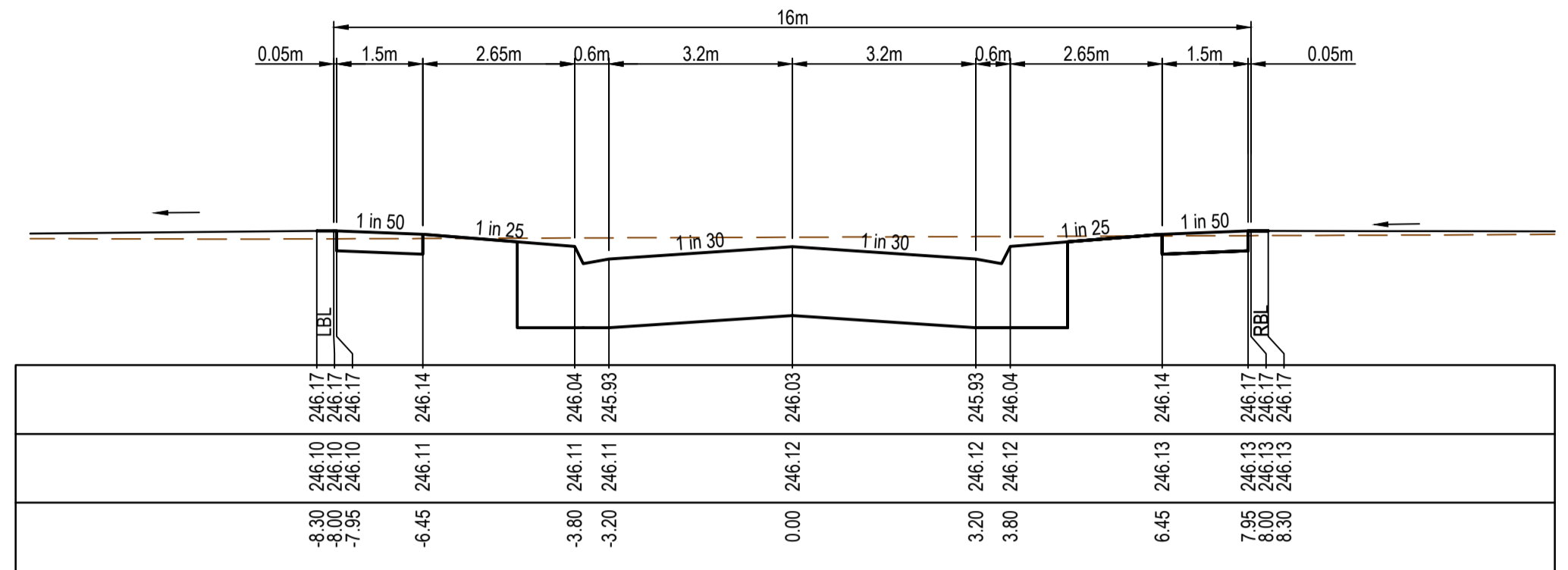


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Melbourne, VIC 3008  
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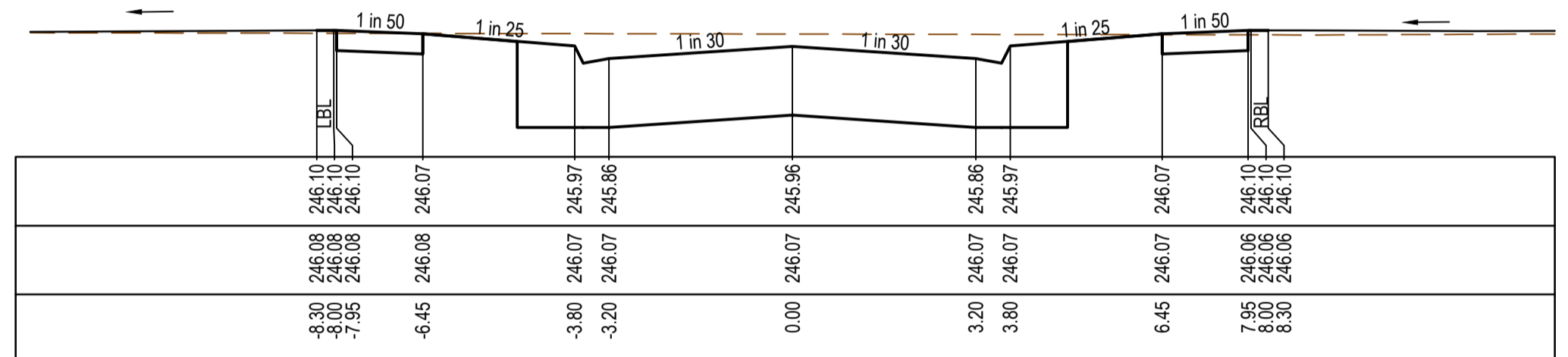


Olivine Estate - Stage 9  
Whittlesea City Council  
Road and Drainage  
Cross Sections: Downtown Avenue  
Ch 272.58 - Ch 283.58

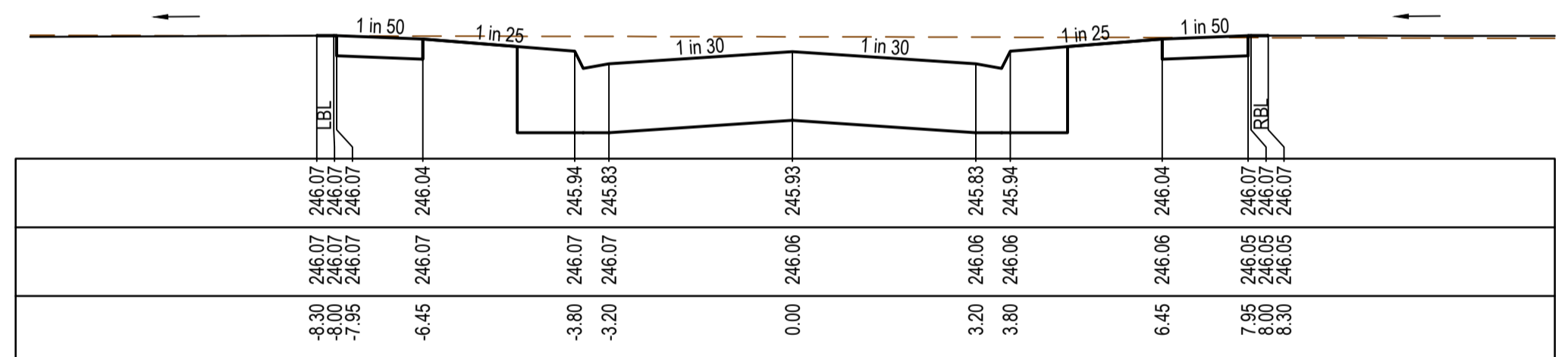
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|---------------------------|---------------------------------------------|------------------------------|----------------------|
| MELWAYS REF<br><b>8M2</b> | PROJECT / DRAWING No.<br><b>1700E-09-17</b> | SHEET No.<br><b>17 of 34</b> | REVISION<br><b>0</b> |
|---------------------------|---------------------------------------------|------------------------------|----------------------|



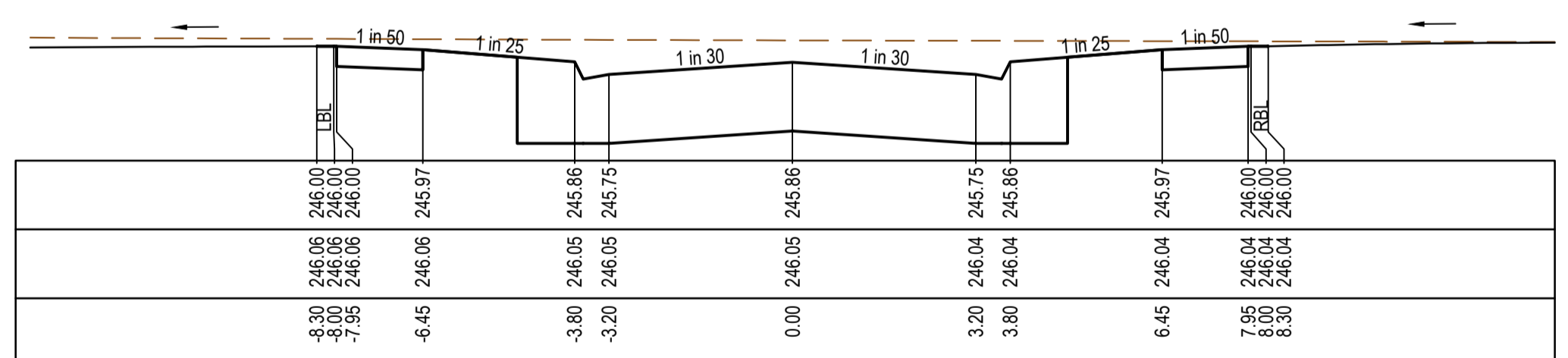
CH 42.58



CH 29.45



CH 24.00

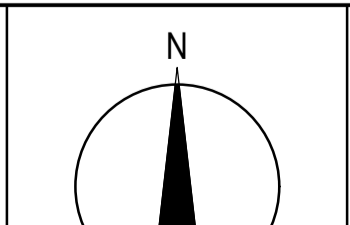


CH 15.00

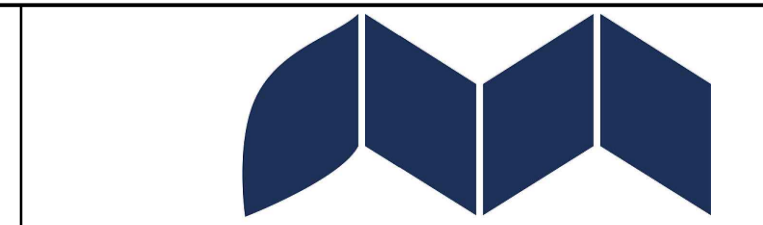
| REV | DATE     | AMENDMENT / REVISION DESCRIPTION | DESIGN | APPROVAL |
|-----|----------|----------------------------------|--------|----------|
| 0   | 24.06.19 | ISSUED FOR CONSTRUCTION          | SM/SM  | AB       |

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| TITLE           | NAME      |
|-----------------|-----------|
| DRAFTER         | R.Barua   |
| DESIGNER        | J.Jones   |
| CHECKED         | Z.Gosev   |
| AUTHORISED      | A.Burrows |
| REFERENCE No. 1 |           |
| REFERENCE No. 2 |           |



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Tower 4, Level 20, 727 Collins Street  
Melbourne, VIC 3008  
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Olivine Estate - Stage 9  
Whittlesea City Council  
Road and Drainage  
Cross Sections: Metropolis Way

**ISSUED FOR CONSTRUCTION**



|                           |                                             |                              |                      |
|---------------------------|---------------------------------------------|------------------------------|----------------------|
| MELWAYS REF<br><b>8M2</b> | PROJECT / DRAWING No.<br><b>1700E-09-18</b> | SHEET No.<br><b>18 of 34</b> | REVISION<br><b>0</b> |
|---------------------------|---------------------------------------------|------------------------------|----------------------|

HORIZONTAL GEOMETRY

VERTICAL GEOMETRY

DATUM RL241

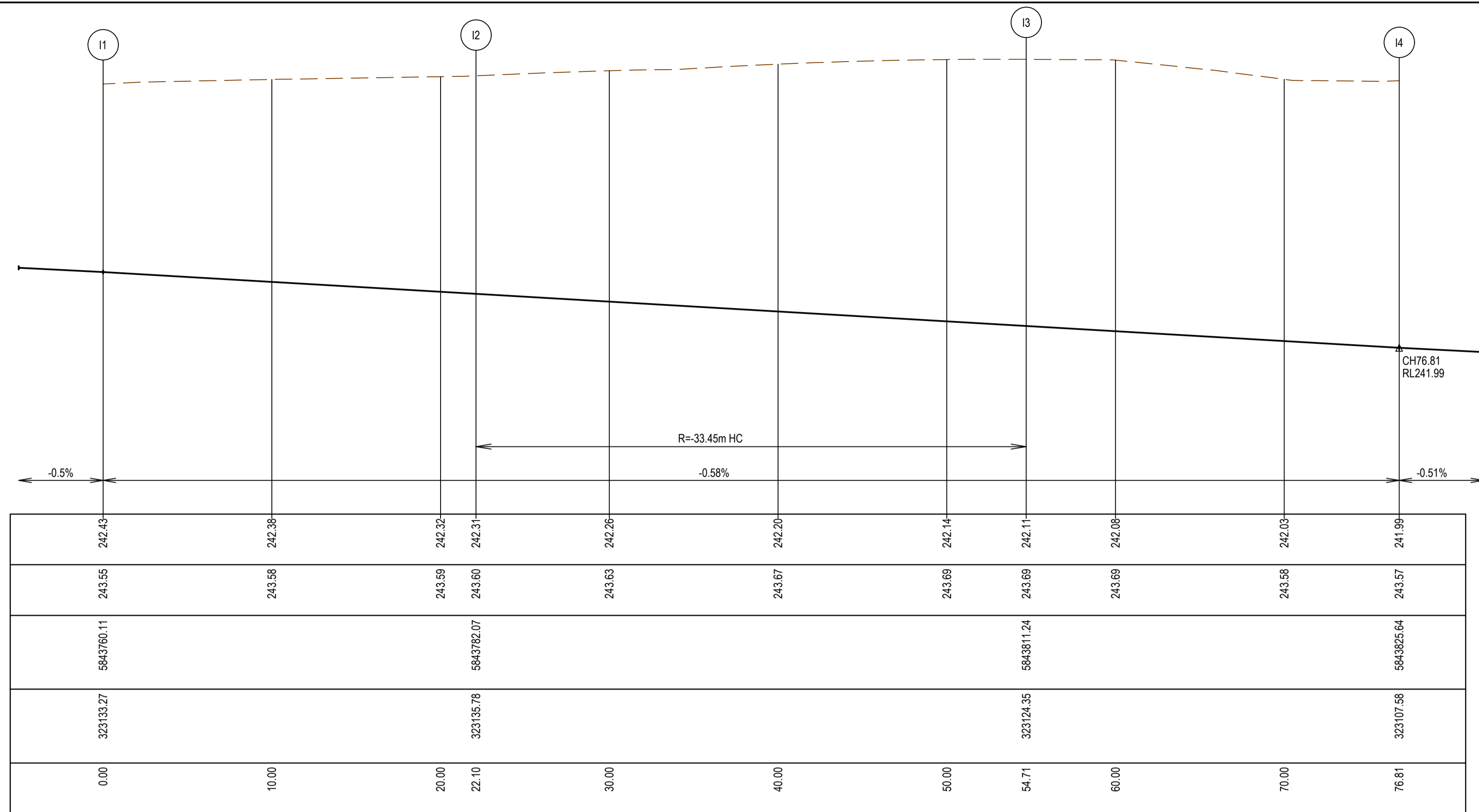
DESIGN LEVEL

EXISTING SURFACE

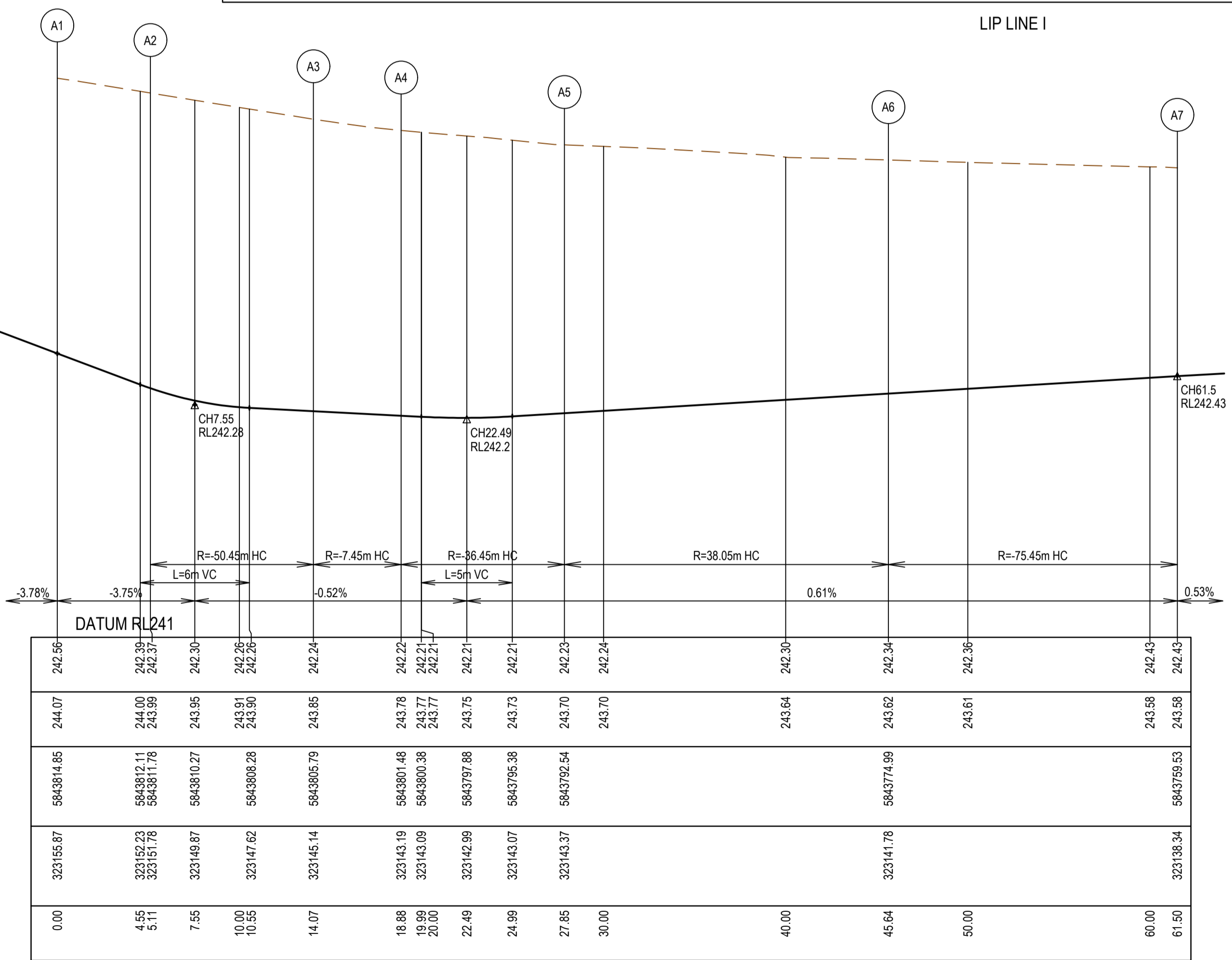
NORTHING

EASTING

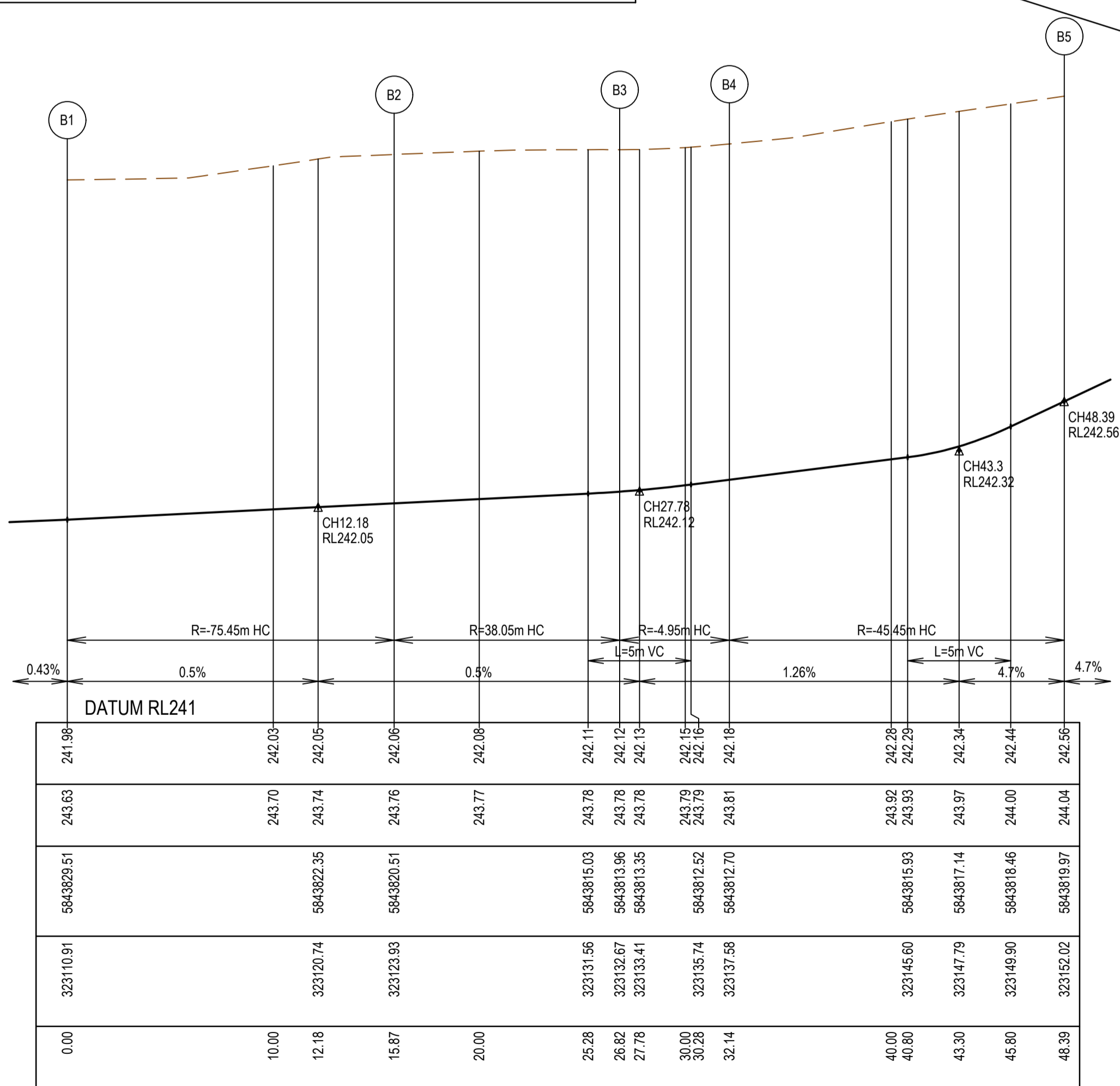
CHAINAGE



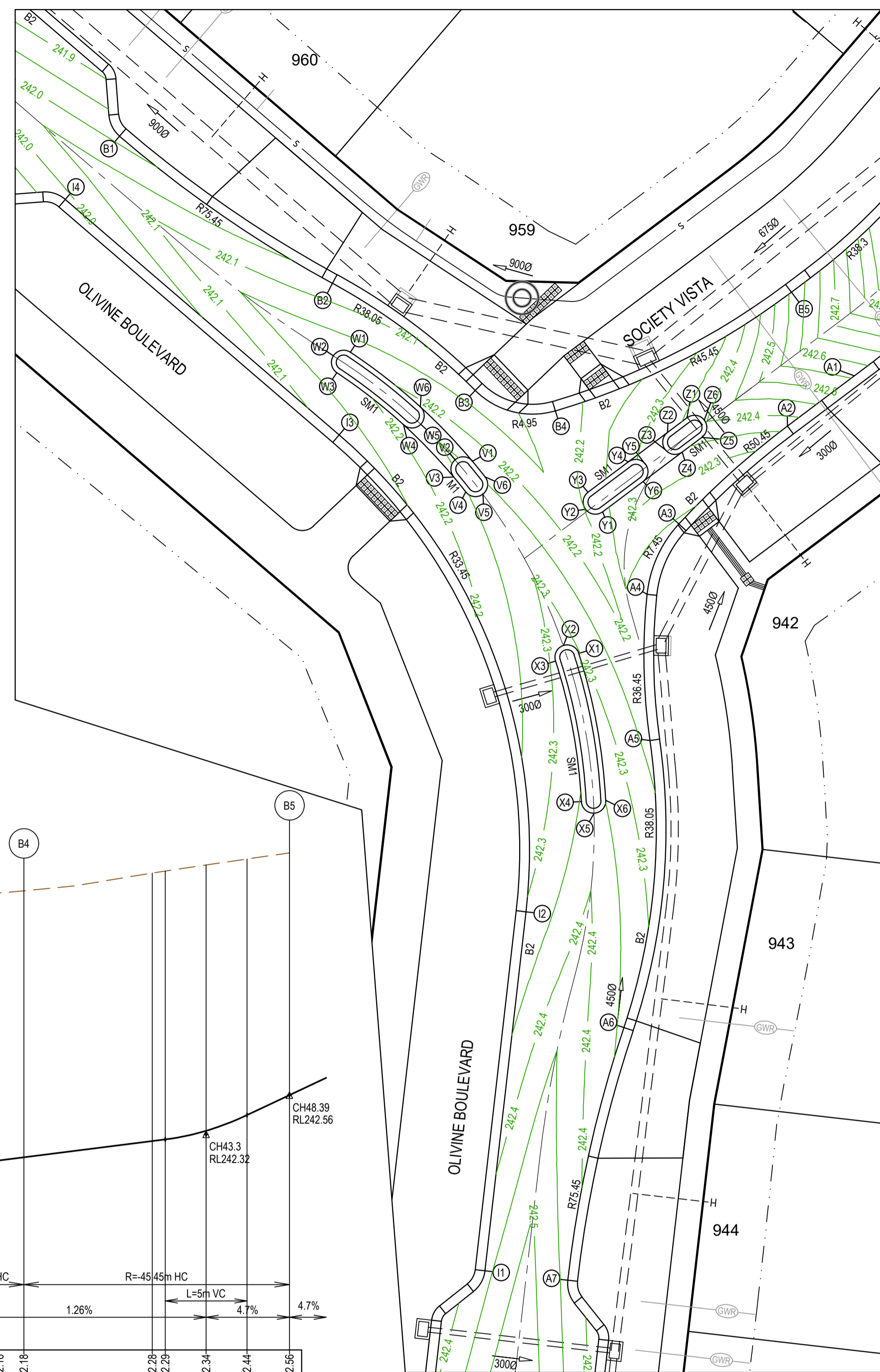
LIP LINE I



LIP LINE A

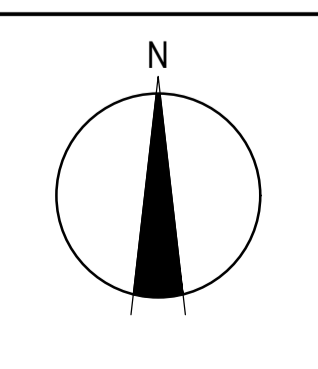
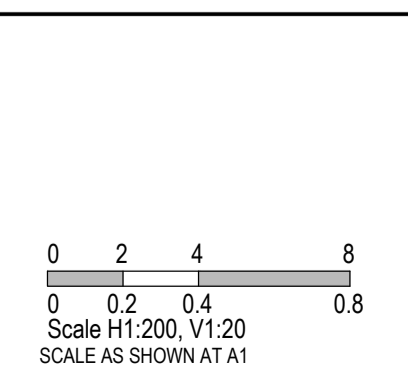


LIP LINE B



| REV | DATE     | AMENDMENT / REVISION DESCRIPTION | DESIGN | APPROVAL |
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| 0   | 24.06.19 | ISSUED FOR CONSTRUCTION          | SM/SM  | AB       |

| TITLE           | NAME      |
|-----------------|-----------|
| DRAFTER         | R.Barua   |
| DESIGNER        | J.Jones   |
| CHECKED         | Z.Gosev   |
| AUTHORISED      | A.Burrows |
| REFERENCE No. 1 |           |
| REFERENCE No. 2 |           |

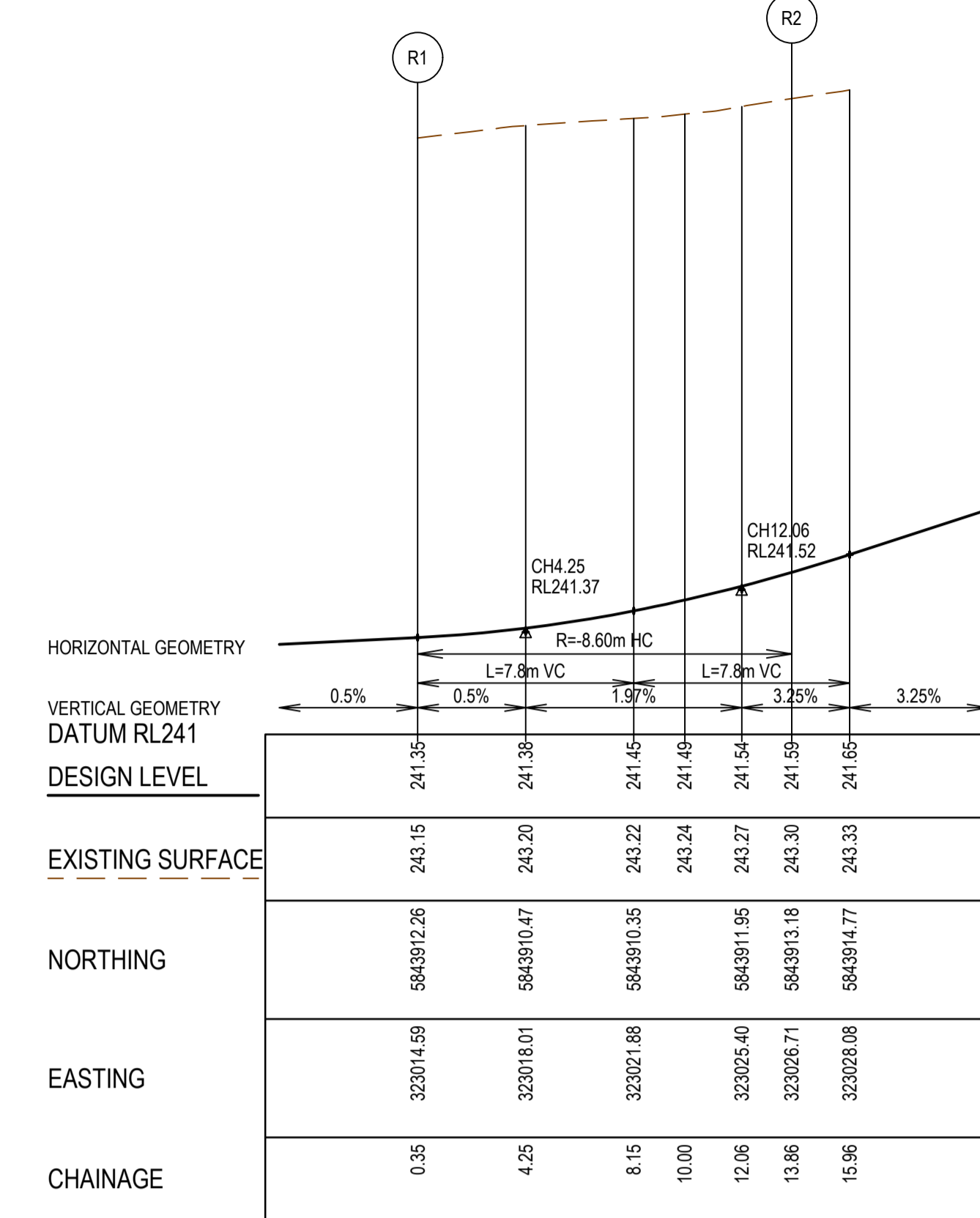
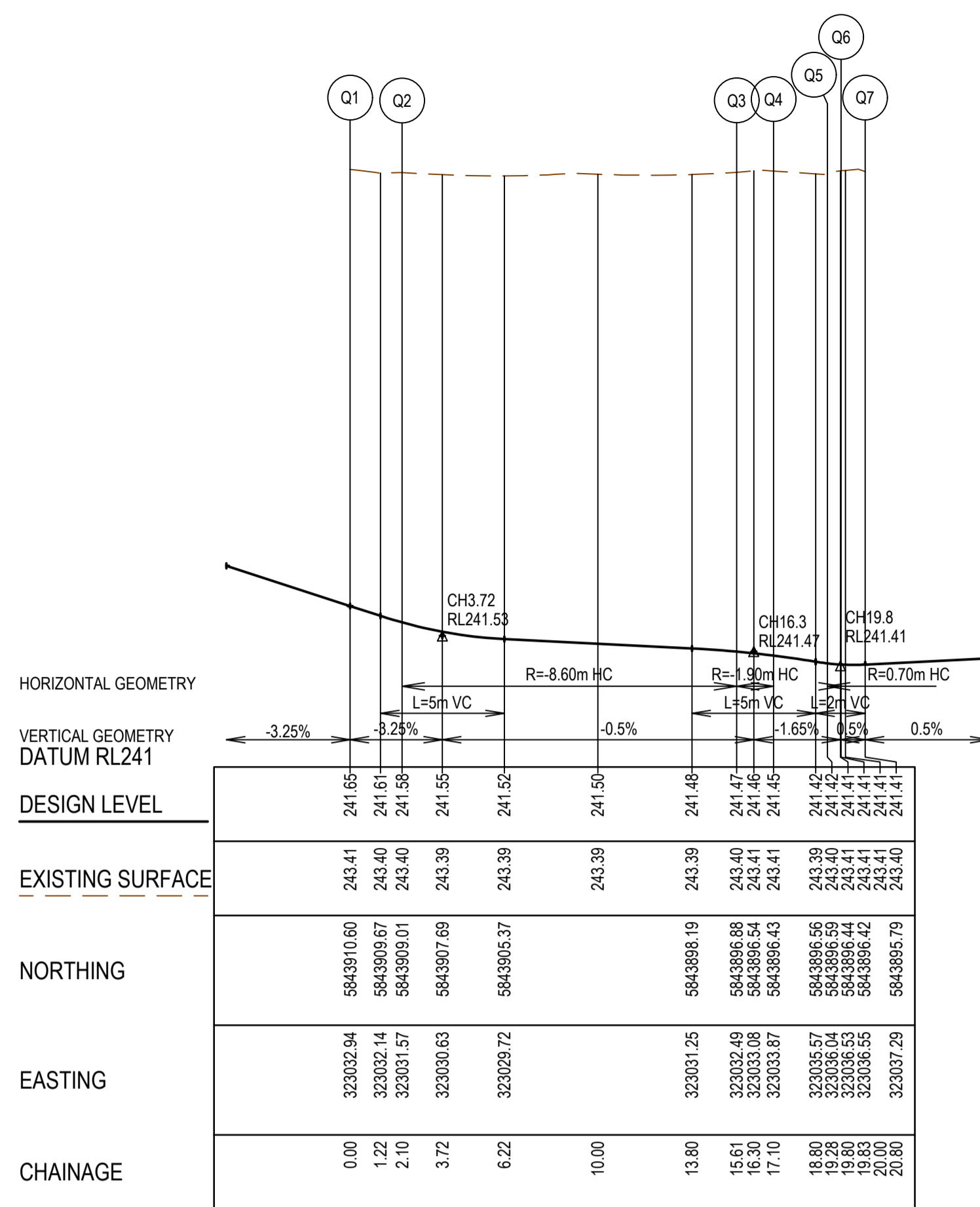
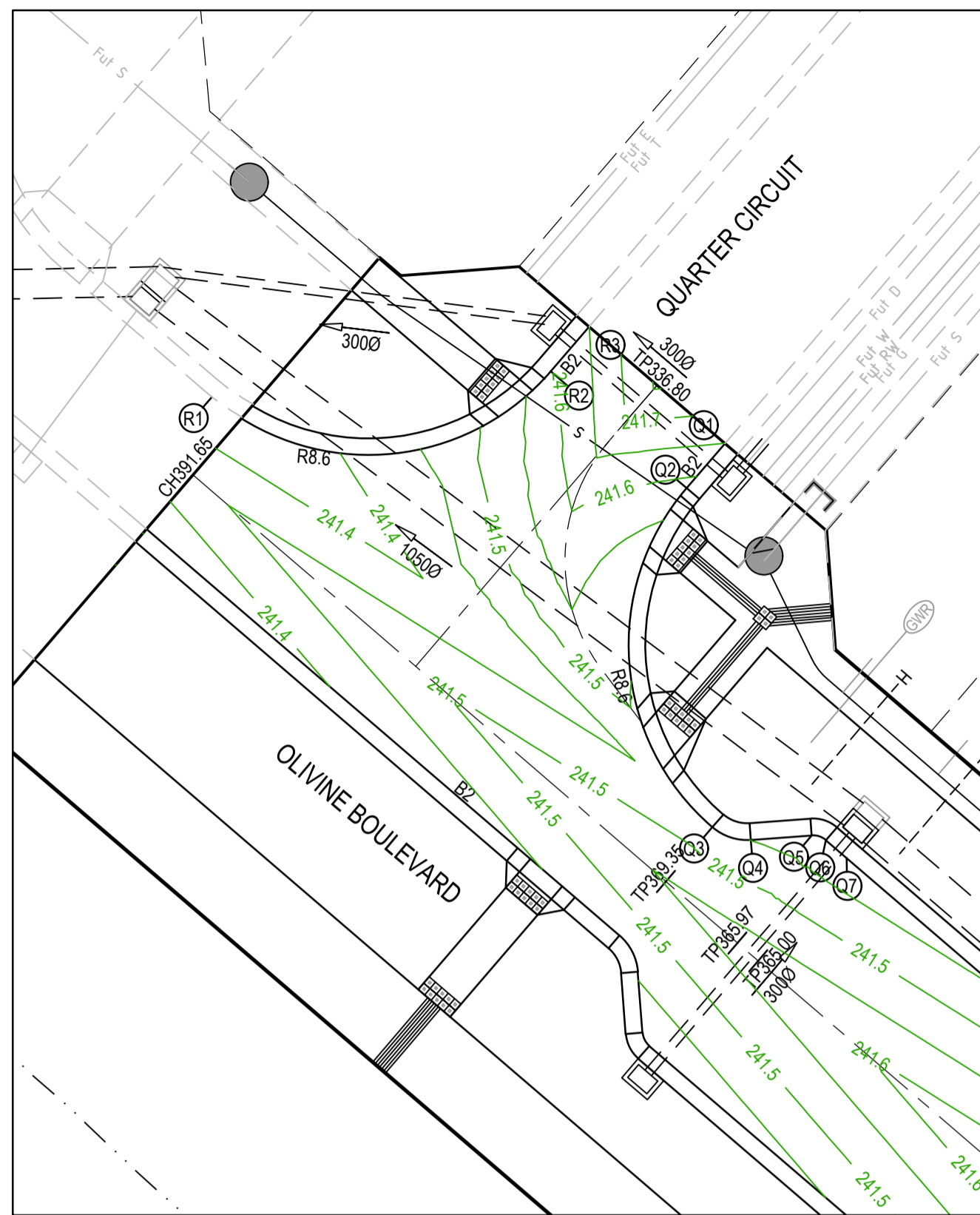


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Melbourne, VIC 3008  
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Olivine Estate - Stage 9  
Whittlesea City Council  
Road and Drainage  
Intersection Detail Plan & Lip Profiles - 1

|                           |                                             |                              |                      |
|---------------------------|---------------------------------------------|------------------------------|----------------------|
| MELWAYS REF<br><b>8M2</b> | PROJECT / DRAWING No.<br><b>1700E-09-19</b> | SHEET No.<br><b>19 of 34</b> | REVISION<br><b>0</b> |
|---------------------------|---------------------------------------------|------------------------------|----------------------|



Alignment V

| Point no | Easting    | Northing    | RL      |
|----------|------------|-------------|---------|
| V1       | 323132.501 | 5843809.627 | 242.237 |
| V2       | 323131.444 | 5843809.719 | 242.258 |
| V3       | 323131.353 | 5843808.662 | 242.241 |
| V4       | 323132.093 | 5843807.750 | 242.248 |
| V5       | 323133.146 | 5843807.621 | 242.271 |
| V6       | 323133.274 | 5843808.674 | 242.243 |

Alignment W

| Point no | Easting    | Northing    | RL      |
|----------|------------|-------------|---------|
| W1       | 323125.027 | 5843816.292 | 242.178 |
| W2       | 323123.368 | 5843816.081 | 242.197 |
| W3       | 323124.199 | 5843815.042 | 242.181 |
| W4       | 323128.290 | 5843811.852 | 242.217 |
| W5       | 323129.343 | 5843811.892 | 242.243 |
| W6       | 323129.317 | 5843812.945 | 242.214 |

Alignment X

| Point no | Easting    | Northing    | RL      |
|----------|------------|-------------|---------|
| X1       | 323139.013 | 5843797.869 | 242.303 |
| X2       | 323138.068 | 5843798.352 | 242.324 |
| X3       | 323137.585 | 5843797.408 | 242.309 |
| X4       | 323139.165 | 5843788.809 | 242.353 |
| X5       | 323139.952 | 5843788.092 | 242.376 |
| X6       | 323140.663 | 5843788.885 | 242.349 |

Curve data for Alignment X

| Curve no | I      | Radius | Arc   | A     | B     | X     | Y     | I     | Mid point RL |
|----------|--------|--------|-------|-------|-------|-------|-------|-------|--------------|
| X1 - X2  | 90.000 | 0.750  | 1.178 | 0.220 | 0.163 | 0.287 | 0.243 | 0.295 | 242.308      |
| X2 - X3  | 90.000 | 0.750  | 1.178 | 0.220 | 0.163 | 0.287 | 0.243 | 0.295 | 242.312      |
| X3 - X4  | 14.996 | 33.500 | 8.768 | 0.286 | 0.215 | 2.190 | 2.181 | 2.192 | 242.331      |
| X4 - X5  | 90.000 | 0.750  | 1.178 | 0.220 | 0.163 | 0.287 | 0.243 | 0.295 | 242.362      |
| X5 - X6  | 90.000 | 0.750  | 1.178 | 0.220 | 0.163 | 0.287 | 0.243 | 0.295 | 242.359      |
| X6 - X1  | 14.996 | 35.000 | 9.160 | 0.299 | 0.224 | 2.288 | 2.279 | 2.290 | 242.326      |

Alignment Y

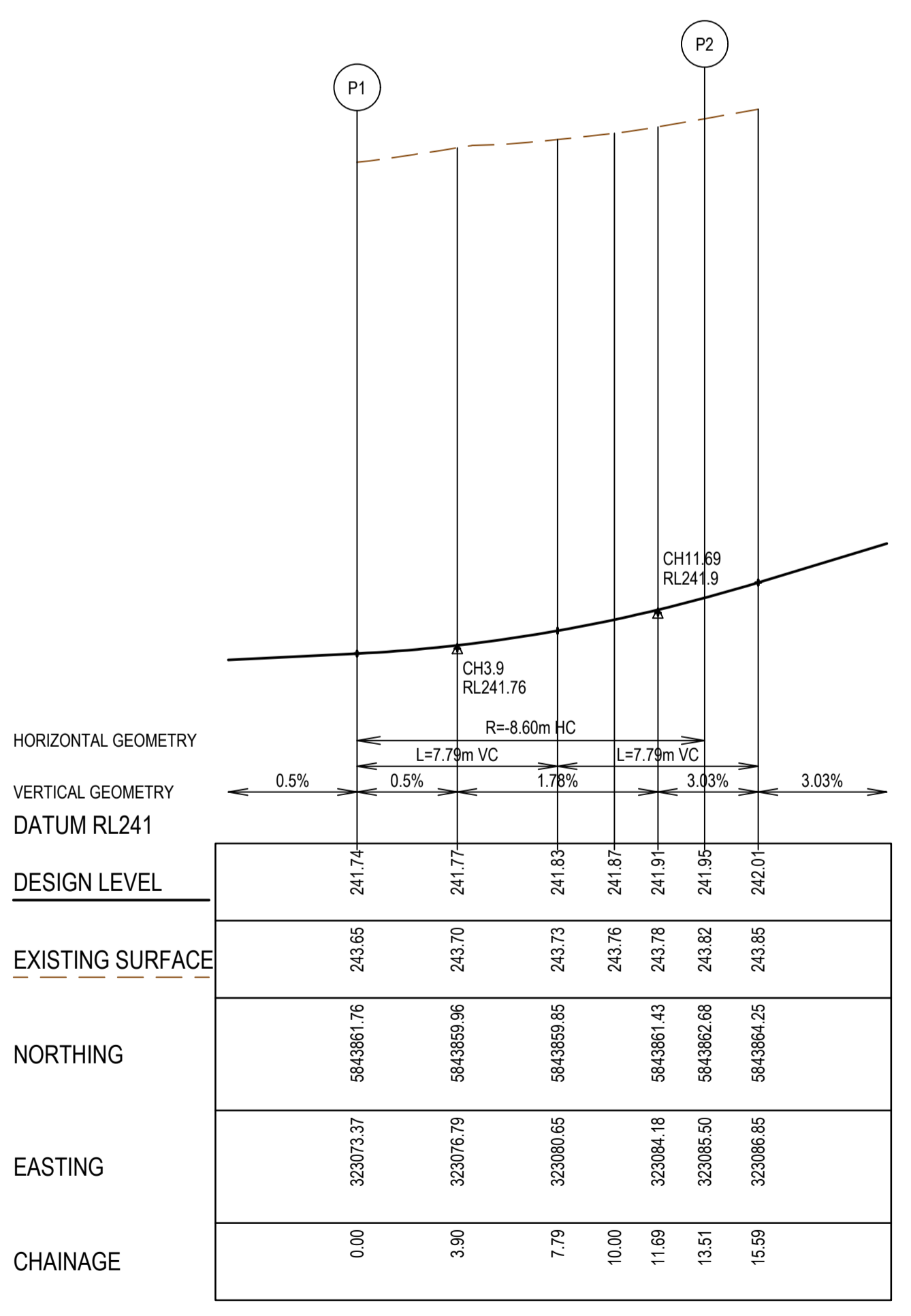
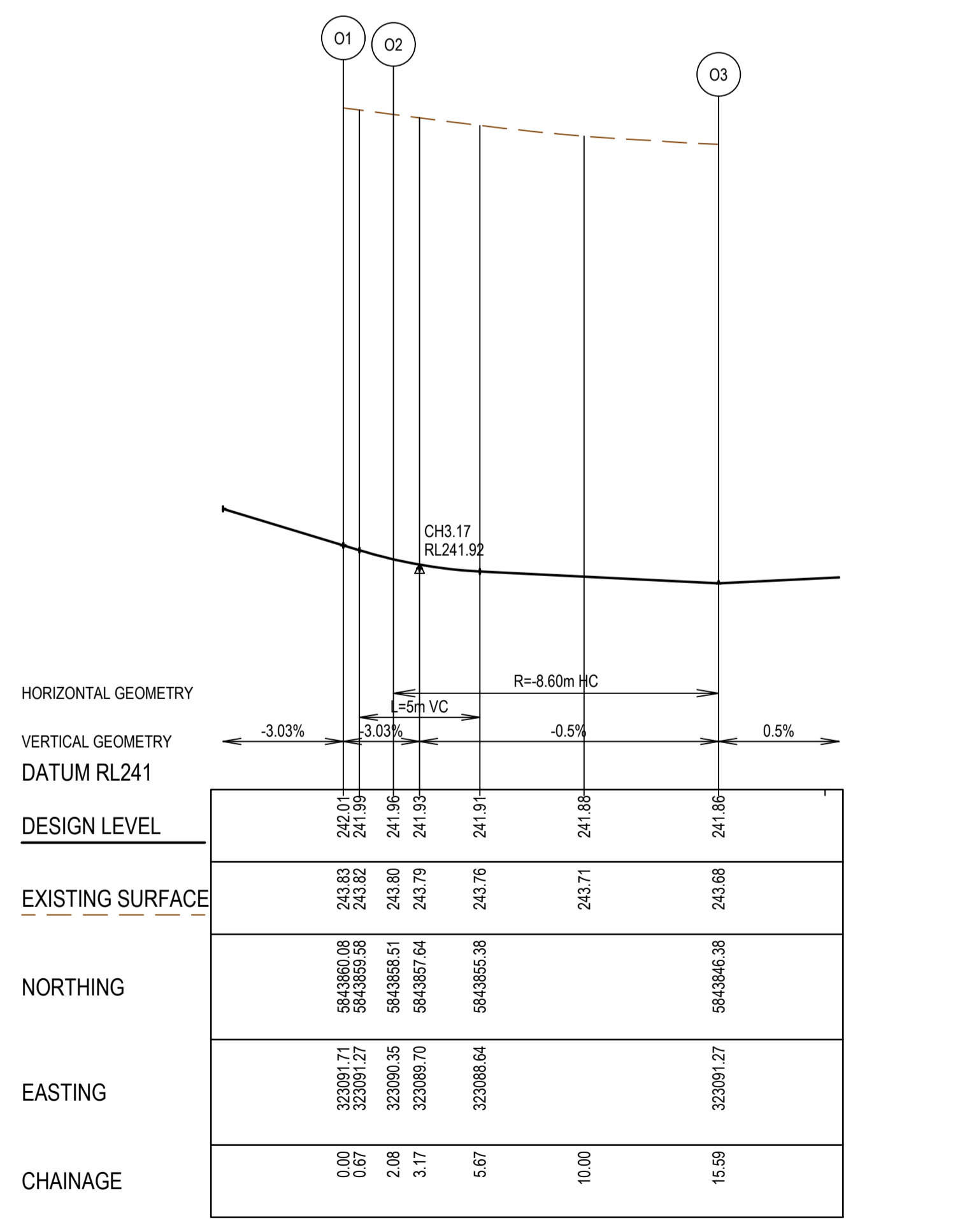
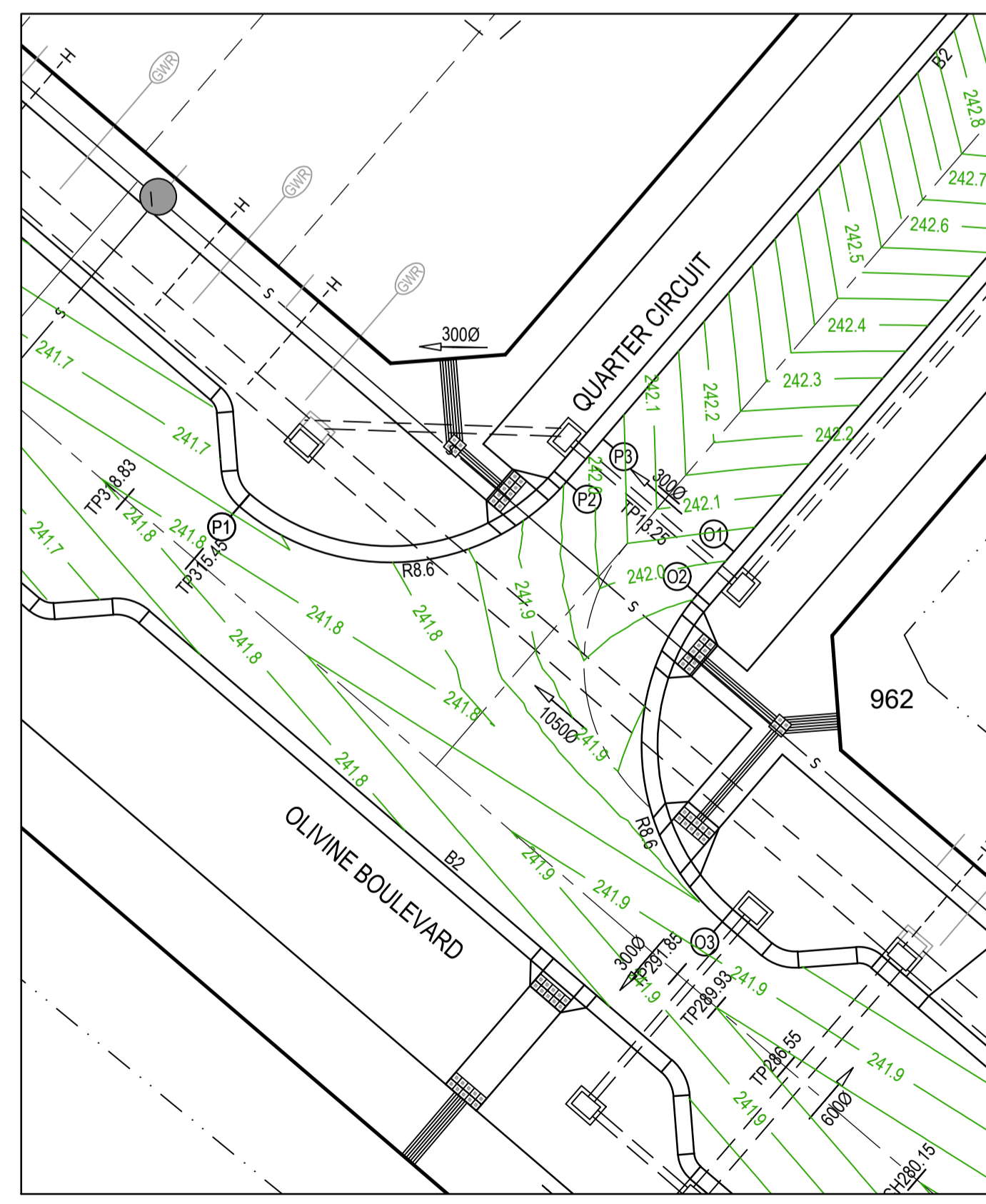
| Point no | Easting    | Northing    | RL      |
|----------|------------|-------------|---------|
| Y1       | 323140.477 | 5843806.532 | 242.235 |
| Y2       | 323139.426 | 5843806.680 | 242.199 |
| Y3       | 323139.575 | 5843807.731 | 242.215 |
| Y4       | 323142.042 | 5843809.585 | 242.288 |
| Y5       | 323143.092 | 5843809.436 | 242.316 |
| Y6       | 323142.944 | 5843808.386 | 242.318 |

Alignment Z

| Point no | Easting    | Northing    | RL      |
|----------|------------|-------------|---------|
| Z1       | 323145.639 | 5843812.289 | 242.357 |
| Z2       | 323144.440 | 5843811.388 | 242.335 |
| Z3       | 323144.251 | 5843810.338 | 242.341 |
| Z4       | 323145.341 | 5843810.189 | 242.343 |
| Z5       | 323146.540 | 5843811.090 | 242.363 |
| Z6       | 323146.689 | 5843812.140 | 242.383 |

Curve data for Alignment Z

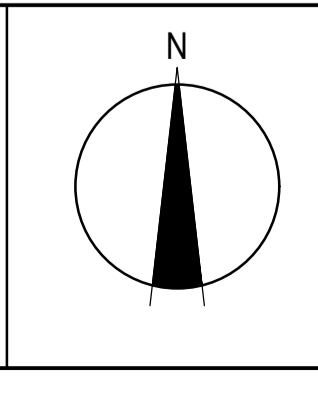
| Curve no | I      | Radius | Arc   | A     | B     | X     | Y     | I     | Mid point RL |
|----------|--------|--------|-------|-------|-------|-------|-------|-------|--------------|
| Y1 - Y2  | 90.000 | 0.750  | 1.178 | 0.220 | 0.163 | 0.287 | 0.243 | 0.295 | 242.215      |
| Y2 - Y3  | 90.000 | 0.750  | 1.178 | 0.220 | 0.163 | 0.287 | 0.243 | 0.295 | 242.201      |
| Y4 - Y5  | 90.000 | 0.750  | 1.178 | 0.220 | 0.163 | 0.287 | 0.243 | 0.295 | 242.302      |
| Y5 - Y6  | 90.000 | 0.750  | 1.178 | 0.220 | 0.163 | 0.287 | 0.243 | 0.295 | 242.323      |



ISSUED FOR CONSTRUCTION

| REV | DATE     | AMENDMENT / REVISION DESCRIPTION | DES/DT | APPROVAL |
|-----|----------|----------------------------------|--------|----------|
| 0   | 24.06.19 | ISSUED FOR CONSTRUCTION          | SM/SM  | AB       |

| TITLE           | NAME      |
|-----------------|-----------|
| DRAFTER         | R.Barua   |
| DESIGNER        | J.Jones   |
| CHECKED         | Z.Gosev   |
| AUTHORISED      | A.Burrows |
| REFERENCE No. 1 |           |
| REFERENCE No. 2 |           |

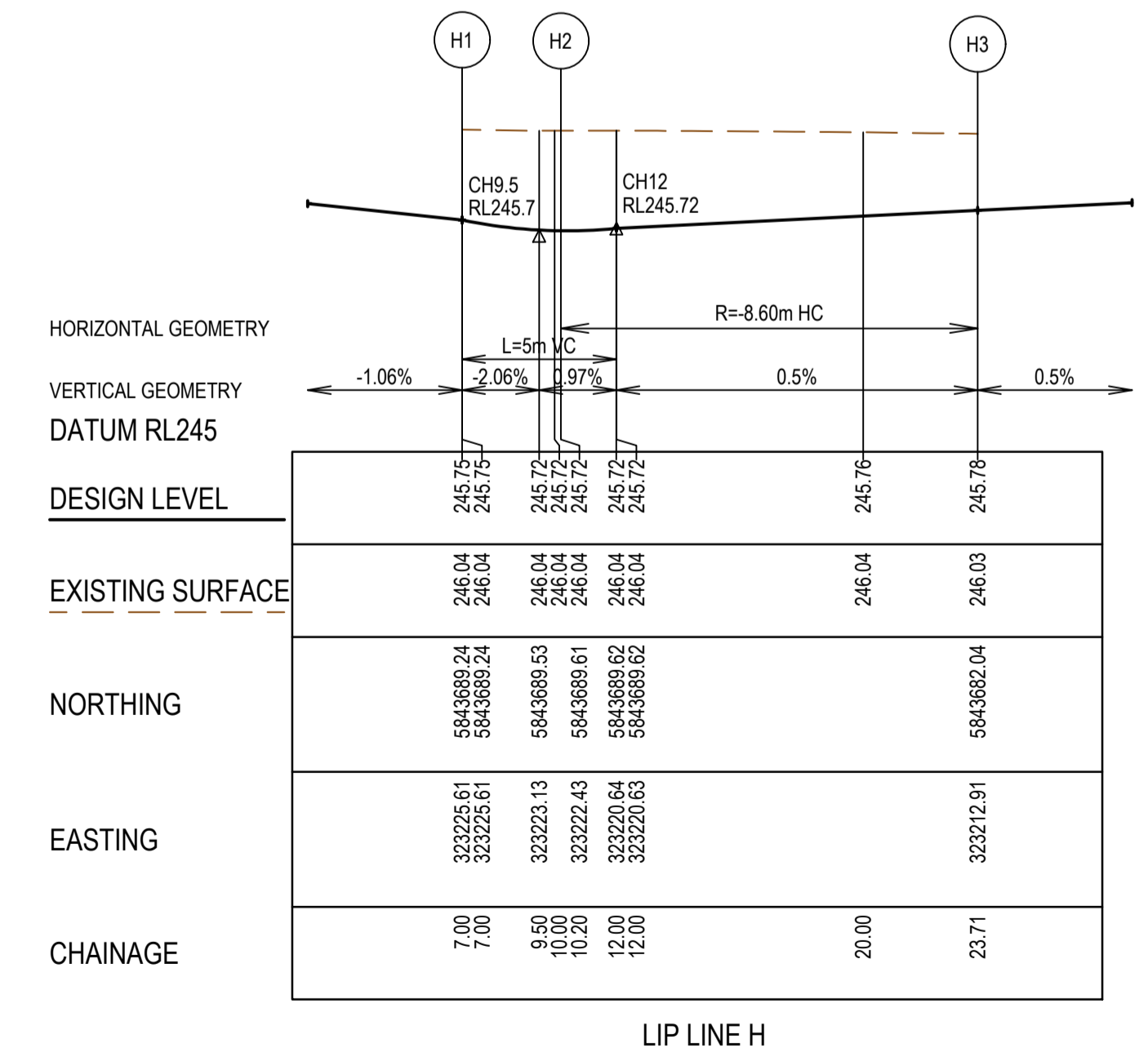
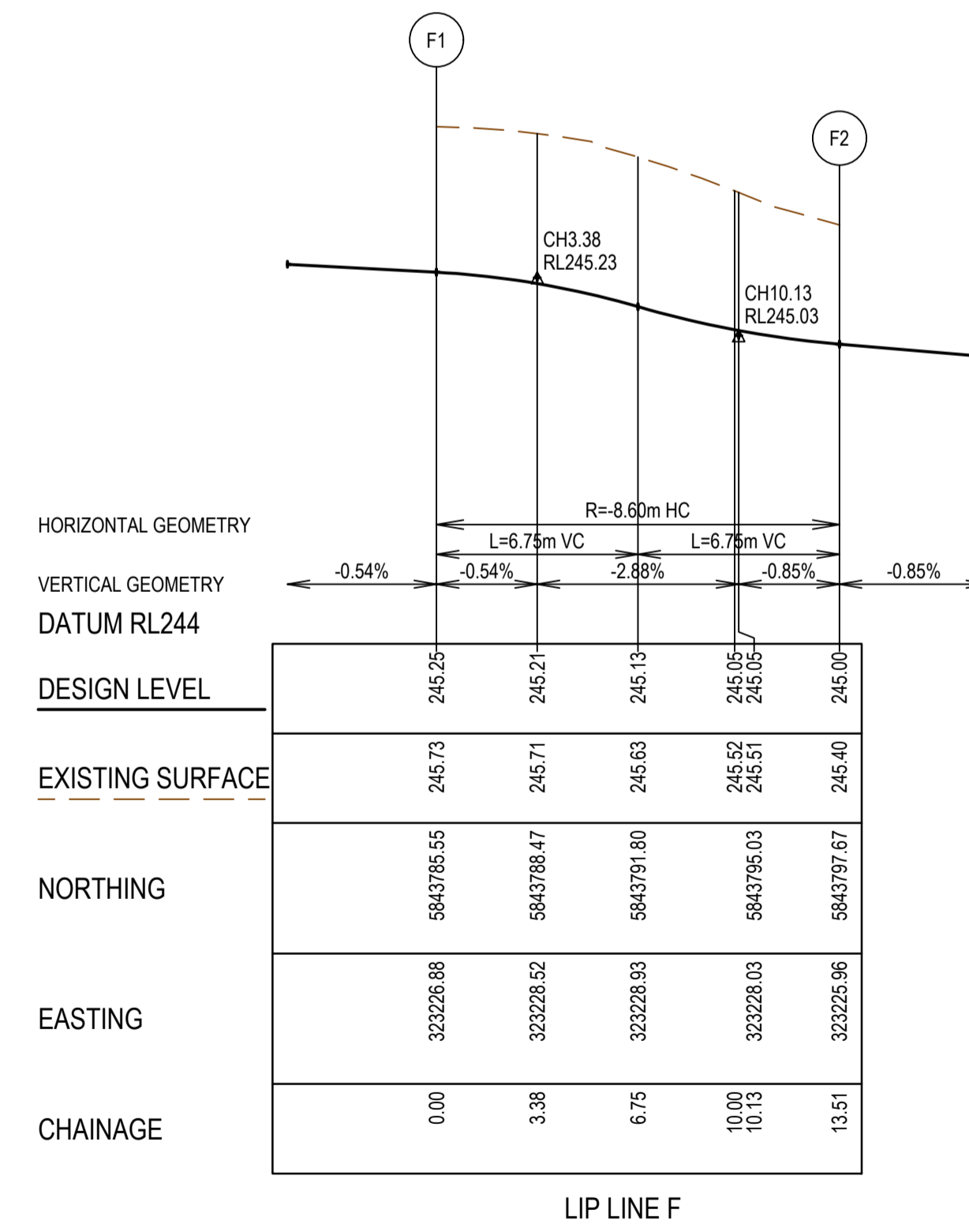
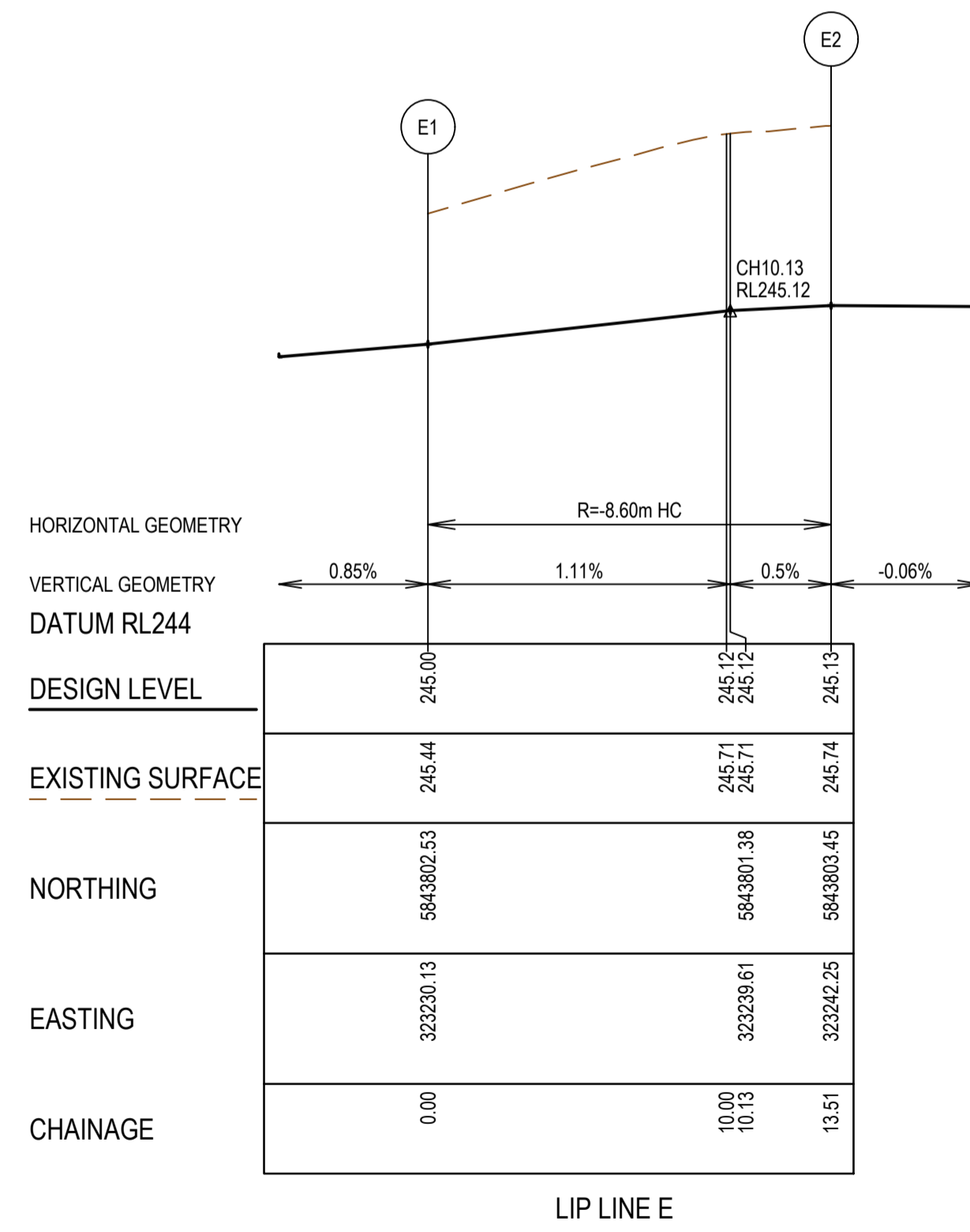
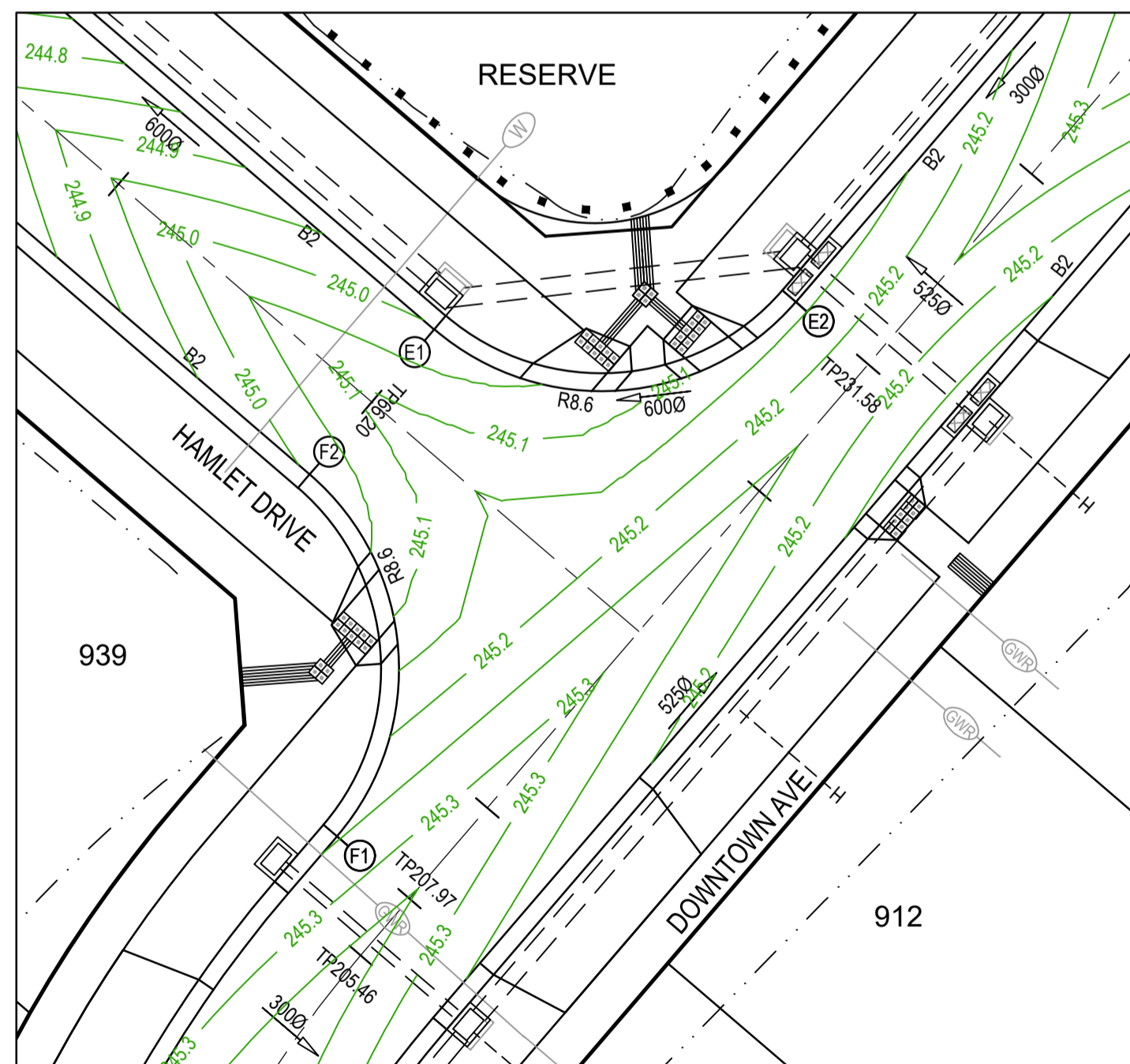
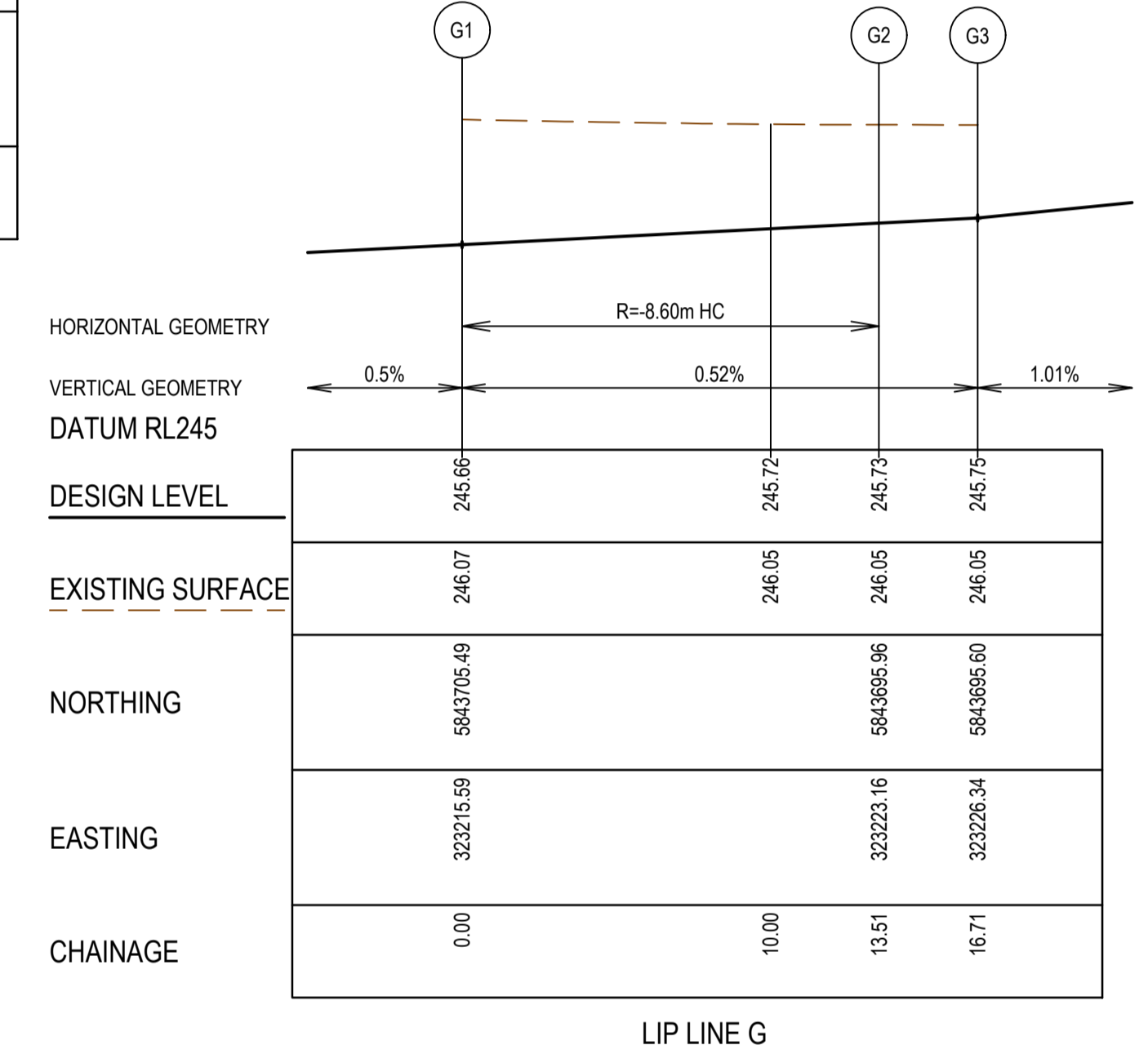
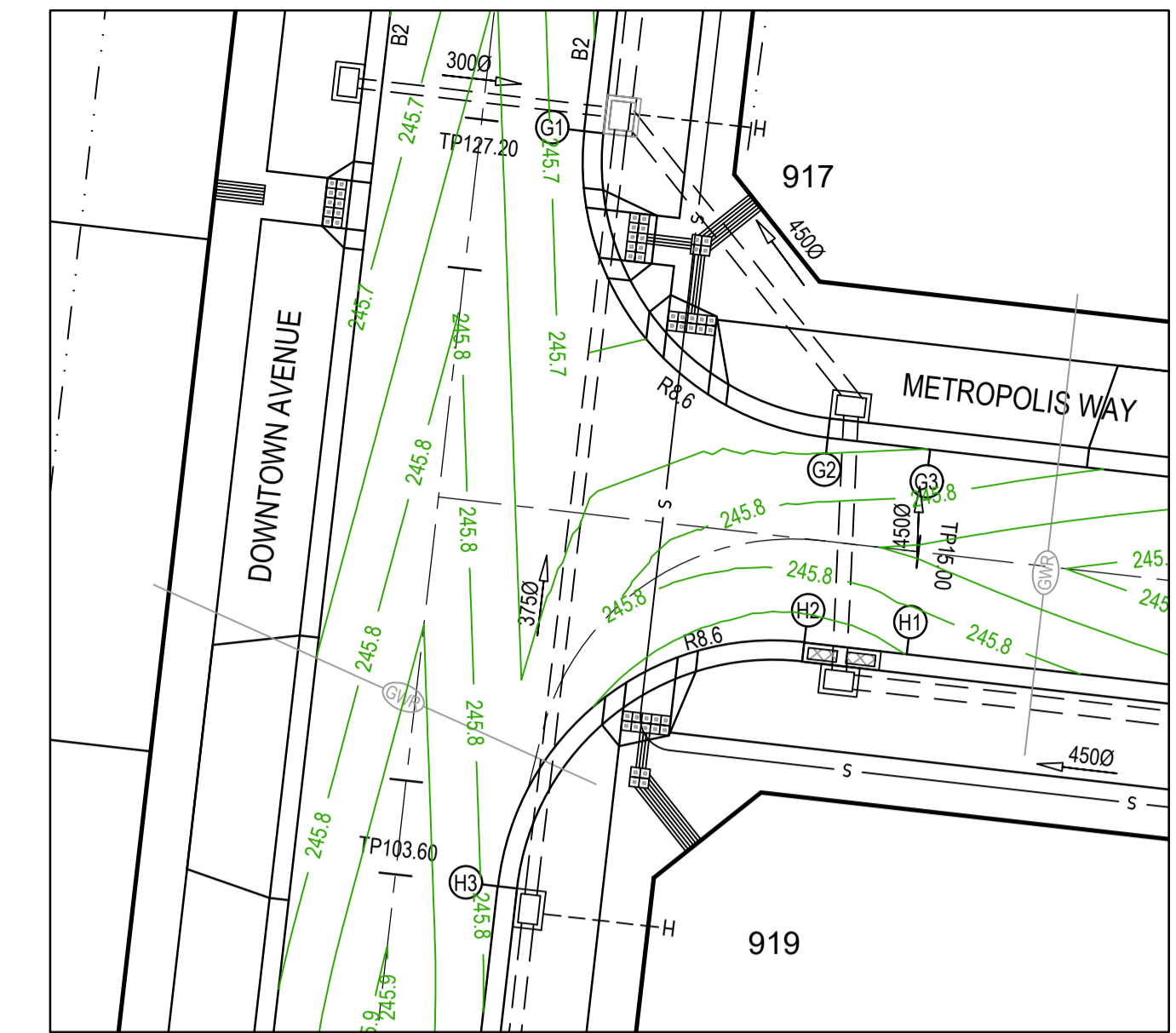
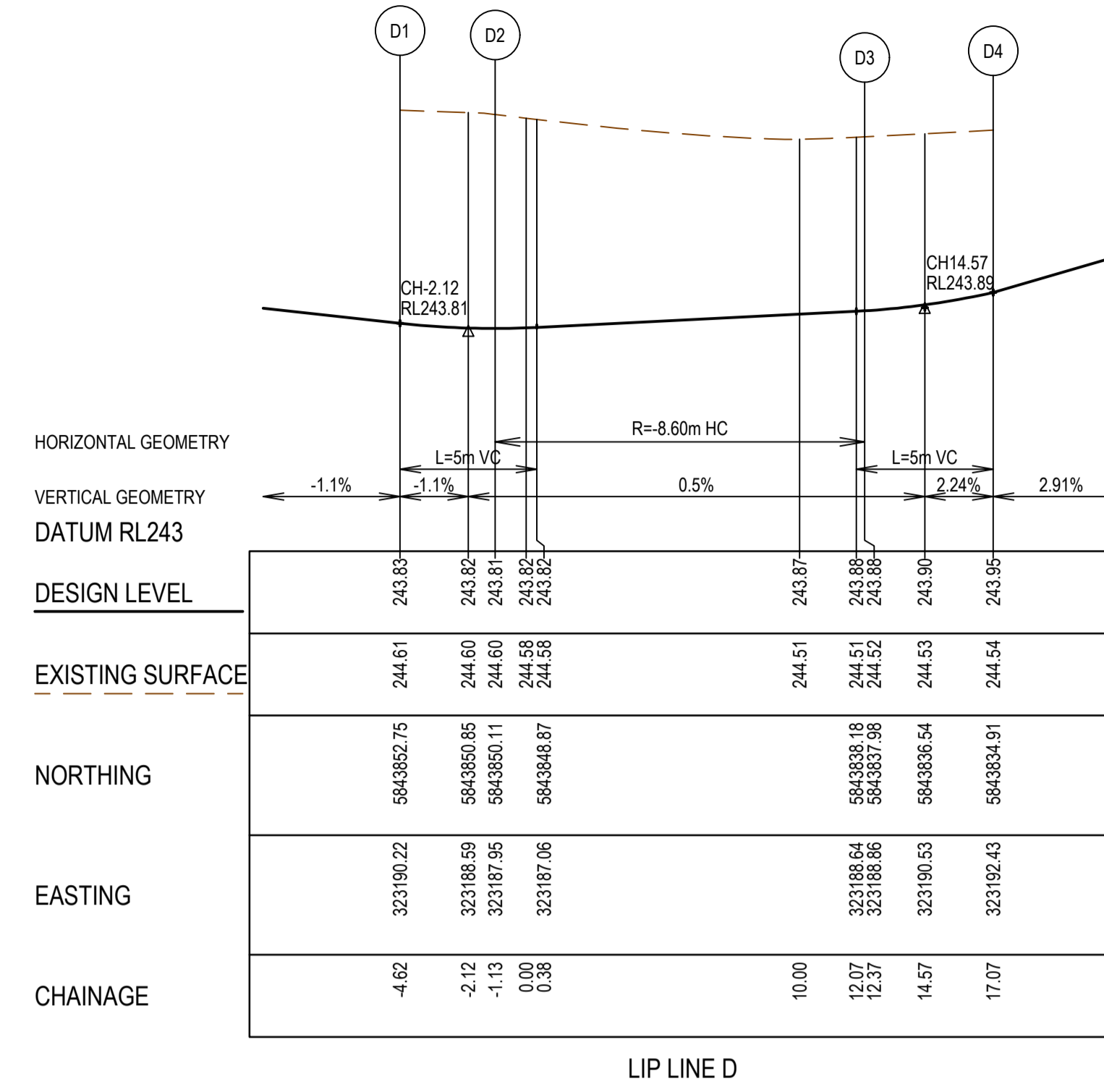
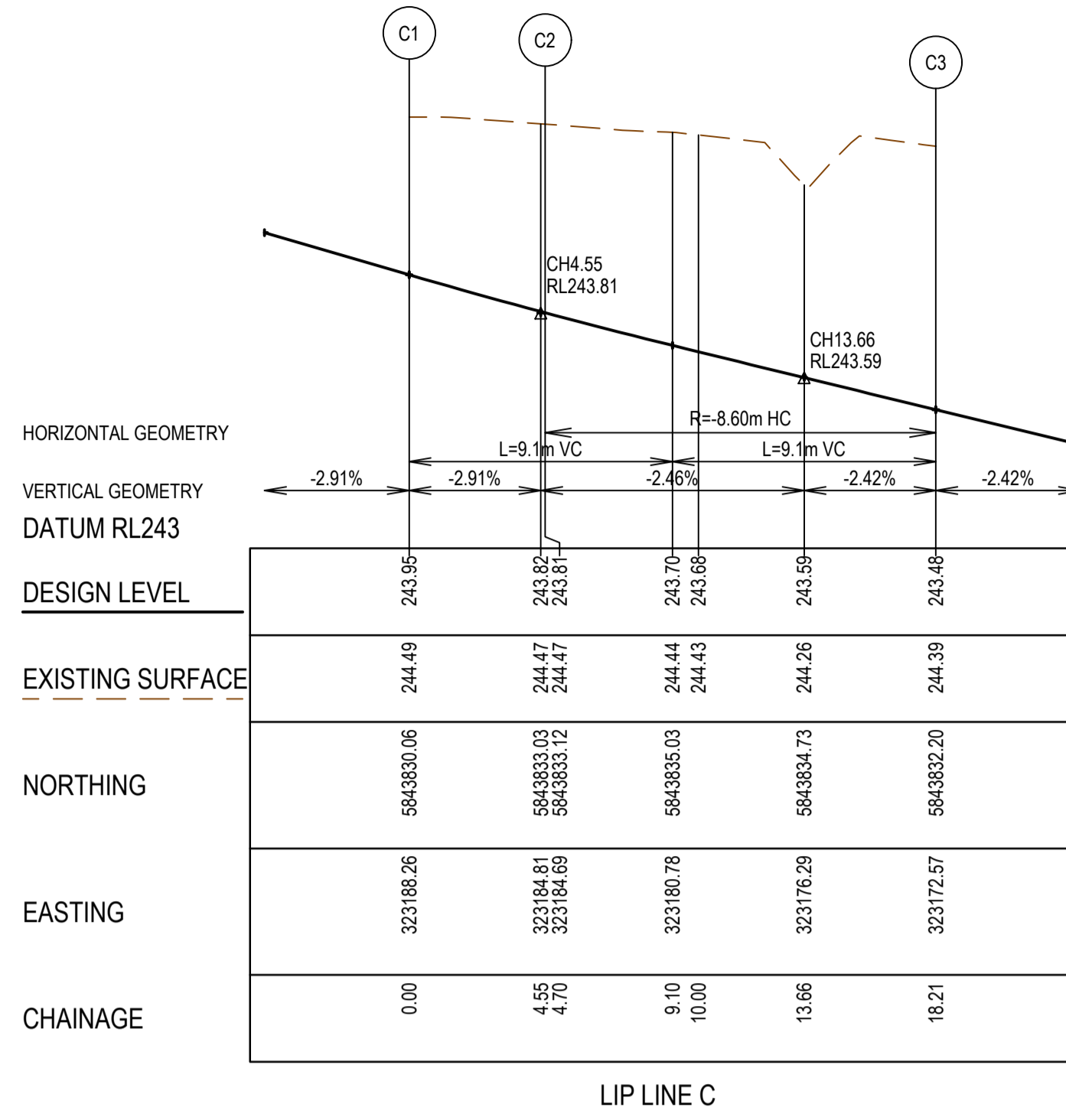
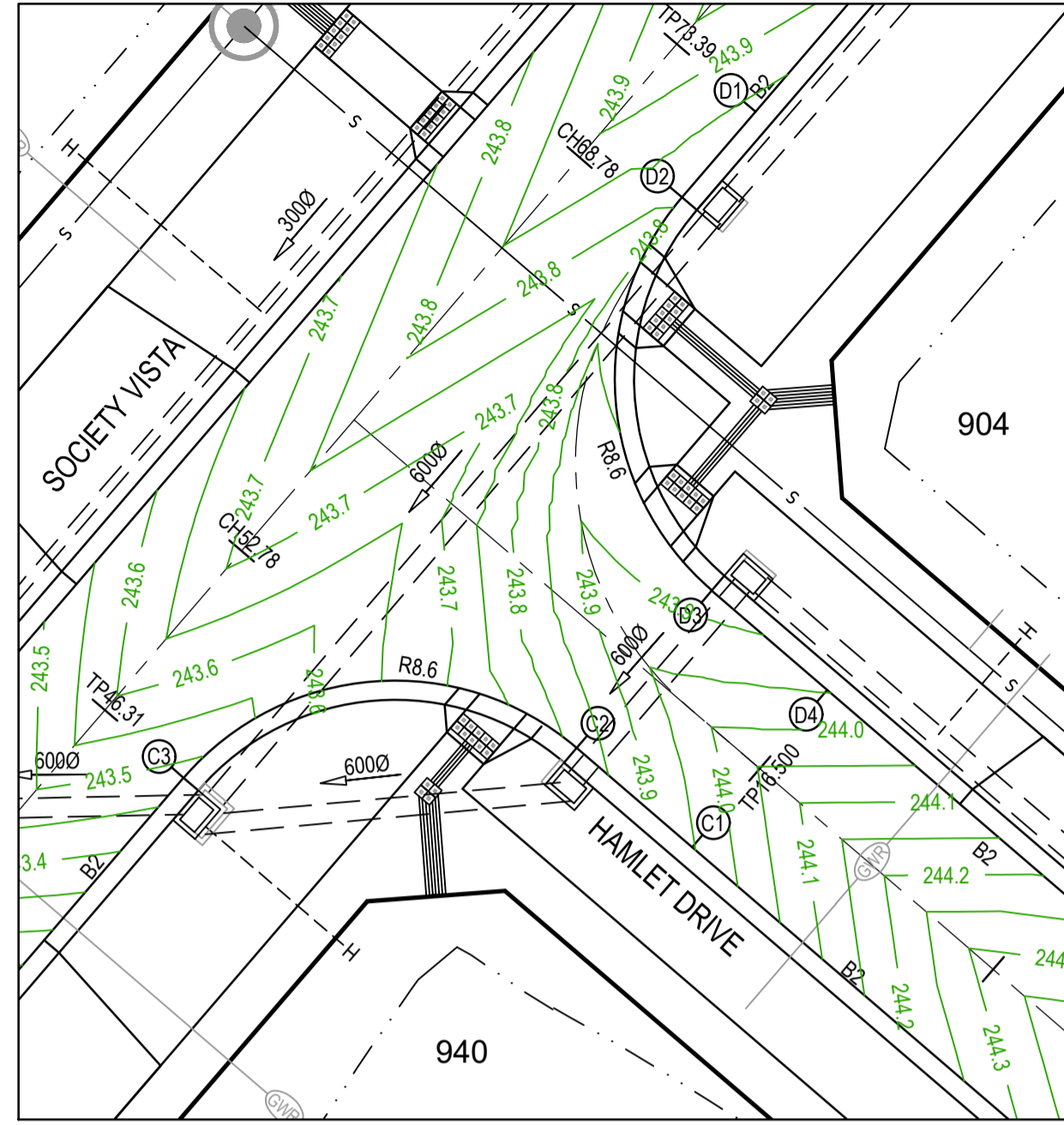


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Melbourne, VIC 3008  
Ph 03 9514 1500

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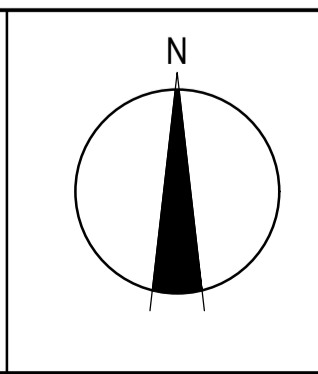
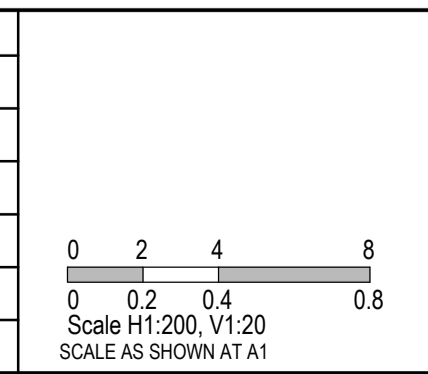
Olive Estate - Stage 9  
Whittlesea City Council  
Road and Drainage  
Intersection Detail Plan & Lip Profiles - 2

|                           |                                             |                              |                      |
|---------------------------|---------------------------------------------|------------------------------|----------------------|
| MELWAYS REF<br><b>8M2</b> | PROJECT / DRAWING No.<br><b>1700E-09-20</b> | SHEET No.<br><b>20 of 34</b> | REVISION<br><b>0</b> |
|---------------------------|---------------------------------------------|------------------------------|----------------------|



| REV | DATE     | AMENDMENT / REVISION DESCRIPTION | DESIGN | APPROVAL |
|-----|----------|----------------------------------|--------|----------|
| 0   | 24.06.19 | ISSUED FOR CONSTRUCTION          | SM/SM  | AB       |

| TITLE           | NAME      |
|-----------------|-----------|
| DRAFTER         | R.Barua   |
| DESIGNER        | J.Jones   |
| CHECKED         | Z.Gosev   |
| AUTHORISED      | A.Burrows |
| REFERENCE No. 1 |           |
| REFERENCE No. 2 |           |



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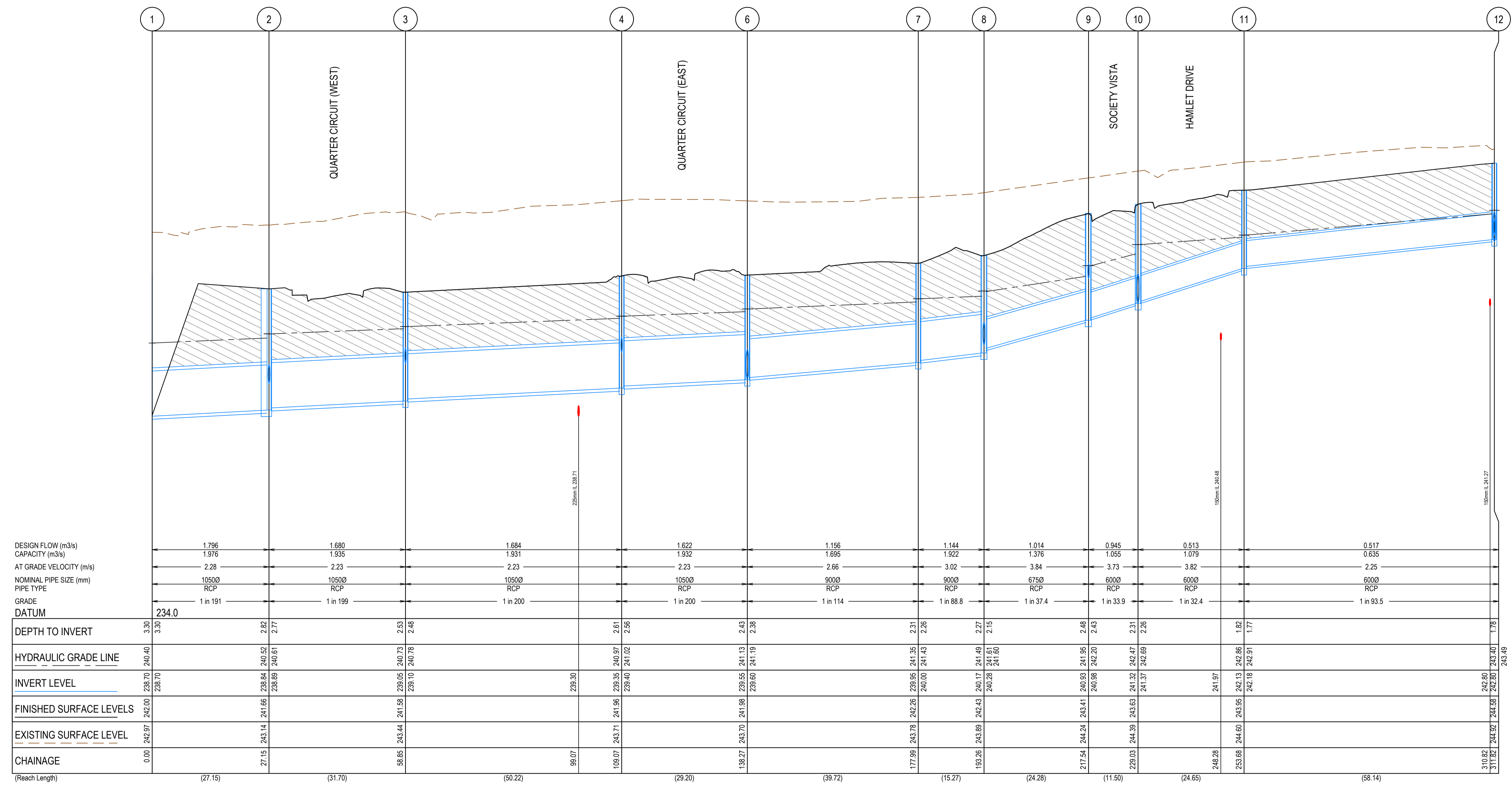
**mirvac**

Olivine Estate - Stage 9  
Whittlesea City Council  
Road and Drainage  
Intersection Detail Plan & Lip Profiles - 3

|                           |                                             |                              |                      |
|---------------------------|---------------------------------------------|------------------------------|----------------------|
| MELWAYS REF<br><b>8M2</b> | PROJECT / DRAWING No.<br><b>1700E-09-21</b> | SHEET No.<br><b>21 of 34</b> | REVISION<br><b>0</b> |
|---------------------------|---------------------------------------------|------------------------------|----------------------|

**NOTE**

- ALL DRAINS TO BE BACKFILLED IN ACCORDANCE WITH CLAUSE 35.1.7 OF COUNCIL'S SPECIFICATION.
- WHERE DRAINS ARE UNDER ANY PAVED AREA OR BEHIND THE KERB AND CHANNEL THE DRAINS IS TO BE BACKFILLED AS FOLLOWS
  - 30mm NOM. SIZE CLASS 3 FCR TO 100mm ABOVE THE TOP OF PIPE.
  - LOW PERMEABILITY CLASS 4 FCR FROM 100mm ABOVE THE TOP OF PIPE TO UNDERSIDE OF PAVEMENT

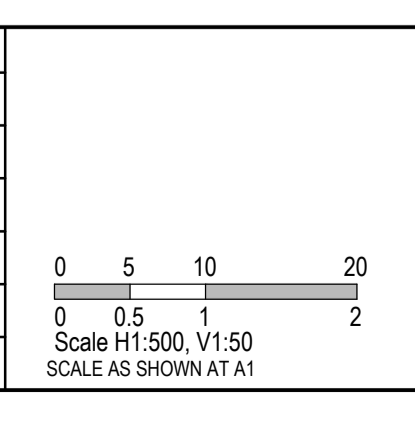


| REV | DATE     | AMENDMENT / REVISION DESCRIPTION | DESIGN | APPROVAL |
|-----|----------|----------------------------------|--------|----------|
| 0   | 24.06.19 | ISSUED FOR CONSTRUCTION          | SM/SM  | AB       |

|                                |  |
|--------------------------------|--|
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|                                                                                                                                                                                                                                                                                       |           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
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| TITLE                                                                                                                                                                                                                                                                                 | NAME      |
| DRAFTER                                                                                                                                                                                                                                                                               | R.Barua   |
| DESIGNER                                                                                                                                                                                                                                                                              | J.Jones   |
| CHECKED                                                                                                                                                                                                                                                                               | Z.Gosev   |
| AUTHORISED                                                                                                                                                                                                                                                                            | A.Burrows |
| REFERENCE No. 1                                                                                                                                                                                                                                                                       |           |
| REFERENCE No. 2                                                                                                                                                                                                                                                                       |           |



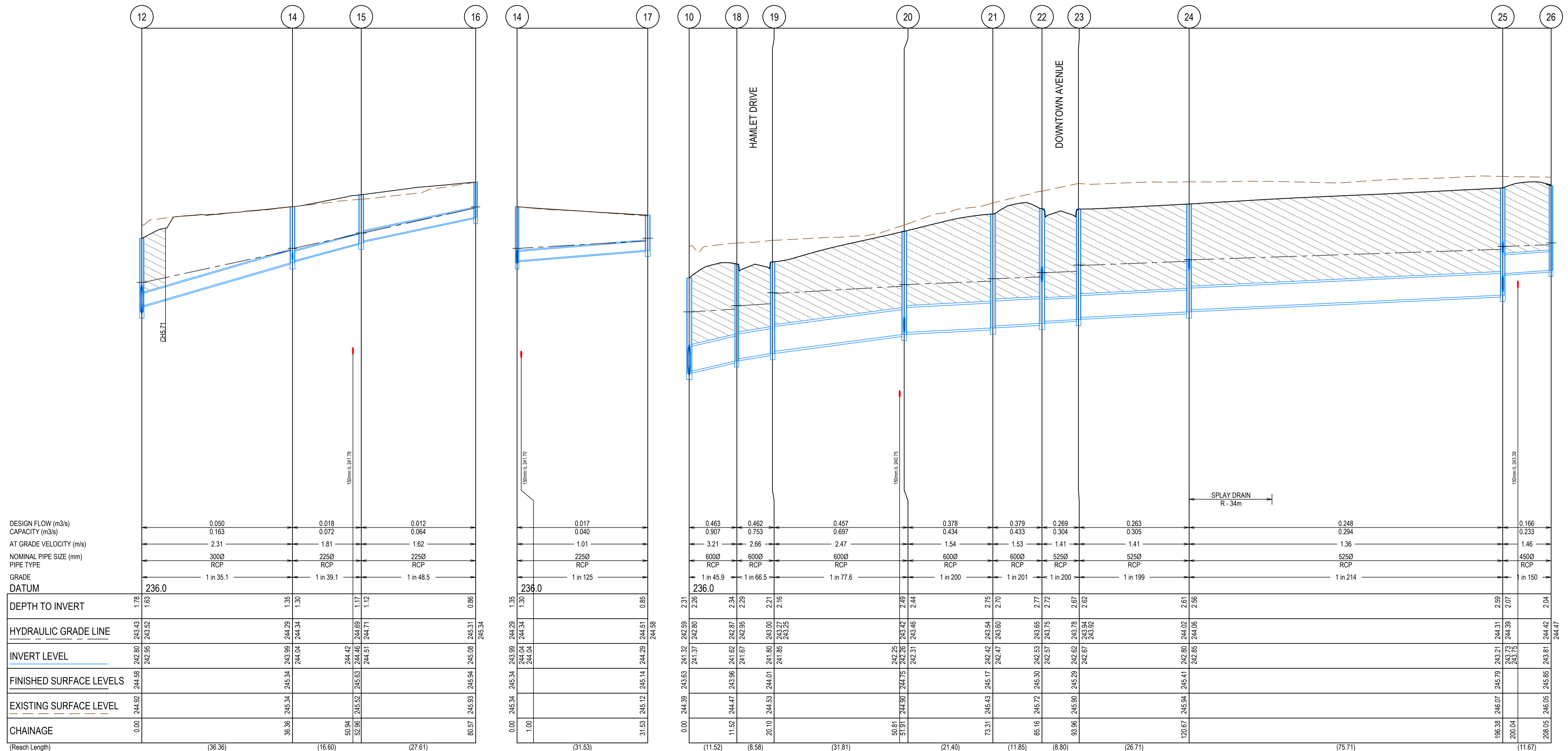
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Tower 4, Level 20, 727 Collins Street  
Melbourne, VIC 3008  
Ph 03 9514 1500



|                                                                                                                |  |                           |                                             |                              |                      |
|----------------------------------------------------------------------------------------------------------------|--|---------------------------|---------------------------------------------|------------------------------|----------------------|
| Olivine Estate - Stage 9<br>Whittlesea City Council<br>Road and Drainage<br>Drainage Longitudinal Sections - 1 |  | MELWAYS REF<br><b>8M2</b> | PROJECT / DRAWING No.<br><b>1700E-09-22</b> | SHEET No.<br><b>22 of 34</b> | REVISION<br><b>0</b> |
|----------------------------------------------------------------------------------------------------------------|--|---------------------------|---------------------------------------------|------------------------------|----------------------|

**NOTE**

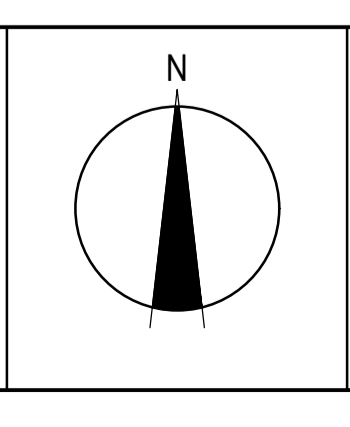
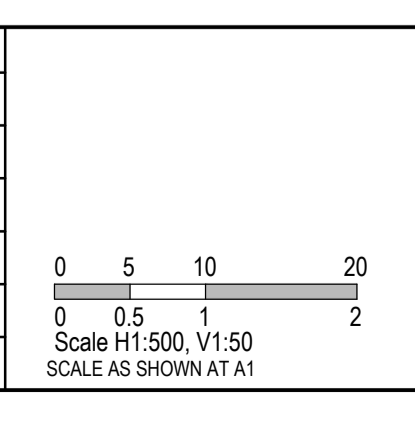
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| REV | DATE     | AMENDMENT / REVISION DESCRIPTION | DESIGN | APPROVAL |
|-----|----------|----------------------------------|--------|----------|
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|                                                                                                                                                                                                                                                                                       |                                      |                 |           |
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| Quality Management - ISO 9001                                                                                                                                                                                                                                                         | Drainage Management - AS/NZS 1906    | DRAFTER         | R.Barua   |
| Drainage Management - AS/NZS 1906                                                                                                                                                                                                                                                     | Environmental Management - ISO 14001 | DESIGNER        | J.Jones   |
| Global-Mark.com.au®                                                                                                                                                                                                                                                                   | Global-Mark.com.au®                  | CHECKED         | Z.Gosev   |
|                                                                                                                                                                                                                                                                                       |                                      | AUTHORISED      | A.Burrows |
|                                                                                                                                                                                                                                                                                       |                                      | REFERENCE No. 1 |           |
|                                                                                                                                                                                                                                                                                       |                                      | REFERENCE No. 2 |           |



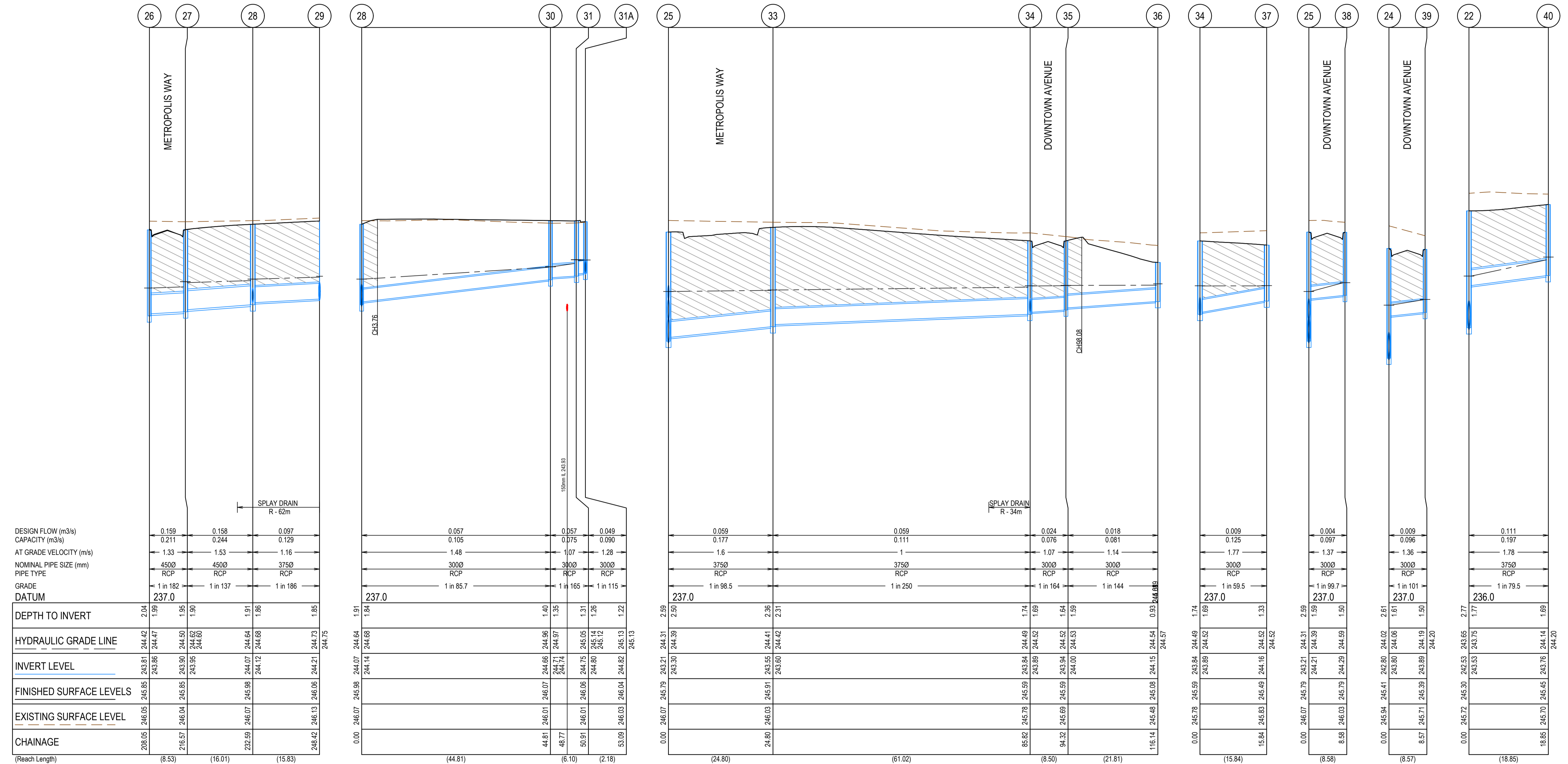
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Tower 4, Level 20, 727 Collins Street  
Melbourne, VIC 3008  
Ph 03 9514 1500

Olivine Estate - Stage 9  
Whittlesea City Council  
Road and Drainage  
Drainage Longitudinal Sections - 2

|                           |                                             |                              |                      |
|---------------------------|---------------------------------------------|------------------------------|----------------------|
| MELWAYS REF<br><b>8M2</b> | PROJECT / DRAWING No.<br><b>1700E-09-23</b> | SHEET No.<br><b>23 of 34</b> | REVISION<br><b>0</b> |
|---------------------------|---------------------------------------------|------------------------------|----------------------|

**NOTE**

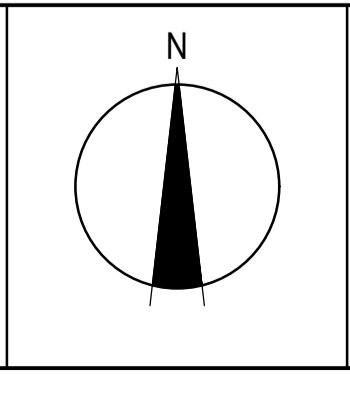
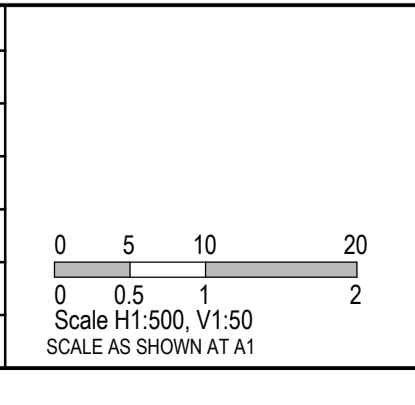
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| REV | DATE     | AMENDMENT / REVISION DESCRIPTION | DES/DT | APPROVAL |
|-----|----------|----------------------------------|--------|----------|
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|                                                                                                                                                                                                                                                                                       |                             |                 |           |
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| Quality Management ISO 9001                                                                                                                                                                                                                                                           | Site Management AS/NZS 1800 | DRAFTER         | R.Barua   |
| Global-Mark.com.au®                                                                                                                                                                                                                                                                   | Global-Mark.com.au®         | DESIGNER        | J.Jones   |
| Environmental Management ISO 14001                                                                                                                                                                                                                                                    | Global-Mark.com.au®         | CHECKED         | Z.Gosev   |
|                                                                                                                                                                                                                                                                                       |                             | AUTHORISED      | A.Burrows |
|                                                                                                                                                                                                                                                                                       |                             | REFERENCE No. 1 |           |
|                                                                                                                                                                                                                                                                                       |                             | REFERENCE No. 2 |           |



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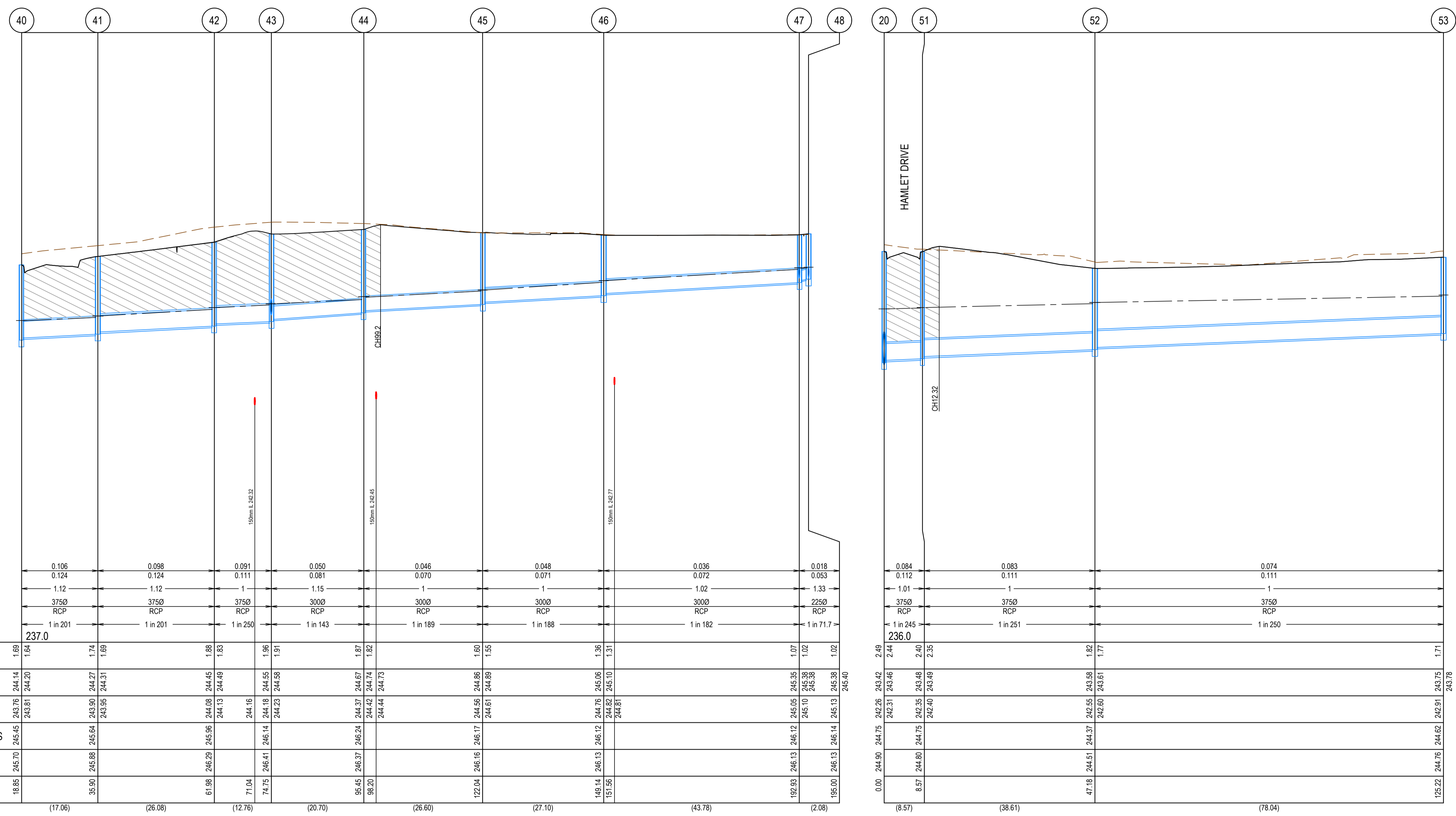
Olivine Estate - Stage 9  
Whittlesea City Council  
Road and Drainage  
Drainage Longitudinal Sections - 3

|                           |                                             |                              |                      |
|---------------------------|---------------------------------------------|------------------------------|----------------------|
| MELWAYS REF<br><b>8M2</b> | PROJECT / DRAWING No.<br><b>1700E-09-24</b> | SHEET No.<br><b>24 of 34</b> | REVISION<br><b>0</b> |
|---------------------------|---------------------------------------------|------------------------------|----------------------|



**NOTE**

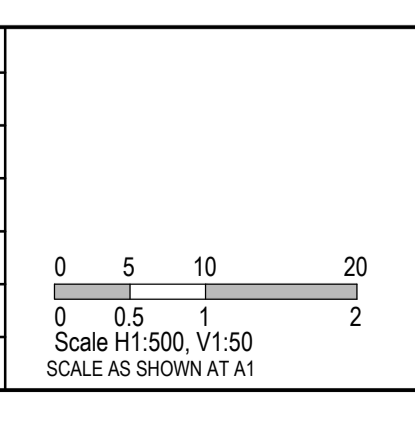
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| 0   | 24.06.19 | ISSUED FOR CONSTRUCTION          | SM/SM  | AB       |

**ISSUED FOR CONSTRUCTION**

| TITLE           | NAME      |
|-----------------|-----------|
| DRAFTER         | R.Barua   |
| DESIGNER        | J.Jones   |
| CHECKED         | Z.Gosev   |
| AUTHORISED      | A.Burrows |
| REFERENCE No. 1 |           |
| REFERENCE No. 2 |           |



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Melbourne, VIC 3008  
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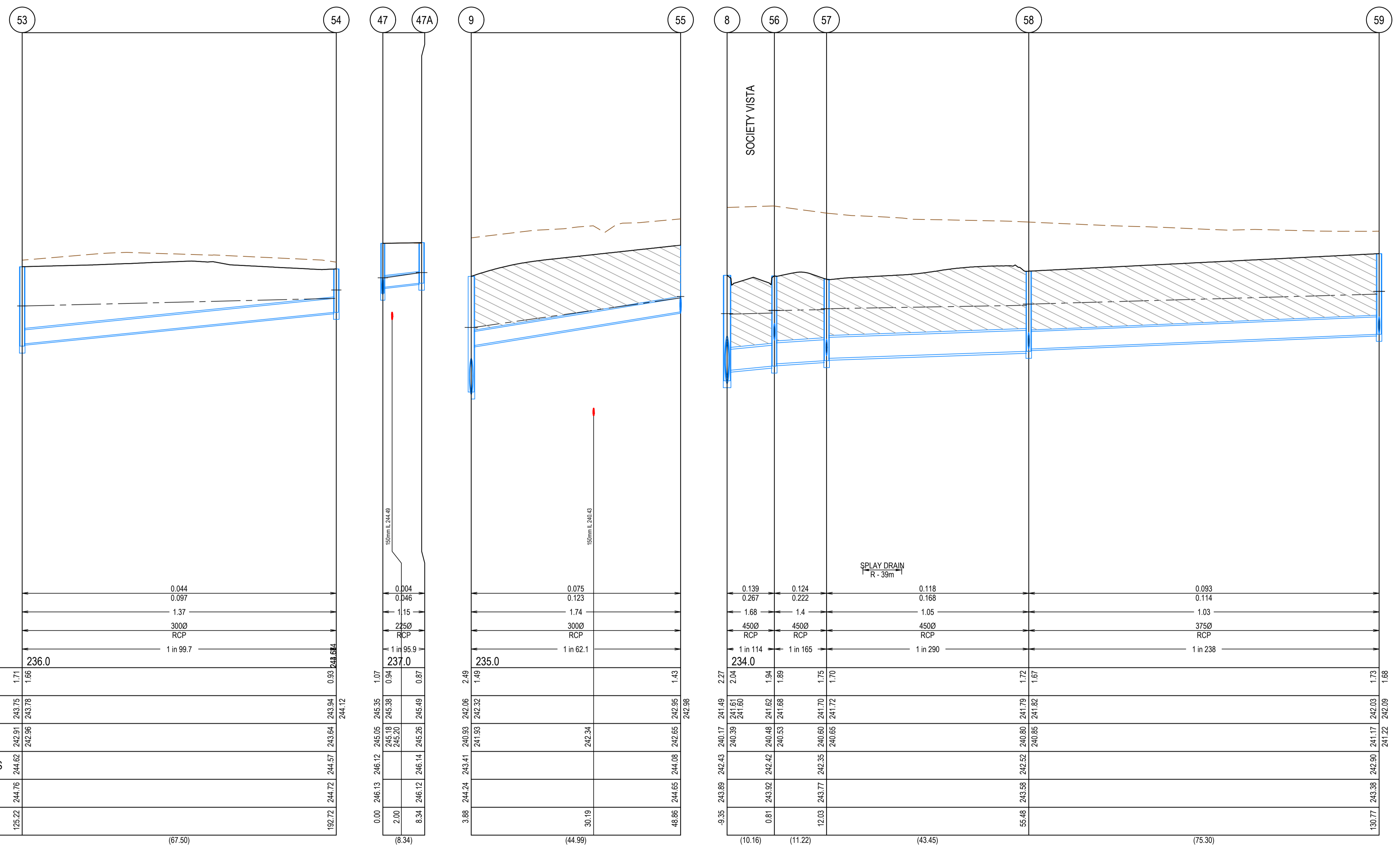
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Olivine Estate - Stage 9  
Whittlesea City Council  
Road and Drainage  
Drainage Longitudinal Sections - 4

|                           |                                             |                              |                      |
|---------------------------|---------------------------------------------|------------------------------|----------------------|
| MELWAYS REF<br><b>8M2</b> | PROJECT / DRAWING No.<br><b>1700E-09-25</b> | SHEET No.<br><b>25 of 34</b> | REVISION<br><b>0</b> |
|---------------------------|---------------------------------------------|------------------------------|----------------------|

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DESIGN FLOW (m3/s) 0.044  
 CAPACITY (m3/s) 0.097  
 AT GRADE VELOCITY (m/s) 1.37  
 NOMINAL PIPE SIZE (mm) 3000  
 PIPE TYPE RCP  
 GRADE 1 in 99.7  
 DATUM 236.0

| DEPTH TO INVERT         | 1.71    | 1.66   | 0.93   | 244.684 |
|-------------------------|---------|--------|--------|---------|
| HYDRAULIC GRADE LINE    | 243.75  | 243.78 | 245.94 | 244.12  |
| INVERT LEVEL            | 242.91  | 242.96 | 245.64 | 245.64  |
| FINISHED SURFACE LEVELS | 244.62  | 244.76 | 244.57 | 244.57  |
| EXISTING SURFACE LEVEL  | 244.76  | 244.72 | 244.72 | 244.72  |
| CHAINAGE                | 125.22  | 192.72 | 244.72 | 244.57  |
| (Reach Length)          | (67.50) |        |        |         |

| DEPTH TO INVERT         | 1.07   | 0.94   | 0.87   | 237.0  |
|-------------------------|--------|--------|--------|--------|
| HYDRAULIC GRADE LINE    | 245.35 | 245.38 | 245.49 | 245.49 |
| INVERT LEVEL            | 245.18 | 245.20 | 245.26 | 245.26 |
| FINISHED SURFACE LEVELS | 246.12 | 246.12 | 246.14 | 246.14 |
| EXISTING SURFACE LEVEL  | 246.13 | 246.12 | 246.12 | 246.12 |
| CHAINAGE                | 3.88   | 243.41 | 243.41 | 243.41 |
| (Reach Length)          | (8.34) |        |        |        |

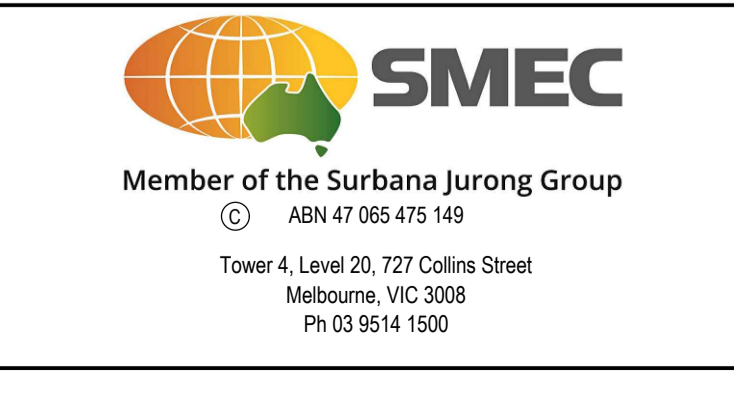
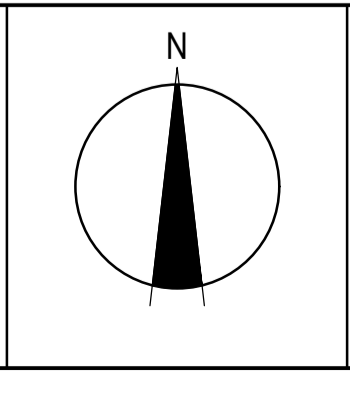
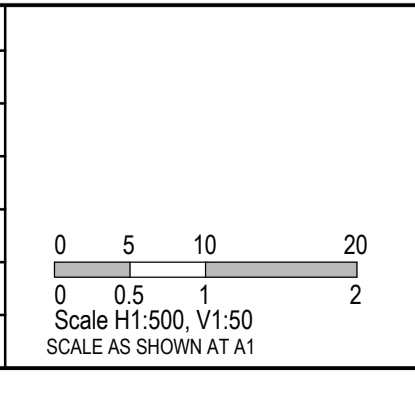
| DEPTH TO INVERT         | 2.27    | 2.04    | 1.94    | 1.89    | 1.75   | 1.70   | 1.72   | 1.67   | 1.73   |
|-------------------------|---------|---------|---------|---------|--------|--------|--------|--------|--------|
| HYDRAULIC GRADE LINE    | 241.49  | 241.61  | 241.62  | 241.68  | 241.70 | 241.72 | 241.79 | 241.82 | 242.03 |
| INVERT LEVEL            | 240.39  | 241.61  | 241.62  | 241.68  | 241.70 | 241.72 | 241.85 | 241.82 | 242.03 |
| FINISHED SURFACE LEVELS | 242.43  | 242.42  | 242.42  | 242.42  | 242.35 | 242.35 | 242.52 | 242.52 | 242.90 |
| EXISTING SURFACE LEVEL  | 243.89  | 243.92  | 243.92  | 243.92  | 243.77 | 243.77 | 243.58 | 243.58 | 243.38 |
| CHAINAGE                | -9.35   | 0.81    | 12.03   | 55.48   | 130.77 | 243.41 | 243.41 | 243.41 | 243.41 |
| (Reach Length)          | (10.16) | (11.22) | (43.45) | (75.30) |        |        |        |        |        |

| REV | DATE     | AMENDMENT / REVISION DESCRIPTION | DES/DT | APPROVAL |
|-----|----------|----------------------------------|--------|----------|
| 0   | 24.06.19 | ISSUED FOR CONSTRUCTION          | SM/SM  | AB       |

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| TITLE           | NAME      |
|-----------------|-----------|
| DRAFTER         | R.Barua   |
| DESIGNER        | J.Jones   |
| CHECKED         | Z.Gosev   |
| AUTHORISED      | A.Burrows |
| REFERENCE No. 1 |           |
| REFERENCE No. 2 |           |

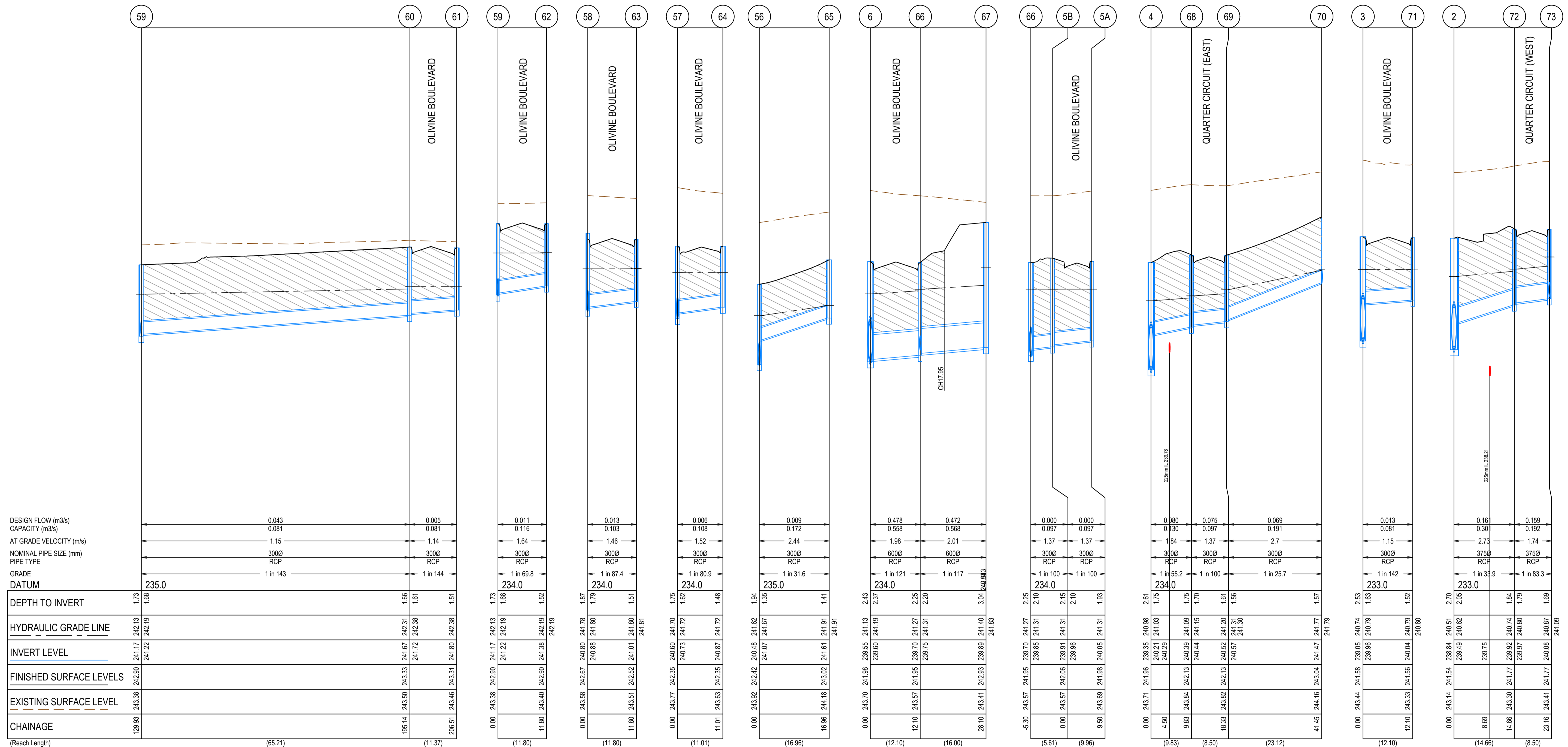


Olivine Estate - Stage 9  
 Whittlesea City Council  
 Road and Drainage  
 Drainage Longitudinal Sections - 5

| MELWAYS REF | PROJECT / DRAWING No. | SHEET No. | REVISION |
|-------------|-----------------------|-----------|----------|
| 8M2         | 1700E-09-26           | 26 of 34  | 0        |

**NOTE**

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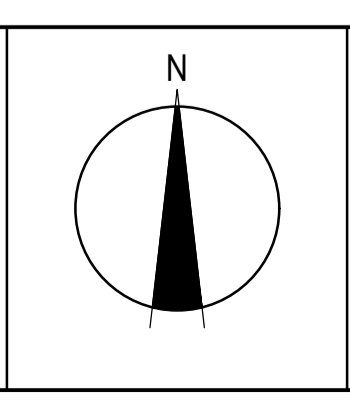


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|-----------------|-----------|
| DRAFTER         | R.Barua   |
| DESIGNER        | J.Jones   |
| CHECKED         | Z.Gosev   |
| AUTHORISED      | A.Burrows |
| REFERENCE No. 1 |           |
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Melbourne, VIC 3008  
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Olivine Estate - Stage 9  
Whittlesea City Council  
Road and Drainage  
Drainage Longitudinal Sections - 6

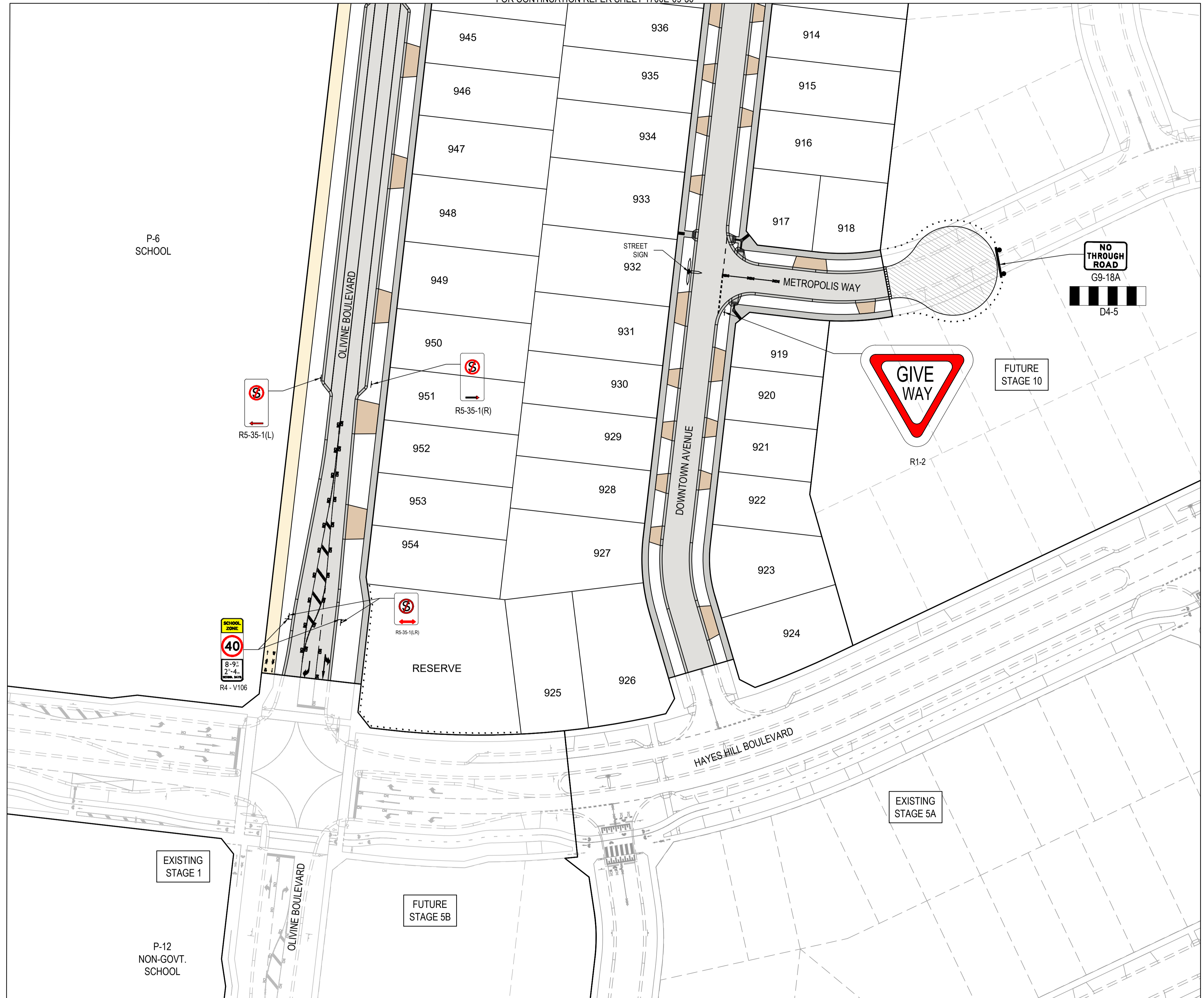
MELWAYS REF: 8M2  
PROJECT / DRAWING No: 1700E-09-27  
SHEET No: 27 of 34  
REVISION: 0

| NAME | PIT TYPE                | INTERNAL WD | LEN  | INLET DIA | INV LEV | OUTLET DIA | INV LEV | PIT SETOUT RL | DEPTH    | STD DWG        | REMARKS                                                  |
|------|-------------------------|-------------|------|-----------|---------|------------|---------|---------------|----------|----------------|----------------------------------------------------------|
| 1    | ENDWALL                 |             |      | 1050      | 238.7   |            |         | 242           | 0        |                | TEMPORARY END WALL                                       |
| 2    | GRADED ENTRY PIT        | 1650        | 900  | 1050      | 238.892 | 1050       | 238.842 | 241.659       | 2.817    | EDCM 607 & 601 | HAUNCH PIT. COVER 600 x 900                              |
|      |                         |             |      | 375       | 239.492 |            |         |               |          |                |                                                          |
| 3    | GRADED ENTRY PIT        | 1200        | 900  | 1050      | 239.101 | 1050       | 239.051 | 241.582       | 2.531    | EDCM 607 & 601 | HAUNCH PIT. COVER 600 x 900                              |
|      |                         |             |      | 300       | 239.957 |            |         |               |          |                |                                                          |
| 4    | GRADED ENTRY PIT        | 1200        | 900  | 1050      | 239.402 | 1050       | 239.352 | 241.957       | 2.605    | EDCM 607 & 601 | HAUNCH PIT. COVER 600 x 900                              |
|      |                         |             |      | 300       | 240.208 |            |         |               |          |                |                                                          |
| 6    | GRADED ENTRY PIT        | 1200        | 900  | 1050      | 239.598 | 1050       | 239.548 | 241.978       | 2.43     | EDCM 607 & 601 | HAUNCH PIT. COVER 600 x 900                              |
|      |                         |             |      | 600       | 239.604 |            |         |               |          |                |                                                          |
| 7    | GRADED ENTRY PIT        | 1050        | 900  | 900       | 239.996 | 900        | 239.946 | 242.255       | 2.309    | EDCM 607 & 601 | HAUNCH PIT. COVER 600 x 900                              |
| 8    | GRADED ENTRY PIT        | 1350        | 1050 | 675       | 240.28  | 900        | 240.168 | 242.435       | 2.267    | EDCM 607 & 601 | HAUNCH PIT. COVER 600 x 900                              |
|      |                         |             |      | 450       | 240.393 |            |         |               |          |                |                                                          |
| 9    | GRADED ENTRY PIT        | 900         | 1200 | 600       | 240.98  | 675        | 240.93  | 243.412       | 2.482    | EDCM 607 & 601 | HAUNCH PIT. COVER 600 x 900                              |
|      |                         |             |      | 300       | 241.925 |            |         |               |          |                |                                                          |
| 10   | GRADED ENTRY PIT        | 900         | 1200 | 600       | 241.369 | 600        | 241.319 | 243.627       | 2.308    | EDCM 607 & 601 | HAUNCH PIT. COVER 600 x 900                              |
|      |                         |             |      | 600       | 241.369 |            |         |               |          |                |                                                          |
| 11   | GRADED ENTRY PIT        | 750         | 900  | 600       | 242.18  | 600        | 242.13  | 243.95        | 1.82     | EDCM 607 & 601 | HAUNCH PIT. COVER 600 x 900                              |
| 12   | JUNCTION PIT            | 750         | 900  | 300       | 242.952 | 600        | 242.802 | 244.58        | 1.778    | EDCM 607 & 601 | PROVIDE 600 x 900 GRATED JUNCTION PIT LID. REFER DETAIL. |
|      |                         |             |      | 600       | 242.802 |            |         |               |          |                |                                                          |
| 14   | JUNCTION PIT            | 900         | 600  | 225       | 244.038 | 300        | 243.988 | 245.343       | 1.355    | EDCM 605       |                                                          |
|      |                         |             |      | 225       | 244.038 |            |         |               |          |                |                                                          |
| 15   | JUNCTION PIT            | 600         | 900  | 225       | 244.513 | 225        | 244.463 | 245.631       | 1.168    | EDCM 605       |                                                          |
| 16   | JUNCTION PIT            | 900         | 600  |           | 225     | 245.082    | 245.938 | 0.856         | EDCM 605 |                |                                                          |
| 17   | JUNCTION PIT            | 600         | 900  |           | 225     | 244.29     | 245.14  | 0.85          | EDCM 605 |                |                                                          |
| 18   | GRADED ENTRY PIT        | 600         | 1050 | 600       | 241.67  | 600        | 241.62  | 243.957       | 2.337    | EDCM 607 & 601 | HAUNCH PIT. COVER 600 x 900                              |
| 19   | GRADED ENTRY PIT        | 750         | 900  | 600       | 241.849 | 600        | 241.799 | 244.013       | 2.214    | EDCM 607 & 601 | HAUNCH PIT. COVER 600 x 900                              |
| 20   | GRADED ENTRY PIT        | 750         | 900  | 600       | 242.309 | 600        | 242.259 | 244.75        | 2.491    | EDCM 607 & 601 | HAUNCH PIT. COVER 600 x 900                              |
|      |                         |             |      | 375       | 242.311 |            |         |               |          |                |                                                          |
| 21   | GRADED ENTRY PIT        | 1050        | 900  | 600       | 242.466 | 600        | 242.416 | 245.169       | 2.753    | EDCM 607 & 601 | HAUNCH PIT. COVER 600 x 900                              |
| 22   | DOUBLE GRATED ENTRY PIT | 1050        | 900  | 525       | 242.575 | 600        | 242.525 | 245.298       | 2.773    | EDCM 607 & 602 | HAUNCH PIT. COVER 600 x 900                              |
|      |                         |             |      | 375       | 243.525 |            |         |               |          |                |                                                          |
| 23   | DOUBLE GRATED ENTRY PIT | 750         | 900  | 525       | 242.669 | 525        | 242.619 | 245.286       | 2.667    | EDCM 607 & 602 | HAUNCH PIT. COVER 600 x 900                              |
| 24   | GRADED ENTRY PIT        | 750         | 900  | 525       | 242.853 | 525        | 242.803 | 245.408       | 2.605    | EDCM 607 & 601 | HAUNCH PIT. COVER 600 x 900                              |
|      |                         |             |      | 300       | 243.803 |            |         |               |          |                |                                                          |
| 25   | GRADED ENTRY PIT        | 750         | 900  | 450       | 243.729 | 525        | 243.207 | 245.795       | 2.588    | EDCM 607 & 601 | HAUNCH PIT. COVER 600 x 900                              |
|      |                         |             |      | 375       | 243.297 |            |         |               |          |                |                                                          |
|      |                         |             |      | 300       | 244.207 |            |         |               |          |                |                                                          |
| 26   | GRADED ENTRY PIT        | 600         | 900  | 450       | 243.856 | 450        | 243.806 | 245.848       | 2.042    | EDCM 605 & 601 |                                                          |
| 27   | DOUBLE GRATED ENTRY PIT | 600         | 900  | 450       | 243.953 | 450        | 243.903 | 245.855       | 1.952    | EDCM 605 & 602 |                                                          |
| 28   | GRADED ENTRY PIT        | 600         | 900  | 375       | 244.12  | 450        | 244.07  | 245.98        | 1.91     | EDCM 605 & 601 |                                                          |
|      |                         |             |      | 300       | 244.14  |            |         |               |          |                |                                                          |
| 29   | ENDPIPE                 |             |      | 375       | 244.205 | 375        | 244.205 | 246.059       | 1.854    |                | BLANK OFF END PIPE                                       |
| 30   | JUNCTION PIT            | 600         | 900  | 300       | 244.713 | 300        | 244.663 | 246.066       | 1.403    | EDCM 605       |                                                          |
| 31   | JUNCTION PIT            | 600         | 900  | 300       | 244.8   | 300        | 244.75  | 246.062       | 1.312    | EDCM 605       |                                                          |
| 31a  | JUNCTION PIT            | 600         | 900  | 300       | 244.819 | 300        | 244.819 | 246.107       | 1.288    | EDCM 605       | PROVIDE 600 x 900 GRATED JUNCTION PIT LID. REFER DETAIL. |
| 33   | GRADED ENTRY PIT        | 600         | 900  | 375       | 243.599 | 375        | 243.549 | 245.906       | 2.357    | EDCM 605 & 601 |                                                          |
| 34   | GRADED ENTRY PIT        | 600         | 900  | 300       | 243.893 | 375        | 243.843 | 245.586       | 1.743    | EDCM 605 & 601 |                                                          |
|      |                         |             |      | 300       | 243.893 |            |         |               |          |                |                                                          |
| 35   | GRADED ENTRY PIT        | 600         | 900  | 300       | 243.995 | 300        | 243.945 | 245.586       | 1.641    | EDCM 605 & 601 |                                                          |

|     |                  |     |     |     |         |     |         |         |         |                |                                                          |                |  |
|-----|------------------|-----|-----|-----|---------|-----|---------|---------|---------|----------------|----------------------------------------------------------|----------------|--|
| 36  | JUNCTION PIT     | 900 | 600 |     |         |     |         | 300     | 244.147 | 245.076        | 0.929                                                    | EDCM 605       |  |
| 37  | GRADED ENTRY PIT | 600 | 900 |     |         |     |         | 300     | 244.159 | 245.487        | 1.328                                                    | EDCM 605 & 601 |  |
| 38  | GRADED ENTRY PIT | 600 | 900 |     |         |     |         | 300     | 244.293 | 245.791        | 1.498                                                    | EDCM 605 & 601 |  |
| 39  | GRADED ENTRY PIT | 600 | 900 |     |         |     |         | 300     | 243.888 | 245.386        | 1.498                                                    | EDCM 605 & 601 |  |
| 40  | GRADED ENTRY PIT | 600 | 900 | 375 | 243.812 | 375 | 243.762 | 245.45  | 1.688   | EDCM 605 & 601 |                                                          |                |  |
| 41  | GRADED ENTRY PIT | 600 | 900 | 375 | 243.947 | 375 | 243.897 | 245.638 | 1.741   | EDCM 605 & 601 |                                                          |                |  |
| 42  | JUNCTION PIT     | 600 | 900 | 375 | 244.127 | 375 | 244.077 | 245.956 | 1.879   | EDCM 605       | TEMPORARY CLASS D COVER                                  |                |  |
| 43  | JUNCTION PIT     | 600 | 900 | 300 | 244.228 | 375 | 244.178 | 246.139 | 1.961   | EDCM 605       | TEMPORARY CLASS B COVER                                  |                |  |
|     |                  |     |     | 300 | 244.357 |     |         |         |         |                |                                                          |                |  |
| 44  | JUNCTION PIT     | 600 | 900 | 300 | 244.423 | 300 | 244.373 | 246.242 | 1.869   | EDCM 605       | TEMPORARY CLASS B COVER                                  |                |  |
| 45  | JUNCTION PIT     | 900 | 600 | 300 | 244.614 | 300 | 244.564 | 246.167 | 1.603   | EDCM 605       |                                                          |                |  |
| 46  | JUNCTION PIT     | 900 | 600 | 300 | 244.808 | 300 | 244.758 | 246.116 | 1.358   | EDCM 605       |                                                          |                |  |
| 47  | JUNCTION PIT     | 900 | 600 | 225 | 245.099 | 300 | 245.049 | 246.122 | 1.073   | EDCM 605       |                                                          |                |  |
|     |                  |     |     | 225 | 245.178 |     |         |         |         |                |                                                          |                |  |
| 48  | JUNCTION PIT     | 900 | 600 | 225 | 245.178 | 225 | 245.128 | 246.143 | 1.015   | EDCM 605       | PROVIDE 600 x 900 GRATED JUNCTION PIT LID. REFER DETAIL. |                |  |
| 51  | GRADED ENTRY PIT | 600 | 900 | 375 | 242.396 | 375 | 242.346 | 244.746 | 2.4     | EDCM 605 & 601 |                                                          |                |  |
| 52  | JUNCTION PIT     | 750 | 900 | 375 | 242.6   | 375 | 242.55  | 244.371 | 1.821   | EDCM 607       |                                                          |                |  |
| 53  | JUNCTION PIT     | 900 | 600 | 300 | 242.962 | 375 | 242.912 | 244.619 | 1.707   | EDCM 605       |                                                          |                |  |
| 54  | JUNCTION PIT     | 900 | 600 |     |         | 300 | 243.639 | 244.572 | 0.933   | EDCM 605       |                                                          |                |  |
| 47a | JUNCTION PIT     | 600 | 900 |     |         | 225 | 245.265 | 246.137 | 0.872   |                |                                                          |                |  |
| 55  | ENDPIPE          |     |     |     |         | 300 | 242.65  | 244.082 | 1.432   |                | BLANK OFF END PIPE                                       |                |  |
| 56  | GRADED ENTRY PIT | 750 | 900 | 450 | 240.532 | 450 | 240.482 | 242.422 | 1.94    | EDCM 607 & 601 | HAUNCH PIT. COVER 600 x 900                              |                |  |
|     |                  |     |     | 300 | 241.071 |     |         |         |         |                |                                                          |                |  |
| 57  | GRADED ENTRY PIT | 750 | 900 | 450 | 240.65  | 450 | 240.6   | 242.351 | 1.751   | EDCM 607 & 601 | HAUNCH PIT. COVER 600 x 900                              |                |  |
|     |                  |     |     | 300 | 240.734 |     |         |         |         |                |                                                          |                |  |
| 58  | GRADED ENTRY PIT | 600 | 900 | 375 | 240.85  | 450 | 240.8   | 242.524 | 1.724   | EDCM 605 & 601 |                                                          |                |  |
|     |                  |     |     | 300 | 240.875 |     |         |         |         |                |                                                          |                |  |
| 59  | GRADED ENTRY PIT | 600 | 900 | 300 | 241.216 | 375 | 241.166 | 242.9   | 1.734   | EDCM 605 & 601 |                                                          |                |  |
|     |                  |     |     | 300 | 241.216 |     |         |         |         |                |                                                          |                |  |
| 60  | GRADED ENTRY PIT | 600 | 900 | 300 | 241.723 | 300 | 241.673 | 243.334 | 1.661   | EDCM 605 & 601 |                                                          |                |  |
| 61  | GRADED ENTRY PIT | 600 | 900 |     |         | 300 | 241.802 | 243.313 | 1.511   | EDCM 605 & 601 |                                                          |                |  |
| 62  | GRADED ENTRY PIT | 600 | 900 |     |         | 300 | 241.385 | 242.9   | 1.515   | EDCM 605 & 601 |                                                          |                |  |
| 63  | GRADED ENTRY PIT | 600 | 900 |     |         | 300 | 241.01  | 242.524 | 1.514   | EDCM 605 & 601 |                                                          |                |  |
| 64  | GRADED ENTRY PIT | 600 | 900 |     |         | 300 | 240.87  | 242.351 | 1.481   | EDCM 605 & 601 |                                                          |                |  |
| 65  | GRADED ENTRY PIT | 600 | 900 |     |         | 300 | 241.608 | 243.02  | 1.412   | EDCM 605 & 601 |                                                          |                |  |
| 66  | GRADED ENTRY PIT | 600 | 900 | 600 | 239.754 | 600 | 239.704 | 241.954 | 2.25    | EDCM 605 & 601 |                                                          |                |  |
|     |                  |     |     | 300 | 239.854 |     |         |         |         |                |                                                          |                |  |
| 67  | GRADED ENTRY PIT | 900 | 900 |     |         | 600 | 239.891 | 242.928 | 3.037   | EDCM 607       | PROVIDE 600 x 900 GRATED JUNCTION PIT LID. REFER DETAIL. |                |  |
| 58  | JUNCTION PIT     | 600 | 900 | 300 | 239.957 | 300 | 239.907 | 242.06  | 2.153   | EDCM 605       |                                                          |                |  |
| 5A  | GRADED ENTRY PIT | 600 | 900 |     |         | 300 | 240.052 | 241.984 | 1.932   | EDCM 605 & 601 |                                                          |                |  |
| 68  | GRADED ENTRY PIT | 600 | 900 | 300 | 240.436 | 300 | 240.386 | 242.133 | 1.747   | EDCM 605 & 601 |                                                          |                |  |
| 69  | GRADED ENTRY PIT | 600 | 900 | 300 | 240.571 | 300 | 240.521 | 242.134 | 1.613   | EDCM 605 & 601 |                                                          |                |  |
| 70  | ENDPIPE          |     |     |     |         | 300 | 241.469 | 243.041 | 1.572   |                | BLANK OFF END PIPE                                       |                |  |
| 71  | GRADED ENTRY PIT | 600 | 900 |     |         | 300 | 240.042 | 241.557 | 1.515   | EDCM 605 & 601 |                                                          |                |  |
| 72  | GRADED ENTRY PIT | 600 | 900 | 375 | 239.974 | 375 | 239.924 | 241.769 | 1.845   | EDCM 605 & 601 |                                                          |                |  |
| 73  | GRADED ENTRY PIT | 600 | 900 | 300 | 240.151 | 375 | 240.076 | 241.768 | 1.692   | EDCM 605 & 601 |                                                          |                |  |

| REV | DATE     | AMENDMENT / REVISION DESCRIPTION | DESIGN | APPROVAL |
|-----|----------|----------------------------------|--------|----------|
| 0   | 24.06.19 | ISSUED FOR CONSTRUCTION          | SM/SM  | AB       |

|                                                                                                                                                                                                                                                                                       |  |            |           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------|-----------|
| All setting out should be carried out in accordance with MPA/Council's standard drawings or as nominated on hard copy plans provided by SMEC. Any digital information supplied by this office is for information only. Any discrepancies should be discussed with the superintendent. |  | TITLE      | NAME      |
|                             |  | DRAFTER    | R.Barua   |
|                                                                                                                                                                                                                                                                                       |  | DESIGNER   | J.Jones   |
|                                                                                                                                                                                                                                                                                       |  | CHECKED    | Z.Gosev   |
|                                                                                                                                                                                                                                                                                       |  | AUTHORISED | A.Burrows |
|                                                                                                                                                                                                                                                                                       |  |            |           |

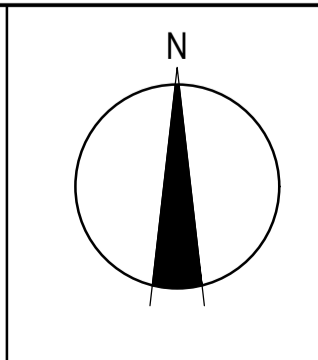
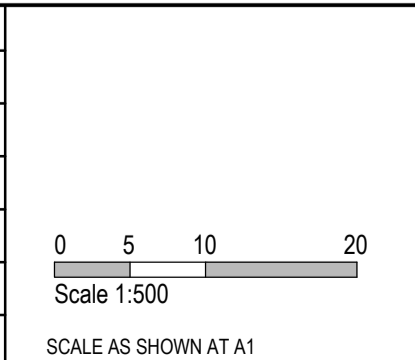


**NOTES**  
 1. 90° BENDS TO HAVE CENTRELINE MARKING WITH RRPMS AT MAX 6m SPACING.  
 2. RRPMS TO BE IN ACCORDANCE WITH VICROADS TRAFFIC ENGINEERING MANUAL VOL 2.  
 3. ALL LINEMARKING & SIGNAGE TO BE IN ACCORDANCE WITH AUSTRALIAN STANDARD AS1742.

| REV | DATE     | AMENDMENT / REVISION DESCRIPTION | DES/DT | APPROVAL |
|-----|----------|----------------------------------|--------|----------|
| 0   | 24.06.19 | ISSUED FOR CONSTRUCTION          | SM/SM  | AB       |

**ISSUED FOR CONSTRUCTION**

| TITLE           | NAME      |
|-----------------|-----------|
| DRAFTER         | R.Barua   |
| DESIGNER        | J.Jones   |
| CHECKED         | Z.Gosev   |
| AUTHORISED      | A.Burrows |
| REFERENCE No. 1 |           |
| REFERENCE No. 2 |           |

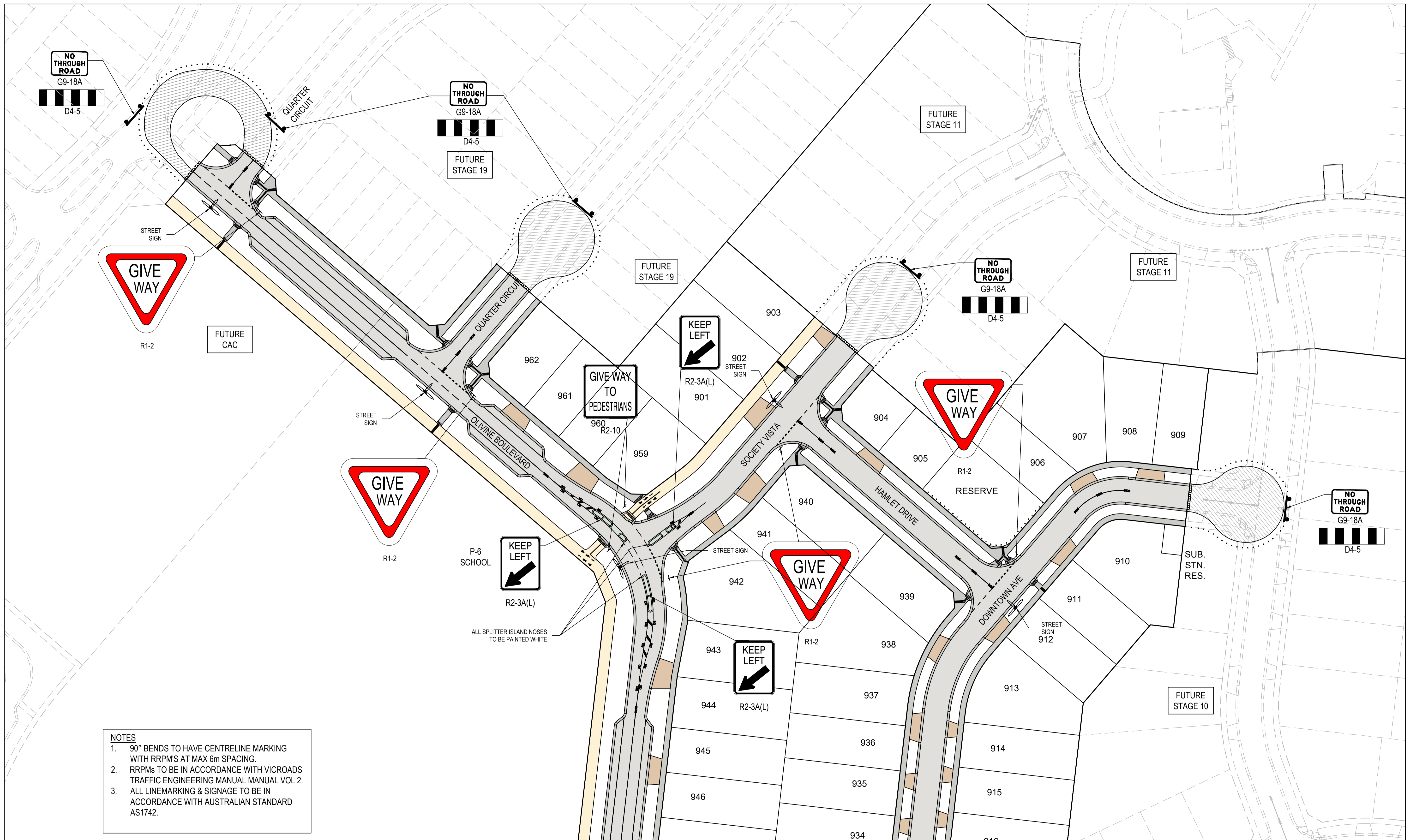


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Olivine Estate - Stage 9  
 Whittlesea City Council  
 Road and Drainage  
 Signs & Linemarking Plan - 1

|                           |                                             |                              |                      |
|---------------------------|---------------------------------------------|------------------------------|----------------------|
| MELWAYS REF<br><b>8M2</b> | PROJECT / DRAWING No.<br><b>1700E-09-29</b> | SHEET No.<br><b>29 of 34</b> | REVISION<br><b>0</b> |
|---------------------------|---------------------------------------------|------------------------------|----------------------|



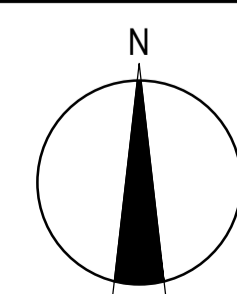
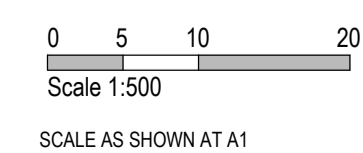
- NOTES**
- 90° BENDS TO HAVE CENTRELINE MARKING WITH RRPMS AT MAX 6m SPACING.
  - RRPMs TO BE IN ACCORDANCE WITH VICROADS TRAFFIC ENGINEERING MANUAL VOL 2.
  - ALL LINEMARKING & SIGNAGE TO BE IN ACCORDANCE WITH AUSTRALIAN STANDARD AS1742.

FOR CONTINUATION REFER SHEET 1700E-09-29

| REV | DATE     | AMENDMENT / REVISION DESCRIPTION | DESIGN | APPROVAL |
|-----|----------|----------------------------------|--------|----------|
| 0   | 24.06.19 | ISSUED FOR CONSTRUCTION          | SM/SM  | AB       |

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| TITLE           | NAME      |
|-----------------|-----------|
| DRAFTER         | R.Barua   |
| DESIGNER        | J.Jones   |
| CHECKED         | Z.Gosev   |
| AUTHORISED      | A.Burrows |
| REFERENCE No. 1 |           |
| REFERENCE No. 2 |           |

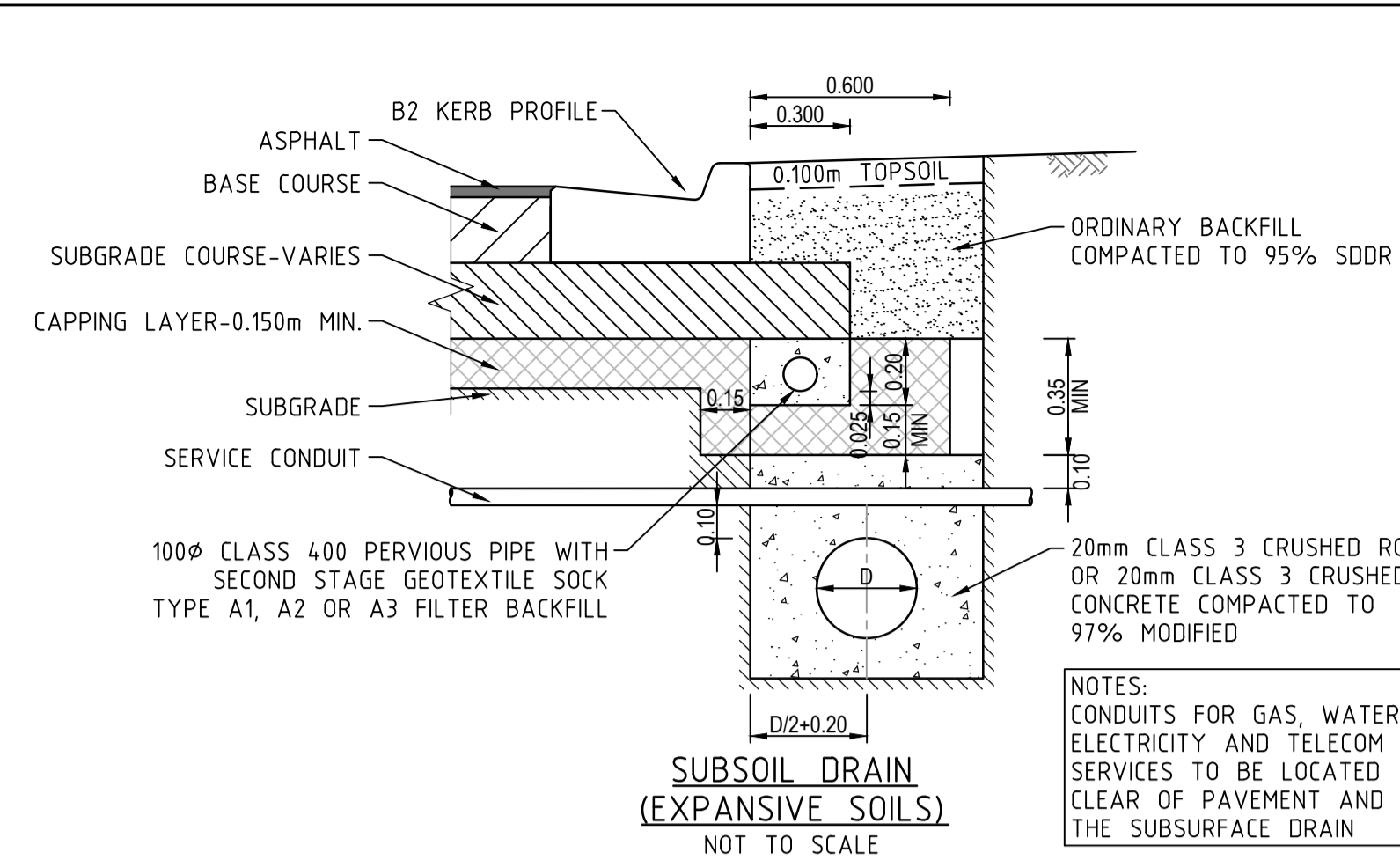
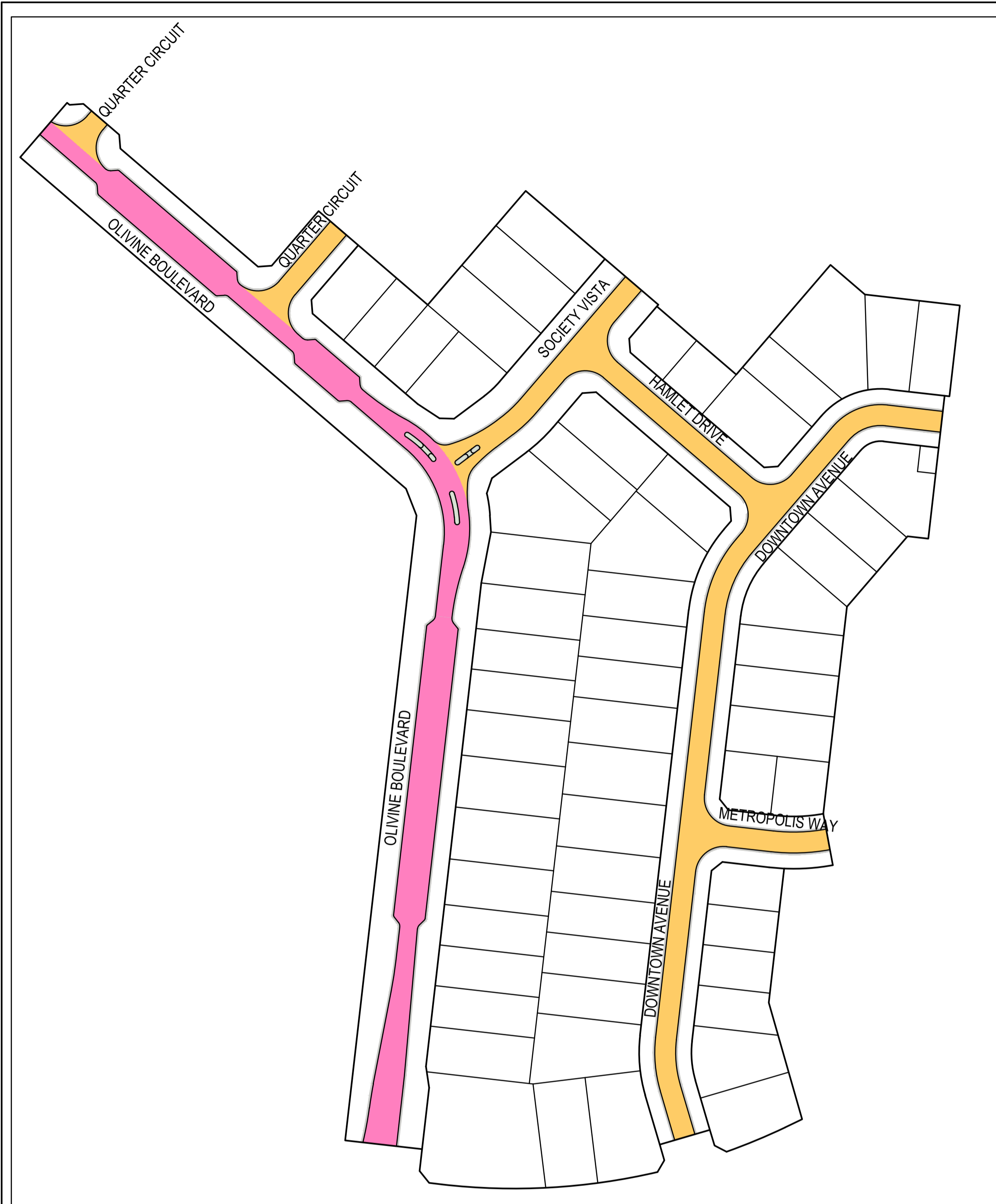


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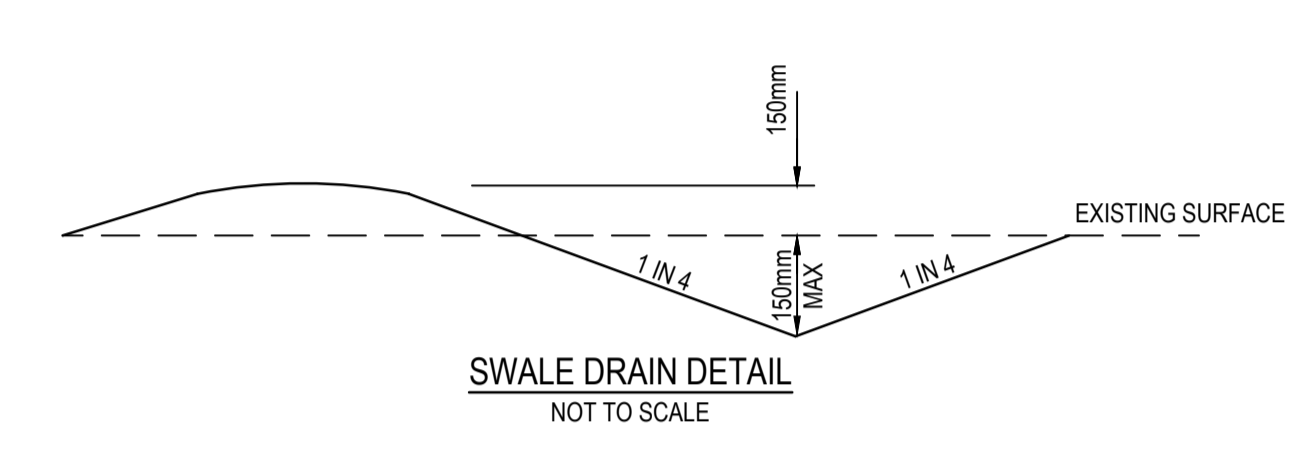
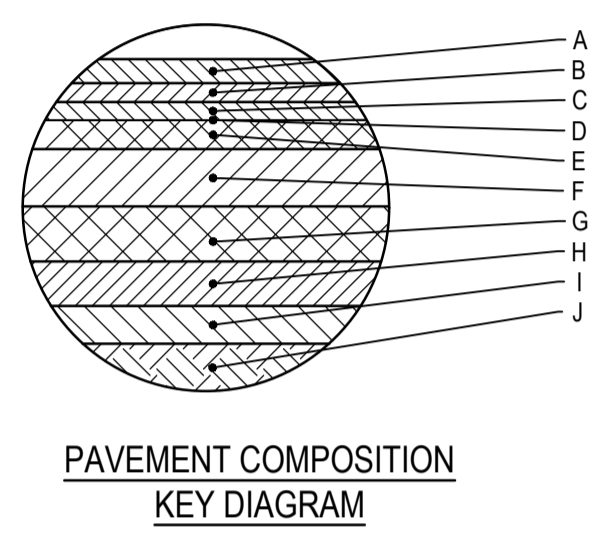
Olivine Estate - Stage 9  
Whittlesea City Council  
Road and Drainage  
Signs & Linemarking Plan - 2

|                    |                                      |                       |               |
|--------------------|--------------------------------------|-----------------------|---------------|
| MELWAYS REF<br>8M2 | PROJECT / DRAWING No.<br>1700E-09-30 | SHEET No.<br>30 of 34 | REVISION<br>0 |
|--------------------|--------------------------------------|-----------------------|---------------|



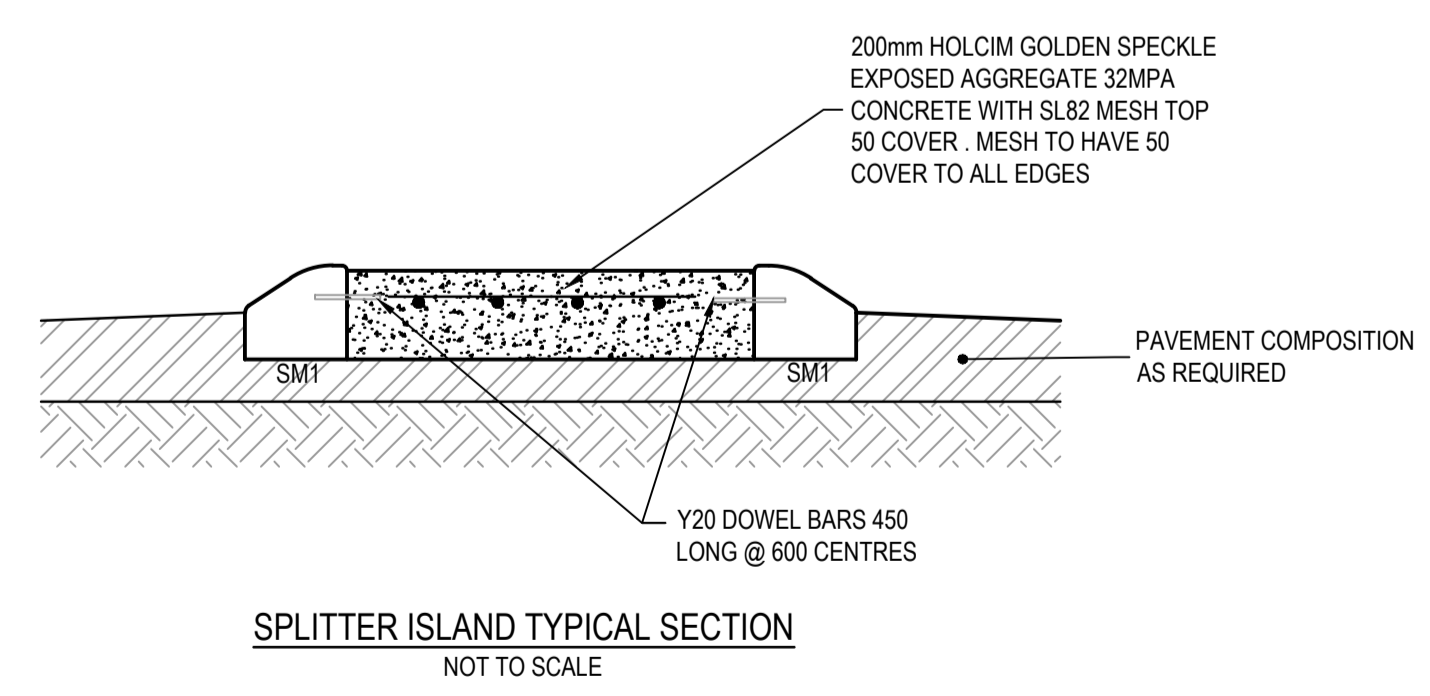
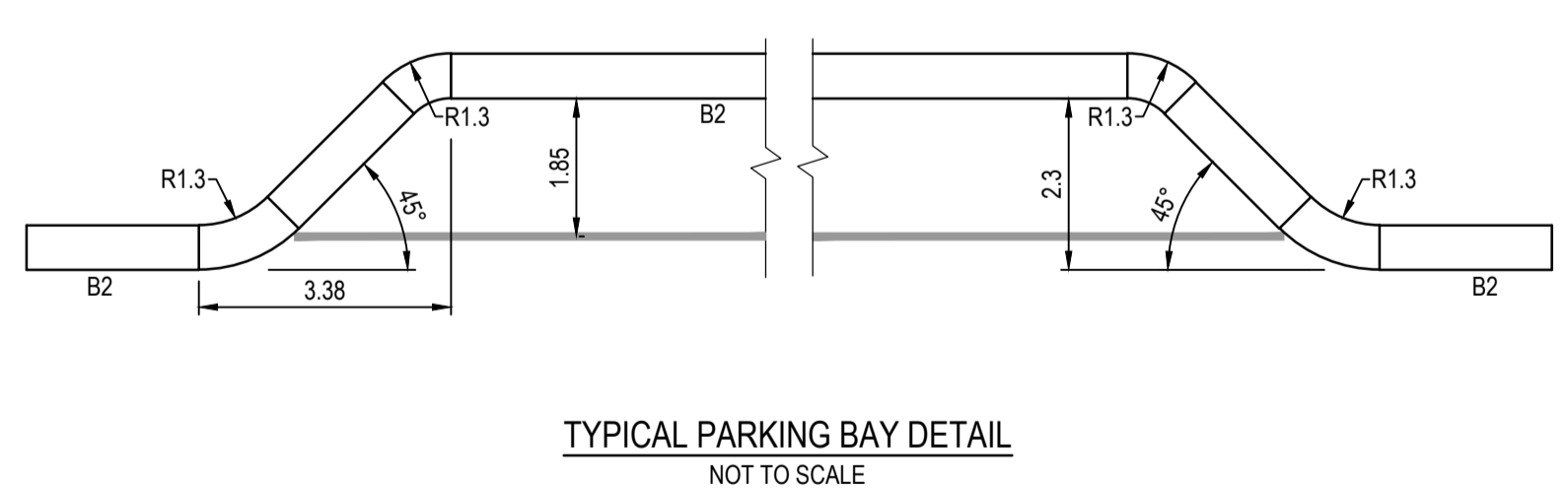
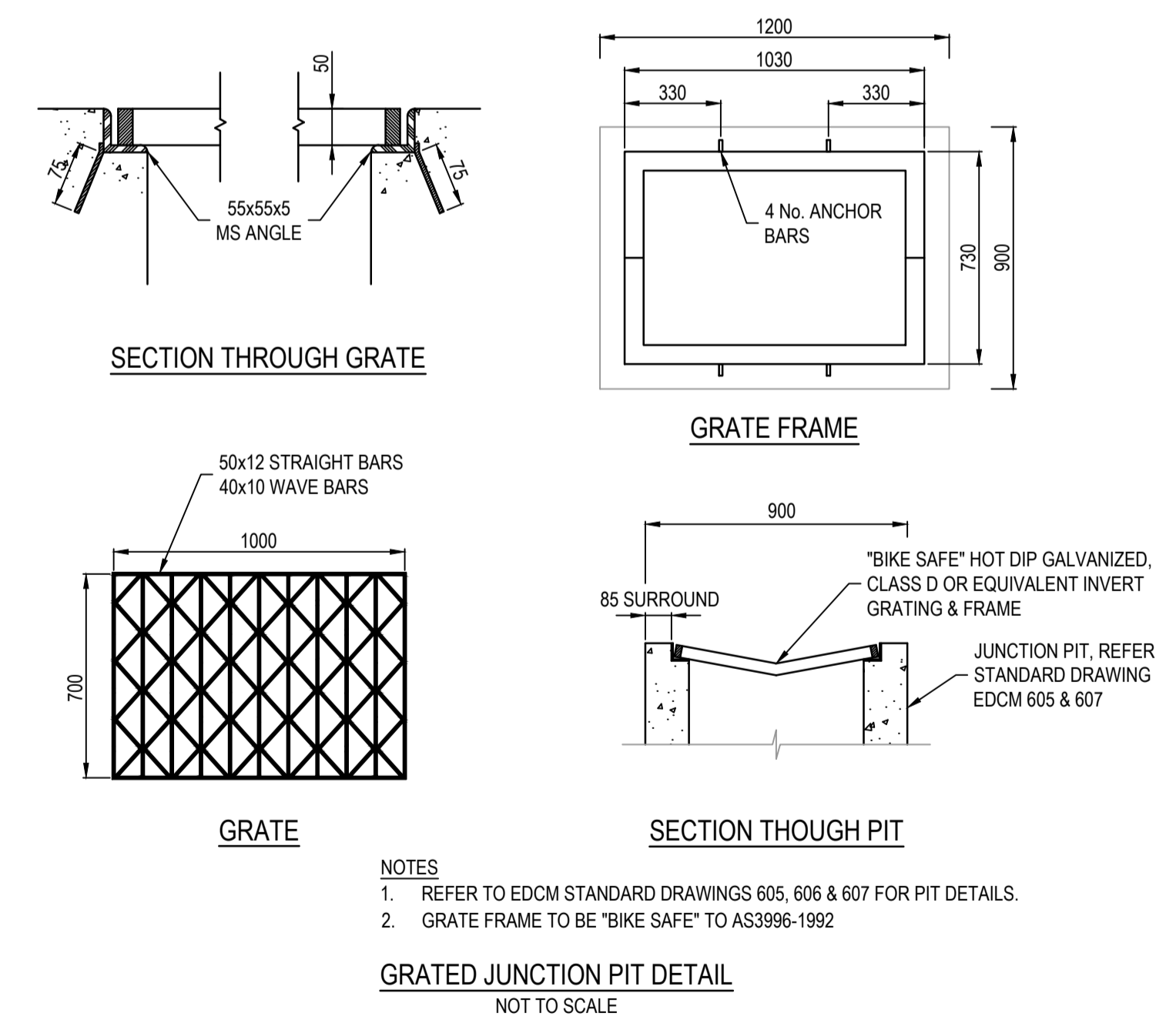
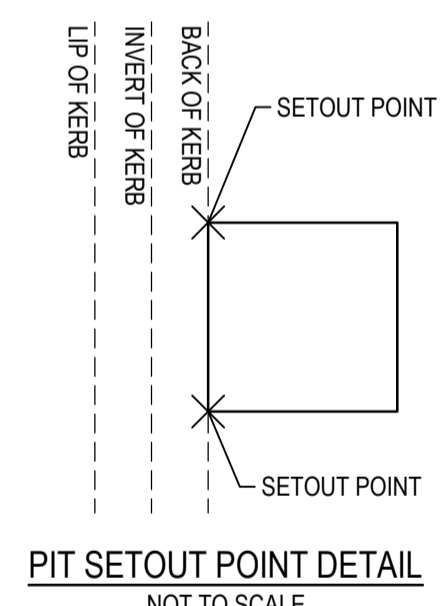
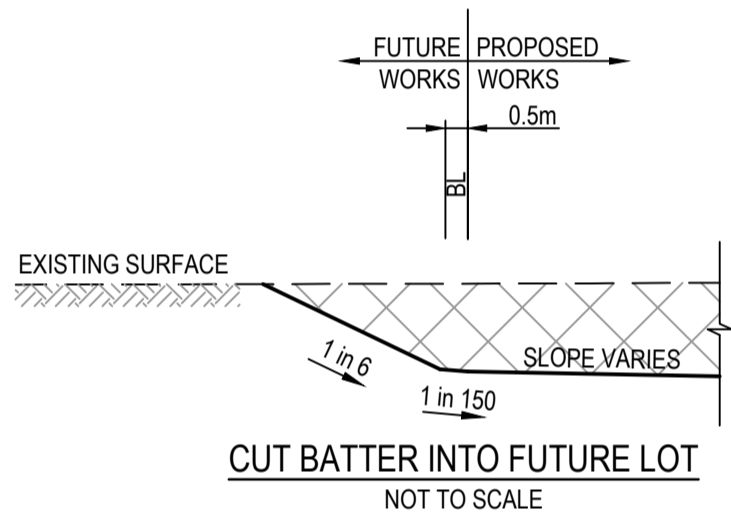
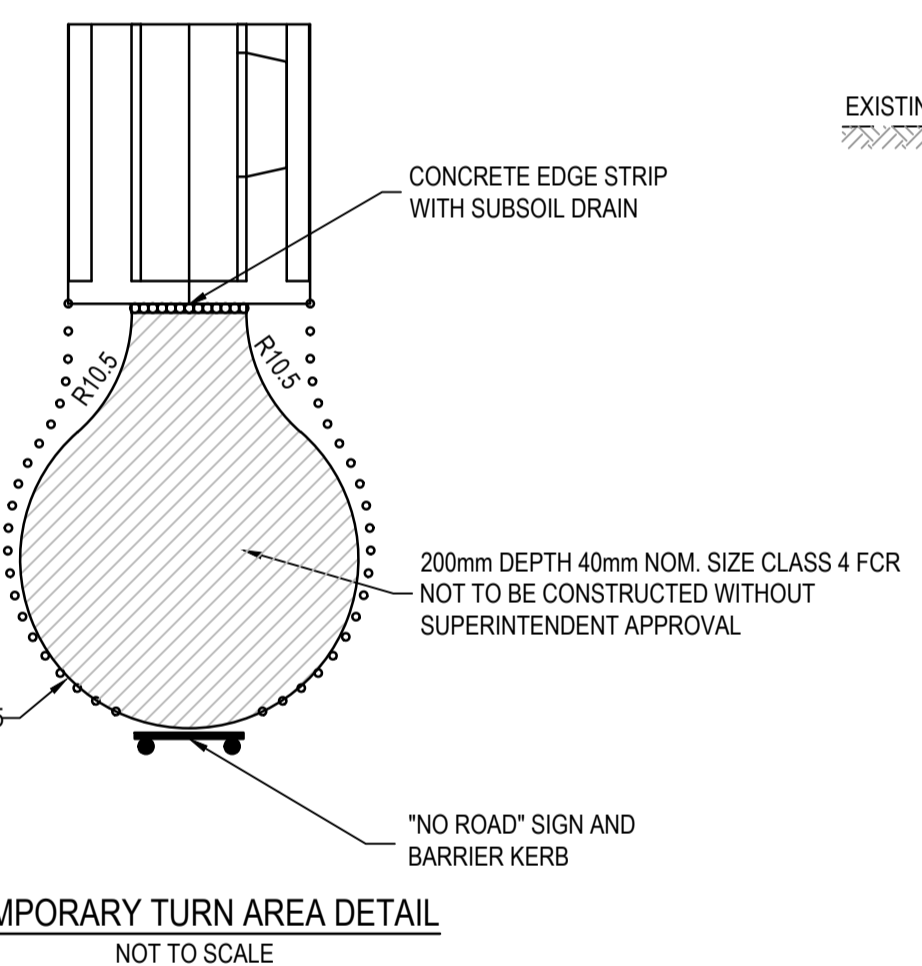
**OLIVINE BOULEVARD  
PAVEMENT COMPOSITION**

| PAVEMENT LAYER          | LAYER THICKNESS (mm) | MATERIAL                                                                                                                                                                                              |
|-------------------------|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A WEARING COURSE        | 40                   | SIZE 10 TYPE N ASPHALT (CLASS 170 BINDER)                                                                                                                                                             |
| B INTERMEDIATE COURSE 1 | 40                   | SIZE 10 TYPE N ASPHALT (CLASS 170 BINDER)                                                                                                                                                             |
| C INTERMEDIATE COURSE 2 | -                    | -                                                                                                                                                                                                     |
| D SAMI SEAL             | 10                   | SIZE 10 S18RF                                                                                                                                                                                         |
| E PRIME                 | -                    | -                                                                                                                                                                                                     |
| F BASE COURSE           | 110                  | SIZE 20 CLASS 2 CRUSHED ROCK COMPACTED TO A MINIMUM DENSITY RATIO OF 98% (MODIFIED) AS1289.5.2.1                                                                                                      |
| G UPPER BASE COURSE     | 70                   | CLASS 3 CRUSHED ROCK COMPACTED TO A MINIMUM DENSITY RATIO OF 98% (MODIFIED) AS1289.5.2.1                                                                                                              |
| H LOWER SUBBASE         | 100                  | CLASS 3 CRUSHED ROCK COMPACTED TO A MINIMUM DENSITY RATIO OF 98% (MODIFIED) AS1289.5.2.1. THE LOWER SUBBASE LAYER MAY BE ELIMINATED AND REPLACED WITH A SINGLE UPPER SUBBASE LAYER 170mm IN THICKNESS |
| I CAPPING LAYER         | 300                  | IMPORTED TYPE A FILL WITH CBR≥8% SWELL≤1.5% PERMEABILITY ks≤5x10 <sup>-9</sup> m/s. OR LIME STABILISED SITE WON CLAY WHICH CONFORMS TO THE PARAMETERS ABOVE.                                          |
| J SUBGRADE              | -                    | CBR 1.5% EXPANSIVE                                                                                                                                                                                    |



**SOCIETY VISTA, DOWNTOWN AVE, METROPOLIS WAY, HAMLET DVE  
AND QUARTER CIRCUIT PAVEMENT COMPOSITION**

| PAVEMENT LAYER          | LAYER THICKNESS (mm) | MATERIAL                                                                                                                                                     |
|-------------------------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A WEARING COURSE        | 30                   | SIZE 10 TYPE N ASPHALT (CLASS 170 BINDER)                                                                                                                    |
| B INTERMEDIATE COURSE 1 | 30                   | SIZE 10 TYPE N ASPHALT (CLASS 170 BINDER)                                                                                                                    |
| C INTERMEDIATE COURSE 2 | -                    | -                                                                                                                                                            |
| D SAMI SEAL             | 10                   | SIZE 10 S18RF                                                                                                                                                |
| E PRIME                 | -                    | -                                                                                                                                                            |
| F BASE COURSE           | 130                  | SIZE 20 CLASS 2 CRUSHED ROCK COMPACTED TO A MINIMUM DENSITY RATIO OF 98% (MODIFIED) AS1289.5.2.1                                                             |
| G UPPER BASE COURSE     | -                    | -                                                                                                                                                            |
| H LOWER BASE            | 110                  | CLASS 3 CRUSHED ROCK COMPACTED TO A MINIMUM DENSITY RATIO OF 98% (MODIFIED) AS1289.5.2.1                                                                     |
| I CAPPING LAYER         | 285                  | IMPORTED TYPE A FILL WITH CBR≥8% SWELL≤1.5% PERMEABILITY ks≤5x10 <sup>-9</sup> m/s. OR LIME STABILISED SITE WON CLAY WHICH CONFORMS TO THE PARAMETERS ABOVE. |
| J SUBGRADE              | -                    | SUBGRADE CLAY AS FOUND (C.B.R = 2%) (IF REQUIRED, SUBGRADE IMPROVEMENT WORKS TO BE UNDERTAKEN TO COUNCIL'S SATISFACTION)                                     |

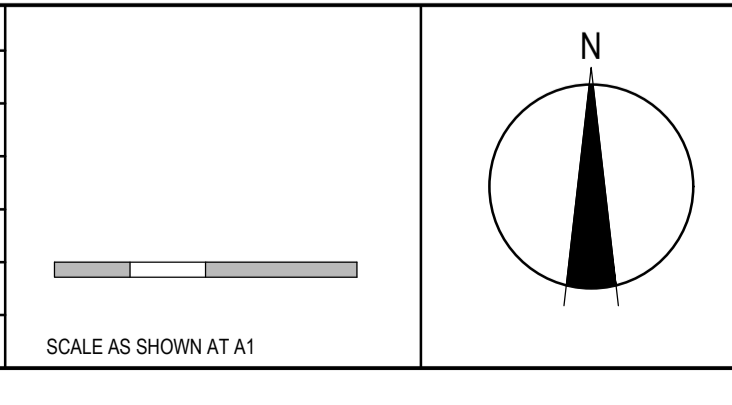


**WARNING  
BEWARE OF UNDERGROUND SERVICES**  
The locations of underground services are approximate only and their exact position should be proven on site.  
No guarantee is given that all existing services are shown.  
Locate all underground services before commencement of works  
**DIAL 1100 BEFORE YOU DIG**  
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| REV | DATE     | AMENDMENT / REVISION DESCRIPTION | DESIGN | APPROVAL |
|-----|----------|----------------------------------|--------|----------|
| 0   | 24.06.19 | ISSUED FOR CONSTRUCTION          | SM/SM  | AB       |

ISSUED FOR CONSTRUCTION

| TITLE           | NAME      |
|-----------------|-----------|
| DRAFTER         | R.Barua   |
| DESIGNER        | J.Jones   |
| CHECKED         | Z.Gosev   |
| AUTHORISED      | A.Burrows |
| REFERENCE No. 1 |           |
| REFERENCE No. 2 |           |

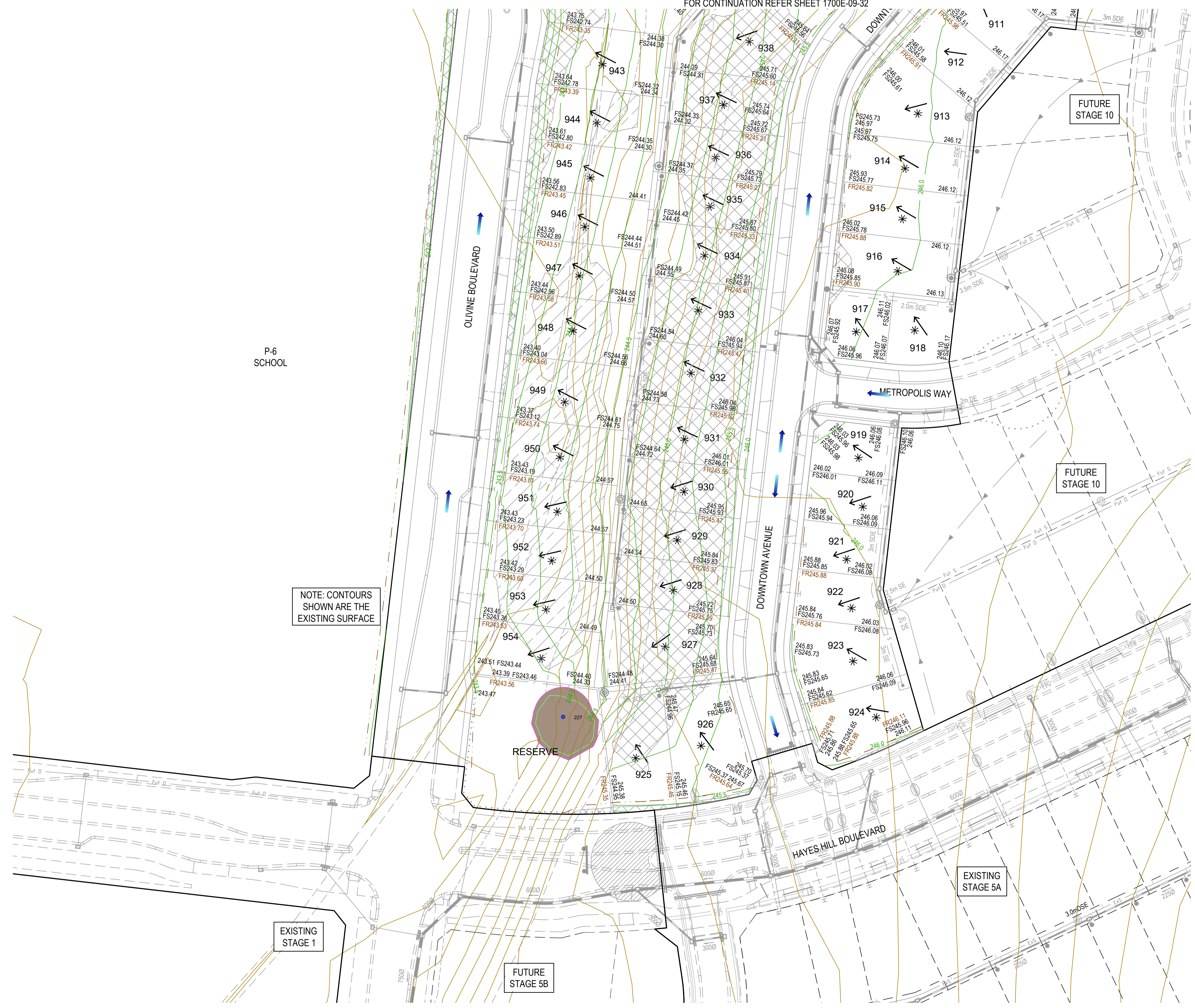


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Tower 4, Level 20, 727 Collins Street  
Melbourne, VIC 3008  
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Olivine Estate - Stage 9  
Whittlesea City Council  
Road and Drainage  
General Note & Details

|                           |                                             |                              |                      |
|---------------------------|---------------------------------------------|------------------------------|----------------------|
| MELWAYS REF<br><b>8M2</b> | PROJECT / DRAWING No.<br><b>1700E-09-31</b> | SHEET No.<br><b>31 of 34</b> | REVISION<br><b>0</b> |
|---------------------------|---------------------------------------------|------------------------------|----------------------|

| 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)                              |
|                                                                          | GAS                                                 |
|                                                                          | TELSTRA                                             |
|                                                                          | 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 GAS                                        |
|                                                                          | EXISTING TELSTRA                                    |
|                                                                          | 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 GAS                                          |
|                                                                          | FUTURE TELSTRA                                      |
|                                                                          | 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             |
|                                                                          | 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                                |

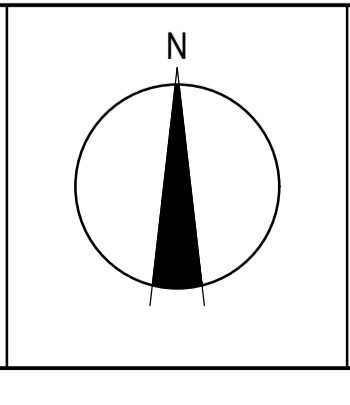
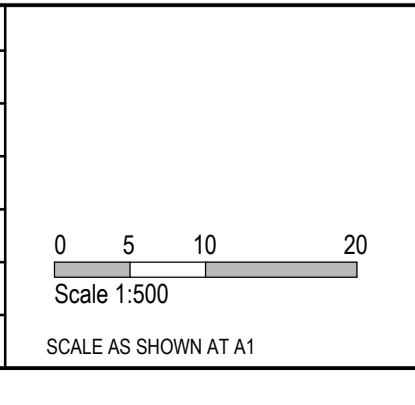


NOTE: CONTOURS SHOWN ARE THE EXISTING SURFACE

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

| REV | DATE     | AMENDMENT / REVISION DESCRIPTION | DESIGN | APPROVAL |
|-----|----------|----------------------------------|--------|----------|
| 0   | 24.06.19 | ISSUED FOR CONSTRUCTION          | SM/SM  | AB       |

| TITLE           | NAME      |
|-----------------|-----------|
| DRAFTER         | R.Barua   |
| DESIGNER        | J.Jones   |
| CHECKED         | Z.Gosev   |
| AUTHORISED      | A.Burrows |
| REFERENCE No. 1 |           |
| REFERENCE No. 2 |           |

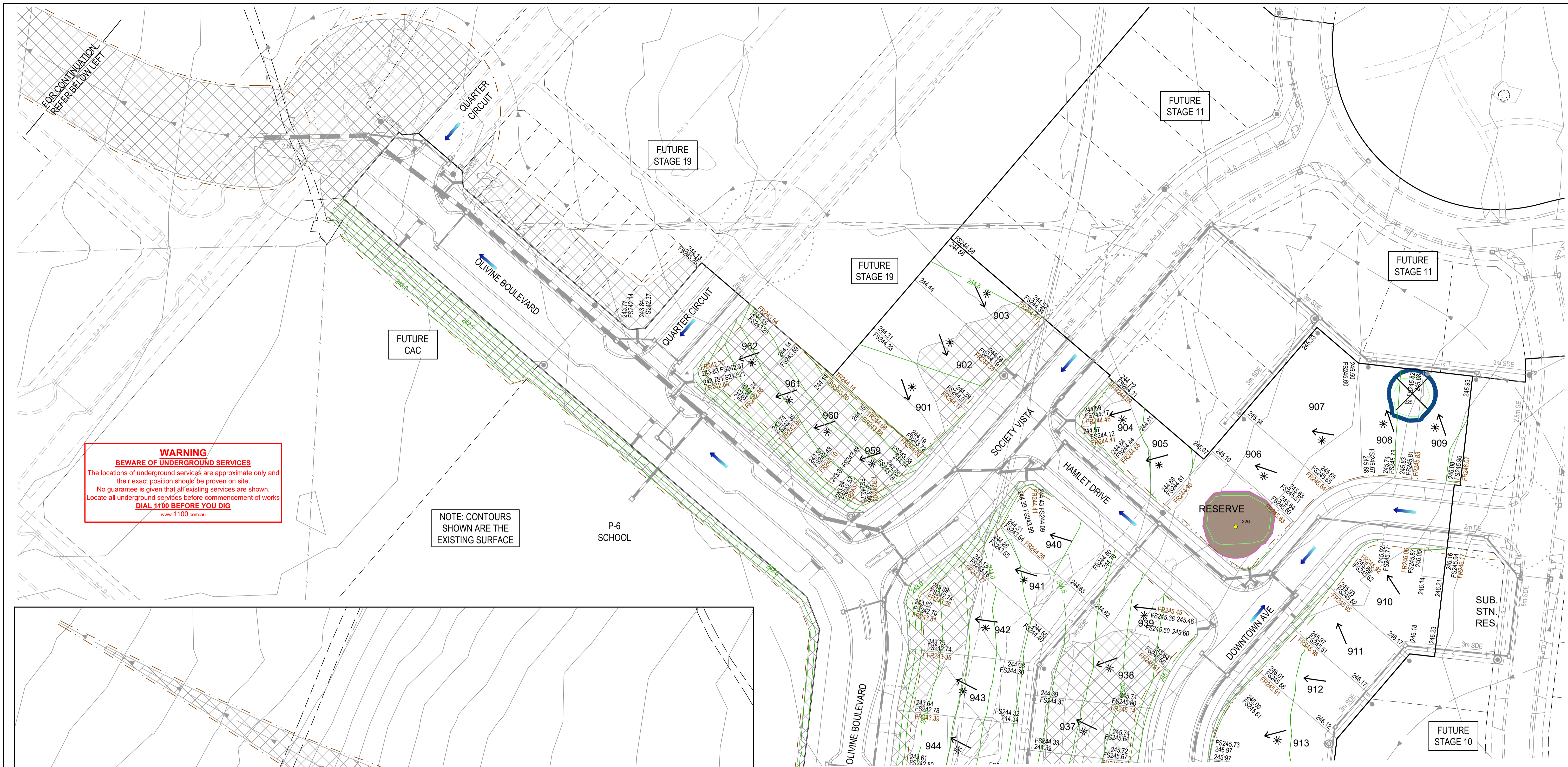


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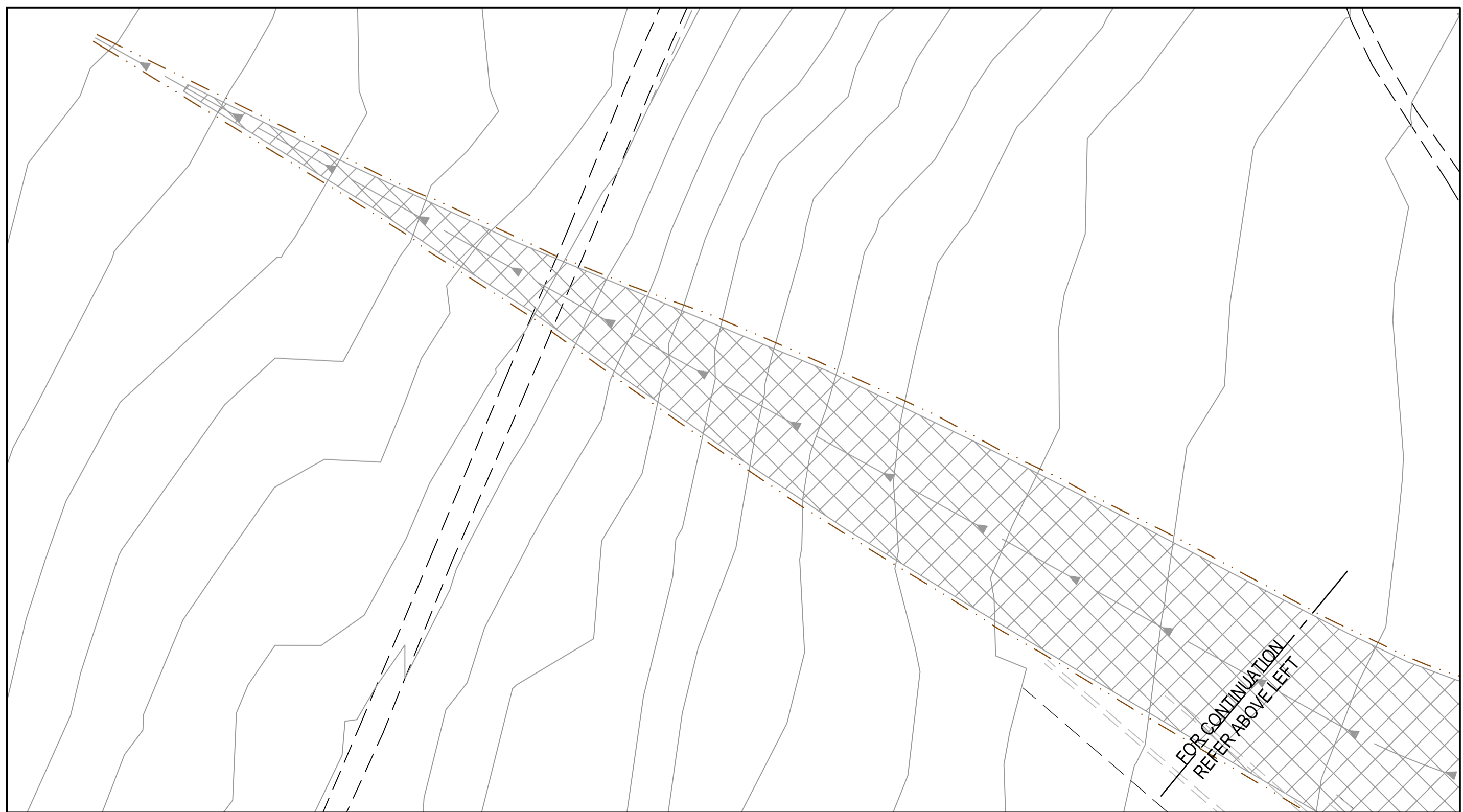
|                                                                                                 |  |                           |                                             |                              |                      |
|-------------------------------------------------------------------------------------------------|--|---------------------------|---------------------------------------------|------------------------------|----------------------|
| Olivine Estate - Stage 9<br>Whittlesea City Council<br>Road and Drainage<br>Earthworks Plan - 1 |  | MELWAYS REF<br><b>8M2</b> | PROJECT / DRAWING No.<br><b>1700E-09-32</b> | SHEET No.<br><b>32 of 34</b> | REVISION<br><b>0</b> |
|-------------------------------------------------------------------------------------------------|--|---------------------------|---------------------------------------------|------------------------------|----------------------|





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 The locations of underground services are approximate only and their exact position should be proven on site.  
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NOTE: CONTOURS SHOWN ARE THE EXISTING SURFACE



**LEGEND - LAYOUT PLAN**

ALL PROPOSED, FUTURE & EXISTING SERVICE LOCATIONS ARE SHOWN INDICATIVELY

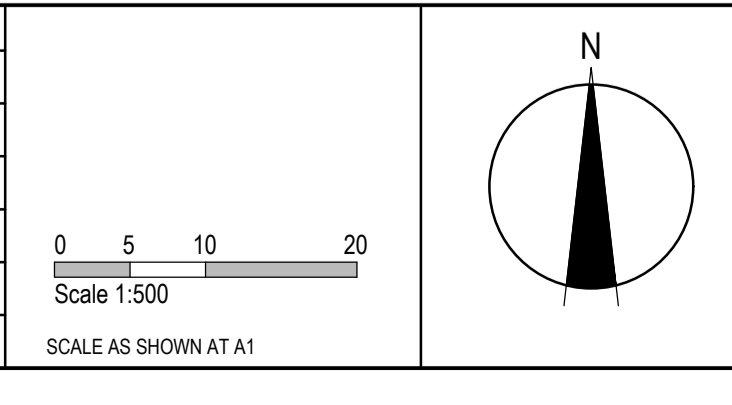
|  |                                         |  |                                       |  |                                                     |
|--|-----------------------------------------|--|---------------------------------------|--|-----------------------------------------------------|
|  | STORMWATER DRAIN, PIT & PROPERTY INLET  |  | EXISTING GAS                          |  | EXISTING SURFACE LEVEL                              |
|  | MAIN DRAIN                              |  | EXISTING TELSTRA                      |  | FINISHED BUILDING LINE LEVEL                        |
|  | SWALE DRAIN                             |  | EXISTING WATER                        |  | FINISHED RIDGE LINE LEVEL                           |
|  | SEWER & MAINTENANCE STRUCTURES          |  | EXISTING RECYCLED WATER               |  | CHAINAGE                                            |
|  | HOUSE DRAIN                             |  | EXISTING AG DRAIN                     |  | TOP OF RETAINING WALL LEVEL                         |
|  | ELECTRICITY (U.G.)                      |  | EXISTING SERVICE CONDUITS             |  | BOTTOM OF RETAINING WALL LEVEL                      |
|  | GAS                                     |  | EXISTING TACTILE PAVERS               |  | STRUCTURAL FILL > 200mm DEEP                        |
|  | TELSTRA                                 |  | FUTURE STORMWATER DRAIN               |  | EXISTING STRUCTURAL FILL > 200mm DEEP               |
|  | WATER                                   |  | FUTURE MAIN DRAIN                     |  | CUT > 200mm DEEP                                    |
|  | RECYCLE WATER                           |  | FUTURE SWALE DRAIN                    |  | DIRECTION OF FALL                                   |
|  | AG DRAIN                                |  | FUTURE SEWER & MAINTENANCE STRUCTURES |  | OVERLAND FLOW                                       |
|  | SERVICE CONDUITS                        |  | FUTURE HOUSE DRAIN                    |  | GRADED IN DIRECTION OF FALL TO LEVEL INDICATED      |
|  | TACTILE PAVERS                          |  | FUTURE ELECTRICITY (UNDER GROUND)     |  | EDGE STRIP, SUBSOIL DRAIN, "NO ROAD" SIGN & BARRIER |
|  | EXISTING STORMWATER DRAIN               |  | FUTURE GAS                            |  | EXISTING TREE TO BE RETAINED                        |
|  | EXISTING MAIN DRAIN                     |  | FUTURE TELSTRA                        |  | EXISTING TREE TO BE REMOVED                         |
|  | EXISTING SWALE DRAIN                    |  | FUTURE WATER                          |  | PERMANENT SURVEY MARK                               |
|  | EXISTING SEWER & MAINTENANCE STRUCTURES |  | FUTURE RECYCLED WATER                 |  | TEMPORARY BENCH MARK                                |
|  | EXISTING HOUSE DRAIN                    |  | FUTURE AG DRAIN                       |  |                                                     |
|  | EXISTING ELECTRICITY (UNDER GROUND)     |  | FUTURE SERVICE CONDUITS               |  |                                                     |
|  |                                         |  | FUTURE TACTILE PAVERS                 |  |                                                     |
|  |                                         |  | ZERO LOT LINES                        |  |                                                     |

FOR CONTINUATION REFER SHEET 1700E-09-32

|     |          |                                  |        |          |
|-----|----------|----------------------------------|--------|----------|
| REV | DATE     | AMENDMENT / REVISION DESCRIPTION | DESIGN | APPROVAL |
| 0   | 24.06.19 | ISSUED FOR CONSTRUCTION          | SM/SM  | AB       |

**ISSUED FOR CONSTRUCTION**

|                                                                                                                                                                                                                                                                                       |  |                 |           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------|-----------|
| All setting out should be carried out in accordance with MPA/Council's standard drawings or as nominated on hard copy plans provided by SMEC. Any digital information supplied by this office is for information only. Any discrepancies should be discussed with the superintendent. |  | TITLE           | NAME      |
| <br><br>                                                                                                                                                                                                                                                                              |  | DRAFTER         | R.Barua   |
|                                                                                                                                                                                                                                                                                       |  | DESIGNER        | J.Jones   |
|                                                                                                                                                                                                                                                                                       |  | CHECKED         | Z.Gosev   |
|                                                                                                                                                                                                                                                                                       |  | AUTHORISED      | A.Burrows |
|                                                                                                                                                                                                                                                                                       |  | REFERENCE No. 1 |           |
|                                                                                                                                                                                                                                                                                       |  | REFERENCE No. 2 |           |



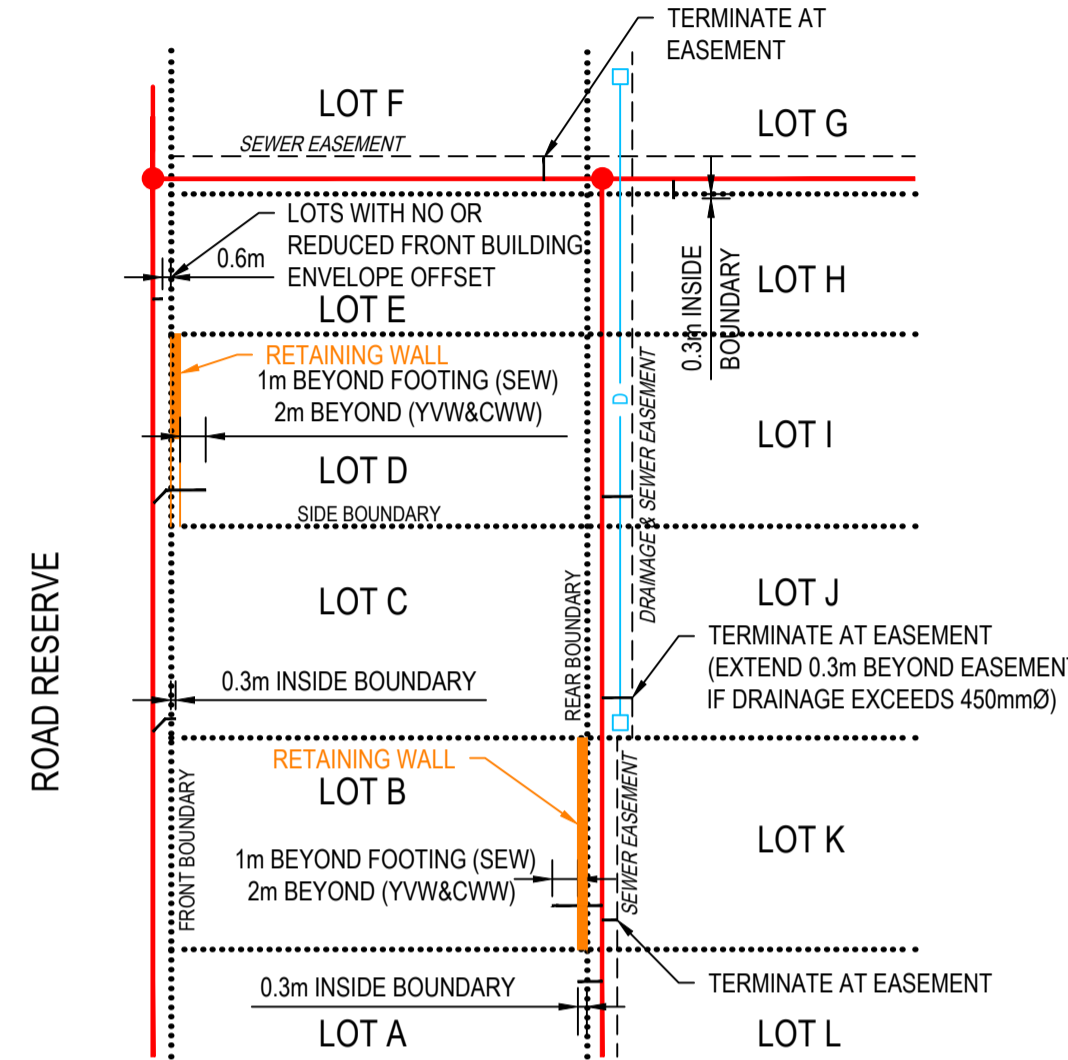
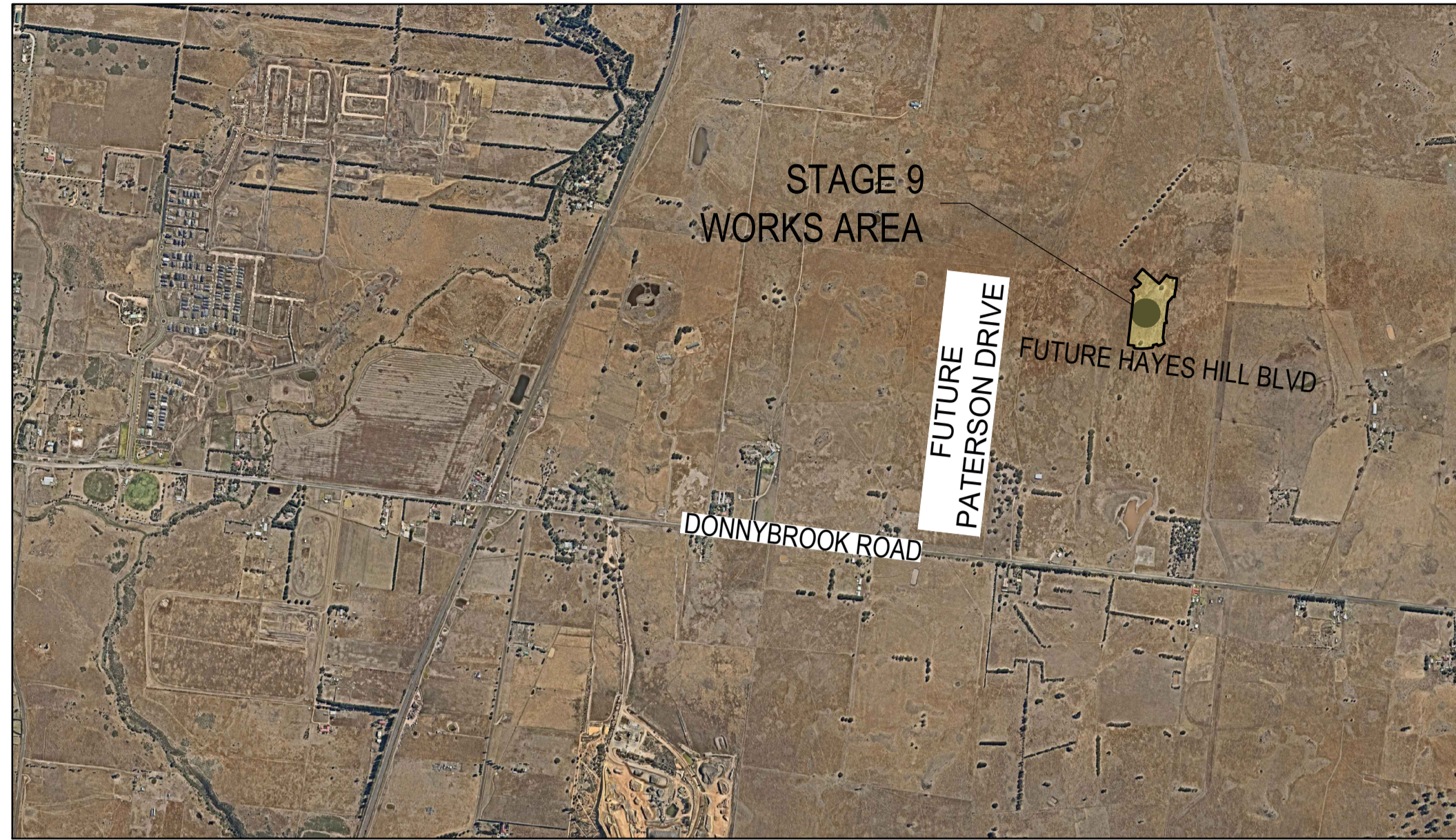
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|                                                                                                 |  |                    |                                      |                       |               |
|-------------------------------------------------------------------------------------------------|--|--------------------|--------------------------------------|-----------------------|---------------|
| Olivine Estate - Stage 9<br>Whittlesea City Council<br>Road and Drainage<br>Earthworks Plan - 2 |  | MELWAYS REF<br>8M2 | PROJECT / DRAWING No.<br>1700E-09-33 | SHEET No.<br>33 of 34 | REVISION<br>0 |
|-------------------------------------------------------------------------------------------------|--|--------------------|--------------------------------------|-----------------------|---------------|

# Olivine Estate

## Stage 9



TYPICAL PROPERTY CONNECTION DETAILS  
NOT TO SCALE

### Drawing Index

- 388/3325/51 Locality Plan
- 388/3325/52 Detail Plan - 1
- 388/3325/53 Detail Plan - 2
- 388/3325/54 Longitudinal Sections - 1
- 388/3325/55 Longitudinal Sections - 2
- 388/3325/56 Longitudinal Sections - 3
- 388/3325/57 Maintenance Hole Details - 1
- 388/3325/58 Maintenance Hole Details - 2

| POINT     | EAST       | NORTHING    | ELEVATION | DESCRIPTION         |
|-----------|------------|-------------|-----------|---------------------|
| C34SSPL   | 323383.546 | 5842934.15  | 238.735   | STEEL STAR PICKET   |
| C68PM77L  | 323210.099 | 5842698.35  | 237.616   | PERMANENT MARK PM77 |
| C75PM50L  | 322900.181 | 5842750.808 | 240.178   | PERMANENT MARK PM50 |
| C76SSPL   | 323252.295 | 5842715.378 | 236.886   | STEEL STAR PICKET   |
| C77RVTRG  | 323038.436 | 5842738.371 | 243.696   | RIVET IN ROCK       |
| C78SSPG   | 322835.256 | 5842759.893 | 239.488   | STEEL STAR PICKET   |
| C79SSPL   | 322666.202 | 5842778.237 | 238.207   | STEEL STAR PICKET   |
| C80SPKGG  | 322654.654 | 5842776.01  | 238.428   | SPIKE IN BITUMEN    |
| C81SSPL   | 322549.258 | 5842791.748 | 235.563   | STEEL STAR PICKET   |
| C82SSPL   | 322570.163 | 5842989.303 | 236.275   | STEEL STAR PICKET   |
| C83SSPL   | 322595.579 | 5843198.908 | 239.115   | STEEL STAR PICKET   |
| C84RVTRL  | 322617.683 | 5843412.157 | 242.457   | RIVET IN ROCK       |
| C85SSPL   | 322640.995 | 5843611.461 | 239.572   | STEEL STAR PICKET   |
| C93SSPL   | 323276.817 | 5842944.336 | 237.989   | STEEL STAR PICKET   |
| C104RVTRL | 322946.48  | 5843298.043 | 243.686   | RIVET IN ROCK       |
| C106SSPL  | 322762.605 | 5842991.952 | 238.464   | STEEL STAR PICKET   |
| C107SSPL  | 322900.731 | 5843023.612 | 240.323   | STEEL STAR PICKET   |
| C108SSPL  | 323208.79  | 5843072.045 | 241.058   | STEEL STAR PICKET   |
| C109SSPL  | 322932.732 | 5843474.686 | 243.559   | STEEL STAR PICKET   |

| SIZE (DN)                | PIPE TYPE/REFERENCE     | JOINT TYPE | CLASS | LENGTH (m) |
|--------------------------|-------------------------|------------|-------|------------|
| 225                      | "UPVC-DWW / WSA-PS-230" | SCJ        | SN8   | 294        |
| 150                      | "UPVC-DWW / WSA-PS-230" | SCJ        | SN8   | 784        |
| DN150 (PROPERTY SERVICE) | "UPVC-DWW / WSA-PS-230" | SCJ        | SN8   | -          |
| DN100 (PROPERTY SERVICE) | "UPVC-DWW / WSA-PS-230" | SCJ        | SN10  | -          |

| SIZE (DN) | TYPE 1a | TYPE 1b | TYPE 2 | TYPE 4a | TYPE 4b | TYPE S. SHAFT CONNECTION | TYPE 4S | TYPE B. BASE CONNECTION | TYPE 4B | TYPE 0B | JUMP UP FLEXIBLE COUPLINGS (No. F) |
|-----------|---------|---------|--------|---------|---------|--------------------------|---------|-------------------------|---------|---------|------------------------------------|
| 100       | -       | 3       | 29     | -       | 17      | 7                        | -       | -                       | 2       | 25      | 19                                 |
| 150       | -       | -       | -      | -       | -       | -                        | -       | 2                       | -       | -       | -                                  |

| ROAD NAME              | SERVICES OFFSET SCHEDULE |            |                    |            |                |            |             |            |            |            |
|------------------------|--------------------------|------------|--------------------|------------|----------------|------------|-------------|------------|------------|------------|
|                        | GAS                      |            | NON-DRINKING WATER |            | DRINKING WATER |            | ELECTRICITY |            | NBN        |            |
|                        | SIDE                     | OFFSET (m) | SIDE               | OFFSET (m) | SIDE           | OFFSET (m) | SIDE        | OFFSET (m) | SIDE       | OFFSET (m) |
| METROPOLIS WAY         | SOUTH                    | 2.10       | SOUTH              | 2.50       | SOUTH          | 3.00       | NORTH       | 2.35       | NORTH      | 1.85       |
| DOWNTOWN AVENUE        | EAST/SOUTH               | 2.10       | EAST/SOUTH         | 2.50       | EAST/SOUTH     | 3.00       | WEST/NORTH  | 2.35       | WEST/NORTH | 1.85       |
| HAMLET DRIVE           | SOUTH                    | 2.10       | SOUTH              | 2.50       | SOUTH          | 3.00       | NORTH       | 2.35       | NORTH      | 1.85       |
| SOCIETY VISTA          | WEST                     | 3.50       | WEST               | 4.00       | WEST           | 4.50       | EAST        | 2.45       | EAST       | 1.85       |
| QUARTER CIRCUIT (EAST) | EAST                     | 2.10       | EAST               | 2.50       | EAST           | 3.00       | WEST        | 2.35       | WEST       | 1.85       |
| QUARTER CIRCUIT (WEST) | EAST                     | 2.10       | EAST               | 2.50       | EAST           | 3.00       | WEST        | 0.85       | WEST       | 0.35       |
| OLIVINE BOULEVARD      | EAST                     | 2.10       | EAST               | 2.60       | EAST           | 3.10       | WEST        | 4.30       | WEST       | 3.60       |

| MAINTENANCE STRUCTURE ID | TYPE (IS/MS/MC) | COVER CLASS | DEPTH TO INVERT (m) | SHAFT CONNECTIONS | COMMENTS/REFERENCES (OFFSHOOTS/DETAILS) |
|--------------------------|-----------------|-------------|---------------------|-------------------|-----------------------------------------|
| F3-1MC                   | MC              | B(CONC)     | 3.12                | -                 | 4WAY BASE MC                            |
| F4MS                     | MS              | B(CONC)     | 2.53                | -                 | STRAIGHT THROUGH BASE MS                |
| F5MC-D                   | MC              | B(CONC)     | 3.82                | 1 x DN100         | 4WAY BASE MC                            |
| F5-2MC-D                 | MC              | B           | 3.20                | 1 x DN100         | 4WAY BASE MC                            |
| F5-3MS                   | MS              | B           | 2.99                | -                 | 4WAY BASE MS                            |
| F5-4MS-D                 | MS              | B           | 2.33                | 1 x DN100         | 4WAY BASE MS                            |
| F5-5IS                   | IS              | B(CONC)     | 1.81                | -                 | IS TYPE A                               |
| F7MC-D                   | MC              | B           | 3.67                | 1 x DN100         | 4WAY BASE MC                            |
| F7-1IS                   | IS              | B           | 2.22                | -                 | IS TYPE A                               |
| F9MC                     | MC              | B(CONC)     | 3.88                | -                 | 4 WAY BASE MC                           |
| F10MC-D                  | MC              | B           | 3.31                | 1 x DN100         | 4WAY BASE MS                            |
| F11MC-D                  | MC              | B           | 3.07                | 1 x DN100         | 4WAY BASE MC                            |
| F13MS                    | MS              | B(CONC)     | 2.47                | -                 | 4WAY BASE MC                            |
| F14MS-D                  | MS              | B           | 2.16                | 1 x DN100         | 4WAY BASE MC                            |
| F15IS                    | IS              | B           | 1.88                | -                 | IS TYPE A                               |

| MAINTENANCE HOLE ID | SHAFT TYPE (IS/PP/Concrete) | MH TOP TYPE (Flat Top / Concrete) | COVER CLASS | INTERNAL DIA. (m) | MIN. WALL THICKNESS (m) | DEPTH TO INVERT (m) | DROPS                 | LADDER (L) / STEP IRONS (S) / LANDING (Ld) | CORROSION PROTECTION (Coating / PE or PVC Lining) | SHAFT REINFORCEMENT | COMMENTS (Offshoot Details) |
|---------------------|-----------------------------|-----------------------------------|-------------|-------------------|-------------------------|---------------------|-----------------------|--------------------------------------------|---------------------------------------------------|---------------------|-----------------------------|
| F1MH                | CONCRETE                    | CONICAL                           | B (CONC)    | 1.05              | 0.15                    | 3.43                | -                     | S                                          | -                                                 | -                   | -                           |
| F2MH-D              | CONCRETE                    | CONICAL                           | B (CONC)    | 1.05              | 0.15                    | 3.42                | 1 x DN150             | S                                          | -                                                 | -                   | -                           |
| F3MH-D              | CONCRETE                    | CONICAL                           | B (CONC)    | 1.05              | 0.15                    | 3.34                | 1 x DN225 & 1 x DN100 | S                                          | -                                                 | -                   | -                           |
| F5-1MH              | CONCRETE                    | CONICAL                           | B (CONC)    | 1.05              | 0.15                    | 4.11                | -                     | S                                          | -                                                 | -                   | -                           |
| F6MH                | CONCRETE                    | CONICAL                           | B (CONC)    | 1.05              | 0.15                    | 3.77                | -                     | S                                          | -                                                 | -                   | -                           |
| F8MH                | CONCRETE                    | CONICAL                           | B (CONC)    | 1.05              | 0.15                    | 4.20                | -                     | S                                          | -                                                 | -                   | -                           |
| F12MH               | CONCRETE                    | CONICAL                           | B (CONC)    | 1.05              | 0.15                    | 2.56                | -                     | S                                          | -                                                 | -                   | -                           |

|          | BOUNDARY TRAP | WATER SEAL | SYPHON |
|----------|---------------|------------|--------|
| QUANTITY | 0             | 0          | 0      |

### GENERAL NOTES:

- ONLY CONTRACTORS ACCREDITED BY YARRA VALLEY WATER TO SC1 AND LS2 SHALL BE ELIGIBLE TO CONSTRUCT THESE WORKS.
- ONLY PRODUCTS APPROVED AND CATALOGUED BY THE WATER AGENCY SHALL BE USED.
- WORKS MUST BE TO CONSTRUCTION ACCORDING TO THE MRWA EDITION OF THE WSAA SEWERAGE CODE OF AUSTRALIA WSA 02-2014-3.1.
- THE DESIGN CONSULTANT IS RESPONSIBLE FOR THE DESIGN AND COORDINATION OF THE WORKS. ANY PROBLEM ARISING DURING CONSTRUCTION SHALL BE DIRECTED TO THE CONSULTANT.

### SURVEY, SET OUT AND ASSET RECORDING

- ALL CONTOURS AND LEVELS ARE IN METRES TO THE AUSTRALIAN HEIGHT DATUM (A.H.D.)
- ALL CO-ORDINATES SHOWN ARE TO MAP GRID OF AUSTRALIA (MGA).
- CHAINAGES SHOWN ON DETAIL PLANS ARE DISCONTINUOUS AT MAINTENANCE STRUCTURES.
- CHAINAGES SHOWN ON LONG SECTION SHEETS ARE CONTINUOUS.
- COORDINATES ARE TO SEWER LINE INTERSECTION POINT UNLESS OTHERWISE SHOWN.
- BEFORE COMMENCEMENT OF WORK, THE CONTRACTOR MUST COMPLETE A LEVEL CHECK BETWEEN ALL TBMS TO VERIFY LEVEL VALUES.
- TBMS AND CONTROL POINTS ARE TO BE MAINTAINED AND PROTECTED AT ALL TIMES DURING CONSTRUCTION.
- SHOULD ANY MARKS BE DISTURBED, THE CONTRACTOR WILL IMMEDIATELY NOTIFY THE CONSULTANT TO ARRANGE RE-INSTALLMENT AT THE CONTRACTORS EXPENSE.

### PROPERTY CONNECTIONS

- NUMBER OF LOTS TO BE SEWERED: 85 LOTS (INCLUDING 25 FUTURE LOTS), 0 LOTS SERVED BY EXISTING SEWER.
- ALL PROPERTY CONNECTIONS TO BE DN100 UNLESS OTHERWISE INDICATED.
- PROPERTIES REQUIRING BOUNDARY TRAPS ARE INDICATED IN THE DETAILED PLANS. THE REMAINDER DO NOT REQUIRE BOUNDARY TRAPS.
- BRANCH TIE DISTANCE SHOWN ON DETAIL PLAN ARE FROM APPROVED SUBDIVISION SURVEY PEGS. BRANCH TIES FOR FUTURE LOTS ARE SHOWN AS A CHAINAGE. (CH) DISTANCE IS FROM THE DOWNSTREAM SEWER STRUCTURE.
- INVERT LEVEL OF THE PROPERTY CONNECTION POINT IS SHOWN OPPOSITE THE BRANCH POSITION.
- WHERE A SPUR BRANCH CONNECTS TO A SHAFT, BOTH PROPERTY CONNECTIONS ARE CONSIDERED TO BE SHAFT CONNECTIONS

### EARTHWORKS AND RETAINING WALLS:

- IN AREAS SUBJECT TO EARTHWORKS, CONSTRUCTION OF SEWERS SHALL NOT COMMENCE UNTIL EARTHWORKS HAS BEEN COMPLETED UNLESS WRITTEN APPROVAL HAS BEEN GIVEN BY THE WATER AUTHORITY.

### EMBEDMENT

- EMBODMENT SHALL BE TYPE A (REFER MRWA-S-202) UNLESS OTHERWISE SPECIFIED ON THE LONG SECTION.

### BACKFILL

- SELECTION AND COMPACTION OF TRENCH BACKFILL MATERIAL SHALL BE IN ACCORDANCE WITH THE WATER AGENCY ADOPTED VERSION OF MRWA SPECIFICATION NO 04-03-1.
- REFER TO LONG SECTION DRAWINGS FOR BACKFILL REQUIREMENTS.

### COMPACTION TESTING

- TEST RESULTS SHALL BE PROVIDED TO THE SUPERINTENDENT PRIOR TO PRACTICAL COMPLETION / ACCEPTANCE OF WORKS.
- THE CONTRACTOR IS REQUIRED TO UNDERTAKE ALL TESTING OF FILL COMPACTION IN ACCORDANCE WITH THE WATER AGENCY ADOPTED VERSION OF THE MRWA BACKFILL SPECIFICATION 04-03-1.

### WORK ON LIVE SEWERS:

- ALL WORKS ON LIVE SEWERS MUST BE CARRIED OUT BY A WATER COMPANY ACCREDITED CONTRACTOR.
- ALL EXISTING SEWERS MUST BE PLUGGED TO STOP GAS EMISSIONS PRIOR TO ANY CONNECTIONS BEING MADE TO THESE SEWERS.
- TO ENABLE CONNECTIONS TO LIVE ASSETS OR ANY WORK ON LIVE ASSETS, THE CONTRACTOR SHALL SUBMIT THE APPROPRIATE FORMS TO THE SUPERINTENDENT AT LEAST 3 WORKING DAYS PRIOR TO ANY WORKS ON LIVE SEWERS.
- THE CONTRACTOR IS NOT PERMITTED TO BREAK INTO AN EXISTING LIVE PIPELINE, ENTER A LIVE SEWER OR REMOVE THE COVER TO A LIVE MAINTENANCE STRUCTURE UNLESS AUTHORISED BY THE WATER AGENCY.

### SAFETY:

- PRIOR TO COMMENCEMENT OF WORKS ON SITE, THE CONTRACTOR MUST ENSURE THAT ALL MATTERS RELATING TO THE OCCUPATIONAL HEALTH AND SAFETY ACT 2004 AND OCCUPATIONAL HEALTH AND SAFETY REGULATIONS 2007, HAVE BEEN AND WILL BE COMPLIED WITH.
- THE CONTRACTOR IS TO GIVE A MINIMUM OF TWO (2) DAYS NOTICE TO THE SUPERINTENDENT AND WATER AGENCY PRIOR TO THE TESTING BEING UNDERTAKEN. TESTING IS TO BE UNDERTAKEN IN THE PRESENCE OF SUPERINTENDENT.

### CULTURAL HERITAGE REQUIREMENTS

- THE CONTRACTOR IS TO KEEP A COPY OF THE APPROVED CULTURAL HERITAGE MANAGEMENT PLAN ON SITE AT ALL TIMES DURING WORKS.

### ENVIRONMENTAL MANAGEMENT PLAN:

- ON COMMENCEMENT OF CONSTRUCTION WORKS THE CONTRACTOR MUST COMPLY WITH THE RECOMMENDATIONS OF THE EPA PUBLICATION "CONSTRUCTION TECHNIQUES FOR SEDIMENT POLLUTION CONTROL" (PUBLICATION NO 275 1991).
- PRIOR TO THE COMMENCEMENT OF WORK, THE CONTRACTOR IS TO SUBMIT A SITE ENVIRONMENTAL MANAGEMENT PLAN TO MELBOURNE WATER.
- ALL TREES AND VEGETATION ARE TO BE PROTECTED UNLESS OTHERWISE INDICATED FOR REMOVAL. THE EXTENT OF ANY VEGETATION REMOVAL SHALL BE CONFIRMED ON SITE WITH THE SUPERINTENDENT AND LOCAL COUNCIL PRIOR TO COMMENCEMENT, AND IN ACCORDANCE WITH ANY PLANNING PERMITS. ANY REMOVAL SHALL BE DOCUMENTED.
- ALL AREAS CONTAINING CREEK VEGETATION, TREES AND REVEGETATED AREAS NEAR THE CONSTRUCTION ZONE ARE TO BE FENCED OFF DURING THE WORKS WITH SECURE AND HIGHLY VISIBLE MATERIAL SUCH AS PARA-WEBBING FENCING.
- ENSURE ALL MACHINERY, EQUIPMENT AND/OR FOOTWEAR ENTERING THE SITE IS WEED AND PATHOGEN FREE.

FOR THE DURATION OF PROCLAIMED WATER RESTRICTIONS, THE CONTRACTOR SHALL CONFORM WITH THE RESTRICTIONS AND ANY OTHER WATER CONSERVATION REQUIREMENTS IMPOSED BY THE WATER AGENCY.

**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**  
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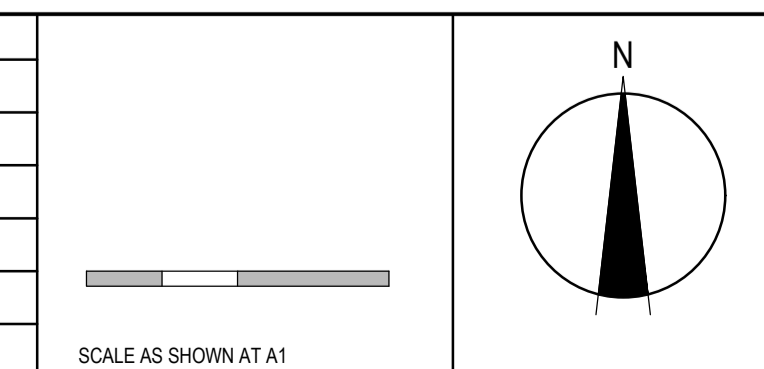
**WARNING**  
**SAFETY MEASURES REQUIRED**  
Please note there are risks attached to the construction of this project, and any ongoing maintenance of structures. Consider the safety of all. For potential risks, consequences and controls refer to Safety In Design Risk Register SID P4.E6.1700E-09-85  
**ASSESS THE RISK - STAY SAFE**

**WARNING**  
**BWARE OF ASBESTOS**  
SOME UNDERGROUND SERVICES MAYBE CONSTRUCTED FROM ASBESTOS CONTAINING MATERIAL. CONTACT THE SUPERINTENDENT FOR INSTRUCTIONS ON HOW TO MANAGE ANY POTENTIAL ASBESTOS HAZARD

| REV | DATE     | AMENDMENT / REVISION DESCRIPTION | DESIGN | APPROVAL |
|-----|----------|----------------------------------|--------|----------|
| 0   | 10.07.19 | ISSUED FOR CONSTRUCTION          | SM/SM  | AB       |

**ISSUED FOR CONSTRUCTION**

| TITLE                | NAME        |
|----------------------|-------------|
| DRAFTER              | R.Barua     |
| DESIGNER             | S.MacLaren  |
| CHECKED              | E.Lam       |
| AUTHORISED           | A.Burrows   |
| WATER AUTHORITY REF. | 388/3325    |
| SMEC DRAWING REF.    | 1700E-09-51 |



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**Yarra Valley Water**

Yarra Valley Water  
Whittlesea City Council  
Olivine Estate - Stage 9  
Sewer Retention Plan  
Locality Plan

|                           |                                             |                              |                      |
|---------------------------|---------------------------------------------|------------------------------|----------------------|
| MELWAYS REF<br><b>8M2</b> | PROJECT / DRAWING No.<br><b>388/3325/51</b> | SHEET No.<br><b>01 of 08</b> | REVISION<br><b>0</b> |
|---------------------------|---------------------------------------------|------------------------------|----------------------|

| LEGEND - SEWER DETAIL PLAN                                               |                                                        |
|--------------------------------------------------------------------------|--------------------------------------------------------|
| ALL PROPOSED, FUTURE & EXISTING SERVICE LOCATIONS ARE SHOWN INDICATIVELY |                                                        |
|                                                                          | PROP SEWER PIPE, STRUCTURE AND PROPERTY CONNECTION     |
|                                                                          | PROP BRANCH SEWER PIPE AND STRUCTURE                   |
|                                                                          | MAINTENANCE SHAFT (MS)                                 |
|                                                                          | INSPECTION SHAFT (IS)                                  |
|                                                                          | MAINTENANCE HOLE (MH)                                  |
|                                                                          | MAINTENANCE CHAMBER                                    |
|                                                                          | GAS CHECK MH                                           |
|                                                                          | WATER SEAL                                             |
|                                                                          | PIPE STUB                                              |
|                                                                          | UPSTREAM END OF VERTICAL BEND                          |
|                                                                          | STORMWATER DRAIN, PIT & PROPERTY INLET                 |
|                                                                          | HOUSE DRAIN                                            |
|                                                                          | SERVICE CONDUITS                                       |
|                                                                          | EXISTING SEWER PIPE, STRUCTURE AND PROPERTY CONNECTION |
|                                                                          | EXISTING BRANCH SEWER PIPE AND STRUCTURE               |
|                                                                          | EXISTING STORMWATER DRAIN                              |
|                                                                          | EXISTING SERVICE CONDUITS                              |
|                                                                          | FUTURE SEWER PIPE (RETIC./ BRANCH) AND STRUCTURE       |
|                                                                          | FUTURE STORMWATER DRAIN                                |
|                                                                          | FUTURE HOUSE DRAIN                                     |
|                                                                          | FUTURE SERVICE CONDUITS                                |
|                                                                          | EXISTING SURFACE LEVEL                                 |
|                                                                          | FS140.35 FINISHED BUILDING LINE LEVEL                  |
|                                                                          | FR157.40 FINISHED RIDGE LINE LEVEL                     |
|                                                                          | TW159.60 TOP OF RETAINING WALL LEVEL                   |
|                                                                          | BW159.00 BOTTOM OF RETAINING WALL LEVEL                |
|                                                                          | EXISTING RETAINING WALL                                |
|                                                                          | RETAINING WALL                                         |
|                                                                          | FUTURE RETAINING WALL                                  |
|                                                                          | EXISTING TREE TO BE RETAINED                           |
|                                                                          | EXISTING TREE TO BE REMOVED                            |
|                                                                          | PERMANENT SURVEY MARK                                  |

| ABBREVIATIONS LEGEND |                                                                                                    |
|----------------------|----------------------------------------------------------------------------------------------------|
| FS =                 | FINISHED SURFACE LEVEL                                                                             |
| IL =                 | INVERT LEVEL                                                                                       |
| TW =                 | TOP OF RETAINING WALL                                                                              |
| BW =                 | BOTTOM OF RETAINING WALL                                                                           |
| EP =                 | END OF PIPE                                                                                        |
| TP =                 | TANGENT POINT                                                                                      |
| BT =                 | BOUNDARY TRAP LOT                                                                                  |
| TY =                 | PROPERTY CONNECTION TYPE                                                                           |
| TY-S =               | MAINTENANCE STRUCTURE SHAFT PROPERTY CONNECTION                                                    |
| TY-B =               | MAINTENANCE STRUCTURE BASE PROPERTY CONNECTION (LEVELS WITH NO PREFIX ARE EXISTING SURFACE LEVELS) |

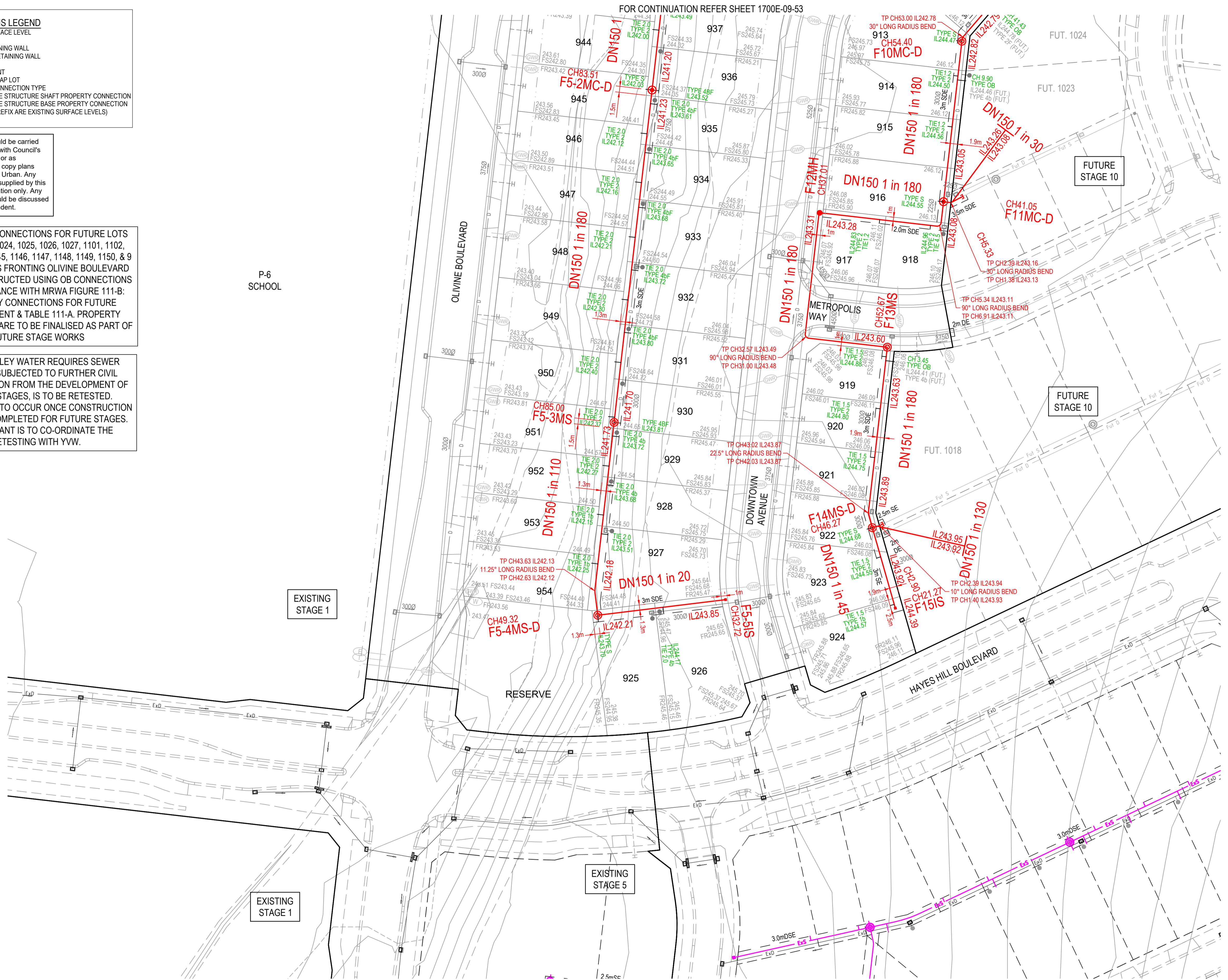
All setting out should be carried out in accordance with Council's standard drawings or as nominated on hard copy plans provided by SMEC Urban. Any digital information supplied by this office is for information only. Any discrepancies should be discussed with the superintendent.

PROPERTY CONNECTIONS FOR FUTURE LOTS 1018, 1023, 1024, 1025, 1026, 1027, 1101, 1102, 1103, 1144, 1145, 1146, 1147, 1148, 1149, 1150, & 9 FUTURE LOTS FRONTING OLIVINE BOULEVARD TO BE CONSTRUCTED USING OB CONNECTIONS IN ACCORDANCE WITH MRWA FIGURE 111-B: PROPERTY CONNECTIONS FOR FUTURE DEVELOPMENT & TABLE 111-A. PROPERTY CONNECTION ARE TO BE FINALISED AS PART OF FUTURE STAGE WORKS

YARRA VALLEY WATER REQUIRES SEWER WHICH IS SUBJECT TO FURTHER CIVIL CONSTRUCTION FROM THE DEVELOPMENT OF FUTURE STAGES, IS TO BE RETESTED. RETESTING IS TO OCCUR ONCE CONSTRUCTION HAS BEEN COMPLETED FOR FUTURE STAGES. CONSULTANT IS TO CO-ORDINATE THE RETESTING WITH YVW.

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| PROPERTY SERVICE TYPES |                                         |
|------------------------|-----------------------------------------|
| TY1a                   | (NO JUMP UP & 45° JUNCTION FITTING)     |
| TY1b                   | (NO JUMP UP & 60° JUNCTION FITTING)     |
| TY2                    | (JUMP UP ADJACENT TO MAIN)              |
| TY4a                   | (OFFSET JUMP UP & 45° JUNCTION FITTING) |
| TY4b                   | (OFFSET JUMP UP & 45° JUNCTION FITTING) |
| TY4S                   | (OFFSET JUMP UP CONNECTED TO SHAFT)     |
| TY4B                   | (OFFSET JUMP UP CONNECTED TO BASE)      |
| TYB                    | (NO JUMP UP & CONNECTED TO BASE)        |
| TYS                    | (NO JUMP UP & CONNECTED TO SHAFT)       |
| TY2F                   | (TY2 WITH FLEXIBLE COUPLING)            |
| TY4aF                  | (TY4a WITH FLEXIBLE COUPLING)           |
| TY4bF                  | (TY4b WITH FLEXIBLE COUPLING)           |
| TY4SF                  | (TY4S WITH FLEXIBLE COUPLING)           |
| TY4BF                  | (TY4B WITH FLEXIBLE COUPLING)           |



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|----------------------|-------------|
| DRAFTER              | R.Barua     |
| DESIGNER             | S.MacLaren  |
| CHECKED              | E.Lam       |
| AUTHORISED           | A.Burrows   |
| WATER AUTHORITY REF. | 388/3325    |
| SMEC DRAWING REF.    | 1700E-09-52 |

Scale 1:500  
Scale AS SHOWN AT 1

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**Yarra Valley Water**

Yarra Valley Water  
Whittlesea City Council  
Olivine Estate - Stage 9  
Sewer Retention Plan  
Detail Plan - 1

MELWAYS REF: 8M2  
PROJECT / DRAWING No: 388/3325/52  
SHEET No: 02 of 08  
REVISION: 0

**EMBEDMENT & BACKFILL DETAILS:**

- EMBEDMENT SHALL BE TYPE A UNLESS STATED OTHERWISE.
- BACKFILL TYPE O TO BE INSTALLED AS PER MRWA BACKFILL SPECIFICATION 04-03.01
- TYPE F IS TO BE INSTALLED AS PER FIGURE 2.
- TYPE R IS TO BE INSTALLED AS PER FIGURE 3.

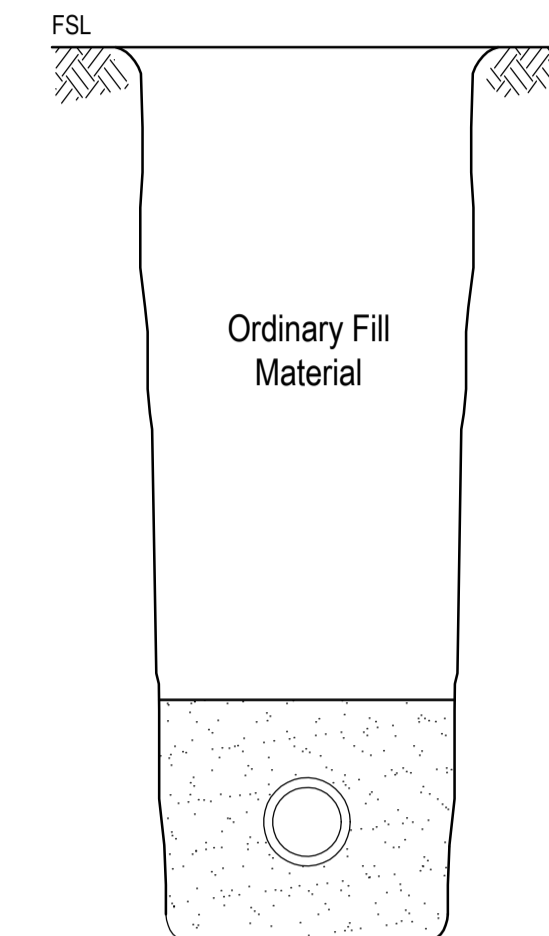


Figure 1: Type O Backfill

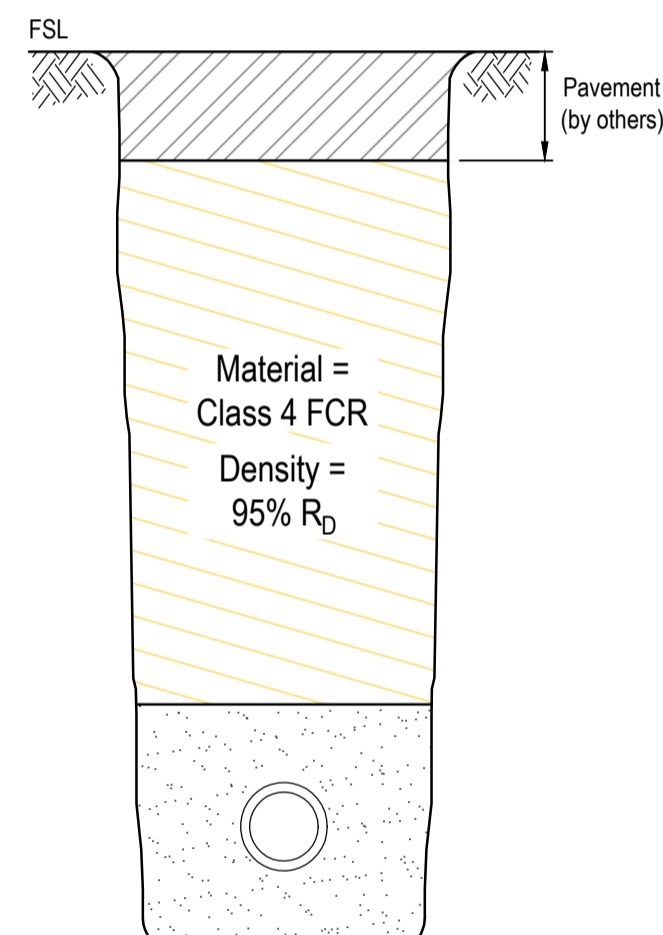


Figure 2: Type F Backfill

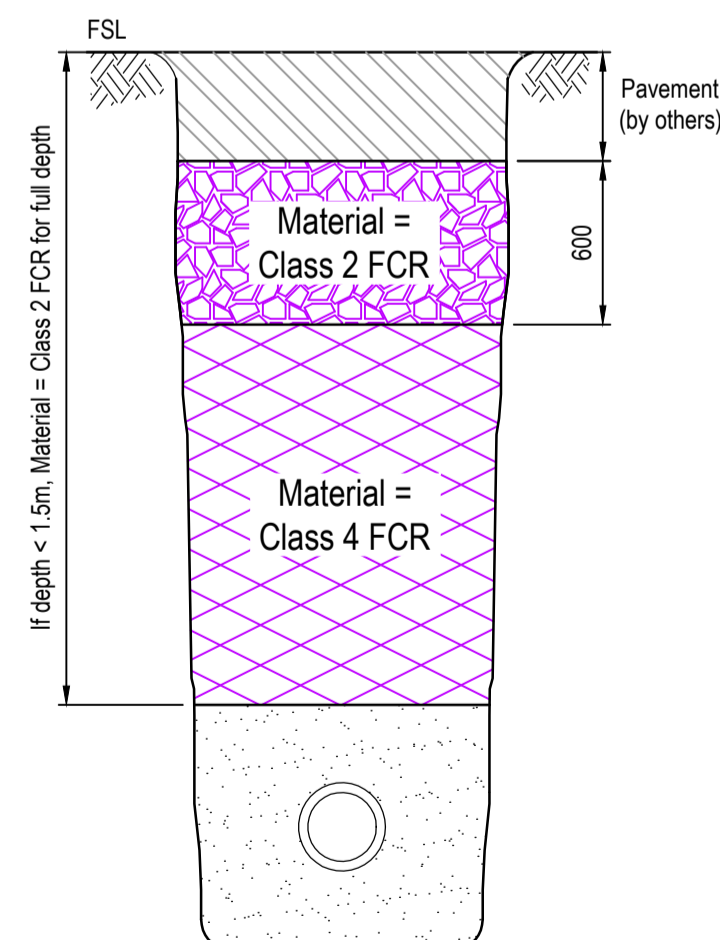
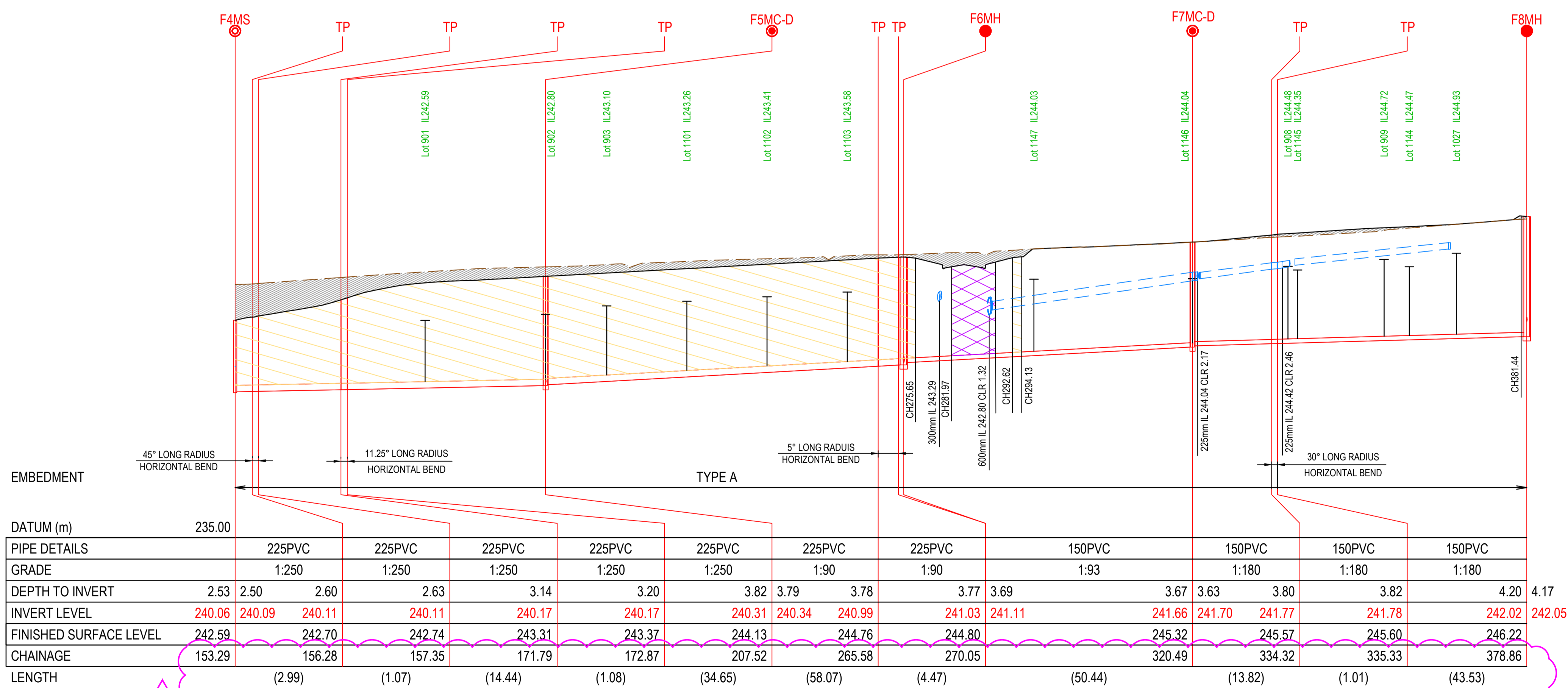
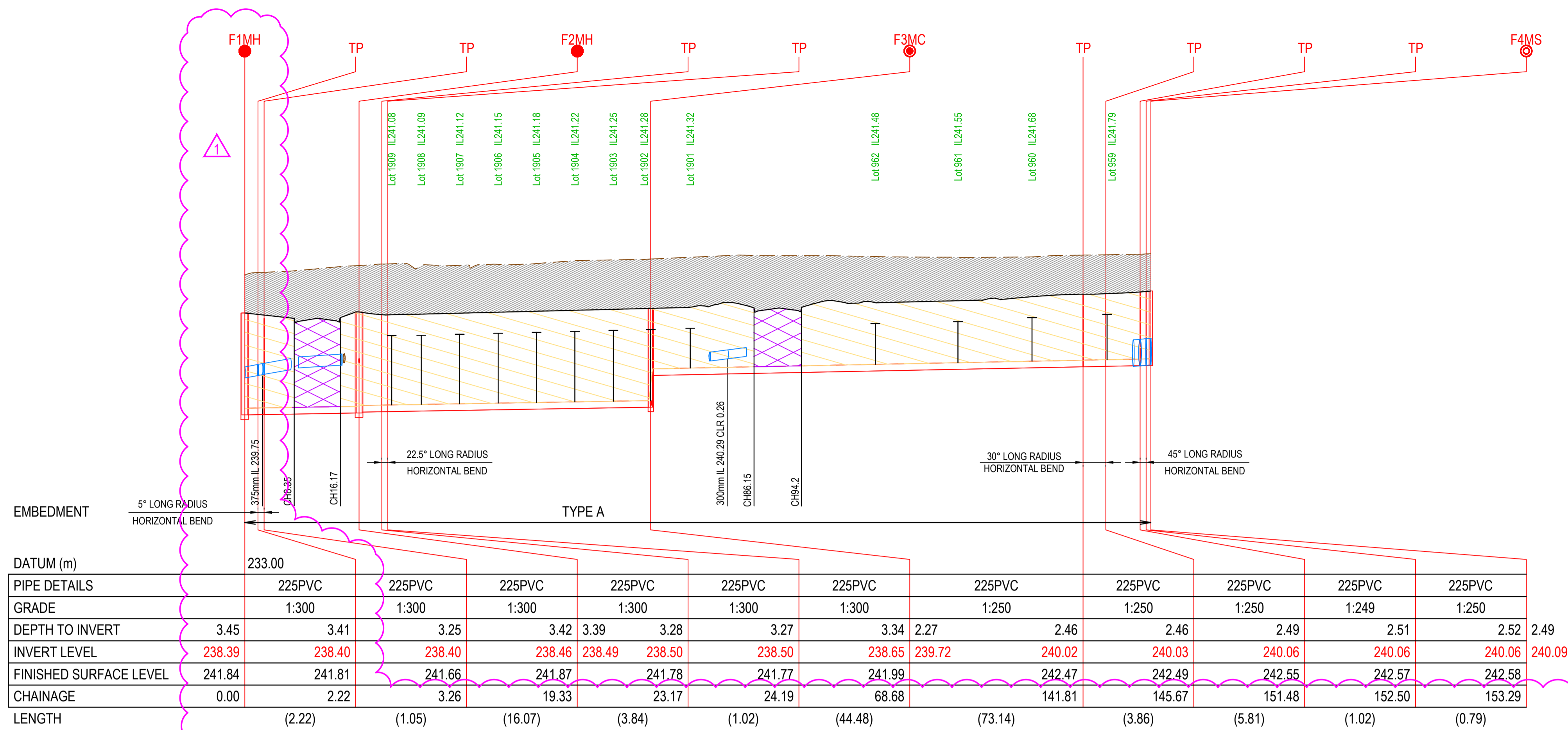


Figure 3: Type R Backfill



FILL SHOWN THUS TENDERS SHOULD BE PREPARED ON THE BASIS THAT EARTHWORKS SHOWN SHADED SHOULD BE COMPLETED PRIOR TO THE COMMENCEMENT OF WORKS

**COLOUR LEGEND**

|             |                                                                                      |
|-------------|--------------------------------------------------------------------------------------|
| RED 10      | SEWERAGE (NEW)                                                                       |
| GREEN 94    | PROPERTY CONNECTIONS                                                                 |
| MAGENTA 210 | EXISTING SEWERAGE                                                                    |
| ORANGE 32   | RETAINING WALLS                                                                      |
| BLACK 0.13  | STAGE LOT, ROAD BOUNDARIES, LOT No, ROAD NAMES, EASEMENTS, PROPERTY CONNECTION PIPES |
| BLACK 0.35  | PROPERTY CONNECTION PIPES                                                            |
| GREY 252    | EXISTING LOT & ROAD BOUNDARIES                                                       |
| GREY 252    | KERBS, FOOTPATHS, DRIVEWAYS, BOUNDARIES LEVELS AND BATTERS.                          |
| GREY 252    | DRAINAGE                                                                             |
| GREY 252    | CONTOURS (1.0m INTERVAL)                                                             |

**LEGEND**

|  |                         |
|--|-------------------------|
|  | EXISTING SURFACE        |
|  | DESIGN SURFACE          |
|  | SEWER PIPE/PIT          |
|  | EXISTING SEWER PIPE/PIT |
|  | STORMWATER DRAIN        |
|  | RETAINING WALL          |
|  | PROPERTY CONNECTION     |
|  | BACKFILL TYPE F         |
|  | BACKFILL TYPE R         |
|  | CUTFILL                 |

| REV | DATE     | AMENDMENT / REVISION DESCRIPTION | DESIGN | APPROVAL |
|-----|----------|----------------------------------|--------|----------|
| 0   | 10.07.19 | ISSUED FOR CONSTRUCTION          | SM/SM  | AB       |
| 1   | 29.08.19 | F1MH LOCATION AMENDED            | KMKM   | AB       |

**ISSUED FOR CONSTRUCTION**

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|                      |             |
|----------------------|-------------|
| TITLE                | NAME        |
| DRAFTER              | R.Barua     |
| DESIGNER             | S.MacLaren  |
| CHECKED              | E.Lam       |
| AUTHORISED           | A.Burrows   |
| WATER AUTHORITY REF. | 388/3325    |
| SMEC DRAWING REF.    | 1700E-09-54 |

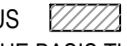
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SCALE AS SHOWN AT A1

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Melbourne, VIC 3008  
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**Yarra Valley Water**

Yarra Valley Water  
Whittlesea City Council  
Olivine Estate - Stage 9  
Sewer Retention Plan  
Longitudinal Sections - 1











|             |                      |          |          |
|-------------|----------------------|----------|----------|
| MELWAYS REF | PROJECT / DRAWING No | SHEET No | REVISION |
| 8M2         | 388/3325/54          | 04 of 08 | 1        |

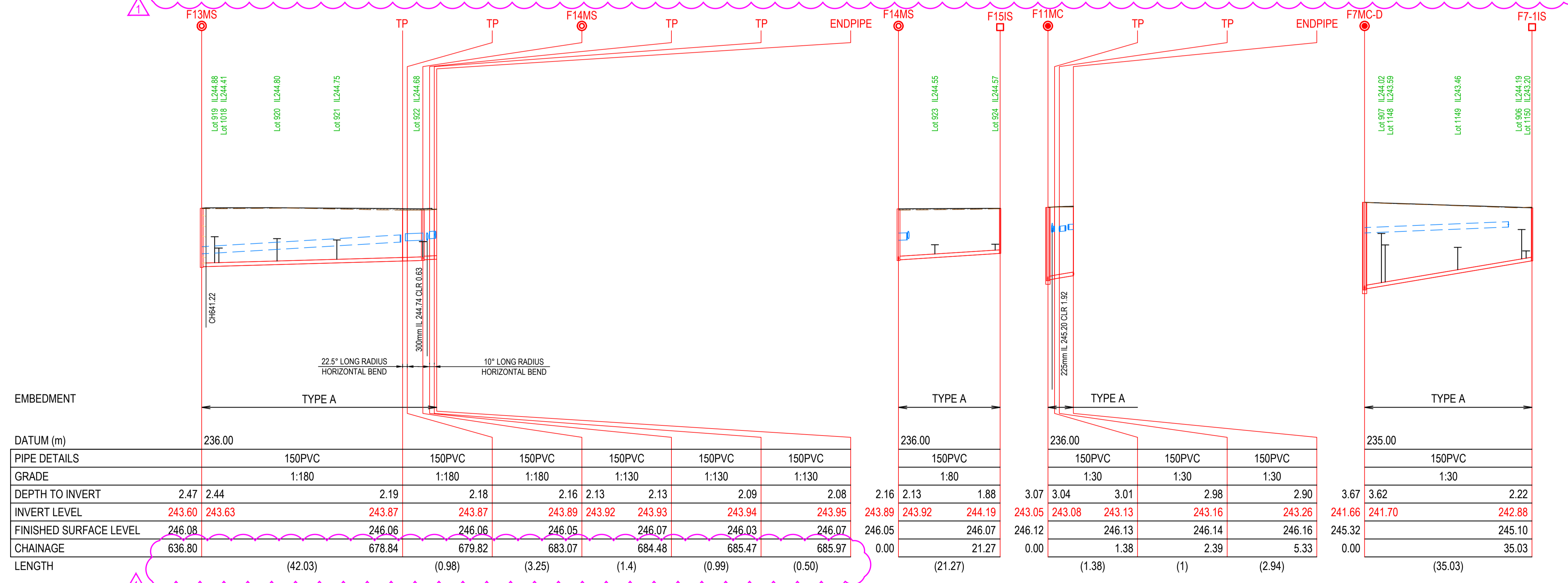
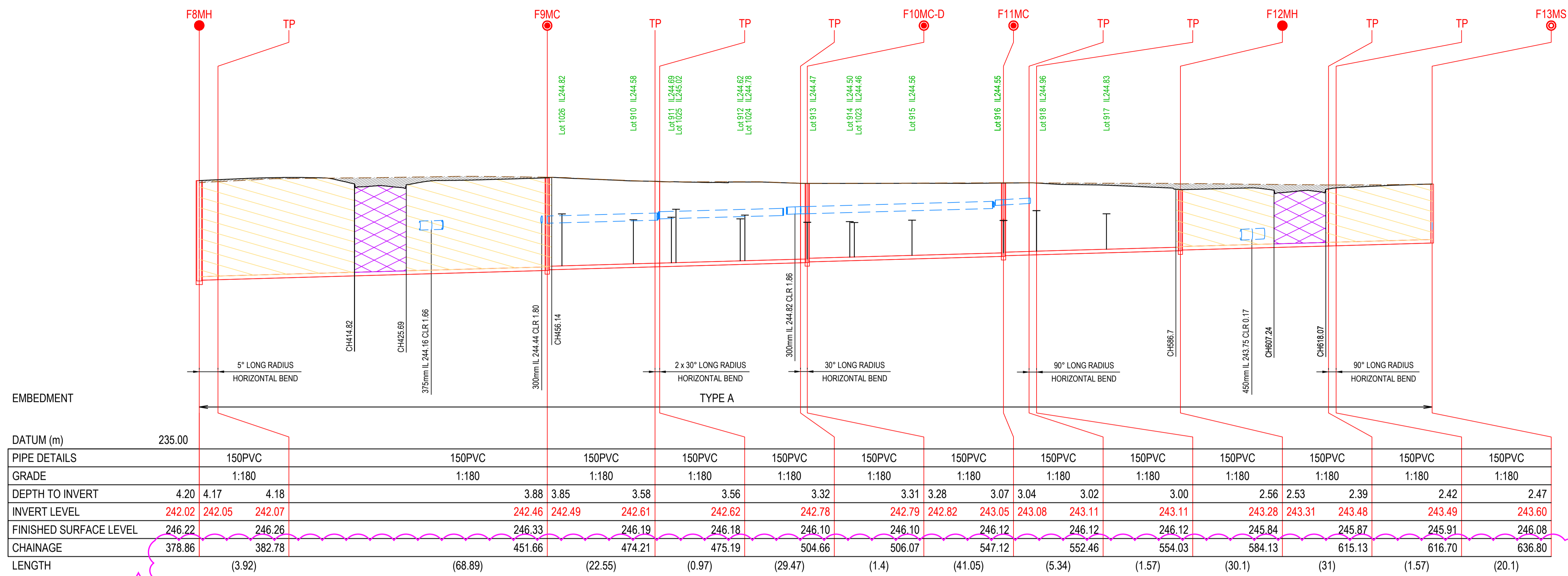
FILL SHOWN THUS  TENDERS SHOULD BE PREPARED ON THE BASIS THAT EARTHWORKS SHOWN SHADED SHOULD BE COMPLETED PRIOR TO THE COMMENCEMENT OF WORKS

**COLOUR LEGEND**

|             |                                                                                             |
|-------------|---------------------------------------------------------------------------------------------|
| RED 10      | SEWERAGE (NEW)                                                                              |
| GREEN 94    | PROPERTY CONNECTIONS                                                                        |
| MAGENTA 210 | EXISTING SEWERAGE                                                                           |
| ORANGE 32   | RETAINING WALLS                                                                             |
| BLACK 0.13  | STAGE LOT, ROAD BOUNDARIES, LOT No, ROAD NAMES, EASEMENTS, PROPERTY CONNECTION PIPES        |
| BLACK 0.35  | EXISTING LOT & ROAD BOUNDARIES, KERBS, FOOTPATHS, DRIVEWAYS, BOUNDARIES LEVELS AND BATTERS. |
| GREY 252    | EXISTING LOT & ROAD BOUNDARIES, KERBS, FOOTPATHS, DRIVEWAYS, BOUNDARIES LEVELS AND BATTERS. |
| GREY 252    | DRAINAGE                                                                                    |
| GREY 252    | CONTOURS (1.0m INTERVAL)                                                                    |

**LEGEND**

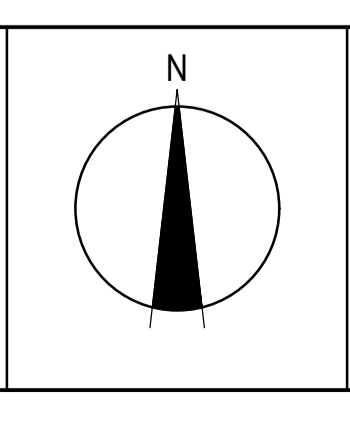
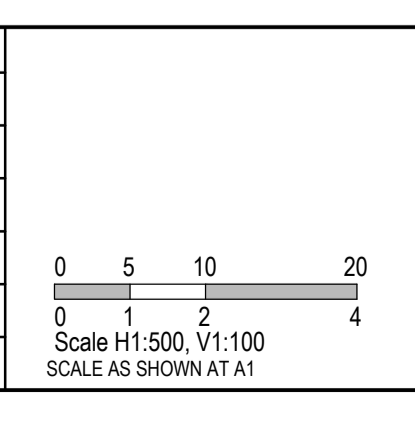
|                                                                                     |                         |
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|  | EXISTING SURFACE        |
|  | DESIGN SURFACE          |
|  | SEWER PIPE/PIT          |
|  | EXISTING SEWER PIPE/PIT |
|  | STORMWATER DRAIN        |
|  | RETAINING WALL          |
|  | PROPERTY CONNECTION     |
|  | BACKFILL TYPE F         |
|  | BACKFILL TYPE R         |
|  | CUT/FILL                |



| REV | DATE     | AMENDMENT / REVISION DESCRIPTION | DESIGN | APPROVAL |
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| 0   | 10.07.19 | ISSUED FOR CONSTRUCTION          | SM/SM  | AB       |
| 1   | 29.08.19 | F1MH LOCATION AMENDED            | KMKM   | AB       |

**ISSUED FOR CONSTRUCTION**

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| All setting out should be carried out in accordance with MPA/Council's standard drawings or as nominated on hard copy plans provided by SMEC. Any digital information supplied by this office is for information only. Any discrepancies should be discussed with the superintendent. |                               | TITLE                | NAME        |
| Quality Management - ISO 9001                                                                                                                                                                                                                                                         | Site Management - AS/NZS 1801 | DRAFTER              | R.Barua     |
| Environmental Management - ISO 14001                                                                                                                                                                                                                                                  |                               | DESIGNER             | S.MacLaren  |
|                                                                                                                                                                                                                                                                                       |                               | CHECKED              | E.Lam       |
|                                                                                                                                                                                                                                                                                       |                               | AUTHORISED           | A.Burrows   |
|                                                                                                                                                                                                                                                                                       |                               | WATER AUTHORITY REF. | 388/3325    |
|                                                                                                                                                                                                                                                                                       |                               | SMEC DRAWING REF.    | 1700E-09-55 |

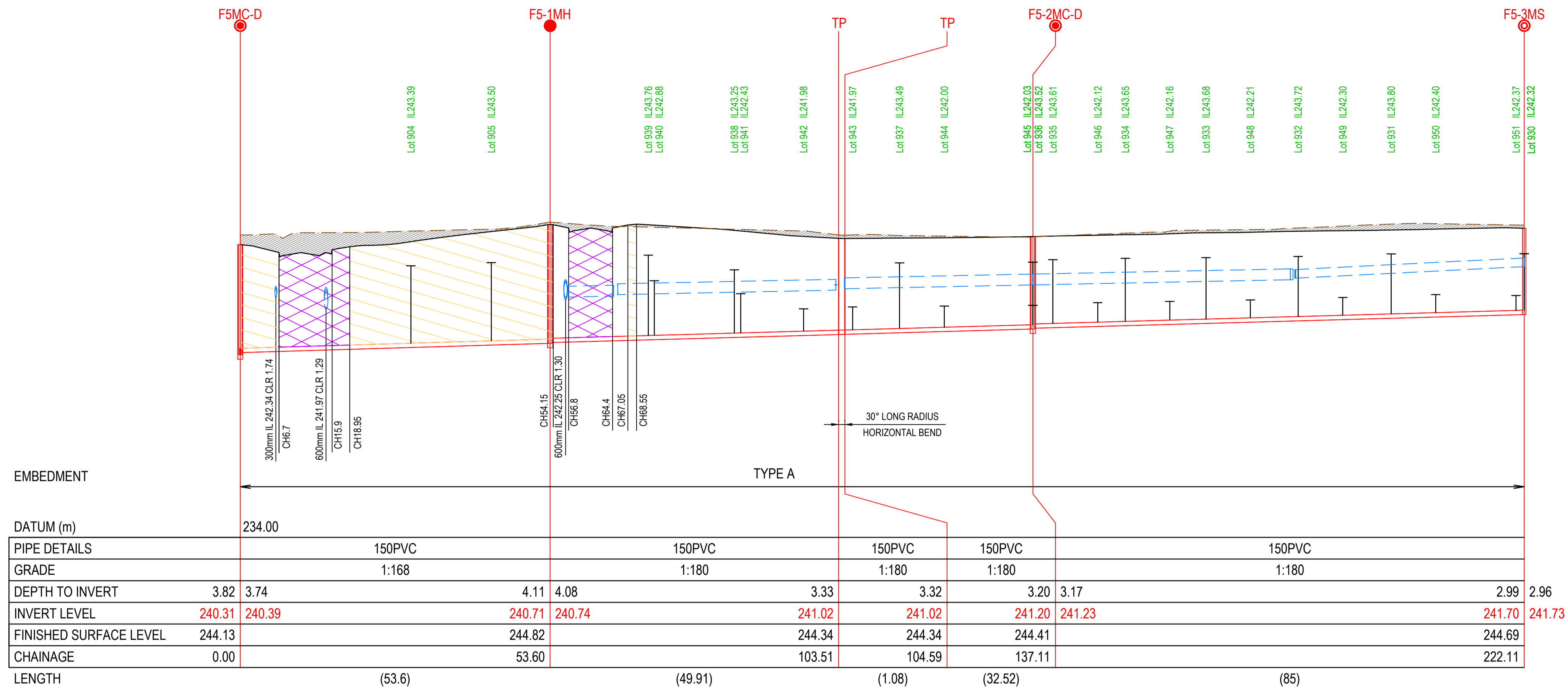


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**Yarra Valley Water**

Yarra Valley Water  
Whittlesea City Council  
Olivine Estate - Stage 9  
Sewer Retention Plan  
Longitudinal Sections - 2

|                           |                                             |                              |                      |
|---------------------------|---------------------------------------------|------------------------------|----------------------|
| MELWAYS REF<br><b>8M2</b> | PROJECT / DRAWING No.<br><b>388/3325/55</b> | SHEET No.<br><b>05 of 08</b> | REVISION<br><b>1</b> |
|---------------------------|---------------------------------------------|------------------------------|----------------------|



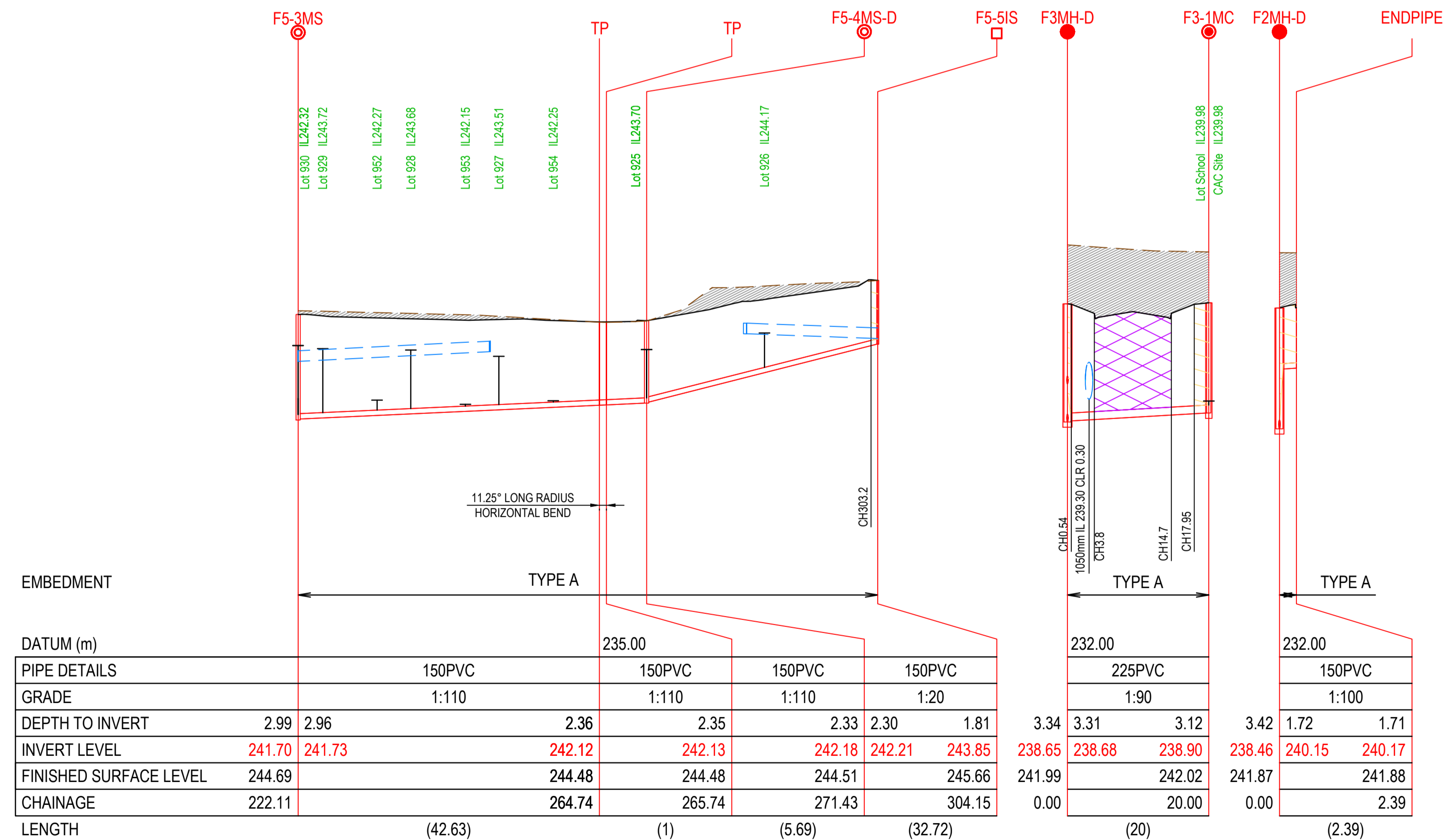
FILL SHOWN THIS TENDERS SHOULD BE PREPARED ON THE BASIS THAT EARTHWORKS SHOWN SHADED SHOULD BE COMPLETED PRIOR TO THE COMMENCEMENT OF WORKS

**COLOUR LEGEND**

RED 10 SEWERAGE (NEW)  
 GREEN 94 PROPERTY CONNECTIONS  
 MAGENTA 210 EXISTING SEWERAGE  
 ORANGE 32 RETAINING WALLS  
 BLACK 0.13 STAGE LOT, ROAD BOUNDARIES, LOT No, ROAD NAMES, EASEMENTS.  
 BLACK 0.35 PROPERTY CONNECTION PIPES  
 GREY 252 EXISTING LOT & ROAD BOUNDARIES, KERBS, FOOTPATHS, DRIVEWAYS, BOUNDARIES LEVELS AND BATTERS.  
 GREY 252 DRAINAGE  
 GREY 252 CONTOURS (1.0m INTERVAL)

**LEGEND**

--- EXISTING SURFACE  
 --- DESIGN SURFACE  
 --- SEWER PIPE/PIT  
 --- EXISTING SEWER PIPE/PIT  
 --- STORMWATER DRAIN  
 --- RETAINING WALL  
 --- PROPERTY CONNECTION  
 BACKFILL TYPE F  
 BACKFILL TYPE R  
 CUT/FILL



REV 0 DATE 10.07.19 AMENDMENT / REVISION DESCRIPTION ISSUED FOR CONSTRUCTION

DESIGN APPROVAL SM/SM AB

**ISSUED FOR CONSTRUCTION**

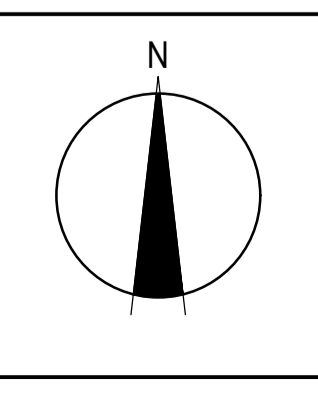
Quality Management ISO 9001  
 OHS Management AS/NZS 1881  
 Environmental Management ISO 14001

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TITLE NAME  
 DRAFTER R.Barua  
 DESIGNER S.MacLaren  
 CHECKED E.Lam  
 AUTHORISED A.Burrows  
 WATER AUTHORITY REF. 388/3325  
 SMEC DRAWING REF. 1700E-09-56

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 SCALE AS SHOWN AT A1

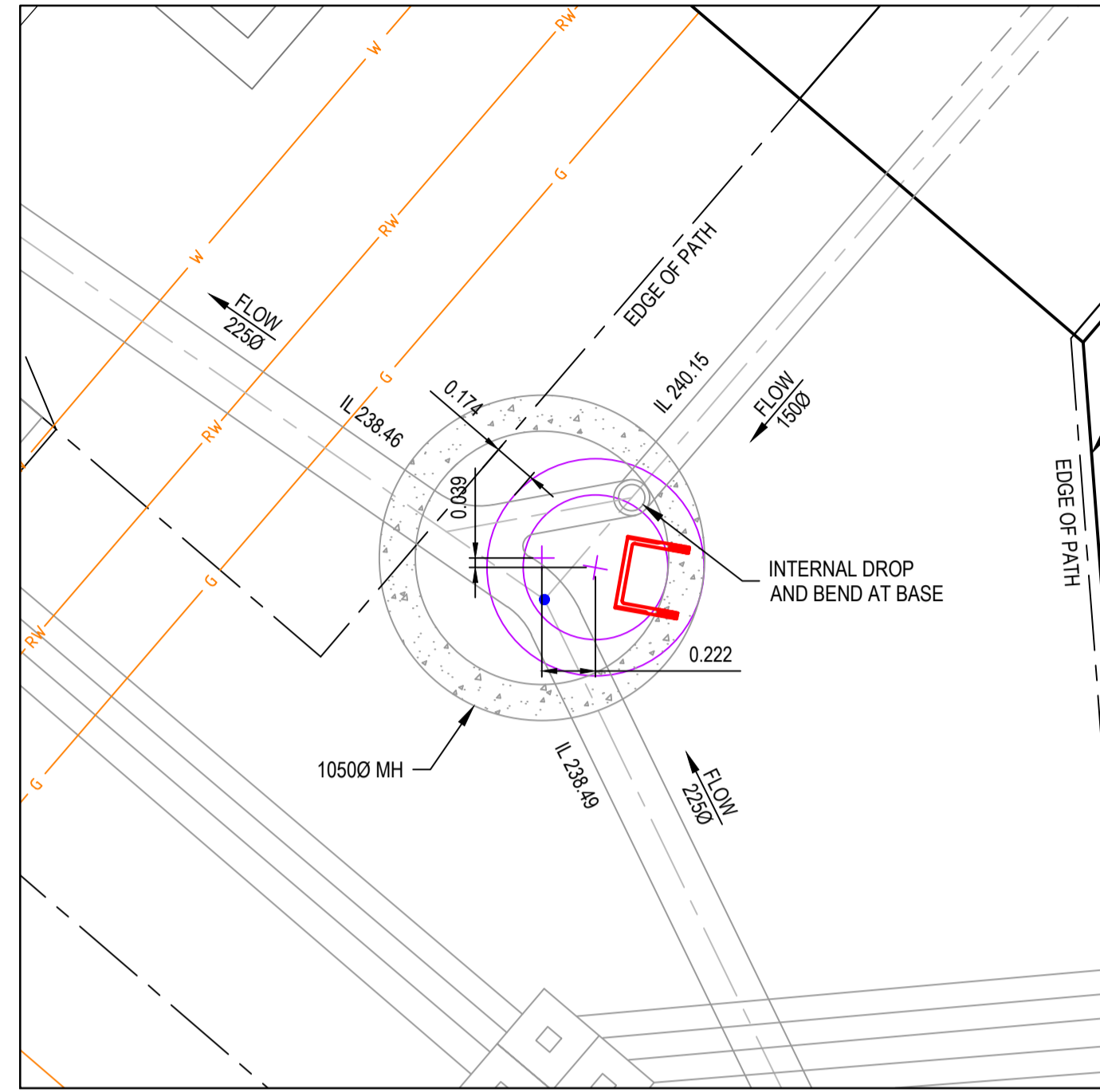


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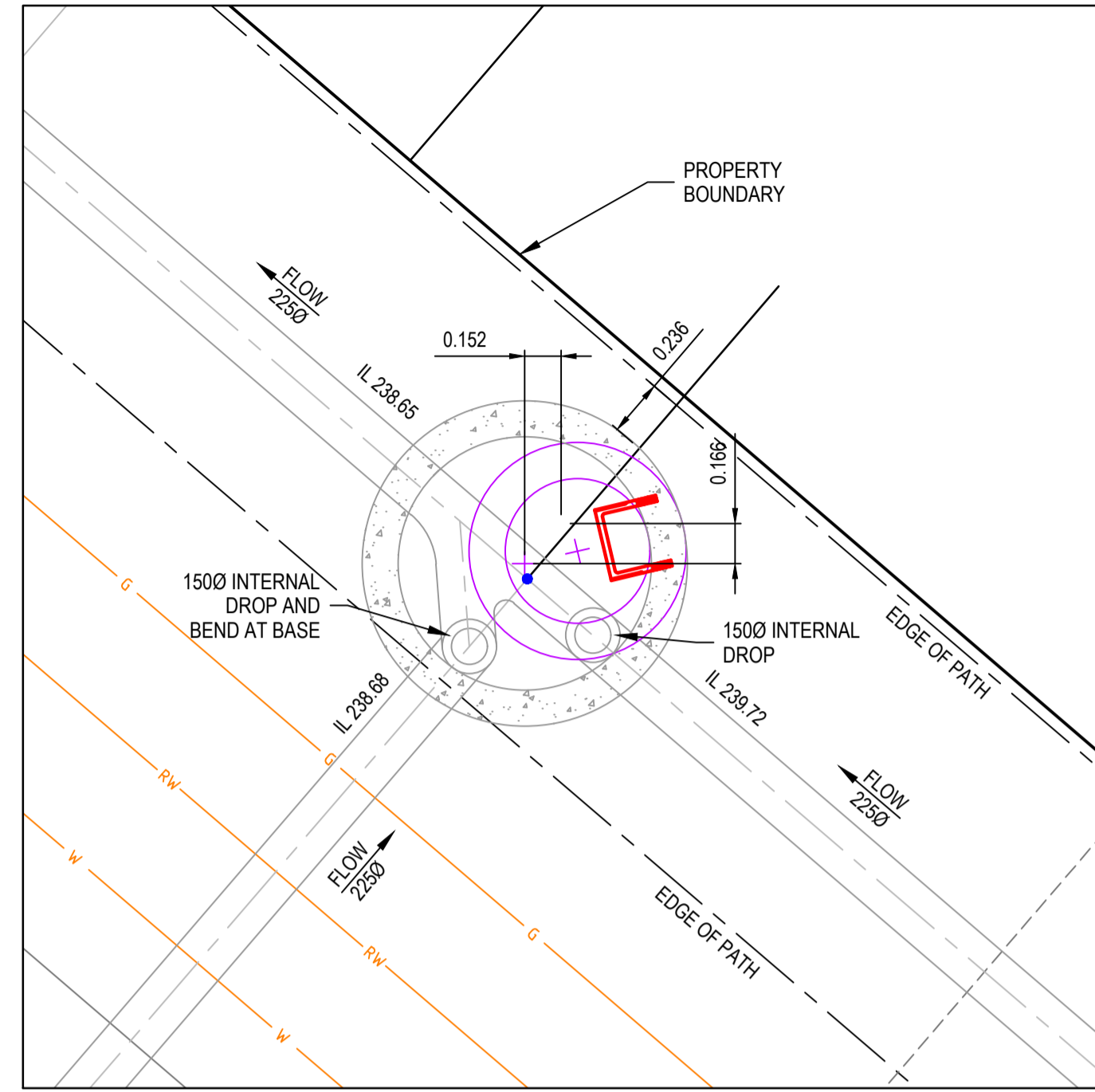
**Yarra Valley Water**

Yarra Valley Water  
 Whittlesea City Council  
 Olivine Estate - Stage 9  
 Sewer Reticulation Plan  
 Longitudinal Sections - 3

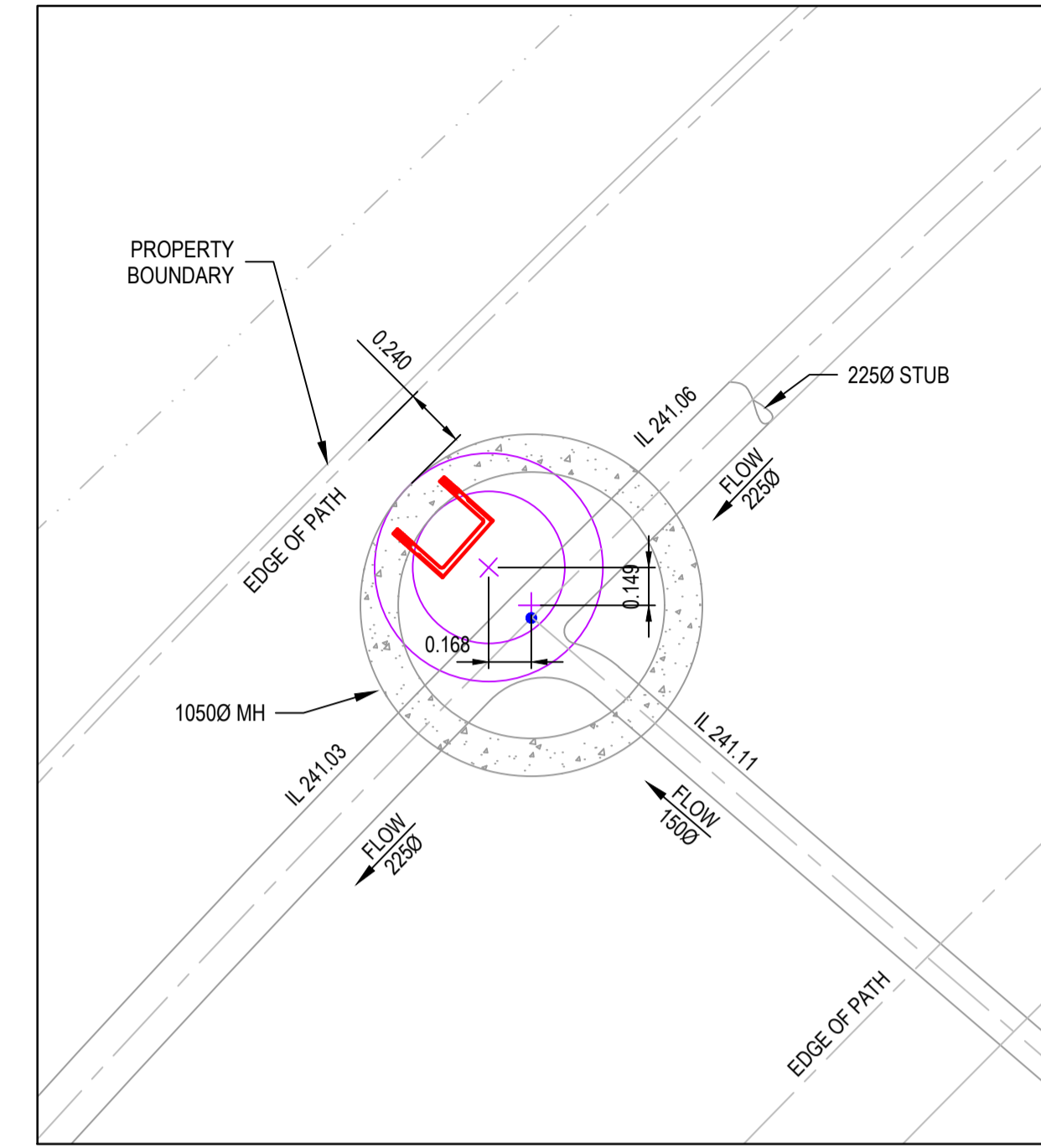
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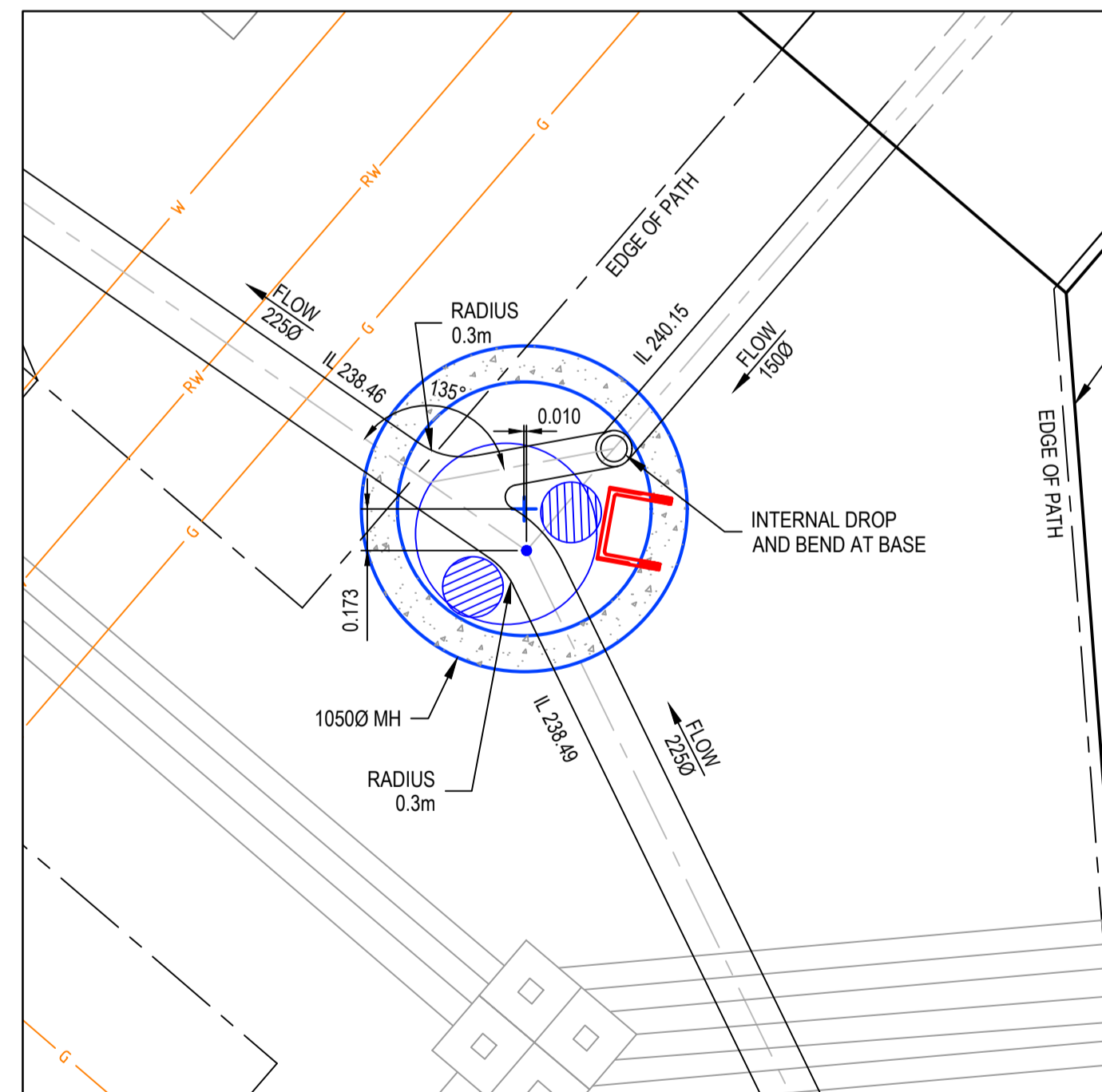
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SCALE 1:25



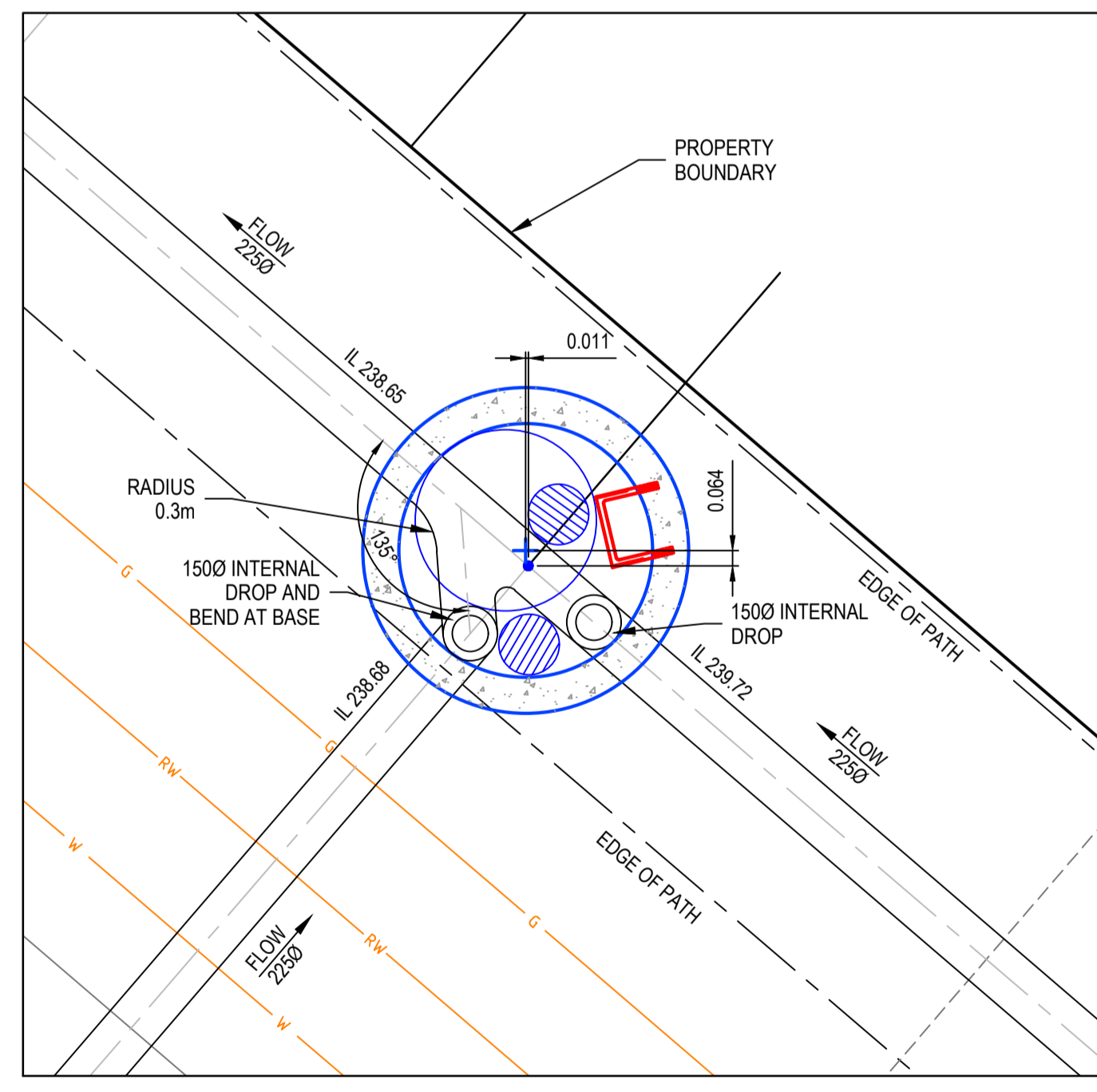
**F3MH-D - COVER ARRANGEMENT**  
SCALE 1:25



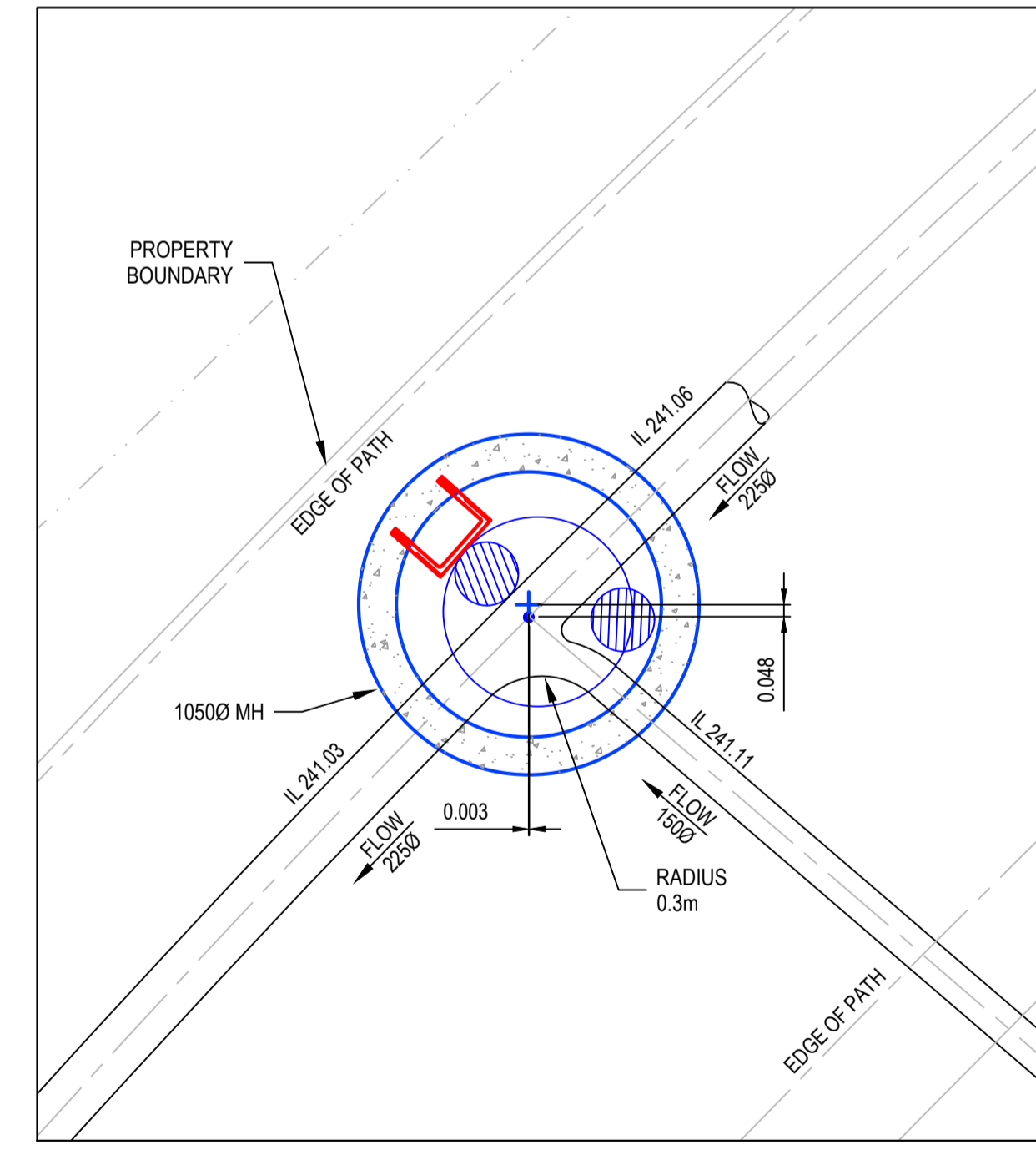
**F6MH - COVER ARRANGEMENT**  
SCALE 1:25



**F2MH-D - BASE ARRANGEMENT**  
SCALE 1:25



**F3MH-D - BASE ARRANGEMENT**  
SCALE 1:25

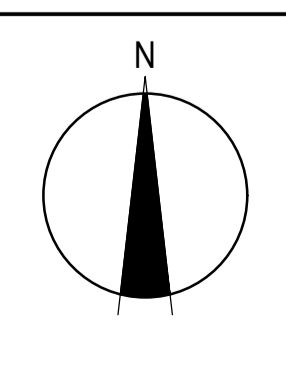
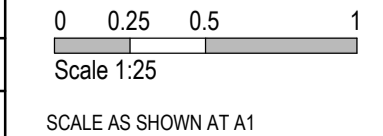


**F6MH - BASE ARRANGEMENT**  
SCALE 1:25

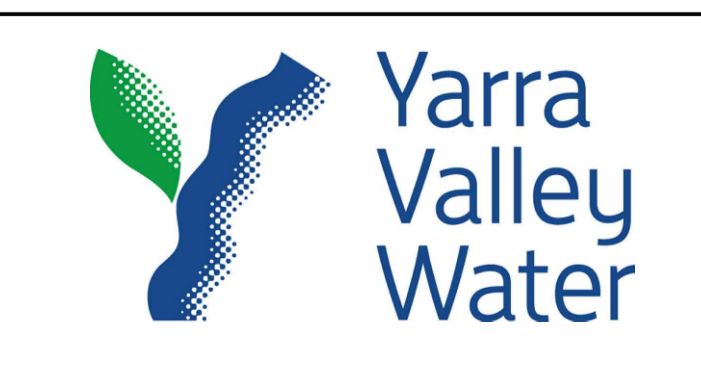
| REV | DATE     | AMENDMENT / REVISION DESCRIPTION | DES/DT | APPROVAL |
|-----|----------|----------------------------------|--------|----------|
| 0   | 10.07.19 | ISSUED FOR CONSTRUCTION          | SM/SM  | AB       |

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| TITLE                | NAME        |
|----------------------|-------------|
| DRAFTER              | R.Barua     |
| DESIGNER             | S.MacLaren  |
| CHECKED              | E.Lam       |
| AUTHORISED           | A.Burrows   |
| WATER AUTHORITY REF. | 388/3325    |
| SMEC DRAWING REF.    | 1700E-09-57 |

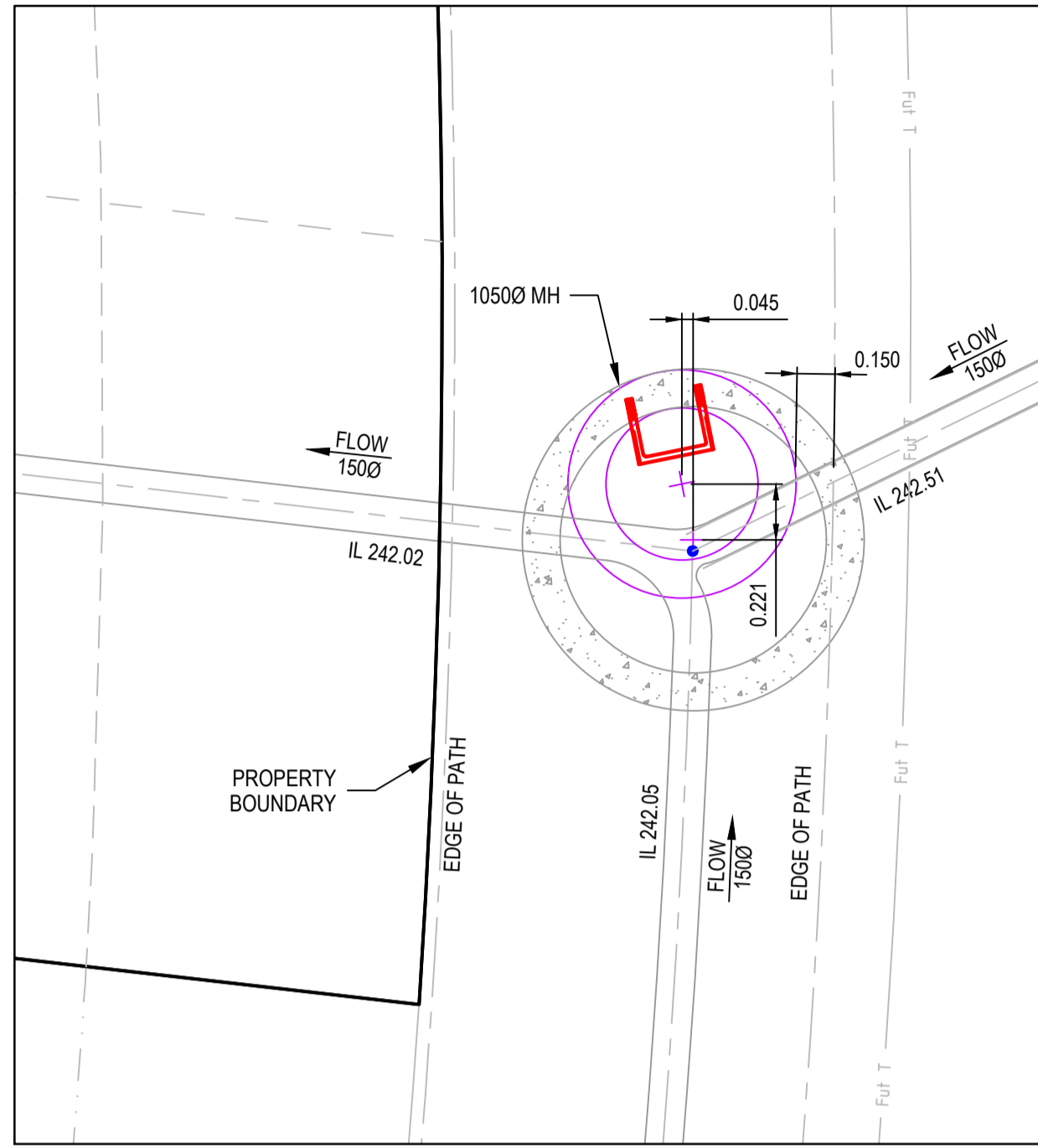


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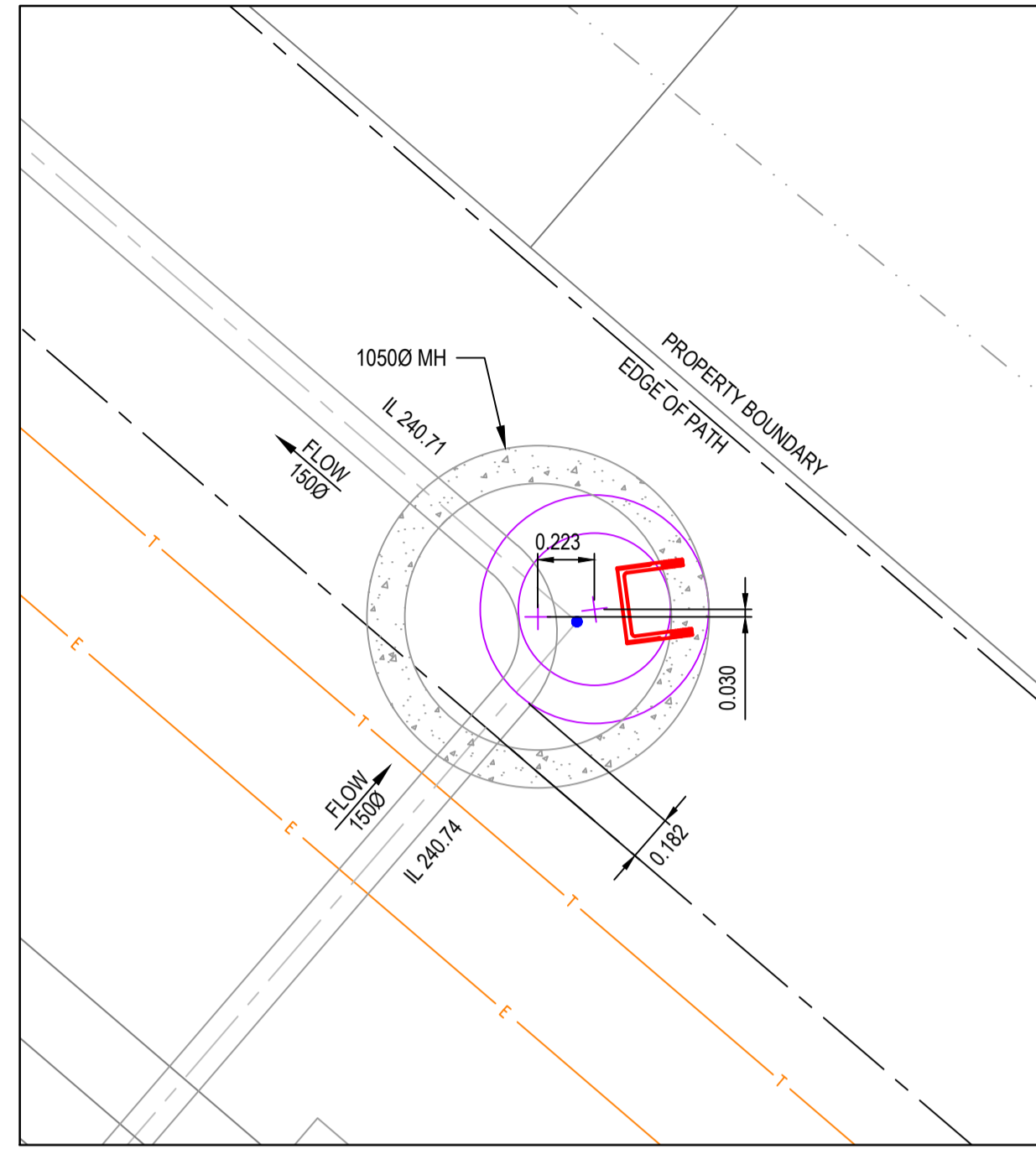


Yarra Valley Water  
Whittlesea City Council  
Olivine Estate - Stage 9  
Sewer Reticulation Plan  
Pit Details - 1

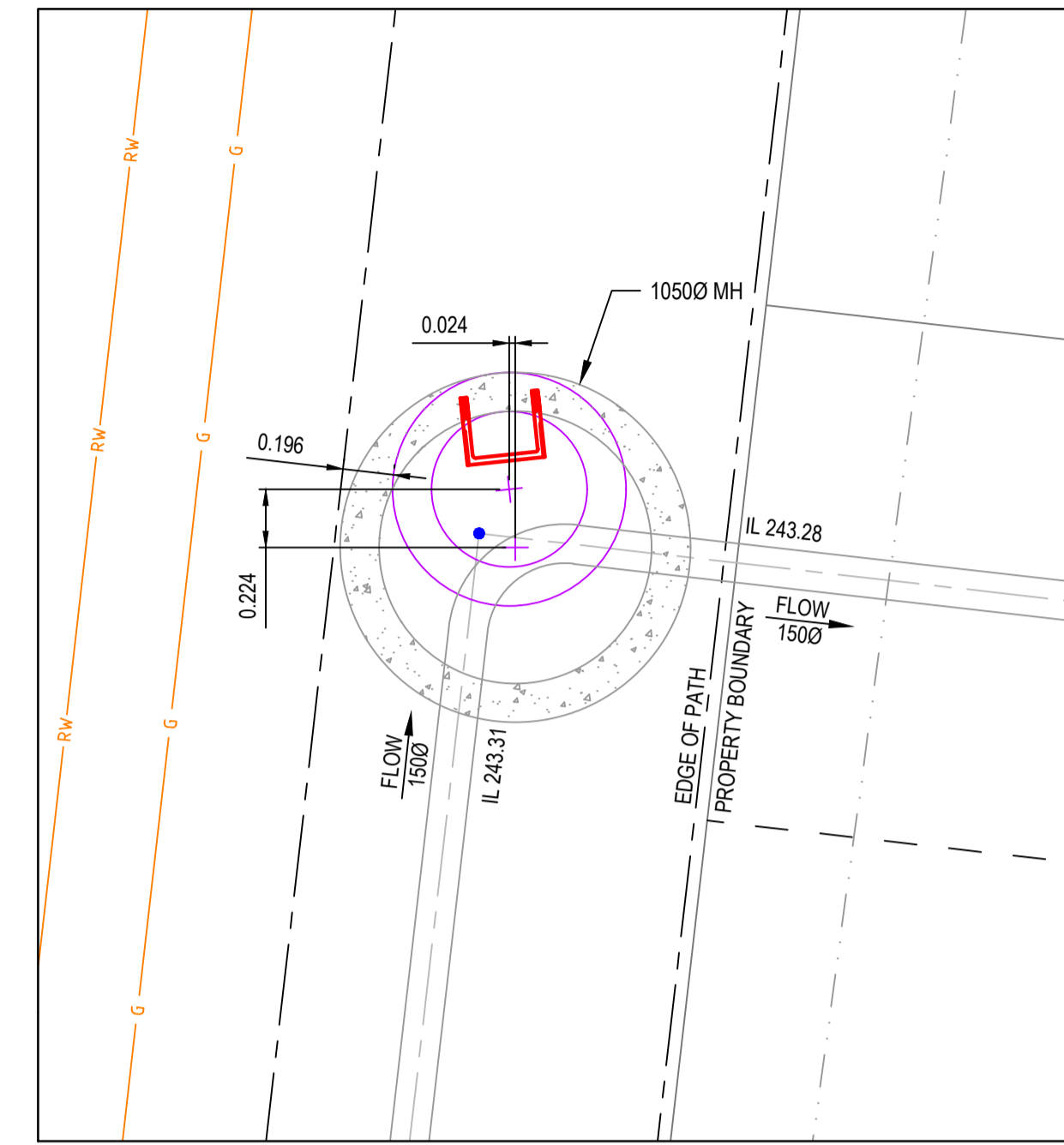
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| MELWAYS REF<br><b>8M2</b> | PROJECT / DRAWING No.<br><b>388/3325/57</b> | SHEET No.<br><b>07 of 08</b> | REVISION<br><b>0</b> |
|---------------------------|---------------------------------------------|------------------------------|----------------------|



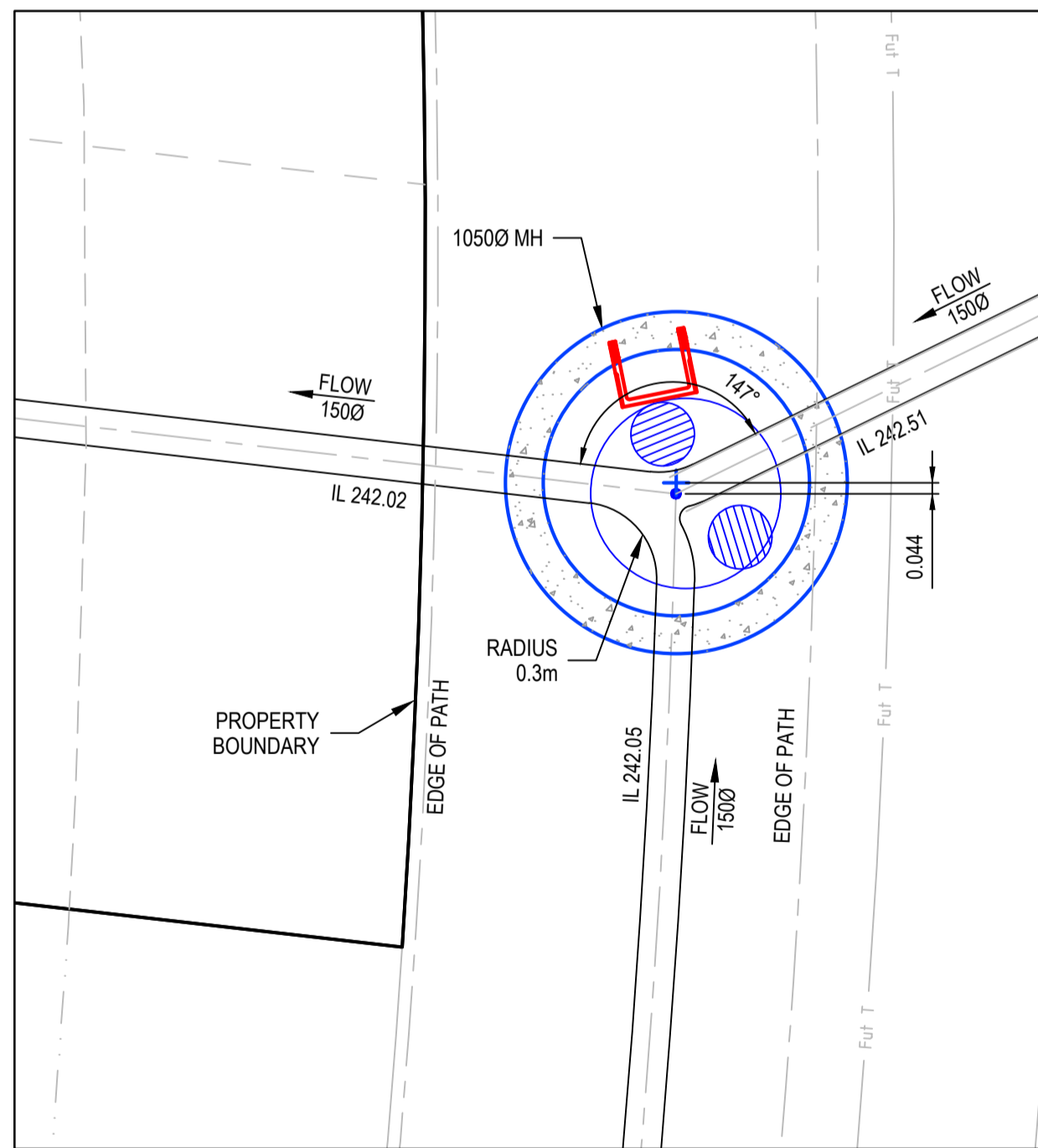
**F8MH - COVER ARRANGEMENT**  
SCALE 1:25



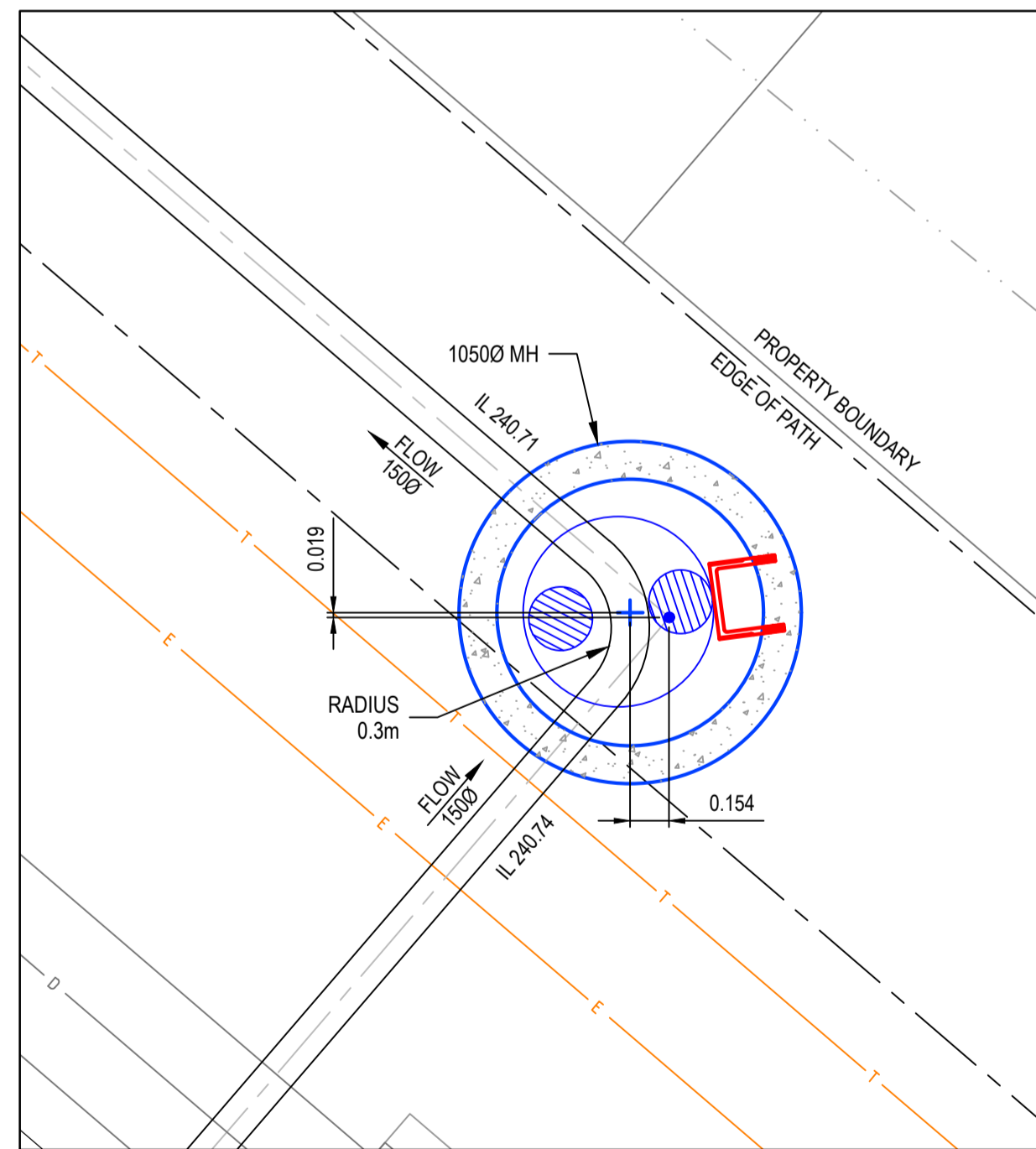
**F5-1MH - COVER ARRANGEMENT**  
SCALE 1:25



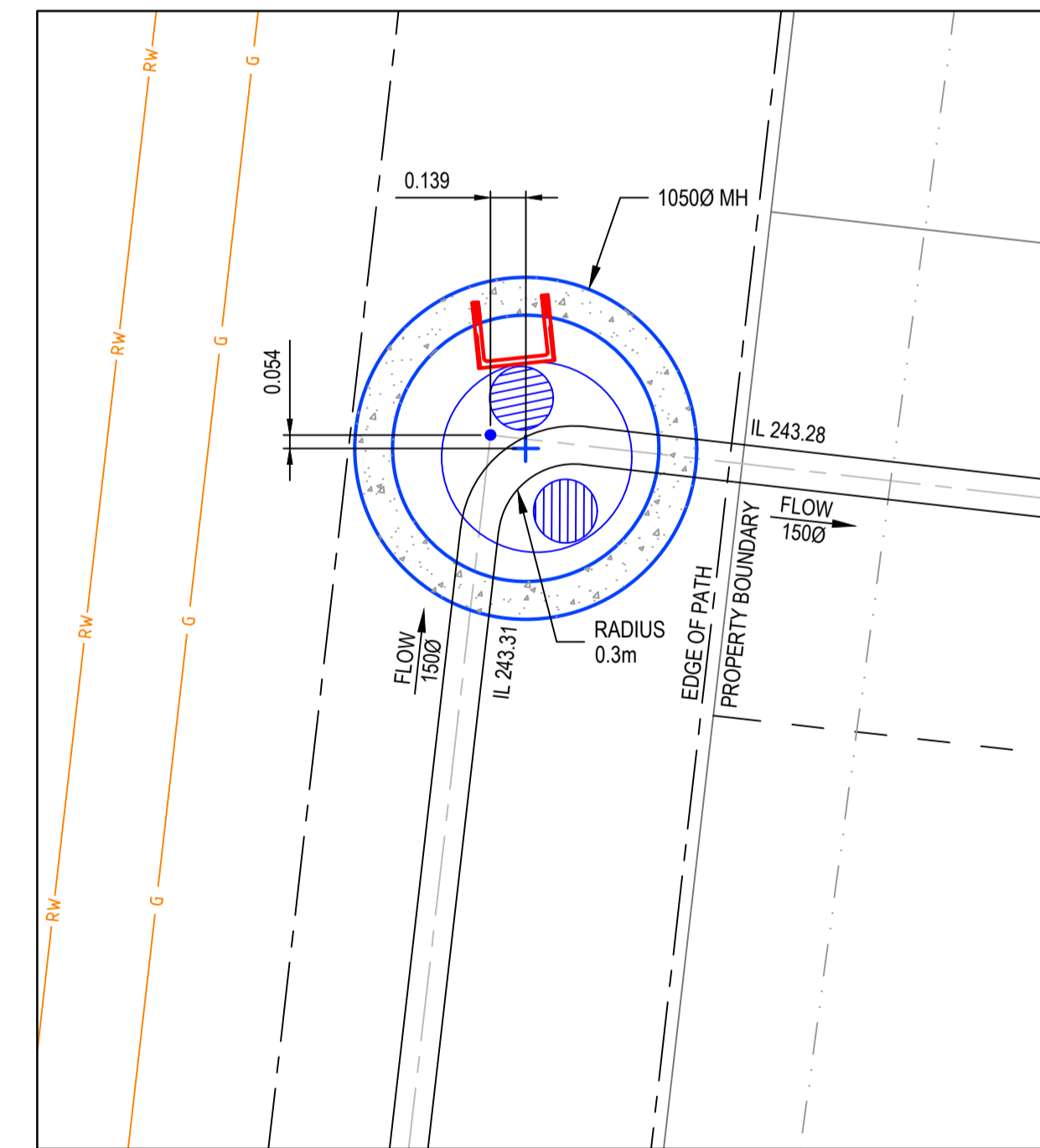
**F12MH - COVER ARRANGEMENT**  
SCALE 1:25



**F8MH - BASE ARRANGEMENT**  
SCALE 1:25



**F5-1MH - BASE ARRANGEMENT**  
SCALE 1:25



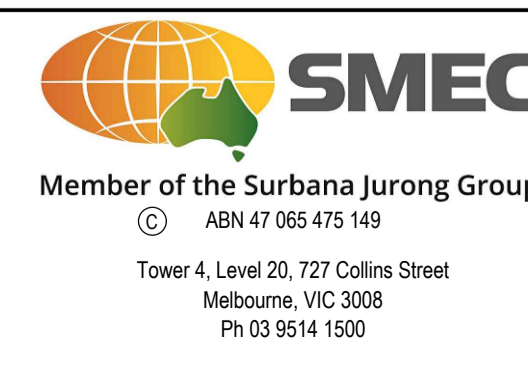
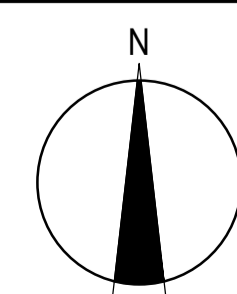
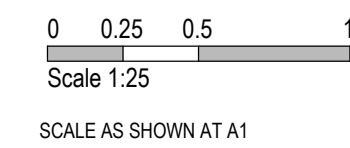
**F12MH - BASE ARRANGEMENT**  
SCALE 1:25

| REV | DATE     | AMENDMENT / REVISION DESCRIPTION | DESIGN | APPROVAL |
|-----|----------|----------------------------------|--------|----------|
| 0   | 10.07.19 | ISSUED FOR CONSTRUCTION          | SM/SM  | AB       |

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|----------------------|-------------|
| DRAFTER              | R.Barua     |
| DESIGNER             | S.MacLaren  |
| CHECKED              | E.Lam       |
| AUTHORISED           | A.Burrows   |
| WATER AUTHORITY REF. | 388/3325    |
| SMEC DRAWING REF.    | 1700E-09-58 |



Yarra Valley Water  
Whittlesea City Council  
Olivine Estate - Stage 9  
Sewer Reticulation Plan  
Pit Details - 2

| MELWAYS REF | PROJECT / DRAWING No | SHEET No | REVISION |
|-------------|----------------------|----------|----------|
| 8M2         | 388/3325/58          | 08 of 08 | 0        |



**GENERAL NOTES**

- ONLY CONTRACTORS ACCREDITED BY YARRA VALLEY WATER TO WC1 SHALL BE ELIGIBLE TO CONSTRUCT THESE WORKS.
- ONLY PRODUCTS APPROVED AND CATALOGUED BY THE WATER AGENCY SHALL BE USED.
- WORKS MUST BE CONSTRUCTED ACCORDING TO WSA 03-2011 MRWA EDITION. THE CONTRACTOR SHALL ENSURE THAT THEY ARE CONVERSANT WITH ALL CURRENT REVISIONS, AMENDMENTS AND UPDATES THAT THE RELEVANT WATER AGENCY HAS MADE TO THEIR STANDARDS. DW AND NDW ASSETS SHALL ONLY BE CONSTRUCTED AFTER DEEPER ASSETS AFFECTING THE WATER MAINS HAVE BEEN CONSTRUCTED (EG: SEWERAGE & DRAINAGE ASSETS).
- THIS DESIGN IS TO BE READ IN CONJUNCTION WITH ROAD AND DRAINAGE PLANS.
- THE CONTRACTOR SHALL OBTAIN A ROAD OPENING PERMIT FOR ANY WORKS WITHIN THE ROAD RESERVE AND COMPLY WITH ALL REQUIREMENTS OF THE ROAD OWNER.

**SURVEY, SET OUT AND ASSET RECORDING**

- TEMPORARY BENCH MARKS (TBM) FOR THE SET OUT OF WORKS TO THE AUSTRALIAN HEIGHT DATUM (AHD) ARE PROVIDED IN THE DESIGN DRAWINGS (SHOWN IN TABLE 6).
- ALL LEVELS ARE IN METRES TO AHD.
- ALL CO-ORDINATES ARE IN METRES TO THE MAP GRID OF AUSTRALIA (MGA 55-94).
- THE CONTRACTOR IS DIRECTLY RESPONSIBLE FOR ENSURING THE PROJECT SET OUT IS CONSISTENT WITH THE DESIGN. SHOULD ACTUAL SITE CONDITIONS CONFLICT IN ANY WAY WITH THAT DOCUMENTED, THE CONTRACTOR SHALL CONTACT THE SUPERINTENDENT FOR CLARIFICATION BEFORE PROCEEDING.
- THE CONTRACTOR IS TO ENGAGE A SUITABLY QUALIFIED AND EXPERIENCED SURVEYOR TO UNDERTAKE ASSET RECORDING OF THE WORK. ALL SURVEYOR WORKS AND DATA RECORDING SHALL BE UNDERTAKEN IN ACCORDANCE WITH THE MRWA SURVEY MANUAL.
- ALL SPECIFIC PIPE MATERIALS (EG: PVC-O) SHALL BE INDICATED IN THE AS CONSTRUCTED INFORMATION

**PRODUCTS AND MATERIALS (REFER TABLE 1)**

- DW AND NDW SYSTEM COMPONENTS SHALL BE DIFFERENTIATED AS PER SECTION 4.2 OF WSA03-2011, MRWA EDITION.

**APPURTENANCES (FITTINGS- REFER TABLE 2)**

- ALL VALVES AND HYDRANTS SHALL BE MARKED ACCORDING TO DRAWINGS MRWA-W-300 AND MRWA-W-301.
- VALVE SURROUNDS, COVERS AND SPINDLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH DRAWING MRWA-W-302.
- FLANGE AND FLANGE BOLTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH DRAWINGS MRWA-W-306A AND MRWA-W-306B.
- FOR THE HYDRANT AND WASHOUT DETAILS REFER TO HYDRANT AND WASHOUT SCHEDULE.
- ALL VALVES SHALL BE LOCATED DIRECTLY OUT FROM THE APEX OF THE SPLAY CORNER (UNLESS OTHERWISE INDICATED).

**WATER MAIN ALIGNMENT, TRENCHING & COVER (REFER TABLE 4 & 8)**

- OFFSETS OF MAINS FROM PROPERTY BOUNDARIES SHALL BE: MIN 600MM (MAINS < DN100) AND MIN 1M (MAINS > DN100).
- ALL WATER MAINS SHALL PASS OVER DRAINS AND SEWERS UNLESS SHOWN OTHERWISE IN THE DESIGN DRAWINGS.

**EMBEDMENT**

- EMBEDMENT SHALL BE PLACED AS PER DRAWINGS MRWA-W-201 AND MRWA-W-202.
- PIPE EMBEDMENT MATERIALS SHALL BE IN ACCORDANCE WITH PRODUCT SPECIFICATIONS WSA-PS-351, 360 AND 361 AS APPROVED FOR THE MATERIAL AND OR ANY SPECIAL EMBEDMENT.
- SPECIAL EMBEDMENT SHALL BE PLACED AS PER MRWA-W-203.

**BACKFILL**

- COMPACTION TRIALS AND COMPACTION TESTING SHALL BE UNDERTAKEN IN ACCORDANCE WITH THE MRWA 04-03.1 BACKFILL SPECIFICATIONS.
- TRENCH BACKFILL WITHIN TRAFFICABLE AREAS SHALL BE TO THE ROAD OWNER SPECIFICATION (REFER MRWA-W-201).
- NON TRAFFICABLE BACKFILL SHALL BE COMPLETED AS PER MRWA-W-201 AND THE 04-03.1 MRWA BACKFILL SPECIFICATION.

**THRUST RESTRAINT (REFER TABLE 5)**

- THRUST RESTRAINTS HAVE BEEN DESIGNED ON THE BASIS OF THE AHPB (GROUND STRENGTH) NOMINATED IN TABLE 5. THE CONTRACTOR SHALL CONFIRM THE ACTUAL GROUND CONDITIONS AND DISCUSS WITH THE SUPERINTENDENT ANY GROUND CONDITIONS WHICH ARE FOUND TO BE DIFFERENT TO THAT NOMINATED.

**PROPERTY SERVICES**

- NDW PROPERTY SERVICES SHALL ALWAYS BE LOCATED ON THE LEFT OF THE DW PROPERTY SERVICE AS YOU LOOK FROM THE ROAD TO THE FRONT OF THE PROPERTY.

**CONNECTIONS (ALL TYPES)**

- ALL PROPERTY SERVICE CONNECTIONS TO NEW RESIDENTIAL R/RJ RETICULATION MAINS ARE TO BE COMPLETED USING PRETAPPED CONNECTORS.

**OTHER SERVICES (REF- TABLE 4 & 7)**

- TO RECEIVE THE MOST UP TO DATE INFORMATION PRIOR TO CONSTRUCTION, "DIAL BEFORE YOU DIG" SHALL BE UNDERTAKEN TO AID IN THE LOCATION OF OTHER SERVICES. OTHER SERVICES SHALL BE CAREFULLY LOCATED PRIOR TO FULL EXCAVATION AT THE CONTRACTOR'S COST. ANY CLASHES OF PROPOSED NEW WORKS WITH OTHER ASSETS SHALL BE REPORTED TO THE SUPERINTENDENT IMMEDIATELY FOR CLARIFICATION.
- CLEARANCES TO OTHER SERVICES SHALL BE AS PER TABLE 7 AND TABLE 5.5 OF WSA03-2011 MRWA EDITION. THESE CLEARANCES SHALL APPLY TO SURFACE COVERS AS WELL AS UNDERGROUND ASSETS.

**EARTHWORKS AND RETAINING WALLS**

- IN AREAS SUBJECT TO EARTHWORKS, CONSTRUCTION OF WATER ASSETS SHALL NOT COMMENCE UNTIL EARTHWORKS AND RETAINING WALLS HAS BEEN COMPLETED UNLESS WRITTEN APPROVAL HAS BEEN GIVEN BY THE WATER AUTHORITY.

**TESTING, ASSET ACCEPTANCE AND LIVE CONNECTIONS**

- POST CONSTRUCTION ACTIVITIES (OF BOTH DW & NDW) SUCH AS SWABBING, WATER QUALITY TESTING, PRESSURE TESTING AND CHLORINATION SHALL BE CARRIED OUT IN ACCORDANCE WITH WSA03-2011 MRWA EDITION AND THE MRWA WATER QUALITY COMPLIANCE SPECIFICATION. ALL TEST RESULTS SHALL BE DOCUMENTED AND REPORTED TO THE SUPERINTENDENT.
- THE WATER AGENCY SHALL BE NOTIFIED IN WRITING 2 FULL WORKING DAYS IN ADVANCE OF TESTING BEING UNDERTAKEN.

- BOTH ENDS OF DW AND NDW MAIN TO METER PROPERTY SERVICES SHALL BE INSPECTED BY THE WATER AGENCY. THE WATER AGENCY SHALL BE NOTIFIED IN WRITING 2 FULL WORKING DAYS IN ADVANCE OF THIS INSPECTION BEING CARRIED OUT. BOTH ENDS OF DW/NDW MAIN TO METER PROPERTY SERVICES ARE TO REMAIN EXPOSED UNTIL INSPECTED BY THE WATER AGENCY COMPLIANCE OFFICER. EACH PROPERTY SERVICE SHALL BE "SQUIRT TESTED". THIS TEST INVOLVES PLACING EACH NETWORK UNDER PRESSURE SEPARATELY AND ENSURING THAT ONLY THE END OF THE CORRECT PROPERTY SERVICE DISCHARGES WATER.
- THE CONTRACTOR'S ITP SHALL INCLUDE PROVISION FOR EACH NDW CONNECTION TO BE SIGNED OFF AS CORRECTLY INSTALLED.
- THE WATER AGENCY SHALL BE NOTIFIED IN WRITING 9 FULL WORKING DAYS IN ADVANCE OF CONNECTION TO THE LIVE NETWORK BEING UNDERTAKEN. SHUT DOWN WORK SHALL BE AS SHORT AS PRACTICAL AND SCHEDULED TO COMMENCE AT 9AM ON WORKING DAYS WITH COMPLETION TO OCCUR NO LATER THAN 4PM. IN INDUSTRIAL AND COMMERCIAL AREAS, THE IMPACT ON BUSINESS SHALL BE CONSIDERED AND IT MAY BE NECESSARY TO CARRY OUT THE WORK OUTSIDE NORMAL WORKING HOURS. SHUT DOWNS SHALL BE LIMITED TO 4 HOURS IN DURATION. ARRANGE FOR ALTERNATE SUPPLIES SHOULD THE SHUT DOWN DURATION EXCEED 4 HOURS.
- VALVES CONNECTING NEW ASSETS TO THE WATER AGENCY'S LIVE SYSTEM SHALL NOT BE OPERATED BY THE CONTRACTOR.

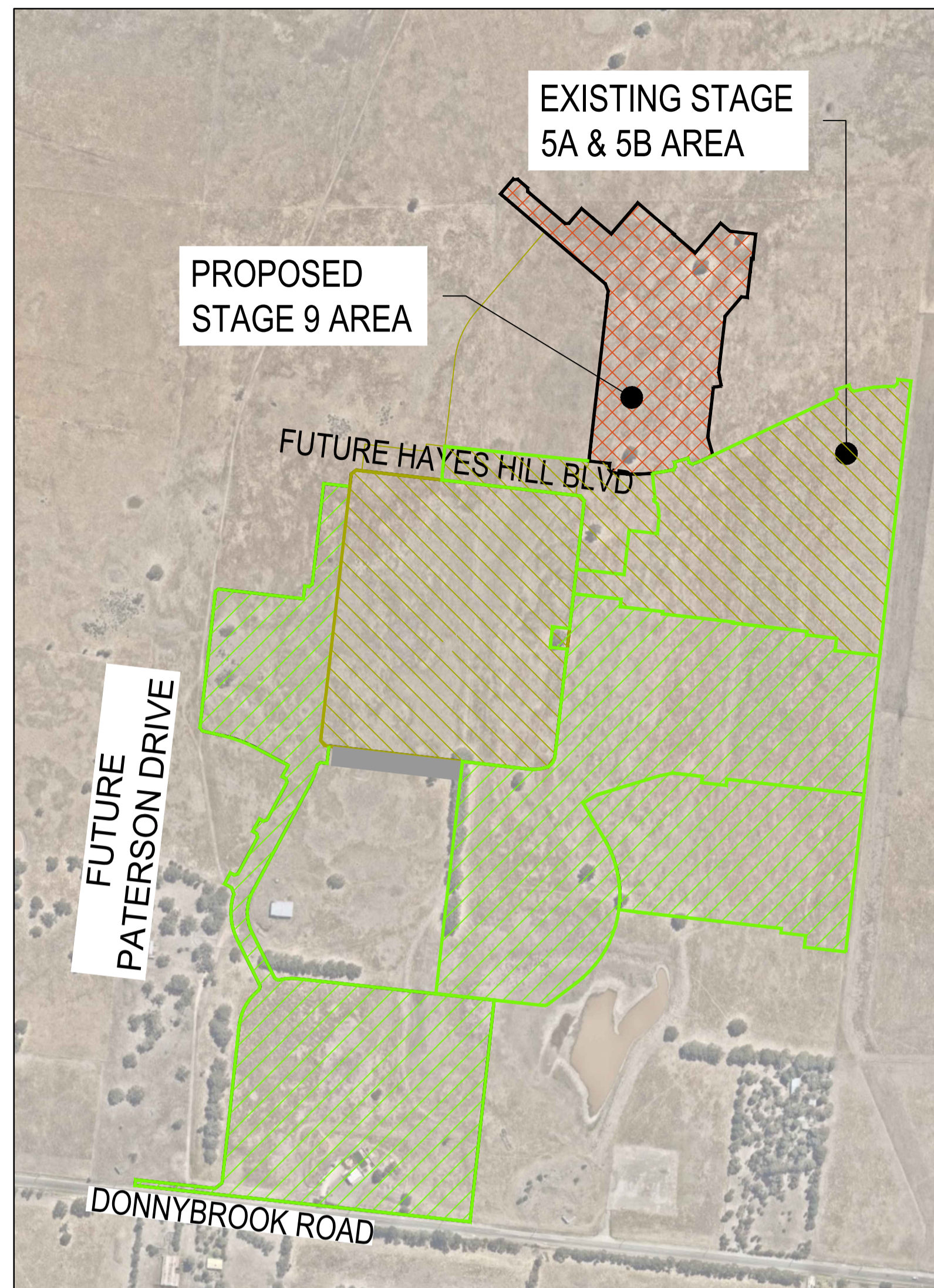
**WARNING**  
BEWARE OF ASBESTOS  
SOME UNDERGROUND SERVICES MAYBE CONSTRUCTED FROM ASBESTOS CONTAINING MATERIAL. CONTACT THE SUPERINTENDENT FOR INSTRUCTIONS ON HOW TO MANAGE ANY POTENTIAL ASBESTOS HAZARD

FOR THE DURATION OF PROCLAIMED WATER RESTRICTIONS, THE CONTRACTOR SHALL CONFORM WITH THE RESTRICTIONS AND ANY OTHER WATER CONSERVATION REQUIREMENTS IMPOSED BY THE WATER AGENCY.

**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

**Drawing Index**

- 388/3325/61 Locality Plan
- 388/3325/62 Layout Plan
- 388/3325/63 Detail Plan - 1



**DESIGN HEAD = 72m (DW & NDW)**  
**TEST PRESSURE = 1000kPa**  
**ZONE = RESIDENTIAL**

| NEW WORK  |                                        |       |                         |                         |
|-----------|----------------------------------------|-------|-------------------------|-------------------------|
| SIZE (DN) | TYPE/REFERENCE                         | CLASS | POTABLE MAIN LENGTH (m) | RECYCLE MAIN LENGTH (m) |
| 150       | "PVC-M WSA-PS-209 PVC-O WSA-PS-210"    | 16    | 324                     | 324                     |
| 100       | "PVC-M WSA-PS-209 PVC-O WSA-PS-210"    | 16    | 156                     | 157                     |
| 180       | PE100 WSA-PS-207                       | 16    | 66                      | 66                      |
| 125       | PE100 WSA-PS-207                       | 16    | 356                     | 358                     |
| 25        | "PE100 (PROPERTY SERVICES) WSA-PS-215" | 16    | -                       | -                       |

| MAIN SIZE | FITTING TYPE | OWNERSHIP     | LOCATION    | STREET            | LOCATION                |
|-----------|--------------|---------------|-------------|-------------------|-------------------------|
| 150       | HYDRANT      | DW            | END OF LINE | OLIVINE BOULEVARD | 4.7M N OF STG BOUNDARY  |
| 150       | HYDRANT      | NDW - COUNCIL | END OF LINE | OLIVINE BOULEVARD | 4M N OF STG BOUNDARY    |
| 150       | HYDRANT      | DW            | IN LINE     | OLIVINE BOULEVARD | 3M S OF NBL LOT 960     |
| 150       | HYDRANT      | NDW - COUNCIL | IN LINE     | OLIVINE BOULEVARD | 3.7M S OF NBL LOT 960   |
| 150       | HYDRANT      | NDW - COUNCIL | IN LINE     | OLIVINE BOULEVARD | 6M N OF SBL LOT 947     |
| 100       | WASHOUT      | DW            | END OF LINE | QUARTER CIRCUIT   | 3M E OF STG BOUNDARY    |
| 100       | WASHOUT      | NDW           | END OF LINE | QUARTER CIRCUIT   | 3.7M E OF STG BOUNDARY  |
| 100       | WASHOUT      | DW            | END OF LINE | QUARTER CIRCUIT   | 1M E OF STG BOUNDARY    |
| 100       | WASHOUT      | NDW           | END OF LINE | QUARTER CIRCUIT   | 1M E OF STG BOUNDARY    |
| 100       | WASHOUT      | DW            | END OF LINE | SOCIETY VISTA     | 1M E OF STG BOUNDARY    |
| 100       | WASHOUT      | NDW           | END OF LINE | SOCIETY VISTA     | 1M E OF STG BOUNDARY    |
| 100       | HYDRANT      | DW            | END OF LINE | DOWNTOWN AVENUE   | 6M E OF STG BOUNDARY    |
| 100       | HYDRANT      | NDW - COUNCIL | END OF LINE | DOWNTOWN AVENUE   | 6.7M E OF STG BOUNDARY  |
| 100       | HYDRANT      | DW            | IN LINE     | DOWNTOWN AVENUE   | 3.7M N OF SBL LOT 914   |
| 100       | HYDRANT      | NDW - COUNCIL | IN LINE     | DOWNTOWN AVENUE   | 3M N OF SBL LOT 914     |
| 100       | HYDRANT      | DW            | IN LINE     | METROPOLIS WAY    | 6M E OF SPLAY LOT 919   |
| 100       | HYDRANT      | NDW - COUNCIL | IN LINE     | METROPOLIS WAY    | 6.7M E OF SPLAY LOT 919 |
| 100       | WASHOUT      | DW            | END OF LINE | METROPOLIS WAY    | 1M E OF STG BOUNDARY    |
| 100       | WASHOUT      | NDW           | END OF LINE | METROPOLIS WAY    | 1M E OF STG BOUNDARY    |

\* ALL DW AND NDW HYDRANTS & WASHOUTS ARE WATER AGENCY OWNED UNLESS STATED OTHERWISE.

| 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) |
| METROPOLIS WAY         | SOUTH      | 2.10       | SOUTH              | 2.50       | SOUTH          | 3.00       | NORTH       | 2.35       | NORTH      | 1.85       |
| DOWNTOWN AVENUE        | EAST/SOUTH | 2.10       | EAST/SOUTH         | 2.50       | EAST/SOUTH     | 3.00       | WEST/NORTH  | 2.35       | WEST/NORTH | 1.85       |
| HAMLET DRIVE           | SOUTH      | 2.10       | SOUTH              | 2.50       | SOUTH          | 3.00       | NORTH       | 2.35       | NORTH      | 1.85       |
| SOCIETY VISTA          | WEST       | 3.50       | WEST               | 4.00       | WEST           | 4.50       | EAST        | 2.45       | EAST       | 1.85       |
| QUARTER CIRCUIT (EAST) | EAST       | 2.10       | EAST               | 2.50       | EAST           | 3.00       | WEST        | 2.35       | WEST       | 1.85       |
| QUARTER CIRCUIT (WEST) | EAST       | 2.10       | EAST               | 2.50       | EAST           | 3.00       | WEST        | 0.85       | WEST       | 0.35       |
| OLIVINE BOULEVARD      | EAST       | 2.10       | EAST               | 2.60       | EAST           | 3.10       | WEST        | 4.30       | WEST       | 3.60       |

| POINT     | EAST       | NORTHING    | ELEVATION | DESCRIPTION         |
|-----------|------------|-------------|-----------|---------------------|
| C34SSPL   | 323383.546 | 5842934.15  | 238.735   | STEEL STAR PICKET   |
| C68PM77L  | 323210.099 | 5842698.35  | 237.616   | PERMANENT MARK PM77 |
| C75PM50L  | 322900.181 | 5842750.808 | 240.178   | PERMANENT MARK PM50 |
| C76SSPL   | 323252.295 | 5842715.378 | 236.886   | STEEL STAR PICKET   |
| C77RVTRG  | 323038.436 | 5842738.371 | 243.696   | RIVET IN ROCK       |
| C78SSPG   | 322835.256 | 5842759.893 | 239.488   | STEEL STAR PICKET   |
| C79SSPL   | 322666.202 | 5842778.237 | 238.207   | STEEL STAR PICKET   |
| C80SPKGB  | 322654.654 | 5842776.01  | 238.428   | SPIKE IN BITUMEN    |
| C81SSPL   | 322549.258 | 5842791.748 | 235.563   | STEEL STAR PICKET   |
| C82SSPL   | 322570.163 | 5842989.303 | 236.275   | STEEL STAR PICKET   |
| C83SSPL   | 322595.579 | 5843198.908 | 239.115   | STEEL STAR PICKET   |
| C84RVTRL  | 322617.683 | 5843412.157 | 242.457   | RIVET IN ROCK       |
| C85SSPL   | 322640.995 | 5843611.461 | 239.572   | STEEL STAR PICKET   |
| C93SSPL   | 323276.817 | 5842944.336 | 237.989   | STEEL STAR PICKET   |
| C104RVTRL | 322946.48  | 5843298.043 | 243.686   | RIVET IN ROCK       |
| C106SSPL  | 322762.605 | 5842991.952 | 238.464   | STEEL STAR PICKET   |
| C107SSPL  | 322900.731 | 5843023.612 | 240.323   | STEEL STAR PICKET   |
| C108SSPL  | 323208.79  | 5843072.045 | 241.058   | STEEL STAR PICKET   |
| C109SSPL  | 322932.732 | 5843474.686 | 243.559   | STEEL STAR PICKET   |

| LOCATION | TYPE    | THRUST                            | AHPB (KPA) USED | AREA (M2), OR W(M) X Y(M) | NO. LOCATIONS |
|----------|---------|-----------------------------------|-----------------|---------------------------|---------------|
| A        | IN LINE | 2 X 150 VALVES                    | 50              | 0.96 (TOT)                | 1             |
| B        | IN LINE | 2 X 150 X 100 TEES & PE SHRINKAGE | 50              | 1.32 (TOT)                | 2             |
| C        | IN LINE | 2 X 150 VALVES & PE SHRINKAGE     | 50              | 2.28 (TOT)                | 1             |
| D        | IN LINE | 2 X 100 X 100 TEES & PE SHRINKAGE | 50              | 1.32 (TOT)                | 1             |
| E        | IN LINE | 2 X 100 VALVES & PE SHRINKAGE     | 50              | 1.10 (TOT)                | 2             |
| F        | IN LINE | 2 X 180 PE SHRINKAGE              | 50              | 1.78 (TOT)                | 1             |
| G        | IN LINE | 2 X 125 PE SHRINKAGE              | 50              | 0.86 (TOT)                | 2             |
| H        | PLAIN   | 2 X 100 WASHOUTS                  | 50              | 0.46 (TOT)                | 2             |
| I        | PLAIN   | 2 X 150 X 11.25" BENDS            | 50              | 0.36 (TOT)                | 2             |

| EXISTING OR PROPOSED SERVICE  | MINIMUM VERTICAL CLEARANCE (mm) |
|-------------------------------|---------------------------------|
| WATER MAINS <DN375            | 150                             |
| WATER MAINS >DN375            | 300                             |
| GAS MAINS                     | 150                             |
| TELCO CONDUITS & CABLES       | 150                             |
| ELECTRICITY CONDUITS & CABLES | 225                             |
| STORMWATER DRAINS & PITS      | 150                             |
| SEWERS - GRAVITY              | 500                             |
| SEWERS - PRESSURE & VACUUM    | 300                             |

- VERTICAL CLEARANCE BETWEEN WATER MAINS SHALL DEPEND ON THE LARGER MAIN DIAMETER.  
- MAINTAIN ADDITIONAL CLEARANCE FROM HIGH VOLTAGE ELECTRICAL CABLES TO ALLOW FOR A PROTECTIVE BARRIER AND MARKING.

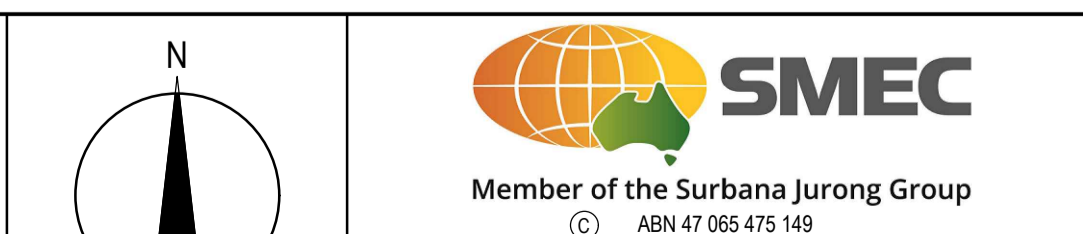
| LOCATION              | MINIMUM COVER |
|-----------------------|---------------|
| WITHIN FOOTWAY        | 450mm         |
| MINOR/SECONDARY ROADS | 600mm         |

**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-09-85  
**ASSESS THE RISK - STAY SAFE**

| REV | DATE     | AMENDMENT / REVISION DESCRIPTION | DESIGN | APPROVAL |
|-----|----------|----------------------------------|--------|----------|
| A   | 19.03.19 | ISSUED FOR TENDER                | SM/RB  | AB       |
| B   | 02.05.19 | ISSUED FOR CONSTRUCTION          | SM/SM  | AB       |

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| TITLE                | NAME        |
|----------------------|-------------|
| DRAFTER              | R.Barua     |
| DESIGNER             | S.MacLaren  |
| CHECKED              | E.Lam       |
| AUTHORISED           | A.Burrows   |
| WATER AUTHORITY REF. | 388/3325    |
| SMEC DRAWING REF.    | 1700E-09-61 |



Yarra Valley Water  
Whittlesea City Council  
Olivine Estate - Stage 9  
Water Reticulation Plan  
Locality Plan

**ISSUED FOR CONSTRUCTION**

| MELWAYS REF | PROJECT / DRAWING No | SHEET No | REVISION |
|-------------|----------------------|----------|----------|
| 8M2         | 388/3325/61          | 01 of 03 | B        |

| SYMBOLS AND WATER MAIN FITTINGS |                                              |     |                                          |
|---------------------------------|----------------------------------------------|-----|------------------------------------------|
| X                               | VALVE                                        |     | FLANGE WITH BACKING RING                 |
| ●                               | WATER AUTHORITY HYDRANT (BELOW GROUND)       | —   | SLIP IN TYPE WELD (MSCL), BUTT WELD (PE) |
| ○                               | COUNCIL HYDRANT (BELOW GROUND)               | ]   | ENDCAP                                   |
| ○                               | WATER AUTHORITY HYDRANT (ABOVE GROUND)       | ⊕   | FLANGE SOCKET THRUST CONNECTOR           |
| ○                               | COUNCIL HYDRANT (ABOVE GROUND)               | ⊕   | PLAIN THRUST BLOCK                       |
| ○                               | COMBINED VALVE CONTROLLED HYDRANT            | ⊕   | IN LINE THRUST BLOCK                     |
| ○                               | FITTING REMOVED                              | ⊕   | FERRULE                                  |
| □                               | DUCKFOOT BEND, HYDRANT RISER & HYDRANT ABOVE | ⊕   | ELECTROLYSIS                             |
| ▶                               | TAPER                                        | —   | ABANDONED                                |
| ⊕                               | WASHOUT BEND, RISER & HYDRANT ABOVE          | ⊕   | DOUBLE PRE-TAPPED CONNECTOR              |
| ⊕                               | CHLORINATION POINT                           | ▶   | PRESSURE CONTROL VALVE                   |
| ⊕                               | SOCKET                                       | ⊕   | SWAB INSERTION POINT                     |
| ⊕                               | DOUBLE SOCKET CONNECTOR                      | ⊕   | SWAB REMOVAL POINT                       |
|                                 | FLANGE                                       | WQS | WATER QUALITY SAMPLE                     |

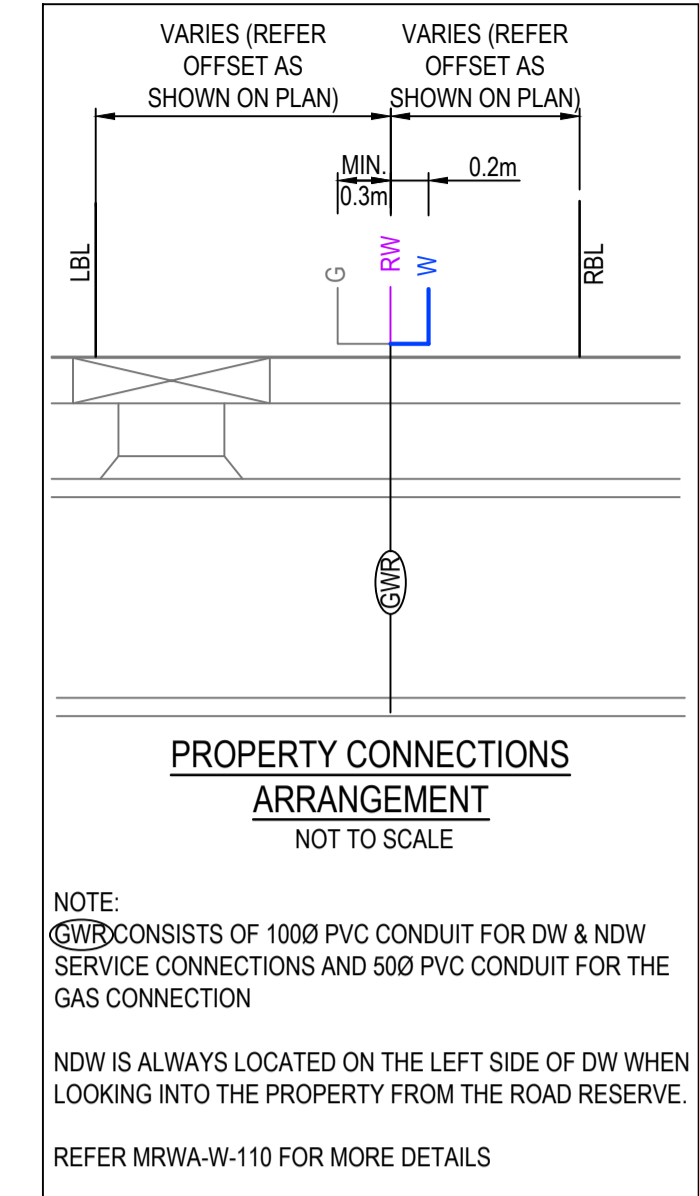
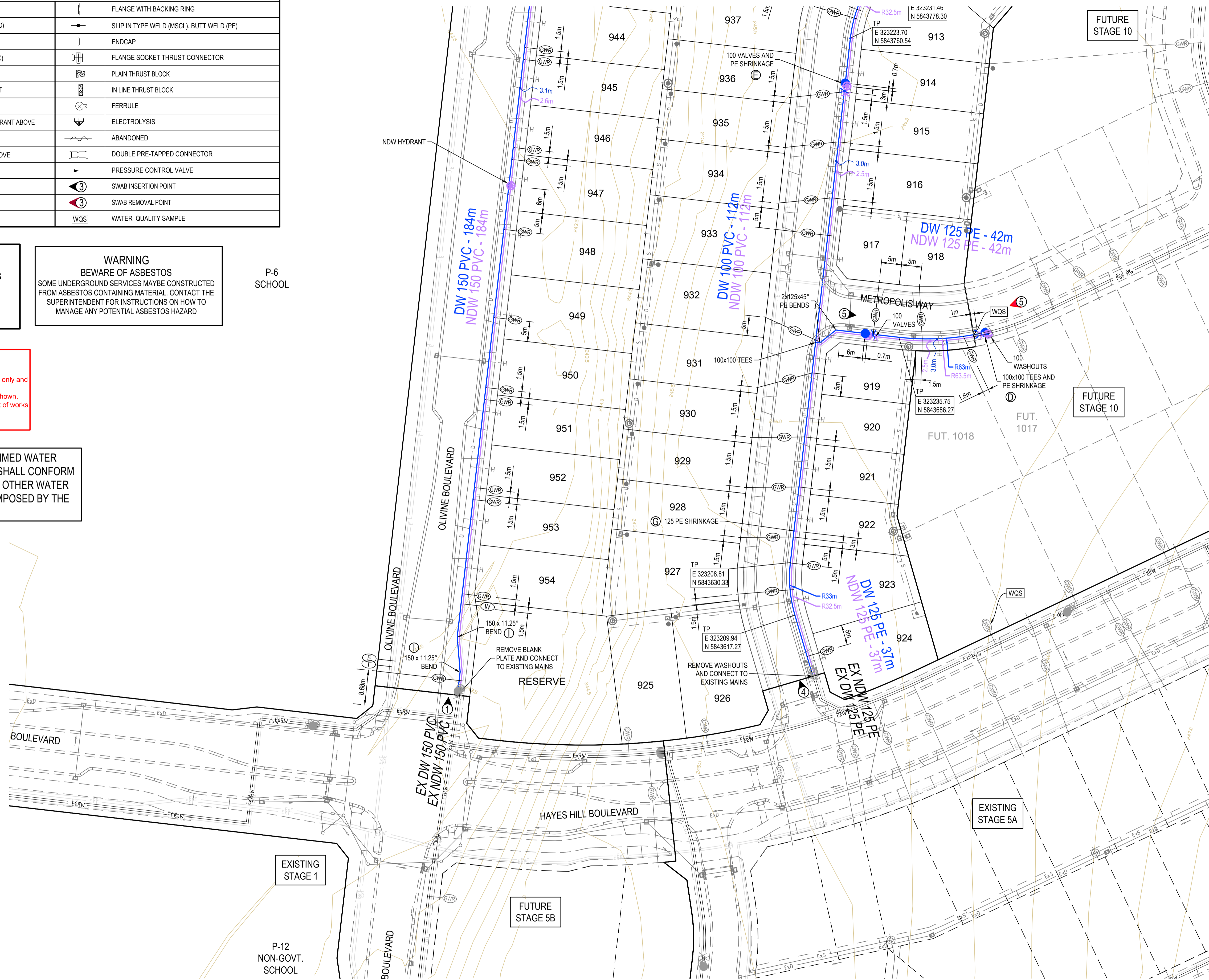
**WARNING**  
BEWARE OF UNDERGROUND SERVICES  
THE LOCATIONS OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION TO BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

**WARNING**  
BEWARE OF ASBESTOS  
SOME UNDERGROUND SERVICES MAYBE CONSTRUCTED FROM ASBESTOS CONTAINING MATERIAL. CONTACT THE SUPERINTENDENT FOR INSTRUCTIONS ON HOW TO MANAGE ANY POTENTIAL ASBESTOS HAZARD

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www.1100.com.au

FOR THE DURATION OF PROCLAIMED WATER RESTRICTIONS, THE CONTRACTOR SHALL CONFORM WITH THE RESTRICTIONS AND ANY OTHER WATER CONSERVATION REQUIREMENTS IMPOSED BY THE WATER AGENCY.

REFER SHEET 1700E-09-63 FOR CONTINUATION



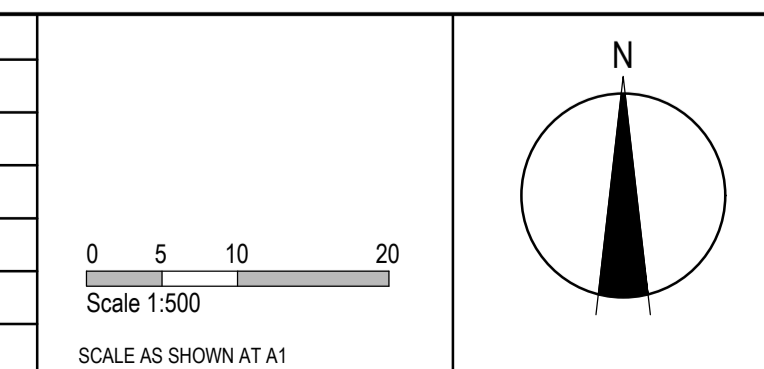
**LEGEND - WATER PLAN**

- Stormwater drain, pit & property inlet
- Swale drain
- Sewer & maintenance structures
- House drain
- Water
- Recycled water
- Ag drain (indicative only)
- Service conduits
- Existing water
- Existing recycled water
- Existing ag drain (indicative only)
- Existing stormwater drain
- Existing sewer
- Existing house drain
- Existing swale drain
- Concrete edge strip with subsoil drain, "NO ROAD" sign & barrier
- Limit of works
- Existing tree to be removed
- Existing tree to be retained
- Permanent survey mark
- Temporary bench mark
- Proposed driveway

| REV | DATE     | AMENDMENT / REVISION DESCRIPTION | DES/DT | APPROVAL |
|-----|----------|----------------------------------|--------|----------|
| A   | 19.03.19 | ISSUED FOR TENDER                | SM/RB  | AB       |
| B   | 02.05.19 | ISSUED FOR CONSTRUCTION          | SM/SM  | AB       |

**ISSUED FOR CONSTRUCTION**

| TITLE                | NAME        |
|----------------------|-------------|
| DRAFTER              | R.Barua     |
| DESIGNER             | S.MacLaren  |
| CHECKED              | E.Lam       |
| AUTHORISED           | A.Burrows   |
| WATER AUTHORITY REF. | 388/3325    |
| SMEC DRAWING REF.    | 1700E-09-62 |

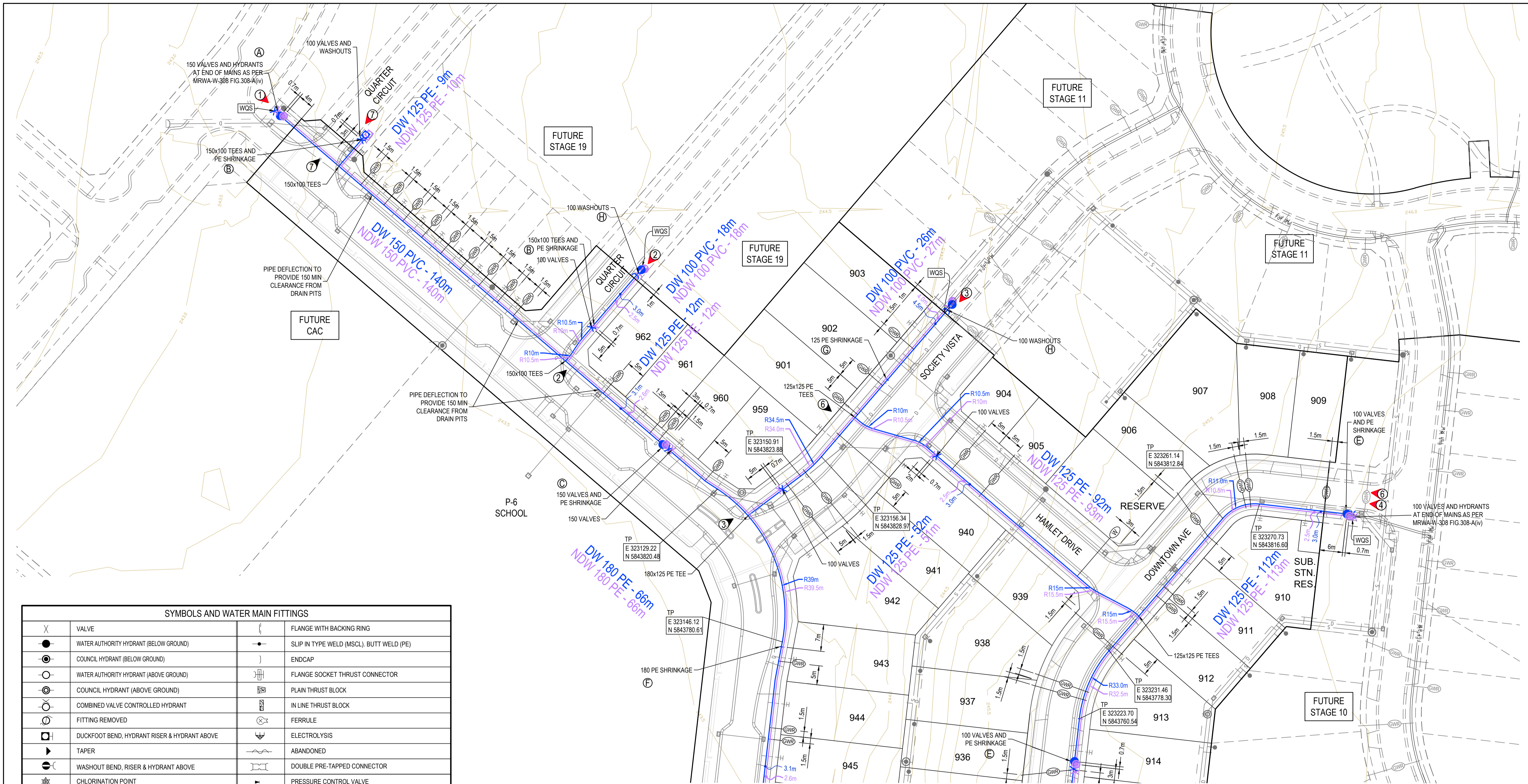


**SMEC**  
Member of the Surlana Jurong Group  
ABN 47 065 475 149  
Tower 4, Level 20, 727 Collins Street  
Melbourne, VIC 3008  
Ph 03 9514 1500

**Yarra Valley Water**

Yarra Valley Water  
Whittlesea City Council  
Olivine Estate - Stage 9  
Water Retention Plan  
Layout Plan

MELWAYS REF: 8M2  
PROJECT / DRAWING No: 388/3325/62  
SHEET No: 02 of 03  
REVISION: B



REFER SHEET 1700E-09-62 FOR CONTINUATION

| SYMBOLS AND WATER MAIN FITTINGS |                                              |     |                                         |
|---------------------------------|----------------------------------------------|-----|-----------------------------------------|
| X                               | VALVE                                        |     | FLANGE WITH BACKING RING                |
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| ⊕                               | DUCKFOOT BEND, HYDRANT RISER & HYDRANT ABOVE | ⊕   | ELECTROLYSIS                            |
| ▸                               | TAPER                                        | ⊕   | ABANDONED                               |
| ⊕                               | WASHOUT BEND, RISER & HYDRANT ABOVE          | ⊕   | DOUBLE PRE-TAPPED CONNECTOR             |
| ⊕                               | CHLORINATION POINT                           | ⊕   | PRESSURE CONTROL VALVE                  |
| ⊕                               | SOCKET                                       | ⊕   | SWAB INSERTION POINT                    |
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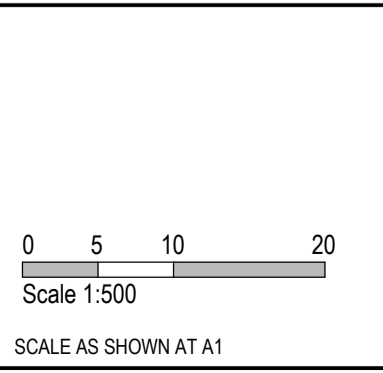
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| REV | DATE     | AMENDMENT / REVISION DESCRIPTION | DESIGN | APPROVAL |
|-----|----------|----------------------------------|--------|----------|
| A   | 19.03.19 | ISSUED FOR TENDER                | SM/RB  | AB       |
| B   | 02.05.19 | ISSUED FOR CONSTRUCTION          | SM/SM  | AB       |

**ISSUED FOR CONSTRUCTION**

| TITLE                | NAME        |
|----------------------|-------------|
| DRAFTER              | R.Barua     |
| DESIGNER             | S.MacLaren  |
| CHECKED              | E.Lam       |
| AUTHORISED           | A.Burrows   |
| WATER AUTHORITY REF. | 388/3325    |
| SMEC DRAWING REF.    | 1700E-09-63 |

All setting out should be carried out in accordance with MPA/Council's standard drawings or as nominated on hard copy plans provided by SMEC. Any digital information supplied by this office is for information only. Any discrepancies should be discussed with the superintendent.



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 Tower 4, Level 20, 727 Collins Street  
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**Yarra Valley Water**

Yarra Valley Water  
 Whittlesea City Council  
 Olivine Estate - Stage 9  
 Water Reticulation Plan  
 Detail Plan - 1

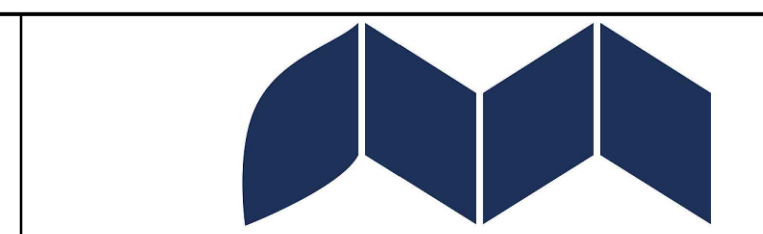
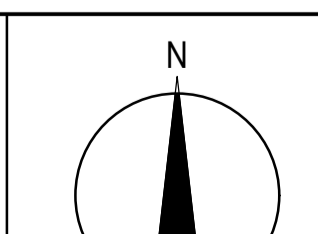
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|---------------------------|--------------------------------------------|-----------------------------|----------------------|
| MELWAYS REF<br><b>8M2</b> | PROJECT / DRAWING No<br><b>388/3325/63</b> | SHEET No<br><b>03 of 03</b> | REVISION<br><b>B</b> |
|---------------------------|--------------------------------------------|-----------------------------|----------------------|

| PHASE        | DISCIPLINE CODE | RISK REGISTER -Construction- Operations- Maintenance | POTENTIAL RISK                                             | 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 |
|--------------|-----------------|------------------------------------------------------|------------------------------------------------------------|-----------------------|--------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|--------------------------------|---------------------------------|----------------------|---------------------|
|              |                 |                                                      | <b>Road Furniture / Roadside features</b>                  |                       |                                                                                                              |                                                                                                              |                                                                                                                                             |                               |                                |                                 |                      |                     |
| Construction | RD              | #N/A                                                 | Construction close to live traffic                         | 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              | #N/A                                                 | Culverts                                                   | Contractor            | Potential risk from culverts under construction and height / fall hazards                                    | Falling from a height                                                                                        | Temporary barriers to be provided                                                                                                           | N                             | 2                              | 5                               | 10                   | Constructor         |
| Construction | US              | #N/A                                                 | Utilities become a hazard within clear zones               | Contractor            | Vehicle conflict with utility / pit                                                                          | Personal injury, vehicle damage                                                                              | Sequence works and protect with temp barrier or traffic control (TCP)                                                                       | N                             | 1                              | 5                               | 5                    | Constructor         |
| Operational  | RD              | #N/A                                                 | Sight Lines                                                | Road Authority        | Inadequate drivers response time.                                                                            | Increased potential for accidents                                                                            | Ensure design complies with relevant standard. Undertake thorough Safety Audit                                                              | N                             | 1                              | 4                               | 4                    | Road Authority      |
| Operational  | LS              | #N/A                                                 | Signs and street lights                                    | Road Authority        | Potential for drivers / riders to strike signs and street lights                                             | Increased potential for accidents                                                                            | Ensure design complies with relevant standard. Undertake thorough Safety Audit                                                              | N                             | 1                              | 4                               | 4                    | Road Authority      |
| Operational  | RF              | #N/A                                                 | Headwalls                                                  | Road Authority        | Potential vehicle conflict within clear zone                                                                 | Increased potential for accidents                                                                            | Establish adequate clear zone provision                                                                                                     | N                             | 2                              | 4                               | 8                    | Road Authority      |
| Operational  | RD              | #N/A                                                 | Culverts                                                   | Relevant Authority    | Potential fall hazard during maintenance, by vehicles and pedestrians                                        | Falling from a height                                                                                        | Barriers to be provided in accordance with road standards                                                                                   | N                             | 2                              | 5                               | 10                   | Constructor         |
|              |                 |                                                      | <b>Retaining Walls</b>                                     |                       |                                                                                                              |                                                                                                              |                                                                                                                                             |                               |                                |                                 |                      |                     |
| Construction | RW              | #N/A                                                 | Retaining Wall Alignment                                   | Contractor            | Falling from height during construction or commissioning of walls and adjacent structures eg. sewer manholes | Falling from a height                                                                                        | Provide temporary and permanent fencing at top of wall.                                                                                     | N                             | 1                              | 1                               | 1                    | Constructor         |
| Operational  | RW              | #N/A                                                 | Retaining Wall Alignment                                   | Road/ Local Authority | Lack of safe access/setback from road                                                                        | Increased potential for accidents                                                                            | Establish adequate and accessible clear zone provision. Provide guardrail where required                                                    | N                             | 1                              | 1                               | 1                    | Authority           |
| Operational  | RW              | #N/A                                                 | Retaining Wall Height                                      | Road/ Local Authority | Potential for falling from height                                                                            | Personal injury                                                                                              | Provide temporary and permanent fencing at top of wall.                                                                                     | N                             | 1                              | 5                               | 5                    | Authority           |
| Operational  | RW              | #N/A                                                 | Retaining Wall Design                                      | Road/ Local Authority | Potential for wall failure                                                                                   | Increased potential for accidents                                                                            | Structural design in accordance with standards, geotechnical conditions, end use and good practise.                                         | N                             | 1                              | 5                               | 5                    | Authority           |
|              |                 |                                                      | <b>Drainage</b>                                            |                       |                                                                                                              |                                                                                                              |                                                                                                                                             |                               |                                |                                 |                      |                     |
| Operational  | DR              | #N/A                                                 | Grated Pits                                                | Relevant Authority    | Trip/fall hazard with large spaced grate                                                                     | Increased potential for accidents                                                                            | Provide pedestrian/bicycle friendly grates where applicable. Refer to pit schedule                                                          | N                             | 3                              | 2                               | 6                    | Authority           |
| Operational  | DR              | #N/A                                                 | Non Standard Large Pits                                    | Relevant Authority    | Potential for pit failure                                                                                    | Increased risk to maintenance crews/ vehicles                                                                | Structural design in accordance with relevant design principles.                                                                            | N                             | 1                              | 4                               | 4                    | Authority           |
| Operational  | DR              | #N/A                                                 | Culvert Endwalls/Headwalls                                 | Relevant Authority    | Potential for falling from height                                                                            | Increased potential for accidents                                                                            | Fencing to be provided where culverts/headwalls are at height in accordance with relevant authority standards                               | N                             | 1                              | 4                               | 4                    | Authority           |
| Operational  | DR              | #N/A                                                 | Culvert Endwall/Headwall Outlets                           | Relevant Authority    | Children playing in large pipes / watercourses and access for maintenance                                    | Increased potential for accidents                                                                            | Grate provided to authority standards                                                                                                       | N                             | 2                              | 5                               | 10                   | Authority           |
| Maintenance  | DR              | #N/A                                                 | Access to Pits                                             | Relevant Authority    | Lack of safe access for maintenance                                                                          | Increased risk to maintenance crews                                                                          | Provide safe working conditions for maintenance. Provide safe landing/ access arrangements as per relevant authority standards              | N                             | 2                              | 5                               | 10                   | Authority           |
| Maintenance  | DR              | #N/A                                                 | Deep Pits                                                  | Relevant Authority    | Lack of safe entry for maintenance                                                                           | 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 | N                             | 1                              | 5                               | 5                    | Authority           |
| Maintenance  | DR              | #N/A                                                 | Access to drains / culverts                                | Relevant Authority    | Lack of safe access for maintenance                                                                          | Increased risk to maintenance crews                                                                          | Provide safe working conditions for maintenance. Access as approved by authority                                                            | N                             | 2                              | 3                               | 6                    | Authority           |
|              |                 |                                                      | <b>Sewer</b>                                               |                       |                                                                                                              |                                                                                                              |                                                                                                                                             |                               |                                |                                 |                      |                     |
| Construction | SE              | #N/A                                                 | Sewer Manhole located adjacent to Retaining Wall Alignment | Contractor            | Falling from height during construction or commissioning of adjacent sewer manholes                          | Falling from a height                                                                                        | Provide temporary fencing until such time that permanent fencing is constructed                                                             | N                             | 1                              | 1                               | 1                    | Constructor         |
| Maintenance  | SE              | #N/A                                                 | Deep Manholes                                              | Relevant Authority    | Lack of safe entry for maintenance                                                                           | Increased potential for accidents                                                                            | Contractor to be certified for work in confined spaces, landings and step access provided as per authority standards and schedule           | N                             | 1                              | 5                               | 5                    | Authority           |
| Maintenance  | SE              | #N/A                                                 | Access to Manholes                                         | Relevant Authority    | Lack of safe access for maintenance                                                                          | Increased risk to maintenance crews                                                                          | Provide safe working conditions for maintenance. Manholes located in compliance with authority standards                                    | N                             | 1                              | 5                               | 5                    | Authority           |
| Maintenance  | SE              | #N/A                                                 | Pump Station Access                                        | Relevant Authority    | Lack of safe access for maintenance                                                                          | Increased risk to maintenance crews                                                                          | Provide safe working conditions for maintenance                                                                                             | N                             | 2                              | 4                               | 8                    | Authority           |
|              |                 |                                                      | <b>Electricity</b>                                         |                       |                                                                                                              |                                                                                                              |                                                                                                                                             |                               |                                |                                 |                      |                     |
| Operational  | ES              | #N/A                                                 | Electrical Design                                          | Relevant Authority    | Location of assets within clear zones e.g. pits/ substations                                                 | Increased potential for accidents                                                                            | Electrical designed by sub consultant with appropriate accreditation and in accordance with authority standards                             | N                             | 2                              | 3                               | 6                    | Authority           |
|              |                 |                                                      | <b>Telstra</b>                                             |                       |                                                                                                              |                                                                                                              |                                                                                                                                             |                               |                                |                                 |                      |                     |
| Operational  | TE              | #N/A                                                 | Telstra Design                                             | Relevant Authority    | Location of assets within clear zones e.g. pits                                                              | Increased potential for accidents                                                                            | Telecommunications designed by authority consultant with appropriate accreditation and in accordance with authority standards               | N                             | 2                              | 3                               | 6                    | Authority           |
|              |                 |                                                      | <b>Water</b>                                               |                       |                                                                                                              |                                                                                                              |                                                                                                                                             |                               |                                |                                 |                      |                     |
| Operational  | WA              | #N/A                                                 | Water Design                                               | Relevant Authority    | Location of assets within clear zones e.g. pits/ substations                                                 | Increased potential for accidents                                                                            | Water pits designed in accordance with authority standards                                                                                  | N                             | 2                              | 3                               | 6                    | Authority           |
|              |                 |                                                      | <b>Gas</b>                                                 |                       |                                                                                                              |                                                                                                              |                                                                                                                                             |                               |                                |                                 |                      |                     |
| Operational  | GA              | #N/A                                                 | Gas Design                                                 | Relevant Authority    | Location of assets within clear zones e.g. pits/ substations                                                 | Increased potential for accidents                                                                            | Water pits designed in accordance with authority standards                                                                                  | N                             | 1                              | 1                               | 1                    | Authority           |

| REV | DATE     | AMENDMENT / REVISION DESCRIPTION | DES/DT | APPROVAL |
|-----|----------|----------------------------------|--------|----------|
| 0   | 24.06.19 | ISSUED FOR CONSTRUCTION          | SM/SM  | AB       |

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| TITLE           | NAME      |
|-----------------|-----------|
| DRAFTER         | R.Barua   |
| DESIGNER        | J.Jones   |
| CHECKED         | Z.Gosev   |
| AUTHORISED      | A.Burrows |
| REFERENCE No. 1 |           |
| REFERENCE No. 2 |           |



Olivine Estate - Stage 9  
Whittlesea City Council  
Road and Drainage  
Safety In Design

**ISSUED FOR CONSTRUCTION**



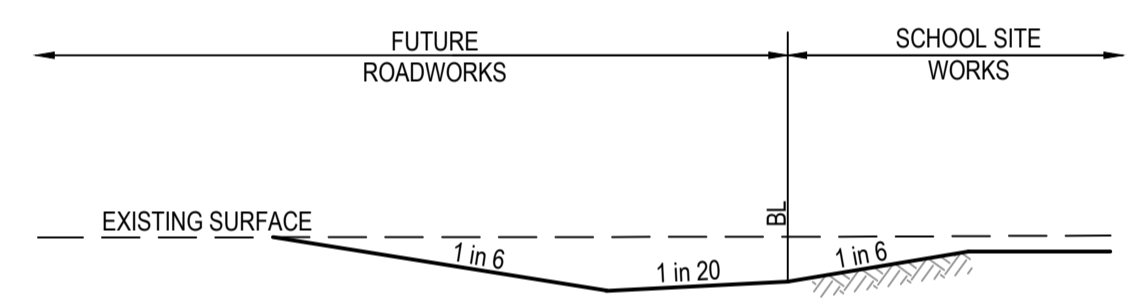
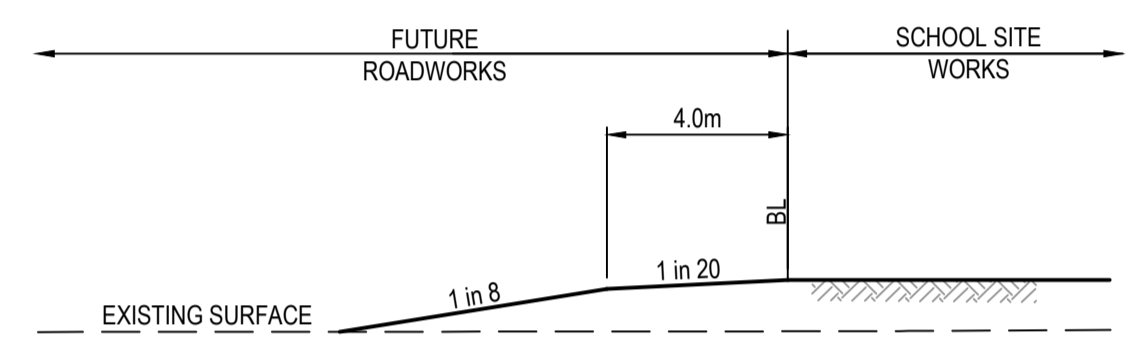
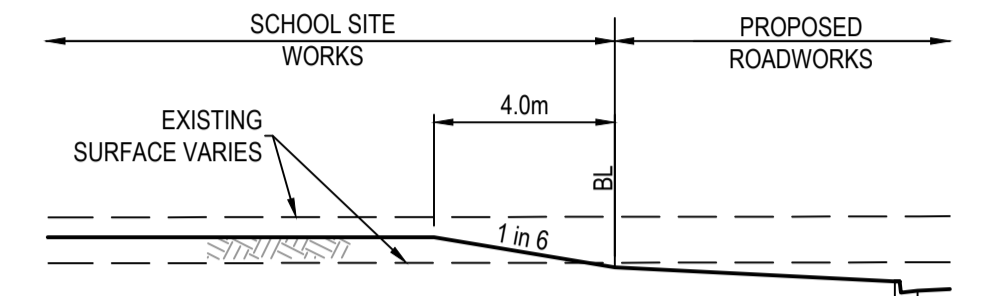
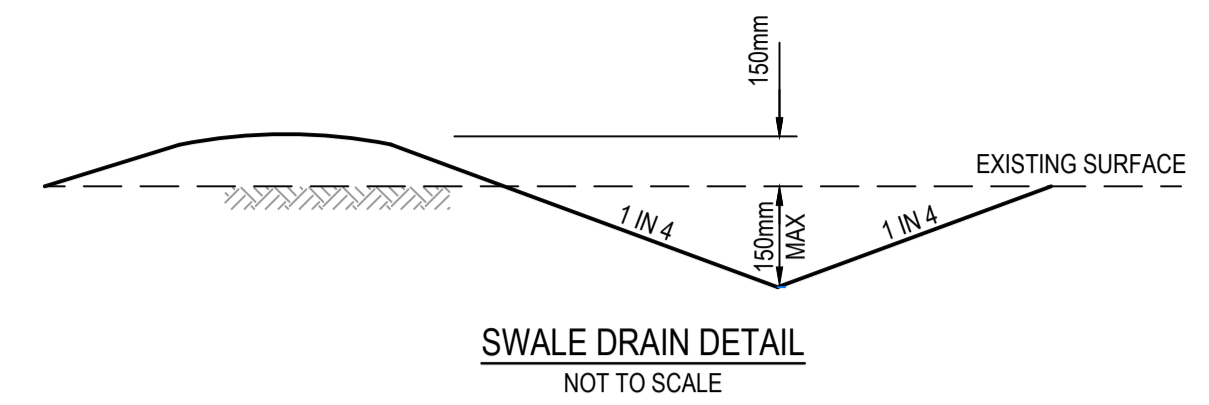
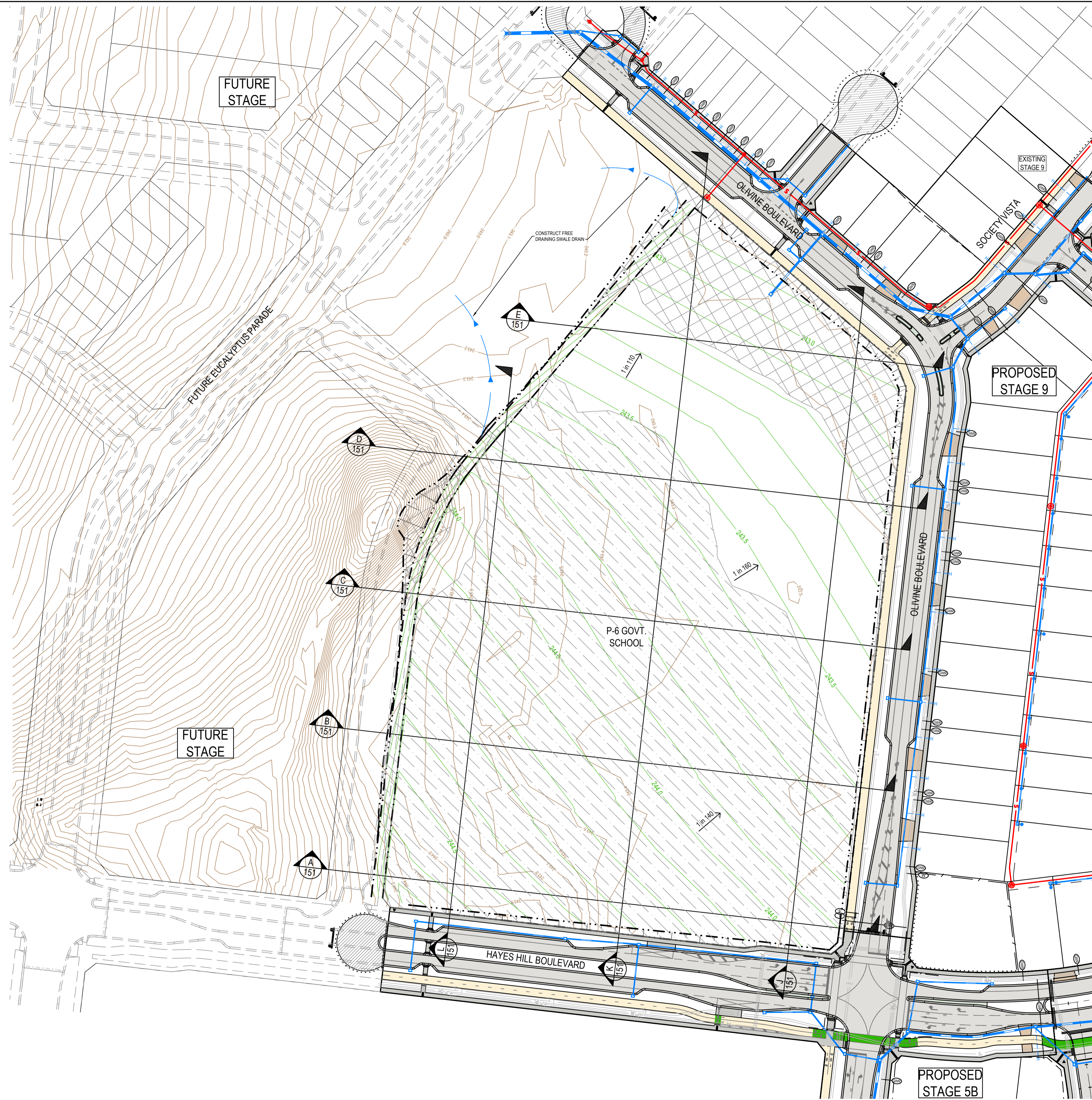
MELWAYS REF: 8M2 PROJECT / DRAWING No: 1700E-09-85 SHEET No: 34 of 34 REVISION: 0

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

|  |                                        |
|--|----------------------------------------|
|  | STORMWATER DRAIN, PIT & PROPERTY INLET |
|  | SWALE DRAIN                            |
|  | SEWER & MAINTENANCE STRUCTURES         |
|  | HOUSE DRAIN                            |
|  | ELECTRICITY (U.GROUND)                 |
|  | GAS                                    |
|  | TELSTRA                                |
|  | OPTIC FIBRE                            |
|  | WATER                                  |
|  | RECYCLE WATER                          |
|  | AG. DRAIN                              |
|  | SERVICE CONDUITS                       |
|  | TACTILE PAVERS                         |
|  | STRUCTURAL FILL > 200mm DEEP           |
|  | CUT > 200mm DEEP                       |
|  | PROPOSED DRIVEWAY & FOOTPATH           |
|  | PROPOSED SHARED FOOTPATH               |
|  | PROPOSED ROAD PAVING                   |

**GENERAL NOTES (WHITTLESEA CITY COUNCIL)**

- THE WORKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE VPA MANUAL AND SPECIFICATIONS. WORKS TO BE CARRIED OUT TO THE SATISFACTION OF COUNCIL'S SUPERVISING OFFICER.
- 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.
- ALL LEVELS ARE TO AUSTRALIAN HEIGHT DATUM.
- 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.
- ALL EXCAVATED OR FILLED AREAS TO BE STRIPPED OF TOPSOIL AND STOCKPILED PRIOR TO EARTHWORKS COMMENCING. THESE AREAS SHALL BE SURFACED WITH A 100mm MINIMUM TO 250mm MAXIMUM LAYER OF TOPSOIL.
- NO TOPSOIL TO BE REMOVED FROM SITE.
- NO FILL OR STOCKPIILING OF MATERIAL IS TO BE PLACED ON ANY RESERVE UNLESS DIRECTED BY THE SUPERINTENDENT.
- ALL FILLING TO HAVE LEVEL 1 SUPERVISION IN ACCORDANCE WITH AS3798-1996.
- ALL FILL TO BE PLACED IN LAYERS AND COMPACTED TO 95% STANDARD DENSITY.
- CUT AND FILL BATTERS ARE NOT TO EXCEED 1 in 6 UNLESS SHOWN OTHERWISE.
- ALLOTMENT TO BE GRADED TO ENSURE A MINIMUM GRADE OF 1 in 170.
- UPON COMPLETION OF CONSTRUCTION THE WHOLE SITE SHALL BE CLEANED UP, GRADED, ALL RUBBISH REMOVED AND LEFT IN A CLEAN AND TIDY CONDITION TO THE SATISFACTION OF THE SUPERINTENDENT.

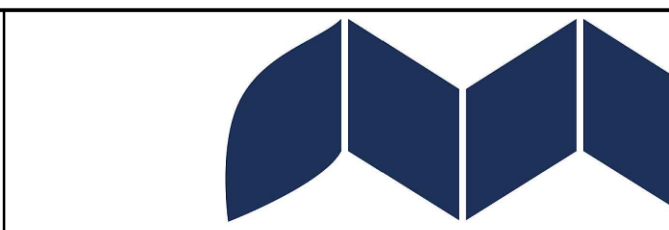
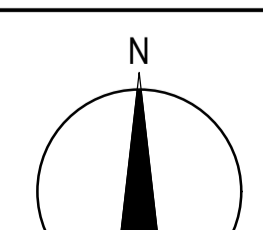
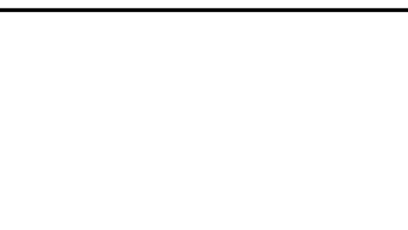


**EARTHWORKS VOLUMES**  
CUT - 2,500m<sup>3</sup>  
FILL - 11,600m<sup>3</sup>

| REV | DATE     | AMENDMENT / REVISION DESCRIPTION | DESIGNER | APPROVAL |
|-----|----------|----------------------------------|----------|----------|
| 0   | 24.06.19 | ISSUED FOR CONSTRUCTION          | KMKM     | AB       |

All setting out should be carried out in accordance with MPA/Council's standard drawings or as nominated on hard copy plans provided by SMEC. Any digital information supplied by this office is for information only. Any discrepancies should be discussed with the superintendent.

| TITLE           | NAME      |
|-----------------|-----------|
| DRAFTER         | R.Barua   |
| DESIGNER        | K.Moore   |
| CHECKED         | Z.Gosev   |
| AUTHORISED      | A.Burrows |
| REFERENCE No. 1 |           |
| REFERENCE No. 2 |           |



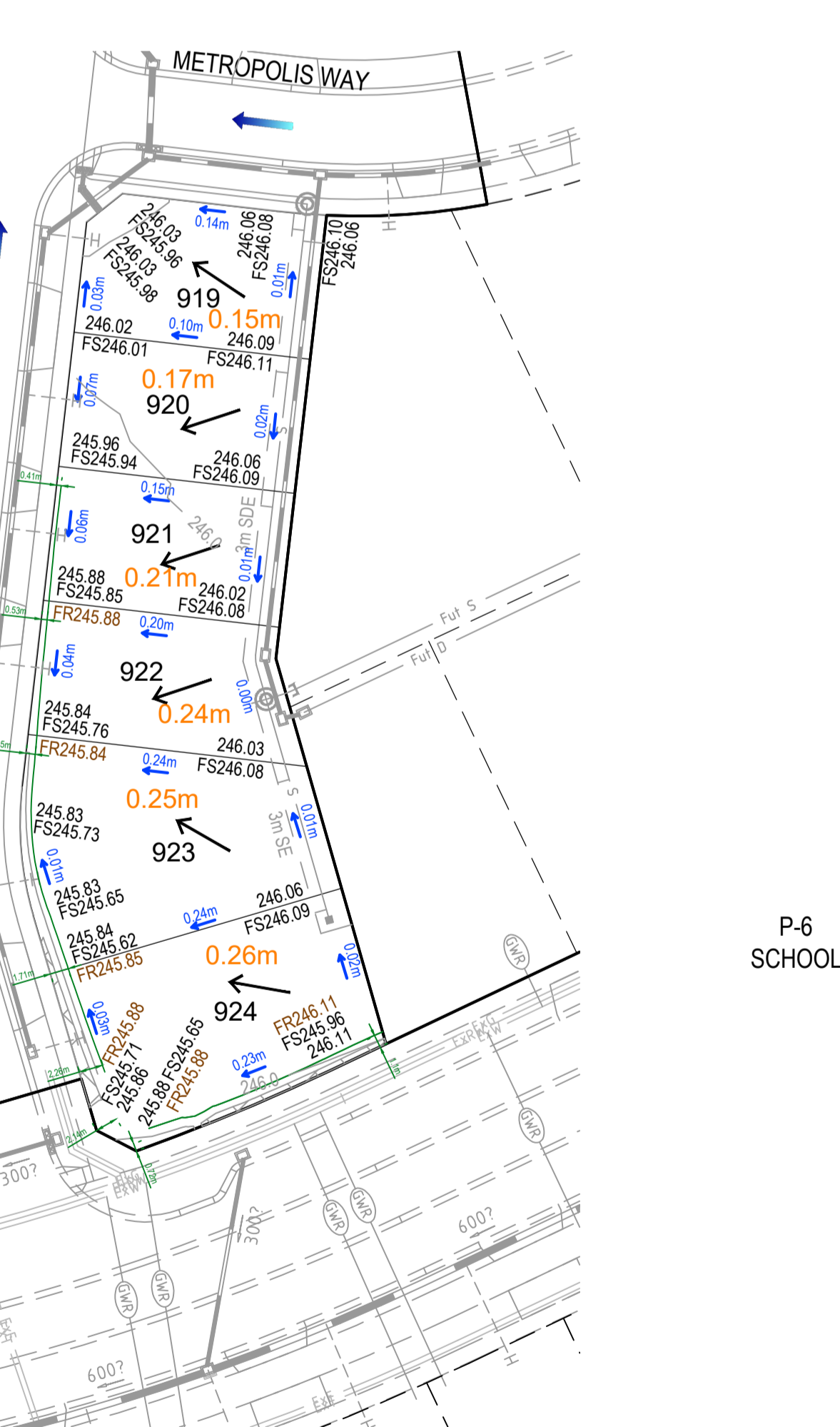
Olivine Estate - Stage 9  
Whittlesea City Council  
Road and Drainage  
P-6 Government School  
Earthworks Plan

|                    |                                       |                       |               |
|--------------------|---------------------------------------|-----------------------|---------------|
| MELWAYS REF<br>8M2 | PROJECT / DRAWING No.<br>1700E-09-150 | SHEET No.<br>01 of 03 | REVISION<br>0 |
|--------------------|---------------------------------------|-----------------------|---------------|





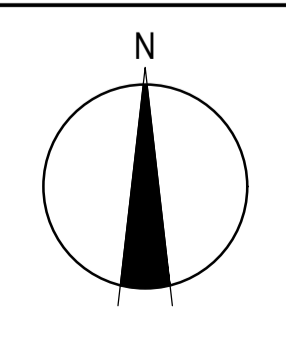
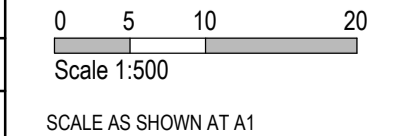
| LEGEND - LOT LEVELS PLAN |                                  |
|--------------------------|----------------------------------|
| 141.34                   | EXISTING SURFACE LEVEL           |
| FS140.35                 | FINISHED BUILDING LINE LEVEL     |
| FR157.40                 | FINISHED RIDGE LINE LEVEL        |
| TR157.40                 | FINISHED TOP RIDGE LINE LEVEL    |
| BR157.40                 | FINISHED BOTTOM RIDGE LINE LEVEL |
| TW157.40                 | TOP OF RETAINING WALL LEVEL      |
| BW157.40                 | BOTTOM OF RETAINING WALL LEVEL   |
|                          | STRUCTURAL FILL > 200mm DEEP     |
|                          | CUT > 200mm DEEP                 |



| REV | DATE     | AMENDMENT / REVISION DESCRIPTION | DES/DT | APPROVAL |
|-----|----------|----------------------------------|--------|----------|
| A   | 06.07.18 | ISSUED TO CLIENT FOR APPROVAL    | JJJJ   | AB       |
| B   | 07.11.18 | ISSUED TO CLIENT FOR COMMENT     | KMKM   | AB       |
| C   | 21.11.18 | LEVELS AMENDED FOR LOTS 901-905  | KM/RB  | AB       |
| D   | 30.01.19 | LEVELS AMENDED FOR LOTS 916-924  | KMKM   | AB       |

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| TITLE           | NAME      |
|-----------------|-----------|
| DRAFTER         | R.Barua   |
| DESIGNER        | J.Jones   |
| CHECKED         | Z.Gosev   |
| AUTHORISED      | A.Burrows |
| REFERENCE No. 1 |           |
| REFERENCE No. 2 |           |



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

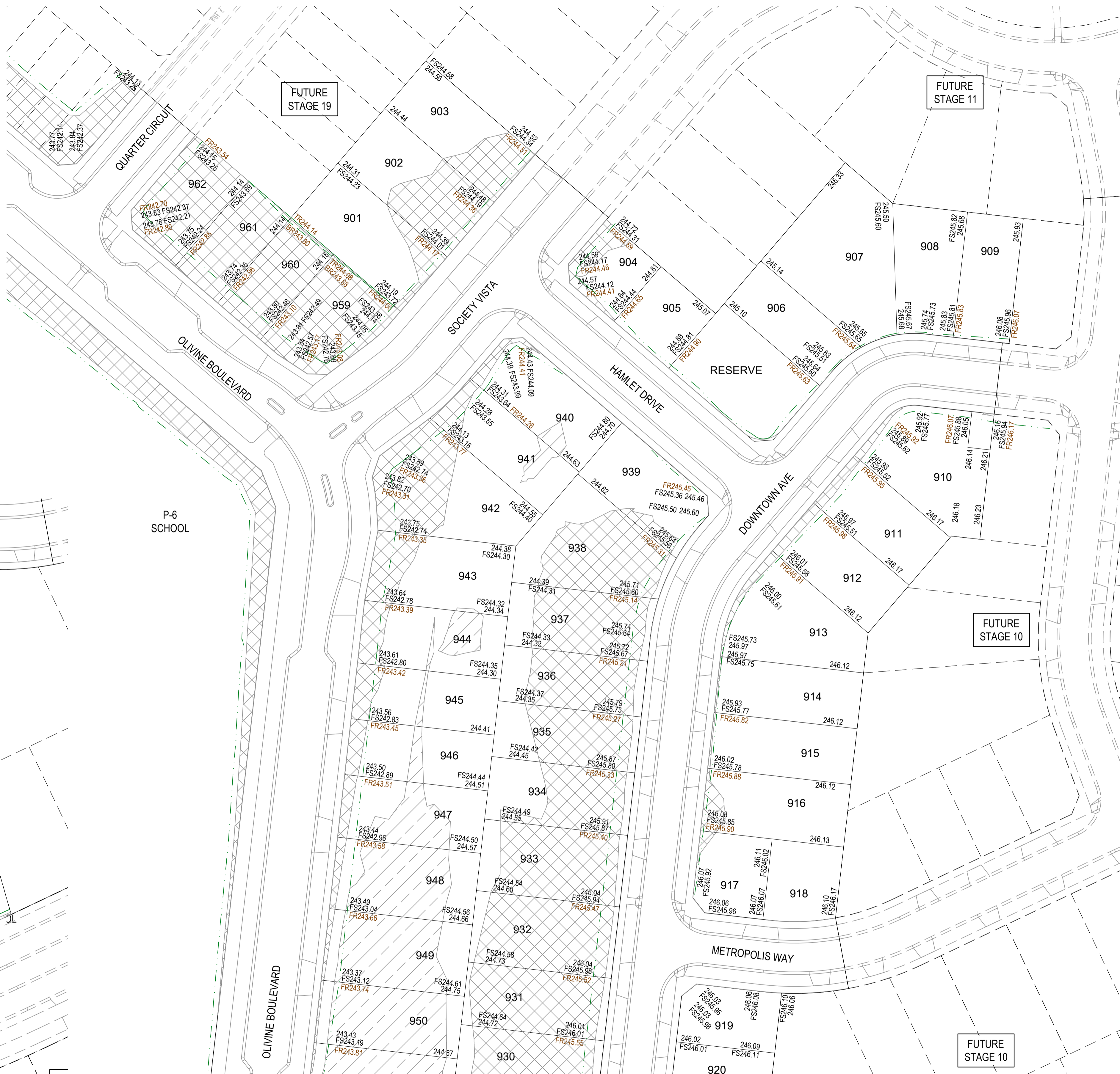
**mirvac**

Olivevine Estate - Stage 9  
Whittlesea City Council  
Road and Drainage  
Lot Level Optimisation Plan

|                    |                                        |                       |               |
|--------------------|----------------------------------------|-----------------------|---------------|
| MELWAYS REF<br>8M2 | PROJECT / DRAWING No.<br>1700E-09-SK01 | SHEET No.<br>01 of 01 | REVISION<br>D |
|--------------------|----------------------------------------|-----------------------|---------------|



| LEGEND - LOT LEVELS PLAN |                                  |
|--------------------------|----------------------------------|
| 141.34                   | EXISTING SURFACE LEVEL           |
| FS140.35                 | FINISHED BUILDING LINE LEVEL     |
| FR157.40                 | FINISHED RIDGE LINE LEVEL        |
| TR157.40                 | FINISHED TOP RIDGE LINE LEVEL    |
| BR157.40                 | FINISHED BOTTOM RIDGE LINE LEVEL |
| TW157.40                 | TOP OF RETAINING WALL LEVEL      |
| BW157.40                 | BOTTOM OF RETAINING WALL LEVEL   |
|                          | STRUCTURAL FILL > 200mm DEEP     |
|                          | CUT > 200mm DEEP                 |

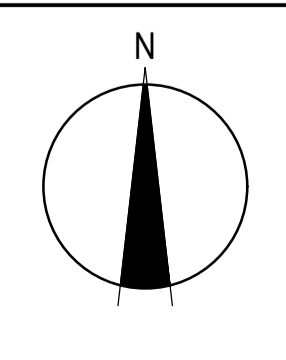
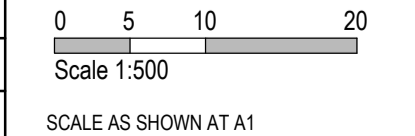


FOR CONTINUATION REFER LEFT

| REV | DATE     | AMENDMENT / REVISION DESCRIPTION | DESIGN | APPROVAL |
|-----|----------|----------------------------------|--------|----------|
| A   | 31.10.18 | ISSUED FOR INFORMATION ONLY      | KMKM   | AB       |
| B   | 07.11.18 | ISSUED FOR INFORMATION ONLY      | KMKM   | AB       |
| C   | 21.11.18 | ISSUED FOR INFORMATION ONLY      | KM/RB  | AB       |
| D   | 30.01.19 | LEVELS AMENDED FOR LOTS 916-924  | KMKM   | AB       |

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| TITLE           | NAME      |
|-----------------|-----------|
| DRAFTER         | R.Barua   |
| DESIGNER        | J.Jones   |
| CHECKED         | Z.Gosev   |
| AUTHORISED      | A.Burrows |
| REFERENCE No. 1 |           |
| REFERENCE No. 2 |           |



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**mirvac**

Olivine Estate - Stage 9  
Whittlesea City Council  
Road and Drainage  
Lot Levels Plan

**INFORMATION ONLY**

|                           |                                               |                              |                      |
|---------------------------|-----------------------------------------------|------------------------------|----------------------|
| MELWAYS REF<br><b>8M2</b> | PROJECT / DRAWING No.<br><b>1700E-09-SK02</b> | SHEET No.<br><b>01 of 01</b> | REVISION<br><b>D</b> |
|---------------------------|-----------------------------------------------|------------------------------|----------------------|