

# STAGE 4 HERITAGE RISE 15 LOT OWNERS CORPORATION SUBDIVISION 265 PRINCES HIGHWAY & 24 WHITESIDE ROAD OFFICER CARDINIA SHIRE COUNCIL

### GENERAL NOTES

1. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL & OTHER CONSULTANTS' DRAWINGS & SPECIFICATIONS & SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ANY DISCREPANCY SHALL BE REFERRED TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
2. MATERIALS & WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE RELEVANT S.A.A. CODES.
3. STRENGTH OF CONCRETE TO BE MINIMUM OF 20MPa UNLESS OTHERWISE NOTED.
4. THE CONTRACTOR SHALL COMPLY WITH ALL REGULATIONS OF AUTHORITIES HAVING JURISDICTION OVER THE WORKS.
5. THESE DRAWINGS MUST NOT BE SCALED.
6. ALL DIMENSIONS & REDUCED LEVELS MUST BE VERIFIED ON SITE BEFORE THE COMMENCEMENT OF ANY WORK.
7. SUBSTITUTIONS MUST BE APPROVED BY THE ENGINEER.
8. ALL LEVELS SHOWN ARE TO AUSTRALIAN HEIGHT DATUM.
9. SERVICE INFORMATION SHOWN IS BASED ON PLANS SUPPLIED BY AUTHORITIES & IS APPROXIMATE ONLY. PRIOR TO THE COMMENCEMENT OF ANY WORKS, THE CONTRACTOR SHALL LOCATE ALL UNDERGROUND SERVICES & COMPLY WITH ALL OF THE REQUIREMENTS OF THOSE AUTHORITIES.
10. EXISTING SURFACE CONTOURS, WHERE SHOWN, ARE INTERPOLATED & MAY NOT BE ACCURATE.
11. UNLESS OTHERWISE NOTED, ALL VEGETATION SHALL BE STRIPPED TO A MINIMUM DEPTH OF 150mm UNDER ALL PROPOSED PAVEMENT & BUILDING AREAS.
12. PRIOR TO THE PLACEMENT OF ANY FILLS, PAVEMENTS OR BUILDINGS, THE EXPOSED SUBGRADE SHALL BE COMPACTED TO A MINIMUM OF 98% STANDARD COMPACTION IN ACCORDANCE WITH TEST E11 OF AS1289 FOR THE TOP 300mm. ANY SOFT SPOTS SHALL BE REMOVED & REPLACED WITH GRANULAR FILL TO THE ENGINEER'S APPROVAL & COMPACTED IN ACCORDANCE WITH THE COMPACTION REQUIREMENTS SET OUT BELOW.
13. ANY FILL REQUIRED SHALL BE APPROVED BY THE ENGINEER.
14. ALL FILL & PAVEMENT MATERIALS SHALL BE COMPACTED IN 200mm MAXIMUM LOOSE THICKNESS LAYERS TO THE DENSITIES SPECIFIED BELOW.
 

LANDSCAPED AREAS 90% STD	
FILL UNDER FOOTINGS & FLOOR SLABS FOR ANY STRUCTURE	
- FINE CRUSHED ROCK	95% MOD.
- OTHER FILL	98% STD.
FILL UNDER ROAD PAVEMENTS	
- FINE CRUSHED ROCK	95% MOD.
- OTHER FILL	98% STD.
ROAD PAVEMENT MATERIALS	
- SUB-BASE	95% MOD.
- BASE COURSE	98% MOD.
15. STORMWATER TO BE IN ACCORDANCE WITH AS3500 - NATIONAL PLUMBING & DRAINAGE CODE.
16. INSPECTION OPENINGS FOR THE MAINTENANCE OF SITE STORMWATER DRAINS SHALL BE EXTENDED TO & CAPPED AT THE FINISHED SURFACE LEVEL & BE INSTALLED AT:
  - a) EACH POINT OF CONNECTION.
  - b) SPACINGS NOT MORE THAN 30m.
  - c) ANY CHANGE OF DIRECTION GREATER THAN 45°.
  - d) AS ADDITIONALLY INDICATED ON THE DRAWINGS.
  - e) BENDS & ENDS OF ALL A.G. DRAINS (WITH FLUSH OUT RISERS).
17. 10 CAPS MUST HAVE A LOAD CAPACITY FOR AREA OF USE, I.E. SCREWED PLASTIC IN LANDSCAPED AREAS & CAST IRON IN PAVEMENT.
18. UNLESS OTHERWISE NOTED, ALL DOWNPIPES SHALL BE CONNECTED TO PITS OR MAIN STORMWATER DRAINS WITH UPVC OR STORMPRO PIPES OF THE FOLLOWING SIZES LAID AT A MINIMUM GRADE OF 1 IN 100.
  - a) 100ø FOR DOMESTIC CONSTRUCTION.
  - b) 150ø FOR COMMERCIAL / INDUSTRIAL CONSTRUCTION.
19. ALL MAIN STORMWATER DRAINS SHALL BE CONSTRUCTED USING ONE OF THE FOLLOWING TYPES OF PIPES WITH RUBBER RING JOINTS:
  - a) CLASS 2 RCP IN ACCORDANCE WITH A.S.1342.
  - b) UPVC IN ACCORDANCE WITH A.S.1260 OR.
  - c) FRC TO THE REQUIREMENTS OF THE LOCAL AUTHORITY.
  - d) VINDEX "STORMPRO" IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS. ANY OTHER TYPES OF PIPE MUST BE REFERRED TO THE ENGINEER FOR APPROVAL PRIOR TO USE.
20. GENERALLY FOR TRENCHING WORKS THE CONTRACTOR MUST:
  - a) COMPLY WITH THE GENERAL PROVISIONS OF SECTION 21 OF THE "OCCUPATIONAL HEALTH & SAFETY ACT".
  - b) COMPLY WITH THE "OCCUPATIONAL HEALTH & SAFETY CODE OF PRACTICE FOR SAFETY PRECAUTIONS IN TRENCHING OPERATIONS".
21. PRIOR TO THE EXCAVATION OF ANY TRENCH DEEPER THAN 15 METRES THE CONTRACTOR MUST:
  - a) NOTIFY THE OCCUPATIONAL HEALTH & SAFETY AUTHORITY ON THE APPROPRIATE FORM.
  - b) NOMINATE THE MINE MANAGER FOR THE PROJECT.
  - c) CARRY OUT ALL EXCAVATION WORKS IN ACCORDANCE WITH THE REQUIREMENTS OF THE "MINES ACT 1958 REGULATIONS & STATUTORY RULES".
22. ALL DIMENSIONS GIVEN ARE TO FACE OF KERB, CENTRE OF PIPE OR EXTERIOR FACE OF BUILDING UNLESS OTHERWISE NOTED.
23. ANY STRUCTURES, PAVEMENTS OR SURFACES DAMAGED, DIRTIED OR MADE UNSERVICEABLE DUE TO CONSTRUCTION WORK SHALL BE REINSTATED TO THE SATISFACTION OF THE ENGINEER.

### NOTES TO CONTRACTOR:

1. CONSTRUCTION ACTIVITIES ARE TO BE MANAGED SO THAT THE AMENITY OF THE AREA IS NOT DETRIMENTALLY AFFECTED, THROUGH THE:
  - TRANSPORT OF MATERIALS, GOODS OR COMMODITIES TO OR FROM THE LAND.
  - INAPPROPRIATE STORAGE OF ANY WORKS OR CONSTRUCTION MATERIALS.
  - HOURS OF CONSTRUCTION ACTIVITY.
  - EMISSION OF NOISE, ARTIFICIAL LIGHT, VIBRATION, SMELL, FUMES, SMOKE, VAPOUR, STEAM, SOOT, ASH, DUST, WASTE AND STORMWATER RUNOFF, WASTE PRODUCTS, GRIT OR OIL.
  - PRESENCE OF VERMIN.
2. APPROPRIATE SEDIMENT CONTROL MEASURES MUST BE UNDERTAKEN DURING CONSTRUCTION TO ENSURE THAT THE DEVELOPMENT SITE IS ADEQUATELY MANAGED IN SUCH A WAY THAT NO MUD, DIRT, SAND, SOIL, CLAY, OR STONES ARE WASHED INTO OR ALLOWED TO ENTER THE STORMWATER DRAINAGE SYSTEM. REFER TO SHEET C04 FOR DETAILS.
3. NO POLLUTED AND/OR SEDIMENT LADEN RUNOFF IS TO BE DISCHARGED DIRECTLY OR INDIRECTLY INTO MELBOURNE WATER'S DRAINS AND WATER COURSES.
4. NO FILL OR EXCAVATED MATERIAL FOR OR FROM THIS DEVELOPMENT IS TO BE CARTED/HAULED INTO OR FROM THE SITE WITHOUT FIRST OBTAINING THE FURTHER WRITTEN CONSENT FROM COUNCIL'S ENGINEERING DEPARTMENT AT LEAST SEVEN (7) DAYS PRIOR TO THE CARTAGE/HAULAGE WORKS COMMENCING TO THE SATISFACTION OF THE RESPONSIBLE AUTHORITY.
5. ALL ROADS USED FOR THE PURPOSE OF HAULAGE OF IMPORTED OR EXPORTED MATERIALS FOR CONSTRUCTION MUST BE:
  - 5.1. APPROVED IN WRITING BY THE RESPONSIBLE AUTHORITY FOR THE SUBMITTED HAULAGE STRATEGY, AT LEAST SEVEN (7) DAYS PRIOR TO THE COMMENCEMENT OF USE.
  - 5.2. MAINTAINED IN ACCORDANCE WITH THE RESPONSIBLE AUTHORITY'S MAINTENANCE INTERVENTION LEVELS, OR AS REQUESTED BY THE RESPONSIBLE AUTHORITY IF THE ROAD DETERIORATES DURING THE HAULAGE PERIOD, AND
  - 5.3. REINSTATED TO THE SATISFACTION OF THE RESPONSIBLE AUTHORITY.

### PRIOR TO COMMENCEMENT

1. PRIOR TO THE COMMENCEMENT OF BUILDING WORKS ON SITE, THE BUILDER/CONTRACTOR MUST VERIFY THE FEASIBILITY OF THE OUTFALL STORMWATER DRAINAGE SYSTEM/S TO THE LEGAL POINT OF DISCHARGE AS DOCUMENTED BY:
  - VERIFICATION OF THE INVERT LEVEL OF THE DRAIN FORMING THE LEGAL POINT OF DISCHARGE.
  - VERIFICATION THAT THE ROUTE FROM THE SITE TO THE LEGAL POINT/S OF DISCHARGE IS CLEAR OF ALL OTHER AUTHORITY SERVICES. IF EITHER OF THE ABOVE CANNOT BE VERIFIED, THE BUILDER/CONTRACTOR MUST IMMEDIATELY NOTIFY THE PROJECT MANAGER OR CONSULTING CIVIL ENGINEER.
2. PRIOR TO THE COMMENCEMENT OF ANY WORKS, THE BUILDER/CONTRACTOR SHALL LOCATE ALL UNDERGROUND SERVICES, NOTIFY THE AUTHORITIES RESPONSIBLE FOR THOSE SERVICES AND COMPLY WITH ALL OF THE REQUIREMENTS OF THOSE AUTHORITIES.



LOCALITY PLAN

### DRAWING INDEX

SHEET	DESCRIPTION
C01	FACE SHEET, LOCALITY PLAN & DRAWING INDEX
C02	DETAIL PLAN SHEET 1 OF 2 (SCALE 1:150)
C03	DETAIL PLAN SHEET 2 OF 2 (SCALE 1:150)
C04	DETAILS, TYPICAL CROSS SECTIONS
C05	OAKWOOD CLOSE LONGITUDINAL SECTION AND CROSS SECTIONS
C06	LANE LONGITUDINAL SECTION AND CROSS SECTIONS
C07	DRAINAGE LONGITUDINAL SECTIONS AND PIT SCHEDULE

### SERVICES SCHEDULE

LOCATION	COMMON PROPERTY WIDTH	TELECOM	ELECTRICAL	GAS	POTABLE WATER	RECYCLED WATER	FIRE SERVICE	SEWER	DRAINAGE	EDGE OF DRIVEWAY
OAKWOOD CLOSE	9.5-18.3	2.26E, 0.60&0.48W	2.58E, 0.15W	1.30E, 1.58&1.45W	1.65 E, 0.94&0.80W	1.64E, 1.26&1.13W	1.00E, 1.90W	-	4.1-5.15 W	0.5-7.0 W & 1.85-6.35 E
LANE	7.0-10.0	0.48N	0.15N	1.45N	0.80N	1.13N	1.65N	-	2.5-2.6 S	0.4-2.7 N & 0.7 S



SITE PLAN

LENGTHS ARE IN METRES  
SCALE 1:500

No.	REVISION	DATE	No.	REVISION	DATE
D	SEWER LAYOUT AMENDED	20/11/17			
C	DRAINAGE & SEWER LAYOUT UPDATED	31/10/17			
B	SEWER UPDATED AS PER SEW REQUIREMENTS	24/10/17			
A	ISSUED FOR APPROVAL	5/9/17	G	SERVICE OFFSETS CHANGED	15/01/19
P2	ISSUED TO CLIENT FOR COMMENTS	1/9/17	F	EASEMENT AMENDED	24/08/18
P1	PRELIMINARY ISSUE	25-5-17	E	SEWER AND DRAINAGE AMENDED	18/07/18

**ISSUED FOR  
CONSTRUCTION**

**Lanigan Civil**

Patama Pty Ltd (ABN: 79 108 035 463)  
Trading as Lanigan Civil  
Consulting Civil Engineers  
Unit 4, 7-9 Hall Street, Braeside Vic 3195  
Tel: 03 9558 4380 Fax: 03 9587 9707  
Email: admin@lanigncivil.com.au

STAGE 4  
HERITAGE RISE  
265 PRINCES HIGHWAY &  
24 WHITESIDE ROAD, OFFICER

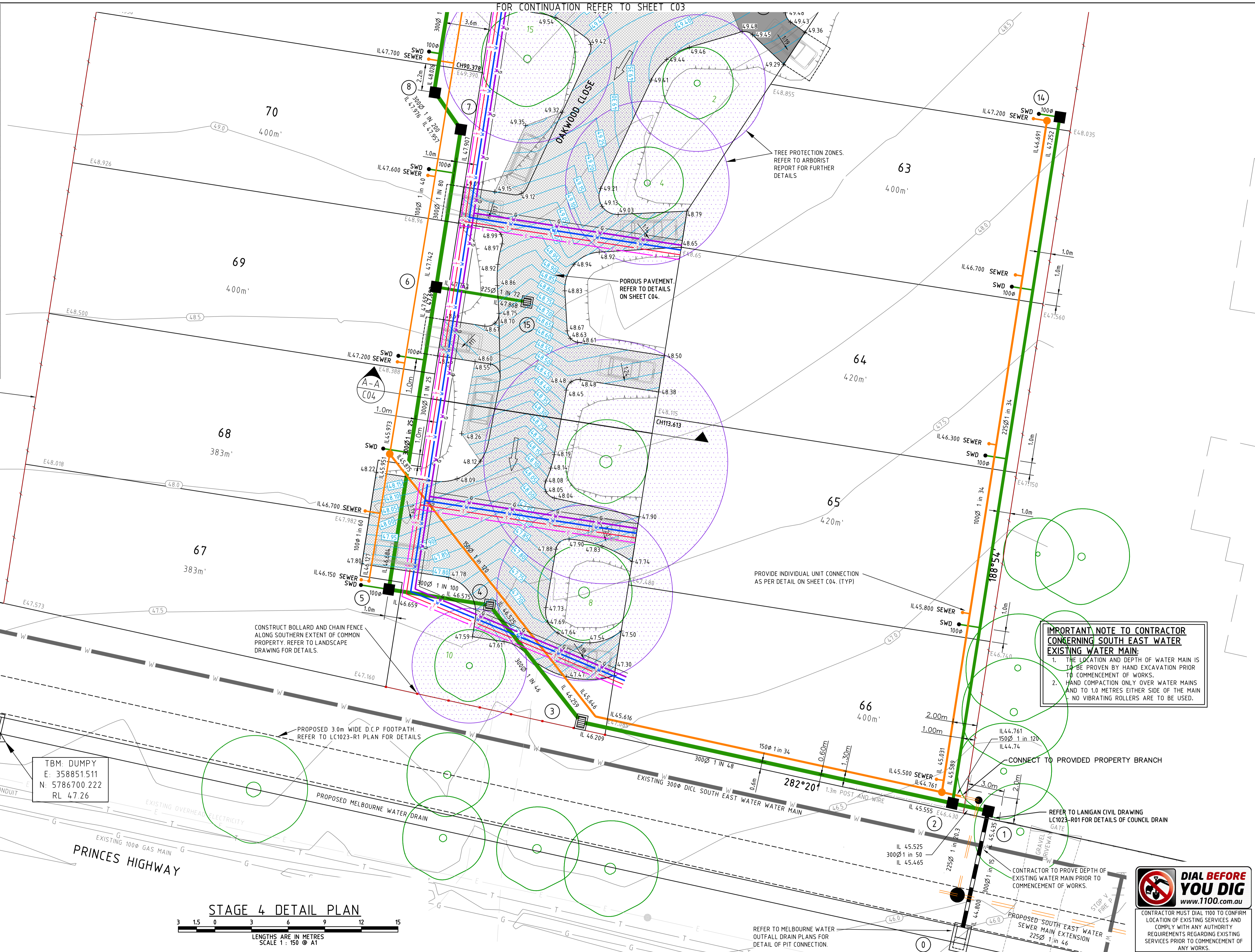
FACE SHEET, LOCALITY  
PLAN & DRAWING INDEX

DESIGNED	DRAWN	CHECKED
NJC	NJC	GCL
DATE	SCALE/S	AS NOTED
24-05-17		
DWG No.	ISSUE	
LC1023-C01	G	



CONTRACTOR MUST DIAL 1100 TO CONFIRM LOCATION OF EXISTING SERVICES AND COMPLY WITH ANY AUTHORITY REQUIREMENTS REGARDING EXISTING SERVICES PRIOR TO COMMENCEMENT OF ANY WORKS.

LEGEND	
ITEM	DESCRIPTION
(56.0)	EXISTING SURFACE CONTOURS
(56.6)	NEW SURFACE CONTOURS
E156.600	EXISTING SURFACE SPOT LEVELS
+ 156.60	FINISHED SURFACE SPOT LEVELS
(Symbol)	EXISTING STORMWATER DRAIN
(Symbol)	PROPOSED STORMWATER DRAIN
(Symbol)	EXISTING STORMWATER PIT
(Symbol)	PROPOSED STORMWATER PIT
(Symbol)	PROPOSED STORMWATER PIT (GRATE)
(Symbol)	GRATED TRENCH (SEE DETAIL)
(Symbol)	PROPOSED HOUSE DRAIN
(Symbol)	OVERLAND FLOW DIRECTION
(Symbol)	EXISTING SEWER
(Symbol)	EXISTING UNDERGROUND GAS PIPE
(Symbol)	EXISTING UNDERGROUND WATER PIPE
(Symbol)	EXISTING ELECTRICITY SUPPLY
(Symbol)	EXISTING UNDERGROUND TELECOMMUNICATIONS CABLE
(Symbol)	PROPOSED SEWER
(Symbol)	PROPOSED SEWER MAINTENANCE HOLE AND MAINTENANCE SHAFT
(Symbol)	PROPOSED SEWER CONNECTION POINT
(Symbol)	PROPOSED UNDERGROUND GAS PIPE
(Symbol)	PROPOSED UNDERGROUND POTABLE WATER PIPE
(Symbol)	PROPOSED UNDERGROUND RECYCLED WATER PIPE
(Symbol)	PROPOSED FIRE SERVICE
(Symbol)	PROPOSED ELECTRICITY SUPPLY
(Symbol)	PROPOSED UNDERGROUND TELECOMMUNICATIONS CABLE
(Symbol)	EXISTING FEATURES TO BE REMOVED
(Symbol)	PROPOSED BATTER
(Symbol)	ROCK FEATURE WALL
(Symbol)	SEDIMENT FENCE
(Symbol)	EXISTING TREE WITH TREE PROTECTION ZONE



FOR CONTINUATION REFER TO SHEET C03

CONSTRUCT 1.8M HIGH CAPPED EXPOSED POST PAILING FENCE FOR EXTENT OF WESTERN BOUNDARY. CONTRACTOR TO PROVIDE PROPS AS REQUIRED.

CONSTRUCT BOLLARD AND CHAIN FENCE ALONG SOUTHERN EXTENT OF COMMON PROPERTY. REFER TO LANDSCAPE DRAWING FOR DETAILS.

PROPOSED 3.0m WIDE D.C.P FOOTPATH. REFER TO LC1023-R1 PLAN FOR DETAILS

TBM DUMPY  
E: 358851511  
N: 5786700.222  
RL 47.26

**IMPORTANT NOTE TO CONTRACTOR CONCERNING SOUTH EAST WATER EXISTING WATER MAIN:**  
1. THE LOCATION AND DEPTH OF WATER MAIN IS TO BE PROVEN BY HAND EXCAVATION PRIOR TO COMMENCEMENT OF WORKS.  
2. HAND COMPACTION ONLY OVER WATER MAINS AND TO 1.0 METRES EITHER SIDE OF THE MAIN - NO VIBRATING ROLLERS ARE TO BE USED.

**IMPORTANT NOTE:**  
PRIOR TO THE COMMENCEMENT OF ANY STORMWATER DRAINAGE WORKS, THE CONTRACTOR SHALL VERIFY THE INVERT LEVEL AT PROPOSED POINT OF CONNECTION. IF THAT LEVEL VARIES FROM THAT SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE CONSULTING CIVIL ENGINEER.

**STAGE 4 DETAIL PLAN**  
LENGTHS ARE IN METRES  
SCALE 1: 150 @ A1



CONTRACTOR MUST DIAL 1100 TO CONFIRM LOCATION OF EXISTING SERVICES AND COMPLY WITH ANY AUTHORITY REQUIREMENTS REGARDING EXISTING SERVICES PRIOR TO COMMENCEMENT OF ANY WORKS.

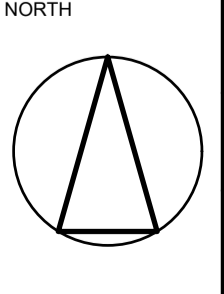
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D	SEWER LAYOUT AMENDED	20/11/17			
C	SEWER ALIGNMENT ADJUSTED	31/10/17			
B	SEWER UPDATED AS PER SEW REQUIREMENTS	24/10/17	I	SERVICE OFFSETS CHANGED	15/01/19
A	POROUS PAVEMENT EXTENT UPDATED. ISSUED FOR APPROVAL	5/9/17	H	EASEMENT AMENDED	24/08/18
P2	ISSUED TO CLIENT FOR COMMENTS	1/9/17	G	EXTERNAL SEWER AMENDED	30/07/18
P1	PRELIMINARY ISSUE	25-5-17	E	SEWER AND DRAINAGE AMENDED	18/07/18

**ISSUED FOR CONSTRUCTION**

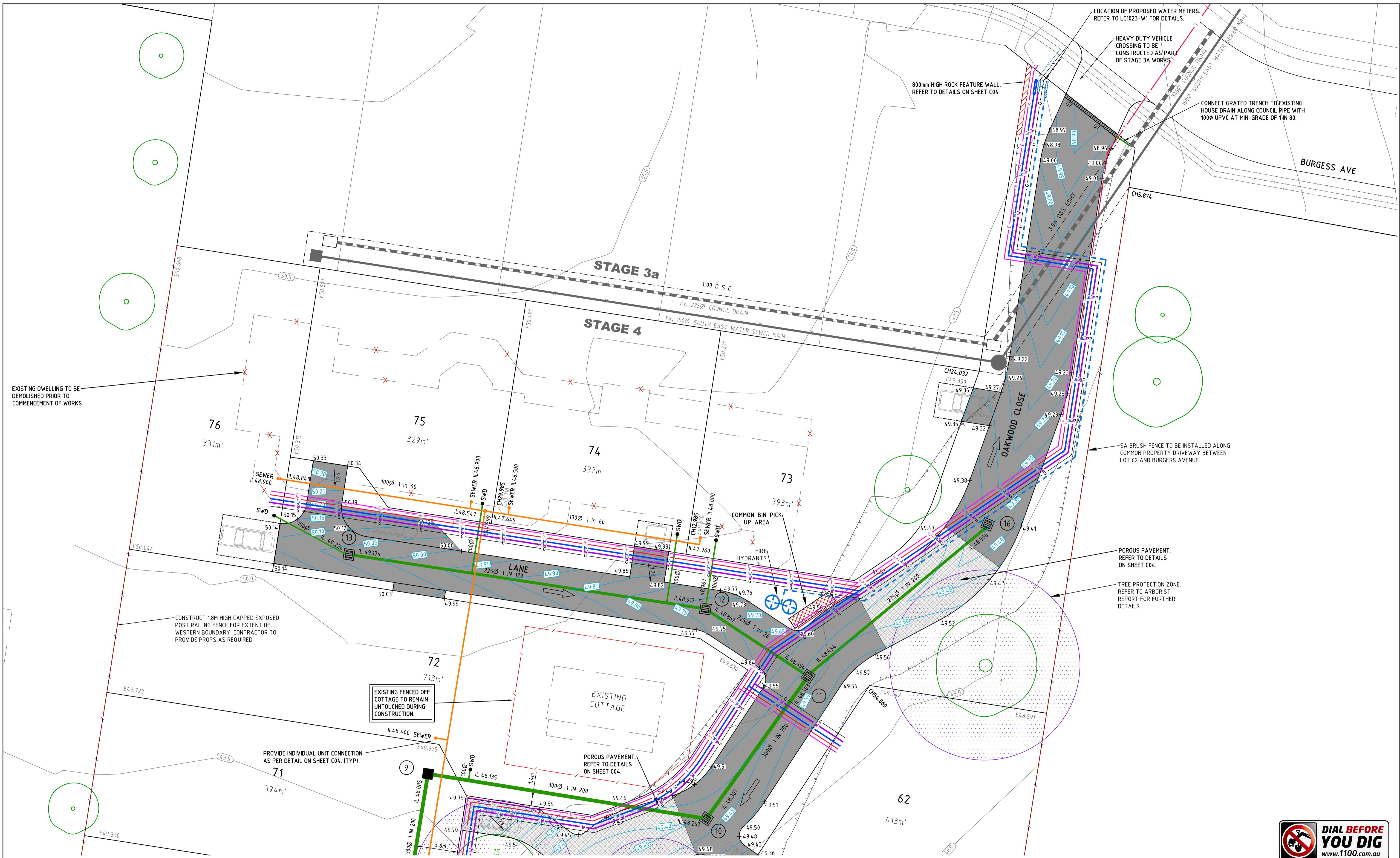
**Lanigan Civil**  
Patama Pty Ltd (ABN: 79 108 035 463)  
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Consulting Civil Engineers  
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Tel: 03 9558 4380 Fax: 03 9587 9707  
Email: admin@lanigncivil.com.au

**STAGE 4 HERITAGE RISE**  
265 PRINCES HIGHWAY &  
24 WHITESIDE ROAD, OFFICER

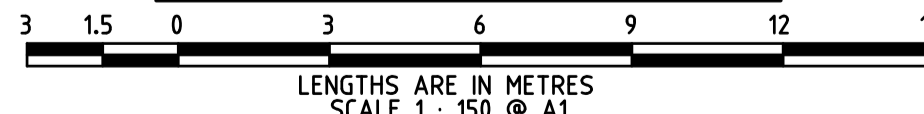
**DETAIL PLAN SHEET 1 OF 2**



DESIGNED	DRAWN	CHECKED
NJC	NJC	GCL
DATE	SCALE/S	AS NOTED
24-05-17		
DRG No.		ISSUE
LC1023-C02		1



STAGE 4 DETAIL PLAN



CONTRACTOR MUST DIAL 1100 TO CONFIRM LOCATION OF EXISTING SERVICES AND COMPLY WITH ANY AUTHORITY REQUIREMENTS REGARDING EXISTING SERVICES PRIOR TO COMMENCEMENT OF ANY WORKS.

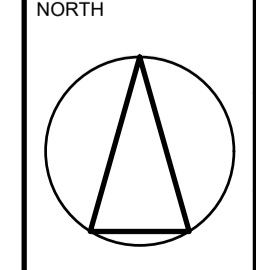
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C	SEWER SIZING AND GRADES UPDATED	31/10/17			
B	SEWER UPDATED AS PER SEW REQUIREMENTS	24/10/17			
A	POROUS PAVEMENT EXTENT UPDATED. ISSUED FOR APPROVAL	5/9/17			
P2	ISSUED TO CLIENT FOR COMMENTS	1/9/17	F	SERVICE OFFSETS CHANGED	15/01/19
P1	PRELIMINARY ISSUE	25-5-17	E	SEWER AND DRAINAGE AMENDED	18/07/18
No.	REVISION	DATE	No.	REVISION	DATE

**ISSUED FOR CONSTRUCTION**

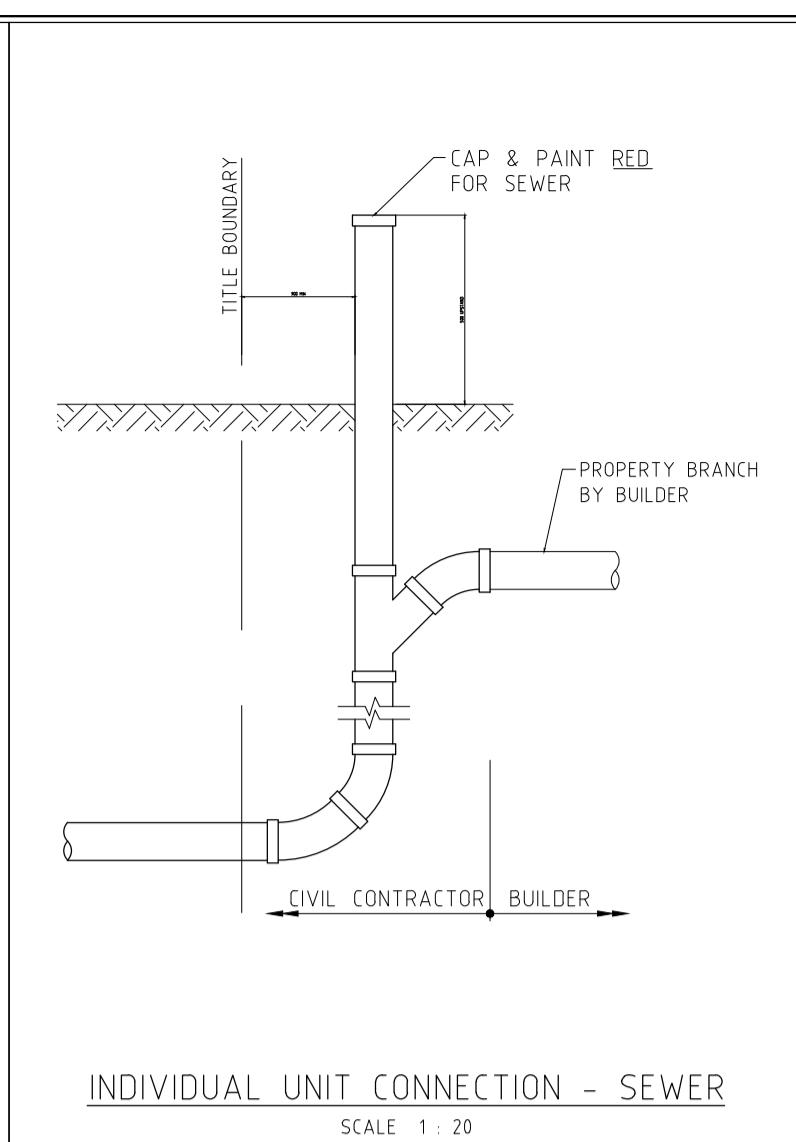
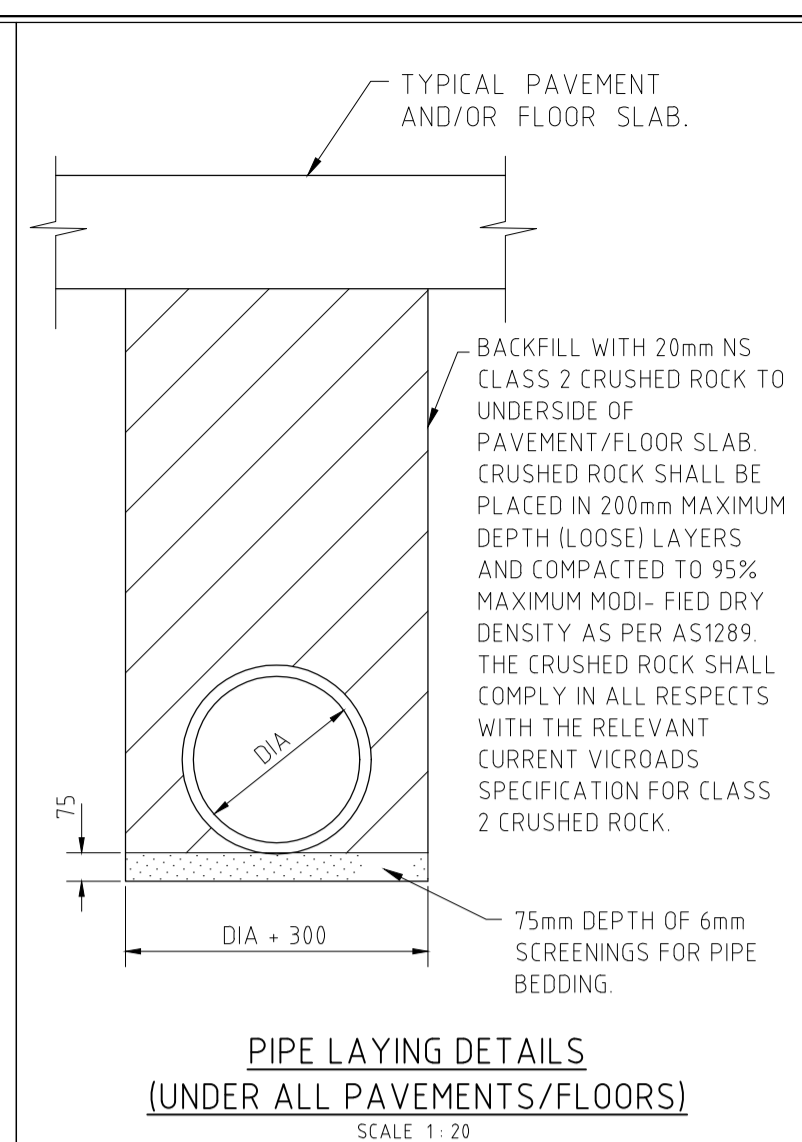
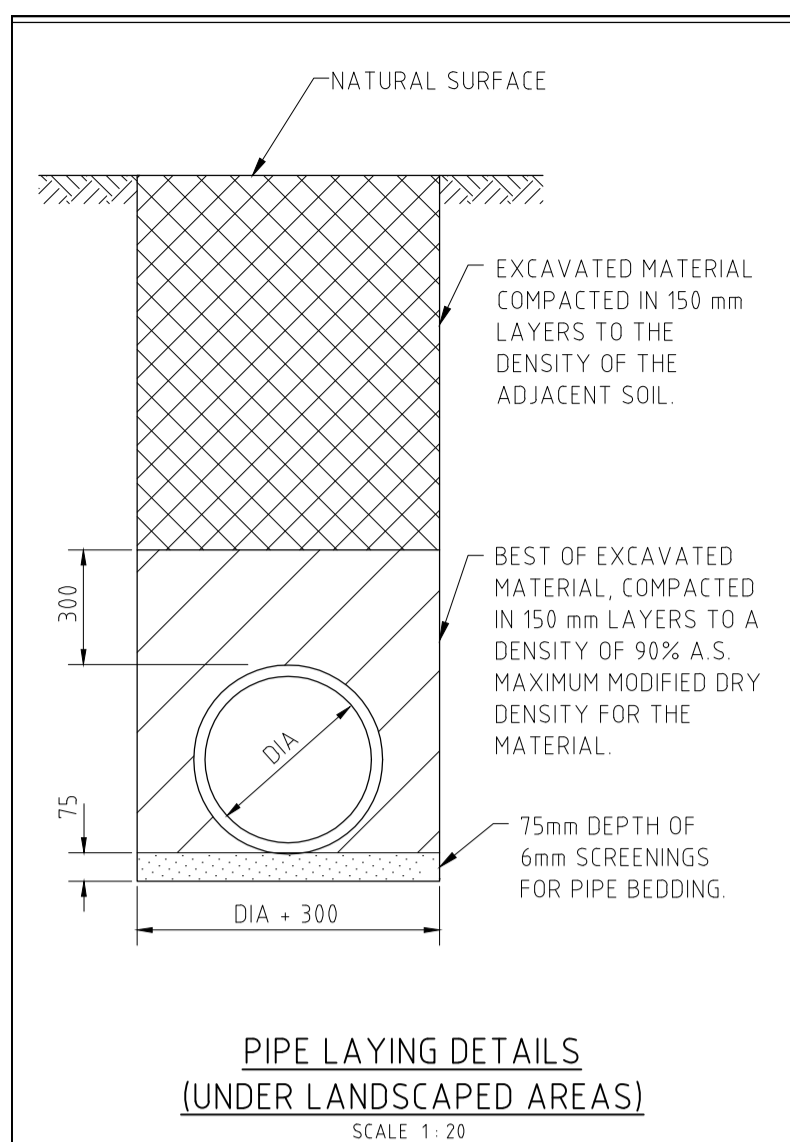
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STAGE 4  
 HERITAGE RISE  
 265 PRINCES HIGHWAY &  
 24 WHITESIDE ROAD, OFFICER

DETAIL PLAN  
 SHEET 2 OF 2

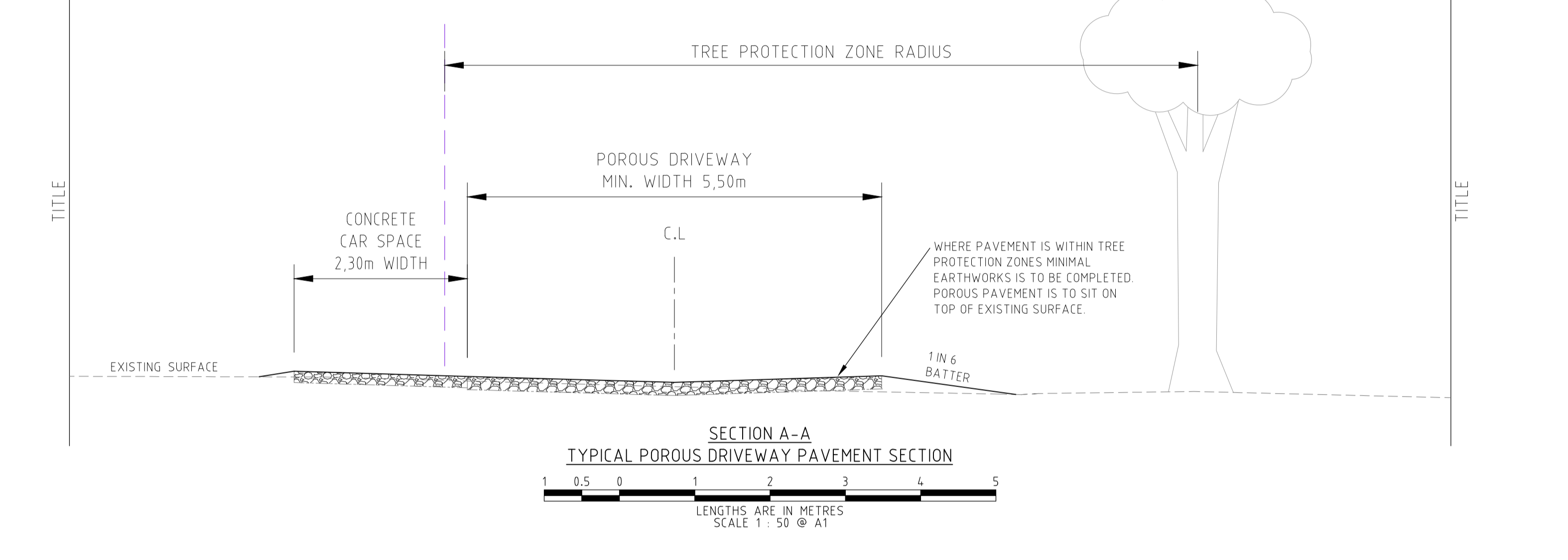
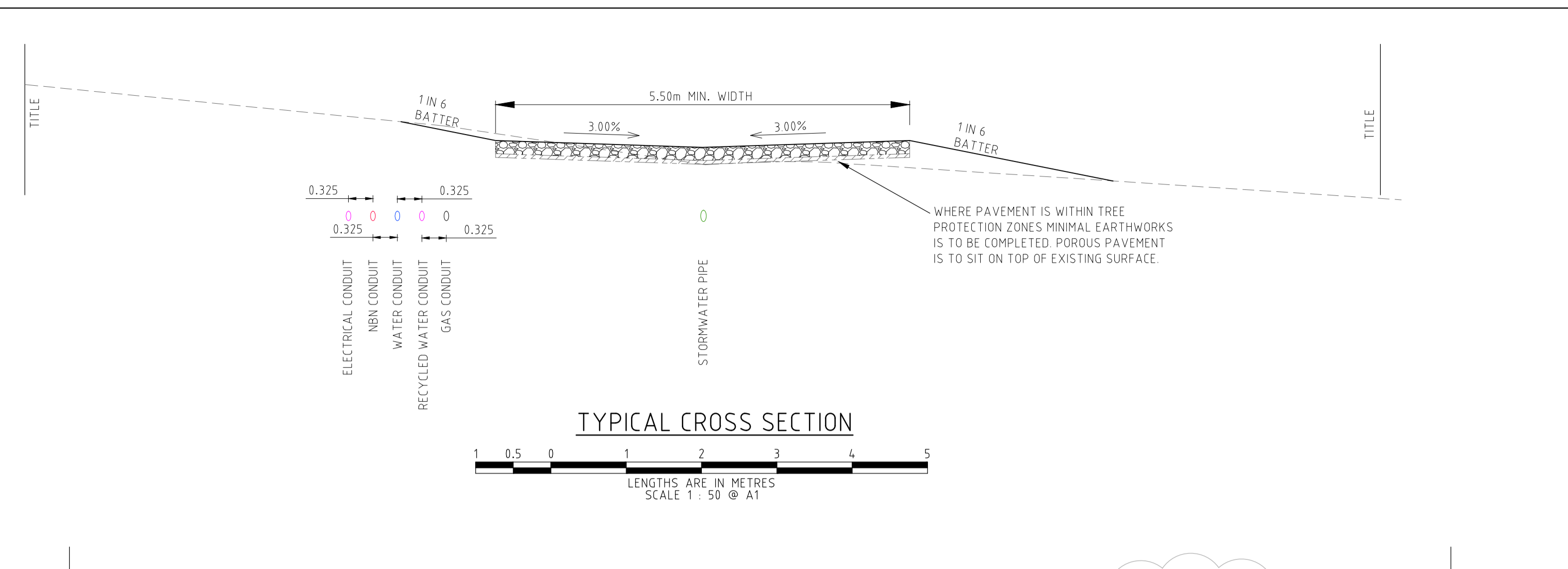
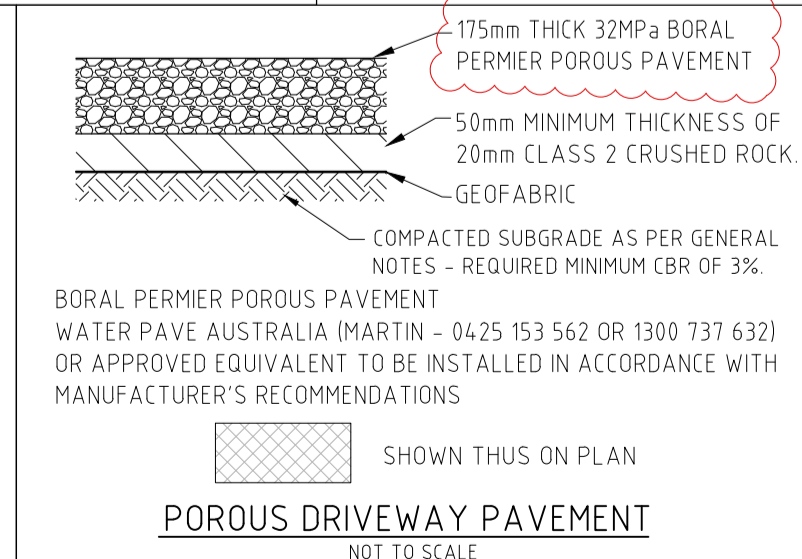
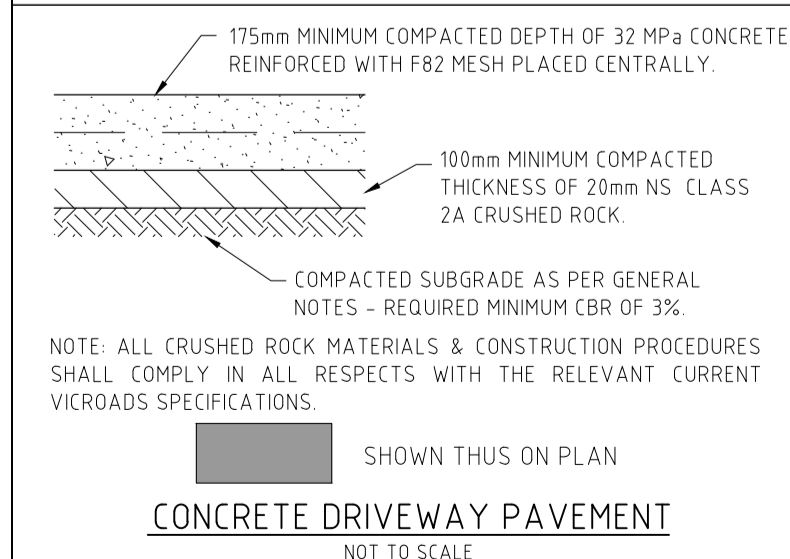
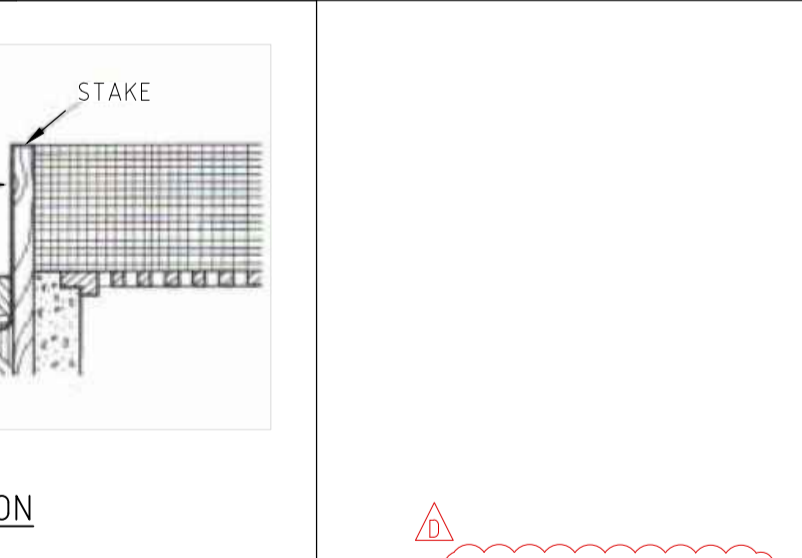
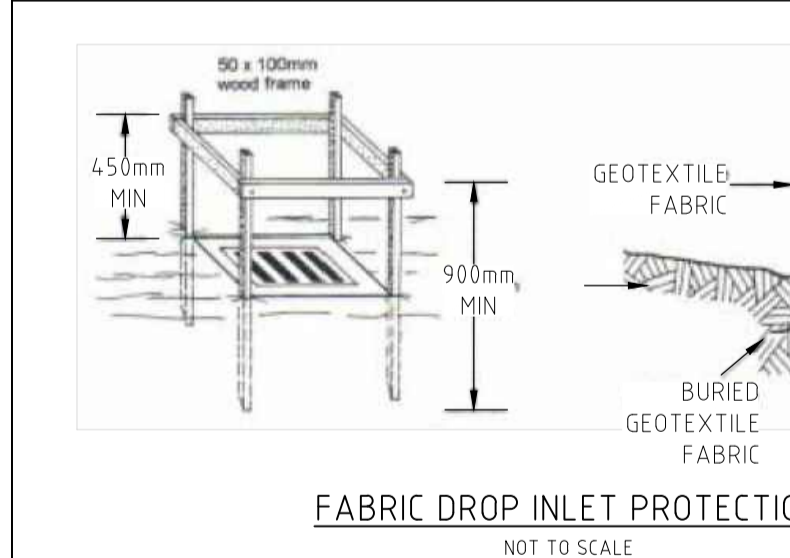
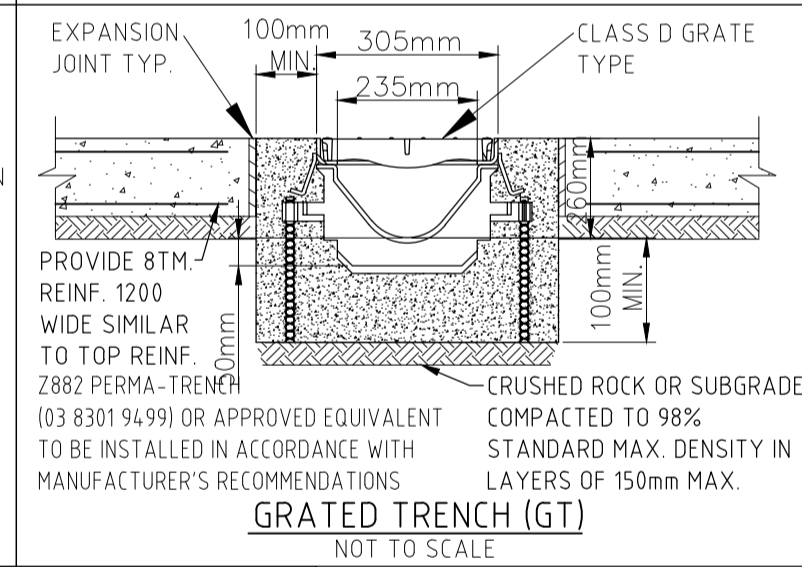
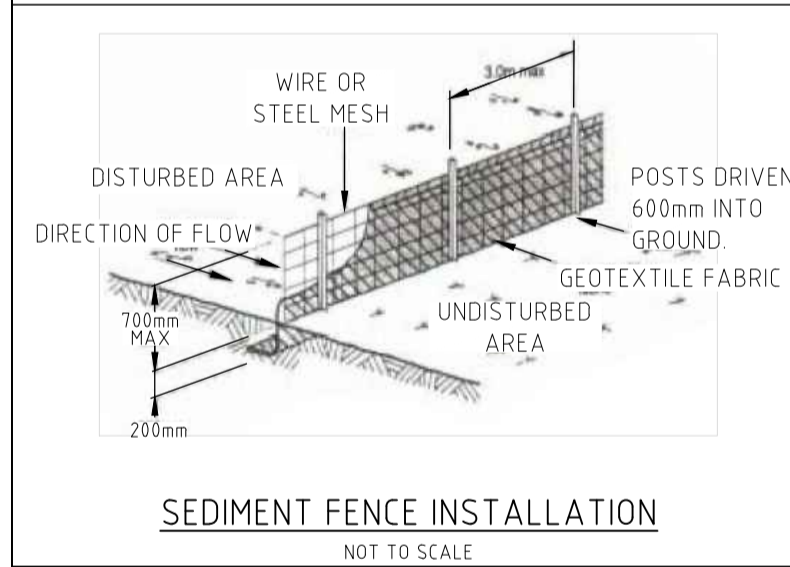
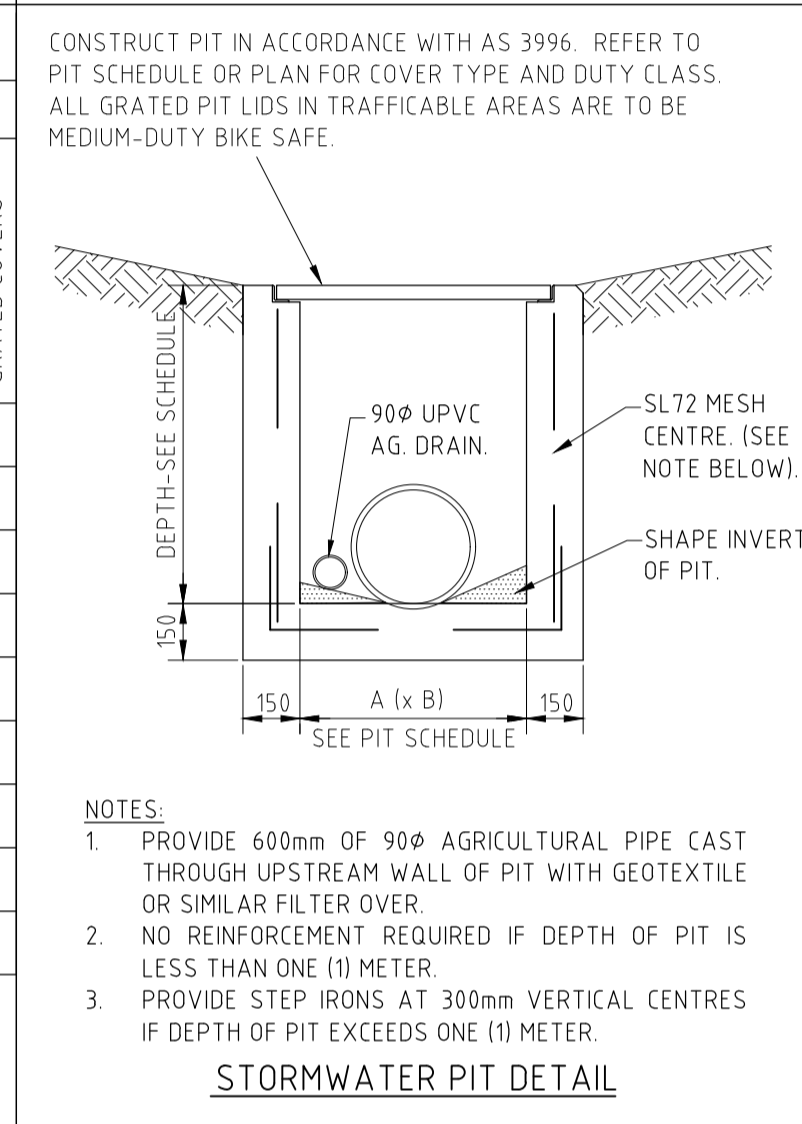


DESIGNED	DRAWN	CHECKED
NJC	NJC	GCL
DATE	SCALE/S	AS NOTED
24-05-17		
DRG No.	ISSUE	
LC1023-C03	F	



COVER CLASS	PIT & COVER TYPE						
	PP	MCI	GM	RC	TG	PT	PG
A = PEDESTRIAN AREAS B = LIGHT DUTY C = MEDIUM DUTY D = HEAVY DUTY E = EXTRA HEAVY DUTY F = EXTRA HEAVY DUTY G = EXTRA HEAVY DUTY							
SUPPLIERS	PREFORMED PITS	METAL & CONCRETE INFILL PIT COVERS	GALVANISED METAL GRATES	PRECAST CONCRETE PIT COVERS	TRENCH GRATES	PRECAST TRENCHES	POLYPROPYLENE GRATED COVERS
GATIC Ph. 1800 335 303	•	•	•	•	•	•	•
S.V.C. Ph. 03 9580 6644	•	•	•	•	•	•	•
WEBFORGE Ph. 03 8551 2414	•	•	•	•	•	•	•
HK METAL PRODUCTS Ph. 03 9580 0146	•	•	•	•	•	•	•
AUS PITS Ph. 03 5222 4526	•	•	•	•	•	•	•
EVERHARD Ph. 13 19 26	•	•	•	•	•	•	•
ACO POLYCRETE Ph. 1300 765 226	•	•	•	•	•	•	•
R&S GRATING Ph. 03 9238 5888	•	•	•	•	•	•	•

ALL PIT COVERS AND GRATES MUST COMPLY WITH AS3996-2006 "ACCESS COVERS AND GRATES"  
**SUPPLIERS OF PIT COVERS AND PREFORMED PITS**



No.	REVISION	DATE	No.	REVISION	DATE
D	PAVEMENT PROFILE UPDATED	01/02/19			
C	TYPICAL SECTION SERVICE OFFSETS CHANGED	15/01/19			
B	SEWER ADDED TO TYPICAL CROSS SECTION	24/10/17			
A	FEATURE WALL DETAIL UPDATED, ISSUED FOR APPROVAL	5/9/17			
P2	ISSUED TO CLIENT FOR COMMENTS	1/9/17			
P1	PRELIMINARY ISSUE	25-5-17			

**ISSUED FOR CONSTRUCTION**

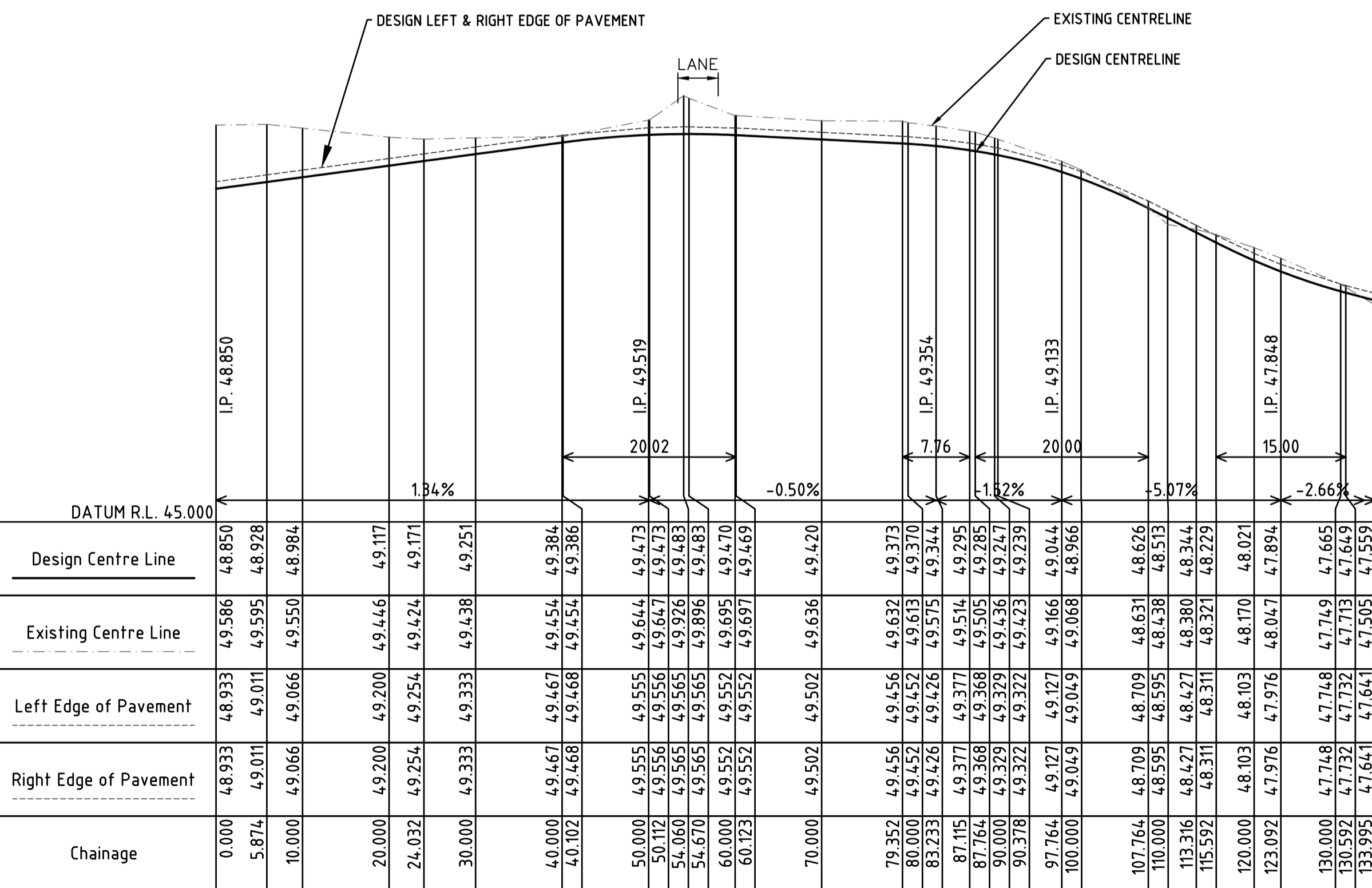
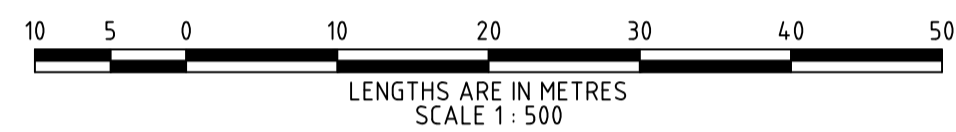
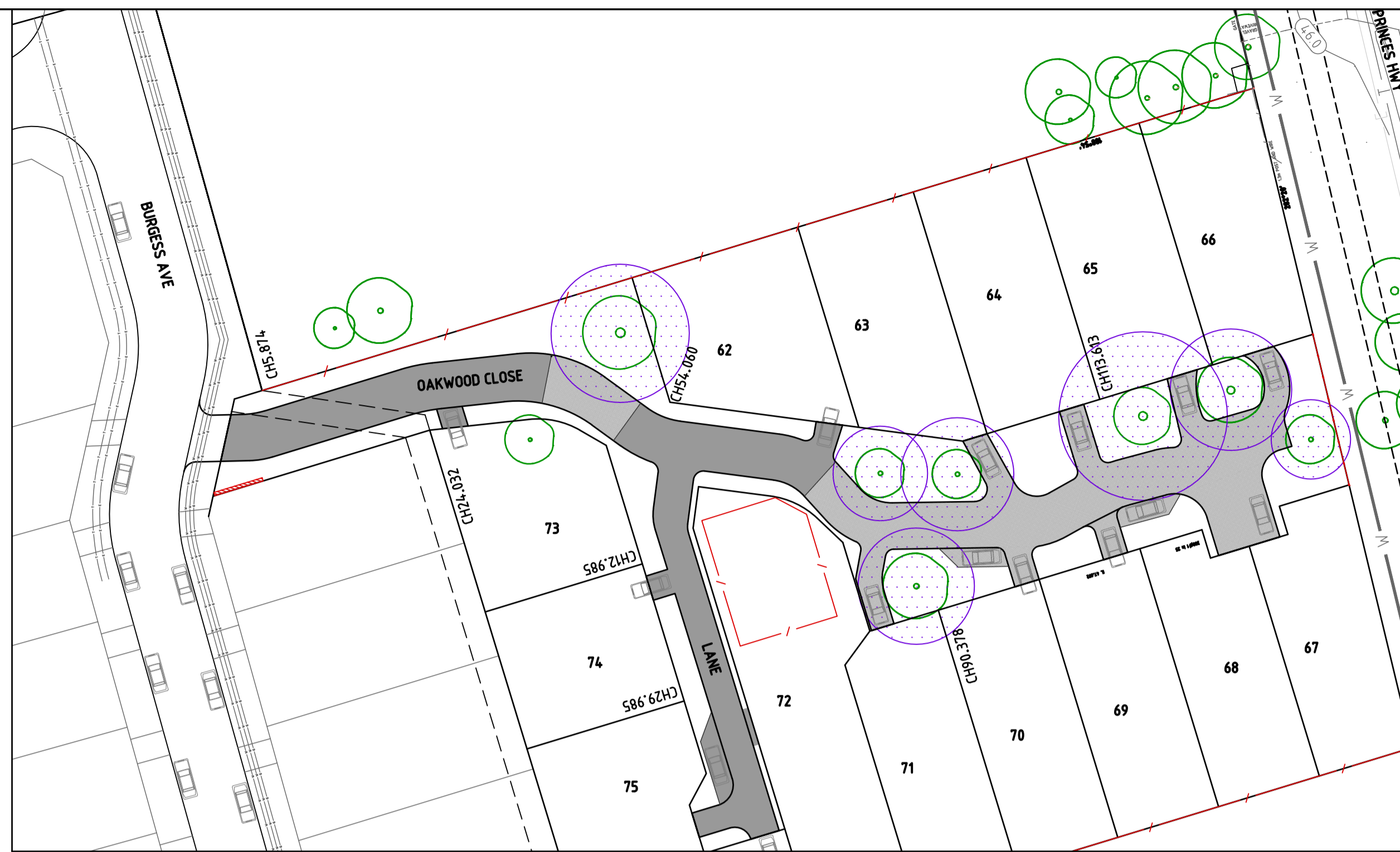
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**STAGE 4  
HERITAGE RISE  
265 PRINCES HIGHWAY &  
24 WHITESIDE ROAD, OFFICER**

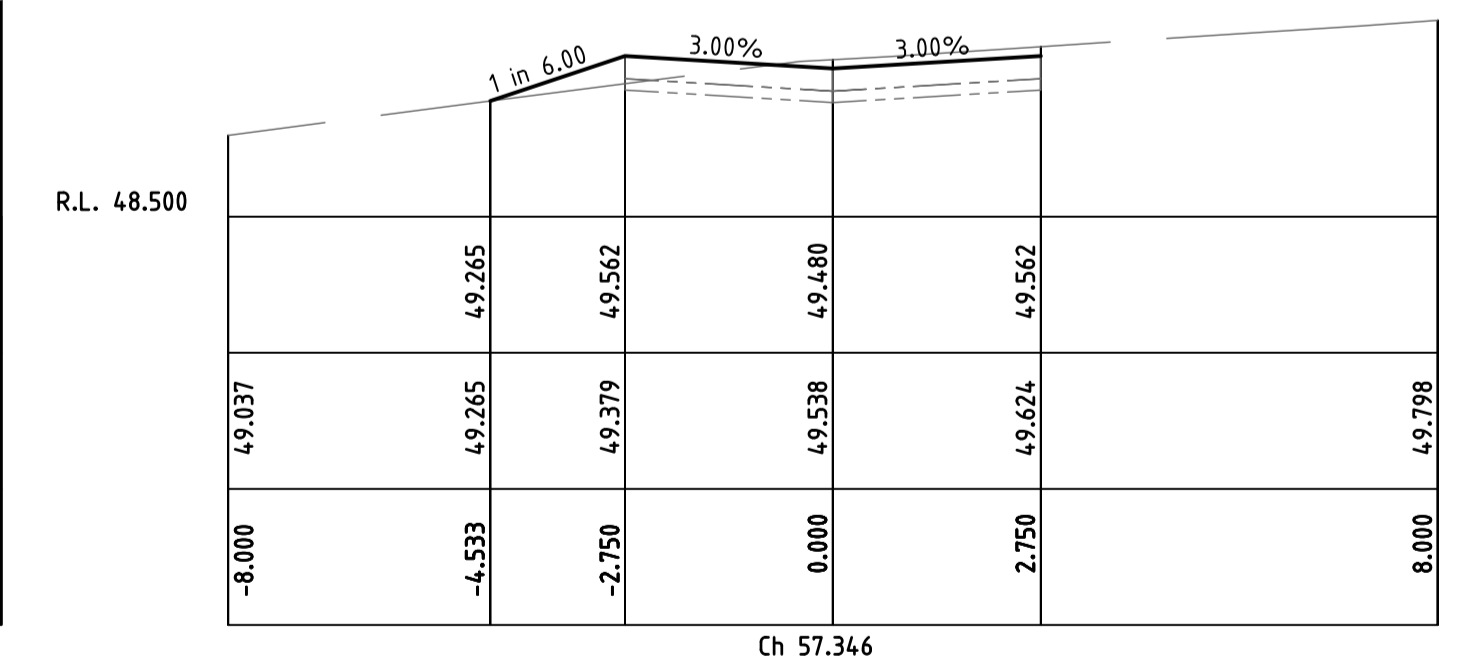
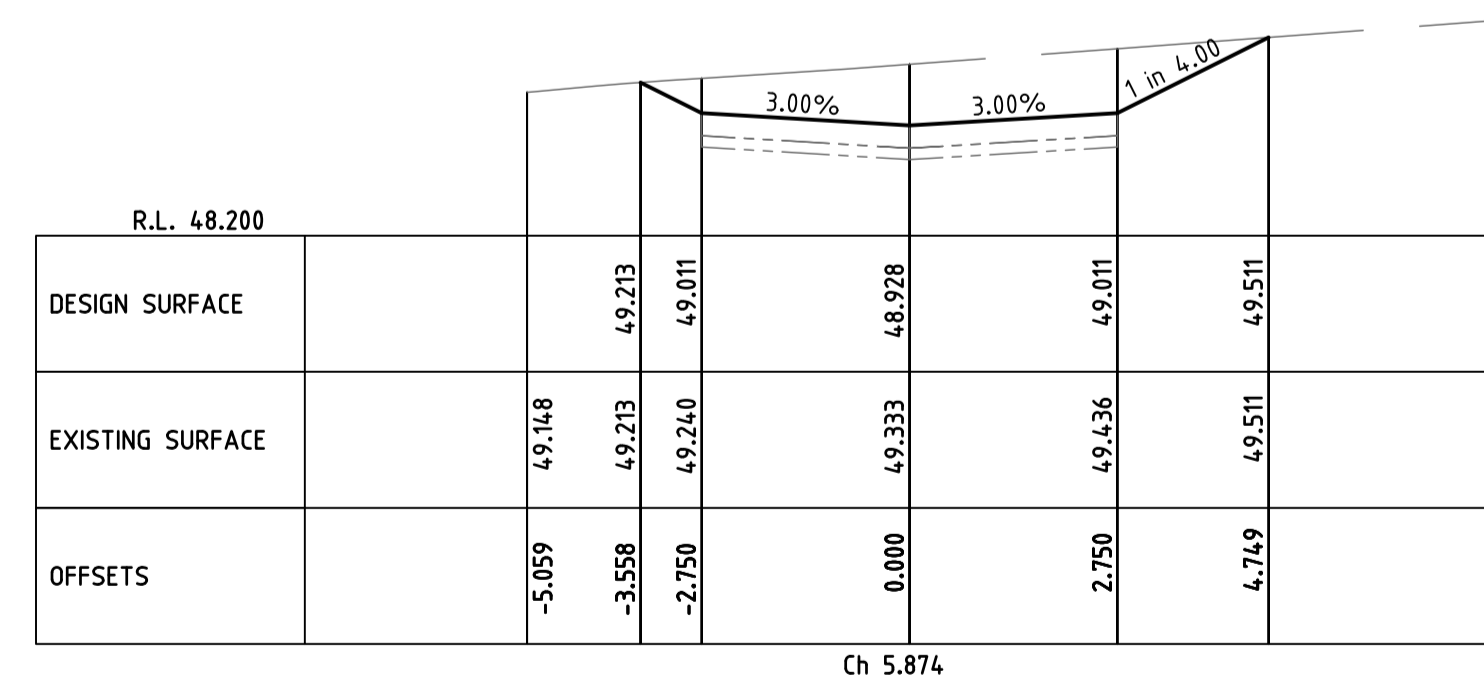
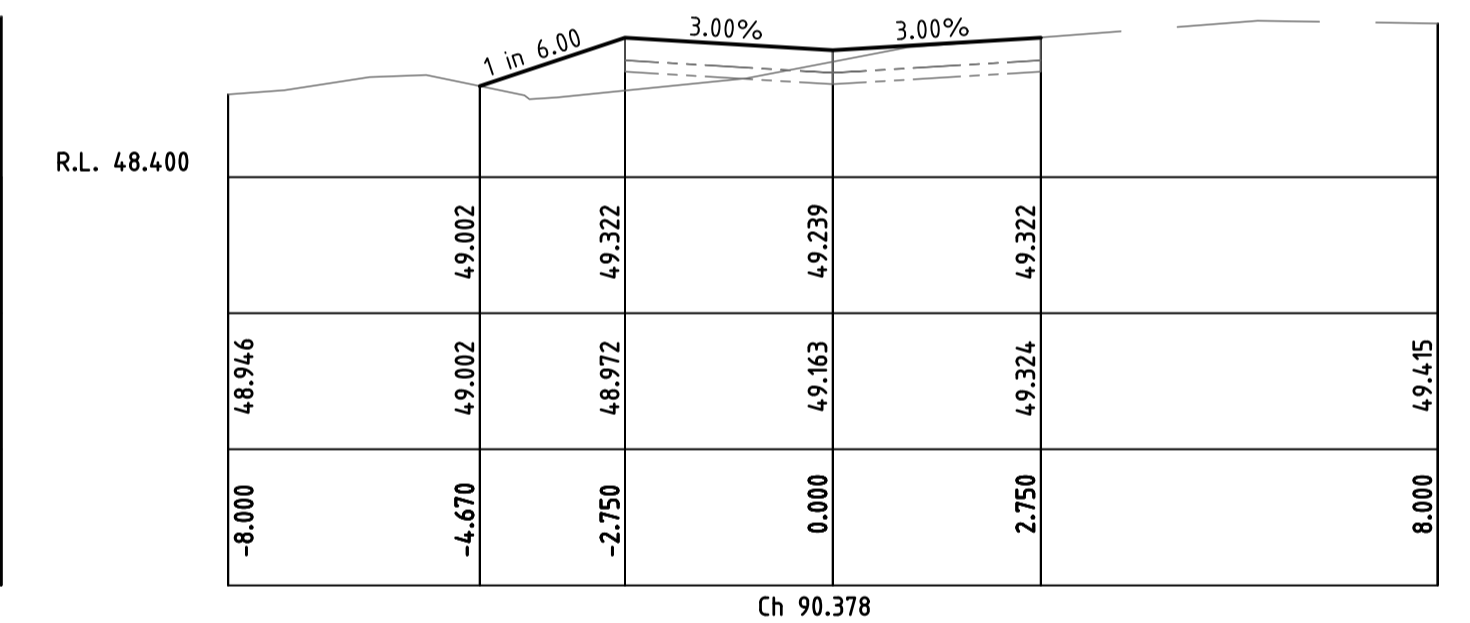
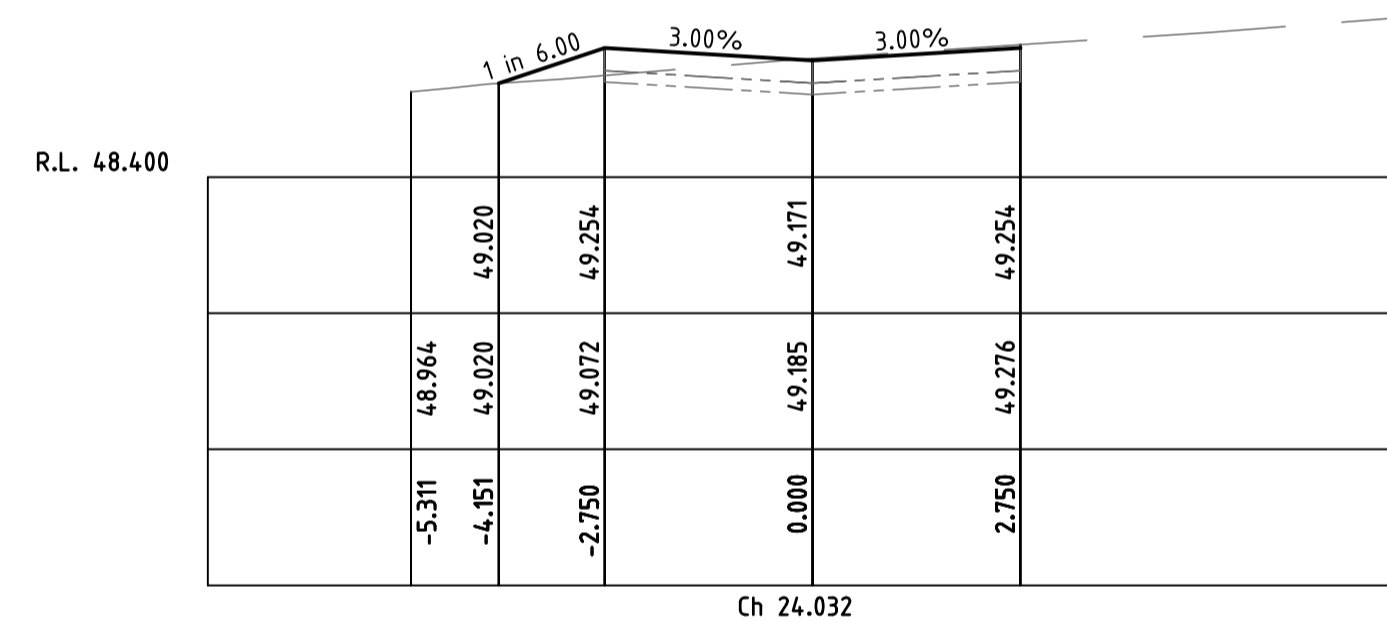
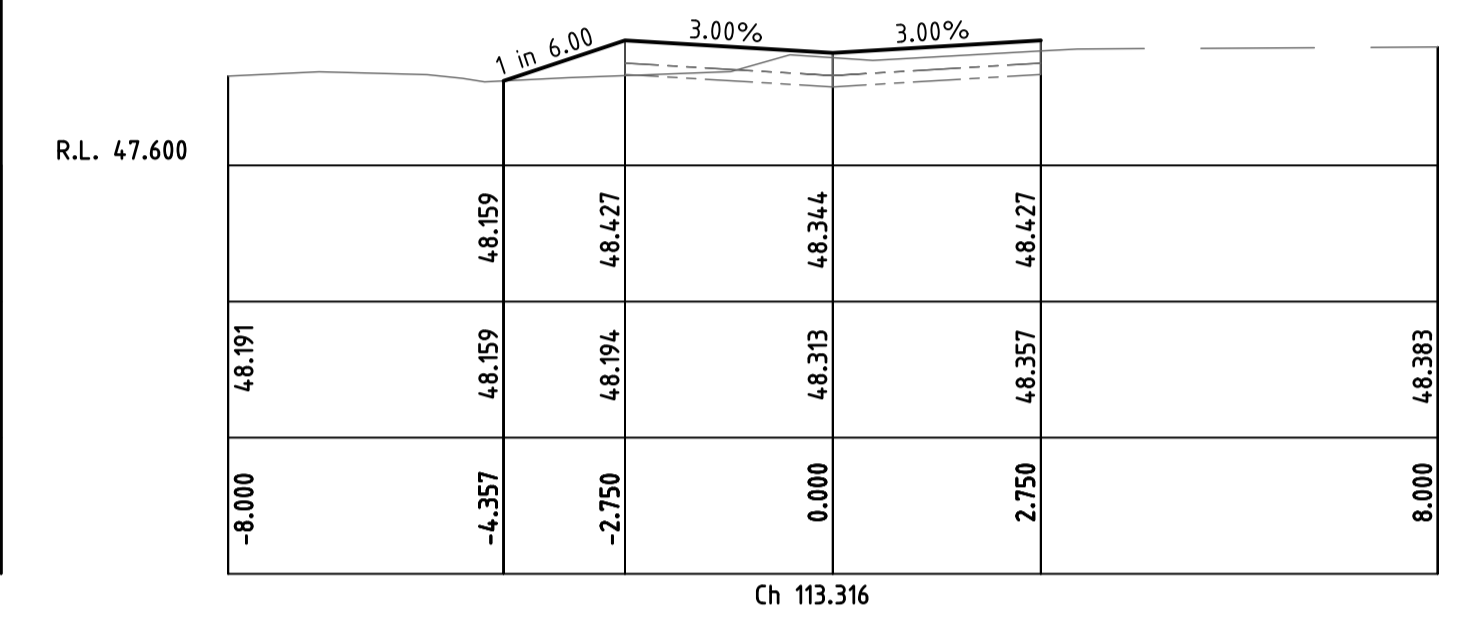
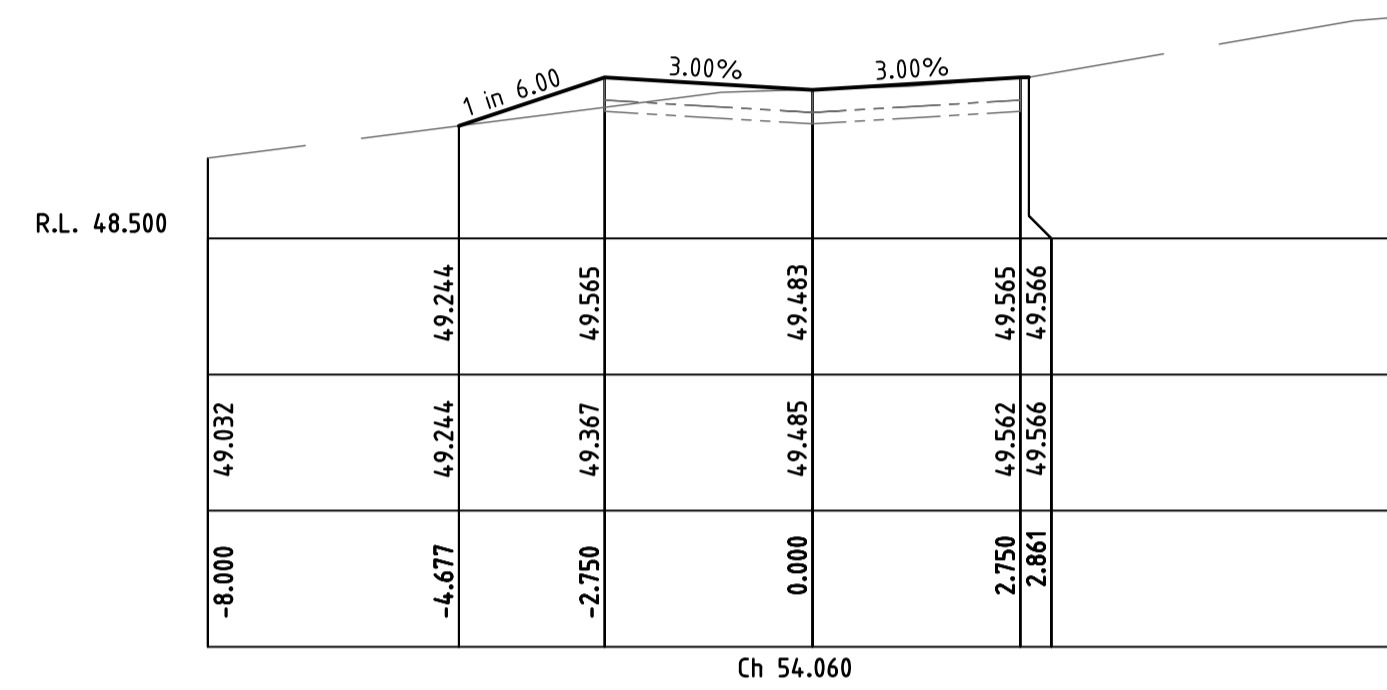
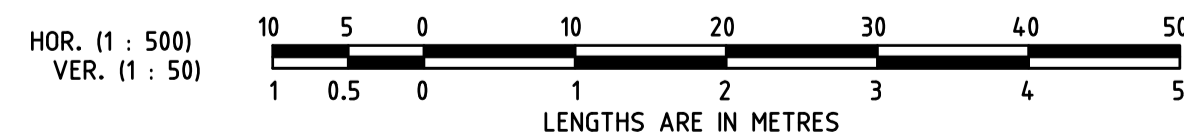
**DETAILS, TYPICAL CROSS SECTIONS**

DESIGNED	DRAWN	CHECKED
NJC	NJC	GCL
DATE	SCALE/S	AS NOTED
24-05-17		
DRG No.	ISSUE	
LC1023-C04	D	

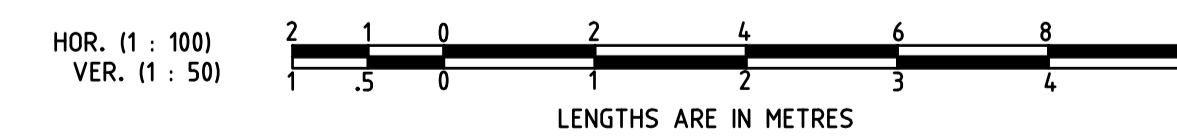




OAKWOOD CLOSE LONGITUDINAL SECTION



OAKWOOD CLOSE CROSS SECTIONS



No.	REVISION	DATE	No.	REVISION	DATE
A	ISSUED FOR APPROVAL	5/9/17			
P2	ISSUED TO CLIENT FOR COMMENTS	1/9/17			
P1	PRELIMINARY ISSUE	25-5-17			

**ISSUED FOR CONSTRUCTION**

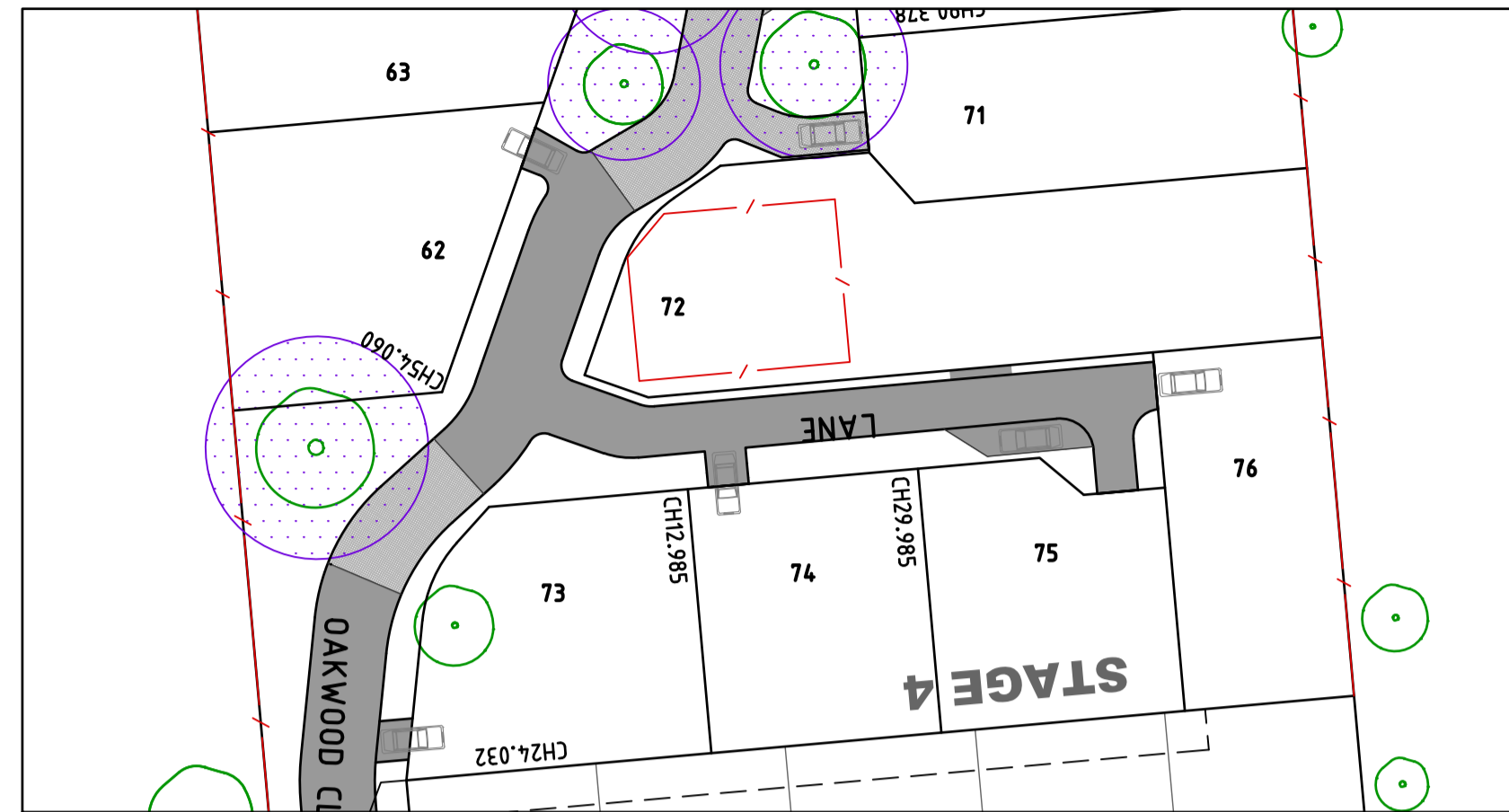
**Lanigan Civil**

Patama Pty Ltd (ABN: 79 108 035 463)  
Trading as Lanigan Civil  
Consulting Civil Engineers  
Unit 4, 7-9 Hall Street, Braeside Vic 3195  
Tel: 03 9558 4380 Fax: 03 9587 9707  
Email: admin@lanigncivil.com.au

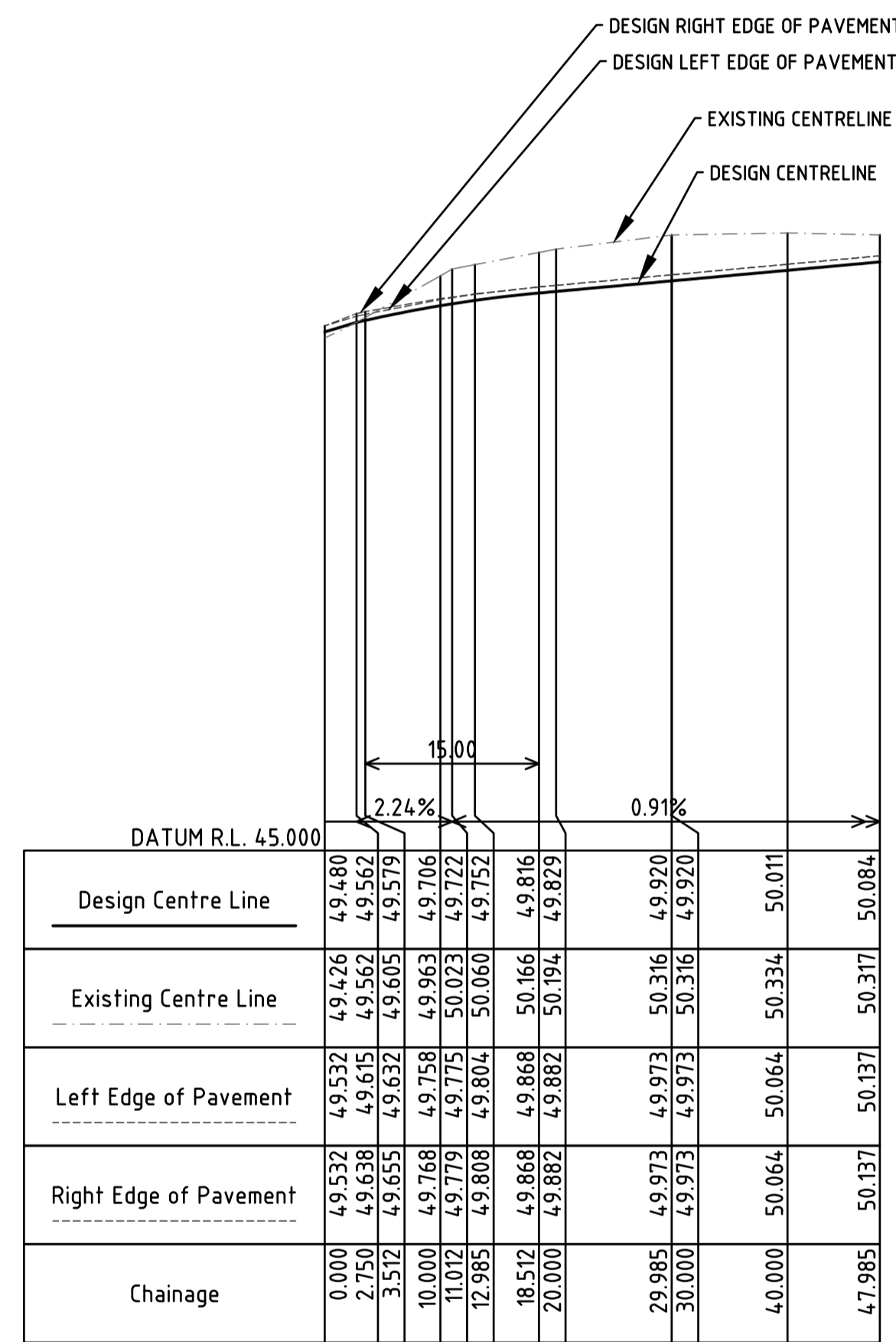
STAGE 4  
HERITAGE RISE  
265 PRINCES HIGHWAY &  
24 WHITESIDE ROAD, OFFICER

DETAIL PLAN  
SHEET 2 OF 2

NORTH 	DESIGNED NJC	DRAWN NJC	CHECKED GCL
	DATE 24-05-17	SCALE/S AS NOTED	ISSUE A
	DRG No. LC1023-C05		

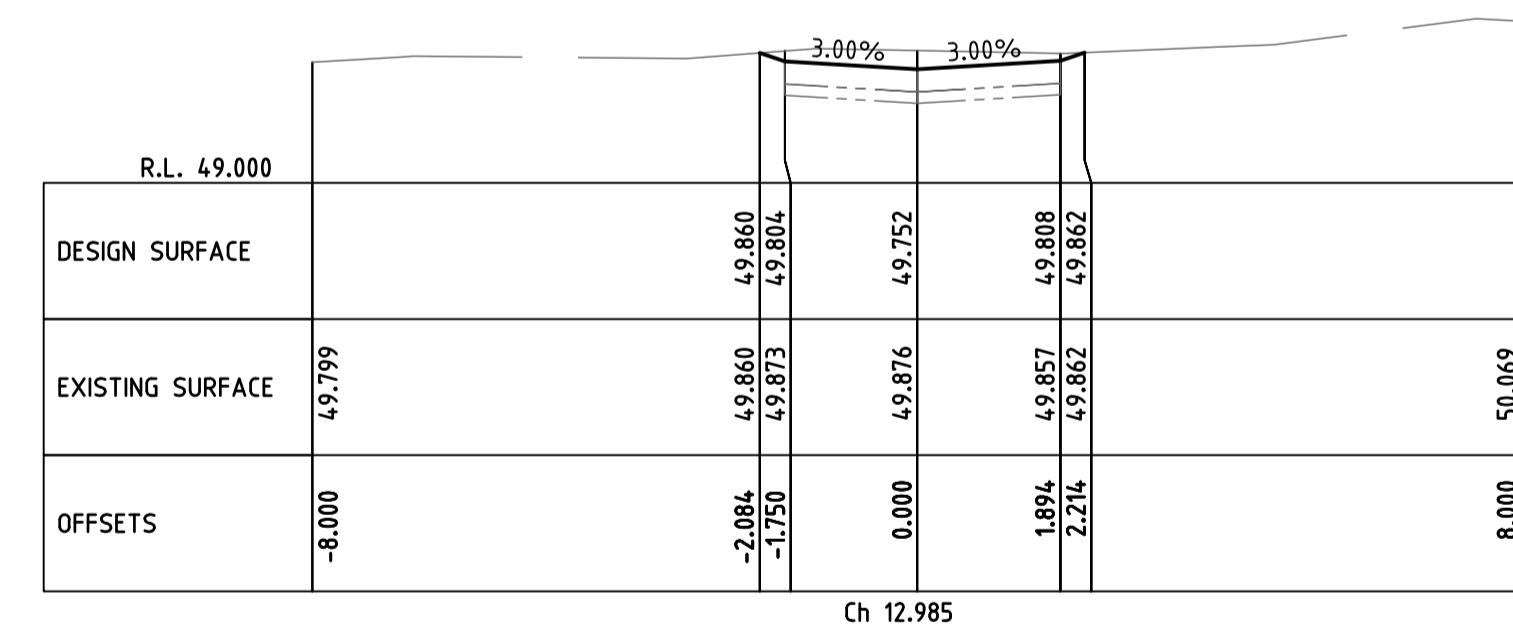
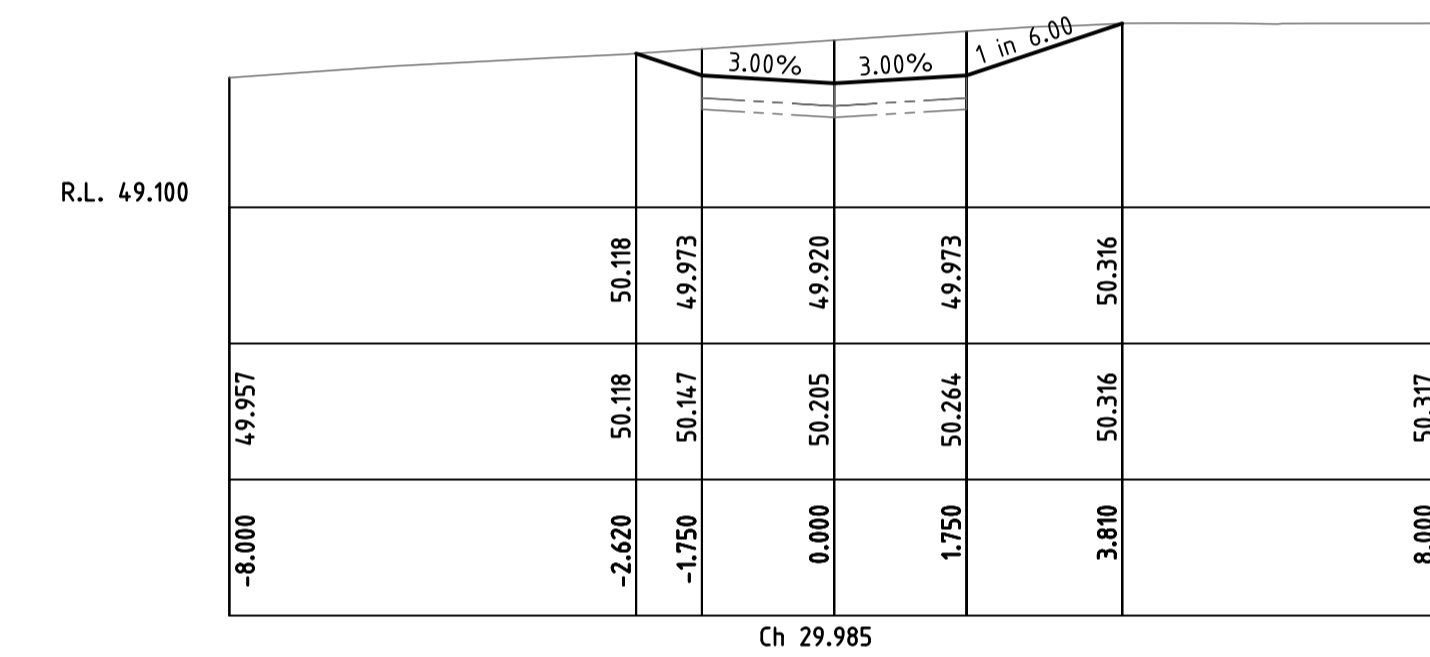


LENGTHS ARE IN METRES  
SCALE 1 : 500



LANE LONGITUDINAL SECTION

HOR. (1 : 500)  
VER. (1 : 50)  
LENGTHS ARE IN METRES



LANE CROSS SECTIONS

HOR. (1 : 100)  
VER. (1 : 50)  
LENGTHS ARE IN METRES

**ISSUED FOR CONSTRUCTION**

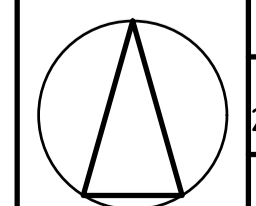
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STAGE 4  
HERITAGE RISE  
265 PRINCES HIGHWAY &  
24 WHITESIDE ROAD, OFFICER

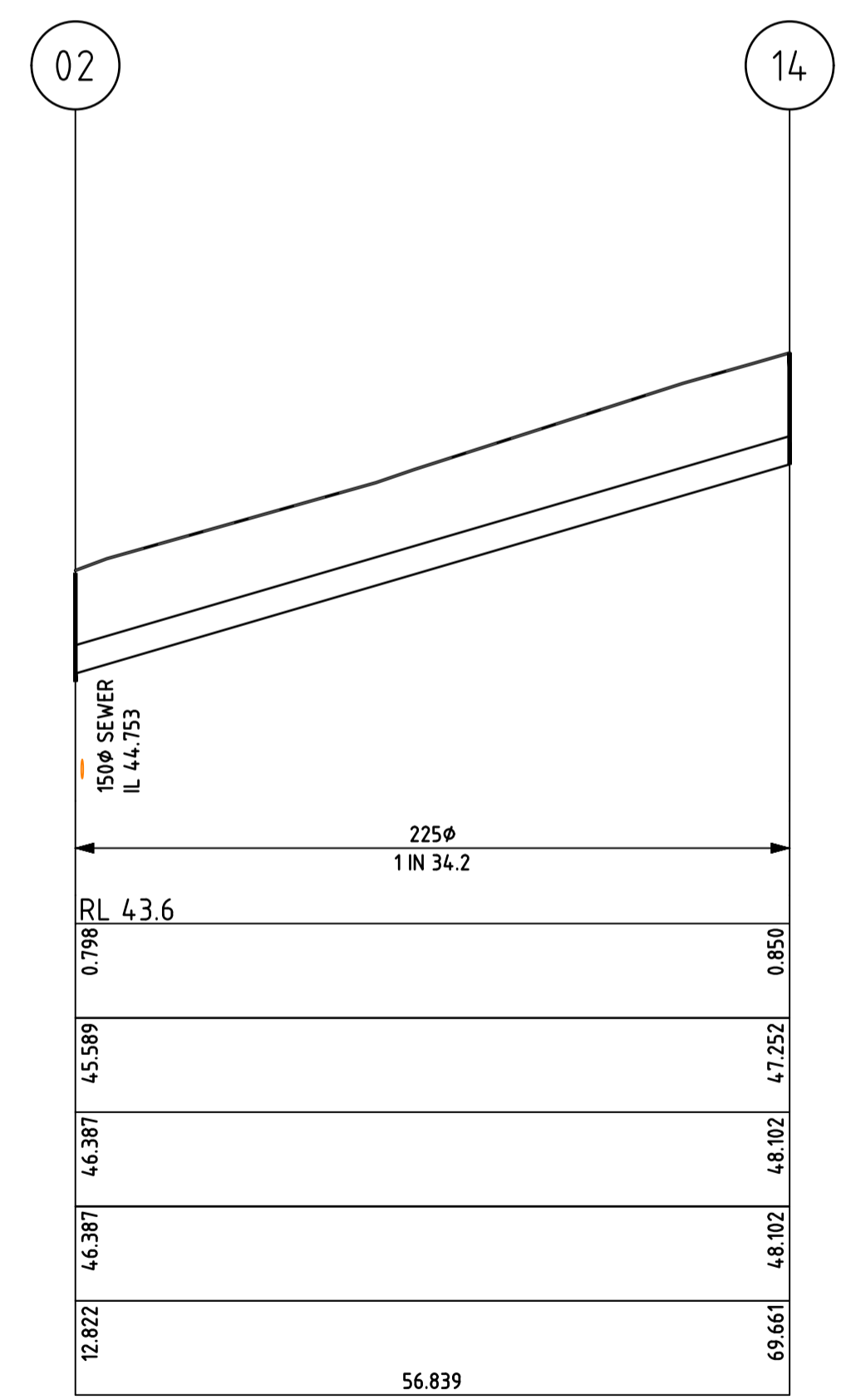
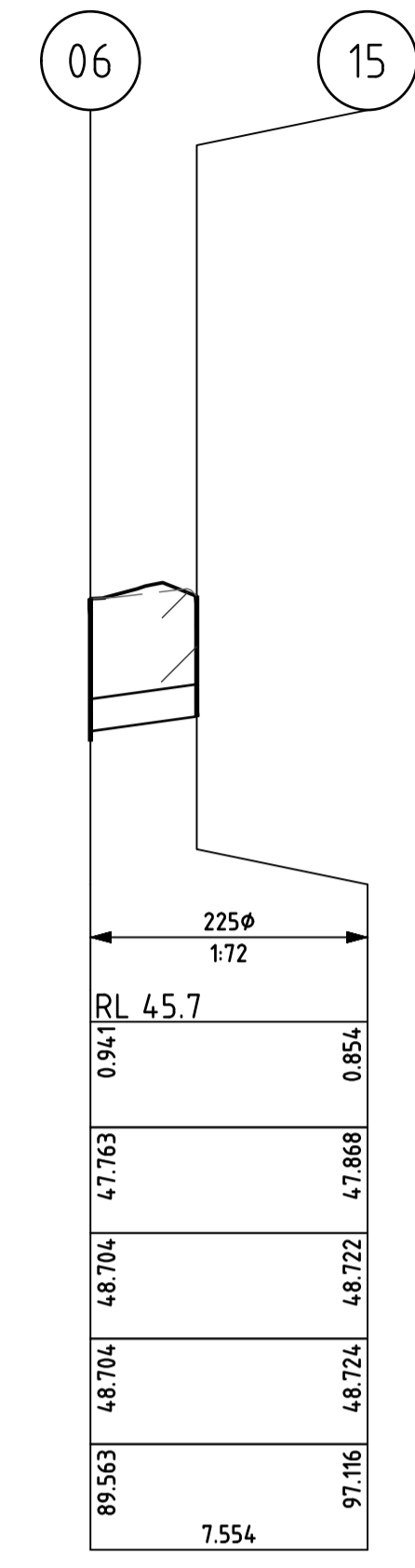
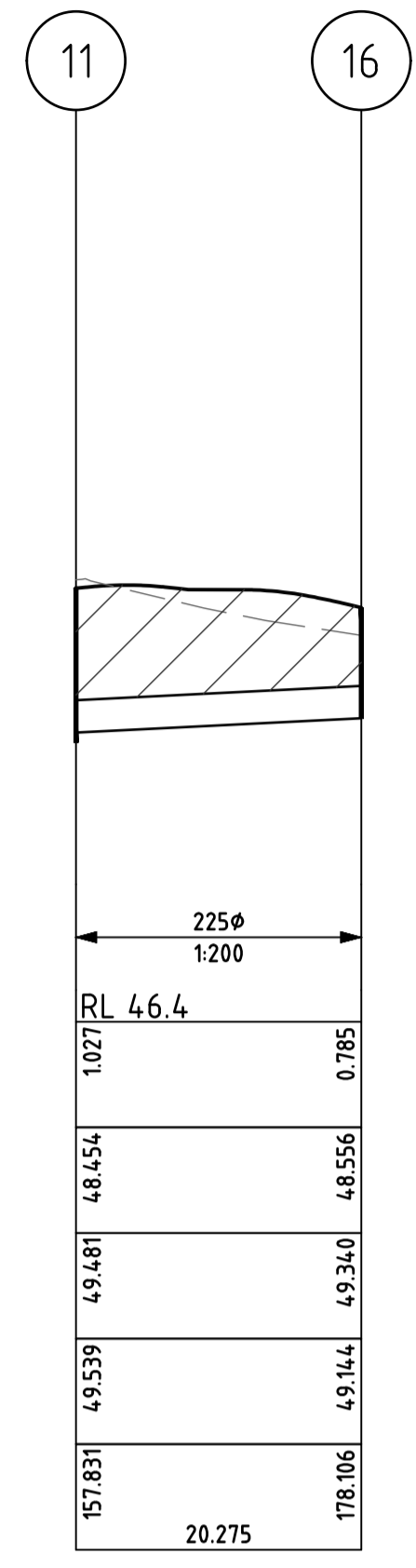
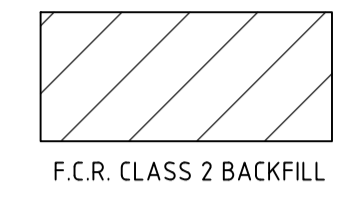
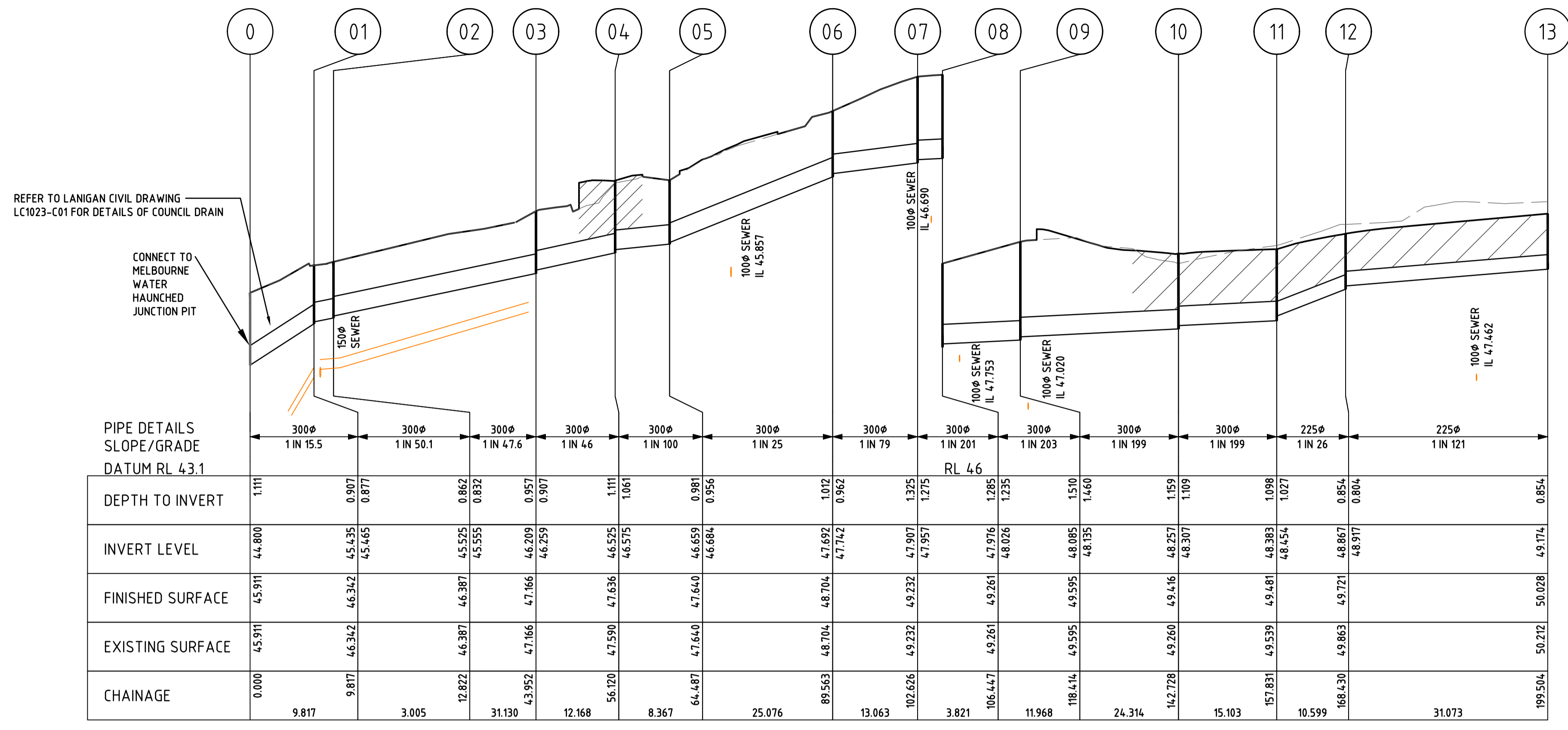
DETAIL PLAN  
SHEET 2 OF 2

NORTH

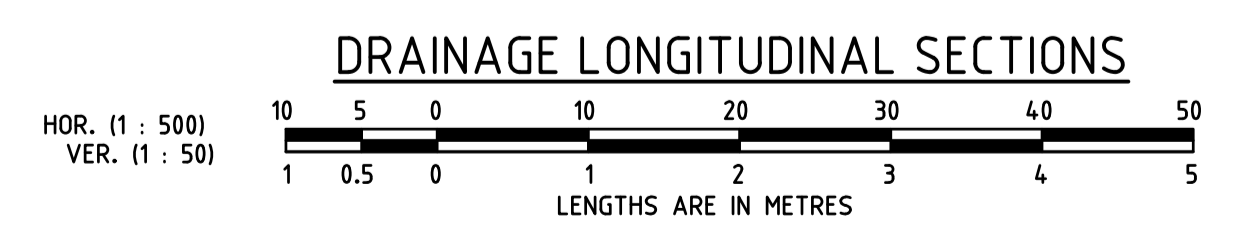


DESIGNED NJC	DRAWN NJC	CHECKED GCL
DATE 24-05-17	SCALE/S AS NOTED	ISSUE A
DRG No. LC1023-C06		ISSUE A

No.	REVISION	DATE	No.	REVISION	DATE
A	ISSUED FOR APPROVAL	5/9/17			
P2	ISSUED TO CLIENT FOR COMMENTS	1/9/17			
P1	PRELIMINARY ISSUE	25-5-17			



STORMWATER PIT SCHEDULE														
Pit No.	Pit Type	Pit Width	Pit Length	Outlet Diameter	Outlet Invert RL	Inlet Diameter	Inlet Invert RL	Pit Depth	Pit Lid Level	Pit Lid Class	Pit Lid Type	Easting	Northing	Comment
		(mm)	(mm)	(mm)	(m)	(mm)	(m)	(m)	(m)			(m)	(m)	
0	Ex. MELBOURNE WATER JUNCTION	Ex.	Ex.	Ex. 1350	Ex. 40.90	375	44.800	Ex. 1.01	Ex. 46.22	Ex.	Ex.			CONNECT TO MELBOURNE WATER HAUNCHED JUNCTION PIT
01	JUNCTION	600	600	300	45.435	300	45.465	0.907	46.342	B	RC	358932.565	5786694.322	COUNCIL PIT. REFER DRAWING LC1023-R01
02	JUNCTION	600	600	300	45.525	225	45.589	0.862	46.387	B	RC	358929.628	5786694.958	REFER TO STORMWATER PIT DETAIL
03	GRATED	600	900	300	46.209	300	46.259	0.957	47.166	B	GM	358899.20	5786701.549	REFER TO STORMWATER PIT DETAIL
04	GRATED	600	900	300	46.525	300	46.575	1.111	47.636	D	GM	358891.70	5786711.131	REFER TO STORMWATER PIT DETAIL
05	JUNCTION	600	900	300	46.659	300	46.684	0.981	47.640	B	RC	358883.43	5786712.424	REFER TO STORMWATER PIT DETAIL
06	JUNCTION	600	900	300	47.692	300	47.742	1.012	48.704	B	RC	358887.31	5786737.198	REFER TO STORMWATER PIT DETAIL
07	JUNCTION	900	900	300	47.907	225	47.763							
07	JUNCTION	900	900	300	47.907	300	47.957	1.325	49.232	B	RC	358889.33	5786750.104	REFER TO STORMWATER PIT DETAIL
08	JUNCTION	900	900	300	47.976	300	48.026	1.285	49.261	B	RC	358887.15	5786753.243	REFER TO STORMWATER PIT DETAIL
09	JUNCTION	900	900	300	48.085	300	48.135	1.510	49.595	B	RC	358889.08	5786765.054	REFER TO STORMWATER PIT DETAIL
10	GRATED	600	900	300	48.257	300	48.307	1.159	49.416	D	GM	358913.09	5786761.181	REFER TO STORMWATER PIT DETAIL
11	GRATED	600	900	300	48.383	225	48.454	1.098	49.481	D	GM	358921.87	5786773.470	REFER TO STORMWATER PIT DETAIL
12	GRATED	600	600	225	48.867	225	48.917	0.854	49.721	D	GM	358913.01	5786779.283	REFER TO STORMWATER PIT DETAIL
13	GRATED	600	600	225	49.174			0.854	50.208	D	GM	358882.29	5786783.966	REFER TO STORMWATER PIT DETAIL
14	JUNCTION	600	600	225	47.252			0.888	48.140	B	RC	358937.35	5786750.714	REFER TO STORMWATER PIT DETAIL
15	GRATED	600	600	225	47.868			0.854	48.722	D	GM	358894.77	5786735.970	REFER TO STORMWATER PIT DETAIL
16	GRATED	600	600	225	48.556			0.785	49.340	D	GM	358937.34	5786786.576	REFER TO STORMWATER PIT DETAIL



DRAINAGE LONGITUDINAL SECTIONS

No.	REVISION	DATE	No.	REVISION	DATE
C	DRAINAGE UPDATED	18/07/18			
B	DRAINAGE UPDATED TO SUIT NEW SEWER ALIGNMENT	31/10/17			
A	ISSUED FOR APPROVAL	5/9/17			
P2	ISSUED TO CLIENT FOR COMMENTS	1/9/17			
P1	PRELIMINARY ISSUE	25-5-17			

**ISSUED FOR CONSTRUCTION**

**Lanigan Civil**  
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Consulting Civil Engineers  
Unit 4, 7-9 Hill Street, Braeside Vic 3195  
Tel: 03 9558 4380 Fax: 03 9587 9707  
Email: admin@lanigancivil.com.au

STAGE 4  
HERITAGE RISE  
265 PRINCES HIGHWAY &  
24 WHITESIDE ROAD, OFFICER

DRAINAGE LONGITUDINAL SECTION AND PIT SCHEDULE

DESIGNED	DRAWN	CHECKED
NJC	NJC	GCL
DATE	SCALE/S	AS NOTED
24-05-17		
DRG No.		ISSUE
LC1023-C07		C

# PROPOSED COUNCIL DRAINAGE PRINCES HIGHWAY, OFFICER CARDINIA SHIRE COUNCIL



LOCALITY PLAN

CONNECT TO MELBOURNE WATER HAUNCHED JUNCTION PIT

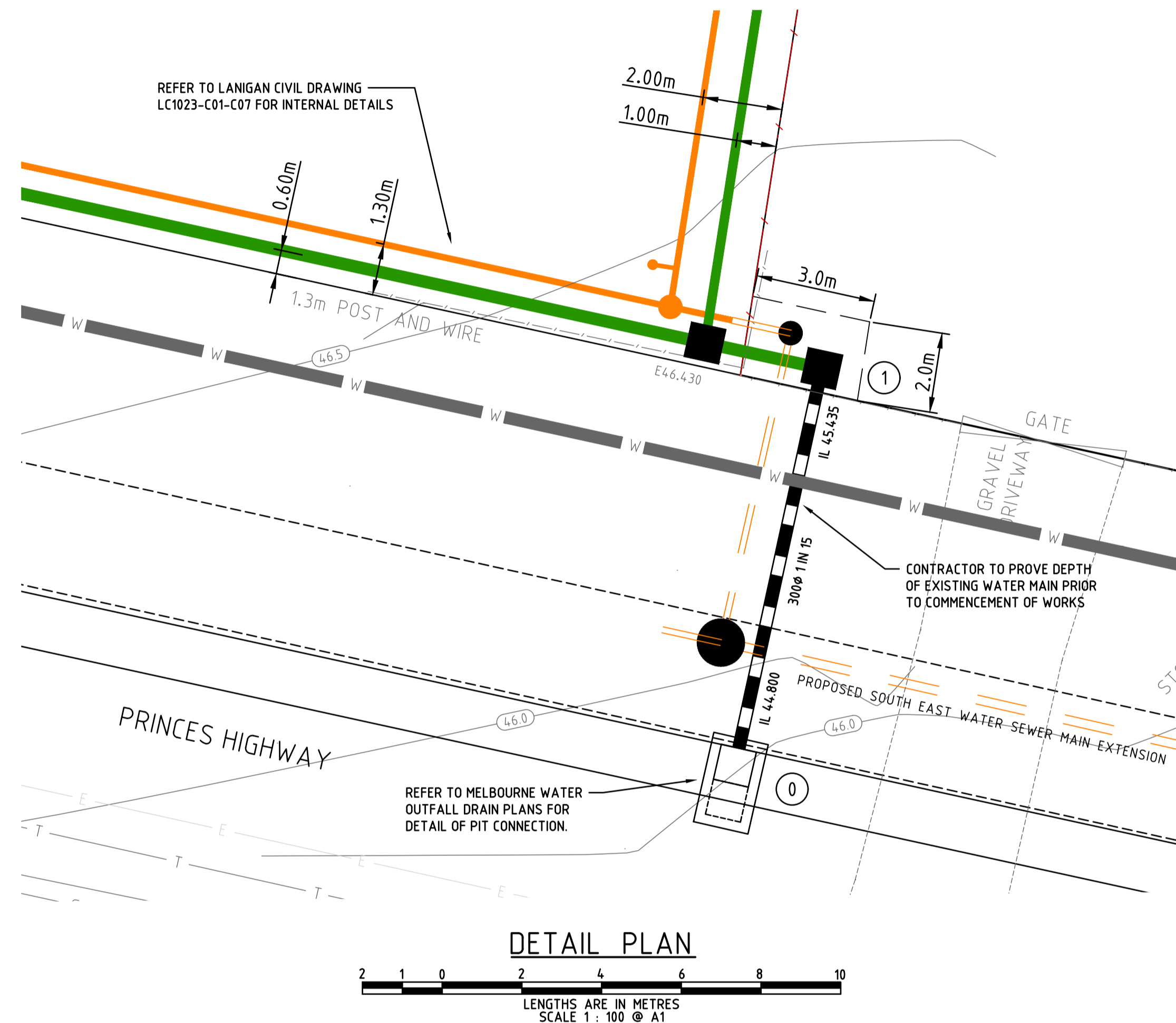
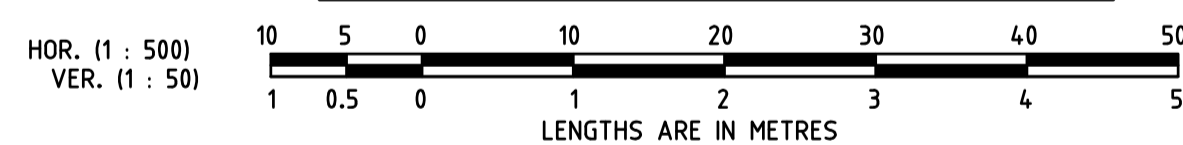
150Ø SEWER

300Ø 1 IN 15.5

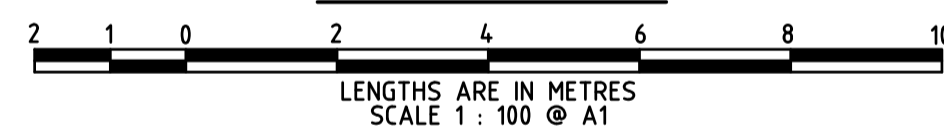
PIPE DETAILS  
SLOPE/GRADE  
DATUM RL 43.1

	0	01
DEPTH TO INVERT	1.111	0.907
INVERT LEVEL	44.800	45.435
FINISHED SURFACE	45.911	46.342
EXISTING SURFACE	45.911	46.342
CHAINAGE	0.000	9.817

DRAINAGE LONGITUDINAL SECTIONS



DETAIL PLAN



**IMPORTANT NOTE TO CONTRACTOR CONCERNING SOUTH EAST WATER EXISTING WATER MAIN:**

- THE LOCATION AND DEPTH OF WATER MAIN IS TO BE PROVEN BY HAND EXCAVATION PRIOR TO COMMENCEMENT OF WORKS.
- HAND COMPACTION ONLY OVER WATER MAINS AND TO 1.0 METRES EITHER SIDE OF THE MAIN - NO VIBRATING ROLLERS ARE TO BE USED.

**IMPORTANT NOTE:**

PRIOR TO THE COMMENCEMENT OF ANY STORMWATER DRAINAGE WORKS, THE CONTRACTOR SHALL VERIFY THE INVERT LEVEL AT PROPOSED POINT OF CONNECTION. IF THAT LEVEL VARIES FROM THAT SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE CONSULTING CIVIL ENGINEER.

STORMWATER PIT SCHEDULE

Pit No.	Pit Type	Pit Width	Pit Length	Outlet Diameter	Outlet Invert RL	Inlet Diameter	Inlet Invert RL	Pit Depth	Pit Lid Level	Pit Lid Class	Pit Lid Type	Easting	Northing	Comment
0	Ex. MELBOURNE WATER JUNCTION	Ex.	Ex.	Ex. 1350	Ex. 40.90	375	44.800	Ex. 1.01	Ex. 46.22	Ex.	Ex.			CONNECT TO MELBOURNE WATER HAUNCHED JUNCTION PIT
01	JUNCTION	600	600	300	45.435	300	45.465	0.907	46.342	B	RC	358992.565	5786694.322	REFER TO EDMC 605 FOR PIT DETAIL

**GENERAL NOTES:**

- ALL LEVELS ARE TO A.H.D.
- ALL CHAINAGES ARE ALONG CENTRELINE OF ROAD UNLESS OTHERWISE SHOWN.
- ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH THE CURRENT CARDINIA SHIRE COUNCIL SPECIFICATIONS AND STANDARD DRAWINGS AND TO THE SATISFACTION OF THE CARDINIA SHIRE COUNCIL SUPERVISING ENGINEER.
- THE CONTRACTOR SHALL AT ALL TIMES PROVIDE APPROPRIATE PROTECTIVE AND PRECAUTIONARY MEASURES TO ENSURE THE SAFETY AND FREEDOM FROM INJURY, DAMAGE, OR INTERFERENCE OF ALL ADJACENT LANDS, PROPERTIES, WAYS, SERVICES AND OF PERSONS AT ANY TIME IN THE VICINITY OF THE SITE OF WORKS.
- THE CONTRACTOR IS RESPONSIBLE FOR THE LOCATION OF AND ANY DAMAGE TO EXISTING SERVICES, WHETHER SHOWN ON CONSTRUCTION PLANS OR NOT.
- THE CONTRACTOR SHALL NOTIFY COUNCIL'S ENGINEERING DEVELOPMENT COORDINATOR 5 DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- REMOVAL OR RETENTION OF EXISTING TREES OR VEGETATION MUST BE IN ACCORDANCE WITH THE APPROVED LANDSCAPE PLAN (OTHERWISE APPROVAL WILL BE REQUIRED FROM THE LANDSCAPE APPROVALS OFFICER)
- NO SURPLUS TREES, VEGETATION OR OTHER MATERIALS IS TO BE BURNT ON SITE.
- TOP SOIL SHALL BE STRIPPED AND STOCKPILED AND USED FOR TOP DRESSING EXCAVATED OR FILLED AREAS WITH A MINIMUM OF 75mm DEPTH.
- UNLESS OTHERWISE NOTED, ALL VEGETATION SHALL BE STRIPPED TO A MINIMUM DEPTH OF 150mm UNDER ALL PAVEMENTS AND FILL AREAS. ALL ROOTS AND DECOMPOSABLE MATERIAL UNDER ROAD PAVEMENT SHALL BE REMOVED TO THE SATISFACTION OF THE INFRASTRUCTURE MANAGER. THE COSTS FOR SUCH WORK SHALL BE INCLUDED IN THE ITEM FOR EARTHWORKS IN THE SCHEDULE OF QUANTITIES.
- FILLING IN ALL PROPERTIES & ROAD RESERVES IS TO BE CARRIED OUT USING APPROVED CLAY FILL. TOPSOIL & ALL VEGETABLE MATTER TO BE STRIPPED FROM SITE PRIOR TO FILLING. ALL FILLING TO BE CARRIED OUT IN 150MM LAYERS AND COMPACTED TO 95% OF MAX. DRY DENSITY. ALL FILLING TO COMPLY WITH AS 3798-2007, SECTION 8.2, LEVEL 1. A FILL REPORT MUST BE SUBMITTED FROM A NATA REGISTERED SOIL TESTING LABORATORY.
- IF ANY EXISTING SUBSTANDARD FILLING IS ENCOUNTERED ON THE SITE IT MUST BE REMOVED AND REPLACED WITH APPROVED FILL MATERIAL PROPERLY COMPACTED TO COUNCIL REQUIREMENTS. A GEO-TECHNICAL REPORT MUST BE SUBMITTED SHOWING DETAILS OF DEPTH, TYPE OF MATERIAL AND DENSITY OF THE FILL AREAS CONCERNED.
- DAMS TO BE LEVELLED PRIOR TO FILLING AND LEVELS SHOWN ON "AS CONSTRUCTED" PLANS.
- CUT BATTERS ARE TO BE GRASSED AND MULCHED WITH A MIXTURE OF CHOPPED GRASS, STRAW AND BITUMEN EMULSION.
- ALL EXCESS SPOIL SHALL BE DISPOSED OFF SITE OR AS DIRECTED BY THE ENGINEER. PAVEMENT DEPTH SPECIFIED IS A MINIMUM DEPTH AND MAY BE VARIED AS DIRECTED BY THE ENGINEER. SOFT SPOTS SHALL BE EXCAVATED TO A HARD BASE AND BACKFILLED WITH APPROVED GRANULAR MATERIAL IN 150mm LAYERS.
- ALL TRENCHES UNDER ROAD PAVEMENTS AND FOOTPATHS SHALL BE BACKFILLED WITH 20mm CLASS 2 F.C.R. COMPACTED IN 150mm MAXIMUM DEPTH LAYERS.
- BEFORE COMMENCING WORK ON TRENCHES IN EXCESS OF 1.5m DEEP, NOTICE OF SUCH PROPOSAL IS TO BE FORWARDED BY THE CONTRACTOR TO THE CHIEF MINING INSPECTOR, DEPARTMENT OF LABOUR, IN ACCORDANCE WITH THE MINES ACT - 1958 AS AMENDED.
- ALL CONCRETE WORKS TO HAVE 25 MPa STRENGTH AT 28 DAYS.
- ALL FOOTPATHS AND SHARED PEDESTRIAN-BICYCLE PATHS ARE TO BE 125MM THICK CONCRETE.
- TACTILE GROUND SURFACE INDICATORS ARE TO BE INSTALLED AT ALL PRAM CROSSINGS AND PEDESTRIAN CROSS POINTS IN ACCORDANCE WITH AS1428.
- CONCRETE IS TO BE PLACED AROUND ELECTRICAL DISTRIBUTION PITS TO A MINIMUM DEPTH OF 200MM. DISTRIBUTION PITS ARE TO BE A MINIMUM OF 300MM FROM EDGE OF FOOTPATHS.
- 100mm DIA CLASS 400 PERFORATED PLASTIC A.G. DRAIN TO BE LAID ON A CLAY BASE (MIN. DEPTH 600mm BELOW KERB) ON BOTH SIDES OF THE STREET, TRENCH TO BE MINIMUM WIDTH OF 225mm AND BACKFILLED WITH CLEAN 7mm SCREENINGS.
- ALL DRAINAGE PIPES SHALL BE REINFORCED CONCRETE, CLASS "2" RUBBER RING JOINTED PIPES UNLESS OTHERWISE SHOWN.
- TERRA FIRMA OR FIBRE GLASS TYPE PIT LIDS ARE REQUIRED FOR ALL DRAINAGE PITS. ALL GRATED PIT LIDS ARE TO BE CLASS D TO COMPLY WITH AS3996-2006.
- ALL EASEMENT DRAINAGE PIPES SHALL BE OFFSET 1.0m FROM PROPERTY BOUNDARY UNLESS OTHERWISE SHOWN. PROPERTY INLETS SHALL BE LOCATED 1.0m FROM LOW SIDE BOUNDARY AT A MINIMUM INVERT LEVEL DEPTH OF 500mm BELOW FINISHED SURFACE LEVELS AND FITTED WITH A GULLY BASIN.
- HOUSE CONNECTIONS TO KERB AND CHANNEL OR STREET DRAINAGE TO BE LOCATED 5.0m FROM LOW SIDE BOUNDARY.
- ALL LOTS SHALL BE GRADED AT 1 IN 100 MIN TOWARDS DRAINAGE POINT.
- SERVICE CONDUITS SHALL COMPRISE 50mm DIAMETER CLASS 12 UPVC PIPES EXTENDING 300mm BEHIND BACK OF KERB AND CHANNEL.
- TELECOMMUNICATION CONDUITS ARE TO BE FOR USE BY ANY TELEPHONE COMPANY.
- THERE MUST BE NO SERVICE OFFSETS BETWEEN OFFSET OF 2.5M & 3.5M TO ALLOW CLEAR SPACE IN NATURE STRIPS FOR TREES & POLES.
- AT THE COMPLETION OF ALL WORKS, ALL RUBBISH, DEBRIS AND SURPLUS SPOIL SHALL BE REMOVED AND THE SITE SHALL BE CLEARED TO THE SATISFACTION OF THE INFRASTRUCTURE MANAGER.
- ALL P.S.M. ARE TO BE INTERVISABLE. AT THE COMPLETION OF WORKS P.S.M. ARE TO BE LEVELLED. A.M.G. COORDINATES ESTABLISHED AND SKETCH PLANS PREPARED FOR REGISTRATION WITH THE OFFICE OF THE SURVEYOR GENERAL.
- THE CONTRACTOR IS RESPONSIBLE FOR DUST SUPPRESSION, EROSION CONTROL AND RETENTION OF STORMWATER RUNOFF DURING CONSTRUCTION.
- THE CONTRACTOR IS TO TAKE ALL NECESSARY MEASURES TO PREVENT POLLUTION AND / OR SEDIMENT LADEN RUNOFF FROM ENTERING THE DRAINAGE SYSTEM DURING CONSTRUCTION AND MAINTENANCE PERIODS, THIS WILL INCLUDE COVERING OF DRAINAGE PITS DURING CONSTRUCTION WITH GEOTEXTILE AND HAY BALES TO PRECLUDE SAND FROM ENTERING THE DRAINAGE SYSTEM, IN THE EVENT OF POLLUTION AND / OR SEDIMENT ENTERING THE DRAINAGE SYSTEM THE CONTRACTOR WILL BE REQUIRED TO RECTIFY THE DAMAGE AT HIS COST.
- APPROPRIATE SILTATION CONTROL IS TO BE CARRIED OUT BY THE CONTRACTOR DURING THE CONSTRUCTION AND MAINTENANCE PERIODS.
- REMOVAL OR RETENTION OF EXISTING TREES OR VEGETATION MUST BE IN ACCORDANCE WITH THE APPROVED LANDSCAPE PLAN OTHERWISE APPROVAL WILL BE REQUIRED FROM THE COUNCIL LANDSCAPE APPROVALS OFFICER.
- APPROVAL WILL BE REQUIRED FROM THE CONSERVATION OFFICER FOR ALTERATION, REMOVAL OR EXCAVATION OF ANY SIGNIFICANT EXISTING FEATURES, BUILDINGS, STRUCTURES OR VEGETATION.
- ALL LINE MARKING TO BE LONG LIFE ROAD MARKING, WITH LONGITUDINAL LINES IN THERMOPLASTIC AND TRANSVERSE MARKINGS IN COLD APPLIED.



CONTRACTOR MUST DIAL 1100 TO CONFIRM LOCATION OF EXISTING SERVICES AND COMPLY WITH ANY AUTHORITY REQUIREMENTS REGARDING EXISTING SERVICES PRIOR TO COMMENCEMENT OF ANY WORKS.

No.	REVISION	DATE	No.	REVISION	DATE
C	EASEMENT AMENDED	24-08-18			
D	SEWER AMENDED	30-07-18			
B	PRELIMINARY ISSUE	26-07-18			
A	PRELIMINARY ISSUE	18-07-18			

**ISSUED FOR CONSTRUCTION**

**Lanigan Civil**

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Email: admin@lanivil.com.au

PROPOSED COUNCIL  
DRAINAGE  
PRINCES HIGHWAY, OFFICER

DETAIL PLAN,  
LONGITUDINAL SECTION,  
PIT SCHEDULE AND  
GENERAL NOTES

DESIGNED	DRAWN	CHECKED
NJC	NJC	GCL
DATE	SCALE/S	AS NOTED
18-07-18		
DRG No.	ISSUE	
LC1023-R01	D	