


NOTES (Cont)  
25. CONTRACTOR TO TAKE MEASURES TO PROTECT HIS OPERATIVES WITH RESPECT TO THE PRESENCE OF GAS IN SEWER TRENCHES AND MANHOLES THROUGH THE USE OF GAS MONITORING EQUIPMENT AND BREATHING APPARATUS AS REQUIRED.  
26. CONTRACTOR TO APPLY FOR SEWER PERMITS AND ROAD OPENING PERMITS AS NECESSARY FROM THE APPROPRIATE AUTHORITIES, PRIOR TO COMMENCING WORKS.  
HEALTH & SAFETY  
1. CONTRACTOR SHOULD BE AWARE OF GENERAL CONSTRUCTION RISKS TO PREVENT SLIPS, TRIPS AND FALLS AND TAKE NECESSARY PRECAUTIONS WITHOUT SPECIAL INSTRUCTION.  
ROADS & DRAINAGE  
2. CONTRACTOR TO PROVIDE TRENCH SUPPORTS AS APPROPRIATE AND ENSURE THAT PLANT REMAINS A SAFE DISTANCE FROM TRENCHES PRIOR TO INSTALLING DRAINAGE  
3. THE TIME THAT EXCAVATIONS ARE OPEN ON SITE SHOULD BE KEPT TO A MINIMUM AND ALL TRENCHES SHOULD BE SURROUNDED BY A BARRIER.  
4. CONNECTIONS TO EXISTING SEWERS TO BE MADE BY NMI APPROVED CONTRACTOR ONLY.  
5. CONTRACTOR TO MAKE OPERATIVES AWARE OF ASSOCIATED DANGERS TO HEALTH SUCH AS LEPTOSPIROSIS (WELLS DISEASE) AND RECOMMENDED PRECAUTIONS, ADEQUATE WELFARE FACILITIES AND PROTECTIVE CLOTHING TO BE PROVIDED AS REQUIRED.  
6. UNFINISHED MANHOLES MUST BE COVERED WITH LOAD BEARING MATERIALS AND SURROUNDED WITH BARRIER.  
PIPS & CABLES  
7. SERVICE RECORDS TO BE REFERRED TO PRIOR TO WORK COMMENCING, CONTRACTOR TO PROCEED WITH CAUTION AND SERVICES TO BE LOCATED BY HAND DIG AND PROTECTED ACCORDINGLY.  
EXCAVATION/FILL  
8. CONTRACTOR TO ENSURE RELEVANT MEASURES ARE TAKEN TO KEEP PLANT AND PEOPLE A SAFE DISTANCE FROM STEEP SLOPES DURING THE WORKS.  
9. CONTRACTOR TO ENSURE THAT PROCEDURES ARE IN PLACE TO KEEP PEOPLE A SAFE DISTANCE FROM WORKING PLANT WHERE NECESSARY.  
10. CONTRACTOR TO REFER TO GROUND INVESTIGATION REPORT FOR CONTAMINATION TESTS AND TO PROVIDE ADEQUATE WELFARE FACILITIES AND PROTECTIVE CLOTHING AS REQUIRED.

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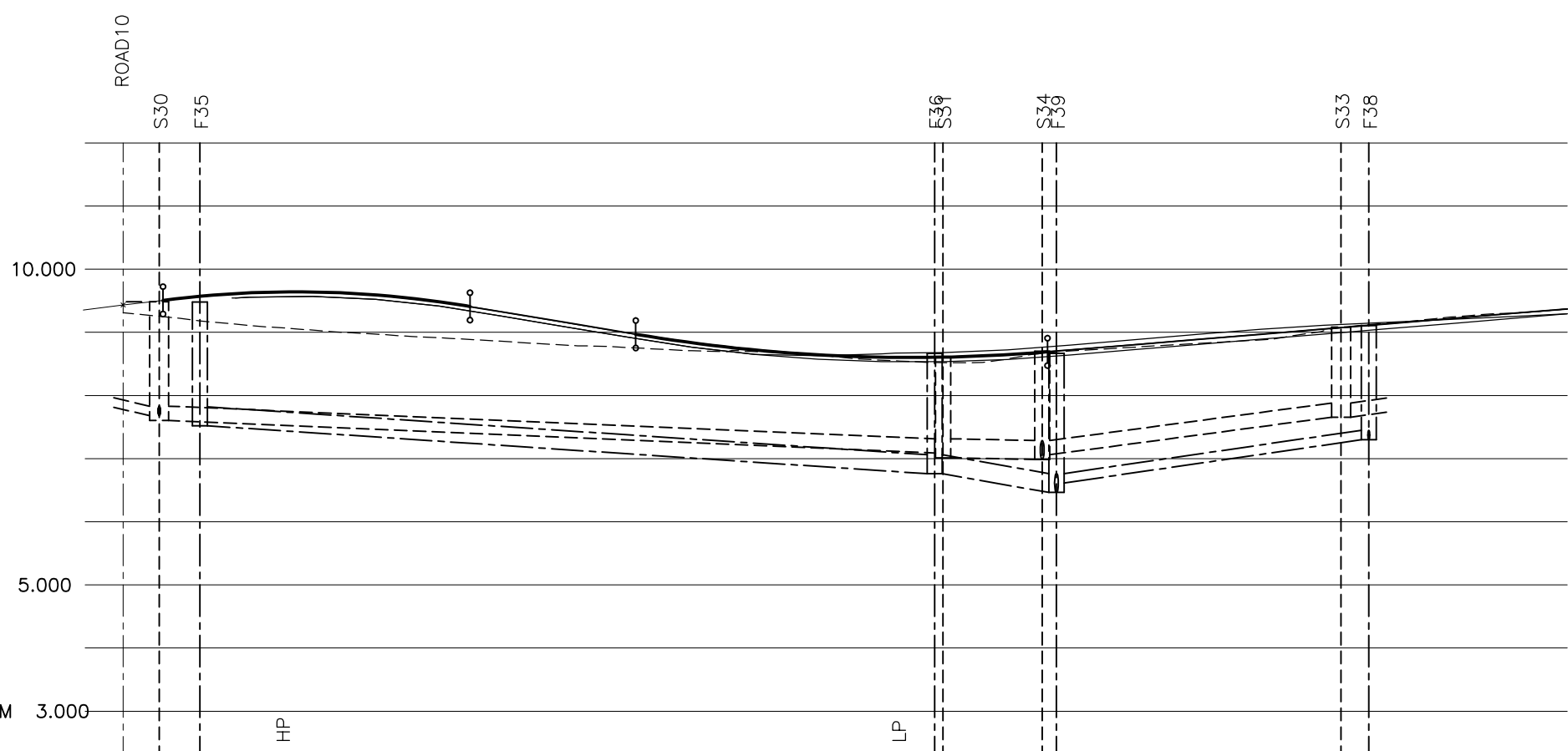
1. ALL DRAINAGE WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE WATER SERVICES ASSOCIATION "SEWERS FOR ADOPTION" - 7TH EDITION AND ADOPTING WATER AUTHORITY/SEWERAGE AGENCY REQUIREMENTS AND SPECIFICATIONS.
2. ALL PRIVATE DRAINAGE WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH BUILDING REGULATIONS 2002 EDITION.
3. CONTRACTOR TO ESTABLISH POSITION SIZE AND DEPTH OF ALL EXISTING SEWERS AND SERVICES PRIOR TO COMMENCEMENT ON SITE.
4. THE CONTRACTOR SHALL ALLOW FOR THE PROTECTION, TEMPORARY AND PERMANENT SUPPORT, AND TEMPORARY AND PERMANENT DIVERSION WORKS, AS NECESSARY TO ALL EXISTING SERVICES.
5. THE CONTRACTOR SHALL ALLOW FOR ALL TRAFFIC MANAGEMENT IN CONNECTION WITH ROAD AND SEWER WORKS.
6. THE CONTRACTOR SHALL ALLOW FOR KEEPING SEWER TRENCHES AND EXCAVATIONS AS DRY AS PRACTICABLE BY PUMPING FROM TEMPORARY SUMPS AND DETERMINING AS APPROPRIATE. THE POINT AND METHOD OF DISCHARGE TO BE AGREED WITH THE DRAINAGE AUTHORITY.
7. PIPES UP TO AND INCLUDING 300mm# TO BE UNPLASTICISED PVC. PIPES 375mm# AND GREATER TO BE CONCRETE CLASS H.
8. ALL PIPEWORK TO BE 100mm DIAMETER UNLESS NOTED OTHERWISE.
9. INSITU AND PRECAST CONCRETE UNITS SHALL HAVE SULPHATE RESISTING PORTLAND CEMENT TO BS 4027, UNLESS AGREED OTHERWISE WITH THE ADOPTING AUTHORITY.
10. PRECAST CONCRETE PRODUCTS SHALL COMPLY WITH THE RELEVANT PROVISIONS OF BS 5911 AND BE KITEMARKED. CONCRETE PIPES TO BE CLASS H UNLESS NOTED OTHERWISE.
11. MANHOLE COVERS AND FRAMES SHALL COMPLY WITH THE RELEVANT PROVISIONS OF BS EN124, HAVE MINIMUM 675 x 675 CLEAR OPENINGS WITH 150 DEEP FRAMES UNLESS OTHERWISE SPECIFIED. MANHOLE COVERS AND FRAMES TO BE OF A NON-ROCKING DESIGN WITHOUT CUSHION INSERTS AND BE KITEMARKED. LOAD CLASS D400 IN VEHICULAR TRAFFICKED AREAS AND LOAD CLASS B125 IN FOOTWAYS AND PEDESTRIAN AREAS.
12. GULLY GRATES AND FRAMES SHALL COMPLY WITH THE RELEVANT PROVISIONS OF BS EN124 AND BE OF A NON-ROCKING DESIGN WITH CAPTIVE HINGE ACCESS AND BE KITEMARKED. LOAD CLASS D400 FOR ROADS REGULARLY CARRYING FAST MOVING HEAVY VEHICLES, CLASS C250 TO BE USED IN LESSER TRAFFICKED AREAS eg. ESTATE ROADS, CUL-DE-SACS, RESIDENTIAL CAR PARKING AREAS ETC.
13. CLASS Z BEDDING DETAIL SHALL BE PROVIDED WHERE COVER TO THE PIPE BARREL IS LESS THAN 1.2M IN VEHICULAR TRAFFICKED AREAS AND 0.9M ELSEWHERE, TO ALL ROAD GULLY CONNECTIONS AND WITHIN AREAS OF DEEP ROOTING VEGETATION.
14. WHERE CLASS Z TRENCH BEDDING DETAIL IS USED, THE CONCRETE BED AND SURROUND SHALL BE DISCONTINUED AT EACH PIPE JOINT OVER THE FULL CROSS SECTION BY MEANS OF A SHAPED COMPRESSIBLE FILLER.
15. SELECTED BACKFILL MATERIAL SHALL CONSIST OF UNIFORM MATERIAL FREE FROM STONES LARGER THAN 40mm, CLAY LUMPS LARGER THAN 75mm, TREE ROOTS, ORGANIC MATTER AND FROZEN SOIL. SELECTED BACKFILL MATERIAL SHALL BE PLACED IN LAYER NOT EXCEEDING 225mm, EACH LAYER COMPACTED TO FORM A STABLE TRENCH BACKFILL.
16. GENERAL BACKFILL MATERIAL TO BE FREE FROM STONES LARGER THAN 40mm. GENERAL BACKFILL MATERIAL IS TO BE PLACED IN LAYERS NOT EXCEEDING 150mm THICKNESS AND EACH LAYER COMPACTED BY HAND. NO MECHANICAL COMPACTION OF FILL MATERIAL SHALL BE PERMITTED WITHIN 300mm ABOVE THE CROWN/BARREL OF THE PIPE.
17. BACKFILLING AND REINSTATEMENT TO TRENCHES IN PUBLIC HIGHWAYS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS AND SPECIFICATIONS OF THE ADOPTING AUTHORITY, OR, IN THE ABSENCE OF SUCH, IN ACCORDANCE WITH THE REQUIREMENTS OF "THE STREET WORKS REGULATIONS 1992" AND RELEVANT PROVISIONS OF H.A.U.C., "SPECIFICATION FOR THE REINSTATEMENT OF OPENINGS IN HIGHWAYS" JUNE 1992, BOTH UNDER SECTION 71 OF THE NEW ROADS AND STREET WORKS ACT 1991.
18. BACKFILL TO DRAINAGE TRENCHES IN HARD PAVED AREAS SHALL BE G.S.B. TYPE 1.
19. ALL ROAD GULLIES ARE TO BE TRAPPED GULLIES.
20. ALL GULLY LEADS TO BE 150mm DIAMETER.
21. ALL REDUNDANT EXISTING DRAINAGE TO BE GRUBBED UP OR GROUTED, ANY EXISTING LIVE DRAINAGE SHOULD BE REPORTED TO THE ENGINEER AND RECONNECTED.
22. ALL ROAD GULLIES & LEADS TO BE CLEARED OF DEBRIS UPON COMPLETION OF WORKS.
23. ANY EXISTING DRAINAGE WHICH BECOMES UNDER TRAFFICKED AREAS IN THE NEW SCHEME SHOULD BE SUBJECT TO THE FOLLOWING REMEDIALS/REVISIONS, WHERE DEPTH OF COVER IS LESS THAN 1200mm, THE EXISTING PIPEWORK SHALL BE COVERED & SURROUNDED WITH 150mm# CONCRETE AS CLASS "Z" BEDDING, WHERE THE EXISTING MANHOLE COVER & FRAME IS NOT AS MANHOLE DETAIL A OR B, OR TO BS497 GRADE A OR EN124 CLASS D, THEN IT SHOULD BE CHANGED FOR SUCH.
24. THE CONTRACTOR MUST ENSURE THAT ANY OF THE EXISTING DRAINAGE WHICH IS LIVE IS KEPT CLEAR OF DEBRIS AND SHOULD ALLOW FOR JETTING THROUGH THE NEW & EXISTING DRAINAGE UPON COMPLETION.

19/02/13	DRAINAGE AMENDED	MP	P2
15/02/13	TENDER ISSUE	MP	F1
Date	Revisions	Drawn	Rev.

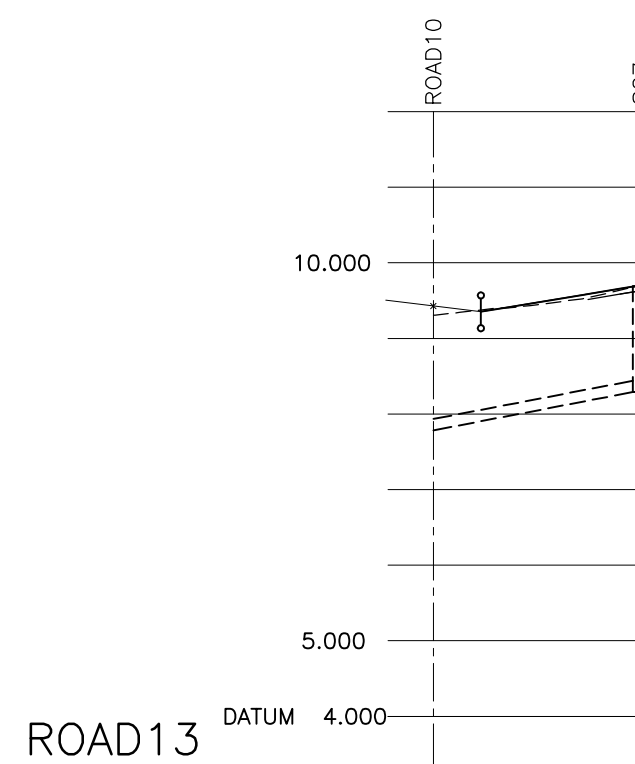


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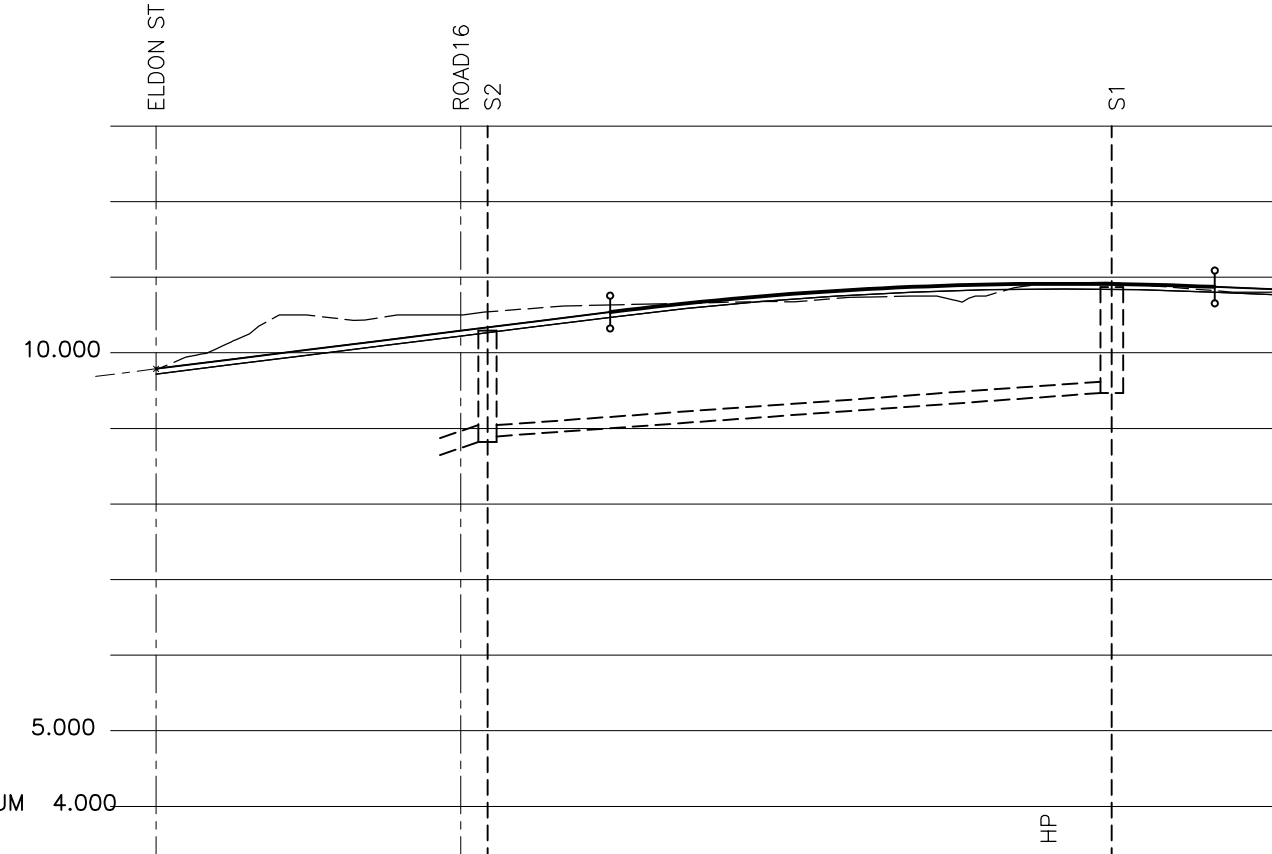
Client	KEEPMOAT HOMES		
Project	TRINITY SOUTH SOUTH SHIELDS		
Title	PROPOSED ROAD LONGITUDINAL SECTIONS SHEET 5		
Scale	H:1:500 V:1:100	Drawn	MP
Checked	SH	Date	JAN 2013
Drawing Status	TENDER		
Job No.	11547	Drawing No.	C0008
Revision	P2		



CHAINAGE	0.000 2.243 3.156 5.000 8.623 10.000 13.671 15.000 20.000 25.000 27.446 30.000 35.000 40.000 45.000 50.000 55.000 60.000 62.446 65.000 70.000 72.446 75.000 80.000 85.000 90.000 95.000 98.571 100.000 106.000 108.773 110.000 114.275							
EXISTING GROUND LEVEL	9.309 8.506 9.149 9.625 9.641 9.639 9.592 9.485 9.410 9.324 9.156 8.988 8.989 8.835 8.720 8.644 8.607 8.558 8.602 8.607 8.646 8.691 8.721 8.804 8.887 8.969 9.052 9.135 9.147 9.217 9.300 9.305 9.270							
ALIGNMENT LEVEL	9.506 9.149 9.625 9.641 9.639 9.592 9.485 9.410 9.324 9.156 8.988 8.989 8.835 8.720 8.644 8.607 8.558 8.602 8.607 8.646 8.691 8.721 8.804 8.887 8.969 9.052 9.135 9.147 9.217 9.300 9.305 9.270							
VERTICAL ALIGNMENT	L = 24.290 KF = -4.10		G = -3.360% 1: -29.8		KF = 6.50 L = 32.578		G = 1.652% 1: 60.5	
HORIZONTAL ALIGNMENT	R = 9.000				R = 9.150			
LEFT HAND CHANNEL	9.544 9.556 9.570		9.541 9.536 9.570		9.523 9.523 9.523		9.416 9.255 9.087	
RIGHT HAND CHANNEL	9.544 9.556 9.570		9.541 9.536 9.570		9.523 9.523 9.523		9.416 9.255 9.087	
STORMWATER COVER LEVEL	9.486				8.609		8.700	
STORMWATER INVERT	7.605				7.014		7.062	
STORMWATER DETAILS	Pipe 6.001 Dia 225 Circular CLAY 1 in 120				Pipe 6.002 Dia 300 Circular CLAY 1 in 293		Pipe 9.001 Dia 150 Circular CLAY 1 in 40	
STORMWATER LENGTHS	61.964		7.908		23.804			
FOULWATER COVER LEVEL	9.479				8.666		8.669	
FOULWATER INVERT	7.520				6.761		6.614	
FOULWATER DETAILS	Pipe 10.000 Dia 300 Circular CLAY 1 in 78				Pipe 10.001 Dia 300 Circular CLAY 1 in 35		Pipe 11.001 Dia 150 Circular CLAY 1 in 35	
FOULWATER LENGTHS	58.909		10.260		24.008			



CHAINAGE	0.000 3.151 5.000 10.000 15.000 20.000 21.923 25.000	
EXISTING GROUND LEVEL	9.306 9.352 9.113 9.580 9.531 9.723	
ALIGNMENT LEVEL	9.352 9.113 9.580 9.531 9.723	
VERTICAL ALIGNMENT	G = 3.329% 1: 30.0	
HORIZONTAL ALIGNMENT		
LEFT HAND CHANNEL	0.516 0.566 0.631	
RIGHT HAND CHANNEL		
STORMWATER COVER LEVEL	9.690	
STORMWATER INVERT	8.290	
STORMWATER DETAILS	Pipe 6.000 Dia 150 Circular CLAY 1 in 27	
STORMWATER LENGTHS	16.634	
FOULWATER COVER LEVEL		
FOULWATER INVERT		
FOULWATER DETAILS		
FOULWATER LENGTHS		



CHAINAGE	0.000 5.000 10.000 15.000 20.000 21.159 21.923 25.000 30.000 35.000 40.000 45.000 50.000 55.000 60.000 63.078 65.000					
EXISTING GROUND LEVEL	9.777 9.913 10.038 10.163 10.288 10.413 10.538 10.652 10.746 10.819 10.871 10.903 10.813 10.919 10.903 10.872					
ALIGNMENT LEVEL	9.788 9.913 10.038 10.163 10.288 10.413 10.538 10.652 10.746 10.819 10.871 10.903 10.813 10.919 10.903 10.872					
VERTICAL ALIGNMENT	G = 2.500% 1: 40.0		L = 39.996 KF = -12.0		0.833% 1: -120.0	
HORIZONTAL ALIGNMENT						
LEFT HAND CHANNEL	9.719 9.844 9.969 10.094 10.219 10.344 10.469 10.584 10.677 10.751 10.803 10.834 10.845 10.834 10.803		9.719 9.844 9.969 10.094 10.219 10.344 10.469 10.584 10.677 10.751 10.803 10.834 10.845 10.834 10.803		10.294 8.894 9.468	
RIGHT HAND CHANNEL	9.719 9.844 9.969 10.094 10.219 10.344 10.469 10.584 10.677 10.751 10.803 10.834 10.845 10.834 10.803		9.719 9.844 9.969 10.094 10.219 10.344 10.469 10.584 10.677 10.751 10.803 10.834 10.845 10.834 10.803		10.294 8.894 9.468	
STORMWATER COVER LEVEL			10.294		9.468	
STORMWATER INVERT			8.894		9.468	
STORMWATER DETAILS			Pipe 1.000 Dia 150 Circular CLAY 1 in 72			
STORMWATER LENGTHS			41.288			
FOULWATER COVER LEVEL						
FOULWATER INVERT						
FOULWATER DETAILS						
FOULWATER LENGTHS						

DO NOT SCALE.

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