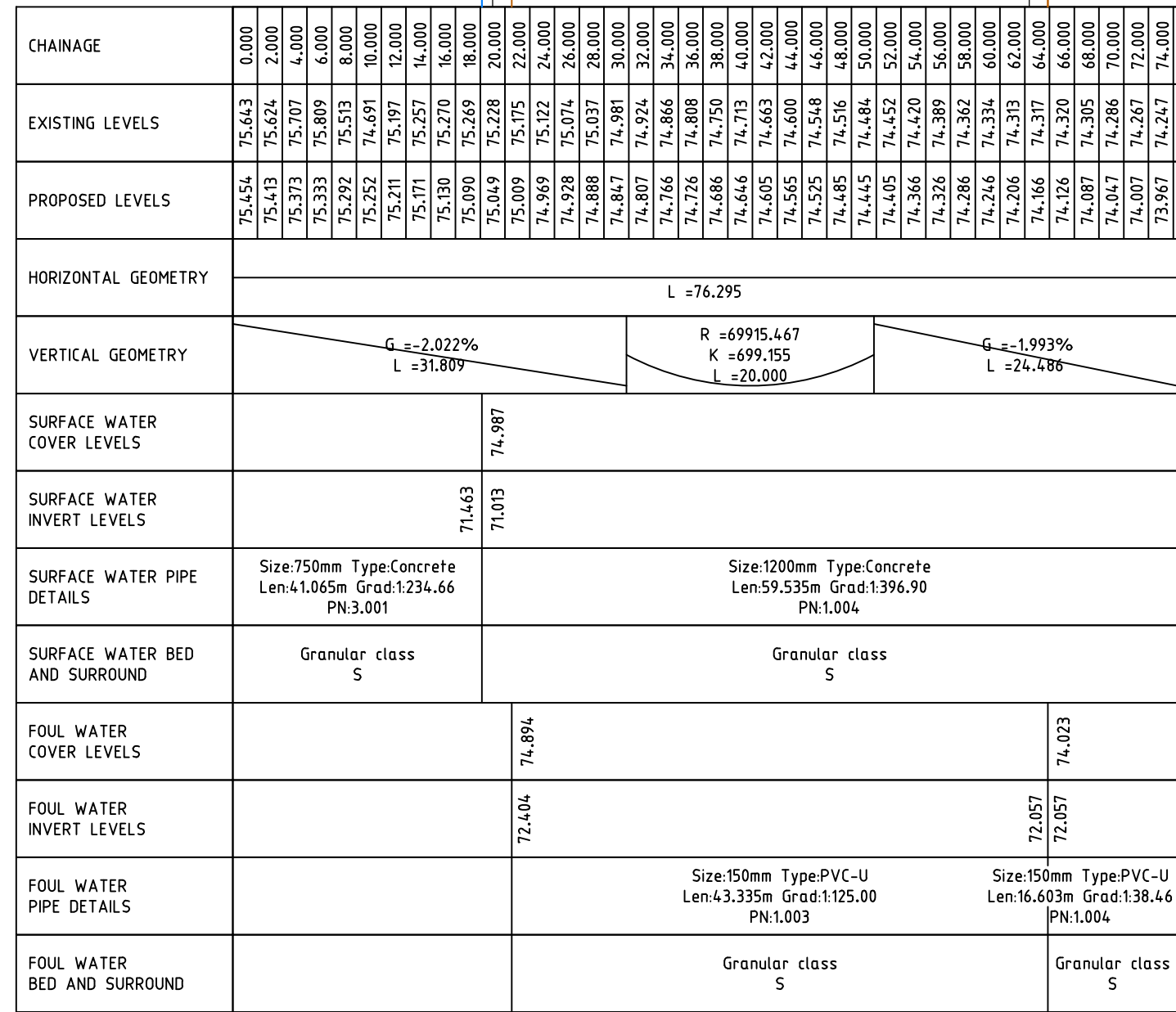
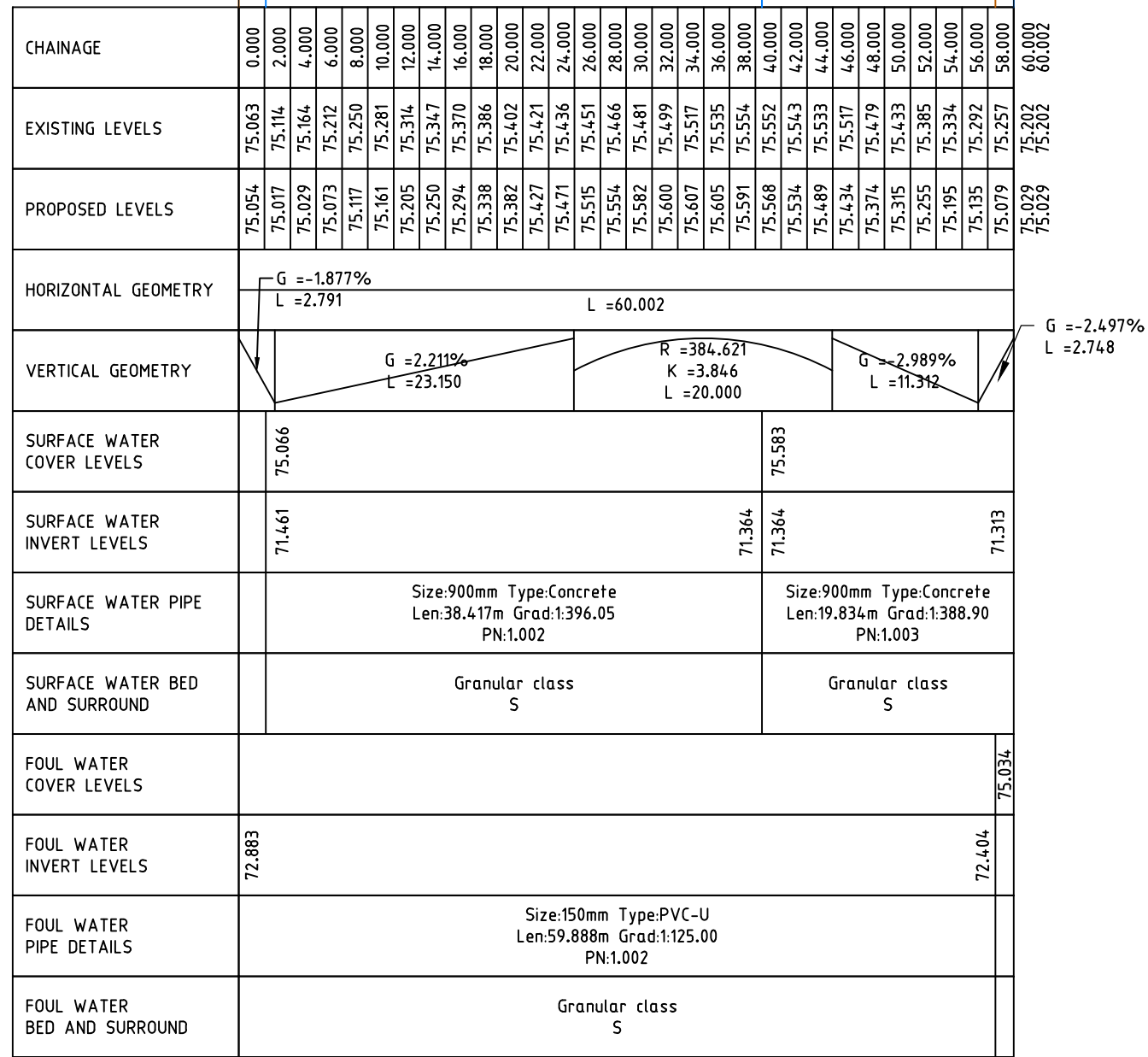
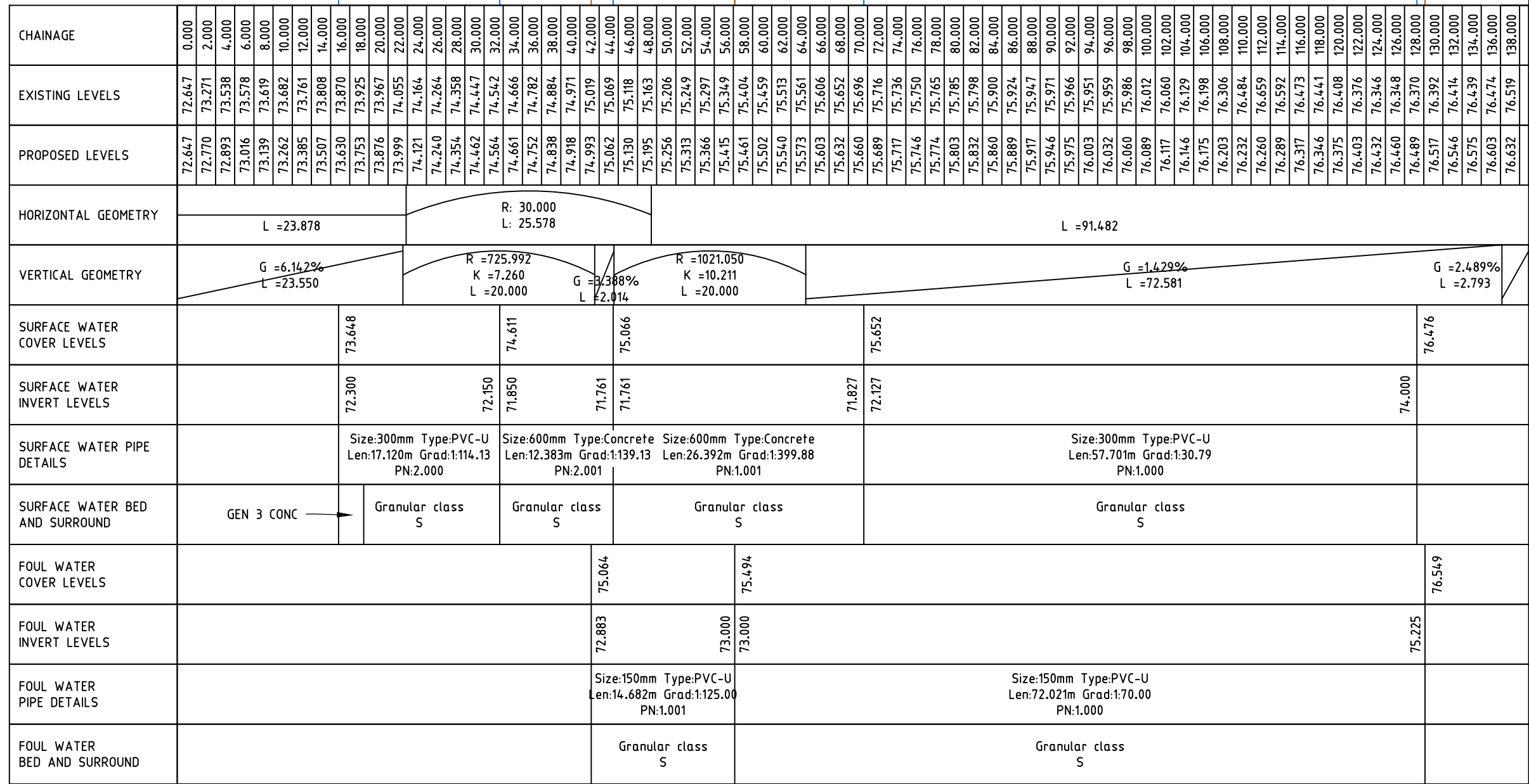
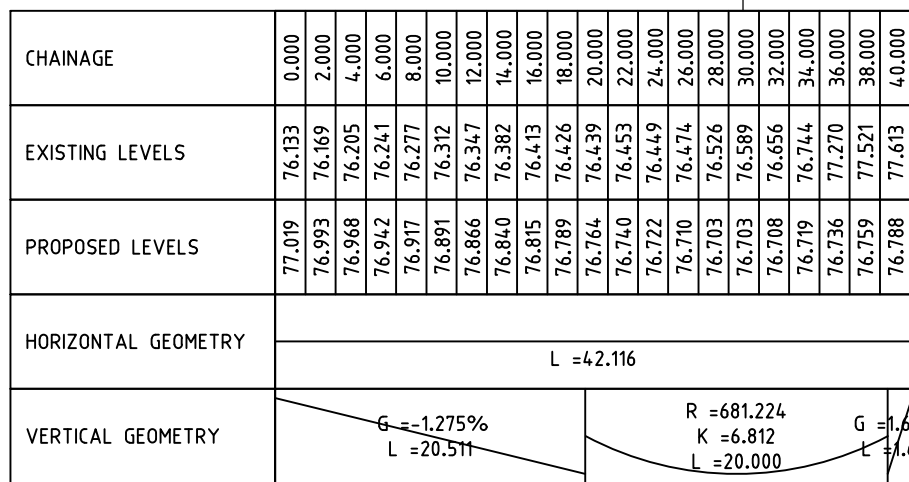
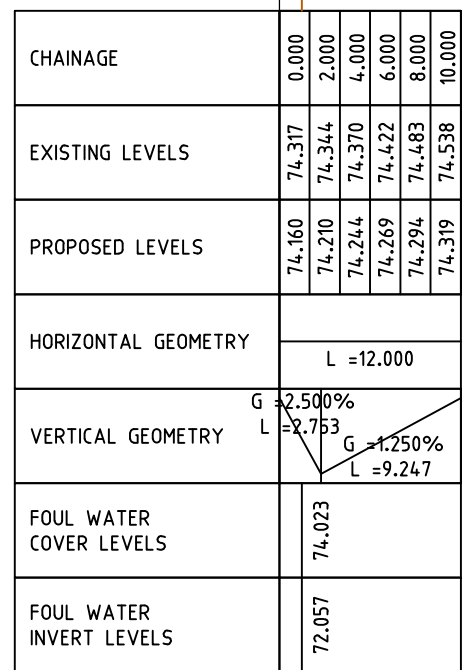




1. ALL SEWERS ARE DESIGNED IN ACCORDANCE WITH DESIGN AND CONSTRUCTION GUIDANCE FOR FOUL AND SURFACE WATER SEWERS OFFERED FOR ADIPTION 2.1 VERSION AND UNITED UTILITIES GUIDANCE AND STANDARDS.
2. DRAWING IS SUBJECT TO APPROVAL BY UNITED UTILITIES UNDER A SECTION 10 AGREEMENT AND CONSTRUCTION WORKS UNDERTAKEN PRIOR TO TECHNICAL APPROVAL ARE AT THE DEVELOPERS RISK.
3. THE PROPOSED SEWER SHALL BE LOCATED RELATIVE TO THE TOPOGRAPHIC SURVEY DRAWING '02591/TOPO' BY GEOMATIC SURVEYS LTD.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INVESTIGATING AND VERIFYING THE EXISTING DRAINAGE CRITICAL TO THE PROPOSED SCHEME PRIOR TO COMMENCING ANY WORK AS FOLLOWS:
 - MANHOLE OUTLET LOCATIONS
 - OUTFALL INVERT LEVELS
 - OUTFALL PIPE DIAMETERS
 - INTER-CONNECTION OF SEWERS
5. ANY INACCURACIES OR INCONSISTENCIES ON THE DRAWING RESULTING FROM THE FINDINGS SHALL BE REPORTED TO THE ENGINEER.
6. PRIOR TO THE COMMENCEMENT OF ANY ON SITE WORKS THE CONTRACTOR MUST CONTACT THE STATUTORY UNDERTAKER AND BE IN POSSESSION OF THE LATEST DRAWINGS SHOWING THEIR OWNERSHIP.
7. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ALLOW FOR THE SUPERVISION OF THE CONSTRUCTION WORKS BY UNITED UTILITIES, THE CONTRACTOR WILL NOTIFY THE SUPERVISING OFFICER GIVING NOTICE WHICH WILL BE IN ACCORDANCE WITH THE AUTHORITIES REQUIREMENTS.
8. THE PROPOSED SEWERS WILL BE CLAY PIPE WORK AND SHALL BE EXTRA STRENGTH TO BS EN 295:1991 PART 1.
9. ANY PIPE WORK WILL BE IN ACCORDANCE WITH BS EN 1976:2002.
10. THE CONTRACTOR MAY EJECT TO USE REINFORCED PVC PIPES COVERED BY BS EN 13476-2, BS 4680:20 + BS EN 1401-1, WITH A MINIMUM WALL THICKNESS TO COMPLY WITH BS EN 13476-2 AND INCLUDING 300MM, MAX PIPE LENGTH TO BE 3.0M.
11. ALL MANHOLES AND CHAMBERS SHALL BE IN ACCORDANCE WITH BS EN 1977:2002.
12. ADAPTABLE SEWERS WITH COVER TO SOFFIT GREATER THAN 1.2m IN ROADS AND 0.9m IN FIELDS SHALL HAVE CLASS 5 GRANULAR BED AND SURROUND.
13. ANY SEWER FOR ADIPTION WITH A COVER OF LESS THAN 1.2m WITHIN 1500mm IN ROADS OR 900mm IN FIELDS SHALL HAVE AN MINIMUM 150mm GEN 3 CONCRETE BED AND SURROUND WITH FLEXIBILITY MAINTAINED WITH FLEXCELL JOINT JOINT FOR SIMILAR APPROVED AT EACH PIPE EXPOSITION.
14. ALL ACCESS BUILT INTO THE SEWERS UNITS SHALL BE INSTALLED WITH SOFFITS LEVEL, UNLESS SHOWN OTHERWISE.
15. THE CONNECTION TO THE ADAPTABLE SEWER SHALL BE MANUFACTURED JUNCTION PIPES, A SADDLE CONNECTION IS NOT PERMITTED UNLESS IT IS SPECIFICALLY APPROVED.
16. CONNECTIONS TO THE EXISTING PUBLIC SEWER WILL BE IN ACCORDANCE WITH APPROVAL GRANTED BY THE STATUTORY UNDERTAKER.
17. UNDESIRABLE CONNECTIONS TO THE SEWER WILL BE 150MM DIAMETER AND LAID TO THE SPECIFIED INVERT.
18. THE INVERT LEVELS SPECIFIED AT THE DRAG OUT CHAMBER ARE INCOMING LEVELS.
19. PROTECTIVE GEOTEXTILE/PLASTIC MEMBRANE IS TO BE APPLIED TO ALL FOL SEWERS LAID ABOVE STORM SEWERS WITH LESS THAN 500MM OF COVER.
20. CENTRE OF MANHOLES MAY BE AT THE SAME LOCATION AS THE CENTRE OF THE GSE SHOWING, THE MANHOLE LOCATIONS SHALL BE ADJUSTED OVER THE MANHOLE BASE TO SATISFY THE FOLLOWING REQUIREMENTS:
 - CLEARANCE FROM THE ADJACENT PIPE WORK
 - MINIMUM 150MM CLEARANCE FROM THE KERB LINE (THE DISCUT OF THE MANHOLE SHALL NOT PROJECT UNDER THE ROAD CHANNEL LINE).
21. • TO PROVIDE THE MINIMUM STANDARD SPACING ON THE MANHOLE AND THEREBY LOCATE THE MANHOLE COVER AND ENTRY ACCESS.
22. • TO PROVIDE THE MINIMUM 150MM OF BEARING FOR THE MANHOLE RING OVER THE CAST IN STUB PIPES.
23. IT IS THE CONTRACTORS RESPONSIBILITY TO CO-ORDINATE WITH THE HIGHWAY AND SEWERAGE AUTHORITIES FOR APPROVALS, INTERIM INSPECTION, SNAGGING AND FINAL INSPECTIONS OF THEIR WORK TO ADAPTABLE STANDARDS.
24. AS A CONCLUSION OF THE WORKS THE CONTRACTOR SHALL PROVIDE A MARKED UP DRAWING TO RECORD ANY AS BUILT VARIATIONS NOT SHOWN ON THE DRAWINGS.



CHAINAGE	0	2000	4000	6000	8000	10000	12000	14000	16000	18000	20000
EXISTING LEVELS	71.099	76.193	76.939	76.869	76.924	76.854	76.717	76.800	76.866	76.943	76.980
PROPOSED LEVELS	71.099	76.193	76.939	76.866	76.932	76.856	76.727	76.849	76.924	76.983	77.021
HORIZONTAL GEOMETRY	L = 42.116										
VERTICAL GEOMETRY	$G = -1.275\%$ $L = 20.571$ $R = 681.224$ $K = 6.812$ $L = 20.000$ $G = 1.275\%$										