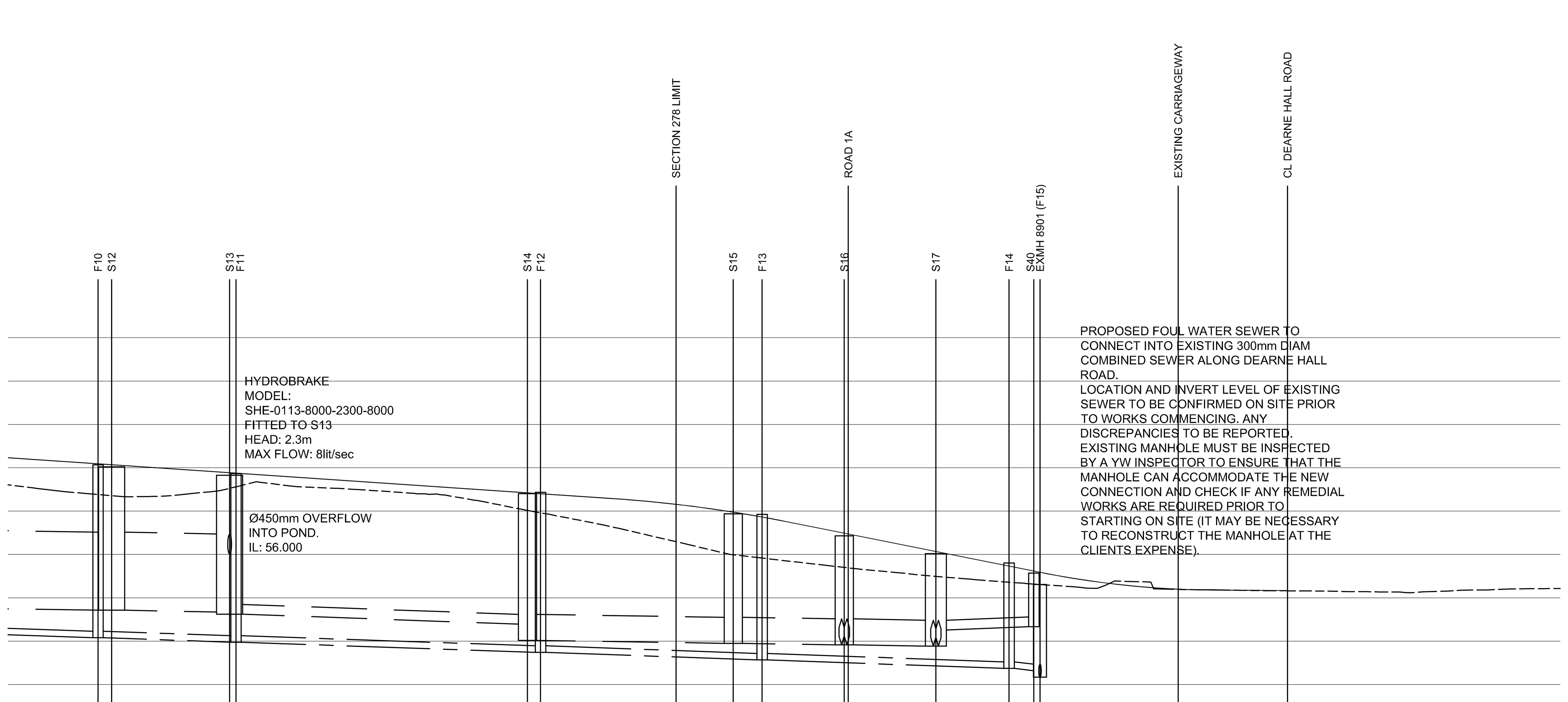
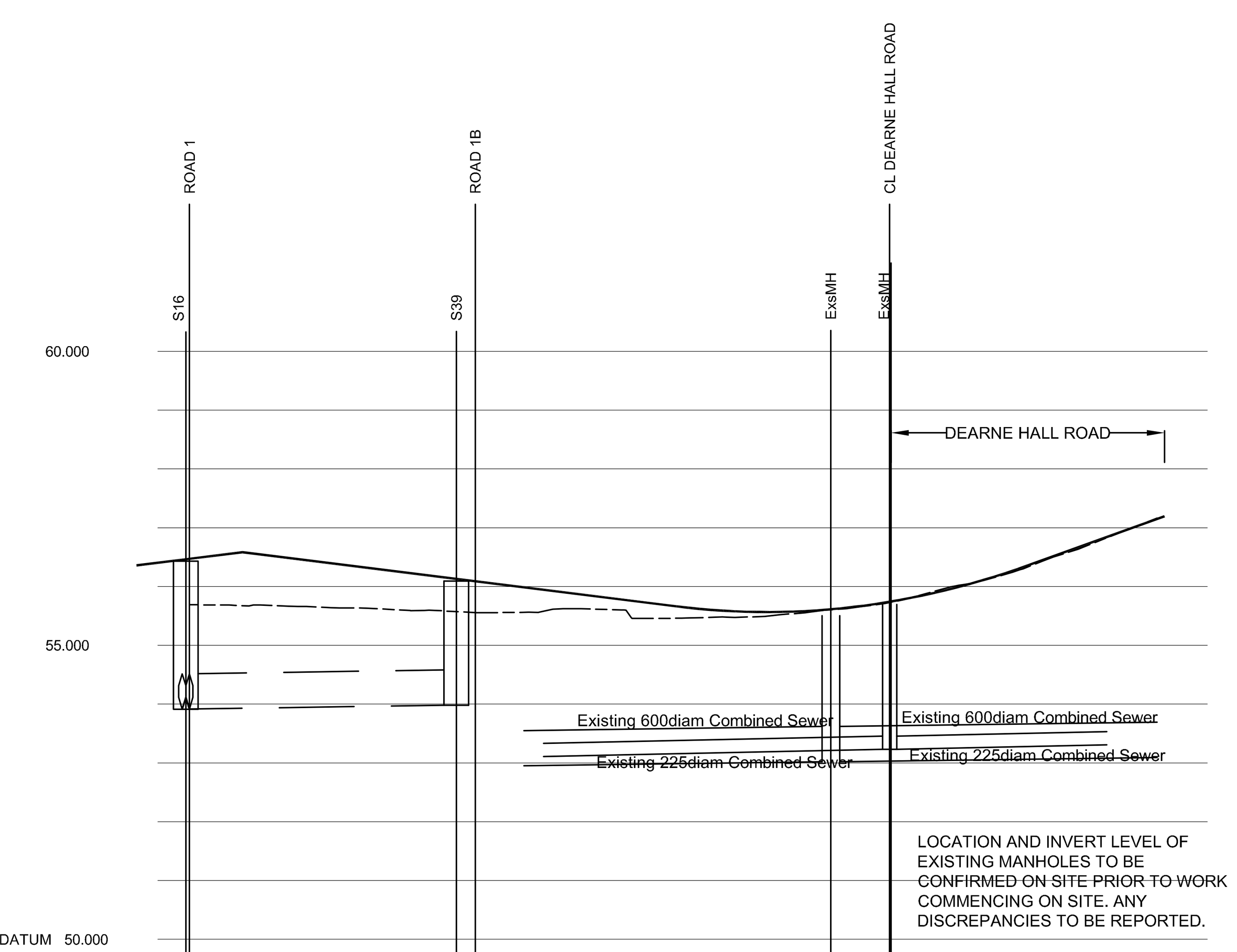


Row	Values
Row A	440.000, 445.571, 447.139, 450.000, 460.000, 460.732, 461.462, 470.000, 480.000, 481.832, 490.000, 495.034, 496.544, 500.000, 505.000, 510.000, 512.145, 515.000, 518.739, 520.000, 522.068, 525.000, 530.000, 531.528, 531.990, 537.440, 537.714, 540.000, 542.080, 550.000, 550.513, 553.367, 554.020, 555.000, 560.000, 565.000, 570.000, 574.020, 580.000, 582.593, 590.000, 600.000, 614.005
Row B	57.483, 57.329, 57.487, 57.549, 57.433, 57.216, 56.832, 56.396, 55.963, 55.735, 55.532, 55.366, 55.221, 55.194, 55.165, 55.143, 55.148, 55.209, 55.214
Row C	58.165, 58.030, 57.895, 57.760, 57.625, 57.489, 57.354, 57.287, 57.203, 57.086, 56.935, 56.752, 56.552, 56.152, 55.752, 55.591, 55.553, 55.386, 55.269, 55.199, 55.178, 55.171
Row D	G= -1.351% 1: -74.0; L= 20.000 KF= -7.55002; G= -4.000% 1: -25.0; KF= 5.16193 L= 20.000; EXISTING CARRIAGEWAY
Row E	R= 53.350; R= 69.500; R= 65.000
Row F	58.021, 57.827, 57.403, 56.936, 56.429, 56.020, 55.570
Row G	54.713, 54.713, 54.673, 54.623, 54.392, 54.017, 53.950, 53.950, 53.914, 53.914, 53.884, 54.259, 54.334
Row H	Pipe 1.011 Dia 1800 Circular CONC 1 in 349; Pipe 1.012 Dia 225 Circular CLAY 1 in 150; Pipe 1.013 TWIN Dia 600 Circular CONC 1 in 350; Pipe 1.014 TWIN Dia 600 Circular CONC 1 in 354; Pipe 1.015 TWIN Dia 600 Circular CONC 1 in 349; Pipe 8.000 Dia 225 Circular CLAY 1 in 150 HIGHWAY DRAIN
Row I	14.102, 34.661, 23.477, 12.731, 10.458, 11.213
Row J	58.068, 57.864, 57.432, 56.926, 55.804, 55.320
Row K	54.120, 54.120, 54.015, 54.015, 53.782, 53.782, 53.607, 53.607, 53.412, 53.412, 53.360, 53.210
Row L	Pipe 1.009 Dia 150 Circular CLAY 1 in 149; Pipe 1.010 Dia 150 Circular CLAY 1 in 150; Pipe 1.011 Dia 150 Circular CLAY 1 in 150; Pipe 1.012 Dia 150 Circular CLAY 1 in 150; Pipe 1.013 Dia 150 Circular CLAY 1 in 150
Row M	15.642, 34.937, 26.187, 29.367, 7.786

ROAD 1A

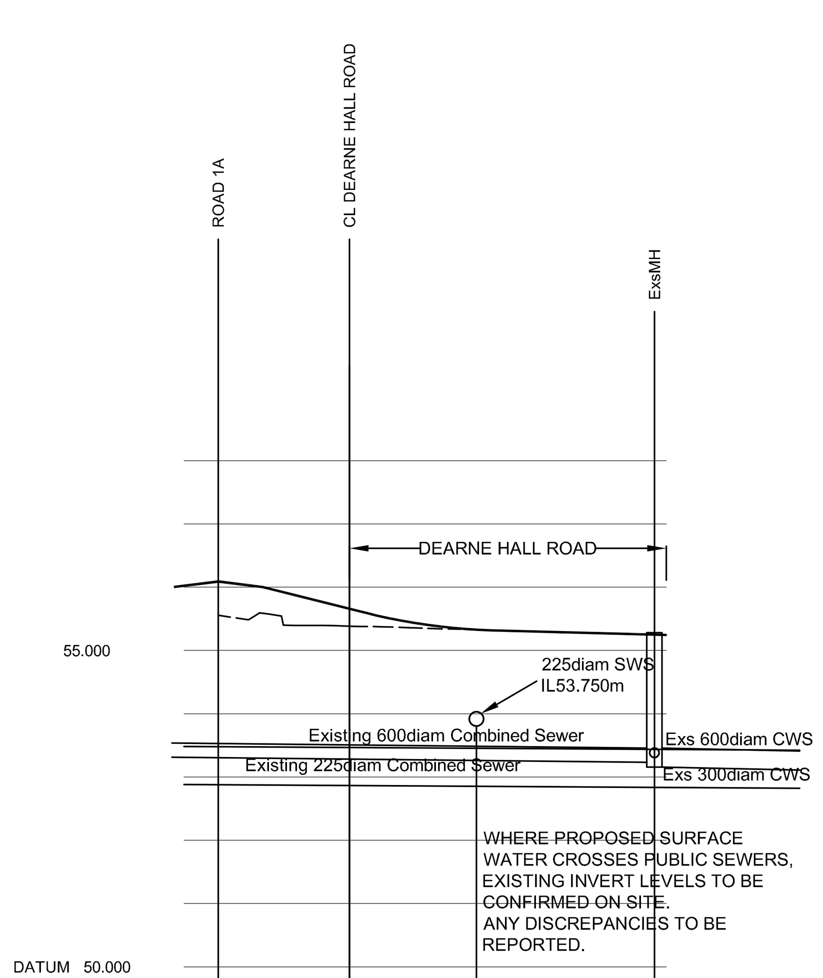
DATUM 50.000



CHAINAGE	-4.500	0.000	7.531	10.000	18.178	19.790	20.000	30.000	36.878	40.000	44.607	45.000	50.000	55.000	60.000	
EXISTING GROUND LEVEL	55.690	55.674		55.630		55.554		55.611		55.477			55.605		55.984	56.571
ALIGNMENT LEVEL		56.538		56.288		56.038		55.788	55.628	55.559	55.531	55.532	55.587	55.722	55.939	56.333
VERTICAL ALIGNMENT	G= -2.500% 1: -40.0								KF= 3.09147 L= 30.000						EXISTING CARRIAGEWAY	
HORIZONTAL ALIGNMENT	R= 50.000															
STORMWATER COVER LEVEL	56.429					56.093										
STORMWATER INVERT	53.914					53.980										
STORMWATER DETAILS	Pipe 7.000 TWIN Dia 600 Circular CONC 1 in 348															
STORMWATER LENGTHS	22.988															

ROAD 1B

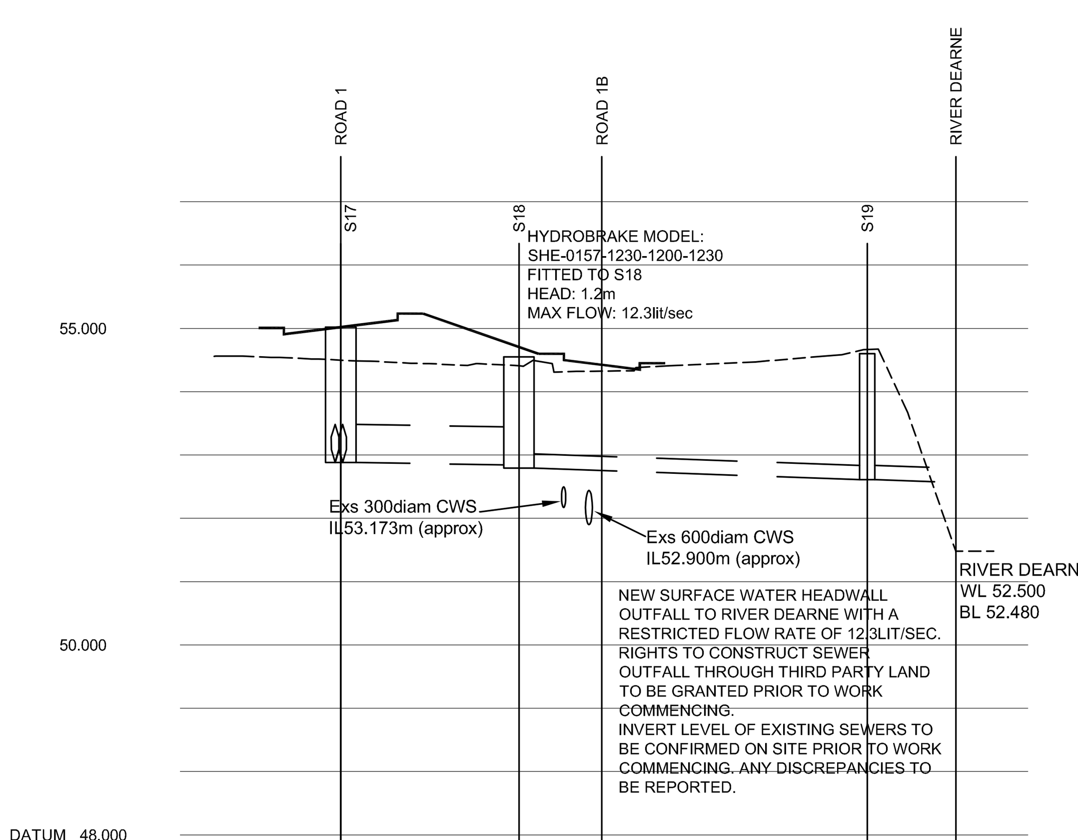
DATUM 50.000



CHAINAGE	-3.500	-0.000	1.683	6.878	8.146	10.000	15.000	20.000	
EXISTING GROUND LEVEL	55.555	55.589				55.371		55.306	55.252, 55.244
ALIGNMENT LEVEL		55.955		55.600		55.474	55.345	55.308	
VERTICAL ALIGNMENT	G= -5.000% 1: -20.0			KF= 2.24001 L= 10.000			EXISTING CARRIAGEWAY		
HORIZONTAL ALIGNMENT	R= 4.850								

SWS OUTFALL

DATUM 48.000



GROUND LEVEL	55.560	55.498	55.413	55.323	55.445	55.603
STORMWATER COVER LEVEL		56.020	55.550			55.600
STORMWATER INVERT		53.884	53.844, 53.794			53.610
STORMWATER DETAILS		Pipe 1.016 TWIN Dia 600 Circular CONC 1 in 350	Pipe 1.017 Dia 225 Circular CLAY 1 in 150			
STORMWATER LENGTHS		14.090	27.531			

1. ALL ADOPTABLE SEWER WORKS AND MATERIAL TO BE IN ACCORDANCE WITH "SEWERS FOR ADOPTION" 6th EDITION, THE RELEVANT BRITISH/EUROPEAN AND YORKSHIRE WATER'S STANDARDS/REQUIREMENTS/ADDENDUM TO THE MECHANICAL AND ELECTRICAL SPECIFICATION AND KITEMARKED.
2. MANHOLE COVERS SHALL/MUST HAVE A CLEAR OPENING OF 600mm AND SHALL BE CLASS D400 TO BS EN 124 WITH 150mm DEEP FRAMES IN HIGHWAYS.
3. FILLED GROUND MUST BE FILLED AND CONSOLIDATED UNDER THE SUPERVISION AND TO THE SATISFACTION OF YORKSHIRE WATER BEFORE ANY SEWER WORKS ARE CARRIED OUT.
4. YORKSHIRE WATER IS **NOT** OBLIGED TO ACCEPT FILTER DRAIN/LAND DRAINAGE RUNOFF INTO THE PUBLIC SEWER NETWORK OR ADOPTABLE DRAINAGE SYSTEM (DIRECTLY OR INDIRECTLY). AN ALTERNATIVE METHOD OF DISPOSAL OF THE LAND DRAINAGE RUNOFF WILL THEREFORE BE REQUIRED AND YOU WILL HAVE TO LIAISE WITH THE LOCAL AUTHORITY, LAND DRAINAGE SECTION WITH REGARD TO THE DISPOSAL OF THE FILTER DRAIN/LAND DRAINAGE RUNOFF.
5. COVER SLABS MUST CARRY THE BSI KITEMARK OR WILL BE REJECTED BY YORKSHIRE WATER INSPECTOR. WHERE THE CLEAR OPENING OF THE KITEMARKED PRODUCT IS DIFFERENT TO THAT OF THE COVER AND FRAME, A LOADING BEARING SLAB SHOULD BE FITTED ABOVE THE COVER SLAB TO BRING THE SIZE DOWN TO 600x600mm FOR THE YORKSHIRE WATER SPECIFIED COVER SIZE. PLEASE REFER TO CONCRETE PIPE SYSTEMS ASSOCIATION (CPSA), 'TECHNICAL BULLETIN' ISSUED AUTUMN 2004 FOR KITEMARKED COVER SLAB OPENING SIZES.
6. SULPHATE RESISTANT CEMENT (C20-DC2) AND PRECAST CONCRETE PRODUCTS MUST BE USED OR A LABORATORY REPORT PROVIDED PROVING THAT SUCH PRECAUTIONS ARE NOT NECESSARY.
7. THE ADOPTABLE SEWERS SHOULD BE A MINIMUM OF 1m AND MANHOLES 0.5m FROM KERB FACES .
8. SEWERS MUST HAVE 5m CLEARANCE FROM TREES AND HEDGES (PLEASE ALSO REFER TO FIGURE 2.3 ON PAGE 33 IN "SEWERS FOR ADOPTION" 6th EDITION FOR RESTRICTION ON TREE PLANTING ADJACENT TO SEWERS).
9. SEWERS TO BE LAID IN CLASS "S" BEDDING (150mm GRANULAR BED AND SURROUND). WHERE DEPTH OF COVER TO TOP OF THE SEWER IS LESS THAN 1.2m IN HIGHWAYS AND VERGES (OR LESS THAN 900mm IN NONE VEHICULAR ACCESS AREAS) THEN A 175mm CONCRETE SLAB OVER SEWER SHALL BE PROVIDED.
10. ALL PIPEWORK 300mm DIAM. OR LESS TO BE VITRIFIED CLAY CONFORMING WITH BS 65. MINIMUM CRUSHING STRENGTHS TO BE AS FOLLOWS: 100mm DIA. 40kN/m, 150mm DIA 40kN/m, 225mm DIA 45kN/m, 300mm DIA 72kN/m.
11. ALL PIPEWORK 375mm DIAM. OR GREATER TO BE CONCRETE CLASS 120, 54kN/m MINIMUM CRUSHING STRENGTH.
12. THE CHAMBER SIZE OF MANHOLES WITH MORE THAN ONE CONNECTION IN THEM MAY NEED TO BE INCREASED AN INCREMENT TO ACCOMMODATE THE CONNECTIONS AND BENDS.
13.YORKSHIRE WATER POLICY IS NOT TO ACCEPT TYPE "C" BRICK MANHOLES AND 1050mm DIAM. MANHOLE RINGS. INSTEAD IT IS PREFERRED THAT YOU USE A TYPE "B" MANHOLE WITH 1200mm DIAM. OR 1500mm DIAM. RINGS, WITH THE OPENING SIGHTED OVER THE CHANNEL WHERE DEPTH OF COVER TO PIPE SOFFIT IS 1-1.5m.
14. ALL HIGHWAY WORKS AND MATERIAL TO CONFORM WITH BARNSLEY MBC SPECIFICATION.
15. GULLY COVER AND FRAMES SHALL BE D400 DUCTILE IRON AND COMPLY WITH EUROPEAN STANDARD BS EN 124. THOSE SIGHTED IN ACCESSWAYS AND MEWS COURTS MUST BE SUITABLE FOR USE IN PEDESTRIAN AREAS.
16. BEDDING AND BACKFILL MATERIAL TO CONFORM TO THE REQUIREMENT OF WATER INDUSTRY SPECIFICATION 4-08--2 (TABLE A2).
17. PLASTIC CHANNEL SECTIONS IN MANHOLES ARE NOT ACCEPTABLE AND YORKSHIRE WATER WOULD PREFER PLASTICWARE CHANNELS IN MANHOLES. YORKSHIRE WATER HAVE FOUND THAT PLASTIC CHANNELS ARE DIFFICULT TO SET IN CONCRETE AS THEY FLOAT AND A SATISFACTORY FINISH CANNOT BE OBTAINED ON BENCHING.

RISK ASSESSMENT:
SIGNIFICANT RISKS THAT CANNOT BE DESIGNED OUT

RISK	LEVEL OF RISK (H/M)	SUGGESTED ACTION
DEEP EXCAVATIONS ASSOCIATED WITH NEW DRAINAGE WORKS	HIGH	ENSURE ALL EXCAVATIONS HAVE ADEQUATE TRENCH SUPPORTS
HANDLING LARGE DIAMETER MANHOLE RINGS AND CIRCULAR PIPES	HIGH	USE CORRECT LIFTING EQUIPMENT AND ENSURE OPERATIVES WEAR APPROPRIATE PROTECTIVE CLOTHING/HARD HATS/CORRECT PPE.
CONTACT WITH SEWAGE	MED	OPERATIVES TO USE CORRECT BREATHING EQUIPMENT/CORRECT PPE
NOISE	MED	OPERATIVES TO USE CORRECT EAR PROTECTION/CORRECT PPE
DRAINAGE EXCAVATIONS ADJACENT EXISTING BOUNDARY STRUCTURES	HIGH	ENSURE CORRECT SUPPORTS ARE PROVIDED TO TRENCHES AND BUILDINGS WHERE REQUIRED
DRAINAGE EXCAVATION IN PUBLIC HIGHWAY	HIGH	ENSURE CORRECT USE OF TRENCH SUPPORTS IN EXCAVATION AND SCREEN BARRIERS TO PROTECT MEMBERS OF THE PUBLIC
MAINTAIN ACCESS TO ADJACENT PROPERTIES AND OCCUPIERS	HIGH	ENSURE WORKS ARE PROTECTED WITH BARRIERS AND SIGNS TO GUIDE THE PUBLIC AWAY FROM THE WORKS
DRAINAGE EXCAVATIONS NEAR TO EXISTING SERVICES	HIGH	ENSURE WORKS ARE PROTECTED WITH BARRIERS AND SIGNS TO GUIDE MEMBERS OF THE PUBLIC AWAY FROM THE AREA
WORKING IN CONFINED SPACES, WORKING IN DRAINS AND MANHOLES	HIGH	CONFINED SPACES WORKING TRAINED PERSONNEL ONLY TO CARRY OUT WORKS UNDER A PERMIT TO WORK SCHEME IMPLEMENTED BY CONTRACTOR. GAS TESTING TO TAKE PLACE BEFORE ALL ENTRIES TO CONFINED SPACES.
WORKING IN HIGHWAYS / RISKS FROM VEHICLE AND PLANT	HIGH	ALL WORKS TO BE SIGNED AND FENCED FROM NORMAL VEHICULAR TRAFFIC. ALL WORKERS TO WEAR HIGH VISIBILITY CLOTHING. ALL PLANT TO HAVE VISUAL AND AUDIBLE WARNING SYSTEMS.
ROAD AND DRAINAGE CONSTRUCTION	HIGH	ALL EXCAVATIONS TO BE ADEQUATELY FENCED OFF AND SUPPORTED DURING CONSTRUCTION. ALL OPERATIVES TO BE TRAINED IN CORRECT METHODS OF LIFTING AND WORK IN ACCORDANCE WITH LOLER REGS

IT IS ASSUMED THAT WORKS ASSOCIATED WITH THIS DESIGN WILL BE UNDERTAKEN BY A PERSON OR PERSONS WHO ARE COMPETANT AND HAVE THE REQUIRED LEVEL OF EXPERIENCE AND EXPERTISE

Rev F. Road 1A & 1B amended to suit as-built levels 15.06.17 HH
Rev E. Foul sewer amended to suit surveyed invert level (F15) 24.04.17 HH
Rev D. SWS updated to suit approved YW design 05.04.17 HH
Rev C. Proposed details approved by BMBC. 'Preliminary Issue' removed. 31.01.17 HH
Rev B. Proposed roads & sewers amended to suit full on-site design 18.08.16 HH
Rev A. Roads 1A & 1B amended to suit Road 1 new crossfall as requested by BMBC 01.06.16 HH

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e trevor.haigh@haighhuddleston.co.uk

Client
BARRATT DAVID WILSON HOMES

Project
DEARNE HALL ROAD, LOW BARUGH

Detail
PROPOSED JUNCTION LONG SECTIONS
(located near Millers Inn, Dearne Hall Road)

Dwn	Ckd	Date	Scale	Dwg No.
DG		Oct-15	1:500hor @A1 1:100ver	E14/6120/033-06F

PRELIMINARY ISSUE