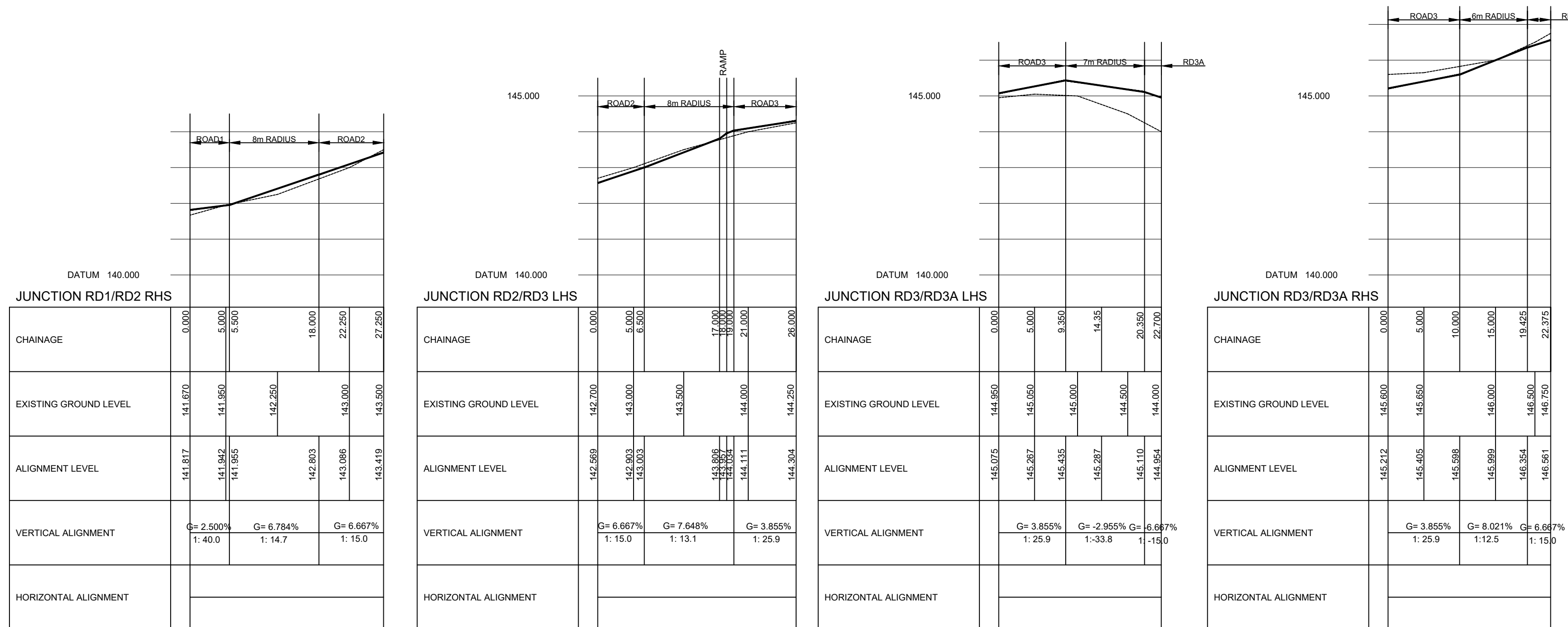
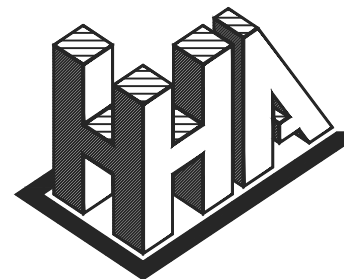




RISK ASSESSMENT: SIGNIFICANT RISKS THAT CANNOT BE DESIGNED OUT		
HAZARD	LEVEL OF RISK (RPN)	SUGGESTED ACTION
DEEP EXCAVATIONS ASSOCIATED WITH NEW DRAINAGE WORKS	HIGH	ENSURE ALL EXCAVATIONS HAVE ADEQUATE TRENCH SUPPORTS
HANDLING LARGE DIAMETER MANHOLE RINGS AND CIRCULAR PIPES	HIGH	ENSURE CORRECT LIFTING EQUIPMENT AND OPERATORS USE APPROPRIATE PROTECTIVE CLOTHING/HARD HATS/CORRECT PPE
CONTACT WITH SEWAGE	MED	OPERATES TO ENSURE CORRECT BREATHING EQUIPMENT/CORRECT PPE
NOISE	MED	OPERATES 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 AWARE PUBLIC FROM THE WORKS
DRAINAGE EXCAVATIONS NEAR TO EXISTING SERVICES	HIGH	ENSURE WORKS ARE PROTECTED WITH BARRIERS AND SIGNS TO GUIDE MEMBERS OF THE PUBLIC FROM THE WORKS
WORKING IN CONFINED SPACES: WORKING IN DRAINS AND MANHOLES	HIGH	CONFINED SPACES WORKING TRAINED PERSONNEL ONLY TO CARRY OUT WORKS DURING 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 ARE BARRIERED AND FENCED FROM NORMAL VEHICULAR TRAFFIC. ALL WORKERS TO WEAR HIGH VISIBILITY CLOTHING. ALL PLANT TO HAVE VALID, AND A ROBUST WORKING SYSTEMS
ROAD AND DRAINAGE CONSTRUCTION	HIGH	ALL EXCAVATIONS TO BE ADEQUATELY FENCED OFF AND SUPPORTED DURING CONSTRUCTION. ALL OPERATORS 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 COMPETENT AND HAVE THE REQUIRED LEVEL OF EXPERIENCE AND EXPERTISE

- ALL ADAPTABLE SEWER WORKS AND MATERIAL TO BE IN ACCORDANCE WITH 'CODES FOR ADOPTION', THE RELEVANT BRITISH/EUROPEAN AND YORKSHIRE WATER'S STANDARDS/REQUIREMENTS/ADDENDUM TO THE MECHANICAL AND ELECTRICAL SPECIFICATION AND KITEMARKED.
3. 250mm DIA COVERED SEWALINLS WITH A CLEAR OPENING OF 200mm AND SHALL BE CLASS D400 TO BS EN 1245 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. THE SEWER COVER SHALL BE OBLIGED TO ACCEPT THE DRAINAGE DRAINAGE RUNOFF INTO THE PUBLIC SEWER NETWORK OR ADAPTABLE DRAINAGE DRAINAGE DRAINAGE OR INDIRECTLY, AN ALTERNATIVE METHOD OF DISPOSAL OF THE LAND DRAINAGE 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. THE SLAB SHOULD 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-C22) AND PRECAST CONCRETE PRODUCTS MUST BE USED OR A LABORATORY REPORT PROVIDED PROVING THAT SUCH PRECAUTIONS ARE NOT NECESSARY.
7. THE ADAPTABLE SEWERS SHOULD BE A MINIMUM OF 1mm AND MANHOLES 0.5mm FROM KERB FACES.
8. SEWERS MUST BE LAID IN GRASSES FROM TREES.
9. SEWERS TO BE LAID IN CLASS "S" BEDDING (150mm granular BED AND 50mm). 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 DIA. OR LESS TO BE VITRIFIED CLAY CONFORMING WITH BS 6593. MINIMUM CRUSHING STRENGTH 3000kN/m² OR 4000kN/m² 300mm DIA. 400mm DIA. 450mm DIA. 500mm DIA. DIA 725mm DIA.
11. ALL PIPEWORK 375mm DIA. OR GREATER TO BE CONCRETE CLASS 120 TO EN 1916/ BS 5911-1: 2002.
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. ALL SEWER AND MANHOLE RINGS MUST BE CAST TO A MINIMUM OF 150mm DIA. MANHOLE RINGS. INSTEAD IT IS PREFERRED THAT YOU USE A TYPE "B" MANHOLE WITH 1200mm DIA. OR 1500mm DIA. RINGS, WITH THE OPENING SIGHTED OVER THE CHANNEL WHERE DEPTH OF COVER TO PIPE SUFFICE IS 1.5 - 5m.
14. ALL HIGHWAY WORKS AND MATERIAL TO CONFORM WITH KIRKLEES COUNCIL SPECIFICATION.
15. GULLIES, MANHOLES AND FRAMES SHALL BE CAST IN CAST IRON AND SHALL CONFORM WITH STANDARD BS EN 1245. THOSE SIGHTED IN VERGES AND MEDIAN AREAS WILL BE SUITABLE FOR USE IN PESTRIAN AREAS.
16. BEDDING AND BACKFILL MATERIAL TO CONFORM TO THE REQUIREMENT OF WATER INDUSTRY SPECIFICATION 4.08-2 (TABLE 2A)
17. PLASTIC CHANNEL SECTIONS IN MANHOLES ARE NOT ACCEPTABLE AND YORKSHIRE WATER WOULD PREFER THE USE OF CHAMBER SECTIONS. 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.
18. WHERE A B125 COVER AND FRAME HAS BEEN APPROVED, THIS **MUST NOT** BE COATED IN PLASTIC AND MUST HAVE LIFTING EYES SUITABLY SIZED TO ACCOMMODATE STANDARD LIFTING KEYS. SCREW DOWN COVERS ARE **NOT** ACCEPTABLE.
19. THERE SHOULD BE ENOUGH CLEARANCE TO ACCOMMODATE THE BEDDING FOR BOTH PIPES, APPROX 300mm IF CROSSOVER IS NEAR THE ROCKER THEN THE CLEARANCE NEEDED MAY BE INCREASED.

**Haigh Huddleston & Associates**

Civil Structural Engineering Consultants

Firth Buildings, 99 - 101 Leeds Rd, Dewsbury, WF12 7BU t 01924 464342 f 01924 450662

e trevor.haigh@haighhuddleston.co.uk

Client
YORKSHIRE COUNTRY PROPERTIES

Project
STATION ROAD, SKELMANTHORPE

Detail

ROAD KERB LINE LONG SECTIONS - JUNCTIONS

Dwn	Chkd	Date	Scale	Dwg No.
HH	HH	May-22	1:500Hor 1:100V(25)	E18/7366/005-02