YW REF: H-3-263-820

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 CONFIRED 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 ASSOCCIATED WITH THIS DESIGN WILL BE UNDERTAKEN BY A PERSON OR PERSONS WHO ARE COMPETANT AND HAVE THE REQUIRED LEVEL OF EXPERIENCE AND EXPERTISE		

ALL PIPEWORK 300mmØ OR LESS TO BE POLYPIPE PVC 'POLYSEWER'TO WIS 4 -35-01. PIPEWORK TO BE LAID IN MAXIMUM 3m LENGTHS AND THEY MUST BE MARKED & STAMPED WITH 'POLYPIPE PVC 'POLYSEWER' TO WI 4-35-01'.
ALL PIPEWORK 375mm DIAM OR GREATER TO BE CONCRETE CLASS 120, 54kN/m MINIMUM CRUSHING STRENGTH.
ADOPTABLE SEWERS TO BE LAID IN CLASS 'S' GRANULAR BED & SURROUND.

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 300mmØ OR LESS TO BE POLYPIPE PVC 'POLYSEWER'TO WIS 4 -35-01. PIPEWORK TO BE LAID IN MAXIMUM 3m LENGTHS AND THEY MUST BE MARKED & STAMPED WITH 'POLYPIPE PVC 'POLYSEWER' TO WI 4-35-01'.
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.

N

Brierley Road

BRIERLEY ROAD

EXISTING GULLY TO BE REMOVED AND NEW GULLY POT CONSTRUCTED AT NEW JUNCTION TANGENT. EXISTING CONNECTION INTO PUBLIC SEWER TO BE UTILISED.

EXISTING SERVICES LOCATED WITHIN SITE ENTRANCE TO BE REMOVED AND / OR DIVERTED TO SUIT PROPOSED ROAD DESIGN

TACTILE CROSSINGS

EXISTING LIGHTING COLUMN TO BE RE-SITED TO SUIT REQUIRED VISIBILITY SPLAY TO NEW JUNCTION

SURFACE WATER SEWER TO DISCHARGE INTO WATERCOURSE AT A MAXIMUM DISCHARGE RATE OF 42.0l/s
EXS GROUND & BED LEVEL TO BE CONFIRMED ON SITE PRIOR TO WORK COMMENCING

EXISTING FOUL MANHOLE TO BE RECONSTRUCTED TO ACCOMMODATE PROPOSED CONNECTION.
EXACT LOCATION ALONG WITH COVER & INVERT LEVEL OF EXISTING FOUL SEWER TO BE CONFIRMED. ANY DISCREPANCIES TO BE REPORTED TO HHA IMMEDIATELY.

SURFACE WATER SEWER TO BE BACKDROPPED TO RUN BENEATH EXISTING ADOPTED FOUL SEWER. EXACT LOCATION AND INVERT LEVEL OF EXISTING FOUL SEWER TO BE CONFIRMED PRIOR TO COMMENCING CONSTRUCTION ON SITE. ANY DISCREPANCIES TO BE REPORTED TO HHA IMMEDIATELY.

MINIMUM 300mm REQUIRED WHERE SEWERS CROSS.

Flow Control MH
Device: 104mm Hydro-Brake Orifice Plate
Design Rate: 42.0ltr/sec
Design Head: 3.45m

TWL AT MANHOLE S32: 84.150m (1 in 30yr STORM EVENT)

TWL 1 in 2yr STORM EVENT: 84.350m
TWL 1 in 30yr STORM EVENT: 84.350m
TWL 1 in 100yr STORM EVENT: 84.818m
TWL 1 in 100yr +30% CC STORM EVENT: 85.279m

PROPOSED POND TO CATER FOR 1 IN 100 YEAR AND 1 IN 100 YEAR + 30% CLIMATE CHANGE EVENTS. POND TO BE MAINTAINED BY MANAGEMENT TEAM.

HIGHWAY NOTES:

FOR ALL PROPOSED TREES CENTRED IN A LOCATION WITHIN 3.0m OF THE PROSPECTIVELY ADOPTABLE HIGHWAY, ROOT BARRIER MEMBRANES ARE TO BE INSTALLED ON THE TREE SIDE ALONG THE BACK EDGE OF THE HIGHWAY BOUNDARY AND ARE TO EXTEND A MINIMUM 3.0m IN EACH DIRECTION FROM A POINT TAKEN PERPENDICULAR FROM THE TREE TRUNK TO THE HIGHWAY BOUNDARY. ROOT BARRIERS ARE TO EXTEND TO A DEPTH OF 1000mm.

NO GRAVEL PERMITTED WITHIN 2m OF THE PROSPECTIVELY ADOPTABLE HIGHWAY

Windmill Ave

Rev G	Sewers 300mm diam or less replaced with plastic to suit clients instruction SWS outfall amended to suit YW comments	15.11.17 HH
Rev F	Note added to suite entrance works, tactile paved crossings added to on-site, footpath to all ramp crossings amended to suit BMBC comments. Plot levels amended to suit clients instruction. Drainage channels added to driveways.	06.11.17 HH
Rev E	1st Lateral Manholes and FFL's amended	26.10.17 HH
Rev D	Pond levels and flow control device amended.	10.10.17 HH
Rev C	updated to suit latest planning layout. Road and sewer design amended to suit BMBC Highways and Yorkshire Water comments.	05.10.17 HH
Rev B	House types revised to suit client	05.05.17 MD
Rev A	Road and sewer details added	11.04.17 MD

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Client
SAUL CONSTRUCTION

Project
WILLOWGARTH SCHOOL, GRIMETHORPE

Detail
MAIN ROAD AND SEWER PLAN

PRELIMINARY ISSUE

Dwn	Chkd	Date	Scale	Dwg No.
MD		Mar'17	1:500@A0	E14/6015/04G