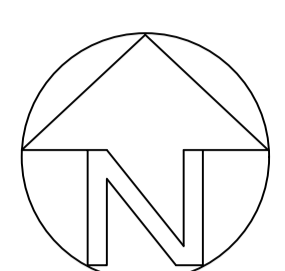


RISK ASSESSMENT SIGNIFICANT RISKS THAT CANNOT BE DESIGNED OUT	LEVEL OF RISK	SUGGESTED ACTION
DEEP EXCAVATIONS ASSOCIATED WITH NEW DRAINAGE WORKS	HIGH	ENSURE ALL EXCAVATIONS HAVE ADEQUATE TRENCH SUPPORTS
UNDUG LARGE DIAMETER MANHOLE RINGS AND CIRCULAR PIPES	HIGH	USE CORRECT TRENCH SUPPORTS AND TRENCH PROTECTORS FROM APPROVED PRODUCTS OUTSIDE OF THE EXCAVATION
CONTACT WITH SERVICES	MED	OPERATIVE TO USE CORRECT BREAKING EQUIPMENT TO CONTACT PIPES
OPERATIVE TO USE CORRECT PIPES TO PROTECT EXISTING PIPES	MED	OPERATIVE TO USE CORRECT PIPES TO PROTECT EXISTING PIPES
DRAINAGE EXCAVATIONS ADJACENT EXISTING BOUNDARY STRUCTURES	HIGH	VERIFY EXISTING FOUNDATION DEPTHS AND FOUNDATION TYPES BEFORE EXCAVATION WORKS BEGIN
DRAINAGE EXCAVATIONS ADJACENT EXISTING BOUNDARY STRUCTURES	HIGH	VERIFY EXISTING FOUNDATION DEPTHS AND FOUNDATION TYPES BEFORE EXCAVATION WORKS BEGIN
MAINTAIN ACCESS TO ADJACENT PROPERTIES AND OCCUPANCY	HIGH	VERIFY EXISTING FOUNDATION DEPTHS AND FOUNDATION TYPES BEFORE EXCAVATION WORKS BEGIN
DRAINAGE EXCAVATIONS NEAR TO EXISTING SERVICES	HIGH	VERIFY EXISTING FOUNDATION DEPTHS AND FOUNDATION TYPES BEFORE EXCAVATION WORKS BEGIN
WORKING IN CONFINED SPACES / WORKING IN DRAINS AND MANHOLES	HIGH	VERIFY EXISTING FOUNDATION DEPTHS AND FOUNDATION TYPES BEFORE EXCAVATION WORKS BEGIN
WORKING IN HIGHWAYS / FRESH FROM VEHICLE AND PLANT	HIGH	VERIFY EXISTING FOUNDATION DEPTHS AND FOUNDATION TYPES BEFORE EXCAVATION WORKS BEGIN
ROAD AND DRAINAGE CONSTRUCTION	HIGH	VERIFY EXISTING FOUNDATION DEPTHS AND FOUNDATION TYPES BEFORE EXCAVATION WORKS BEGIN

1. ALL ADAPTABLE SEWER WORKS AND MATERIAL TO BE IN ACCORDANCE WITH 'CODES FOR ADOPTION' THE RELEVANT BRITISH EUROPEAN AND YORKSHIRE WATERS STANDARDS REQUIREMENTS ADDENDUM TO THE MECHANICAL AND ELECTRICAL SPECIFICATION AND ITEM MARKED.
2. MANHOLE COVERS SHALL 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 DRAINLAND DRAINAGE RUNOFF INTO THE PUBLIC SEWER NETWORK OR ADAPTABLE 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 DRAINLAND DRAINAGE RUNOFF.
5. COVER SLABS MUST CARRY THE RISK ITEM MARK OR WILL BE REJECTED BY YORKSHIRE WATER INSPECTOR WHERE THE CLEAR OPENING OF THE ITEM MARKED PRODUCT IS DIFFERENT TO THAT OF THE COVER AND FRAME. A LADING BEARING SLAB SHOULD BE FITTED ABOVE THE COVER SLAB TO BRING THE SIZE DOWN TO 600mm FOR THE YORKSHIRE WATER SPECIFIED COVER (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 DRAINLAND DRAINAGE RUNOFF.
6. SEWERERS MUST HAVE 5m CLEARANCE FROM TREES AND HEDGES PLEASE ALSO REFER TO FIGURE 2.3 ON PAGE 33 IN 'CODES FOR ADOPTION' FOR RESTRICTIONS ON TREE PLANTING ADJACENT TO SEWERS.
7. THE ADAPTABLE SEWERS SHOULD BE A MINIMUM 9m AND MANHOLES 9.5m FROM KERB FACES AND MANDINGS.
8. SEWERS MUST BE LAID IN CLAS 1P BEDDING (150mm GRANULAR BED AND SURROUND) WHERE DEPTH OF COVER TO TOP OF THE SEWER IS LESS THAN 2m IN HIGHWAYS AND VERTICES (OR LESS THAN 600mm IN NON-REGULAR OPERATIONAL NEED TO LAY LONGER LENGTHS. PLASTIC CHANNEL SECTIONS IN MANHOLES ARE NOT ACCEPTABLE AND YORKSHIRE WATER WOULD PREFER CLAYWARE CHANNELS IN MANHOLES. WE HAVE FOUND THAT PLASTIC CHANNELS ARE DIFFICULT TO SET IN CONCRETE BECAUSE THE FLAT AND A SATISFACTORY FINISH CANNOT BE OBTAINED ON THE BENCHING.
9. SEWERS TO BE LAID IN CLAS 1P BEDDING (150mm GRANULAR BED AND SURROUND) WHERE DEPTH OF COVER TO TOP OF THE SEWER IS LESS THAN 2m IN HIGHWAYS AND VERTICES (OR LESS THAN 600mm IN NON-REGULAR OPERATIONAL NEED TO LAY LONGER LENGTHS. PLASTIC CHANNEL SECTIONS IN MANHOLES ARE NOT ACCEPTABLE AND YORKSHIRE WATER WOULD PREFER CLAYWARE CHANNELS IN MANHOLES. WE HAVE FOUND THAT PLASTIC CHANNELS ARE DIFFICULT TO SET IN CONCRETE BECAUSE THE FLAT AND A SATISFACTORY FINISH CANNOT BE OBTAINED ON THE BENCHING.
10. WHERE A 810S COVER AND FRAME HAS BEEN APPROVED, THIS MUST NOT BE COATED IN PLASTIC AND MUST HAVE LIFTING EYES SUABLY SIZED TO ACCOMMODATE STANDARD LIFTING KEYS. SCREW DOWN COVERS ARE NOT ACCEPTABLE.
11. THE CHAMBER SIZE OF MANHOLES WITH MORE THAN ONE CONNECTION IN WATER MAY NEED TO BE INCREASED AN INCREMENT TO ACCOMMODATE THE CONNECTIONS AND BENDS.
12. YORKSHIRE WATER POLICY IS NOT TO ACCEPT TYPE 'C' BRICK MANHOLES AND 1000mm 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 SOFFIT IS 1.5m.
13. ADAPTABLE PLASTIC SEWER PIPES TO BE BS ITEM MARKED WITH 1200mm DIA OR 1500mm DIA RINGS. WITH OPERATIONAL NEED TO LAY LONGER LENGTHS. PLASTIC CHANNEL SECTIONS IN MANHOLES ARE NOT ACCEPTABLE AND YORKSHIRE WATER WOULD PREFER CLAYWARE CHANNELS IN MANHOLES. WE HAVE FOUND THAT PLASTIC CHANNELS ARE DIFFICULT TO SET IN CONCRETE BECAUSE THE FLAT AND A SATISFACTORY FINISH CANNOT BE OBTAINED ON THE BENCHING.
14. THE MINIMUM CRUSHING STRENGTH FOR CLAY PIPES SHOULD BE AS FOLLOWS: 100mm DIA: 40kN/m<sup>2</sup>; 150mm DIA: 40kN/m<sup>2</sup>; 225mm DIA: 40kN/m<sup>2</sup>; 300mm DIA: 70kN/m<sup>2</sup>. THE MINIMUM CRUSHING STRENGTH FOR CONCRETE PIPES SHOULD BE: CLASS 150 TO EN 1916/BS5111:2002. PLASTIC PIPES SHOULD CONFORM TO W8 4-35/1 AND BS EN14745.
15. WHERE A 810S COVER AND FRAME HAS BEEN APPROVED, THIS MUST NOT BE COATED IN PLASTIC AND MUST HAVE LIFTING EYES SUABLY SIZED TO ACCOMMODATE STANDARD LIFTING KEYS. SCREW DOWN COVERS ARE NOT ACCEPTABLE.
16. ALL HIGHWAY WORKS AND MATERIAL TO CONFORM WITH BARNESLEY MBC SPECIFICATION.
17. GULLY COVER AND FRAMES SHALL BE 600 DUCTILE IRON AND COMPLY WITH EUROPEAN STANDARD BS EN 124. THOSE SIGHTED IN ACCESSWAYS AND NEW COURTS MUST BE SUITABLE FOR USE IN PEDESTRIAN AREA.



Rev	Description	Date	Initials
F	Road 16 and 17 updated to suit latest planning layout.	22.10.25	JM
E	Foul outlet amended. Foul pumping station added to Phase 2.	08.10.25	JM
D	Road and sewer design updated to suit latest planning layout.	09.07.25	JM
C	Road and sewer design updated to suit latest planning layout.	08.04.25	JM
B	Road and sewer design updated to suit latest planning layout.	28.06.24	JM
A	Drainage info added.	03.04.24	JM

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Client: SAUL CONSTRUCTION / KEEPMOAT HOMES

Project: DARFIELD

Detail: ENGINEERING FEASIBILITY

D: JM | C: MH | Date: FEB/2024 | Scale: 1/500 @A0 | Dwg No: E18/7309/001\_02F

