

RISK ASSESSMENT: SIGNIFICANT RISKS THAT CANNOT BE DESIGNED OUT		SUGGESTED ACTION
RISK	LEVEL OF RISK (H/M)	
DEEP EXCAVATIONS ASSOCIATED WITH DEEP DRAINAGE WORKS	HIGH	ENSURE ALL EXCAVATIONS HAVE ADEQUATE TRENCH SUPPORTS AND ARE FENCED OFF TO PROTECT FROM FALLS.
HANDLING LARGE DIAMETER MANHOLE AND SOAKAWAY RINGS	HIGH	USE CORRECT LIFTING EQUIPMENT AND ENSURE OPERATIVES WEAR THE CORRECT PERSONAL PROTECTIVE EQUIPMENT.
CONTACT WITH SEWEAGE/WORKING IN CONFINED SPACES	MEDIUM	USE GAS DETECTORS/BREATHING EQUIPMENT AND ENSURE OPERATIVES WEAR THE CORRECT PERSONAL PROTECTIVE EQUIPMENT.
NOISE FROM MACHINERY	MEDIUM	OPERATIVES TO WEAR THE CORRECT EAR PROTECTION.
EXCAVATIONS NEAR TO UTILITIES	HIGH	UTILITY MAPS TO BE INSPECTED AND APPARATUS LOCATED USING APPROPRIATE EQUIPMENT PRIOR TO EXCAVATION.
EXCAVATIONS IN PUBLIC HIGHWAY	HIGH	ENSURE ALL EXCAVATIONS HAVE ADEQUATE TRENCH SUPPORTS AND ARE FENCED OFF TO PROTECT FROM FALLS. ENSURE THE CORRECT SIGNAGE/TRAFFIC CONTROL IS USED.
IT IS ASSUMED THAT WORKS ASSOCIATED WITH THIS DESIGN WILL BE UNDERTAKEN BY A PERSON(S) WHO ARE COMPETENT AND HAVE THE REQUIRED LEVEL OF EXPERIENCE AND EXPERTISE.		

KEY

- Existing Public combined sewer to remain
- Proposed Highway drain
- Proposed adoptable foul sewer
- Proposed foul lateral
- Proposed gully

NOTES

All drainage connection points to be located and checked for position and level prior to the commencement of any works.

STN GSM1
Ordnance Survey Grid & Datum
(Trimble GPS System OSTN02)

Sewers For Adoption Under a Section 104 Agreement

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 Standard/Requirements/Addendum to the mechanical and electrical specification and Kitemarked.
2.Manhole covers 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 land drainage runoff will therefore be required. Please consult with the Local Authority/Land drainage Section.
5. Cover slabs must carry the BSI kitemark or will be rejected by Yorkshire Water. Where the clear opening of the kite marked 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 600mm x 600mm for the Yorkshire Water specified cover size. Please refer to 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 and service margins.
8. Sewers must have 5 metres clearance from trees and hedges, (please also refer to Figure 2.3, page 33 in Sewers for Adoption 6th Edition for restrictions on tree planting adjacent to sewers)
9. Sewers to be laid in Class "S" bedding (150mm granular bed & surround.) Where depth of cover to the top of the sewer is less than 1.2m in Highway and verges (or less than 900mm in non vehicular areas) then a concrete slab should be provided above the granular bed and surround.
10. Bedding and backfill material to conform to the requirements of Water Industry Specification 4-08-02 (Table A2)
11. The chamber size of manholes with more than one connection may need to be increased an increment to accomodate the connections and bends.
12. Yorkshire Water policy is not to accept Type "C" brick manholes and 1050mm dia manhole rings. Instead it is preferred that you use a Type "B" manhole with 1200mm dia or 1500mm dia rings with the opening sited over the channel where depth of cover to pipe soffit is 1.0-1.5m
13. Stone backfill is required to all sewer trenches under vehicular areas. As dug material may be used on other areas subject to the written approval of the drainage authority.
14. All 150mm & 225mm dia pipes to be clay to comply with the relevant requirements of BS EN 295-1: 1991.
Minimum pipe crushing strength to be 150mm dia. 40KN/m, 225 dia. 45KN/m
All pipes 300mm dia and above to be concrete pipes to comply with the relevant provisions of BS 5911. Strength class 120 to EN 1916/BS 5911-1:2002.

Preliminary

Rev	Details	Date	Drwn.	Chk.
A	Amended following comments from PC	14-3-19	AST	

Partner Construction

Foulstone School Phase 2
Darfield, Barnsley

Engineering Layout

Dwg No. : STE/19/03/01 A

Date : 25-1-19

Scale : 1:500

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