



RISK ASSESSMENT: SIGNIFICANT RISKS THAT CANNOT BE DESIGNED OUT		SUGGESTED ACTION
RISK	LEVEL OF RISK (FHM)	
DEEP EXCAVATIONS ASSOCIATED WITH DEEP DRAINAGE WORKS	HIGH	ENSURE ALL EXCAVATIONS HAVE ADEQUATE FRENCH 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 SEWAGEWORKING 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 FRENCH 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 ARE TO BE CARRIED OUT BY A COMPETENT CONTRACTOR WHO WILL HAVE THE REQUIRED LEVEL OF EXPERIENCE AND EXPERTISE.		

KEY	
	Existing Public surface water sewer to remain
	Existing Public combined sewer to remain
	Proposed adoptable surface water sewer
	Proposed adoptable foul sewer
	Proposed surface water lateral
	Proposed gully

NOTES

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

All levels relate to OSBM on 8 Kings Road value 60.85m

- Sewers For Adoption Under a Section 104 Agreement**
- All adoptable sewer works and material to be in accordance with the current British Standard BS EN 12452-1:2015 and Yorkshire Water's Standard Requirements/Adoption to the mechanical and electrical specification and kitemarked.
 - Manhole covers must have a clear opening of 600mm and shall be Class D400 to BS EN 124 with 150mm deep frames in highways.
 - Filled ground must be filled and consolidated under the supervision works are carried out.
 - Yorkshire Water is not obliged to accept filter drain/drain drainage runoff into the public sewer network or adoptable drainage system (directly or indirectly). An alternative method of disposal of land drainage runoff will be required. Please consult with the Local Authority/Land drainage Section.
 - Cover slabs must carry the BS1 kitemark or will be rejected by Yorkshire Water. Where the clear opening of the kitemarked product is different to that of the cover and frame, a bearing bearing slab should be fitted above the cover slab to cover size. Please refer to CPDA Technical Bulletin issued Autumn 2004 for kitemarked cover slab opening sizes.
 - Sulphate resistant cement (C20-DC2) and precast concrete products must be used or a laboratory report provided proving that such precautions are not required.
 - The adoptable sewers should be a minimum of 1m and manholes 0.5m from kerb faces and service margins.
 - 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 details)
 - Sewers to be laid in Class "B" 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 bedding and backfill material to conform to the requirements of Water Industry Specification 428-02 (Table A2)
 - The chamber size of manholes with more than one connection may need to be increased in increments to accommodate the connections
 - 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 slab over the top of the manhole. If you use a Type "B" manhole, please refer to the Water Industry Specification 428-02 (Table A2)
 - 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.
 - All pipes 300mm dia and above to be concrete pipes to comply with the requirements of BS EN 285:1 (1981)
 - Minimum pipe crushing strength to be 150kN/m² dia. 40kN/m² dia. 45kN/m² dia. 30kN/m² dia and above to be concrete pipes to comply with the relevant provisions of BS 5911:1, Strength Class 70 to EN 1916DS 5911-1:2002.

Preliminary

C. Approved Building VM contracts B. Main sewerage improvement of existing crossings A. Drainage design amended		14.6-17 14.6-17 10.5-17	AST AST AST
Rev	Details	Date	Drawn/Ck
Premier Homes			
Kings Road			
Wombwell, Barnsley			
Engineering Layout			
Dwg No.: STE/17/06/01 C			
Date: 10-2-17			
Scale: 1:500			