

| CONSTRUCTION RISKS                                |                   |                  |
|---------------------------------------------------|-------------------|------------------|
| CONSTRUCTION RISKS                                | MAINTENANCE RISKS | DEMOLITION RISKS |
| Collapse of excavations.                          |                   |                  |
| Un-charted buried existing services.              |                   |                  |
| Working on live sewers.                           |                   |                  |
| Working adjacent to the public highway.           |                   |                  |
| Working adjacent to a watercourse.                |                   |                  |
| Potential contamination and asbestos on the site. |                   |                  |
|                                                   |                   |                  |

In addition to the hazards/risks normally associated with this type of work detailed on this drawing take note of the above. ID Civils Design are only required to provide information about any significant risks associated with the design.



- LEGEND
- Existing highway drain.
  - Existing foul water sewer.
  - Existing foul water rising main.
  - Proposed foul water manhole and sewer.
  - Proposed foul water lateral and demarcation manhole.
  - Proposed foul water rising main.
  - Proposed surface water manhole and sewer.
  - Proposed surface water lateral and demarcation manhole.
  - Proposed surface water rising main.
  - Proposed surface water gully.
  - Protected strip or easement.

Health and Safety/2004/2007 Regulations 2015

In line with the above regulations we are obliged to inform the Contractor of the potential risks that may be encountered as the contractor of these works. As part of the design process all the relevant health & safety aspects are given full consideration and these are incorporated into the design of these works. Although considerable effort is undertaken to eliminate risks, the very nature of the project gives rise to some hazards and risks.

Significant risks that cannot be eliminated by design and could not be foreseen by a competent contractor are noted in the risk assessment based on the drawings.

Notes

- No work should commence on site until written approval is received from Yorkshire Water/Adopting Highway Authority or any relevant Authority. Works undertaken prior to approval are at the Developer's risk and ID Civils Design will not be held responsible for subsequent delays in approvals, remedial costs or construction programme delays.
- Prior to the commencement of on site works the contractor is to check the location, invert levels, sizes and conditions of manholes, pipes, and any ditches or watercourses in which it is intended to install. Any discrepancy is to be reported immediately to ID Civils Design.
- Prior to construction the actual position and depth of services likely to be affected by the work should be established by means of a hand dig to close liaison with the statutory service authorities. The contractor shall immediately inform ID Civils Design of any services exposed that may affect the.
- The Local Authority and statutory service providers are to be notified prior to the commencement of work on site.
- All highway works to be carried out in accordance with the Highway Authority specification for Highway Works.
- Street lighting to be in accordance with the lighting design.
- All sewer works to be adopted to be in accordance with "Sewers for Adoption" (6th Edition), the relevant British/European and Yorkshire Water's Standards/Requirements/Addendum and "Kitemarked".
- 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.
- Adoptable sewers should be a minimum of 1.0m and manholes 0.5m from kerb faces and service margins.
- Sewers must have 5 metres clearance from trees and hedges, any existing trees should be removed and no new trees planted within this zone. Refer to Figure 2.3 on page 23 "Sewers for Adoption" 6th Edition for restrictions on tree planting adjacent to sewers.
- Cover slabs must carry the BS1 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 load 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 Concrete Pipe Systems Association (CPSA), "Technical Bulletin" issued autumn 2004 for Kitemarked cover slab opening sizes.
- Manhole covers shall have a minimum clear opening of 600 x 600mm and shall be Class D400 to BS EN 124 with 150mm deep frames in highways.
- 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.
- 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 sized over the channel where the depth of cover to pipe offset is 1-1.5m.
- Plastic channel sections in manholes are not acceptable and Yorkshire Water would prefer clayware channels in manholes. Plastic channels are difficult to set in concrete because they float and a satisfactory finish cannot be obtained on the benching.
- Filled ground must be filled and consolidated under the supervision and to the satisfaction of Yorkshire Water before any sewer works are carried out.
- Sulphate resistant cement (C20-DCE) and precast concrete products must be used or a laboratory report provided proving that such precautions are not necessary.
- 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 more vehicular access areas) then a concrete slab should be provided above granular bed and surround. (Ref. S.I.A.S. TABLE 2.4.1)
- The minimum crushing strength for Clay pipes should be as follows:
  - 150mm dia. 40kN/m<sup>2</sup>
  - 225mm dia. 45kN/m<sup>2</sup>
  - 300mm dia. 72kN/m<sup>2</sup>
- The pipe strength for Concrete pipes should be Class 120 to EN1916/BS5911-1:2002.
- Adoptable plastic sewer pipes to be BS1 Kitemarked (certified to WIS 4-35-61) and to BS(DN)3470.
- Adoptable plastic sewer pipes to be laid in maximum of 3 metre lengths unless there is a specific operational need to lay longer lengths.
- Where plastic pipes are installed in the ground prior to getting approval, the Developer must provide a light-line CCTV Survey and report (electronic deflection testing) of the prospectively adoptable sewers which will be at the Developer's expense.
- Where a B125 cover and frame has been approved, this must not be installed in plastic and must have lifting eyes suitably sized to accommodate standard lifting keys. Screw down covers are not acceptable.
- Bedding and Backfill material to conform to the requirement of Water Industry Specification 4-08-02 (Table A2).

|     |                                              |    |          |
|-----|----------------------------------------------|----|----------|
| E   | Retaining walls added                        | CR | 23.03.20 |
| D   | Layout updated, highway and level redesign   | CR | 20.03.20 |
| C   | Layout updated, network and lateral redesign | DL | 20.02.20 |
| B   | Layout and VW updates                        | CR | 20.12.19 |
| A   | Demarcation chamber schedule updated         | CR | 28.10.19 |
| Rev | Description                                  | By | Date     |

Client:

Countryside Properties

Project Title:

Goldthorpe

Drawing Title:

1:500 Engineering Layout

| Scale        |  | Date     |        |
|--------------|--|----------|--------|
| 1:500 @ A0   |  | 16.10.19 |        |
| Drawing No   |  | Revision | Status |
| 5003-C-D1-03 |  | E        | A      |



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