

Project No: 22131

Project: Roughbitchworth Lodge
Roughbitchworth Lane
Oxspring
Barnsley
S36 8YZ

Subject: Drainage Statement

Date: 24th April 2022

BDI STRUCTURAL SOLUTIONS LTD

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1.0 GENERAL

This drainage statement has been prepared to support the planning application. The location of the proposed development site can be seen in the image below.



Figure 1.0 – Location of Development

The site is currently occupied by several outbuildings, hardstanding's and an open expanse of land including trees and shrubs. A site investigation will be carried out to identify existing drainage to the site. The surface water runoff generates 16.0 l/s, a

value calculated using the modified rational method and the total existing impermeable area of 0.115ha (hradstandings including outbuildings). The proposed impermeable is 4290m² (0.429ha) and has been used to calculate the proposed attenuation required.

2.0 DRAINAGE DESIGN

2.1 Surface Water Drainage

2.1.1 Flood Risk

The site is less than 1.0 ha and lies wholly within the Zone 1 Flood Map. As such a site-specific Flood Risk Assessment is not required.

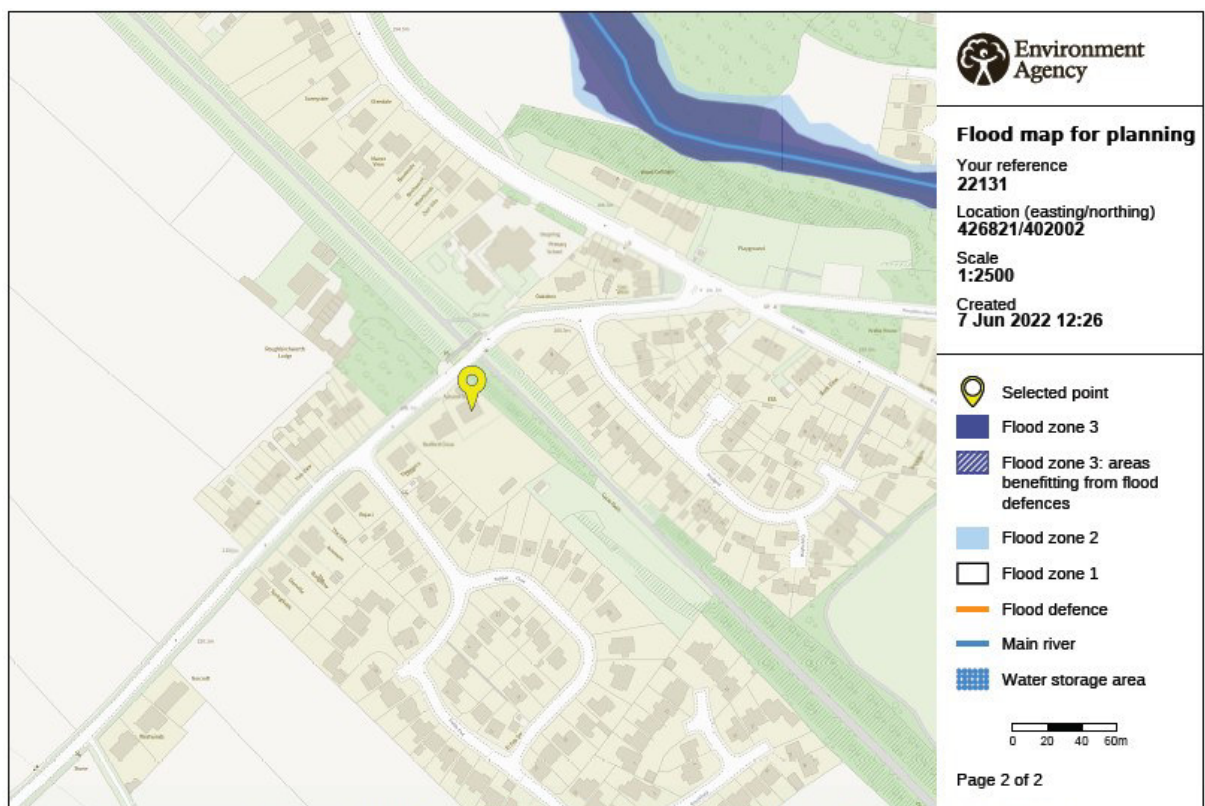


Figure 2.1A – EA Flood Maps for Planning

2.1.2 Drainage Strategy

In accordance with the Building Regulations hierarchy for the disposal of surface water drainage, the initial consideration will be for a soak-a-way system.

From online soil data the site is “Slowly permeable seasonally wet slightly acid loamy and clayey soils.” Superficial deposits are not recorded on the BGS website.

In view of the low permeability of the soils indicated at the site, soak-a-ways are not required for the proposed development.

The second consideration is disposal of surface water to watercourses. The River Don is located 192m from the proposed development and considering the distance of watercourses from the proposed site this is not considered an economically viable option.

A culverted watercourse is located within the boundary of the proposed development and our preferred option is to discharge surface water into the culvert. The approximate location of the culvert can be seen in the image below.

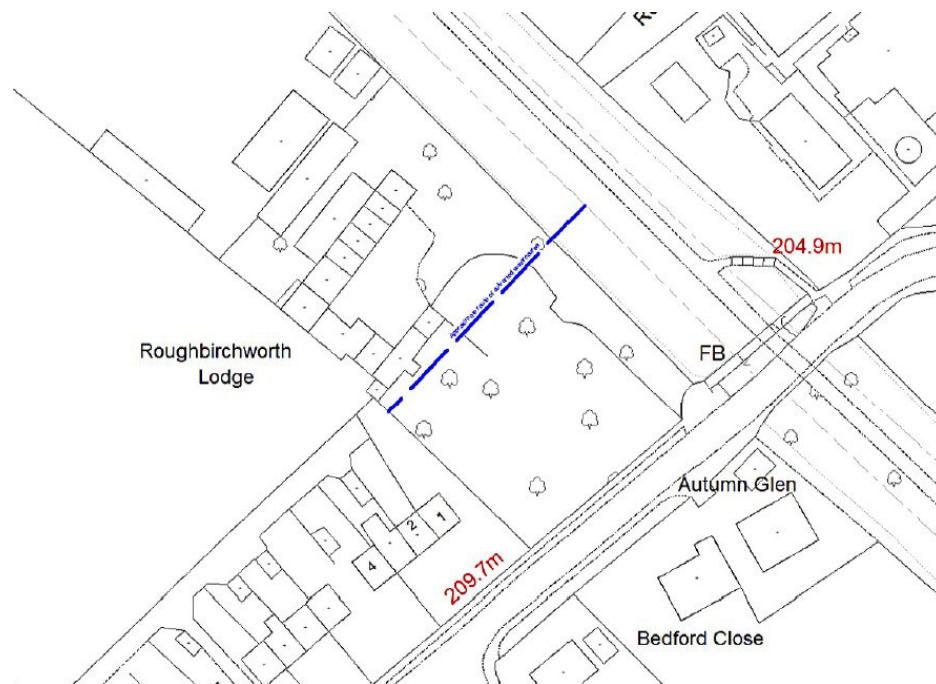


Figure 2.1B – Approximate Location of Surface Water Culvert

Therefore, the third and final option is to discharge into the existing combined public sewer. The public sewer connection is located adjacent to the proposed development in Roughbirchworth Lane. However, our preferred option is to discharge surface water into the existing culverted watercourse.

The design criteria for network modelling to be used for the site is:

- 1 in 30 year no surcharging of the surface water network.
- 1 in 100 year (+ 40% climate change) will be contained within the attenuation, and the volume has been indicated for the development site.
- The roof water for the proposed development will also enter the combined public sewer.
- A bypass separator upstream of the proposed attenuation structure is not considered a requirement due to the limited number of parking bays for the proposed development.

2.2 Foul Drainage

The foul drainage for the proposed development is to connect into the public combined sewer in Roughbirchworth Lane.

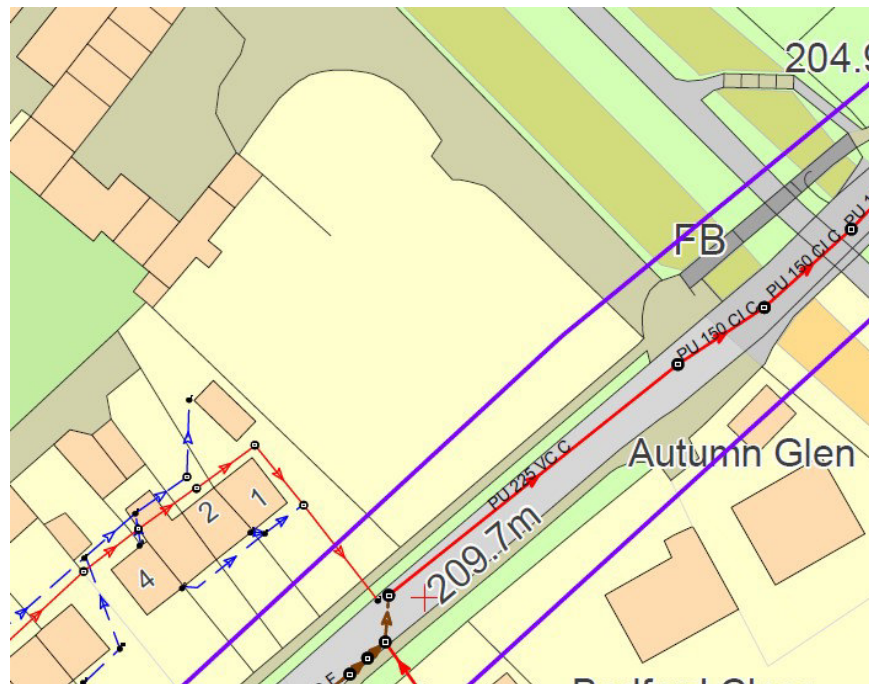


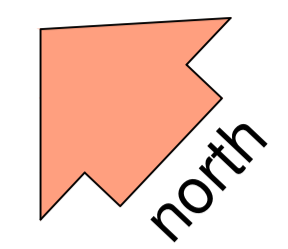
Figure 2.2 – Yorkshire Water Sewer Records

Attached Appendices

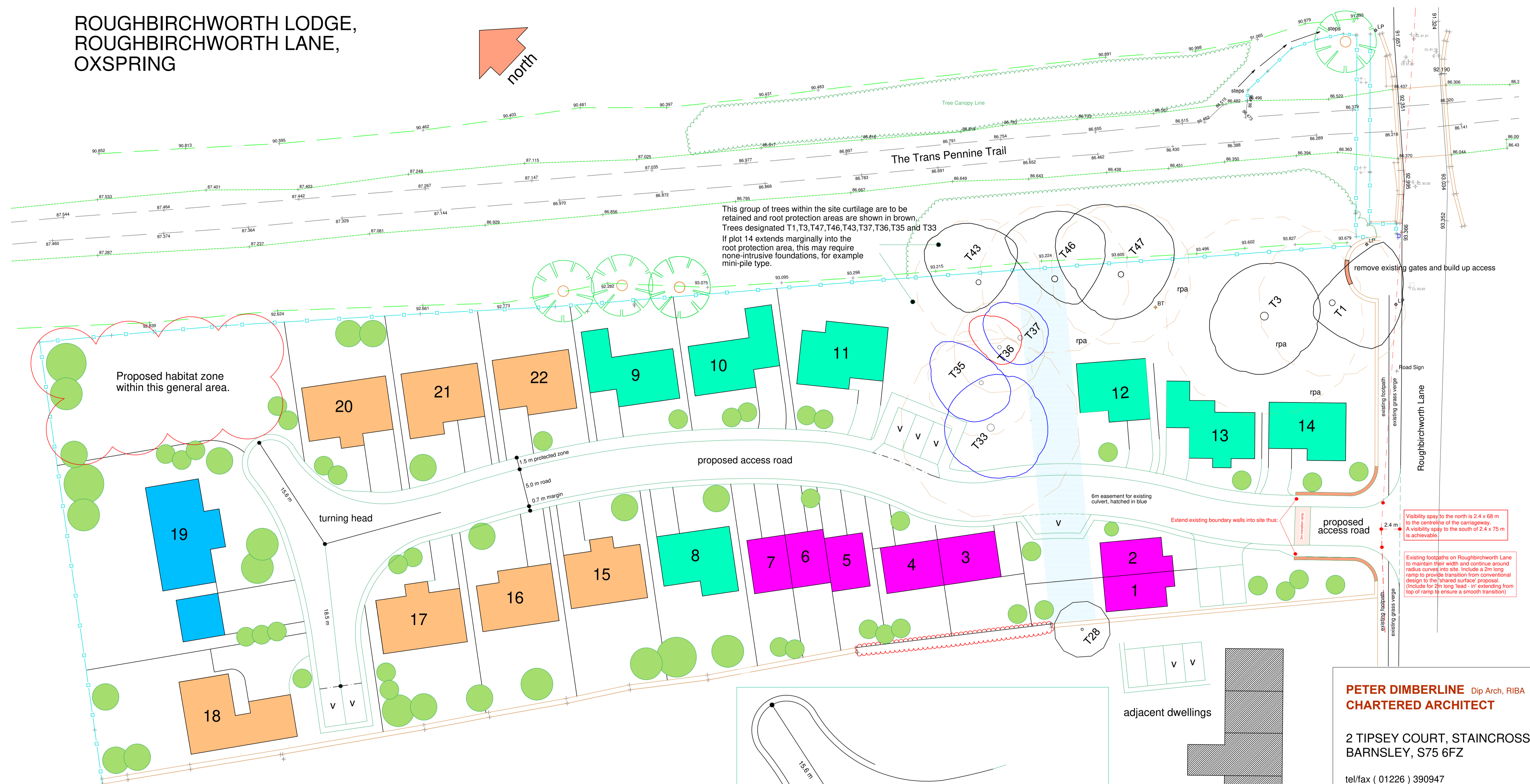
- Appendix A – Proposed Site Plan
- Appendix B – Yorkshire Water Drainage Records
- Appendix C – Microdrainage Calculations
- Appendix D - BDi Drawing Number 22131.001– Drainage Layout.
- Appendix E – Topographical Survey

APPENDIX A

PROPOSED LAYOUT AT 1:250
ROUGH BIRCHWORTH LODGE,
ROUGH BIRCHWORTH LANE,
OXSPRING



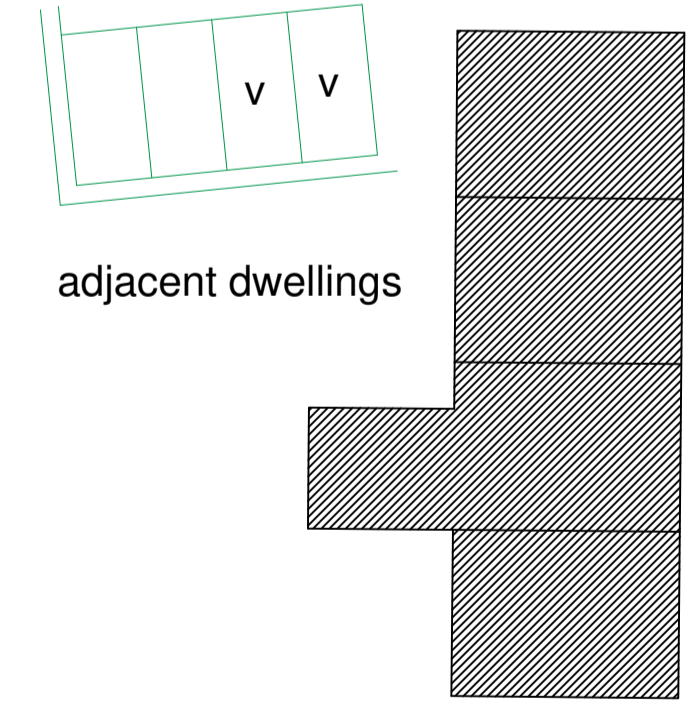
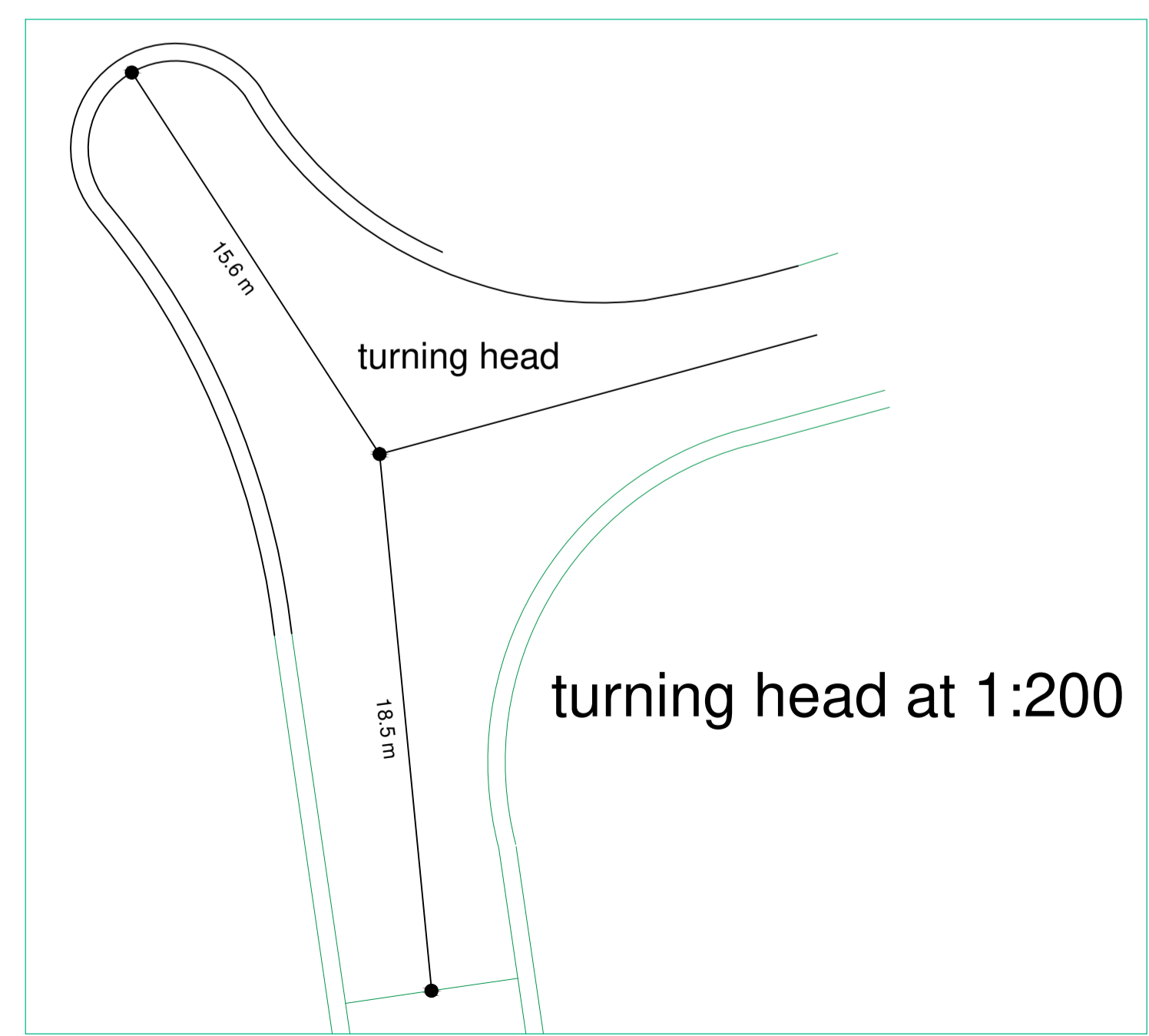
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This group of trees within the site curtilage are to be retained and root protection areas are shown in brown. Trees designated T1, T3, T47, T46, T43, T37, T36, T35 and T33. If plot 14 extends marginally into the root protection area, this may require non-intrusive foundations, for example mini-pile type.

Visibility splay to the north is 2.4 x 68 m to the centreline of the carriageway.
 A visibility splay to the south of 2.4 x 75 m is achievable.
 Existing footpaths on Roughbirchworth Lane to maintain their width and continue around radius curves into site. Include a 2m long ramp to provide transition from conventional design to the 'shared surface' proposal. (Include for 2m long 'lead-in' extending from top of ramp to ensure a smooth transition)

- A total of 22 dwellings proposed as listed below.
- phase 1 affordable dwellings 7no. (A mix of 3 and 2 bed)
 - phase 1 dwellings 7no. (Generally 4 bed)
 - phase 2 dwellings 7no. (Generally 4 bed)
 - 'signature plot' 1no. (Min 4 bed)
- NB:
 All dwellings comply with minimum rear garden space as set out in the SYRDG ie a min 50 sq m for 2 bed houses and 60 sq m for 3 bed and over



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CLIENT Mr P Faxon
PROJECT Proposed residential development
LOCATION Site off Roughbirchworth Lane, Oxspring, (South of Trans Pennine Trail)
DRAWING Proposed site layout
SCALES 1:250 DATE Oct '18
DRWG No. 2017/28/03 DRAWN BY PD
REV. B

REVISIONS
 'B' Layout amended to include final highway requirements
 'A' Layout amended in accordance with planning request

APPENDIX B

YORKSHIRE WATER PROTECTION OF MAINS AND SERVICES

1. The position of Yorkshire Water Services Ltd (YWS) apparatus shown on the existing mains record drawing(s) indicates the **general** position and nature of our apparatus and the accuracy of this information cannot be guaranteed. Any damage to YWS apparatus as a result of your works may have serious consequences and you will be held responsible for all costs incurred. Prior to commencing major works, the exact location of apparatus must be determined on site, if necessary by excavating trial holes. The actual position of such apparatus and that of service pipes which have not been indicated must be established on site by contacting the Customer Helpline on 0845 124 24 24 for both water and sewerage.
2. The public sewer and water network is lawfully retained in its existing position and the sewerage and water undertaker is entitled to have it remain so without any disturbance. The provisions of section 159 of the Water Industry Act 1991 provides that the undertaker may "inspect, maintain, adjust, repair or alter" the network. Those rights are given to enable the undertaker to perform its statutory duties. Any development of the land or any other action that unacceptably hindered the exercise of those rights would be unlawful. The provisions contained in Section 185 of the Water Industry Act 1991 state that where it is reasonable to do so, a person may require the water supply undertaker to alter or remove a pipe where it is necessary to enable that person to carry out a proposed change of use of the land. The provisions contained in Section 185 also require the person making the request to pay the full cost of carrying out the necessary works.
3. Ground levels over existing YWS apparatus are to be maintained. Sewers in highways will **generally** be laid to give 1200mm of cover from finished ground level working to kerb races, other permanent identification of the limits of the road or to an agreed line and level. Substantial increases or decreases to this 1200mm depth of cover will result in the sewer being re-laid at your expense. Water mains and services will **generally** be laid with a minimum of 750mm depth of cover however some mains and services usually those installed over 50 years ago may have less ground cover.
4. If surface levels are to be decreased / increased significantly the effects on existing water supply apparatus will be carefully considered and if any alterations are necessary, the costs of the alterations will be recharged to you in full. Outlets on fire hydrants must be no more than 300mm below the new levels and all surface boxes must be adjusted as part of the scheme.
5. To enable future repair works to be carried out without hindrance; any pipe, cable, duct, etc. installed parallel to a water main or service pipe should not be installed directly over or within 300mm of a water main or service pipe or 1000mm of a waste water asset. Where a pipe, cable, duct, etc. crosses a main or service it should preferably cross perpendicular or at an angle of no less than 45° and with a minimum clearance of 150mm. These requirements apply to activities within an existing highway and are relevant to the installation of pipes, cables, ducts, etc. up to and including 250mm in diameter (*see illustration below*). Necessary protection measures for installations greater than 250mm in diameter and/or in private land will need to be agreed on an individual basis. Installations within a new development site must comply with the National Joint Utilities Group publication Volume 2: NJUG Guidelines On The Positioning Of Underground Utilities Apparatus For New Development Sites.
6. All excavation works near to YW apparatus should be by hand digging only.
7. Backfilling with a suitable material to a minimum 300mm above YW apparatus is required.
8. Adequate support must be provided where any works pass under YW apparatus.
9. Jointing chambers, lighting columns and other structures must be installed in such a way that future repair or maintenance works to YW apparatus will not be hindered.
10. Apparatus such as; railings, sign posts, etc. must not be placed in such a way that they prevent access to or full operation of controlling valves, hydrants or similar apparatus. YWS surface boxes must not be covered or buried. Any adjustment, alteration or replacement of manhole covers must be agreed on site prior to the commencement of the works with a YWS Inspector who may be contacted via our Call Centre on 0845 124 24 24.
11. Explosives shall not be used within 100 metres of any Yorkshire Water Services apparatus or installations.
12. Vibrating plant should not be used directly over any apparatus. Movement or operation by vehicles or heavy plant is not to be permitted in the immediate vicinity of YWS plant or apparatus unless there has been prior consultation and, if necessary, adequate protection provided without cost to YWS.
13. **Under no circumstances** should thrust boring or similar trenchless techniques commence until the actual position of the Company's mains/services along the proposed route have been confirmed by trial holes.
14. Any alterations to the highway should be notified following the procedures outlined in the New Road and Street Works Act 1991 Code of Practice; Measures Necessary Where Apparatus Is Affected By Major Works (Diversionary Works).
15. You will be held responsible for any damage or loss to YWS apparatus during and after completion of work, caused by yourselves, your servant or agent. Any damage caused or observed to YWS plant or apparatus should be immediately reported to YWS. Should YW incur any costs as a result of non-compliance with the above, all costs will be rechargeable in full.
16. You should ensure that nothing is done on the site to prejudice the safety or operation of YWS employees, plant or apparatus.
17. In accordance with the New Roads and Street Works Act 1991, Chapter 22, Part 3, Section 80. The location of any identified YW asset "which is not marked, or is wrongly marked, on the records made available" should be communicated back to Yorkshire Water. The location of the apparatus should be identified on copies of the supplied plans which should be returned to Yorkshire Water (Asset Records Team) with photographic supporting evidence where possible.
18. The Government has decided that responsibility for private sewers serving two or more properties and lateral drains (the section of pipe beyond the boundary of a single property, connecting it to the public sewer) will be transferred to the water companies on Oct 1 2011.

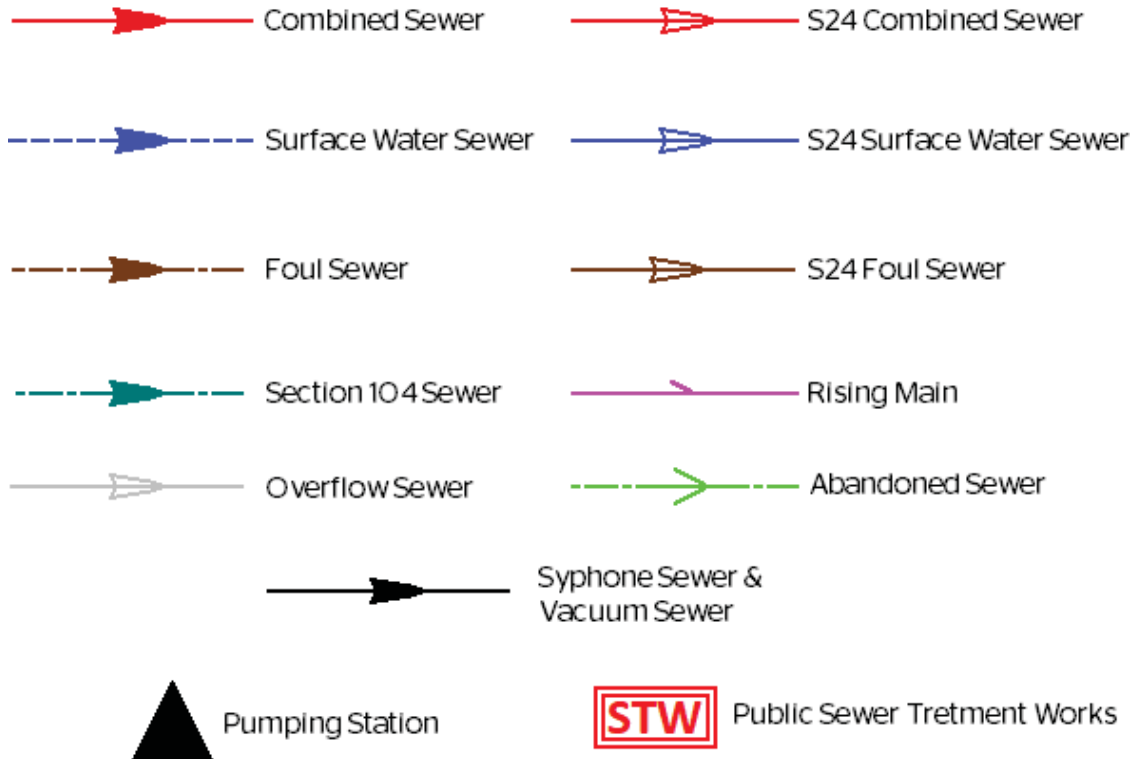
Private pumping stations will also transfer during the period 1 October 2011 – 1 Oct 2016. Records of these assets may not yet be shown on the existing mains record drawing(s). If you encounter any of these assets you must inform Yorkshire Water Services Ltd (YWS).

19. Please note that the information supplied on the enclosed plans is reproduced from Ordnance Survey material with the permission of the Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office, © Crown Copyright. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. Licence Number 1000019559.
20. This information is for guidance only and the position and depth of any YW apparatus is approximate only. Likewise, the nature and condition of any YW apparatus cannot be guaranteed. YW has no responsibility for recording the locations of privately owned apparatus. As of 1 October 2011, there may be some lateral drains and/or public sewers which are not documented on YW records but may still be present. For the avoidance of doubt, this information is not a substitute for appropriate professional and/or legal advice. YW accepts no responsibility for any inaccuracy or omissions in this information. The actual position of YW apparatus must be determined on site by excavating trial holes by hand. YW requires a minimum of two working days' written notice of the intention to excavate any trial holes before any excavation can be undertaken. If there are any queries in this respect please contact Yorkshire Water on 0845 124 24 24.

Property Identifier

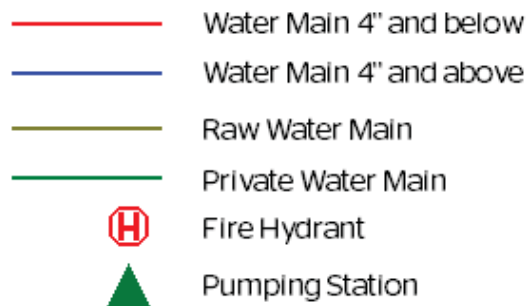


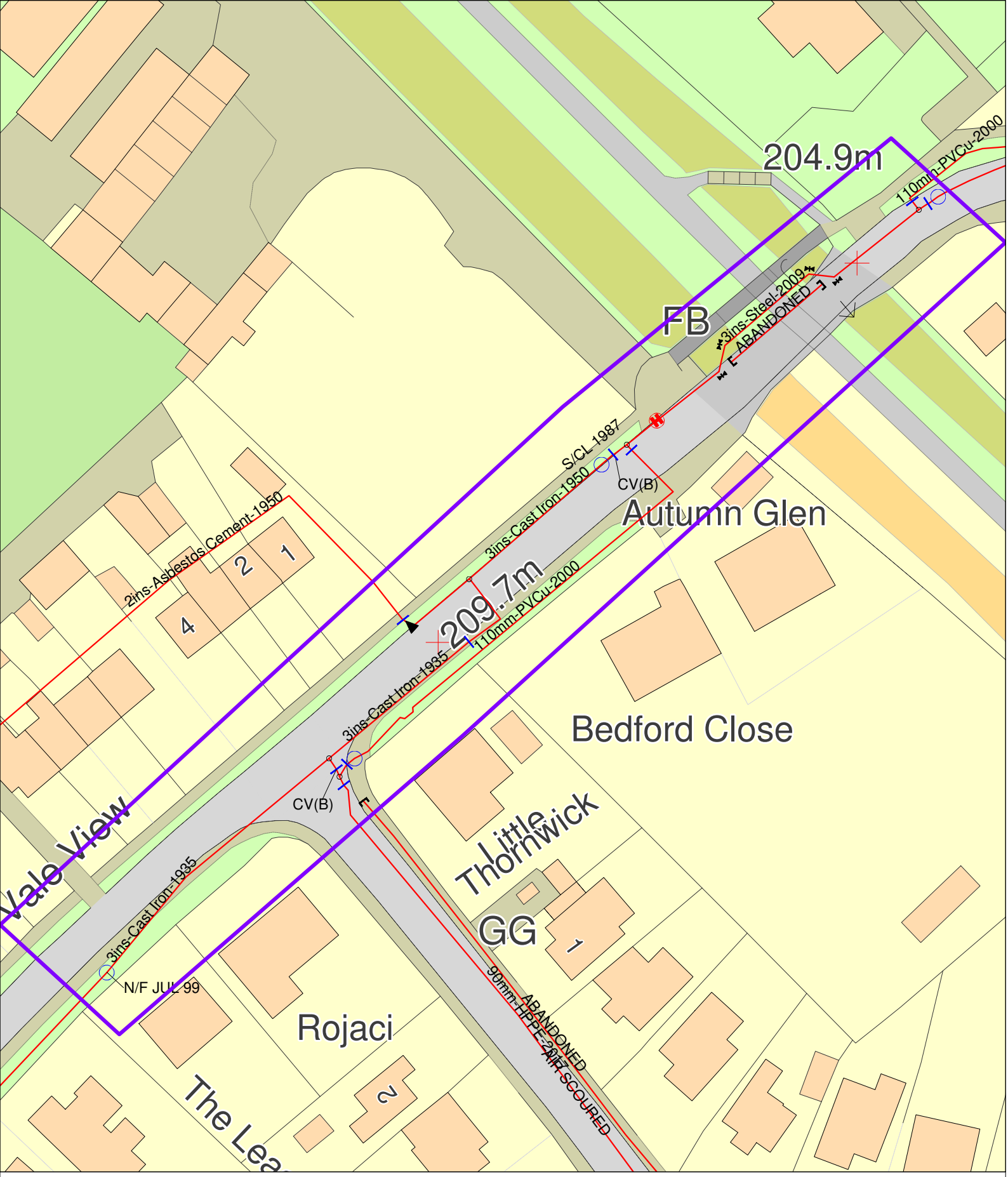
Sewer Legend



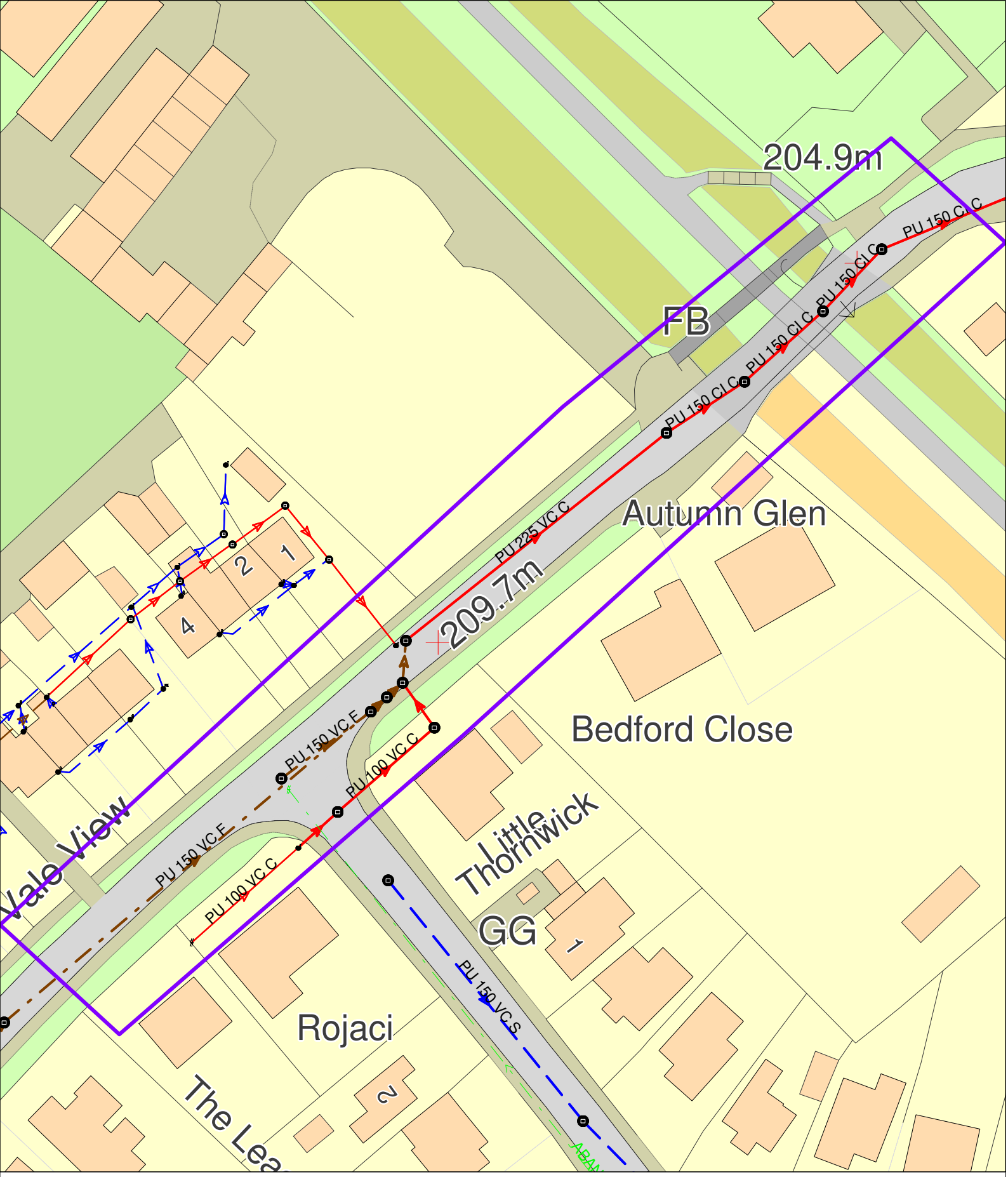
Please note that the direction of flow arrows may not always appear depending on the scale of the map.

Water Legend





Public Clean Water Network 07/06/2022 12:08:19 OS Grid Coordinates: 426716 : 401923 Map Name : SE2601NE svcGISSafeMovePD



Public Waste Water Network 07/06/2022 12:08:20 OS Grid Coordinates: 426716 : 401923 Map Name : SE2601NE svcGISSafeMovePD

APPENDIX C

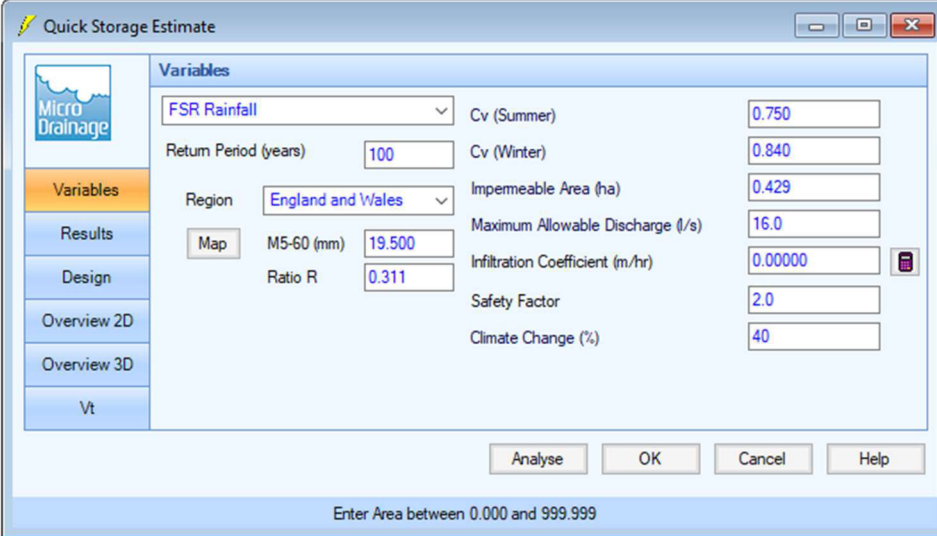
22131 – Roughbitchworth Lodge, Roughbitchworth Lane, Oxspring, Barnsley, S36 8YZ

Mirodrainage Calculations

Surface Water Runoff

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Attenuation



Quick Storage Estimate

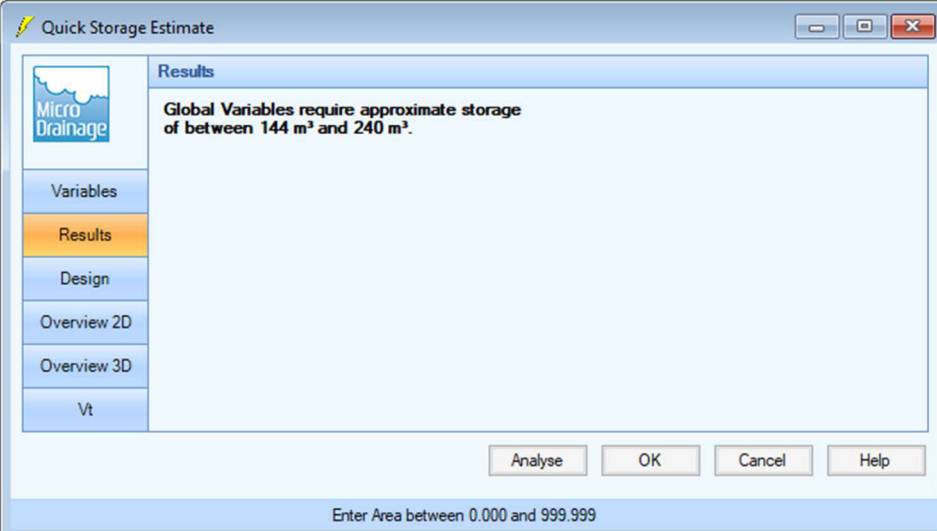
Micro Drainage

Variables

FSR Rainfall		Cv (Summer)	0.750
Return Period (years)	100	Cv (Winter)	0.840
Region	England and Wales	Impermeable Area (ha)	0.429
Map	M5-60 (mm)	Maximum Allowable Discharge (l/s)	16.0
	Ratio R	Infiltration Coefficient (m/hr)	0.00000
		Safety Factor	2.0
		Climate Change (%)	40

Analyse OK Cancel Help

Enter Area between 0.000 and 999.999



Quick Storage Estimate

Micro Drainage

Results

Global Variables require approximate storage of between 144 m³ and 240 m³.

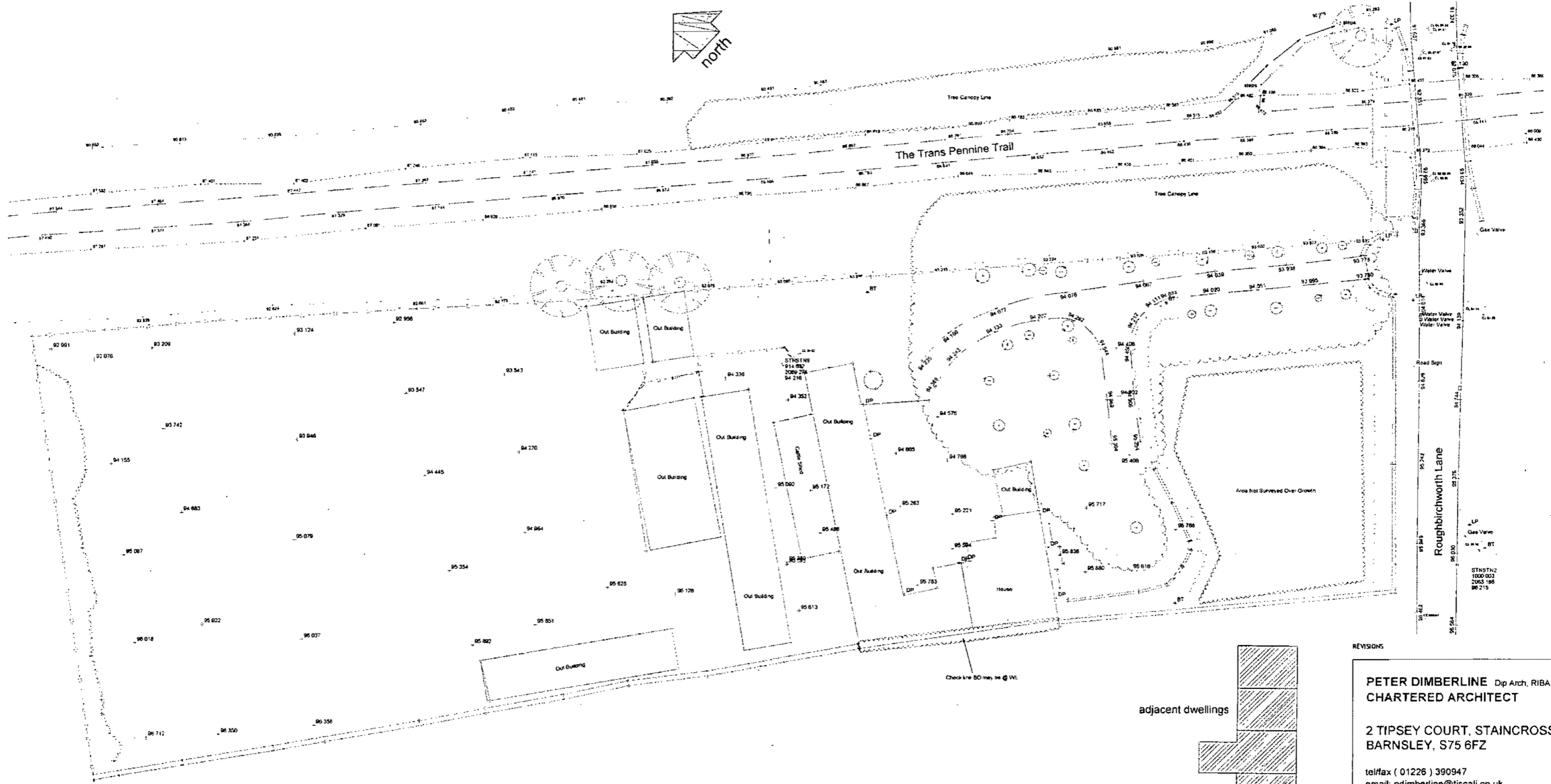
Analyse OK Cancel Help

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APPENDIX D

APPENDIX E

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Existing topographical site plan at 1:250

REVISIONS PETER DIMBERLINE Dip Arch, RIBA CHARTERED ARCHITECT 2 TIPSEY COURT, STAINCROSS BARNSELY, S75 6FZ tel/fax (01226) 390947 email: pdimberline@tiscali.co.uk	
CLIENT	Mr P Faxon
PROJECT	Proposed residential development
LOCATION	Site off Roughbichworth Lane, Oxspring, (South of Trans Pennine Trail)
DRAWING	Existing topographical site layout
SCALES	1:250
DATE	Oct '18
DRWG No.	2017/28/01
DRAWN BY	PD
REV.	