

**Job Name:** Land to Rear of Tollgate Road, Colney Heath  
**Job No:** 332510999  
**Note No:** TN002  
**Date:** 22/08/2023  
**Prepared By:** Oliver Belson  
**Subject:** Response to 3<sup>rd</sup> Party Representations  
**Appended:** Cross Sections and Alignment Plans

---

## 1. Background

- 1.1. Stantec UK Ltd (Stantec) has been engaged in providing technical assessments to support the planning application reference 5/2022/1988. We have previously provided a response to 3<sup>rd</sup> Party objections dated 24/1/2023. The application is currently being appealed and further 3<sup>rd</sup> Party representations have been received.
- 1.2. Those pertinent to the contents of this technical note refer to *“The oral history given by local residents refers to an underground stream, probably a tributary of the River Colne, that runs parallel with the rear boundary of 42-100 Tollgate Road. It is further believed that this boundary was set to avoid interfering with the stream. The observed pattern of groundwater flooding and the EA low risk groundwater flood risk map tend to support this.”* (Ian Skelt, 44 Tollgate Road, dated 6<sup>th</sup> July 2023).
- 1.3. Representations from Mr Robert Ellis of 84 Tollgate Road give a chronology of the ‘discovery’ of the purported presence of a subterranean chalk stream at the site.
  - Advice received from the Geological Society of Hertfordshire that the watercourse identified by Mr Ellis *“was in all likelihood a chalk tributary of the River Colne”*
  - *“Dr. Bailey added on 06/02/23 that the watercourse would be concentrated to a particular course but as the flow is through gravels the watercourse is likely to be widespread. The spread and extent of the tributary can be witnessed on the ground in times of rainfall upstream.”*
- 1.4. Mr Ellis’ states that *“Stantec confirm that an underground stream flows through the North of the site in their technical note dated 24<sup>th</sup> January 2023, they state: “The underground/subterranean stream referred to in the email correspondence is in all likelihood referencing a sub-surface chalk stream within the main aquifer”.”*
- 1.5. In response to these statements, Stantec refute that the Technical Note confirmed that a subterranean stream or watercourse is present beneath the northern part of the site and can confirm that the feature referred to by 3<sup>rd</sup> party representations is a surface depression which collects rainwater and runoff, and is not a subterranean stream. Further details in relation to this are set out in Section 2 of this Technical Note.

## 2. Technical Summary

- 2.1. The River Colne, located to the south western boundary of the proposed site, flows at the groundwater level within the chalk aquifer along the Colne Valley floor where the river channel, containing alluvium, has cut through the glacial deposits (including Lowestoft Formation glacial clay and gravel deposits and Kesgrave glacial clay and gravel deposits) which overlie the chalk bedrock. As it is linked to and fed by chalk aquifer groundwater it is referred to as a chalk stream or river.

- 2.2. Away from the River Colne channel the chalk aquifer is overlain by glacial deposits as described above.
- 2.3. The feature shown on the Flood Risk Mapping inside the northern boundary of the proposed site, and as referenced by the 3<sup>rd</sup> party representations, is at an approximate ground level of 75.30m AOD in the east and 75.11m AOD in the western extent indicating that the ground surface falls gently to the northwest along the northern boundary.
- 2.4. It is of note that the ground level to the immediate south of the identified feature is some 100-200mm higher, creating a localised shallow dip in the surface. The site is otherwise ostensibly plateaued across the majority of the site, falling in the southwestern third toward the River Colne, which the topographical survey records the northern bank at approximately 70m AOD. The topography of the site is reflected in the Flood Risk zoning mapping.
- 2.5. As stated in our previous response there are no historical references to a stream or springs within the site or in proximity of the site on the historical Ordnance Survey mapping, nor were there any observed during the various site visits undertaken between March 2022 and July 2022.
- 2.6. The feature adjacent to the northern boundary referred to by 3<sup>rd</sup> parties appears to be an intermittent drainage feature in a shallow dip on the surface. The rate of drainage in this part of the site is determined by the local topography and the underlying ground conditions. These have been proven through intrusive ground investigations carried out in May 2022 to comprise glacial deposits of the Kesgrave Catchment Subgroup with granular (sand and gravel deposits) immediately underlying the surface with a relatively impermeable clay rich layer of the Kesgrave Catchment Subgroup beneath.
- 2.7. The rate of infiltration will be determined by the speed with which the rainwater can either infiltrate down through the ground immediately underlying this topographic dip or laterally through the granular Kesgrave deposit. Surface ponding will only occur when the accumulation of incident rainfall exceeds the under-drainage permeability of the glacial deposits.
- 2.8. It is certainly the case that subsurface groundwater will be present within the Kesgrave sand and gravel deposits, as observed during the ground investigation, restricted from draining downwards by the underlying clay dominated glacial deposits. Whilst the subsurface geological profile means groundwater could be present, it would not flow as a defined subterranean stream.

## DOCUMENT ISSUE RECORD

Technical Note No	Rev	Date	Prepared	Checked	Approved
332510999/TN002	00	22/08/23	O Belson	O Belson	A Hensler

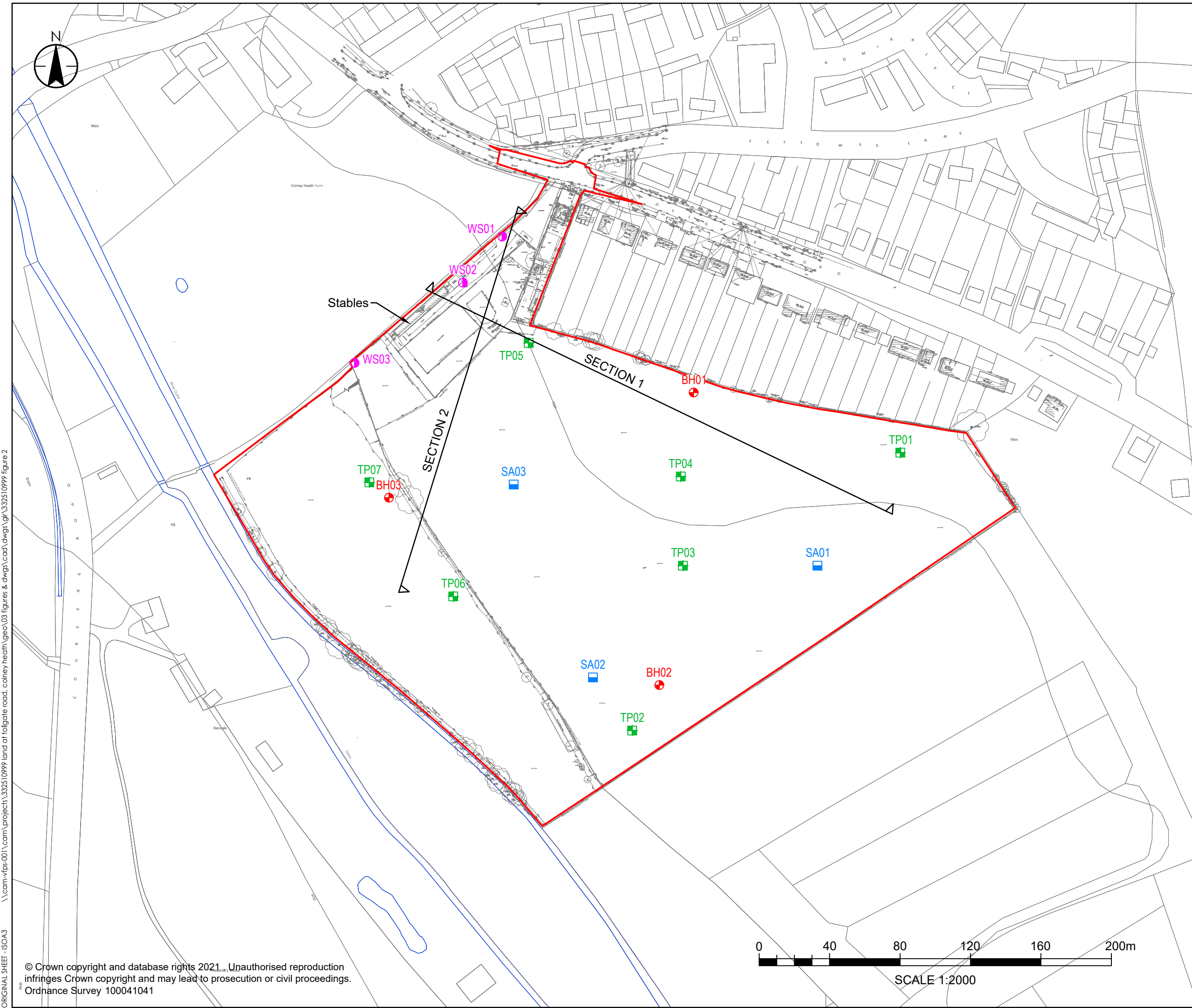
This report has been prepared by Stantec UK Limited ('Stantec') on behalf of its client to whom this report is addressed ('Client') in connection with the project described in this report and takes into account the Client's particular instructions and requirements. This report was prepared in accordance with the professional services appointment under which Stantec was appointed by its Client. This report is not intended for and should not be relied on by any third party (i.e. parties other than the Client). Stantec accepts no duty or responsibility (including in negligence) to any party other than the Client and disclaims all liability of any nature whatsoever to any such party in respect of this report.

Registered Office: Buckingham Court Kingsmead Business Park, London Road, High Wycombe, Buckinghamshire HP11 1JU  
 Office Address: 50/60 Station Road, Cambridge CB1 2JH T: +44 (0) 01223 882000 E: [cambridge.uk@stantec.com](mailto:cambridge.uk@stantec.com)



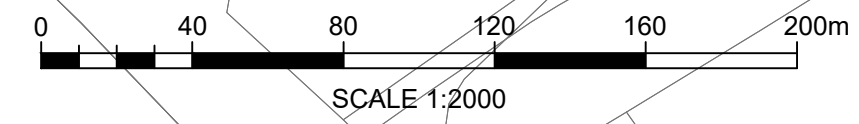
**Key**

- Approximate Site Boundary
- + Borehole
- + Trial Pit
- Window Sample
- Soakaway
- ▲ Cross Sections (Refer to Figure 3)



Plotted: 12.12.2022 11:35:51 AM By: Colton, David  
ORIGINAL SHEET - ISCA3  
\\cam-vfips-001\cam\projects\332510999\land at tollgate road, colney heath\geo\03 figures & dwgs\cadd\dwgs\gr\332510999 figure 2

© Crown copyright and database rights 2021. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings.  
Ordnance Survey 100041041



Client/Project:  
**Vistry Group**

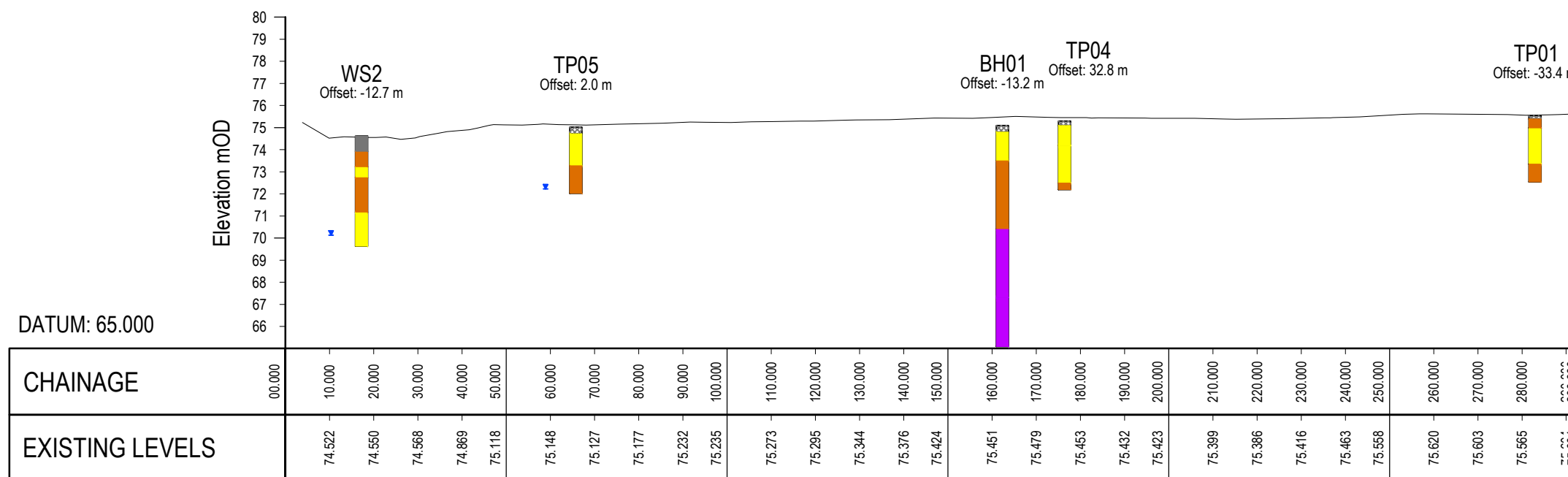
Land at Tollgate Road,  
Colney Heath

Prepared: davco	Checked: NC	Date: 2022.12.02
--------------------	----------------	---------------------

Title  
**Site Layout Plan**

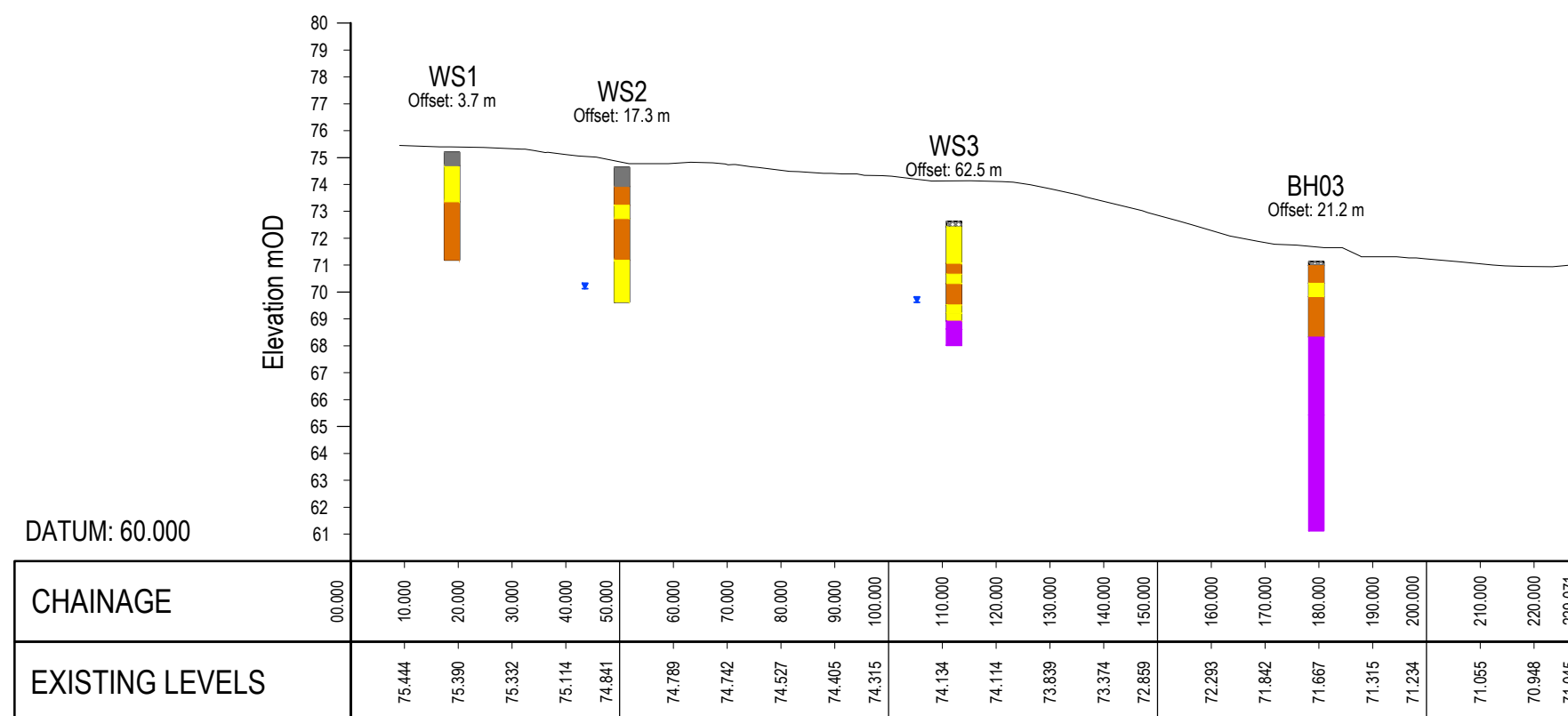
Revision: 0	Figure 2
----------------	-------------

SECTION 1  
 SCALE: H 1:1250, V 1:250.



- Legend
- Made Ground
  - Topsoil
  - Kesgrave - Cohesive
  - Kesgrave - Granular
  - Lowestoft

SECTION 2  
 SCALE: H 1:1250, V 1:250.



Refer to Figure 2 for Cross Section Alignments

Client/Project:  
 Vistry Group  
 Land at Tollgate Road,  
 Colney Heath

Prepared: 77      Checked: C 6      Date: 2023.08.22

Title  
 Geological Cross Sections

Revision: 0      Figure 3