

SuDS and Drainage Report

Church Farm House, Church Lane, Yapton BN18 0EP

Rev: **PI**

Ref: **C3267**

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Document Control

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Author	Luke Honeywill	Signature	LH

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1 Introduction

- 1.1.1 CGS Civils Ltd has been appointed to undertake a drainage statement for a proposed development at Church Farm House in Yapton, West Sussex.
- 1.1.2 The purpose of this drainage strategy is to demonstrate how the development area can be satisfactorily drained without increasing flood risk onsite and elsewhere. The proposed development will consist of the removal of an existing tennis court and the construction of a single dwelling that is to utilise the existing access and landscaping. The proposed development is located as OS Grid Reference SU 98168 03600 and has the post code BN18 0EP.

Fig 1. Site Location



2 Executive Summary:

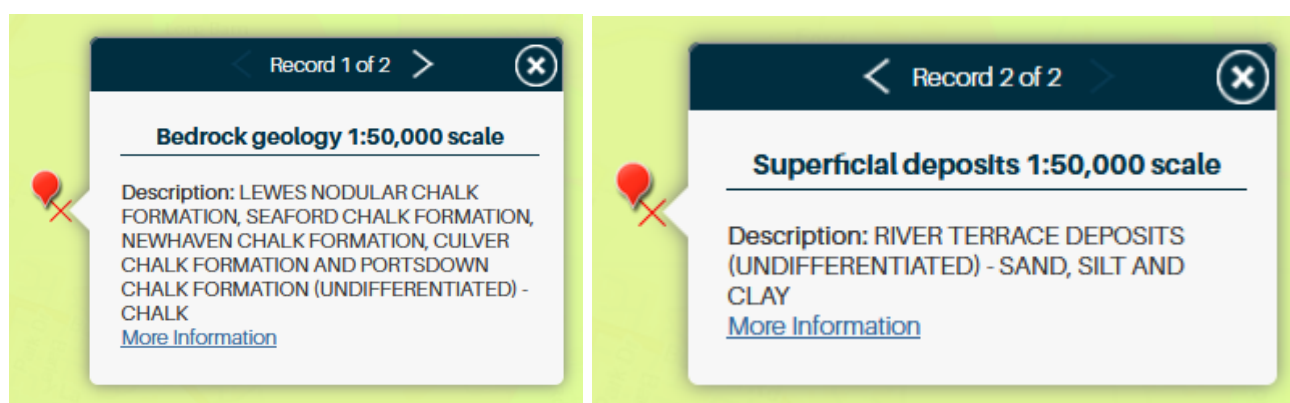
- 2.1.1 The scheme will dispose of surface water runoff directly to ground via infiltration. The use of bio-retention planters and raingardens will allow the runoff to discharge to ground via infiltration in the upper well-draining layers whilst also reducing the overall runoff volume and will enhance water quality.
- 2.1.2 The Foul water will discharge into existing foul water sewer within Church Lane. A CCTV Drainage survey should be carried out to confirm the condition and location of the existing foul water network serving Church Farm House as it may be possible to utilise an existing connection to the sewer.

3 Site Geology

3.1 British Geological Survey information

- 3.1.1 The British Geological Survey confirms the bedrock geology to be made up of Chalk Formations. The BGS website confirms the superficial deposits on site to be made up of River Terrace Deposits, which is comprised of Sand, Silt and Clay.
- 3.1.2 The British Geological survey also holds records of historical boreholes near the site which give some insight into the ground geology.
- Borehole SU90SE33 (Located approx. on site) – Clay to a depth of 1.4mbgl followed by chalk.

Fig 2. British Geological Survey



3.2 Geological Assessment

- 3.2.1 A winter groundwater monitoring well was installed on site on 22nd October 2024 to a depth of 4.0 meters below ground level (mbgl); no groundwater was encountered during the installation of the well. A further 10 monitoring visits were conducted between 25th October 2024 and 11th March 2025, with a maximum groundwater level of 1.65mbgl being recorded. A copy of the groundwater monitoring results can be found in **Appendix C**.
- 3.2.2 At time of writing, an infiltration test to BRE365 has not yet been carried out on site. It is proposed that this test is conducted prior to the commencement of drainage design.

4 Existing Drainage

- 4.1.1 It is not currently known how the existing site discharges surface water runoff, however, as it is a tennis court it is presumed to freely discharge to ground via infiltration. There is no existing foul water network serving the tennis court; however, it is presumed that the adjacent Church Farm House discharges foul water into the public foul sewer within Church Lane.

Fig 3. Southern Water Sewer Records



5 Proposed Drainage Strategy

5.1 SuDS Hierarchy

- 5.1.1 All options for the destination of run-off generated on site have been assessed in line with the SuDS hierarchy as set out in Building Regulations Part H document and DEFRA's Draft National Standards for SuDS.

Table 1. SuDS Discharge Hierarchy

Discharge Destination	
Rainwater Harvesting	Rainwater harvesting should be utilised on site to capture runoff at source and for re-use within the dwelling.
Discharge to Ground (infiltration)	Groundwater levels rule out the use of conventional soakaways. It is proposed that surface water runoff is discharged at a shallow level to adhere to Arun DC policies.
Discharge to Watercourse	An existing ditch is noted to run along the Western/Northwestern boundary of the site.
Discharge to Surface Water Sewer	No nearby surface water sewer is near the site.
Discharge to Other Sewer	There is an existing foul water sewer within Church Lane.

5.2 Surface Water Drainage

- 5.2.1 Winter groundwater monitoring was conducted on site to confirm peak groundwater levels to ensure that the use of infiltration is a viable option on site and to ensure the proposed drainage will adhere to Arun District Council policies. During the monitoring period, the groundwater level recorded was 1.65mbgl.
- 5.2.2 Arun DC have a policy that requires at least 1m easement between the base of the infiltration feature and the highest recorded groundwater level which rules out the use of conventional soakaways. It is therefore proposed that the surface water runoff from roof and hard paved areas are to be discharged directly to ground via infiltration.
- 5.2.3 In order to allow for infiltration into the shallow well-draining layers, it is proposed that open SuDS devices are used such as bio-retention in the form of planters or rain gardens which aim to reduce the overall runoff volume and peak flow rates, whilst enhancing water quality by allowing natural filtration through the soil and plant uptake.
- 5.2.4 The proposed drainage network should also make use of a rainwater harvesting tank that will capture surface water runoff for re-use back in the property. The installation of a rainwater harvesting will reduce the volume of storm water runoff that is discharged from the site by dealing with it at source.
- 5.2.5 Hard paved areas should be constructed from a permeable surface to allow runoff to freely drain to ground via infiltration within the upper layers. The use of this permeable surface and sub-base also improves water quality as the runoff will be treated as it drains through the sub-base material, which will reduce the number of hydrocarbons, metals and total suspended solids that discharges into groundwater.

5.3 Foul water drainage

- 5.3.1 The foul water from site will be discharged into an existing foul water sewer located within Church Lane. A CCTV Drainage survey should be carried out to confirm the condition and location of the existing foul water network serving Church Farm House as it may be possible to utilise an existing connection to the sewer.

6 Summary and Conclusions

- 6.1.1 CGS Civils has been instructed to produce a Drainage statement under National Planning Policy Framework (NPPF) to support the Planning Application for the construction of a single dwelling.
- 6.1.2 The scheme will dispose of surface water runoff directly to ground via infiltration. The use of bio-retention planters and raingardens will allow the runoff to discharge to ground via infiltration in the upper well-draining layers whilst also reducing the overall runoff volume and will enhance water quality.
- 6.1.3 The Foul water will discharge into existing foul water sewer within Church Lane. A CCTV Drainage survey should be carried out to confirm the condition and location of the existing foul water network serving Church Farm House as it may be possible to utilise an existing connection to the sewer.
- 6.1.4 The report has demonstrated that the proposed drainage measures ensure that suitable means of surface water and foul drainage can be achieved for the proposed development.

7 Appendices

7.1 Appendix A – Site Plan

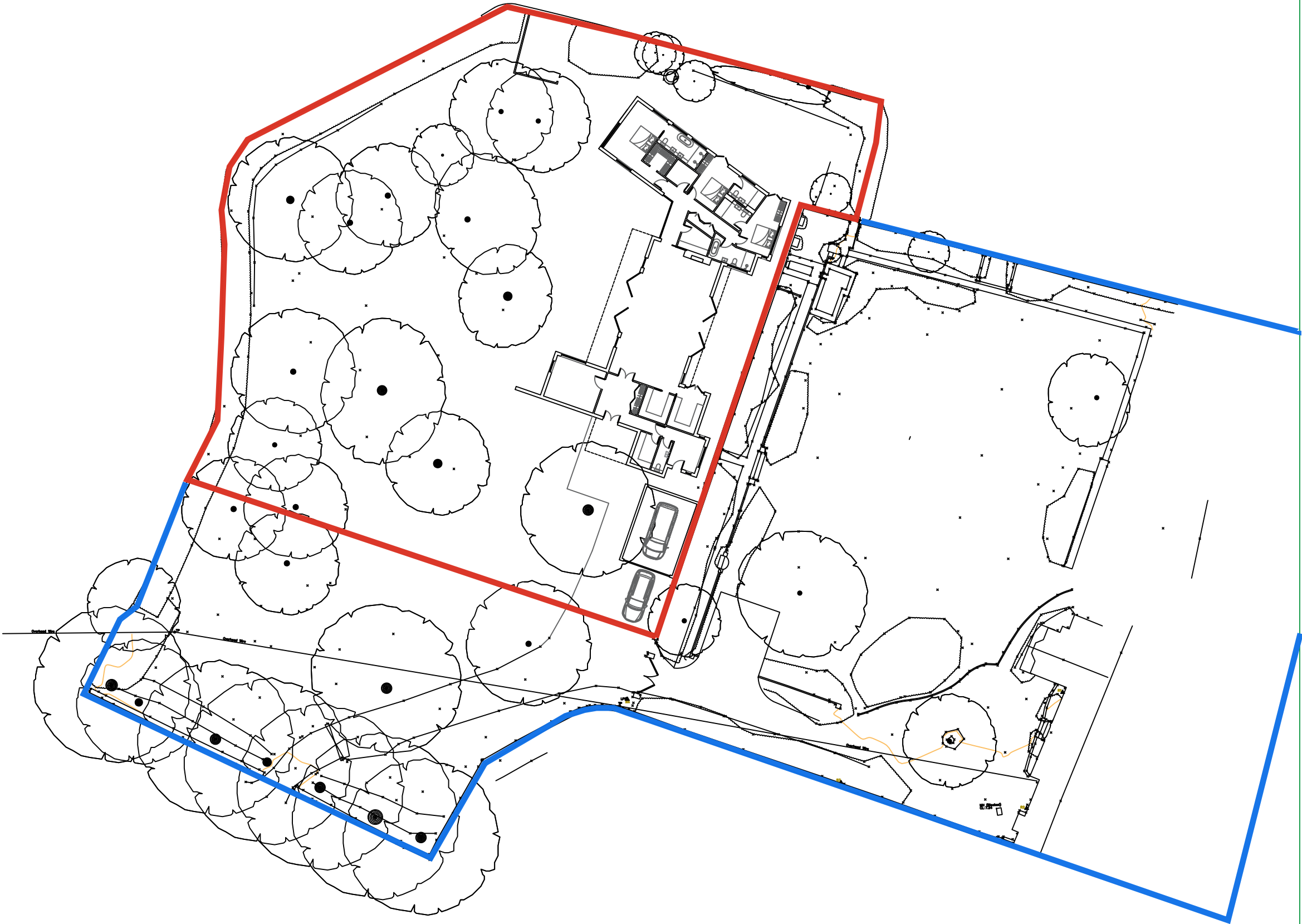
DO NOT SCALE FROM THIS DRAWING

All drawings to be read in conjunction with all relevant drawings and specifications.

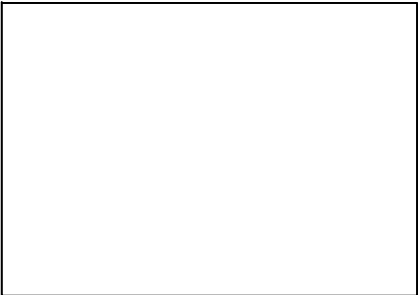
All dimensions to be checked on site and discrepancies advised immediately to the Structural Engineer & Architect prior to the commencement of any works. Any variations or supplementary drawings are to be approved by Structural Engineer.

The contractor is to verify all details of the existing structure and inform the Structural Engineer of any discrepancies prior to the procurement of the new structure.

Beams / Steelwork not to be ordered based on these drawings or calculations. Site live measurements MUST be taken.



Key Plan:



Rev: Date: Details:

Drawing Notes:

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Project Address:
Church Farm House

Project No:
CFH_NEW

Drawing Status:
Planning

Drawn/Checked:
-

Client:
-

A1 Scale:
1:100

Drawing Title:
Location Plan

Date:
01.2025

Drawing No:
-

Revision:
-

7.2 **Appendix B – Borehole Logs**



SU 90 SE 33

9827 0349

Yapton Church

Surface level +6.4 m
Water not struck
September 1981

Block H

Waste 1.4 m
Bedrock 1.6 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil and made ground	0.3	0.3
Brickearth	Clay, very sandy, mottled brown and grey-brown; some small flint pebbles	1.1	1.4
Upper Chalk	Chalk, soft, weathered, pale yellowish brown; nodular flints	1.6+	3.0

7.3 **Appendix C – Groundwater monitoring**

25 October 2024

Our ref: NN1892R01

Chris Slade
chris@cgscivils.co.uk

Attention: Mr Slade

Dear Sir,

GROUND WATER MONITORING INSTALLATION, CHRUCH FARM HOUSE, YAPTON

This letter presents a summary of a ground water well installation undertaken by E3S Consulting Ltd (E3S) on behalf of CGS Civils Ltd (The Client) in relation to a proposed residential development at the above site.

Fieldwork was undertaken on 22 October 2024. The site works consisted of the advancement of a single groundwater well installation (BH01) advanced to a depth of 4.00m bgl. A borehole location plan is included as **Figure 1** of this report.

The borehole location was set out based on site access and logged by a Geo-Environmental Consultant from E3S. The borehole log is presented as **Appendix A** of this letter. Groundwater was not encountered within the borehole when dipped post construction.

We trust that the site works undertaken and summary letter meet your current requirements. Should you have any immediate comments of queries please do not hesitate to contact the undersigned.

Kind Regards,

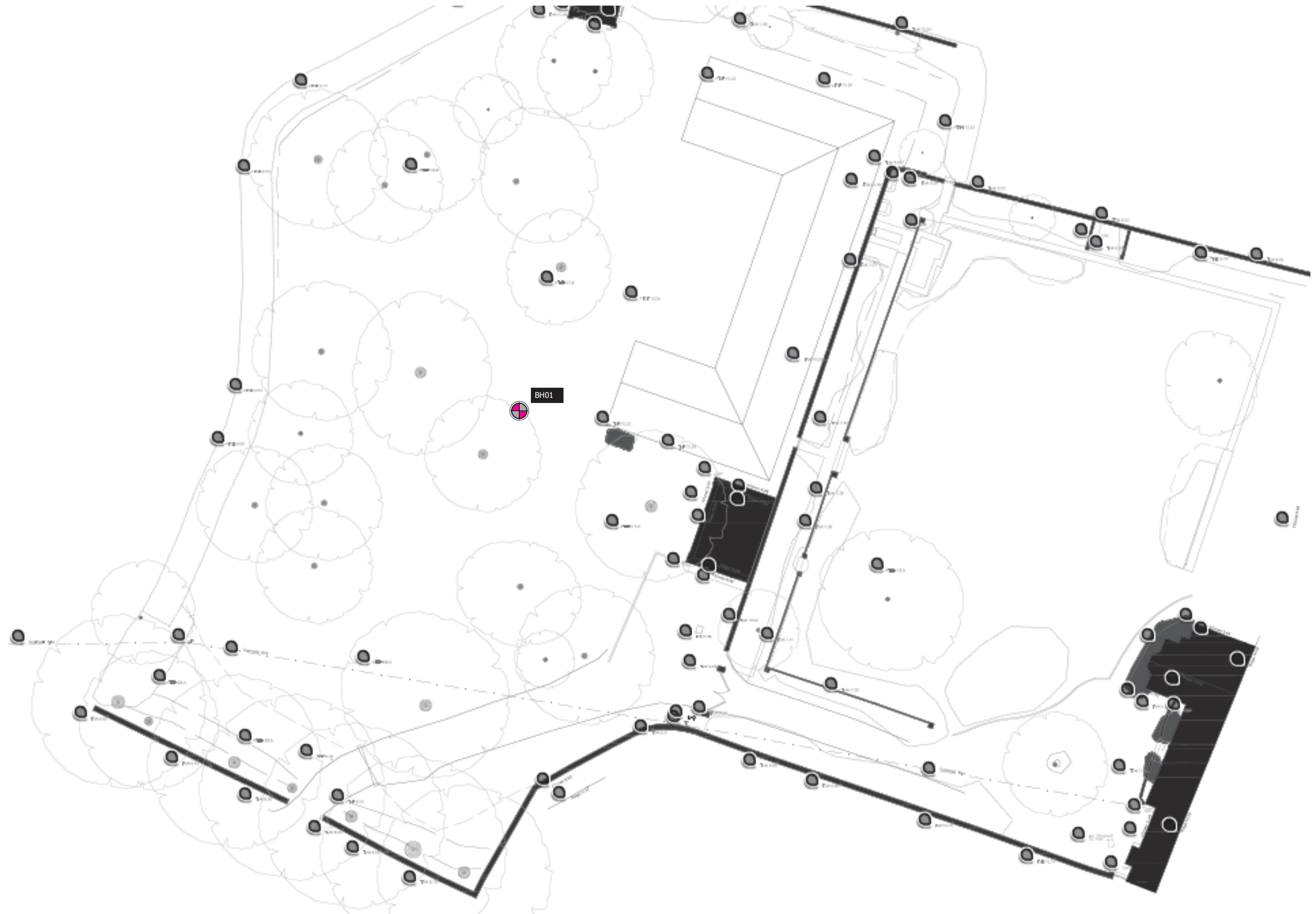
For and on behalf of E3S Consulting Ltd,

Chris Barron BSc (Hons) MEnvSc CGeol FGS

Attachments;

Figure 1 – Site & Borehole Location Plan (1 page)

Appendix A – Borehole Log (1 Page)



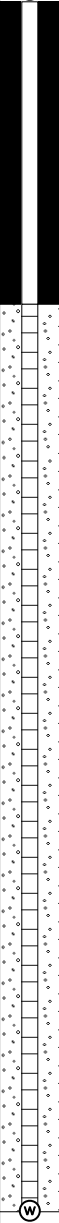
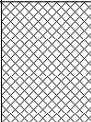
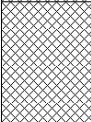
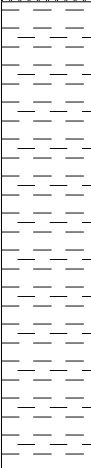
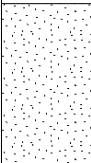
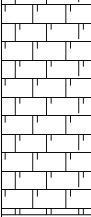
Drawn	CB		Client: CGS CIVILS LTD		
Approved	JO		Project: GROUNDWATER MONITORING WELL INSTALLATION CHURCH FARM HOUSE, YAPTON		
Date	25/10/2024		Title: INVESTIGATION LOCATION PLAN		
Scale	NTS		Project no:	NN1892	Figure no: FIGURE 1
Original	A3				Rev: 1

APPENDIX A

BOREHOLE LOG

BOREHOLE LOG

Project Name: GROUND WATER MONITORING WELL		Client: CGS CIVILS LTD		Date: 22/10/2024	
Location: CHURCH FARM HOUSE, YAPTON		Contractor:			
Project No. : NN1892		Crew Name:		Drilling Equipment:	
Borehole Number BH01	Hole Type BH	Level	Logged By	Scale 1:25	Page Number Sheet 1 of 1

Well Ⓜ	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.40			MADE GROUND Dark brown Silty clay TOPSOIL.	
					0.80			MADE GROUND Dark brown clay with gravel to cobble sized brick fragments.	
					2.35			Orange brown slightly silty, slightly gravelly CLAY, gravel is fine to medium sub angular to sub rounded.	
					2.90			Fine to coarse orange brown slightly gravelly SAND, gravel is fine sub angular to angular.	
					3.10			Orange brown slightly silty, slightly gravelly CLAY, gravel is fine to medium sub angular to sub rounded.	
								Off white CHALK with rare fine to coarse angular gravel of flint.	
					4.00				
								End of Borehole at 4.000m	

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks



Project:	Church Farm House, Yapton	GWM
Project No:	C3267	
Client:	Victoria Newman	