



Geo-Environmental

14th October 2022

Our ref: GE21231/TM01/221014

Suzannah Duke
Bargate Homes
The New Barn
Vicarage Farm Business Park
Winchester Road
Fair Oak
Hampshire
SO50 7HD

By email only

Dear Suzannah,

RE: Manor Farm, Bedhampton – Winter Groundwater Monitoring at swale and basin locations

Further to your instruction, we write to present the preliminary results of the intrusive works undertaken at the above site.

Window sampling boreholes were completed to inform the drainage strategy for the proposed development on the site. Preliminary exploratory hole logs, site and investigation plans are attached.

Background

It is understood that the site is proposed to be developed with houses, private gardens, communal soft landscaping, access roads and associated infrastructure.

Site Description

At the time of the intrusive investigation, 13th October 2022, the site comprised an irregularly shaped agricultural field that appeared to have been disused for some time. The field comprised part of the wider Manor Farm development, with Phase 1 already partially developed. The site was wet at the surface in areas particularly in the south western corner and the northern border and was slightly soft underfoot throughout.

There was a known SGN gas mains pipeline running across the southwestern corner of the site. A Portsmouth Water trunk main and an electricity main were also located on the west side of the site.

The site boundary comprised semi-mature to mature trees to the west and northwest. Hedgerows along the south between the site and the railway with heras fencing to the east dividing phase 1 and phase 2. The site was bounded by a train line to the south which was lower than the site level, a road to the west, residential and industrial land to the north and phase 1 to the east of the site.

The site was accessed via the phase 1 compound along a crush temporary road that ran parallel with the south of the site and a locked heras gate on the southeast corner of the site.

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Environmental Consultants | Geotechnical Engineers | Site Investigations

Geo-Environmental Services Ltd incorporated in England number 3214980 VAT number 679544479



Scope of Site Works

The following scope of works was agreed with the Client:

Attendance of a specialist surveyor to set out the borehole locations (co-ordinate positions provided by the Client's Drainage Engineer) and undertake a buried utilities clearance survey of the proposed exploratory hole locations using radio-detection and ground penetrating radar techniques. The survey included capture of co-ordinates and levels of exploratory holes using GPS surveying.

Attendance of a Geo-Environmental Engineer to set out and supervise the intrusive investigation and undertake logging of recovered soils from exploratory holes.

Construction of 7No. dynamic sampler boreholes to depths of up to 3.0m bgl (WS1 – WS7).

Installation of 7No. groundwater monitoring wells for further monitoring on six occasions between October 2022 and March 2023.

The locations of the boreholes were defined on MJA Consulting's drawing no. 6430-030-P2. However, WS7 was relocated slightly to the east to ensure a 15m distance from the SGN gas main. The locations of the boreholes are shown on Figure 2.

Ground Conditions

The encountered ground conditions comprised a mantle of Topsoil overlying River Terrace Deposits with the Lewes Nodular Chalk at depth. The encountered ground conditions are summarised in Table 1 below:

Top (m bgl)	Base (m bgl)	Geology	Locations
0.00	0.10 – 0.40	TOPSOIL: Brown slightly sandy gravelly SILT with frequent rootlets. Sand is fine. Gravel is fine to medium subangular.	All
0.10 – 0.40	0.90 – 2.20	RIVER TERRACE DEPOSITS: Soft to firm brown sandy CLAY with occasional rootlets.; Soft to firm brown slightly sandy gravelly CLAY with frequent to occasional rootlets. Sand is fine to medium. Gravel is fine angular to subrounded.	All
0.90 – 2.20	3.00+	LEWES NODULAR CHALK: White and brown weak fine to medium CHALK gravel in a fine sandy clayey matrix with medium angular flint gravel. (All); White fine to medium gravel sized weak clasts of CHALK in a fine sandy clayey matrix. (WS5)	All

Table 1 Summary of encountered ground conditions

For full details of the encountered conditions, the preliminary exploratory hole logs are enclosed as Appendix A.

Obstructions

No artificial obstructions were encountered during the intrusive investigation works undertaken. The presence of natural and/or manmade obstructions elsewhere on site cannot be discounted.

Groundwater

Monitoring wells were installed within WS1 to WS7 to facilitate return groundwater monitoring on six occasions between October 2022 and March 2023. The results of the monitoring will be reported monthly by email and under separate cover once monitoring is completed.

Groundwater was not encountered during the investigation.



It should be noted that changes in groundwater and perched water levels do occur for a number of reasons including seasonal effects and variations in drainage. Such fluctuations may only be recorded by the measurement of the groundwater level within a series of standpipes or piezometers installed within appropriate response zones.

Closure

We trust that we have interpreted your instructions correctly, and please do not hesitate to contact us should you have any queries.

Yours sincerely
For and on Behalf of Geo-Environmental



TOM MORGAN BSc (Hons), FGS
Consultant Engineer
tom.morgan@gesl.net

Enc	Figure 1	Site Location Plan
	Figure 2	Exploratory Hole Location Plan
	Appendix A	Preliminary Exploratory Hole Logs
	Appendix B	Ground Water Monitoring Sheet



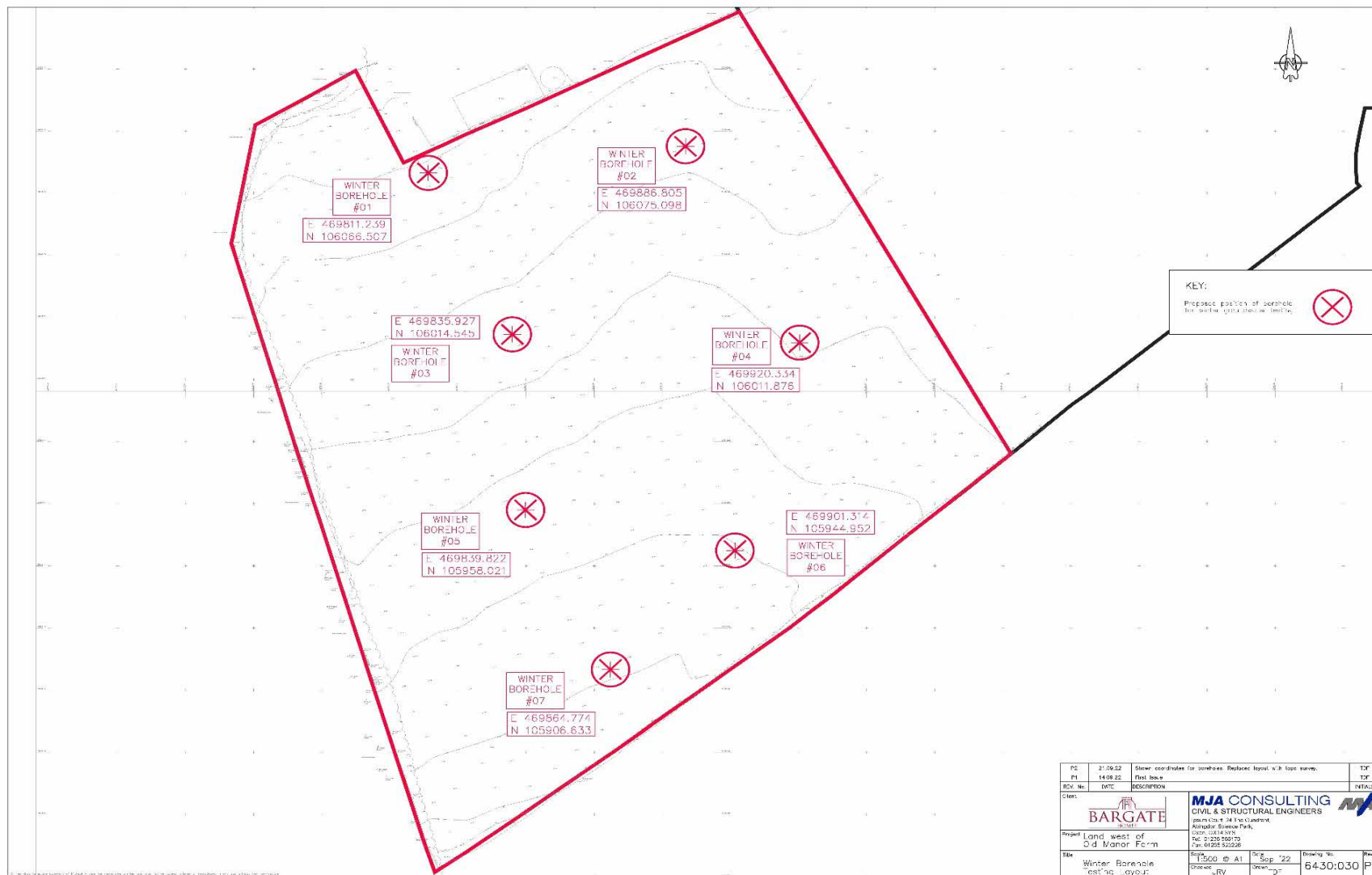


Figures





Project:	Manor Farm, Bedhampton Ph2 deep BH			Title	Site Location Plan	
Client:	Bargate Homes			Geo-Environmental Services Ltd Unit 7 Danworth Farm, Cuckfield Road Hurstpierpoint, West Sussex BN6 9GL +44(0)1273 832972 www.gesl.net	 Geo-Environmental	
Ref No:	GE21231	Revision:	0			
Drawn:	GR	Date:	04/10/2022			
Figure:	1	Scale:	Not to scale			



Project:	Manor Farm, Bedhampton Ph2 deep BH			Title	Exploratory Hole Location Plan	
Client:	Bargate Homes			Geo-Environmental Services Ltd Unit 7 Danworth Farm, Cuckfield Road Hurstpierpoint, West Sussex BN6 9GL +44(0)1273 832972 www.gesl.net	 Geo-Environmental	
Ref No:	GE21231	Revision:	1			
Drawn:	GR	Date:	04/10/2022			
Figure:	2	Scale:	Not to scale			





Appendix A

Preliminary Exploratory Hole Logs



Well



Well



Well



Well



Well



Well



Well





Appendix B

Groundwater Monitoring Results



Project:	Manor Farm, Bedhampton Phase II WGWM 2022-2023		
Ref:	GE21231		
Client:	Bargate Homes		
Location	Date	GWD (m bgl)	GWL (m AOD)
	14/10/2022		
WS1	14/10/2022	Dry at 2.80	-
WS2	14/10/2022	Dry at 2.90	-
WS3	14/10/2022	2.94	3.35
WS4	14/10/2022	Dry at 2.90	-
WS5	14/10/2022	Dry at 2.80	-
WS6	14/10/2022	2.46	2.56
WS7	14/10/2022	2.50	2.08
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