

Foul and Surface Water Drainage Strategy Report

Land at White Lodge, Ockley Lane, Hassocks, Burgess Hill RH15 0BP

For

Mr & Mrs Holding

Rev – P2

Reference **C2755**

Date **18th December 2024**

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P	09.08.2023	Initial Issue	LH	CS
P1	08.12.2023	Revised	LH	CS
P2	18.12.2024	Revised	LH	CS

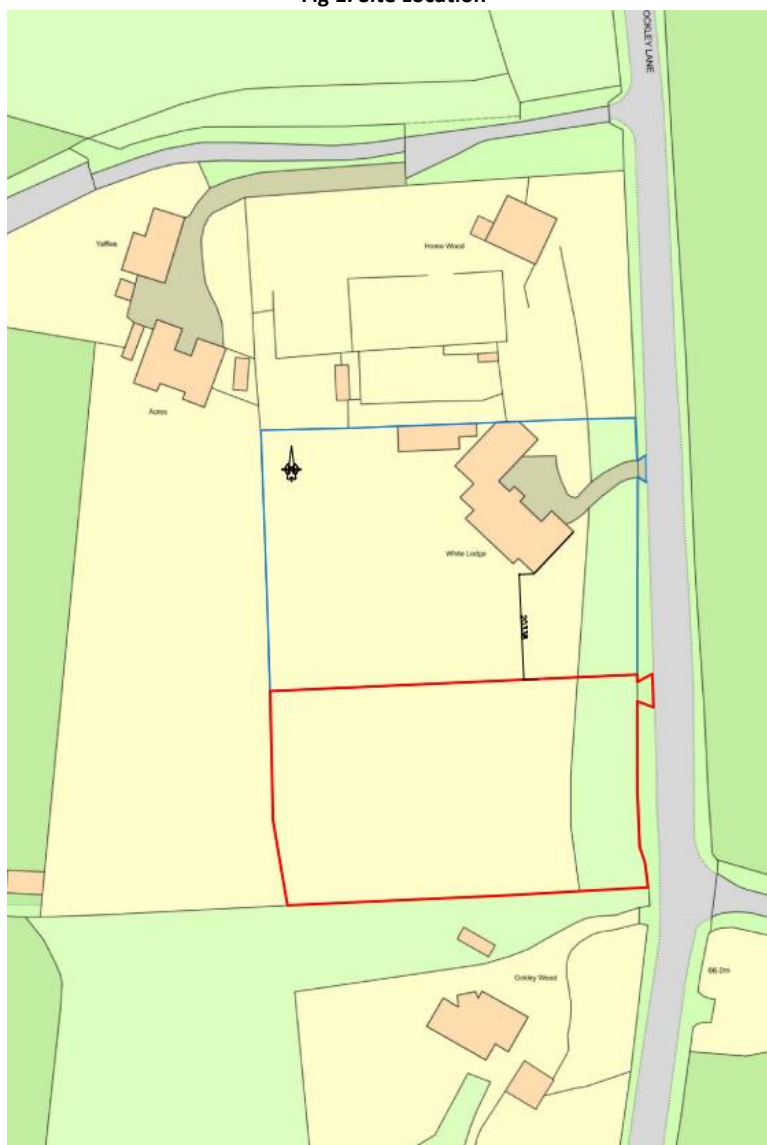
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1 Introduction

- 1.1.1 CGS Civils Ltd has been appointed by Mr & Mrs Holding to undertake a drainage strategy report for a proposed development at the land at White Lodge in Burgess Hill, West Sussex. The purpose of this drainage strategy is to demonstrate how the development area can be satisfactorily drained without increasing flood risk onsite and elsewhere.
- 1.1.2 The existing site consists of a landscaped area and tennis courts. The proposed development will consist of the removal of the existing tennis courts and construction of a new 5-bedroom dwelling with a new access from Ockley Lane and associated parking. The proposed development is located as OS Grid Reference TQ 31824 17153 and has the post code RH15 0BP.
- 1.1.3 The proposed site plan can be found in **Appendix A**.

Fig 1. Site Location

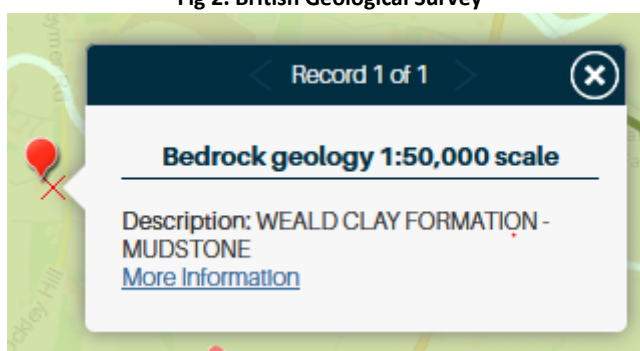


2 Site Geology

2.1 British Geological Survey information

- 2.1.1 The British Geological Survey confirms the bedrock geology to be made up of Weald Clay Formation, which is comprised of Clay and Mudstone. At the time of writing the British Geological Survey website does not have any recorded information of the superficial deposits on site.
- 2.1.2 The British Geological survey also holds records of historical boreholes near the site which give some insight into the ground geology.
- Borehole TQ31NW7 (Located approx. 742m South East of the site) – Clay and Rock

Fig 2. British Geological Survey



2.2 Geological Assessment

- 2.2.1 An infiltration test was undertaken by CGS Civils Ltd on 4th August 2023. The test comprised of the excavation of a trial pit to a depth of 1m which was then rapidly filled with water. It rained during the testing period and the water within the trial pit was noted to rise by approximately 100mm, therefore, the test was considered a failure. The ground was also noted to be waterlogged throughout the day.

Fig 3. Soakaway Test Photographs



3 Existing Drainage

- 3.1.1 As the existing site consists of a tennis court, there is no existing drainage. During the soakaway testing, an existing French drain and chamber was noted on site. It is believed that this drains into the neighbouring property. A CCTV drainage survey should be undertaken in order to confirm the discharge location. The client has confirmed that the existing White Lodge is served by a package treatment plant which discharges into an inspection chamber located in the Southwestern corner of the site.

Fig 4. Existing chamber



4 Proposed Drainage Strategy

4.1 SuDS Hierarchy

- 4.1.1 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.

Discharge Destination	
Discharge to Ground	No – Infiltration test failed
Discharge to Watercourse	No – No nearby watercourse noted
Discharge to Surface Water Sewer	Yes – Discharge to existing chamber on site at restricted rate of 1.0l/s.
Discharge to Other Sewer	N/A due to above.

4.2 Surface Water Drainage

- 4.2.1 In order to follow the SuDS hierarchy, the use of soakaways was investigated and an infiltration test was carried out on site. The testing revealed the geology to be made up of thick clay, which was noted to be waterlogged during the rainy day of the test. A trial pit was dug to a depth of 1mbgl and the rapidly filled with water in accordance to BRE365, however, due to the rainy conditions, the water level of the pit was noted to rise approximately 100mm and therefore, the test was considered a failure.
- 4.2.2 During the site visit, it was noted that an existing French drain bordered the existing tennis courts and flowed towards the neighbouring property to the west. It was confirmed by the client that a discharge into this chamber will not be suitable for the discharge and there is an alternative chamber located within the southwestern corner of the site which is suitable to discharge the surface water into. This chamber discharges existing treated effluent runoff into a drainage ditch within a neighbouring property. It is therefore proposed that the surface water runoff from the site is to be discharged into this chamber at a restricted rate of 1.0l/s. The hard paved areas are to be constructed from a permeable gravel build up which is to be wrapped in an impermeable geomembrane which will allow it to act as a blanket attenuation tank. It is proposed that a diffuser unit is to be installed within a low point of the sub-base in order to allow all runoff to freely discharge into the sub-base. The storage has been designed to cater for the 1 in 100-year +45% storm.
- 4.2.3 A CCTV Drainage survey is to be booked in order to confirm the condition and exact discharge location of the existing drainage on site to confirm a connection is possible. The CCTV drainage survey will also confirm how the existing White Lodge discharges all surface water runoff.
- 4.2.4 Hydraulic calculations have been carried out which can be found at Appendix C.

4.3 Water Quality

- 4.3.1 A key requirement of any SuDS system is that it protects the receiving water body from the risk of pollution.
- 4.3.2 Frequent and short duration rainfall events are those that are most loaded with potential contaminants (silts, fines, heavy metals, and various organic and inorganic contaminants) Therefore the first 5-10mm of rainfall should be adequately treated with SuDS.
- 4.3.3 The new SuDS Manual (Ciria C753, November 2015) introduces slightly different approach compared to the previous version for the water quality management of surface water. The Manual describes risks posed by the surface water runoff to the receiving environment as a function of:
- The pollution hazard at a particular site (i.e., the pollution source)
 - The effectiveness of SuDS treatment components in reducing levels of pollutants to environmentally acceptable levels
 - The sensitivity of the receiving environment
- 4.3.4 The EA website indicates that the site does not lie within a Source Protection Zone.
- 4.3.5 The recommended approaches for water quality risk management are given in the SuDS Manual Table 26.1.

Fig 5. Approaches to Water Quality Risk Management

Table 26.1 Approaches to Water Quality Risk Management			
Design method	Hazard Characterisation	Risk Reduction	
		For Surface Water	For Groundwater
Simple Index Approach	Simple pollution hazard indices based on land use (Table 26.2)	Simple SuDS hazard mitigation indices (Table 26.3)	Simple SuDS hazard mitigation indices (Table 26.4)
Risk Screening	Factors characterising traffic density and extent of infiltration likely to occur (Table 26.5)	N/A	Factors characterising unsaturated soil depth and type, and predominant flow type through the soils (Table 26.5)
Detailed Risk Assessment	Site specific information used to define likely pollutants and their significance	More detailed, component specific performance information used to demonstrate that the proposed SuDS components reduce the hazard to acceptable levels	
Process-based treatment modelling	Time series rainfall used with generic pollution characteristics to determine statistical distributions of likely concentrations and loadings in the runoff	Models that represent the treatment processes in the proposed SuDS components give estimates of reductions in even mean discharge concentrations and total annual load reductions delivered by the system	

4.3.6 As per Table 26.1 Simple Index approach will be used as a design method for this site.

4.3.7 Table 26.2 will provide hazard classification of different land uses. The land uses for the surface water drainage for this site are.

- Residential Roofs
- Individual Property driveways and residential car parks
- Low traffic roads

4.3.8 To deliver adequate treatment, the selected SuDS components should have a total pollution mitigation index for each contaminant type that equals or exceeds the pollution hazard index for each contaminant type. Therefore, the following must be achieved for the surface running off the site.

Total SuDS mitigation index $\geq$ pollution hazard index

4.3.9 Pollution Hazard Indices are given for different land uses in Table 26.2 of the SuDS manual;

Fig 6. Pollution Hazard Indices for Different Land Use Classifications

Table 26.2 Pollution hazard indices for different land use classifications				
Land Use	Pollution Hazard Level	Total Suspended solids (TSS)	Metals	Hydro-Carbons
Residential roofs	Very Low	0.2	0.2	0.05
Other roofs (Typically commercial/industrial roofs)	Low	0.3	0.2 (up to 0.8 where there is potential for metals to leach from the roof)	0.05
Individual property driveways, residential car parks, low traffic roads (e.g., cul-de-sacs, homezones and general access roads) and non-residential car parking with infrequent change (e.g., schools, offices) i.e., < 300 traffic movements/day	Low	0.5	0.4	0.4
Commercial yard and delivery areas, non-residential car parking with frequent change (e.g., hospitals, retail), all roads except low traffic roads and trunk roads/motorways	Medium	0.7	0.6	0.7
Sites with heavy pollution (e.g., haulage yards, lorry parks, highly frequented lorry approaches to industrial estates, waste sites), sites where chemicals and fuels (other than domestic fuel oil) are to be delivered, handled, stored, used or manufactured; industrial sites; trunk roads and motorways	High	0.8	0.8	0.9

4.3.10 From Table 26.2 the following information is tabulated in Table 1

Table 1: Pollution hazard index and destination of runoff for the proposed site

Table 1: Pollution Hazard Index and Destination of runoff for the proposed Site					
Land Use	Destination of Runoff	Pollution Hazard Level	Total Suspended Solids	Metals	Hydrocarbons
Residential Roof	Surface Water	Very Low	0.2	0.2	0.05
Individual driveways, residential car parks and low traffic roads	Surface water	Low	0.5	0.4	0.4

4.3.11 The SuDS mitigation index will be obtained from Table 26.4 (for groundwater) of the SuDS manual.

Table 26.4 Indicative SuDS mitigation indices for discharges to surface waters			
Type of SuDS Components	Mitigation Indices		
	TSS	Metals	Hydrocarbons
Filter Strip	0.4	0.4	0.5
Filter Drain	0.4	0.4	0.4
Swale	0.5	0.6	0.6
Bioretention System	0.8	0.8	0.8
Permeable Pavement	0.7	0.6	0.7
Detention Basin	0.5	0.5	0.6
Pond	0.7	0.7	0.5
Wetland	0.8	0.8	0.8
Proprietary treatment systems	These must demonstrate that they can address each of the contaminant types to acceptable levels for inflow concentrations relevant to the contributing drainage area		

Table 2: SuDS mitigation index

Mitigation Indices						
Runoff Source	Destination of Runoff	Mitigation Index Source	Type of SuDS Component	Total Suspended Solids (TSS)	Metals	Hydrocarbons
Individual driveways, residential car parks and low traffic roads	Surface water	Table 26.3 (for surface waters)	Permeable Pavement	0.7	0.6	0.7

4.3.12 The above analysis demonstrates that the SuDS devices within the design will mitigate any pollution present within the surface water system.

4.4 Foul water drainage

- 4.4.1 It was confirmed by the client that the existing White Lodge is currently served by a package treatment plant and discharges all treated effluent runoff into a chamber located at the southwestern corner of the site which discharges into a drainage ditch within the neighbouring plot. It is proposed that the new plot is to be served by a cesspit which will be emptied as required.

5 Maintenance

5.1 Introduction

- 5.1.1 During construction, the Contractor will be responsible for maintaining the drainage and SuDS (Sustainable Drainage Systems). Upon handover, the occupier will take on the responsibility of these duties as laid out in this report.
- 5.1.2 The maintenance schedule for the proposed development will be split down into two separate categories; SuDS features and regular private drainage.

5.2 SuDS at Land at White Lodge, Burgess Hill

- 5.2.1 As listed above, in section 5.1.2, the SuDS features used on site will be **Permeable Paving**
- 5.2.2 The SuDS features have been designed for easy maintenance and comprise:
- Regular Day-to-Day care – litter collection, regular gardening to control vegetation growth and checking inlets where water enters the SuDS features
 - Occasional tasks – checking the SuDS features and removing any silt that builds up in the SuDS feature
 - Remedial work – repairing damage where necessary

5.3 SuDS Drainage Maintenance Specification

5.3.1 Permeable Paving

In order to maintain the functioning of the permeable paving, the following maintenance requirements should be adhered to:

Table 21.3 Operation and maintenance requirements for permeable paving		
Maintenance Schedule	Required Action	Typical Frequency
Regular Maintenance	Brushing and vacuuming (standard cosmetic sweep over whole surface)	Once a year, after autumn leaf fall, or reduced frequency as required, based on site-specific observations of clogging or manufacturer's recommendations – pay particular attention to areas where water runs onto pervious surface from adjacent impermeable areas as this area is most likely to collect the most sediment
Occasional maintenance	Stabilise and mow contributing and adjacent areas	As required
	Removal of weeds or management using glyphosate applied directly into the weeds by an applicator rather than spraying	As required – once per year on less frequently used pavements
Remedial Actions	Remediate any landscaping which, through vegetation maintenance or soil slip, has been raised to within 50mm of level of the paving	As required
	Remedial work to any depressions, rutting and cracked or broken blocks considered detrimental to the structural performance or a hazard to users, and replace lost jointing material	As required
	Rehabilitation of surface and upper substructure by remedial sweeping	Every 10 to 15 years or as required (if infiltration performance is reduced due to significant clogging)
Monitoring	Initial inspection	Monthly for three months after installation
	Inspect for evidence of poor operation and/or weed growth – if required take remedial action	Three-monthly, 48h after large storms in first six months
	Inspect silt accumulation rate and establish appropriate brushing frequencies	Annually
	Monitor inspection chambers	Annually

5.4 General Drainage Maintenance Specification

5.4.1 Inlet Structures and Inspection Chambers

- Inlet structures such as rainwater downpipes, road gullies and channel drains should be free from obstruction at all times to allow free flow through the SuDS
- Inspection Chambers and Rodding Eyes are used on bends or where pipes come together. They allow access and cleaning to the system if necessary.

Inlet Structures and Inspection Chambers	
Regular Maintenance	Frequency
Inlet Structures Inspect rainwater downpipes, channel drains and road gullies, removing obstructions and silt as necessary. Check that there is no physical damage. Strim vegetation 1m min surround to structures and keep area free from silt and debris	Monthly
Inspection Chambers and below ground control chambers. Remove cover and inspect, ensuring that the water is flowing freely and that the exit route for water is unobstructed. Remove debris and silt. Undertake inspection after leaf fall in Autumn	Annually
Occasional Maintenance Check topsoil levels are 20mm above edges of chambers to avoid mower damage.	As necessary
Remedial Work Repair physical damage if necessary	As required

5.4.2 Below ground drainage pipes

- Below ground drainage pipes convey water to the SuDS system. They should always be free from obstruction to allow free flow.

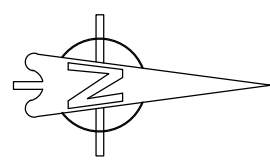
Below Ground Drainage Pipes	
Regular Maintenance	Frequency
Inspect and identify any areas that are not operating correctly. If required, take remedial action.	Monthly for 3 months then annually
Remove debris from the catchment surface (where it may cause risks to performance)	Monthly
Remove sediment from pre-treatment inlet structures and inspection chambers.	Annually or as required
Maintain vegetation to designed limits within the vicinity of below ground drainage pipes and tanks.	Monthly or as required
Remedial Work	
Repair physical damage if necessary	As required
Monitoring	
Inspect all inlets, outlets and vents to ensure that they are in good conditions and operating as designed.	Annually
Survey inside of pipe runs for sediment build up and remove if necessary.	Every 5 years or as required

6 Summary and Conclusions

- 6.1.1 CGS Civils has been instructed by Mr & Mrs Holding to produce a Drainage statement under National Planning Policy Framework (NPPF) to support the Planning Application for the development of a 5-bedroom dwelling with associated access and parking.
- 6.1.2 The Surface Water will discharge to an existing chamber located on site which is believed to discharge into a neighbouring plot. The discharge is to be restricted to 1.0l/s and will make use of the sub-base of the impermeable sub-base of the proposed parking area to cater for the 1 in 100-year +45% storm. A CCTV drainage survey will be undertaken in order to confirm if a connection is possible as well as to confirm the condition and final discharge location of the system. The survey will also confirm how the existing White Lodge discharges all foul and surface water runoff.
- 6.1.3 It was confirmed by the client that the existing White Lodge is currently served by a package treatment plant and discharges all treated effluent runoff into a chamber located at the southwestern corner of the site which discharges into a drainage ditch within the neighbouring plot. It is proposed that the new plot is to be served by a cesspit that will be emptied as required.
- 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



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REV	DESCRIPTION	DATE	DRN	CHK
A	GENERAL REVISIONS	10/8/20	EW	
B	GENERAL REVISIONS	19/8/20	LH	
C	GENERAL REVISIONS	22/10/20	LH	
D	GENERAL REVISIONS	2/11/20	LH	
E	REVISED SCALE BAR,ADDED NOTE	08/12/20	EW	
F	GENERAL REVISIONS	11/12/20	TD	
G	GENERAL REVISIONS	14/12/20	TD	
H	GENERAL REVISIONS	22/2/21	EW	
I	UPDATED LAYOUT	23/2/21	EW	
J	GENERAL REVISIONS	24/2/21	EW	
K	GENERAL REVISIONS	11/05/21	EW	
L	OVERLAID TREE TOPO	18/6/21	FC	
M	REVISED TREES	22/6/21	EW	
N	REVISED TREES	30/6/21	EW	
O	REVISED PATH	28/7/21	EW	
P	UPDATED WITH NEW TREE TOPO	03/8/21	EW	
Q	GENERAL REVISIONS	24/4/23	JP	
R	F/W + S/W DRAINAGE ADDED	15/4/23	JW	
S	TREES ADDED (SEE ALSO TREE PROTECTION PLAN)	19/05/23	CC	
T	NOTE ADDED	23/5/23	LC	
U	LATEST FLOOR PLAN ADDED	15/09/23	CC	
V	PLOT POSITIONS AND BOUNDARY MOVED	26/1/24	LW	
W	FURPED HOUSE LENGTH WAY	27/02/24	CC	
X	SOMAKWAY MOVED	14/5/24	JP	
Y	FOOTPRINT REVISED	2/7/24	LW	
Z	NEW SCHEME - THE FLORENCE (NEW DWG NO. 102)	22/7/24	CC	
ZA	DWELLING MOVED NORTH+MODS GARAGE	21/08/24	CC	
ZB	GENERAL REVISIONS	8/10/24	LW	

7.2 **Appendix B – Drainage Layout**

7.3 **Appendix C – Surface Water Calculations**

Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	30.00
Return Period (years)	100	Maximum Rainfall (mm/hr)	50.0
Additional Flow (%)	0	Minimum Velocity (m/s)	1.00
FSR Region	England and Wales	Connection Type	Level Soffits
M5-60 (mm)	20.000	Minimum Backdrop Height (m)	0.200
Ratio-R	0.400	Preferred Cover Depth (m)	0.350
CV	0.750	Include Intermediate Ground	✓
Time of Entry (mins)	5.00	Enforce best practice design rules	✓

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Node Type	Manhole Type	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
S2	0.033	5.00	48.727	Manhole	Adoptable	500	546.029	798.531	0.738
S3	0.032	5.00	48.727	Manhole	Adoptable	500	532.056	798.078	0.861
S4			46.790	Sealed Manhole	Adoptable	450	531.785	783.075	0.900

Links (Input)

Name	US Node	DS Node	Length (m)	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)
1.000	S2	S3	13.980	47.989	47.866	0.123	113.7	150
1.001	S3	S4	15.005	47.866	45.890	1.976	7.6	150

Simulation Settings

Rainfall Methodology	FSR	Analysis Speed	Normal
FSR Region	England and Wales	Skip Steady State	x
M5-60 (mm)	20.000	Drain Down Time (mins)	240
Ratio-R	0.400	Additional Storage (m³/ha)	20.0
Summer CV	0.750	Check Discharge Rate(s)	x
Winter CV	0.840	Check Discharge Volume	x

Storm Durations

15	30	60	120	180	240	360	480	600	720	960	1440
----	----	----	-----	-----	-----	-----	-----	-----	-----	-----	------

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
100	45	0	0

Node S4 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.686	Discharge Coefficient	0.650
Replaces Downstream Link	✓	Design Flow (l/s)	1.0		
Invert Level (m)	45.890	Diameter (m)	0.023		

Node S2 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	48.314	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	174	Depth (m)	0.350
Safety Factor	2.0	Width (m)	29.000	Inf Depth (m)	
Porosity	0.30	Length (m)	10.000		

Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 98.08%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute winter	S2	116	48.612	0.623	11.2	22.2543	0.0000	FLOOD RISK
120 minute winter	S3	116	48.611	0.745	6.6	0.7006	0.0000	FLOOD RISK
15 minute summer	S4	7	46.790	0.900	16.9	0.4264	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute winter	S2	1.000	S3	-4.4	0.791	-0.266	0.2461	
120 minute winter	S3	1.001	S4	4.6	0.816	0.071	0.2642	
15 minute summer	S4	Orifice		2.0				17.7

7.4 **Appendix D – Borehole Logs**

TQ31NW7
3235.1665

318/78 Court Gardens Farm, Ditchling. (Disused)

Surface +220. Bore 68. Lining tubes: 65 x 4 in. R.W.L. +180. Suction +155%.
Harper, Dec. 1933.
Deepened. Lining tubes: 165 x 4 in; 76 x 3 in. R.W.L. +186. Harper, July 1934.
R.W.L. +217. Yield 4,000 g.p.d. Mar. 1940.

WC

184

184

Weald clay	Old bore		68
	Blue clay	13	81
	Brown "soil" [sic]	2	83
	Blue clay	94	180
	Blue clay & rock	4	184

TQ 3236 1665

318/78 Court Gardens Farm, Ditchling. (Disused)

TQ 3117

Surface +220. Bore 68. Lining tubes: 65 x 4 in. R.W.L. +180. Suction +155 1/2.
Harper, Dec. 1933.
Deepened. Lining tubes: 165 x 4 in; 76 x 3 in. R.W.L. +186. Harper, July 1934.
R.W.L. +217. Yield 4,000 g.p.d. Mar. 1940.

WC

184

184

Weald clay	Old bore		68
	Blue clay	13	81
	Brown "soil" [sic]	2	83
	Blue clay	94	180
	Blue clay & rock	4	184

RECORD OF WELL (SHAFT OR BORE)

At Court Gardens Farm

Town or Village..... **Ditchling**

County..

...Six-inch quarter she

Exact site..

...in parish of.

Level of ground surface above sea-level (O.D.) +220 ft. If well starts below ground surface, state how far _____ ft.

Shaft.....ft., diameter.....ft. Bore 68 ft. Diameter of bore: at top.....ins.; at bottom.....ins.

Details of permanent lining tubes (internal diameters preferred) 65 ft. of 4" Tube.

Water struck at depths of (feet).

Rest-level of water below top of well 40 feet. Suction at _____ feet. Yield on _____ hours' test _____ days' test

_____gallons per _____ (with pump of capacity _____ g.p.h.); depressing water level to _____ feet

below top. Time of recovery _____ hrs. Amount normally pumped daily _____ g.p.h. for _____ hours.

Quality (attach copy of analysis if available).

Sunk by Harper & Eede for Mr. J.E. Muggeridge

Date of well December, 1933.

Information from H. & E. L. Lewes

[illegible]

For Survey use only

GEOLOGICAL SURVEY AND MUSEUM.
 SOUTH KENSINGTON.
 LONDON, S.W.7.

29 MAY 1940

G.S.M. Office
File No.

Site marked
on 1" map
(use symbol)

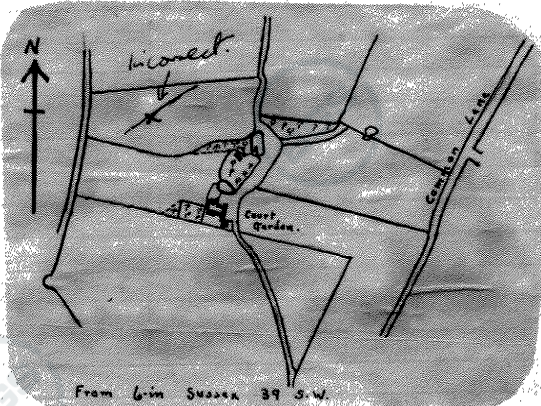
(*11815) Wt.29051/O.869 10,000 9/89
A.& E.W.Ltd. Gp.686

RECORD of WELL or BORING

318

TO 3117
Survey No. 318
1" N.S.
1" O.S.

at (house or farm) Court Gardens, Ditchling
Town, Village, &c. _____ County Sussex Six-inch map _____
Exact site (unless a tracing from a map is supplied, give distance and direction from parish church, cross-roads, or other object shown on maps). _____ Popular Edition Sheet _____ of _____ one-inch map. Square _____
Surface level of ground _____ ft. above Ordnance Datum. Well or Bore commenced at _____ ft. below surface level of ground.
Sunk _____ ft., diameter _____ ft. Bored _____ ft.; diameter of boring: at top _____ in., at bottom _____ in.
Details of lining tubes (internal diameters preferred) Total depth of borehole 184 ft.; old bore 68 ft. additional bore 116 ft.; water level 34 ft. from surface. 116' x 4", 76' x 3" and 50' x 4" O.D.
Water struck at depths of (feet) _____
Rest-level of water below top of well or bore 34 ft. Pumping level _____ ft. Time of recovery _____ hours.
Suction at _____ ft. depth. Yield: (i) on test _____ galls. per _____, (ii) normal _____ galls. per _____
Quality (attach copy of analysis if available) _____
Made by Harper & Ede, Ltd. for Mr. J. Muggeridge Date of boring July, 1934.
Information from C.B. Wedd, Esq.

(For Survey use only). GEOLOGICAL CLASSIFICATION.	NATURE OF STRATA. (and any additional remarks)	THICKNESS.		DEPTH.	
		Feet.	Inches.	Feet.	Inches.
<i>Wells clay</i>	Old bore			68	-
	Blue clay	13	-	81	-
	Brown "soil" [sic]	2	-	83	-
	Blue clay	97	-	180	-
	Blue clay and rock	4	-	184	-
<i>Ref. 9509/30 March 25th 1940 [Court Garden Guernsey Farm]</i> <i>Site plan obtained. O.D. +250. 6 in Sussex 39 S.W.</i> <i>Rest level 3 ft. down. Yield 4000 g.p. day.</i> <i>llh</i> <i>Visited. Now Mr. Widdicombe. Site corrected.</i> <i>Bore with engine in middle of field - no pump-house.</i> <i>Disused. May be brought into use for cattle as trough</i> <i>with small diameter main pipe. Has been passed as fit</i> <i>for cattle only.</i> <i>OD +220. 20.5.59 ASH.</i>					
 From 6 in Sussex 39 S.W.					

GEOLOGICAL SURVEY AND MUSEUM,
SOUTH KENSINGTON,
LONDON, S.W.7.

For Survey use only.

Date received.	G.S.M.	M. of H. notified.	Site marked on 1" map.
7/38			

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