WestShore

Drainage Strategy

Project: land adj. to 19 Estcots Drive East Grinstead West Sussex – RH19 3DA

Scope: Proposed erection of one pair of semi-detached houses, with associated parking and new shared vehicular access.

WestShore Engineering

Master Document Control

Master Authorisation Record			
	Name	**Role**	**Signature & Date**
Prepared by:	Genesis Pestana	Associate Designer	*Pestana*
Reviewed By	Mihai Leustean	Project Engineer	*Leustean*

Brief Change History				
Version	**Status**	**Date**	**Summary of changes and contributors**	**Approver**
0.1	Draft 1	05/06/2025	Initial Draft	ML
0.2	Issue 1	11/06/2025	Issue 1	ML

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1. Introduction

This Drainage Assessment has been prepared for submission to the Mid Sussex District Council in support of the planning application No. DM/25/1218 for the proposed works at the Land Adj. to 19 Estcots Drive East Grinstead West Sussex.

It should not be used for any other purposes. It is intended to explain the proposed strategy and considerations to provide good drainage design for the proposed development.

The works are to be carried out to the approval and satisfaction of the Building Control Officer, in accordance with accepted good building practice and in full compliance with all relevant British Standards and Codes of Practice.

2. Site Context

2.1. Location

The application site comprises the land adjacent to 19 Estcots Dr., East Grinstead RH19 3DA. The approximate centre of the site is located at Ordnance Survey Grid Reference: 539916 138353.

The site forms an irregular-shaped plot with a total area of approximately 762 square metres. It currently serves as the side garden of the existing residential property at 19 Estcots Drive. The surrounding area is characterised by low-density residential development.

It is now largely covered by vegetation, with mature trees around the perimeter. The topography features a gentle slope falling towards the east.

2.2. Local Environment Considerations

The new houses will be located in an established residential area in an urban environment. All essential infrastructure services are available, including public drainage, street lighting, electricity, and telecommunications.

Southern Water Services Ltd is the responsible company for wastewater services in the area. The existing drainage infrastructure serving the site comprises separate public sewerage and surface water sewerage systems, rather than a combined system. Both networks are located in the public road along Estcots Drive at the frontage of the site.

A review of Environment Agency Flood Mapping confirms that the site lies within Flood Zone 1, indicating a low risk of flooding from rivers and the sea.

Future drainage design for the proposed development should ensure compliance with relevant Building Regulations and best practice guidance. Particular attention should be given to achieving sustainable drainage solutions, maintaining water quality, and minimising environmental impacts during and after construction.

3. The Proposed Development

The proposal involves the construction of one pair of semi-detached houses, with associated parking and new shared vehicular access.

Each dwelling will comprise an open-plan social area at ground floor level, incorporating a lounge, dining area, and kitchen, along with a separate utility room and a WC.

The first floor of each unit will accommodate four bedrooms, one bathroom, and one en-suite bathroom serving the principal bedroom.

With respect to surface water drainage, each dwelling will feature a hipped main roof with a surface area of approximately 147 sqm, along with an additional flat roof section at the rear ground floor measuring approximately 13 sqm.

4. Drainage Assessment

4.1. Ground Conditions

A desk work has been carried out to assess the best approach for the drainage design in accordance with site specifications:

- Geology:
  - The underlying bedrock consists of Lower Tunbridge Wells Sand - Sandstone, siltstone and mudstone. Sedimentary bedrock formed between 139.4 and 133.9 million years ago during the Cretaceous period.
  - Several boreholes have been noticed in the BGS map within a radius of 200m from the site. However, there is no information available on these records. The nearest boreholes with available information are within 500m from the site.
    - TQ33NE27 has been obtained from BGS online records approximately 500m west of the proposed development site. The Borehole shows very silty fine sand with very frequent fragments of weathered in the first 3m.
    - TQ33NE28 has been obtained from BGS online records approximately 300m south of the proposed development site. The Borehole shows brown clary, gravel and sand.
- Hydrology:
  - The nearest small lake is located at 100m of the site in the Lower East Court play area.
  - There is no risk of flooding.

4.2. Surface Water Design Options

4.2.1. Surface water run-off into the ground (infiltration)

Based on the available geological data, the underlying soil conditions suggest a moderate infiltration potential. However, variability in permeability may limit infiltration capacity at depth.

In order to assess the feasibility of using a ground infiltration surface water drainage system such as soakaways, a site-specific ground investigation will be required.

These should include infiltration tests in accordance with BRE 365, as well as an assessment of soil permeability, groundwater levels, and depth to impermeable layers. The results will determine whether infiltration is a viable drainage solution for the proposed development.

4.2.2. Surface water run-off to a surface water body

A review of available hydrological and mapping data confirms that there are no nearby open watercourses within or adjacent to the site that could feasibly receive surface water runoff from the proposed development. Therefore, connection of surface water to a watercourse is not a viable drainage option for this site.

4.2.3. Surface water run-off to a surface water sewer

Copies of utility records obtained from Southern Water Services confirm the presence of a public surface water sewer located within Estcots Drive at the front of to the application site. Based on the topography of the site, it is reasonable to assume that the sewer flows in an easterly direction, following the natural slope of the land.

Records also indicate that the public drainage infrastructure in Estcots Drive runs as a separate system, with different waste and surface water sewers. This separation is in line with current best practice and provides a potential connection point for surface water discharge, subject to approval by Southern Water.

4.3. Waste Water Design Options

Southern Water Services records also identify the presence of a public foul water sewer located in Estcots Drive, directly adjacent to the site frontage.

Given that the proposed development is located in an established urban area, and taking into account the proximity and accessibility of this existing sewerage infrastructure, it is considered technically feasible to discharge the sewer water from the two proposed dwellings to the public sewer, subject to the necessary approval and connection arrangements with Southern Water.

The design of the sewage disposal system will be carried out in accordance with the requirements of Part H of the Building Regulations, with expected flows calculated on the basis of standard per capita discharge rates. Compliance with these regulations will ensure that the proposed system is adequately sized and does not place a problem to the existing public infrastructure.

5. Drainage Proposals

The drainage layout for the proposed development has been designed to incorporate separate foul and surface water systems, in line with the configuration of the existing public drainage infrastructure in Estcots Drive.

5.1. Foul Water Discharge

The new foul water drainage system should be designed to compliant with the Building Regulations. The daily wastewater discharge has been calculated based on the anticipated occupancy and use of the two new semidetached dwellings using the methodology set out in Approved Document H.

Although this calculation method is specifically mentioned in Approved Document H for the design of pumped foul water systems, it is considered good practice to apply the same approach to gravity systems. Therefore, a standard domestic flow rate of 150 litres per person per day is used to estimate the daily wastewater flows for the proposed development.

Each dwelling is assumed to accommodate a typical household, and occupancy has been projected based on the number of bedrooms, in accordance with planning and design guidelines. The total daily wastewater flow from the development has been calculated accordingly, and the resulting data shown in Table 1 should be used to determine the pipe sizing and design of connections to the existing public wastewater sewer in Estcots Drive.

Table 1 Daily discharge calculations for domestic properties

Daily Discharge Calculations for Domestic Properties	
Number of Properties	2
Number of Bedrooms	8
Cubic metres a day	**1.8**

5.2. Waste Water Disposal

Foul water discharge from both proposed dwellings is intended to connect to an existing private foul sewer located within the site boundaries. The layout will include new private inspection chambers to facilitate maintenance and access.

The drainage from one house will be connected to the other one and part of this private sewer, where it is communal by the properties, is proposed to be adopted as a shared sewer by Southern Water,

allowing for formal connection to the public foul sewer in Estcots Drive, subject to the necessary approval and agreements.

A new section of public foul water sewer and associated public manhole will be required to complete the connection to the public system. Southern Water must be consulted at the earliest stage, and all proposed works are to be carried out in full compliance with current legislation, including Building Regulations Part H, and in accordance with Southern Water's adoption and connection requirements.

5.3. Surface Water Drainage

At the time of this assessment, infiltration testing had not yet been undertaken to determine the suitability of soakaway systems for surface water disposal. However, utility records obtained from the Local Water Authority confirm the presence of a public surface water sewer at the frontage of the site, in Estcots Drive.

Given the availability of a suitable public surface water sewer, it is proposed that surface water runoff from both dwellings be discharged to the existing public sewer in Estcots Drive.

To manage overflow in accordance with sustainable drainage principles, it is proposed to install a shared attenuation beneath the new shared vehicular access. This system will temporarily store surface water during peak rainfall events, limiting discharge rates and reducing the risk of flooding. The outflow of the attenuation system to the public sewer will be controlled by a hydro-brake flow control device manhole.

The final connection to the public sewer will be subject to Southern Water's technical approval, and all works will be designed and implemented in full compliance with Building Regulations, local SuDS guidance, and the requirements of the Lead Local Flood Authority and Southern Water.

The sewer system has been designed based on the total impermeable area generated by the proposed development. It includes the design for attenuation of flows assuming a 1 in 100-year storm event plus 40% allowance for climate change, in line with current Environment Agency guidance. Attenuation has been provided in the form of geocellular storage system for a site impermeable area of $325m^2$ and the total required attenuation volume has been calculated at 6.17 m^3. The outflow to the public sewer will be controlled by a hydro-brake flow control device manhole. The hydro-brake has been designed to restrict surface water flows to a discharge rate of 5.0l/s.

In addition, for the driveway area, a resin-bound surface will be used as the permeable paving solution. This material combines natural aggregates with a resin binder to form a porous surface that allows water to permeate through the paving, reducing runoff. The resin-bound surface is not only visually appealing but also provides a durable and sustainable drainage option.

The base layers for the resin-bound paving should include a sub-base of crushed stone to facilitate water infiltration, followed by a permeable binder course before the resin-bound material is applied on top.

6. Proposed Maintenance

A comprehensive and well-structured maintenance plan is essential for ensuring the long-term performance and efficiency of the waste and surface drainage systems. Regular inspection and conservation of each component are necessary to maintain their water management capabilities and environmental benefits.

The success of SuDS depends on consistent maintenance. Without regular attention, debris can accumulate, blockages may form, and systems can become less effective at managing water runoff. Keeping a detailed log of all inspections and maintenance activities is advisable, as this helps in monitoring the health of the SuDS system over time.

A proposed maintenance plan shown in Table 1 breaks down the maintenance responsibility and regimes of the other various assets.

Table 1: Proposed Maintenance (in accordance with best practice and CIRIA C753 – The SuDS Manual).

Drainage Asset	Responsible Organisation	Maintenance Work	Frequency
Pipework / Manholes	Private ownership / management company	Inspect pipe work and clear blockage	Annually or after severe storms
		Inspect manholes and clear blockages	
		Repair any defects in network	
Hydrobrake	Management company	Inspect structure and remove any debris / litter on structure	Six monthly or after severe storm
Catchpits prior to attenuation	Management company	Inspect structure and remove any debris / litter on structure	Three monthly or after severe storms
Cellular Storage	Management company	Inspect structure and remove any debris / litter on structure	Annually or after severe storms

6.1. Maintenance of the Rainwater Attenuation Tank

The rainwater attenuation tank, designed to manage excess surface water by storing and releasing it at a controlled rate, requires careful attention.

Inspections of the tank should be conducted twice a year, preferably in spring and autumn, to ensure it is functioning properly. After significant rainfall events, an additional check should be made to confirm that the system has managed the water without any issues.

The maintenance of the tank involves clearing away any debris that might have accumulated in or around the tank's inlets and outlets. Blockages in these areas can prevent water from entering or exiting the tank, reducing its effectiveness. Flow control devices must be tested regularly to confirm they are operating at the correct rate, and any issues with these devices should be addressed promptly.

Detecting leaks or cracks in the tank is another critical aspect of maintenance. Observing water levels after rainstorms will help identify whether the tank is storing and releasing water as expected. A more thorough clean-out of the tank, which may involve removing silt or sediment build-up, should be performed every five years to maintain capacity.

6.2. Maintenance of the Resin-Bound Permeable Surface

The resin-bound permeable surface, used on the driveway, requires bi-annual inspections —typically in spring and autumn—to ensure continued effectiveness in managing surface water runoff. After significant storms, an additional inspection should be carried out to assess whether the surface is still allowing water to permeate through as expected.

Routine maintenance includes clearing debris with a low-pressure washer to prevent clogging, checking for signs of ponding or blockages, and promptly repairing any cracks or surface damage.

Weeds should also be removed from the surface, as their roots can interfere with the resin structure and affect its long-term performance. Ensuring that the surface is protected from heavy loads and chemical spills will also help to preserve its longevity and effectiveness.

7. Conclusion:

This Drainage Assessment supports the planning application for two new semi-detached dwellings on land adjacent to 19 Estcots Drive. The drainage strategy has been developed in accordance with Building Regulations (Part H), national and local planning policy, and industry best practice.

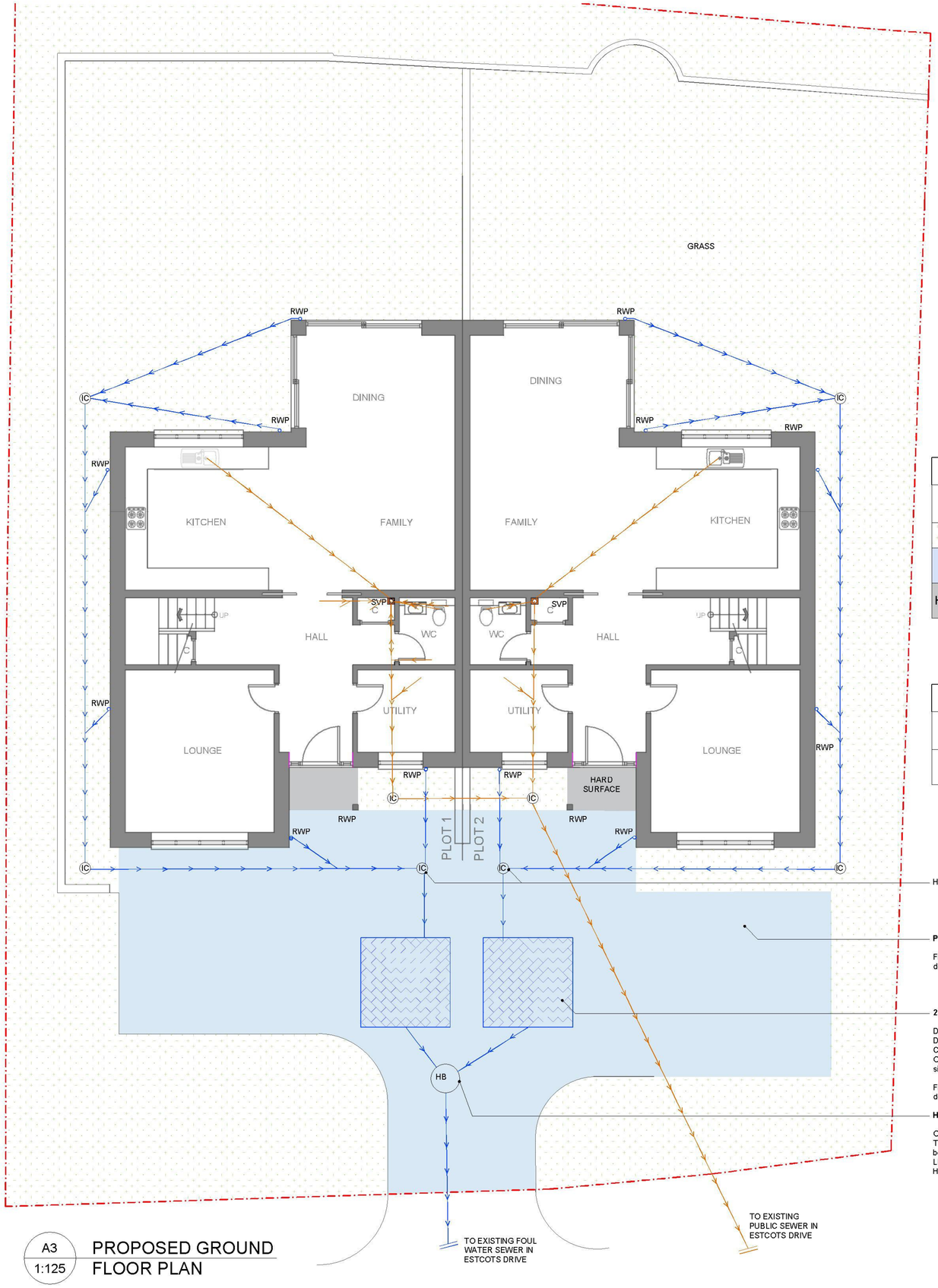
The site is well positioned for foul and surface water discharge, with existing public sewer infrastructure available in Estcots Drive. A separate foul drainage network is proposed, with daily flows estimated at 1.8 m^3 based on standard occupancy rates. The system shall be compliant with regulatory requirements and considered appropriate for direct connection to the public foul sewer, subject to Southern Water approval.

Surface water management has been addressed through a sustainable approach. As no infiltration tests have been carried out and no nearby watercourse is available, a shared attenuation tank is proposed, with a capacity of 6.17 m^3. Discharge from the attenuation system will be controlled via a hydro-brake, limiting flow to a maximum of 5.0 l/s before connecting to the public surface water sewer.

Additional sustainable drainage features, such as a permeable driveway surface, is proposed in order improve the management runoff on site and reduce pressure on the sewer network.

Overall, the proposed drainage strategy provides a sustainable and regulation-compliant approach to foul and surface water management, ensuring that the development will not increase flood risk on site and that it aligns with the relevant technical and environmental standards required for planning approval.

Annexes



A3 1:125 PROPOSED GROUND FLOOR PLAN

Heavy duty inspection covers.

PERMEABLE PAVING

Final sizing and dimensions to be determined at detailed design phase

2 No. RAINWATER ATTENUATION TANKS

Dimensions: 2400mmx2400mm
Depth: 650mm
Capacity: 3000l
Outfall: Vortex Flow SuDS attenuation control(or similar)

Final sizing and dimensions to be determined at detailed design phase

HYDROBRAKE (or similar)

Outfall rate: 1.0l/s
This is a 92% reduction in current rates on-site and below the rate of 5.0l/s per Ha as requested by the LLFA.
Heavy duty inspection covers.

Surface Schedule

Reference	Area (m^2)
GRASS	409
PREMEABLE PAVING	125.70
HARD SURFACE	325

SUDS Schedule

Reference	Quantity
ATTENUATION TANK	2 x 3.37m^3

GENERAL NOTES:

- All structural materials shall be void of any defects that may diminish their capacity to function in an adequate manner.
- This document is to be read in conjunction with Architectural and Structural drawings. Any inconsistencies between the drawings should be reported. If any site conditions or existing details are found to be different than assumed or described in this document, this may have effect the structural design, and Westshore Engineering are to be notified immediately.
- Existing drainage plans are assumed based on visual inspections. Clients are advised to undertake a CCTV drainage survey prior to works to identify any outstanding existing pipes and establish the exact location of all drains. A building over agreement might be in place before work commences.
- Ensure all Party Wall Notices have been served and Awards/ Agreements are in place before the commencement of works.

ADVISORY NOTES:

- Contractors are advised to confirm the existing drainage system at all levels of the building at early stage and prior to works commencement. Any uncharted pipes should be reported to the Designers. All proposals should have the BC acceptance, and where connecting to a public owned system the Local Water Authority consent. See requirements for any Build Over Agreement when building over shared sewers.

LEGEND

- BOUNDARY LINE
- ELEMENTS TO BE REMOVED
- SURFACE WATER SEWER
- FOUL WATER SEWER

REVISION	DATE	NOTES
DRAFT 1	05/06/2025	
ISSUE 1	11/06/2025	

WestShore Engineering
124 City Road, EC1V 2NX, London
+(44) 0203 916 5019
office@westshore.co.uk
www.westshore.co.uk
westshore-engineering

PROJECT TITLE:

19 Estcots Drive, RH19 3DA

DRAWING TITLE:

PROPOSED DRAINAGE PLANS

DRAWING NUMBER:	SIZE:
15.356.001	A3
DRAWN BY:	EUGENIA DOMINGO
CHECKED BY:	PAULA CERRO

1:100 — 0 1 2 3 4 5 m
1:50 — 0 0.5 1 1.25 2 2.5 m

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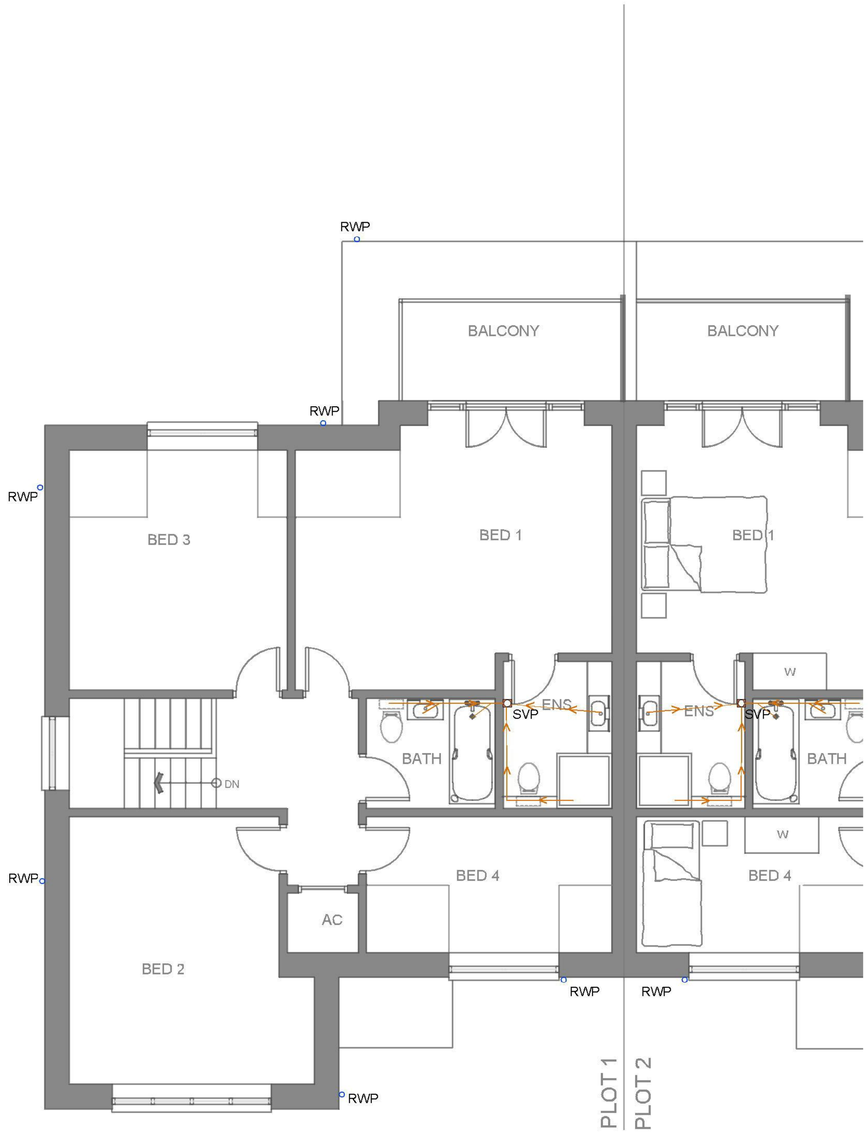
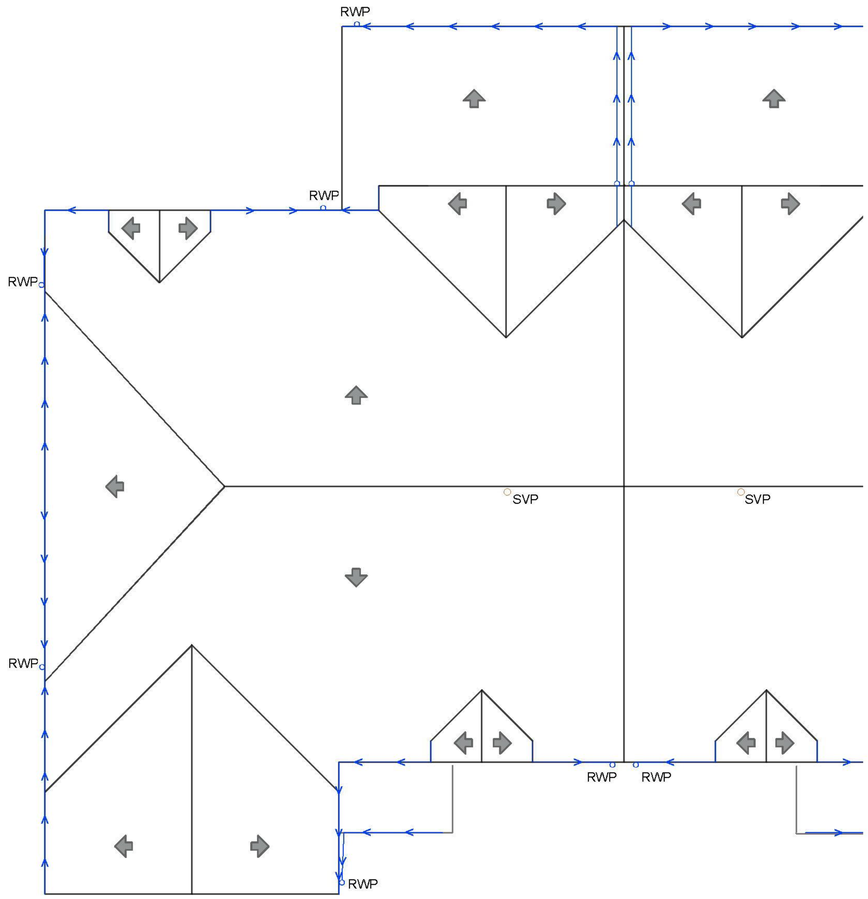


A3
1:100

PROPOSED FIRST
FLOOR PLAN



A3
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PROPOSED ROOF PLAN

Colebrook-White Calculation

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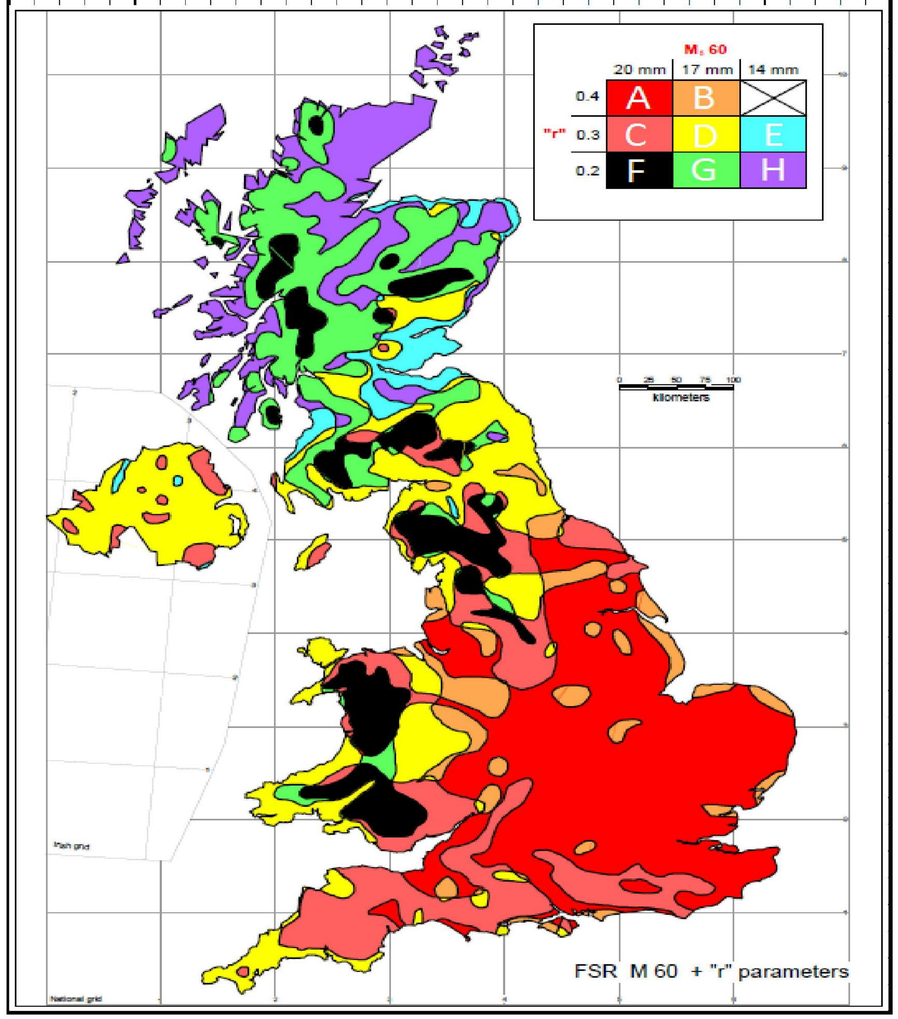
WestShore	**Project:**	Land adj. to 19 Estcots Drive, RH19 3DA	**By:**
	Calculation:	Attenuation System Design	WestShore
			Approved:
	Sheet Number: 1	**Date:** 03/06/2025	

Catchment Details		
Catchment Area	325	m²
Runoff Coefficient	0.95	
Location Code	A	
Return Period	100	years
Climate Change Factor	40	%

UK Rainfall Map



Colebrook-White Calculation

WestShore	**Project:**	Land adj. to 19 Estcots Drive, RH19 3DA	**By:**
	Calculation:	Attenuation System Design	WestShore
			Approved:
	Sheet Number:	2 **Date:** 03/06/2025	

Attenuation Tank Outflow	5	l/s	Acceptable

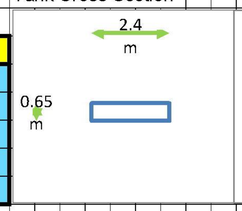
Results Table

Storm Duration (Mins)	Inflow (l)	Outflow (l)	Storage Required (m³)
5	5,904	1,500	4.40
10	8,818	3,000	5.82
15	10,666	4,500	6.17
30	14,005	9,000	5.00
45	16,047	13,500	2.55
60	17,506	18,000	0.00
120	21,180	36,000	0.00
240	24,725	72,000	0.00
480	27,664	144,000	0.00
600	29,825	180,000	0.00
1440	36,309	432,000	0.00

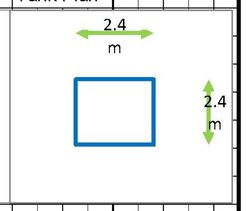
Attenuation Tank Design

Tank Shape	Rectangular	
Number of Tanks	2	
Length	2.4	m
Width	2.4	m
Effective Depth	0.65	m
Void Percentage	90	%

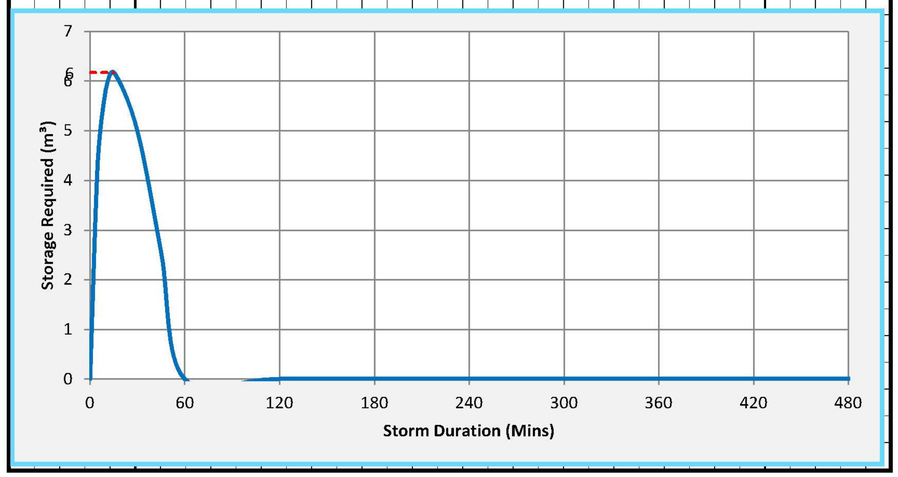
Tank Cross Section



Tank Plan



Storage Area Required	6.17	m³	
Storage Area Provided	6.74	m³	Acceptable
Time for Emptying 50%	0.2	hours	Acceptable



Public Sewer & Water Map

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- Public Combined Sewer
- Public Foul Sewer
- Public Surface Water Sewer
- Abandoned Public Sewer
- Water Pipes
- Sewer Publicly Maintained under Section 24 Public Health Act 1936
- Section 104 Surface Water Sewer
- Section 104 Foul Sewer
- Decommissioned Water
- Public Sewage Pumping Station

This map is provided by InfoTrack Ltd and must be used in conjunction with the search results attached. Please note, the boundary may have been adjusted from the plan provided so that it reflects the National Polygon dataset provided by the Land Registry. This dataset covers all registered titles (freehold and leasehold) in England and Wales and shows the indicative shape and position of each boundary. The information shown on the map is based on data obtained from various sources but the position of any water company apparatus must should be regarded as approximate. Service pipes, private sewers and drains are generally not shown. This map should not be used for detailed design of any proposed works and users of this map are strongly advised to commission their own survey of the area before carrying out any works to establish the actual position of all apparatus.

Flood map for planning

Your reference	Location (easting/northing)	Created
Unspecified	**539930/138340**	**28 May 2025 14:02**

Your selected location is in flood zone 1, an area with a low probability of flooding.

You will need to do a flood risk assessment if your site is **any of the following**:

- bigger than 1 hectare (ha)
- in an area with critical drainage problems as notified by the Environment Agency
- identified as being at increased flood risk in future by the local authority's strategic flood risk assessment
- at risk from other sources of flooding (such as surface water or reservoirs) and its development would increase the vulnerability of its use (such as constructing an office on an undeveloped site or converting a shop to a dwelling)

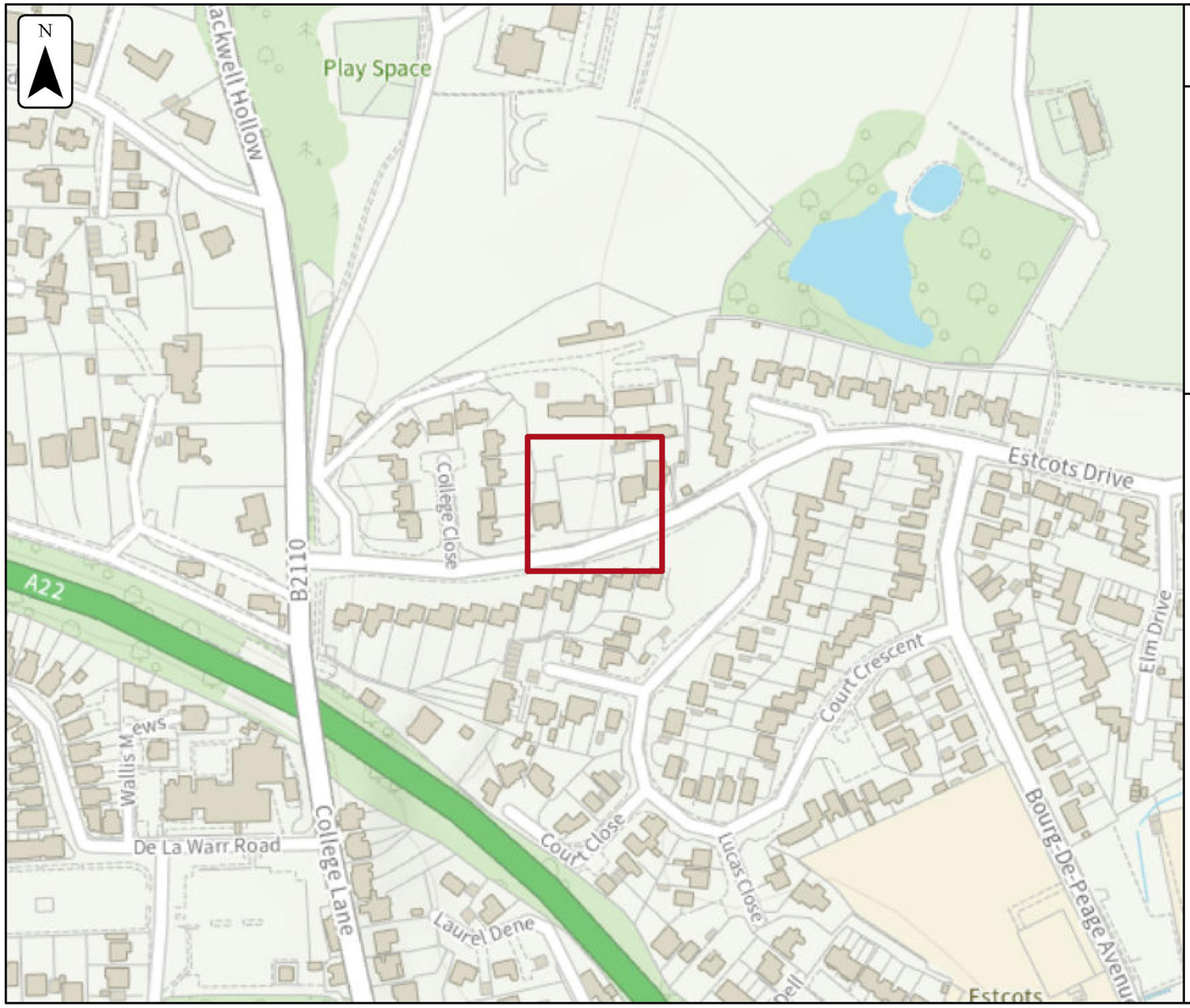
Notes

The flood map for planning shows river and sea flooding data only. It doesn't include other sources of flooding. It is for use in development planning and flood risk assessments.

This information relates to the selected location and is not specific to any property within it. The map is updated regularly and is correct at the time of printing.

Flood risk data is covered by the Open Government Licence which sets out the terms and conditions for using government data. https://www.nationalarchives.gov.uk/doc/open-government-licence/version/3

Use of the address and mapping data is subject to Ordnance Survey public viewing terms under Crown copyright and database rights 2025 AC0000807064. https://flood-map-for-planning.service.gov.uk/os-terms



Environment Agency

Flood map for planning

Your reference
Unspecified

Location (easting/northing)
539930/138340

Scale
1:2,500

Created
28 May 2025 14:02

Selected area
Flood zone 3
Flood zone 2
Flood zone 1
Flood defence
Main river
Water storage area

0 20 40 60m

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TQ 33 NE 27
3948 3825

Contract: East Grinstead Client: LAW 130 Limited		Borehole No. 4 Sheet No. 1 Of 2. Depth 0 to 10 metres.
Equipment and Methods Rotary drilling using tricone rock-roller and diamond saw-tooth coring bit with foam flush Orientation : Vertical	Ground Level : (m.O.D.) 128.23 Coordinates :	Job Number : S39/691 Location : Dates : 14/11/89

Daily Prog.	Water Levels	In Situ Tests	TCR	SCR	RQD	If	Core Run	Depth (Thick)	Reduced Level	Description	Remarks/Details	Legend
								0.00 GL				
								0.10	128.13	MADE GROUND (topsoil)		
								0.30	127.93	MADE GROUND (rubble fill)		
								(2.70)		Light brown, orange brown and light grey very silty fine SAND with very frequent fragments of weathered sandstone		
								3.00	125.23			
			100	0	0			(0.75)		Light brown fine grained thinly bedded to laminated moderately to highly weathered SANDSTONE. Very weak		
								3.75	124.48			
			100	32	11					Light brown fine grained thinly laminated to medium bedded, medium to very closely jointed, slightly to moderately weathered with occasional highly weathered and fresh zones, silty SANDSTONE (occasionally sandy siltstone). Very weak to moderately weak. Joint surfaces show some weathering discolouration and occasional limonite mineralisation		
			100	60	28						Limonite mineralisation along horizontal joints at 5.90m and 6.00m up to 15mm thick	
			100	72	14			(11.45)				
			100	68	52						Abundant traces of black carbonaceous matter between 8.55m and 8.75m, rock very friable and very weak	
14/11			100	69	45							
								10.00		Continued		

Operator RM	General Remarks: Inspection pit hand dug to 1.00m	Appendix 1
Scale 10m/sheet		Sheet No. 4

TQ 33NE 27

Contract: East Grinstead Client: LAW 130 Limited		Borehole No. 4 Sheet No. 2 Of 2. Depth 10 to 20 metres.
Equipment and Methods Rotary drilling using tricone rock-roller and diamond saw-tooth coring bit with foam flush Orientation : Vertical	Ground Level : (m.O.D.) 128.23 Coordinates :	Job Number : S39/691 Location : Dates : 14/11/89

Daily Prog.	Water Levels	In Situ Tests	TCR	SCR	RQD	If	Core Run	Depth (Thick)	Reduced Level	Description	Remarks/Details	Legend
								10.00				
			100	69	45					Light brown fine grained thinly laminated to medium bedded, medium to very closely jointed, slightly to moderately weathered with occasional highly weathered and fresh zones, silty SANDSTONE (occasionally sandy siltstone). Very weak to moderately weak. Joint surfaces show some weathering discolouration and occasional limonite mineralisation		
			97	70	25							
								(11.45)				
			97	45	28						12.80m to 13.00m Inclined joint open up to 5mm and infilled with firm brown clay 13.15m to 13.30m Band of firm laminated clayey silt with some thin laminations of siltstone 13.30m to 13.80m Becoming a sandy siltstone 14.00m to 14.60m Becoming a sandy siltstone	
			100	60	42							
14/11								15.20	113.03	End of Borehole		

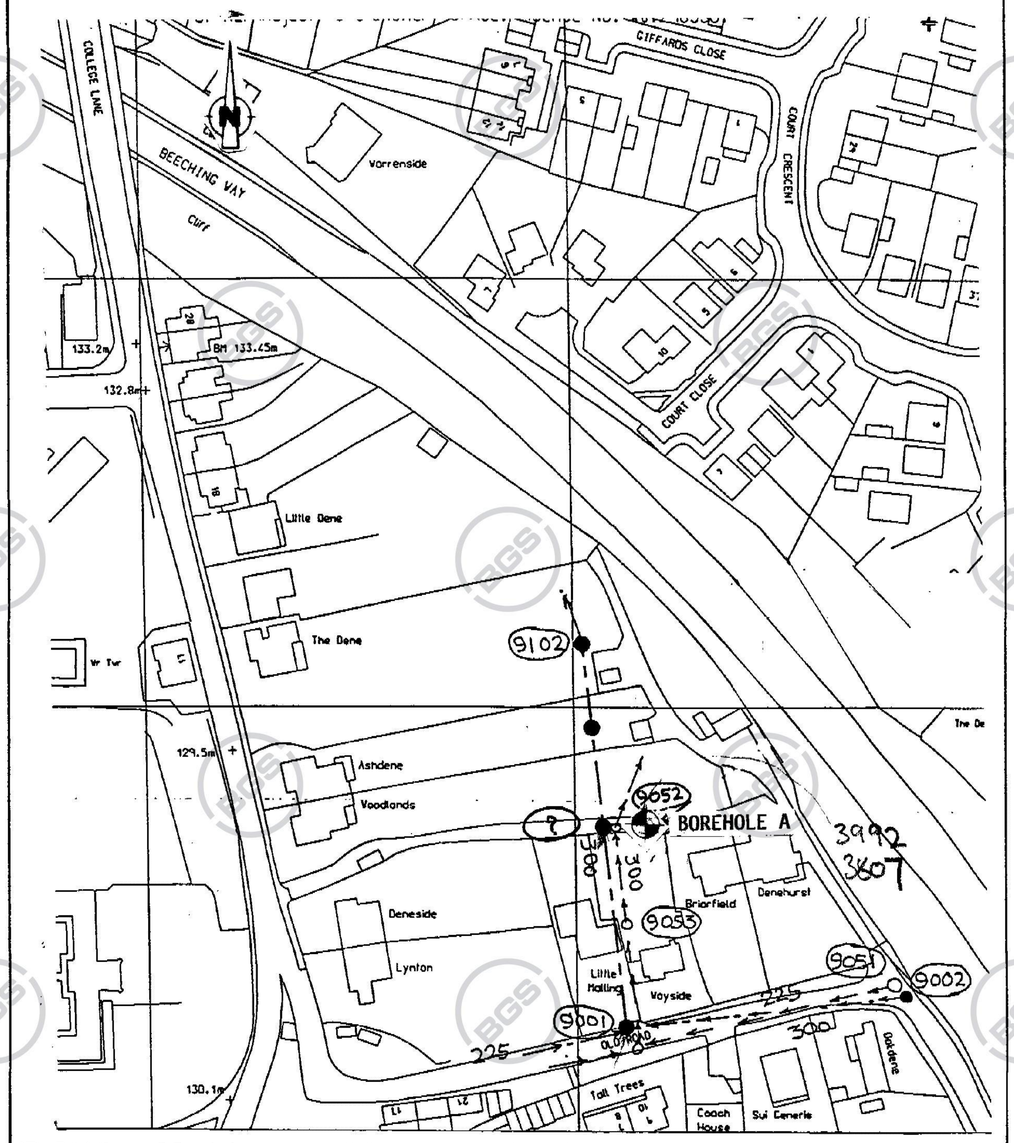
Operator RM	General Remarks:	Appendix 1
Scale 10m/sheet		Sheet No. 5

British Geological Survey
BGS ID: 594794 : BGS Reference: TQ33NE28
British National Grid (27700) : 539920,138070

Norwest Holst Soil Engineering Ltd

GROUND INVESTIGATION TQ33NE/28-31

Client; Southern Water Services Limited **Location;** East Grinstead Re-Sewerage.



NB. Positions of Boreholes are only indicative unless dimensioned.

Contract No; F9690	Title;	Fig;
Scale; 1:1250	**BOREHOLE LOCATION PLAN**	1

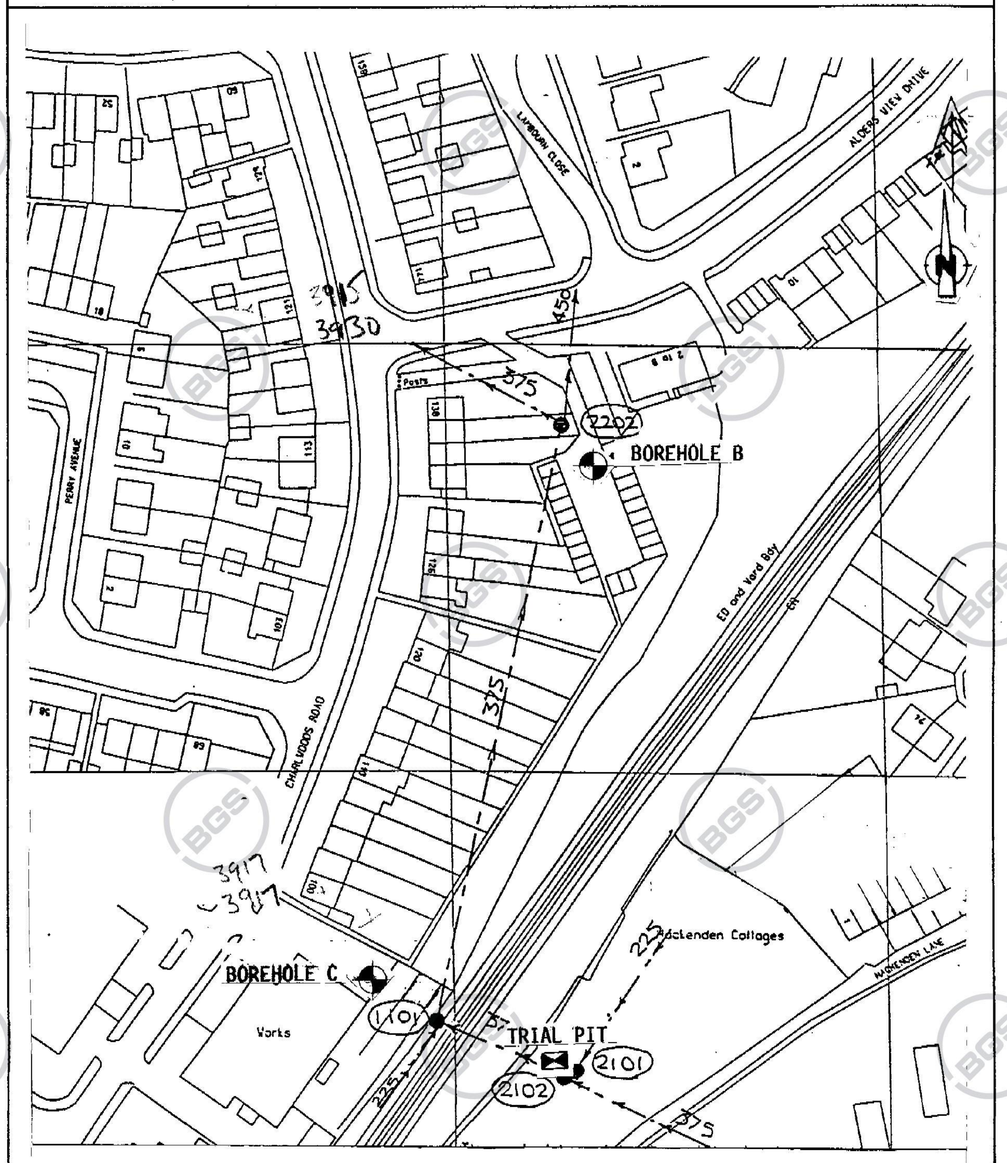
REF1000/92

Contact BGS: ngdc@bgs.ac.uk

Norwest Holst Soil Engineering Ltd

GROUND INVESTIGATION TQ33NE/28-31

Client: Southern Water Services Limited. Location: East Grinstead Re-Sewerage.



NB. Positions of Boreholes and Trial Pits are only indicative unless dimensioned

Contract No: F9690	Title: BOREHOLE AND TRIAL PIT LOCATION PLAN	Fig: 2
Scale: 1:1250		

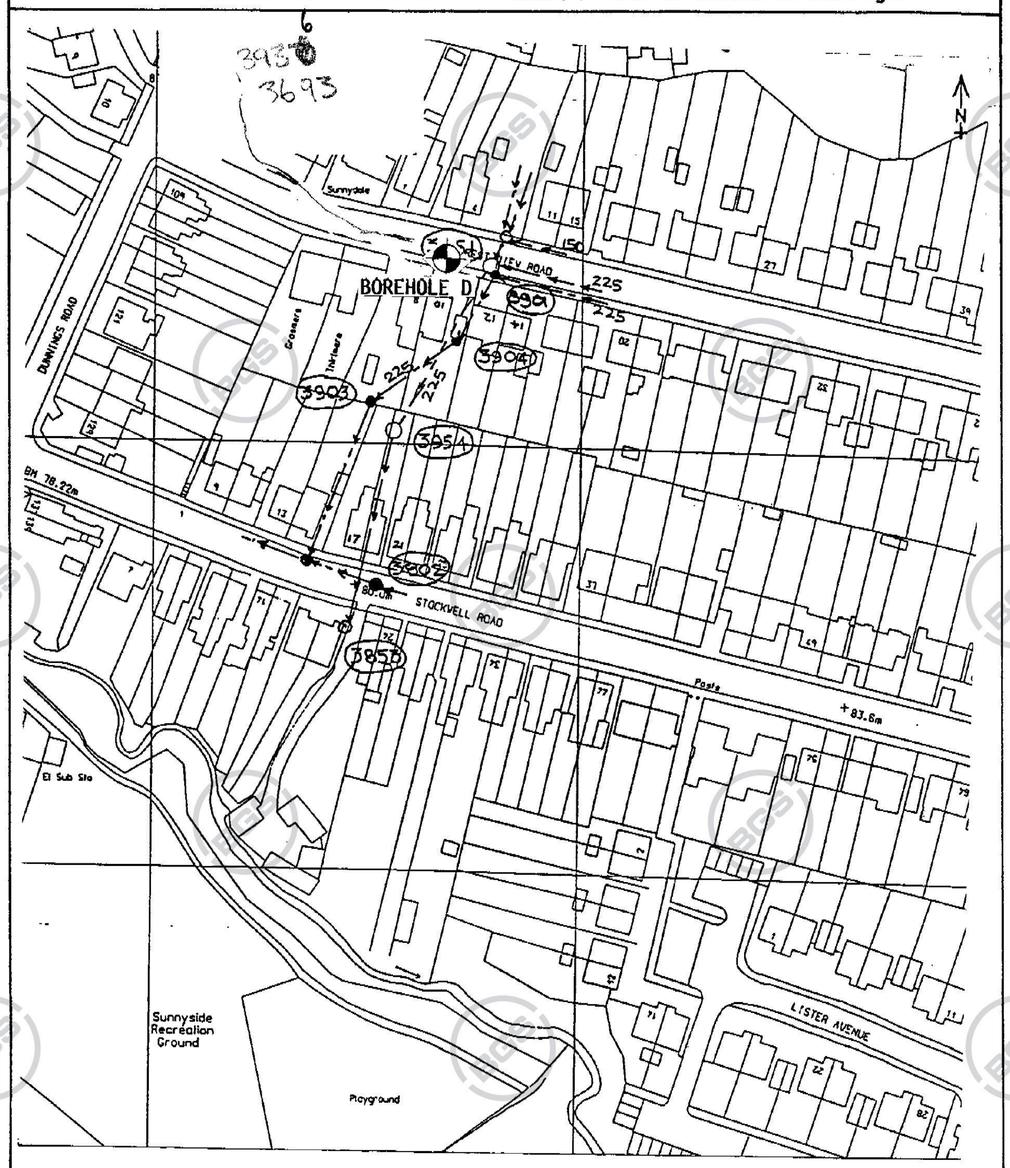
REF1003/92

Norwest Holst Soil Engineering Ltd

GROUND INVESTIGATION

TQ33NE/28-31

Client; Southern Water Services Limited . Location; East Grinstead Re-Sewerage.



NB. Positions of Boreholes are only indicative unless dimensioned.

Contract No; F9690	Title; BOREHOLE LOCATION PLAN	Fig; 3
Scale; 1:1250		

REF1000/92

British Geological Survey

BGS ID: 594794 : BGS Reference: TQ33NE28
British National Grid (27700) : 539920,138070

Status: Final
Date 15/03/93

Norwest Holst Soil Engineering Ltd.

BOREHOLE LOG - CABLE PERCUSSION

Borehole No. A
Header Sheet

Contract No.	P9690	Method	Cable Percussion	Coords.	
Project	East Grinstead	Drilling Rig			
		Diameter	150	Ground Level	
Client	Southern Water Services Ltd	TQ33NE/28		Orientation	Vertical
Consultant	Sthn Projects Ltd			Date Started	04/01/93
				Date Completed	05/01/93

PROGRESS

Date	Time	Hole Depth	Casing Depth	Casing Dia.	Water Depth	Remarks
04/01/93	4.30pm	2.50	2.50	150mm		
05/01/93	pm	6.00	3.00	150mm	4.50	

WATER STRIKES

Date	Time	Strike	Rise	After n Minutes	Flow	Sealed
05/01/93		4.75	4.50	20		

DRILLING DETAILS

Chiselling			Water added		Remarks
From	To	Hours	From	To	

SPT AND CPT DETAILS

Depth	Blows for 75mm Increments
1.50	1,1,1,0,1, 1

NOTES

All depths in metres; all diameters in millimetres.

* Drillers Description.

GROUNDWATER LEVELS ARE SUBJECT TO SEASONAL, TIDAL AND OTHER FLUCTUATIONS AND SHOULD NOT BE TAKEN AS CONSTANT.

Driller	Logged by	Checked by

KEY TO SYMBOLS AND ABBREVIATIONS

D	Small Disturbed Sample	W	Water Sample	S	Standard Penetration Test	Piezometer	
B	Bulk Disturbed Sample	G	Gas Sample	C	Cone Penetration Test	Upper Seal	
LB	Large Bulk Disturbed Sample	( )	Blows to drive U100	" "	N for full 300mm penetration	Sand Cell	
U	Undisturbed U100 Sample	V	Insitu Vane Test	../175	For given penetration (mm)	Piezometer Tip	
P	Piston Sample	PR	Pressuremeter Test	../25*	Seating blows only	Lower Seal	
TW	Thin-wall Sample	K	Permeability Test	NP	No penetration	Grout	
NR	No Recovery						

Form G102
Version 1.04
Revised 24.09.92

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 594794 : BGS Reference: TQ33NE28
British National Grid (27700) : 539920,138070

Status
Final
Date 15/03/93

Norwest Holst Soil Engineering Ltd.

BOREHOLE LOG - CABLE PERCUSSION

Borehole No.
A
Sheet 1 of 1

Contract No.	F9690	Method	Cable Percussion	Coords.	
Project	East Grinstead	Drilling Rig			
		Diameter	150	Ground Level	
Client	Southern Water Services Ltd	TQ33NE/28		Orientation	Vertical
Consultant	Sthn Projects Ltd			Date Started	04/01/93
		3992 3807		Date Completed	05/01/93

Description of Strata	Legend	Depth below G.L.	O.D. Level	Sampling			Casing Depth	( ) & "N"		Install -ation
TOPSOIL and gravel.		0.20								
MADE GROUND: Brown clay, brick gravel and glass.		0.80		BD	0.50	1.00				
Very soft brown silty very sandy CLAY with occasional fine gravel of siltstone. ---becoming yellow brown with depth		2.30		SD	1.50	1.95		"3"		
Firm to stiff yellowish brown friable clayey SILT.										
---becoming firm from 2.50m				D	2.50					
				U	2.75	3.20		(100)		
---from 3.50m with lithorelicts (completely weathered siltstone)				D	3.25					
				DU	3.50	3.75		(100)		
				D	4.00					
				DU	4.50	4.95		(60)		
---from 5.00-5.50m becoming highly weathered sandy siltstone, very weak				D	5.00					
				DU	5.50	5.95		(65)		
Borehole complete at 6.00m		6.00		D	6.00					

REMARKS - See Header Sheet for:
Key to Symbols and abbreviations
Drilling Details, Progress and Water Strikes
General Notes

Form G112
Version 1.04
Revised 24.09.92

Contact BGS: ngdc@bgs.ac.uk