

Hill Cottage, Stop Street, Fonthill Gifford, Tisbury SP3 6QW

Reference: R1091 -Rev - V1

Sep-26

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Rev 1 Produced by: ARD 079 721 44579 arge@rida-reports.co.uk

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Approval

	Name	Position	Date
Prepared By:	JKC	Engineer	27.07.2026
Reviewed By:	GG	Senior Engineer	27.07.2026
Approved By:	CD	Chartered Engineer	29.09.2026

Revision

Revision Number	Date Issued	Details
V1	29.09.2026	First Issue
-	-	-
-	-	-

Purpose of this report

- 1.1 The purpose of this statement is to accompany the technical drawings and details showing the proposed Surface and Foul Water drainage system as part of the planning application for this development.

Scope

- 1.2 This Sustainable Drainage Strategy (SDS) outlines the key drainage principles and requirements for the proposed development at Hill Cottage, Stop Street, Fonthill Gifford, Tisbury SP3 6QW. It provides a summary of the sustainable drainage system (SuDS) design, based on the specific site conditions and relevant guidelines, including Building Regulations Approved Document Part H and CIRIA C753: The SuDS Manual 2015. As the project progresses and new information becomes available, this strategy will be updated to reflect ongoing changes and the development of the detailed design.

Site Characteristics

- 2.1 The site background is clearly identified through answers to the questions in table 1 below.

Table 1: Site Characteristics . See appendix B for support documentation

TOPIC	QUESTION	ANSWER
Protected species or habitat	Is the site near to designated sites and priority habitats?	No
Flood Plain	Is the site located in the flood plain?	No
Soils and Geology	Soil permeability? - See appendix B for results	No
Space constraints	Space for SuDS components?	Yes
Topography	Sited on a flat site?	No
	Sited on a steep slope (5-15%)	No
	Sited on a very steep slope (>15%)	Yes
Groundwater	Is the site at groundwater flood risk?	No
Contaminated land	Are there contaminated soils on site?	Unknown
Source Protection Zone	Is the site within a SPZ 3?	No
Runoff characteristics	Is the development in a high risk flooding area?	No

Existing and Proposed Site

- 2.2 The distribution of catchment areas for existing and proposed site is as per table 2 below. See appendix A for details

Table 2 : Existing and Proposed catchment areas in hectares

Description	Existing Site	Proposed Site
Impermeable Areas	0.005	0.027
Permeable Areas		
Connected to Drainage	0.000	0.000
Self Draining Areas	0.000	0.000
Areas Draining Away from drainage System	0.183	0.161
Total Development Area	0.188	0.188

- 2.3 It has been assumed that the positively drained areas will have different runoff coefficients depending on the type of surface as follow:

Impermeable Surface	1.0
Permeable Surfaces	0.5
Grass Areas	0.3

Evaluation of Discharge Point

3.1 The SuDS design takes into account Building Regulations Section H3 and the National standards for sustainable drainage systems (SuDS). The aim is to discharge surface water run-off as high up the drainage hierarchy, as reasonably practicable:

1. collected for non-potable use
2. infiltrated to ground
3. discharged to an above ground surface water body
4. discharged to a surface water sewer, or another piped surface water drainage system
5. discharged to a combined sewer

3.2 The discharge point has been evaluated following the NPPG and Building regulations. The findings are in table 3 below.

Table 3: Drainage Hierarchy evaluation

1	Rain Water Harvesting	For this site, it is recommended that a water butt is installed to collect roof runoff for minor reuse, such as external cleaning or garden watering.
	Superficial geology classification	The British Geological Society records show that the superficial deposits are No results found.
	Bedrock geology classification	The British Geological Society records of the site show that it is located within the Gault Formation-Mudstone.
	Landis Top Soil Infiltration	The SOILSCAPE's records of the site show that it is located within an area of freely draining soils.
	Groundwater	The British Geological Survey's flood risk susceptibility maps show that the development has limited susceptibility to ground water flooding. The risk from groundwater flood to the site is considered very low.
Infiltration Evaluation		
2	Is infiltration feasible?	Infiltration is not possible on this site due to findings on groundwater and soils
3	Is a discharge to a watercourse feasible?	There is an existing watercourse approximately 120m downstream of the site. It is possible to connect by gravity, and it is proposed to discharge into this watercourse, subject to obtaining approval to install a pipe along the road verge
4	Is a discharge to a surface water sewer feasible?	There is no surface water sewer in the proximity to the site.
5	Is a discharge to a combined sewer feasible?	There is no combined water sewer in the proximity to the site.

Existing and Proposed Peak Run-off Calculations

- 4.1 The current site is a Brownfield. The peak runoff rate for the existing site was calculated as per table 4 and discharge rates as per table 5.

Table 4: Peak run-off rate calculation method for existing site

Method Used	Calculation Method
	Report 124 Flood Estimation for Small Catchments method has been used to estimate the site peak flow rates
✗	This is a brownfield site, runoff rates are calculated in accordance with best practice simulation modelling and using the modified rational method
	This is a brownfield site where the pre-development drainage isn't known. The runoff rates are calculated using the Greenfield model with soil type 5

- 4.2 The runoff flow produced by the development will be controlled as per table 5.

Table 5: Runoff discharge rate control

Control Used	Description of runoff discharge
	Water will be discharged into the ground via a SuDS as described in table 6 below
	The peak discharge rate has been reduced to Greenfield Qbar flow
✗	The peak discharge rate has been taken as 0.7 l/s as it is not possible to reduce it to the Greenfield Qbar rate
	The peak discharge rate has been reduced to Brownfield pre-development 1 in 1 flow
	The peak discharge rate has been reduced by 60% from the existing Brownfield pre-development 1 in 2 flow rate

Run-off flows

- 4.3 The size of the SuDS has been calculated for all events up to the 1 in 100 including an allowance for climate change of 45%. As per tables above, it is proposed to discharge at a rate of 0.7 l/s. See table 6 for values and appendix C for calculations.

Table 6: Peak discharge rates for SuDS

Return Period Event	Discharge Rate (l/s)			Infiltration Rate (m/hr)
	Existing Greenfield	Existing Brownfield	Proposed	
Qbar	0.04	N/A	N/A	N/A
1 in 1	0.04	N/A	0.2	N/A
1 in 2	0.04	N/A	0.2	N/A
1 in 30	0.10	N/A	0.3	N/A
1 in 30 + CC	N/A	N/A	0.3	N/A
1 in 100	0.10	N/A	0.3	N/A
1 in 100 + CC	N/A	N/A	0.6	N/A

Proposed Sustainable Drainage System

5.1 The following sustainable drainage systems have been used for this site. The drainage design uses these drainage system through out the site. See table 7 for details.

Table 7: Evaluation of SuDS and Proposed Drainage System

<i>Most Sustainable</i>	SuDS Technique	Feasible	Proposed	Flood Reduction	Pollution Reduction	Landscape & Wildlife Benefit
	Living Roofs					
	Green Roof	No	No	X	X	X
	Green Blue Roof	No	No	X	X	X
	Basins and Ponds					
	Rainwater Gardens	No	No	X	X	X
	Rainwater Planters	No	No	X	X	X
	Constructed Wetlands	No	No	X	X	X
	Balancing Pond	No	No	X	X	X
	Detention Basins	No	No	X	X	X
	Retention Ponds	No	No	X	X	X
	Filters and Swales					
	Filter Strips	No	No	X	X	X
	Swales	No	No	X	X	X
	Infiltration Devices					
	Soakaways Crates	No	No	X	X	X
	Deep Boreholes	No	No	X	X	X
	Infiltration Trenches	No	No	X	X	X
	Infiltration Basin	No	No	X	X	X
	Permeable Surfaces			X	X	
	Permeable Surfaces	No	No	X	X	
	Filter Drains	No	No	X	X	
	Tanked System					
	Storage Crates	Yes	Yes	X		
	Oversized Tanks	No	No	X		
	Oversized Pipes	No	No	X		
	Blue Roof	No	No	X		
<i>Least Sustainable</i>	Water Harvesting	Yes	Yes	X		

- 5.2 The location and details of the SuDS can be seen drainage layouts in appendix D. Calculations are in appendix C.
- 5.3 The drainage calculations demonstrate:
 - No flooding occurs for the 1 in 30 storm events.
 - Any flooding for the 1 in 100 year + 45% climate change event can be safely contained on site
- 5.4 The proposed drainage strategy presents one possible solution to demonstrate that the development can be sustainably drained, to comply with the requirements of the NPPF. Other solutions may be feasible and may prove to be better suited to the site. These will become apparent during the detailed design stage. The strategy above should not therefore be interpreted as the definitive scheme solution.

Management of Exceedance Flows

- 5.5 The drainage network has been designed to attenuate surface runoff for all events up to and including the 1% AEP + CC(1 in 100 years). However consideration has been given to what may happen when the design capacity of the surface water drainage network is exceeded. Surface water will flow to the lowest points within the site. The flood risk to the buildings would therefore remain low. See appendix D.

Maintenance and Management plan responsibility

- 6.1 The SuDS will be maintained by The Owner the property

Maintenance and Management plan for proposed SuDS

- 6.2 The maintenance and Management Plan Guidance from the SuDS Manual, CIRIA C753 (CIRIA, 2015) is to be followed for the effective maintenance of the proposed SuDS techniques outlined above. The maintenance for SuDS structures are as follow:

INLETS, OUTLETS, CONTROLS AND INSPECTION CHAMBERS	
Regular Maintenance	Frequency
Inlets, outlets and surface control structures	
Inspect surface structures removing obstructions and silt as necessary. Check there is no physical damage.	Monthly
Strim vegetation 1m min. surround to structures and keep hard aprons free from silt and debris	Monthly
Inspection chambers and below ground control chambers	
Remove cover and inspect ensuring water is flowing freely and that the exit route for water is unobstructed. Remove debris and silt.	Annually
Undertake inspection after leaf fall in autumn	
Occasional Maintenance	
Check topsoil levels are 20mm above edges of baskets and chambers to avoid mower damage	As necessary
Remedial work	Frequency
Unpack stone in basket features and unblock or repair and repack stone as design detail as necessary.	As required
Repair physical damage if necessary.	As required

Operation and maintenance requirements for RWH systems

Maintenance schedule	Required action	Typical frequency
Regular maintenance	Inspection of the tank for debris and sediment build-up, inlets/outlets/withdrawal devices, overflow areas, pumps, filters	Annually (and following poor performance)
	Cleaning of tank, inlets, outlets, gutters, withdrawal devices and roof drain filters of silts and other debris	Annually (and following poor performance)
Occasional maintenance	Cleaning and/or replacement of any filters	Three monthly (or as required)
Remedial actions	Repair of overflow erosion damage or damage to tank	As required
	Pump repairs	As required

Operation and maintenance requirements for attenuation storage tanks

Maintenance schedule	Required action	Typical frequency
Regular maintenance	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
	For systems where rainfall infiltrates into the tank from above, check surface of filter for blockage by sediment, algae or other matter; remove and replace surface infiltration medium as necessary.	Annually
	Remove sediment from pre-treatment structures and/or internal forebays	Annually, or as required
Remedial actions	Repair/rehabilitate inlets, outlet, overflows and vents	As required
Monitoring	Inspect/check all inlets, outlets, vents and overflows to ensure that they are in good condition and operating as designed	Annually
	Survey inside of tank for sediment build-up and remove if necessary	Every 5 years or as required

Foul Drainage

- 7.1 All foul water flows are treated on site via a new sewage treatment plant to replace the existing septic tank, and discharged to the existing drainage field. The proposed foul drainage system is shown in appendix D.

Treatment Plant and Drainage Field Evaluation

Foul Water Flows and Permits	Is there any part of the building or the treatment system serves is within 30 metres of a public sewer?	No
	Is the site near a designated sensitive area or within a Source Protection Zone 1?	No
	Proposed Development's expected flow	1.05m ³ /day. See calculations in appendix C
	Is the discharge more than 2 m ³ /day to the ground?	No
	Is the discharge more than 10 m ³ /day to a watercourse?	No
Ground Conditions	Has an infiltration test to the BS 6297:2007 +A1:2008 standard been carried out?	Yes, the ground has good infiltration rates based on percolation test conducted and the existing drainage field is proposed to be retained
	Is the site discharging 2 to 15 cubic metres a day to ground via a shallow sub-surface infiltration system in a source protection zone 1 (SPZ1)?	No
	Will the soakaway be located on artificially raised, made-up ground or ground likely to be contaminated?	The ground is not contaminated
Drainage Field Siting	Will it be at least 10m from a watercourse?	Yes
	Will it be at least 15m from any building?	Yes
	Will there be any access roads, driveways or paved areas within	Yes
Treatment Plant Siting	Is it at least 7m from the habitable part of a building?	Yes
	Will there be vehicular access for emptying within 30m?	Yes

Maintenance

- 7.2 The treatment plant and drainage field will be maintained by the owners

Appendix A

Drawing Scale Bar		Drawing Scale Bar	
Drawing scale	Line length	Drawing scale	Line length
1:5	= 0.25 metres	1:200	= 10.0 metres
1:10	= 0.5 metres	1:250	= 12.5 metres
1:20	= 1.0 metres	1:500	= 25.0 metres
1:25	= 1.25 metres	1:1000	= 50.0 metres
1:50	= 2.5 metres	1:1250	= 62.5 metres
1:100	= 5.0 metres	1:2500	= 125 metres
Measure length of line above for checking of scale			

GENERAL NOTES

KEY

- PERMEABLE AREAS
- IMPERMEABLE AREAS
- STUDY AREA

Rev Details Date By Chd

Drawing Status: PRELIMINARY

RIDA

FLOOD RISK ASSESSMENT & DRAINAGE STRATEGIES

4 Bean Acre Road, Hook Norton, Banbury, Oxfordshire

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t: 01608 510 121

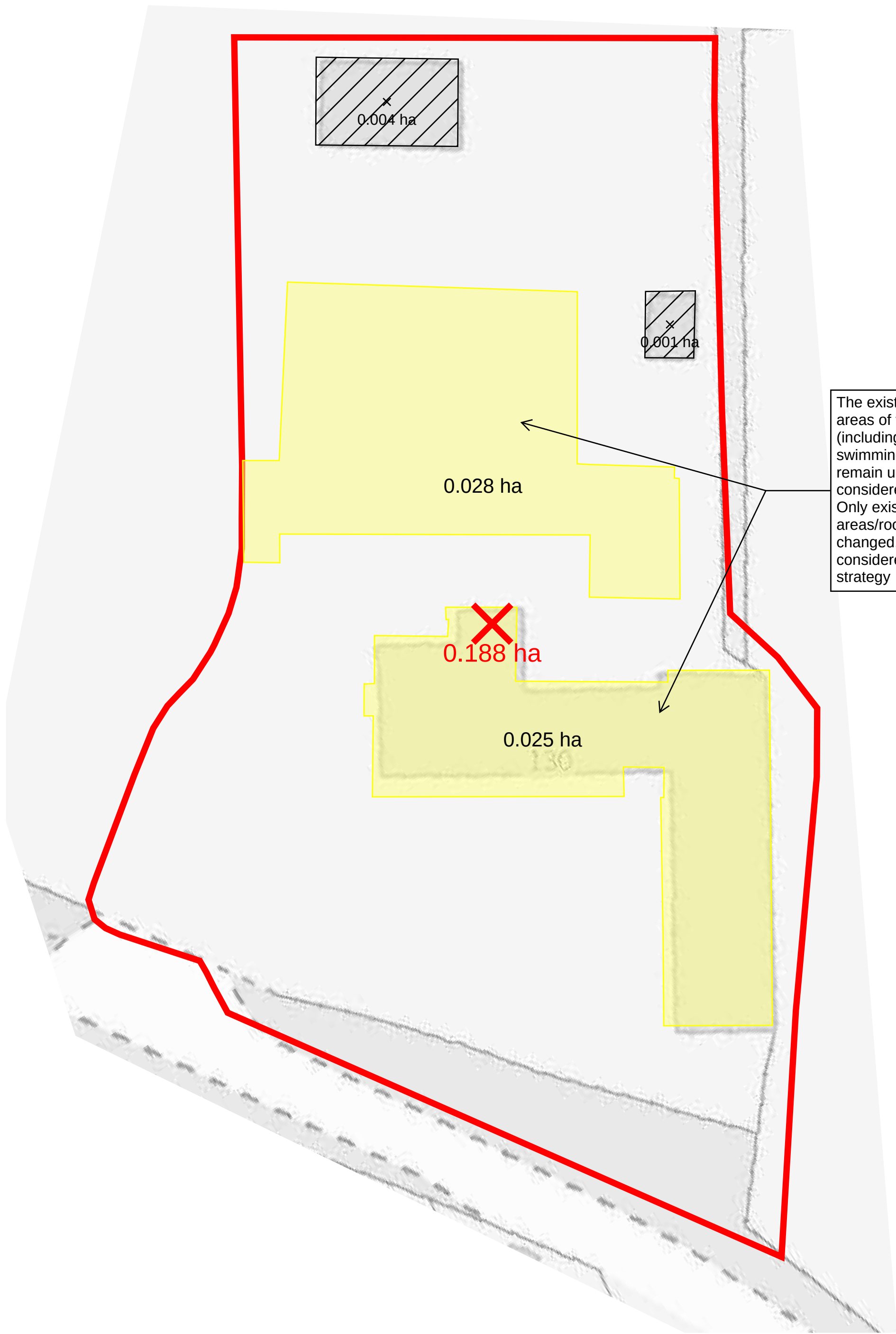
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Client:

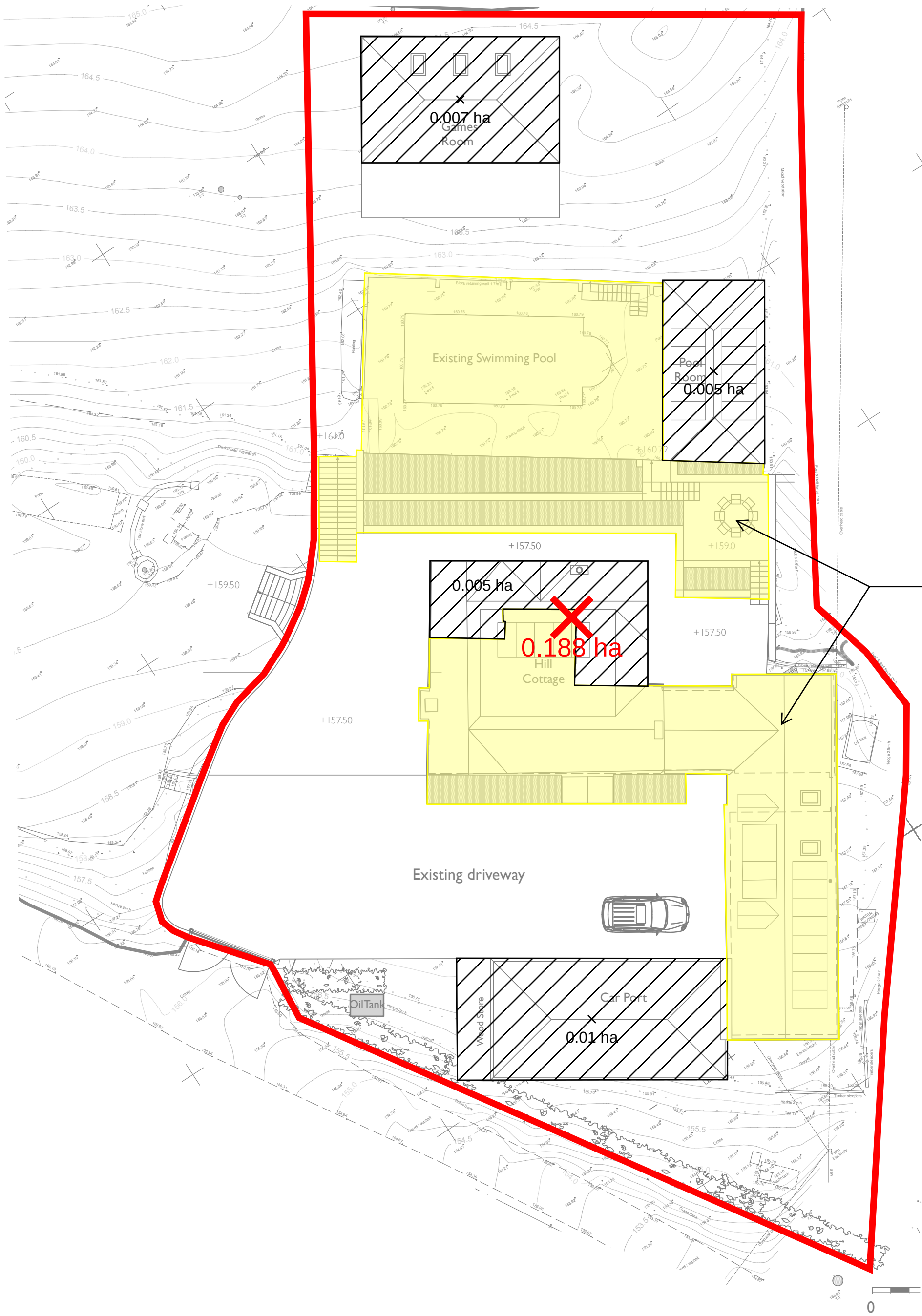
Project: Hill Cottage, Stop Street, Fonthill Gifford, Tisbury SP3 6QW

Drawing: Existing and Proposed Areas Permeable and Impermeable

Print Size: A1 Project No: R1091 Drawing No: 002 Revision: P1



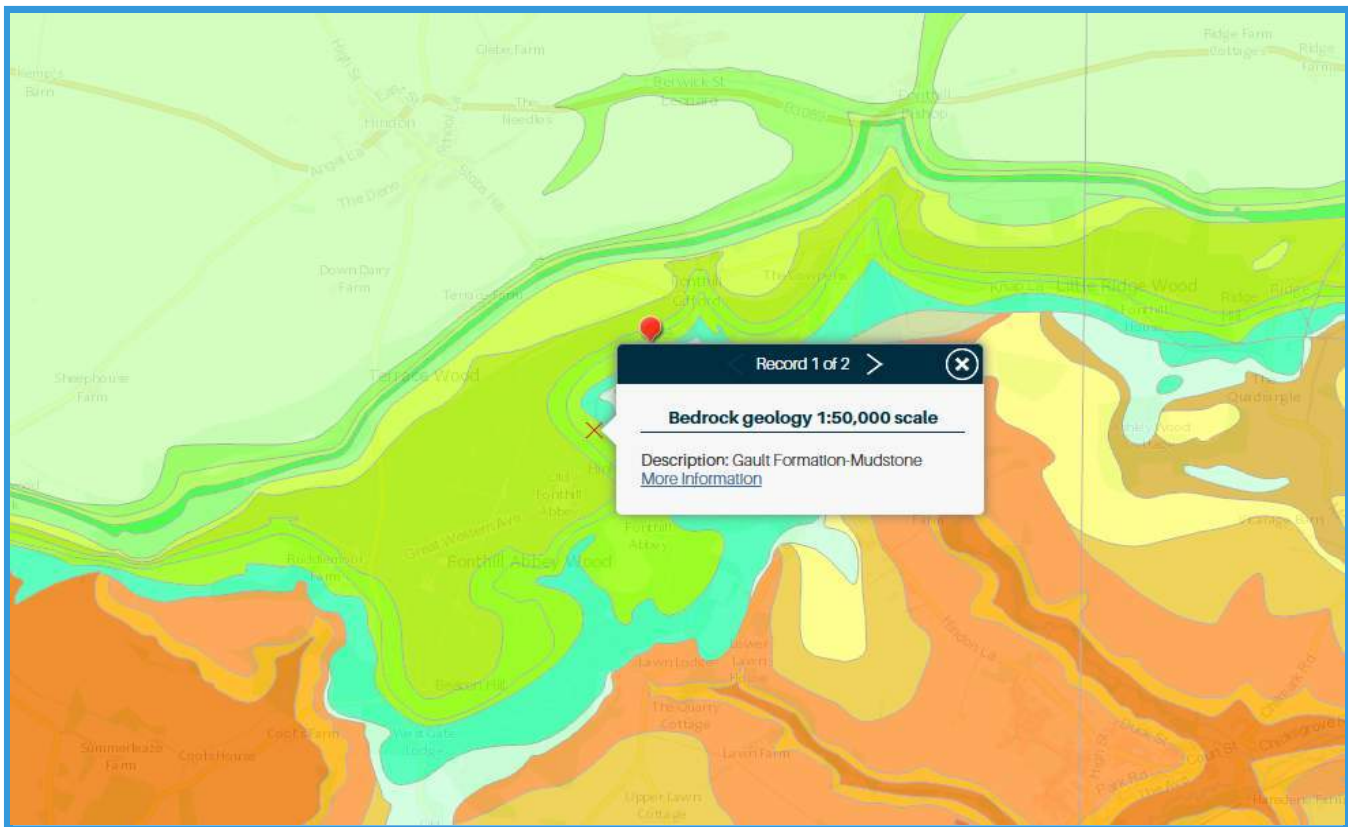
EXISTING SITE
1:200



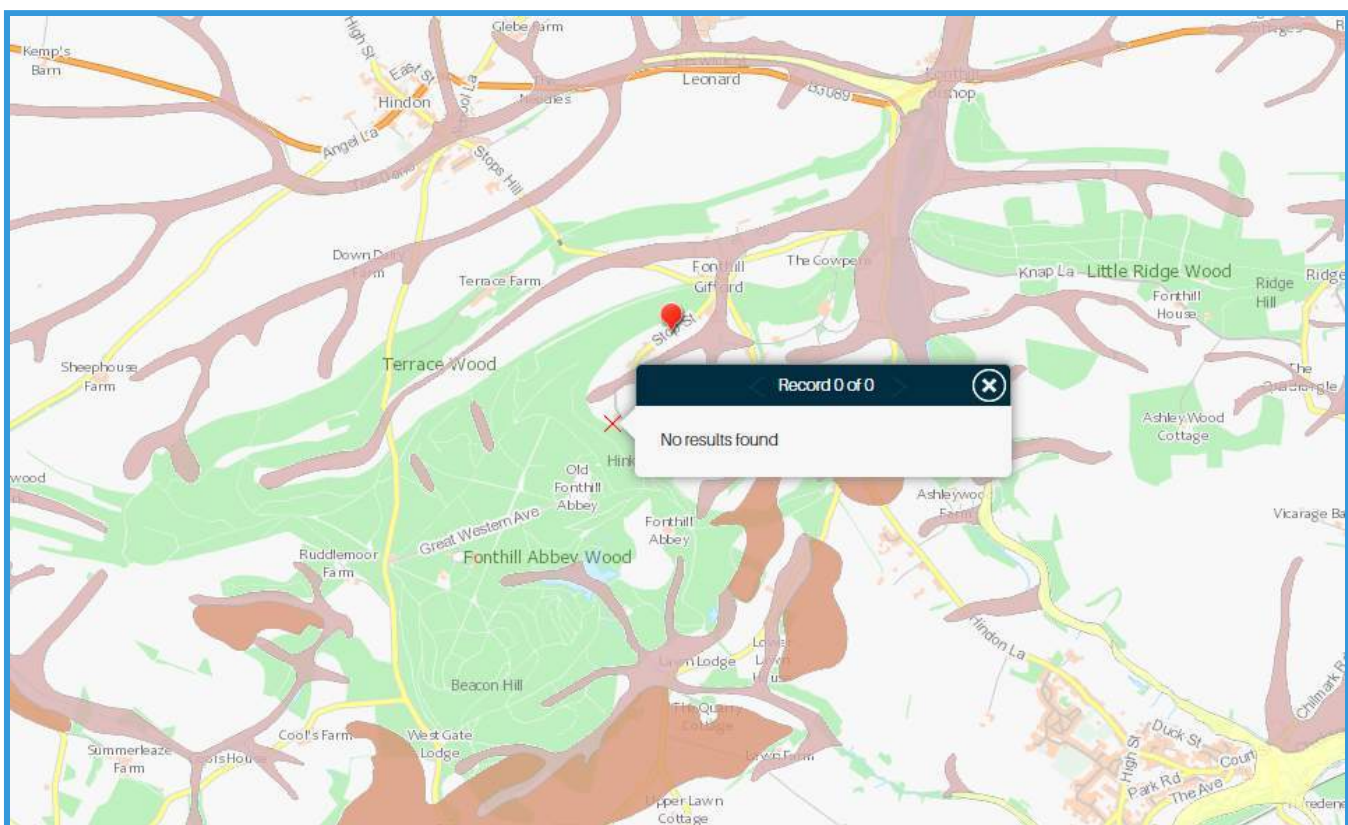
PROPOSED SITE
1:200

Appendix B

GEOLOGY - BEDROCK - Gault Formation-Mudstone



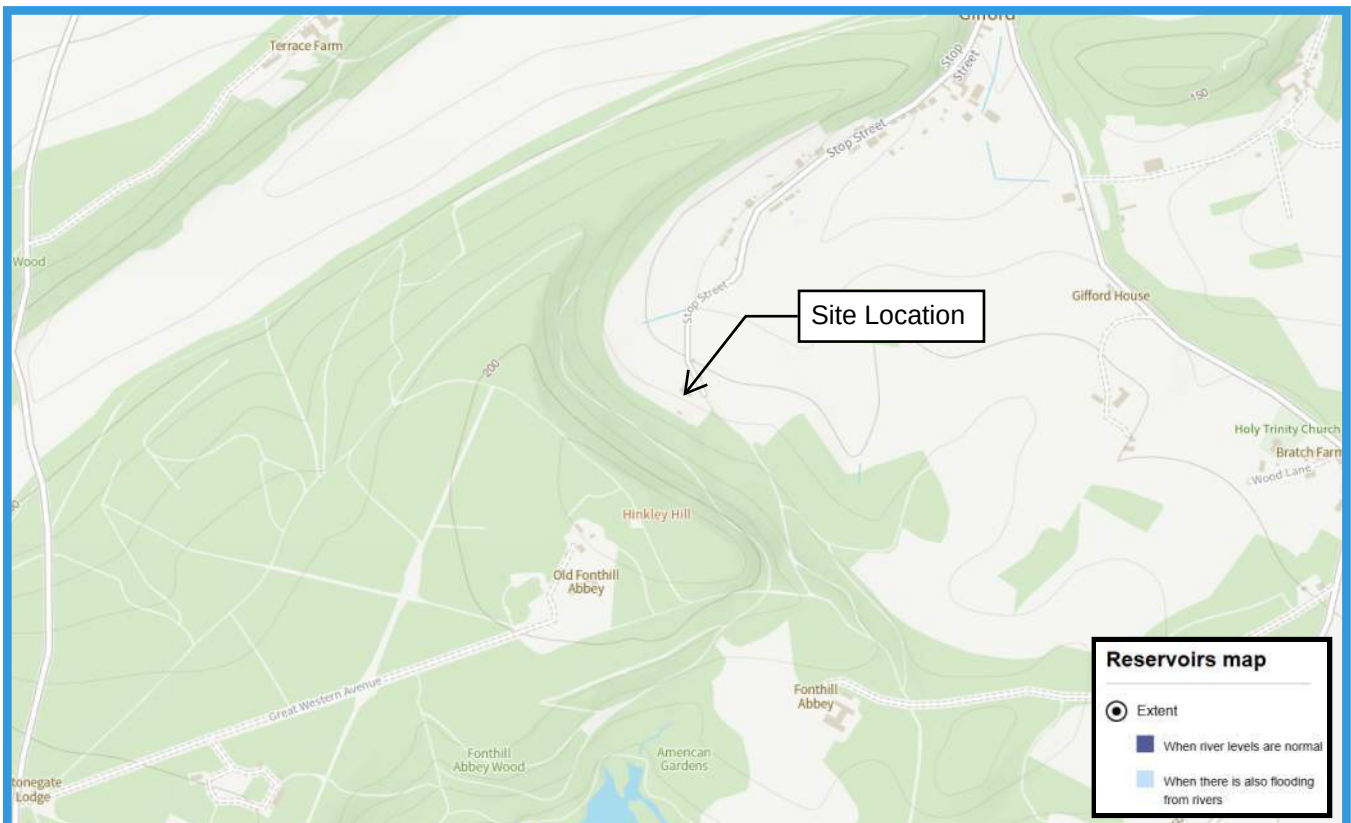
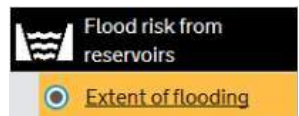
GEOLOGY - SUPERFICIAL DEPOSITS - No results found



Main River Map



Reservoirs Map

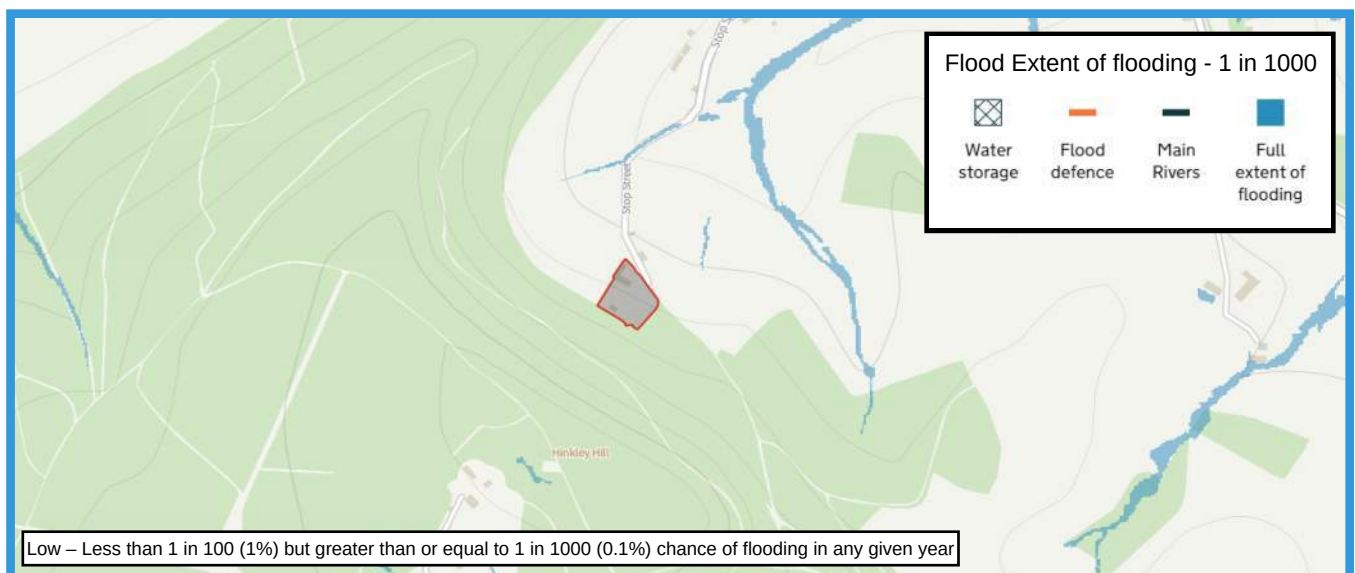
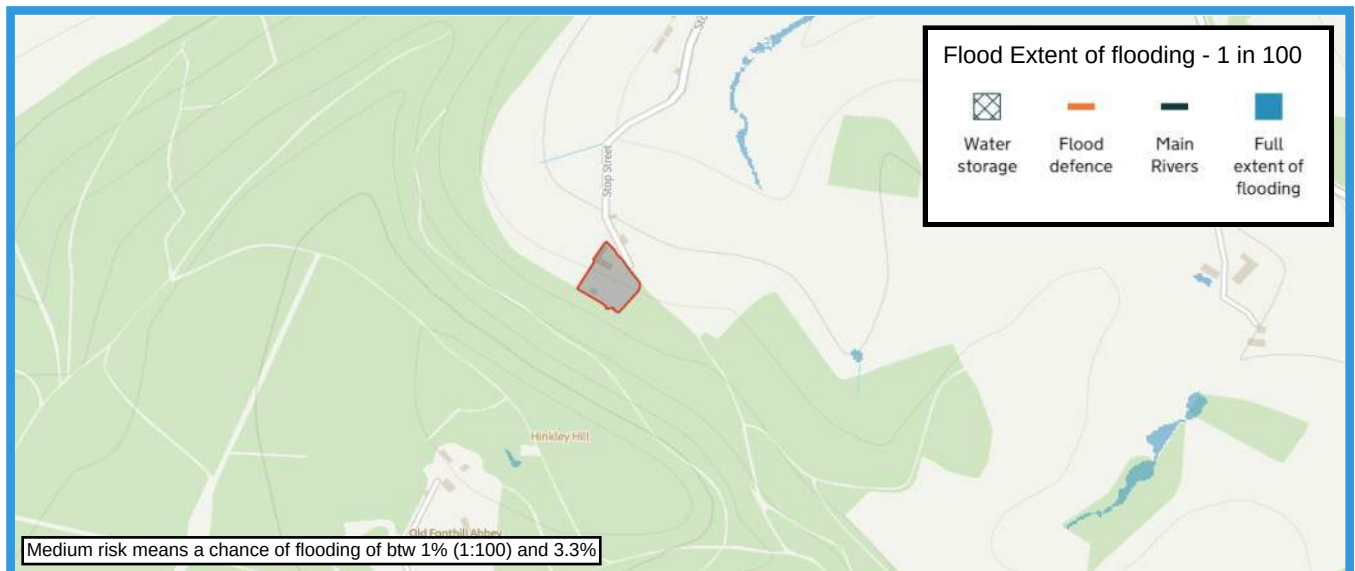
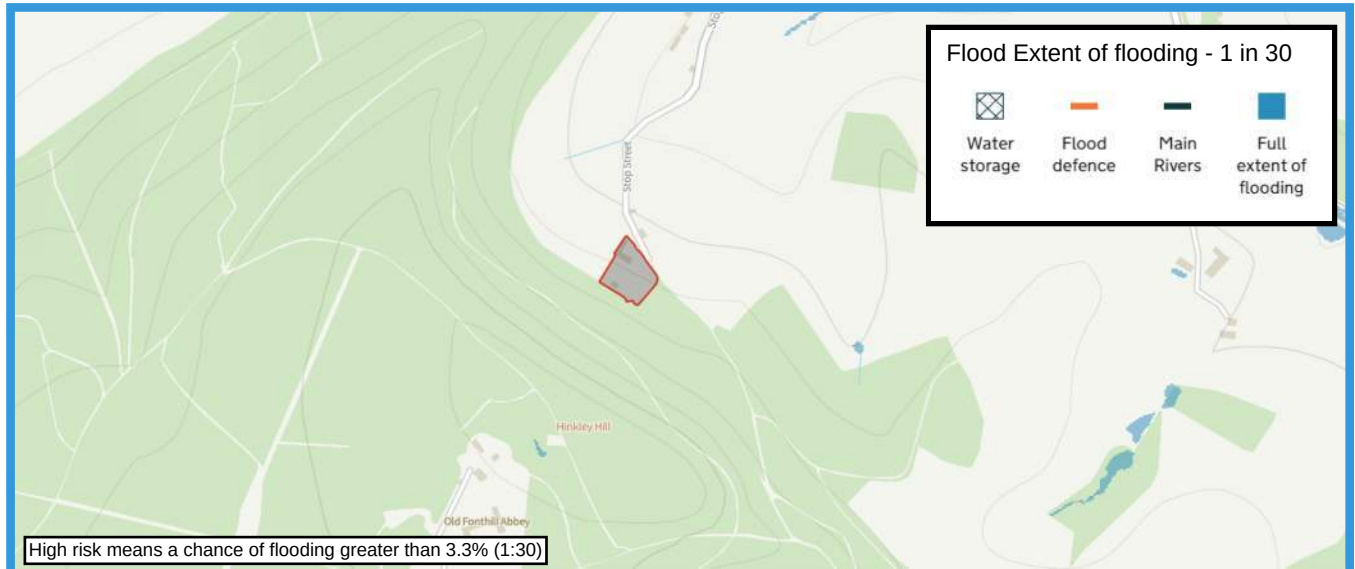


This is the EA Climate change scenarios. The climate change allowances are based on the latest UK Climate Projections (UKCP18) from the Met Office, using the Representative Concentration Pathway (RCP) 8.5.

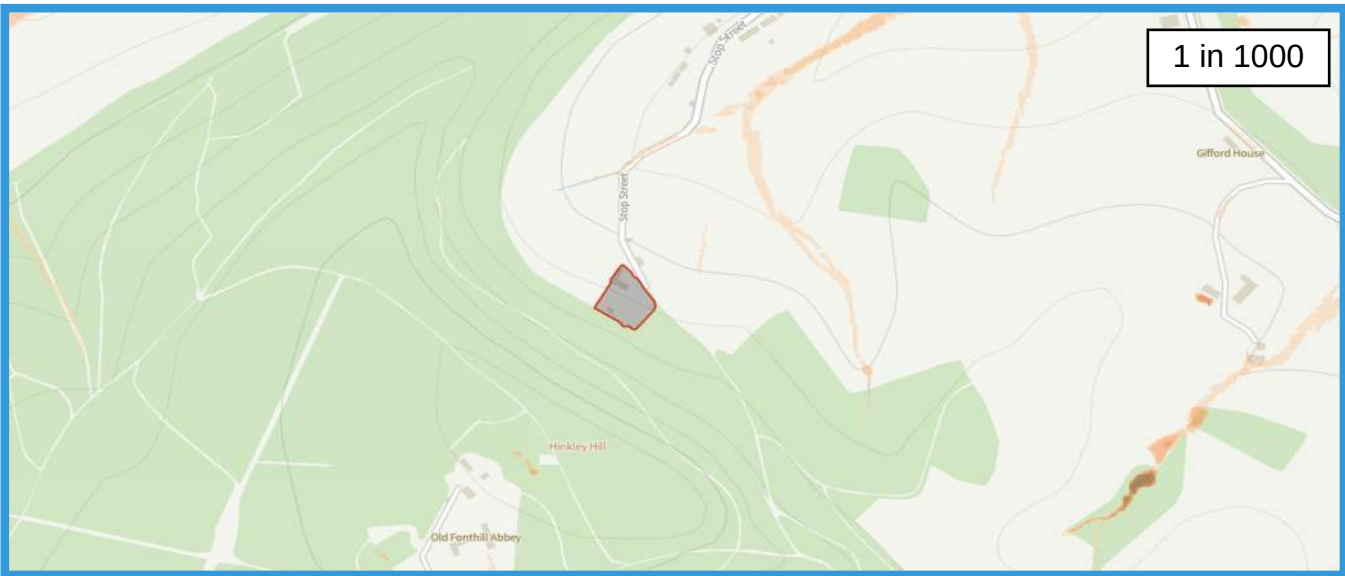
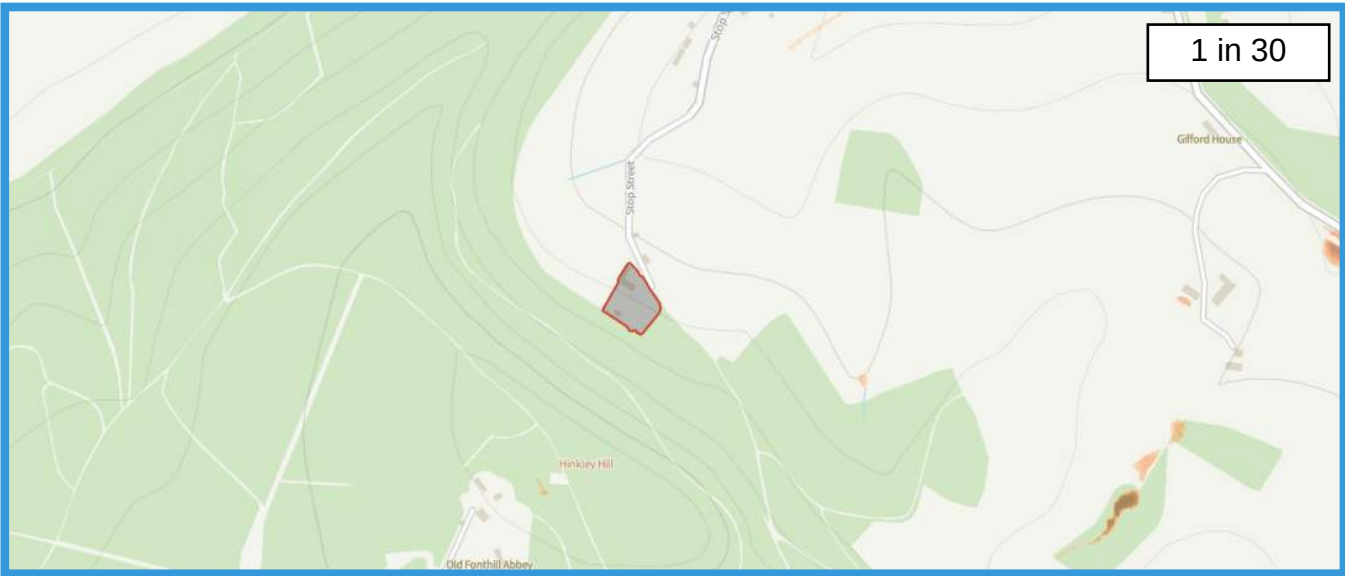
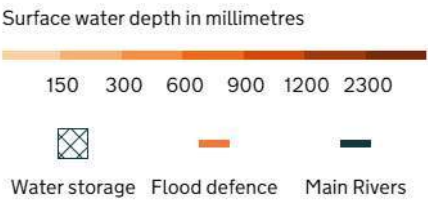
The 'Upper end' (based on the 95th percentile) for the 2070s epoch (2061-2125) has been used for the climate change scenarios. We have chosen long-term epochs appropriate to support long-term planning and development decisions.

EXTENT

2061 to 2125



WATER DEPTH 2061 to 2125

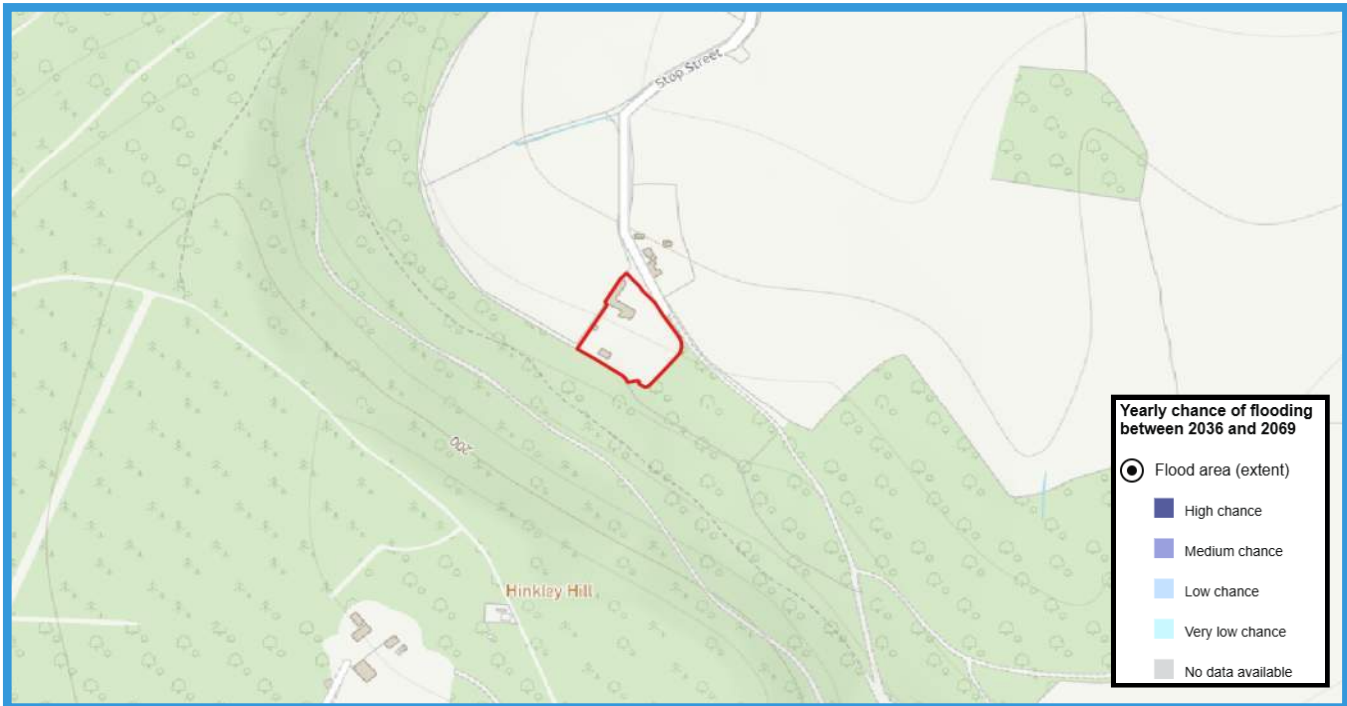


*High risk means a chance of flooding greater than 3.3% (1:30)

*Medium – Less than 1 in 30 (3.3%) but greater than or equal to 1 in 100 (1%) chance of flooding in any given year

*Low – Less than 1 in 100 (1%) but greater than or equal to 1 in 1000 (0.1%) chance of flooding in any given year

*Very low – less than 1 in 1000 (0.1%) chance of flooding in any given year



This shows the RoFRS_CC01_4band.lyr of flooding from rivers and the sea, climate change scenarios. The climate change allowances are based on the latest UK Climate Projections (UKCP18) from the Met Office, using the Representative Concentration Pathway (RCP) 8.5.

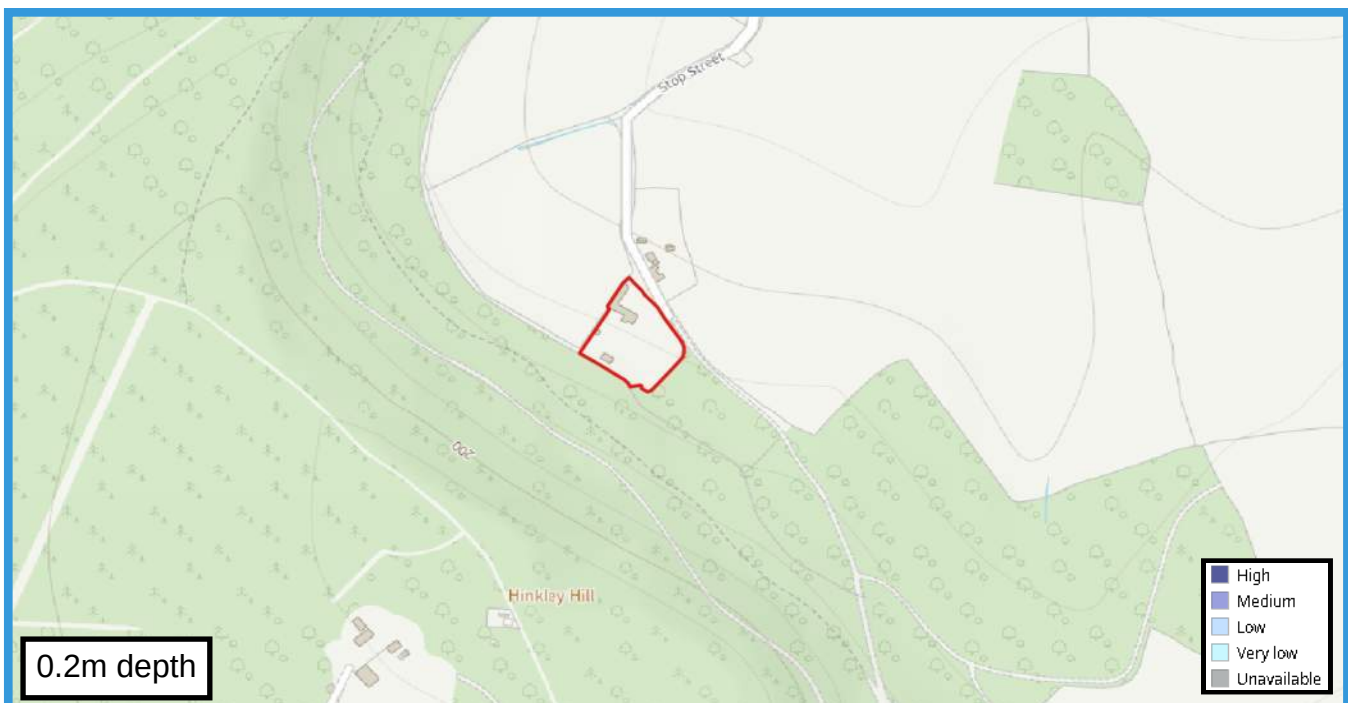
Near-term epochs and central/higher central allowances are being used initially, to support short and medium-term decisions informed by the highest flood likelihood projections:

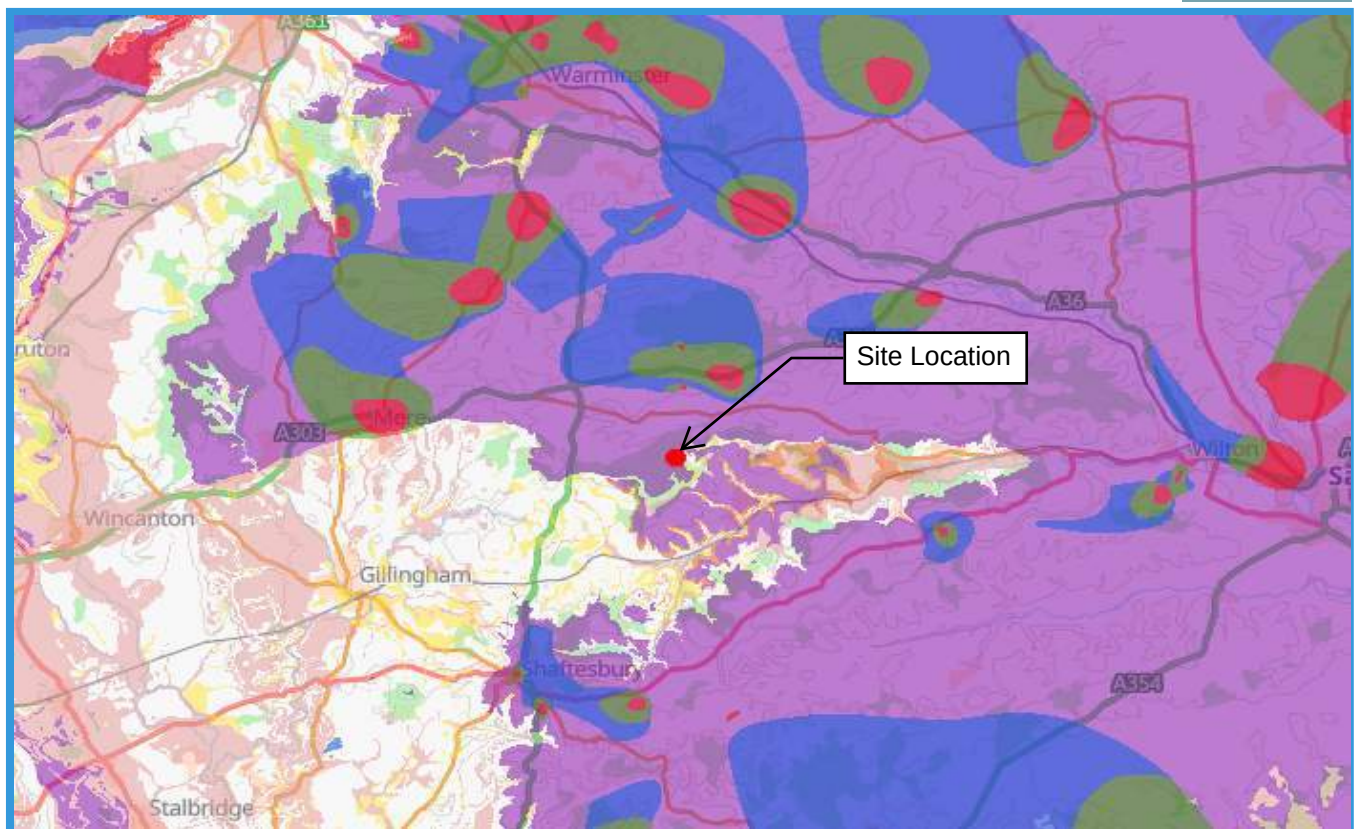
Fluvial: central allowance - 2040-2069 ("2050s" epoch)

Coastal: higher central allowance - 2036-2065

Likelihood of defence failure unsuitable and depth info does not provide the design flood depth needed for planning approval.

DEPTH





Site Check Results

Site Check Report generated on Wed Jul 15 2026

The following features have been found in your search area:

You selected the location: Centroid Grid Ref: ST92013131

Aquifer Designation Map (Superficial Drift) (England)

TPOLOGY	Secondary (undifferentiated)
---------	------------------------------

Aquifer Designation Map (Bedrock) (England)

TPOLOGY	Principal
---------	-----------

TPOLOGY	Principal
---------	-----------

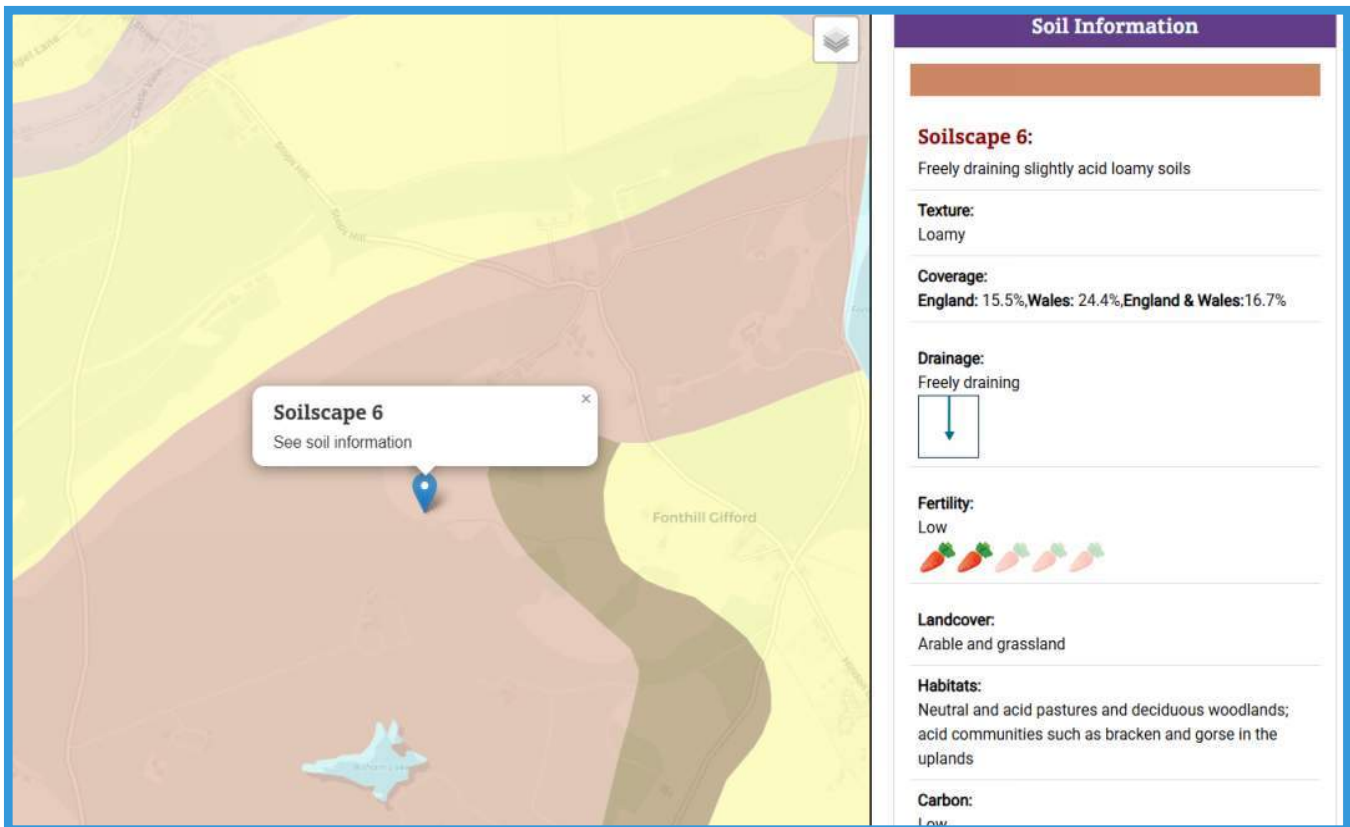
TPOLOGY	Secondary A
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TPOLOGY	Unproductive
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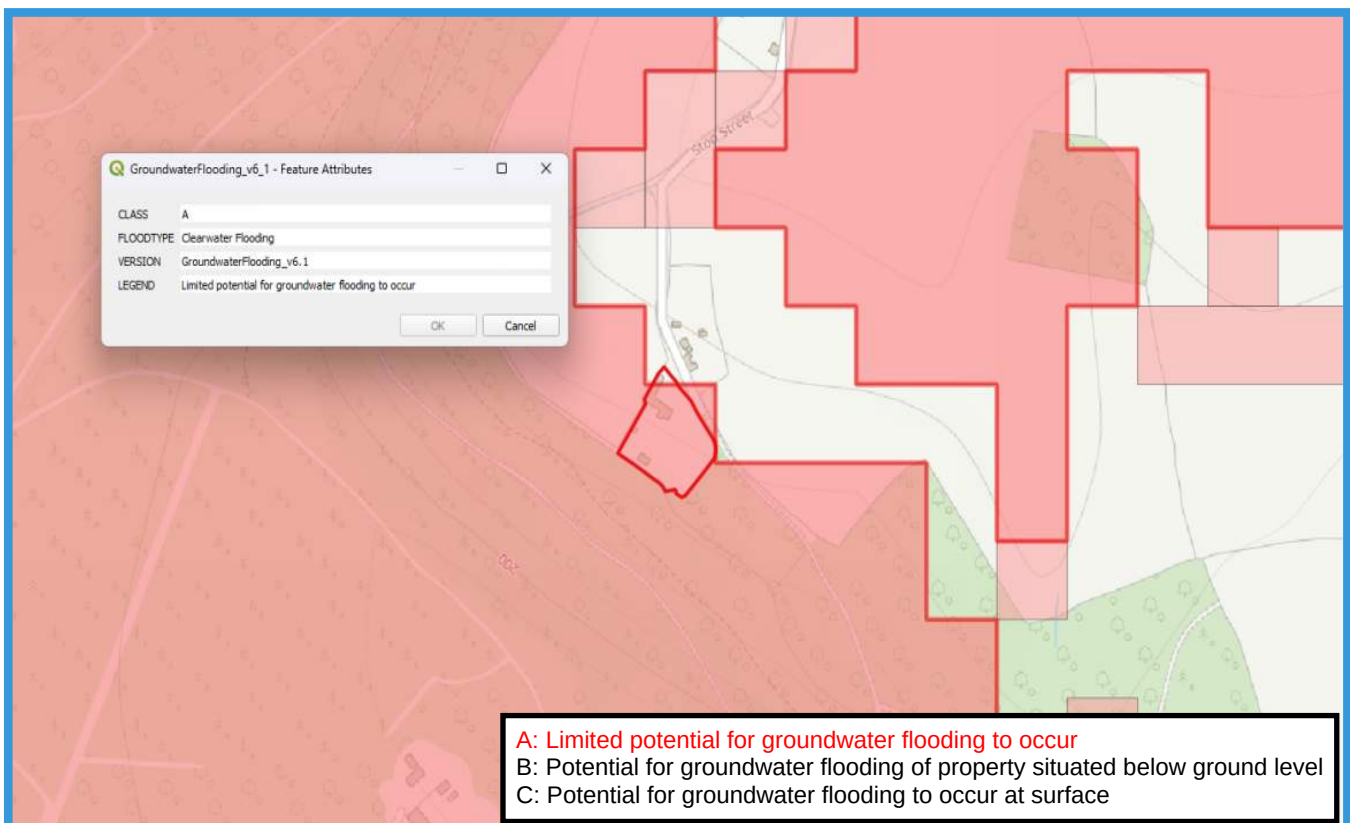
TPOLOGY	Unproductive
---------	--------------

Source Protection Zones merged (England)

No Features found



GROUND WATER FLOOD RISK



Flood map for planning

Your reference
Unspecified

Location (easting/northing)
392017/131315

Created
15 July 2026 10:29

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)

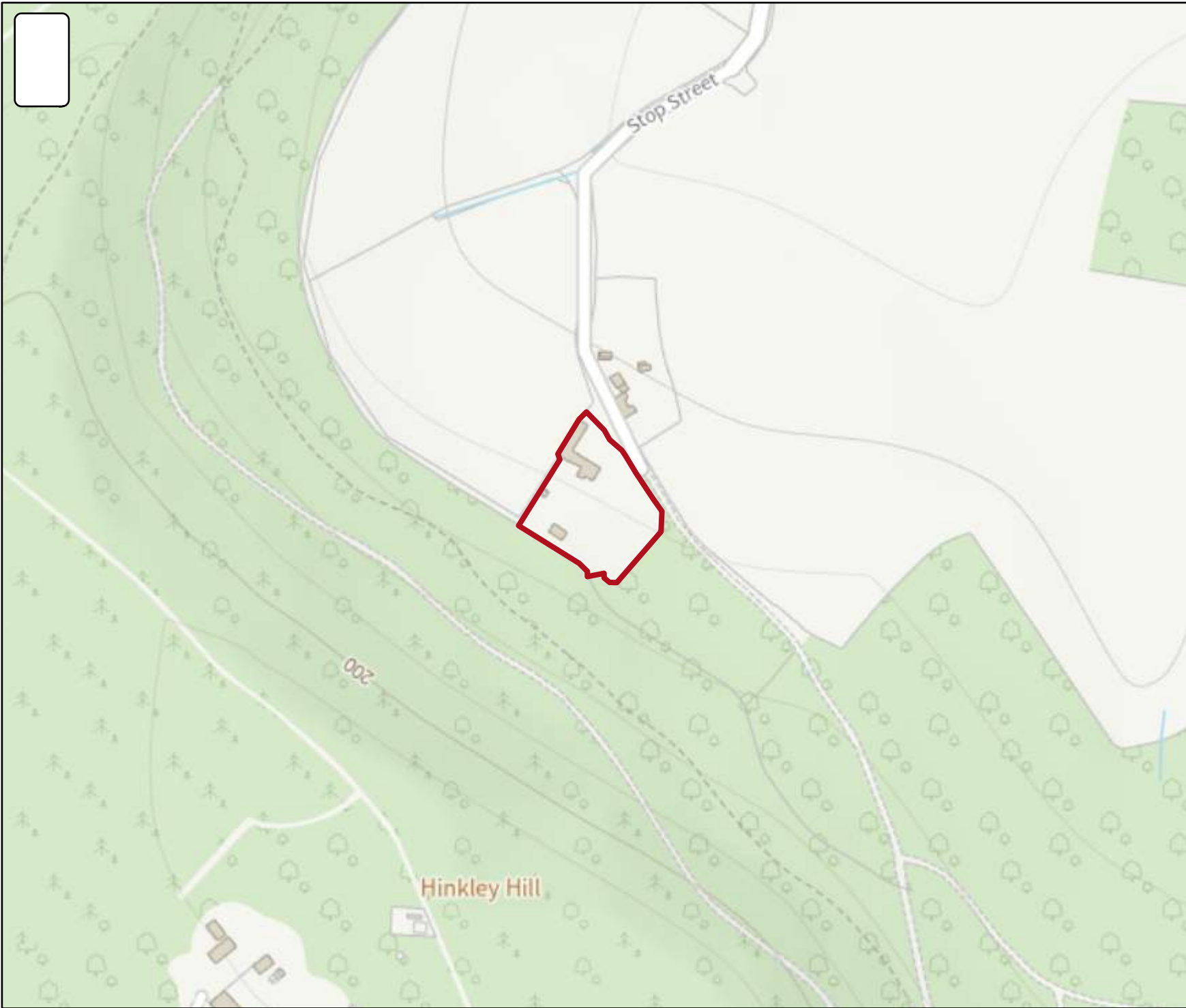
Notes

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 2026 AC0000807064. <https://flood-map-for-planning.service.gov.uk/os-terms>



)ORRG PDS IRU S
<RXU UHIHUHQFH
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- )ORRG JRQH
- )ORRG JRQH
- )ORRG GHIHQFH
-  0DLQ ULYHU
-  :DWHU VWRUDJ



P

3DJH RI

DRAINAGE REPORT



The Old Manor
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Mere
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BA12 6HD

josh@wefix-drains.co.uk

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Date:16/02/2026

Hill Cottage
Stop Street
Fonthill Bishop
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Salisbury
SP3 6QW

Drainage Report

Dear Archie

A further update to the original report. We have been back to site to look at the field and around the area of the septic tank including the road and the bank. We can confirm that no trace of leaking effluent was found in the field or the area of the septic tank (Please see photos attached). As you can see from the photos the septic tank is holding effluent in both parts of the tank. As stated from the previous drainage company the tank was emptied on the 11/12/25. We are struggling with the matter of if the tank was emptied or was the job exaggerated due to the homeowner not living at the property to gain themselves work. As you mentioned the property was empty for the best part of a year. You will see from the photos below it shows the tank with effluent holding as it should be and that we have no evidence of leaking effluent.

Was the tank emptied by Pro drainage

Yes	✓
No	

We have discussed that drainage system is original when the house was built and is due an upgrade due to the tank not being fit for purpose due to the British flow and loads and families using more water. We have also mentioned about bringing the drainage system onto the property boundary. This will be a package sewage treatment plant with a new drainage field. The current drainage system will be decommissioned.

Link for British flow and loads [flows and loads bw cop 18..pdf](#)

VAT Registered

DRAINAGE REPORT

Photos below.



- Photo of the back of the septic tank from where the current drainage field is situated

DRAINAGE REPORT



- The Septic tank is above this bank and as you can see from the photo the bank is in good condition and shows no signs of effluent leaking out.



DRAINAGE REPORT



DRAINAGE REPORT



DRAINAGE REPORT



- This photo is of 1 section of the septic tank and as you can see from the photo it is clearly holding effluent and if the tank was leaking effluent, we wouldn't expect to see any fluid in the tank due to the house being empty. This also shows no signs of the tank being emptied.

DRAINAGE REPORT



DRAINAGE REPORT



If you have any questions, please do not hesitate to contact me.

Many Thanks
Josh Howell
We Fix Drains

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Appendix C



Simulation Settings

Rainfall Methodology	FSR	Drain Down Time (mins)	240
Rainfall Events	Singular	Additional Storage (m³/ha)	0.0
FSR Region	England and Wales	Starting Level (m)	
M5-60 (mm)	18.000	Check Discharge Rate(s)	✓
Ratio-R	0.340	1 year (l/s)	0.0
Summer CV	1.000	2 year (l/s)	0.0
Winter CV	1.000	30 year (l/s)	0.1
Analysis Speed	Normal	100 year (l/s)	0.1
Skip Steady State	x	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 %)
1	0	0	0
2	0	0	0
30	0	0	0
30	40	0	0
100	0	0	0
100	45	0	0

Pre-development Discharge Rate

Site Makeup	Greenfield	Growth Factor 30 year	2.40
Greenfield Method	IH124	Growth Factor 100 year	3.19
Positively Drained Area (ha)	0.188	Betterment (%)	0
SAAR (mm)	893	QBar	0.0
Soil Index	1	Q 1 year (l/s)	0.0
SPR	0.10	Q 2 year (l/s)	0.0
Region	7	Q 30 year (l/s)	0.1
Growth Factor 1 year	0.85	Q 100 year (l/s)	0.1
Growth Factor 2 year	0.88		

Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	30.00
Return Period (years)	2	Maximum Rainfall (mm/hr)	50.0
Additional Flow (%)	0	Minimum Velocity (m/s)	1.00
FSR Region	England and Wales	Connection Type	Level Inverts
M5-60 (mm)	18.000	Minimum Backdrop Height (m)	0.200
Ratio-R	0.340	Preferred Cover Depth (m)	0.500
CV	1.000	Include Intermediate Ground	✓
Time of Entry (mins)	6.00	Enforce best practice design rules	x

Circular Link Type

Template	Freeform Carrier	Auto Increment (mm)	75
Shape	Circular	Follow Ground	x
Barrels	1		

Available Diameters (mm)

100 | 150

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
Game and Pool Room	0.013	6.00	165.000	450	-1.115	25.414	0.650
Extension	0.005	6.00	160.000	450	-0.570	0.555	0.650
Car Port	0.011	6.00	158.000	450	-0.271	-28.384	0.650
Tank			157.000		39.785	-0.169	1.100
Dummy			157.000	1200	80.124	0.000	2.300

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
1.000	Game and Pool Room	Tank	45.000	0.600	164.350	155.900	8.450	5.3	150	6.17	50.0
2.000	Extension	Tank	35.000	0.600	159.350	155.900	3.450	10.1	150	6.18	50.0
3.000	Car Port	Tank	25.000	0.600	157.350	155.900	1.450	17.2	150	6.17	50.0
1.001	Tank	Dummy	120.000	0.600	155.900	154.700	1.200	100.0	150	8.17	46.8

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
1.000	4.396	77.7	2.3	0.500	0.950	0.013	0.0	18	1.975
2.000	3.181	56.2	0.9	0.500	0.950	0.005	0.0	13	1.170
3.000	2.437	43.1	2.0	0.500	0.950	0.011	0.0	22	1.245
1.001	1.005	17.8	4.9	0.950	2.150	0.029	0.0	54	0.858

Node Tank Online Orifice Control

Flap Valve	x	Design Depth (m)	1.100	Discharge Coefficient	0.600
Replaces Downstream Link	✓	Design Flow (l/s)	0.7		
Invert Level (m)	155.900	Diameter (m)	0.017		

Node Tank Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	3.0	Invert Level (m)	155.900
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	40.0	40.0	0.400	40.0	49.0	0.401	0.0	49.0

Approval Settings

Node Size	x	Coordinates	x	Full Bore Velocity	x	Time to Half Empty	✓
Node Losses	x	Crossings	x	Proportional Velocity	x	Return Period (years)	10
Link Size	x	Cover Depth	x	Surcharged Depth	x	Discharge Rates	x
Link Length	x	Backdrops	x	Flooding	x	Discharge Volume	x

Results for 1 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	Game and Pool Room	9	164.366	0.016	1.8	0.0025	0.0000	OK
15 minute summer	Extension	11	159.362	0.012	0.7	0.0019	0.0000	OK
15 minute summer	Car Port	9	157.370	0.020	1.5	0.0031	0.0000	OK
360 minute summer	Tank	288	155.993	0.093	1.1	3.5314	0.0000	OK
15 minute summer	Dummy	1	154.700	0.000	0.1	0.0000	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)
15 minute summer	Game and Pool Room	1.000	Tank	1.8	2.082	0.023	0.0974	
15 minute summer	Extension	2.000	Tank	0.7	1.021	0.012	0.0745	
15 minute summer	Car Port	3.000	Tank	1.5	1.363	0.035	0.0551	
360 minute summer	Tank	Orifice	Dummy	0.2				4.1

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.40%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	Game and Pool Room	11	164.368	0.018	2.3	0.0028	0.0000	OK
15 minute summer	Extension	11	159.363	0.013	0.9	0.0021	0.0000	OK
15 minute summer	Car Port	9	157.372	0.022	1.9	0.0035	0.0000	OK
480 minute summer	Tank	336	156.019	0.119	1.1	4.5272	0.0000	OK
15 minute summer	Dummy	1	154.700	0.000	0.1	0.0000	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)
15 minute summer	Game and Pool Room	1.000	Tank	2.3	2.114	0.030	0.1345	
15 minute summer	Extension	2.000	Tank	0.9	1.094	0.016	0.1044	
15 minute summer	Car Port	3.000	Tank	1.9	1.430	0.044	0.0762	
480 minute summer	Tank	Orifice	Dummy	0.2				5.6

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.26%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	Game and Pool Room	11	164.374	0.024	4.3	0.0038	0.0000	OK
15 minute summer	Extension	11	159.368	0.017	1.6	0.0028	0.0000	OK
15 minute summer	Car Port	11	157.379	0.029	3.6	0.0047	0.0000	OK
600 minute summer	Tank	420	156.138	0.238	1.6	9.0432	0.0000	SURCHARGED
15 minute summer	Dummy	1	154.700	0.000	0.2	0.0000	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)
15 minute summer	Game and Pool Room	1.000	Tank	4.3	2.142	0.055	0.2913	
15 minute summer	Extension	2.000	Tank	1.6	1.208	0.028	0.2256	
15 minute summer	Car Port	3.000	Tank	3.6	1.499	0.084	0.1630	
600 minute summer	Tank	Orifice	Dummy	0.3				10.1

Results for 30 year +40% CC Critical Storm Duration. Lowest mass balance: 98.32%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	Game and Pool Room	11	164.378	0.028	6.0	0.0045	0.0000	OK
15 minute summer	Extension	11	159.371	0.021	2.3	0.0033	0.0000	OK
15 minute summer	Car Port	11	157.385	0.035	5.1	0.0056	0.0000	OK
960 minute summer	Tank	660	156.245	0.344	1.6	13.0903	0.0000	SURCHARGED
15 minute summer	Dummy	1	154.700	0.000	0.2	0.0000	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)
15 minute summer	Game and Pool Room	1.000	Tank	6.0	2.198	0.077	0.3972	
15 minute summer	Extension	2.000	Tank	2.3	1.141	0.041	0.3058	
15 minute summer	Car Port	3.000	Tank	5.1	1.508	0.118	0.2228	
960 minute summer	Tank	Orifice	Dummy	0.3				16.9

Results for 100 year Critical Storm Duration. Lowest mass balance: 98.62%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	Game and Pool Room	11	164.377	0.027	5.5	0.0043	0.0000	OK
15 minute summer	Extension	11	159.370	0.020	2.1	0.0032	0.0000	OK
15 minute summer	Car Port	11	157.384	0.034	4.7	0.0053	0.0000	OK
720 minute summer	Tank	510	156.216	0.316	1.8	12.0240	0.0000	SURCHARGED
15 minute summer	Dummy	1	154.700	0.000	0.2	0.0000	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)
15 minute summer	Game and Pool Room	1.000	Tank	5.5	2.211	0.071	0.3757	
15 minute summer	Extension	2.000	Tank	2.1	1.152	0.037	0.2898	
15 minute summer	Car Port	3.000	Tank	4.7	1.499	0.109	0.2103	
720 minute summer	Tank	Orifice	Dummy	0.3				13.2

Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 97.22%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	Game and Pool Room	11	164.383	0.032	8.0	0.0052	0.0000	OK
15 minute summer	Extension	11	159.374	0.024	3.1	0.0038	0.0000	OK
15 minute summer	Car Port	11	157.390	0.040	6.8	0.0064	0.0000	OK
600 minute summer	Tank	420	156.903	1.003	2.9	15.2190	0.0000	FLOOD RISK
15 minute summer	Dummy	1	154.700	0.000	0.3	0.0000	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)
15 minute summer	Game and Pool Room	1.000	Tank	8.0	2.316	0.103	0.4483	
15 minute summer	Extension	2.000	Tank	3.1	1.303	0.055	0.3341	
15 minute summer	Car Port	3.000	Tank	6.8	1.513	0.158	0.2594	
600 minute summer	Tank	Orifice	Dummy	0.6				16.5

BRITISH WATER CODE OF PRACTICE Rev 4 - FLOW AND LOADS

Key

	Input
	Calculation

Source Waste

As per British Water Code of Practice Flow and Loads-4

DOMESTIC DWELLINGS CALCULATION

Population Calculation

Description	No. Rooms	Population (P)
Domestic Dwellings	5	7
Domestic Dwellings		
Domestic Dwellings		
Domestic Dwellings		
Domestic Dwellings		
Domestic Dwellings		
Domestic Dwellings		
Subtotal		7
Reduction Factor		1
TOTAL POPULATION (P)		7

Flows and Loads

Population (P)	Flow liter/day		BOD Grams/day		Amonia	
	Per head	TOTAL	Per head	TOTAL	Per head	TOTAL
7	150	1050	60	420	8	56

BRITISH WATER CODE OF PRACTICE Rev 4 - FLOW AND LOADS

TOTAL FLOWS CALCULATION

	No. Rooms	Occupancy	Population (P)	Flow liter/day		BOD Grams/day		Amonia	
				Per head	TOTAL	Per head	TOTAL	Per head	TOTAL
Hotel/Accommodation	0	0	0	250	0	94	0	10	0
Fast Food/Restaurant			0	12	0	15	0	4	0
Office without canteen			0	50	0	25	0	5	0
Full time day staff			0	90	0	38	0	5	0
Toilets blocks			0	10	0	12	0	2.5	0
Part Time staff			0	45	0	25	0	3	0
Dwelling			7		1050		420		56
TOTAL					1050		420		56

Total Flow: 0.0122 l/s
1.0500 m3/day

Effluent Quality Requested

Suspended Solids	BOD Grams/day	Amonia
20 mg/l	30 mg/l SS	20 mg/l /NH3 N

Percolation Test for Treatment Works Land Drains to BS6297

PROCESS

1. Locate site of proposed land drains as per layout
2. Excavate hole to dimensions given

It should be possible to construct a suitably dimensioned pit with a backhoe loader or mini- excavator

3. Excavate 3 No 300 wide x 300 long x 300 deep test holes in base of pit as dimensioned below

4. Fill each test hole with water (instantaneously)

Use Water bowser, with a large outlet pipe

5. Record Time using the tables below

Record Time Taken for each hole to empty

6. Repeat test three times

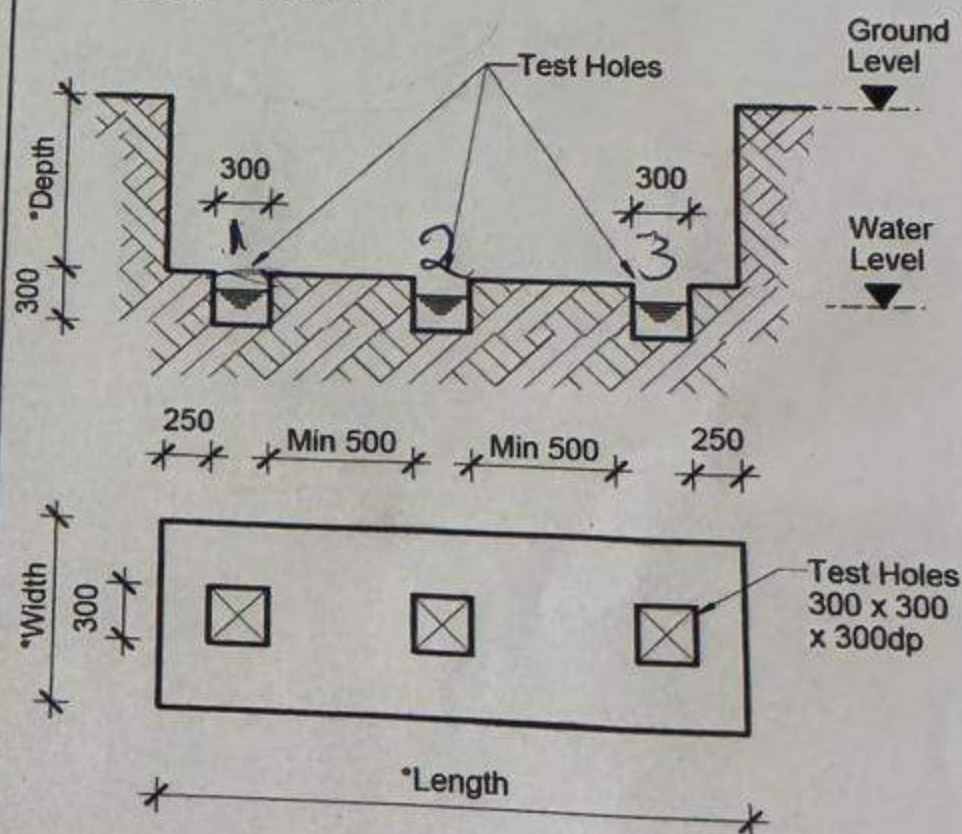
When holes are empty repeat test three time. If the water drains rapidly (within 10 minutes) the hole should be refilled up to a maximum of 10 times. If the water has not soaked away within 6 hours the area is not suitable.

7. Excavate 1m below the base of the excavated hole

Check for groundwater flow. Complete fill in the excavated hole.

Pit Dimensions

- *Length = 2400 mm
- *Width = 1000 mm
- *Depth = 600 mm



See link to video: <https://www.youtube.com/watch?v=yl8lcg6BkZk>

RESULTS

Groundwater Level

600 mm (distance from ground level)

Description of excavated soil

(circle as required)

Sand

Gravel

Clay

Mudstone

Cornbrush

Dimension of excavated hole (m)

Length: 2.4m

Width: 1m

Depth: 600mm

Hole Number	Test Number	Start Time	Finish Time	Elapsed Time (s)
1	1			
	2			6m 35 Sec
	3			12m 14 Sec
				23m 14 Sec

2	1			
	2			19m 16 Sec
	3			40m 27 Sec
				1hr 10

3	1			
	2			1hr
	3			1hr 25
				1hr 40

30 ltr each time

Percolation test results and Calculation of Vp

Key

	Input
	Calculation

Percolation Testing - BS6297 - Results

Hole No.	Test Date	Test No.	Start Time	Finish Time	Elapsed Time				Vp (s/mm)
					H/M/S	Hours	Minutes	Seconds	Second / 150 mm
A		1			00:06:35	0.11	7	395	2.63
		2			00:12:14	0.20	12	734	4.89
		3			00:23:14	0.39	23	1394	9.29
Average VP for Hole 1									5.61
Hole No.	Test Date	Test No.	Start Time	Finish Time	Elapsed Time				Vp (s/mm)
					H/M/S	Hours	Minutes	Seconds	Second / 150 mm
B		1			00:19:16	0.32	19	1156	7.71
		2			00:40:27	0.67	40	2427	16.18
		3			01:10:00	1.17	70	4200	28.00
Average VP for Hole 2									17.30
Hole No.	Test Date	Test No.	Start Time	Finish Time	Elapsed Time				Vp (s/mm)
					H/M/S	Hours	Minutes	Seconds	Second / 150 mm
C		1			01:00:00	1.00	60	3600	24.00
		2			01:25:00	1.42	85	5100	34.00
		3			01:40:00	1.67	100	6000	40.00
Average VP for Hole 3									32.67
Average Total									18.52

DRAINAGE FIELD CALCULATION - BS6297:2007

Calculation as per BS6297:2007

Key

	Input
	Calculation
	Model Result
	Linked

Drainage Field Area

Type of Treatment System Treatment Plant

P	7	Number of Population equivalent served (See flow calculations)
Vp	18.52	s/mm
Rf	0.2	
Total Trench Area	25.928	m ²

Percolation Value from Test Results. If percolation value is >100 or HWT then crea

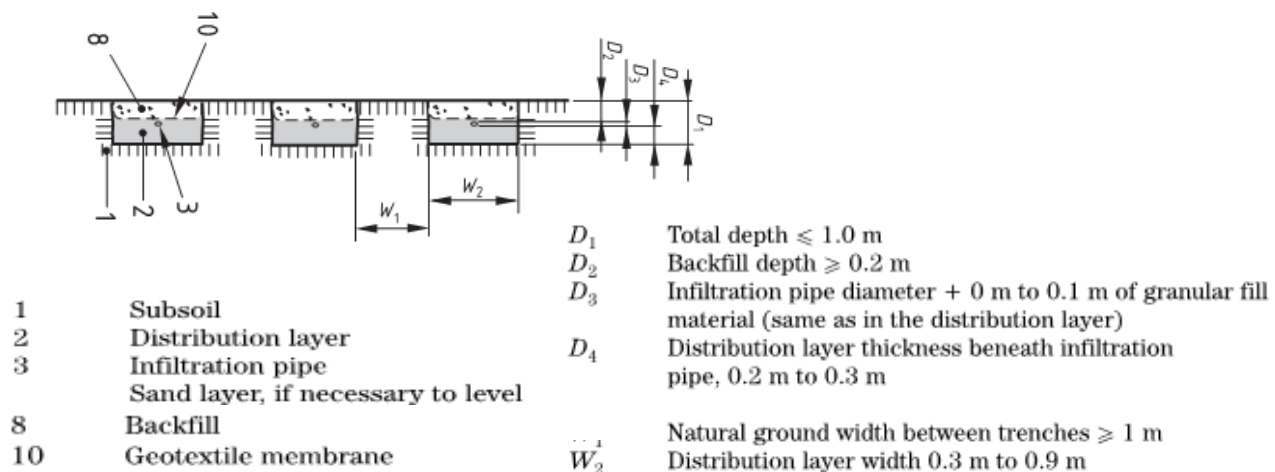
Drainage field layout

Distribution Layer Width (W2)	0.9	m	Could be 0.3m, 0.6 or 0.9m
Natural Ground btw trenches (W1)	1	m	=>1m
Margin of undisturbed ground around the trenches (M)	1	m	>1m
Number of distribution trenches	4		2 or more
Trench Distribution Layer Length Max (L1)	6.5	m	OK <30m

Drainage Field Size

Length	8.5	m
Width	8.6	m
Depth	0.6	m

Typical Drainage Field Crossection



Water Management Solutions



Klargester BioAir Sewage Treatment Plant

The new Klargester BioAir wastewater treatment plant uses aerated technology to deliver a high level of water discharge quality. Offering flexible installation options to suit a variety of domestic sites and a low impact visual footprint, Klargester BioAir is a cost-efficient choice for your domestic wastewater treatment solution.



Economically
priced



Suitable for
installation in
traffic areas*
*Structural advice
required

*3 years on Premium
model only, 12 months
for economy



Low level
visibility



No plastic
media



kingspan.com


Kingspan®

Technical Information

Applications

The Klargester BioAir 2-8 range
is suitable for use across the following applications:



Single &
Multiple Homes



Light Industrial
Premises



Small
Offices



Farms



Barn
Conversions

Product features

97.5%

Improved effluent
quality – BOD₅ 97.5%



Third party tested to
EN 12566-3



Easy to install
and operate



Suitable for shallow
dig applications



Affordable service
plans available

BioAir	Model	BioAir 2	BioAir 3	BioAir 4	BioAir 5	BioAir 6	BioAir 7	BioAir 8
Population Equivalent	Unit	6	9	12	15	20	25	35
Daily Flow	m ³ /d	0.9	1.35	1.8	2.25	3	3.75	5.25
Daily Load	kg BOD ₅ /d	0.36	0.54	0.72	0.9	1.2	1.5	2.1
Measurements								
Inlet Invert	mm	455-755	575-875	500-2000	645-945	500-2000	500-2000	500-2000
Discharge Option		Gravity /IPS	Gravity /IPS	Gravity /IPS	Gravity /IPS	Gravity	Gravity	Gravity
Outlet Invert	mm	555-855 /400-700	675-975 / 350-650	600-2100	745-1045 / 415-715	600-2100	600-2100	600-2100
Diameter	mm	1540	1690	1920	2010	1920	1920	1920
Length	mm	2500	2480	3238	3190	4400	5550	7400
Installation Depth	mm	1805-2105	2075-2375	2245-3745	2485-2785	2245-3745	2245-3745	2245-3745
Inlet Pipework	mm	Ø110	Ø110	Ø110	Ø110	Ø110	Ø110	Ø160
Outlet Pipework (Gravity /IPS)	mm	Ø110 / Ø50	Ø110 / Ø50	Ø110 / Ø50	Ø110 / Ø50	Ø110	Ø110	Ø160
Material Construction	MDPE/GRP	MDPE	MDPE	GRP	MDPE	GRP	GRP	GRP
Unit Weight	kg	170	200	500**	650	800**	1250**	1450**

*BioAir 5 subject to availability

**Tank weight based on 500mm invert

For more information on our new

Klargester BioAir:

T: +44 (0) 1296 633 033

E: klargester@kingspan.com

W: Kingspan.co.uk/Klargester



Appendix D

Drawing Scale Bar			
Drawing scale	Line length	Drawing scale	Line length
1:5	= 0.25 metres	1:200	= 10.0 metres
1:10	= 0.5 metres	1:250	= 12.5 metres
1:20	= 1.0 metres	1:500	= 25.0 metres
1:25	= 1.25 metres	1:1000	= 50.0 metres
1:50	= 2.5 metres	1:1250	= 62.5 metres
1:100	= 5.0 metres	1:2500	= 125 metres
Measure length of line above for checking of scale			

GENERAL NOTES

1. All dimensions are in millimetres and levels in m AOD unless stated otherwise.
2. Do not scale. If in any doubt, consult Engineer.
3. Read in conjunction with the architects and engineers schedule drawings.
4. Check inverts and sizes of existing pipes prior to the commencement of any work. Report any discrepancies to the engineer and await instructions.
5. The location of services is shown as indicative. This drawing should be read in conjunction with the utilities drawings. No warranty to their accuracy can be given. The contractor shall take all necessary measures to satisfy himself as to the location of the existing services and connection points. Excavation should be undertaken in compliance with HSG47.
6. The proposed dwelling shall be provided with a rainwater butt with a minimum storage capacity of 260 litres. The water butt shall be connected to a roof downpipe (with an appropriate diverter and an overflow returning to the drainage system) and positioned to allow safe access and routine use by the occupants.

TREATMENT PLANT

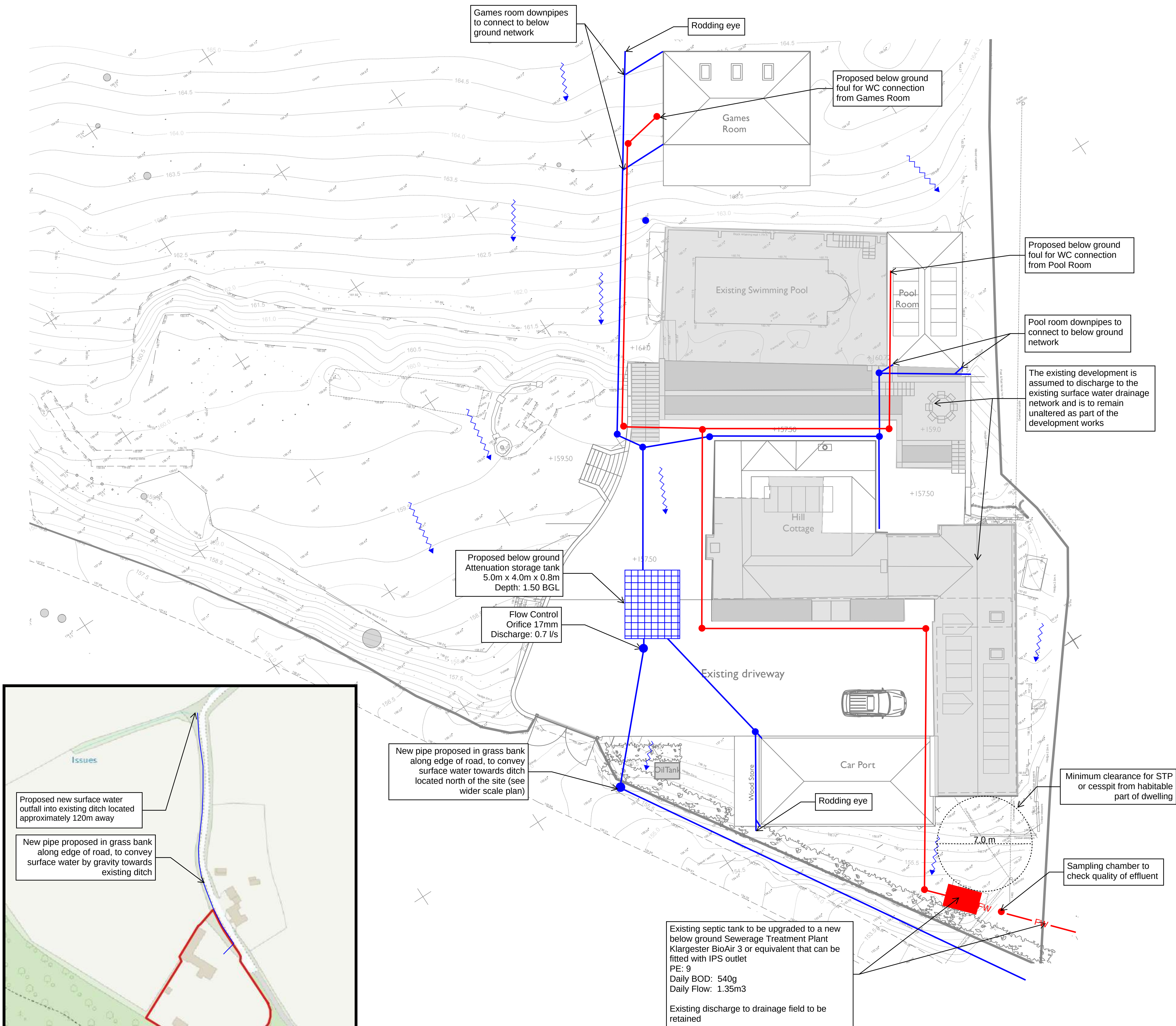
The package treatment plat should have been tested to BS7781 and be able to operate without power for up to 6 hrs or have an uninterruptible power supply.

The following notice should be installed within the proximity to the treatment plant or kiosk:

The foul drainage system from this property discharges to a package treatment works. Maintenance is required every 6 months and should be carried out by the owner in accordance with the manufacturer's instructions. The owner is legally responsible to ensure that the system does not cause pollution, a health hazard or a nuisance

KEY

- Proposed Surface Water Sewer Pipe
- Exceedance Flows
- Silt Trap
- Proposed Foul Sewer Pipe
- Type 3 Manhole
- Existing Foul Sewer Pipe



Rev	Details	Date	By	Chd

Drawing Status:

PRELIMINARY

RIDA

FLOOD RISK ASSESSMENT & DRAINAGE STRATEGIES

4 Bean Acre Road, Hook Norton, Banbury, Oxfordshire
e: info@rida-reports.co.uk
t: 01608 510 121

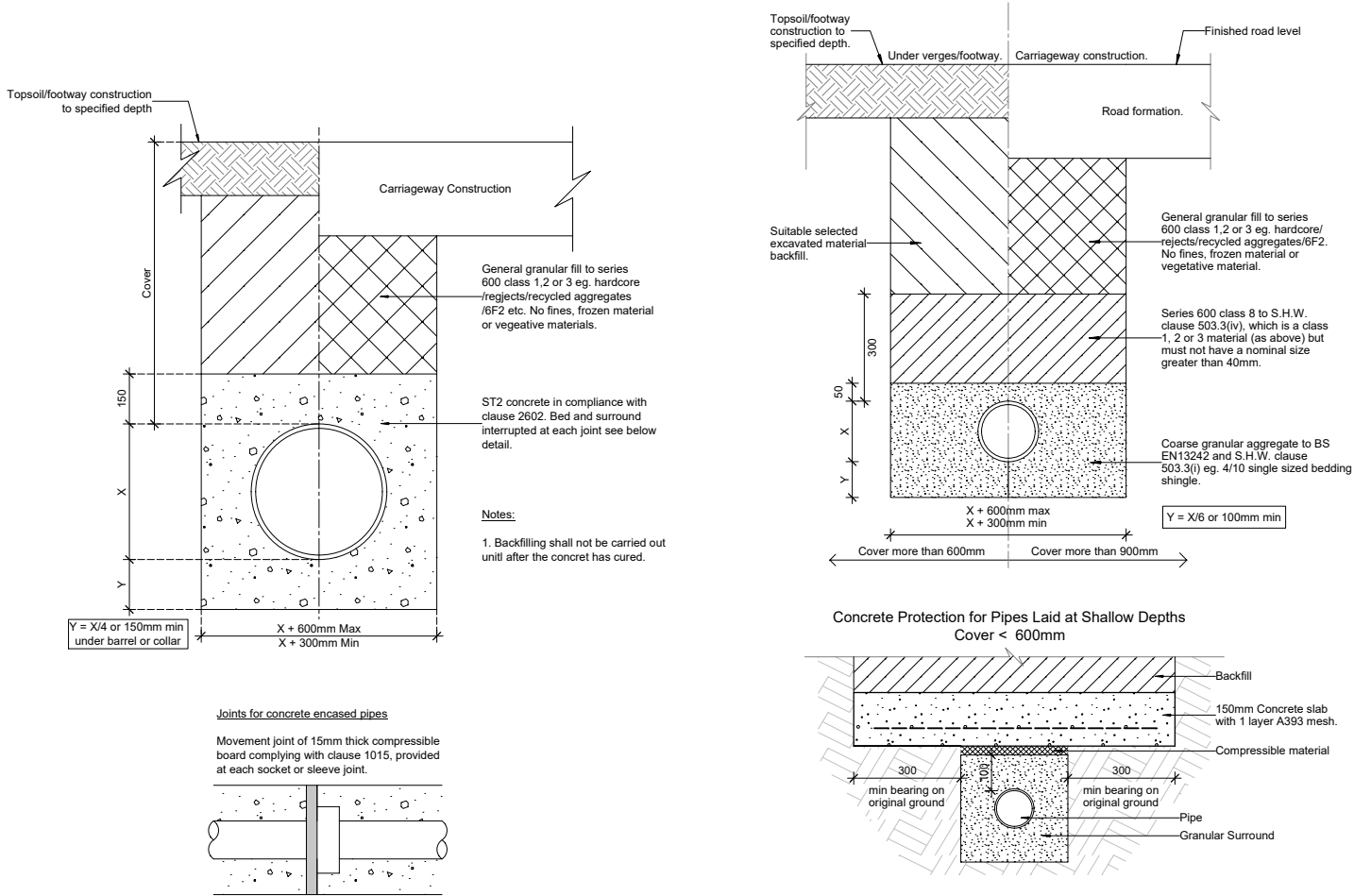
www.rida-reports.co.uk

Client:

Project:
Hill Cottage, Stop Street, Fonthill Gifford,
Tisbury SP3 6QW

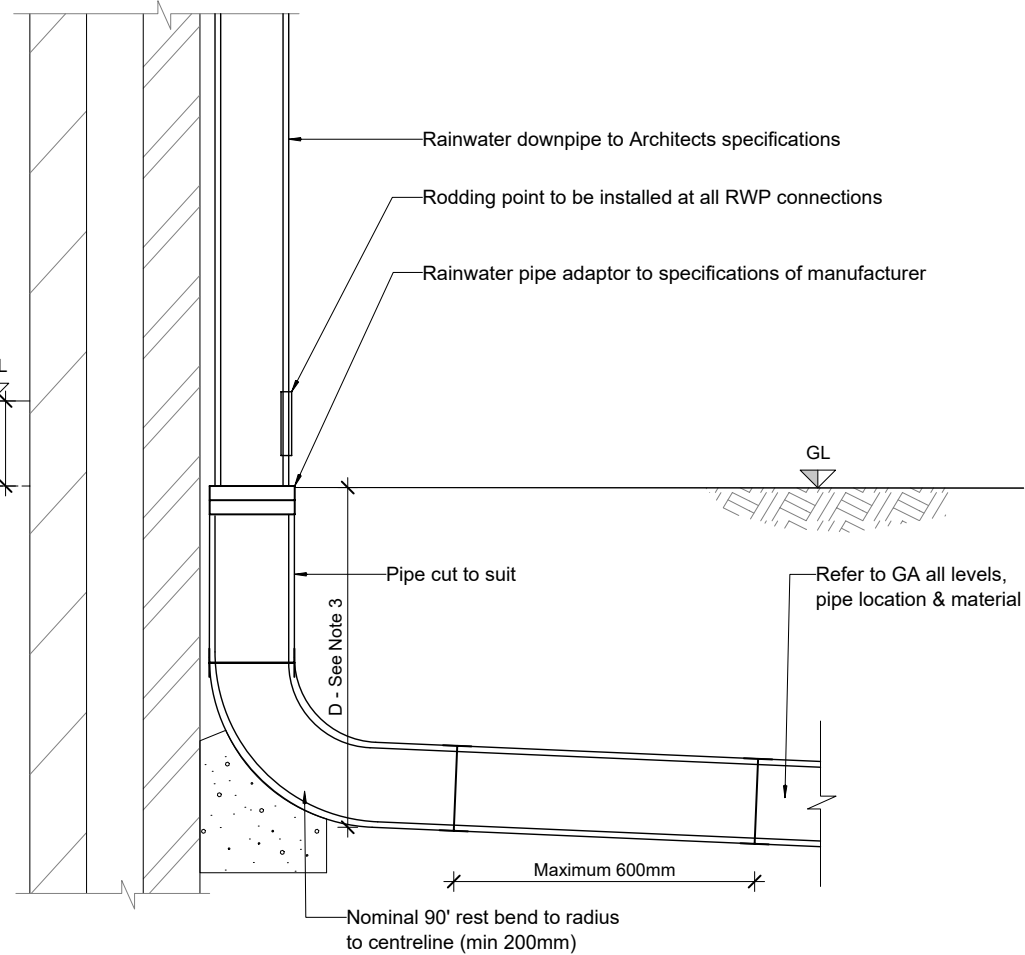
Drawing:

Proposed Drainage Strategy

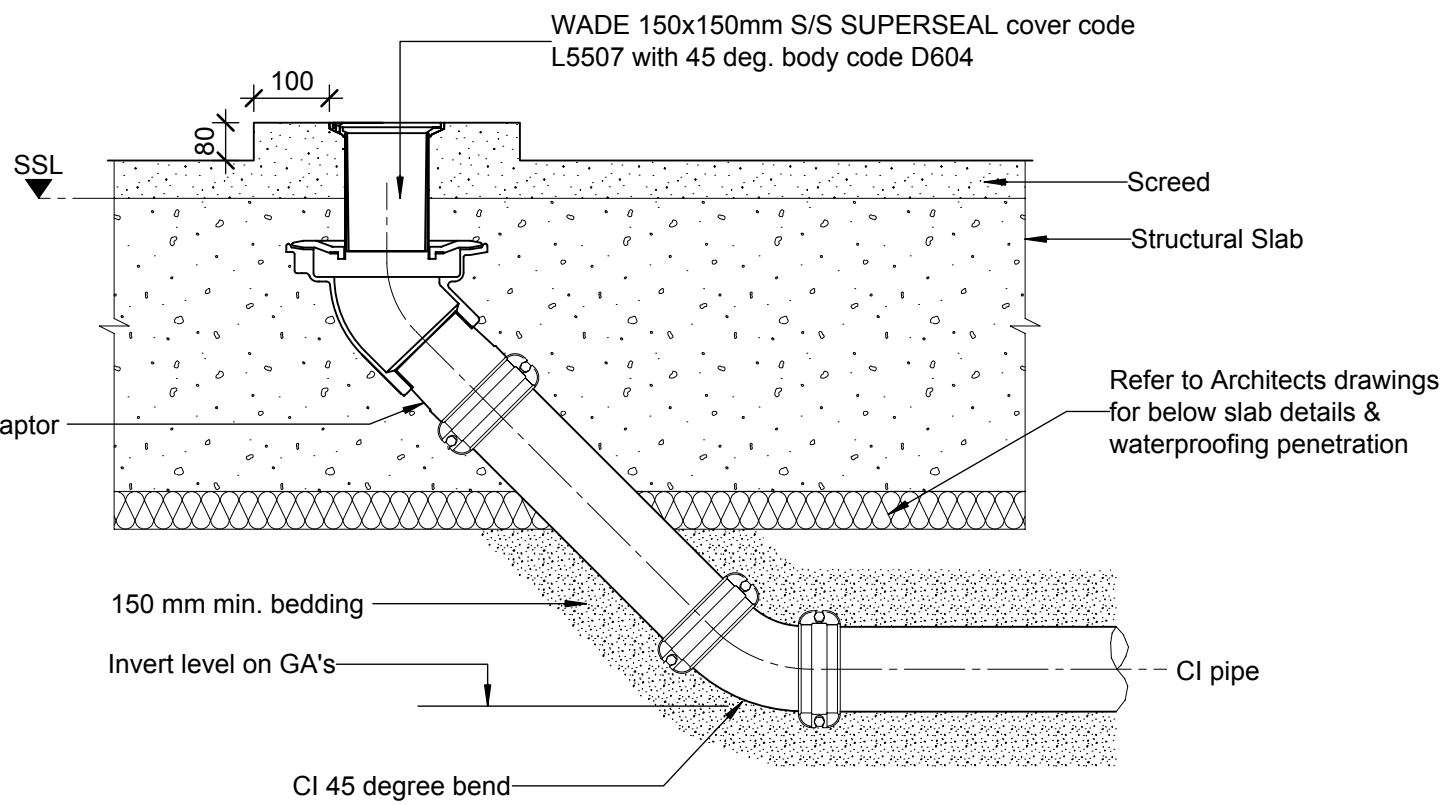


Pipe Bedding Detail Type Z

Pipe Bedding Detail Type S

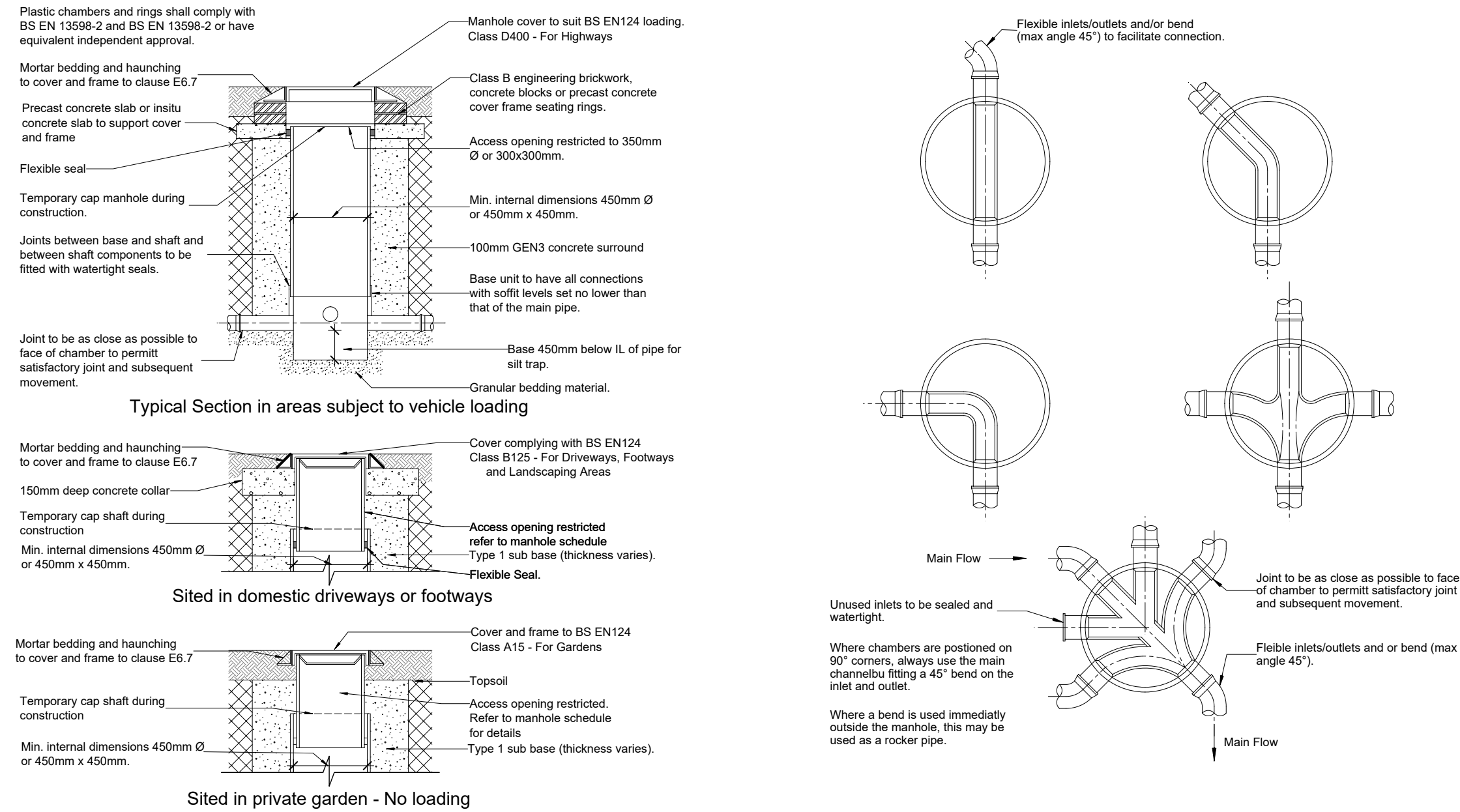


8251 - External Rainwater Pipe Connection Detail

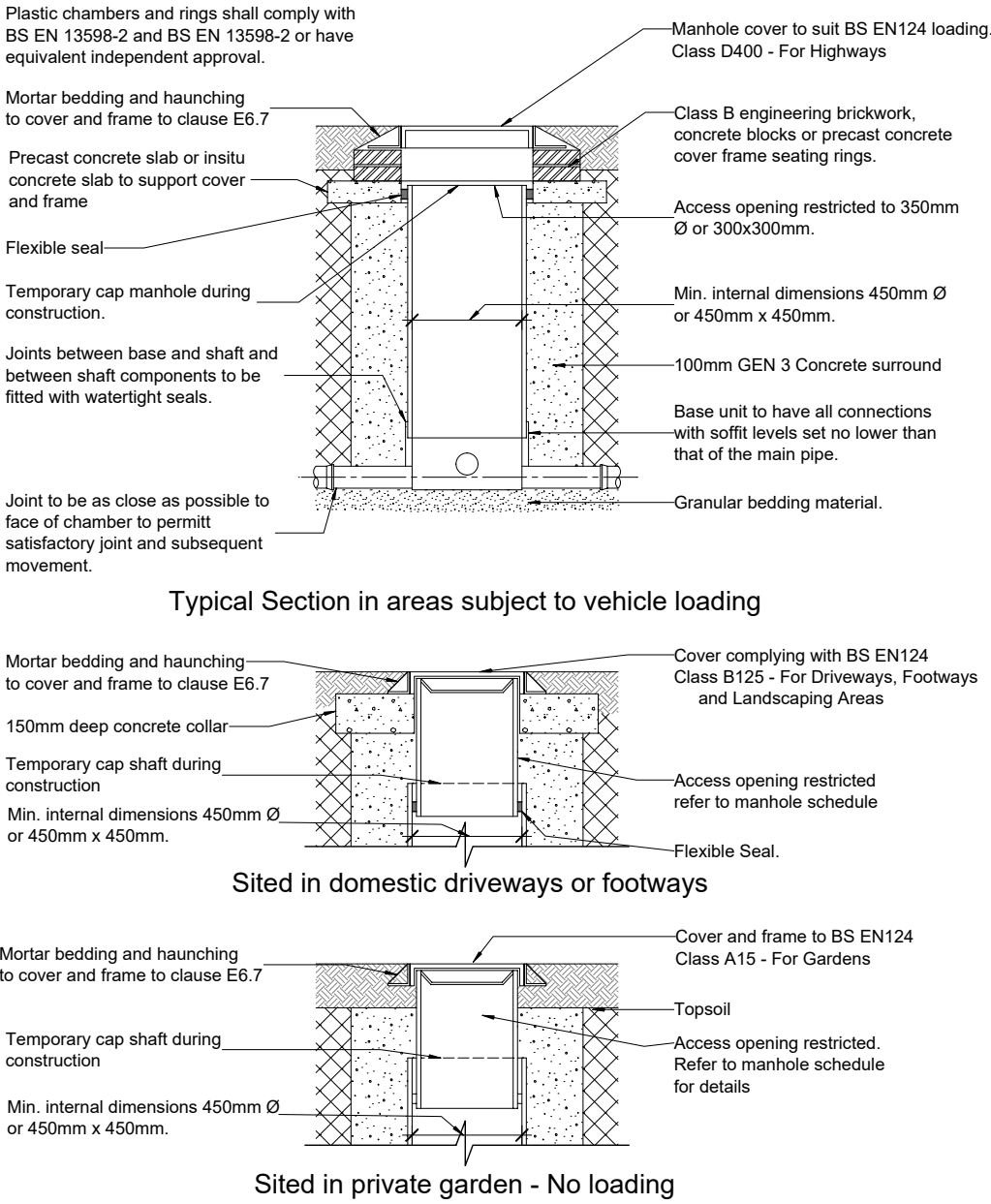


WADE BSP thread to CI adaptor code T105

TYPICAL DETAIL OF RODDING EYE
Scale: NTS

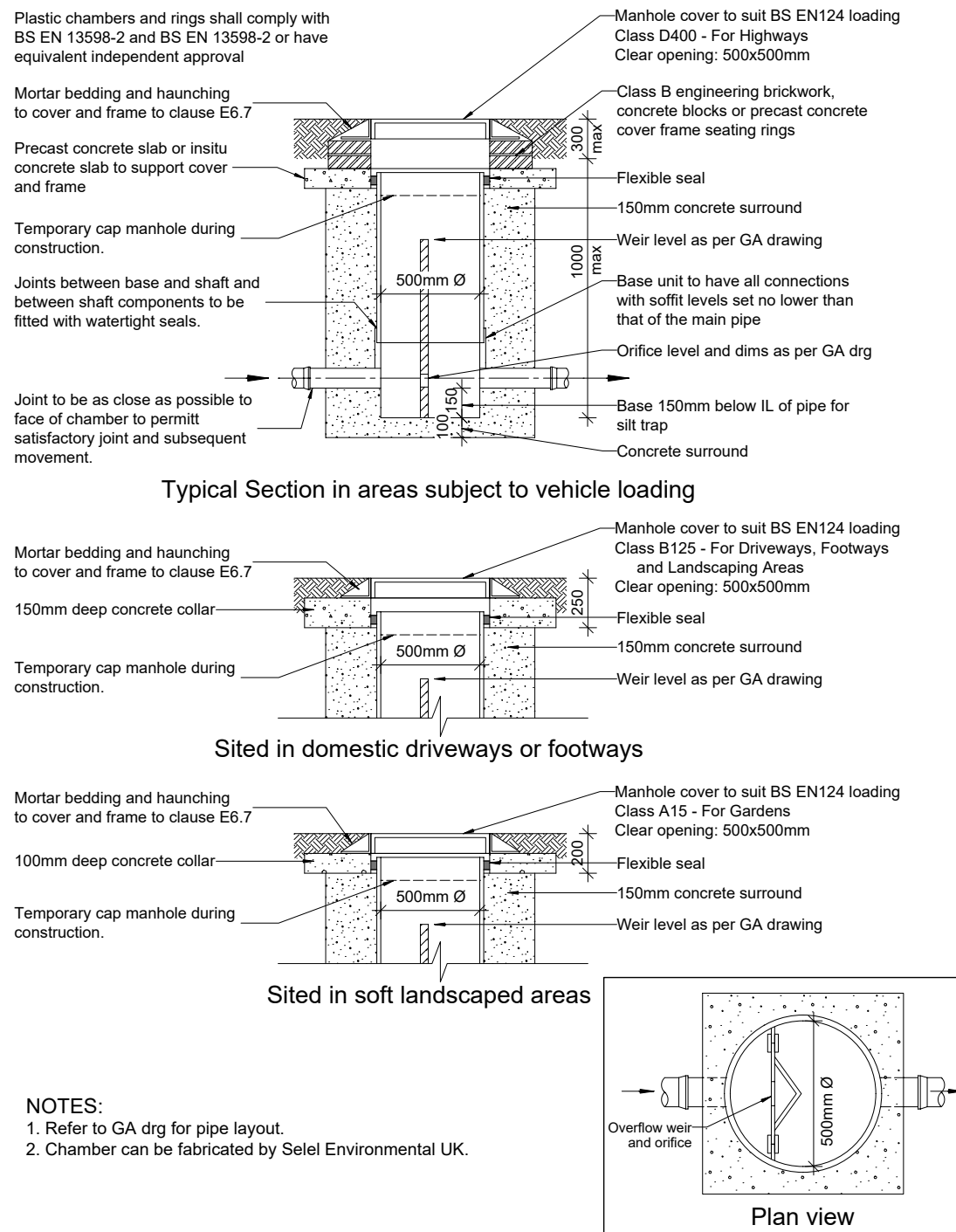


Chamber Type 3 Base Layouts



Notes:
1. Refer to drawing 8193 for base layouts.

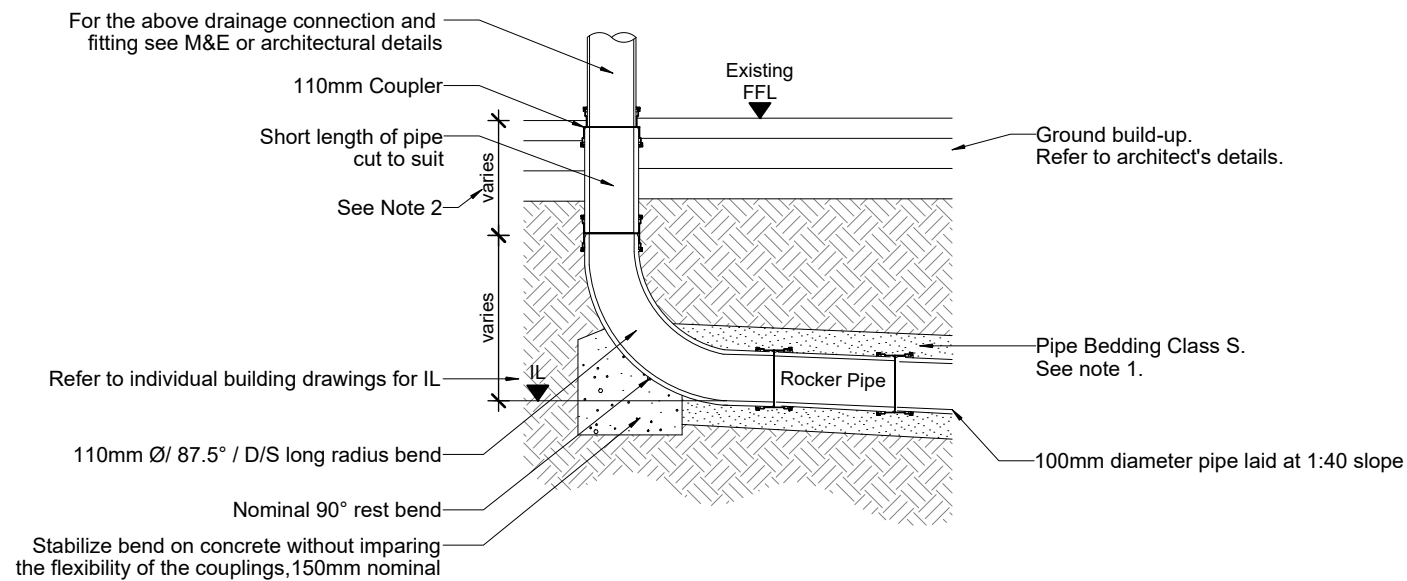
- Chamber Type 3 - Flexible Material



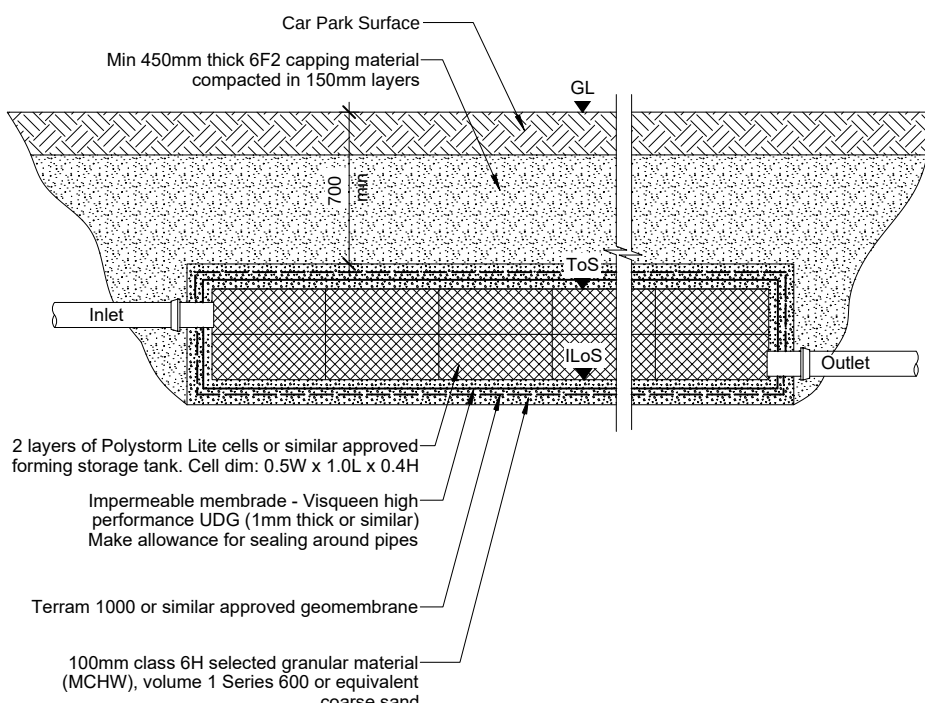
NOTES:
1. Refer to GA drg for pipe layout.
2. Chamber can be fabricated by Seel Environmental UK.

Plan view

Flow Control -Orifice Plate - Plastic - Type 3



Internal Foul Water Direct Connection



NOTES:
1. Permeable modular storage cell with 95% minimum void ratio. Ultimate compressive strength of 400kN/m² minimum. Resistant to chemicals likely to be found in rain water and durability of a minimum of 40 years.
2. Dimensions as applicable to the manufacturers recommendations for given storage requirement UNO.
3. Air Vents should be provided as per suppliers recommendations
4. See GA drgs for pipe sizes and layout and IL, ILoS, ToS, GL levels.

Cellular Attenuation System - Landscape Area



Rainwater Butt

Do not scale from this drawing. Refer to figured dimensions only. RIDA Reports Ltd registered in England and Wales No. 10590566. This drawing is copyright of RIDA Reports Ltd.

Drawing scale	Line length	Drawing scale	Line length
1:5	= 0.25 metres	1:200	= 10.0 metres
1:10	= 0.5 metres	1:250	= 12.5 metres
1:20	= 1.0 metres	1:500	= 25.0 metres
1:25	= 1.25 metres	1:1000	= 50.0 metres
1:50	= 2.5 metres	1:1250	= 62.5 metres
1:100	= 5.0 metres	1:2500	= 125 metres

Measure length of line above for checking of scale

GENERAL NOTES

Rev	Details	Date	By	Chd
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Drawing Status:
PRELIMINARY



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Drawing:
Standard Details

Print Size	Scale	Project No	Drawing No	Revision
A1	NTS	R1091	006	P1