

MERIDIAN

CIVIL ENGINEERING CONSULTANCY

GESSINGS, HENFIELD ROAD
HASSOCKS
WEST SUSSEX
BN6 9DD

FLOOD RISK ASSESSMENT

MARCH 2026

CONTENTS

1.0	INTRODUCTION	3
2.0	POLICY COMPLIANCE	4
3.0	SITE LOCATION	5
4.0	GEOLOGY AND INFILTRATION POTENTIAL	7
5.0	SEQUENTIAL TEST/EXCEPTION TEST	7
6.0	CLIMATE CHANGE ALLOWANCES	8
7.0	SOURCES OF FLOODING	9
8.0	RESIDUAL RISKS	14
9.0	FLOOD RISK MANAGEMENT MEASURES	14
10.0	DRAINAGE ASSESSMENT	14
11.0	CONCLUSION	15

APPENDICES

APPENDIX I	Architects plans
APPENDIX II	Indicative Soakaway Location Plan
APPENDIX III	Calculations

Client: Graham Gould

Rev	Date	Prepared by	Checked by	Approved by
P1	15/07/25	IW	BB	BB
P2	05/03/26	IW	BB	BB

Please Note:

This report has been prepared for the exclusive use of the commissioning party and may not be reproduced without prior written permission from Meridian Civil Engineering Consultancy Ltd. All work has been carried out within the terms of the brief using all reasonable skill, care and diligence. No liability is accepted by Meridian Civil Engineering Consultancy Ltd for the accuracy of data or opinions provided by others in the preparation of this report, or for any use of this report other than for the purpose for which it was produced.

Revision P2

Following the P1 revision of this report, the client has provided an updated topographic survey, which has been included in Appendix I. As a result of this new information, Sections 3.2, 7.3.4, 7.3.5, 7.3.6, 8.1, 8.4, 9.4, 9.6, 9.7, Topographical Survey (Appendix I) and CIV01 (Appendix II) have been altered from the previous revision.

Sections 1.2, 1.11, 1.13, 1.17, 1.19, 1.20, 11.2, 11.11, 11.13, 11.17, 11.19 and 11.20 have been updated to suit.

1.0 INTRODUCTION

- 1.1 Meridian Civil Engineering Consultancy LTD (MCEC) has been instructed by Graham Gould to prepare a site-specific Flood Risk Assessment (FRA) for the development at Gessings, Henfield Road, Hassocks, West Sussex, BN6 9DD.
- 1.2 It is understood that the proposal is for the conversion of the side garage attached to the side of the property into an annex, and construction of a new garage at the end of the driveway. This is to be done in conjunction with the implementation of a new soakaway to discharge rooftop runoff from the property, to reduce ponding risk
- 1.3 It is noted in the Drainage Impact Assessment (ref: DIA/GTG/250425) that the property has a culvert running across the front of the site. Waterlogging during wet weather has been attributed to this feature and as such, the Client wishes to implement a soakaway to the rear of the property to mitigate this issue.
- 1.4 Soakaway tests were carried out on site during April 2025 in accordance with BRE 365. Two test pits were dug to depths of 1,000mm and 1,200mm and no groundwater was encountered. Test results demonstrated good ground permeability with soil infiltration rates for the TP1 at 5×10^{-5} m/s and 4.3×10^{-5} m/s. As such, infiltration SuDS are considered feasible for this development.
- 1.5 Under the NPPF, all new planning applications should undergo a Sequential Test. This test should be implemented by local planning authorities or developers (if the site is not allocated) with a view to locating particularly vulnerable new developments (e.g. residential, hospitals, mobile homes etc.) outside of the floodplain. A full sequential test document is outside the scope for this report as a minor extension is normally exempt from the sequential test.
- 1.6 The Environmental Agency (EA) mapping for Flood Risk shows the site located within Flood Zone 1 (Low risk of fluvial or tidal flooding). This means that each year there is less than a 0.1% chance of flooding from rivers or the sea.
- 1.7 According to the EA Long Term Flood Risk map, the site is at a very low risk of tidal and fluvial flooding, staying at very low risk between 2036 to 2069. Very Low risk means that each year this area has a chance of flooding less than 0.1%. It is understood that the EA Long Term Flood Risk map uses a 15m boundary to determine the flood risk to a development.
- 1.8 According to the EA Long Term Flood Risk map, the property is at a low risk of surface water flooding, staying at low risk between 2040 to 2060. Low risk means that each year this area has a chance of flooding between 0.1% and 1%. Land in front of the property is shown to be at a high risk of surface water flooding, staying at high risk between 2040 to 2060. High risk means that each year this area has a chance of flooding greater than 3.3%.
- 1.9 As the site is shown to be at risk of surface water flooding, the EA RoFSW depths data has been reviewed in greater detail to understand the severity of flooding risk onsite.
- 1.10 Following a detailed review of GIS data, model outputs show that there is an identified surface water flood risk onsite. Inundation could reach less than 0.2m across the majority of the existing property and its extensions, and up to 0.3m at its front entrance. The front driveway is shown to reach up to 0.2m, with a small region shown up to 0.3m depth.
- 1.11 Review of the combined data shows that the highest Lidar ground level from the spot heights taken is 39.869mAOD at Spot Height 8 and in being conservative, it could be concluded that flooding due to surface water could occur up to this level based on outputs from the EA model. However, levels obtained from the topographic survey differ from Lidar records.
- 1.12 Mapping published within the West Sussex SFRA shows the site to be located in an area with medium potential for groundwater flooding to occur.
- 1.13 Residual risks include exceedance events causing flooding due to the close proximity of a culvert. The proposed development is for an extension to the front of the existing property, with land at the front of the property where this risk is prevalent.

- 1.14 Given the proposed development site is situated in an area at risk of surface water flooding, it is recommended that measures are taken to mitigate flood risk at the building.
- 1.15 In line with current guidance in the NPPF, any altered floor level should be no lower than the existing. As such, it is recommended that FFLs for the proposed extension are to be no lower than the existing property, and the converted garage should maintain existing FFLs.
- 1.16 Ground levels should be designed, where feasible, to direct surface runoff away from entrance thresholds towards lower risk areas. Implementation of a soakaway at the rear of the property would facilitate the discharge of runoff into an area of low risk at the rear of the property, reducing discharge into the culvert at the front of the property where flood risk is higher.
- 1.17 Measures should be taken to ensure that flood risk posed to the property by the existing culvert is minimised where feasible. It is proposed to disconnect existing surface water connections to the culvert and to reroute all drainage to a soakaway at the rear of the property, which is in a low-risk area. This would greatly reduce runoff at the front of the property and potentially reduce ponding at the front of the property.
- 1.18 It is recommended the client considers the use of sustainable drainage to reduce offsite flow from the site where feasible. A full surface water drainage strategy document is considered outside the scope of this flood risk assessment. However, MCEC have produced an indicative drawing (Appendix II) and calculations (Appendix III) of the nature of soakaway required to serve this property and ensure that all rooftop runoff is discharged on site via infiltration.
- 1.19 Measures should be taken to ensure that flood risk to the proposed garage is managed effectively. It is recommended that the FFL of the garage is to be located a minimum of 150mm above the maximum flood depth (39.869mAOD), which is an FFL of 40.019mAOD.
- 1.20 Following a site visit to establish an understanding of the site and its proposed changes, MCEC have carried out a series of calculations to determine the feasibility of the Client's wish to reroute drainage to a private soakaway at the rear of the property.
- 1.21 The proposed developments will increase overall rooftop catchments to 300m². With local FEH-22 rainfall data applied, the proposed development would require a soakaway 30m² in plan area, with 0.8m depth and 95% porosity to prevent flooding during the 1in100 year +45%CC event for a residential development with a 100-year design life. As such, a minimum total attenuation of 22.8m³ is required for the proposed changes.
- 1.22 This report has been produced broadly in accordance with the National Planning Policy Framework (NPPF), West Sussex SFRA and local guidance.

2.0 POLICY COMPLIANCE

- 2.1 The purpose of this assessment is to demonstrate that the development proposal outlined above can be satisfactorily accommodated without worsening flood risk for the area and without placing the development itself at risk of flooding, as per the:
- National Planning Policy Framework
 - West Sussex SFRA and local guidance

3.0 SITE LOCATION

- 3.1 The site is located at Gessings, Henfield Road, Hassocks, West Sussex, BN6 9DD. The site consists of a residential dwelling and garden area.



Figure 1: Site location plan

- 3.2 It is understood that the proposal is for the conversion of the side garage attached to the side of the property into an annex, and construction of a new garage at the end of the driveway. This is to be done in conjunction with the implementation of a new soakaway to discharge rooftop runoff from the property, to reduce ponding risk. Architectural plans are included in Appendix I.
- 3.3 It is noted in the Drainage Impact Assessment (ref: DIA/GTG/250425) that the property has a culvert running across the front of the site. Waterlogging during wet weather has been attributed to this feature and as such, the Client wishes to implement a soakaway to the rear of the property to mitigate this issue.

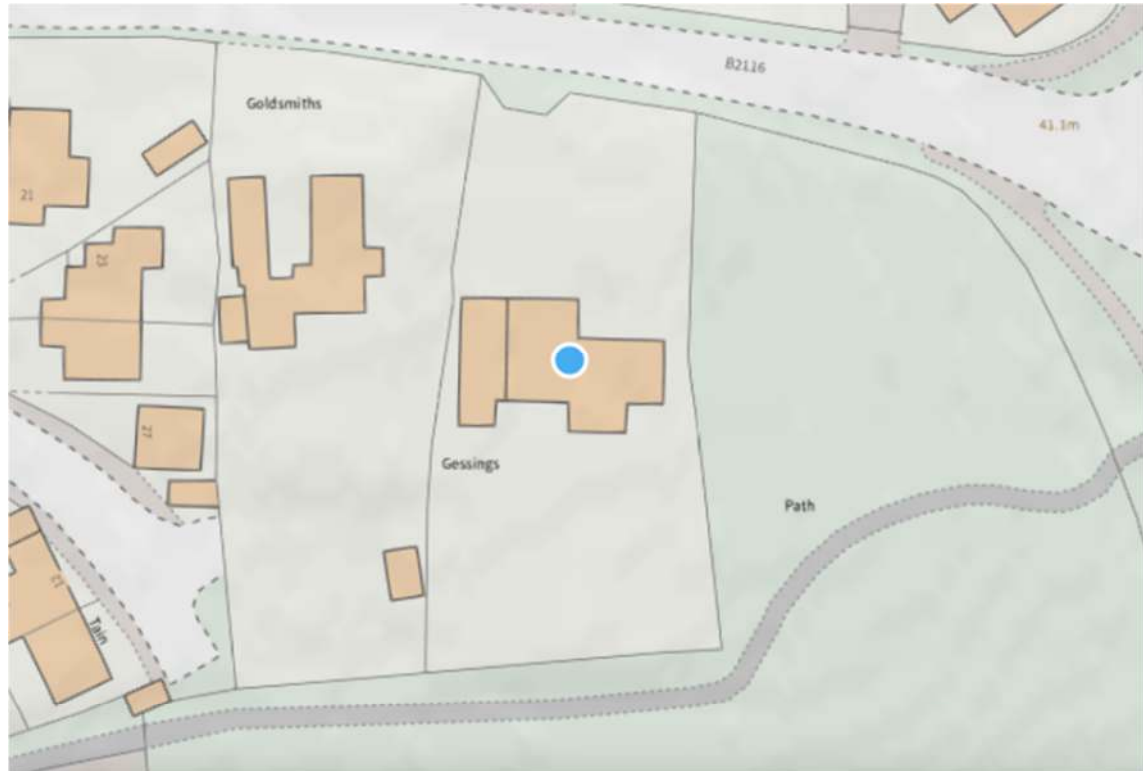
3.4 The proposed site plan with a prospective soakaway position is included below.



Figure 2: Proposed Site Plan and Soakaway Location

4.0 GEOLOGY AND INFILTRATION POTENTIAL

- 4.1 The British Geological Survey (BGS) Geology of Britain Viewer indicates that the bedrock underlying the site consists of Weald Clay Formation - Mudstone (Source: BGS). There are no superficial deposits shown to be underlying the site.



Geology



Bedrock geology

Weald Clay Formation - Mudstone. Sedimentary bedrock formed between 133.9 and 126.3 million years ago during the Cretaceous period.

Figure 3: BGS geology map extract

- 4.2 Soakaway tests were carried out on site during April 2025 in accordance with BRE 365. Two test pits were dug to depths of 1,000mm and 1,200mm and no groundwater was encountered. Test results demonstrated good ground permeability with soil infiltration rates for the TP1 at $5 \times 10^{-5} \text{m/s}$ and $4.3 \times 10^{-5} \text{m/s}$. As such, infiltration SuDS are considered feasible for this development.

5.0 SEQUENTIAL TEST/EXCEPTION TEST

- 5.1 Under the NPPF, all new planning applications should undergo a Sequential Test. This test should be implemented by local planning authorities or developers (if the site is not allocated) with a view to locating particularly vulnerable new developments (e.g. residential, hospitals, mobile homes etc.) outside of the floodplain. A full sequential test document is outside the scope for this report as a minor extension is normally exempt from the sequential test.

- 5.2 The proposed development is shown to be residential use which would be classified as a 'More Vulnerable' use, as defined in the NPPF.
- 5.3 The NPPF Sequential Test: Flood Risk Vulnerability and Flood Zone 'Compatibility' Table is reproduced below;

Flood Risk Vulnerability Classification		Essential Infrastructure	Water Compatible	Highly Vulnerable	More Vulnerable	Less Vulnerable
Flood Zone	Zone 1	✓	✓	✓	✓	✓
	Zone 2	✓	✓	Exception Test Required	✓	✓
	Zone 3a	Exception Test Required	✓	✗	Exception Test Required	✓
	Zone 3b <i>Functional Floodplain</i>	Exception Test Required	✓	✗	✗	✗

Table 1 The Sequential Test: Flood Risk Vulnerability and Flood Zone 'Compatibility' Table as specified by NPPF. Please note: ✓ means development is appropriate; ✗ means the development should not be permitted.

- 5.4 Using the principles of the Sequential Test outlined above, the proposed development is classed as 'More Vulnerable' under the NPPF for residential use. The development area is shown to be located within Flood Zone 1 and therefore, in accordance with the NPPF Sequential Test: Flood Risk Vulnerability and Flood Zone 'Compatibility' Table, it would not need to pass the Exception Test for this flood zone.

6.0 CLIMATE CHANGE ALLOWANCES

- 6.1 Making an allowance for climate change in the design of surface water drainage systems will help to minimise vulnerability and provide resilience to flooding and coastal change in the future. Climate Change allowances vary across the UK subject to catchment conditions and are based on climate change projections and different scenarios of carbon dioxide (CO₂) emissions to the atmosphere.

1% annual exceedance rainfall event

Epoch	Central allowance		Upper end allowance	
2050s	20%		45%	
2070s	25%		45%	

Figure 4: Adur and Ouse Management Catchment peak rainfall allowances

- 6.2 The site is located in the Adur and Ouse Management Catchment. On the basis of the climate change table above, the Peak rainfall allowance should therefore be 45% for residential development with a 100yr design life. The site is outside of the tidal and fluvial flood risk areas.

7.0 SOURCES OF FLOODING

7.1 Tidal and Fluvial

The Environmental Agency (EA) mapping for Flood Risk shows the site located within Flood Zone 1 (Low risk of fluvial or tidal flooding). This means that each year there is less than a 0.1% chance of flooding from rivers or the sea.

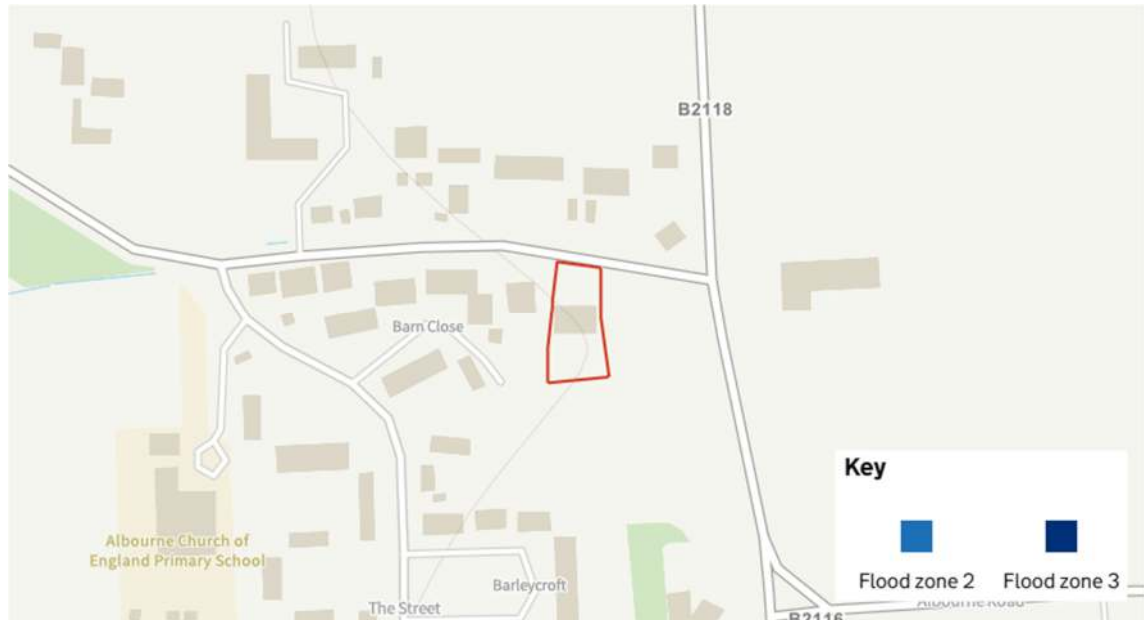


Figure 5: EA Flood map for Planning extract

7.2 EA Long Term Flood Risk map

According to the EA Long Term Flood Risk map, the site is at a very low risk of tidal and fluvial flooding, staying at very low risk between 2036 to 2069. Very Low risk means that each year this area has a chance of flooding less than 0.1%. It is understood that the EA Long Term Flood Risk map uses a 15m boundary to determine the flood risk to a development.



Figure 6: EA Long term risk of flooding map extract – Rivers and the Sea

7.3 Surface Water

- 7.3.1 According to the EA Long Term Flood Risk map, the dwelling is at a low risk of surface water flooding, staying at low risk between 2040 to 2060. Low risk means that each year this area has a chance of flooding between 0.1% and 1%. Land in front of the property is shown to be at a high risk of surface water flooding, staying at high risk between 2040 to 2060. High risk means that each year this area has a chance of flooding greater than 3.3%.



Figure 7: EA Long term risk of flooding map extract – Surface Water

- 7.3.2 As the site is shown to be at risk of surface water flooding, the EA RoFSW depths data has been reviewed in greater detail to understand the severity of flooding risk onsite.

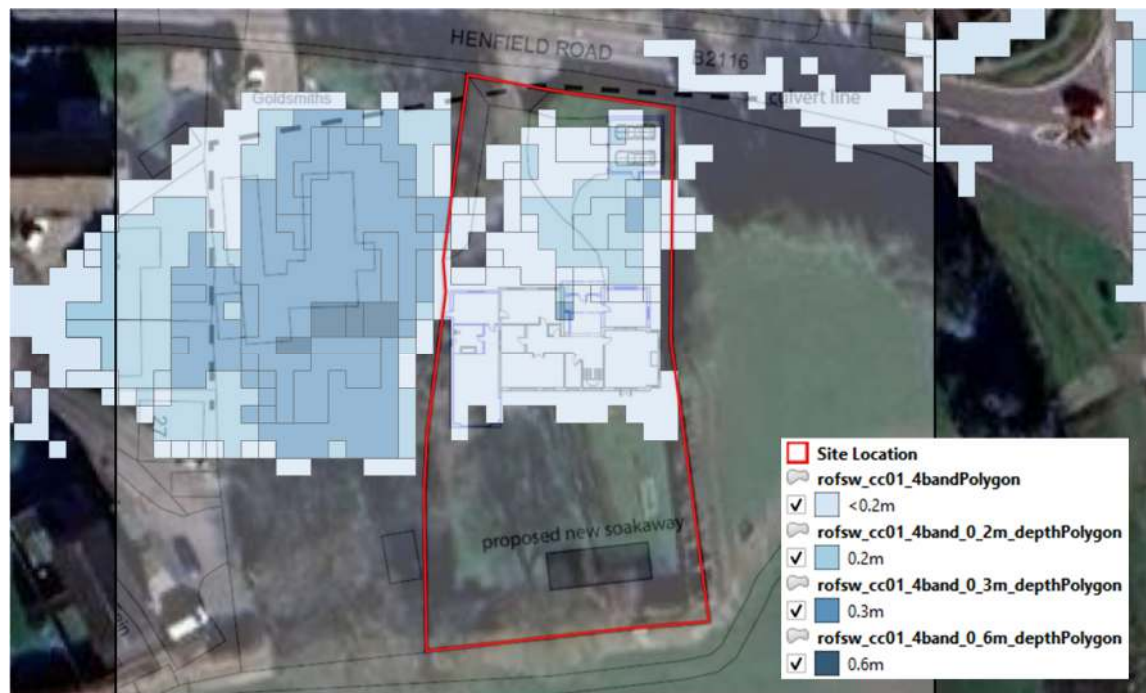


Figure 8: EA RoFSW map extract

- 7.3.3 Following a detailed review of GIS data, model outputs show that there is an identified surface water flood risk onsite. Inundation could reach less than 0.2m across the majority of the existing property and its extensions, and up to 0.3m at its front entrance. The front driveway is shown to reach up to 0.2m, with a small region shown up to 0.3m depth.
- 7.3.4 To evaluate the surface water flood risk posed to existing land on site, MCEC have overlaid Lidar data and the topographic survey with EA RoFSW data. 8 Spot Heights have been taken throughout the site at the outer extent of surface water flood risk to aid in deriving the projected flood level. These Spot Heights are all taken at the edge of the region where inundation is shown to reach less than 0.2m in depth, and are therefore representative of the outer extent of surface water flood risk, where the depth output from the EA model should be 0m.

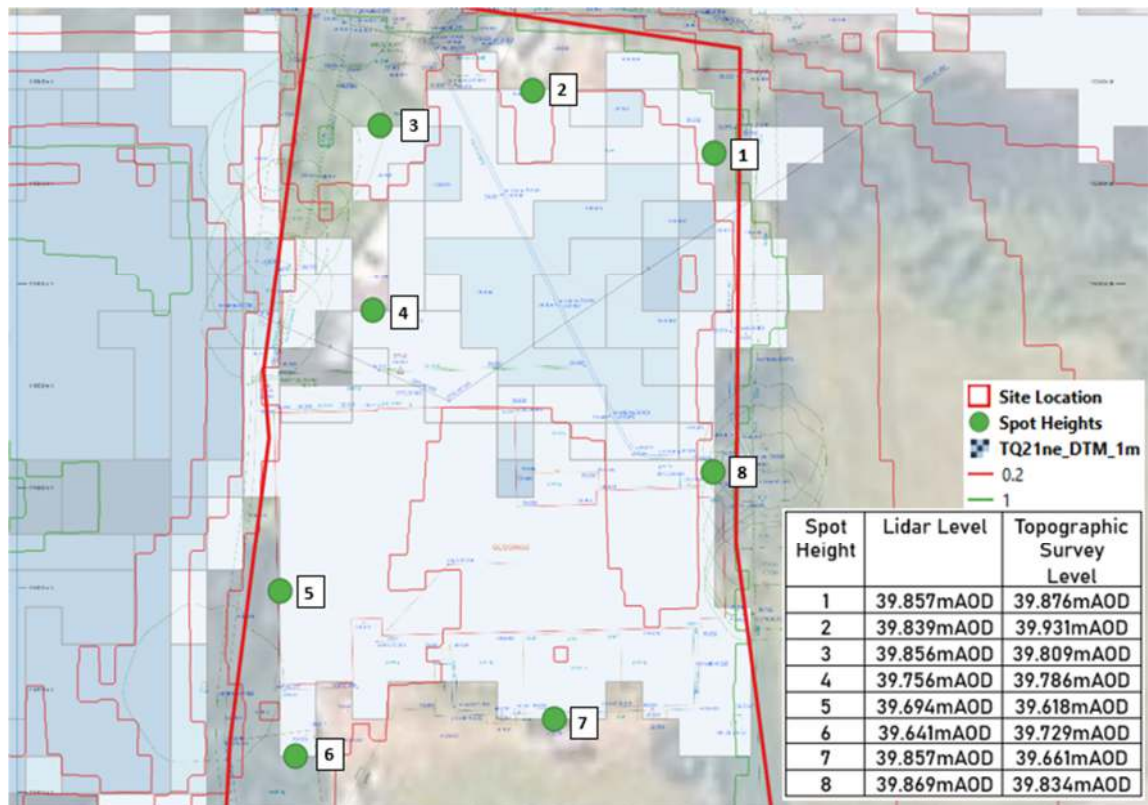


Figure 9: EA RoFSW data overlaid with Lidar data

- 7.3.5 Review of the combined data shows that the highest Lidar ground level from the spot heights taken is 39.869mAOD at Spot Height 8 and in being conservative, it could be concluded that flooding due to surface water could occur up to this level based on outputs from the EA model. However, levels obtained from the topographic survey differ from Lidar records.
- 7.3.6 To account for potential flood risk, it is recommended that FFLs for the proposed extension are to be no lower than existing.
- 7.3.7 Ground levels should be designed, where feasible, to direct surface runoff away from entrance thresholds towards lower risk areas. Implementation of a soakaway at the rear of the property would facilitate the discharge of runoff into an area of low risk at the rear of the property, reducing discharge into the culvert at the front of the property where flood risk is higher.

7.4 Historic flood / Sewer

Mapping published within the West Sussex SFRA shows the site to be located in an area which has few recorded sewer-based flooding incidents.

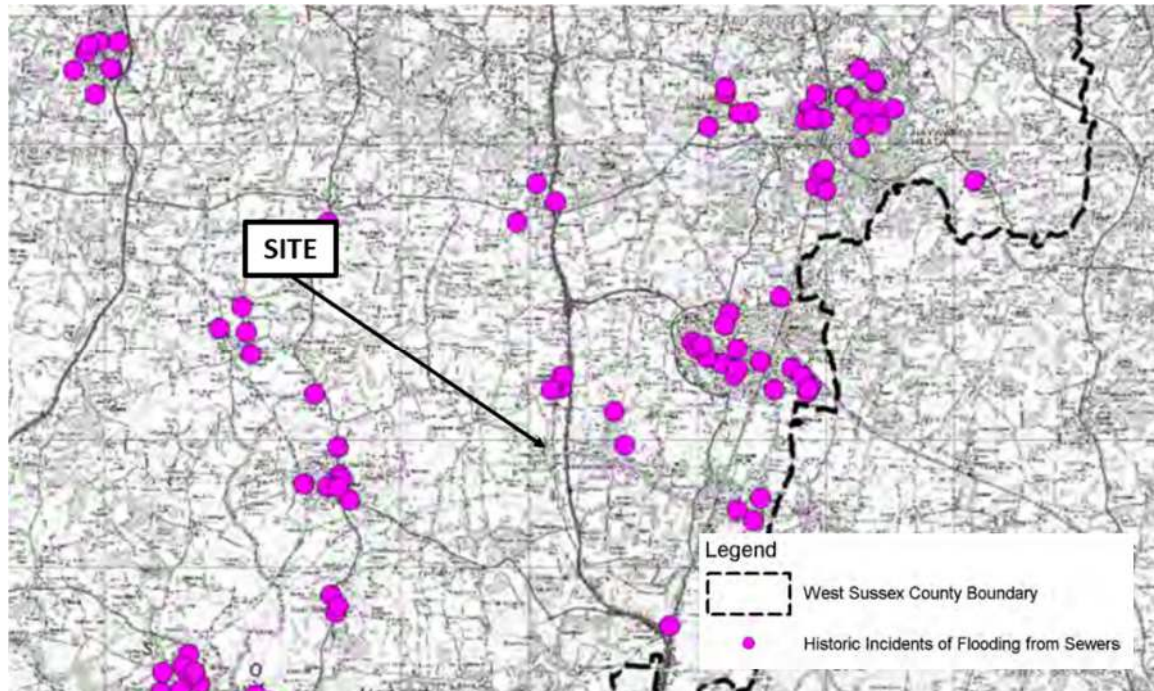


Figure 10: West Sussex SFRA – Areas more prone to Flooding from Sewers map extract

7.5 Groundwater

Mapping published within the West Sussex SFRA shows the site to be located in an area with medium potential for groundwater flooding to occur.

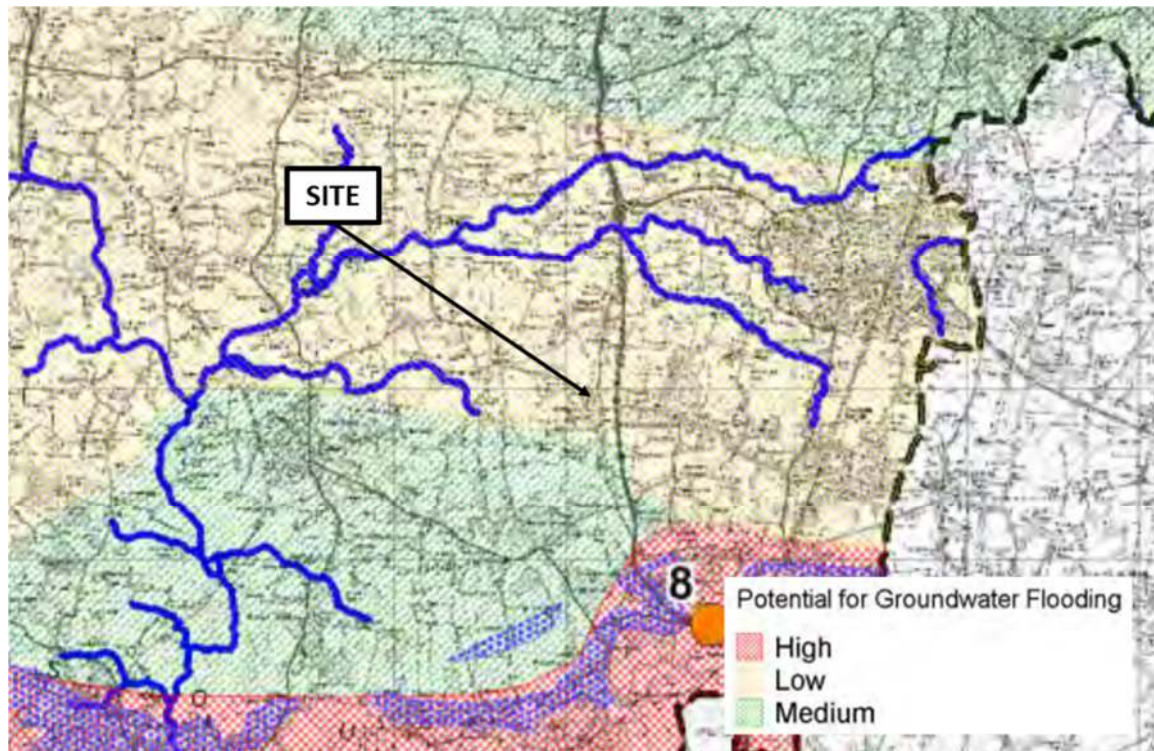


Figure 11: West Sussex SFRA – Areas more prone to Groundwater Flooding map extract

7.6 Reservoir

- 7.6.1 The EA Long Term Flood Risk map shows that the development is located within an area where flooding from reservoirs is unlikely.
- 7.6.2 In the unlikely event that a reservoir dam fails, a large volume of water would escape at once, with little or no warning. According to the EA, there has been no loss of life in the UK from reservoir flooding since 1925. All large reservoirs must be inspected and supervised by reservoir panel engineers as detailed by the enforcement authority for the Reservoirs Act 1975 in England. The EA are responsible to ensure that reservoirs are inspected regularly, and essential safety work carried out.

7.7 Local Management

In the River Adur Catchment Flood Management Plan document, the site is identified as being within the Upper Adur region which adheres to Policy Option 6, which is extracted below:

Areas of low to moderate flood risk where we will take action with others to store water or manage run-off in locations that provide overall flood risk reduction or environmental benefits.

This policy will tend to be applied where there may be opportunities in some locations to reduce flood risk locally or more widely in a catchment by storing water or managing run-off. The policy has been applied to an area (where the potential to apply the policy exists), but would only be implemented in specific locations within the area, after more detailed appraisal and consultation.

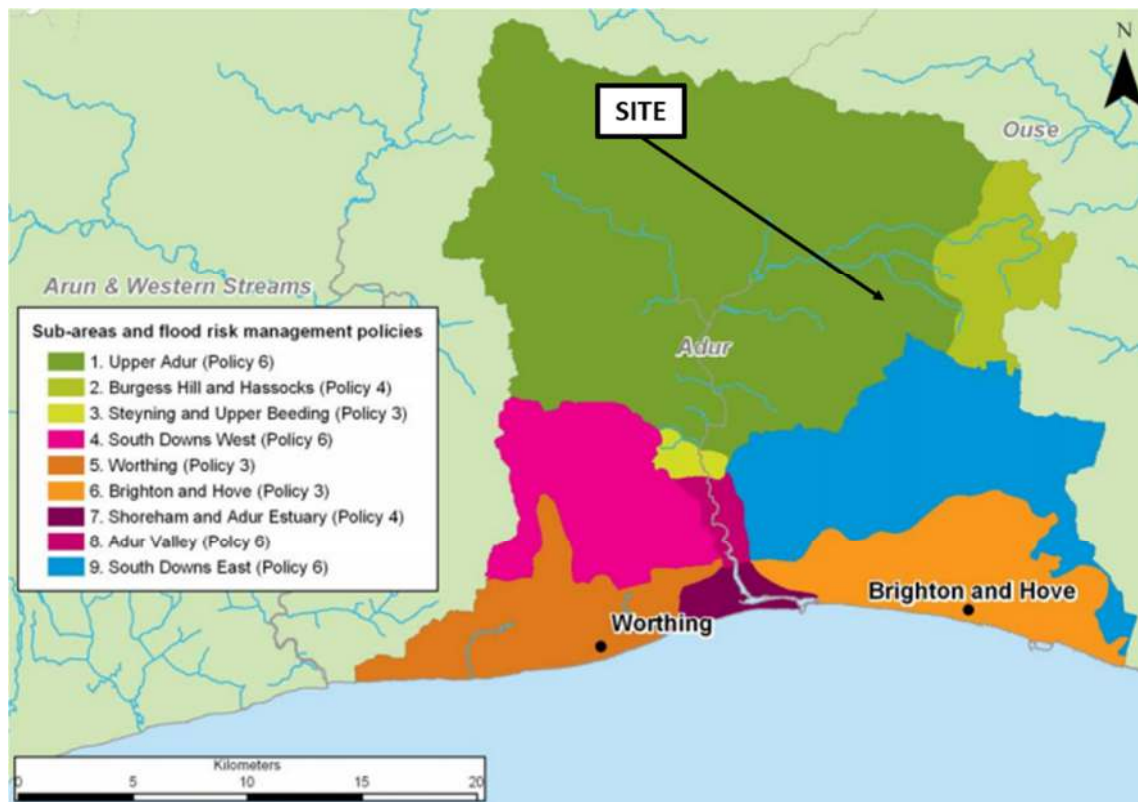


Figure 12: River Adur CFMP – Catchment Policy Decisions map extract

8.0 RESIDUAL RISKS

- 8.1 Residual risks include exceedance events causing flooding due to the close proximity of a culvert. The proposed development is for an extension to the front of the existing property, with land at the front of the property where this risk is prevalent.
- 8.2 In line with current guidance in the NPPF, any altered floor level should be no lower than the existing. As such, it is recommended that FFLs for the proposed extension are to be no lower than the existing property, and the converted garage should maintain existing FFLs.
- 8.3 Non return valves and sealed drainage should be installed in the extension where feasible to prevent backing up into the building should external flooding occur.
- 8.4 The proposed new garage is located at the northeast of the site where there is an identified flood risk at present. Measures should be taken to ensure that flood risk to this new proposal is managed effectively.

9.0 FLOOD RISK MANAGEMENT MEASURES

- 9.1 Given the proposed development site is situated in an area at risk of surface water flooding, it is recommended that measures are taken to mitigate flood risk at the building.
- 9.2 In line with current guidance in the NPPF, any altered floor level should be no lower than the existing. As such, it is recommended that FFLs for the proposed extension are to be no lower than the existing property, and the converted garage should maintain existing FFLs.
- 9.3 Ground levels should be designed, where feasible, to direct surface runoff away from entrance thresholds towards lower risk areas. Implementation of a soakaway at the rear of the property would facilitate the discharge of runoff into an area of low risk at the rear of the property, reducing discharge into the culvert at the front of the property where flood risk is higher.
- 9.4 Measures should be taken to ensure that flood risk posed to the property by the existing culvert is minimised where feasible. It is proposed to disconnect existing surface water connections to the culvert and to reroute all drainage to a soakaway at the rear of the property, which is in a low-risk area. This would greatly reduce runoff at the front of the property and potentially reduce ponding at the front of the property.
- 9.5 It is recommended the client considers the use of sustainable drainage to reduce offsite flow from the site where feasible. A full surface water drainage strategy document is considered outside the scope of this flood risk assessment. However, MCEC have produced an indicative drawing (Appendix II) and calculations (Appendix III) of the nature of soakaway required to serve this property and ensure that all rooftop runoff is discharged on site via infiltration.
- 9.6 Measures should be taken to ensure that flood risk to the proposed garage is managed effectively. It is recommended that the FFL of the garage is to be located a minimum of 150mm above the maximum flood depth (39.869mAOD), which is an FFL of 40.019mAOD.

10.0 DRAINAGE ASSESSMENT

- 10.1 Following a site visit to establish an understanding of the site and its proposed changes, MCEC have carried out a series of calculations to determine the feasibility of the Client's wish to reroute drainage to a private soakaway at the rear of the property.
- 10.2 Soakaway tests were carried out on site during April 2025 in accordance with BRE 365. Two test pits were dug to depths of 1,000mm and 1,200mm and no groundwater was encountered. Test results demonstrated good ground permeability with soil infiltration rates for the TP1 at 5x10⁻

5m/s and $4.3 \times 10^{-5}\text{m/s}$. As such, infiltration SuDS are considered feasible for this development, and the lower infiltration rate of $4.3 \times 10^{-5}\text{m/s}$ was used for the following soakaway calculations.

- 10.3 The existing property is shown to have a rooftop catchment of 210m^2 , as per the Topographic Survey completed by Offington Land Surveys Ltd. (included in Appendix I). With local FEH-22 rainfall data applied, the existing development would require a soakaway 10m^2 in plan area, with 0.8m depth and 95% porosity to prevent flooding during the $1\text{in}30$ year event. As such, a minimum total attenuation of 7.6m^3 is required for the property at its current size.
- 10.4 The proposed developments will increase overall rooftop catchments to 300m^2 . With local FEH-22 rainfall data applied, the proposed development would require a soakaway 30m^2 in plan area, with 0.8m depth and 95% porosity to prevent flooding during the $1\text{in}100$ year $+45\%\text{CC}$ event for a residential development with a 100-year design life. As such, a minimum total attenuation of 22.8m^3 is required for the proposed changes.
- 10.5 An indicative Soakaway Location Plan detailing the attenuation required for this development can be found in Appendix II, with accompanying hydraulic calculations in Appendix III.

11.0 CONCLUSION

- 11.1 Meridian Civil Engineering Consultancy LTD (MCEC) has been instructed by Graham Gould to prepare a site-specific Flood Risk Assessment (FRA) for the development at Gessings, Henfield Road, Hassocks, West Sussex, BN6 9DD.
- 11.2 It is understood that the proposal is for the conversion of the side garage attached to the side of the property into an annex, and construction of a new garage at the end of the driveway. This is to be done in conjunction with the implementation of a new soakaway to discharge rooftop runoff from the property, to reduce ponding risk
- 11.3 It is noted in the Drainage Impact Assessment (ref: DIA/GTG/250425) that the property has a culvert running across the front of the site. Waterlogging during wet weather has been attributed to this feature and as such, the Client wishes to implement a soakaway to the rear of the property to mitigate this issue.
- 11.4 Soakaway tests were carried out on site during April 2025 in accordance with BRE 365. Two test pits were dug to depths of $1,000\text{mm}$ and $1,200\text{mm}$ and no groundwater was encountered. Test results demonstrated good ground permeability with soil infiltration rates for the TP1 at $5 \times 10^{-5}\text{m/s}$ and $4.3 \times 10^{-5}\text{m/s}$. As such, infiltration SuDS are considered feasible for this development.
- 11.5 Under the NPPF, all new planning applications should undergo a Sequential Test. This test should be implemented by local planning authorities or developers (if the site is not allocated) with a view to locating particularly vulnerable new developments (e.g. residential, hospitals, mobile homes etc.) outside of the floodplain. A full sequential test document is outside the scope for this report as a minor extension is normally exempt from the sequential test.
- 11.6 The Environmental Agency (EA) mapping for Flood Risk shows the site located within Flood Zone 1 (Low risk of fluvial or tidal flooding). This means that each year there is less than a 0.1% chance of flooding from rivers or the sea.
- 11.7 According to the EA Long Term Flood Risk map, the site is at a very low risk of tidal and fluvial flooding, staying at very low risk between 2036 to 2069. Very Low risk means that each year this area has a chance of flooding less than 0.1% . It is understood that the EA Long Term Flood Risk map uses a 15m boundary to determine the flood risk to a development.
- 11.8 According to the EA Long Term Flood Risk map, the property is at a low risk of surface water flooding, staying at low risk between 2040 to 2060. Low risk means that each year this area has a chance of flooding between 0.1% and 1% . Land in front of the property is shown to be at a high risk of surface water flooding, staying at high risk between 2040 to 2060. High risk means that each year this area has a chance of flooding greater than 3.3% .

- 11.9 As the site is shown to be at risk of surface water flooding, the EA RoFSW depths data has been reviewed in greater detail to understand the severity of flooding risk onsite.
- 11.10 Following a detailed review of GIS data, model outputs show that there is an identified surface water flood risk onsite. Inundation could reach less than 0.2m across the majority of the existing property and its extensions, and up to 0.3m at its front entrance. The front driveway is shown to reach up to 0.2m, with a small region shown up to 0.3m depth.
- 11.11 Review of the combined data shows that the highest Lidar ground level from the spot heights taken is 39.869mAOD at Spot Height 8 and in being conservative, it could be concluded that flooding due to surface water could occur up to this level based on outputs from the EA model. However, levels obtained from the topographic survey differ from Lidar records.
- 11.12 Mapping published within the West Sussex SFRA shows the site to be located in an area with medium potential for groundwater flooding to occur.
- 11.13 Residual risks include exceedance events causing flooding due to the close proximity of a culvert. The proposed development is for an extension to the front of the existing property, with land at the front of the property where this risk is prevalent.
- 11.14 Given the proposed development site is situated in an area at risk of surface water flooding, it is recommended that measures are taken to mitigate flood risk at the building.
- 11.15 In line with current guidance in the NPPF, any altered floor level should be no lower than the existing. As such, it is recommended that FFLs for the proposed extension are to be no lower than the existing property, and the converted garage should maintain existing FFLs.
- 11.16 Ground levels should be designed, where feasible, to direct surface runoff away from entrance thresholds towards lower risk areas. Implementation of a soakaway at the rear of the property would facilitate the discharge of runoff into an area of low risk at the rear of the property, reducing discharge into the culvert at the front of the property where flood risk is higher.
- 11.17 Measures should be taken to ensure that flood risk posed to the property by the existing culvert is minimised where feasible. It is proposed to disconnect existing surface water connections to the culvert and to reroute all drainage to a soakaway at the rear of the property, which is in a low-risk area. This would greatly reduce runoff at the front of the property and potentially reduce ponding at the front of the property.
- 11.18 It is recommended the client considers the use of sustainable drainage to reduce offsite flow from the site where feasible. A full surface water drainage strategy document is considered outside the scope of this flood risk assessment. However, MCEC have produced an indicative drawing (Appendix II) and calculations (Appendix III) of the nature of soakaway required to serve this property and ensure that all rooftop runoff is discharged on site via infiltration.
- 11.19 Measures should be taken to ensure that flood risk to the proposed garage is managed effectively. It is recommended that the FFL of the garage is to be located a minimum of 150mm above the maximum flood depth (39.869mAOD), which is an FFL of 40.019mAOD.
- 11.20 Following a site visit to establish an understanding of the site and its proposed changes, MCEC have carried out a series of calculations to determine the feasibility of the Client's wish to reroute drainage to a private soakaway at the rear of the property.
- 11.21 The proposed developments will increase overall rooftop catchments to 300m². With local FEH-22 rainfall data applied, the proposed development would require a soakaway 30m² in plan area, with 0.8m depth and 95% porosity to prevent flooding during the 1in100 year +45%CC event for a residential development with a 100-year design life. As such, a minimum total attenuation of 22.8m³ is required for the proposed changes.

This report has been produced broadly in accordance with the National Planning Policy Framework (NPPF), West Sussex SFRA and local guidance.

APPENDIX I Architects plans

Drainage Impact Assessment

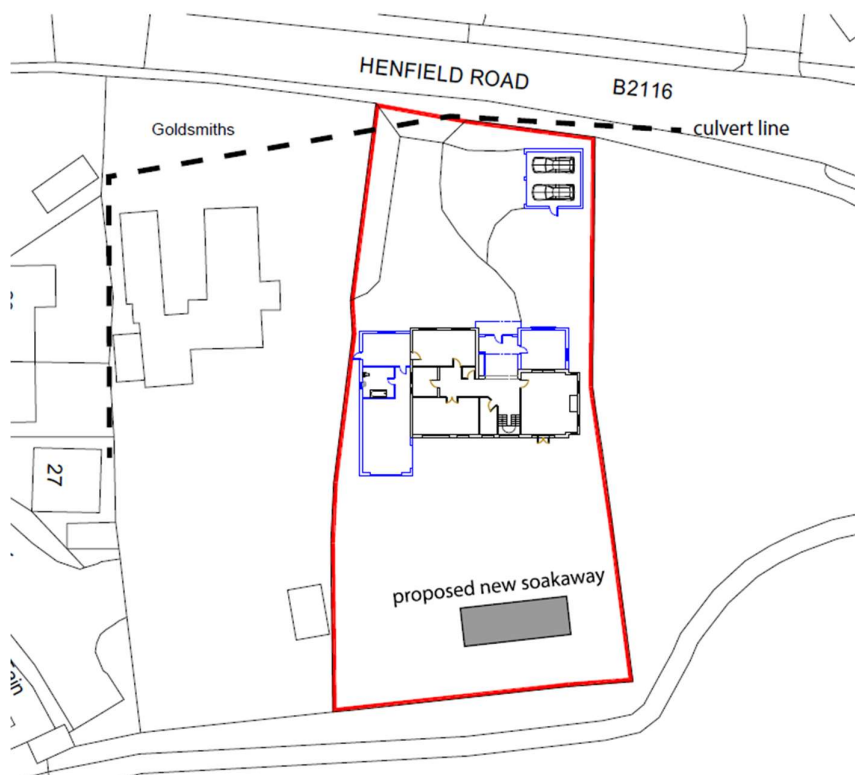
Date: 25th April 2025

Ref: DIA/GTG/250425

Site Address:

Gessings, Henfield Road, Albourne, Hassocks, West Sussex, BN6 9DD.

Location map with culvert line and proposed new soakaway position.



Drainage assessment.

The property has a culvert running across the front of the site parallel to the road. For the most of its length, the culvert line is under the verge and outside of the property boundary. The culvert then runs diagonally across the front west corner of the property before continuing diagonally across the front garden of the neighbouring property (Goldsmiths). In wet weather the front garden of the property becomes waterlogged and heavy/torrential rain causes surface water run off the neighbouring village green and puddle on the front lawn.

Drainage Plan.

The front garden is considered unsuitable for soakaways. The surface water from the proposed garage and extension will be taken to a new soakaway positioned in the rear garden which has permeable soil. The existing house currently has soakaways in the rear garden and there has never been any issues with the dispersion of water during the 13 years we have occupied the property. The site measure around 0.34 acres and there is ample space for additional soakaways at the back/south end of the property. The existing soakaways for the existing garaging on the West side of the property will be assessed and resized accordingly, again positioned at the rear of the property.

Soakaway infiltration test to BRE 365

Soakaway tests were carried out on site during April 2025 in accordance with BRE 365. Two test pits were dug to depths of 1,000mm and 1,200mm and no groundwater was encountered. See attached soakaway test results which demonstrate good ground permeability with soil infiltration rate for the TP1 at 5.3E-5 and 4.3E-5.

Soakaway Design

The size and shape of the soakaway will be designed in accordance with BRE 365 (attached) once existing soakaways have been assessed and deemed if suitable for use.

Conclusion:

The property has sufficient space and suitable ground conditions with good drainage characteristics to accommodate the required soakaways for the additional roof area.

DBP CONSULTING

Soakaway Test

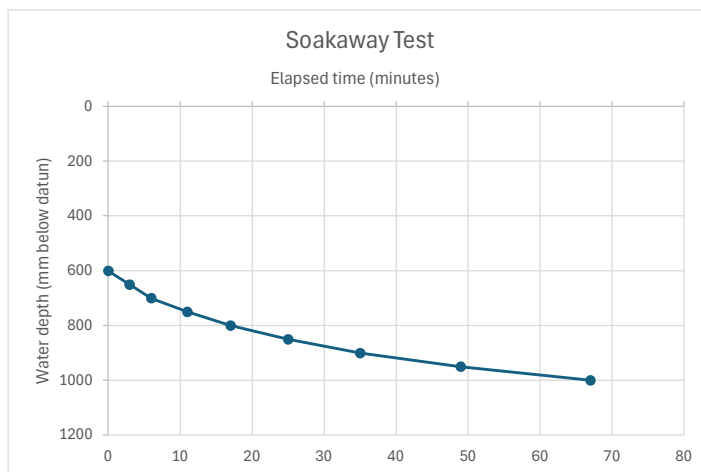
Site: Gessings, Henfield Road, Albourne

Trial Pit No: TP1
Length (mm) 350
Width (mm) 350
Depth (mm) 1000

Test No: 1

Datum Height: 0.0mm agl
Granular infill: None

Elapsed time (minutes)	Water depth (mm below datum)
0	600
3	650
6	700
11	750
17	800
25	850
35	900
49	950
67	1000



Start water depth for analysis (mmbgl)	600mm		
75% effective depth (mmbgl)	700mm	Elapsed time (mins)	6
50% effective depth (mmbgl)	800mm		
25% effective depth (mmbgl)	900mm	Elapsed time (mins)	35
Base of soakage zone (mmbgl)	1,000mm		

Volume outflow between 75% and 25% effective depth (m³) 0.037
Mean surface area of outflow (m²) 0.403
(side area at 50% effective depth + base area)
Time for outflow between 75% and 25% effective depth (mins) 29

Soil infiltration rate (m/s): 5.3E-5

Notes: Results processed following BRE 365 (2007)

DBP CONSULTING

Soakaway Test

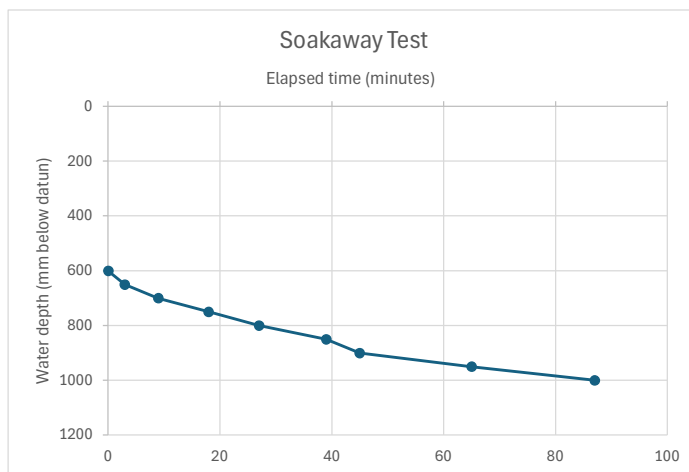
Site: Gessings, Henfield Road, Albourne

Trial Pit No: TP1
Length (mm) 350
Width (mm) 350
Depth (mm) 1000

Test No: 2

Datum Height: 0.0mm agl
Granular infill: None

Elapsed time (minutes)	Water depth (mm below datum)
0	600
3	650
9	700
18	750
27	800
39	850
45	900
65	950
87	1000



Start water depth for analysis (mmbgl)	600mm	
75% effective depth (mmbgl)	700mm	Elapsed time (mins) 9
50% effective depth (mmbgl)	800mm	
25% effective depth (mmbgl)	900mm	Elapsed time (mins) 45
Base of soakage zone (mmbgl)	1,000mm	

Volume outflow between 75% and 25% effective depth (m³) 0.037
Mean surface area of outflow (m²) 0.403
(side area at 50% effective depth + base area)
Time for outflow between 75% and 25% effective depth (mins) 36

Soil infiltration rate (m/s): 4.3E-5

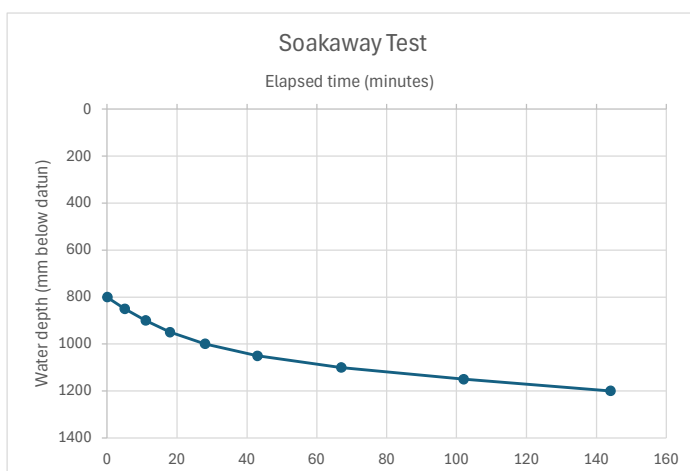
Notes: Results processed following BRE 365 (2007)

DBP CONSULTING

Soakaway Test

Site: Gessings, Henfield Road, Albourne

Trial Pit No:	TP2	Elapsed time (minutes)	Water depth (mm below datum)
Length (mm)	350	0	800
Width (mm)	350	6	850
Depth (mm)	1,200	11	900
		18	950
Test No:	1	28	1,000
		43	1,050
Datum Height:	0.0mm agl	67	1,100
Granular infill:	None	102	1,150
		144	1,200



Start water depth for analysis (mmbgl)	800mm		
75% effective depth (mmbgl)	900mm	Elapsed time (mins)	11
50% effective depth (mmbgl)	1,000mm		
25% effective depth (mmbgl)	1,100mm	Elapsed time (mins)	67
Base of soakage zone (mmbgl)	1,200mm		

Volume outflow between 75% and 25% effective depth (m ³)	0.037
Mean surface area of outflow (m ²)	0.403
(side area at 50% effective depth + base area)	
Time for outflow between 75% and 25% effective depth (mins)	56

Soil infiltration rate (m/s): 2.7E-5

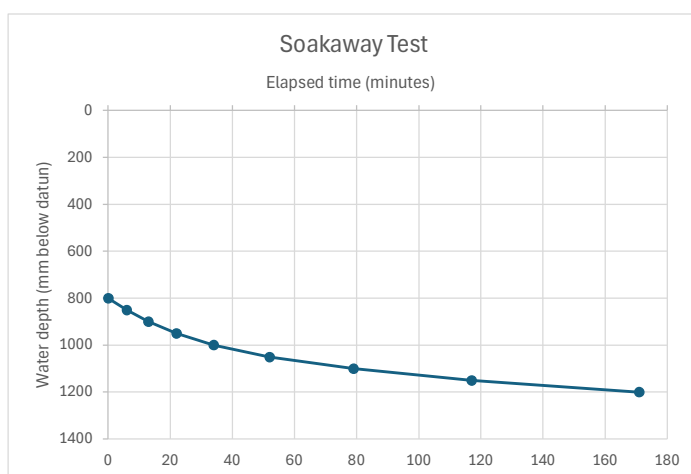
Notes: Results processed following BRE 365 (2007)

DBP CONSULTING

Soakaway Test

Site: Gessings, Henfield Road, Albourne

Trial Pit No:	TP2	Elapsed time (minutes)	Water depth (mm below datum)
Length (mm)	350	0	800
Width (mm)	350	6	850
Depth (mm)	1,200	13	900
		22	950
Test No:	2	34	1,000
		52	1,050
Datum Height:	0.0mm agl	79	1,100
Granular infill:	None	117	1,150
		171	1,200



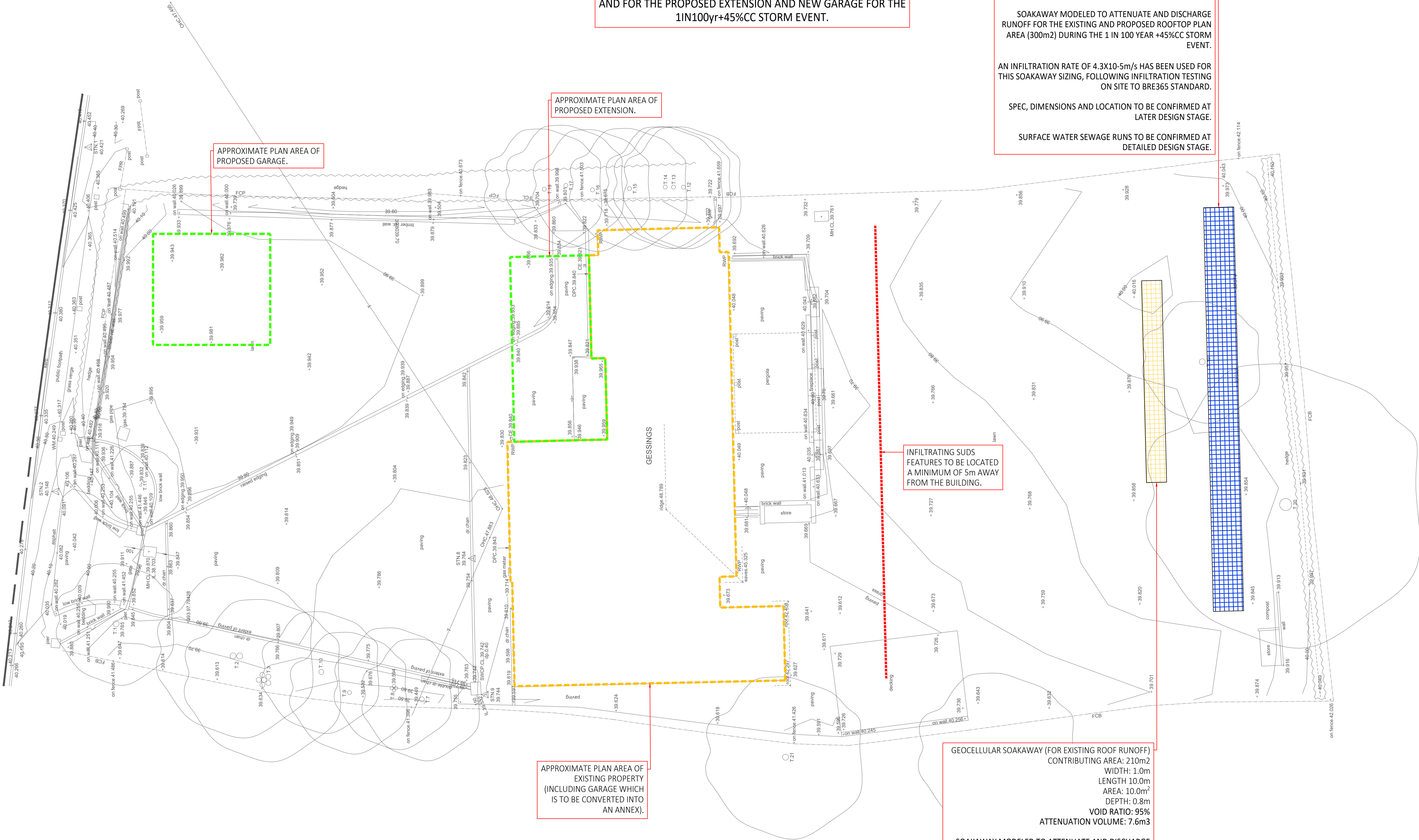
Start water depth for analysis (mmbgl)	800mm		
75% effective depth (mmbgl)	900mm	Elapsed time (mins)	13
50% effective depth (mmbgl)	1,000mm		
25% effective depth (mmbgl)	1,100mm	Elapsed time (mins)	79
Base of soakage zone (mmbgl)	1,200mm		

Volume outflow between 75% and 25% effective depth (m ³)	0.037
Mean surface area of outflow (m ²)	0.403
(side area at 50% effective depth + base area)	
Time for outflow between 75% and 25% effective depth (mins)	66

Soil infiltration rate (m/s): 2.3E-5

Notes: Results processed following BRE 365 (2007)

APPENDIX II Indicative Soakaway Location Plan



DESIGN PHILOSOPHY

PROPOSALS ARE TOP REROUTE EXISTING DRAINAGE FROM THE CULVERT AT THE FRONT OF THE PROPERTY TO A SOAKAWAY AT THE REAR OF THE PROPERTY.

MCEC HAVE PROVIDED INDICATIONS OF A SOAKAWAY REQUIRED FOR THE PROPERTY AS EXISTING FOR THE 1IN30yr STORM EVENT, AND FOR THE PROPOSED EXTENSION AND NEW GARAGE FOR THE 1IN100yr+45%CC STORM EVENT.

GEOCELLULAR SOAKAWAY (FOR PROPOSED ROOF RUNOFF)
CONTRIBUTING AREA: 300m²
WIDTH: 1.5m
LENGTH 20.0m
AREA: 30.0m²
DEPTH: 0.8m
VOID RATIO: 95%
ATTENUATION VOLUME: 22.8m³

SOAKAWAY MODELED TO ATTENUATE AND DISCHARGE RUNOFF FOR THE EXISTING AND PROPOSED ROOFTOP PLAN AREA (300m²) DURING THE 1 IN 100 YEAR +45%CC STORM EVENT.

AN INFILTRATION RATE OF 4.3X10-5m/s HAS BEEN USED FOR THIS SOAKAWAY SIZING, FOLLOWING INFILTRATION TESTING ON SITE TO BRE365 STANDARD.

SPEC, DIMENSIONS AND LOCATION TO BE CONFIRMED AT LATER DESIGN STAGE.

SURFACE WATER SEWAGE RUNS TO BE CONFIRMED AT DETAILED DESIGN STAGE.

INFILTRATING SUDS FEATURES TO BE LOCATED A MINIMUM OF 5m AWAY FROM THE BUILDING.

GEOCELLULAR SOAKAWAY (FOR EXISTING ROOF RUNOFF)
CONTRIBUTING AREA: 210m²
WIDTH: 1.0m
LENGTH 10.0m
AREA: 10.0m²
DEPTH: 0.8m
VOID RATIO: 95%
ATTENUATION VOLUME: 7.6m³

SOAKAWAY MODELED TO ATTENUATE AND DISCHARGE RUNOFF FOR THE EXISTING ROOFTOP PLAN AREA (210m²) DURING THE 1 IN 30 YEAR STORM EVENT.

AN INFILTRATION RATE OF 4.3X10-5m/s HAS BEEN USED FOR THIS SOAKAWAY SIZING, FOLLOWING INFILTRATION TESTING ON SITE TO BRE365 STANDARD.

- GENERAL
 - THIS DRAWING IS NOT TO BE SCALED, WORK TO FIGURED DIMENSIONS ONLY, CONFIRMED ON SITE.
 - THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTURAL DRAWINGS, DETAILED SPECIFICATIONS WHERE APPLICABLE AND ALL ASSOCIATED DRAWINGS IN THIS SERIES.
 - ANY DISCREPANCY ON THIS DRAWING IS TO BE REPORTED IMMEDIATELY TO THE PARTNERSHIP FOR CLARIFICATION.
 - THE CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY WORKS AND FOR THE STABILITY OF THE WORKS IN PROGRESS.
 - CDM REGULATIONS 2015: ALL CURRENT DRAWINGS AND SPECIFICATIONS MUST BE READ IN CONJUNCTION WITH THE DESIGNER'S HAZARD RISK AND ENVIRONMENT ASSESSMENT RECORD. DESIGN HAS BEEN PRODUCED BASED ON INFORMATION PROVIDED BY THE CLIENT/PRINCIPLE DESIGNER AVAILABLE AT TIME OF ISSUE. CONTRACTOR TO REVIEW DRAWING AND SPECIFICATION IN CONTEXT WITH THE WIDER SITE AND SPECIFIC SITE INVESTIGATION, CONTAMINATION ASSESSMENT, ASBESTOS SURVEY, ENVIRONMENTAL SURVEY, UXO SURVEY AND ANY OTHER RELEVANT INFORMATION AND MANAGE RISKS RELATING TO THE WORKS OUTLINED IN THE DRAWINGS AND SPECIFICATION. PRINCIPLE CONTRACTOR TO MAKE DESIGNER AND CLIENT AWARE OF SITE SPECIFIC RISKS THAT MAY AFFECT THE DRAWING AND SPECIFICATION.
 - CDM REGULATIONS 2015: FOR GENERIC MAINTENANCE AND MANAGEMENT RISKS REFER TO CHAPTER 36 OF CIRIA 752 SUDS MANUAL. FOR PROPRIETARY SYSTEMS SEE MANUFACTURER'S MANAGEMENT AND MAINTENANCE DETAILS AND RISK ASSESSMENT WITH REGARDS TO MAINTENANCE OF PROPRIETARY SYSTEMS.
- CONSTRUCTION NOTE
 - THE MAIN CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF ALL TEMPORARY WORKS, AND IS ALSO RESPONSIBLE FOR THE SAFE MAINTENANCE AND STABILITY OF EXISTING BUILDINGS AT ALL TIMES.
 - THE MAIN CONTRACTOR IS RESPONSIBLE FOR ALL OCCURRENCES OF GROUND WATER DURING THE CONSTRUCTION PERIOD.
 - ANY INFORMATION GIVEN REGARDING EXISTING UNDERGROUND SERVICES IS GIVEN IN GOOD FAITH AFTER CONSULTATION WITH THE RELEVANT AUTHORITY, HOWEVER ACCURACY IS NOT CERTAIN. THE MAIN CONTRACTOR IS RESPONSIBLE FOR CHECKING ALL INFORMATION ON SITE PRIOR TO WORK COMMENCING AND TAKING DUE CARE AND ATTENTION WHILST UNDERTAKING THE WORKS.
 - THE CONTRACTOR MUST COMPLY WITH ALL CURRENT LEGISLATION RELATING TO HEALTH & SAFETY.
 - ALL PRODUCTS SPECIFIED SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS AND INSTRUCTIONS. IF THERE ARE DISCREPANCIES BETWEEN THAT INFORMATION AND THE DETAILS ON ANY MERIDIAN DRAWINGS, THE MANUFACTURERS INSTRUCTIONS MUST BE USED.
- BELOW GROUND DRAINAGE
 - UPVC-U PIPES TO BS 4660: 2000 AND PLASTIC INSPECTION CHAMBERS AND FITTINGS TO BS EN 13598-1:2020. CLAY PIPES TO BS EN 295-1:2013. CONCRETE MANHOLE AND INSPECTION CHAMBERS TO BS EN 1917:2002.
 - ALL ADAPTABLE DRAINAGE TO BE CONSTRUCTED IN ACCORDANCE WITH SEWERAGE SECTOR GUIDANCE App C - DESIGN AND CONSTRUCTION GUIDANCE AND THE RELEVANT COUNCIL DESIGN GUIDE.
 - ALL PRIVATE FOUL WATER SEWERS TO BE LAID AT 1 IN 40 AT THE HEAD OF PIPE RUNS AND 1 IN 80 ELSEWHERE UNLESS OTHERWISE STATED.
 - ALL PRIVATE FOUL SEWER PIPES TO BE 100mm DIAMETER FROM SOIL STACKS UNLESS OTHERWISE STATED ON THE DRAWING AND 150mm WHERE SERVING MORE THAN 9 PROPERTIES.
 - ALL PRIVATE SURFACE WATER SEWERS TO BE LAID AT 1 IN 100 UNLESS OTHERWISE STATED ON THE DRAWING.
 - ALL PRIVATE SURFACE WATER SEWER PIPES TO BE 100mm DIAMETER FROM DOWNPIPES AND 150mm DIAMETER ELSEWHERE UNLESS OTHERWISE STATED ON THE DRAWING.
 - ALLOW FOR RODDING ACCESS ABOVE GROUND WHERE RAINWATER DOWNPIPES OR SOIL STACKS DO NOT HAVE A DIRECT CONNECTION TO AN INSPECTION CHAMBER.
 - EXISTING SEWER PIPE TO BE RE-USED TO BE SURVEYED AND LEVELED PRIOR TO COMMENCEMENT OF THE DRAINAGE WORKS AND REFURBISHED IF NECESSARY.
 - CONNECTIONS TO AN ADOPTED SEWER ONLY TO BE MADE FOLLOWING APPROVAL FROM THE RELEVANT ADOPTING AUTHORITY.
 - ALL DRAINS, SEWER PIPES AND MANHOLES TO BE CLEANED AND TESTED FOR WATER TIGHTNESS ON COMPLETION OF CONSTRUCTION.
- MANHOLE COVERS AND FRAMES
 - MANHOLE COVERS TO BE CLASS D400 IN HIGHWAYS, CLASS B125 IN FOOTWAYS AND VERGES, CLASS A15 IN NON-TRAFFICKED AREAS.
 - MANHOLE COVER AND FRAME TO BE BEDDED AND SURROUNDED IN 1:3 MORTAR.

LEGEND

- EXISTING ROOFTOP CATCHMENT
- PROPOSED EXTENSIONS (ADDITIONAL ROOFTOP CATCHMENTS)
- SOAKAWAY SIZING REQUIRED FOR EXISTING ROOFTOP
- PROPOSED SOAKAWAY SIZING
- 5m DISTANCE FROM PROPERTY

P1	-	IW	07/25
REV:	DESCRIPTION:	BY:	DATE:
STATUS:	Preliminary		
MERIDIAN			
CIVIL ENGINEERING CONSULTANCY			
CLIENT:	Graham Gould		
SITE:	Gessings, Henfield Road, Hassocks, West Sussex, BN6 9DD		
TITLE:	Indicative Soakaway Location Plan		
SCALE AT A1:	DATE:	DRAWN:	CHECKED:
1:100	05/03/26	IW	BB
PROJECT NO:	DRAWING NO:	REVISION:	
MC0664	CIV01	P2	

APPENDIX III Calculations

Design Settings

Rainfall Methodology	FEH-22	Maximum Time of Concentration (mins)	30.00	Preferred Cover Depth (m)	1.200
Return Period (years)	30	Maximum Rainfall (mm/hr)	50.0	Include Intermediate Ground	✓
Additional Flow (%)	0	Minimum Velocity (m/s)	1.00	Enforce best practice design rules	✓
CV	1.000	Connection Type	Level Soffits		
Time of Entry (mins)	4.00	Minimum Backdrop Height (m)	0.200		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Node Type	Manhole Type	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
✓ 1	0.021	4.00	39.500	Manhole	Adoptable	1200	-6.318	65.490	0.800
✓ Soakaway			39.500	Junction			54.794	65.896	0.950

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.000	20.000	133.3	150	SW_Standard	39.500	38.700	0.650	39.500	38.550	0.800
				Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Node Type
				1.000	1	1200	Manhole	Adoptable	Soakaway	Junction

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	MH Type	Connections	Link	IL (m)	Dia (mm)	Link Type
1	-6.318	65.490	39.500	0.800	1200	Manhole	Adoptable					
								0	1.000	38.700	150	SW_Standard

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	MH Type	Connections	Link	IL (m)	Dia (mm)	Link Type
Soakaway	54.794	65.896	39.500	0.950		Junction		1 1 —→	1.000	38.550	150	SW_Standard

Simulation Settings

Rainfall Methodology	FEH-22	Winter CV	1.000	Drain Down Time (mins)	1440	Check Discharge Rate(s)	x
Rainfall Events	Singular	Analysis Speed	Normal	Additional Storage (m³/ha)	0.0	Check Discharge Volume	x
Summer CV	1.000	Skip Steady State	x	Starting Level (m)			

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 %)
30	0	0	0

Node Soakaway Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.15480	Porosity	0.95	Pit Width (m)	1.000	Inf Depth (m)	
Side Inf Coefficient (m/hr)	0.15480	Invert Level (m)	37.900	Pit Length (m)	10.000	Number Required	1
Safety Factor	3.0	Time to half empty (mins)	235	Depth (m)	0.800		

Results for 30 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	1	10	38.794	0.094	10.7	0.1063	0.0000	OK
240 minute summer	Soakaway	188	38.644	0.094	2.8	7.0656	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
15 minute summer	1	1.000	Soakaway	10.7	0.934	0.697	0.2290
240 minute summer	Soakaway	Infiltration		0.4			

Design Settings

Rainfall Methodology	FEH-22	Maximum Time of Concentration (mins)	30.00	Preferred Cover Depth (m)	1.200
Return Period (years)	100	Maximum Rainfall (mm/hr)	50.0	Include Intermediate Ground	✓
Additional Flow (%)	0	Minimum Velocity (m/s)	1.00	Enforce best practice design rules	✓
CV	1.000	Connection Type	Level Soffits		
Time of Entry (mins)	4.00	Minimum Backdrop Height (m)	0.200		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Node Type	Manhole Type	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
✓ 1	0.030	4.00	39.500	Manhole	Adoptable	1200	-6.318	65.490	0.800
✓ Soakaway			39.500	Junction			54.794	65.896	0.950

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.000	20.000	133.3	150	SW_Standard	39.500	38.700	0.650	39.500	38.550	0.800
	Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Node Type			
	1.000	1	1200	Manhole	Adoptable	Soakaway	Junction			

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	MH Type	Connections	Link	IL (m)	Dia (mm)	Link Type
1	-6.318	65.490	39.500	0.800	1200	Manhole	Adoptable					
								0	1.000	38.700	150	SW_Standard

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	MH Type	Connections	Link	IL (m)	Dia (mm)	Link Type
Soakaway	54.794	65.896	39.500	0.950		Junction		1 1 —→	1.000	38.550	150	SW_Standard

Simulation Settings

Rainfall Methodology	FEH-22	Winter CV	1.000	Drain Down Time (mins)	1440	Check Discharge Rate(s)	x
Rainfall Events	Singular	Analysis Speed	Normal	Additional Storage (m³/ha)	0.0	Check Discharge Volume	x
Summer CV	1.000	Skip Steady State	x	Starting Level (m)			

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 %)	Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
30	0	0	0	100	45	0	0

Node Soakaway Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.15480	Porosity	0.95	Pit Width (m)	1.500	Inf Depth (m)	
Side Inf Coefficient (m/hr)	0.15480	Invert Level (m)	37.900	Pit Length (m)	20.000	Number Required	1
Safety Factor	3.0	Time to half empty (mins)	281	Depth (m)	0.800		

Results for 30 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	1	10	38.826	0.126	15.3	0.1422	0.0000	OK
180 minute summer	Soakaway	144	38.229	-0.321	4.9	9.3869	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
15 minute summer	1	1.000	Soakaway	15.2	1.008	0.992	0.3018
180 minute summer	Soakaway	Infiltration		0.6			

Results for 100 year +45% CC 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	1	10	39.198	0.498	28.0	0.5638	0.0000	SURCHARGED
240 minute winter	Soakaway	208	38.563	0.013	4.8	18.9018	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
15 minute summer	1	1.000	Soakaway	27.1	1.538	1.765	0.3478
240 minute winter	Soakaway	Infiltration		0.8			