

Hamish Evans
Planning Department
Mid Sussex District Council
Oaklands, Oaklands Road
Haywards Heath
West Sussex
RH16 1SS

Date 25/09/2026

Our Ref: MC0789 LB RH17 SW FW DOC

Dear Hamish,

RE: DM/26/1224 – Gilridge, Brighton Road, Handcross, West Sussex, RH17 6BZ

Further to our letter dated 22/06/2026 and my recent email, I am writing on behalf of the applicant regarding the recommendations that Conditions 5, 7 and 8 are not discharged.

Drainage Condition (5)

In respect of Condition 5, it is understood that this primarily relates to the infiltration testing undertaken by CSSI not being fully compliant with BRE365, and the subsequent rates being extrapolated. Please find enclosed the latest revision of our drainage strategy (MC0789 LB RH17 SW FW DOC – P2), drainage layout (CIV01 – P2) and construction details (CIV02 – P2). Our response in respect of the Highways Conditions (7 and 8) is set out in the section below.

As per the comments, the testing undertaken is not fully compliant for two main reasons – the tests were not completed three times in each pit (only two full tests were undertaken), and not all of the tests reached the 25% water level. In addition, the deeper pit (TP01, dug to 1.2m) showed signs of collapse during the first test, which raised the base of the pit by approximately 200mm, giving an effective depth of 1.0m. TP02 was dug to 0.5m.

The rates on site are relatively slow, meaning each test took between 4.5 and 5.5 hours to monitor. The site investigation team were on site for 12+ hours and seeing the third tests through would likely have taken another 4-5 hours. When rates are steady like this it is not always practical to stay for the duration of all three tests, and in these scenarios the data can be extrapolated to show there is a clear trend within the previous tests. In our experience this is generally accepted, as it is not realistic to expect testers to remain on site for 16+ hours.

A summary of CSSI's raw data is provided in the table below (TP01 based on the 1.0m effective depth):

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Pit	Test	Time monitored	Final level (m bgl)	25% level (m bgl)	Outcome
TP01	1	270 min	0.82	0.85	30mm short
TP01	2	330 min	0.75	0.85	100mm short
TP01	3	50 min	0.51	0.85	Stopped (time)
TP02	1	240 min	0.43	0.425	Reached
TP02	2	330 min	0.41	0.425	15mm short
TP02	3	50 min	0.23	0.425	Stopped (time)

As shown above, the shortfalls are fairly small (15mm in TP02, and 30mm and 100mm in TP01) and in all cases the water level fell consistently and almost linearly. Looking at the TP01 interpretation graph, the last 4-5 readings are consistent in drop, and the early readings of the third tests in both pits are in keeping with the previous tests. As such, we believe the extrapolated rates to be representative. It should also be noted that TP02 Test 1 was fully compliant, returning a rate of $6.04 \times 10^{-6} \text{ m/s}$.

This is supported by the geology encountered, which was topsoil over a sand/clay mix, underlain by clean sand to the base of both pits – in keeping with the Upper Tunbridge Wells Sand Formation shown on BGS mapping. We have attached the revised interpretation for TP01 using the 1.0m effective depth.

For the purposes of the calculations, we have used the slowest rate from all of the tests ($2.49 \times 10^{-6} \text{ m/s}$, TP01 Test 2). This rate was derived using the original 1.2m depth – re-interpreting TP01 at 1.0m actually increases the rate slightly, as such the design rate utilised is on the conservative side.

Based on this rate, roof runoff from the new dwelling drains via a catchpit to a geocellular soakaway beneath the front driveway (22.5m², 0.4m deep, 8.55m³ of storage), which was relocated in the latest revision following the Highway Authority's concerns regarding the western embankment. This has been sized for the 1 in 100 year + 45% climate change event and half-drains within 24 hours for the 1 in 30 year event (3.84m³ reducing to 1.33m³ after 24 hours). The access road and parking areas are to be permeable and self-draining (providing 32.55m³ and 2 x 2.63m³ of storage respectively). No infiltration (other than self-draining) is proposed within 5m of structures or 2.5m of the site boundary. The existing Gilridge roof is to continue draining as existing. It can be seen the proposed soakaway is sited as close to the test pit depth as practical.

It should be noted that the nearest sewer is foul only and Southern Water no longer accept new storm flows to foul sewers, with no surface water sewer or watercourse nearby. Options to drain surface water are therefore very limited at this location, and infiltration is preferred in the SuDS hierarchy where rates are feasible. We appreciate the tested rates are low, but calculations show the infiltration design is feasible.

Given the geology, the consistent and steady infiltration (albeit relatively slow) and the conservative approach taken in the design, we believe this is an acceptable route forward and hope the above is sufficient to discharge Condition 5.

Highways Conditions (7 and 8)

In respect of Conditions 7 and 8, National Highways recommended that these are not discharged until updated information is received – it is understood that this primarily relates to exceedance flow routes and cross sections.

In regard to Condition 7 (exceedance flow route plan), National Highways stated the following:

“The proposal includes soakaway systems and is located above the A23 carriageway, adjacent to a sloping verge which is within the SRN boundary. In some areas, the ground levels at or near the site boundary (adjacent to the SRN boundary) appear to be lower than the surrounding development site levels. This indicates a potential risk of overland flow leaving the site during exceedance rainfall events or in the event of drainage system failure.

The submission must therefore clearly demonstrate how surface water will be safely managed under such scenarios, including defined exceedance flow routes, to ensure that runoff is retained within the site and does not impact on the SRN.”

In regard to Condition 8 (cross-sections), National Highways stated the following:

“A suitable buffer distance is typically required between soakaway systems and the SRN boundary, often in the order of a minimum of 5m or greater, particularly where the soakaway is proposed adjacent to a sloping verge.

The cross-section drawings should therefore be revised to clearly show the soakaway structure, finished ground levels, verge top level and separation distances from the SRN boundary. The submission should also demonstrate that the proposed soakaway will not adversely affect the stability of the adjacent sloping ground (part of the SRN).

In addition, the cross-sections need to be revised to provide sufficient detail to demonstrate geotechnical risk of the acoustic barrier, including its foundations, is managed in compliance with the Design Manual for Roads and Bridges (DMRB) CD 622. It is in the interest of the safety of the SRN to demonstrate the structural integrity of the acoustic barrier because it would be located adjacent to the SRN boundary at the top of the embankment for the A23.”

Following Condition 7 requirements, exceedance flow arrows and overland flow routes have been included on the updated drainage layout (CIV01 – P2). Pre-development site levels show a low point on the southern boundary and overland flow, in exceedance events, can be directed to this low point, as per the existing situation, away from the highway and acoustic fence constraints. A proposed ACO drain is also to collect exceedance runoff and convey it back into the permeable sub-base. It should be noted the drainage design is to accommodate rainfall from the site for events up to, and including, the 1 in 100 year + 45% climate change event.

In line with Condition 8 requirements, the drainage strategy has been revised so that the soakaway is no longer located in the rear garden of the proposed property, but rather beneath the driveway to the front of it. The existing front property is to drain as existing with betterment provided by a reduction in contributing impermeable catchment. Proposed driveways

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throughout the site are to be permeable and self-draining, and none of this is to be located within 5m of the SRN boundary.

The updated drainage layout (CIV01 – P2) and construction details (CIV02 – P2) demonstrate the measures taken to address the concerns raised. With the soakaway relocated away from the rear garden, there are to be no alterations to existing flow routes at the west of the site, where landscaping is soft and is to continue to be self-draining. Rooftop catchments are to be routed via surface water pipes to the soakaway beneath the driveway, and any external hardstanding is to be self-draining. The soakaway is to have a minimum cover of 0.5m, with the permeable paving above it being 0.5m deep (0.35m sub-base, 150mm allowance for surfacing) and lined (Type C) above the soakaway only, so as not to permit infiltration above it. As such, as no alterations are being made in close proximity, there should be no alteration in regard to the structural integrity of the acoustic barrier.

In light of the above responses and the attached updated drawings and calculations we hope this demonstrates compliance with the conditions and the comments made.

Given the geology, the consistent and steady infiltration (albeit relatively slow) and the conservative approach taken in the design, we believe this is an acceptable route forward and hope the above is sufficient to discharge Condition 5.

Given that the revised proposals remove the aspects of concern raised by National Highways, we believe this to be an acceptable route forward and hope the above is sufficient to discharge Conditions 7 and 8.

We trust the above and attached are suitable for your current purposes and should you (or any sub consultants) have any questions please contact us. If its preferable we would be happy to have a teams call to discuss and talk through the updated design and proposals.

Yours sincerely,

Sam Lee BEng (Hons) PfCO

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SURFACE AND FOUL WATER DRAINAGE STRATEGY

SEPTEMBER 2026

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Client : Lightbox Architecture

Rev	Date	Prepared by	Checked by	Approved by
P1	21/04/26	IW	BB	MN
P2	25/09/26	IW	SL	MN

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Revision P2

Following the previous revision of this report, concerns have been raised by Mid Sussex District Council regarding the proximity of any proposed soakaways in relation to the embankment at the west boundary of the site. As such, alterations have been made to the proposals to relocate the proposed soakaway.

As such, Sections 1.9, 1.10, 1.11, 8.2, 9.3, 9.4, 9.4.1, 9.5, 13.9, 13.10, 13.11, CIV01 (Appendix II) and Hydraulic Calculations (Appendix III) have been altered from the previous revision.

1.0 INTRODUCTION

- 1.1 Meridian Civil Engineering Consultancy LTD (MCEC) has been instructed by Lightbox Architecture to prepare a Surface and Foul Water Drainage Strategy for the development at Gilridge, Brighton Road, Handcross, West Sussex, RH17 6BZ.

- 1.2 This report is produced for the Discharge of Condition 5 (planning ref: DM/25/0193) with Mid Sussex District Council, which is as follows:

The development hereby permitted shall not commence unless and until details of the proposed foul and surface water drainage and means of disposal have been submitted to and approved in writing by the local planning authority. No building shall be occupied until all the approved drainage works have been carried out in accordance with the approved details. The details shall include a timetable for its implementation and a management and maintenance plan for the lifetime of the development which shall include arrangements for adoption by any public authority or statutory undertaker and any other arrangements to secure the operation of the scheme throughout its lifetime. Maintenance and management during the lifetime of the development should be in accordance with the approved details.

Reason: To ensure that the proposal is satisfactorily drained and to accord with the NPPF requirements and Policy DP41 of the Mid Sussex District Plan (2014 - 2031).

- 1.3 It is understood the proposed development is for modification of the existing chalet bungalow, demolition of outbuildings, and erection of a new 3 bed detached bungalow, to include associated parking spaces and a new access driveway.
- 1.4 The Client has conducted infiltration testing to BRE365 onsite. Two tests were conducted at each of the two test pits, dug to 1.2mbgl and 0.5mbgl. For Test Pit 1 (1.2mbgl), the tests did not reach the required 25% total depth due to being stopped prematurely, but displayed a consistent drop in water level. For Test Pit 2 (0.5mbgl), the second test did not reach 25% total depth, but the first did, returning an infiltration rate of 6.04×10^{-6} m/s. The second test for Test Pit 1 returned the slowest infiltration rate of 2.49×10^{-6} m/s, indicating that infiltrating SuDS are feasible for this development.
- 1.5 The topographical survey conducted by 'SeSurveying' indicates that drainage for the existing chalet bungalow is combined, and ultimately discharges to Southern Water Foul Manhole 2601 to the east of the site. Whilst manhole depths and incoming/outcoming pipes have been detailed, it is recommended that the Client conducts a CCTV survey to confirm the nature of existing drainage on site.
- 1.6 The Environment Agency (EA) mapping for Flood Risk, shows the site located within Flood Zone 1 (Low risk of fluvial or tidal flooding). Locations in flood zone 1 have a low probability of flooding. This means that in any year land has a less than 0.1% chance of flooding from rivers or the sea.
- 1.7 In accordance with National SuDS Policy and Local Sustainable Urban Drainage and Flood Risk Policies, developments are required to use SuDS to reduce both the volume and runoff rates to the drainage system. Current local Sustainable drainage guidance is to achieve as close as feasible to greenfield runoff rates for storm runoff from new developments.
- 1.8 The data published on the DEFRA database shows the site located within the Adur and Ouse Management Catchment and for this development, an upper allowance of 45% should be applied to rainfall events as the climate change allowance within this region.
- 1.9 The proposals are to limit runoff from the proposed development via infiltration through the introduction of geocellular soakaways and permeable paving. Runoff from the rooftop catchments of the existing 'Gilridge' residence is to continue to drain into the current combined system as existing. Runoff from the rooftop of the new proposed chalet bungalow is to drain to a soakaway beneath the front driveway. The proposed driveway and external paving are to be of self-draining permeable construction to allow for infiltration.
- 1.10 According to Causeway Flow calculations and site plans, the soakaway is to have an area of 22.5m² with a depth of 0.4m and a porosity of 95%. As such, a minimum attenuation volume of 8.55m³ is provided for the surface water network. This has been designed prevent surface water

flooding during the 1 in 100 year +45% climate change event (1%AEP+CC) and ensure a half-drain time less than 24 hours following the 1 in 30 year event, as per the National Standards for Sustainable Drainage Systems (SuDS) paragraph 3.16.

- 1.11 Proposed permeable paving across the proposed access road is to be 310m² in plan area, have a minimum subbase depth of 0.35m and a porosity of 30%. Of this area, 280.08m² is to be Type A Permeable Paving permitting infiltration, and 29.0m² above the proposed soakaway is to be Type C and tanked. This has been designed prevent surface water flooding during the 1 in 100 year +45% climate change event (1%AEP+CC).
- 1.12 Self-draining Grasscrete is proposed for the parking areas, each of which is to be 25m² in plan area, have a minimum subbase depth of 0.35m and a porosity of 30%. This has been designed prevent surface water flooding during the 1 in 100 year +45% climate change event (1%AEP+CC).
- 1.13 Proposed foul drainage for the new property to the rear of Gilridge is to connect directly to an existing manhole in the rear garden, for discharge beneath the building towards an offsite foul sewer connection. The existing property is to continue to use the existing foul drainage where feasible, with the northern section of the run abandoned due to road reconfiguration and the demolition of the section of property from which its inlets originate at present.
- 1.14 This report has been produced broadly in accordance with the National Planning Policy Framework (NPPF), Ciria SuDS Manual and National Standards for Sustainable Drainage Systems (SuDS).

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
 - Ciria SuDS Manual
 - National Standards for Sustainable Drainage Systems (SuDS)

3.0 SITE LOCATION

- 3.1 The proposed development location is at Gilridge, Brighton Road, Handcross, West Sussex, RH17 6BZ. The site currently consists of a residential dwelling (chalet bungalow) with a driveway, and outbuildings located in the rear garden.

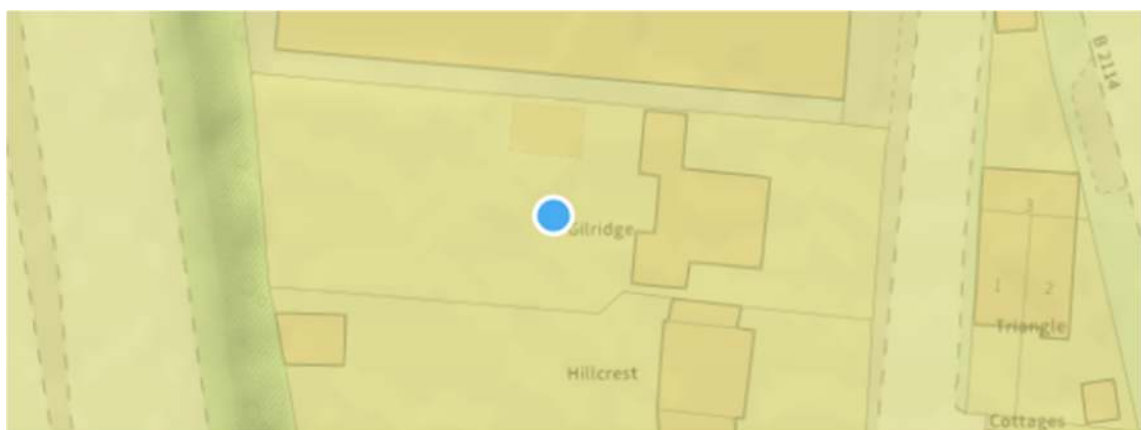


Figure 1 - Site location within red line boundary

- 3.2 It is understood the proposed development is for modification of the existing chalet bungalow, demolition of outbuildings, and erection of a new 3 bed detached bungalow, to include associated parking spaces and a new access driveway. Architectural plans are included in Appendix I.

4.0 GEOLOGY AND INFILTRATION POTENTIAL

- 4.1 The British Geological Survey (BGS) Geology of Britain Viewer indicates that the bedrock underlying the site is of Upper Tunbridge Wells Sand Formation – Sandstone and Mudstone. There are no superficial deposits underlaying the site.



Bedrock geology

Upper Tunbridge Wells Sand-Sandstone and mudstone. These sedimentary rocks are fluvial, palustrine and shallow-marine in origin. They are detrital, forming deposits reflecting the channels, floodplains and deltas of a river in a coastal setting (with periodic inundation from the sea).

Figure 2: BGS Geology map extract

- 4.2 Given the BGS geology viewer shows the site to be underlain by sandstone and mudstone, infiltration may be deemed feasible.
- 4.3 The Client has conducted infiltration testing to BRE365 onsite. Two tests were conducted at each of the two test pits, dug to 1.2mbgl and 0.5mbgl. For Test Pit 1 (1.2mbgl), the tests did not reach the required 25% total depth due to being stopped prematurely, but displayed a consistent drop in water level. For Test Pit 2 (0.5mbgl), the second test did not reach 25% total depth, but the first did, returning an infiltration rate of $6.04 \times 10^{-6} \text{m/s}$. The second test for Test Pit 1 returned the slowest infiltration rate of $2.49 \times 10^{-6} \text{m/s}$, indicating that infiltrating SuDS are feasible for this development.



Figure 3: Marked Test Locations extract

- 4.4 Documentation and interpretation of these results can be found in Appendix III.

5.0 EXISTING SITE DRAINAGE

- 5.1 MCEC have obtained an asset location search from Southern Water which shows that there is an existing public foul run in the road directly east of the site. The asset location search from Southern Water is included in Appendix IV.

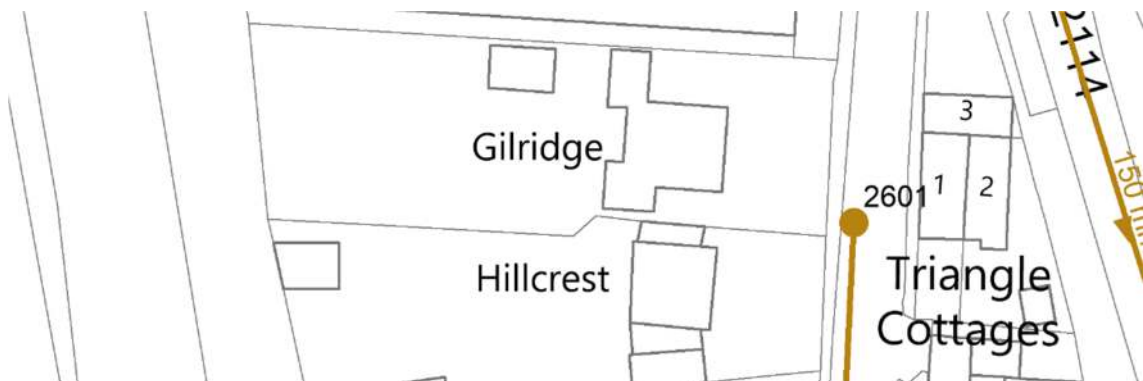


Figure 4: Marked Test Locations extract

- 5.2 The topographical survey conducted by 'SeSurveying' indicates that drainage for the existing chalet bungalow is combined, and ultimately discharges to Southern Water Foul Manhole 2601 to the east of the site. Whilst manhole depths and incoming/outcoming pipes have been detailed, it is recommended that the Client conducts a CCTV survey to confirm the nature of existing drainage on site. The topographical survey is included in Appendix I.

6.0 SOURCES OF FLOODING

6.1 Tidal and Fluvial

The Environment Agency (EA) mapping for Flood Risk, shows the site located within Flood Zone 1 (Low risk of fluvial or tidal flooding). Locations in flood zone 1 have a low probability of flooding. This means that in any year land has a less than 0.1% chance of flooding from rivers or the sea.



Figure 5: Flood map for planning extract

6.2 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

6.3 Surface Water

According to the EA Long Term Flood Risk map, the site is shown to be at a very low risk of surface water flooding, staying at very low risk between 2040 to 2060. Very Low risk means that each year this area has a chance of flooding less than 0.1%.



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

7.0 CLIMATE CHANGE ALLOWANCES

7.1 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 8: Adur and Ouse Management Catchment peak rainfall allowances

7.2 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.

8.0 SUSTAINABLE URBAN DRAINAGE (SUDS) ASSESSMENT

- 8.1 In accordance with the SuDS management train approach, the use of various SuDS measures to reduce and control surface water flows have been considered in detail for the development.
- 8.2 The management of surface water has been considered in respect to the SuDS hierarchy below as detailed in the CIRIA 753 'The SUDS Manual', Section 3.2.3:

SUDS DRAINAGE HIERARCHY				
			Suitability	Comment
	1.	Store rainwater for later use	✓	Rainwater harvesting should be considered by the developer and could be used where feasible across the new proposed rooftops, as well as in the form of water butts.
	2.	Use infiltration techniques, such as porous surfaces in non-clay areas	✓	Due to site geology consisting of sandstone and mudstone, and onsite infiltration testing indicating that infiltration rates are feasible, infiltration has been considered as the primary means of discharging surface water – in the form of permeable paving for the access road and parking, and soakaways for the properties.
	3.	Attenuate rainwater in ponds or open water features for gradual release	x	Insufficient space on site to accommodate open water SuDS features.
	4.	Attenuate rainwater by storing in tanks or sealed water features for gradual release	✓	Type A (infiltrating) and C (no infiltration) permeable paving is proposed to attenuate runoff for the access road catchment. A soakaway is proposed for the new property to manage rooftop runoff only.
	5.	Discharge rainwater direct to a watercourse	x	-
	6.	Discharge rainwater to a surface water sewer/drain	x	-
	7.	Discharge rainwater to Combined Sewer	x	-

Table 1: SuDS Drainage Hierarchy

- 8.3 Following the SuDS drainage hierarchy, it is proposed that surface water be attenuated and discharged through infiltration on site. Outflow is proposed to be negligible as all storm water is proposed to be discharged through infiltration, in accordance with National Standards for Sustainable Drainage Systems (SuDS) policy and the Ciria SuDS Manual C743.
- 8.4 Rainwater harvesting in the form of water butts should be considered by the developer to reduce clean water usage as well as runoff entering underground drainage systems where feasible.

8.5 The suitability of SuDS components has been assessed in order to provide a sustainable means of providing the required attenuation volumes. The following components have been assessed as follows in Table 3, below.

SUITABILITY OF SUDS COMPONENTS		
SuDS Component	Comment	Suitability
Infiltrating SuDS	Due to site geology and infiltration testing to BRE365 indicating feasible rates onsite, discharge of runoff via infiltrating SuDS has been considered as a primary means of discharging surface water at this time.	✓
Permeable Pavement	The proposed access road and parking areas allow the incorporation of permeable pavement which would provide self-drainage and treatment for this area, as well as attenuation. Patios in the rear gardens are to also be permeable and self-draining.	✓
Green / Blue Roofs	Not suitable as existing and proposed rooftops are pitched.	x
Rainwater Harvesting	It is recommended that a rainwater harvesting is considered by the client in order to reduce clean water usage of the site.	x
Swales	Insufficient space to implement such conveyancing SuDS techniques.	x
Rills and Channels	Due to the nature of the proposals, this has been discounted at this time.	x
Bioretention Systems	Due to the nature of the proposals, this has been discounted at this time.	x
Retention Ponds and Wetlands	Unsuitable due to insufficient space to implement.	x
Detention Basins	Unsuitable due to insufficient space to implement.	x
Geocellular Systems	Geocellular systems can be configured to suit almost every site/development. They can be used in this development to provide necessary attenuation storage and discharge via infiltration.	✓
Proprietary Treatment Systems	Roof runoff is considered to be largely uncontaminated. Permeable paving provides sufficient treatment for the access road.	x
Filter Drains and Filter Strips	Could be incorporated in landscaping.	✓

Table 2: Suitability of SuDS Components

8.6 Permeable Pavement

Permeable pavements are efficient in treating oils and metals but also in intercepting debris and silt. The permeable paving to external paved surfaces (i.e. external paved areas) would be Type A as these areas will be used to simply manage rainfall directly to these areas (no infiltration). The paving would be formed by the following layers:

- Permeable Concrete blocks (or similar such as permeable resin bound gravel).
- Laying Course Material.
- Geotextile filter.
- Sub-Base: 6-20mm Clean Crushed Stone (Depth varies depending on needs for attenuation storage).
- Geotextile filter.

8.7 Geocellular storage

- 8.7.1 Geocellular systems can be used to control and manage rainwater surface water runoff either as a soakaway or as a storage tank.
- 8.7.2 The modular/honeycomb nature of geocellular systems means that they can be tailored to suit the specific requirements of any site. The maintenance of Geocellular crates consists of regular inspection of silt traps, manholes, pipework and pre-treatment devices, with removal of sediment and debris as required.
- 8.7.3 Guidance about proper use, installation and maintenance of any proprietary system should be provided by the supplier and incorporated into the site proposals at detailed design stage.

9.0 SURFACE WATER DRAINAGE STRATEGY

- 9.1 In accordance with local LLFA Policy for the Management of Surface Water, developments are required to use SuDS to reduce runoff rates to as close as feasible to pre development greenfield rate.
- 9.2 Due to site geology consisting of sandstone which is permeable, and interpretation of an infiltration rate of 2.49×10^{-6} m/s onsite, this surface water drainage strategy shall employ infiltration as an effective means of surface water discharge.
- 9.3 The proposals are to limit runoff from the proposed development via infiltration through the introduction of geocellular soakaways and permeable paving. Runoff from the rooftop catchments of the existing 'Gilridge' residence is to continue to drain into the current combined system as existing. Runoff from the rooftop of the new proposed chalet bungalow is to drain to a soakaway beneath the front driveway. The proposed driveway and external paving are to be of self-draining permeable construction to allow for infiltration.
- 9.4 According to Causeway Flow calculations and site plans, the soakaway is to have an area of 22.5m² with a depth of 0.4m and a porosity of 95%. As such, a minimum attenuation volume of 8.55m³ is provided for the surface water network. This has been designed prevent surface water flooding during the 1 in 100 year +45% climate change event (1%AEP+CC) and ensure a half-drain time less than 24 hours following the 1in30year event, as per the National Standards for Sustainable Drainage Systems (SuDS) paragraph 3.16.
- 9.4.1 As extracted below, following the critical 600-minute winter for the 1in30year storm event, the soakaway is calculated to hold 3.84m³ of runoff. After a 24-hour period after the critical storm ends (2040 minutes total since the start of the storm), the stored volume of water is calculated to be 1.33m³. As such, the half-drain time for the soakaway is shown to be less than 24 hours for the 1in30 year storm.

Node Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m ³)	Flood (m ³)
600	149.780	0.112		0.0	3.8406	0.0	0.0

Table 4: Causeway Flow – Hydraulic Calculations for the 1in30year storm extract

Time (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m ³)	Flood (l/s)	Outflow (l/s)
2040	149.662	-0.006	0.0	1.3339	0.0	0.0

Table 4.1: Causeway Flow – Hydraulic Calculations for the volume of run off within the soakaway following a 24-hour period after a 1in30year storm extract

- 9.5 Proposed permeable paving across the proposed access road is to be 310m² in plan area, have a minimum subbase depth of 0.35m and a porosity of 30%. Of this area, 280.08m² is to be Type A Permeable Paving permitting infiltration, and 29.0m² above the proposed soakaway is to be

Type C and tanked. This has been designed prevent surface water flooding during the 1 in 100 year +45% climate change event (1%AEP+CC).

- 9.6 Self-draining Grasscrete is proposed for the parking areas, each of which is to be 25m² in plan area, have a minimum subbase depth of 0.35m and a porosity of 30%. This has been designed prevent surface water flooding during the 1 in 100 year +45% climate change event (1%AEP+CC).
- 9.7 The proposed drainage strategy plan layout is included in Appendix II with relevant calculations within Appendix III.

10.0 FOUL WATER DRAINAGE STRATEGY

- 10.1 Proposed foul drainage for the new property to the rear of Gilridge is to connect directly to an existing manhole in the rear garden, for discharge beneath the building towards an offsite foul sewer connection. The existing property is to continue to use the existing foul drainage where feasible, with the northern section of the run abandoned due to road reconfiguration and the demolition of the section of property from which its inlets originate at present.
- 10.2 It is recommended that the Client conducts a CCTV survey of existing foul drainage onsite to confirm its capacity to take additional foul discharge from the new property. However, as this drainage strategy proposes the separation of surface water sewage for the Gilridge property from the existing combined system, it is anticipated that there is ample capacity for additional foul sewage.
- 10.3 The proposed drainage strategy plan layout is included in Appendix II with relevant calculations within Appendix III.

11.0 WATER QUALITY

- 11.1 The primary risk to water quality is from the trafficked areas (i.e. residential parking/access road). The plans included in Appendix II shows permeable pavement is proposed throughout the externals.
- 11.2 Runoff from roof areas is generally seen as uncontaminated, however it is recommended it be treated in order to remove sediment prior to entering the soakaways.
- 11.3 Appropriate proprietary treatment systems to be implemented for trafficked areas without permeable paving such as smart sponges or similar – details to be confirmed at later design stage.
- 11.4 The Pollution Hazard Indices are summarised in Table 5 – Summary of Pollution Hazard Indices for different Land Use below (based on Table 26.2 of The SuDS Manual):

POLLUTION HAZARD INDICES FOR DIFFERENT LAND USE CLASSIFICATIONS				
LAND USE	Pollution Hazard Level	Total Suspended Solids	Metals	Hydrocarbons
Low Traffic Roads	Low	0.5	0.4	0.4

Table 5: Summary of Pollution hazard Indices for different Land Use

- 11.5 When designing suitable treatment trains to deliver adequate treatment prior to discharging to sewers, watercourse or groundwater, consideration of the treatment properties of each SuDS

component specified should be reviewed. With the total mitigation potential of a SuDS treatment train determined by:

$$SuDS_1 + 0.5 * SuDS_2 + 0.5 * SuDS_3 \dots = Total\ SuDS\ Mitigation\ Index$$

11.6 The Mitigation Indices of the proposed SuDS techniques are summarised in Table 6 below.

INDICATIVE SuDS MITIGATION INDICES FOR DISCHARGES TO SURFACE WATER			
SuDS Component	Total Suspended Solids	Metals	Hydrocarbons
Permeable Paving	0.7	0.6	0.7

Table 6: Indicative SuDS Mitigation Indices.

11.7 It can be seen that for private permeable pavement roads, the total SuDS Mitigation Index of permeable paving is greater than the Pollution Hazard Index for the permeable paving. Therefore, the water treatment provided by this SuDS train is enough to remove the potential pollutants.

12.0 SCHEDULE OF MAINTENANCE

12.1 All onsite SuDS and drainage systems will be privately maintained. A long-term maintenance regime should be agreed with the site owners before adoption.

12.2 In addition to a long-term maintenance regime, it is recommended that all drainage elements implemented on site should be inspected following the first rainfall event post-construction and monthly for the first quarter following construction.

12.3 The site operator will be responsible for the management and maintenance of SuDS devices.

12.4 Typical key suds components operation and maintenance activities are provided below.

TYPICAL KEY SUDS COMPONENTS OPERATION AND MAINTENANCE ACITIVIES													
Operation and Maintenance Activity	SuDS Component												
	Pond	Wetlands	Detention Basin	Infiltration Basin	Soakaway	Infiltration Trench	Filter Drain	Modular Storage	Pervious pavement	Swale/Bioretenction	Filter Strip	Green Roofs	Proprietary Treatment
Regular Maintenance													
Inspection		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Litter/debris removal	✓	✓	✓	✓	-	✓	✓	-	✓	✓	✓	x	-
Grass cutting	✓	✓	✓	✓	-	✓	✓	-	-	✓	✓	x	x
Weed/invasive plant control	-	-	-	-	x	-	-	x	-	x	-	✓	x
Shrub management	-	-	-	-	x	x	x	x	-	-	-	x	x
Shoreline vegetation management	✓	✓	-	x	x	x	x	x	x	x	x	x	x
Aquatic vegetation management	✓	✓	-	x	x	x	x	x	x	x	x	x	x
Occasional Maintenance													
Sediment management	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Vegetation replacement	-	-	-	-	x	x	x	x	x	-	-	✓	x
Vacuum sweeping and brushing	x	x	x	x	x	x	x	x	✓	x	x	x	x
Remedial Maintenance													
Structure rehabilitation/repair	-	-	-	-	-	-	-	-	-	-	-	-	x
Infiltration surface reconditioning	x	x	x	-	-	-	-	x	-	-	-	x	x
Key:													
Will be Required			May be Required						Not Normally Required				

Table 7: General Maintenance Requirements (Source: CIRIA SuDS Manual C753)

12.5 General maintenance of key SuDS components are provided below.

PROPOSED SCHEDULE OF MAINTENANCE FOR BELOW GROUND DRAINAGE				
Item	Visual Inspection	Cleanse / De-sludge	CCTV Survey	Comments
Surface Water Drainage System (pipework, chambers etc.)	5 years	10 years	10 years	Cleansing to be carried as necessary
Gullies/Channels	1 year	1 year	N/A	Cleansing to be carried as necessary
Permeable Block Paving	1 year	'Swept' clean of debris every 2 years.	N/A	Refer to block manufacturers guidance for long term maintenance requirements.
Soakaways and Catchpits	1 year		N/A	Cleansing to be carried as necessary

Table 8: Maintenance for Below Ground Drainage (Source: CIRIA SuDS Manual C753)

13.0 CONCLUSION

13.1 Meridian Civil Engineering Consultancy LTD (MCEC) has been instructed by Lightbox Architecture to prepare a Surface and Foul Water Drainage Strategy for the development at Gilridge, Brighton Road, Handcross, West Sussex, RH17 6BZ.

13.2 This report is produced for the Discharge of Condition 5 (planning ref: DM/25/0193) with Mid Sussex District Council, which is as follows:

The development hereby permitted shall not commence unless and until details of the proposed foul and surface water drainage and means of disposal have been submitted to and approved in writing by the local planning authority. No building shall be occupied until all the approved drainage works have been carried out in accordance with the approved details. The details shall include a timetable for its implementation and a management and maintenance plan for the lifetime of the development which shall include arrangements for adoption by any public authority or statutory undertaker and any other arrangements to secure the operation of the scheme throughout its lifetime. Maintenance and management during the lifetime of the development should be in accordance with the approved details.

Reason: To ensure that the proposal is satisfactorily drained and to accord with the NPPF requirements and Policy DP41 of the Mid Sussex District Plan (2014 - 2031).

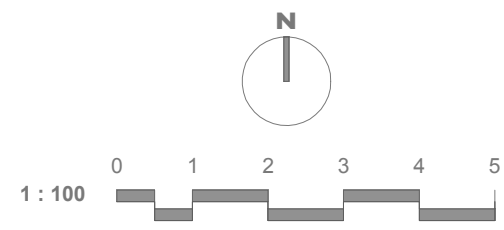
13.3 It is understood the proposed development is for modification of the existing chalet bungalow, demolition of outbuildings, and erection of a new 3 bed detached bungalow, to include associated parking spaces and a new access driveway.

13.4 The Client has conducted infiltration testing to BRE365 onsite. Two tests were conducted at each of the two test pits, dug to 1.2mbgl and 0.5mbgl. For Test Pit 1 (1.2mbgl), the tests did not reach the required 25% total depth due to being stopped prematurely, but displayed a consistent drop in water level. For Test Pit 2 (0.5mbgl), the second test did not reach 25% total depth, but the first did, returning an infiltration rate of 6.04×10^{-6} m/s. The second test for Test Pit 1 returned the slowest infiltration rate of 2.49×10^{-6} m/s, indicating that infiltrating SuDS are feasible for this development.

13.5 The topographical survey conducted by 'SeSurveying' indicates that drainage for the existing chalet bungalow is combined, and ultimately discharges to Southern Water Foul Manhole 2601 to the east of the site. Whilst manhole depths and incoming/outcoming pipes have been detailed,

- it is recommended that the Client conducts a CCTV survey to confirm the nature of existing drainage on site.
- 13.6 The Environment Agency (EA) mapping for Flood Risk, shows the site located within Flood Zone 1 (Low risk of fluvial or tidal flooding). Locations in flood zone 1 have a low probability of flooding. This means that in any year land has a less than 0.1% chance of flooding from rivers or the sea.
- 13.7 In accordance with National SuDS Policy and Local Sustainable Urban Drainage and Flood Risk Policies, developments are required to use SuDS to reduce both the volume and runoff rates to the drainage system. Current local Sustainable drainage guidance is to achieve as close as feasible to greenfield runoff rates for storm runoff from new developments.
- 13.8 The data published on the DEFRA database shows the site located within the Adur and Ouse Management Catchment and for this development, an upper allowance of 45% should be applied to rainfall events as the climate change allowance within this region.
- 13.9 The proposals are to limit runoff from the proposed development via infiltration through the introduction of geocellular soakaways and permeable paving. Runoff from the rooftop catchments of the existing 'Gilridge' residence is to continue to drain into the current combined system as existing. Runoff from the rooftop of the new proposed chalet bungalow is to drain to a soakaway beneath the front driveway. The proposed driveway and external paving are to be of self-draining permeable construction to allow for infiltration.
- 13.10 According to Causeway Flow calculations and site plans, the soakaway is to have an area of 22.5m² with a depth of 0.4m and a porosity of 95%. As such, a minimum attenuation volume of 8.55m³ is provided for the surface water network. This has been designed prevent surface water flooding during the 1 in 100 year +45% climate change event (1%AEP+CC) and ensure a half-drain time less than 24 hours following the 1in30year event, as per the National Standards for Sustainable Drainage Systems (SuDS) paragraph 3.16.
- 13.11 Proposed permeable paving across the proposed access road is to be 310m² in plan area, have a minimum subbase depth of 0.35m and a porosity of 30%. Of this area, 280.08m² is to be Type A Permeable Paving permitting infiltration, and 29.0m² above the proposed soakaway is to be Type C and tanked. This has been designed prevent surface water flooding during the 1 in 100 year +45% climate change event (1%AEP+CC).
- 13.12 Self-draining Grasscrete is proposed for the parking areas, each of which is to be 25m² in plan area, have a minimum subbase depth of 0.35m and a porosity of 30%. This has been designed prevent surface water flooding during the 1 in 100 year +45% climate change event (1%AEP+CC).
- 13.13 Proposed foul drainage for the new property to the rear of Gilridge is to connect directly to an existing manhole in the rear garden, for discharge beneath the building towards an offsite foul sewer connection. The existing property is to continue to use the existing foul drainage where feasible, with the northern section of the run abandoned due to road reconfiguration and the demolition of the section of property from which its inlets originate at present.
- 13.14 This report has been produced broadly in accordance with the National Planning Policy Framework (NPPF), Ciria SuDS Manual and National Standards for Sustainable Drainage Systems (SuDS).

APPENDIX I Architects plans



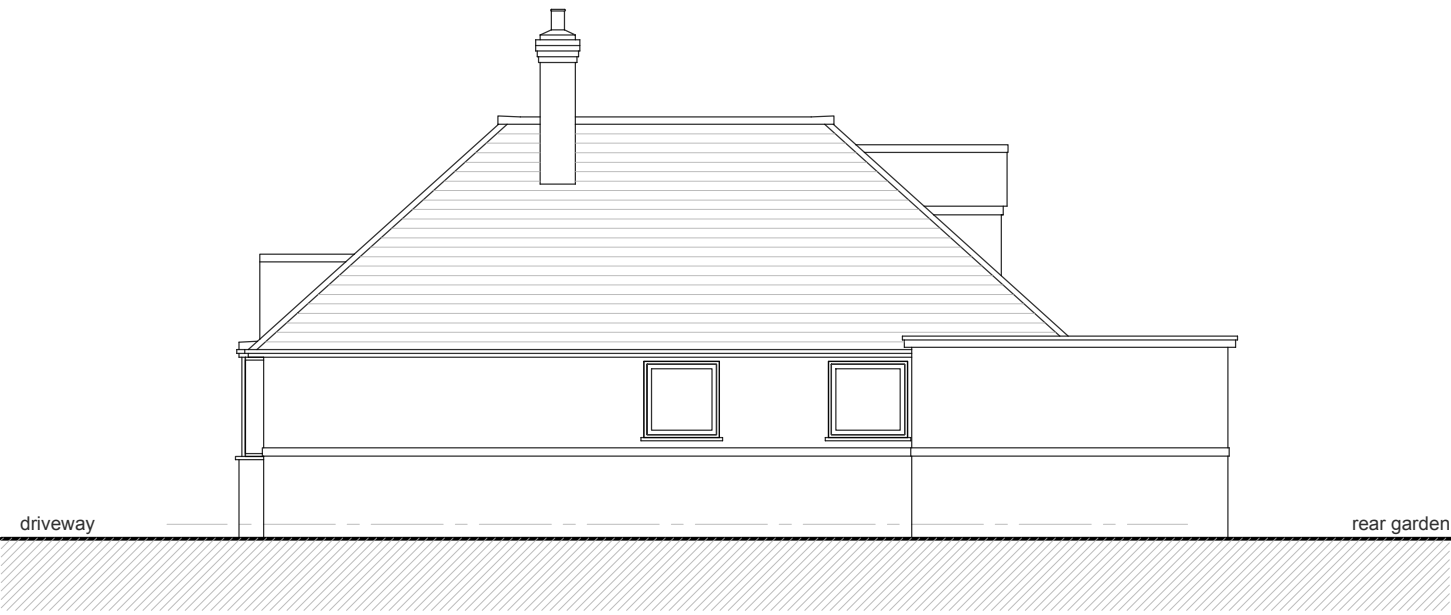
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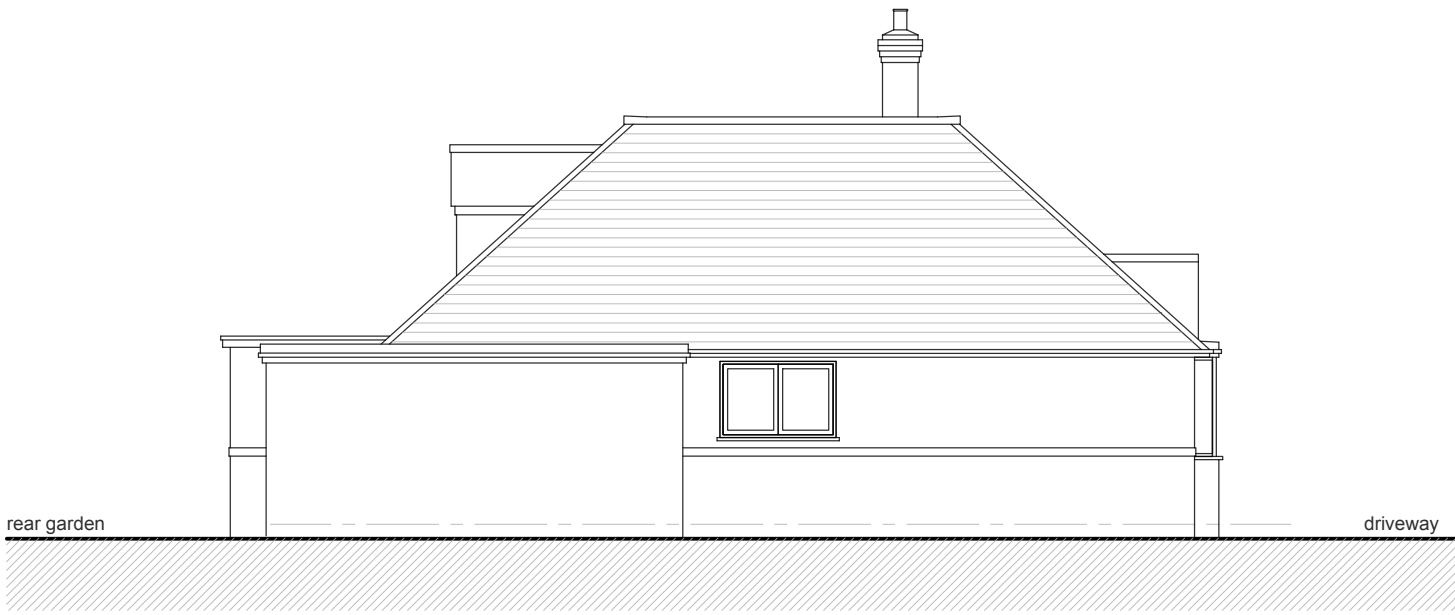
Front Elevation (East)



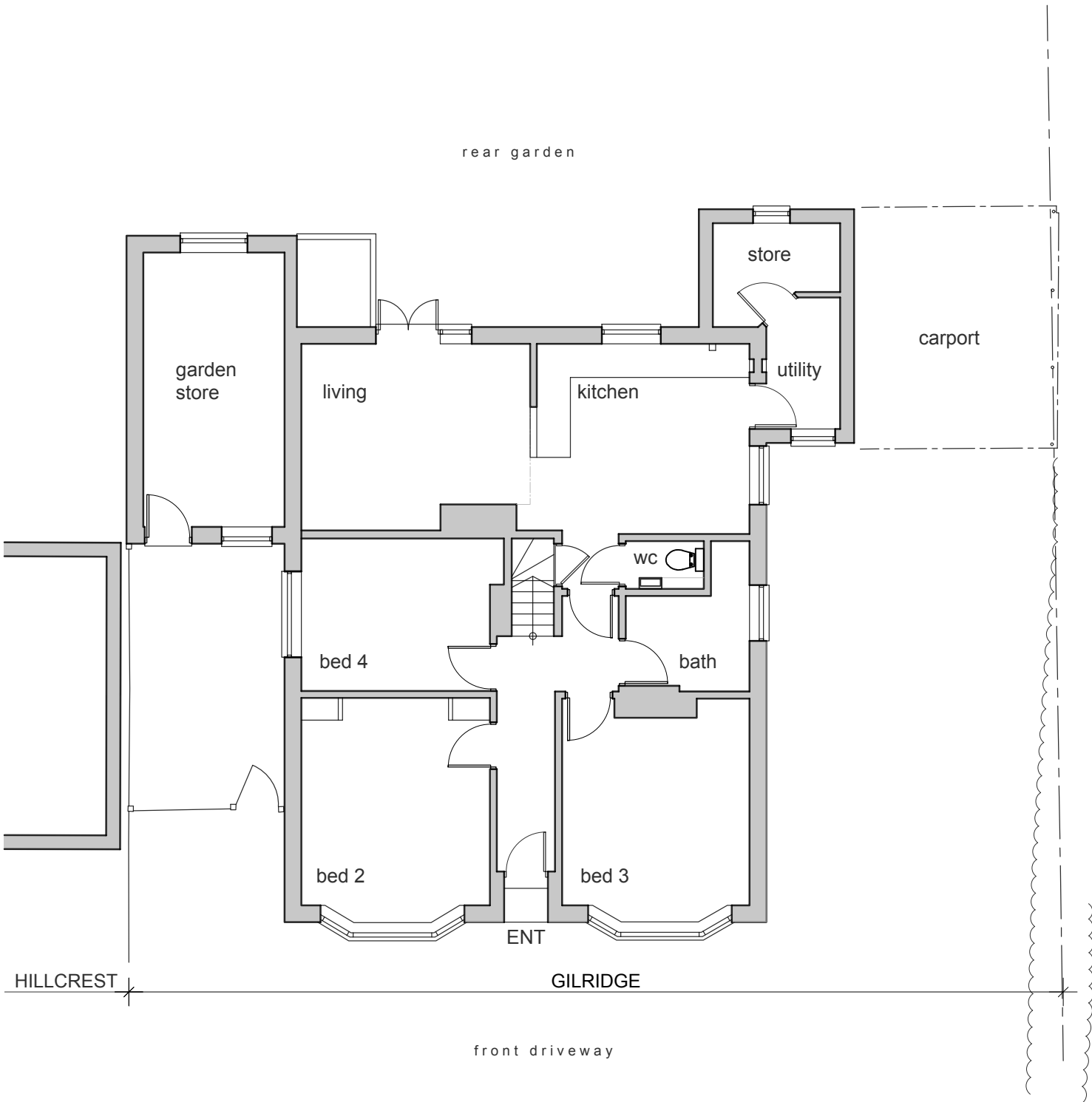
Rear Elevation (West)



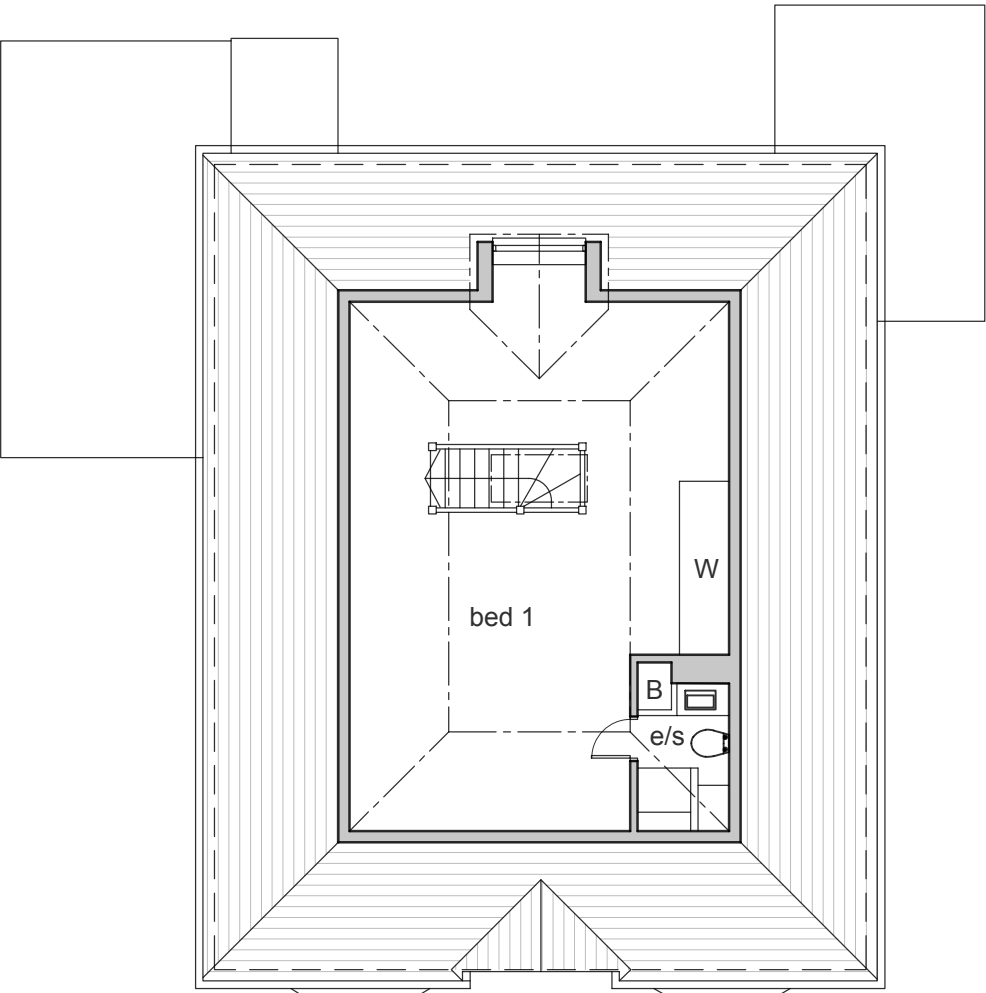
Flank Elevation (North)



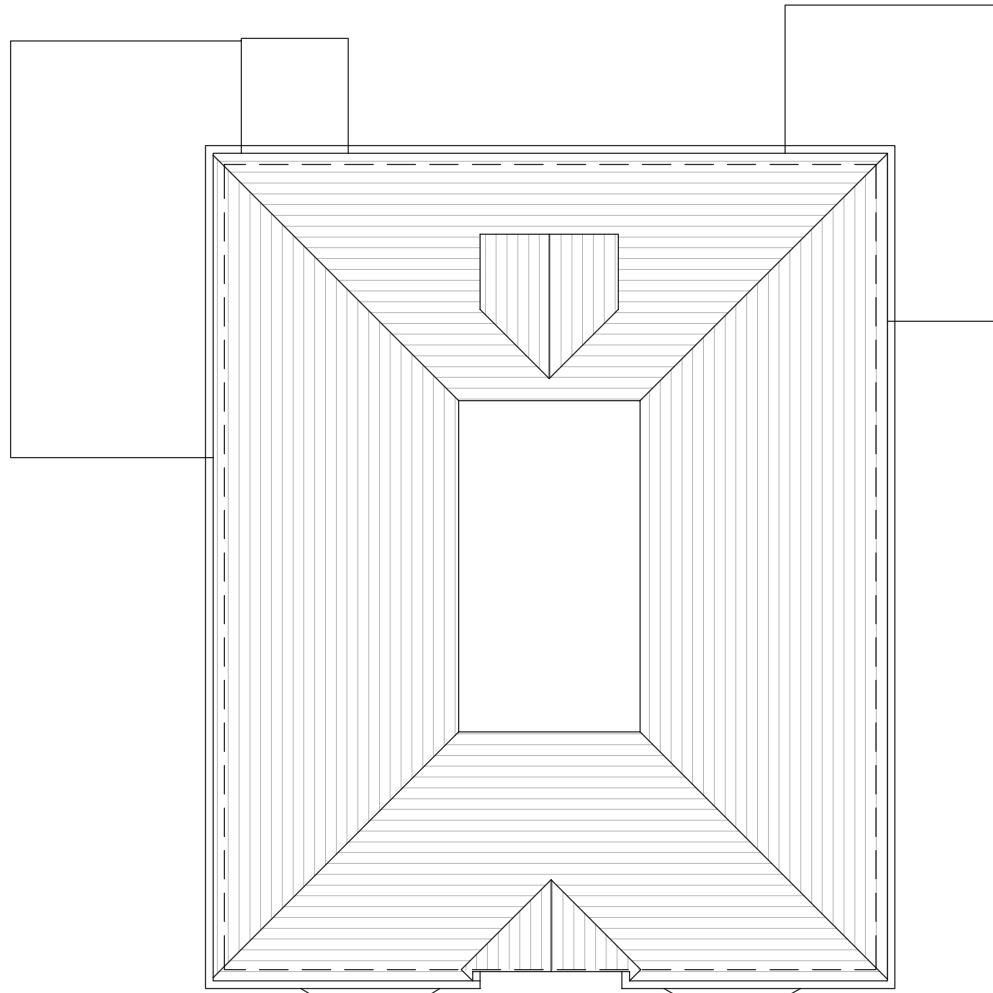
Flank Elevation (South)



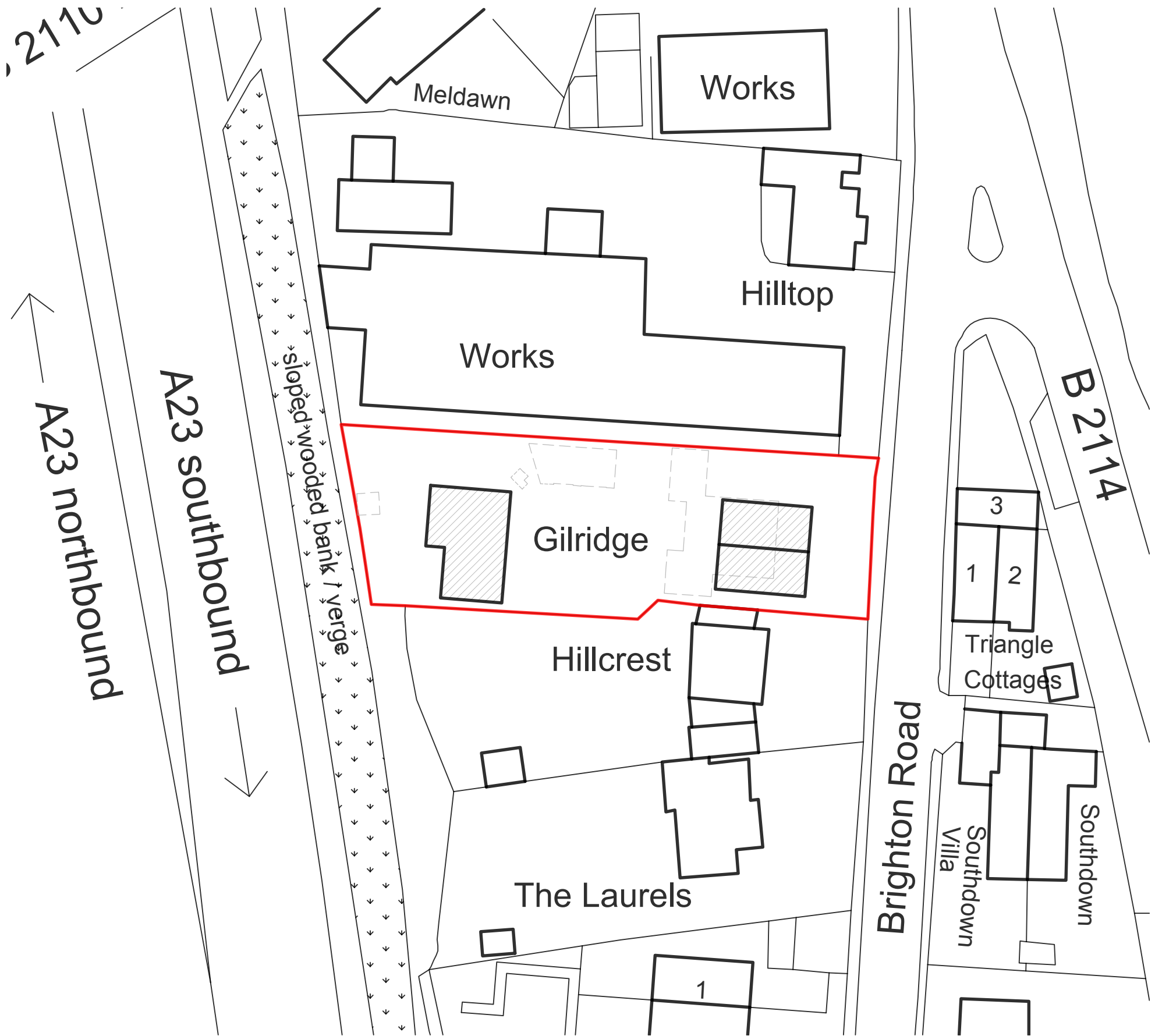
Ground Floor Plan



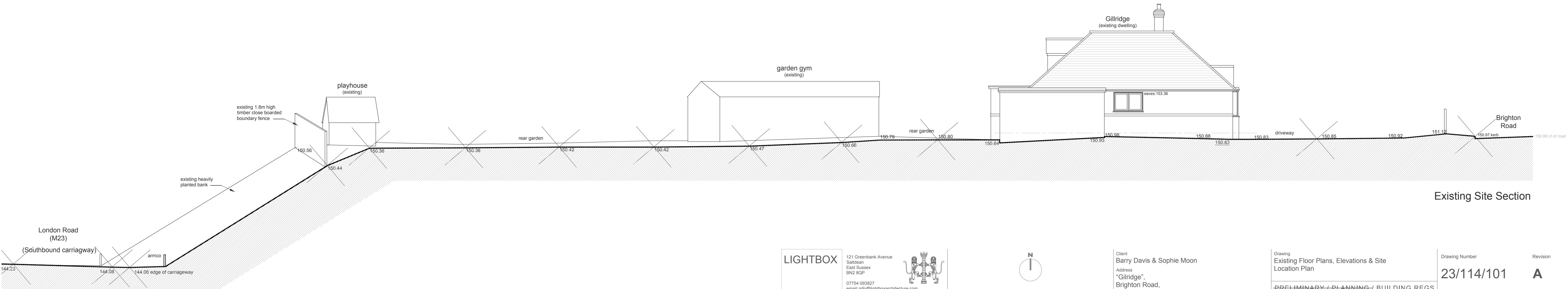
First Floor Plan



Roof Plan



Site Location / Block Plan - 1:500 scale



Existing Site Section

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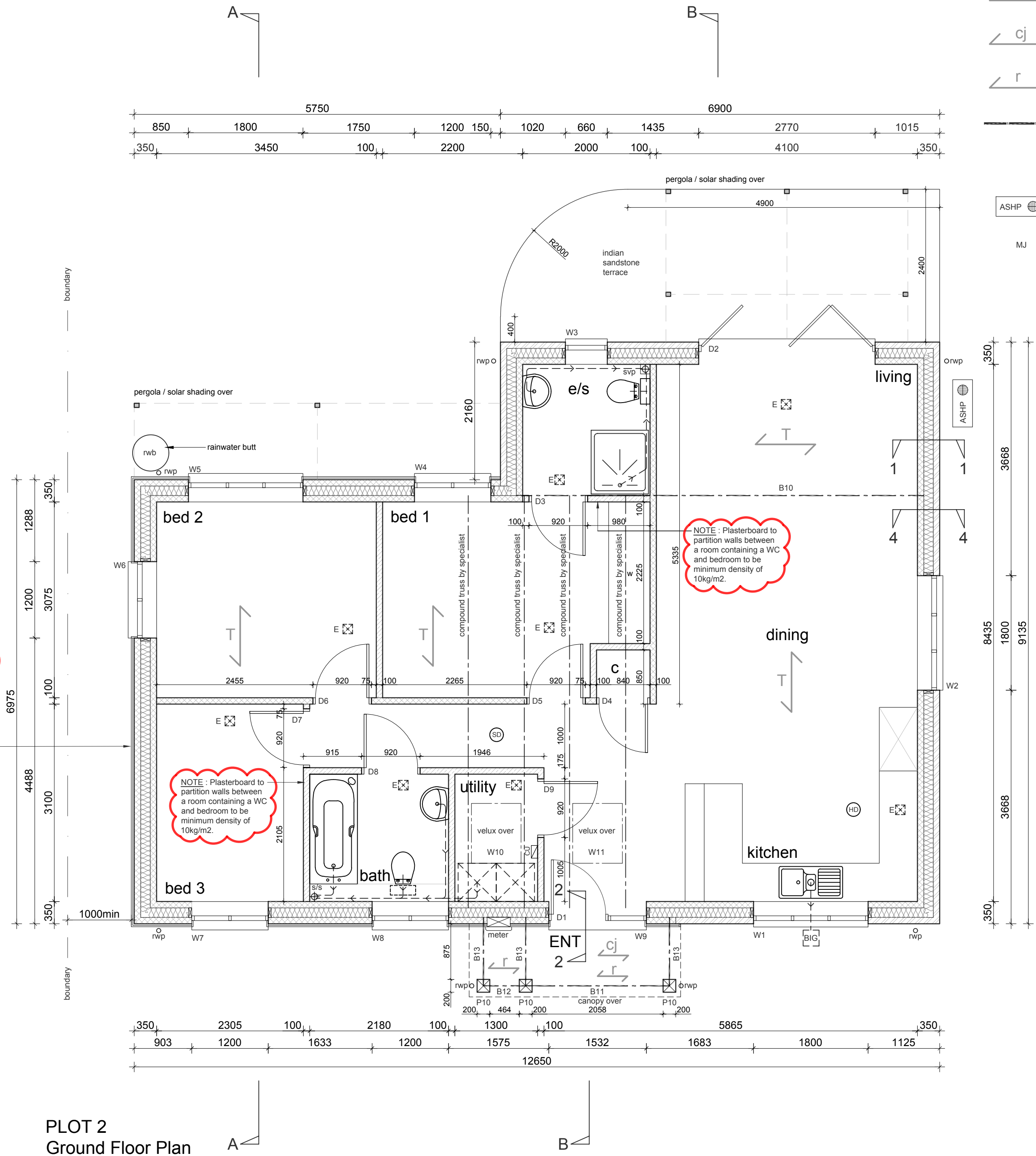
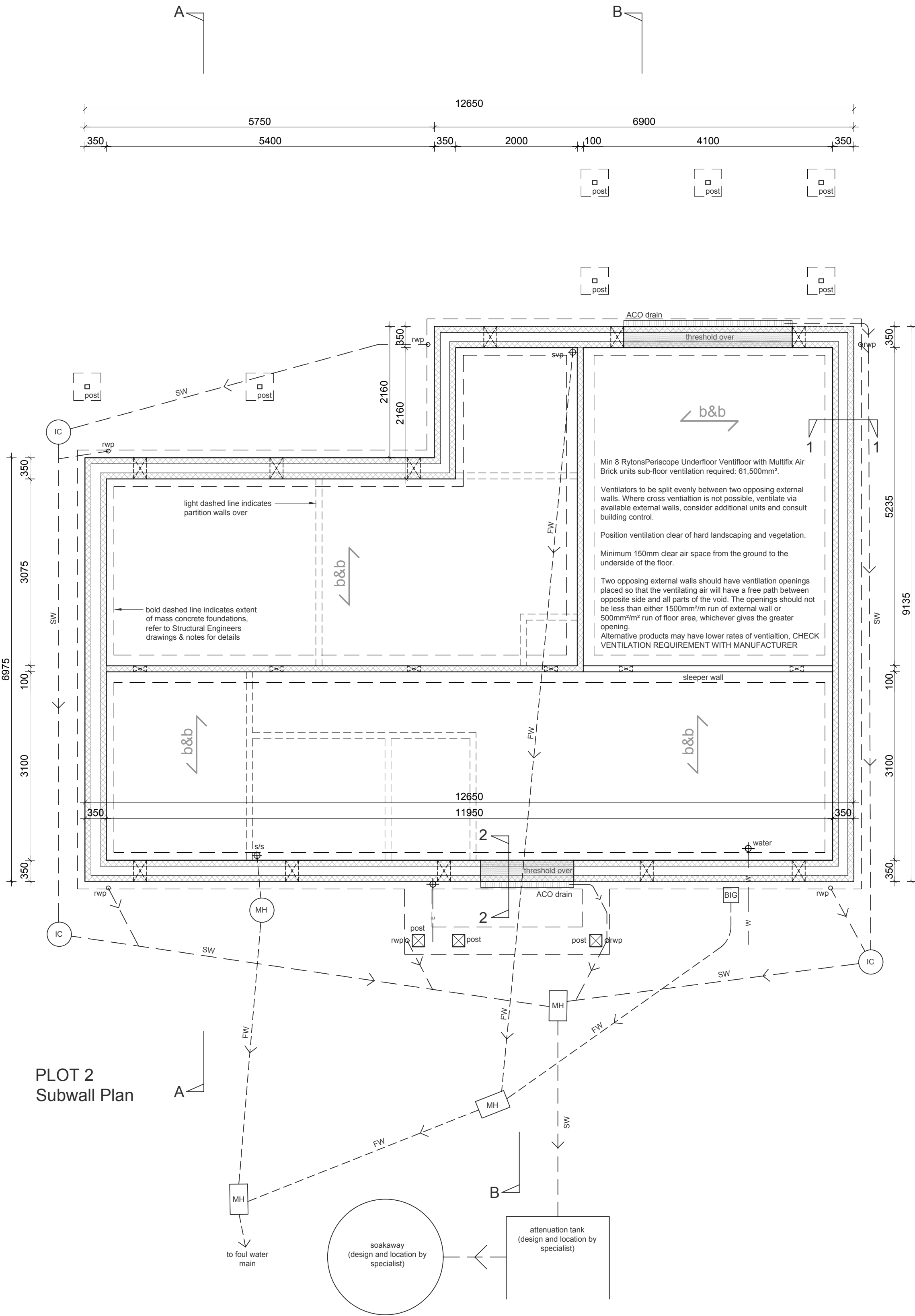
Electrical Installation
Electrical installation to conform with the latest I.E.E. regulations and requirements and electrical layout and to be undertaken by electrician who is part of the Competent Person Scheme. The relevant electrical installation certificate is to be provided to the Local Authority upon completion of the works.
Provide basic lighting outlets or complete luminaires to only take lamps of luminous capacity greater than 40 lumens per circuit - watt. Ensure all external lighting is provided with a photocell device or lamps only having a luminous efficacy greater than 40 lumens per circuit - watt.
A minimum of 75% of the fixed lighting installations to the new elements should be energy efficient fittings of a design such that a traditional lightbulb cannot be installed.

NOTE : Assumptions have been made about existing drainage. Contractor is to examine existing drainage prior to commencement of works to ensure suitability of proposals.

NOTE. CARE SHOULD BE TAKEN WHEN SETTING OUT AND ORDERING FIXED SIZE MATERIALS / COMPONENTS TO ENSURE SUITABILITY. WHERE A DISCREPANCY OCCURS IT SHOULD BE BROUGHT TO THE PROJECT ARCHITECTS ATTENTION. ON SITE ADAPTATIONS MAY BE REQUIRED WHERE DISCREPANCIES OCCUR.

CDM REGULATIONS 2015
The client must abide by the Construction Design and Management Regulations 2015. The client must appoint a contractor, if more than one contractor is to be involved, the client will need to appoint (in writing) a principal designer (to plan, manage and coordinate the planning and design work) and a principal contractor (to plan, manage and coordinate the construction and ensure there are arrangements in place for managing and organising the project).
The Health and Safety Executive is to be notified as soon as possible before construction work starts if the works:
(a) Last longer than 30 working days and has more than 20 workers working simultaneously at any point in the project.
Or:
(b) Exceeds 500 person days.

THESE DRAWINGS MUST BE READ IN CONJUNCTION WITH STRUCTURAL ENGINEER'S DESIGN AND CALCULATIONS - NOTIFY ARCHITECT OF ANY DISCREPANCIES



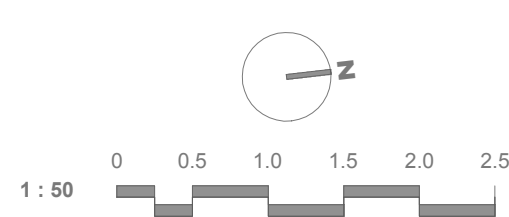
Legend

- Blockwork
- Timber or metal studwork walls (non-loadbearing)
- Separating walls (blockwork spec to be agreed)
- Mechanical Ventilation & Heat Recovery (positions on drawing are indicative only and extract / return grilles must be designed by specialist to suit)
- Smoke Detector - mains powered and interlinked with battery backup.
- Heat Detector - mains powered and interlinked with battery backup.
- Consumer unit, position to be confirmed by Contractor and located **between 1350mm to 1450mm above floor level**.
- Indicates span direction of concrete B&B floor designed by manufacturer
- Clear span timber trusses designed and supplied by specialist
- Ceiling joists as sized by engineer
- Rafters as sized by engineer
- Beams above
NOTE! All voids around the beam ends are to be filled with mortar or flexible sealant where steel beams are built into the leaf of a cavity separating wall - to prevent sound transmission
- Air Source Heat Pump

MJ
Movement joints: Brickwork - 12m, Blockwork - 6m
Movement joint widths for clay bricks to be not less than 1.3mm/m i.e. 12m = 16mm and for other masonry not less than 10mm.

LIGHTBOX
ARCHITECTURE
LIMITED

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East Sussex
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web: www.lightboxarchitecture.com
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Client:
Barry Davis & Sophie Moon
Address:
"Cliridge",
Brighton Road,
Handcross,
RH17 6BZ.

Drawing
PLOT 2
Proposed Floor Plans
PRELIMINARY / PLANNING / BUILDING REGS

Rev	Date	Description	By
C	04/03/26	Drawing updated following BCO feedback	AB

Drawing Number

23/114/200

Revision

C

Scale	Date	By
1:50 @ A1	28.07.2025	AB

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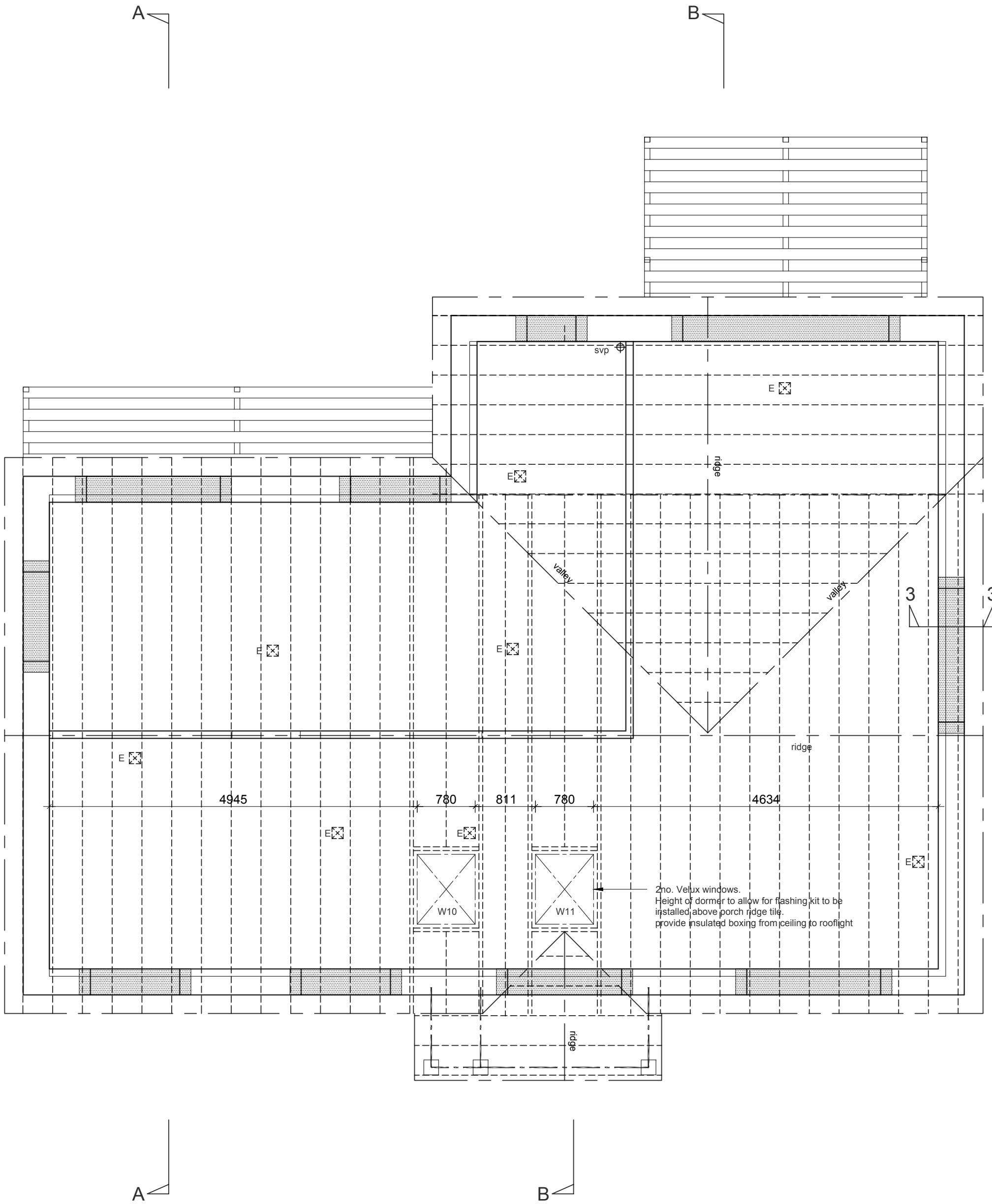
Electrical Installation
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NOTE : Assumptions have been made about existing drainage. Contractor is to examine existing drainage prior to commencement of works to ensure suitability of proposals.

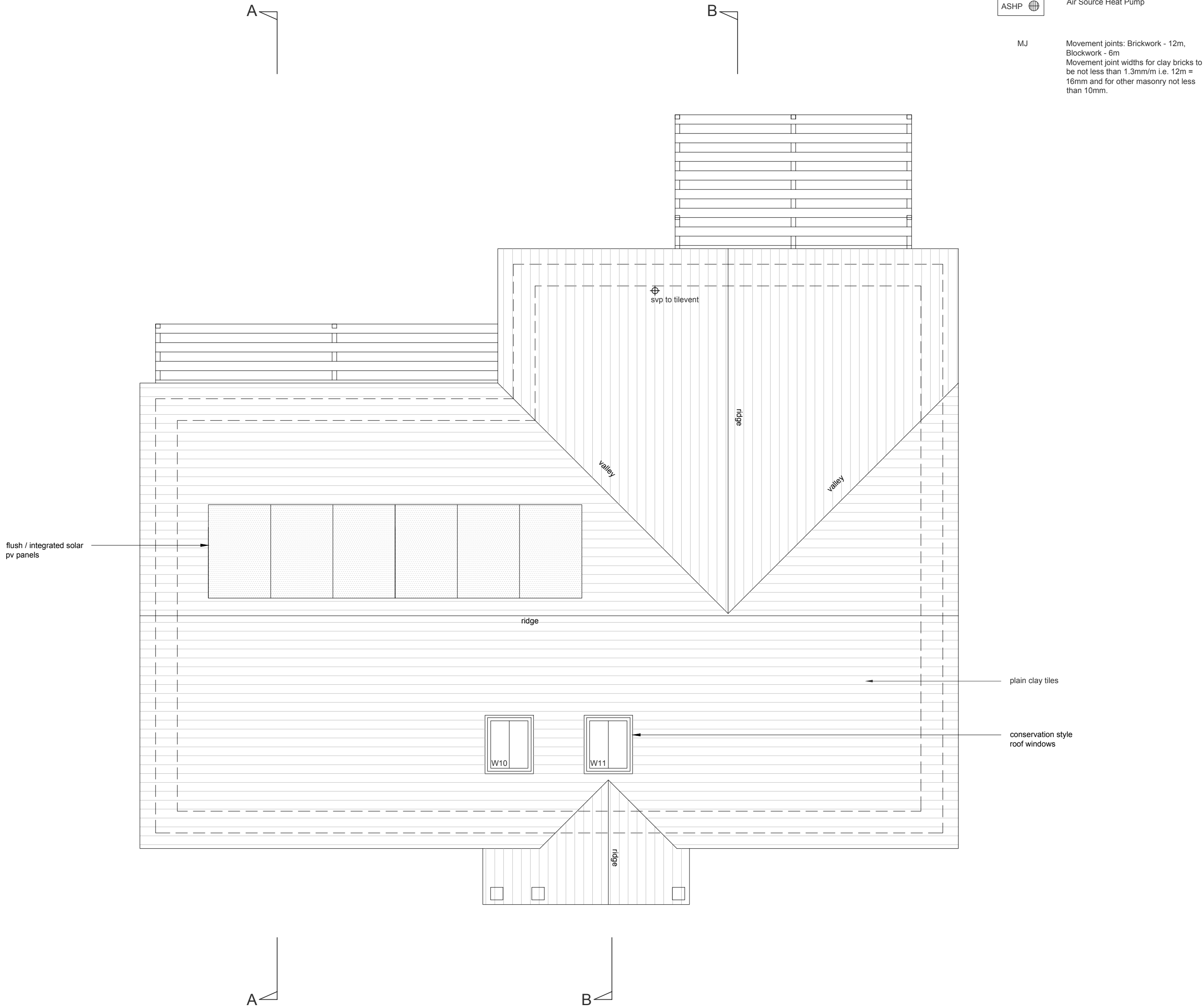
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PLOT 2
Roof Carcass Plan



PLOT 2
Roof Plan

Legend

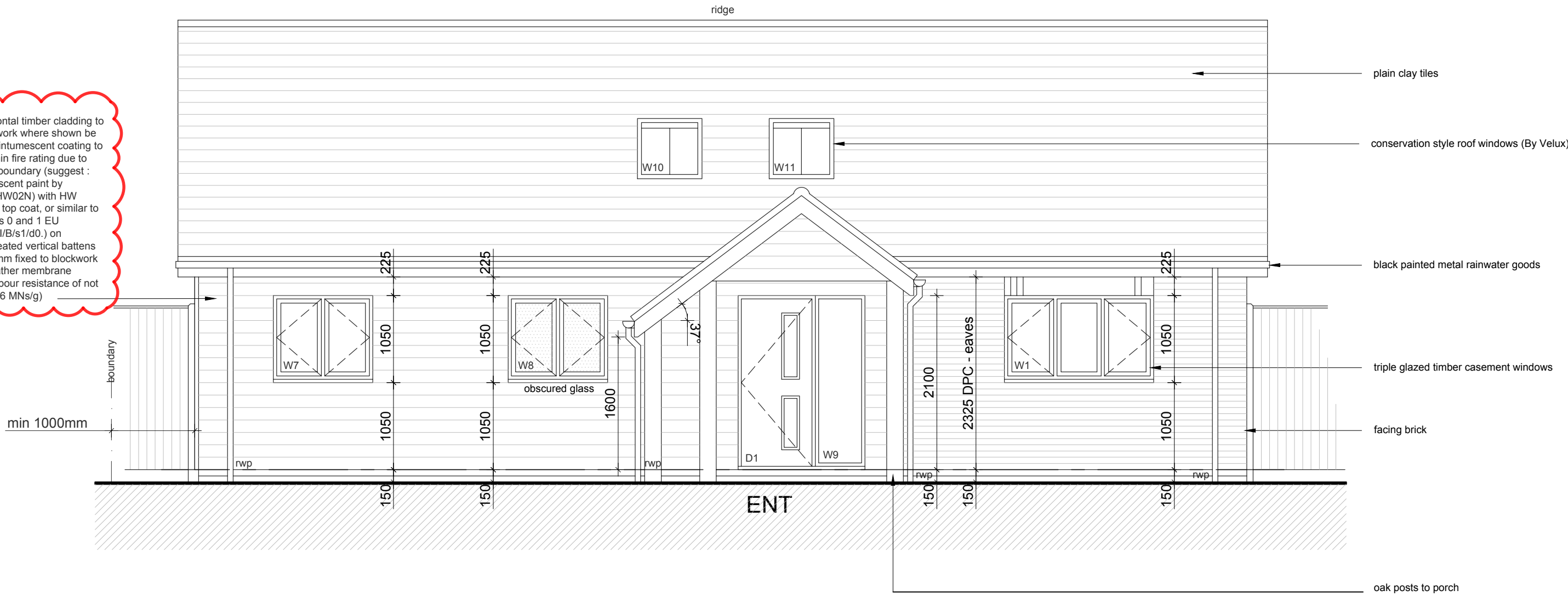
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- Separating walls (blockwork spec to be agreed)
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Beams above
NOTE! All voids around the beam ends are to be filled with mortar or flexible sealant where steel beams are built into the leaf of a cavity separating wall - to prevent sound transmission

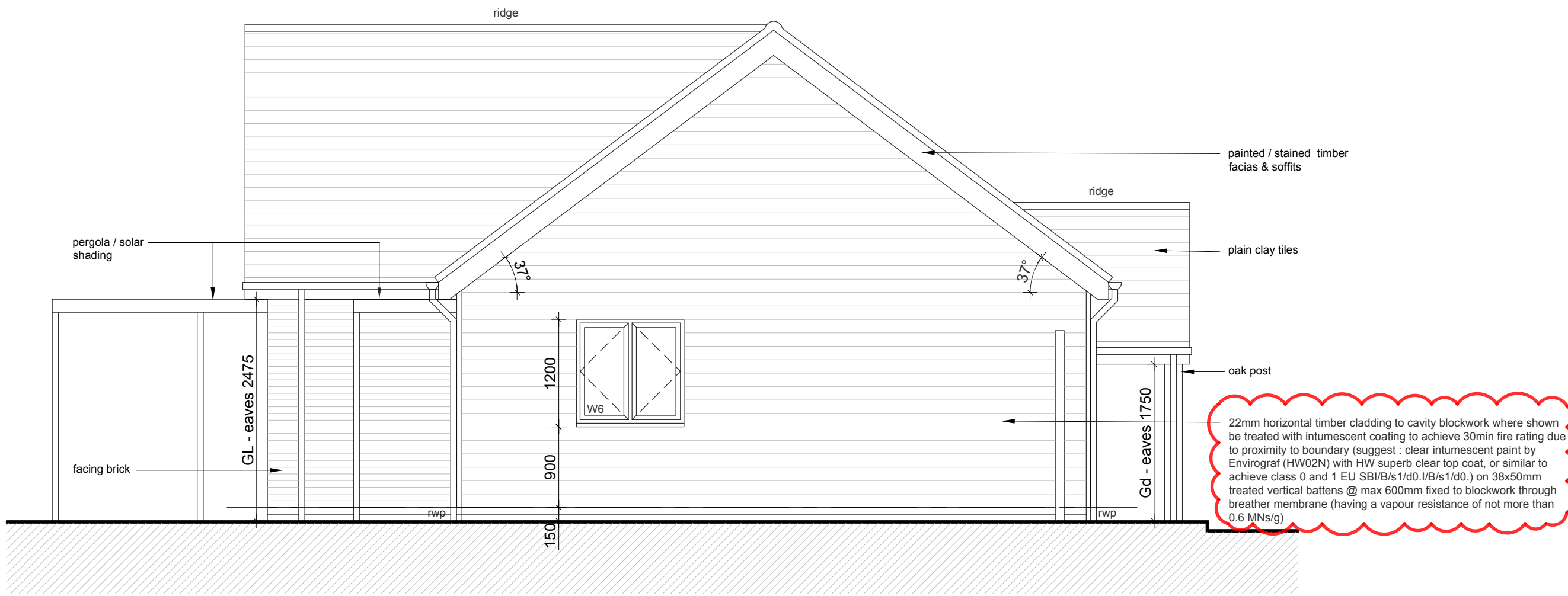
- ASHP Air Source Heat Pump
- MJ Movement joints: Brickwork - 12m, Blockwork - 6m
Movement joint widths for clay bricks to be not less than 1.3mm i.e. 12m = 16mm and for other masonry not less than 10mm.

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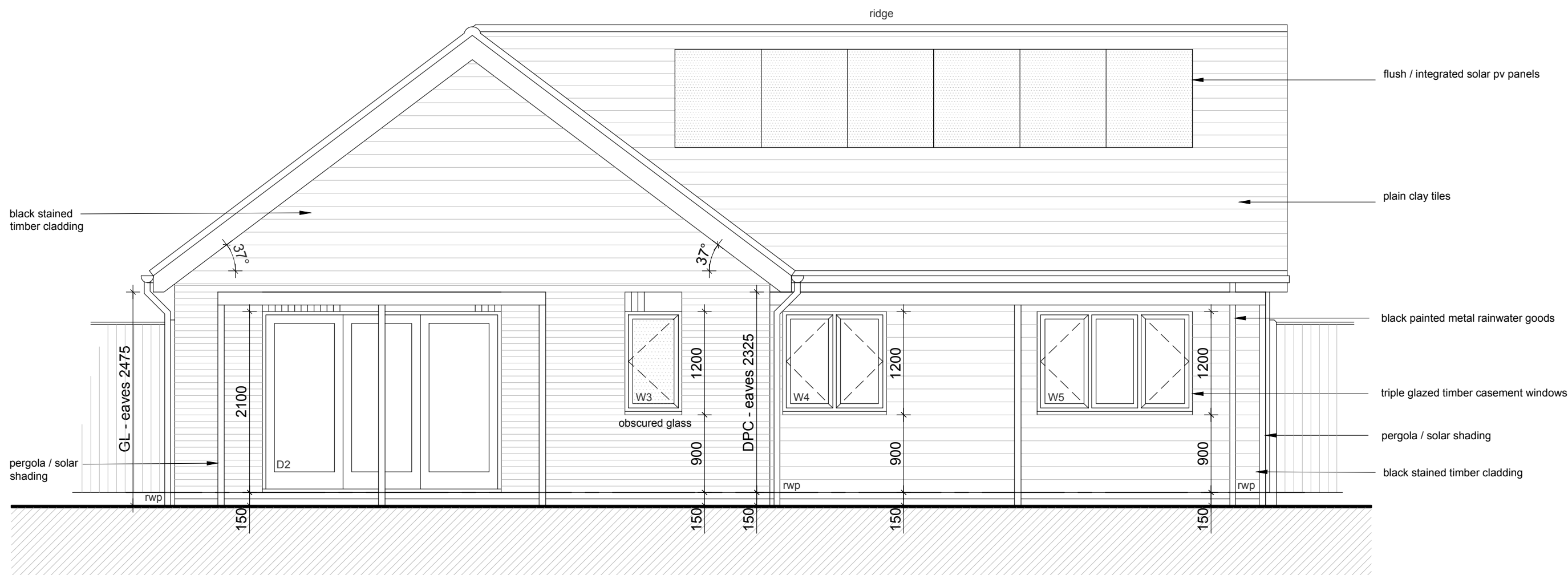
22mm horizontal timber cladding to cavity blockwork where shown be treated with intumescent coating to achieve 30min fire rating due to proximity to boundary (suggest : clear intumescent paint by Envirograf (HWO2N) with HW superb clear top coat, or similar to achieve class 0 and 1 EU SBI/Bs1/d0, I/Bs1/d0.) on 38x50mm treated vertical battens @ max 600mm fixed to blockwork through breather membrane (having a vapour resistance of not more than 0.6 MNs/g)



Front Elevation



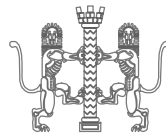
Flank Elevation



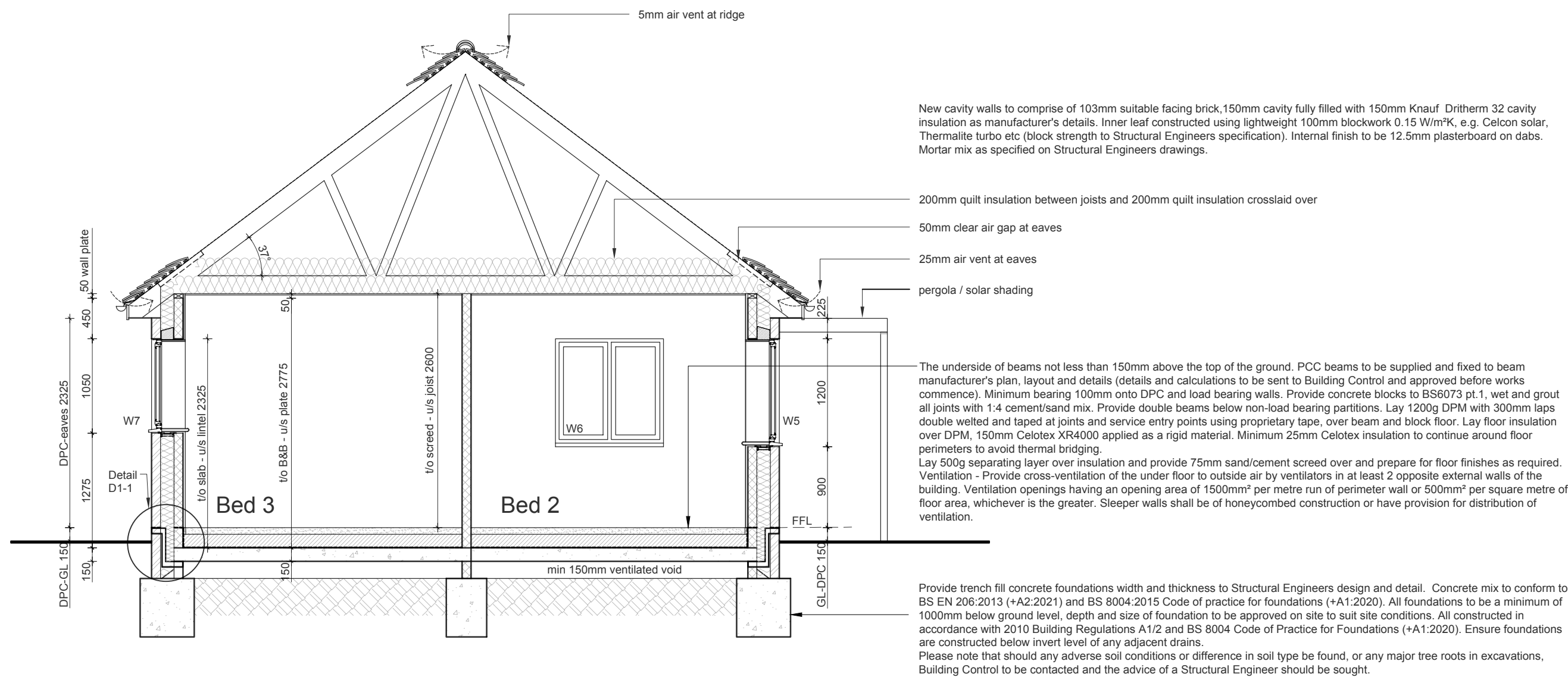
Rear Elevation



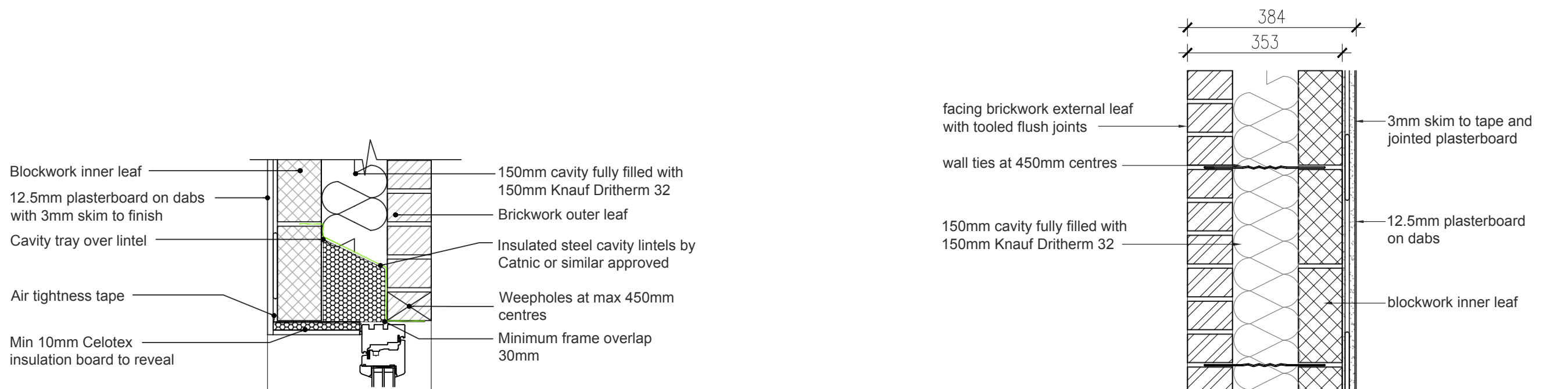
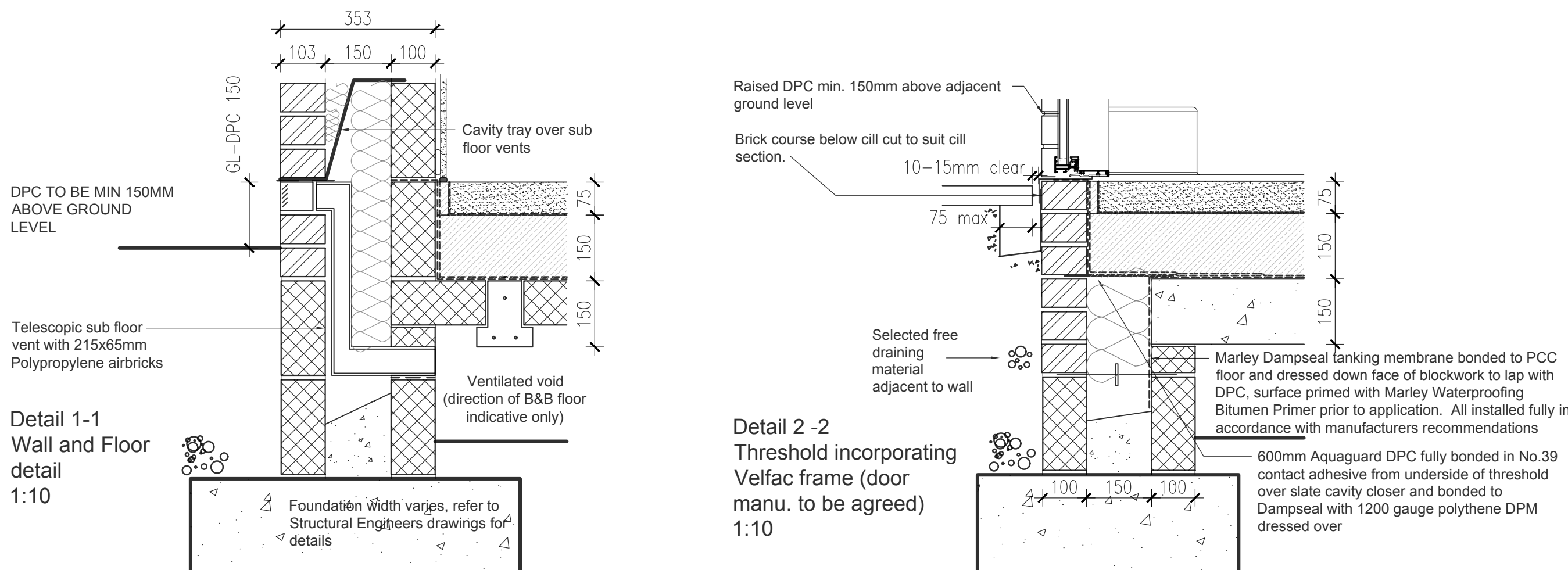
Flank Elevation



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Section A-A



Detail 3-3
External wall / window head detail 1:10

Detail 4-4
External wall detail 1:10

Timber roof structures to be designed by an Engineer in accordance with NHBC Technical Requirement RS Structural Design. Calculations to be based on BS EN 1995-1-1:2004 Eurocode 5: Design of timber structures (+A2:2014). Or using proprietary prefabricated manufactured trusses. Design of roof trusses to be produced by specialist truss manufacturer to BS EN 1995-1-1:2004 Eurocode 5: Design of timber structures (+A2:2014)

PITCHED ROOF INSULATION AT CEILING LEVEL
To achieve U value of 0.11 W/m²K
Suitable plain clay roofing tiles on 25 x 38mm tanalised s/w treated battens on breathable membrane supported on rafters (sized by structural engineer, or prefabricated trusses) Rafters supported on 100 x 50mm s/w wall plates. Insulation at ceiling level to be 200mm Rockwool insulation laid between ceiling joists with a further 200mm layer over joists (cross direction).
Ceiling to be finished internally with 12.5mm plasterboard and min 3mm thistle multi-finish plaster. Provide polythene vapour barrier between insulation and plasterboard.
Maintain a 50mm air gap above insulation in the roof pitch to ventilate roof. Provide opening at eaves level at least equal to continuous strip 25mm wide and opening at ridge equal to continuous strip 5mm wide to promote ventilation.
Restraint strapping - 100mm x 50mm wall plate strapped down to walls. Ceiling joists and rafters to be strapped to walls and gable walls, straps built into cavity, across at least 3 timbers with noggin. All straps to be 1200 x 30 x 5mm galvanized straps or other approved to BS EN 845-1 (+A1:2016) at 2m centres.
Loft hatches should be suitable designed and installed to ensure optimum air tightness.

Insulated upstand to velux rooflights - 100mm quilt between studs with 40mm Celotex GA4000 lining the inside face, 12.5mm plasterboard & skim to finish

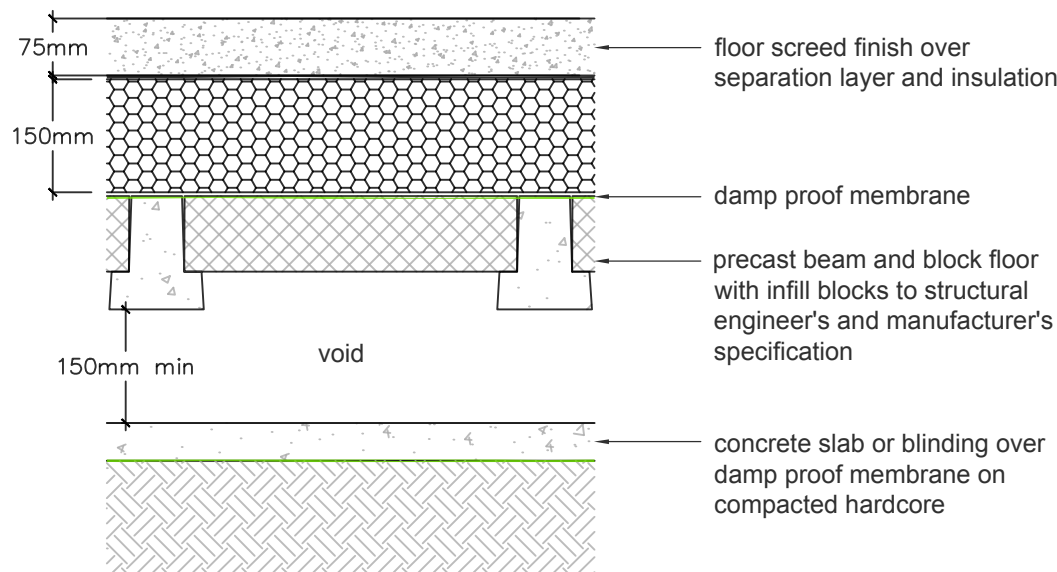
Horizontal timber cladding on vertical battens on breather membrane to porch gable (cladding to match main house)

(AD) M Level threshold
Detail D2-2
Stainless steel fixing shoe to oak post

Section B-B

WINDOW SCHEDULE				
Window Ref	Struct opening (width x height)	Location	Fire Escape	Notes
W1	1800 x 1050	Kitchen	no	Triple glazed, side hung timber casement windows, Colour TBA
W2	1800 x 1200	Dining	no	Triple glazed, side hung timber casement windows, Colour TBA
W3	660 x 1200	En-suite	no	Triple glazed, side hung timber casement windows, Colour TBA - obscured glass
W4	1200 x 1200	Bedroom 1	yes	Triple glazed, side hung timber casement windows, Colour TBA
W5	1800 x 1200	Bedroom 2	yes	Triple glazed, side hung timber casement windows, Colour TBA
W6	1200 x 1200	Bedroom 2	yes	Triple glazed, side hung timber casement windows, Colour TBA
W7	1200 x 1050	Bedroom 3	yes	Triple glazed, side hung timber casement windows, Colour TBA
W8	1200 x 1050	Kitchen	no	Triple glazed, side hung timber casement windows, Colour TBA - obscured glass
W9	600 x 2100	Kitchen	no	Paired with D1 (front door) fixed sidelight, Colour TBA - toughened safety glass
W10	780 x 1180	Kitchen	no	Velux - centre pivot, conservation style window
W11	780 x 1180	Kitchen	no	Velux - centre pivot, conservation style window

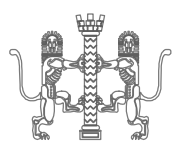
DOOR SCHEDULE				
Door Ref	Struct opening (width x height)	Location	Fire Door	Notes
D1	1532 x 2100	Entrance hall	No	External - Front door with fixed sidelight (W9), multipoint locking
D2	2770 x 2100	Living room	No	External - Double glazed Bifold doors, Colour TBA - toughened safety glass, multipoint locking
D3	920 x 2040	En-Suite	No	Internal - timber panel doors, style and finish TBA.
D4	840 x 2040	Cupboard	No	Internal - timber panel doors, style and finish TBA.
D5	920 x 2040	Bed 1	No	Internal - timber panel doors, style and finish TBA.
D6	920 x 2040	Bed 2	No	Internal - timber panel doors, style and finish TBA.
D7	920 x 2040	Bed 3	No	Internal - timber panel doors, style and finish TBA.
D8	920 x 2040	Bathroom	No	Internal - timber panel doors, style and finish TBA.
D9	920 x 2040	Utility	No	Internal - timber panel doors, style and finish TBA.



Detail 5-5
Floor detail 1:10

ALL WORKS TO BE IN STRICT ACCORDANCE WITH PLANNING APPROVAL REF:DM/250/193 AND PLANNING CONDITIONS BELOW:

- Conditions
- The development hereby permitted shall be begun before the expiration of 3 years from the date of this permission.
 - Approved Plans
The development hereby permitted shall be carried out in accordance with the plans listed on the DECISION NOTICE
 - No external materials shall be used other than those specified on the approved plans and application form without the prior approval of the Local Planning Authority.
 - Prior to the commencement of development a lighting design scheme for biodiversity shall be submitted to and approved in writing by the local planning authority. The scheme shall identify those features on site that are particularly sensitive for bats and that are likely to cause disturbance along important routes used for foraging, and show how and where external lighting will be installed, so that it can be clearly demonstrated that areas to be lit will not disturb or prevent bats using their territory.
All external lighting shall be installed in accordance with the specifications and locations set out in the scheme and maintained thereafter in accordance with the scheme. Under no circumstances should any other external lighting be installed without prior consent from the local planning authority.
 - The development hereby permitted shall not commence unless and until details of the proposed foul and surface water drainage and means of disposal have been submitted to and approved in writing by the local planning authority. No building shall be occupied until all the approved drainage works have been carried out in accordance with the approved details. The details shall include a timetable for its implementation and a management and maintenance plan for the lifetime of the development which shall include arrangements for adoption by any public authority or statutory undertaker and any other arrangements to secure the operation of the scheme throughout its lifetime. Maintenance and management during the lifetime of the development should be in accordance with the approved details.
 - No development shall be commenced until such time as plans and details have been submitted to and approved in writing by the Local Planning Authority showing the site set up during construction. This shall include details for all temporary contractors buildings, plant and stacks of materials, provision for the temporary parking of contractors vehicles and the loading and unloading of vehicles associated with the implementation of this development. Such provision once approved and implemented shall be retained throughout the period of construction.
 - Prior to commencement, exceedance flow route plan drawings showing no overland flow from the development to the National Highways boundary should be provided to the LPA, and approved in consultation with National Highways.
 - Prior to commencement, a drawing showing the cross-section through the A23 road boundary (low point) to the development site should be provided to the LPA, and approved in consultation with National Highways.
 - No part of the development shall be first occupied until such time as the vehicular access has been constructed in accordance with plans and details to be submitted to and approved in writing by the Local Planning Authority.
 - No part of the development shall be first occupied until the car parking has been constructed in accordance with the approved Proposed Site Plan, 23/114/sk10 Rev G. These spaces shall thereafter be retained at all times for their designated purpose.
 - No part of the development shall be first occupied until covered and secure cycle parking spaces have been provided in accordance with plans and details to be submitted to and approved by the Local Planning Authority.
 - The development hereby permitted shall be occupied until the refuse/recycling storage facilities have been provided in accordance with the approved plans and thereafter retained.
 - The development shall not be occupied until the sustainability measures set out in the accompanying Sustainability Statement have been implemented in full.
 - Glazing and trickle vents must be installed in accordance with or exceeding the requirements outlined in the Planning Noise Impact Assessment by Anderson Acoustics, dated July 2024, ref: 7195_001R_5-0_CB.docx, unless otherwise agreed upon with the local planning authority.
 - The 2.7m-high acoustic barrier specified in the Planning Noise Impact Assessment by Anderson Acoustics, dated July 2024, ref: 7195_001R_5-0_CB.docx must be installed prior to the occupation of the properties, unless otherwise agreed upon with the local planning authority.
 - Unless otherwise agreed upon with the local planning authority, an overheating assessment must be conducted to determine whether alternative means of ventilation are necessary for the proposed dwelling prior to occupation. If mechanical ventilation is required, details of the mechanical ventilation system must be provided, including a noise impact assessment for the mechanical ventilation.
 - If during construction, contamination not previously identified is found to be present at the site then no further development (unless otherwise agreed in writing by the LPA), shall be carried out until a method statement identifying, assessing the risk, and proposing remediation measures, together with a program, shall be submitted to and approved in writing by the LPA. The remediation measures shall be carried out in accordance with the approved program. If no unexpected contamination is encountered during development works, on completion of works, and prior to occupation a letter confirming this should be submitted to the LPA. If unexpected contamination is encountered during development works, on completion of works, and prior to occupation, the agreed information, results of the investigation, and details of any remediation undertaken will be produced to the satisfaction of and approved in writing by the LPA.
 - The development hereby approved shall be carried out in accordance with the biodiversity enhancement measures as set out within the submitted Planning Statement.
 - The development hereby approved shall be carried out in accordance with the proposed landscaping plan (23/114/SK13 Rev. C) The works shall be carried out prior to the occupation of any part of the development or in accordance with the programme agreed by the Local Planning Authority. Any trees or plants which, within a period of five years from the completion of development, die, are removed or become seriously damaged or diseased, shall be replaced in the next planting season with others of similar size and species, unless the Local Planning Authority gives written consent to any variation.



GENERAL NOTES:
This drawing has been produced for our client and is submitted as part of a planning application / building regulations submission and is not intended for use by any other person or for any other purpose. Use of this drawing is subject to copyright.
The contractor is to check all site dims and levels before work starts and notify Architect of any discrepancies. This drawing must be read and checked against all structural and other specialist drawings and specifications etc. The contractor is to comply with all current British Standards and Building Regulations whether or not specifically stated on these drawings. Do not scale from this drawing.

Electrical Installation
Electrical installation to conform with the latest I.E.E. regulations and requirements and electrical layout and to be undertaken by electrician who is part of the Competent Person Scheme. The relevant electrical installation certificate is to be provided to the Local Authority upon completion of the works.

Provide basic lighting outlets or complete luminaries to only take lamps of luminous capacity greater than 40 lumens per circuit - watt. Ensure all external lighting is provided with a photocell device or lamps only having a luminous efficacy greater than 40 lumens per circuit - watt.

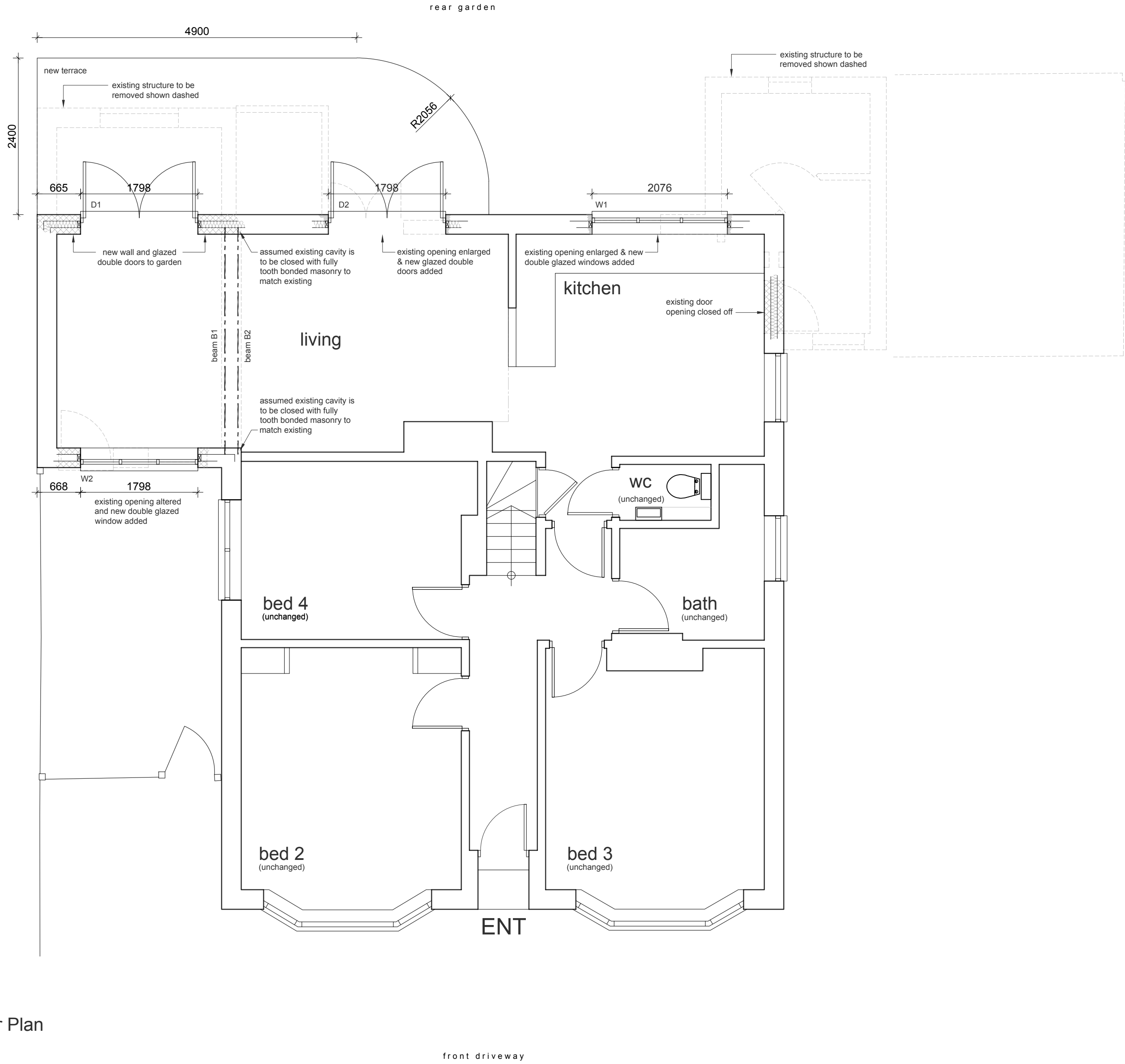
A minimum of 75% of the fixed lighting installations to the new elements should be energy efficient fittings of a design such that a traditional lightbulbs cannot be installed.

NOTE : Assumptions have been made about existing drainage. Contractor is to examine existing drainage prior to commencement of works to ensure suitability of proposals.

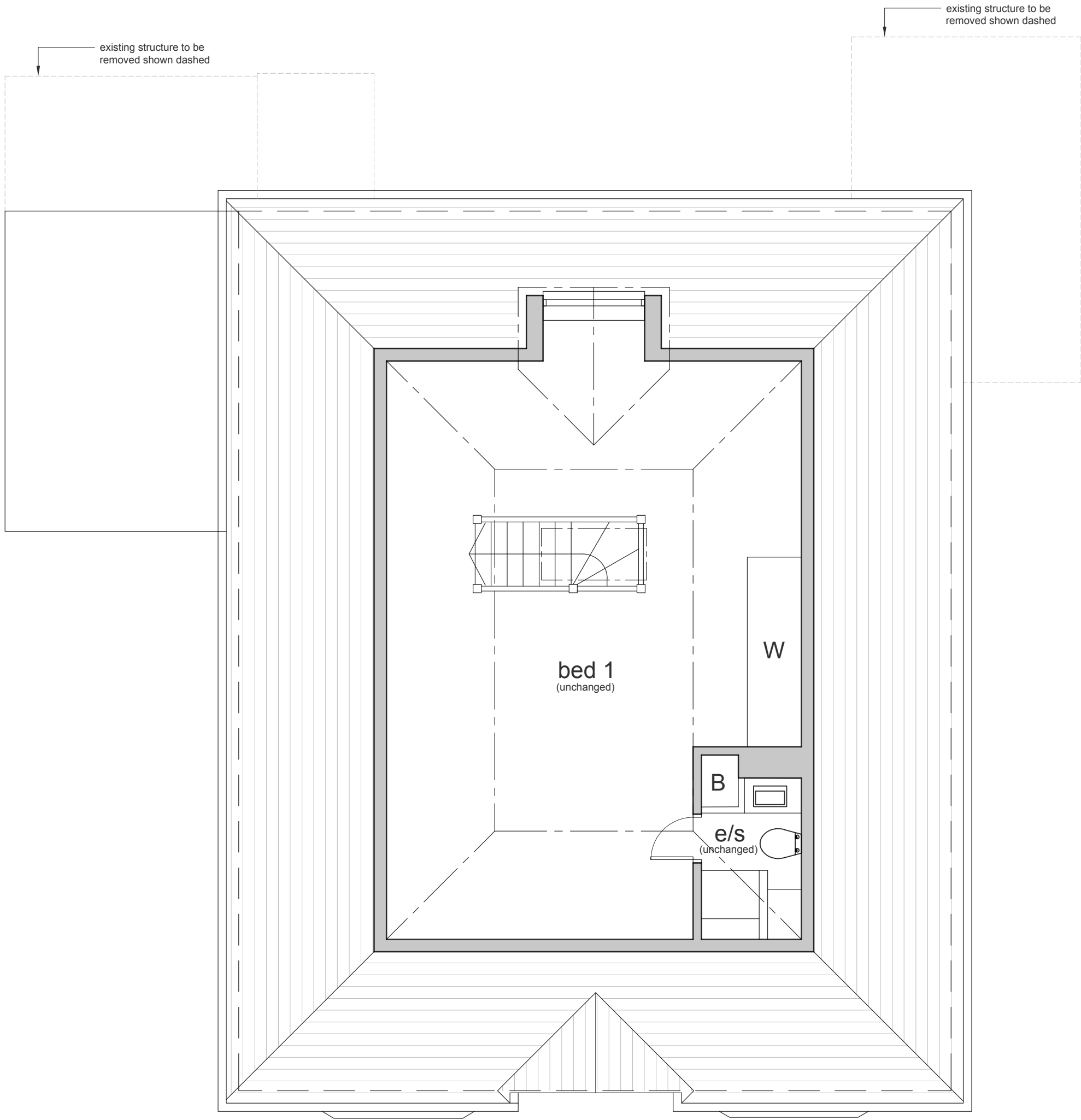
NOTE: CARE SHOULD BE TAKEN WHEN SETTING OUT AND ORDERING FIXED SIZE MATERIALS / COMPONENTS TO ENSURE SUITABILITY. WHERE A DISCREPANCY OCCURS IT SHOULD BE BROUGHT TO THE PROJECT ARCHITECTS ATTENTION. ON SITE ADAPTATIONS MAY BE REQUIRED WHERE DISCREPANCIES OCCUR.

CDM REGULATIONS 2015
The client must abide by the Construction Design and Management Regulations 2015. The client must appoint a contractor, if more than one contractor is to be involved, the client will need to appoint (in writing) a principal designer (to plan, manage and coordinate the planning and design work) and a principal contractor (to plan, manage and coordinate the construction and ensure there are arrangements in place for managing and organising the project).
The Health and Safety Executive is to be notified as soon as possible before construction work starts if the works:
(a) Last longer than 30 working days and has more than 20 workers working simultaneously at any point in the project.
Or
(b) Exceeds 500 person days.

THESE DRAWINGS MUST BE READ IN CONJUNCTION WITH STRUCTURAL ENGINEER'S DESIGN AND CALCULATIONS - NOTIFY ARCHITECT OF ANY DISCREPANCIES



Ground Floor Plan



First Floor Plan

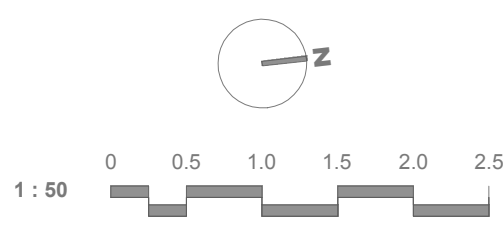
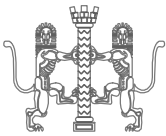
WINDOW SCHEDULE				
Window Ref	Struct opening (width x height)	Location	Fire Escape	Notes
W1	2076 x 1050	Kitchen	no	White UPVC side hung double glazed casement windows
W2	1798 x 1050	Living Room	no	White UPVC side hung double glazed casement windows

DOOR SCHEDULE				
Door Ref	Struct opening (width x height)	Location	Fire Door	Notes
D1	1798 x 2100	Living Room	No	External - Pair of double glazed white UPVC doors - Toughened Safety Glass
D2	1798 x 2100	Living Room	No	External - Pair of double glazed white UPVC doors - Toughened Safety Glass

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LIMITED

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BN2 8QP

07754 093827
email: info@lightboxarchitecture.com
web: www.lightboxarchitecture.com
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Client:
Barry Davis & Sophie Moon
Address:
"Girldge",
Brighton Road,
Handcross,
RH17 6BZ.

Drawing
Proposed alterations to existing dwelling "Girldge"
First & Second Floor Plans

PRELIMINARY / PLANNING / BUILDING REGS			
Rev	Date	Description	By
A	22/01/26	Drawing updated following engineer input	AB

Drawing Number

23/114/300

Revision

A

Scale	Date	By
1:50 @ A1	21.10.2025	JB

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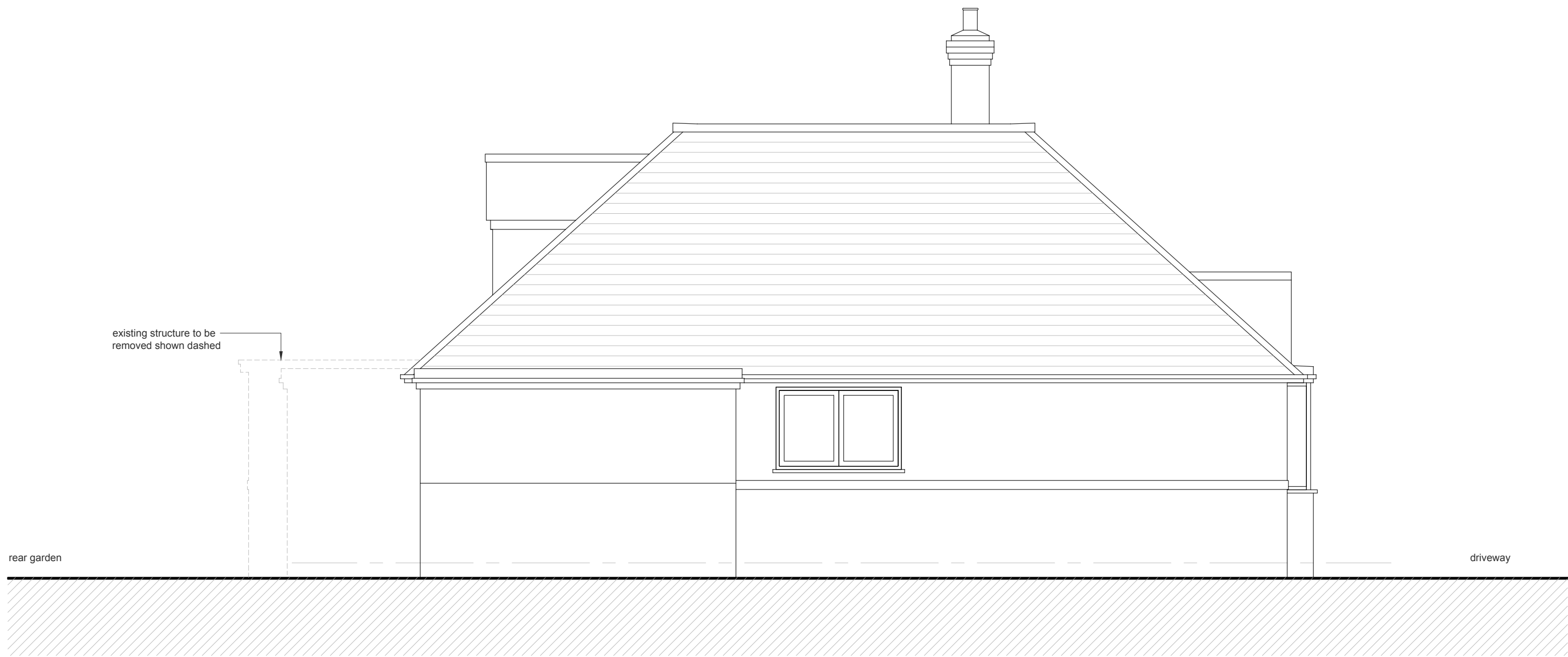
Front Elevation (East)



Rear Elevation (West)



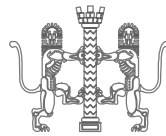
Flank Elevation (North)



Flank Elevation (South)

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1 : 50
0 0.5 1.0 1.5 2.0 2.5

Client:
Barry Davis & Sophie Moon
Address:
"Giridge",
Brighton Road,
Handcross,
RH17 6BZ.

Drawing
Proposed alterations to existing dwelling "Giridge"
Elevations

PRELIMINARY / PLANNING / BUILDING REGS

Rev.	Date	Description	By
-	-	-	-

Drawing Number

23/114/301

Scale
1:50 @ A1

Date
21.10.2025

By
JB

Revision

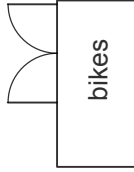
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Hard Landscaping Materials Key

- Buff Indian Sandstone Paving
rear patios and front paths
- Marshall's Standard Buff Concrete Paving
refuse collection hardstanding area
- Permeable tarmac access road / driveway
- Permeable grasscrete parking bays
- EVEC 7.4kW Untethered EV Charging
point - Wall mounted or on vertical timber
post
- Asgard "ANNEXE PLUS E" (HIGH
SECURITY) BIKE SHED x3

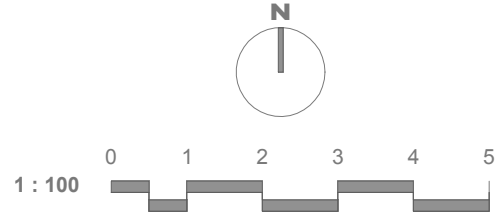
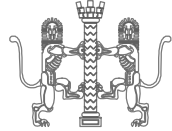


BRIGHTON ROAD

LIGHTBOX

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web: www.lightboxarchitecture.com
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Client:
Barry Davis & Sophie Moon
Address:
"Gillridge",
Brighton Road,
Handcross,
RH17 6BZ.

Drawing
Proposed Site Plan indicating proposed hard
landscaping materials and basic section out of Plot 2

PRELIMINARY / PLANNING / BUILDING REGS

Rev.	Date	Description	By
-	-	-	-

Drawing Number

23/114/400

Scale

1:100 @ A1

Date

25.10.2025

Revision

*

By

AB

Mr Barry Davis
c/o Mr Alex Beattie
Lightbox Architecture Limited
121 Greenbank Avenue
Saltdean
BN2 8QP

CONTACT: Hamish Evans
PHONE: 01444 477228
E-MAIL: hamish.evans@midsussex.gov.uk
REF: DM/25/0193
DATE: 14th May 2025

Dear Sir/Madam

Gilridge Brighton Road Handcross Haywards Heath
Modification of existing chalet bungalow, demolition of outbuildings. Erection of a 3 bed detached bungalow to include associated parking spaces and a new access driveway.

I advise that your application DM/25/0193 was **Granted Permission** on **14th May 2025**.

I enclose a copy of the Decision Notice in relation to the above application. If you are acting as an Agent please ensure that a copy is given to the applicant. **Please read the notes accompanying this decision notice carefully.**

Please also be advised that this permission does not constitute an approval under Building Regulations. Before you proceed with your proposal you should ensure that a Building Control application is not required, or has been submitted.

Yours faithfully



Ann Biggs
Assistant Director Planning and Sustainable Economy

Mr Barry Davis
Mr Alex Beattie
Lightbox Architecture Limited
121 Greenbank Avenue
Saltdean
BN2 8QP

TOWN AND COUNTRY PLANNING ACT 1990
TOWN AND COUNTRY PLANNING (DEVELOPMENT MANAGEMENT PROCEDURE)
(ENGLAND) ORDER 2015

PERMISSION

REFERENCE: DM/25/0193

DESCRIPTION: MODIFICATION OF EXISTING CHALET BUNGALOW,
DEMOLITION OF OUTBUILDINGS. ERECTION OF A 3 BED
DETACHED BUNGALOW TO INCLUDE ASSOCIATED PARKING
SPACES AND A NEW ACCESS DRIVEWAY.

LOCATION: GILRIDGE, BRIGHTON ROAD, HANDCROSS, HAYWARDS
HEATH

DECISION DATE: 14 MAY 2025

CASE OFFICER: HAMISH EVANS - HAMISH.EVANS@MIDSUSSEX.GOV.UK

The Council hereby notify you that they **GRANT** planning permission for the above development to be carried out in accordance with the submitted application and plans and subject to compliance with the following conditions:-

Conditions

1. The development hereby permitted shall be begun before the expiration of 3 years from the date of this permission.

Reason: To comply with Section 91 of the Town and Country Planning Act 1990.

2. **Approved Plans**

The development hereby permitted shall be carried out in accordance with the plans listed below under the heading "Plans Referred to in Consideration of this Application".

Reason: For the avoidance of doubt and in the interest of proper planning.

3. No external materials shall be used other than those specified on the approved plans and application form without the prior approval of the Local Planning Authority.

Reason: To protect the appearance of the building and the area and to accord with Policy DP26 of the Mid Sussex District Plan 2014 - 2031.

4. Prior to the commencement of development a lighting design scheme for biodiversity shall be submitted to and approved in writing by the local planning authority. The scheme shall identify those features on site that are particularly sensitive for bats and that are likely to cause disturbance along important routes used for foraging; and show how and where external lighting will be installed, so that it can be clearly demonstrated that areas to be lit will not disturb or prevent bats using their territory.

All external lighting shall be installed in accordance with the specifications and locations set out in the scheme and maintained thereafter in accordance with the scheme. Under no circumstances should any other external lighting be installed without prior consent from the local planning authority.

Reason: To allow the LPA to discharge its duties under the Conservation of Habitats and Species Regulations 2017 (as amended), the Wildlife & Countryside Act 1981 as amended, s40 of the NERC Act 2006 (as amended) and to accord with policy DP38 of the Mid Sussex District Plan.

5. The development hereby permitted shall not commence unless and until details of the proposed foul and surface water drainage and means of disposal have been submitted to and approved in writing by the local planning authority. No building shall be occupied until all the approved drainage works have been carried out in accordance with the approved details. The details shall include a timetable for its implementation and a management and maintenance plan for the lifetime of the development which shall include arrangements for adoption by any public authority or statutory undertaker and any other arrangements to secure the operation of the scheme throughout its lifetime. Maintenance and management during the lifetime of the development should be in accordance with the approved details.

Reason: To ensure that the proposal is satisfactorily drained and to accord with the NPPF requirements and Policy DP41 of the Mid Sussex District Plan (2014 - 2031).

6. No development shall be commenced until such time as plans and details have been submitted to and approved in writing by the Local Planning Authority showing the site set up during construction. This shall include details for all temporary contractors buildings, plant and stacks of materials, provision for the temporary parking of contractors vehicles and the loading and unloading of vehicles associated with the implementation of this development. Such provision once approved and implemented shall be retained throughout the period of construction.

Reason: To avoid undue congestion of the site and consequent obstruction to access and to accord with Policy DP21 of the Mid Sussex District Plan (2014 - 2031).

7. Prior to commencement, exceedance flow route plan drawings showing no overland flow from the development to the National Highways boundary should be provided to the LPA, and approved in consultation with National Highways.

Reason: to maintain the operation and safety of the SRN and to accord with Policy DP21 of the Mid Sussex District Plan (2014 - 2031).

8. Prior to commencement, a drawing showing the cross-section through the A23 road boundary (low point) to the development site should be provided to the LPA, and approved in consultation with National Highways.

Reason: to maintain the operation and safety of the SRN and to accord with Policy DP21 of the Mid Sussex District Plan (2014 - 2031).

9. No part of the development shall be first occupied until such time as the vehicular access has been constructed in accordance with plans and details to be submitted to and approved in writing by the Local Planning Authority.

Reason: In the interests of road safety and to accord with Policy DP21 of the Mid Sussex District Plan (2014 - 2031).

10. No part of the development shall be first occupied until the car parking has been constructed in accordance with the approved Proposed Site Plan_23/114/sk10 Rev G. These spaces shall thereafter be retained at all times for their designated purpose.

Reason: To provide car-parking space for the use and to accord with Policy DP21 of the Mid Sussex District Plan (2014 - 2031).

11. No part of the development shall be first occupied until covered and secure cycle parking spaces have been provided in accordance with plans and details to be submitted to and approved by the Local Planning Authority.

Reason: To provide alternative travel options to the use of the car in accordance with current sustainable transport policies and to accord with Policy DP21 of the Mid Sussex District Plan (2014 - 2031).

12. The development hereby permitted shall be occupied until the refuse/recycling storage facilities have been provided in accordance with the approved plans and thereafter retained.

Reason: In the interests of the amenities of the area, to comply with Policy DP26 of the Mid Sussex District Plan.

13. The development shall not be occupied until the sustainability measures set out in the accompanying Sustainability Statement have been implemented in full.

Reason: In the interests of achieving an energy efficient, sustainable development and to accord with Policy DP39 of the Mid Sussex District Plan 2014 - 2031 and Policy 2 of the Neighbourhood Plan.

14. Glazing and trickle vents must be installed in accordance with or exceeding the requirements outlined in the Planning Noise Impact Assessment by Anderson Acoustics, dated July 2024, ref: 7195_001R_5-0_CB.docx, unless otherwise agreed upon with the local planning authority.

Reason: To protect the amenity of residents and to accord with DP26 and DP29 of the Mid Sussex District Plan (2014 - 2031).

15. The 2.7-meter high acoustic barrier specified in the Planning Noise Impact Assessment by Anderson Acoustics, dated July 2024, ref: 7195_001R_5-0_CB.docx must be installed prior to the occupation of the properties, unless otherwise agreed upon with the local planning authority.

Reason: to protect the amenity of residents and to accord with DP26 and DP29 of the Mid Sussex District Plan (2014 - 2031)

16. Unless otherwise agreed upon with the local planning authority, an overheating assessment must be conducted to determine whether alternative means of ventilation are necessary for the proposed dwelling prior to occupation.

If mechanical ventilation is required, details of the mechanical ventilation system must be provided, including a noise impact assessment for the mechanical ventilation.

Reason: to protect the amenity of local residents and to accord with DP26 and DP29 of the Mid Sussex District Plan (2014 - 2031)

17. If during construction, contamination not previously identified is found to be present at the site then no further development (unless otherwise agreed in writing by the LPA), shall be carried out until a method statement identifying, assessing the risk, and proposing remediation measures, together with a program, shall be submitted to and approved in writing by the LPA. The remediation measures shall be carried out as approved and in accordance with the approved program. If no unexpected contamination is encountered during development works, on completion of works, and prior to occupation a letter confirming this should be submitted to the LPA. If unexpected contamination is encountered during development works, on completion of works, and prior to occupation, the agreed information, results of the investigation, and details of any remediation undertaken will be produced to the satisfaction of and approved in writing by the LPA.

Reason: To ensure that the risks from land contamination to the future users of the land are minimised, and to ensure that the development can be carried out safely without unacceptable risks to workers, neighbours and other offsite receptors and to accord Policy DP41 of the Mid Sussex District Plan.

18. The development hereby approved shall be carried out in accordance with the biodiversity enhancement measures as set out within the submitted Planning Statement.

Reason: To enhance protected and Priority species & habitats and allow the LPA to discharge its duties under the NPPF 2021 and s40 of the NERC Act 2006 (Priority habitats & species) and to accord with DP38 of the District Plan (2014 - 2031).

19. The development hereby approved shall be carried out in accordance with the proposed landscaping plan (23/114/SK13 Rev. C) The works shall be carried out prior to the occupation of any part of the development or in accordance with the programme agreed by the Local Planning Authority. Any trees or plants which, within a period of five years from the completion of development, die, are removed or become seriously damaged or diseased, shall be replaced in the next planting season with others of similar size and species, unless the Local Planning Authority gives written consent to any variation.

Reason: In the interests of visual amenity and of the environment of the development and to accord with Policies DP26 and DP35 of the Mid Sussex District Plan and Policy 4 of the Neighbourhood Plan.

Biodiversity Net Gain

1. This permission is considered to be one which **will require the approval of a biodiversity gain plan before development is begun** (which includes demolition) because none of the statutory exemptions or transitional arrangements are considered to apply.

Please see the information contained within the notes to applicants/agents set out below.

Informatives

1. Your attention is drawn to the requirements of the Environmental Protection Act 1990 with regard to your duty of care not to cause the neighbours of the site a nuisance.

Accordingly, you are requested that:

- Hours of construction/demolition on site are restricted only to: Mondays to Fridays 0800 - 1800 hrs, Saturdays 0900 - 1300 hrs, No construction/demolition work on Sundays or Public Holidays.
- Measures shall be implemented to prevent dust generated on site from crossing the site boundary during the demolition/construction phase of the development.
- No burning of materials shall take place on site at any time.

If you require any further information on these issues, please contact Environmental Protection on 01444 477292.

2. In accordance with Article 35 of the Town and Country Planning (Development Management Procedure) (England) Order 2015, the Local Planning Authority has acted positively and proactively in determining this application by identifying matters of concern within the application (as originally submitted) and negotiating, with the Applicant, acceptable amendments to the proposal to address those concerns. As a result, the Local Planning Authority has been able to grant planning permission for an acceptable proposal, in accordance with the presumption in favour of sustainable development, as set out within the National Planning Policy Framework.

3. Vehicle Crossover - Minor Highway Works

The applicant is advised that in addition to obtaining planning permission that they must also obtain formal approval from the highway authority to carry out the site access works on the public highway. The granting of planning permission does not guarantee that a vehicle crossover licence shall be granted. Additional information about the licence application process can be found at the following web page:

<https://www.westsussex.gov.uk/roads-and-travel/highway-licences/dropped-kerbs-or-crossovers-for-driveways-licence/>

Online applications can be made at the link below, alternatively please call 01243 642105.

<https://www.westsussex.gov.uk/roads-and-travel/highway-licences/dropped-kerbs-or-crossovers-for-driveways-licence/vehicle-crossover-dropped-kerb-construction-application-form/>

4. The proposed development will require formal address allocation. You are advised to contact the Council's Street Naming and Numbering Officer before work starts on site. Details of fees and developers advice can be found at

Human Rights Implications

The planning application has been considered in light of statute and case law and any interference with an individual's human rights is considered to be proportionate to the aims sought to be realised.

Plans Referred to in Consideration of this Application

The following plans and documents were considered when making the above decision:

Plan Type	Reference	Version	Submitted Date
Location and Block Plan	23/114/LOC	E	24.01.2025
Existing Site Plan	23/114/site	A	24.01.2025
Existing Floor Plans	23/114/sk01	A	24.01.2025
Existing Elevations	23/114/sk02	A	24.01.2025
Existing Roof Plan	23/114/sk03	A	24.01.2025
Existing Elevations	23/114/sk04	A	24.01.2025
Proposed Floor Plans	23/114/sk05	E	24.01.2025
Proposed Roof Plan	23/114/sk06	E	24.01.2025
Proposed Elevations	23/114/sk07	D	24.01.2025
Proposed Floor Plans	23/114/sk08	G	24.01.2025
Proposed Elevations	23/114/sk09	G	24.01.2025
Proposed Site Plan	23/114/SK10	G	24.01.2025
Proposed Elevations	23/114/sk11	E	24.01.2025
Drainage Details	23/114/SK12	C	24.01.2025
Landscaping Details	23/114/SK13	C	24.01.2025
Other	23/114/SK14	A	24.01.2025
Access Plan	23/114/SK15	A	24.01.2025
Proposed Elevations	23/114/sk16	F	24.01.2025
Noise Impact Assessment/Sound	7195_001R_3-0_WR	-	24.01.2025
Design and Access Statement	23.114	C	24.01.2025
Photographs	-	-	24.01.2025
Planning Statement	-	-	24.01.2025



Ann Biggs
Assistant Director Planning and Sustainable Economy

PEFULZ

APPEALS TO THE SECRETARY OF STATE

Notes for Applicants

If you are aggrieved by the decision of your Local Planning Authority to refuse permission for the proposed development or to grant it subject to conditions, then you can appeal to the Secretary of State under Section 78 of the Town and Country Planning Act 1990.

If you want to appeal against your local planning authority's decision then you must do so within 6 months of the date of this notice;

However, if

- (i) this is a decision on a planning application relating to the same or substantially the same land and development as is already the subject of an enforcement notice, and you want to appeal against your local planning authority's decision on your application, then you must do so within 28 days of the date of this notice; or
- (ii) an enforcement notice is subsequently served relating to the same or substantially the same land and development as in your application and if you want to appeal against your local planning authority's decision on your application, then you must do so within:
 - 28 days of the date of service of the enforcement notice, or
 - within 6 months (12 weeks in the case of a householder appeal) of the date of this notice, whichever period expires earlier.

Appeals can be made online at: <https://www.gov.uk/planning-inspectorate>.

If you are unable to access the online appeal form, please contact the Planning Inspectorate to obtain a paper copy of the appeal form on tel: 0303 444 5000.

The Secretary of State can allow a longer period for giving notice of an appeal but will not normally be prepared to use this power unless there are special circumstances which excuse the delay in giving notice of appeal.

The Secretary of State need not consider an appeal if it seems to the Secretary of State that the local planning authority could not have granted planning permission for the proposed development or could not have granted it without the conditions they imposed, having regard to the statutory requirements, to the provisions of any development order and to any directions given under a development order.

If you intend to submit an appeal that you would like examined by inquiry then you must notify the Local Planning Authority and Planning Inspectorate (inquiryappeals@planninginspectorate.gov.uk) at least 10 days before submitting the appeal. [Further details are on GOV.uk](#).

Biodiversity Net Gain

The effect of paragraph 13 of Schedule 7A to the Town and Country Planning Act 1990 is that planning permission granted for the development of land in England is deemed to have been granted subject to the condition “(the biodiversity gain condition)” that development may not begin unless:

- (a) a Biodiversity Gain Plan has been submitted to the planning authority, and
- (b) the planning authority has approved the plan.

The planning authority, for the purposes of determining whether to approve a Biodiversity Gain Plan if one is required in respect of this permission would be Mid Sussex District Council.

There are statutory exemptions and transitional arrangements which mean that the biodiversity gain condition does not always apply.

Statutory exemptions and transitional arrangements in respect of the biodiversity gain condition that apply in this instance

Irreplaceable habitat

If the onsite habitat includes irreplaceable habitat (within the meaning of the Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations 2024) there are additional requirements for the content and approval of Biodiversity Gain Plans.

The Biodiversity Gain Plan must include, in addition to information about steps taken or to be taken to minimise any adverse effect of the development on the habitat, information on arrangements for compensation for any impact the development has on the biodiversity of the irreplaceable habitat.

The planning authority can only approve a Biodiversity Gain Plan if satisfied that the adverse effect of the development on the biodiversity of the irreplaceable habitat is minimised and appropriate arrangements have been made for the purpose of compensating for any impact which do not include the use of biodiversity credits.

The effect of section 73D of the Town and Country Planning Act 1990

If planning permission is granted on an application made under section 73 of the Town and Country Planning Act 1990 (application to develop land without compliance with conditions previously attached) and a Biodiversity Gain Plan was approved in relation to the previous planning permission ("the earlier Biodiversity Gain Plan") there are circumstances when the earlier Biodiversity Gain Plan is regarded as approved for the purpose of discharging the biodiversity gain condition subject to which the section 73 planning permission is granted.

Those circumstances are that the conditions subject to which the section 73 permission is granted:

- i) do not affect the post-development value of the onsite habitat as specified in the earlier Biodiversity Gain Plan, and
- ii) in the case of planning permission for a development where all or any part of the onsite habitat is irreplaceable habitat the conditions do not change the effect of the development on the biodiversity of that onsite habitat (including any arrangements made to compensate for any such effect) as specified in the earlier Biodiversity Gain Plan.

The effect of Paragraph 19 of Schedule 7A to the Town and Country Planning Act 1990

If the permission which has been granted has the effect of requiring or permitting the development to proceed in phases, the modifications in respect of the biodiversity gain condition which are set out in Part 2 of the Biodiversity Gain (Town and Country Planning) (Modifications and Amendments) (England) Regulations 2024 apply.

In summary: Biodiversity gain plans are required to be submitted to, and approved by, the planning authority before development may be begun (the overall plan), and before each phase of development may be begun (phase plans).

Purchase Notices

If either the Local Planning Authority or Secretary of States refuses permission to develop land or grants it subject to conditions, the owner may claim that he can neither put the land to a reasonably beneficial use in its existing state nor render the land capable of a reasonably beneficial use by the carrying out of any development which has been or would be permitted.

In these circumstances the owner may serve a purchase notice on the District Council. This notice will require the Council to purchase their interest in the land in accordance with the provisions of Part VI of the Town and Country Planning Act 1990.

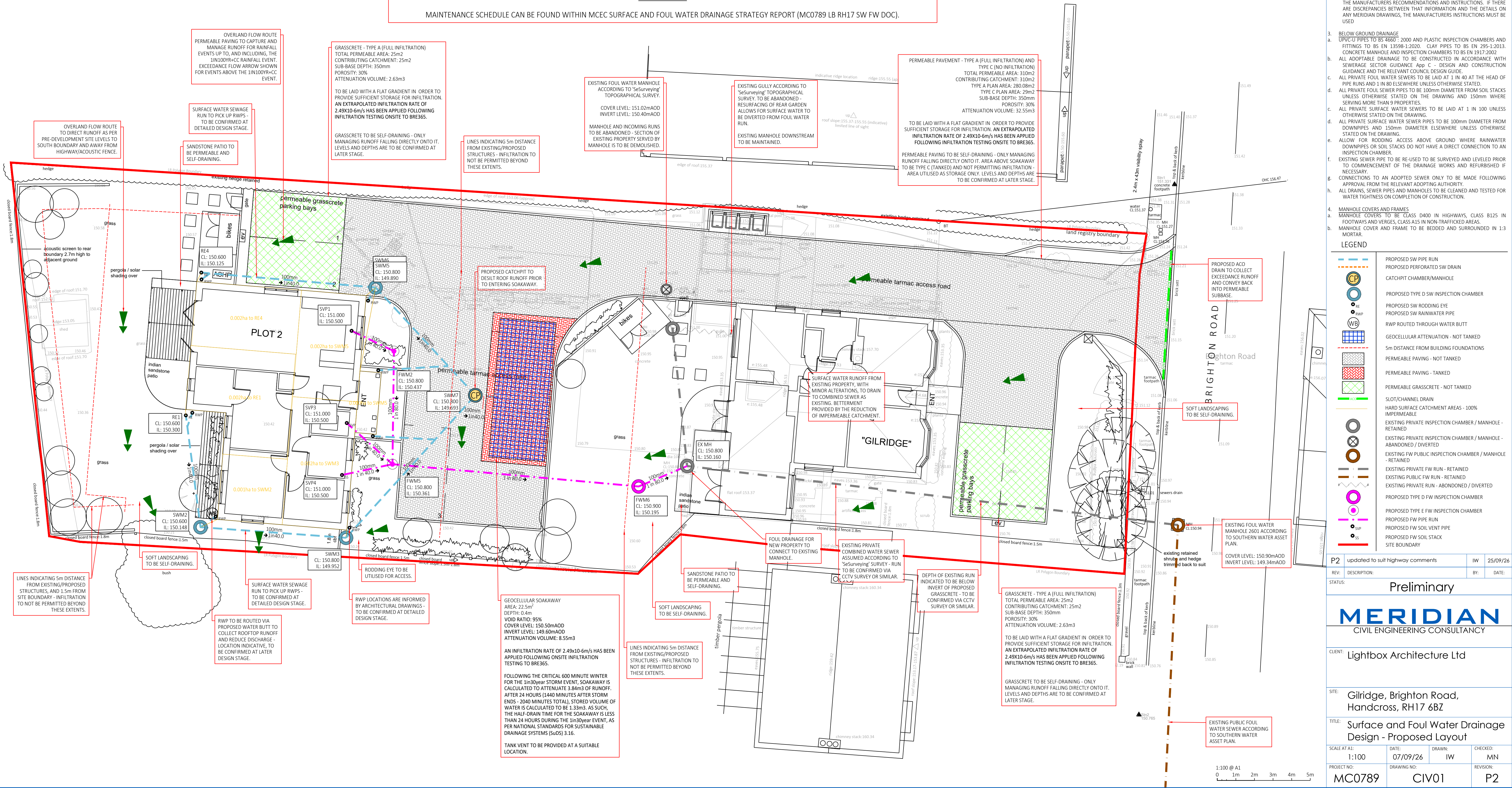
APPENDIX II Proposed Drainage Layout

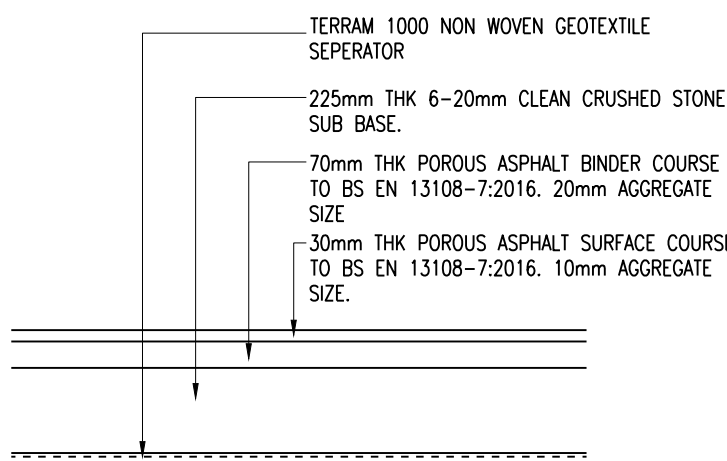
SITE GEOLOGY AND INFILTRATION TESTING INDICATE THAT INFILTRATION SUDS ARE VIABLE TO SUPPORT GRAVITATIONAL DISCHARGE FOR THE PROPOSED DEVELOPMENT. AS SUCH, A STRATEGY BASED ON THE INFILTRATION OF SURFACE WATER IS PROPOSED. LOCAL GUIDANCE STATES THAT POST DEVELOPMENT RUNOFF RATES SHOULD BE LIMITED TO GREENFIELD RATES. AS ALL SURFACE WATER IS BEING INFILTRATED, RUNOFF RATES SHOULD BE NEGLIGIBLE.

IT IS PROPOSED FOR THE SOAKAWAY TO HAVE AN AREA OF 22.55m² AND A DEPTH OF 0.4m. THE PROPOSED DRIVEWAY, PARKING AND PAVING AREAS ARE TO BE OF SELF-DRAINING PERMEABLE CONSTRUCTION TO ALLOW FOR INFILTRATION. AN INFILTRATION RATE OF 2.49x10-6m/s HAS BEEN USED FOR THE CALCULATIONS OF THE REQUIRED SOAKAWAY AND PERMEABLE PAVEMENT STORAGE SIZES FOLLOWING INFILTRATION TESTING CONDUCTED ONSITE. PERMEABLE PAVING IS TO BE TANKED ABOVE THE LOCATION OF THE PROPOSED SOAKAWAY.

THE RUNOFF FROM THE PROPOSALS ARE DEEMED TO POSE LOW POLLUTION RISK TO THE DOWNSTREAM NETWORK. PERMEABLE SURFACES ARE TO TREAT THE PERMEABLE AREAS AND CATCHPITS ARE PROPOSED TO DESILT IMPERMEABLE AREAS.

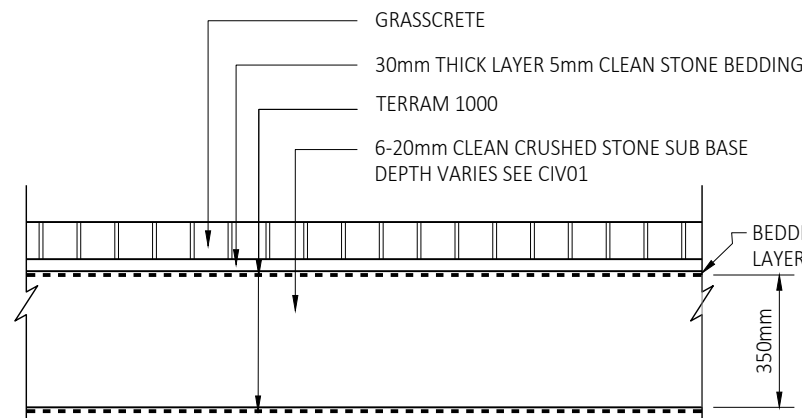
MAINTENANCE SCHEDULE CAN BE FOUND WITHIN MCEC SURFACE AND FOUL WATER DRAINAGE STRATEGY REPORT (MC0789 LB RH17 SW FW DOC).





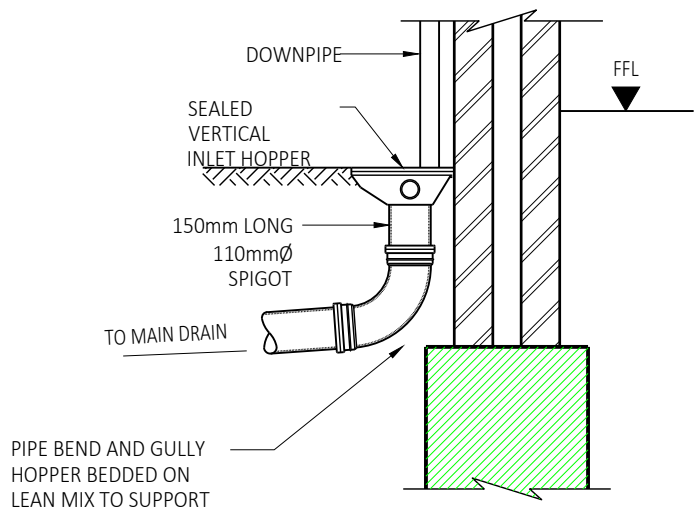
PERMEABLE TARMAC CONSTRUCTION
(TARMAC THICKNESS TO BE CONFIRMED BY MANUFACTURER DEPENDING ON DESIGN LOADINGS)

(1:20)



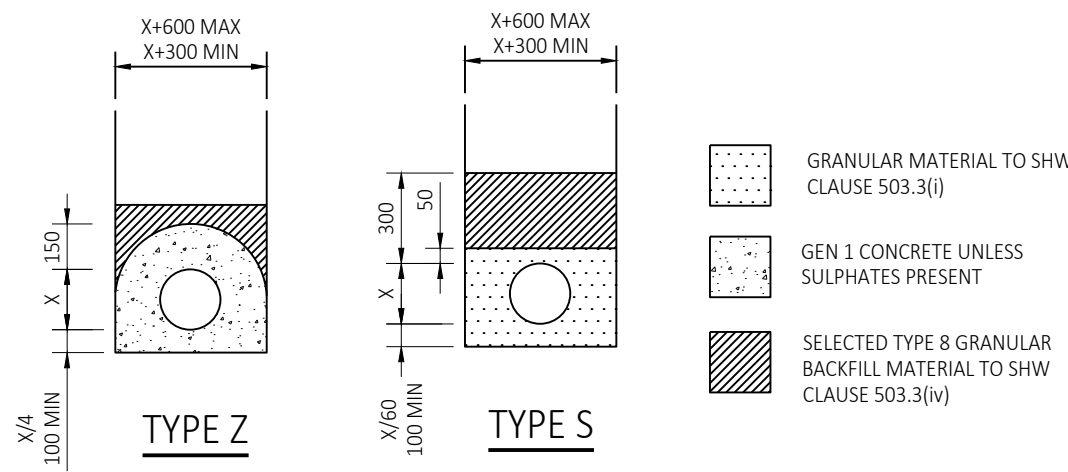
PERMEABLE SURFACE DETAIL
(MINIMUM OVERALL CONSTRUCTION TO BE 450mm - MINIMUM ASSUMED CBR 5%)

(1:20)



RWP CONNECTION.

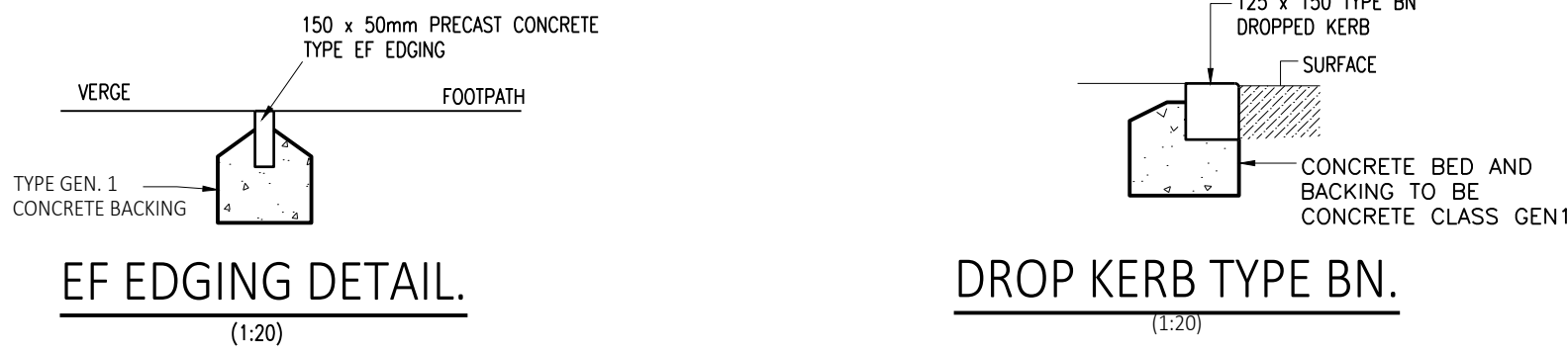
(1:20)



TRENCH AND BEDDING DETAILS

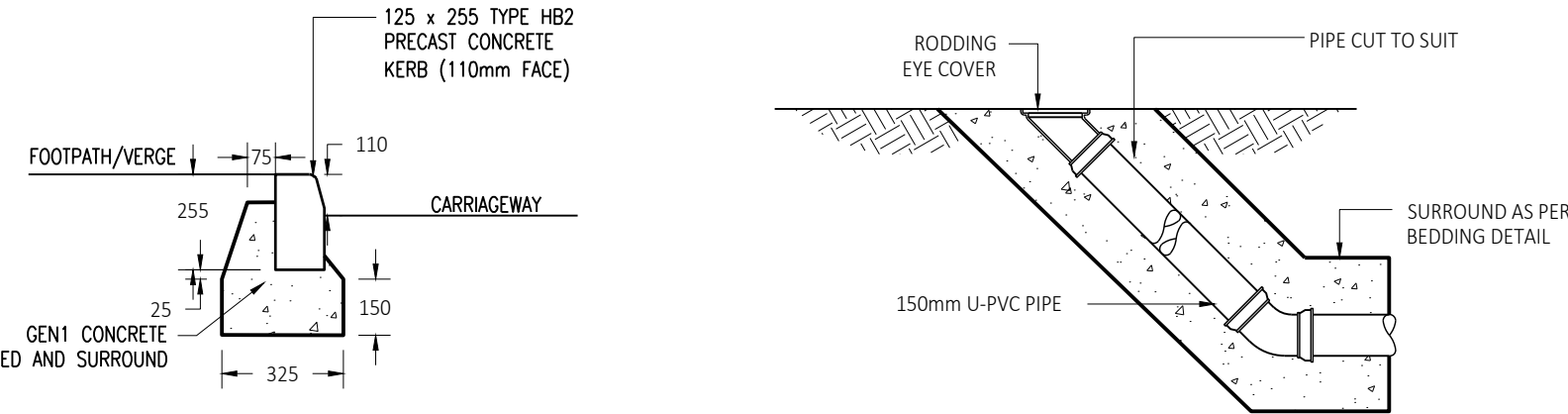
IN TRAFFICKED AREAS:
TYPE S WHERE COVER >900mm
TYPE Z WHERE COVER <900mm

IN NON-TRAFFICKED AREAS:
TYPE S WHERE COVER >600mm
TYPE Z WHERE COVER <600mm



EF EDGING DETAIL.

DROP KERB TYPE BN.

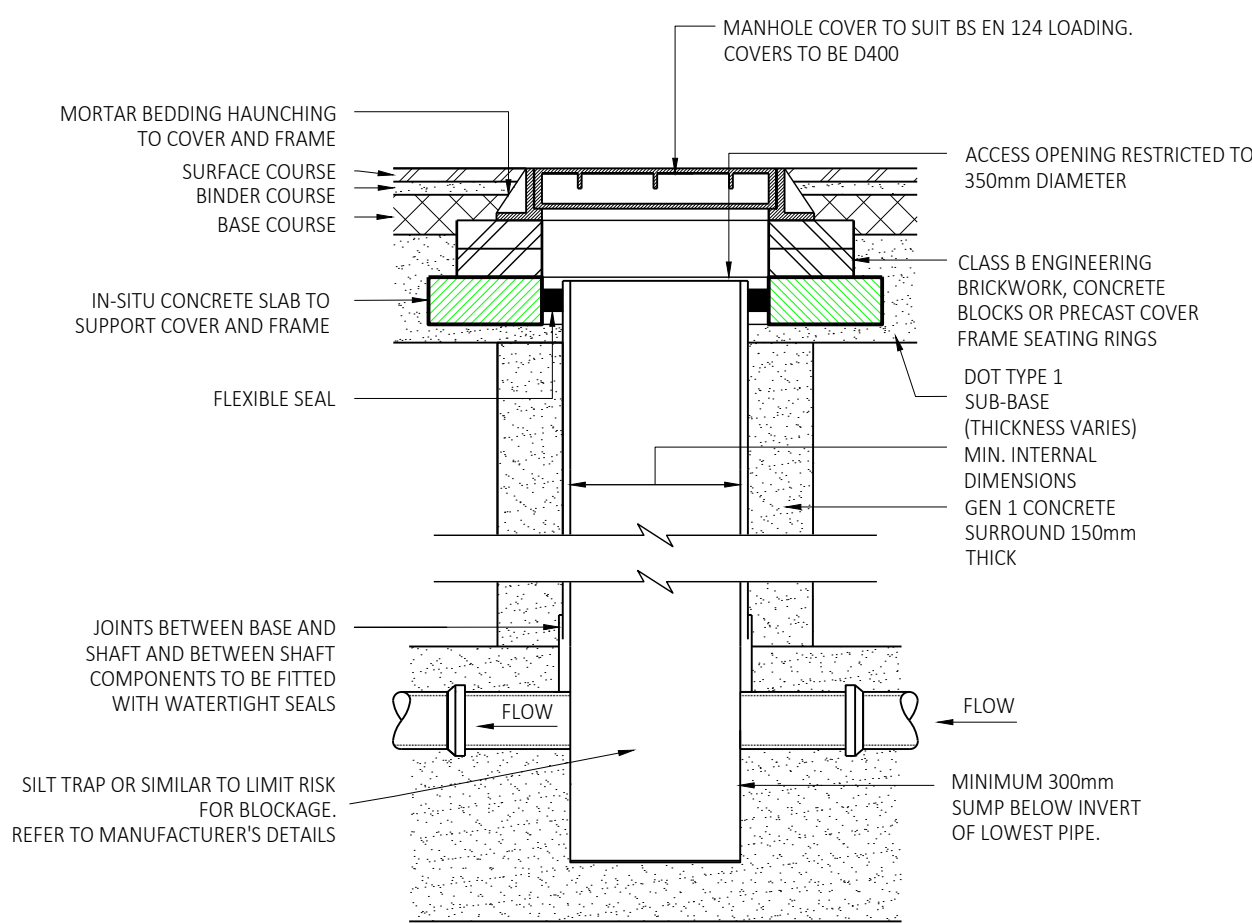


HB2 KERB DETAIL.

(1:20)

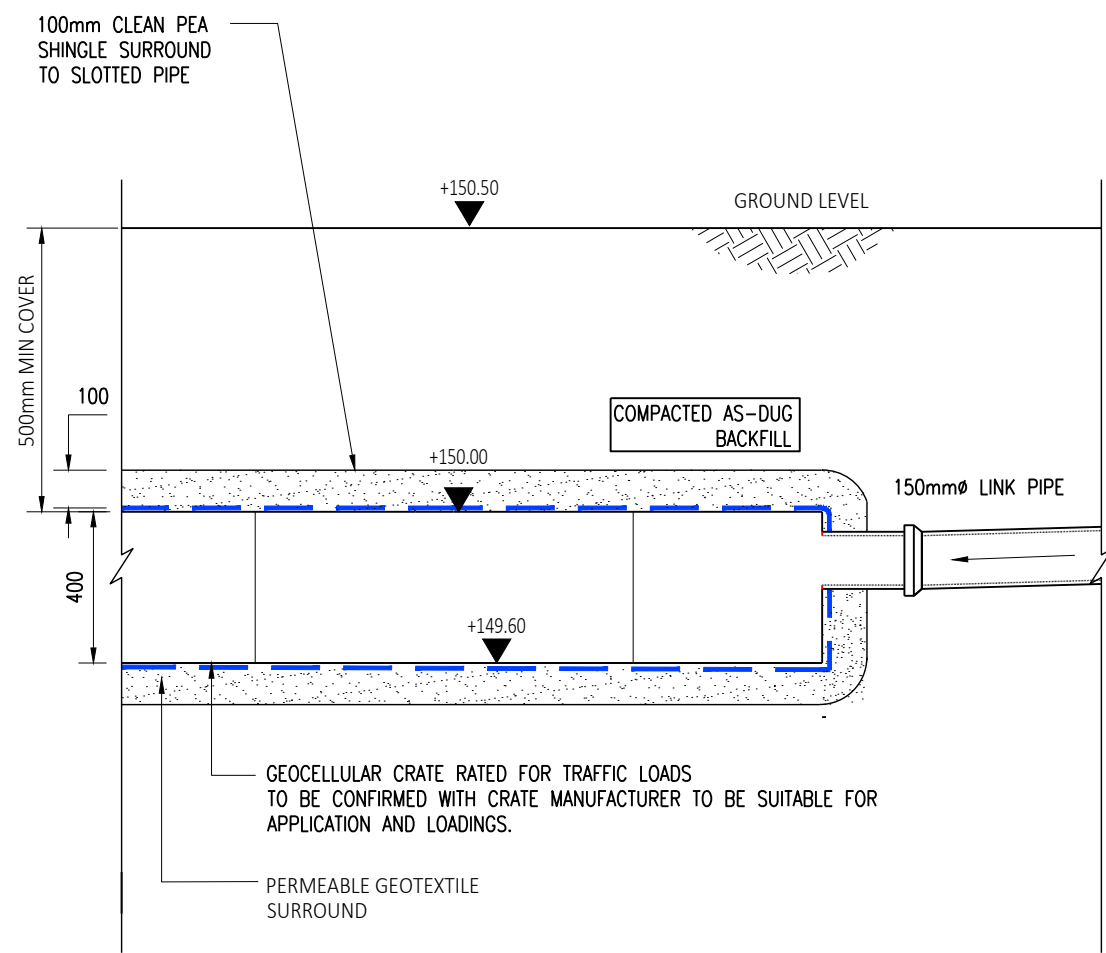
RODDING EYE DETAIL.

(1:20)



CATCHPIT INSPECTION CHAMBER.
(PREFORMED POLYPIPE RIDGISTORM 450-1500Ø CATCHPIT MANHOLE OR SIMILAR),
MAX. DEPTH 3m, NON-ENTRY)

(1:20)



SOAKAWAY DETAIL

(1:20)

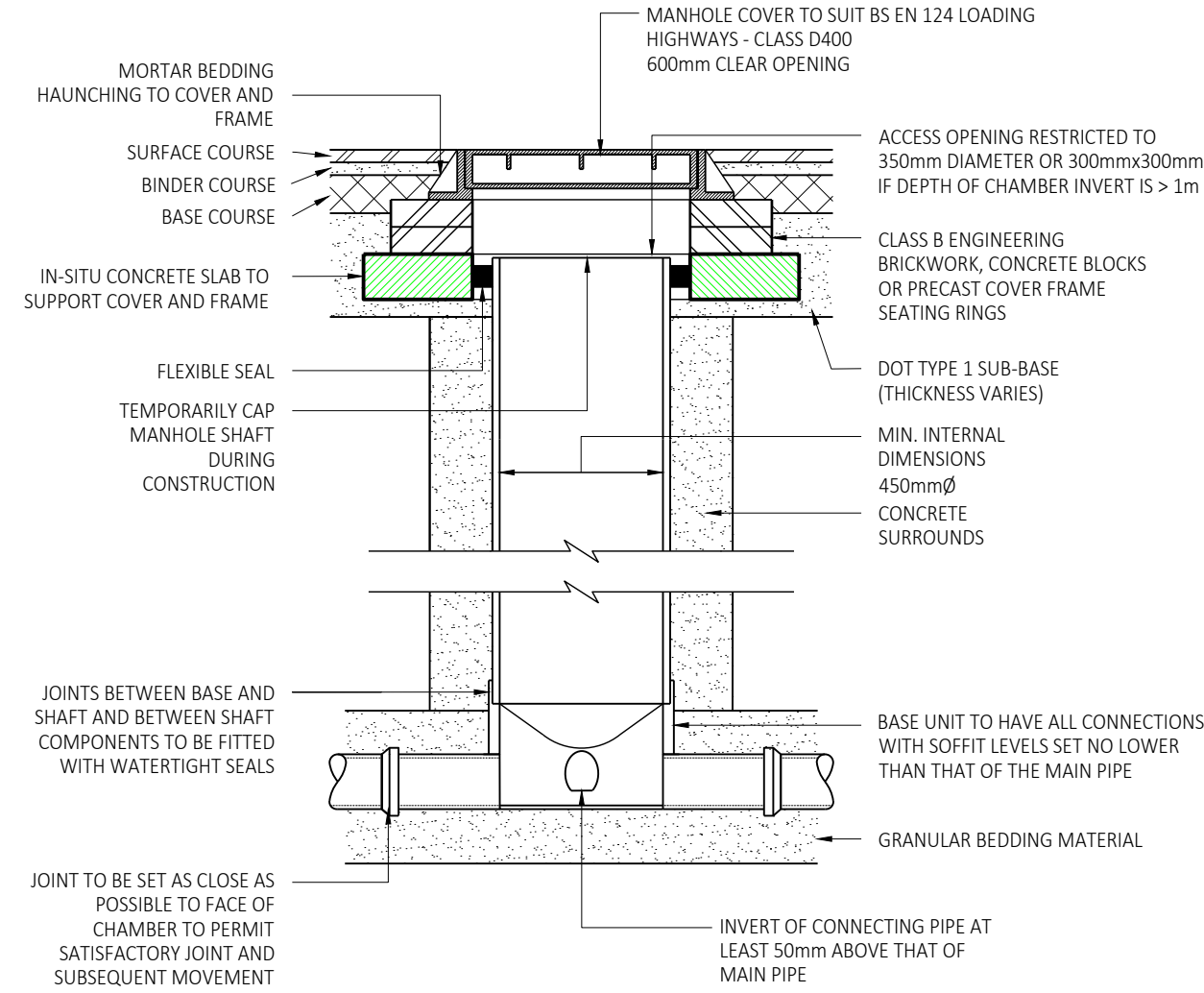
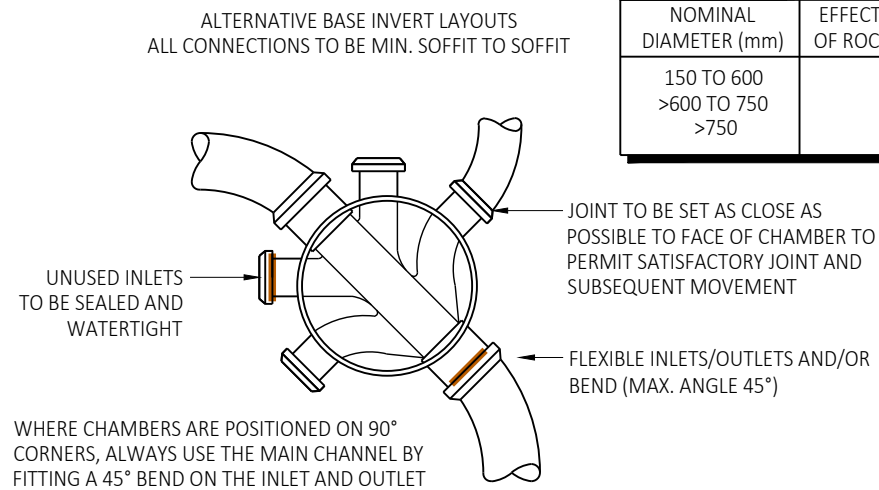


TABLE 1

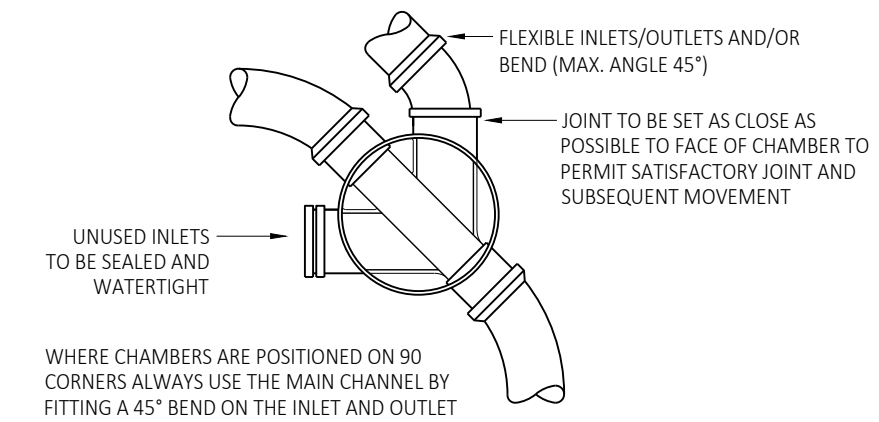
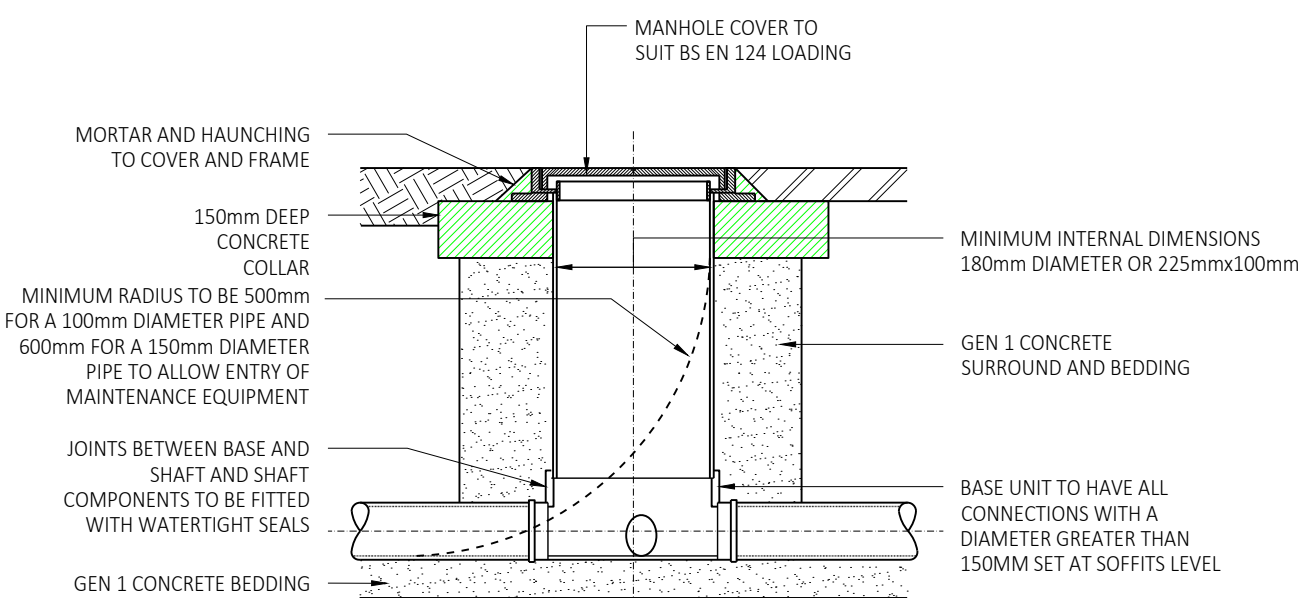
NOMINAL DIAMETER (mm)	EFFECTIVE LENGTH OF ROCKER PIPE (m)
150 TO 600	0.6
>600 TO 750	1.0
>750	1.2



TYPE D ACCESS CHAMBER - FLEXIBLE MATERIAL.

(SUBJECT TO VEHICLE LOADING,
MAX. DEPTH 3m, NON-ENTRY)

(1:20)



**TYPE E ACCESS CHAMBER - FLEXIBLE MATERIAL
SURFACED AREA.**

(SUBJECT TO LIGHT TRAFFIC LOADS,
MAX. DEPTH 2m, NON-ENTRY)

(1:20)

- 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 RECURBISHED 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.

P2 - IW 25/09/26

REV: DESCRIPTION: BY: DATE:

STATUS: Preliminary

MERIDIAN
CIVIL ENGINEERING CONSULTANCY

CLIENT: Lightbox Architecture Ltd

SITE: Gilridge, Brighton Road,
Handcross, RH17 6BZ

TITLE: Typical Construction Details

SCALE AT A1: 1:20 DATE: 25/09/26 DRAWN: IW CHECKED: BB

PROJECT NO: MC0789 DRAWING NO: CIV02 REVISION: P2

1:20 @ A1
0 200 400 600 800 1000mm

APPENDIX III Calculations

Consultation Partner per ref: Meridian Civil Engineering

Test Site: Gilridge, Brighton Rd, Haywards Heath RH17 6BZ

Ref: CSR0049

Date of Test: 24/03/2026

CS Site Investigations were instructed to undertake BRE365 compliant infiltration testing within 1 no. shallow trial pits (approx. 0.5m) and 1 no. deeper trial pits at the locations shown within the figure below. Testing location is selected based upon assumed approximate proposed infiltration device locations.



Figure 1 - marked test locations

Expected Geology

The British Geological Survey (BGS) Geology of Britain Viewer indicates the below underlying geology:

Bedrock geology

Upper Tunbridge Wells Sand-Sandstone and mudstone. These sedimentary rocks are fluvial, palustrine and shallow-marine in origin. They are detrital, forming deposits reflecting the channels, floodplains and deltas of a river in a coastal setting (with periodic inundation from the sea).

Superficial geology

No superficials are predicted according to BGS records

Trial Pit Summary

TP	Length (m)	Width (m)	Depth (m)	Soil Description	Test Completed
1	1	0.3	1.2 (effective 1m)	0-150mm top soil, 150-350mm sand with clay, 350-1200mm pure sand	Y
2	1	0.3	0.5	0-150mm top soil, 150-350mm sand with clay, 350-500mm pure sand	Y

Table 1 - Table showing brief details of each hole

Site Investigation Additional Info

- The site is currently a residential dwelling. Proposals are for the construction of a new dwelling within the garden.
- Testing was undertaken to understand both deeper and shallow infiltration characteristics.
- Both trials pit drained steadily but consistently.
- Testing within the deeper trial pit showed signs of collapse due to instability, as such the base of the trial pit was raised by an average of 200mm during the course of the first test.
- We terminated the final tests early due to time constraints. However, the early parts of the final test were consistent with the previous.

Conclusion

The geology encountered beneath the site was predominantly top soil underlain by sand/clay mix underlain by pure sand. Infiltration testing in line with BRE365 methodology was completed.

Prepared By

Charles Applewhite BEng (Hons)



E: charles@cssiteinvestigations.com

M: 07985564512

Preparation Date: 24/03/2026

Disclaimer

This report is based on data obtained during the testing conducted on **March 24th 2026**. The conclusions and recommendations are made in good faith and are intended to assist in the design and development of the site drainage system. Any use of this report for purposes other than those stated should be done with caution and may require additional verification.

Appendix I – Raw Data

	Test Data		Test Data		Test Data	
	Test No:	1	Test No:	2	Test No:	3
BRE 305 Infiltration Test Results						
Site Address:	RH17 6B2					
Site Reference:	49					
Hole Reference:	TP01					
TP01 Dimensions (m)						
Length:	1					
Width:	0.3					
Depth:	1.2 (effective 1m)					
Time (mins)		Depth (m bgl)	Time (mins)		Time (mins)	
0		0.4	0		0	
5		0.45	5		5	
10		0.48	10		10	
15		0.51	15		15	
20		0.54	20		20	
25		0.57	25		25	
30		0.58	30		30	
40		0.6	40		40	
50		0.62	50		50	
60		0.64	60		60	
75		0.66	75		75	
90		0.68	90		90	
120		0.71	120		120	
150		0.74	150		150	
180		0.76	180		180	
210		0.78	210		210	
240		0.8	240		240	
270		0.82	270		270	
			300		300	
			330			

	Test Data		Test Data		Test Data	
	Test No:	1	Test No:	2	Test No:	3
BRE 305 Infiltration Test Results						
Site Address:	RH17 6B2					
Site Reference:	49					
Hole Reference:	TP02					
TP02 Dimensions (m)						
Length:	1					
Width:	0.3					
Depth:	0.5					
Time (mins)		Depth (m bgl)	Time (mins)		Time (mins)	
0		0.2	0		0	
5		0.21	5		5	
10		0.22	10		10	
15		0.22	15		15	
20		0.23	20		20	
25		0.24	25		25	
30		0.25	30		30	
40		0.26	40		40	
50		0.27	50		50	
60		0.28	60		60	
75		0.29	75		75	
90		0.3	90		90	
120		0.32	120		120	
150		0.34	150		150	
180		0.37	180		180	
210		0.4	210		210	
240		0.43	240		240	
			270		270	
			300		300	
			330			

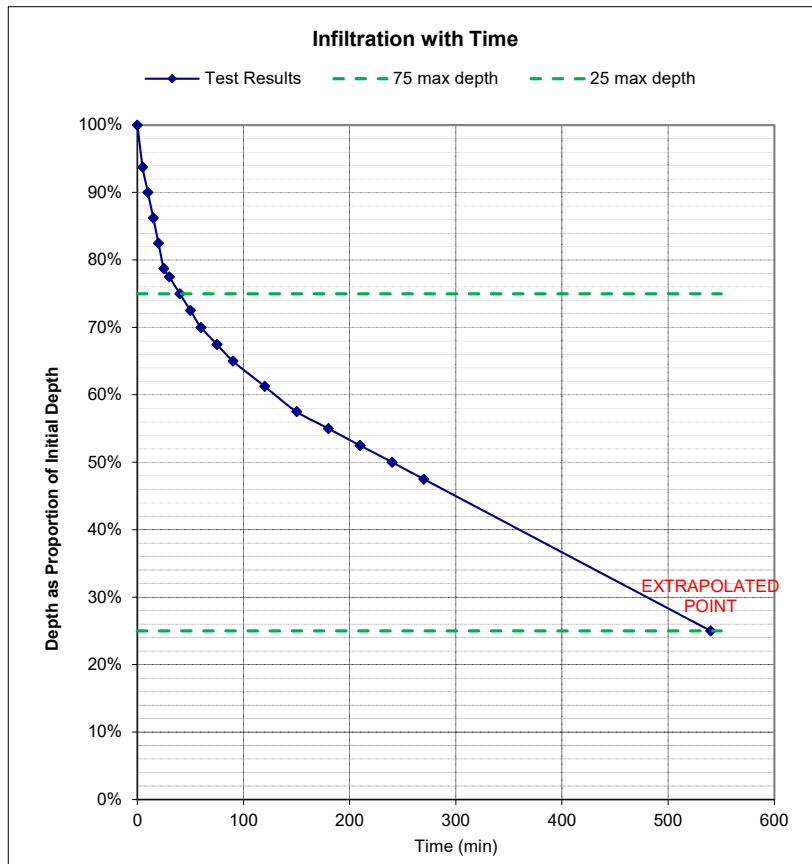


Appendix II – Summary & Photo

Trial Pit nu	Size (m)	Hole Graphic	Spoil Graphic	Test Graphic
TP01	D:1.2 B:1.0 W:0.3			
TP02	D:0.5 B:1.0 W:0.3			

ap50	Vp75-25	tp75-25
1.340 sq m	0.120 cub m	30000 s

time Proportion
 (min) infiltrated



0	100%
5	94%
10	90%
15	86%
20	83%
25	79%
30	78%
40	75%
50	73%
60	70%
75	68%
90	65%
120	61%
150	58%
180	55%
210	53%
240	50%
270	48%
540	25%
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
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#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A

75% line (of max water depth)

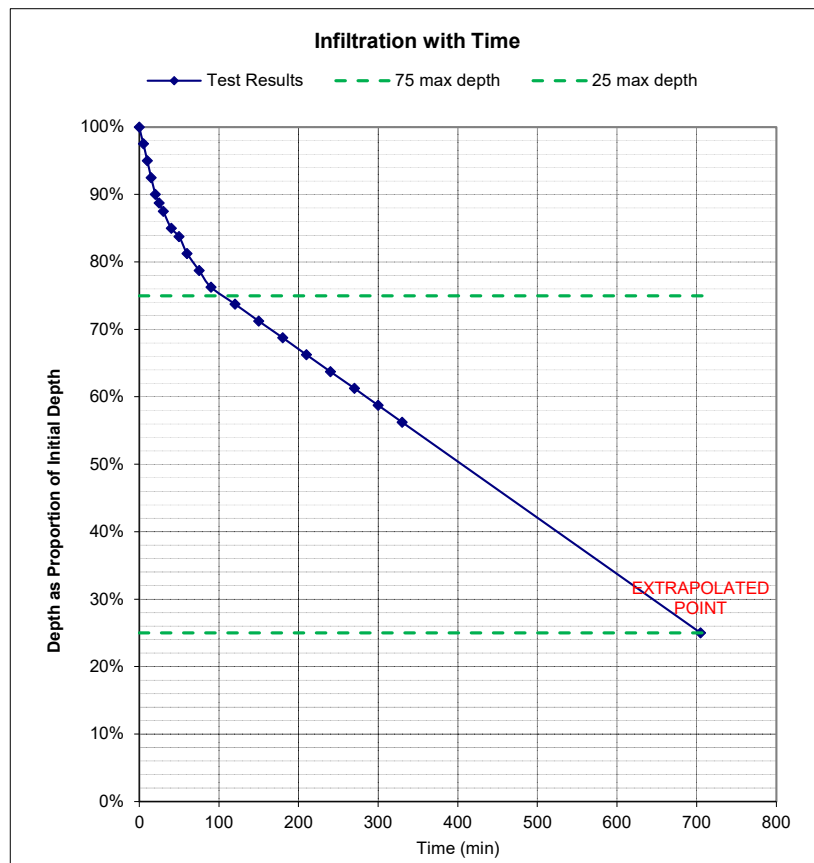
min	proportion
0	0.750
550.015	0.750

25% line (of max water depth)

min	proportion
0	0.250
550.015	0.250

ap50	Vp75-25	tp75-25
1.340 sq m	0.120 cub m	36000 s

time Proportion
(min) infiltrated



0	100%
5	98%
10	95%
15	93%
20	90%
25	89%
30	88%
40	85%
50	84%
60	81%
75	79%
90	76%
120	74%
150	71%
180	69%
210	66%
240	64%
270	61%
300	59%
330	56%
705	25%
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
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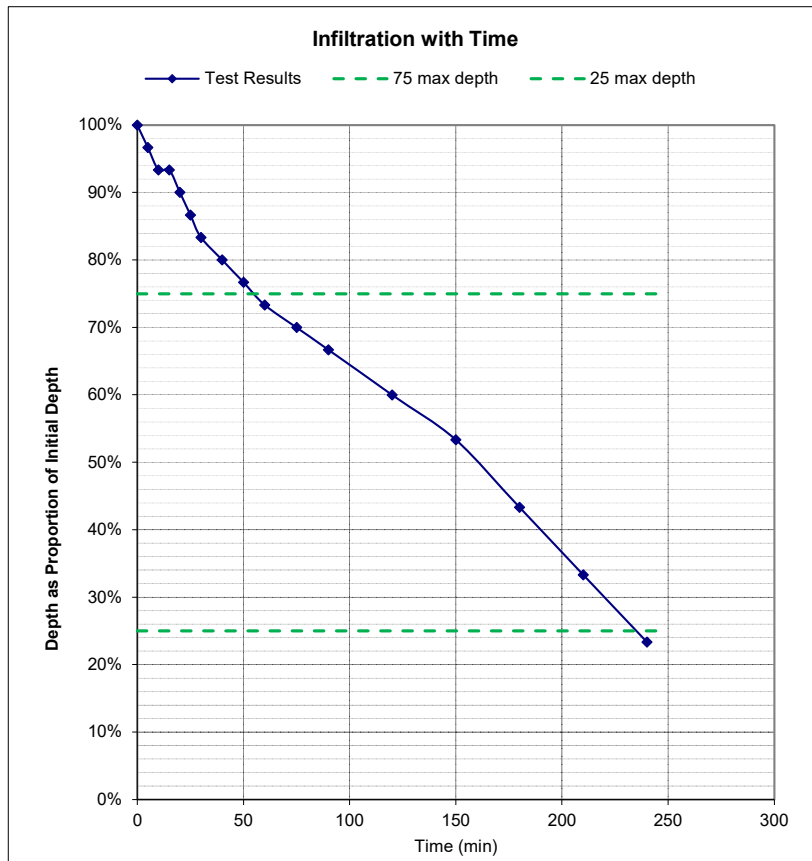
75% line (of max water depth)

min	proportion
0	0.750
715.015	0.750

25% line (of max water depth)

min	proportion
0	0.250
715.015	0.250

time Proportion
 (min) infiltrated



0	100%
5	97%
10	93%
15	93%
20	90%
25	87%
30	83%
40	80%
50	77%
60	73%
75	70%
90	67%
120	60%
150	53%
180	43%
210	33%
240	23%
#N/A	#N/A
#N/A	#N/A
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#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
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#N/A	#N/A
#N/A	#N/A

75% line (of max water depth)

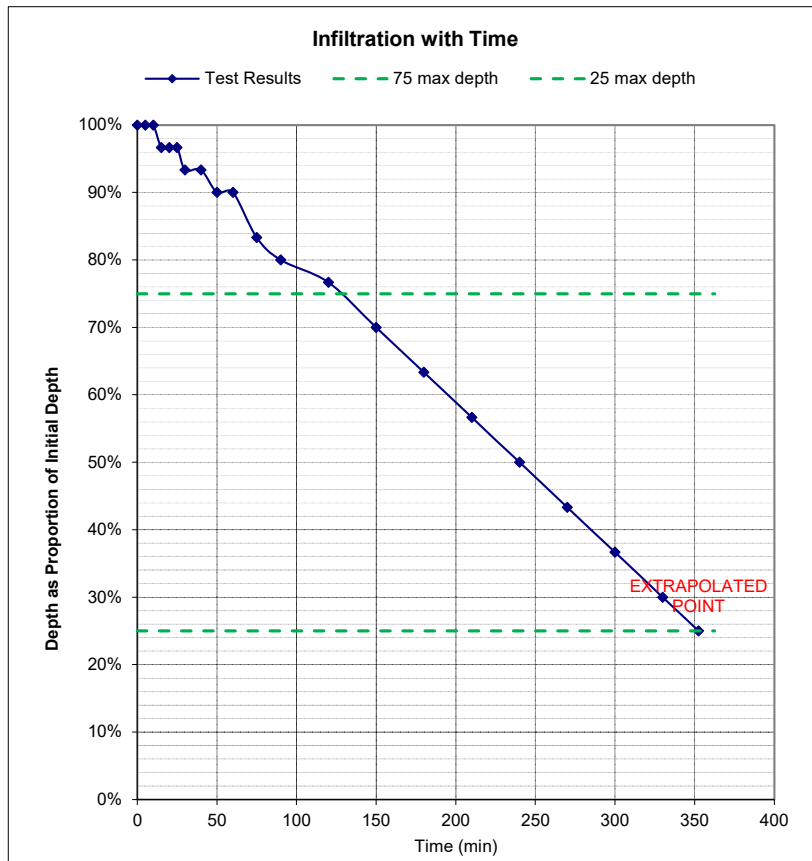
min	proportion
0	0.750
250	0.750

25% line (of max water depth)

min	proportion
0	0.250
250	0.250

The test failed to reach 25% total depth. The above infiltration rate is not compliant with BRE365. It is based on linear extrapolation of the last reading during the test.

time Proportion
(min) infiltrated



0	100%
5	100%
10	100%
15	97%
20	97%
25	97%
30	93%
40	93%
50	90%
60	90%
75	83%
90	80%
120	77%
150	70%
180	63%
210	57%
240	50%
270	43%
300	37%
330	30%
353	25%
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A

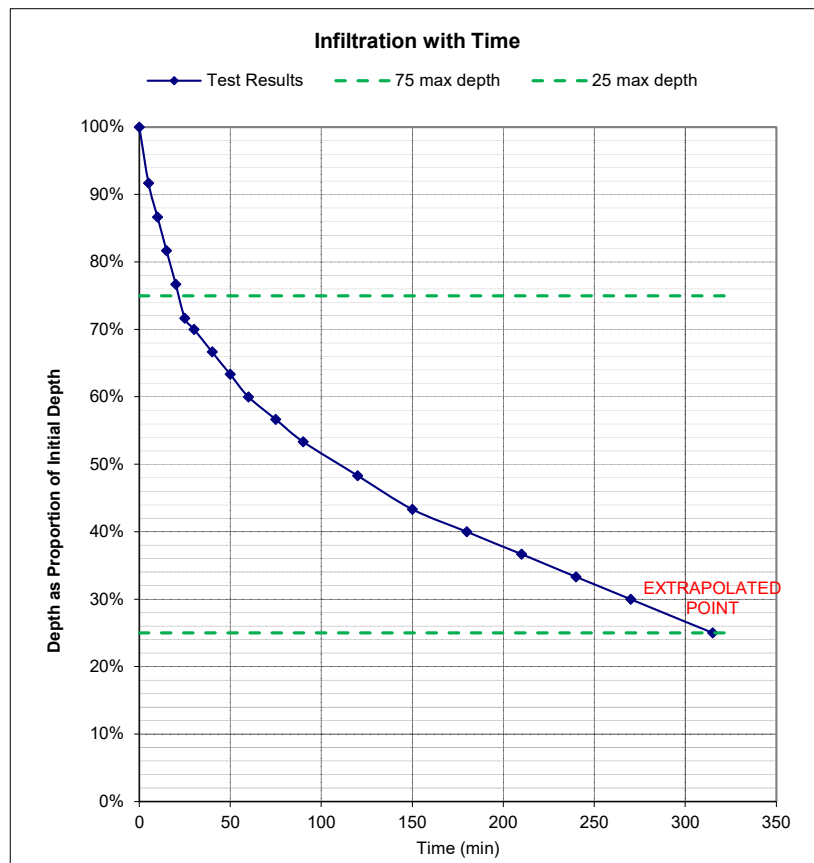
75% line (of max water depth)

min	proportion
0	0.750
362.515	0.750

25% line (of max water depth)

min	proportion
0	0.250
362.515	0.250

time Proportion
(min) infiltrated



0	100%
5	92%
10	87%
15	82%
20	77%
25	72%
30	70%
40	67%
50	63%
60	60%
75	57%
90	53%
120	48%
150	43%
180	40%
210	37%
240	33%
270	30%
315	25%
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A

75% line (of max water depth)

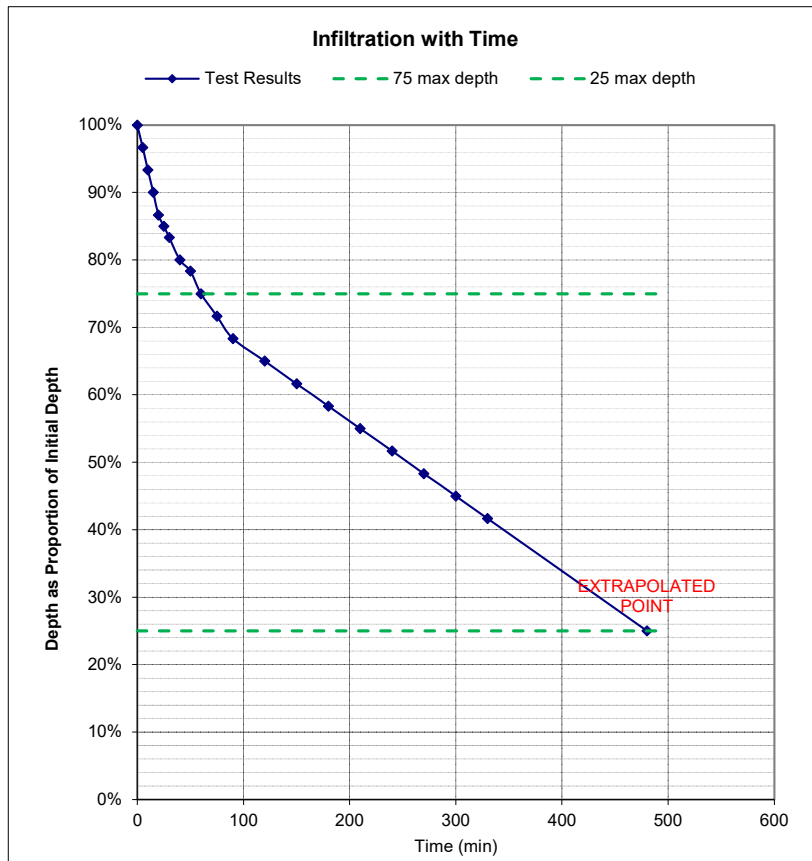
min	proportion
0	0.750
325.015	0.750

25% line (of max water depth)

min	proportion
0	0.250
325.015	0.250

ap50	Vp75-25	tp75-25
1.080 sq m	0.090 cub m	25200 s

time Proportion
 (min) infiltrated



0	100%
5	97%
10	93%
15	90%
20	87%
25	85%
30	83%
40	80%
50	78%
60	75%
75	72%
90	68%
120	65%
150	62%
180	58%
210	55%
240	52%
270	48%
300	45%
330	42%
480	25%
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A

75% line (of max water depth)

min	proportion
0	0.750
490.015	0.750

25% line (of max water depth)

min	proportion
0	0.250
490.015	0.250

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)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
1	0.002	4.00	150.600	100	79.780	-54.750	0.300
2	0.001	4.00	150.600	250	80.569	-60.763	0.452
3	0.002	4.00	150.800	450	88.388	-61.332	0.848
5	0.002	4.00	150.800	450	89.977	-47.874	0.910
6			150.800	450	95.336	-53.671	1.107
SA West			150.800		96.333	-53.753	1.132
4	0.002	4.00	150.600	100	80.611	-47.073	0.475

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	1	2	6.065	0.600	150.300	150.148	0.152	40.0	100	4.08	50.0
1.001	2	3	7.840	0.600	150.148	149.952	0.196	40.0	100	4.19	50.0
1.002	3	6	10.342	0.600	149.952	149.693	0.259	40.0	100	4.33	50.0
2.000	4	5	9.400	0.600	150.125	149.890	0.235	40.0	100	4.13	50.0
2.001	5	6	7.895	0.600	149.890	149.693	0.197	40.0	100	4.24	50.0

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	1.223	9.6	0.4	0.200	0.352	0.002	0.0	14	0.588
1.001	1.223	9.6	0.6	0.352	0.748	0.003	0.0	17	0.671
1.002	1.223	9.6	1.0	0.748	1.007	0.006	0.0	22	0.798
2.000	1.223	9.6	0.4	0.375	0.810	0.002	0.0	13	0.566
2.001	1.223	9.6	0.8	0.810	1.007	0.004	0.0	19	0.728

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)
1.003	6	SA West	1.000	0.600	149.693	149.668	0.025	40.0	100	4.34	50.0

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)
1.003	1.223	9.6	1.8	1.007	1.032	0.010	0.0	29	0.936

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	6.065	40.0	100	Circular	150.600	150.300	0.200	150.600	150.148	0.352
1.001	7.840	40.0	100	Circular	150.600	150.148	0.352	150.800	149.952	0.748
1.002	10.342	40.0	100	Circular	150.800	149.952	0.748	150.800	149.693	1.007
2.000	9.400	40.0	100	Circular	150.600	150.125	0.375	150.800	149.890	0.810
2.001	7.895	40.0	100	Circular	150.800	149.890	0.810	150.800	149.693	1.007
1.003	1.000	40.0	100	Circular	150.800	149.693	1.007	150.800	149.668	1.032

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	1	100	Manhole	SW_RE	2	250	Manhole	SW_Standard
1.001	2	250	Manhole	SW_Standard	3	450	Manhole	SW_Standard
1.002	3	450	Manhole	SW_Standard	6	450	Manhole	SW_Standard
2.000	4	100	Manhole	SW_RE	5	450	Manhole	SW_Standard
2.001	5	450	Manhole	SW_Standard	6	450	Manhole	SW_Standard
1.003	6	450	Manhole	SW_Standard	SA West		Junction	

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
1	79.780	-54.750	150.600	0.300	100	 0	1.000	150.300	100

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
2	80.569	-60.763	150.600	0.452	250		1	1.000	150.148	100
						0	1.001	150.148	100	
3	88.388	-61.332	150.800	0.848	450		1	1.001	149.952	100
						0	1.002	149.952	100	
5	89.977	-47.874	150.800	0.910	450		1	2.000	149.890	100
						0	2.001	149.890	100	
6	95.336	-53.671	150.800	1.107	450		1	2.001	149.693	100
						2	1.002	149.693	100	
						0	1.003	149.693	100	
SA West	96.333	-53.753	150.800	1.132			1	1.003	149.668	100
4	80.611	-47.073	150.600	0.475	100		0	2.000	150.125	100

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 %)
2	0	0	0	100	0	0	0
30	0	0	0	100	45	0	0

Node SA West Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.00896	Porosity	0.95	Pit Width (m)	3.000	Inf Depth (m)	
Side Inf Coefficient (m/hr)	0.00896	Invert Level (m)	149.600	Pit Length (m)	7.500	Number Required	1
Safety Factor	2.0	Time to half empty (mins)	2144	Depth (m)	0.400		

Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
2 year 15 minute summer	109.655	31.028	30 year 15 minute winter	197.013	79.441	100 year 30 minute summer	237.485	67.200
2 year 15 minute winter	76.951	31.028	30 year 30 minute summer	186.680	52.824	100 year 30 minute winter	166.656	67.200
2 year 30 minute summer	71.605	20.262	30 year 30 minute winter	131.003	52.824	100 year 60 minute summer	163.090	43.100
2 year 30 minute winter	50.249	20.262	30 year 60 minute summer	127.335	33.651	100 year 60 minute winter	108.353	43.100
2 year 60 minute summer	48.552	12.831	30 year 60 minute winter	84.598	33.651	100 year 120 minute summer	98.253	25.965
2 year 60 minute winter	32.257	12.831	30 year 120 minute summer	78.352	20.706	100 year 120 minute winter	65.277	25.965
2 year 120 minute summer	34.434	9.100	30 year 120 minute winter	52.055	20.706	100 year 180 minute summer	74.589	19.194
2 year 120 minute winter	22.877	9.100	30 year 180 minute summer	59.965	15.431	100 year 180 minute winter	48.485	19.194
2 year 180 minute summer	28.003	7.206	30 year 180 minute winter	38.979	15.431	100 year 240 minute summer	58.512	15.463
2 year 180 minute winter	18.203	7.206	30 year 240 minute summer	47.177	12.467	100 year 240 minute winter	38.874	15.463
2 year 240 minute summer	22.814	6.029	30 year 240 minute winter	31.343	12.467	100 year 360 minute summer	44.233	11.383
2 year 240 minute winter	15.157	6.029	30 year 360 minute summer	35.614	9.165	100 year 360 minute winter	28.753	11.383
2 year 360 minute summer	17.897	4.605	30 year 360 minute winter	23.150	9.165	100 year 480 minute summer	34.654	9.158
2 year 360 minute winter	11.633	4.605	30 year 480 minute summer	27.788	7.344	100 year 480 minute winter	23.023	9.158
2 year 480 minute summer	14.238	3.763	30 year 480 minute winter	18.462	7.344	100 year 600 minute summer	28.293	7.739
2 year 480 minute winter	9.460	3.763	30 year 600 minute summer	22.586	6.178	100 year 600 minute winter	19.331	7.739
2 year 600 minute summer	11.716	3.204	30 year 600 minute winter	15.432	6.178	100 year 720 minute summer	25.171	6.746
2 year 600 minute winter	8.005	3.204	30 year 720 minute summer	20.006	5.362	100 year 720 minute winter	16.916	6.746
2 year 720 minute summer	10.466	2.805	30 year 720 minute winter	13.445	5.362	100 year 960 minute summer	20.662	5.441
2 year 720 minute winter	7.034	2.805	30 year 960 minute summer	16.286	4.289	100 year 960 minute winter	13.687	5.441
2 year 960 minute summer	8.620	2.270	30 year 960 minute winter	10.788	4.289	100 year 1440 minute summer	14.908	3.995
2 year 960 minute winter	5.710	2.270	30 year 1440 minute summer	11.657	3.124	100 year 1440 minute winter	10.019	3.995
2 year 1440 minute summer	6.277	1.682	30 year 1440 minute winter	7.834	3.124	100 year +45% CC 15 minute summer	513.309	145.249
2 year 1440 minute winter	4.218	1.682	100 year 15 minute summer	354.006	100.172	100 year +45% CC 15 minute winter	360.217	145.249
30 year 15 minute summer	280.743	79.441	100 year 15 minute winter	248.425	100.172	100 year +45% CC 30 minute summer	344.353	97.440

Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
100 year +45% CC 30 minute winter	241.651	97.440	100 year +45% CC 240 minute summer	84.842	22.421	100 year +45% CC 600 minute winter	28.030	11.221
100 year +45% CC 60 minute summer	236.481	62.495	100 year +45% CC 240 minute winter	56.367	22.421	100 year +45% CC 720 minute summer	36.498	9.782
100 year +45% CC 60 minute winter	157.112	62.495	100 year +45% CC 360 minute summer	64.138	16.505	100 year +45% CC 720 minute winter	24.529	9.782
100 year +45% CC 120 minute summer	142.467	37.650	100 year +45% CC 360 minute winter	41.691	16.505	100 year +45% CC 960 minute summer	29.960	7.889
100 year +45% CC 120 minute winter	94.652	37.650	100 year +45% CC 480 minute summer	50.248	13.279	100 year +45% CC 960 minute winter	19.846	7.889
100 year +45% CC 180 minute summer	108.154	27.832	100 year +45% CC 480 minute winter	33.384	13.279	100 year +45% CC 1440 minute summer	21.616	5.793
100 year +45% CC 180 minute winter	70.303	27.832	100 year +45% CC 600 minute summer	41.024	11.221	100 year +45% CC 1440 minute winter	14.527	5.793

Results for 2 year Critical Storm Duration. Lowest mass balance: 98.16%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	1	10	150.314	0.014	0.4	0.0001	0.0000	OK
15 minute winter	2	10	150.165	0.017	0.6	0.0008	0.0000	OK
15 minute summer	3	10	149.975	0.023	1.1	0.0036	0.0000	OK
15 minute summer	5	10	149.911	0.021	0.9	0.0033	0.0000	OK
15 minute summer	6	10	149.726	0.033	2.0	0.0053	0.0000	OK
240 minute winter	SA West	168	149.680	0.012	0.5	1.7110	0.0000	OK
15 minute summer	4	10	150.139	0.014	0.4	0.0001	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 winter	1	1.000	2	0.4	0.523	0.041	0.0046
15 minute winter	2	1.001	3	0.6	0.562	0.061	0.0083
15 minute summer	3	1.002	6	1.1	0.602	0.112	0.0186
15 minute summer	5	2.001	6	0.9	0.528	0.092	0.0135
15 minute summer	6	1.003	SA West	1.9	0.894	0.199	0.0021
240 minute winter	SA West	Infiltration		0.0			
15 minute summer	4	2.000	5	0.4	0.442	0.041	0.0086

Results for 30 year Critical Storm Duration. Lowest mass balance: 98.16%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	10	150.322	0.022	1.0	0.0002	0.0000	OK
15 minute summer	2	10	150.176	0.028	1.6	0.0014	0.0000	OK
15 minute summer	3	10	149.989	0.037	2.8	0.0059	0.0000	OK
15 minute summer	5	10	149.923	0.033	2.2	0.0052	0.0000	OK
600 minute winter	6	420	149.795	0.102	0.9	0.0162	0.0000	SURCHARGED
600 minute winter	SA West	420	149.795	0.127	1.5	4.1615	0.0000	OK
15 minute summer	4	10	150.147	0.022	1.0	0.0002	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	2	1.0	0.664	0.104	0.0092
15 minute summer	2	1.001	3	1.6	0.731	0.166	0.0172
15 minute summer	3	1.002	6	2.8	0.763	0.290	0.0378
15 minute summer	5	2.001	6	2.2	0.648	0.229	0.0273
600 minute winter	6	1.003	SA West	1.5	0.619	0.151	0.0078
600 minute winter	SA West	Infiltration		0.0			
15 minute summer	4	2.000	5	1.0	0.580	0.104	0.0163

Results for 100 year Critical Storm Duration. Lowest mass balance: 98.16%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	10	150.325	0.025	1.3	0.0002	0.0000	OK
15 minute summer	2	10	150.180	0.032	2.1	0.0016	0.0000	OK
15 minute summer	3	10	149.994	0.042	3.6	0.0067	0.0000	OK
15 minute summer	5	10	149.927	0.037	2.8	0.0059	0.0000	OK
600 minute winter	6	435	149.854	0.161	0.5	0.0256	0.0000	SURCHARGED
600 minute winter	SA West	435	149.854	0.186	1.2	5.4346	0.0000	OK
15 minute summer	4	10	150.150	0.025	1.3	0.0002	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	2	1.3	0.713	0.135	0.0111
15 minute summer	2	1.001	3	2.1	0.794	0.218	0.0208
15 minute summer	3	1.002	6	3.6	0.814	0.374	0.0458
15 minute summer	5	2.001	6	2.8	0.675	0.291	0.0329
600 minute winter	6	1.003	SA West	1.2	0.623	0.125	0.0078
600 minute winter	SA West	Infiltration		0.0			
15 minute summer	4	2.000	5	1.3	0.630	0.135	0.0195

Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 98.16%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	10	150.330	0.030	1.9	0.0002	0.0000	OK
15 minute summer	2	10	150.187	0.038	3.0	0.0019	0.0000	OK
15 minute summer	3	10	150.005	0.052	5.2	0.0083	0.0000	OK
240 minute winter	5	232	149.990	0.100	0.7	0.0159	0.0000	OK
240 minute winter	6	232	149.990	0.297	1.7	0.0472	0.0000	SURCHARGED
240 minute winter	SA West	232	149.990	0.322	1.6	8.3342	0.0000	OK
15 minute summer	4	10	150.154	0.029	1.8	0.0002	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	2	1.9	0.796	0.198	0.0145
15 minute summer	2	1.001	3	3.0	0.867	0.313	0.0272
15 minute summer	3	1.002	6	5.2	0.871	0.541	0.0605
240 minute winter	5	2.001	6	0.7	0.419	0.073	0.0617
240 minute winter	6	1.003	SA West	1.6	0.733	0.168	0.0078
240 minute winter	SA West	Infiltration		0.0			
15 minute summer	4	2.000	5	1.8	0.678	0.187	0.0251

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)	Easting (m)	Northing (m)	Depth (m)
Permeable Paving	0.031		150.800	102.920	-48.236	0.607
Tanked Area		4.00	150.800	103.498	-48.254	0.600

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	Tanked Area	Permeable Paving	1.000	0.600	150.200	150.193	0.007	150.0	100	4.03	50.0

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	0.625	4.9	0.0	0.500	0.507	0.000	0.0	0	0.000

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	1.000	150.0	100	Circular	150.800	150.200	0.500	150.800	150.193	0.507
				Link	US	Node	DS	Node		
				1.000	Tanked Area	Junction	Permeable Paving	Junction		

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Connections	Link	IL (m)	Dia (mm)
Permeable Paving	102.920	-48.236	150.800	0.607	1 	1.000	150.193	100
Tanked Area	103.498	-48.254	150.800	0.600	 0	1.000	150.200	100

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)	2	30										
Climate Change (CC %)	0	0										
Additional Area (A %)	0	0										
Additional Flow (Q %)	0	0										

Node Permeable Paving Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00896	Porosity	0.30	Width (m)	10.000	Depth (m)	0.350
Side Inf Coefficient (m/hr)	0.00000	Invert Level (m)	150.200	Length (m)	28.080	Inf Depth (m)	
Safety Factor	3.0	Time to half empty (mins)	904	Slope (1:X)	9999.0		

Node Tanked Area Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Width (m)	2.900	Depth (m)	0.350
Side Inf Coefficient (m/hr)	0.00000	Invert Level (m)	150.200	Length (m)	10.000	Inf Depth (m)	
Safety Factor	3.0	Time to half empty (mins)	1110	Slope (1:X)	9999.0		

Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
2 year 15 minute summer	109.655	31.028	30 year 15 minute summer	280.743	79.441	100 year 15 minute summer	354.006	100.172
2 year 15 minute winter	76.951	31.028	30 year 15 minute winter	197.013	79.441	100 year 15 minute winter	248.425	100.172
2 year 30 minute summer	71.605	20.262	30 year 30 minute summer	186.680	52.824	100 year 30 minute summer	237.485	67.200
2 year 30 minute winter	50.249	20.262	30 year 30 minute winter	131.003	52.824	100 year 30 minute winter	166.656	67.200
2 year 60 minute summer	48.552	12.831	30 year 60 minute summer	127.335	33.651	100 year 60 minute summer	163.090	43.100
2 year 60 minute winter	32.257	12.831	30 year 60 minute winter	84.598	33.651	100 year 60 minute winter	108.353	43.100
2 year 120 minute summer	34.434	9.100	30 year 120 minute summer	78.352	20.706	100 year 120 minute summer	98.253	25.965
2 year 120 minute winter	22.877	9.100	30 year 120 minute winter	52.055	20.706	100 year 120 minute winter	65.277	25.965
2 year 180 minute summer	28.003	7.206	30 year 180 minute summer	59.965	15.431	100 year 180 minute summer	74.589	19.194
2 year 180 minute winter	18.203	7.206	30 year 180 minute winter	38.979	15.431	100 year 180 minute winter	48.485	19.194
2 year 240 minute summer	22.814	6.029	30 year 240 minute summer	47.177	12.467	100 year 240 minute summer	58.512	15.463
2 year 240 minute winter	15.157	6.029	30 year 240 minute winter	31.343	12.467	100 year 240 minute winter	38.874	15.463
2 year 360 minute summer	17.897	4.605	30 year 360 minute summer	35.614	9.165	100 year 360 minute summer	44.233	11.383
2 year 360 minute winter	11.633	4.605	30 year 360 minute winter	23.150	9.165	100 year 360 minute winter	28.753	11.383
2 year 480 minute summer	14.238	3.763	30 year 480 minute summer	27.788	7.344	100 year 480 minute summer	34.654	9.158
2 year 480 minute winter	9.460	3.763	30 year 480 minute winter	18.462	7.344	100 year 480 minute winter	23.023	9.158
2 year 600 minute summer	11.716	3.204	30 year 600 minute summer	22.586	6.178	100 year 600 minute summer	28.293	7.739
2 year 600 minute winter	8.005	3.204	30 year 600 minute winter	15.432	6.178	100 year 600 minute winter	19.331	7.739
2 year 720 minute summer	10.466	2.805	30 year 720 minute summer	20.006	5.362	100 year 720 minute summer	25.171	6.746
2 year 720 minute winter	7.034	2.805	30 year 720 minute winter	13.445	5.362	100 year 720 minute winter	16.916	6.746
2 year 960 minute summer	8.620	2.270	30 year 960 minute summer	16.286	4.289	100 year 960 minute summer	20.662	5.441
2 year 960 minute winter	5.710	2.270	30 year 960 minute winter	10.788	4.289	100 year 960 minute winter	13.687	5.441
2 year 1440 minute summer	6.277	1.682	30 year 1440 minute summer	11.657	3.124	100 year 1440 minute summer	14.908	3.995
2 year 1440 minute winter	4.218	1.682	30 year 1440 minute winter	7.834	3.124	100 year 1440 minute winter	10.019	3.995

Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
100 year +45% CC 15 minute summer	513.309	145.249	100 year +45% CC 180 minute summer	108.154	27.832	100 year +45% CC 600 minute summer	41.024	11.221
100 year +45% CC 15 minute winter	360.217	145.249	100 year +45% CC 180 minute winter	70.303	27.832	100 year +45% CC 600 minute winter	28.030	11.221
100 year +45% CC 30 minute summer	344.353	97.440	100 year +45% CC 240 minute summer	84.842	22.421	100 year +45% CC 720 minute summer	36.498	9.782
100 year +45% CC 30 minute winter	241.651	97.440	100 year +45% CC 240 minute winter	56.367	22.421	100 year +45% CC 720 minute winter	24.529	9.782
100 year +45% CC 60 minute summer	236.481	62.495	100 year +45% CC 360 minute summer	64.138	16.505	100 year +45% CC 960 minute summer	29.960	7.889
100 year +45% CC 60 minute winter	157.112	62.495	100 year +45% CC 360 minute winter	41.691	16.505	100 year +45% CC 960 minute winter	19.846	7.889
100 year +45% CC 120 minute summer	142.467	37.650	100 year +45% CC 480 minute summer	50.248	13.279	100 year +45% CC 1440 minute summer	21.616	5.793
100 year +45% CC 120 minute winter	94.652	37.650	100 year +45% CC 480 minute winter	33.384	13.279	100 year +45% CC 1440 minute winter	14.527	5.793

Results for 2 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
480 minute summer	Permeable Paving	336	150.266	0.073	1.2	5.4265	0.0000	OK
480 minute summer	Tanked Area	336	150.266	0.066	0.1	0.5691	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
480 minute summer	Permeable Paving	Infiltration		0.2			
480 minute summer	Tanked Area	1.000	Permeable Paving	-0.1	-0.055	-0.019	0.0058

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
360 minute summer	Permeable Paving	360	150.347	0.154	3.1	12.2633	0.0000	OK
360 minute summer	Tanked Area	360	150.347	0.147	0.3	1.2751	0.0000	SURCHARGED
Link Event (Upstream Depth)	US Node	Link		DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
360 minute summer	Permeable Paving	Infiltration			0.2			
360 minute summer	Tanked Area	1.000		Permeable Paving	-0.3	-0.100	-0.055	0.0078

Results for 100 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
600 minute winter	Permeable Paving	585	150.394	0.201	1.7	16.2526	0.0000	OK
600 minute winter	Tanked Area	585	150.394	0.194	0.1	1.6871	0.0000	SURCHARGED
Link Event (Upstream Depth)	US Node	Link		DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
600 minute winter	Permeable Paving	Infiltration			0.2			
600 minute winter	Tanked Area	1.000		Permeable Paving	-0.1	-0.091	-0.028	0.0078

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
960 minute summer	Permeable Paving	885	150.512	0.319	2.6	26.1515	0.0000	OK
960 minute summer	Tanked Area	885	150.512	0.312	0.2	2.7094	0.0000	FLOOD RISK
Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	
960 minute summer	Permeable Paving	Infiltration		0.2				
960 minute summer	Tanked Area	1.000	Permeable Paving	-0.2	-0.080	-0.045	0.0078	

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)	Cover Level (m)	Easting (m)	Northing (m)	Depth (m)
Grasscrete	0.003	151.000	102.920	-48.236	0.500

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 %)
2	0	0	0	100	0	0	0
30	0	0	0	100	45	0	0

Node Grasscrete Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00896	Porosity	0.30	Width (m)	5.000	Depth (m)	0.350
Side Inf Coefficient (m/hr)	0.00000	Invert Level (m)	150.500	Length (m)	5.000	Inf Depth (m)	
Safety Factor	3.0	Time to half empty (mins)	603	Slope (1:X)	9999.0		

Results for 2 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
480 minute winter	Grasscrete	296	150.566	0.066	0.1	0.4924	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)
480 minute winter	Grasscrete	Infiltration	0.0

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
600 minute winter	Grasscrete	420	150.638	0.138	0.1	1.0282	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)
600 minute winter	Grasscrete	Infiltration	0.0

Results for 100 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
960 minute winter	Grasscrete	645	150.695	0.194	0.1	1.4548	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)
960 minute winter	Grasscrete	Infiltration	0.0

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
360 minute winter	Grasscrete	336	150.808	0.308	0.3	2.3044	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)
360 minute winter	Grasscrete	Infiltration	0.0

Design Settings

Frequency of use (kDU)	Industrial Flow (l/s/ha)	Connection Type	Level Soffits	Include Intermediate Ground ✓
Flow per dwelling per day (l/day)	Additional Flow (%)	Minimum Backdrop Height (m)	0.200	
Domestic Flow (l/s/ha)	Minimum Velocity (m/s)	Preferred Cover Depth (m)	1.200	
4000	0			
	1.00			

Nodes

Name	Cover Level (m)	Easting (m)	Northing (m)	Depth (m)
1	151.000	88.687	-50.205	0.500
2	150.800	90.962	-51.294	0.363
3	151.000	88.429	-55.162	0.500
4	151.000	88.173	-57.957	0.500
5	150.800	90.885	-57.375	0.439
6	150.900	104.113	-58.573	0.705
EX MH	150.800	106.723	-57.473	0.640

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)
1.000	1	2	2.522	1.500	150.500	150.437	0.063	40.0	100
1.001	2	5	6.081	1.500	150.437	150.361	0.076	80.0	100
2.000	3	5	3.306	1.500	150.500	150.417	0.083	40.0	100
3.000	4	5	2.773	1.500	150.500	150.431	0.069	40.0	100
1.002	5	6	13.282	1.500	150.361	150.195	0.166	80.0	100
1.003	6	EX MH	2.833	1.500	150.195	150.160	0.035	80.0	100

Name	Vel (m/s)	Cap (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Dwellings (ha)	Σ Units (ha)	Σ Add Inflow (ha)
1.000	1.054	8.3	0.400	0.263	0.000	0	0.0	0.0
1.001	0.744	5.8	0.263	0.339	0.000	0	0.0	0.0
2.000	1.054	8.3	0.400	0.283	0.000	0	0.0	0.0
3.000	1.054	8.3	0.400	0.269	0.000	0	0.0	0.0
1.002	0.744	5.8	0.339	0.605	0.000	0	0.0	0.0
1.003	0.744	5.8	0.605	0.540	0.000	0	0.0	0.0

Pipeline Schedule

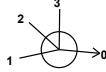
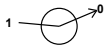
Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.000	2.522	40.0	100	FW_Standard	151.000	150.500	0.400	150.800	150.437	0.263
1.001	6.081	80.0	100	FW_Standard	150.800	150.437	0.263	150.800	150.361	0.339
2.000	3.306	40.0	100	FW_Standard	151.000	150.500	0.400	150.800	150.417	0.283
3.000	2.773	40.0	100	FW_Standard	151.000	150.500	0.400	150.800	150.431	0.269
1.002	13.282	80.0	100	FW_Standard	150.800	150.361	0.339	150.900	150.195	0.605
1.003	2.833	80.0	100	FW_Standard	150.900	150.195	0.605	150.800	150.160	0.540

Link	US Node	Node Type	MH Type	DS Node	Node Type	MH Type
1.000	1	Manhole	FW_SVP	2	Manhole	FW_Standard
1.001	2	Manhole	FW_Standard	5	Manhole	FW_Standard
2.000	3	Manhole	FW_SVP	5	Manhole	FW_Standard
3.000	4	Manhole	FW_SVP	5	Manhole	FW_Standard
1.002	5	Manhole	FW_Standard	6	Manhole	FW_Standard
1.003	6	Manhole	FW_Standard	EX MH	Junction	

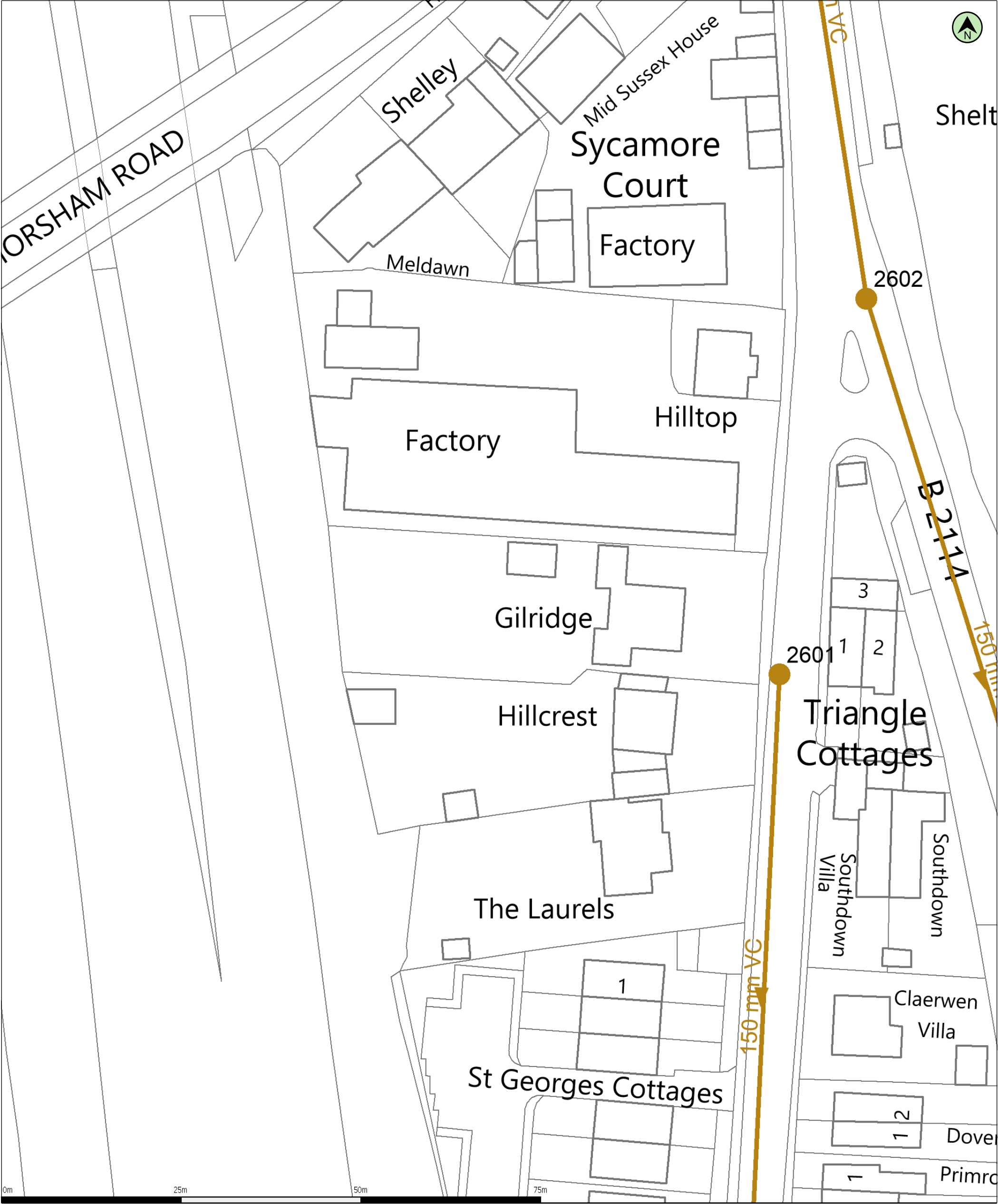
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Connections	Link	IL (m)	Dia (mm)
1	88.687	-50.205	151.000	0.500				
					0	1.000	150.500	100
2	90.962	-51.294	150.800	0.363		1	1.000	150.437
					0	1.001	150.437	100
3	88.429	-55.162	151.000	0.500				
					0	2.000	150.500	100
4	88.173	-57.957	151.000	0.500				
					0	3.000	150.500	100

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Connections	Link	IL (m)	Dia (mm)	
5	90.885	-57.375	150.800	0.439		1 2 3 0	3.000 2.000 1.001 1.002	150.431 150.417 150.361 150.361	100 100 100 100
6	104.113	-58.573	150.900	0.705		1 0	1.002 1.003	150.195 150.195	100 100
EX MH	106.723	-57.473	150.800	0.640		1	1.003	150.160	100

APPENDIX IV Southern Water Asset Location Search



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Data updated: 22/02/26

Scale: 1:500
Map Centre: 526180,129648

Date: 23/03/26
Our Ref: 2067541 - 1

Wastewater Plan A3
Powered by digdat

markn@meridiancivils.co.uk

MC0789



The positions of pipes shown on this plan are believed to be correct, but Southern Water Services Ltd accept no responsibility in the event of inaccuracy. The actual positions should be determined on site. This plan is produced by Southern Water Services Ltd (c) Crown copyright and database rights 2026 Ordnance Survey AC0000808122 .This map is to be used for the purposes of viewing the location of Southern Water plant only. Any other uses of the map data or further copies is not permitted.

WARNING: BAC pipes are constructed of Bonded Asbestos Cement.

WARNING: Unknown (UNK) materials may include Bonded Asbestos Cement.

