

MERIDIAN

CIVIL ENGINEERING CONSULTANCY

GILRIDGE,
BRIGHTON ROAD,
HANDCROSS, WEST SUSSEX,
RH17 6BZ

SURFACE AND FOUL WATER DRAINAGE STRATEGY

APRIL 2026

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Client : Lightbox Architecture

Rev	Date	Prepared by	Checked by	Approved by
P1	21/04/26	IW	BB	MN

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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 and new proposed chalet bungalow are to drain to geocellular soakaways beneath their rear gardens. 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 east soakaway is to have an area of 21.0m² with a depth of 0.8m and a porosity of 95%. As such, a minimum attenuation volume of 15.96m³ is provided for the surface water network. The west soakaway is to have an area of 16.25m² with a depth of 0.8m and a porosity of 95%. As such, a minimum attenuation volume of

12.35m³ 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.

- 1.11 Proposed Type A Permeable Paving (infiltration) 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%. 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.

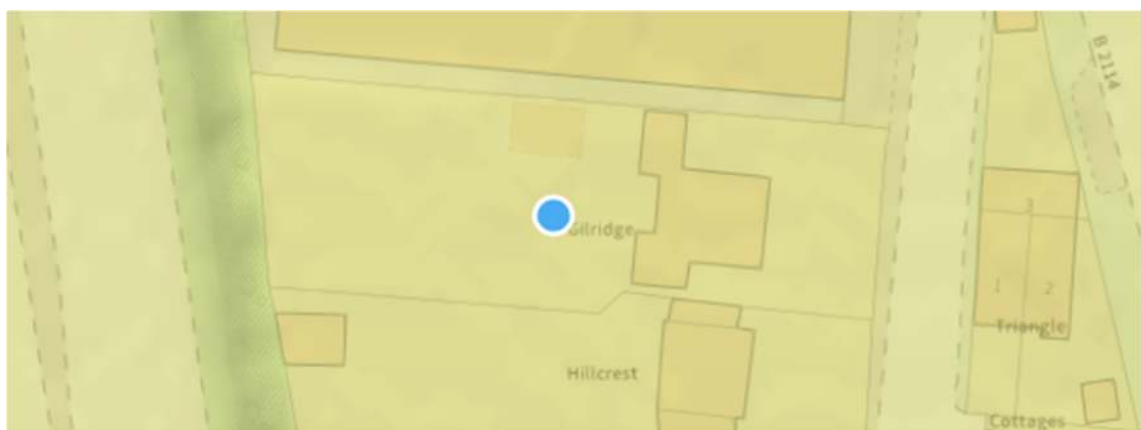


Figure 1 - Site location within red line boundary

- 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.

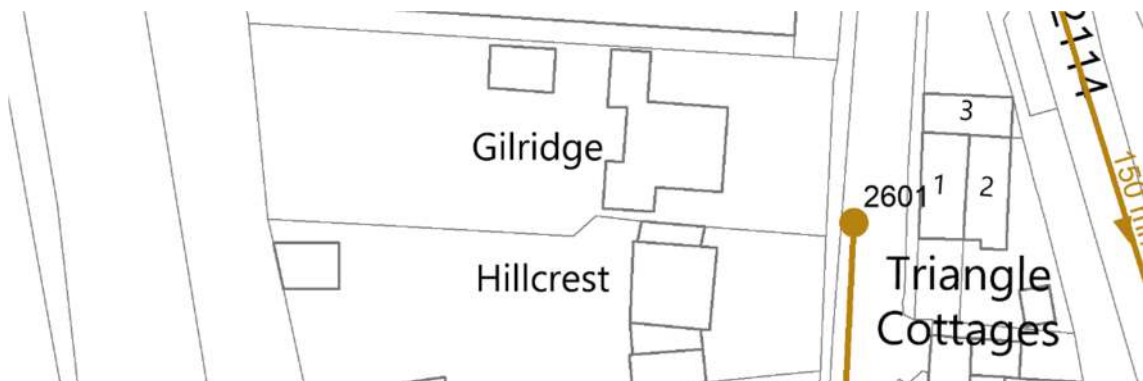


Figure 4: Marked Test Locations extract

- 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 permeable paving (infiltrating) is proposed to attenuate runoff for the access road catchment. Soakaways are proposed for the individual properties 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 C 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

Geocellular systems can be used to control and manage rainwater surface water runoff either as a soakaway or as a storage tank.

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.

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 and new proposed chalet bungalow are to drain to geocellular soakaways beneath their rear gardens. 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 east soakaway is to have an area of 21.0m² with a depth of 0.8m and a porosity of 95%. As such, a minimum attenuation volume of 15.96m³ 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 360-minute winter for the 1in30year storm event, the soakaway is calculated to hold 5.28m³ of runoff. After a 24-hour period after the critical storm ends (1800 minutes total since the start of the storm), the stored volume of water is calculated to be 2.62m³. 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)
360 minute winter	SA East	344	149.665	-0.005	0.6	5.2777	0.0000

Table 3: 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)
1800	149.531	-0.139	0.0	2.6182	0.0	0.0

Table 3.1: 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 According to Causeway Flow calculations and site plans, the west soakaway is to have an area of 16.25m² with a depth of 0.8m and a porosity of 95%. As such, a minimum attenuation volume of 12.35m³ 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.

- 9.5.1 As extracted below, following the critical 600-minute winter for the 1in30year storm event, the soakaway is calculated to hold 4.40m³ 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 2.03m³. 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 minute winter	SA West	420	149.185	-0.404	0.5	4.3986	0.0000

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	149.031	-0.558	0.0	2.0271	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

- 9.6 Proposed Type A Permeable Paving (infiltration) 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%. This has been designed prevent surface water flooding during the 1 in 100 year +45% climate change event (1%AEP+CC).
- 9.7 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).
- 9.8 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.

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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.

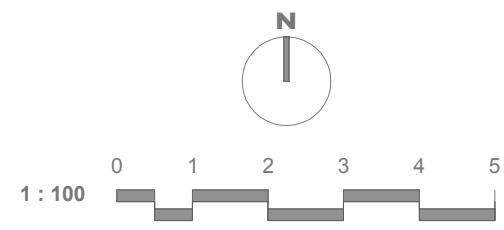
13.8 The data published on the DEFRA database shows the site located within the Adur and Ouse Management Catchment and for this development, an upper allowance of 45% should be applied to rainfall events as the climate change allowance within this region.

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 and new proposed chalet bungalow are to drain to geocellular soakaways beneath their rear gardens. 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 east soakaway is to have an area of 21.0m² with a depth of 0.8m and a porosity of 95%. As such, a minimum attenuation volume of 15.96m³ is provided for the surface water network. The west soakaway is to have an area of 16.25m² with a depth of 0.8m and a porosity of 95%. As such, a minimum attenuation volume of

- 12.35m³ 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 Type A Permeable Paving (infiltration) 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%. 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



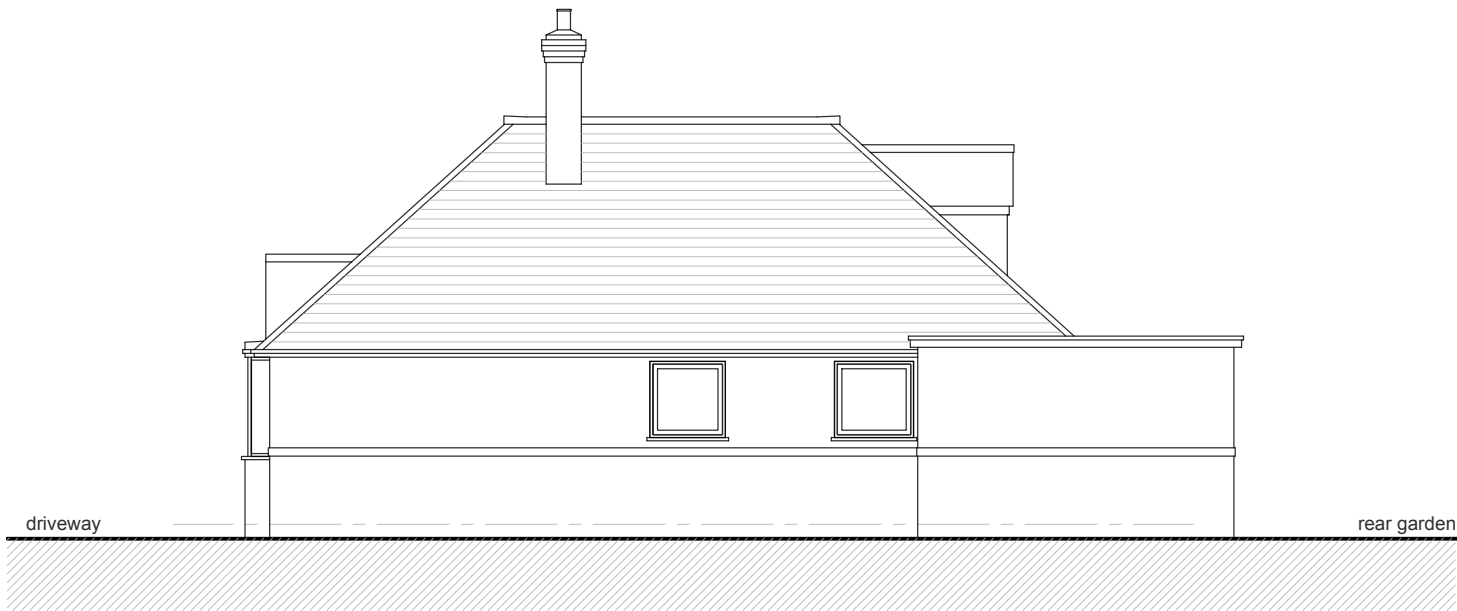
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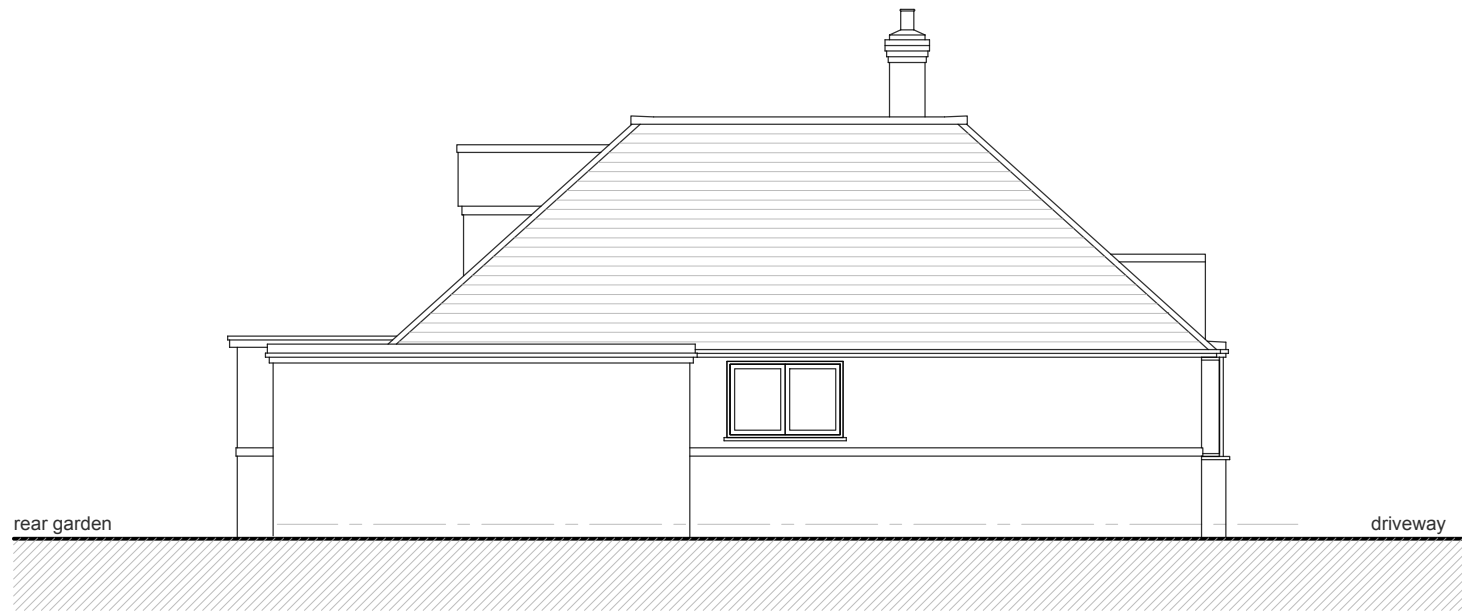
Front Elevation (East)



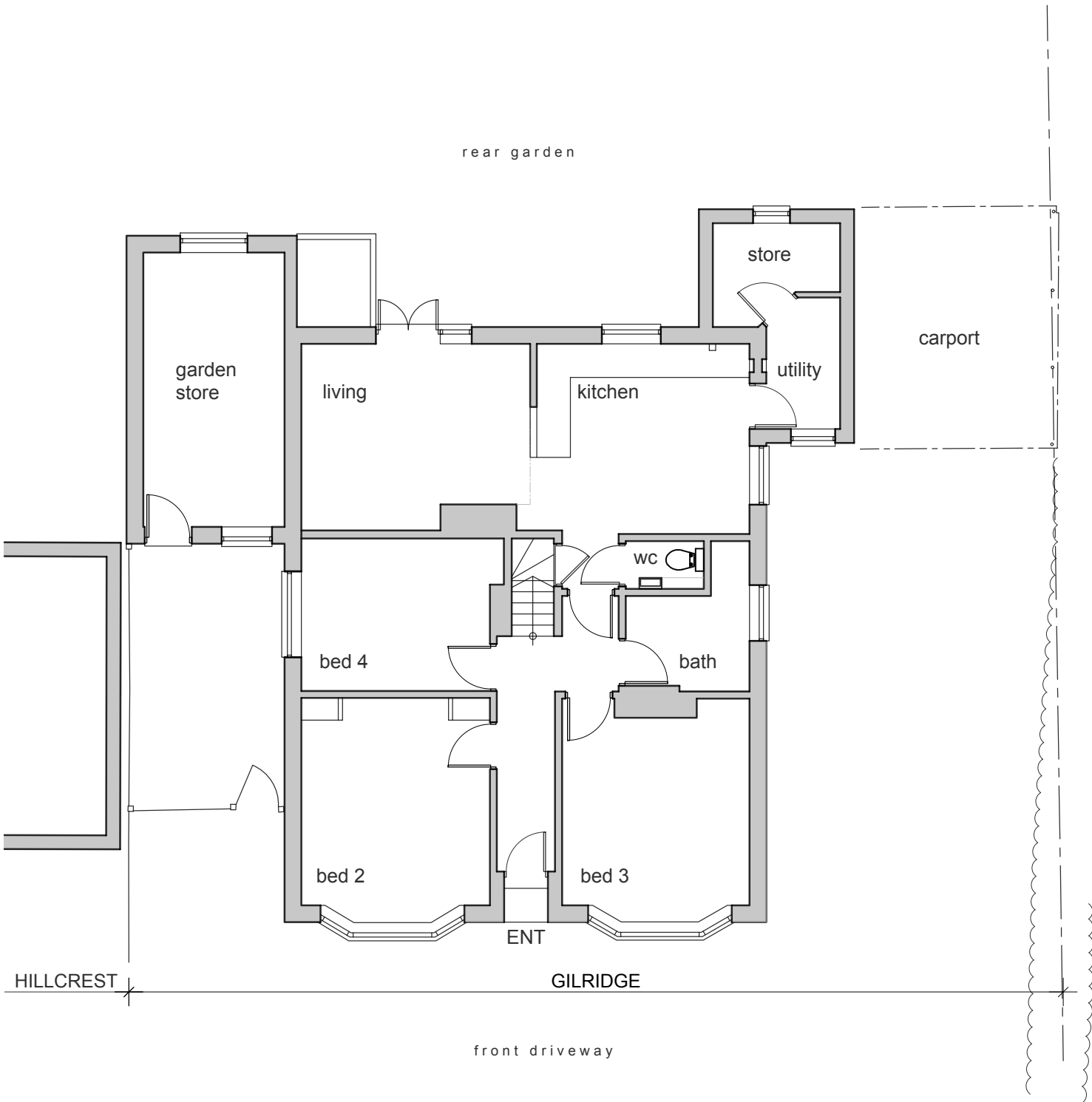
Rear Elevation (West)



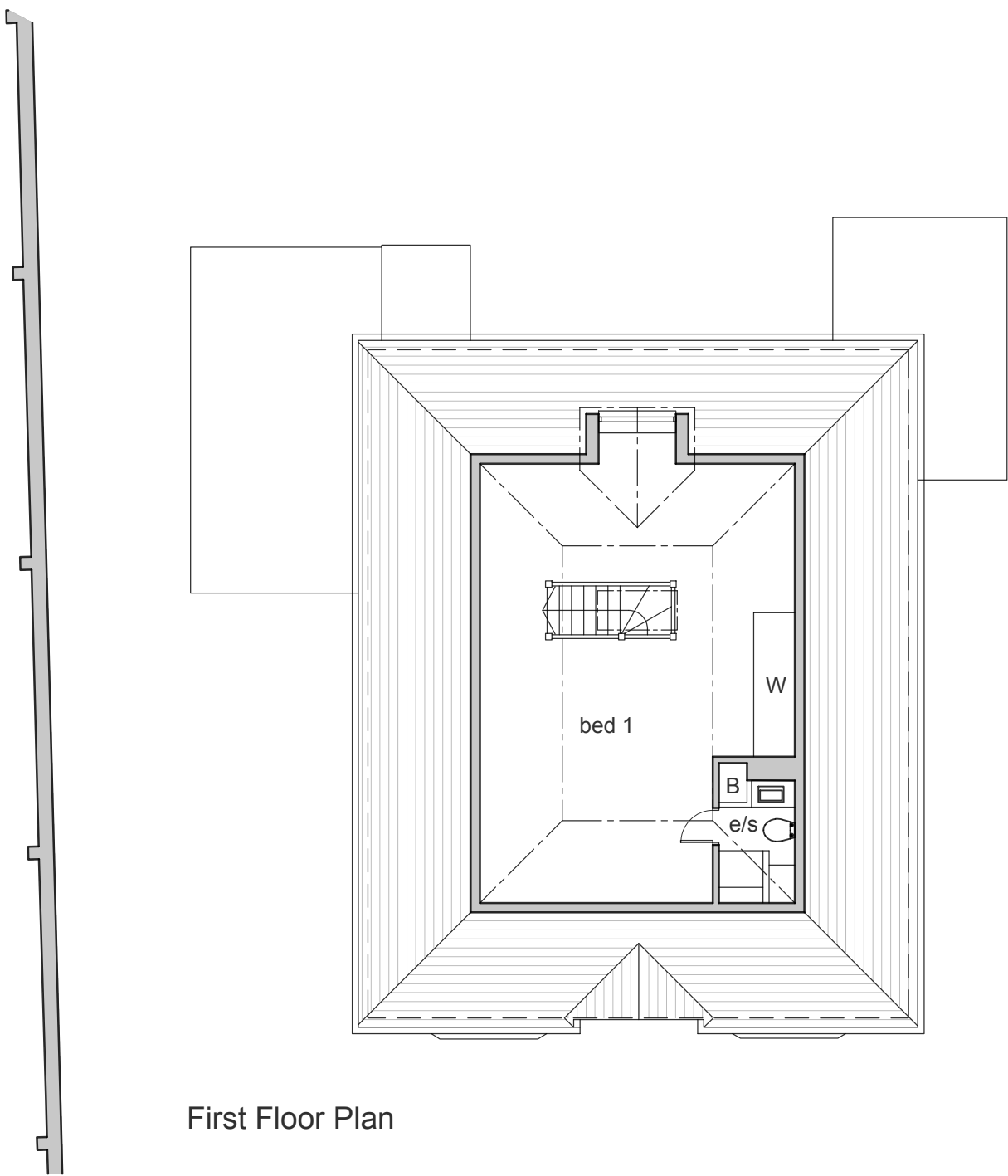
Flank Elevation (North)



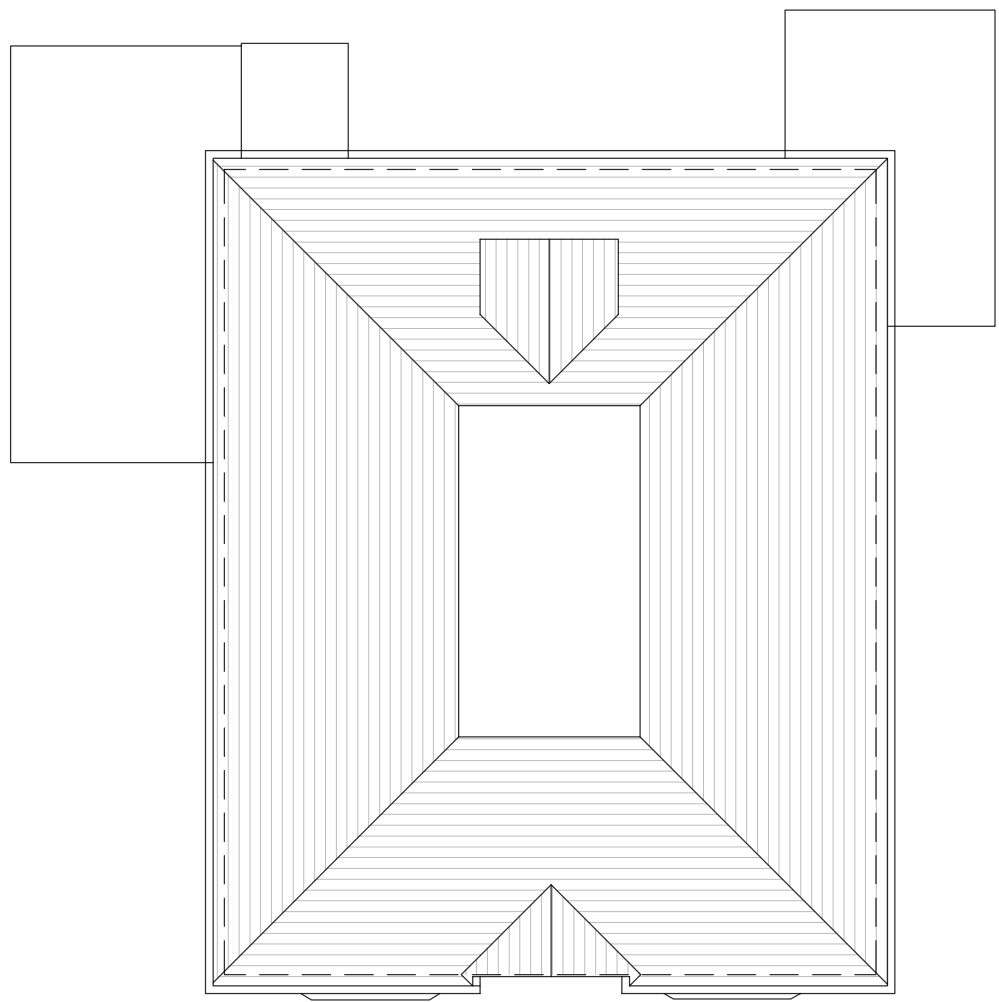
Flank Elevation (South)



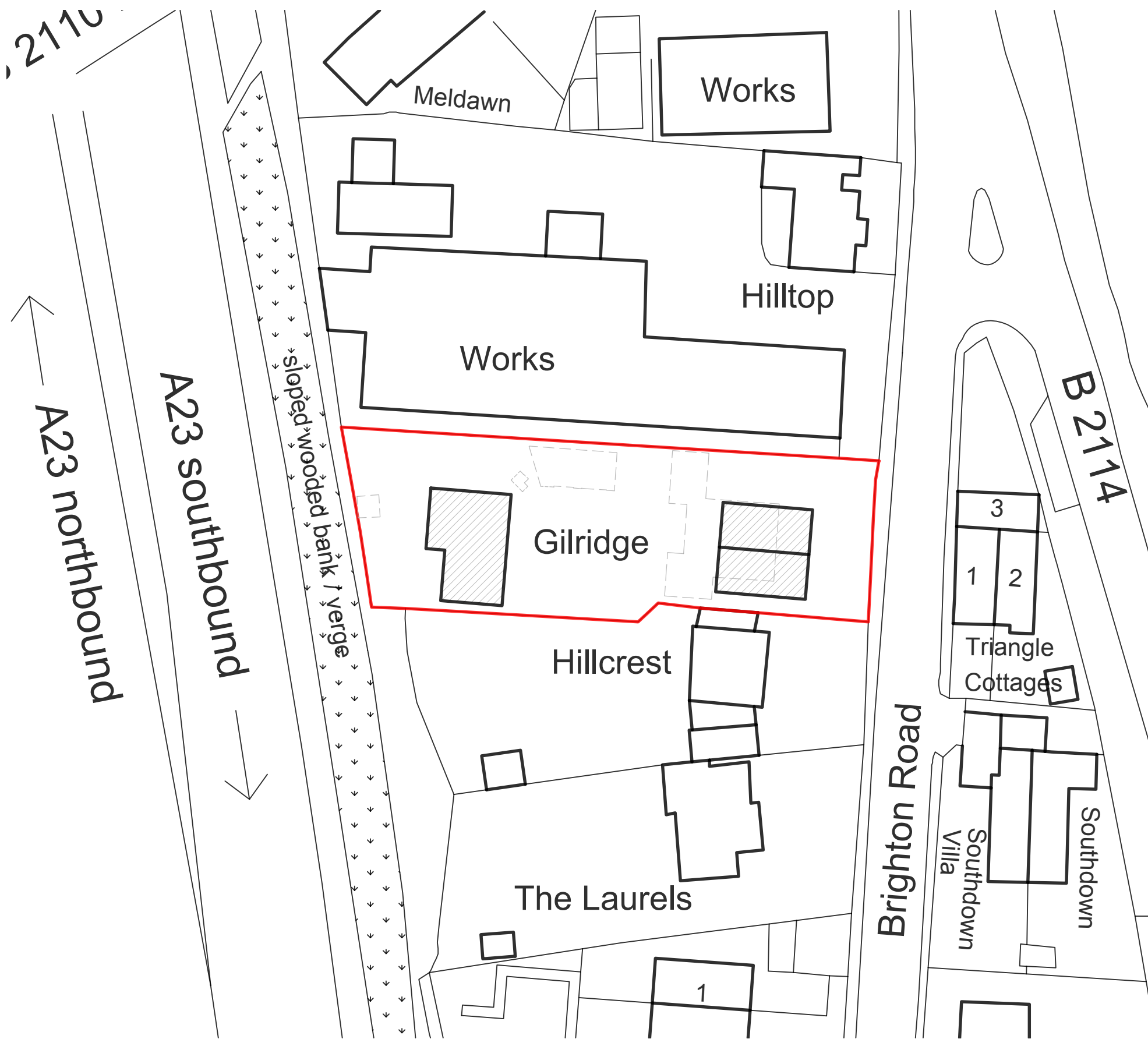
Ground Floor Plan



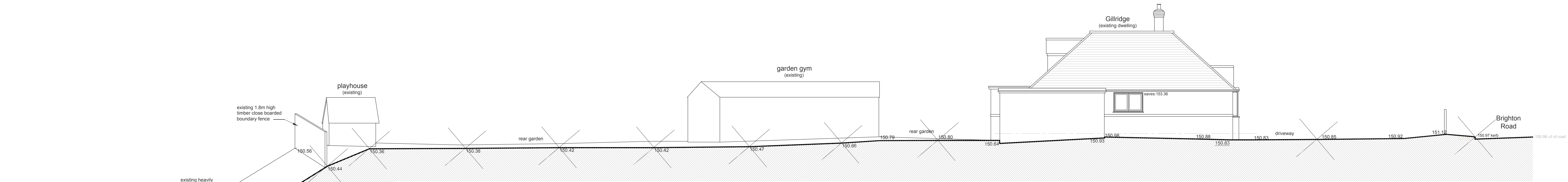
First Floor Plan



Roof Plan



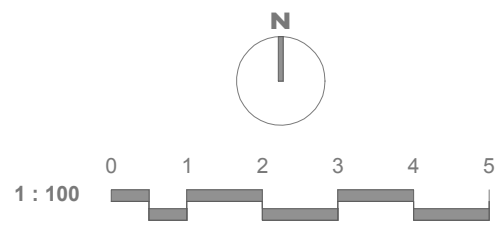
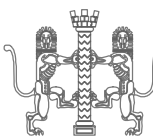
Site Location / Block Plan - 1:500 scale



Existing Site Section

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LIMITED

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

Drawing				Drawing Number		Revision	
Existing Floor Plans, Elevations & Site Location Plan				23/114/101		A	
PRELIMINARY / PLANNING / BUILDING REGS				Scale		Date	
Rev.	Date	Description	By	1:100 @ A1		28.07.2025	
A	28/10/25	Additional info added	AB				

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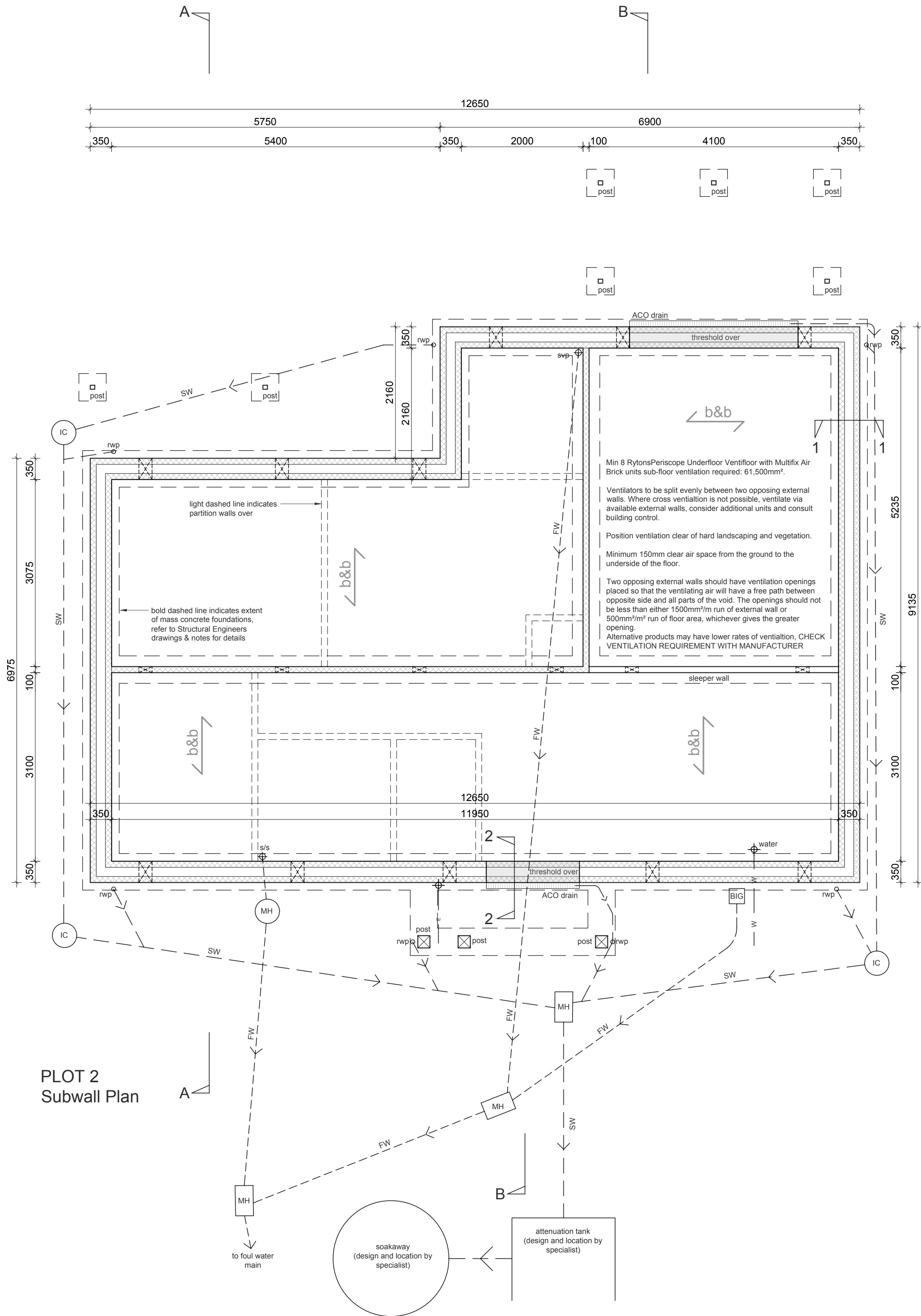
Electrical Installation
Electrical installation to conform with the latest I.E.E. regulations and requirements and electrical layout and to be undertaken by electrician who is part of the Competent Person Scheme. The relevant electrical installation certificate is to be provided to the Local Authority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

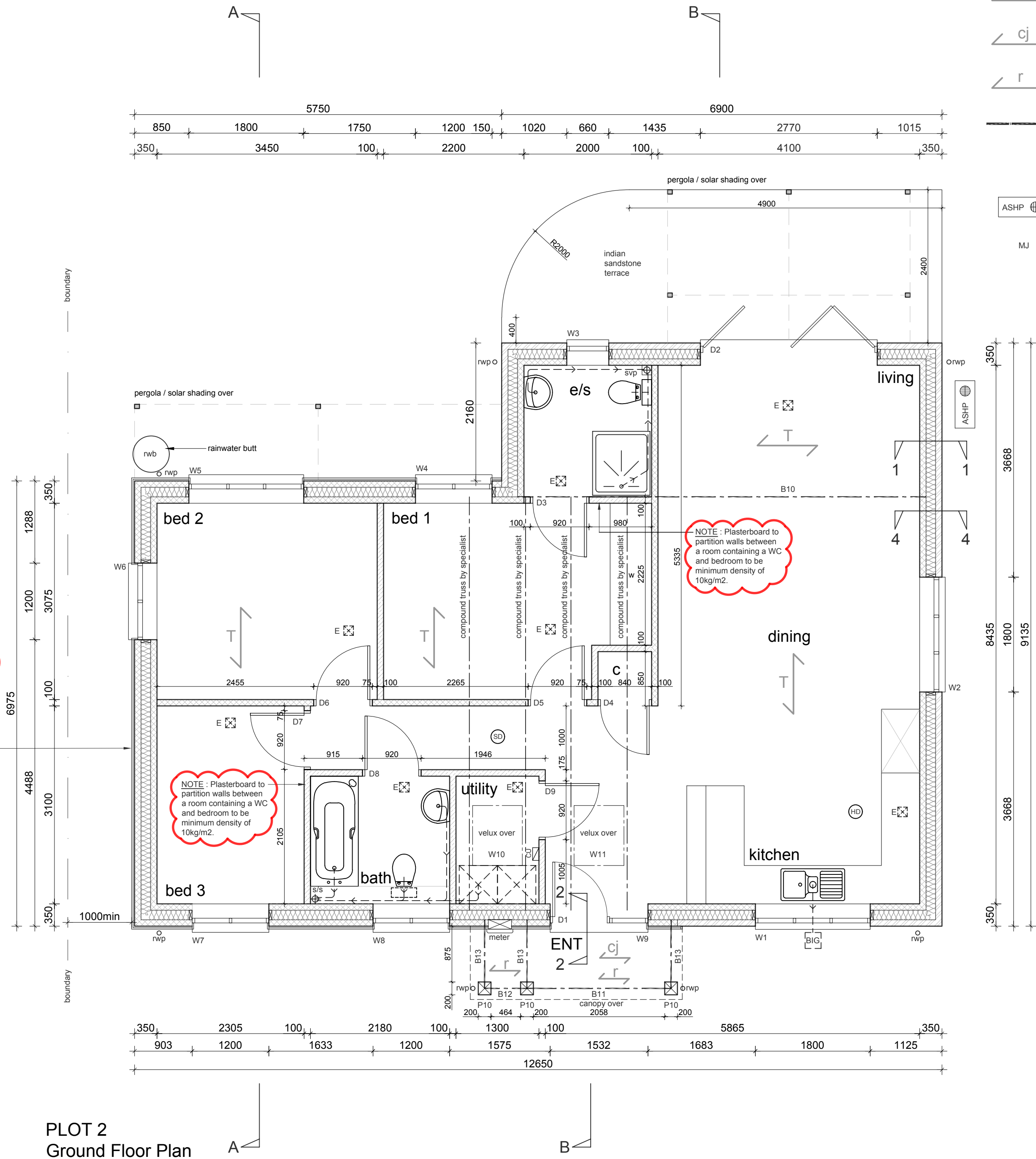
NOTE. CARE SHOULD BE TAKEN WHEN SETTING OUT AND ORDERING FIXED SIZE MATERIALS / COMPONENTS TO ENSURE SUITABILITY. WHERE A DISCREPANCY OCCURS IT SHOULD BE BROUGHT TO THE PROJECT ARCHITECTS ATTENTION. ON SITE ADAPTATIONS MAY BE REQUIRED WHERE DISCREPANCIES OCCUR.

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



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 (HW02N) with HW superb clear top coat, or similar to achieve class 0 and 1 EU SBI/s1/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 MNa/g)



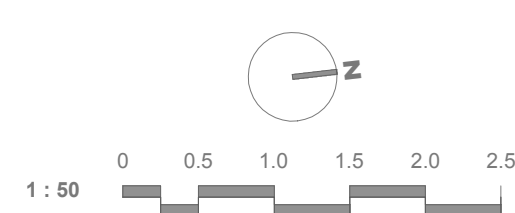
Legend

- 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.

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

Rev. Date Description By AB

Drawing Number

23/114/200

Revision

C

Scale 1:50 @ A1 Date 28.07.2025 By AB

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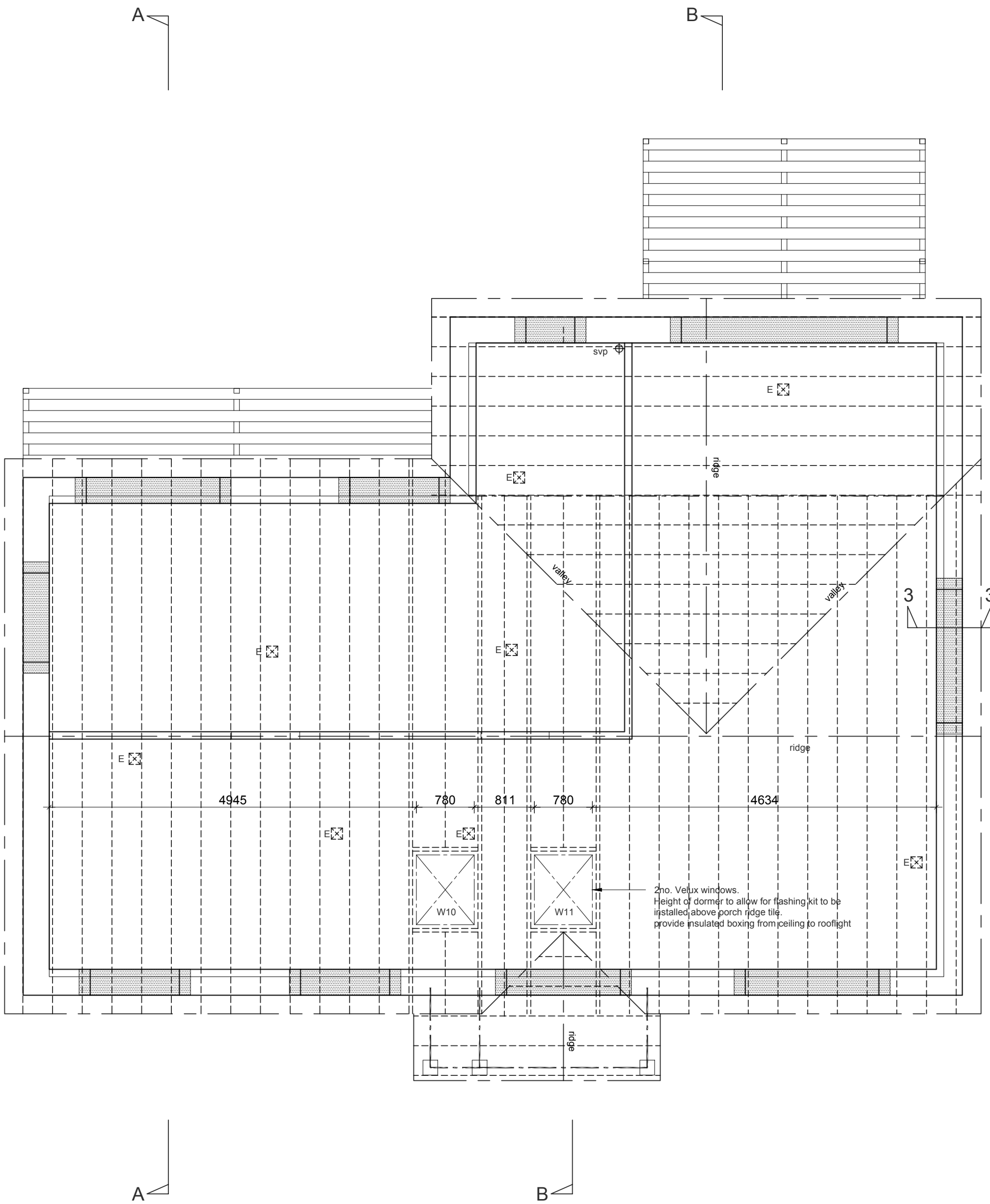
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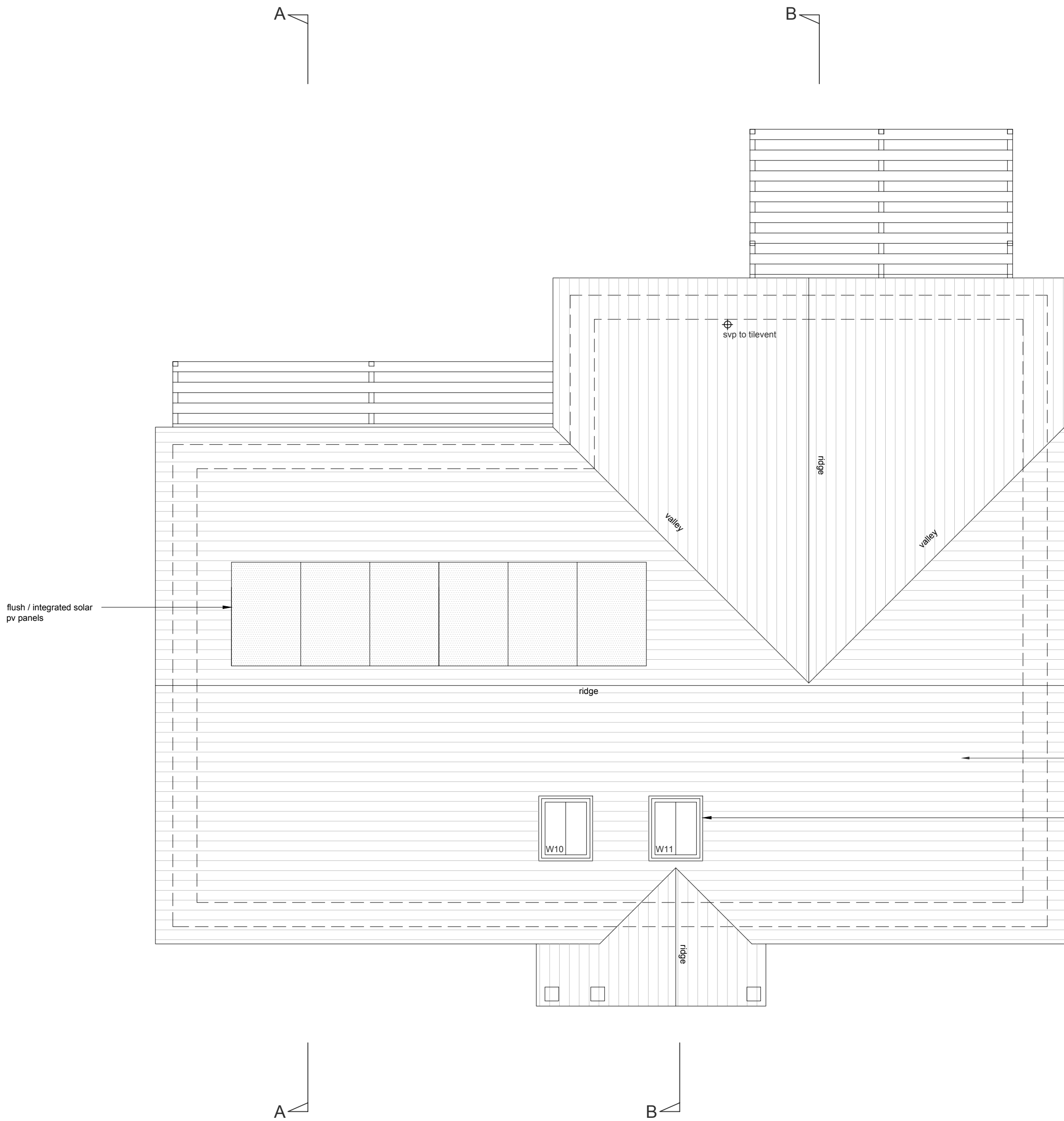
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PLOT 2
Roof Carcass Plan



PLOT 2
Roof Plan

Legend

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- Timber or metal studwork walls (non-loadbearing)
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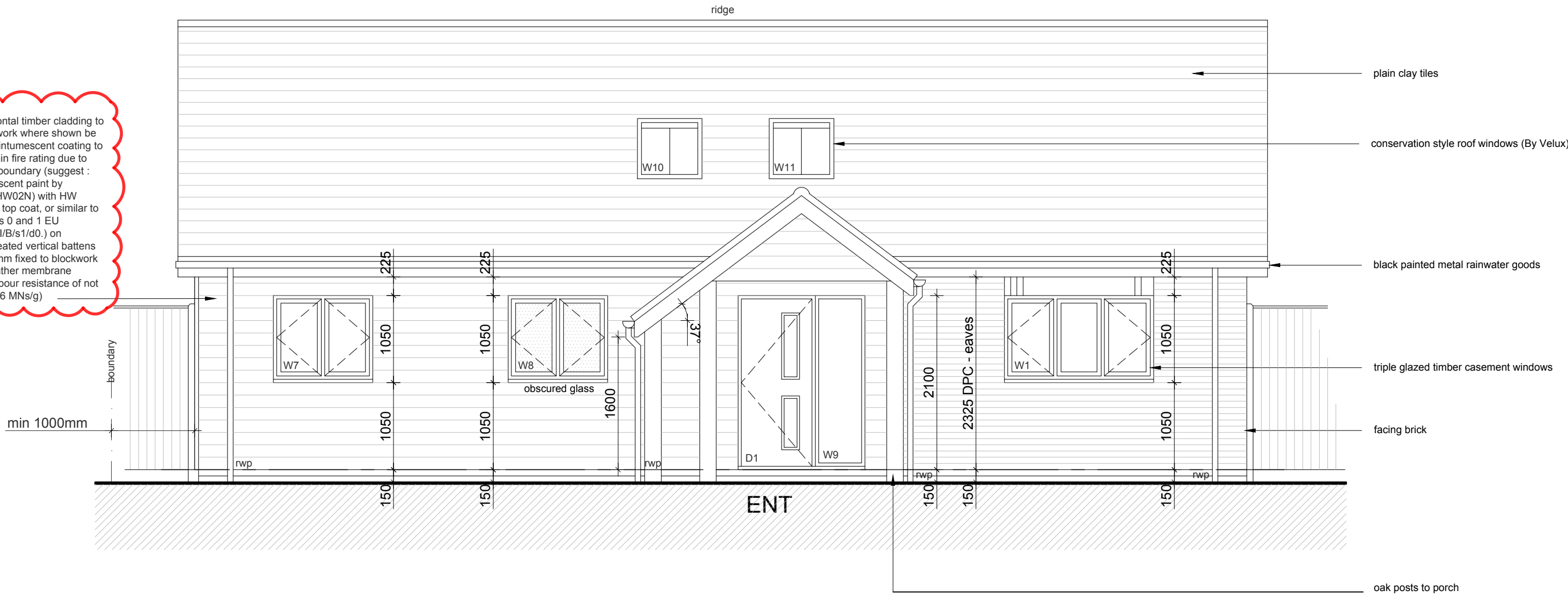
Beams above
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ASHP Air Source Heat Pump

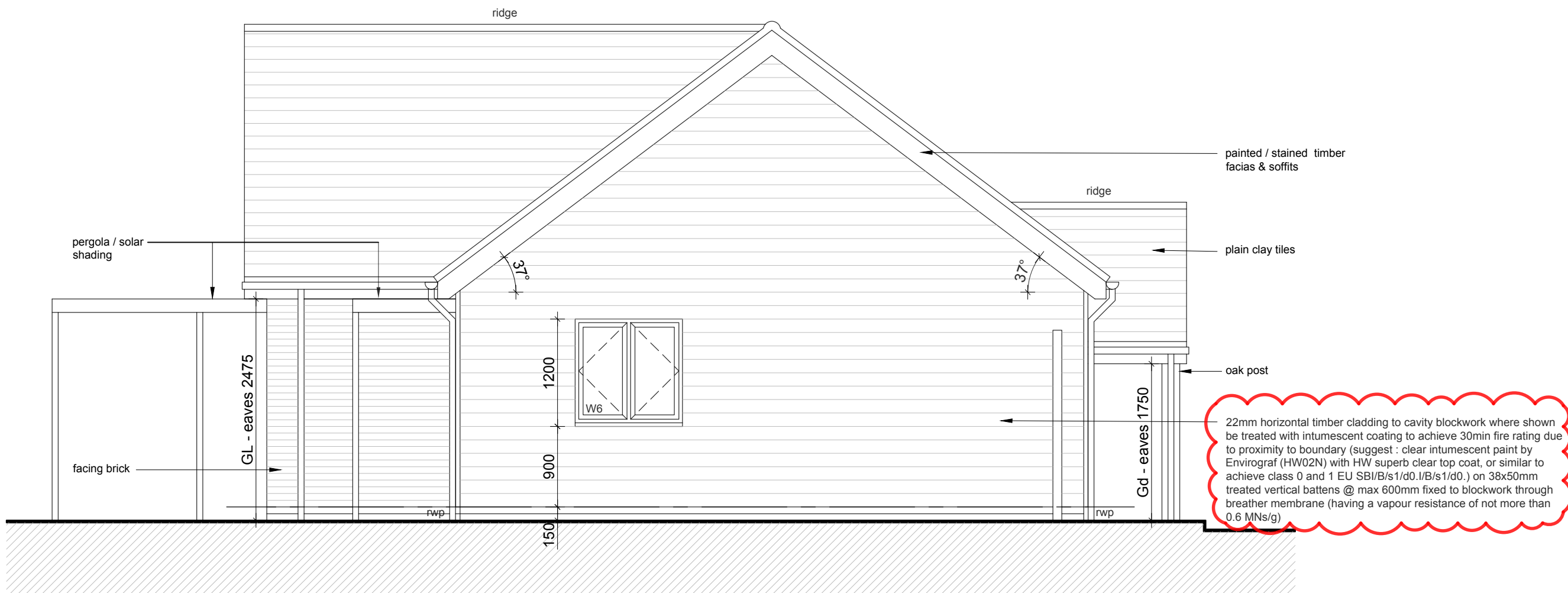
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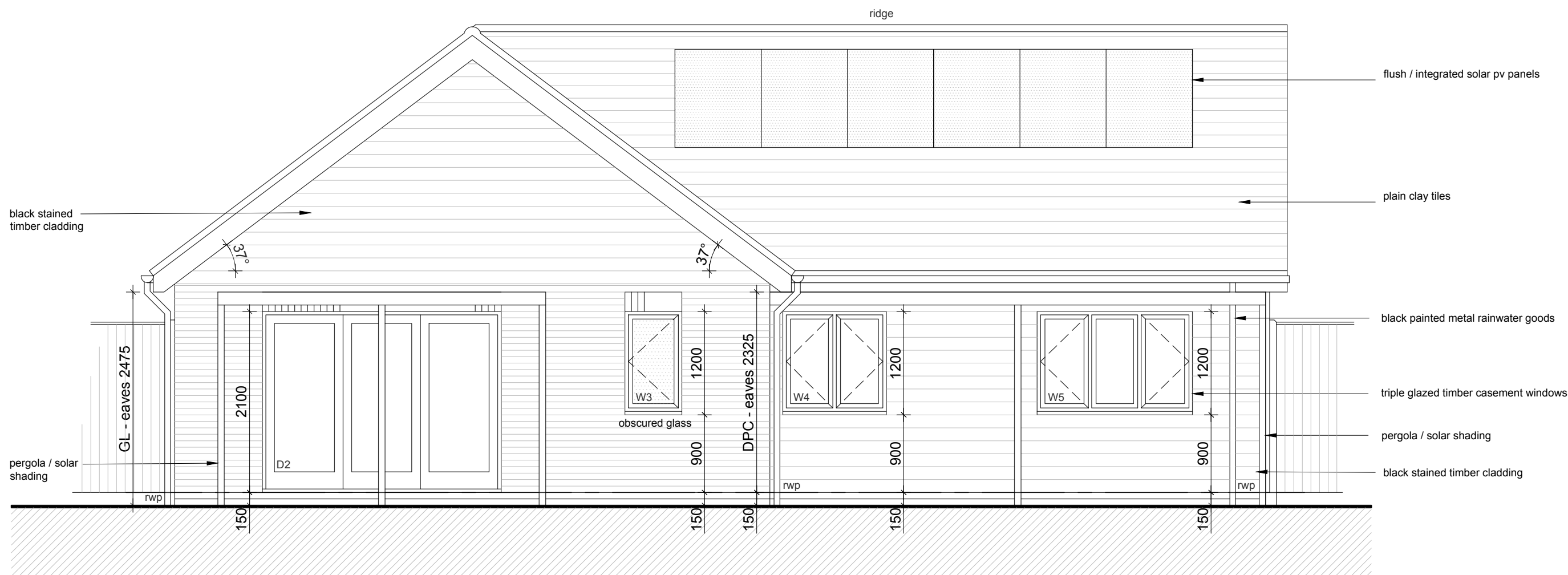
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Front Elevation



Flank Elevation



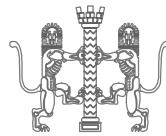
Rear Elevation



Flank Elevation

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web: www.lightboxarchitecture.com
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Client:
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Brighton Road,
Handcross,
RH17 6BZ.

Drawing
PLOT 2
Proposed Elevations

PRELIMINARY / PLANNING / BUILDING REGS
Rev. Date Description By
B 04/03/26 Drawing updated following BCO feedback AB

Drawing Number

23/114/202

Revision

B

Scale

1:50 @ A1

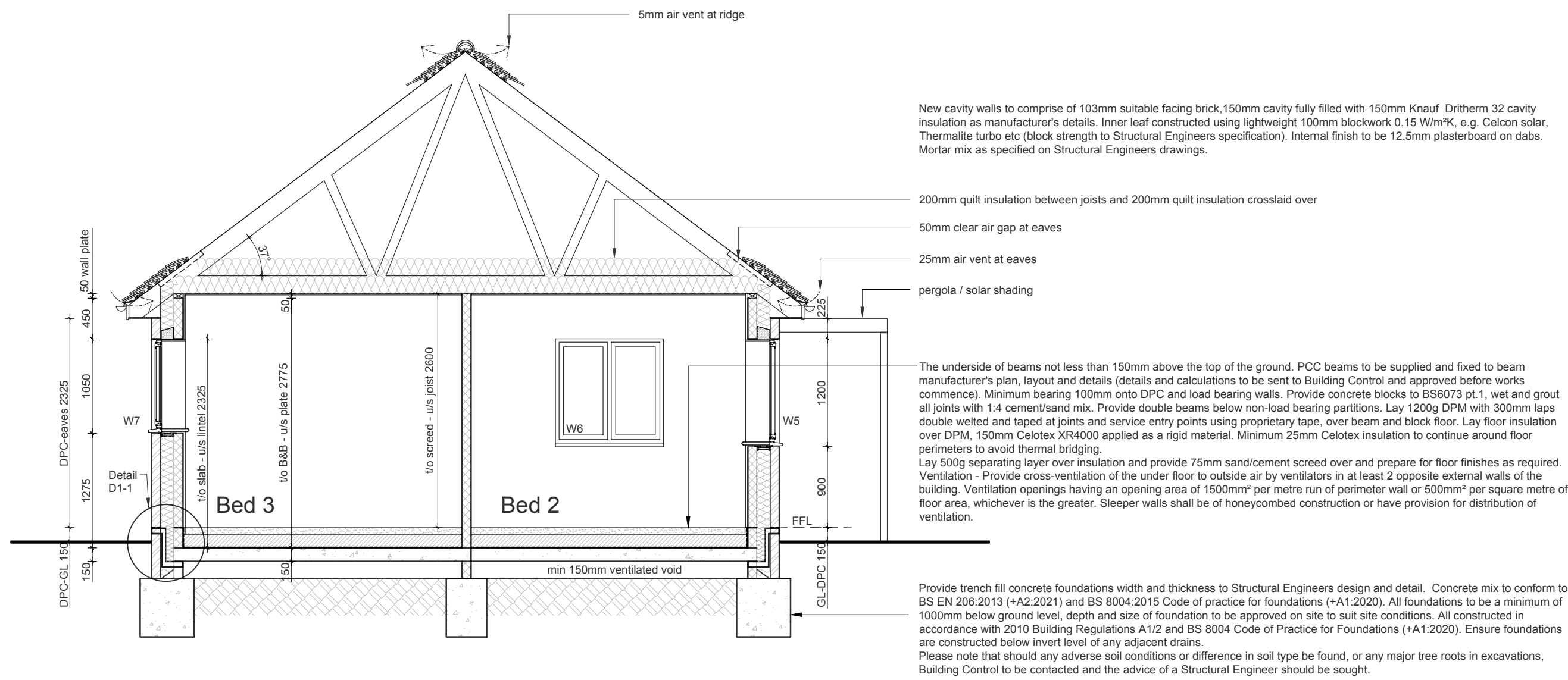
Date

28.07.2025

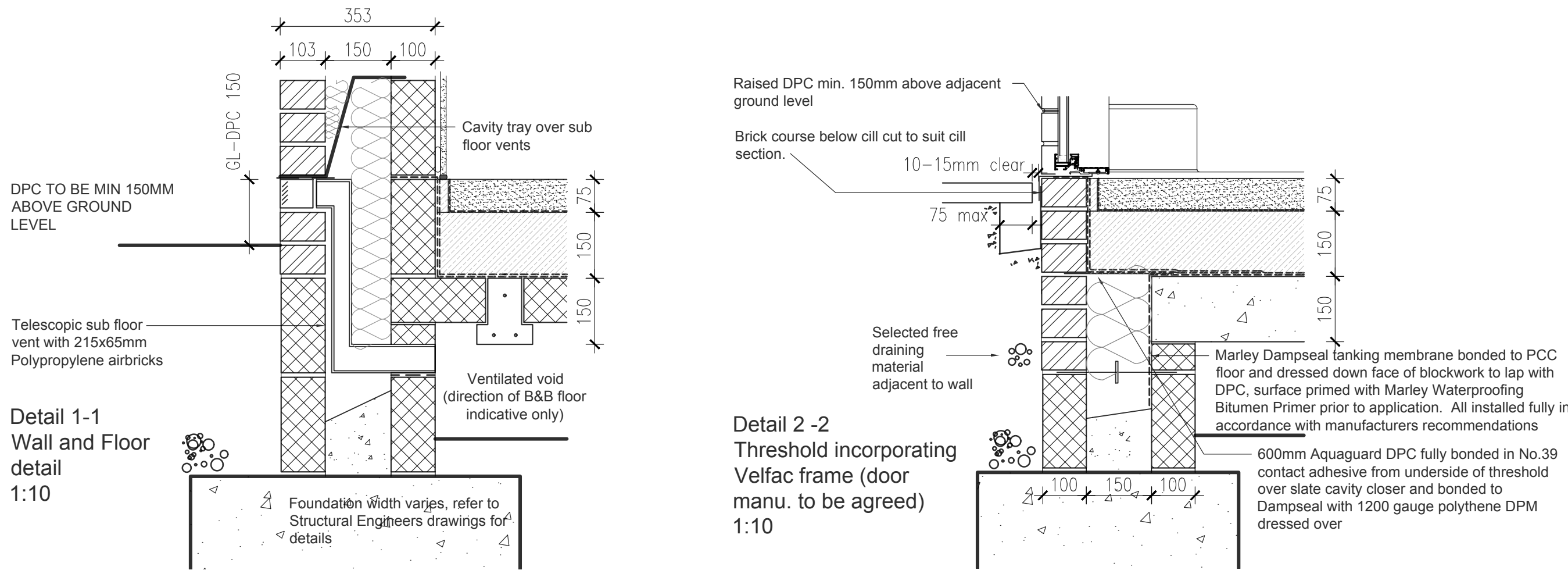
By

AB

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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

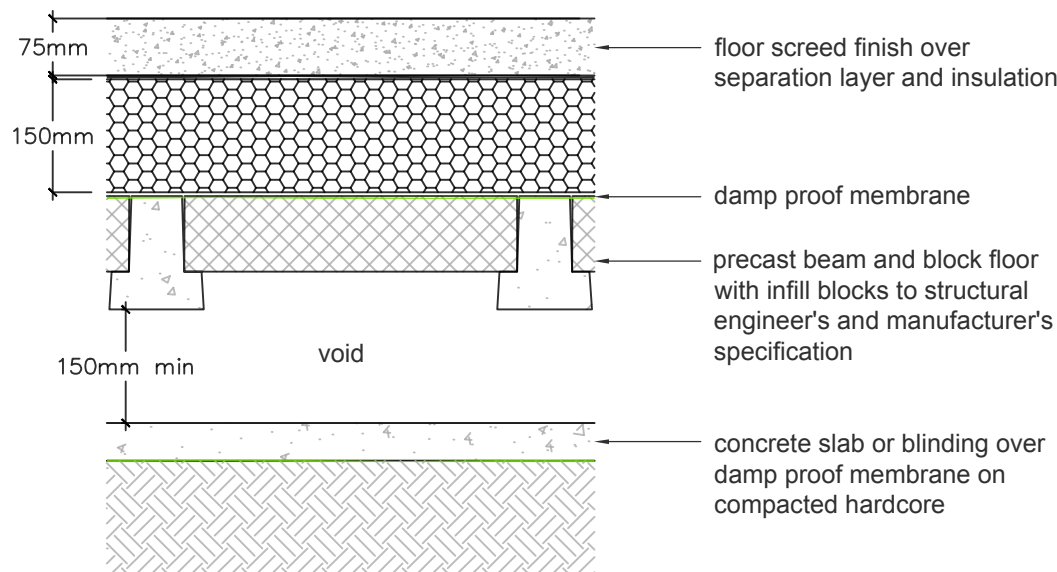
Horizontal timber cladding on vertical battens on breather membrane to porch gable (cladding to match main house)

(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

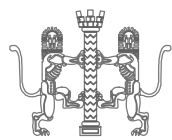
DOOR SCHEDULE				
Door Ref	Struct opening (width x height)	Location	Fire Door	Notes
D1	1532 x 2100	Entrance hall	No	External - Front door with fixed sidelight (W9), multipoint locking
D2	2770 x 2100	Living room	No	External - Double glazed Bifold doors, Colour TBA - toughened safety glass, multipoint 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/250193 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 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.
 - 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:
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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.

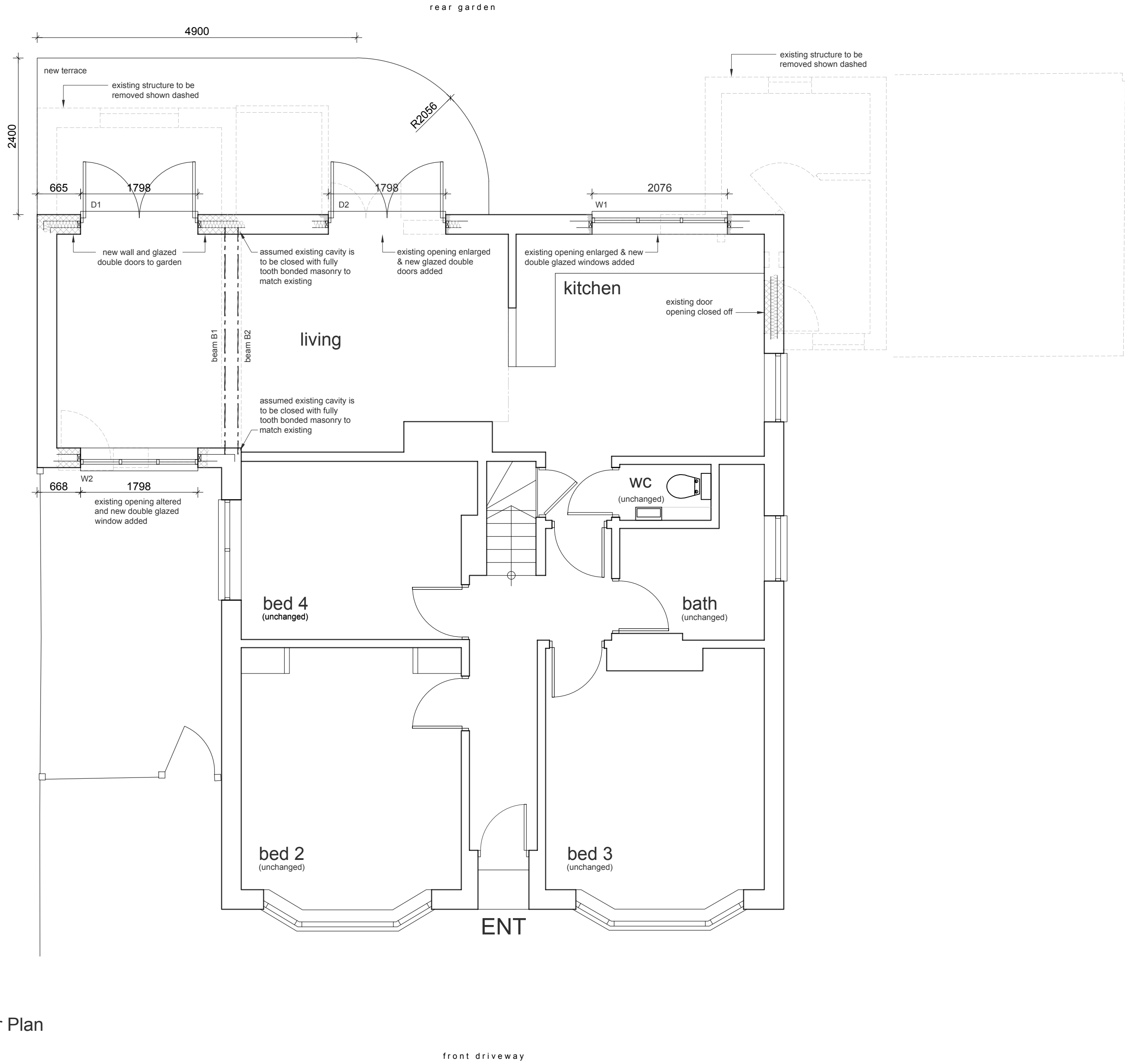
A minimum of 75% of the fixed lighting installations to the new elements should be energy efficient fittings of a design such that a traditional lightbulbs cannot be installed.

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

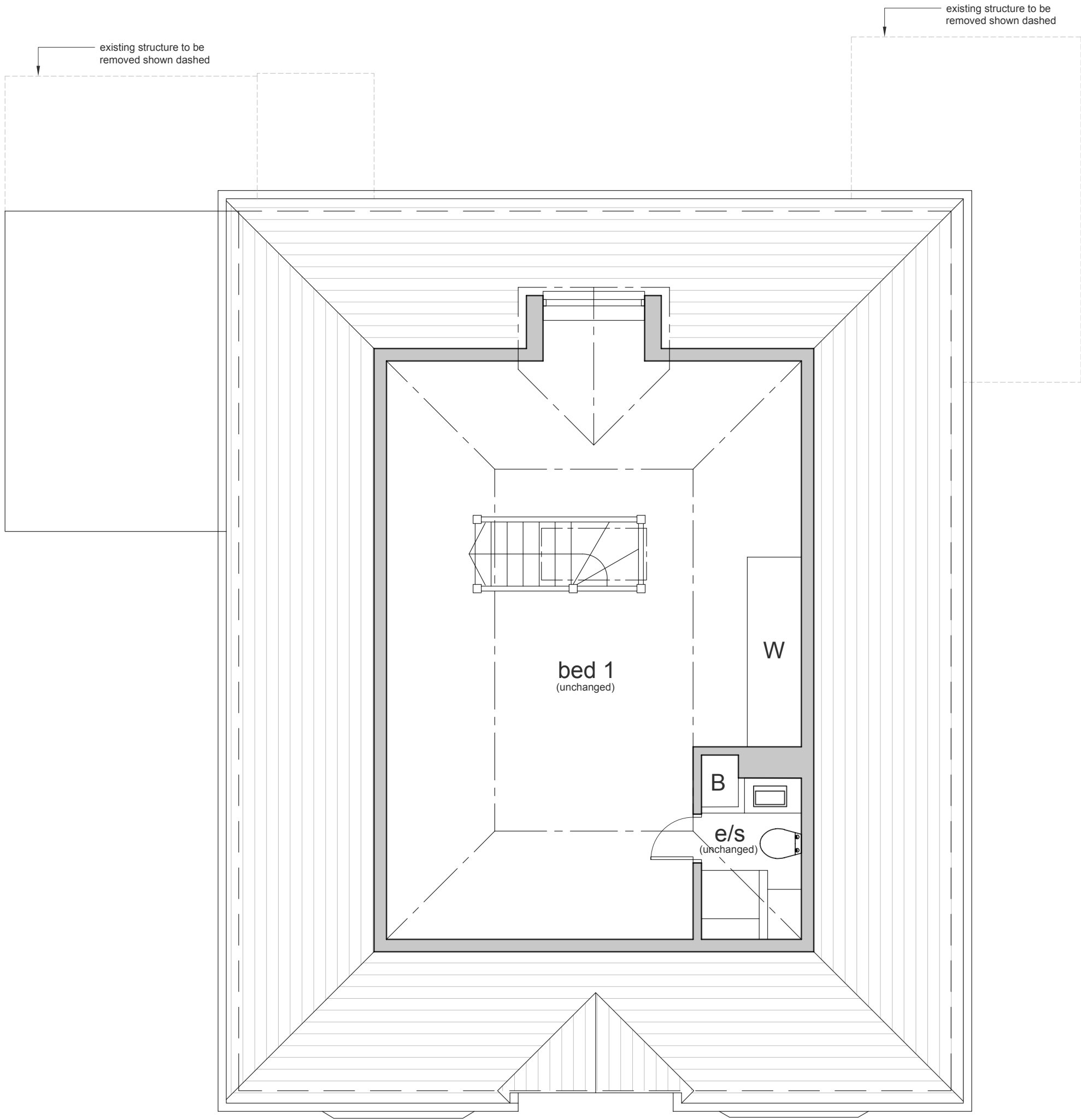
NOTE: CARE SHOULD BE TAKEN WHEN SETTING OUT AND ORDERING FIXED SIZE MATERIALS / COMPONENTS TO ENSURE SUITABILITY. WHERE A DISCREPANCY OCCURS IT SHOULD BE BROUGHT TO THE PROJECT ARCHITECTS ATTENTION. ON SITE ADAPTATIONS MAY BE REQUIRED WHERE DISCREPANCIES OCCUR.

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

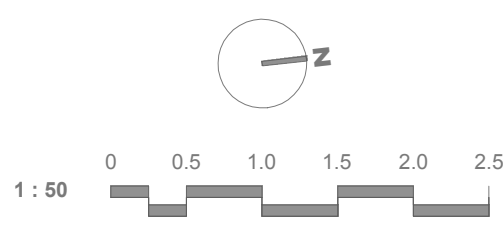
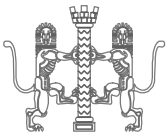
WINDOW SCHEDULE				
Window Ref	Struct opening (width x height)	Location	Fire Escape	Notes
W1	2076 x 1050	Kitchen	no	White UPVC side hung double glazed casement windows
W2	1798 x 1050	Living Room	no	White UPVC side hung double glazed casement windows

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

LIGHTBOX
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LIMITED

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BN2 8QP

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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

Legend

- Blockwork
- Timber or metal studwork walls (non-loadbearing)
- Separating walls (blockwork spec to be agreed)
- Mechanical Extract (positions on drawing are indicative only and must be agreed on site)
- 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
- 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 hot water cylinder by Project Curv
- 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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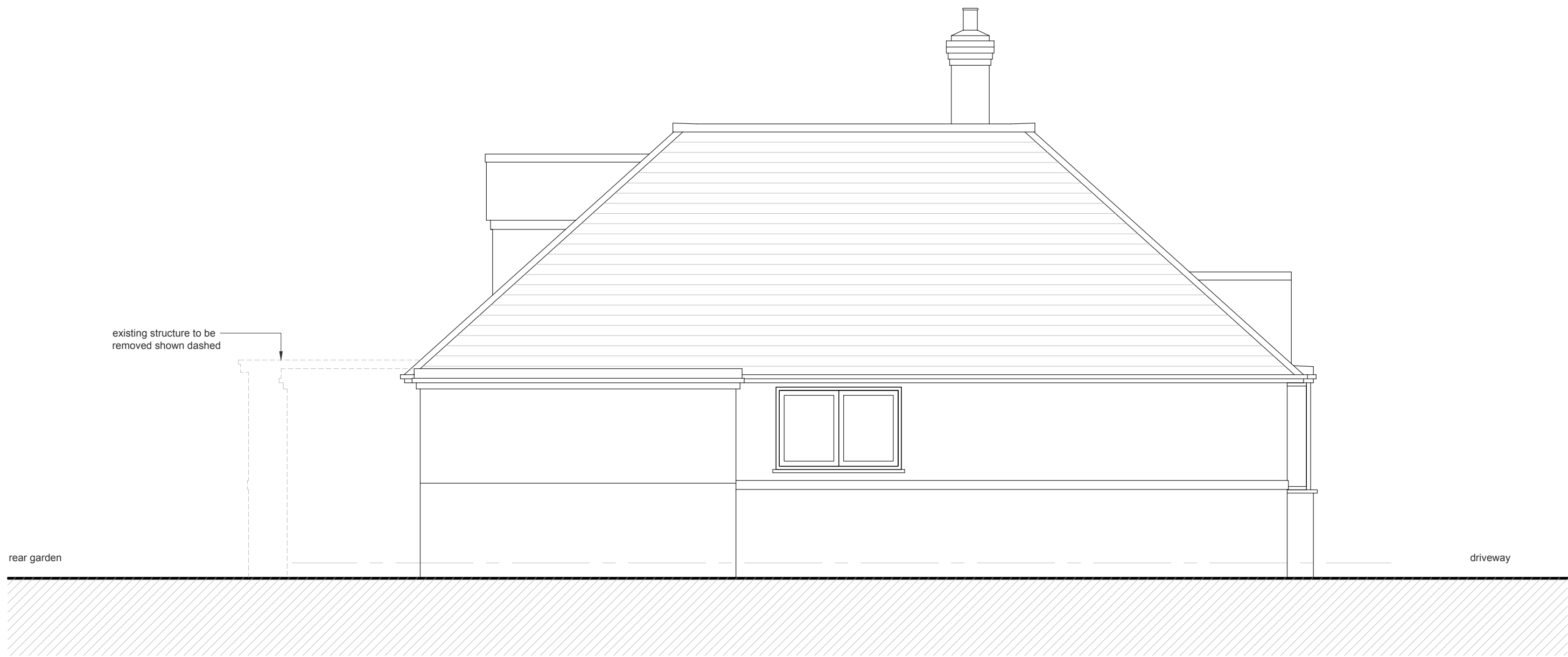
Front Elevation (East)



Rear Elevation (West)



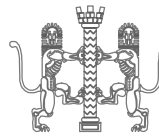
Flank Elevation (North)



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

Revision

*

Scale

1:50 @ A1

Date

21.10.2025

By

JB

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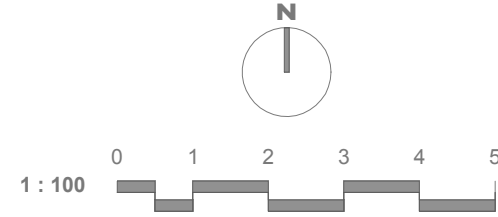
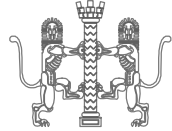
Hard Landscaping Materials Key

- 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
- EVEEC 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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email: info@lightboxarchitecture.com
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

Revision

*

Scale

1:100 @ A1

Date

25.10.2025

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

DESIGN PHILOSOPHY

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.

WATER COLLECTED WITHIN THE ROOFTOP CATCHMENTS OF THE TWO PROPERTIES HAVE BEEN PROPOSED TO DRAIN TO SOAKAWAYS IN THE REAR GARDENS. ROOFTOP DRAINAGE FOR 'GILRIDGE' IS TO BE ISOLATED FROM THE CURRENT COMBINED SYSTEM, SEPARATING SURFACE WATER RUNOFF FROM EXISTING FOUL RUNS. GULLIES DISCHARGING INTO THE FOUL NETWORK ARE TO BE ABANDONED.

IT IS PROPOSED FOR THE WEST SOAKAWAY TO HAVE AN AREA OF 16.25m² AND A DEPTH OF 0.8m, AND FOR THE EAST SOAKAWAY TO HAVE AN AREA OF 21.0m² AND A DEPTH OF 0.8m. 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.

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 A SECTION OF PROPERTY FROM WHICH ITS INLETS ORIGINATE AT PRESENT.

WATER QUALITY

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

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

GEOCELLULAR SOAKAWAY
AREA: 16.25m²
DEPTH: 0.8m
VOID RATIO: 95%
COVER LEVEL: 150.50mAO
INVERT LEVEL: 148.90mAO
ATTENUATION VOLUME: 12.35m³

AN INFILTRATION RATE OF 2.49x10-6m/s HAS BEEN APPLIED FOLLOWING ONSITE INFILTRATION TESTING TO BRE365.

FOLLOWING THE CRITICAL 600 MINUTE WINTER FOR THE 1in30year STORM EVENT, SOAKAWAY IS CALCULATED TO ATTENUATE 4.40m³ OF RUNOFF. AFTER 24 HOURS (1440 MINUTES AFTER STORM ENDS - 2000 MINUTES TOTAL), STORED VOLUME OF WATER IS CALCULATED TO BE 2.03m³. AS SUCH, THE HALF-DRAIN TIME FOR THE SOAKAWAY IS LESS THAN 24 HOURS DURING THE 1in30year EVENT, AS PER NATIONAL STANDARDS FOR SUSTAINABLE DRAINAGE SYSTEMS (SUDS) 3.16.

TANK VENT TO BE PROVIDED AT A SUITABLE LOCATION.

GRASSCRETE - TYPE A (FULL INFILTRATION)
TOTAL PERMEABLE AREA: 25m²
CONTRIBUTING CATCHMENT: 25m²
SUB-BASE DEPTH: 350mm
POROSITY: 30%
ATTENUATION VOLUME: 2.63m³

TO BE LAID WITH A FLAT GRADIENT IN ORDER TO PROVIDE SUFFICIENT STORAGE FOR INFILTRATION. AN EXTRAPOLATED INFILTRATION RATE OF 2.49x10-6m/s HAS BEEN APPLIED FOLLOWING INFILTRATION TESTING ONSITE TO BRE365.

GRASSCRETE TO BE SELF-DRAINING - ONLY MANAGING RUNOFF FALLING DIRECTLY ONTO IT. LEVELS AND DEPTHS ARE TO BE CONFIRMED AT LATER STAGE.

EXISTING FOUL WATER MANHOLE
ACCORDING TO 'SeSurveying' TOPOGRAPHICAL SURVEY.

COVER LEVEL: 151.02mAO
INVERT LEVEL: 150.40mAO

MANHOLE AND INCOMING RUNS TO BE ABANDONED - SECTION OF EXISTING PROPERTY SERVED BY MANHOLE IS TO BE DEMOLISHED.

EXISTING GULLY ACCORDING TO 'SeSurveying' TOPOGRAPHICAL SURVEY. TO BE ABANDONED - RESURFACING OF REAR GARDEN ALLOWS FOR SURFACE WATER TO BE DIVERTED FROM FOUL WATER RUN.

EXISTING MANHOLE DOWNSTREAM TO BE MAINTAINED.

PERMEABLE PAVEMENT - TYPE A (FULL INFILTRATION)
TOTAL PERMEABLE AREA: 310m²
CONTRIBUTING CATCHMENT: 310m²
SUB-BASE DEPTH: 350mm
POROSITY: 30%
ATTENUATION VOLUME: 32.55m³

TO BE LAID WITH A FLAT GRADIENT IN ORDER TO PROVIDE SUFFICIENT STORAGE FOR INFILTRATION. AN EXTRAPOLATED INFILTRATION RATE OF 2.49x10-6m/s HAS BEEN APPLIED FOLLOWING INFILTRATION TESTING ONSITE TO BRE365.

PERMEABLE PAVING TO BE SELF-DRAINING - ONLY MANAGING RUNOFF FALLING DIRECTLY ONTO IT. LEVELS AND DEPTHS ARE TO BE CONFIRMED AT LATER STAGE.

EXISTING RWP ROUTED ABOVE GROUND VIA OVERHEAD GUTTERING TO REAR GARDEN DOWNPIPE.

PROPOSED ACO DRAIN TO COLLECT EXCESSIVE RUNOFF AND CONVEY BACK INTO PERMEABLE SUBBASE.

SOFT LANDSCAPING TO BE SELF-DRAINING.

EXISTING FOUL WATER MANHOLE 2801 ACCORDING TO SOUTHERN WATER ASSET PLAN.

COVER LEVEL: 150.90mAO
INVERT LEVEL: 149.34mAO

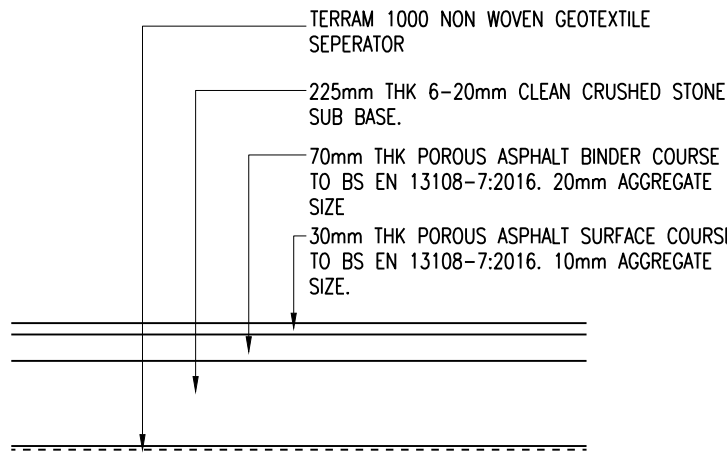
EXISTING PUBLIC FOUL WATER SEWER ACCORDING TO SOUTHERN WATER ASSET PLAN.

- GENERAL
a. THIS DRAWING IS NOT TO BE SCALED, WORK TO FIGURED DIMENSIONS ONLY, CONFIRMED ON SITE.
b. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTURAL DRAWINGS, DETAILED SPECIFICATIONS WHERE APPLICABLE AND ALL ASSOCIATED DRAWINGS IN THIS SERIES.
c. ANY DISCREPANCY ON THIS DRAWING IS TO BE REPORTED IMMEDIATELY TO THE PARTNERSHIP FOR CLARIFICATION.
d. THE CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY WORKS AND FOR THE STABILITY OF THE WORKS IN PROGRESS.
e. 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.
f. 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
a. 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.
b. THE MAIN CONTRACTOR IS RESPONSIBLE FOR ALL OCCURRENCES OF GROUND WATER DURING THE CONSTRUCTION PERIOD.
c. 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.
d. THE CONTRACTOR MUST COMPLY WITH ALL CURRENT LEGISLATION RELATING TO HEALTH & SAFETY.
e. ALL PRODUCTS SPECIFIED SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS. IF THERE ARE DISCREPANCIES BETWEEN THAT INFORMATION AND THE DETAILS ON ANY MERIDIAN DRAWINGS, THE MANUFACTURER'S INSTRUCTIONS MUST BE USED.
- BELOW GROUND DRAINAGE
a. UPVC-U PIPES TO BS 46607: 2000 AND PLASTIC INSPECTION CHAMBERS AND FITTINGS TO BS EN 13598-1:2020. CLAY PIPES TO BS EN 295-1:2013. CONCRETE MANHOLE INSPECTION CHAMBERS TO BS EN 1917:2002.
b. ALL ADAPTABLE DRAINAGE TO BE CONSTRUCTED IN ACCORDANCE WITH SEWERAGE SECTOR GUIDANCE App C - DESIGN AND CONSTRUCTION GUIDANCE AND THE RELEVANT COUNCIL DESIGN GUIDE.
c. 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.
d. 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.
e. ALL PRIVATE SURFACE WATER SEWERS TO BE LAID AT 1 IN 100 UNLESS OTHERWISE STATED ON THE DRAWING.
f. ALL PRIVATE SURFACE WATER SEWER PIPES TO BE 100mm DIAMETER FROM DOWNPIPES AND 150mm DIAMETER ELSEWHERE UNLESS OTHERWISE STATED ON THE DRAWING.
g. ALLOW FOR RODDING ACCESS ABOVE GROUND WHERE RAINWATER DOWNPIPES OR SOIL STACKS DO NOT HAVE A DIRECT CONNECTION TO AN INSPECTION CHAMBER.
h. EXISTING SEWER PIPE TO BE RE-USED TO BE SURVEYED AND LEVELED PRIOR TO COMMENCEMENT OF THE DRAINAGE WORKS AND REHABILITATED IF NECESSARY.
i. CONNECTIONS TO AN ADOPTED SEWER ONLY TO BE MADE FOLLOWING APPROVAL FROM THE RELEVANT ADOPTING AUTHORITY.
j. ALL DRAINS, SEWER PIPES AND MANHOLES TO BE CLEANED AND TESTED FOR WATER TIGHTNESS ON COMPLETION OF CONSTRUCTION.
- MANHOLE COVERS AND FRAMES
a. MANHOLE COVERS TO BE CLASS D400 IN HIGHWAYS, CLASS B125 IN FOOTWAYS AND VERGES, CLASS A15 IN NON-TRAFFICKED AREAS.
b. MANHOLE COVER AND FRAME TO BE BEDDED AND SURROUNDED IN 1:3 MORTAR.

LEGEND

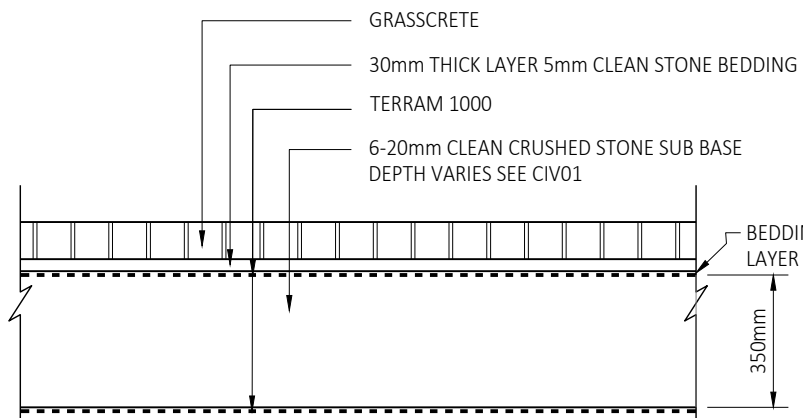
- PROPOSED SW PIPE RUN
- PROPOSED PERFORATED SW DRAIN
- CATCHPIT CHAMBER/MANHOLE
- PROPOSED TYPE D SW INSPECTION CHAMBER
- PROPOSED SW RODDING EYE
- PROPOSED SW RAINWATER PIPE
- RWP ROUTED THROUGH WATER BUTT
- GEOCELLULAR ATTENUATION - NOT TANKED
- 5m DISTANCE FROM BUILDING FOUNDATIONS
- PERMEABLE PAVING - NOT TANKED
- PERMEABLE GRASSCRETE - NOT TANKED
- SLOT/CHANNEL DRAIN
- HARD SURFACE CATCHMENT AREAS - 100% IMPERMEABLE
- EXISTING PRIVATE INSPECTION CHAMBER / MANHOLE - RETAINED
- EXISTING PRIVATE INSPECTION CHAMBER / MANHOLE - ABANDONED / DIVERTED
- EXISTING FW PUBLIC INSPECTION CHAMBER / MANHOLE - RETAINED
- EXISTING PRIVATE FW RUN - RETAINED
- EXISTING PUBLIC FW RUN - RETAINED
- EXISTING PRIVATE RUN - ABANDONED / DIVERTED
- PROPOSED TYPE D FW INSPECTION CHAMBER
- PROPOSED TYPE E FW INSPECTION CHAMBER
- PROPOSED FW PIPE RUN
- PROPOSED FW SOIL VENT PIPE
- PROPOSED FW SOIL STACK
- SITE BOUNDARY

REV:	DESCRIPTION:	BY:	DATE:
STATUS:		Preliminary	
MERIDIAN			
CIVIL ENGINEERING CONSULTANCY			
CLIENT: Lightbox Architecture Ltd			
SITE: Gilridge, Brighton Road, Handcross, RH17 6BZ			
TITLE: Surface and Foul Water Drainage Design - Proposed Layout			
SCALE AT A1:	DATE:	DRAWN:	CHECKED:
1:100	22/04/26	IW	BB
PROJECT NO:	DRAWING NO:	REVISION:	
MC0789	CIV01	P1	



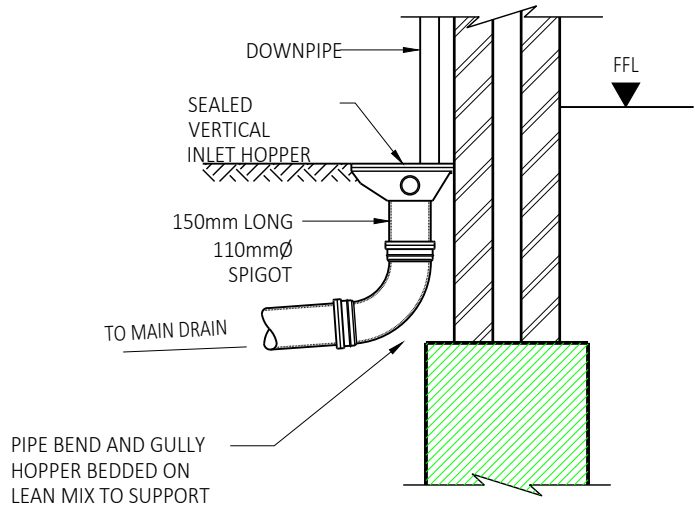
PERMEABLE TARMAC CONSTRUCTION
(TARMAC THICKNESS TO BE CONFIRMED BY MANUFACTURER DEPENDING ON DESIGN LOADINGS)

(1:20)



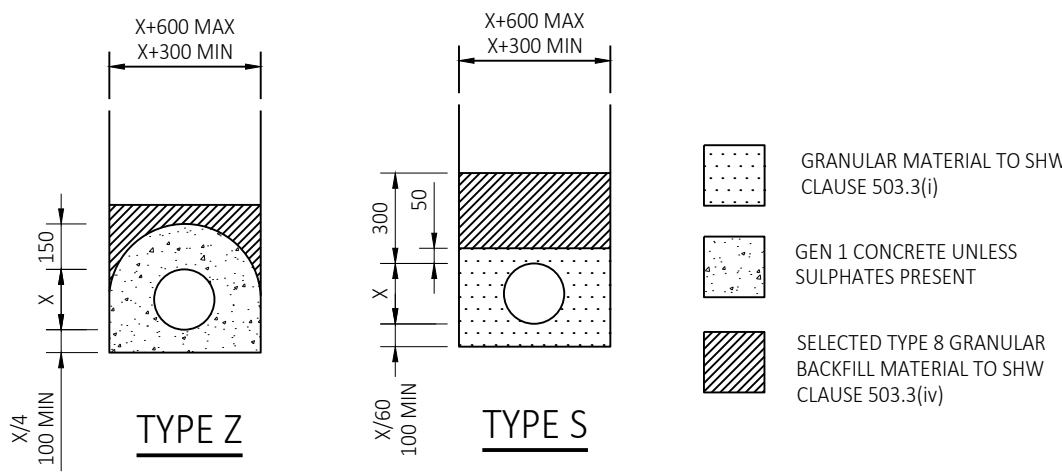
PERMEABLE SURFACE DETAIL
(MINIMUM OVERALL CONSTRUCTION TO BE 450mm - MINIMUM ASSUMED CBR 5%)

(1:20)



RWP CONNECTION.

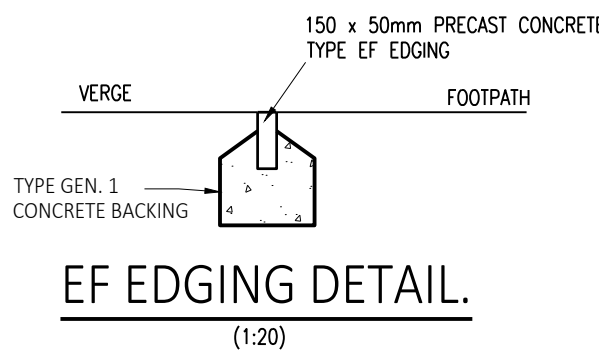
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TRENCH AND BEDDING DETAILS

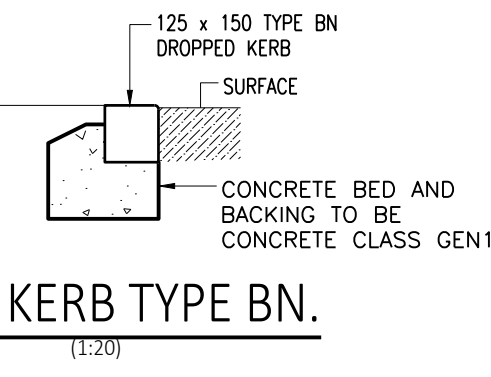
IN TRAFFICKED AREAS:
TYPE S WHERE COVER >900mm
TYPE Z WHERE COVER <900mm

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



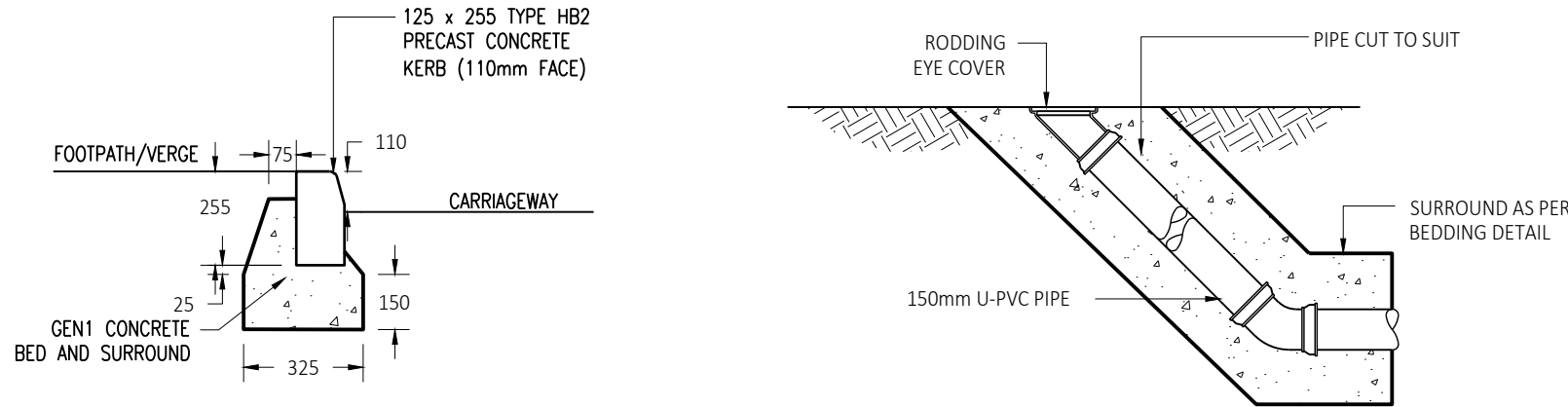
EF EDGING DETAIL.

(1:20)



DROP KERB TYPE BN.

(1:20)

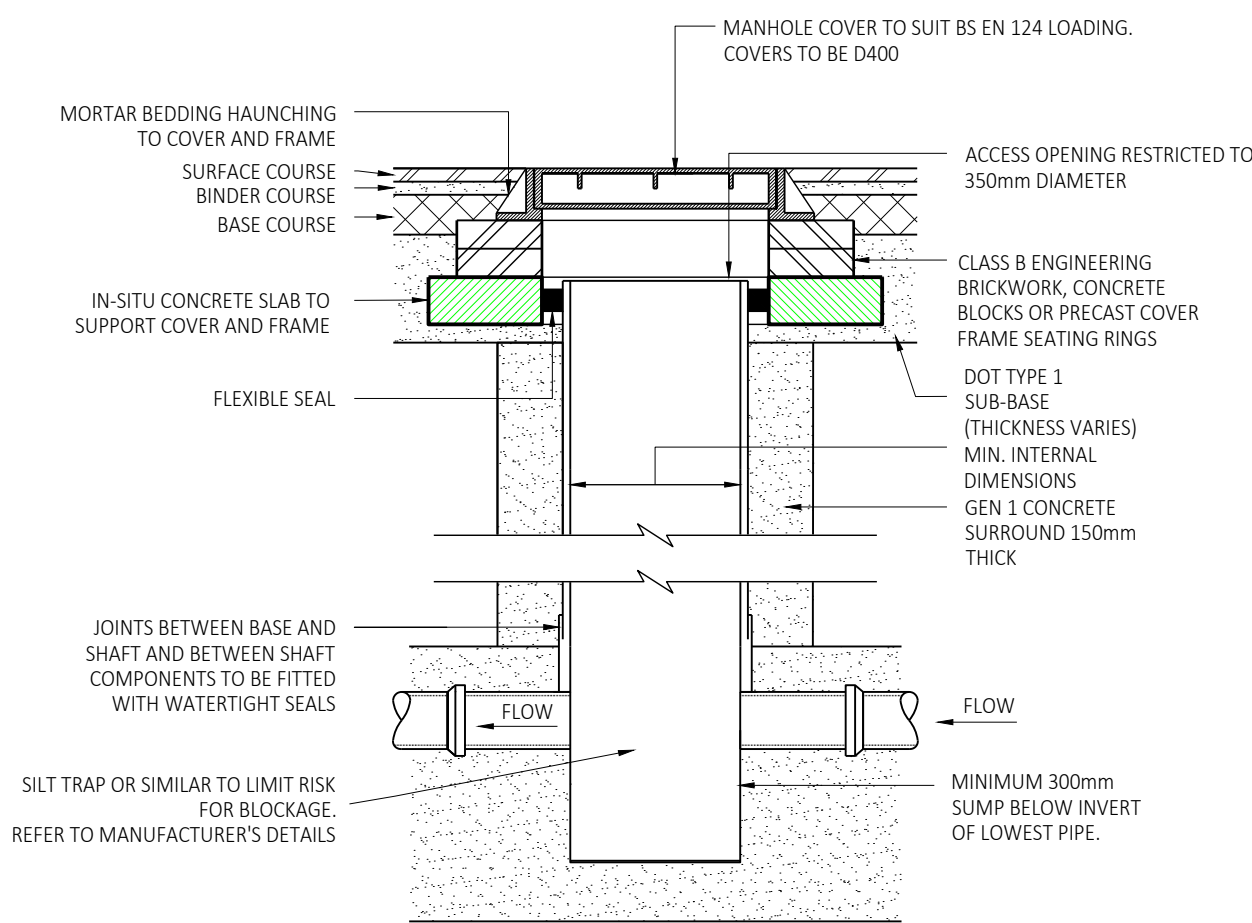


HB2 KERB DETAIL.

(1:20)

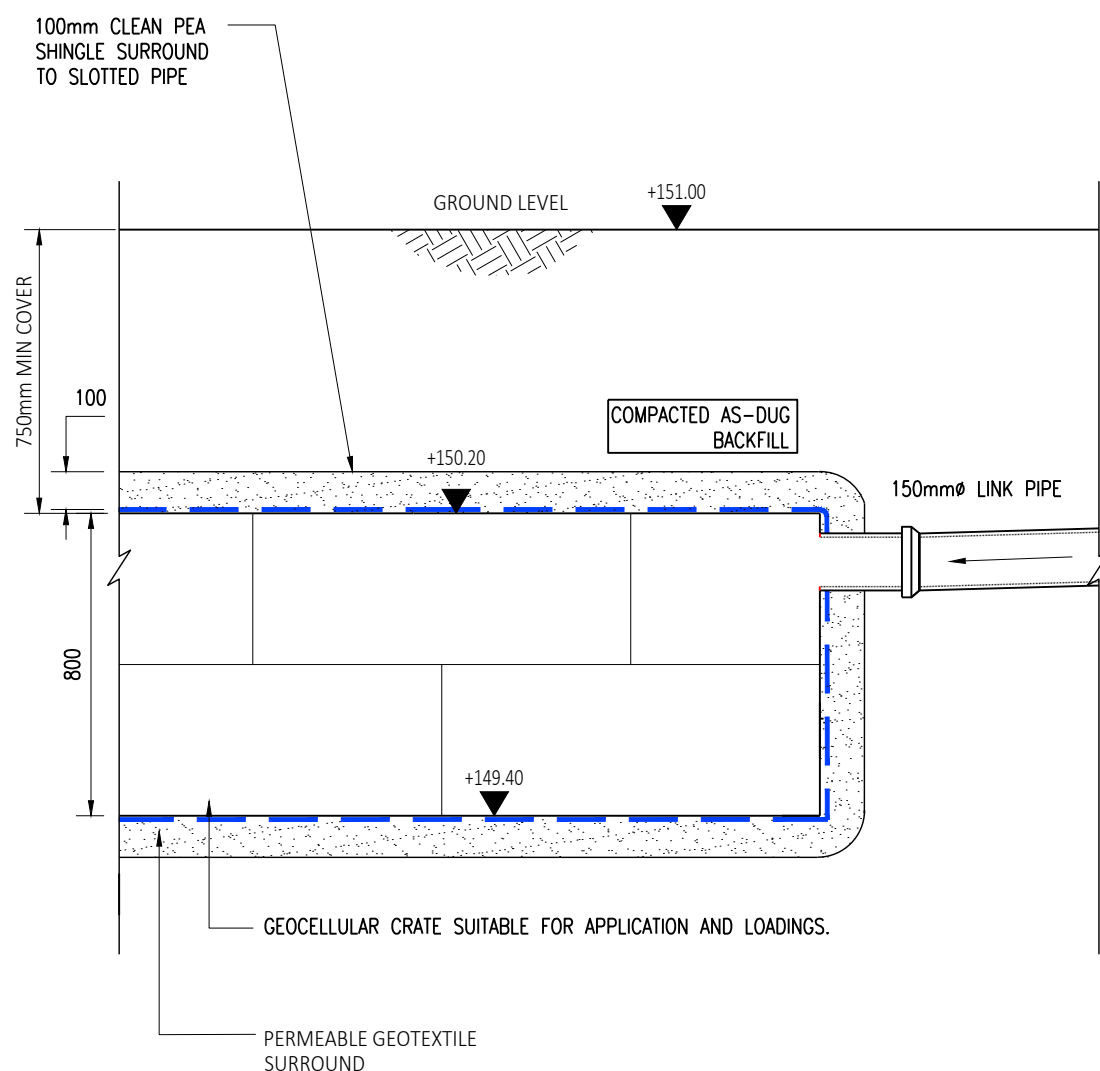
RODDING EYE DETAIL.

(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)

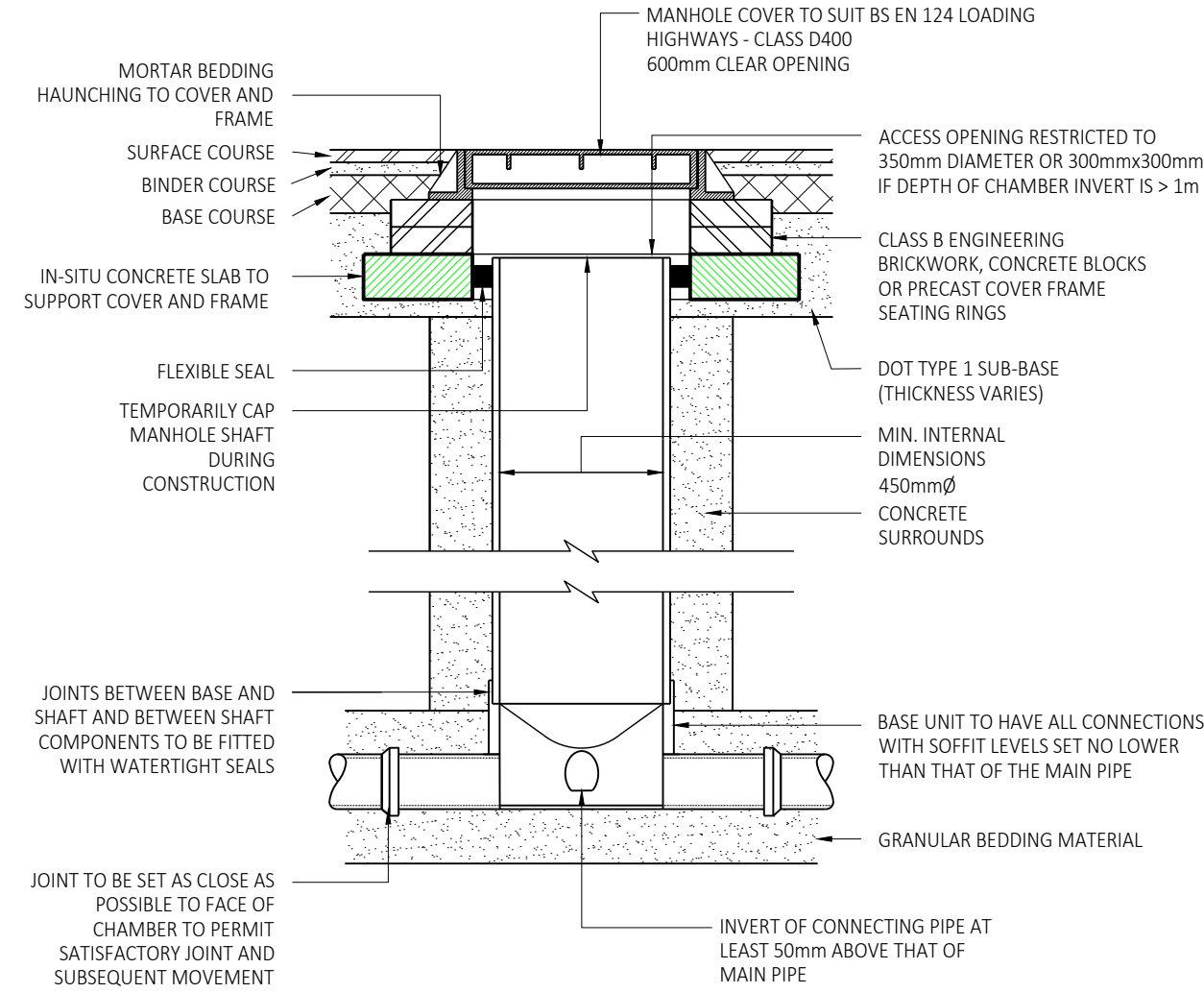
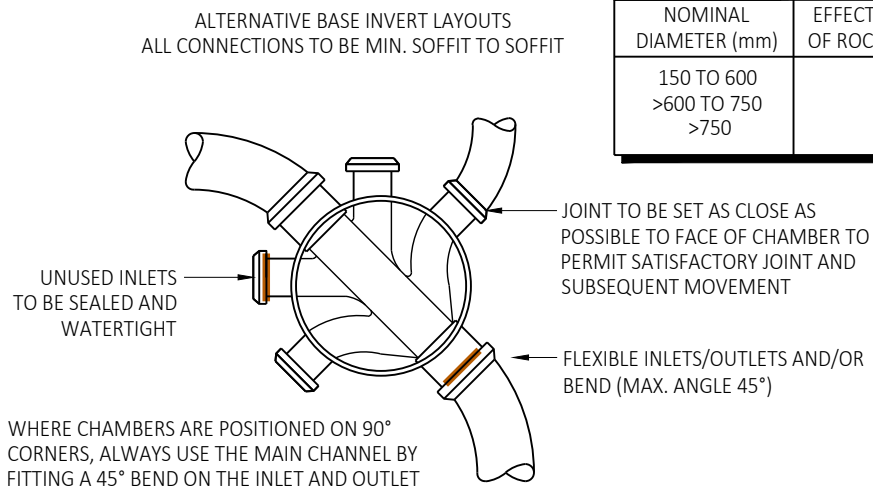


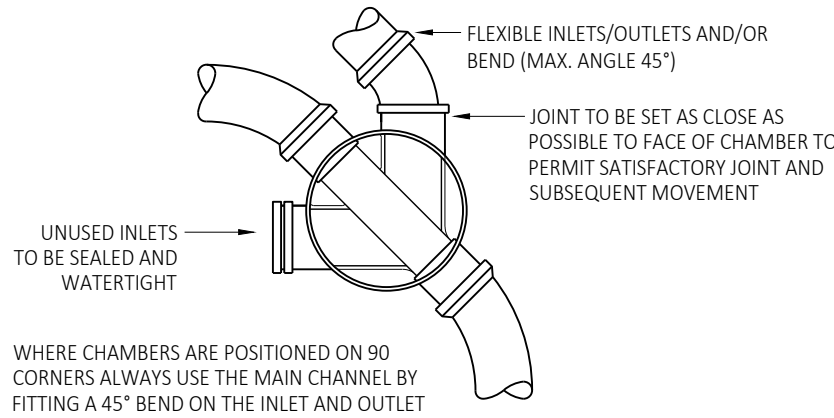
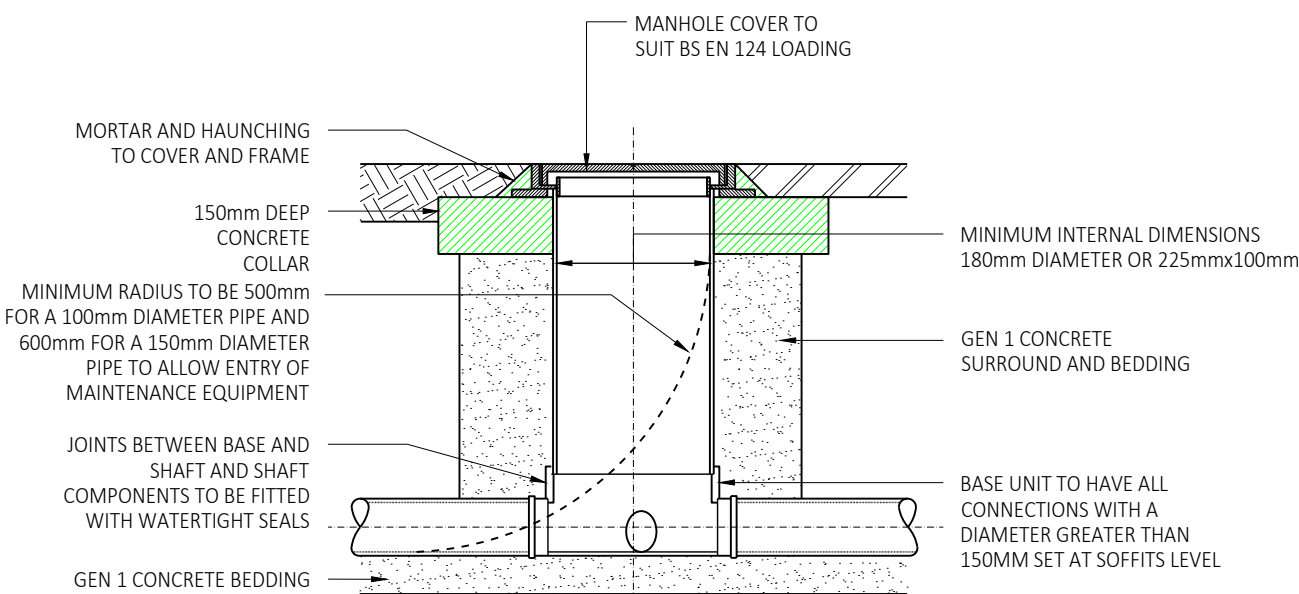
TABLE 1	
NOMINAL DIAMETER (mm)	EFFECTIVE LENGTH OF ROCKER PIPE (m)
150 TO 600	0.6
>600 TO 750	1.0
>750	1.2



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
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- 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.
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- 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.
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- 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 REBURIED 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.

REV:	DESCRIPTION:	BY:	DATE:
STATUS: Preliminary			
MERIDIAN CIVIL ENGINEERING CONSULTANCY			
CLIENT: Lightbox Architecture Ltd			
SITE: Girdridge, Brighton Road, Handcross, RH17 6BZ			
TITLE: Typical Construction Details			
SCALE AT A1: 1:20	DATE: 22/04/26	DRAWN: IW	CHECKED: BB
PROJECT NO: MC0789	DRAWING NO: CIV02	REVISION: P1	

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		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		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			

input
calculation
output
explanatory

Time (min)	Depth from Top of Pit to Water Level (m)	Water Level from bottom (m)	Volume
---------------	--	-----------------------------------	--------

[illegible]

max water level (m)	0.800
25% Max Water Level (m)	0.200
75% Max Water Level (m)	0.600
25% reached?	NO

base (m2)	0.300	
sides (m2)	0.800	Up to 50% of effective depth
ends (m2)	0.240	Up to 50% of effective depth
a_{p50} (m2)	1.340	Up to 50% of effective depth

V_{p75} (m ³)	0.180	The volume at 75% effective depth
V_{p25} (m ³)	0.060	The volume at 25% effective depth
V_{p75-25} (m ³)	0.120	Difference in volume

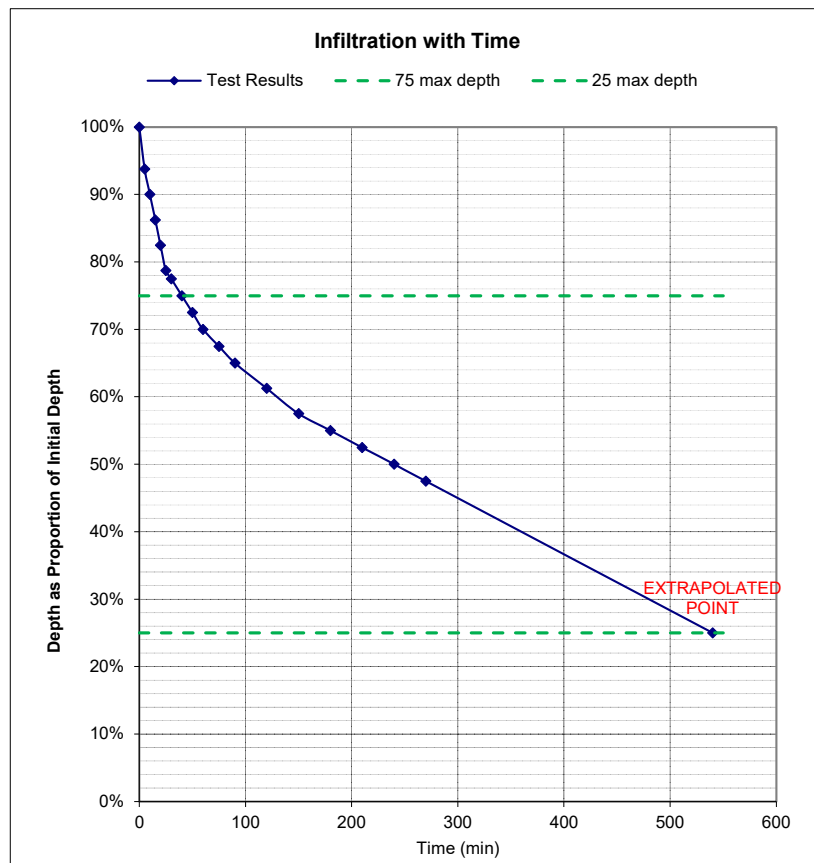
$t_{p75}(\text{mins})$	40.0	The time reading corresponding to Vp75
$t_{p25}(\text{mins})$	540.0	The time reading corresponding to Vp25
$t_{p75-25}(\text{mins})$	500.0	The time between Vp75 and Vp25

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

Soil Infiltration Rate	
m/s	m/h
2.99E-06	0.010746

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	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
#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
550.015	0.750

25% line (of max water depth)

min	proportion
0	0.250
550.015	0.250

Calculations by: IW
Checked by: MN
Date: 02/04/2026



MC0789 LB RH17 SW FW DOC

Extrapolation

EXTRAPOLATED POINT

Gilridge, Brighton Road, RH17 6BZ

TP01

24/03/2026

Infiltration Test 2

calculation

output

explanatory

Trial pit
Depth from Top of Pit to Water Level (m)

minutes

1.000

0.30

1.20

0.80

0.20

0.60

NO

If 25% was reached, the test is as per BRE365 procedure. Otherwise, the last entry in the table to the right is a linear extrapolation based on the last 2 readings.

25% The standard is to use 25%

75% The standard is to use 75%

0.30

0.80

0.24

1.345

0.180

0.06

0.120

The volume at 75% effective depth

The volume at 25% effective depth

Difference in volume

END END END END

just before Vp75

just after Vp75

ust before Vp25

ust after Vp25

105.6

705.6

600.4

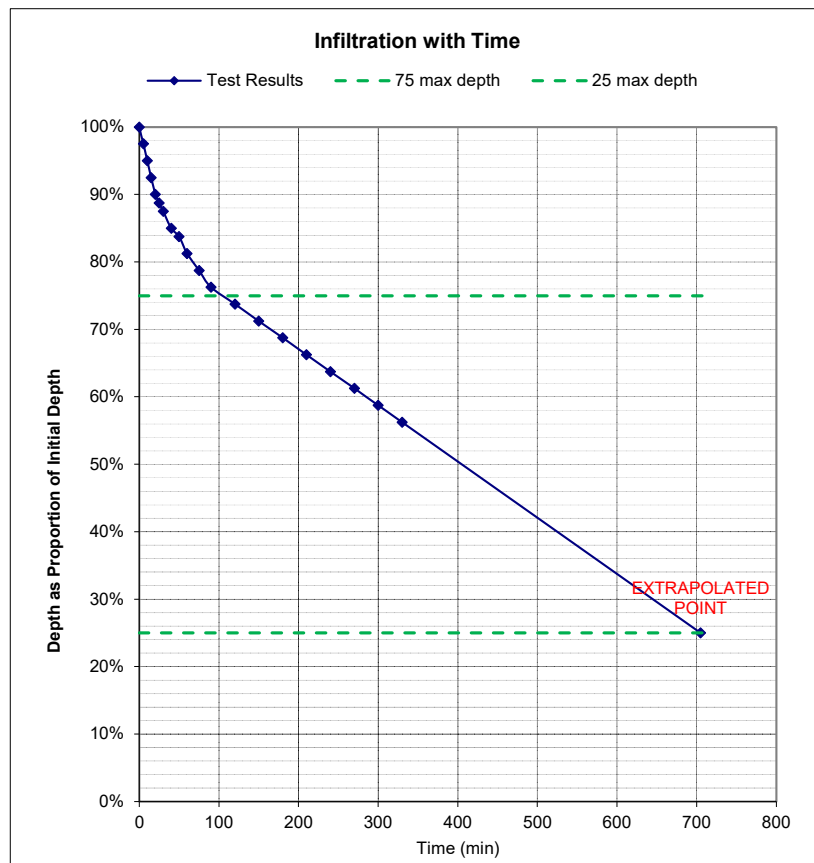
The time reading corresponding to V_{p75}

The time reading corresponding to V_{p25}

The time between Vp75 and Vp25

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	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
#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
715.015	0.750

25% line (of max water depth)

min	proportion
0	0.250
715.015	0.250

Calculations by: IW
Checked by: MN
Date: 02/04/2026

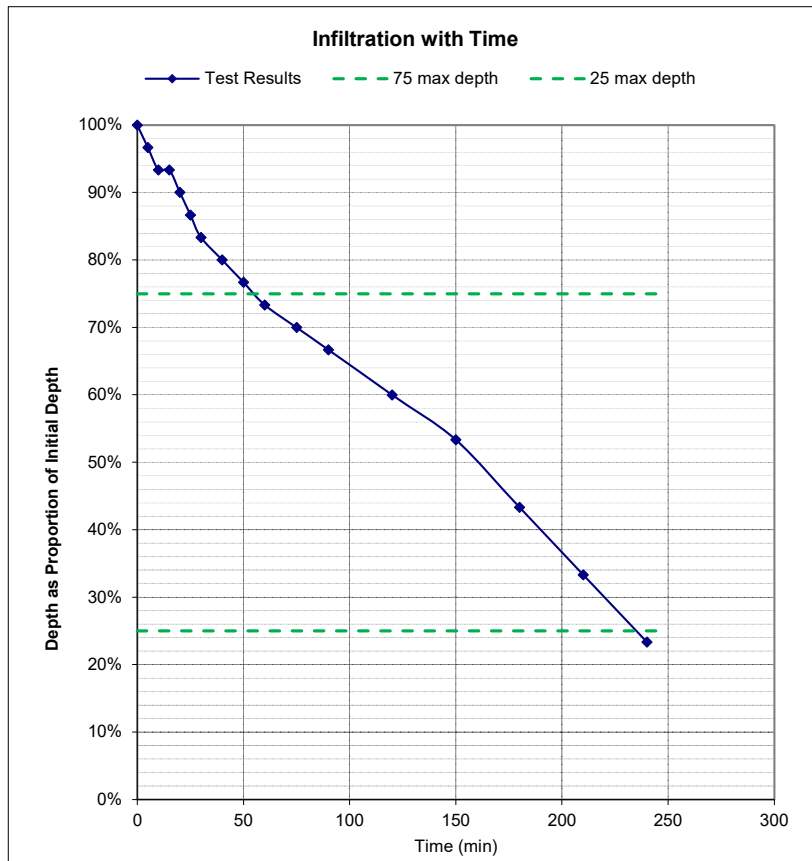


MC0789 LB RH17 SW FW DOC

Extrapolation

EXTRAPOLATED POINT

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
#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
#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

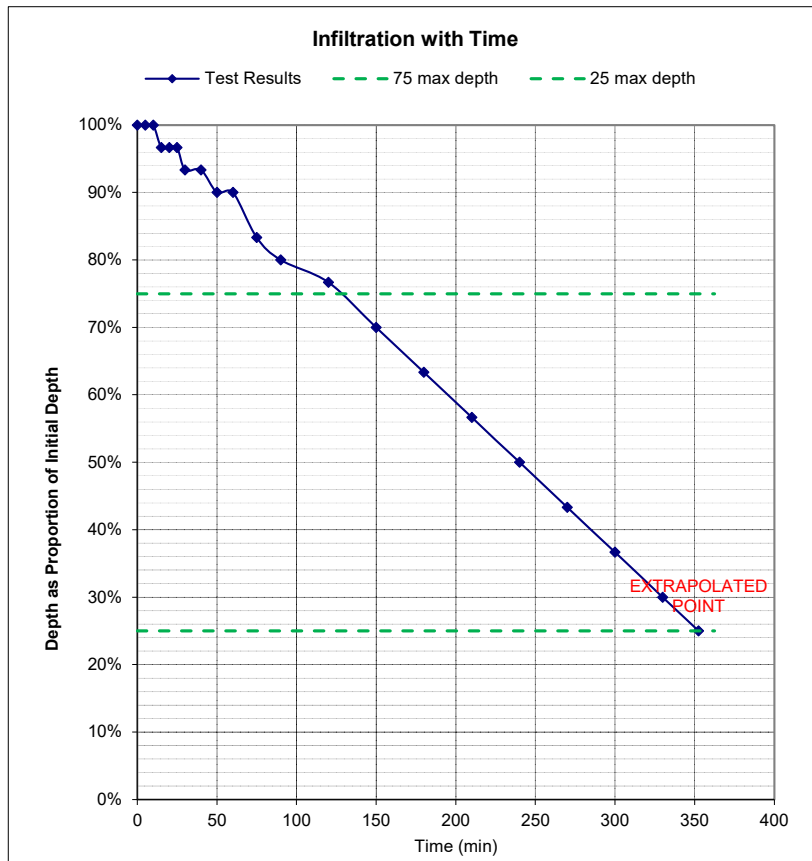
Calculations by: IW
Checked by: MN
Date: 02/04/2026



MC0789 LB RH17 SW FW DOC

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

Calculations by: IW
Checked by: MN
Date: 02/04/2026



MC0789 LB RH17 SW FW DOC

Extrapolation

EXTRAPOLATED POINT

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	150.800	100	89.078	-61.382	0.600
2	0.001	4.00	150.600	450	80.569	-60.763	0.613
3	0.002	4.00	150.600	450	79.448	-54.912	0.762
4		4.00	150.800	100	90.482	-55.716	0.650
5	0.002	4.00	150.800	450	89.977	-47.874	0.846
6	0.002	4.00	150.600	450	80.821	-46.946	0.876
7			150.500	450	76.664	-46.639	0.880
SA West			150.500		75.435	-46.538	0.911

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	8.531	0.600	150.200	149.987	0.213	40.0	100	4.12	50.0
1.001	2	3	5.957	0.600	149.987	149.838	0.149	40.0	100	4.20	50.0
1.002	3	7	8.729	0.600	149.838	149.620	0.218	40.0	100	4.32	50.0
2.000	4	5	7.858	0.600	150.150	149.954	0.196	40.0	100	4.11	50.0
2.001	5	6	9.203	0.600	149.954	149.724	0.230	40.0	100	4.23	50.0
2.002	6	7	4.168	0.600	149.724	149.620	0.104	40.0	100	4.29	50.0
1.003	7	SA West	1.233	0.600	149.620	149.589	0.031	40.0	100	4.33	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	0.500	0.513	0.002	0.0	14	0.610
1.001	1.223	9.6	0.7	0.513	0.662	0.004	0.0	18	0.690
1.002	1.223	9.6	1.0	0.662	0.780	0.006	0.0	22	0.798
2.000	1.223	9.6	0.0	0.550	0.746	0.000	0.0	0	0.000
2.001	1.223	9.6	0.4	0.746	0.776	0.002	0.0	14	0.610
2.002	1.223	9.6	0.8	0.776	0.780	0.004	0.0	19	0.728
1.003	1.223	9.6	1.8	0.780	0.811	0.010	0.0	29	0.936

Pipeline Schedule

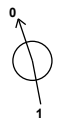
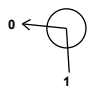
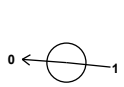
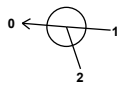
Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.000	8.531	40.0	100	Circular	150.800	150.200	0.500	150.600	149.987	0.513
1.001	5.957	40.0	100	Circular	150.600	149.987	0.513	150.600	149.838	0.662
1.002	8.729	40.0	100	Circular	150.600	149.838	0.662	150.500	149.620	0.780
2.000	7.858	40.0	100	Circular	150.800	150.150	0.550	150.800	149.954	0.746
2.001	9.203	40.0	100	Circular	150.800	149.954	0.746	150.600	149.724	0.776
2.002	4.168	40.0	100	Circular	150.600	149.724	0.776	150.500	149.620	0.780
1.003	1.233	40.0	100	Circular	150.500	149.620	0.780	150.500	149.589	0.811

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	450	Manhole	SW_Standard
1.001	2	450	Manhole	SW_Standard	3	450	Manhole	SW_Standard
1.002	3	450	Manhole	SW_Standard	7	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
2.002	6	450	Manhole	SW_Standard	7	450	Manhole	SW_Standard
1.003	7	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	89.078	-61.382	150.800	0.600	100					
							0	1.000	150.200	100
2	80.569	-60.763	150.600	0.613	450		1	1.000	149.987	100
							0	1.001	149.987	100

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
3	79.448	-54.912	150.600	0.762	450		1 1.001	149.838	100
4	90.482	-55.716	150.800	0.650	100		0 1.002	149.838	100
5	89.977	-47.874	150.800	0.846	450		1 2.000	150.150	100
6	80.821	-46.946	150.600	0.876	450		0 2.001	149.954	100
7	76.664	-46.639	150.500	0.880	450		1 2.002	149.724	100
SA West	75.435	-46.538	150.500	0.911			0 1.002	149.620	100
							1 1.003	149.589	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)	2.500	Inf Depth (m)	
Side Inf Coefficient (m/hr)	0.00896	Invert Level (m)	148.900	Pit Length (m)	6.500	Number Required	1
Safety Factor	2.0	Time to half empty (mins)	3527	Depth (m)	0.800		

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
15 minute summer	1	10	150.216	0.016	0.5	0.0001	0.0000	OK
15 minute summer	2	10	150.005	0.018	0.7	0.0029	0.0000	OK
15 minute summer	3	10	149.861	0.023	1.1	0.0036	0.0000	OK
15 minute summer	4	1	150.150	0.000	0.0	0.0000	0.0000	OK
15 minute summer	5	10	149.970	0.016	0.5	0.0025	0.0000	OK
15 minute summer	6	10	149.745	0.021	0.9	0.0033	0.0000	OK
15 minute summer	7	10	149.653	0.033	2.0	0.0052	0.0000	OK
240 minute winter	SA West	172	149.012	-0.577	0.5	1.7242	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	0.5	0.572	0.052	0.0074
15 minute summer	2	1.001	3	0.7	0.602	0.072	0.0068
15 minute summer	3	1.002	7	1.1	0.607	0.112	0.0156
15 minute summer	4	2.000	5	0.0	0.000	0.000	0.0030
15 minute summer	5	2.001	6	0.5	0.517	0.052	0.0089
15 minute summer	6	2.002	7	0.9	0.556	0.092	0.0071
15 minute summer	7	1.003	SA West	1.9	0.904	0.200	0.0026
240 minute winter	SA West	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
15 minute summer	1	10	150.224	0.024	1.2	0.0002	0.0000	OK
15 minute summer	2	10	150.017	0.030	1.8	0.0047	0.0000	OK
15 minute summer	3	10	149.875	0.037	2.8	0.0059	0.0000	OK
15 minute summer	4	1	150.150	0.000	0.0	0.0000	0.0000	OK
15 minute summer	5	10	149.978	0.024	1.2	0.0038	0.0000	OK
15 minute summer	6	10	149.757	0.033	2.2	0.0053	0.0000	OK
15 minute summer	7	10	149.677	0.057	5.0	0.0091	0.0000	OK
600 minute winter	SA West	420	149.185	-0.404	0.5	4.3986	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	1.2	0.713	0.125	0.0144
15 minute summer	2	1.001	3	1.8	0.789	0.187	0.0136
15 minute summer	3	1.002	7	2.8	0.770	0.290	0.0317
15 minute summer	4	2.000	5	0.0	0.000	0.000	0.0056
15 minute summer	5	2.001	6	1.2	0.647	0.125	0.0171
15 minute summer	6	2.002	7	2.2	0.641	0.228	0.0144
15 minute summer	7	1.003	SA West	4.9	1.147	0.515	0.0053
600 minute winter	SA West	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
15 minute summer	1	10	150.227	0.027	1.5	0.0002	0.0000	OK
15 minute summer	2	10	150.021	0.034	2.3	0.0054	0.0000	OK
15 minute summer	3	10	149.881	0.042	3.6	0.0068	0.0000	OK
15 minute summer	4	1	150.150	0.000	0.0	0.0000	0.0000	OK
15 minute summer	5	10	149.981	0.027	1.5	0.0043	0.0000	OK
15 minute summer	6	10	149.763	0.039	2.8	0.0062	0.0000	OK
15 minute summer	7	10	149.688	0.068	6.4	0.0107	0.0000	OK
600 minute winter	SA West	435	149.274	-0.315	0.5	5.7670	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	1.5	0.748	0.156	0.0172
15 minute summer	2	1.001	3	2.3	0.837	0.239	0.0164
15 minute summer	3	1.002	7	3.6	0.820	0.374	0.0384
15 minute summer	4	2.000	5	0.0	0.000	0.000	0.0066
15 minute summer	5	2.001	6	1.5	0.672	0.156	0.0208
15 minute summer	6	2.002	7	2.8	0.662	0.291	0.0176
15 minute summer	7	1.003	SA West	6.4	1.213	0.662	0.0065
600 minute winter	SA West	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
15 minute summer	1	10	150.233	0.033	2.2	0.0003	0.0000	OK
15 minute summer	2	10	150.029	0.042	3.3	0.0066	0.0000	OK
15 minute summer	3	10	149.891	0.053	5.2	0.0084	0.0000	OK
15 minute summer	4	1	150.150	0.000	0.0	0.0000	0.0000	OK
15 minute summer	5	10	149.987	0.033	2.2	0.0052	0.0000	OK
15 minute summer	6	9	149.771	0.047	4.0	0.0075	0.0000	OK
15 minute summer	7	10	149.712	0.092	9.2	0.0147	0.0000	OK
240 minute winter	SA West	236	149.487	-0.102	1.6	9.0603	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	2.2	0.831	0.229	0.0227
15 minute summer	2	1.001	3	3.3	0.906	0.344	0.0217
15 minute summer	3	1.002	7	5.2	0.876	0.541	0.0512
15 minute summer	4	2.000	5	0.0	0.000	0.000	0.0087
15 minute summer	5	2.001	6	2.2	0.764	0.229	0.0266
15 minute summer	6	2.002	7	4.0	0.708	0.421	0.0231
15 minute summer	7	1.003	SA West	9.2	1.291	0.956	0.0087
240 minute winter	SA West	Infiltration		0.0			

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)
11	0.005	4.00	150.600	100	107.002	-59.700	0.772
12	0.005	4.00	151.000	100	108.926	-49.527	1.016
13			151.000	450	104.684	-55.185	1.299
SA East			151.000		103.454	-55.074	1.330

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	12	13	7.072	0.600	149.984	149.701	0.283	25.0	100	4.08	50.0
2.000	11	13	5.075	0.600	149.828	149.701	0.127	40.0	100	4.07	50.0
1.001	13	SA East	1.235	0.600	149.701	149.670	0.031	40.0	100	4.09	50.0

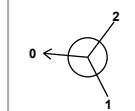
Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
1.000	1.550	12.2	0.8	0.916	1.199	0.005	0.0	18	0.877
2.000	1.223	9.6	0.9	0.672	1.199	0.005	0.0	21	0.764
1.001	1.223	9.6	1.7	1.199	1.230	0.010	0.0	29	0.922

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	7.072	25.0	100	Circular	151.000	149.984	0.916	151.000	149.701	1.199
2.000	5.075	40.0	100	Circular	150.600	149.828	0.672	151.000	149.701	1.199
1.001	1.235	40.0	100	Circular	151.000	149.701	1.199	151.000	149.670	1.230

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	12	100	Manhole	SW_RE	13	450	Manhole	SW_Standard
2.000	11	100	Manhole	SW_RE	13	450	Manhole	SW_Standard
1.001	13	450	Manhole	SW_Standard	SA East		Junction	

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
11	107.002	-59.700	150.600	0.772	100				
						0	2.000	149.828	100
12	108.926	-49.527	151.000	1.016	100				
						0	1.000	149.984	100
13	104.684	-55.185	151.000	1.299	450		1	2.000	149.701
							2	1.000	149.701
							0	1.001	149.701
									100
SA East	103.454	-55.074	151.000	1.330			1	1.001	149.670
									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 (m ³ /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 East Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.00896	Porosity	0.95	Pit Width (m)	3.500	Inf Depth (m)	
Side Inf Coefficient (m/hr)	0.00896	Invert Level (m)	149.400	Pit Length (m)	6.000	Number Required	1
Safety Factor	2.0	Time to half empty (mins)	3737	Depth (m)	0.800		

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.43%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	11	10	149.850	0.022	1.0	0.0002	0.0000	OK
15 minute summer	12	10	150.003	0.018	0.9	0.0001	0.0000	OK
15 minute summer	13	10	149.734	0.033	1.9	0.0052	0.0000	OK
960 minute winter	SA East	615	149.519	-0.151	0.2	2.3699	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	11	2.000	13	1.0	0.582	0.104	0.0088
15 minute summer	12	1.000	13	0.9	0.590	0.074	0.0113
15 minute summer	13	1.001	SA East	1.9	0.902	0.197	0.0026
960 minute winter	SA East	Infiltration		0.0			

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.43%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	11	10	149.863	0.035	2.5	0.0003	0.0000	OK
15 minute summer	12	10	150.014	0.030	2.4	0.0002	0.0000	OK
15 minute summer	13	10	149.758	0.057	4.9	0.0090	0.0000	OK
360 minute winter	SA East	344	149.665	-0.005	0.6	5.2777	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	11	2.000	13	2.5	0.716	0.260	0.0179
15 minute summer	12	1.000	13	2.4	0.744	0.197	0.0233
15 minute summer	13	1.001	SA East	4.9	1.143	0.510	0.0053
360 minute winter	SA East	Infiltration		0.0			

Results for 100 year Critical Storm Duration. Lowest mass balance: 99.43%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	11	10	149.869	0.041	3.2	0.0003	0.0000	OK
15 minute summer	12	10	150.018	0.034	3.0	0.0003	0.0000	OK
15 minute summer	13	10	149.767	0.066	6.2	0.0106	0.0000	OK
480 minute winter	SA East	456	149.743	0.073	0.6	6.8367	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	11	2.000	13	3.2	0.753	0.333	0.0217
15 minute summer	12	1.000	13	3.0	0.775	0.246	0.0278
15 minute summer	13	1.001	SA East	6.2	1.206	0.645	0.0063
480 minute winter	SA East	Infiltration		0.0			

Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 99.43%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute summer	11	615	149.926	0.098	0.6	0.0008	0.0000	OK
15 minute summer	12	10	150.025	0.041	4.3	0.0003	0.0000	OK
600 minute summer	13	615	149.926	0.225	1.1	0.0358	0.0000	SURCHARGED
600 minute summer	SA East	615	149.926	0.256	1.1	10.5016	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
600 minute summer	11	2.000	13	0.6	0.515	0.062	0.0396
15 minute summer	12	1.000	13	4.3	0.828	0.353	0.0370
600 minute summer	13	1.001	SA East	1.1	0.779	0.114	0.0097
600 minute summer	SA East	Infiltration		0.0			

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)
Permeable Paving	0.031	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 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)	150.500	Length (m)	31.000	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 summer	Permeable Paving	328	150.566	0.066	1.2	5.7859	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)
480 minute summer	Permeable Paving	Infiltration	0.3

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	150.647	0.147	3.1	13.1766	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)
360 minute summer	Permeable Paving	Infiltration	0.3

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
480 minute winter	Permeable Paving	456	150.693	0.193	2.0	17.3596	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)
480 minute winter	Permeable Paving	Infiltration	0.3

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	870	150.807	0.307	2.6	27.8934	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)
960 minute summer	Permeable Paving	Infiltration	0.3

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

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

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

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)
1.002	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

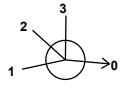
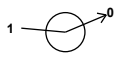
Name	Vel (m/s)	Cap (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Dwellings (ha)	Σ Units (ha)	Σ Add Inflow (ha)
1.002	0.744	5.8	0.339	0.605	0.000	0	0.0	0.0
1.003	0.744	5.8	0.605	0.540	0.000	0	0.0	0.0

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	100
3	88.429	-55.162	151.000	0.500		0	1.001	150.437	100
4	88.173	-57.957	151.000	0.500		0	2.000	150.500	100
5	90.885	-57.375	150.800	0.439		1	3.000	150.500	100
						2	2.000	150.431	100
						3	1.001	150.417	100
						0	1.002	150.361	100
6	104.113	-58.573	150.900	0.705		1	1.002	150.361	100
						0	1.002	150.195	100
						0	1.003	150.195	100
EX MH	106.723	-57.473	150.800	0.640		1	1.003	150.195	100
						1	1.003	150.160	100

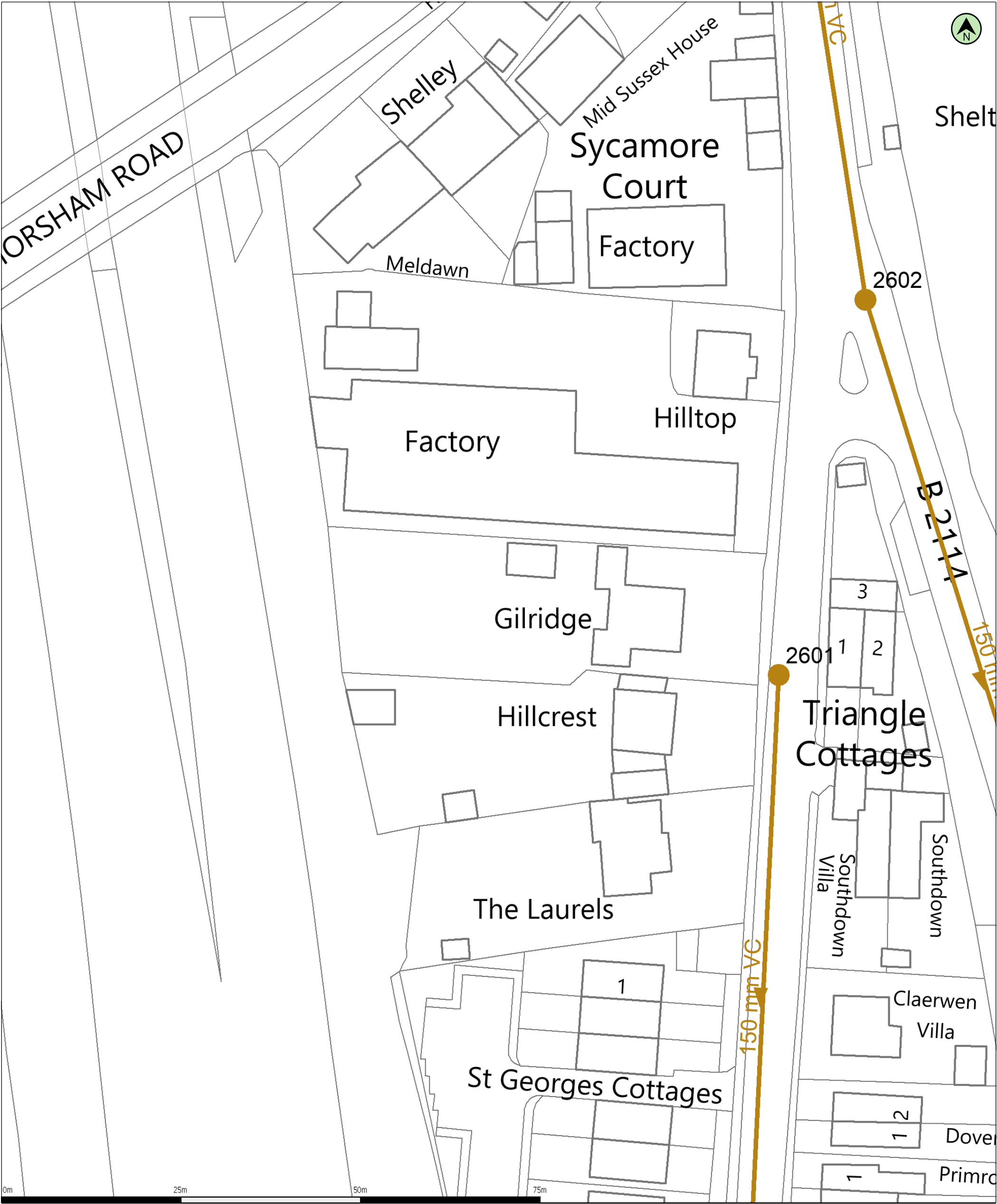
Simulation Settings

Analysis Speed Normal | Skip Steady State x | Drain Down Time (mins) 1440 | Foul Event Duration (mins) 60

Storm Durations

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

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.

