

MERIDIAN

CIVIL ENGINEERING CONSULTANCY

COSTELLS STABLES
CHURCH ROAD
HAYWARDS HEATH
RH17 7NH

SURFACE AND FOUL WATER DRAINAGE STRATEGY

SEPTEMBER 2026

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Client : Ecotecture

Rev	Date	Prepared by	Checked by	Approved by
P1	17/09/2026	IW	SL	MN

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1.0 INTRODUCTION

- 1.1 Meridian Civil Engineering Consultancy LTD (MCEC) has been instructed by Ecotecture to prepare a Surface Water Drainage Strategy for the development at Costells Stables, Church Road, Haywards Heath, RH17 7NH.
- 1.2 It is understood the proposed works are for the conversion of the stables into a residential dwelling with associated access and landscaping.
- 1.3 The Client has conducted infiltration testing to BRE365 onsite. Three tests were conducted in two test pits, with the final tests for each pit not reaching the required 25% total depth due to time constraints, but displaying a consistent drop in water level – results for these were extrapolated. The slowest test between the two pits returned an infiltration rate of 5.64×10^{-6} m/s, indicating that infiltrating SuDS are feasible for this development. Documentation and interpretation of these results can be found in Appendix III.
- 1.4 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.
- 1.5 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.
- 1.6 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.
- 1.7 The proposals are to limit runoff from the proposed development via infiltration through the introduction of a geocellular soakaway and permeable paving. Runoff from the rooftop catchment of the main residence is to drain via Type C permeable paving (38.9m² plan area, 0.4m storage depth, providing 4.668m³ storage volume) to a geocellular soakaway (25m² plan area, 0.4m storage depth, providing 9.5m³ storage volume) immediately west of the front driveway. The proposed front driveway to be of self-draining permeable construction with a shingle surface (146m² plan area, 0.3m storage depth, providing 13.14m³ storage volume) to allow for infiltration.
- 1.8 The proposed surface water drainage network is to prevent surface water flooding up to and including the 1 in 100 year +45% climate change event (1%AEP+CC), and returns 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.
- 1.9 The foul water drainage strategy has been designed broadly in accordance with Building Regulations Approved Document H. According to Southern Water Sewer records, there are no public foul sewers in close proximity to the site.
- 1.10 Although infiltration is feasible, there is insufficient space to site a drainage field. As such, a cesspool has been proposed. The proposed cesspool has been sited in line with Building Regulations Approved Document H, and sized based on 6-person usage.
- 1.11 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)
- Mid Sussex District Council local guidance

3.0 SITE LOCATION

3.1 The proposed development location is at Costells Stables, Church Road, Haywards Heath, RH17 7NH. The site currently consists of stables with an access road and parking.

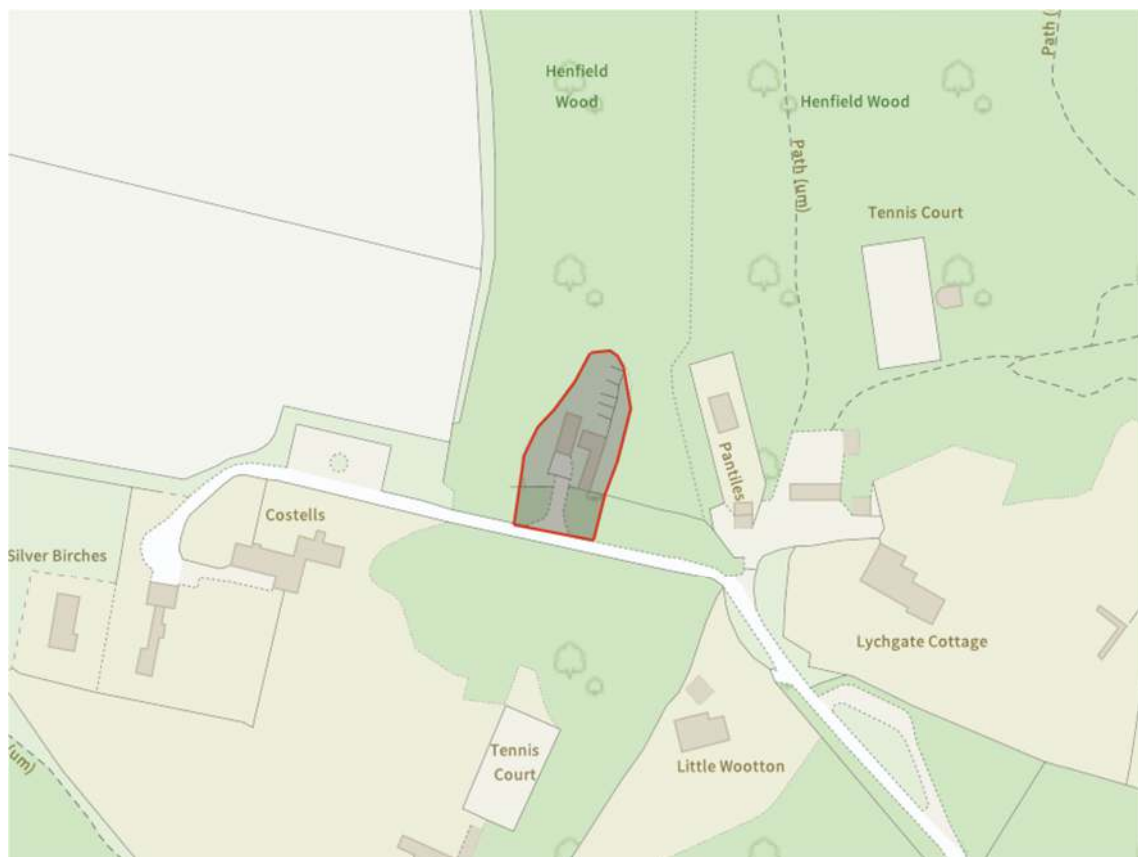
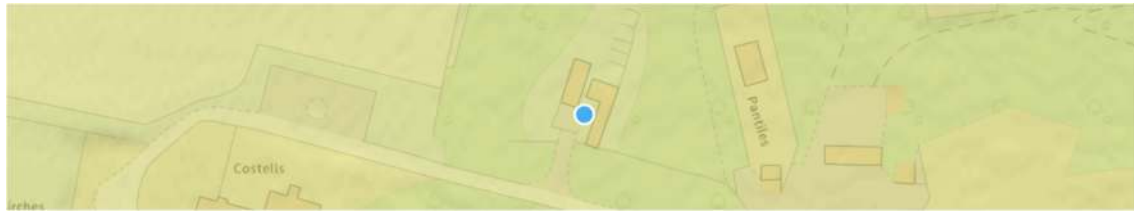


Figure 1: Site location within red line boundary

3.2 It is understood the proposed works are for the conversion of the stables into a residential dwelling with associated access and landscaping. 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 – Sandstone and Siltstone. There are no superficial deposits underlying the site.



Bedrock geology

Upper Tunbridge Wells Sand-Sandstone and siltstone, interbedded. 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 siltstone, infiltration may be deemed feasible.
- 4.3 The Client has conducted infiltration testing to BRE365 onsite. Three tests were conducted in two test pits, with the final tests for each pit not reaching the required 25% total depth due to time constraints, but displaying a consistent drop in water level – results for these were extrapolated. The slowest test between the two pits returned an infiltration rate of $5.64 \times 10^{-6} \text{m/s}$, indicating that infiltrating SuDS are feasible for this development. Documentation and interpretation of these results can be found in Appendix III.

5.0 EXISTING SITE DRAINAGE

- 5.1 Mapping provided by Southern Water indicates that there is no public surface or foul water runs within reasonable distance of the development to propose connection to, and there is not enough space to incorporate a drainage field. As such, foul water shall need to be discharged onsite via a cesspool, which shall need to be fitted with a volume alarm to ensure it is emptied at adequate intervals. The Southern Water Asset Location Search and CCTV Survey are included in Appendix IV.

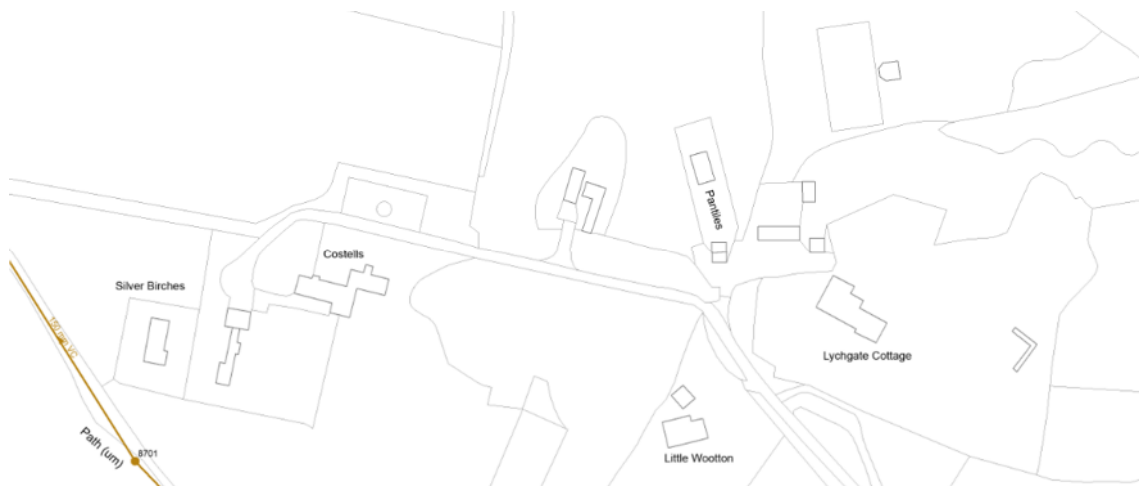


Figure 3: Thames Water Asset Location Search extract

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 4: 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 5: 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 majority of 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%. Some areas are shown to be at low risk (between 0.1% and 1% chance of flooding each year).



Figure 6: 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	1% annual exceedance rainfall event	
	Central allowance	Upper end allowance
2050s	20%	45%
2070s	25%	45%

Figure 7: 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 proposals, in the form of water butts.
	2.	Use infiltration techniques, such as porous surfaces in non-clay areas	✓	Due to site geology, and infiltration testing to BRE365 indicating validity for the discharge of runoff via infiltration, infiltration has been considered as a feasible means of discharging surface water.
	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	✓	It is necessary to provide attenuation in order to limit offsite flow rates, in the form of Type A and C permeable pavement.
	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 consisting of sand, discharge via infiltrating SuDS has been considered as a primary means of discharging surface water at this time.	✓
Permeable Pavement	Permeable paving (Type C – No Infiltration, and Type A – Infiltration) is proposed in order to capture and treat surface water runoff prior to onsite discharge.	✓
Green / Blue Roofs	Unsuitable for this site due to rooftops being 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. Water butts have been proposed in this strategy.	✓
Swales	Due to the nature of the proposals, this has been discounted at this time.	x
Rills and Channels	Insufficient space to implement such conveyancing SuDS techniques and would provide little benefit overall.	x
Bioretention Systems	Bioretention systems would overall provide little benefit to storage volumes.	x
Retention Ponds and Wetlands	Insufficient space on site to implement large scale SuDS techniques such as ponds/wetlands. These SuDS measures are better suited to large scale developments.	x
Detention Basins	Insufficient space on site to implement large scale SuDS techniques such as detention basins. These SuDS measures are better suited to large scale developments.	x
Geocellular Systems	Geocellular systems can be configured to suit almost every site/development. Below-ground attenuation could be accommodated on site but has not been deemed necessary with the current proposals.	x
Proprietary Treatment Systems	Not deemed necessary for this development.	x
Filter Drains and Filter Strips	ACO drains have been proposed at thresholds to manage exceedance flows.	✓

Table 2: Suitability of SuDS Components

8.6 Permeable Pavement

Permeable pavements are efficient in treating oils and metals but also in intercepting debris and silt. The permeable paving to external paved surfaces (i.e. external paved areas) would be Type A and C as these areas will be used to simply manage rainfall directly to these areas. 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).
- *For Type C only – Impermeable membrane (where no infiltration is proposed)*
- Geotextile filter.

9.0 SURFACE AND FOUL 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 rates.
- 9.2 Due to site geology consisting of sand which is permeable, and interpretation of an infiltration rate of 5.64×10^{-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 a geocellular soakaway and permeable paving. Runoff from the rooftop catchment of the main residence is to drain via Type C permeable paving (38.9m² plan area, 0.4m storage depth, providing 4.668m³ storage volume) to a geocellular soakaway (25m² plan area, 0.4m storage depth, providing 9.5m³ storage volume) immediately west of the front driveway. The proposed front driveway to be of self-draining permeable construction with a shingle surface (146m² plan area, 0.3m storage depth, providing 13.14m³ storage volume) to allow for infiltration.
- 9.4 The proposed surface water drainage network is to prevent surface water flooding up to and including the 1 in 100 year +45% climate change event (1%AEP+CC), and returns 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 The foul water drainage strategy has been designed broadly in accordance with Building Regulations Approved Document H. According to Southern Water Sewer records, there are no public foul sewers in close proximity to the site.
- 9.6 Although infiltration is feasible, there is insufficient space to site a drainage field. As such, a cesspool has been proposed. The proposed cesspool has been sited in line with Building Regulations Approved Document H, and sized based on 6-person usage.
- 9.7 The proposed surface and foul water drainage strategy plan layout is included in Appendix II with relevant calculations within Appendix III.

10.0 WATER QUALITY

- 10.1 The primary risk to water quality is from the trafficked areas (i.e. residential parking). Plans included in Appendix II shows permeable paving is proposed to treat runoff. Runoff from residential roofs can be considered low contamination risk, based on information contained within the Ciria SuDS Manual.
- 10.2 Runoff from residential roofs is generally seen as uncontaminated, based on information contained within the Ciria SuDS Manual.
- 10.3 The Pollution Hazard Indices are summarised in Table 3 – 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 (Residential Parking)	Low	0.5	0.4	0.4

Table 3: Summary of Pollution hazard Indices for different Land Use

- 10.4 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:

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

- 10.5 The Mitigation Indices of the proposed SuDS techniques are summarised in Table 4 below.

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

Table 4: Indicative SuDS Mitigation Indices

- 10.6 It can also be seen that the total SuDS Mitigation Index of permeable paving is greater than the Pollution Hazard Index for residential parking. Therefore, the water treatment provided by this SuDS train is enough to remove the potential pollutants.

11.0 SCHEDULE OF MAINTENANCE

- 11.1 All onsite SuDS and drainage systems will be privately maintained. A long-term maintenance regime should be agreed with the site owners before adoption.
- 11.2 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.
- 11.3 The site operator will be responsible for the management and maintenance of SuDS devices.
- 11.4 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/Bioretention	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 5: General Maintenance Requirements (Source: CIRIA SuDS Manual C753)

11.5 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
Foul Drainage System (pipework, chambers etc.)	5 years	10 years	10 years	Cleansing to be carried as necessary
Surface Water Drainage System (pipework, chambers etc.)	5 years	10 years	10 years	Cleansing to be carried as necessary
Catchpit and Soakaway	1 year		N/A	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.

Table 6: Maintenance for Below Ground Drainage (Source: CIRIA SuDS Manual C753)

12.0 CONCLUSION

- 12.1 Meridian Civil Engineering Consultancy LTD (MCEC) has been instructed by Ecotecture to prepare a Surface Water Drainage Strategy for the development at Costells Stables, Church Road, Haywards Heath, RH17 7NH.
- 12.2 It is understood the proposed works are for the conversion of the stables into a residential dwelling with associated access and landscaping.
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APPENDIX I Architects plans



Existing Location Plan 1:1250



Existing Site Plan 1:500

Notes

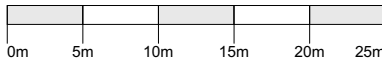
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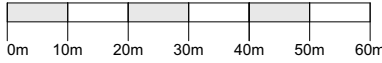
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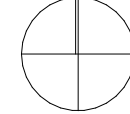


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West Sussex RH16 4DZ

Client: Tatiana Lancaster

Address: Costells Stables,
Haywards Heath
West Sussex
RH17 7NH

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Drawn: BI

Checked: JS

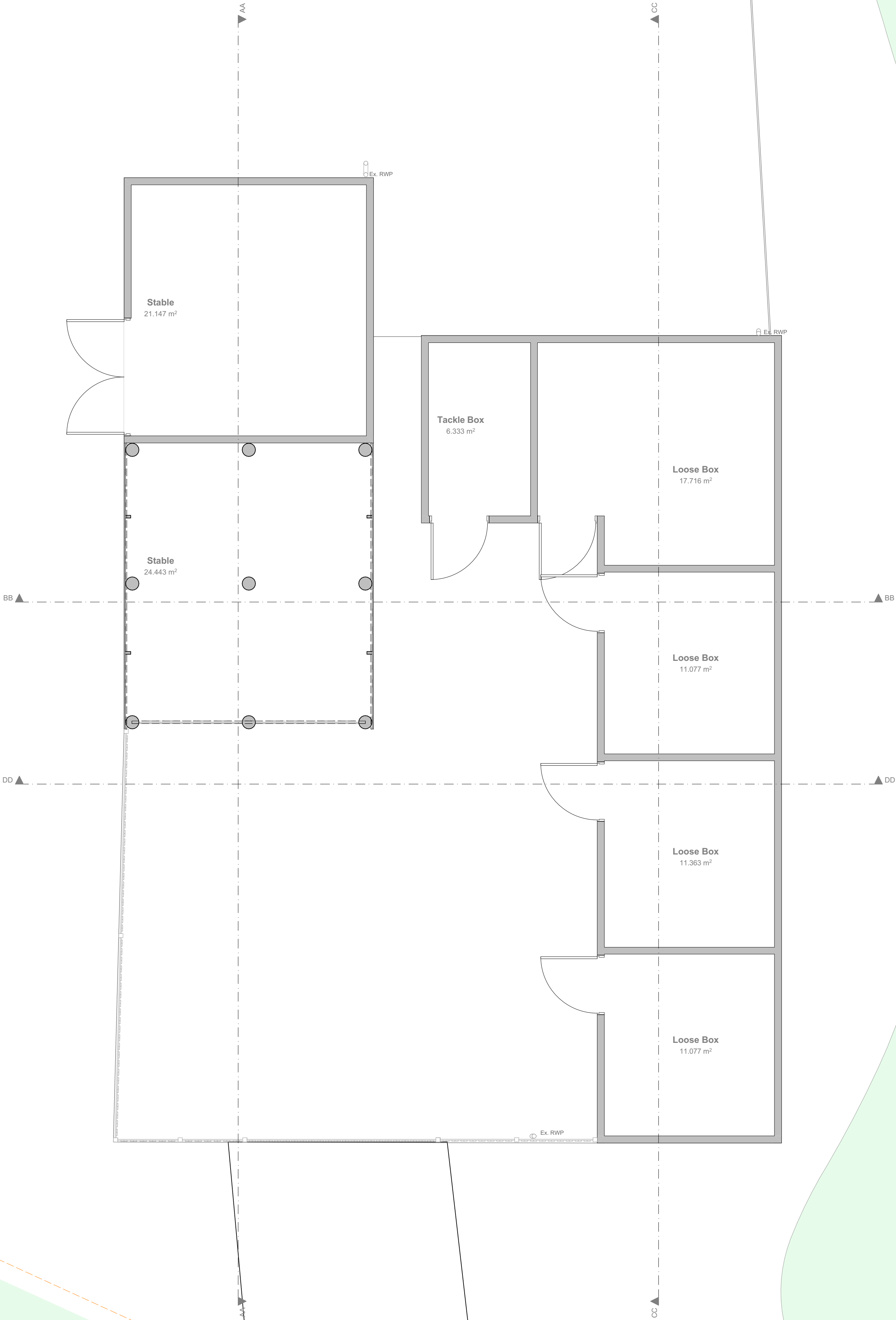
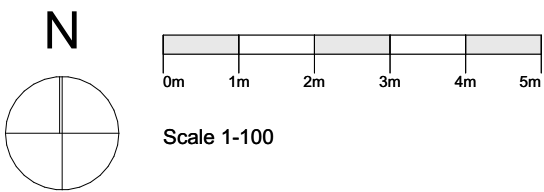
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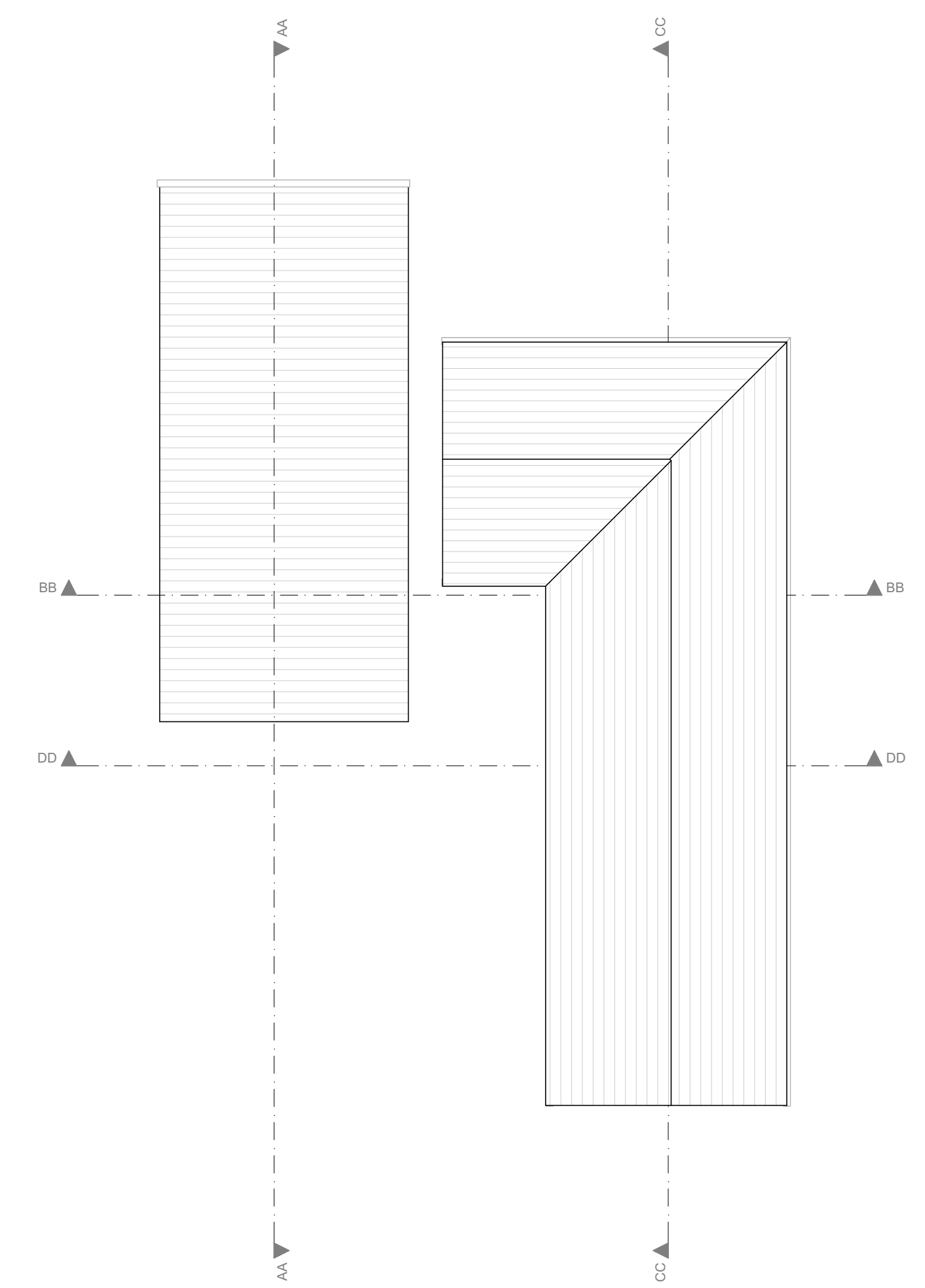
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West Sussex RH16 4DZ

Client: Tatiana Lancaster

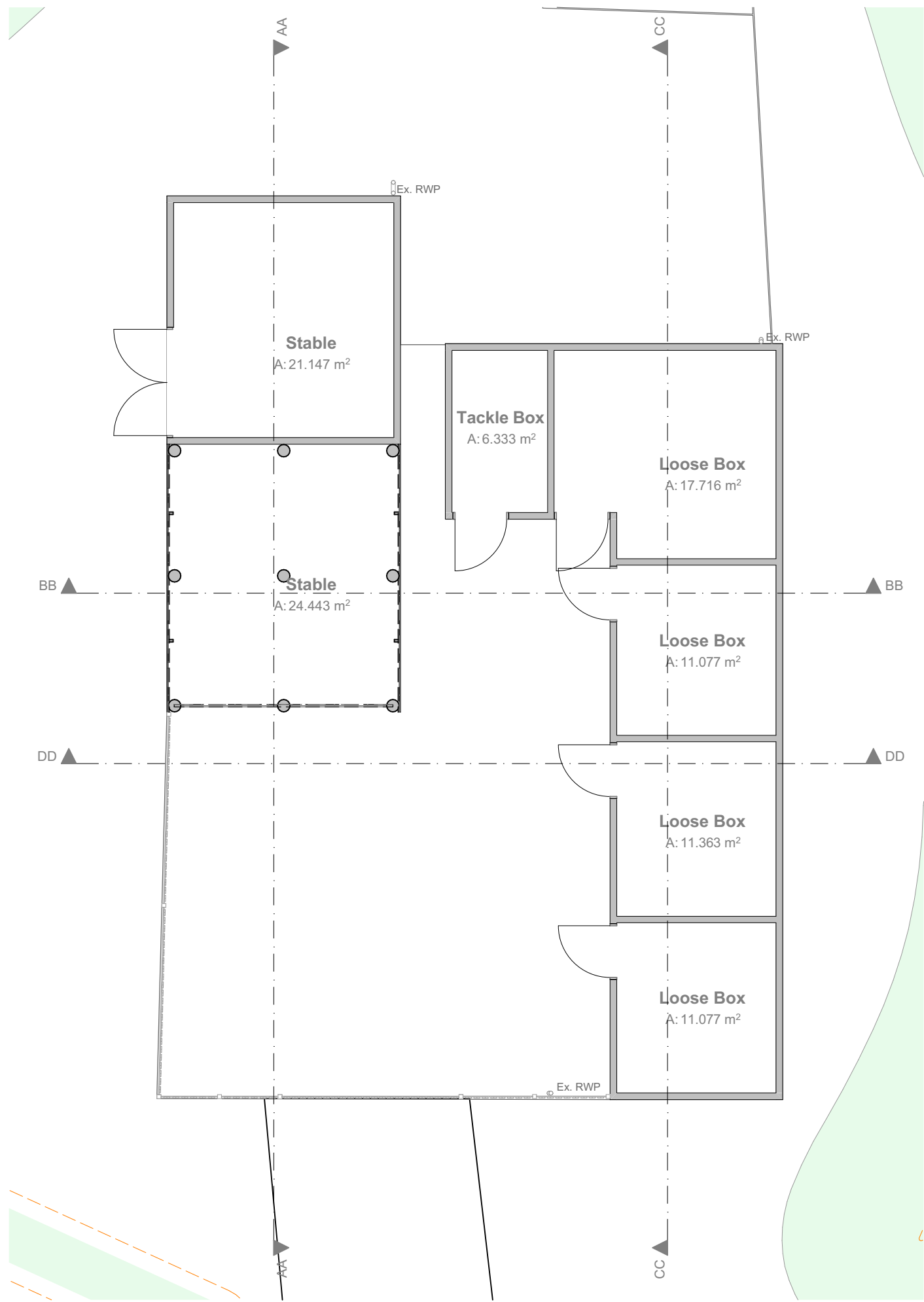
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West Sussex
RH17 7NH

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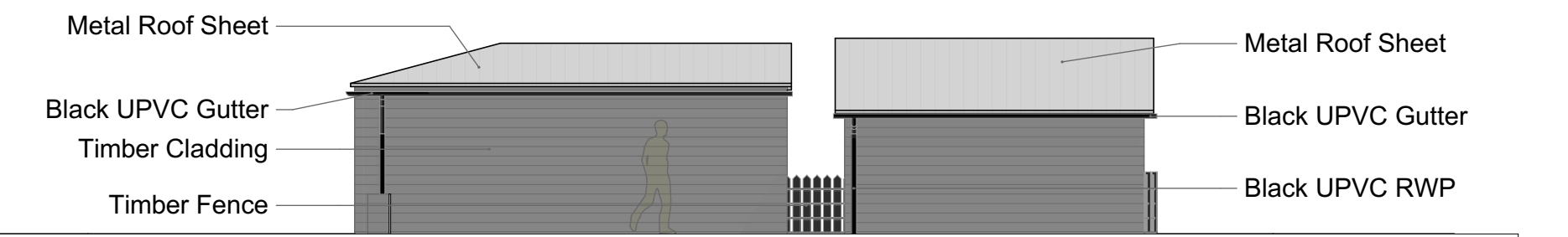
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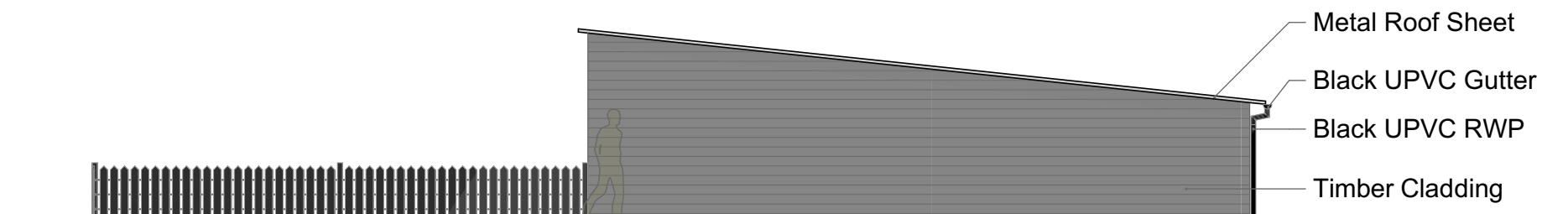
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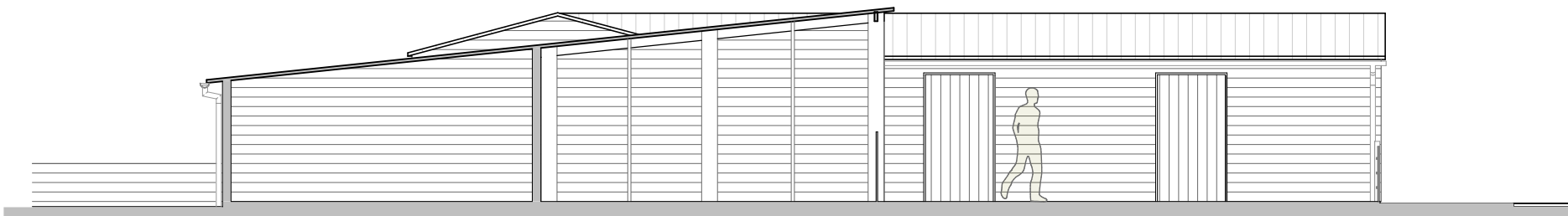
Existing North Elevation



Existing South Elevation



Existing Stable East Elevation



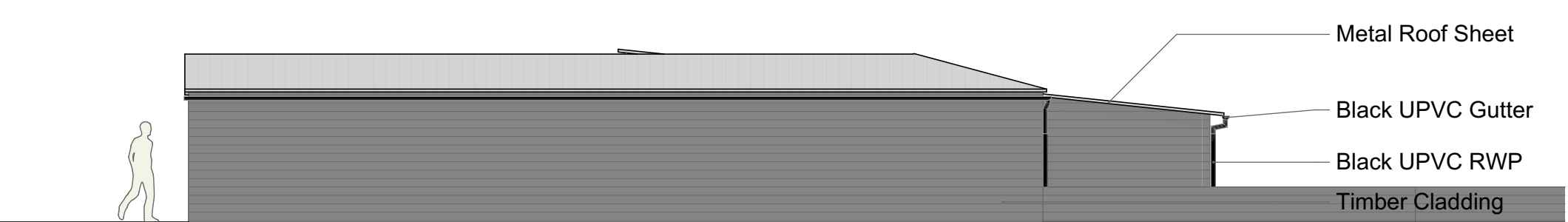
Existing Section AA



Existing Section BB



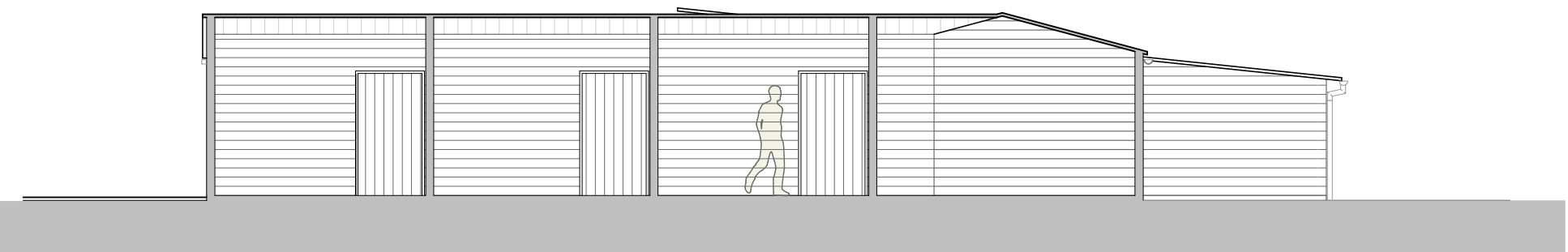
Existing West Elevation



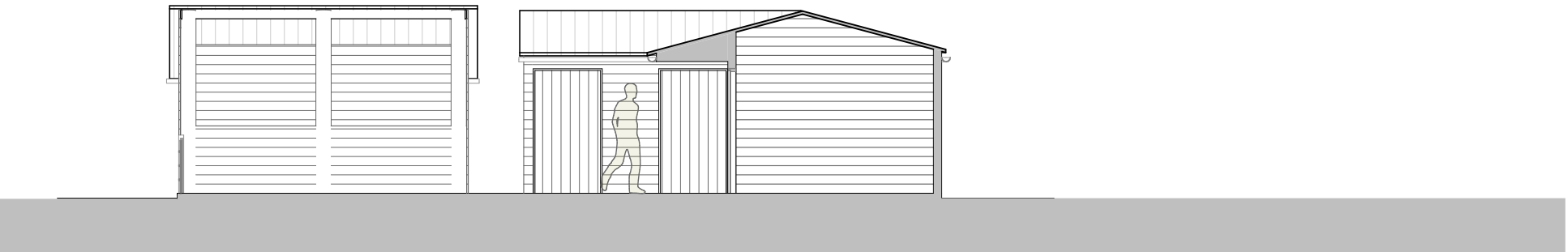
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Existing Stable West Elevation



Existing Section CC



Existing Section DD

Notes

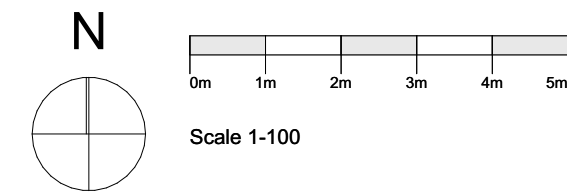
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Drawing to be printed A1



RevID	Transmitted By	Trans initial Set Date	Layout Comment
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EXISTING

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31 Sussex Road Haywards Heath
West Sussex RH16 4DZ

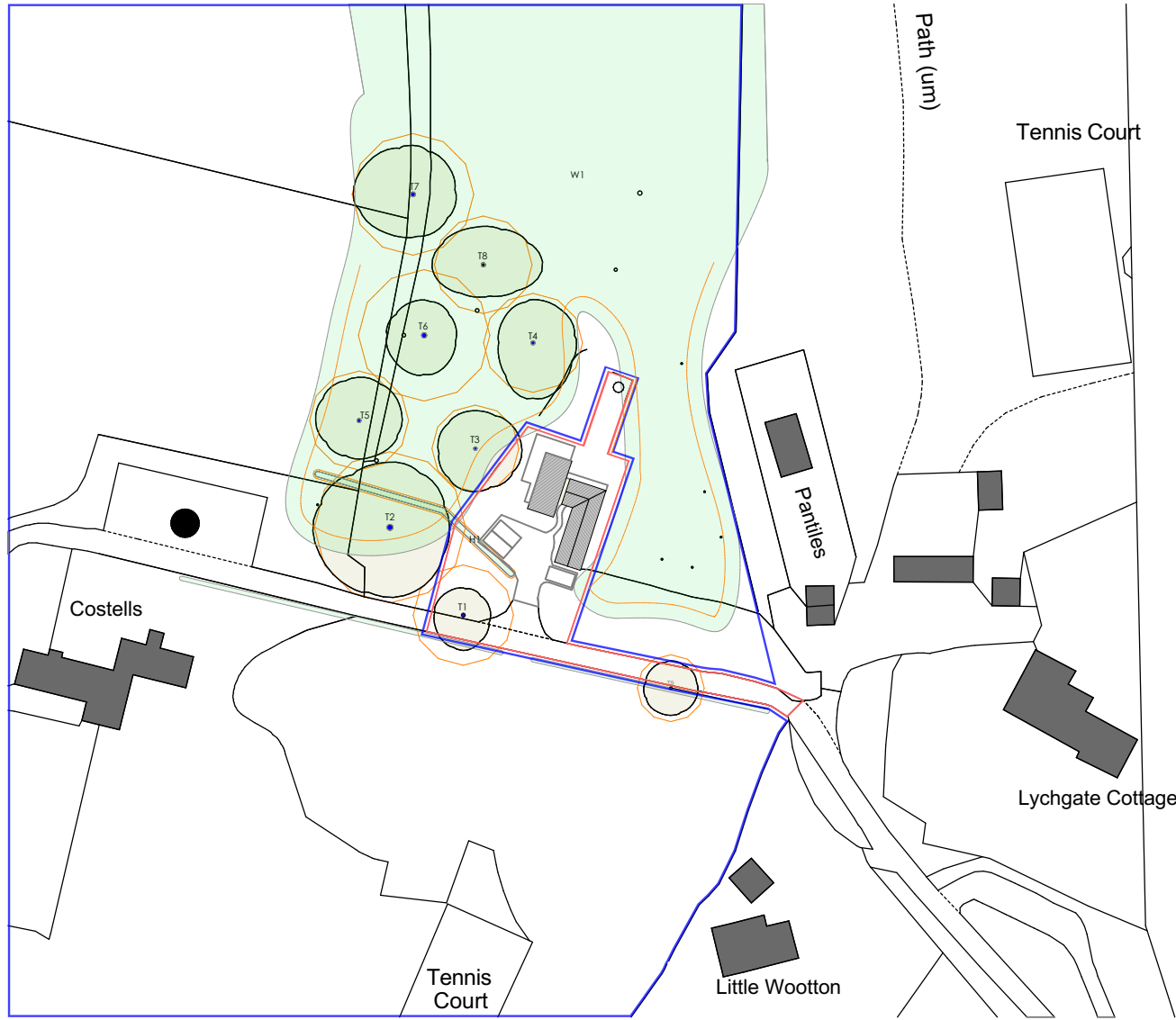
Client: Tatiana Lancaster

Address: Costells Stables,
Haywards Heath
West Sussex
RH17 7NH

Description: Existing Plans, Elevations and Sections

Scale: 1:100 Date:
Drawn: BI Checked: JS

Drawing No: 845 /103



Proposed Location Plan 1:1250



Proposed Location Plan 1:1250

Notes

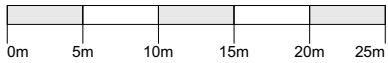
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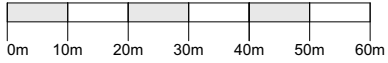
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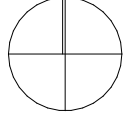


Scale 1-500



Scale 1-1250

N



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31 Sussex Road Haywards Heath
West Sussex RH16 4DZ

Client: Tatiana Lancaster

Address: Costells Stables,
Haywards Heath
West Sussex
RH17 7NH

Description: Proposed Location and Site Plan

Scale: 1:1250, 1:500 Date:

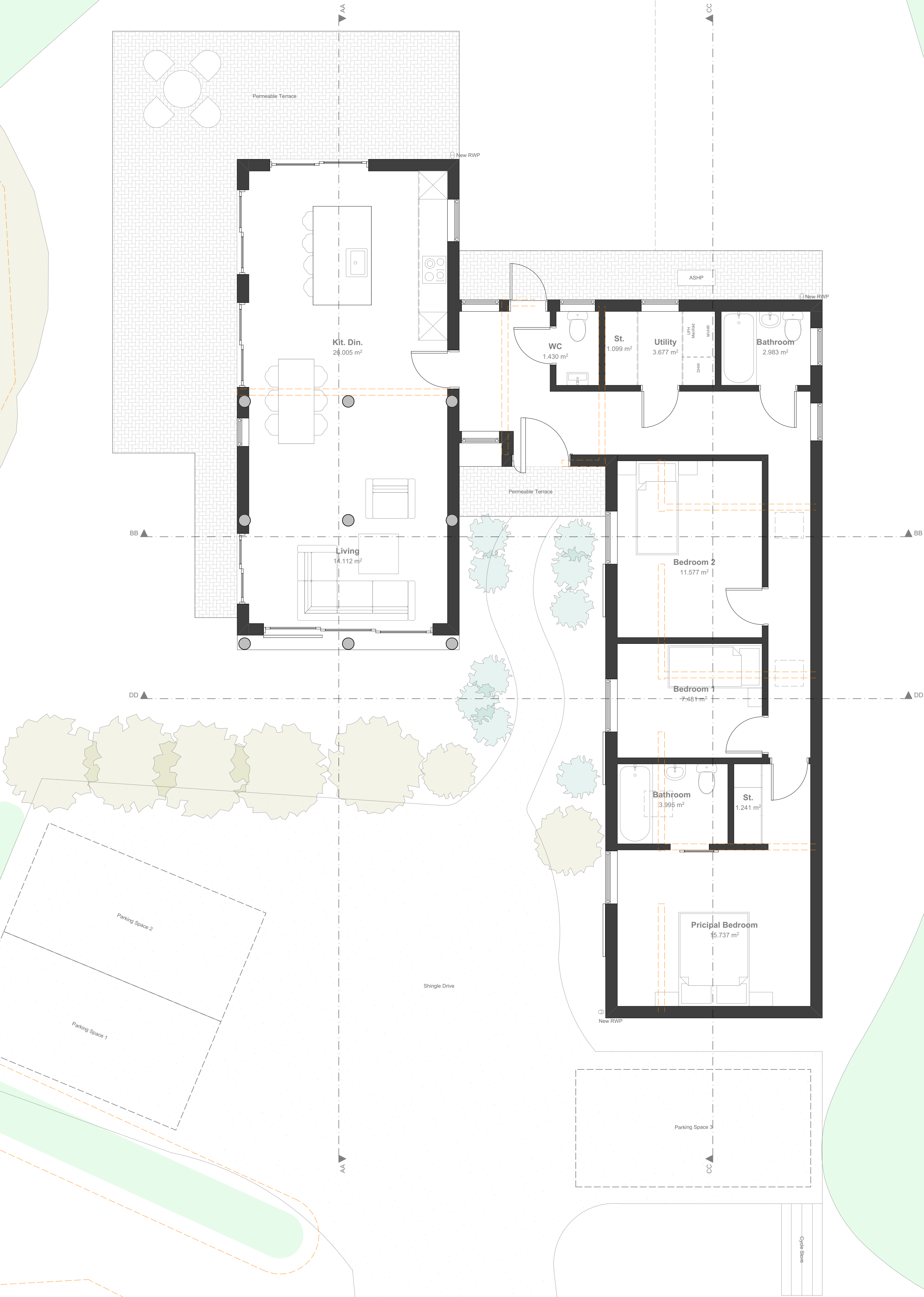
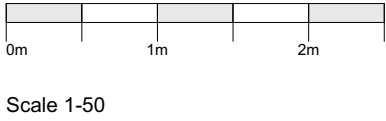
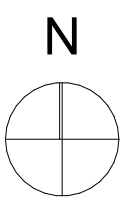
Drawn: BI Checked: JS

Drawing No: 845 /301

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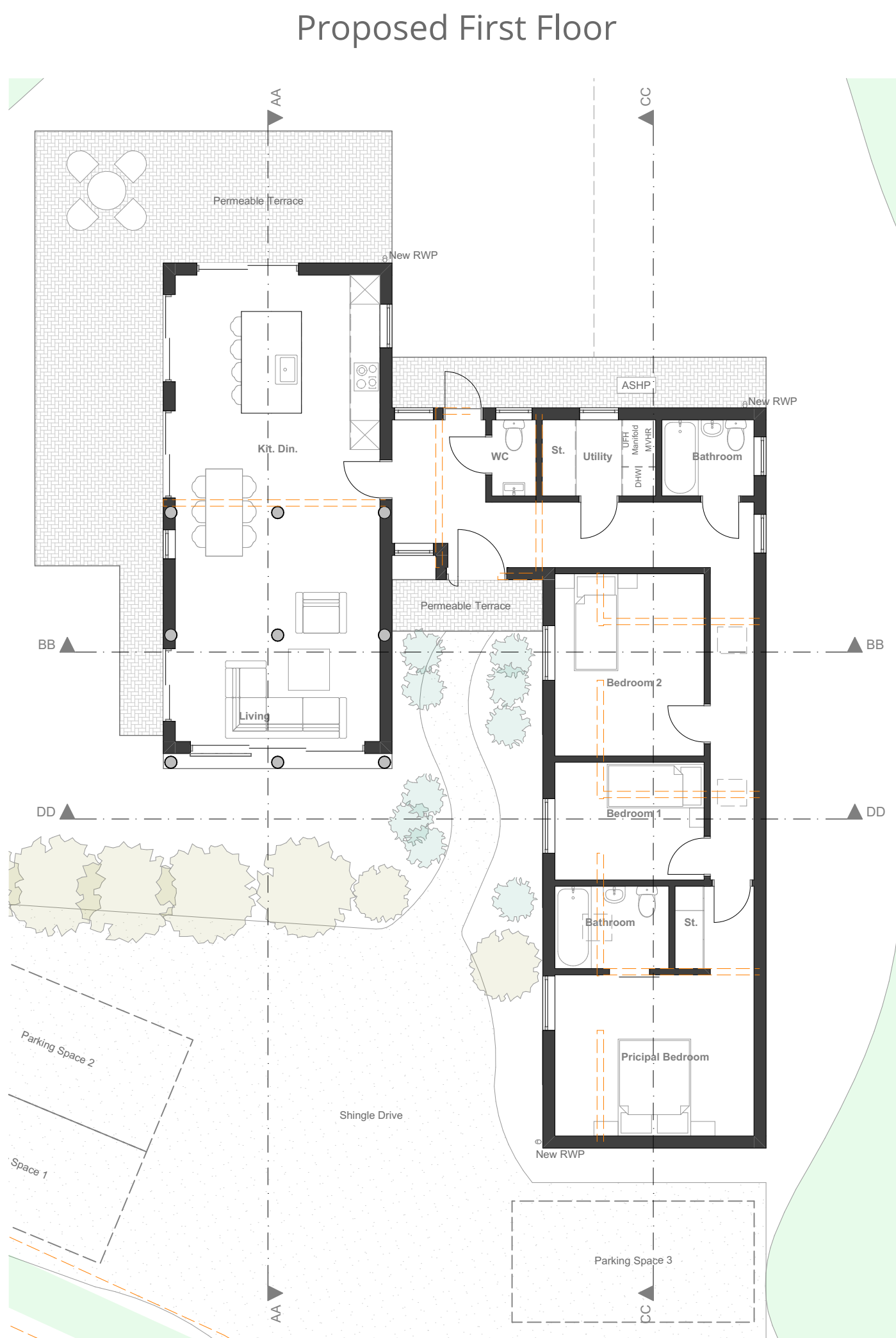
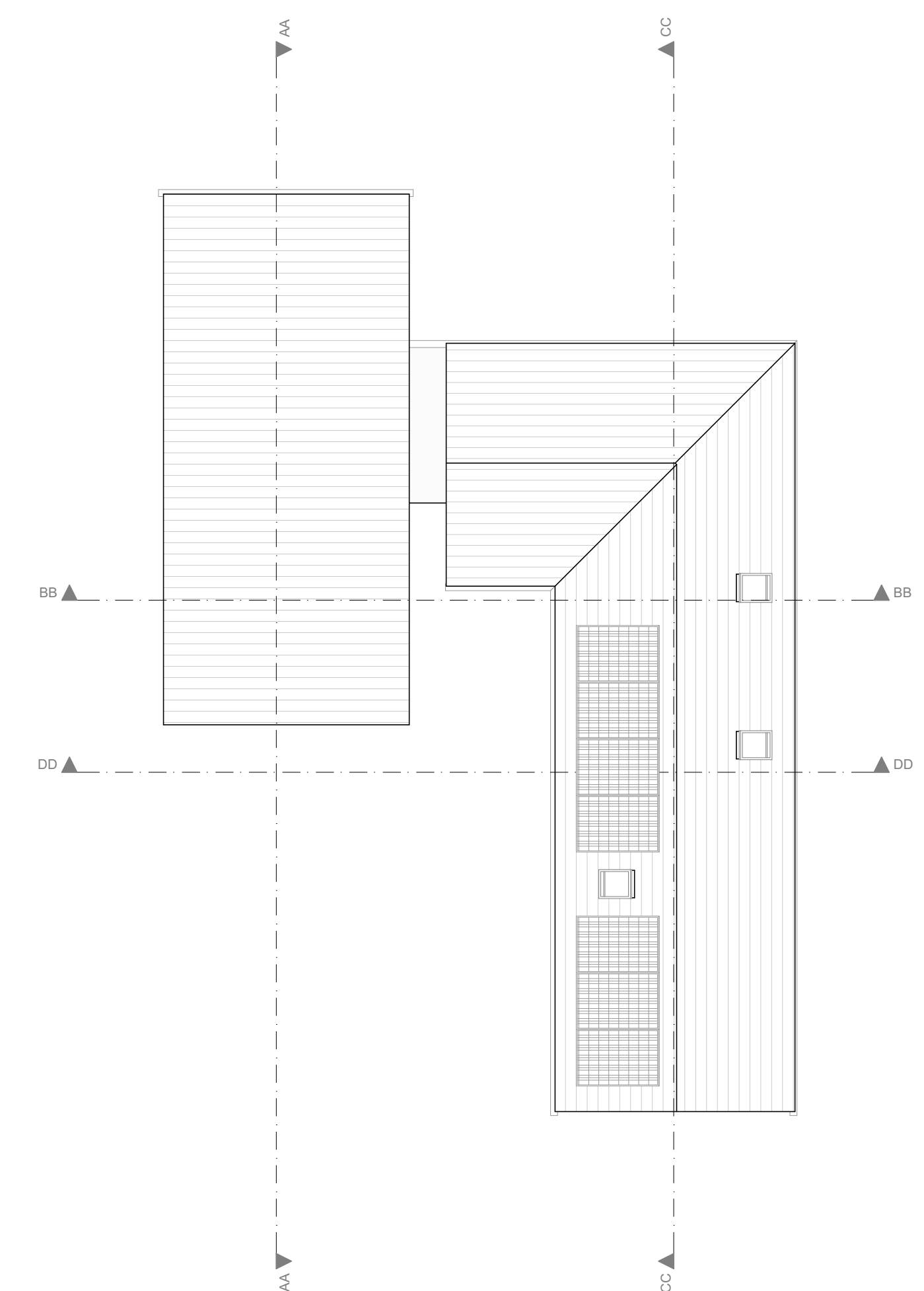
31 Sussex Road Haywards Heath
West Sussex RH16 4DZ

Client: Tatiana Lancaster

Address: Costells Stables,
Church Road,
West Sussex
RH17 7NH

Description: Proposed Site Layout Plan

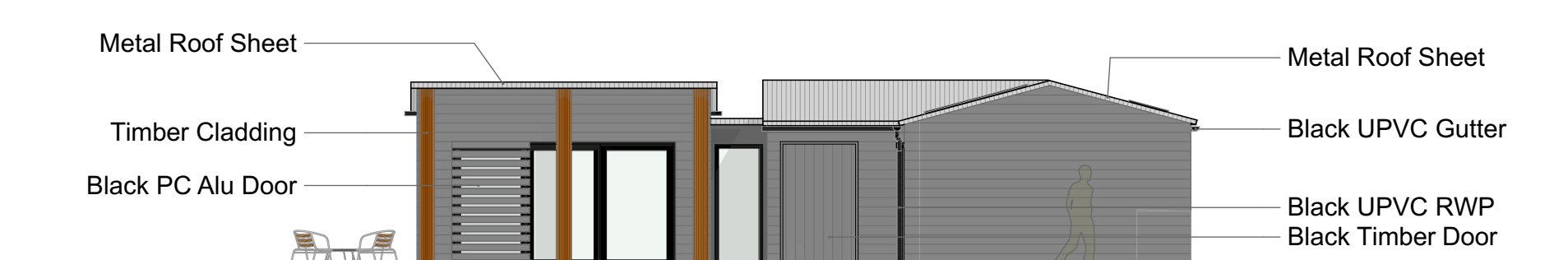
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Drawn: BI Checked: JS
Drawing No: 845 / 302



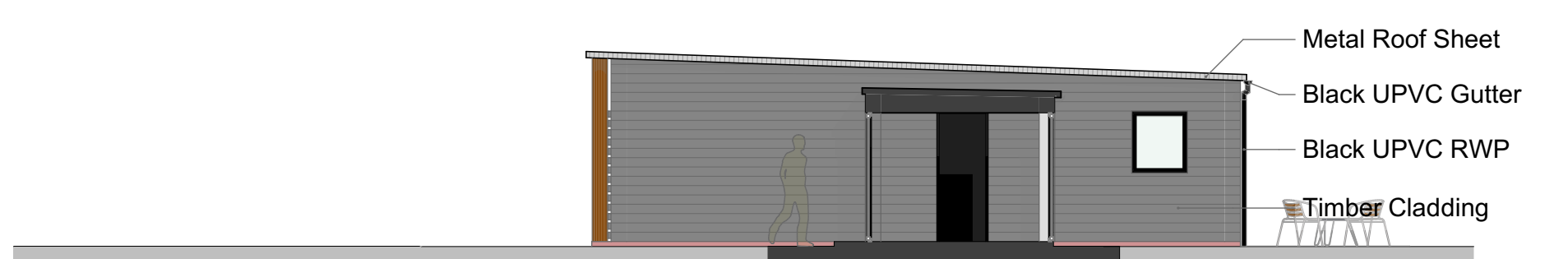
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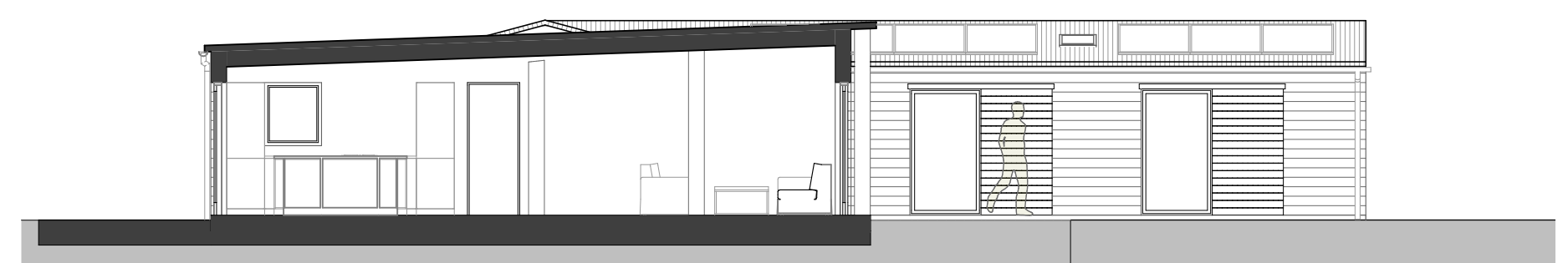
Proposed North Elevation



Proposed South Elevation



Proposed Stables East Elevations



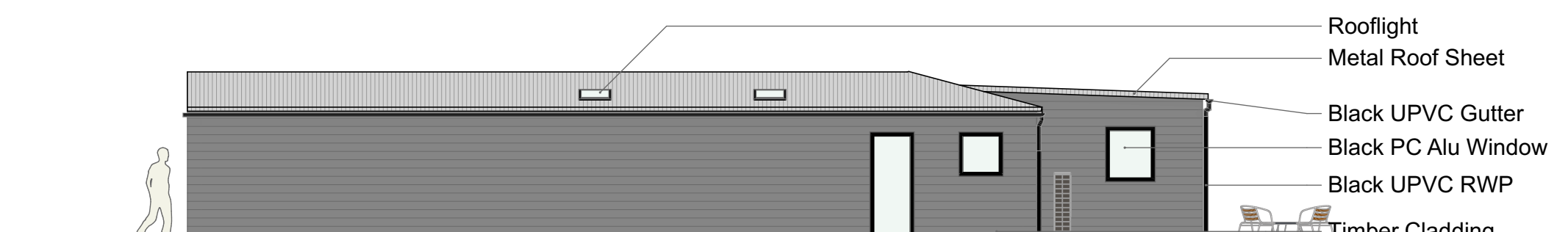
Proposed Section AA



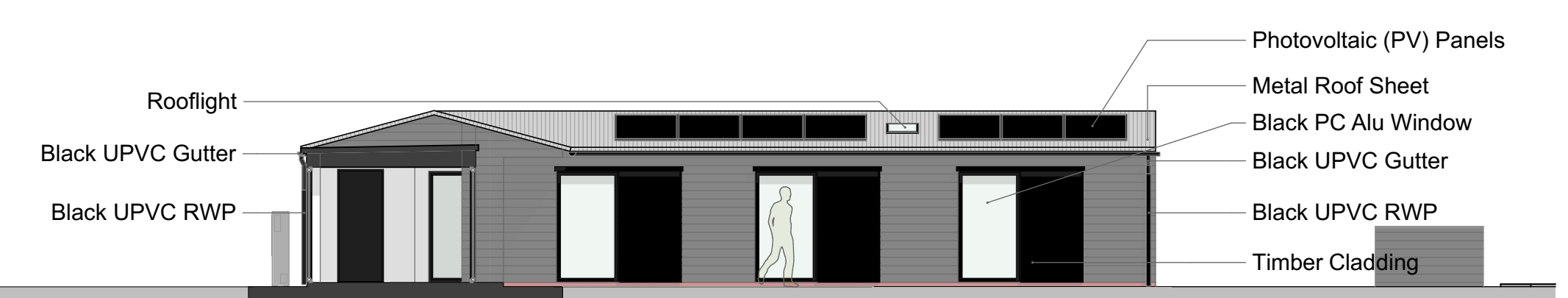
Proposed Section BB



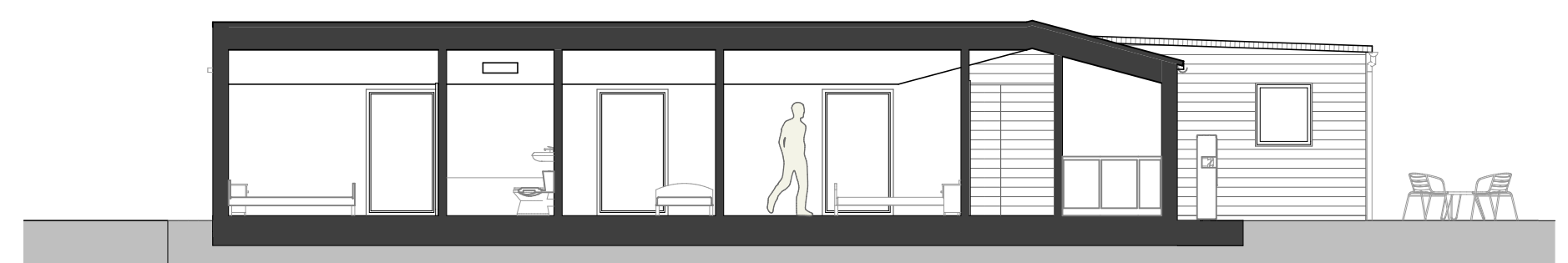
Proposed West Elevation



Proposed East Elevation



Proposed Stables West Elevations



Proposed Section CC



Proposed Section DD

Notes

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Drawing to be printed A1

N

0m1m2m3m4m5m

Scale 1:100

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PLANNING			

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West Sussex

Client:

Costells Stables, Haywards Heath

West Sussex

RH16 4DZ

Tatiana Lancaster

Description: Proposed Plans, Elevations and Sections

Scale: 1:100

Drawn: BI

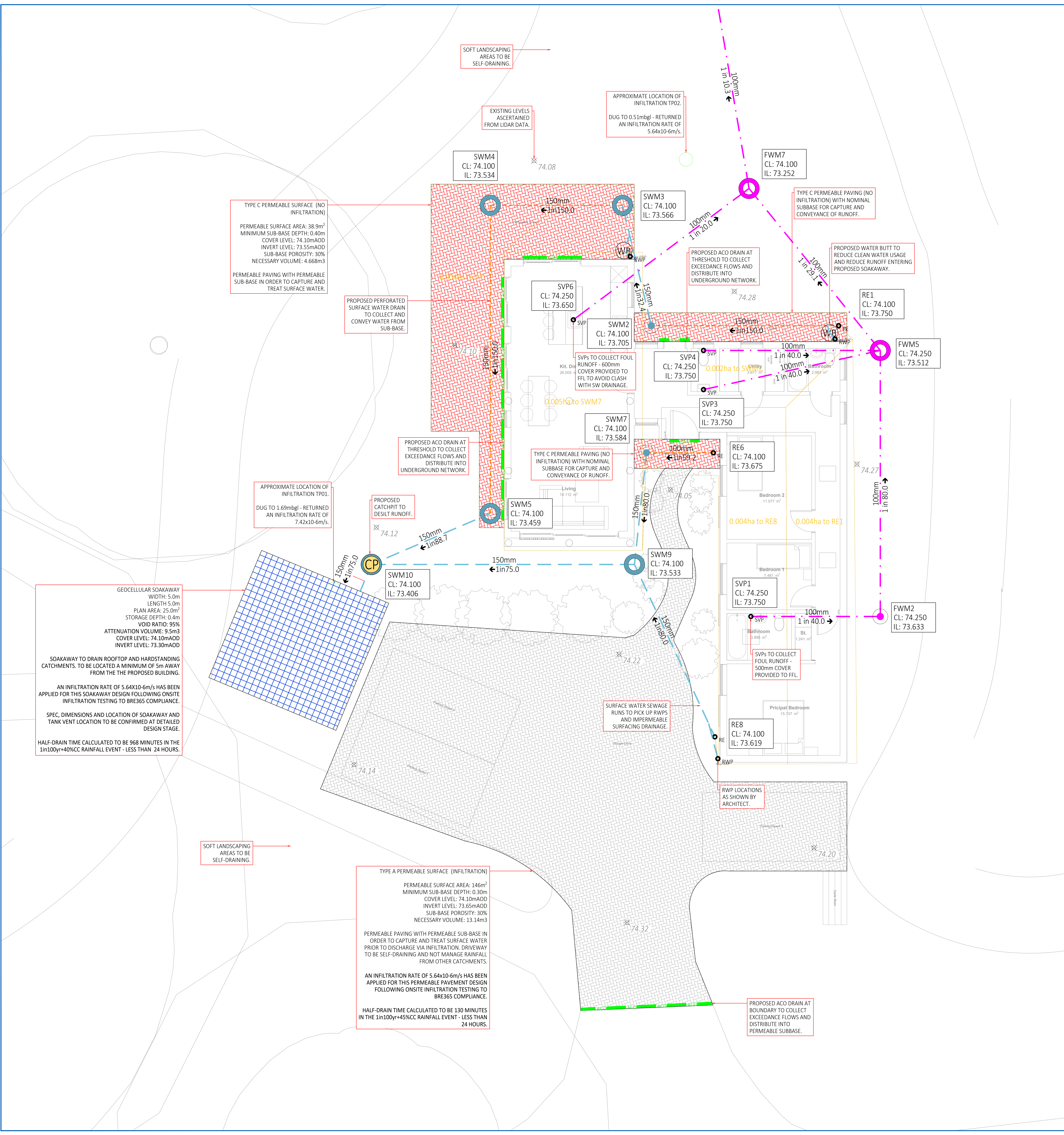
Drawing No:

Date:

Checked: JS

845/303

APPENDIX II Proposed Drainage Layout



INSET - REAR GARDEN TO THE NORTH.

CESSPIT DESIGN AND LOCATION BASED ON BUILDING REGS PART H - CLEARWATER 46000 LITRE CESSPOOL.

JUSTIFICATION:

- ALTHOUGH INFILTRATION IS SUFFICIENT, NO SPACE ON SITE TO ALLOW NECESSARY SEPARATION TO BUILDINGS (15m FOR DRAINAGE FIELD).
- ACCORDING TO SOUTHERN WATER, THERE ARE NO PUBLIC SEWERS IN CLOSE PROXIMITY TO THE SITE.

STING:

- >7m FROM ANY HABITABLE BUILDING
- <30m OF VEHICLE ACCESS TO ALLOW FOR CLEANING/EMPTYING

DESIGN:

- FACTORY BUILT SEALED CESSPOOL
- ALLOWANCE MADE FOR 6 PERSONS - 18,000L X 4 = 45200L REQUIRED VOLUME

MAINTENANCE:

- CESSPOOL SHOULD BE INSPECTED FORTNIGHTLY FOR OVERFLOW AND EMPTIED AS REQUIRED.
- TYPICALLY THEY REQUIRE EMPTYING ON A MONTHLY BASIS BY A LICENSED CONTRACTOR.
- IF CESSPOOL DOES NOT FILL WITHIN ESTIMATED PERIOD, THE TANK SHOULD BE CHECKED FOR LEAKAGE.
- MAINTENANCE GUIDELINES IN LINE WITH BUILDING REGS PART H AND TO BE CONFIRMED BY MANUFACTURER AT DETAILED DESIGN STAGE.

NOTE TO BE POSTED WITHIN BUILDING REGARDING CESSPOOL:

- THE FOUL DRAINAGE SYSTEM FROM THIS PROPERTY IS SERVED BY A CESSPOOL. THE SYSTEM SHOULD BE EMPTIED IN LINE WITH MANUFACTURER'S RECOMMENDATION BY A LICENSED CONTRACTOR AND INSPECTED FORTNIGHTLY FOR OVERFLOW. THE OWNER IS LEGALLY RESPONSIBLE TO ENSURE THAT THE SYSTEM DOES NOT CAUSE POLLUTION, A HEALTH HAZARD OR A NUISANCE.

EXACT SPEC AND LOCATION TO BE CONFIRMED AT DETAILED DESIGN STAGE.

APPROXIMATE LOCATION OF INFILTRATION TP02.

DUG TO 0.51mbgl - RETURNED AN INFILTRATION RATE OF 5.64x10-6m/s.

TYPE C PERMEABLE PAVING (NO INFILTRATION) WITH NOMINAL SUBBASE FOR CAPTURE AND CONVEYANCE OF RUNOFF.

FWM7 CL: 74.100 IL: 73.252

FWM2 CL: 74.250 IL: 73.633

FWM5 CL: 74.250 IL: 73.512

RE1 CL: 74.100 IL: 73.750

RE6 CL: 74.100 IL: 73.675

RE8 CL: 74.100 IL: 73.619

SWM3 CL: 74.100 IL: 73.566

SWM4 CL: 74.100 IL: 73.534

SWM2 CL: 74.100 IL: 73.705

SWM7 CL: 74.100 IL: 73.584

SWM5 CL: 74.100 IL: 73.459

SWM9 CL: 74.100 IL: 73.533

SWM10 CL: 74.100 IL: 73.406

SVP6 CL: 74.250 IL: 73.650

SVP4 CL: 74.250 IL: 73.750

SVP3 CL: 74.250 IL: 73.750

SVP1 CL: 74.250 IL: 73.750

FWM7 CL: 74.100 IL: 73.252

FWM2 CL: 74.250 IL: 73.633

FWM5 CL: 74.250 IL: 73.512

RE1 CL: 74.100 IL: 73.750

RE6 CL: 74.100 IL: 73.675

RE8 CL: 74.100 IL: 73.619

SWM3 CL: 74.100 IL: 73.566

SWM4 CL: 74.100 IL: 73.534

SWM2 CL: 74.100 IL: 73.705

SWM7 CL: 74.100 IL: 73.584

SWM5 CL: 74.100 IL: 73.459

SWM9 CL: 74.100 IL: 73.533

SWM10 CL: 74.100 IL: 73.406

SVP6 CL: 74.250 IL: 73.650

SVP4 CL: 74.250 IL: 73.750

SVP3 CL: 74.250 IL: 73.750

SVP1 CL: 74.250 IL: 73.750

DESIGN PHILOSOPHY

SITE GEOLOGY AND ONSITE INFILTRATION TESTING TO BRE356 COMPLIANCE SHOWS THAT INFILTRATION SUDS ARE VIABLE TO SUPPORT GRAVITATIONAL DISCHARGE FOR THE PROPOSED SITE CHANGES. 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 AND HARDSTANDING CATCHMENTS HAVE BEEN PROPOSED TO DRAIN TO A SOAKAWAY IMMEDIATELY WEST OF THE FRONT DRIVEWAY. THIS IS TO ALLOW FOR INFILTRATION WHILST ALSO PROVIDING ADDITIONAL ON SITE ATTENUATION DURING AN EXCEEDANCE EVENT. THE FRONT DRIVEWAY IS TO BE OF SELF-DRAINING PERMEABLE CONSTRUCTION, ALSO ALLOWING FOR INFILTRATION IN ACCORDANCE WITH THE INFILTRATION RATES DERIVED THROUGH ONSITE TESTING.

IT IS PROPOSED FOR THE SOAKAWAY TO HAVE AN AREA OF 25m AND A STORAGE DEPTH OF 0.4m. AN INFILTRATION RATE OF 5.64x10-6m/s HAS BEEN USED FOR THE DESIGN OF THE SOAKAWAY AND INFILTRATING PERMEABLE PAVING.

ALL COVER AND INVERT LEVELS MODELLED HAVE BEEN ASCERTAINED FROM LIDAR DATA. THESE ARE TO BE CONFIRMED AT A LATER DESIGN STAGE FOLLOWING A TOPOGRAPHIC SURVEY OF THE SITE AND PROPOSED LEVELS.

ACCORDING TO SOUTHERN WATER RECORDS, THERE ARE NO PUBLIC SEWERS IN WITHIN REASONABLE DISTANCE OF THE DEVELOPMENT SITE. AS SUCH, A CESSPOOL IS TO BE UTILISED FOR THE DISCHARGE OF FOUL WATER.

WATER QUALITY

THE RUNOFF FROM THE PROPOSALS ARE DEEMED TO POSE LOW POLLUTION RISK TO THE DOWNSTREAM NETWORK.

MAINTENANCE

MAINTENANCE SCHEDULE CAN BE FOUND WITHIN MCEC SURFACE AND FOUL WATER DRAINAGE STRATEGY REPORT (MC0860 Ecotecture Costells RH17 SW FW).

LEGEND

- PROPOSED SW PIPE RUN
- PROPOSED PERFORATED SW DRAIN
- PROPOSED TYPE D SW INSPECTION CHAMBER
- PROPOSED TYPE E SW INSPECTION CHAMBER
- CATCHPIT CHAMBER/MANHOLE
- PROPOSED SW KIDCOING EYE
- RWP ROUTED THROUGH WATER BUTT
- PROPOSED SW RAINWATER PIPE
- SLOT/CHANNEL DRAIN WITH Silt BUCKET
- PERMEABLE PAVING - NOT TANKED
- PERMEABLE PAVING - TANKED
- GEOCELLULAR ATTENUATION - NOT TANKED
- HARD SURFACE CATCHMENT AREAS - 100% IMPERMEABLE
- INFILTRATION TEST PIT LOCATIONS
- PROPOSED FW PIPE RUN
- PROPOSED TYPE D FW INSPECTION CHAMBER
- PROPOSED TYPE E FW INSPECTION CHAMBER
- PROPOSED FW SOIL VENT PIPE
- PROPOSED FW CESSPOOL
- EXISTING LEVEL

REV: DESCRIPTION BY: DATE:

STATUS: Preliminary

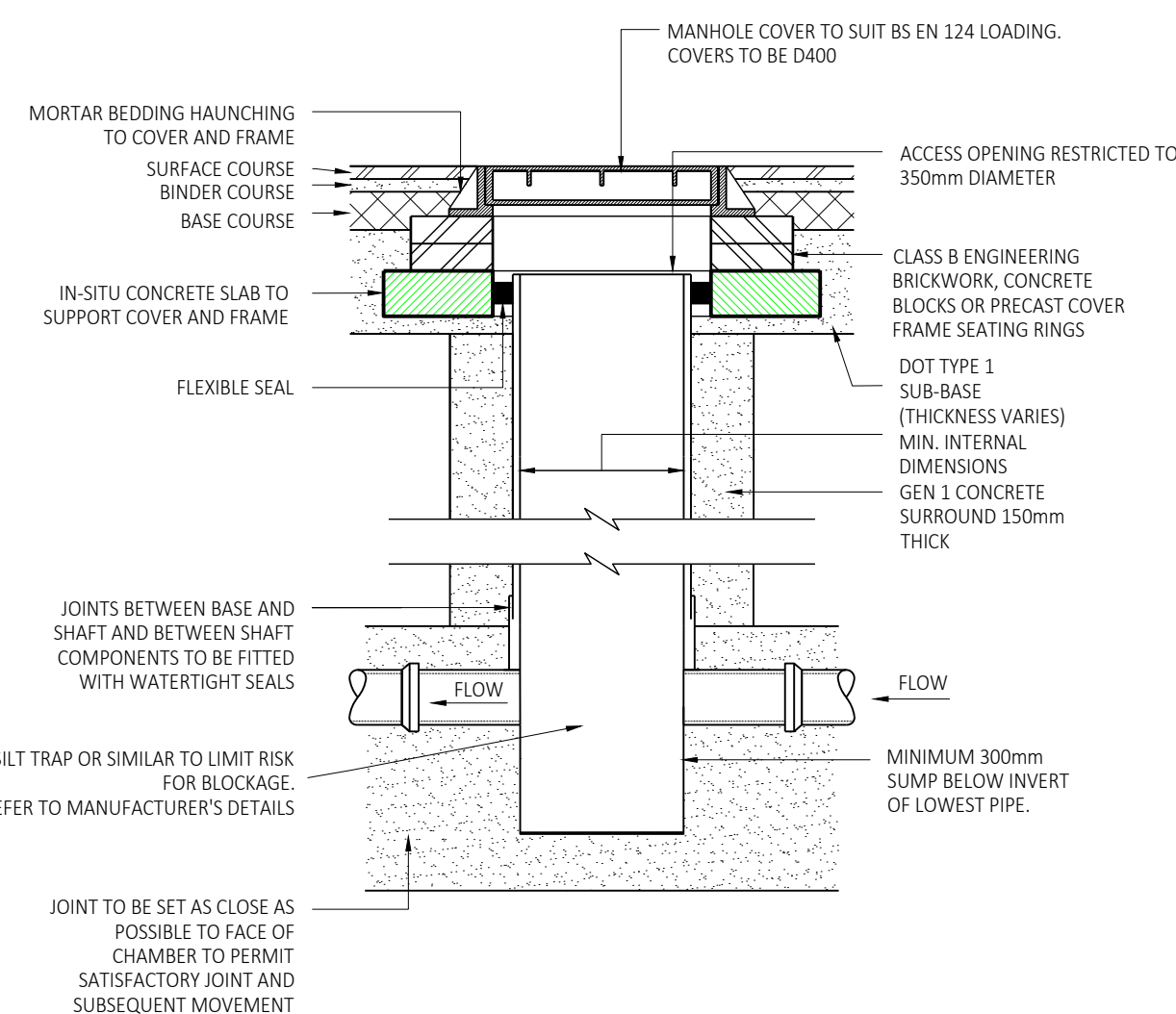
MERIDIAN CIVIL ENGINEERING CONSULTANCY

CLIENT: Ecotecture

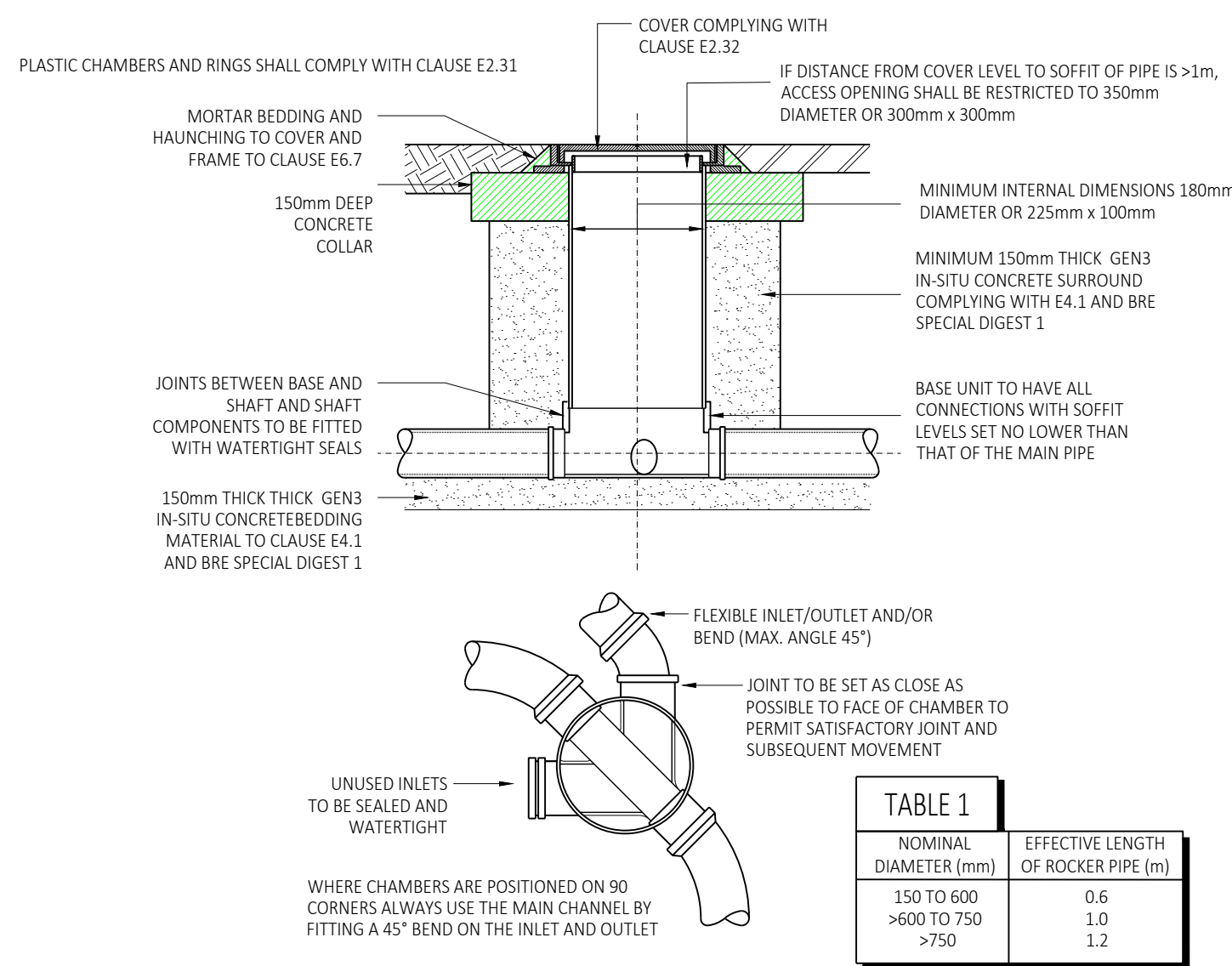
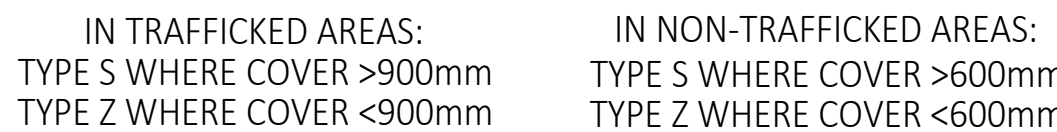
SITE: Costells Stables, Church Road, Haywards Heath, RH17 7NH

TITLE: Surface and Foul Water Drainage Strategy - Proposed Layout

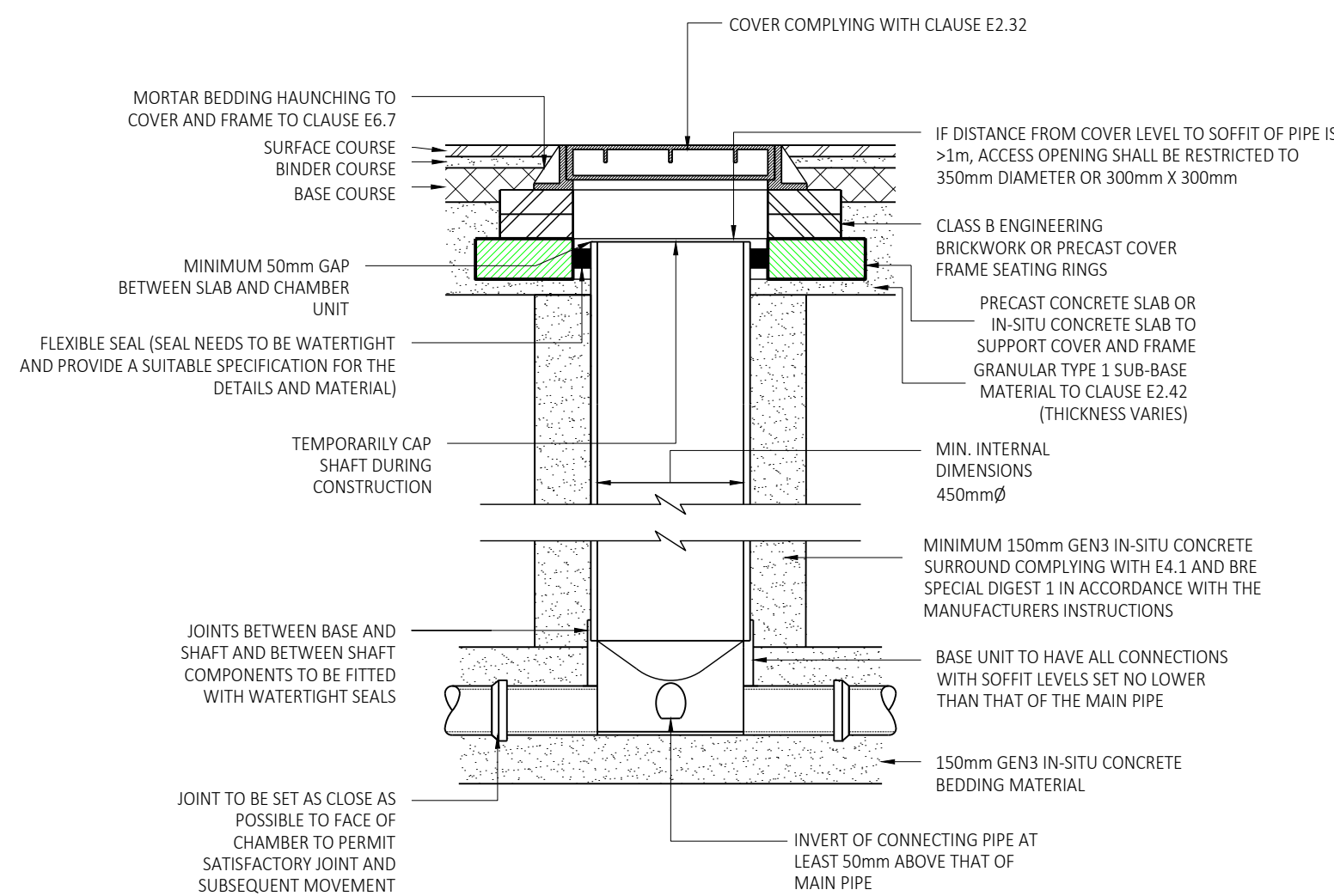
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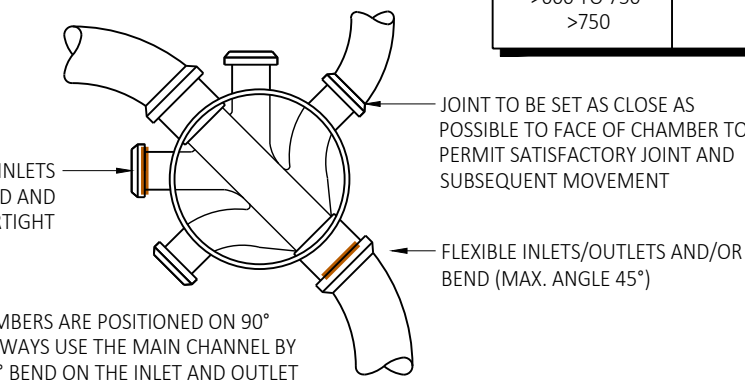
(PREFORMED POLYPIPE RIDGISTORM 450-1500Ø CATCHPIT MANHOLE OR SIMILAR),
MAX. DEPTH 3m, NON-ENTRY)



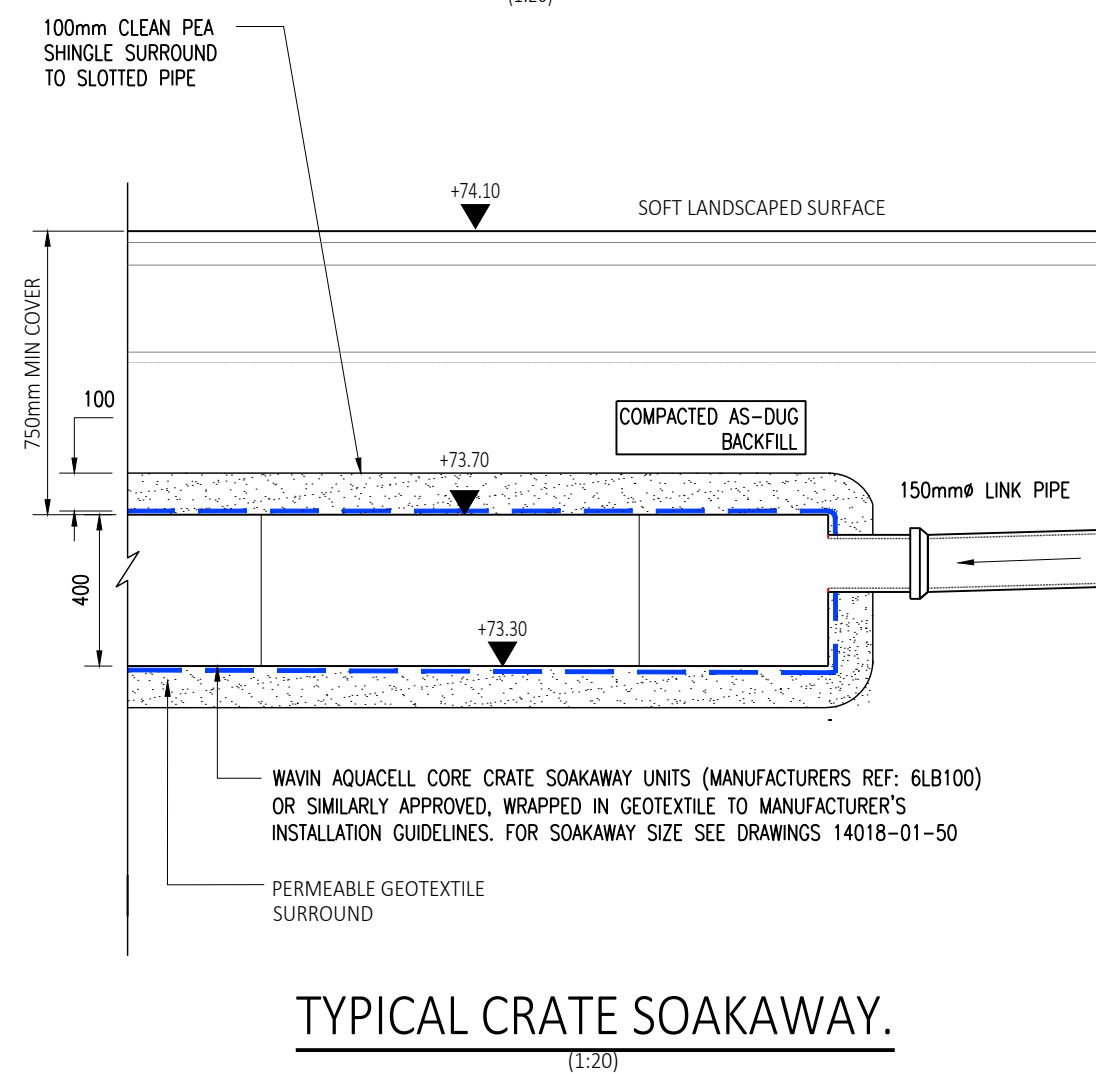
250mmØ WHERE DEPTH TO INVERT <600mm
450mmØ WHERE DEPTH TO INVERT >600mm
FOR 450mmØ > 1.2mDEEP RESTRICT ACCESS TO MAX 350mm



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



(FOR USE IN AREAS SUBJECT TO VEHICLE LOADING,
DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE UP TO 3M)
(1:20)

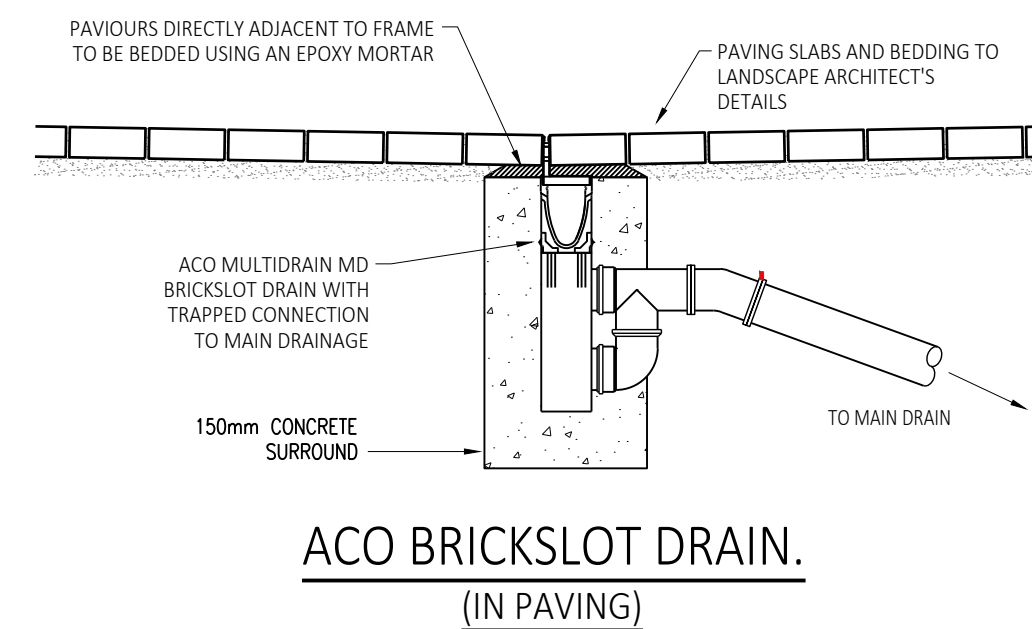


50mm THK LOOSE GRAVEL
30mm 2-6MM CLEAN CRUSHED LAYING COURSE
TERRAM 1000
6-20mm CLEAN CRUSHED STONE SUB BASE
DEPTH 150mm

SUB BASE LAID FLAT

**PERMEABLE SURFACE
DETAIL
(LOOSE GRAVEL SURFACE)**

(1:20)



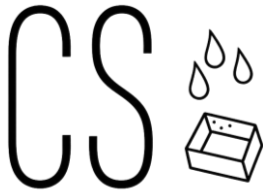
1. GENERAL
- a. THIS DRAWING IS NOT TO BE SCALED, WORK TO FIGURED DIMENSIONS ONLY, CONFIRMED ON SITE.
- b. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTURAL DRAWINGS, DETAILED SPECIFICATIONS WHERE APPLICABLE AND ALL ASSOCIATED DRAWINGS IN THIS SERIES.
- c. ANY DISCREPANCY ON THIS DRAWING IS TO BE REPORTED IMMEDIATELY TO THE ARCHITECT/PRINCIPLE DESIGNER FOR CLARIFICATION.
- d. THE CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY WORKS AND FOR THE STABILITY OF THE WORKS IN PROGRESS.
- e. COM REGULATIONS 2015. ALL CURRENT DRAWINGS AND SPECIFICATIONS MUST BE READ IN CONJUNCTION WITH THE DESIGNER'S HAZARD RISK AND ENVIRONMENTAL 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 REPORT ANY CONCERN TO CONTRACTOR. THE WATER SITE AND SPECIFIC SITE INVESTIGATION, CONTAMINATION ASSESSMENT, ASBESTOS SURVEY, ENVIRONMENTAL SURVEY, UDO SURVEY AND ANY OTHER RELEVANT INFORMATION AND MAJOR RISKS RELATING TO WORKS OUTLINED IN THE DRAWINGS AND SPECIFICATIONS. THE CONTRACTOR TO ADVISE THE DESIGNER AND CLIENT AWARE OF SITE SPECIFIC RISKS THAT MAY AFFECT THE DRAWING AND SPECIFICATION.
- f. COM REGULATIONS 2015. FOR GENERAL MAINTENANCE AND MANAGEMENT OF WATER TO CONSULT WITH THE CODE OF PRACTICE 7252 SUDS MANUAL FOR PROPRIETARY SYSTEMS. SEE MANUFACTURER'S MANAGEMENT AND MAINTENANCE DETAILS AND RISK ASSESSMENT WITH REGARDS TO MAINTENANCE OF PROPRIETARY SYSTEMS.
2. CONSTRUCTION NOTE
- a. THE MAIN CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF ALL PERMANENT WORKS AND TO BE 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. THE CONTRACTOR TO GUARANTEE THAT 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 ANY 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 MATERIALS SPECIFIED SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS AND INSTRUCTIONS. IF THERE ARE DISCREPANCIES BETWEEN THAT INFORMATION AND THE DETAILS ON ANY ARCHITECTURAL DRAWINGS, THE MANUFACTURERS INSTRUCTIONS MUST BE USED.
3. BELOW GROUND DRAINAGE
- a. ALL PRIVATE FOUW WATER SEWERS TO 2000 AND PLASTIC INSPECTION CHAMBERS AND FITTINGS TO BS EN 13598-1:2002. CLAY PIPES TO BS EN 1952-1:2003. CONCRETE MANHOLE AND INSPECTION CHAMBERS TO BS EN 1937-2001. ALL ADAPTABLE DRAINAGE TO BE CONSTRUCTED IN ACCORDANCE WITH THE RELEVANT SECTOR GUIDANCE. THE DESIGN AND CONSTRUCTION GUIDANCE AND THE RELEVANT CLINICAL DESIGN GUIDE.
- b. ALL PRIVATE FOUW WATER SEWERS TO BE LAID AT A 1 IN 40 AT THE HEAD OF PIPE RUNS AND 1 IN 80 ELSEWHERE UNLESS OTHERWISE STATED.
- c. ALL PRIVATE FOUW WATER SEWERS TO BE LAID AT A 1 IN 100 UNLESS OTHERWISE STATED OR OTHERWISE SPECIFIED. ALL PRIVATE SLOTTED SINK STOKS UNLESS OTHERWISE STATED ON THE DRAWING AND 150mm WHERE SERVING MORE THAN 9 PROPERTIES.
- d. ALL PRIVATE SURFACE WATER SEWERS TO BE LAID AT A 1 IN 100 UNLESS OTHERWISE STATED OR OTHERWISE SPECIFIED.
- e. ALL PRIVATE SURFACE WATER SEWER PIPES TO BE 100mm DIAMETER FROM DOWNPIPES AND 150mm DIAMETER ELSEWHERE UNLESS OTHERWISE STATED ON THE DRAWING.
- f. ALL ROOFING DRAINAGE ACCESS ABOVE GROUND WHERE RAINWATER DOWNPIPES OR SOIL STACKS ARE NOT HAVE A DIRECT CONNECTION TO AN INSPECTION CHAMBER.
4. EXISTING SURFACE PIPE
- a. EXISTING SURFACE PIPE TO BE RE-USED TO BE SURVEYED AND LEVELED PRIOR TO COMMENCEMENT OF THE DRAINAGE WORKS AND REFURBISHED IF NECESSARY.
- b. CONNECTIONS TO AN ADOPTED SEWER ONLY TO BE MADE FOLLOWING APPROVAL FROM THE RELEVANT AUTHORITY ADOPTING.
- c. ALL DRAIN, SEWER PIPES AND MANHOLES TO BE CLEANED AND TESTED FOR WATER TIGHTNESS ON COMPLETION OF CONSTRUCTION.

4. 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.

REV:	DESCRIPTION:	BY:	DATE:
STATUS: Preliminary			
MERIDIAN CIVIL ENGINEERING CONSULTANCY			
CLIENT: Ecotecture			
SITE: Costells Stables, Church Road, Haywards Heath, RH17 7NH			
TITLE: Surface and Foul Water Drainage Strategy - Construction Details			
SCALE AT A3:	DATE:	DRAWN:	CHECKED:
1:20	02/09/26	IW	SL
PROJECT NO:		DRAWING NO:	
MC0860		CIV02	
		REVISION:	
		P1	

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

APPENDIX III Calculations



CS Site Investigations

Specialists in Drainage-Specific Site Investigations

Consultation Partner per ref: Sam Lee – Meridian Civils

Test Site: RH17 7NH Costells, Scaynes Hill

Ref: CSR0061

Date of Test: 12/08/2026

CS Site Investigations were instructed to undertake BRE365 compliant infiltration testing within 2 no. trial pits (TP), comprising 1 no. deeper pit (approx. 1.7m) and 1 no. shallow pit (approx. 0.5m), at the locations shown within the figure below. The test locations were selected based upon assumed approximate proposed infiltration device locations and were amended on site at the client's request.



Figure 1 - Marked test locations (Blue is TP01, Red is TP02)

Expected Geology

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

- Bedrock geology - Upper Tunbridge Wells Sand-Sandstone and siltstone, interbedded. 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 Deposits - no superficial deposits are recorded

Trial Pit Summary

TP	Length (m)	Width (m)	Depth (m)	Soil Description	Test Completed
TP01	1.06	0.33	1.69	0-250mm dark top soil; 250mm-1.6m sandstone, silty clay and sand mix; 1.6-1.69m sandstone bedrock	Yes
TP02	1.00	0.33	0.51	0-200mm dark top soil; 200-510mm sandstone, silty clay and sand mix	Yes

Table 1 - Table showing details of each hole

Site Investigation Additional Info

- TP01 was excavated to 1.69m, terminating on sandstone bedrock encountered at 1.6-1.69m. Testing was carried out from 0.90m below ground Level (BGL), with refill at 1.50m BGL.
- TP02 was excavated to 0.51m within the shallow soil horizon. Testing was carried out from 0.10m BGL, with refill at 0.40m BGL.
- Three test runs were run in each pit, with the third in each pit being terminated early due to time constraints on site.
- TP01 drained steadily throughout and did not stall.
- TP02 drained more slowly than TP01 and was still falling linearly when monitoring ceased on the final run.
- Monitoring of the final run in each pit ceased at the end of the working day. These runs may require extrapolation by a qualified engineer to reach 25% as per BRE365 guidelines.

Conclusion

Both trial pits accepted water throughout testing, with the deeper TP01 draining more readily than the shallow TP02. Infiltration slowed between successive runs in both pits, consistent with progressive saturation of the surrounding ground. Infiltration testing in line with BRE365 methodology was successfully completed in both pits.

Prepared By

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Disclaimer

This report is based on data obtained during the testing conducted on 12/08/2026. 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 1 – TP01

TP01										
BRE 365 Infiltration Test I										
Site Reference:		61								
Site Address:		(50.9972706, -0.0496443)								
Hole Reference:		TP01								
TP01 Dimensions (m)										
Length:	1.06		Fill to 0.9bgl							
Width:	0.33		refill at 1.5bgl							
Depth:	1.69									
Start Time:	10:02		Start Time:		12:05		Start Time:		15:38	
Test No:	1		Test No:		2		Test No:		3	
Time (mins)	Check At (cloc	Depth (m bgl)	Time (mins)	Check At (cloc	Depth (m bgl)	Time (mins)	Check At (cloc	Depth (m bgl)		
0	10:02	0.9	0	12:05	0.9	0	15:38	0.9		
5	10:07	1.01	5	12:10	0.93	5	15:43	0.93		
10	10:12	1.08	10	12:15	0.955	10	15:48	0.96		
15	10:17	1.14	15	12:20	0.99	15	15:53	0.99		
20	10:22	1.195	20	12:25	1.015	20	15:58	1.005		
25	10:27	1.24	25	12:30	1.04	25	16:03	1.025		
30	10:32	1.27	30	12:35	1.07	30	16:08	1.07		
40	10:42	1.32	40	12:45	1.13	40	16:18	1.1		
50	10:52	1.38	50	12:55	1.18	50	16:28	1.135		
60	11:02	1.42	60	13:05	1.205	60	16:38	1.17		
75	11:17	1.485	75	13:20	1.245	75	16:53	1.23		
90	11:32	1.52	90	13:35	1.3	90	17:08	1.26		
120	12:02	1.58	120	14:05	1.36	120	17:38	1.3		
150	12:32		150	14:35	1.415	150	18:08	1.34		
180	13:02		180	15:05	1.46	180	18:38	1.39		
210	13:32		210	15:35	1.505	210	19:08	1.43		
240	14:02		240	16:05		240	19:38			
270	14:32		270	16:35		270	20:08			
300	15:02		300	17:05		300	20:38			
330	15:32		330	17:35		330	21:08			

Table 2 - TP01 raw data

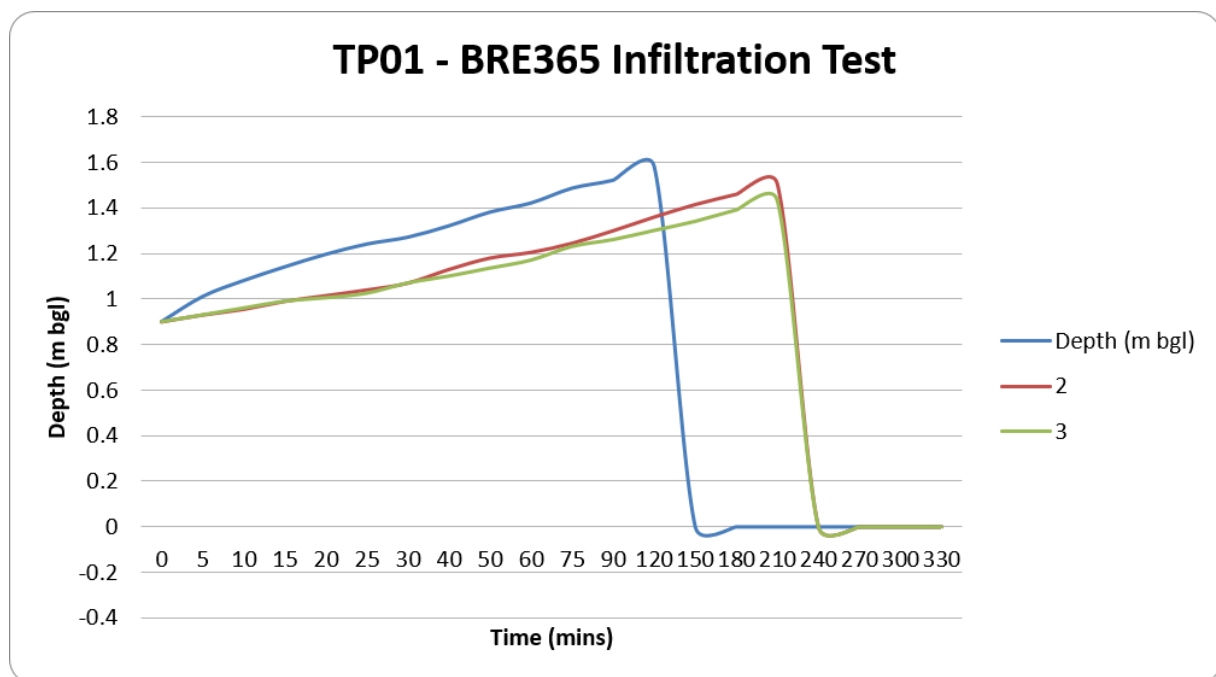


Figure 2 - TP01 infiltration rates



Figure 3- Pit graphic



Figure 4 – Fill and testing graphic



Figure 5 - Excavated soil graphic

Appendix 2 – TP02

TP02											
BRE 365 Infiltration Test I											
Site											
Reference:		61									
Site Address:		(50.9973905, -0.0493912)									
Hole											
Reference:		TP02									
TP02 Dimensions (m)											
Length:		1		Fill to 0.1bgl refill at 0.4bgl							
Width:		0.33									
Depth:		0.51									
Start Time:		09:32		Start Time:		11:35		Start Time:		16:08	
Test No:		1		Test No:		2		Test No:		3	
Time (mins)		Check At (cloc		Depth (m bgl)		Time (mins)		Check At (cloc		Depth (m bgl)	
0		09:32		0.1		0		11:35		0.1	
5		09:37		0.18		5		11:40		0.11	
10		09:42		0.21		10		11:45		0.12	
15		09:47		0.23		15		11:50		0.13	
20		09:52		0.245		20		11:55		0.14	
25		09:57		0.26		25		12:00		0.15	
30		10:02		0.28		30		12:05		0.16	
40		10:12		0.3		40		12:15		0.18	
50		10:22		0.325		50		12:25		0.2	
60		10:32		0.35		60		12:35		0.215	
75		10:47		0.365		75		12:50		0.24	
90		11:02		0.39		90		13:05		0.27	
120		11:32		0.42		120		13:35		0.29	
150		12:02				150		14:05		0.32	
180		12:32				180		14:35		0.34	
210		13:02				210		15:05		0.36	
240		13:32				240		15:35		0.39	
270		14:02				270		16:05		0.41	
300		14:32				300		16:35			
330		15:02				330		17:05			

Table 3 - TP02 raw data

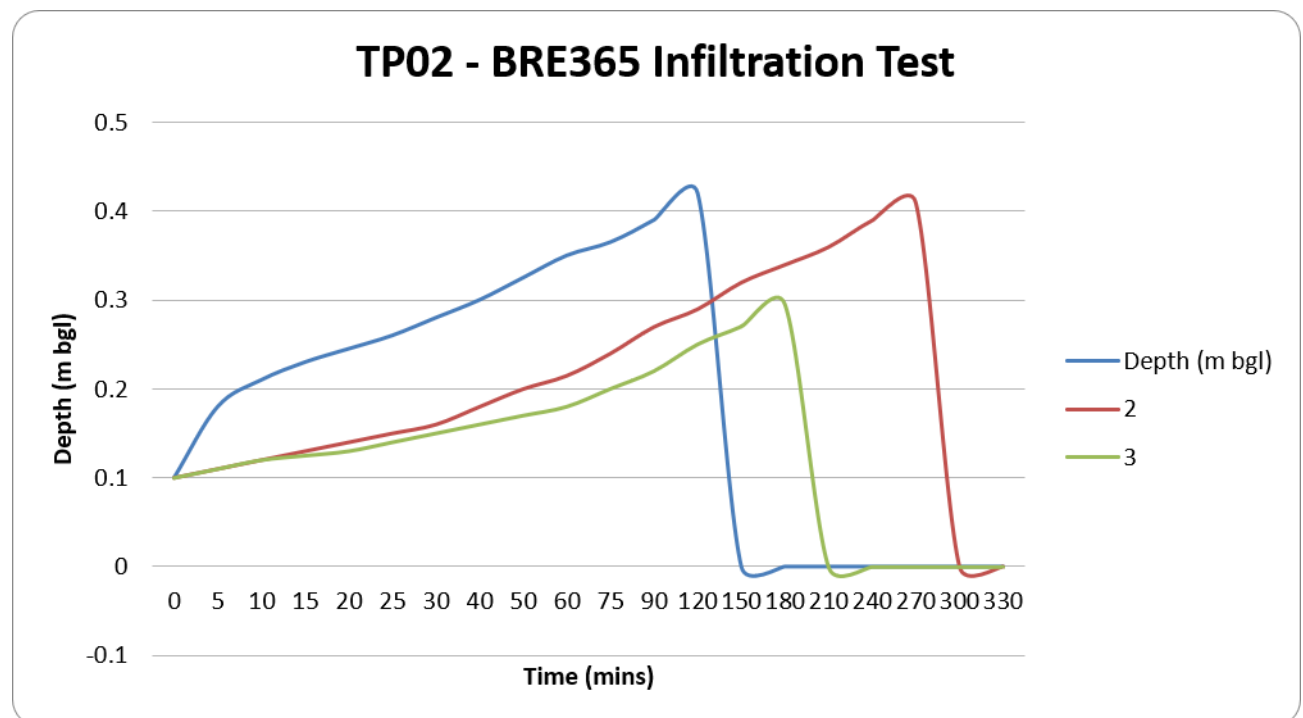


Figure 6 - TP02 infiltration rates



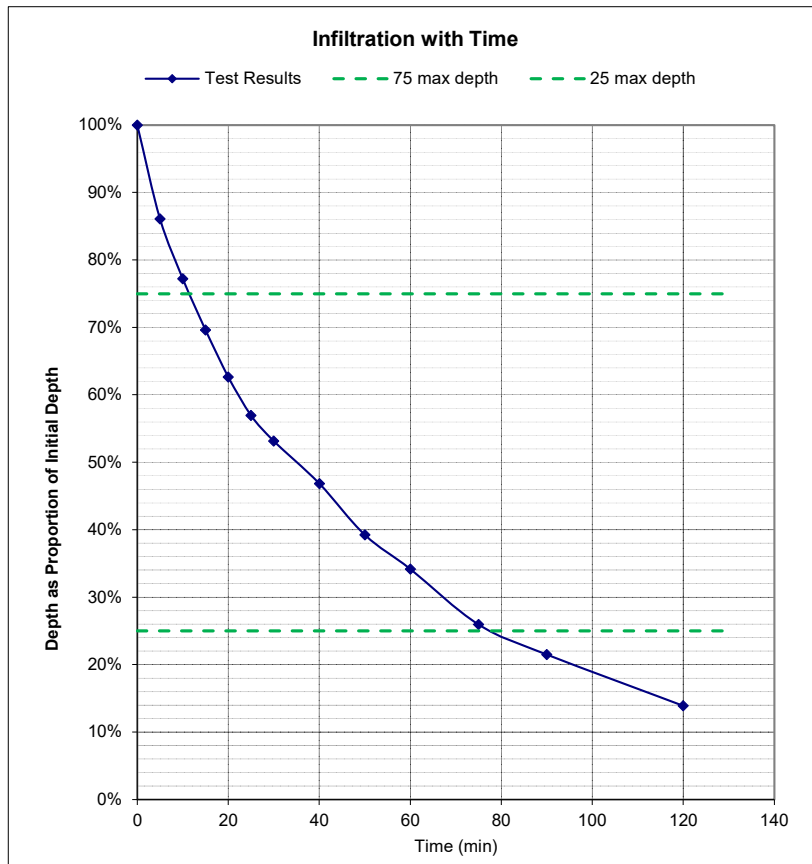
Figure 7 - Pit graphic



Figure 8 – Fill and testing graphic



Figure 9 - Excavated soil graphic

[illegible]

75% line (of max water depth)	
min	proportion
0	0.750
130	0.750

min	proportion
0	0.250
130	0.250

Site Location	Costells Stables, RH17 7NH	
Pit/Borehole	TP01	
DATE	12/08/2026	
Contractor Test	Soakage Test 2	

Legend

input
calculation
output
<i>explanatory</i>

What type of test is this	Trial pit
How was water depth measured?	Depth from Top of Pit to Water Level (m)
Is time in seconds or min	seconds
pit length (m)	1.060
pit width (m)	0.330
pit depth (m)	1.690
max water level (m)	0.790
25% Max Water Level (m)	0.198
75% Max Water Level (m)	0.593
25% reached?	YES

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.

[illegible]

Lower limit for measurement	25% The standard is to use 25%
Upper limit for measurement	75% The standard is to use 75%

base (m2)	0.350	
sides (m2)	0.837	Up to 50% of effective depth
ends (m2)	0.261	Up to 50% of effective depth
a_{p50} (m2)	1.448	Up to 50% of effective depth
V_{p75} (m3)	0.207	The volume at 75% effective depth
V_{p25} (m3)	0.069	The volume at 25% effective depth
V_{p75-25} (m3)	0.138	Difference in volume

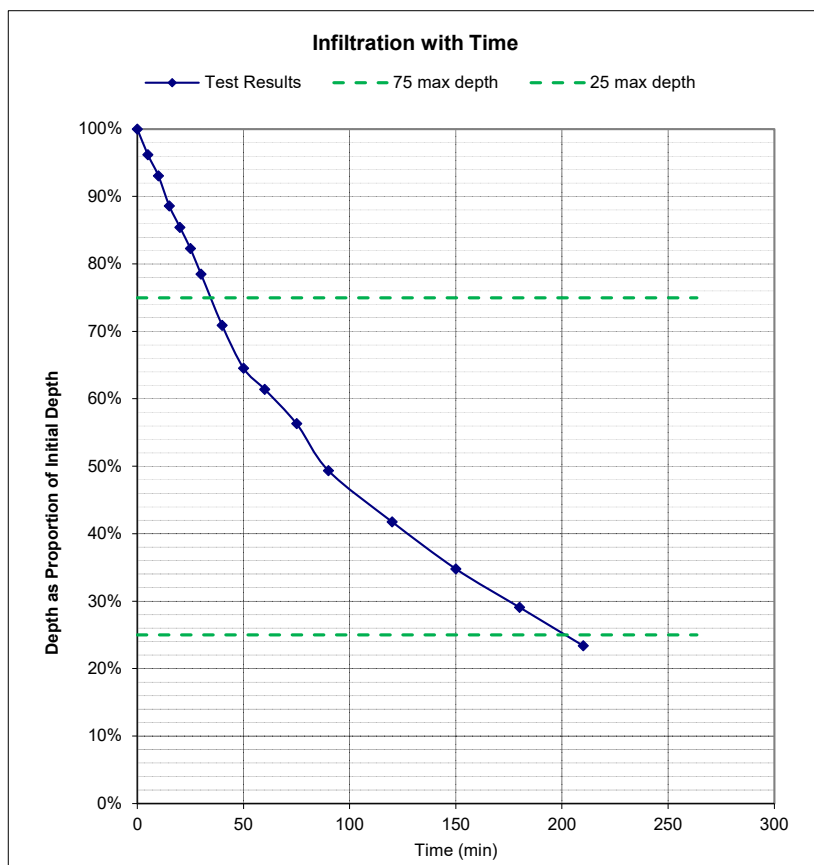
				END	END
Interpolation between		t_{p75}	V_{p75}		
	lower	1800	0.217	The reading just before V_{p75}	
	upper	2400	0.196	The reading just after V_{p75}	
Interpolation between		t_{p25}	V_{p25}		
	lower	10800	0.080	The reading just before V_{p25}	
	upper	12600	0.065	The reading just after V_{p25}	

$t_{p75}(\text{mins})$	2075.0	The time reading corresponding to Vp75
$t_{p25}(\text{mins})$	12100.0	The time reading corresponding to Vp25
$t_{p75-25}(\text{mins})$	10025.0	The time between Vp75 and Vp25

Soil Infiltration Rate	
m/s	m/h
9.52E-06	0.034269

effective area of infiltration	volume between 75% and 25% effective depth	time for water to fall from 75% to 25% effective depth (sec)
ap50	Vp75-25	tp75-25
1.448 sq m	0.138 cub m	10025 s

time Proportion
 (min) infiltrated



0	100%
5	96%
10	93%
15	89%
20	85%
25	82%
30	78%
40	71%
50	65%
60	61%
75	56%
90	49%
120	42%
150	35%
180	29%
210	23%
#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
#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
263.6116279	0.750

25% line (of max water depth)

min	proportion
0	0.250
263.6116	0.250

Site Location	Costells Stables, RH17 7NH	
Pit/Borehole	TP01	
DATE	12/08/2026	
Contractor Test	Soakage Test 3	

Legend

input
calculation
output
explanatory

What type of test is this	Trial pit
How was water depth measured?	Depth from Top of Pit to Water Level (m)
Is time in seconds or min	seconds
pit length (m)	1.060
pit width (m)	0.330
pit depth (m)	1.690
max water level (m)	0.790
25% Max Water Level (m)	0.198
75% Max Water Level (m)	0.593
25% reached?	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.

[illegible]

Lower limit for measurement	25% The standard is to use 25%
Upper limit for measurement	75% The standard is to use 75%

base (m2)	0.350	
sides (m2)	0.837	Up to 50% of effective depth
ends (m2)	0.261	Up to 50% of effective depth
a_{p50} (m2)	1.448	Up to 50% of effective depth
V_{p75} (m3)		
	0.207	The volume at 75% effective depth
V_{p25} (m3)	0.069	The volume at 25% effective depth
V_{p75-25} (m3)	0.138	Difference in volume

				END	END
Interpolation between		t_{p75}	V_{p75}		
	lower	1800	0.217	The reading just before V_{p75}	
	upper	2400	0.206	The reading just after V_{p75}	
Interpolation between		t_{p25}	V_{p25}		
	lower	12600	0.091	The reading just before V_{p25}	
	upper	15217	0.069	The reading just after V_{p25}	

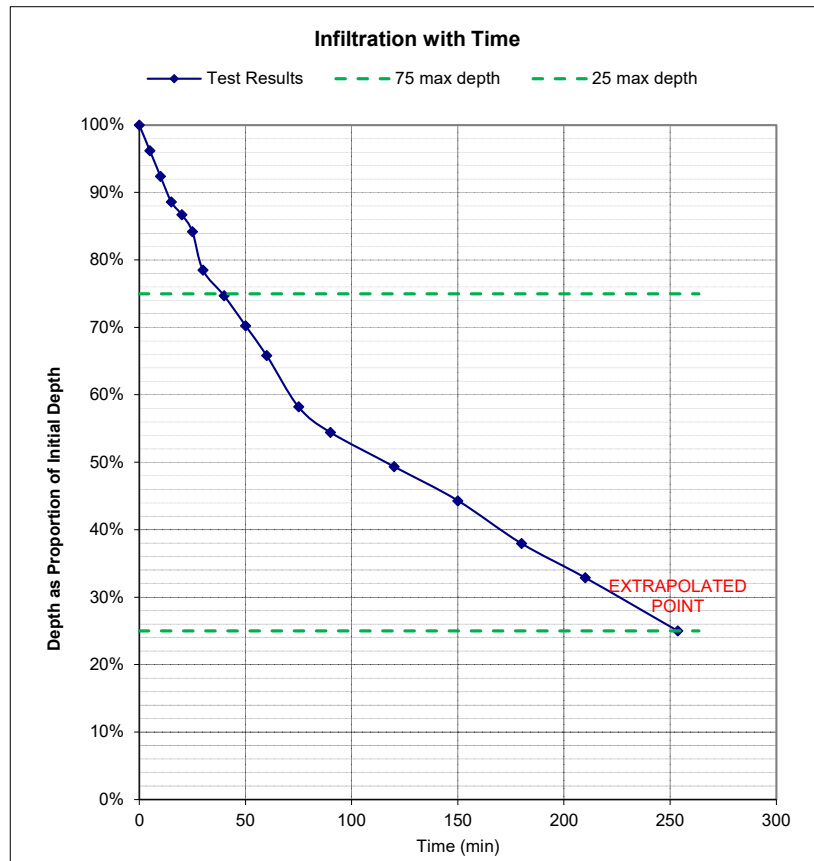
$t_{p75}(\text{mins})$	2350.0	The time reading corresponding to Vp75
$t_{p25}(\text{mins})$	15216.3	The time reading corresponding to Vp25
$t_{p75-25}(\text{mins})$	12866.3	The time between Vp75 and Vp25

Soil Infiltration Rate	
m/s	m/h
7.42E-06	0.026701

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.

effective area of infiltration	volume between 75% and 25% effective depth	time for water to fall from 75% to 25% effective depth (sec)
ap50	Vp75-25	tp75-25
1.448 sq m	0.138 cub m	12866 s

time Proportion
 (min) infiltrated



0	100%
5	96%
10	92%
15	89%
20	87%
25	84%
30	78%
40	75%
50	70%
60	66%
75	58%
90	54%
120	49%
150	44%
180	38%
210	33%
254	25%
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
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#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#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
263.6116279	0.750

25% line (of max water depth)

min	proportion
0	0.250
263.6116	0.250

Site Location	Costells Stables, RH17 7NH	
Pit/Borehole	TP02	
DATE	12/08/2026	
Contractor Test	Soakage Test 1	

Legend

input
calculation
output
<i>explanatory</i>

What type of test is this	Trial pit
How was water depth measured?	Depth from Top of Pit to Water Level (m)
Is time in seconds or min	seconds
pit length (m)	1.000
pit width (m)	0.330
pit depth (m)	0.510
max water level (m)	0.410
25% Max Water Level (m)	0.103
75% Max Water Level (m)	0.308
25% reached?	YES

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.

[illegible]

Lower limit for measurement	25% The standard is to use 25%
Upper limit for measurement	75% The standard is to use 75%

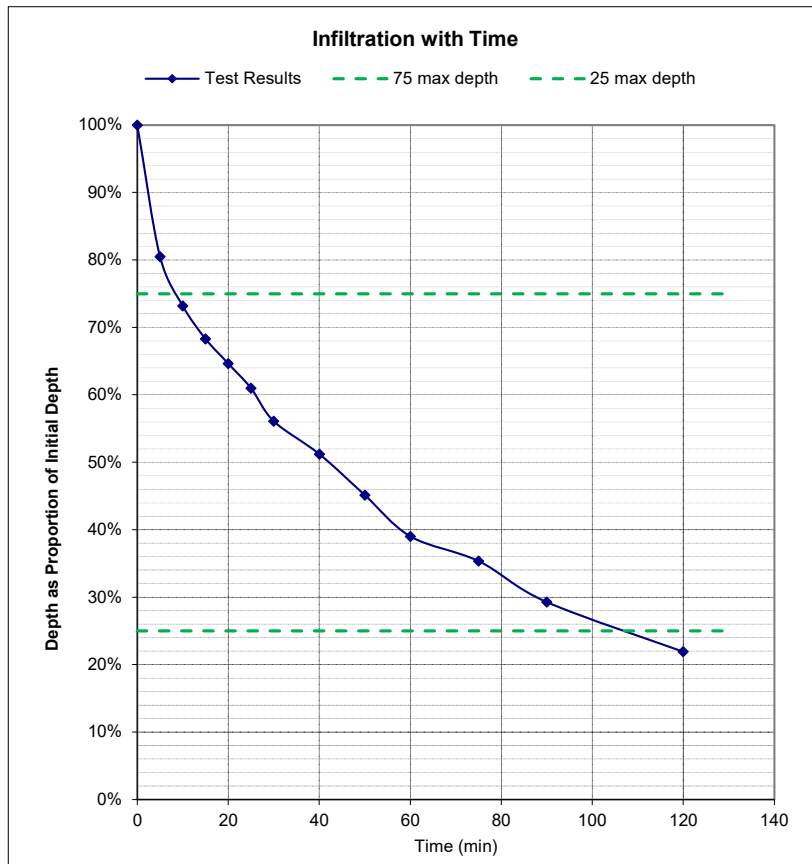
base (m2)	0.330	
sides (m2)	0.410	Up to 50% of effective depth
ends (m2)	0.135	Up to 50% of effective depth
a _{p50} (m2)	0.875	Up to 50% of effective depth
V _{p75} (m3)	0.101	The volume at 75% effective depth
V _{p25} (m3)	0.034	The volume at 25% effective depth
V _{p75-25} (m3)	0.068	Difference in volume

				END	END
Interpolation between		t_{p75}	V_{p75}		
	lower	300	0.109	The reading just before Vp75	
	upper	600	0.099	The reading just after Vp75	
Interpolation between		t_{p25}	V_{p25}		
	lower	5400	0.040	The reading just before Vp25	
	upper	7200	0.030	The reading just after Vp25	

$t_{p75}(\text{mins})$	525.0	The time reading corresponding to Vp75
$t_{p25}(\text{mins})$	6450.0	The time reading corresponding to Vp25
$t_{p75-25}(\text{mins})$	5925.0	The time between Vp75 and Vp25

Soil Infiltration Rate	
m/s	m/h
1.30E-05	0.046960

effective area of infiltration	volume between 75% and 25% effective depth	time for water to fall from 75% to 25% effective depth (sec)
ap50	Vp75-25	tp75-25
0.875 sq m	0.068 cub m	5925 s

[illegible]

75% line (of max water depth)	
min	proportion
0	0.750
130	0.750

min	proportion
0	0.250
130	0.250

Site Location	Costells Stables, RH17 7NH	
Pit/Borehole	TP02	
DATE	12/08/2026	
Contractor Test	Soakage Test 2	

Legend

input
calculation
output
<i>explanatory</i>

What type of test is this	Trial pit
How was water depth measured?	Depth from Top of Pit to Water Level (m)
Is time in seconds or min	seconds
pit length (m)	1.000
pit width (m)	0.330
pit depth (m)	0.510
max water level (m)	0.410
25% Max Water Level (m)	0.103
75% Max Water Level (m)	0.308
25% reached?	YES

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.

[illegible]

Lower limit for measurement	25% The standard is to use 25%
Upper limit for measurement	75% The standard is to use 75%

base (m2)	0.330	
sides (m2)	0.410	Up to 50% of effective depth
ends (m2)	0.135	Up to 50% of effective depth
a_{p50} (m2)	0.875	Up to 50% of effective depth
V_{p75} (m3)		
	0.101	The volume at 75% effective depth
V_{p25} (m3)	0.034	The volume at 25% effective depth
V_{p75-25} (m3)	0.068	Difference in volume

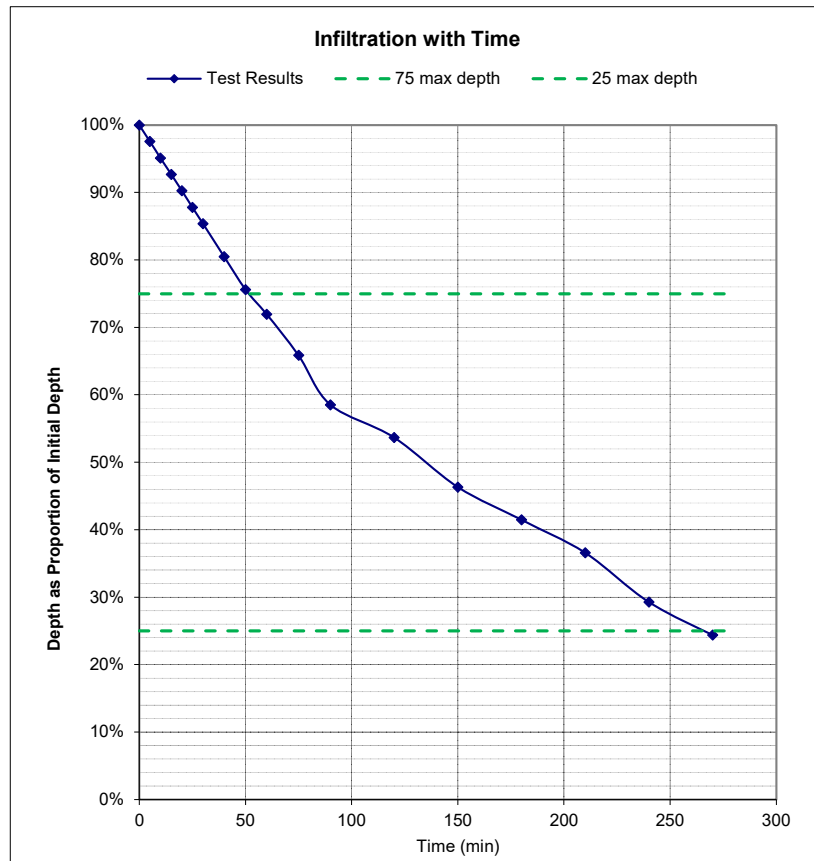
				END	END
Interpolation between		t_{p75}	V_{p75}		
	lower	3000	0.102	The reading just before V_{p75}	
	upper	3600	0.107	The reading just after V_{p75}	
Interpolation between		t_{p25}	V_{p25}		
	lower	14400	0.040	The reading just before V_{p25}	
	upper	16200	0.033	The reading just after V_{p25}	

$t_{p75}(\text{mins})$	3100.0	The time reading corresponding to Vp75
$t_{p25}(\text{mins})$	15975.0	The time reading corresponding to Vp25
$t_{p75-25}(\text{mins})$	12875.0	The time between Vp75 and Vp25

Soil Infiltration Rate	
m/s	m/h
6.00E-06	0.021611

effective area of infiltration	volume between 75% and 25% effective depth	time for water to fall from 75% to 25% effective depth (sec)
ap50	Vp75-25	tp75-25
0.875 sq m	0.068 cub m	12875 s

time Proportion
 (min) infiltrated



0	100%
5	98%
10	95%
15	93%
20	90%
25	88%
30	85%
40	80%
50	76%
60	72%
75	66%
90	59%
120	54%
150	46%
180	41%
210	37%
240	29%
270	24%
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
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#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A

75% line (of max water depth)

min	proportion
0	0.750
280	0.750

25% line (of max water depth)

min	proportion
0	0.250
280	0.250

Site Location	Costells Stables, RH17 7NH	
Pit/Borehole	TP02	
DATE	12/08/2026	
Contractor Test	Soakage Test 3	

Legend

input
calculation
output
<i>explanatory</i>

What type of test is this	Trial pit
How was water depth measured?	Depth from Top of Pit to Water Level (m)
Is time in seconds or min	seconds
pit length (m)	1.000
pit width (m)	0.330
pit depth (m)	0.510
max water level (m)	0.410
25% Max Water Level (m)	0.103
75% Max Water Level (m)	0.308
25% reached?	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.

[illegible]

Lower limit for measurement	25%	The standard is to use 25%
Upper limit for measurement	75%	The standard is to use 75%

base (m2)	0.330	
sides (m2)	0.410	Up to 50% of effective depth
ends (m2)	0.135	Up to 50% of effective depth
a_{p50} (m2)	0.875	Up to 50% of effective depth
V_{p75} (m3)		
	0.101	The volume at 75% effective depth
V_{p25} (m3)	0.034	The volume at 25% effective depth
V_{p75-25} (m3)	0.068	Difference in volume

Interpolation between		t_{p75}	V_{p75}	END	END
	lower	4500	0.102	The reading just before V_{p75}	
	upper	5400	0.096	The reading just after V_{p75}	
Interpolation between		t_{p25}	V_{p25}		
	lower	10800	0.071	The reading just before V_{p25}	
	upper	18323	0.034	The reading just after V_{p25}	

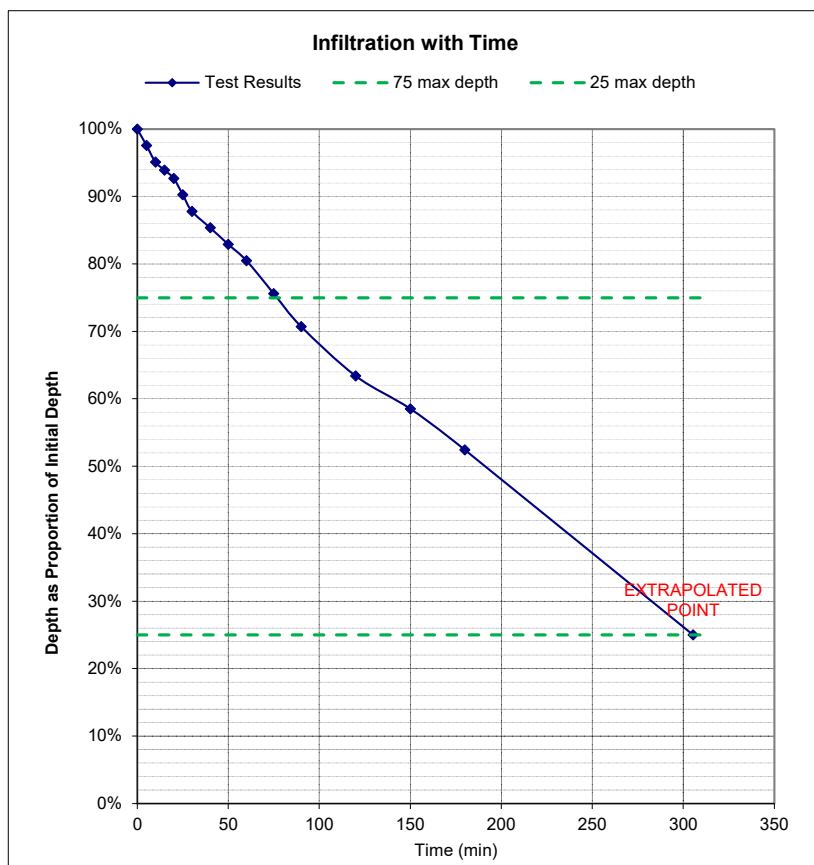
$t_{p75}(\text{mins})$	4612.5	The time reading corresponding to Vp75
$t_{p25}(\text{mins})$	18322.2	The time reading corresponding to Vp25
$t_{p75-25}(\text{mins})$	13709.7	The time between Vp75 and Vp25

Soil Infiltration Rate	
m/s	m/h
5.64E-06	0.020295

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.

effective area of infiltration	volume between 75% and 25% effective depth	time for water to fall from 75% to 25% effective depth (sec)
ap50	Vp75-25	tp75-25
0.875 sq m	0.068 cub m	13710 s

time Proportion
 (min) infiltrated



0	100%
5	98%
10	95%
15	94%
20	93%
25	90%
30	88%
40	85%
50	83%
60	80%
75	76%
90	71%
120	63%
150	59%
180	52%
305	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
#N/A	#N/A
#N/A	#N/A

75% line (of max water depth)

min	proportion
0	0.750
315.3808776	0.750

25% line (of max water depth)

min	proportion
0	0.250
315.3809	0.250

Design Settings

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

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
1	0.004	4.00	74.100	150	165.725	-32.909	0.350
2	0.002	4.00	74.100	450	158.921	-32.909	0.395
3			74.100	450	157.873	-28.536	0.534
PP	0.004	4.00	74.100		155.473	-28.536	0.550
4			74.100	450	153.073	-28.536	0.566
5			74.100	450	153.073	-39.725	0.641
8	0.004	4.00	74.100	150	161.228	-47.839	0.481
7	0.005	4.00	74.100	450	158.746	-37.524	0.516
9			74.100	450	158.307	-41.580	0.567
10			74.100	450	148.754	-41.580	0.694
Soakaway			74.100		148.349	-42.555	0.708
6		4.00	74.100	100	161.173	-37.524	0.425

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
1.000	1	2	6.804	0.600	73.750	73.705	0.045	150.0	150	4.14	50.0
1.001	2	3	4.497	0.600	73.705	73.566	0.139	32.4	150	4.18	50.0
1.002	3	PP	2.400	0.600	73.566	73.550	0.016	150.0	150	4.23	50.0
1.003	PP	4	2.400	0.600	73.550	73.534	0.016	150.0	150	4.28	50.0
1.004	4	5	11.189	0.600	73.534	73.459	0.075	150.0	150	4.51	50.0
1.005	5	10	4.701	0.600	73.459	73.406	0.053	88.7	150	4.58	50.0
2.000	8	9	6.907	0.600	73.619	73.533	0.086	80.0	150	4.10	50.0
3.000	6	7	2.427	0.600	73.675	73.634	0.041	59.2	100	4.04	50.0
3.001	7	9	4.080	0.600	73.584	73.533	0.051	80.0	150	4.10	50.0
2.001	9	10	9.553	0.600	73.533	73.406	0.127	75.0	150	4.24	50.0
1.006	10	Soakaway	1.056	0.600	73.406	73.392	0.014	75.0	150	4.60	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
1.000	0.818	14.5	0.6	0.200	0.245	0.004	0.0	21	0.407
1.001	1.776	31.4	1.1	0.245	0.384	0.006	0.0	19	0.827
1.002	0.818	14.5	1.1	0.384	0.400	0.006	0.0	28	0.480
1.003	0.818	14.5	1.8	0.400	0.416	0.010	0.0	35	0.555
1.004	0.818	14.5	1.8	0.416	0.491	0.010	0.0	35	0.555
1.005	1.067	18.9	1.8	0.491	0.544	0.010	0.0	31	0.668
2.000	1.125	19.9	0.7	0.331	0.417	0.004	0.0	19	0.522
3.000	1.003	7.9	0.0	0.325	0.366	0.000	0.0	0	0.000
3.001	1.125	19.9	1.0	0.366	0.417	0.005	0.0	23	0.581
2.001	1.162	20.5	1.7	0.417	0.544	0.009	0.0	29	0.702
1.006	1.162	20.5	3.4	0.544	0.558	0.019	0.0	41	0.863

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.000	6.804	150.0	150	SW_Perforated	74.100	73.750	0.200	74.100	73.705	0.245
1.001	4.497	32.4	150	Circular	74.100	73.705	0.245	74.100	73.566	0.384
1.002	2.400	150.0	150	SW_Perforated	74.100	73.566	0.384	74.100	73.550	0.400
1.003	2.400	150.0	150	SW_Perforated	74.100	73.550	0.400	74.100	73.534	0.416
1.004	11.189	150.0	150	SW_Perforated	74.100	73.534	0.416	74.100	73.459	0.491
1.005	4.701	88.7	150	Circular	74.100	73.459	0.491	74.100	73.406	0.544
2.000	6.907	80.0	150	Circular	74.100	73.619	0.331	74.100	73.533	0.417
3.000	2.427	59.2	100	SW_Perforated	74.100	73.675	0.325	74.100	73.634	0.366
3.001	4.080	80.0	150	Circular	74.100	73.584	0.366	74.100	73.533	0.417
2.001	9.553	75.0	150	Circular	74.100	73.533	0.417	74.100	73.406	0.544
1.006	1.056	75.0	150	Circular	74.100	73.406	0.544	74.100	73.392	0.558

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	1	150	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	PP		Junction	
1.003	PP		Junction		4	450	Manhole	SW_Standard
1.004	4	450	Manhole	SW_Standard	5	450	Manhole	SW_Standard
1.005	5	450	Manhole	SW_Standard	10	450	Manhole	SW_Standard
2.000	8	150	Manhole	SW_RE	9	450	Manhole	SW_Standard
3.000	6	100	Manhole	SW_RE	7	450	Manhole	SW_Standard
3.001	7	450	Manhole	SW_Standard	9	450	Manhole	SW_Standard
2.001	9	450	Manhole	SW_Standard	10	450	Manhole	SW_Standard
1.006	10	450	Manhole	SW_Standard	Soakaway		Junction	

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
1	165.725	-32.909	74.100	0.350	150		0	1.000	73.750	150

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
2	158.921	-32.909	74.100	0.395	450		1	1.000	73.705	150
							0	1.001	73.705	150
3	157.873	-28.536	74.100	0.534	450		1	1.001	73.566	150
							0	1.002	73.566	150
PP	155.473	-28.536	74.100	0.550			1	1.002	73.550	150
							0	1.003	73.550	150
4	153.073	-28.536	74.100	0.566	450		1	1.003	73.534	150
							0	1.004	73.534	150
5	153.073	-39.725	74.100	0.641	450		1	1.004	73.459	150
							0	1.005	73.459	150
8	161.228	-47.839	74.100	0.481	150					
							0	2.000	73.619	150
7	158.746	-37.524	74.100	0.516	450		1	3.000	73.634	100
							0	3.001	73.584	150
9	158.307	-41.580	74.100	0.567	450		1	3.001	73.533	150
							2	2.000	73.533	150
							0	2.001	73.533	150
10	148.754	-41.580	74.100	0.694	450		1	2.001	73.406	150
							2	1.005	73.406	150
							0	1.006	73.406	150

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
Soakaway	148.349	-42.555	74.100	0.708			1	1.006	73.392	150
6	161.173	-37.524	74.100	0.425	100		0	3.000	73.675	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	Detailed	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 | 2160

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 PP Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Width (m)	3.890	Depth (m)	0.400
Side Inf Coefficient (m/hr)	0.00000	Invert Level (m)	73.550	Length (m)	10.000	Inf Depth (m)	
Safety Factor	2.0	Time to half empty (mins)	855	Slope (1:X)	9999.0		

Node Soakaway Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.02030	Porosity	0.95	Pit Width (m)	5.000	Inf Depth (m)	
Side Inf Coefficient (m/hr)	0.02030	Invert Level (m)	73.300	Pit Length (m)	5.000	Number Required	1
Safety Factor	2.0	Time to half empty (mins)	968	Depth (m)	0.400		

Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
2 year 15 minute summer	111.674	31.600	30 year 180 minute winter	39.238	15.534	100 year 720 minute summer	25.284	6.776
2 year 15 minute winter	78.368	31.600	30 year 240 minute summer	47.426	12.533	100 year 720 minute winter	16.992	6.776
2 year 30 minute summer	72.800	20.600	30 year 240 minute winter	31.508	12.533	100 year 960 minute summer	20.770	5.469
2 year 30 minute winter	51.088	20.600	30 year 360 minute summer	35.792	9.210	100 year 960 minute winter	13.759	5.469
2 year 60 minute summer	49.570	13.100	30 year 360 minute winter	23.265	9.210	100 year 1440 minute summer	15.110	4.050
2 year 60 minute winter	32.933	13.100	30 year 480 minute summer	27.934	7.382	100 year 1440 minute winter	10.155	4.050
2 year 120 minute summer	34.842	9.208	30 year 480 minute winter	18.559	7.382	100 year 2160 minute summer	10.852	2.999
2 year 120 minute winter	23.148	9.208	30 year 600 minute summer	22.715	6.213	100 year 2160 minute winter	7.478	2.999
2 year 180 minute summer	28.213	7.260	30 year 600 minute winter	15.520	6.213	100 year +45% CC 15 minute summer	523.398	148.103
2 year 180 minute winter	18.339	7.260	30 year 720 minute summer	20.130	5.395	100 year +45% CC 15 minute winter	367.297	148.103
2 year 240 minute summer	22.947	6.064	30 year 720 minute winter	13.528	5.395	100 year +45% CC 30 minute summer	350.862	99.282
2 year 240 minute winter	15.246	6.064	30 year 960 minute summer	16.401	4.319	100 year +45% CC 30 minute winter	246.219	99.282
2 year 360 minute summer	18.015	4.636	30 year 960 minute winter	10.864	4.319	100 year +45% CC 60 minute summer	241.063	63.706
2 year 360 minute winter	11.710	4.636	30 year 1440 minute summer	11.794	3.161	100 year +45% CC 60 minute winter	160.157	63.706
2 year 480 minute summer	14.344	3.791	30 year 1440 minute winter	7.926	3.161	100 year +45% CC 120 minute summer	143.738	37.986
2 year 480 minute winter	9.530	3.791	30 year 2160 minute summer	8.424	2.328	100 year +45% CC 120 minute winter	95.496	37.986
2 year 600 minute summer	11.811	3.231	30 year 2160 minute winter	5.805	2.328	100 year +45% CC 180 minute summer	108.765	27.989
2 year 600 minute winter	8.070	3.231	100 year 15 minute summer	360.964	102.140	100 year +45% CC 180 minute winter	70.700	27.989
2 year 720 minute summer	10.558	2.830	100 year 15 minute winter	253.308	102.140	100 year +45% CC 240 minute summer	85.195	22.515
2 year 720 minute winter	7.096	2.830	100 year 30 minute summer	241.974	68.470	100 year +45% CC 240 minute winter	56.602	22.515
2 year 960 minute summer	8.702	2.292	100 year 30 minute winter	169.806	68.470	100 year +45% CC 360 minute summer	64.314	16.550
2 year 960 minute winter	5.765	2.292	100 year 60 minute summer	166.250	43.935	100 year +45% CC 360 minute winter	41.806	16.550
2 year 1440 minute summer	6.363	1.705	100 year 60 minute winter	110.453	43.935	100 year +45% CC 480 minute summer	50.401	13.319
2 year 1440 minute winter	4.277	1.705	100 year 120 minute summer	99.129	26.197	100 year +45% CC 480 minute winter	33.485	13.319
2 year 2160 minute summer	4.640	1.282	100 year 120 minute winter	65.859	26.197	100 year +45% CC 600 minute summer	41.177	11.263
2 year 2160 minute winter	3.197	1.282	100 year 180 minute summer	75.010	19.303	100 year +45% CC 600 minute winter	28.135	11.263
30 year 15 minute summer	287.321	81.302	100 year 180 minute winter	48.759	19.303	100 year +45% CC 720 minute summer	36.662	9.826
30 year 15 minute winter	201.629	81.302	100 year 240 minute summer	58.755	15.527	100 year +45% CC 720 minute winter	24.639	9.826
30 year 30 minute summer	190.876	54.011	100 year 240 minute winter	39.036	15.527	100 year +45% CC 960 minute summer	30.117	7.930
30 year 30 minute winter	133.948	54.011	100 year 360 minute summer	44.354	11.414	100 year +45% CC 960 minute winter	19.950	7.930
30 year 60 minute summer	129.835	34.312	100 year 360 minute winter	28.832	11.414	100 year +45% CC 1440 minute summer	21.909	5.872
30 year 60 minute winter	86.259	34.312	100 year 480 minute summer	34.759	9.186	100 year +45% CC 1440 minute winter	14.724	5.872
30 year 120 minute summer	79.143	20.915	100 year 480 minute winter	23.093	9.186	100 year +45% CC 2160 minute summer	15.736	4.349
30 year 120 minute winter	52.581	20.915	100 year 600 minute summer	28.398	7.767	100 year +45% CC 2160 minute winter	10.842	4.349
30 year 180 minute summer	60.364	15.534	100 year 600 minute winter	19.403	7.767			

Results for 2 year Critical Storm Duration. Lowest mass balance: 96.51%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	10	73.773	0.023	0.7	0.0004	0.0000	OK
15 minute summer	2	10	73.725	0.020	1.2	0.0032	0.0000	OK
15 minute summer	3	11	73.595	0.029	1.2	0.0046	0.0000	OK
30 minute summer	PP	20	73.581	0.031	1.7	0.3554	0.0000	OK
30 minute summer	4	20	73.565	0.031	1.2	0.0049	0.0000	OK
30 minute summer	5	21	73.486	0.027	1.2	0.0042	0.0000	OK
15 minute summer	8	10	73.640	0.021	0.8	0.0004	0.0000	OK
15 minute summer	7	10	73.609	0.025	1.1	0.0039	0.0000	OK
15 minute summer	9	10	73.564	0.031	1.9	0.0050	0.0000	OK
600 minute winter	10	420	73.452	0.046	0.7	0.0073	0.0000	OK
600 minute winter	Soakaway	420	73.452	0.060	0.6	3.6032	0.0000	OK
15 minute summer	6	1	73.675	0.000	0.0	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
15 minute summer	1	1.000	2	0.7	0.448	0.048	0.0106
15 minute summer	2	1.001	3	1.2	0.643	0.038	0.0085
15 minute summer	3	1.002	PP	1.2	0.617	0.081	0.0058
30 minute summer	PP	1.003	4	1.2	0.480	0.086	0.0062
30 minute summer	4	1.004	5	1.2	0.538	0.086	0.0259
30 minute summer	5	1.005	10	1.2	0.468	0.064	0.0128
15 minute summer	8	2.000	9	0.8	0.394	0.040	0.0142
15 minute summer	7	3.001	9	1.1	0.489	0.055	0.0093
15 minute summer	9	2.001	10	1.9	0.675	0.093	0.0285
600 minute winter	10	1.006	Soakaway	0.6	0.474	0.027	0.0059
600 minute winter	Soakaway	Infiltration		0.1			
15 minute summer	6	3.000	7	0.0	0.000	0.000	0.0000

Results for 30 year Critical Storm Duration. Lowest mass balance: 96.51%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	10	73.787	0.037	1.8	0.0007	0.0000	OK
15 minute summer	2	10	73.736	0.031	3.0	0.0050	0.0000	OK
15 minute summer	3	10	73.617	0.051	3.0	0.0080	0.0000	OK
15 minute summer	PP	11	73.607	0.057	4.9	0.6638	0.0000	OK
240 minute winter	4	232	73.606	0.072	0.8	0.0115	0.0000	OK
240 minute winter	5	232	73.606	0.147	0.8	0.0234	0.0000	OK
15 minute summer	8	10	73.651	0.032	2.0	0.0006	0.0000	OK
15 minute summer	7	10	73.626	0.042	2.8	0.0066	0.0000	OK
240 minute winter	9	232	73.607	0.074	0.8	0.0117	0.0000	OK
240 minute winter	10	232	73.606	0.200	1.7	0.0318	0.0000	SURCHARGED
240 minute winter	Soakaway	232	73.606	0.214	1.6	7.2740	0.0000	
15 minute summer	6	1	73.675	0.000	0.0	0.0000	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	
15 minute summer	1	1.000	2	1.8	0.594	0.125	0.0207	
15 minute summer	2	1.001	3	3.0	0.808	0.096	0.0177	
15 minute summer	3	1.002	PP	2.9	0.646	0.203	0.0136	
15 minute summer	PP	1.003	4	4.0	0.655	0.273	0.0145	
240 minute winter	4	1.004	5	0.8	0.474	0.056	0.1451	
240 minute winter	5	1.005	10	1.0	0.397	0.052	0.0826	
15 minute summer	8	2.000	9	2.0	0.506	0.101	0.0276	
15 minute summer	7	3.001	9	2.8	0.610	0.141	0.0188	
240 minute winter	9	2.001	10	0.8	0.407	0.039	0.1251	
240 minute winter	10	1.006	Soakaway	1.6	0.627	0.078	0.0186	
240 minute winter	Soakaway	Infiltration		0.1				
15 minute summer	6	3.000	7	0.0	0.000	0.000	0.0000	

Results for 100 year Critical Storm Duration. Lowest mass balance: 96.51%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	10	73.792	0.042	2.3	0.0008	0.0000	OK
15 minute summer	2	10	73.741	0.036	3.9	0.0058	0.0000	OK
360 minute winter	3	344	73.670	0.104	0.5	0.0165	0.0000	OK
360 minute winter	PP	344	73.670	0.120	0.8	1.3925	0.0000	OK
360 minute winter	4	344	73.670	0.136	0.8	0.0216	0.0000	OK
360 minute winter	5	344	73.670	0.211	0.8	0.0335	0.0000	SURCHARGED
360 minute winter	8	344	73.670	0.051	0.3	0.0009	0.0000	OK
360 minute winter	7	344	73.670	0.086	0.6	0.0136	0.0000	OK
360 minute winter	9	344	73.670	0.137	0.7	0.0218	0.0000	OK
360 minute winter	10	344	73.670	0.264	1.4	0.0420	0.0000	SURCHARGED
360 minute winter	Soakaway	344	73.670	0.278	1.8	8.7855	0.0000	OK
15 minute summer	6	1	73.675	0.000	0.0	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
15 minute summer	1	1.000	2	2.3	0.627	0.159	0.0250
15 minute summer	2	1.001	3	3.9	0.846	0.124	0.0220
360 minute winter	3	1.002	PP	0.5	0.312	0.035	0.0337
360 minute winter	PP	1.003	4	0.8	0.434	0.056	0.0382
360 minute winter	4	1.004	5	0.8	0.462	0.055	0.1923
360 minute winter	5	1.005	10	0.7	0.345	0.040	0.0828
360 minute winter	8	2.000	9	0.3	0.301	0.015	0.0765
360 minute winter	7	3.001	9	0.5	0.371	0.026	0.0556
360 minute winter	9	2.001	10	0.7	0.369	0.034	0.1646
360 minute winter	10	1.006	Soakaway	1.8	0.576	0.086	0.0186
360 minute winter	Soakaway	Infiltration		0.1			
15 minute summer	6	3.000	7	0.0	0.000	0.000	0.0000

Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 96.51%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute winter	1	570	73.949	0.199	0.3	0.0036	0.0000	FLOOD RISK
600 minute winter	2	570	73.949	0.244	0.5	0.0388	0.0000	FLOOD RISK
600 minute winter	3	570	73.949	0.383	0.5	0.0609	0.0000	FLOOD RISK
600 minute winter	PP	570	73.949	0.399	0.8	4.6479	0.0000	FLOOD RISK
600 minute winter	4	570	73.949	0.415	0.6	0.0659	0.0000	FLOOD RISK
600 minute winter	5	570	73.949	0.490	0.6	0.0779	0.0000	FLOOD RISK
600 minute winter	8	570	73.949	0.330	0.3	0.0059	0.0000	FLOOD RISK
600 minute winter	7	570	73.949	0.365	0.5	0.0580	0.0000	FLOOD RISK
600 minute winter	9	570	73.949	0.416	1.0	0.0661	0.0000	FLOOD RISK
600 minute winter	10	570	73.949	0.543	1.2	0.0863	0.0000	FLOOD RISK
600 minute winter	Soakaway	570	73.949	0.557	1.1	9.5119	0.0000	OK
600 minute winter	6	570	73.948	0.273	0.0	0.0022	0.0000	FLOOD RISK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
600 minute winter	1	1.000	2	0.3	0.351	0.021	0.1198
600 minute winter	2	1.001	3	0.5	0.491	0.016	0.0792
600 minute winter	3	1.002	PP	0.5	0.291	0.036	0.0423
600 minute winter	PP	1.003	4	0.6	0.410	0.045	0.0423
600 minute winter	4	1.004	5	0.6	0.394	0.044	0.1970
600 minute winter	5	1.005	10	0.7	0.325	0.036	0.0828
600 minute winter	8	2.000	9	0.3	0.300	0.017	0.1216
600 minute winter	7	3.001	9	0.6	0.370	0.031	0.0718
600 minute winter	9	2.001	10	0.7	0.358	0.034	0.1682
600 minute winter	10	1.006	Soakaway	1.1	0.473	0.056	0.0186
600 minute winter	Soakaway	Infiltration		0.1			
600 minute winter	6	3.000	7	0.0	0.010	-0.006	0.0190

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)
Driveway	0.015	74.100	153.933	-33.558	0.450

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	Detailed	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 | 2160

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 Driveway Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.02030	Porosity	0.30	Width (m)	10.000	Depth (m)	0.300
Side Inf Coefficient (m/hr)	0.02030	Invert Level (m)	73.650	Length (m)	14.600	Inf Depth (m)	
Safety Factor	2.0	Time to half empty (mins)	130	Slope (1:X)	9999.0		

Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
2 year 15 minute summer	111.674	31.600	30 year 180 minute winter	39.238	15.534	100 year 720 minute summer	25.284	6.776
2 year 15 minute winter	78.368	31.600	30 year 240 minute summer	47.426	12.533	100 year 720 minute winter	16.992	6.776
2 year 30 minute summer	72.800	20.600	30 year 240 minute winter	31.508	12.533	100 year 960 minute summer	20.770	5.469
2 year 30 minute winter	51.088	20.600	30 year 360 minute summer	35.792	9.210	100 year 960 minute winter	13.759	5.469
2 year 60 minute summer	49.570	13.100	30 year 360 minute winter	23.265	9.210	100 year 1440 minute summer	15.110	4.050
2 year 60 minute winter	32.933	13.100	30 year 480 minute summer	27.934	7.382	100 year 1440 minute winter	10.155	4.050
2 year 120 minute summer	34.842	9.208	30 year 480 minute winter	18.559	7.382	100 year 2160 minute summer	10.852	2.999
2 year 120 minute winter	23.148	9.208	30 year 600 minute summer	22.715	6.213	100 year 2160 minute winter	7.478	2.999
2 year 180 minute summer	28.213	7.260	30 year 600 minute winter	15.520	6.213	100 year +45% CC 15 minute summer	523.398	148.103
2 year 180 minute winter	18.339	7.260	30 year 720 minute summer	20.130	5.395	100 year +45% CC 15 minute winter	367.297	148.103
2 year 240 minute summer	22.947	6.064	30 year 720 minute winter	13.528	5.395	100 year +45% CC 30 minute summer	350.862	99.282
2 year 240 minute winter	15.246	6.064	30 year 960 minute summer	16.401	4.319	100 year +45% CC 30 minute winter	246.219	99.282
2 year 360 minute summer	18.015	4.636	30 year 960 minute winter	10.864	4.319	100 year +45% CC 60 minute summer	241.063	63.706
2 year 360 minute winter	11.710	4.636	30 year 1440 minute summer	11.794	3.161	100 year +45% CC 60 minute winter	160.157	63.706
2 year 480 minute summer	14.344	3.791	30 year 1440 minute winter	7.926	3.161	100 year +45% CC 120 minute summer	143.738	37.986
2 year 480 minute winter	9.530	3.791	30 year 2160 minute summer	8.424	2.328	100 year +45% CC 120 minute winter	95.496	37.986
2 year 600 minute summer	11.811	3.231	30 year 2160 minute winter	5.805	2.328	100 year +45% CC 180 minute summer	108.765	27.989
2 year 600 minute winter	8.070	3.231	100 year 15 minute summer	360.964	102.140	100 year +45% CC 180 minute winter	70.700	27.989
2 year 720 minute summer	10.558	2.830	100 year 15 minute winter	253.308	102.140	100 year +45% CC 240 minute summer	85.195	22.515
2 year 720 minute winter	7.096	2.830	100 year 30 minute summer	241.974	68.470	100 year +45% CC 240 minute winter	56.602	22.515
2 year 960 minute summer	8.702	2.292	100 year 30 minute winter	169.806	68.470	100 year +45% CC 360 minute summer	64.314	16.550
2 year 960 minute winter	5.765	2.292	100 year 60 minute summer	166.250	43.935	100 year +45% CC 360 minute winter	41.806	16.550
2 year 1440 minute summer	6.363	1.705	100 year 60 minute winter	110.453	43.935	100 year +45% CC 480 minute summer	50.401	13.319
2 year 1440 minute winter	4.277	1.705	100 year 120 minute summer	99.129	26.197	100 year +45% CC 480 minute winter	33.485	13.319
2 year 2160 minute summer	4.640	1.282	100 year 120 minute winter	65.859	26.197	100 year +45% CC 600 minute summer	41.177	11.263
2 year 2160 minute winter	3.197	1.282	100 year 180 minute summer	75.010	19.303	100 year +45% CC 600 minute winter	28.135	11.263
30 year 15 minute summer	287.321	81.302	100 year 180 minute winter	48.759	19.303	100 year +45% CC 720 minute summer	36.662	9.826
30 year 15 minute winter	201.629	81.302	100 year 240 minute summer	58.755	15.527	100 year +45% CC 720 minute winter	24.639	9.826
30 year 30 minute summer	190.876	54.011	100 year 240 minute winter	39.036	15.527	100 year +45% CC 960 minute summer	30.117	7.930
30 year 30 minute winter	133.948	54.011	100 year 360 minute summer	44.354	11.414	100 year +45% CC 960 minute winter	19.950	7.930
30 year 60 minute summer	129.835	34.312	100 year 360 minute winter	28.832	11.414	100 year +45% CC 1440 minute summer	21.909	5.872
30 year 60 minute winter	86.259	34.312	100 year 480 minute summer	34.759	9.186	100 year +45% CC 1440 minute winter	14.724	5.872
30 year 120 minute summer	79.143	20.915	100 year 480 minute winter	23.093	9.186	100 year +45% CC 2160 minute summer	15.736	4.349
30 year 120 minute winter	52.581	20.915	100 year 600 minute summer	28.398	7.767	100 year +45% CC 2160 minute winter	10.842	4.349
30 year 180 minute summer	60.364	15.534	100 year 600 minute winter	19.403	7.767			

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
180 minute summer	Driveway	112	73.700	0.050	1.1	1.5388	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)					
180 minute summer	Driveway	Infiltration	0.4					

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
120 minute summer	Driveway	94	73.775	0.125	3.2	4.1048	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)
120 minute summer	Driveway	Infiltration	0.4

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
120 minute winter	Driveway	112	73.812	0.162	2.7	5.4423	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	US	Link	Outflow (l/s)			
120 minute winter	Driveway	Infiltration			0.4			

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
120 minute winter	Driveway	118	73.894	0.244	3.9	8.6573	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)
120 minute winter	Driveway	Infiltration	0.4

Design Settings

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

Nodes

Name	Cover Level (m)	Easting (m)	Northing (m)	Depth (m)
1	74.250	162.536	-43.468	0.500
2	74.250	167.235	-43.468	0.617
3	74.250	160.816	-35.228	0.500
4	74.250	160.816	-33.806	0.500
5	74.250	167.235	-33.806	0.738
6	74.250	156.090	-32.694	0.600
7	74.100	162.468	-27.924	0.848
Cesspool Inlet	74.000	161.170	-20.321	1.500

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	4.699	1.500	73.750	73.633	0.117	40.0	100
1.001	2	5	9.662	1.500	73.633	73.512	0.121	80.0	100
2.000	3	5	6.575	1.500	73.750	73.586	0.164	40.0	100
3.000	4	5	6.419	1.500	73.750	73.590	0.160	40.0	100
1.002	5	7	7.571	1.500	73.512	73.252	0.260	29.1	100
4.000	6	7	7.964	1.500	73.650	73.252	0.398	20.0	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	0.517	0.000	0	0.0	0.0
1.001	0.744	5.8	0.517	0.638	0.000	0	0.0	0.0
2.000	1.054	8.3	0.400	0.564	0.000	0	0.0	0.0
3.000	1.054	8.3	0.400	0.560	0.000	0	0.0	0.0
1.002	1.236	9.7	0.638	0.748	0.000	0	0.0	0.0
4.000	1.493	11.7	0.500	0.748	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)
1.003	7	Cesspool Inlet	7.713	1.500	73.252	72.500	0.752	10.3	100

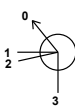
Name	Vel (m/s)	Cap (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Dwellings (ha)	Σ Units (ha)	Σ Add Inflow (ha)
1.003	2.087	16.4	0.748	1.400	0.000	0	0.0	0.0

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	4.699	40.0	100	FW_Standard	74.250	73.750	0.400	74.250	73.633	0.517
1.001	9.662	80.0	100	FW_Standard	74.250	73.633	0.517	74.250	73.512	0.638
2.000	6.575	40.0	100	FW_Standard	74.250	73.750	0.400	74.250	73.586	0.564
3.000	6.419	40.0	100	FW_Standard	74.250	73.750	0.400	74.250	73.590	0.560
1.002	7.571	29.1	100	FW_Standard	74.250	73.512	0.638	74.100	73.252	0.748
4.000	7.964	20.0	100	FW_Standard	74.250	73.650	0.500	74.100	73.252	0.748
1.003	7.713	10.3	100	FW_Standard	74.100	73.252	0.748	74.000	72.500	1.400

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	7	Manhole	FW_Standard
4.000	6	Manhole	FW_SVP	7	Manhole	FW_Standard
1.003	7	Manhole	FW_Standard	Cesspool Inlet	Manhole	FW_Standard

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Connections	Link	IL (m)	Dia (mm)	
1	162.536	-43.468	74.250	0.500		0	1.000	73.750	100
2	167.235	-43.468	74.250	0.617		1	1.000	73.633	100
3	160.816	-35.228	74.250	0.500		0	1.001	73.633	100
4	160.816	-33.806	74.250	0.500		0	3.000	73.750	100
5	167.235	-33.806	74.250	0.738		1	3.000	73.590	100
6	156.090	-32.694	74.250	0.600		2	2.000	73.586	100
7	162.468	-27.924	74.100	0.848		3	1.001	73.512	100
Cesspool Inlet	161.170	-20.321	74.000	1.500		0	1.002	73.512	100
						0	4.000	73.650	100
						1	4.000	73.252	100
						2	1.002	73.252	100
						0	1.003	73.252	100
						1	1.003	72.500	100

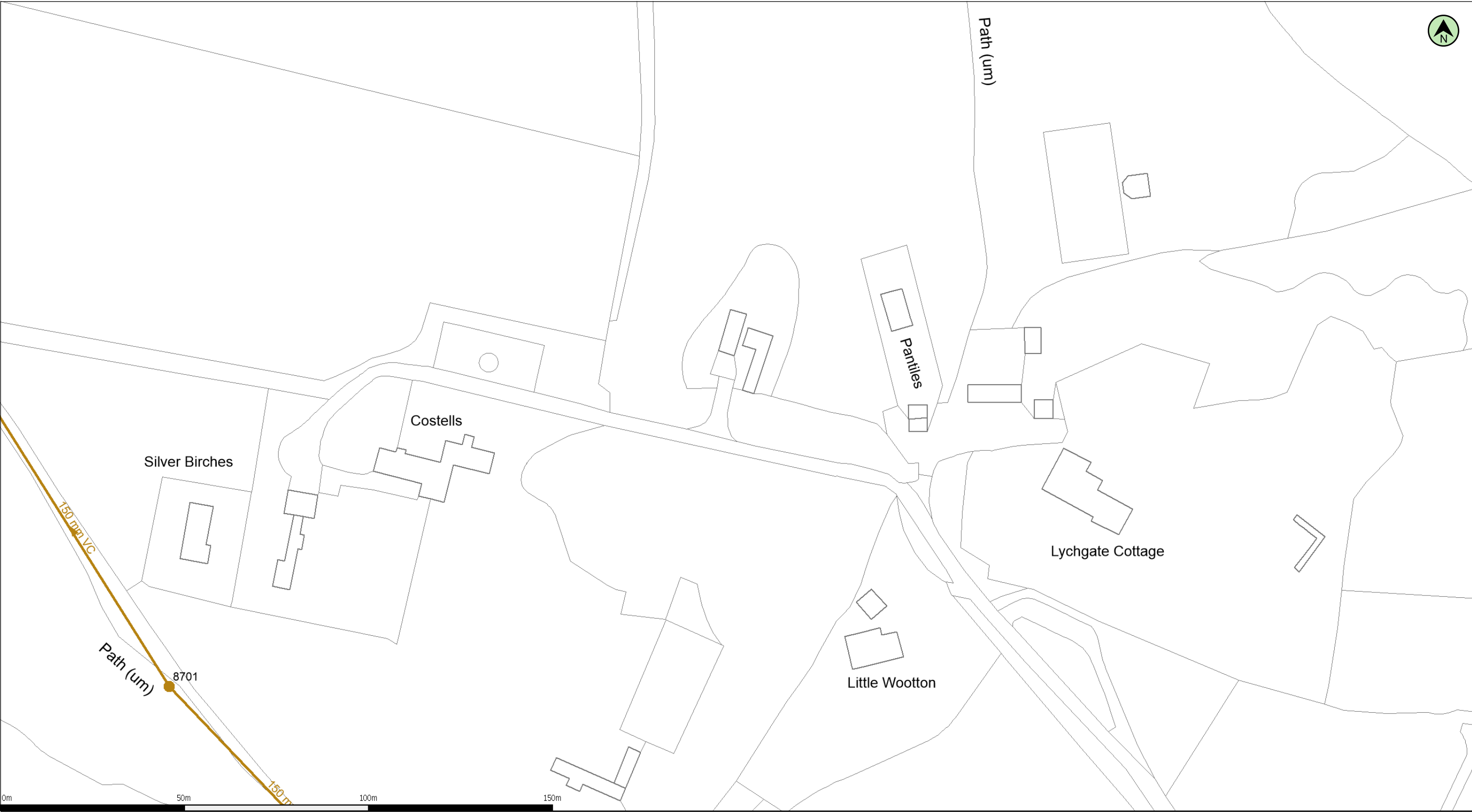
Simulation Settings

Analysis Speed Detailed | 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 | 2160

APPENDIX IV Southern Water Asset Location Search



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Date: 27/08/26

Scale: 1:1000

Map Centre: 536971,123780

Data updated: 21/08/26

Our Ref: 2199660 - 1

Wastewater Plan A3
Powered by digdat

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.

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MC0860



