



TRANSPORT PLANNING

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**PROPOSED RESIDENTIAL DEVELOPMENT AT
BATH ROAD, WARMINSTER
Reserved Matters Drainage Statement**

August 2026

IMA-20-058



REVISIONS

Report No	Description	Date	Approved
DS 1-1	First Issue - For Planning	22.10.2021	SW
DS 1-2	Site plans updated	29.04.2024	DS
DS 1-3	Drainage strategy updated to suit latest layout	24.10.2024	DS
DS 1-4	Drainage Statement updated to reserved matters	01.12.2025	DS
DS 1-5	Updated in accordance with Wiltshire LLFA comments dated 17/02/26	20.01.2026	DS
DS 1-6	Site Layout Updated	05.05.2026	DS
DS 1-7	Consultation Response and CCTV sewer Survey information added Bath Road Warminster	26-08-2026	DS



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1 Introduction

1.1 Background

- 1.1.1 IMA Transport Planning Ltd has been appointed to provide advice on the drainage implications associated with the proposal for a residential dwelling on land adjacent Bath Road, Warminster, in support of a reserved matters planning application.
- 1.1.2 This Drainage Statement relates solely to the proposal for residential development, comprising of 9 dwellings and associated access roads and infrastructure. A copy of the reserved matters site proposal can be found in Appendix B.

1.2 Scope of Drainage Statement

- 1.2.1 This assessment is undertaken in accordance with guidance as set out in the National Planning Policy Framework (NPPF).
- 1.2.2 Reference has also been made to Environment Agency (EA) and Wessex Water advice and flood/asset mapping.
- 1.2.3 The site is identified in relation to its topographical and geographical location, identifying any drainage outfalls and watercourses within the vicinity of the development site.
- 1.2.4 The existing surface water drainage mechanisms will be assessed. A proposal for a surface water drainage system serving the development site will be assessed in the context of identifying any site constraints. Sustainable Drainage Systems (SuDS) will be recommended and employed to reduce or remove any flood risks, as required and where possible.
- 1.2.5 In order to provide a comprehensive strategy, the foul drainage will also be assessed, together with recommendations on new connections and /or any diversions that may be required as a result of the proposals.



2 Existing Site & Development Proposals

2.1 Description

- 2.1.1 The development site is located adjacent to the B3414, Bath Road to the northwest of Warminster. Warminster is located within Wiltshire, approximately 25km southeast of Bath. A site location plan can be seen in Appendix A.
- 2.1.2 The site is allocated as a greenfield site, currently comprising arable / agricultural field, with an approximate area of 0.79Ha, within which 0.56Ha is allocated for development. The site is centred about OS grid reference 386380E, 146150N.
- 2.1.3 The B3414 Bath Road forms the western site boundary, from which the vehicular access will be taken. To the north of the site is an agricultural field. A narrow form of greenfield dell, with mature trees, is adjacent the eastern site boundary, beyond which is Conquest Business Park, comprising multiple commercial units and estate roads. An existing access track forms the southern boundary, adjacent to which is an existing residential development.
- 2.1.4 With regard to existing site levels, these can be seen on the topographical plan in Appendix A of this report. The site and surrounding topography generally falls from north (128.m AOD) to south (120.0m AOD) across the site.

2.2 Site Geology

- 2.2.1 BGS Mapping for the site confirms that the bedrock geology for the site is: West Melbury Marly Chalk Formation - Chalk. Sedimentary Bedrock formed approximately 94 to 101 million years ago in the Cretaceous Period. There are no superficial deposits recorded.
- 2.2.2 Reference to the Soils mapping suggests that the soils are *lime rich loamy soils that are 'freely draining'*, and *'drains towards chalk or limestone groundwater'*.
- 2.2.3 Reference to the EA Mapping confirms that the West Melbury Formation is allocated as a primary aquifer, below the site.
- 2.2.4 Infiltration testing was undertaken on 12th and 13th June 2023 and confirms the ground conditions to be chalk as noted above. However, BRE 365 infiltration testing failed to drain within the required time period. Percolation testing also failed to drain. No groundwater was identified during the testing. Refer to Appendix F for details. Soakaways therefore were proven not to be viable as failed to drain in 24 hour period and the testing abandoned - please refer to consultation response for further details.

2.3 Main Rivers / Watercourses

- 2.3.1 'The Were' is the closest main river to the site, approximately 700m south east of the site and flowing in a southerly direction towards its convergence with the River Wylye, which flows in a south / westerly direction approximately 2.5km south-east of the site.

2.4 Flood Risk

- 2.4.1 With reference to the EA Flood Map for Planning, the site is located wholly within Flood Zone 1 with a low probability of flooding (an annual probability of exceedance [AEP] greater than 0.1%). The nearest flood zone is associated with the River Yeo, approximately 500m north of the site. A copy of the flood map can be found in Appendix C.
- 2.4.2 Within the proposals, the dwelling attracts the highest vulnerability classification, as defined in the National Planning Policy Framework Technical Guidance document.
- 2.4.3 By its nature, the site complies with the requirements of the sequential approach to development, by placing the land uses most sensitive to flood risk in areas that are at least risk of flooding, with the site being wholly located in Flood Zone 1.



2.5 Existing Sewers

- 2.5.1 We have obtained a copy of Wessex Water asset mapping, which confirms that there are public foul water sewers to the east of the site in Centurion Way and to the southeast in Roman Way.
- 2.5.2 Public surface water sewers are located within Roman Way.
- 2.5.3 A copy of the Wessex Water mapping can be seen in Appendix E.
- 2.5.4 Highway sewers are located to the west of the site within Bath Road. From correspondence with Wessex Water and a site visit we understand that the highway drainage discharges to the south and then west at the new roundabout towards the new residential development. Wessex Water have confirmed that the new housing development drainage will be adopted by a NAV provider - Leep Networks. Leep Networks have been contacted for asset maps which are attached in Appendix E.
- 2.5.5 A site visit was undertaken to obtain connectivity and depths, and subsequently a CCTV Sewer Survey has been completed and these have now been plotted on the drainage Strategy Drawing (Appendix B).
- 2.5.6 Private foul drainage exists to the south of the site for plots 46-48 which is within the client's ownership. We have obtained a CCTV drainage survey (Appendix H) for the private foul drainage which is shown on the drainage strategy drawings (Appendix B). The private foul drainage discharges by gravity to the south where it is then pumped by a private pumping station to a public foul manhole within Roman Way. The client has confirmed the Pumping Station has been sized to suit the existing and new development site. Wessex Water have confirmed acceptance of foul flows from the development site. Refer to Appendix E for Wessex Water Correspondence.
- 2.5.7 The nearest surface water connection is therefore a Highway drainage manhole located to the southwest of the site on the existing roundabout subject to Highway consent and or a Section 102 Agreement under the 1991 Water Industries Act. The closest foul connection is into the private foul drainage network to the south. Refer to the Drainage Strategy Drawing within Appendix B. The S102 Agreement will be applied for by the developer in advance of the scheme progressing.

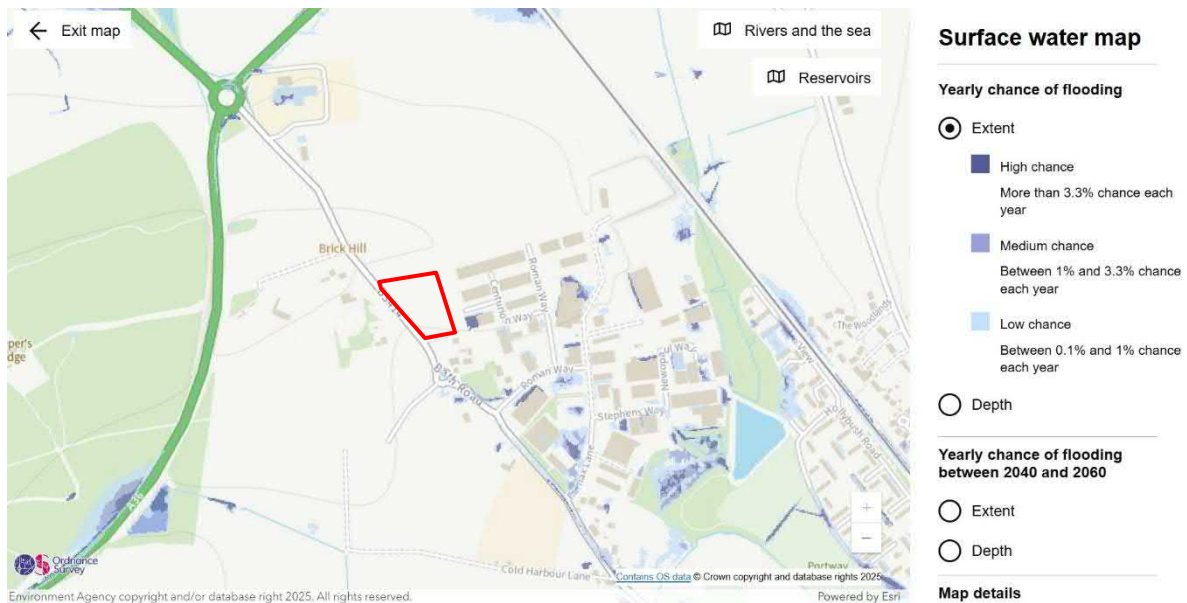
2.6 Groundwater

- 2.6.1 With reference to section 2.2.4 infiltration testing and Appendix F it has been noted that the soils have "limited capacity to permit the infiltration of water". During the testing a pit was extended to a depth of 2.7m and no groundwater was found. Flood risk from groundwater is therefore considered to be low.

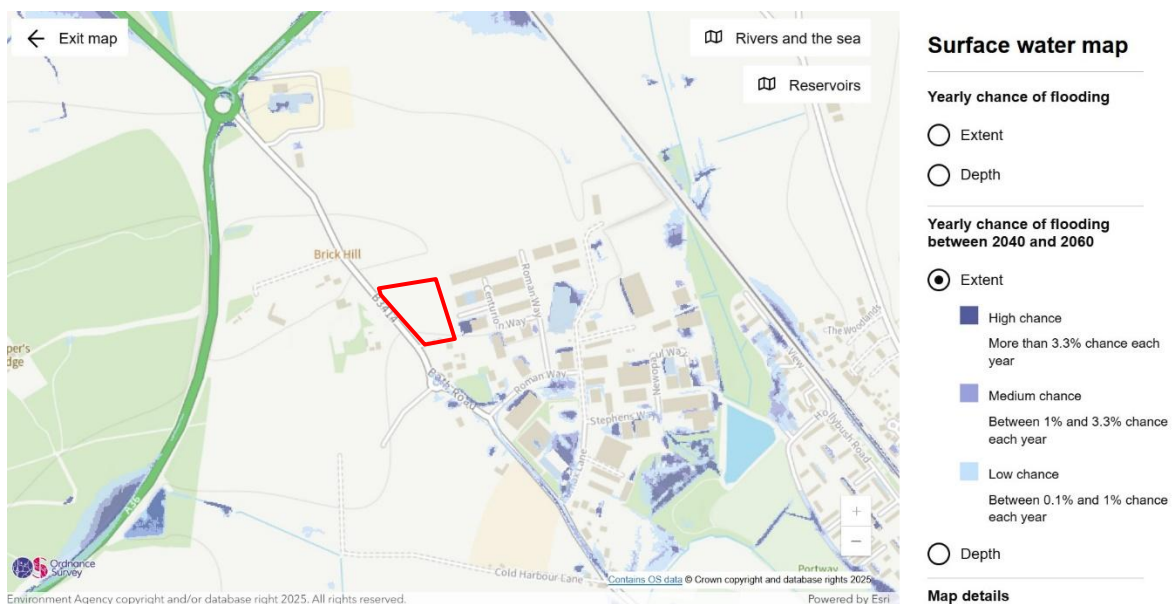
2.7 Flood Risk from Surface Water (Pluvial)

- 2.7.1 Surface flooding is primarily caused by surface water running off the land, often in Urban areas when intense, short duration storms occur and rainfall is unable to enter drainage systems or soak into the ground. Flooding can also occur in rural areas during medium intensity, long duration events where saturated ground conditions prevent infiltration into the subsoil. This flood water would then be conveyed via overland flow routes dictated by the local topography.
- 2.7.2 The Environment Agency mapping for surface water flood risk contains data on flood area (extent) by splitting it into three bands - High chance, Medium chance and Low chance. Areas with no associated zone are considered to have very low chance of flooding. The mapping, updated in early 2025, also provides mapping of flood risk during including an allowance for climate change across the 2040 and 2060 period.

2.7.3 Reference to the EA Mapping indicates that the site has no surface water flood risk identified. Refer to figure below:



2.7.4 For the risk of surface water flooding between 2040 and 2060 there is no surface water flood risk identified for the development site. Refer to figure below:



2.7.5 The overall risk of flooding from surface water sources is considered to be low.

2.8 Greenfield Performance

2.8.1 As the development site is an undeveloped plot of land, for the purposes of this assessment the site is classified as a greenfield site.

2.8.2 To establish baseline conditions for the development site, the greenfield performance of the site contributing to the catchment area can be calculated using the FEH methodology.

- 2.8.3 Using this methodology, the existing site performance has been calculated and the results shown in the table below. The area used in the calculation is representative of the total effective development area within the site, as this represents the area from which surface runoff will be positively drained. The remaining areas of the site will remain as soft landscaped, representative of the pre-development site, hence are assumed to drain as per the existing site regime. A copy of the design calculation can be found in Appendix D and is summarised below.

Site Catchment Characteristics					
Area (Ha)	0.21	SAAR (mm)	941	BFI Host	0.881
Region	8			Q_{Med}	-
Results					
Return Period			FEH		
Q_{Bar}			0.2 l/s		
$Q_{1\text{ year}}$			0.1 l/s		
$Q_{30\text{ year}}$			0.4 l/s		
$Q_{100\text{ year}}$			0.5 l/s		

2.9 Development Proposals

- 2.9.1 The development comprises the provision of 9 residential dwellings, estate road(s), private drives and gardens.



3 Surface Water Drainage

3.1 Planning Policy

- 3.1.1 The future development of this site should in no way cause a greater flood risk to the site, or the downstream catchment area than already exists and should where practicable reduce flood risk, both now and in the future.
- 3.1.2 Current policy suggests that all proposed development should be allocated a minimum 100 year design life, therefore any storm water attenuation features should be designed to meet this guidance / requirement. Obviously, if the attenuation design is based around a 1:100 year storm event, then the 1:30 year storm event would also be catered for.
- 3.1.3 The proposed development should be approached with a view to managing the surface water run-off, taking in to account water quantity (flooding), water quality (pollution) and amenity issues, all being collectively referred to as Sustainable Drainage Systems (SuDS).
- 3.1.4 SuDS are generally regarded as a management train, consisting of control structures and strategies that are designed to efficiently and sustainably drain surface water run-off, while minimising pollution and managing the impact on water quality of local water bodies and groundwater aquifers below.
- 3.1.5 Therefore, in the first instance and in keeping with SuDS planning hierarchy, the proposed drainage scheme for the development site should be designed with a view to utilising SuDS drainage techniques, returning as much of the surface water run-off to ground as close to the source as possible, ie utilising infiltration.
- 3.1.6 Where this is not feasible, a discharge to a surface water body, such as an ordinary watercourse or local land drainage feature is the preferred approach to surface water treatment. Connection to surface water sewer should only be utilised where the above options are unfeasible.

3.2 Surface Water Drainage Strategy

- 3.2.1 SuDS hierarchy states water re-use should be considered first method of surface water disposal. Water Butts have therefore been proposed as an option on all units.
- 3.2.2 From section 2.2 above, taking consideration of the ground conditions and infiltration test results, infiltration is not considered feasible for this site.
- 3.2.3 SuDS hierarchy dictates that a discharge to a local land drainage ditch would be the next option for discharge of the surface water flows. Inspection of the site topographical survey confirms that there are no ditches within, or around, the site boundaries.
- 3.2.4 Therefore, in keeping with SuDS hierarchy, the strategy for the development site is to collect runoff from all impermeable areas and discharge these off-site to public sewers (refer section 2.5) utilising an appropriate flow restriction device.
- 3.2.5 The closest surface water discharge point is an existing Highway manhole located to the southwest of the development site on Bath Road, Warminster on the new roundabout. Invert levels and location have been plotted from measurements taken on site and recently confirmed by CCTV drainage survey to confirm the exact position and depth. Connection to the Highway Manhole is subject to Highways approval and or a Section 102 Agreement application (adoption of existing highway sewers). Please refer to Appendix E for most recent correspondence with Wiltshire Highways and noting the CCTV sewer survey for location and condition of these sewers has now been undertaken and pipes proven to be of sufficient size and in good condition connecting to the Leep downstream surface water drainage system constructed under NAV Agreement.



- 3.2.6 Where utilising an off-site discharge, flow rates shall be set to mimic the pre-developed greenfield site performance, as per section 2.7 above. Whilst noting the above, it is noted that modern flow restriction devices are now able to restrict flows without introducing additional risk of blockage, therefore, flows for all storm events will be restricted to a maximum 1.5l/s subject to consent from the Highway authority and adopting agreement in line with S102 Agreement requirements when progressed.
- 3.2.7 When utilising flow restriction devices, a level of attenuation storage will be required within the development site. It is proposed that this storage volume will be provided through permeable paving subbase attenuation for driveways, raingardens and an Attenuation Tank to be located to the south of the site.
- 3.2.8 We have undertaken an attenuation calculation to confirm that the required level of attenuation to be accommodated within the site. The calculation has been based upon an impermeable catchment (hardstanding area) of C 825m², Roof area of C 841m² and Tanked Permeable Block Paving Area of C 465m². This gives a total catchment area of 2131m². To allow for urban creep we have allowed an additional 10% which takes the total catchment area to C 2344m². The 10% allowance has been allowed for within the Causeway Flow calculations.
- 3.2.9 Hydraulic Calculations have been undertaken to assess the total volume of attenuation required for the site. This has been modelled using a tank with restricted flows, these are shown within Appendix D and demonstrate that an overall attenuation volume of 169m³ volume of attenuation would be required to accommodate the 1:100 + 45% Climate Change Event. This attenuation volume would be split between the Permeable Paving Subbase Reservoir Attenuation and Raingardens providing 57.4m³ and Attenuation Tank (150m² x 0.8m deep with 0.95 void ratio) providing 114m³.
- 3.2.10 Roof water would be collected by guttering and downpipes (200l Water Butts to also be utilised on RWP's 1 per property) and discharged into permeable paving driveway subbase reservoirs which would offer water quality benefits and attenuation/source control. Discharge would be restricted to utilise attenuation within the permeable subbase. A minimum of 30% voids has been used has been for subbase storage.
- 3.2.11 The access road will remain within private ownership and will drain to trapped highways gullies providing an element of treatment prior to discharging into the attenuation tank.
- 3.2.12 For flow exceedance routing through the site refer to Flow exceedance drawing in Appendix B.
- 3.2.13 To ensure that the development surface water sewers are constructed to an appropriate standard, these should all be designed and constructed in accordance with the Water UK publication Design & Construction Guidance, Building Regulations Specification and any relevant Local Authority specification, where appropriate.
- 3.2.14 The surface water drainage system is therefore in accordance with the National Standards for SUDS paragraph 3.12 as it incorporates attenuation at multiple points across the development, rather than a single attenuation feature located prior to the point of discharge, unless justification is provided to the approving body.

4 Surface Water Quality

- 4.1.1 To manage the water quality of surface water discharged from the proposed development site and reduce the pollution risk to the receiving watercourse, a water quality assessment has been undertaken.
- 4.1.2 The three step simple index approach, as outlined in 'The SuDS Manual' Ciria C753 Box 26.2 has been used within this report. This methodology assesses the pollution hazard of the surface water runoff, the treatment provided by the proposed SuDS and the resulting acceptability of the runoff discharged offsite.
- 4.1.3 Step 1 requires pollution hazard indices to be assigned for the proposed land use as defined in Table 26.2 of Ciria C753. The most onerous proposed land use for the development site has been assessed to be 'individual driveways, residential car parks, low traffic roads and non-residential car parks with infrequent change (schools/offices)'. The commensurate pollution hazard indices are set out in the table below:

Land use	Pollution hazard level	Total suspended solids (TSS)	Metals	Hydro-carbons
Residential Roofs	Very Low	0.2	0.2	0.05
Residential Access Road & Car parking	Low	0.5	0.4	0.4

- 4.1.4 Step 2 requires pollution mitigation indices to be assigned to the proposed SuDS features. These have been set out in the table below and are based on the C753 Table 26.4.

Types of SuDS features	Total suspended solids (TSS)	Metals	Hydro-carbons
Permeable Paving	0.7	0.6	0.7
Raingarden	0.8	0.8	0.8

- 4.1.5 Step 3 is an assessment/comparison of the mitigation indices, from step 2, with the hazard indices from step 1.

SuDS Treatment Train	Total suspended solids	Metals	Hydro-carbons
Roof water to Permeable Paving	0.7	0.6	0.7
<i>Greater than or equal to hazard index?</i>	<i>Yes, pass.</i>	<i>Yes, pass.</i>	<i>Yes, pass.</i>
Roof Water to Raingarden	0.8	0.8	0.8
<i>Greater than or equal to hazard index?</i>	<i>Yes, pass.</i>	<i>Yes, pass.</i>	<i>Yes, pass.</i>

SuDS proposals and pollution hazards have been assessed for the driveway and roof areas and the water quality requirements are considered to be met.

The access road will utilise trapped gullies which will help provide some interception.



4.2 Finished Floor Levels

- 4.2.1 As a minimum, in accordance with Building Regulations, all external levels shall be set a minimum of 150mm below the building level.

4.3 Access & Evacuation

- 4.3.1 The National Planning Policy Framework requires that, where important to the overall safety of a proposed development, safe access and escape is available to and from new developments in flood risk areas.
- 4.3.2 The site and surrounding area is located within Flood Zone 1, therefore a dry access and evacuation route is therefore deemed to be achievable for this site.



5 Foul Water Strategy

5.1 Planning Policy

- 5.1.1 Current NPPF guidance suggests that in the first instance, all new development is to be connected directly to the public sewer network, where possible.

5.2 Foul Water Drainage Strategy

- 5.2.1 An assessment has been undertaken in order to confirm / establish a suitable connection point to the public sewer network.
- 5.2.2 An extract of the Wessex Water Asset Mapping, identifying the public sewers within the vicinity of the development site can be found in Appendix E. These records confirm that there is existing public foul water sewer located within Roman Way, to the southeast of the development.
- 5.2.3 As noted within Section 2.5 above, an existing private foul network exists just to the south of the development site which serves the properties to the south (for house numbers 46-48 Bath Road). The foul network has been CCTV surveyed and confirms a route that drains towards the south where it is then pumped into a public manhole located in Roman Way. With reference to Wessex Water correspondence dated 29th October 2024 and subsequent correspondence they have confirmed they will accept foul flows into Roman Way subject to application.
- 5.2.4 The proposals are to connect into the head of the run of the existing private foul network. Records confirm that the existing pumping station has been sized to accommodate the existing and proposed development flows and the drainage is within the clients ownership.
- 5.2.5 To ensure that the development foul water sewers are constructed to an appropriate standard, these should all be designed and constructed in accordance with the Water UK publication 'Design & Construction Guidance for Sewers', Building Regulations Specification and any relevant Local Authority specification, where appropriate.

6 Future Maintenance

- 6.1.1 It is envisaged that the new surface water and foul drainage network serving the development will remain within private ownership.
- 6.1.2 It is envisaged that part of the surface water system (external to the site) serving the development will be adopted by Wessex Water/relevant NAV, under a Section 104/S102 Agreement with the onsite drainage remaining private.
- 6.1.3 All surface and foul water drainage serving individual dwellings shall remain under private ownership in perpetuity, therefore it is proposed that a maintenance schedule be provided within the O&M manual for the home owner upon completion of purchase.
- 6.1.4 The road and attenuation tank will remain within private ownership and would be maintained by a management company.
- 6.1.5 We would propose that the following information is included as a minimum:
- i. Clear details of ownership and responsibilities of drainage systems, including responsibilities as a riparian landowner.
 - ii. Copy of the installed as built drainage drawings.
 - iii. Copies of standard product specifications used for relevant drainage elements including (*but not limited to*):
 - a. Inspection chambers/ manholes
 - b. Pipework
 - c. Access covers
 - d. Permeable Paving
 - iv. Information relating to the SuDS features provided:
 - a. Manufacturers' details and specifications including design life.
 - b. Recommendation for inspections and maintenance.
 - c. Details of intended proper operation.
 - d. Potential safety issues.
 - v. Notes on warranties offered by the contractor as may be appropriate - for call out service.
 - vi. Contact details for Maintenance Company in event of blockage and emergency.
 - vii. Contact details for local pipe jetting / cleaning companies in event of blockage.

6.1.6 The table below presents an indicative maintenance schedule of the typical maintenance and repairs for the basin and swales, in line with guidance from the SuDS Manual.

Permeable Paving Maintenance Requirements

Maintenance Schedule	Required Action	Typical Frequency
Regular Maintenance	Brushing (standard cosmetic sweep over whole surface)	Once a year, after autumn leaf fall, or reduced frequency as required, based on site-specific observations of clogging or manufacturer's recommendations - pay particular attention to areas where water runs onto pervious surface from adjacent impermeable areas as this area is most likely to collect the most sediment.
Occasional Maintenance	Stabilise and mow contributing and adjacent areas	As required
	Removal of weeds or management using glyphosphate applied directly into the weeds by an applicator rather than spraying	As required - once per year on less frequently used pavements
Remedial Actions	Remediate any landscaping which, through vegetation maintenance or soil slip, has been raised to within 50mm of the level of paving	As required
	Remedial work to any depressions, rutting and cracked or broken blocks considered detrimental to the structural performance or a hazard to users, and replace lost jointing material	As required
	Rehabilitation of surface and upper substructure by remedial sweeping	Every 10 to 15 years or as required (if infiltration performance is reduced due to significant clogging)
Monitoring	Initial inspection	Monthly for three months after installation
	Inspect for evidence of poor operation and/or weed growth - if required, take remedial action	Three monthly, 48 hours after large storms in first six months
	Inspect silt accumulation rates and establish appropriate brushing frequencies	Annually
	Monitor inspection chambers	Annually

**Raingarden**

Maintenance Schedule	Required Action	Typical Frequency
Regular Inspections	Inspection infiltration surfaces for silting and ponding, record de-watering time of facility and assess standing water levels in underdrain (if appropriate) to determine if maintenance is necessary	Quarterly
	Check operation of underdrains by inspection of flows after rain	Annually
	Assess plants for disease infection, poor growth, invasive species etc and replace as necessary	Quarterly
	Inspect inlets and outlets for blockage	Quarterly
Regular Maintenance	Remove litter and surface debris and weeds	Quarterly (or more frequently for tidiness or aesthetic reasons)
	Replace any plants, to maintain planting density	As required
	Remove sediment, litter and debris buildup from around inlets or from forebays	Quarterly to biannually
Occasional Maintenance	Infill any holes or scour in the filter medium, improve erosion protection if required	As required
	Repair minor accumulations of silt by raking away surface mulch, scarifying surface of medium and replacing mulch.	As required
Remedial Actions	Remove and replace filter medium and vegetation above	As required but likely to be > 20 years



Attenuation Tank

Maintenance Schedule	Required Action	Typical Frequency
Regular Inspections	Inspect and identify any areas that are not operating correctly. If required, take remedial action.	Monthly for 3 months, then annually
	Remove debris from the catchment surface (where it may cause risk to performance)	Monthly
	For systems where rainfall infiltrates into the tank from above, check surface of filter for blockage by sediment, algae or other matter; remove and replace surface infiltration medium as necessary.	Annually
	Remove sediment from pre-treatment structures and/or internal forebays	Annually/as required
Remedial actions	Repair/rehabilitate inlets, outlets, overflows and vents	As required
Monitoring	Inspect/check all inlets, outlets, vents and overflows to ensure that they are in good condition and operating as designed	Annually
	Survey inside of tank for sediment build-up and remove if necessary	Every 5 years or as required

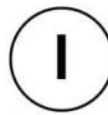
7 Conclusion and Recommendations

7.1 Recommendations

Further discussions are to be had with the Highway Authority to confirm a connection and discharge rate. Discussions should also be had with Leep Network to ascertain asset maps once available and Section 102 application.

7.2 Conclusion

- 7.2.1 The site is located within Flood Zone 1 and therefore is at very low risk of fluvial flooding.
- 7.2.2 Groundwater, surface water, and sewer flood risk have been reviewed and the overall risk associated with each source is considered to be low.
- 7.2.3 There is no risk identified of flooding from reservoirs.
- 7.2.4 Overall the site is considered to be at low risk of flooding.
- 7.2.5 In accordance with the SuDS Hierarchy surface water runoff from the site will discharge to the existing Highway Manhole in Bath road subject to Highways consent/successful S102 application. Refer to correspondence within Appendix E for latest correspondence.
- 7.2.6 The proposed discharge is at 1.5l/s discharge rate for all events up to and including the 1:100 + 45% climate change event. Attenuation, water quality treatment, amenity value and biodiversity opportunities would be provided by raingardens, permeable paving subbase attenuation and an attenuation tank located towards the south of the site. Water re-use will be provided by Water butts however the drainage design may be supplemented at detailed design stage.
- 7.2.7 In line with NPPF requirements, Sustainable Drainage Systems (SuDS) shall be implemented within the development proposals to manage surface water runoff from the development, provide water quality management, amenity value and diversity opportunities.
- 7.2.8 A dry access and evacuation route is wholly achievable within the site boundary and beyond via Bath Road to the south.
- 7.2.9 Foul drainage will discharge into the existing private foul gravity drainage network to the south of the site where it will be pumped to the public foul network in Roman Way.
- 7.2.10 In summary, this Sustainable Urban Drainage Strategy confirms that the proposed development is achievable in a sustainable manner, without increasing flood risk on the development site or within the greater catchment area and would be in accordance with both the NPPF and local policies.

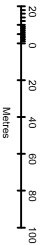
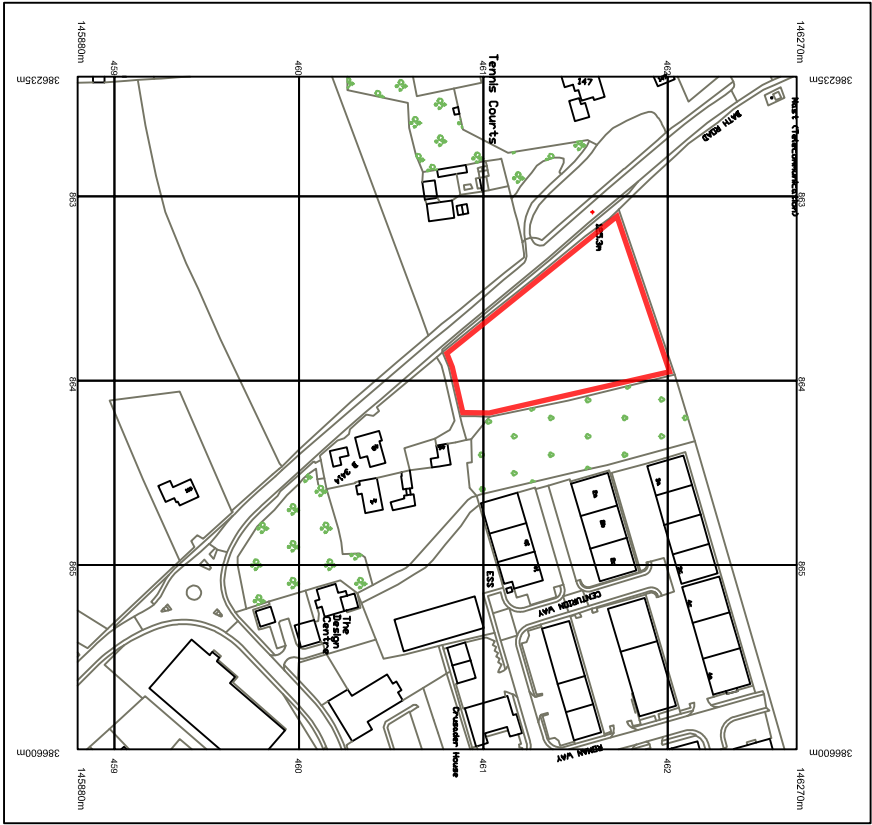


Appendix A

Site Location Plan

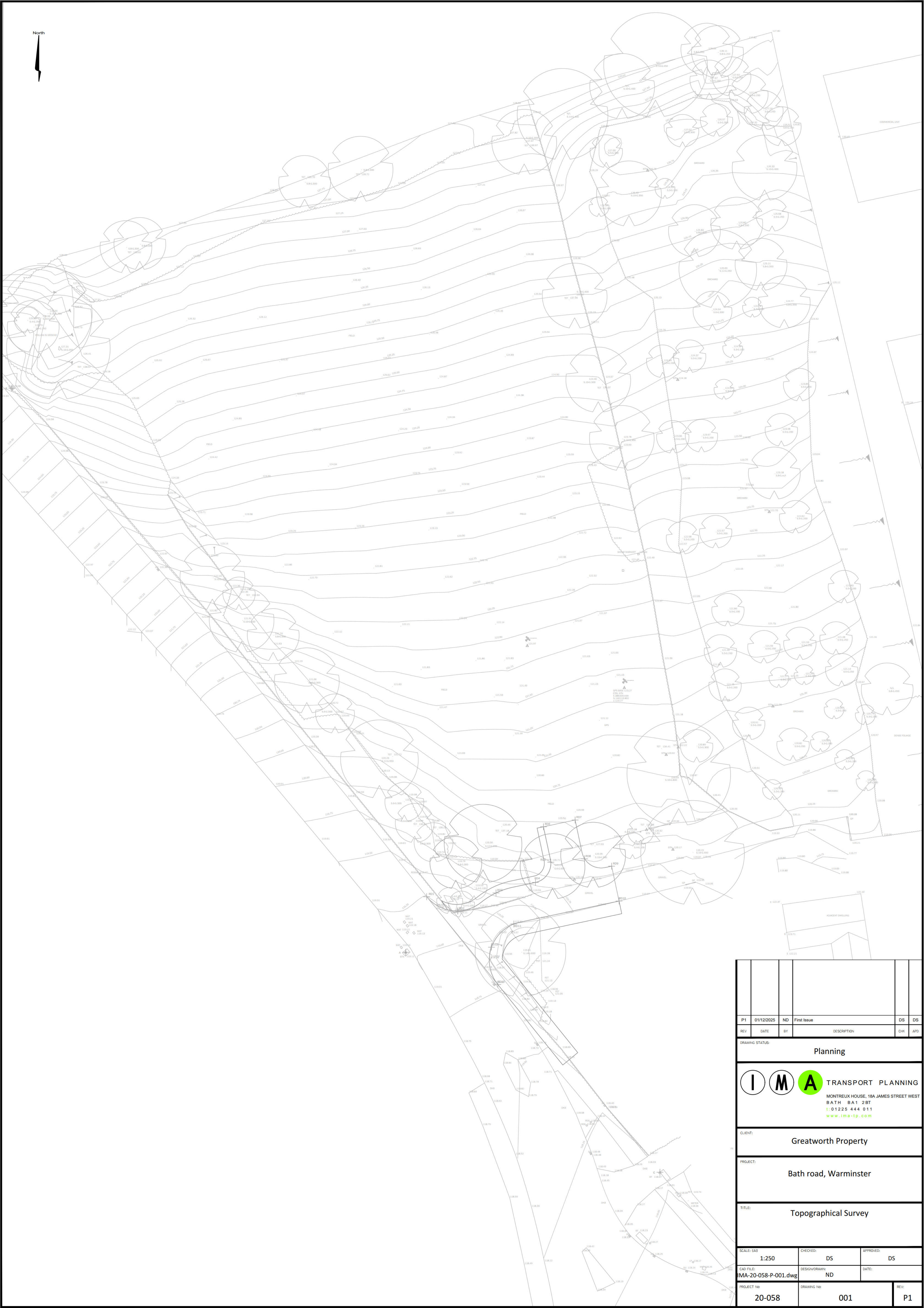
Topographical Survey

Stanfords VectorMap

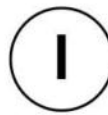


Site Location Plan

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P1	01/12/2025	ND	First Issue	DS	DS
REV	DATE	BY	DESCRIPTION	CHK	APD
DRAWING STATUS:					
Planning					
I M A TRANSPORT PLANNING MONTREUX HOUSE, 18A JAMES STREET WEST BATH BA1 2BT T: 01225 444 011 www.ima-t-p.com					
CLIENT:					
Greatworth Property					
PROJECT:					
Bath road, Warminster					
TITLE:					
Topographical Survey					
SCALE: (A0)		CHECKED:		APPROVED:	
1:250		DS		DS	
CAD FILE:		DESIGN/DRAWN:		DATE:	
IMA-20-058-P-001.dwg		ND			
PROJECT No:		DRAWING No:			REV:
20-058		001			P1



Appendix B

Development Proposals

Conceptual Drainage Layout

Catchment Plan

Legend

- Site boundary
- Proposed new building
- Existing tree/hedge planting
- Proposed tree & shrub/native mix hedge planting
- Grass surface
- 5m low light level buffer
- Rainwater garden/mini swale
- Tarmac access road
- Private drive surface (grey colour permeable block paving)
- Bin storage area
- EV charge point
- Patio area (sandstone or similar)
- 1.8m high brick screen or retaining wall
- 1.8m high render screen wall
- 1.8m high timber close boarded fence
- 1.2m high timber post & rail fence
- Timber gate (height to match adjoining boundary wall/fence)
- Tree root protection zone



Note:
Copyright is retained by Big Picture Design.


NORTH

**BIG
PICTURE
DESIGN**

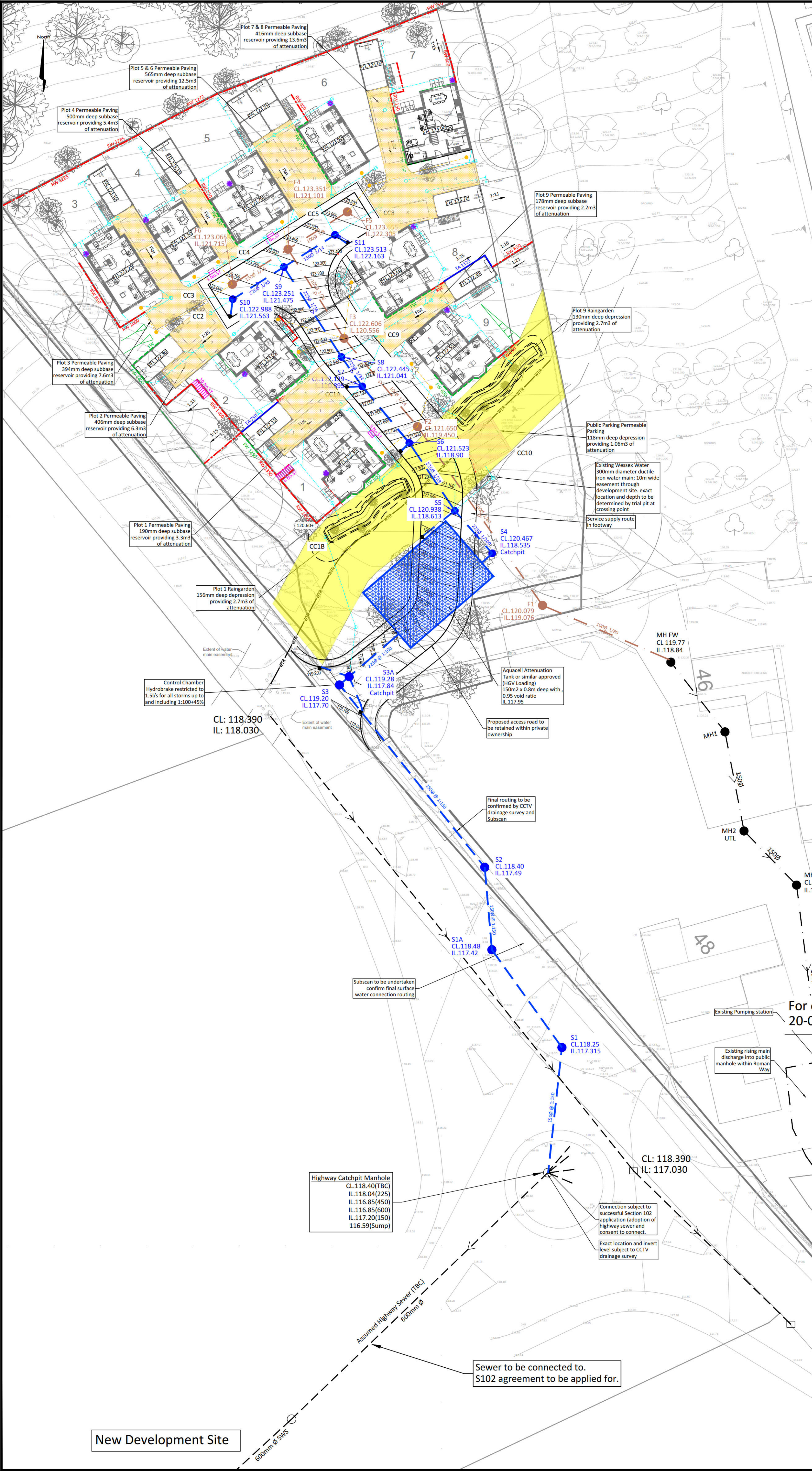
CLIENT:
Greatworth

PROJECT:
Land North of Brick Hill Farm, Warminster
Wiltshire

DRAWING TITLE:
Proposed Site Plan

SCALE: 1:500@A3 DATE: 23/09/2024 DRAWN: JNM

DRAWING NUMBER: 13270/002 REVISION: C



Legend:

- 3733 225 Existing Surface Water Sewer
- 3733 225 Existing Foul Water Sewer
- Existing Rising Main
- Proposed Surface Water
- Proposed Foul Water Sewer
- Proposed Attenuation Tank
- Proposed Permeable Paving
- Water Butt
- Indicative retaining wall - to be designed by others
- Proposed tanking
- Proposed facework wall
- Proposed external steps

Notes

- Drawing is for planning purposes only and subject to detailed design.
- Electric vehicle charging point to be provided on each plot.

Overall Attenuation Volumes

Overall Attenuation Required = 169m³ based upon a restricted discharge rate of 1.5l/s for all storms up to and including the 1:100 + 45% climate change event

Attenuation provided by a combination of permeable paving, raingardens and an attenuation tank

Permeable Paving & Raingarden providing = C 57.4m³

Attenuation provided by attenuation tank = C 111.6m³

For continuation refer to drawing 20-058-501

IC FW CL 118.20 Foul Water Pump Chamber

P6	25/08/26	TP	Existing drainage updated to CCTV survey	DS	DS
P5	20/03/26	ND	Updated to suit LLFA comments	DS	DS
P4	14/11/25	ND	Drainage strategy updated to Reserved Matters layout	DS	DS
REV	DATE	BY	DESCRIPTION	CHK	APD

DRAWING STATUS: Planning

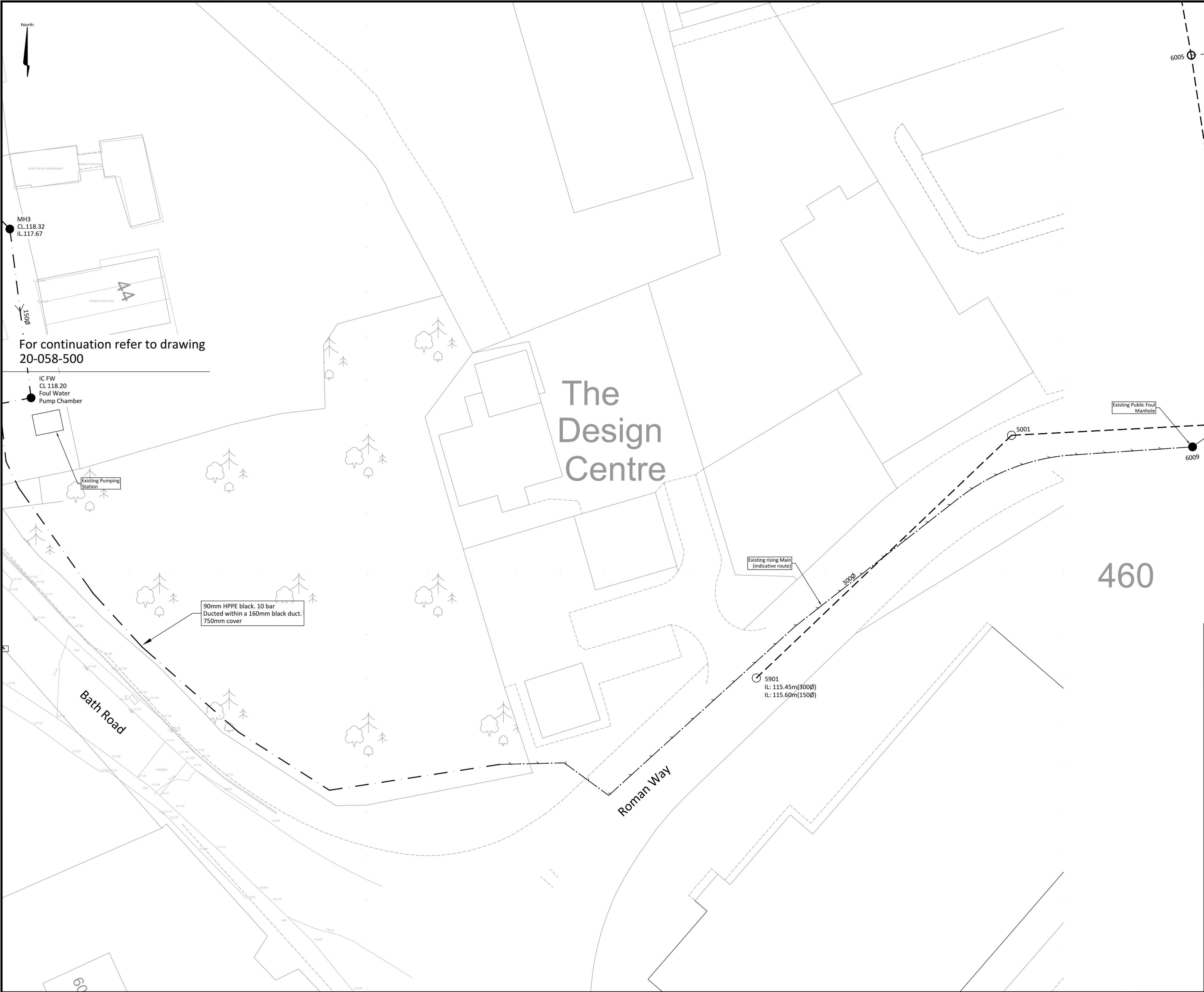
TRANSPORT PLANNING
MONTREUX HOUSE, 18A JAMES STREET WEST
BATH BA1 2BT
T: 01225 444 011
www.ima-t-p.com

CLIENT: Greatworth Property

PROJECT: Bath road, Warminster

TITLE: Drainage Strategy Sheet 1

SCALE: (A0)	1:250	CHECKED: DS	APPROVED: DS
CAD FILE: IMA-20-058-P-500.dwg	DESIGNOR/AM: ND	DATE:	
PROJECT NO: 20-058	DRAWING NO: 500	REV: P5	



Legend:

- 3733 225 Existing Surface Water Sewer
- 3733 225 Existing Foul Water Sewer
- Existing Rising Main
- Proposed Surface Water
- Proposed Foul Water Sewer
- Proposed Attenuation Tank
- Proposed Permeable Paving
- Water Butt
- Indicative retaining wall - to be designed by others
- Proposed tanking
- Proposed facework wall
- Proposed external steps

Notes

- Drawing is for planning purposes only and subject to detailed design.
- Electric vehicle charging point to be provided on each plot.

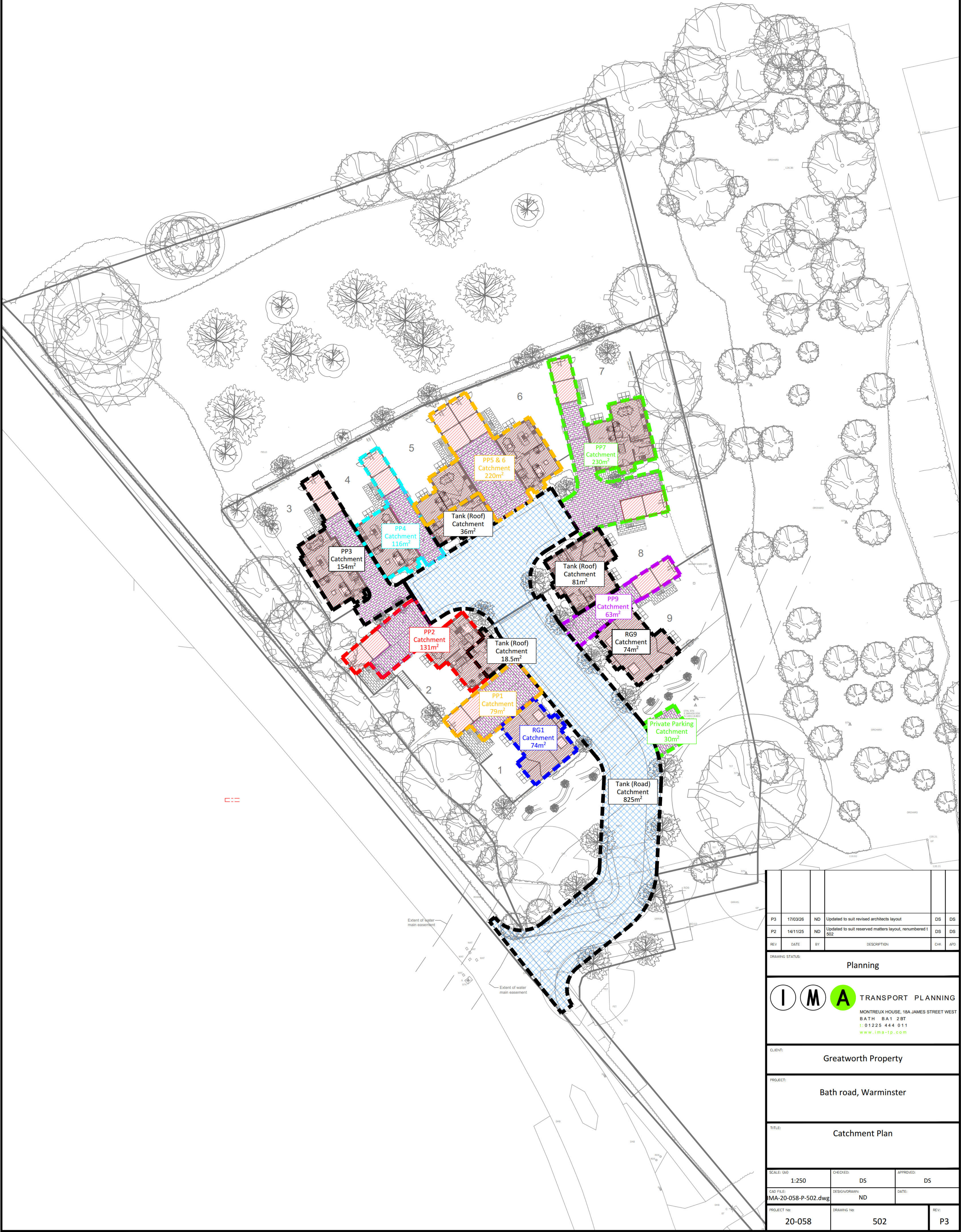
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REV	DATE	BY	DESCRIPTION	CHK	APP
DRAWING STATUS:					
Planning					
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CLIENT: Greatworth Property					
PROJECT: Bath road, Warminster					
TITLE: Drainage Strategy Sheet 2					
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CAD FILE: IMA-20-058-P-501.dwg		DESIGN/DRAWN: ND		DATE: 01/12/25	
PROJECT No: 20-058		DRAWING No: 501			REV: P1

North

KEY:

- Impermeable Road Hardstanding Area - 825m²
- Roof Area - 841m²
- Tanked Permeable Block Paving or other Surfacing - 465m²

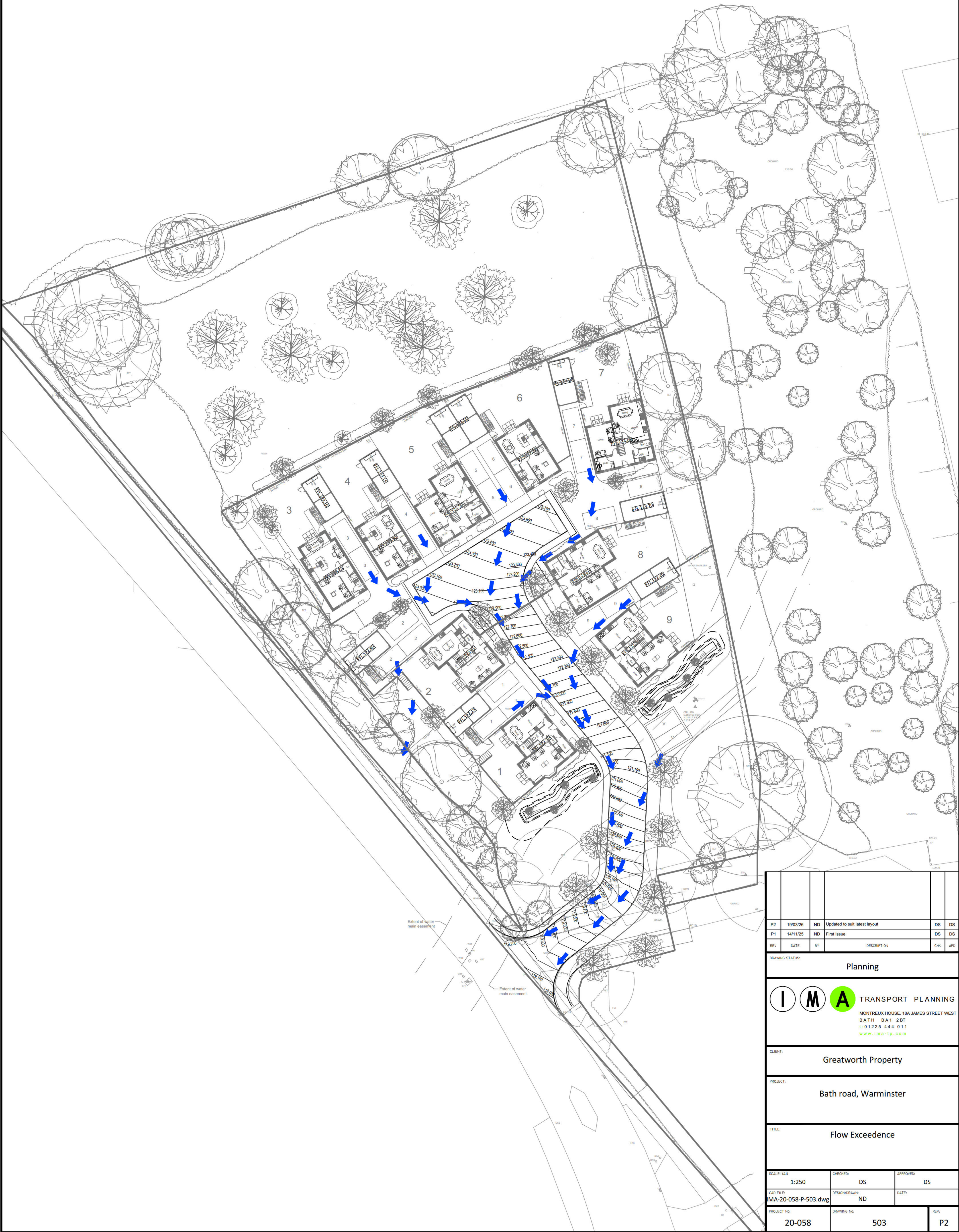
Proposed Catchment Total Area = 2131m² = 0.213Ha
10% Uplift for Urban Creep= 0.234Ha



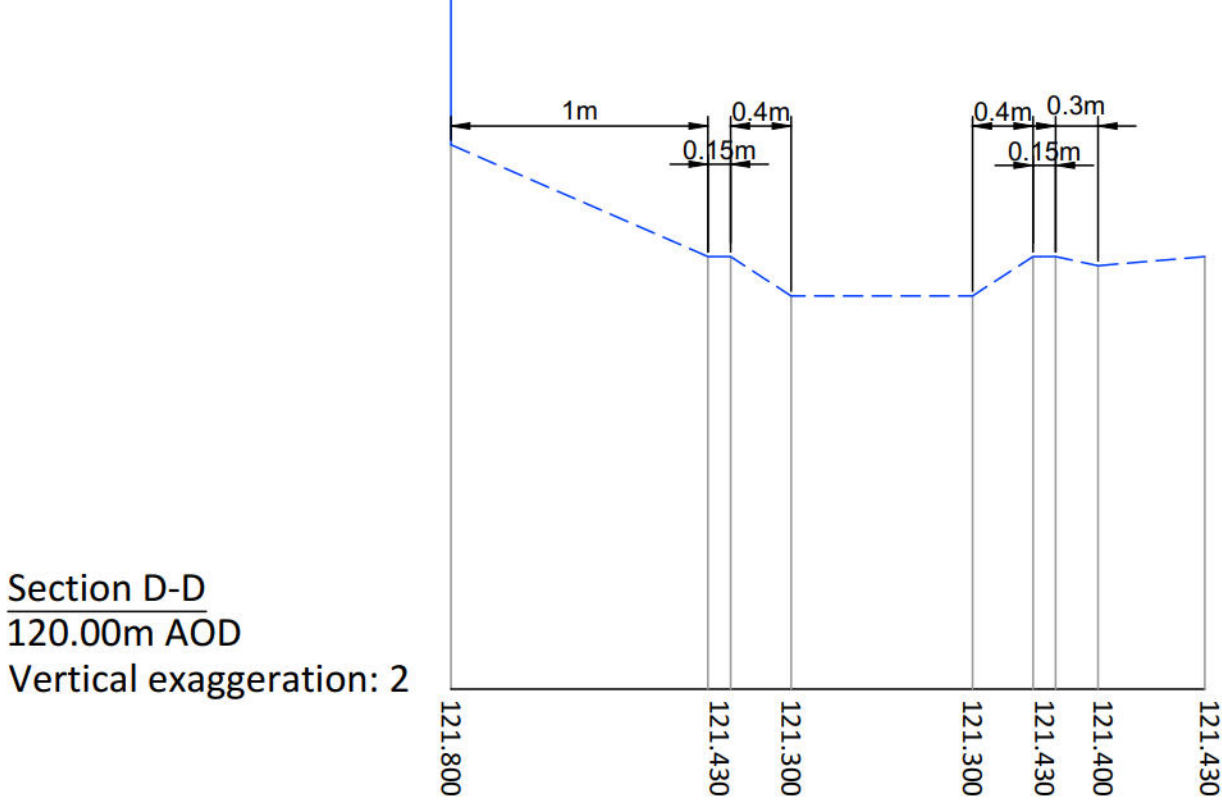
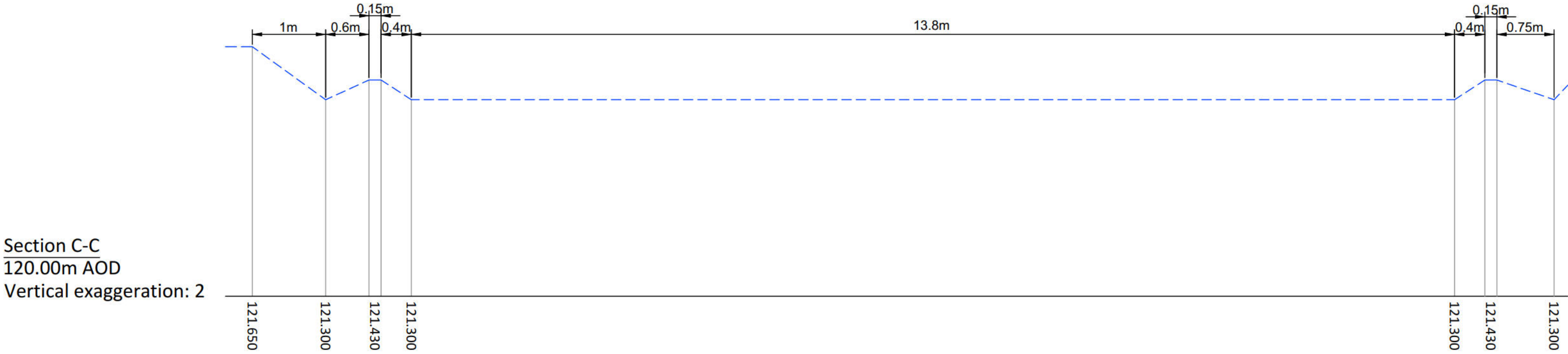
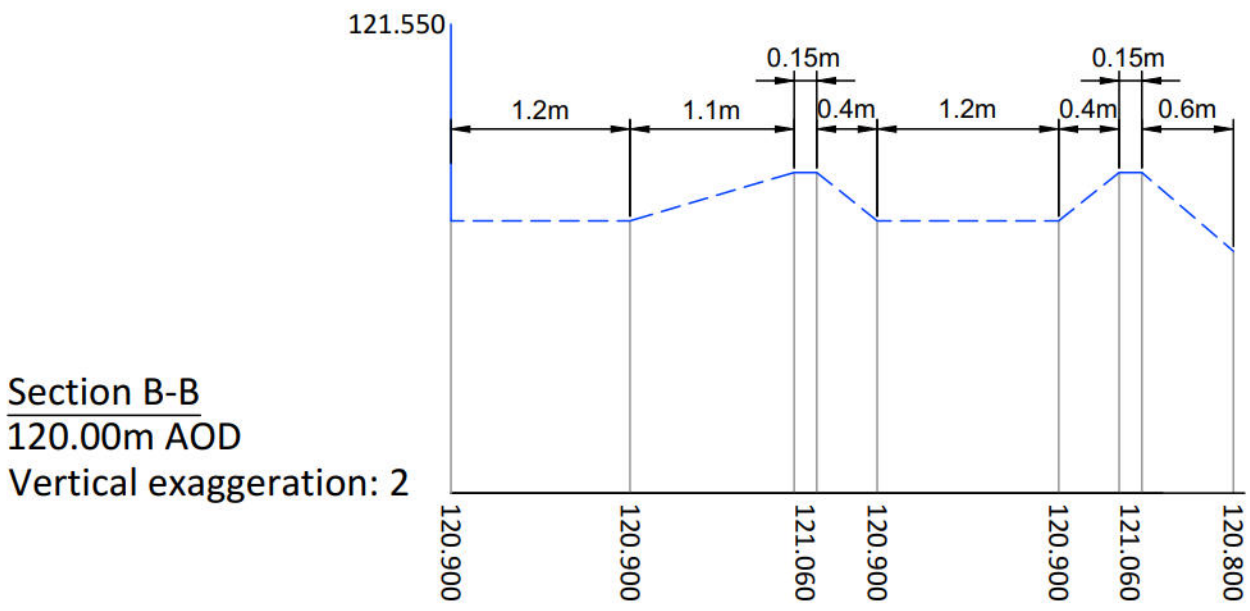
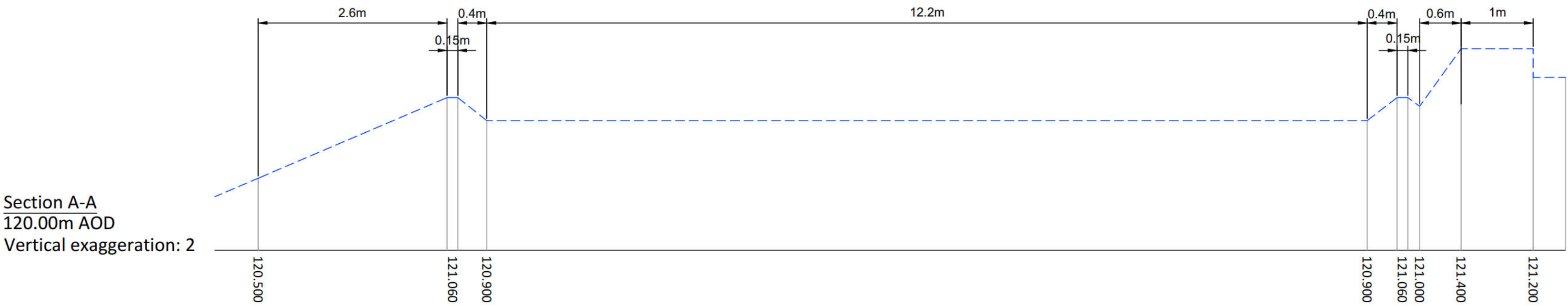
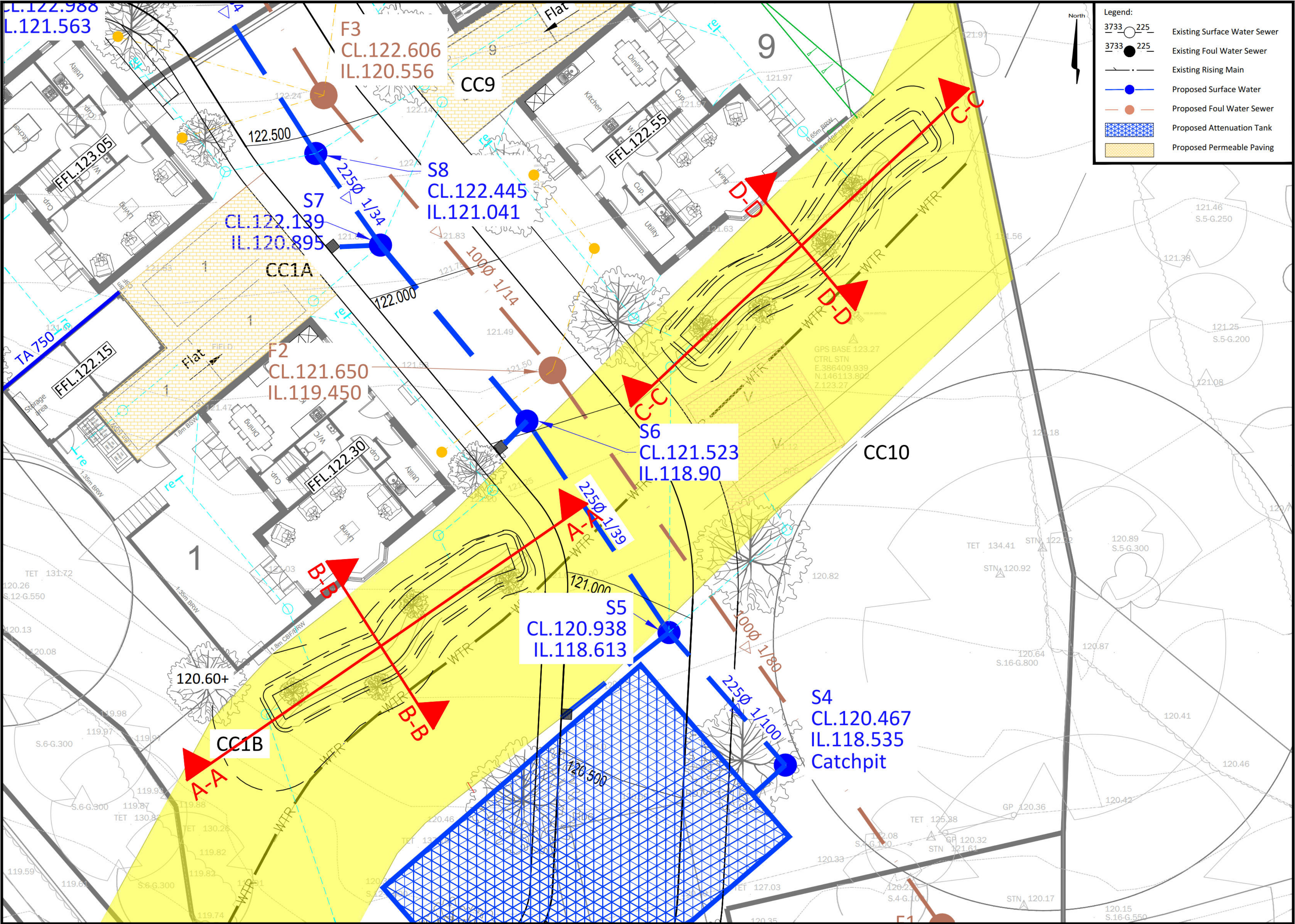
P3	17/03/26	ND	Updated to suit revised architects layout	DS	DS
P2	14/11/25	ND	Updated to suit reserved matters layout, renumbered 1	DS	DS
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DRAWING STATUS:					
Planning					
I M A TRANSPORT PLANNING					
MONTREUX HOUSE, 18A JAMES STREET WEST BATH BA1 2BT T: 01225 444 011 www.ima-tp.com					
CLIENT:					
Greatworth Property					
PROJECT:					
Bath road, Warminster					
TITLE:					
Catchment Plan					
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IMA-20-058-P-502.dwg		ND			
PROJECT NO:		DRAWING NO:			REV:
20-058		502			P3

Legend:

➡ Flow Exceedence Routing



P2	19/03/26	ND	Updated to suit latest layout	DS	DS
P1	14/11/25	ND	First Issue	DS	DS
REV	DATE	BY	DESCRIPTION	CHK	APD
DRAWING STATUS:					
Planning					
I M A TRANSPORT PLANNING MONTREUX HOUSE, 18A JAMES STREET WEST BATH BA1 2BT T: 01225 444 011 www.ima-tp.com					
CLIENT:					
Greatworth Property					
PROJECT:					
Bath road, Warminster					
TITLE:					
Flow Exceedence					
SCALE: (A0)		CHECKED:		APPROVED:	
1:250		DS		DS	
CAD FILE:		DESIGN/DRAWN:		DATE:	
IMA-20-058-P-503.dwg		ND			
PROJECT NO:		DRAWING NO:			REV:
20-058		503			P2



P1	03/09/26	TP	First Issue	DS	DS
REV	DATE	BY	DESCRIPTION	CHK	APD
DRAWING STATUS: Planning					
I M A TRANSPORT PLANNING MONTREUX HOUSE, 18A JAMES STREET WEST BATH BA1 2BT T: 01225 444 011 www.ima-tp.com					
CLIENT: Greatworth Property					
PROJECT: Bath road, Warminster					
TITLE: Raingarden Sections					
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1:50 / 1:100		DESIGNOR/WR: TP		DATE:	
CAD FILE: IMA-20-058-P-504.dwg		PROJECT NO:		REV:	
20-058		DRAWING NO: 504		P1	



Appendix C

EA Flood Map for Planning

Flood map for planning

Your reference	Location (easting/northing)	Created
Unspecified	386374/146143	28 November 2025 14:25

Your selected location is in flood zone 1, an area with a low probability of flooding.

You will need to do a flood risk assessment if your site is **any of the following**:

- bigger than 1 hectare (ha)
- in an area with critical drainage problems as notified by the Environment Agency
- identified as being at increased flood risk in future by the local authority's strategic flood risk assessment
- at risk from other sources of flooding (such as surface water or reservoirs) and its development would increase the vulnerability of its use (such as constructing an office on an undeveloped site or converting a shop to a dwelling)

Notes

The flood map for planning shows river and sea flooding data only. It doesn't include other sources of flooding. It is for use in development planning and flood risk assessments.

This information relates to the selected location and is not specific to any property within it. The map is updated regularly and is correct at the time of printing.

Flood risk data is covered by the Open Government Licence which sets out the terms and conditions for using government data. <https://www.nationalarchives.gov.uk/doc/open-government-licence/version/3>

Use of the address and mapping data is subject to Ordnance Survey public viewing terms under Crown copyright and database rights 2025 AC0000807064. <https://flood-map-for-planning.service.gov.uk/os-terms>



Flood map for planning

Your reference

Unspecified

Location (easting/northing)

386374/146143

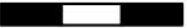
Scale

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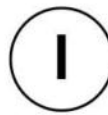
Created

28 Nov 2025 14:25

-  Selected area
-  Flood zone 3
-  Flood zone 2
-  Flood zone 1
-  Flood defence
-  Main river
-  Water storage area



0 20 40 60m



Appendix D

Greenfield Run-off Calculation

Surface Water Attenuation Calculation

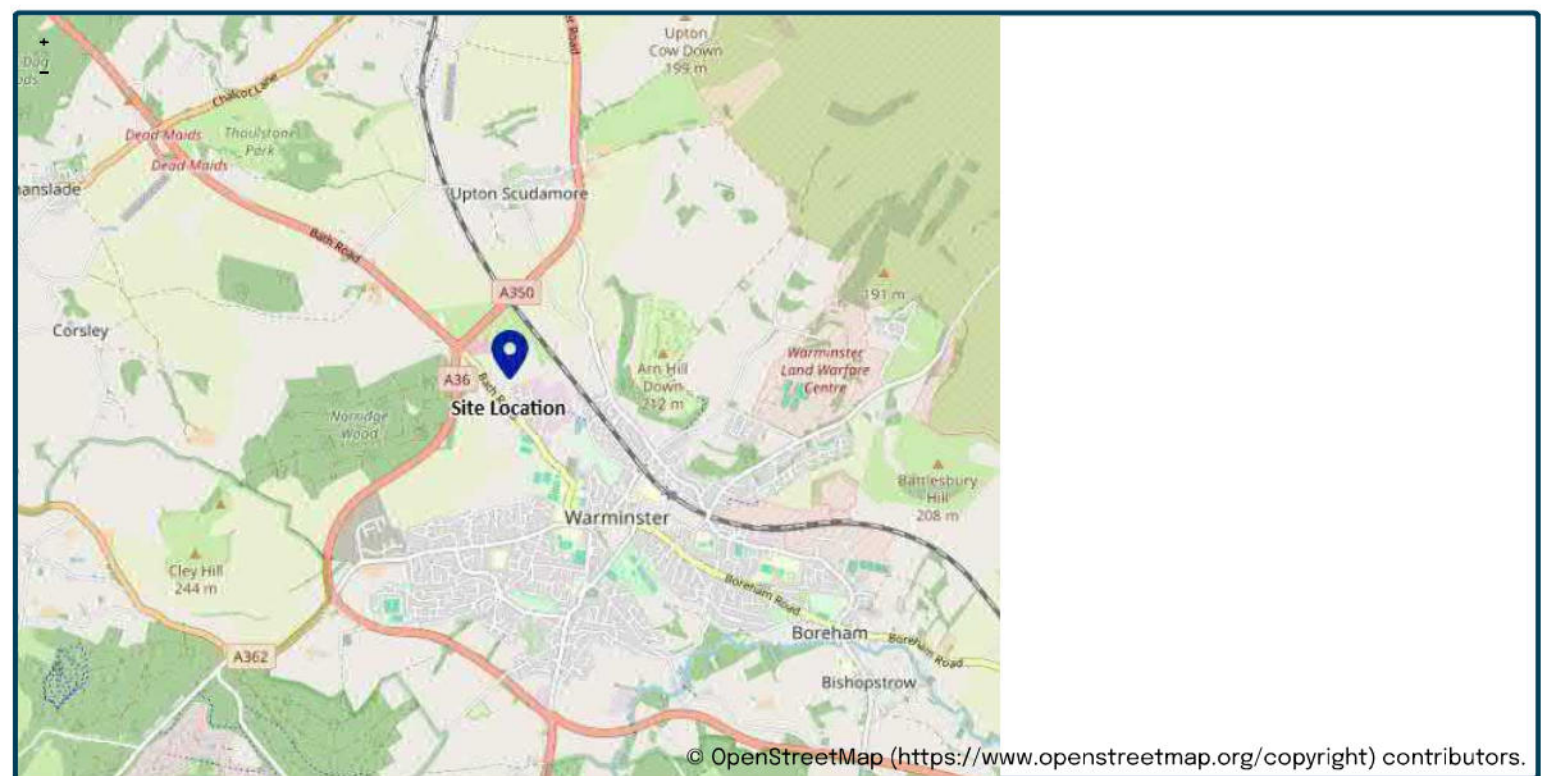
This is an estimation of the greenfield runoff rates that are used to meet normal best practice criteria in line with Environment Agency guidance “Rainfall runoff management for developments”, SC030219 (2013), the SuDS Manual C753 (CIRIA, 2015) and the non-statutory standards for SuDS (Defra, 2015). This information on greenfield runoff rates may be the basis for setting consents for the drainage of surface water runoff from sites.

Project details

Date	28/10/2025
Calculated by	ND
Reference	Bath Road, Warminster
Model version	2.2.1

Location

Site name	Bath Road,
Site location	Warminster



Site easting (British National Grid)	386420
Site northing (British National Grid)	146095

Site details

Total site area (ha)	0.210	ha
----------------------	------------------------------------	----

Greenfield runoff

Method

Method	FEH statistical (2025)
--------	-----------------------------------

FEH statistical (2025)

	My value		Map value
SAAR9120 (mm)	941		mm
BFIHOST19scaled	0.881		
QMed-QBar conversion	1.075		1.075
QMed (l/s)	0.2	l/s	
QBar (FEH statistical 2025) (l/s)	0.2	l/s	

Growth curve factors

	My value		Map value
Hydrological region	8		8
1 year growth factor	0.78		
2 year growth factor	0.93		
10 year growth factor	1.49		
30 year growth factor	1.95		
100 year growth factor	2.43		
200 year growth factor	2.78		

Results

Method	FEH statistical (2025)	
Flow rate 1 year (l/s)	0.1	l/s
Flow rate 2 year (l/s)	0.2	l/s
Flow rate 10 years (l/s)	0.3	l/s
Flow rate 30 years (l/s)	0.4	l/s
Flow rate 100 years (l/s)	0.5	l/s
Flow rate 200 years (l/s)	0.5	l/s

Please note runoff estimation is subject to significant uncertainty. Results are therefore normally reported to only 1 decimal place. Where 2 decimal places are provided, this does not indicate accuracy to this level, it has been adopted to prevent ‘zero’ figures from being reported. Outputs less than 0.01 l/s are reported as 0.01 l/s.

Disclaimer

This report was produced using the Greenfield runoff rate estimation tool (2.2.1) developed by HR Wallingford and available at uksuds.com (<https://www.uksuds.com/>). The use of this tool is subject to the UK SuDS terms and conditions and licence agreement, which can both be found at uksuds.com/terms-conditions (<https://www.uksuds.com/terms-conditions>). The outputs from this tool have been used to estimate Greenfield runoff rates. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, Centre for Ecology and Hydrology, Wallingford Hydrosolutions or any other organisation for the use of these data in the design or operational characteristics of any drainage scheme.

Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	2	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	0.200
CV	0.750	Preferred Cover Depth (m)	1.200
Time of Entry (mins)	5.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	✓
Maximum Rainfall (mm/hr)	50.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Easting (m)	Northing (m)	Depth (m)
Depth/Area 1	0.213	5.00	119.550	35.584	65.826	1.600

Simulation Settings

Rainfall Methodology	FEH-22	Analysis Speed	Normal	Starting Level (m)	
Rainfall Events	Singular	Skip Steady State	x	Check Discharge Rate(s)	x
Summer CV	0.750	Drain Down Time (mins)	240	Check Discharge Volume	x
Winter CV	0.840	Additional Storage (m³/ha)	0.0		

Storm Durations

15	60	180	360	600	960	2160	4320	7200	10080
30	120	240	480	720	1440	2880	5760	8640	

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0
30	40	0	0
100	45	10	0

Node Depth/Area 1 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	117.950	Product Number	CTL-SHE-0061-1500-0800-1500
Design Depth (m)	0.800	Min Outlet Diameter (m)	0.075
Design Flow (l/s)	1.5	Min Node Diameter (mm)	1200

Node Depth/Area 1 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	1.0	Invert Level (m)	117.950
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	230.0	230.0	0.800	230.0	273.0	0.801	0.0	273.0

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	Depth/Area 1	344	118.086	0.136	4.3	29.6097	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)
480 minute winter	Depth/Area 1	Hydro-Brake®	1.4	40.4

Results for 30 year +40% 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
480 minute winter	Depth/Area 1	464	118.440	0.490	12.0	107.1081	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)
480 minute winter	Depth/Area 1	Hydro-Brake®	1.5	50.6

Results for 100 year +45% CC +10% A 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	Depth/Area 1	915	118.719	0.769	10.3	168.0948	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)
960 minute winter	Depth/Area 1	Hydro-Brake®	1.5	88.5

Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	2	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	0.200
CV	0.750	Preferred Cover Depth (m)	1.200
Time of Entry (mins)	5.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	✓
Maximum Rainfall (mm/hr)	50.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Easting (m)	Northing (m)	Depth (m)
Depth/Area 1	0.008	5.00	122.200	35.589	65.826	0.600

Simulation Settings

Rainfall Methodology	FEH-22	Analysis Speed	Normal	Starting Level (m)	
Rainfall Events	Singular	Skip Steady State	x	Check Discharge Rate(s)	x
Summer CV	0.750	Drain Down Time (mins)	240	Check Discharge Volume	x
Winter CV	0.840	Additional Storage (m³/ha)	0.0		

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 %)
2	0	0	0
30	40	0	0
100	45	10	0

Node Depth/Area 1 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.200	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	0.5		
Invert Level (m)	121.600	Diameter (m)	0.023		

Node Depth/Area 1 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	1.0	Invert Level (m)	121.600
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Time to half empty (mins)	48

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	58.0	58.0	0.470	58.0	70.7	0.471	0.0	70.7

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
120 minute winter	Depth/Area 1	84	121.636	0.036	0.4	0.6214	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)				
120 minute winter	Depth/Area 1	Orifice	0.2	1.1				

Results for 30 year +40% 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	Depth/Area 1	90	121.725	0.125	1.2	2.1807	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)
120 minute winter	Depth/Area 1	Orifice	0.4	3.4

Results for 100 year +45% CC +10% A 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	Depth/Area 1	92	121.790	0.190	1.8	3.3045	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)				
120 minute winter	Depth/Area 1	Orifice	0.5	5.0				

Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	2	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	0.200
CV	0.750	Preferred Cover Depth (m)	1.200
Time of Entry (mins)	5.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	✓
Maximum Rainfall (mm/hr)	50.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Easting (m)	Northing (m)	Depth (m)
Depth/Area 1	0.007	5.00	121.200	35.612	65.877	0.300

Simulation Settings

Rainfall Methodology	FEH-22	Analysis Speed	Normal	Starting Level (m)	
Rainfall Events	Singular	Skip Steady State	x	Check Discharge Rate(s)	x
Summer CV	0.750	Drain Down Time (mins)	240	Check Discharge Volume	x
Winter CV	0.840	Additional Storage (m³/ha)	0.0		

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 %)
2	0	0	0
30	0	0	0
100	45	10	0

Node Depth/Area 1 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.160	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	0.5		
Invert Level (m)	120.900	Diameter (m)	0.024		

Node Depth/Area 1 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	1.0	Invert Level (m)	120.900
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	13.5	13.5	0.200	24.0	24.4	0.201	0.0	24.4

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
120 minute winter	Depth/Area 1	82	120.933	0.033	0.3	0.4759	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)
120 minute winter	Depth/Area 1	Orifice	0.2	1.0

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
60 minute winter	Depth/Area 1	47	120.977	0.077	1.2	1.2014	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)				
60 minute winter	Depth/Area 1	Orifice	0.3	1.7				

Results for 100 year +45% CC +10% A 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
60 minute winter	Depth/Area 1	55	121.056	0.156	2.5	2.7357	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)				
60 minute winter	Depth/Area 1	Orifice	0.5	3.7				

Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	2	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	0.200
CV	0.750	Preferred Cover Depth (m)	1.200
Time of Entry (mins)	5.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	✓
Maximum Rainfall (mm/hr)	50.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Easting (m)	Northing (m)	Depth (m)
Depth/Area 1	0.013	5.00	122.800	35.589	65.826	0.600

Simulation Settings

Rainfall Methodology	FEH-22	Analysis Speed	Normal	Starting Level (m)	
Rainfall Events	Singular	Skip Steady State	x	Check Discharge Rate(s)	x
Summer CV	0.750	Drain Down Time (mins)	240	Check Discharge Volume	x
Winter CV	0.840	Additional Storage (m³/ha)	0.0		

Storm Durations

15	30	60	120	180	240	360	480	600	720	960	1440
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Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0
30	40	0	0
100	45	10	0

Node Depth/Area 1 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.400	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	0.5		
Invert Level (m)	122.200	Diameter (m)	0.019		

Node Depth/Area 1 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	1.0	Invert Level (m)	122.200
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Time to half empty (mins)	208

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	52.0	52.0	0.470	52.0	64.0	0.471	0.0	64.0

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
240 minute winter	Depth/Area 1	172	122.277	0.077	0.4	1.1946	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)
240 minute winter	Depth/Area 1	Orifice	0.2	2.5

Results for 30 year +40% 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	Depth/Area 1	110	122.468	0.267	2.0	4.1729	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)				
120 minute winter	Depth/Area 1	Orifice	0.4	5.3				

Results for 100 year +45% CC +10% A 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 winter	Depth/Area 1	144	122.606	0.406	2.1	6.3316	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)
180 minute winter	Depth/Area 1	Orifice	0.5	8.1

Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	2	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	0.200
CV	0.750	Preferred Cover Depth (m)	1.200
Time of Entry (mins)	5.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	✓
Maximum Rainfall (mm/hr)	50.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Easting (m)	Northing (m)	Depth (m)
Depth/Area 1	0.015	5.00	123.050	35.589	65.837	0.600

Simulation Settings

Rainfall Methodology	FEH-22	Analysis Speed	Normal	Starting Level (m)	
Rainfall Events	Singular	Skip Steady State	x	Check Discharge Rate(s)	x
Summer CV	0.750	Drain Down Time (mins)	240	Check Discharge Volume	x
Winter CV	0.840	Additional Storage (m³/ha)	0.0		

Storm Durations

15	30	60	120	180	240	360	480	600	720	960	1440
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Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0
30	40	0	0
100	45	10	0

Node Depth/Area 1 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.410	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	0.5		
Invert Level (m)	122.450	Diameter (m)	0.019		

Node Depth/Area 1 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	1.0	Invert Level (m)	122.450
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Time to half empty (mins)	252

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	65.0	65.0	0.470	65.0	78.4	0.471	0.0	78.4

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
240 minute winter	Depth/Area 1	176	122.528	0.078	0.5	1.5173	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)				
240 minute winter	Depth/Area 1	Orifice	0.2	2.7				

Results for 30 year +40% 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
240 minute winter	Depth/Area 1	184	122.717	0.267	1.4	5.1978	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)
240 minute winter	Depth/Area 1	Orifice	0.4	7.2

Results for 100 year +45% CC +10% A 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
240 minute winter	Depth/Area 1	188	122.844	0.394	2.0	7.6770	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)
240 minute winter	Depth/Area 1	Orifice	0.5	9.3

Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	2	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	0.200
CV	0.750	Preferred Cover Depth (m)	1.200
Time of Entry (mins)	5.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	✓
Maximum Rainfall (mm/hr)	50.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Easting (m)	Northing (m)	Depth (m)
Depth/Area 1	0.012	5.00	123.100	35.612	65.877	0.900

Simulation Settings

Rainfall Methodology	FEH-22	Analysis Speed	Normal	Starting Level (m)	
Rainfall Events	Singular	Skip Steady State	x	Check Discharge Rate(s)	x
Summer CV	0.750	Drain Down Time (mins)	240	Check Discharge Volume	x
Winter CV	0.840	Additional Storage (m³/ha)	0.0		

Storm Durations

15	30	60	120	180	240	360	480	600	720	960	1440
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Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0
30	40	0	0
100	45	10	0

Node Depth/Area 1 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.410	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	0.5		
Invert Level (m)	122.200	Diameter (m)	0.019		

Node Depth/Area 1 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	1.0	Invert Level (m)	122.200
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Time to half empty (mins)	108

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	36.0	36.0	0.600	36.0	48.8	0.601	0.0	48.8

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 winter	Depth/Area 1	124	122.289	0.089	0.5	0.9598	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)				
180 minute winter	Depth/Area 1	Orifice	0.2	2.0				

Results for 30 year +40% 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
180 minute winter	Depth/Area 1	136	122.528	0.328	1.4	3.5396	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)
180 minute winter	Depth/Area 1	Orifice	0.4	5.8

Results for 100 year +45% CC +10% A 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 winter	Depth/Area 1	140	122.700	0.500	2.0	5.3977	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)				
180 minute winter	Depth/Area 1	Orifice	0.5	8.2				

Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	2	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	0.200
CV	0.750	Preferred Cover Depth (m)	1.200
Time of Entry (mins)	5.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	✓
Maximum Rainfall (mm/hr)	50.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Easting (m)	Northing (m)	Depth (m)
Depth/Area 1	0.022	5.00	123.420	35.612	65.845	0.620

Simulation Settings

Rainfall Methodology	FEH-22	Analysis Speed	Normal	Starting Level (m)	
Rainfall Events	Singular	Skip Steady State	x	Check Discharge Rate(s)	x
Summer CV	0.750	Drain Down Time (mins)	240	Check Discharge Volume	x
Winter CV	0.840	Additional Storage (m³/ha)	0.0		

Storm Durations

15	30	60	120	180	240	360	480	600	720	960	1440
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Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0
30	40	0	0
100	45	10	0

Node Depth/Area 1 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.540	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	0.5		
Invert Level (m)	122.800	Diameter (m)	0.018		

Node Depth/Area 1 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	1.0	Invert Level (m)	122.800
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	74.0	74.0	0.600	74.0	92.3	0.601	0.0	92.3

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
240 minute winter	Depth/Area 1	176	122.911	0.110	0.7	2.4530	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)				
240 minute winter	Depth/Area 1	Orifice	0.2	3.6				

Results for 30 year +40% 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
240 minute winter	Depth/Area 1	192	123.183	0.383	2.1	8.5125	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)				
240 minute winter	Depth/Area 1	Orifice	0.4	8.6				

Results for 100 year +45% CC +10% A Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m ³)	Flood (m ³)	Status
360 minute winter	Depth/Area 1	280	123.365	0.565	2.2	12.5443	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m ³)
360 minute winter	Depth/Area 1	Orifice	0.5	13.0

Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	2	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	0.200
CV	0.750	Preferred Cover Depth (m)	1.200
Time of Entry (mins)	5.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	✓
Maximum Rainfall (mm/hr)	50.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Easting (m)	Northing (m)	Depth (m)
Depth/Area 1	0.023	5.00	123.550	35.618	65.877	0.600

Simulation Settings

Rainfall Methodology	FEH-22	Analysis Speed	Normal	Starting Level (m)	
Rainfall Events	Singular	Skip Steady State	x	Check Discharge Rate(s)	x
Summer CV	0.750	Drain Down Time (mins)	240	Check Discharge Volume	x
Winter CV	0.840	Additional Storage (m³/ha)	0.0		

Storm Durations

15	30	60	120	180	240	360	480	600	720	960	1440
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Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0
30	0	0	0
100	45	10	0

Node Depth/Area 1 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.430	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	0.5		
Invert Level (m)	122.950	Diameter (m)	0.019		

Node Depth/Area 1 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	1.0	Invert Level (m)	122.950
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	109.0	109.0	0.470	109.0	126.4	0.471	0.0	126.4

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	Depth/Area 1	320	123.034	0.084	0.5	2.7473	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)
480 minute winter	Depth/Area 1	Orifice	0.2	5.1

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 winter	Depth/Area 1	272	123.142	0.192	1.2	6.2789	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)				
360 minute winter	Depth/Area 1	Orifice	0.3	7.8				

Results for 100 year +45% CC +10% A Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m ³)	Flood (m ³)	Status
360 minute winter	Depth/Area 1	288	123.366	0.416	2.3	13.6157	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m ³)
360 minute winter	Depth/Area 1	Orifice	0.5	12.5

Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	2	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	0.200
CV	0.750	Preferred Cover Depth (m)	1.200
Time of Entry (mins)	5.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	✓
Maximum Rainfall (mm/hr)	50.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Easting (m)	Northing (m)	Depth (m)
Depth/Area 1	0.006	5.00	122.500	35.612	65.877	0.600

Simulation Settings

Rainfall Methodology	FEH-22	Analysis Speed	Normal	Starting Level (m)	
Rainfall Events	Singular	Skip Steady State	x	Check Discharge Rate(s)	x
Summer CV	0.750	Drain Down Time (mins)	240	Check Discharge Volume	x
Winter CV	0.840	Additional Storage (m³/ha)	0.0		

Storm Durations

15	30	60	120	180	240	360	480	600	720	960	1440
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Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0
30	0	0	0
100	45	10	0

Node Depth/Area 1 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.200	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	0.5		
Invert Level (m)	121.900	Diameter (m)	0.023		

Node Depth/Area 1 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	1.0	Invert Level (m)	121.900
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Time to half empty (mins)	24

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	41.8	41.8	0.470	41.8	52.6	0.471	0.0	52.6

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
120 minute winter	Depth/Area 1	80	121.933	0.033	0.3	0.4163	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)
120 minute winter	Depth/Area 1	Orifice	0.2	0.9

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
60 minute winter	Depth/Area 1	48	121.979	0.079	1.0	0.9918	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)				
60 minute winter	Depth/Area 1	Orifice	0.3	1.5				

Results for 100 year +45% CC +10% A 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
60 minute winter	Depth/Area 1	49	122.078	0.178	2.2	2.2341	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)				
60 minute winter	Depth/Area 1	Orifice	0.5	3.1				

Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	2	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	0.200
CV	0.750	Preferred Cover Depth (m)	1.200
Time of Entry (mins)	5.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	✓
Maximum Rainfall (mm/hr)	50.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Easting (m)	Northing (m)	Depth (m)
Depth/Area 1	0.007	5.00	121.600	35.612	65.877	0.300

Simulation Settings

Rainfall Methodology	FEH-22	Analysis Speed	Normal	Starting Level (m)	
Rainfall Events	Singular	Skip Steady State	x	Check Discharge Rate(s)	x
Summer CV	0.750	Drain Down Time (mins)	240	Check Discharge Volume	x
Winter CV	0.840	Additional Storage (m³/ha)	0.0		

Storm Durations

15	30	60	120	180	240	360	480	600	720	960	1440
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Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0
30	0	0	0
100	45	10	0

Node Depth/Area 1 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.130	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	0.5		
Invert Level (m)	121.300	Diameter (m)	0.026		

Node Depth/Area 1 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	1.0	Invert Level (m)	121.300
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	16.8	16.8	0.200	29.5	29.9	0.201	0.0	29.9

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 (m ³)	Flood (m ³)	Status
120 minute winter	Depth/Area 1	82	121.328	0.028	0.3	0.5023	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m ³)
120 minute winter	Depth/Area 1	Orifice	0.2	1.0

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
60 minute winter	Depth/Area 1	47	121.364	0.064	1.2	1.2049	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)				
60 minute winter	Depth/Area 1	Orifice	0.3	1.7				

Results for 100 year +45% CC +10% A 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
60 minute winter	Depth/Area 1	55	121.430	0.130	2.5	2.7085	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)				
60 minute winter	Depth/Area 1	Orifice	0.5	3.7				

Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	2	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	0.200
CV	0.750	Preferred Cover Depth (m)	1.200
Time of Entry (mins)	5.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	✓
Maximum Rainfall (mm/hr)	50.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Easting (m)	Northing (m)	Depth (m)
Depth/Area 1	0.003	5.00	121.350	35.589	65.826	0.600

Simulation Settings

Rainfall Methodology	FEH-22	Analysis Speed	Normal	Starting Level (m)	
Rainfall Events	Singular	Skip Steady State	x	Check Discharge Rate(s)	x
Summer CV	0.750	Drain Down Time (mins)	240	Check Discharge Volume	x
Winter CV	0.840	Additional Storage (m³/ha)	0.0		

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 %)
2	0	0	0
30	40	0	0
100	45	10	0

Node Depth/Area 1 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.120	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	0.3		
Invert Level (m)	120.750	Diameter (m)	0.020		

Node Depth/Area 1 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	1.0	Invert Level (m)	120.750
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Time to half empty (mins)	0

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	30.0	30.0	0.470	30.0	39.1	0.471	0.0	39.1

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 (m ³)	Flood (m ³)	Status
360 minute winter	Depth/Area 1	224	120.772	0.022	0.1	0.1995	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m ³)
360 minute winter	Depth/Area 1	Orifice	0.1	0.5

Results for 30 year +40% 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
60 minute winter	Depth/Area 1	46	120.826	0.076	0.7	0.6821	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)				
60 minute winter	Depth/Area 1	Orifice	0.2	1.0				

Results for 100 year +45% CC +10% A Critical Storm Duration. Lowest mass balance: 100.00%

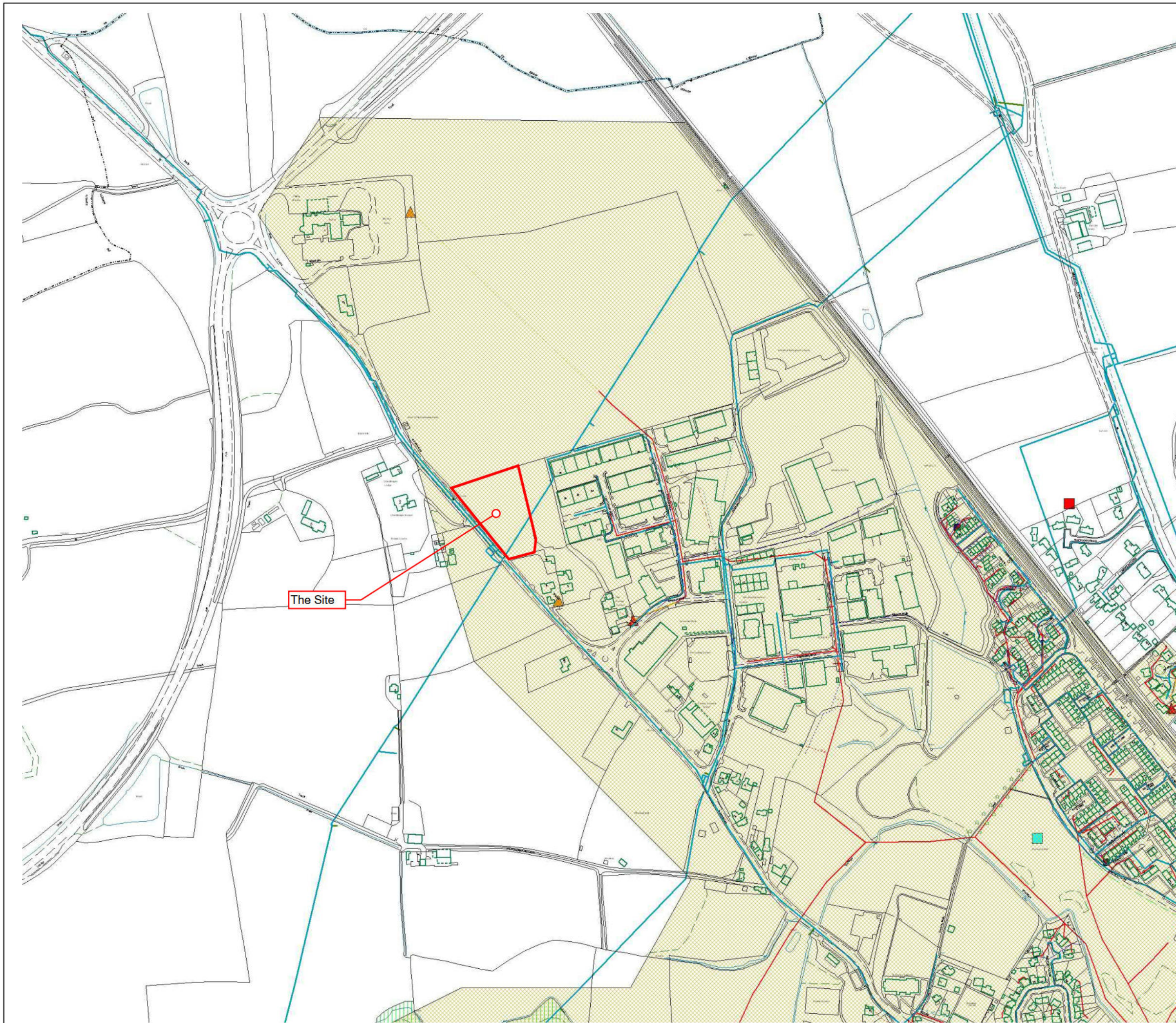
Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute winter	Depth/Area 1	48	120.868	0.118	1.1	1.0596	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)				
60 minute winter	Depth/Area 1	Orifice	0.3	1.6				



Appendix E

Wessex Water Asset Mapping

Highways Correspondence



Bath Road

BA12 8PF

Printed on : 05/03/2021 15:46

WATER MAINS		Public	Private
Public		—	- - -
Raw Water		—	- - -
Abandoned		—	- - -
Valve	X	Hydrant	●
PRV	●	Meter	M
SEWERS		Public - Section 104 - Private	
Foul		—	- - -
Combined		—	- - -
Surface		—	- - -
Abandoned sewers		* * *	* * *
OTHER WESSEX PIPES			
Rising Mains		—	—
Effluent Disposal Main		—	—
Overflow		—	—
NON-WESSEX PIPES			
Private Rising Mains		—	—
Culverted Water Course		—	—
Highway Drain		—	—

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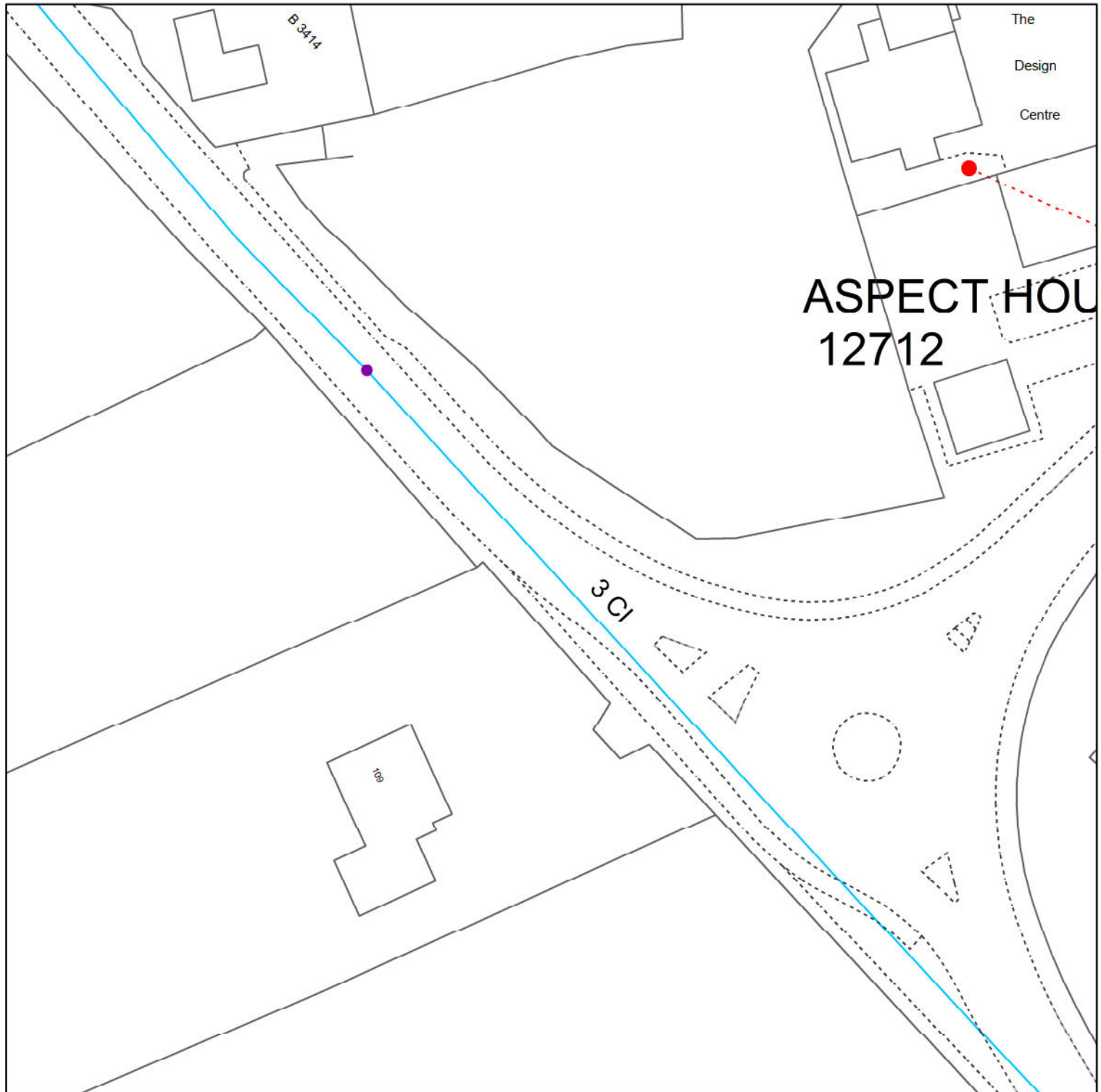
In carrying out any works, you accept liability for the cost of any repairs to Wessex Water apparatus damaged as a result of your works. You are advised to commence excavations using hand tools only. Mechanical digging equipment should not be used until pipe work has been precisely located.

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Centre: 386508.61, 146133.09

Scale = 1:5000
Metres 100 200 300

Wessex Water Network Map



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WATER MAINS	SEWERS	STRATEGIC	PUBLIC	PRIVATE	SECTION 104	OTHER WESSEX PIPES	NON-WESSEX / UNKNOWN
Distribution	Foul					Rising Mains	Private Rising Mains
Washout	Surface					EDM	Culverted Watercourse
Raw Water	Combined					Overflow	Highway Drain
Abandoned	Abandoned					Syphon	Use Unknown
Private	Colours generally indicate the use of the sewer/drain (i.e Red - Foul, Dark Blue - Surface, Magenta - Combined/Dual Use, Light Green - Highway Drain, Mid Green - Overflow).						Status Unknown
Some styles of line and symbol are shown on the key in sample/typical colours.							
FITTINGS	STRUCTURES						
Hydrant	Manhole - Foul	Pumping Station - Surface					
Other	Manhole - Surface	Pumping Stn - Foul/Combined					
	Manhole - Combined	Gully					
	Inlet	Vent Column					
	Outfall	Rodding Eye					
	Lamphole	Catchpit					
	Bifurcation - Foul	Flushing Chamber					
	Bifurcation - Surface	Soakaway					
	Bifurcation - Combined	Non Return Valve					
	Combined Sewage Overflow	Air Valve					
		Hatch Box					
		Washout					

OTHER STRUCTURES

Attenuation Tank

Storage Tank

Chamber

Tunnel

Interceptor

Wessex Water

YTL GROUP

Date: 05/03/2021

Centre: 386479, 145966

Scale: 1:625

(when printed at A4 size)

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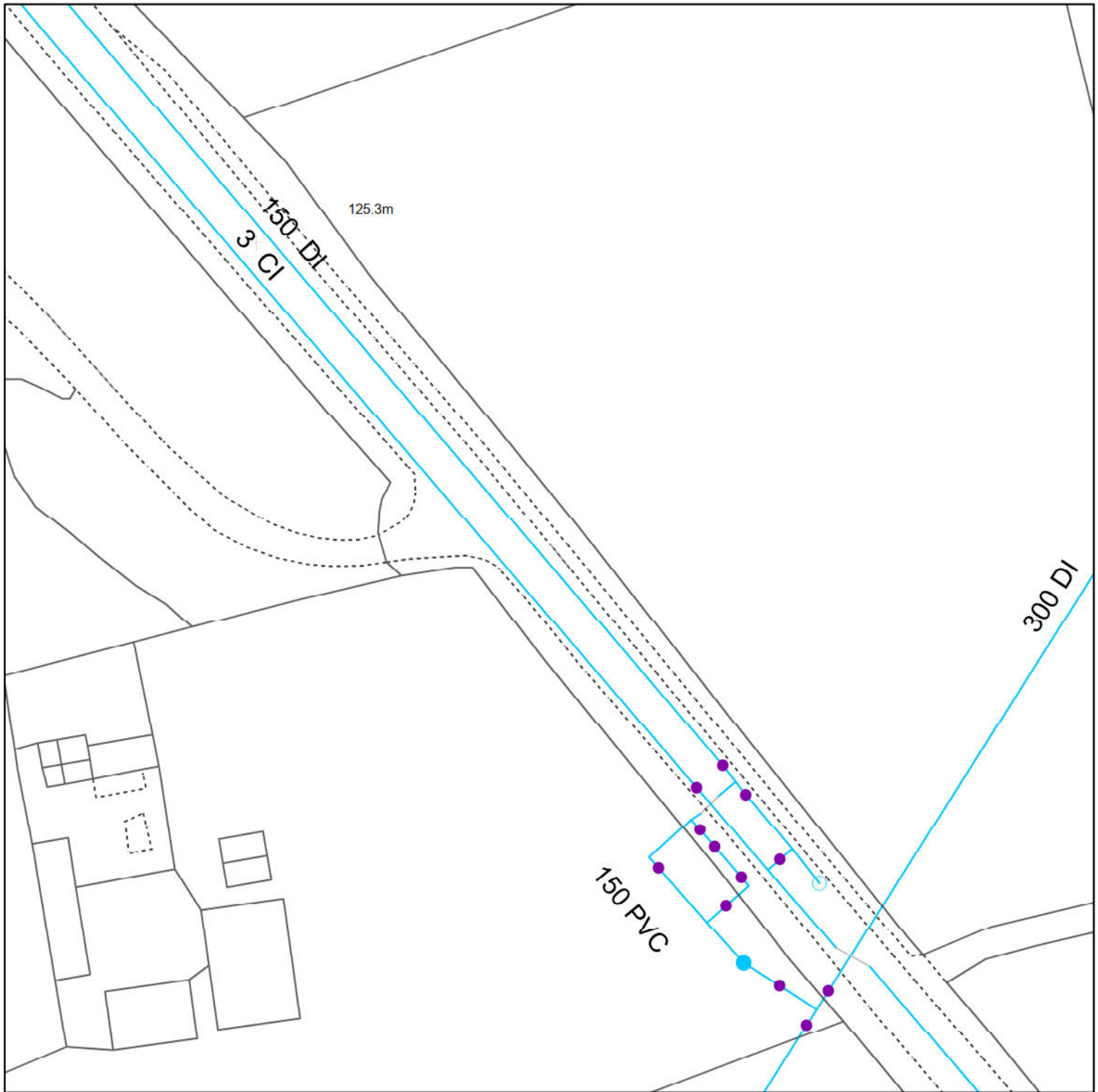
Wessex Water Network Map



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WATER MAINS	SEWERS	STRATEGIC PUBLIC	PRIVATE	SECTION 104	OTHER WESSEX PIPES	NON-WESSEX / UNKNOWN
- Distribution - Washout - Raw Water - Abandoned - Private	- Foul - Surface - Combined - Abandoned				- Rising Mains - EDM - Overflow - Syphon	- Private Rising Mains - Culverted Watercourse - Highway Drain - Use Unknown - Status Unknown
FITTINGS - Hydrant - Other	STRUCTURES - Manhole - Foul - Manhole - Surface - Manhole - Combined - Inlet - Outfall - Lamphole - Bifurcation - Foul - Bifurcation - Surface - Bifurcation - Combined - Combined Sewage Overflow	- Pumping Station - Surface - Pumping Stn - Foul/Combined - Gully - Vent Column - Rodding Eye - Catchpit - Flushing Chamber - Soakaway - Non Return Valve - Air Valve			OTHER STRUCTURES - Attenuation Tank - Storage Tank - Chamber - Tunnel - Interceptor	Wessex Water YTL GROUP YTL
Information in this map is provided for identification purposes only. No warranty as to accuracy is given or implied. The precise route of pipe work may not exactly match that shown. Wessex Water does not accept liability for inaccuracies. Sewers and lateral drains adopted by Wessex Water under the Water Industry (Schemes for Adoption of Private Sewers) Regulations 2011 are to be plotted over time and may not yet be shown. In carrying out any works, you accept liability for the cost of any repairs to Wessex Water apparatus damaged as a result of your works. You are advised to commence excavations using hand tools only. Mechanical digging equipment should not be used until pipe work has been precisely located. If you are considering any form of building works and pipe work is shown within the boundary of your property or a property to be purchased (or very close by) a surveyor should plot its exact position prior to commencing works or purchase. If you are proposing to build over or near Wessex Water's apparatus you should contact the Developer Services Team, tel: 01225 526333 or e-mail: developer.enquiries@wessexwater.co.uk to discuss your proposals. Details of assets within Wessex Water's land ownership are unavailable through this service.						Date: 05/03/2021 Centre: 386441, 146056 Scale: 1:625 (when printed at A4 size)

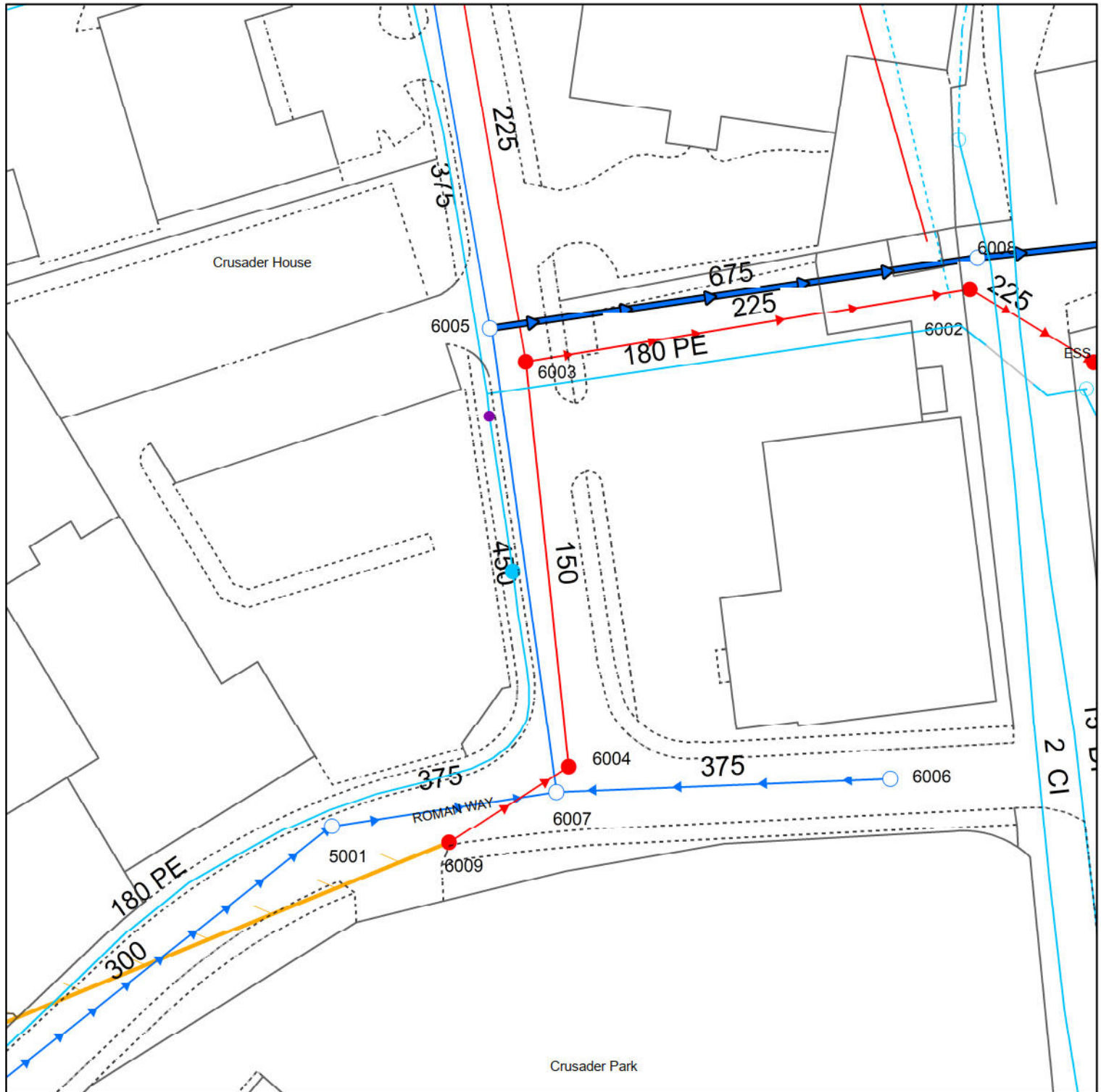
Wessex Water Network Map



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WATER MAINS		SEWERS		STRATEGIC		PUBLIC		PRIVATE		SECTION 104		OTHER WESSEX PIPES		NON-WESSEX / UNKNOWN	
	Distribution		Foul								Rising Mains				Private Rising Mains
	Washout		Surface								EDM				Culverted Watercourse
	Raw Water		Combined								Overflow				Highway Drain
	Abandoned		Abandoned								Syphon				Use Unknown
	Private	Colours generally indicate the use of the sewer/drain (i.e Red - Foul, Dark Blue - Surface, Magenta - Combined/Dual Use, Light Green - Highway Drain, Mid Green - Overflow).													
Some styles of line and symbol are shown on the key in sample/typical colours.															
FITTINGS		STRUCTURES													
	Hydrant		Manhole - Foul		Pumping Station - Surface										
	Other		Manhole - Surface		Pumping Stn - Foul/Combined										
			Manhole - Combined		Gully										
			Inlet		Vent Column										
			Outfall		Rodding Eye										
			Lamphole		Catchpit										
			Bifurcation - Foul		Flushing Chamber										
			Bifurcation - Surface		Soakaway										
			Bifurcation - Combined		Non Return Valve										
			Combined Sewage Overflow		Air Valve		Hatch Box		Washout						
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OTHER STRUCTURES Attenuation Tank Storage Tank Chamber Tunnel Interceptor Wessex Water YTL GROUP Date: 05/03/2021 Centre: 386342, 146124 Scale: 1:625 (when printed at A4 size)															

Wessex Water Network Map



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WATER MAINS	SEWERS	STRATEGIC PUBLIC	PRIVATE	SECTION 104	OTHER WESSEX PIPES	NON-WESSEX / UNKNOWN
- Distribution - Washout - Raw Water - Abandoned - Private	- Foul - Surface - Combined - Abandoned	- Colours generally indicate the use of the sewer/drain (i.e Red - Foul, Dark Blue - Surface, Magenta - Combined/Dual Use, Light Green - Highway Drain, Mid Green - Overflow). - Some styles of line and symbol are shown on the key in sample/typical colours.	- Colours generally indicate the use of the sewer/drain (i.e Red - Foul, Dark Blue - Surface, Magenta - Combined/Dual Use, Light Green - Highway Drain, Mid Green - Overflow). - Some styles of line and symbol are shown on the key in sample/typical colours.	- Colours generally indicate the use of the sewer/drain (i.e Red - Foul, Dark Blue - Surface, Magenta - Combined/Dual Use, Light Green - Highway Drain, Mid Green - Overflow). - Some styles of line and symbol are shown on the key in sample/typical colours.	- Rising Mains - EDM - Overflow - Syphon	- Private Rising Mains - Culverted Watercourse - Highway Drain - Use Unknown - Status Unknown
FITTINGS	STRUCTURES	STRUCTURES	STRUCTURES	STRUCTURES	OTHER STRUCTURES	OTHER STRUCTURES
- Hydrant - Other	- Manhole - Foul - Manhole - Surface - Manhole - Combined - Inlet - Outfall - Lamphole - Bifurcation - Foul - Bifurcation - Surface - Bifurcation - Combined - Combined Sewage Overflow	- Pumping Station - Surface - Pumping Stn - Foul/Combined - Gully - Vent Column - Rodding Eye - Catchpit - Flushing Chamber - Soakaway - Non Return Valve - Air Valve - Hatch Box - Washout	- Pumping Station - Surface - Pumping Stn - Foul/Combined - Gully - Vent Column - Rodding Eye - Catchpit - Flushing Chamber - Soakaway - Non Return Valve - Air Valve - Hatch Box - Washout	- Pumping Station - Surface - Pumping Stn - Foul/Combined - Gully - Vent Column - Rodding Eye - Catchpit - Flushing Chamber - Soakaway - Non Return Valve - Air Valve - Hatch Box - Washout	- Attenuation Tank - Storage Tank - Chamber - Tunnel - Interceptor	- Attenuation Tank - Storage Tank - Chamber - Tunnel - Interceptor
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Wessex Water YTL GROUP						Date: 16/06/2021 Centre: 386623, 146053 Scale: 1:625 (when printed at A4 size)

Neil Doble

From: Stella Davies <Stella.Davies@wessexwater.co.uk>
Sent: 20 November 2025 12:30
To: Neil Doble
Cc: Dave Sartin
Subject: RE: WW DEV RESP PL52480 - 20-058 Bath Road, Warminster

Hello Neil,

Thank you for your email below.

In terms of surface water discharge:

- For discharge into highway drain you will need to liaise with the Highway Authority
- For discharge to NAV you will need to liaise with NAV it is Leep

For foul drainage,

- it is not in Wessex Water gift to offer you a connection into a private foul sewer network
- the nearest public foul sewer in Roman Way is FWMH ref: ST86466009, the agreed strategy would be based on connection via this manhole
- if you wish to use private sewer you need to obtain agreement from that sewer owner

We trust that the above clarifies and offers some assistance.

Note: These comments are based upon known circumstances prevailing at the time of writing. A review of the contents of this email is required where 18 months or more have elapsed since issue or in the light of significant changes likely to impact upon the response (e.g. changes in development numbers or phasing). Please email review requests to planning.liaison@wessexwater.co.uk

Best Regards,

Stella Davies
Senior Planning Liaison Engineer



Wessex Water
Operations Centre, Claverton Down, Bath BA2 7WW

Web ytl.com | wessexwater.co.uk



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This email is being sent to you on behalf of Wessex Water Limited, a company registered in England and Wales with number 02366633. Its registered office is Wessex Water Operations Centre, Claverton Down Road, Claverton Down, Bath, BA2 7WW.

From: Neil Doble <ndoble@ima-tp.com>
Sent: 18 November 2025 08:09
To: Stella Davies <Stella.Davies@wessexwater.co.uk>
Cc: Dave Sartin <dsartin@ima-tp.com>
Subject: WW DEV RESP PL52480 - 20-058 Bath Road, Warminster

Hi Stella,

Just to update you.

- The surface water proposals are now to discharge to the southwest of the development (subject to approvals/agreement). We are looking to connect into a highway manhole which we understand connects to the west into new attenuation basins(as part of the new development to the west). We understand that the sewers downstream of the highway sewer are to be adopted under a NAV (Leep Network) and would look to apply for the upstream highway sewers to be adopted under a S102 application.
- With regards to the foul, we are now looking at discharging to the south into the existing private foul network (serving house number 46-48) which falls by gravity into a private pumping station which then is pumped into the public sewer within Roman Way. You previously accepted this option in your correspondence dated 29th October 2024 but we just wanted to update you on the current proposals for the development.

I will note to the architect's to remove the trees within the watermain easement.

If you could just confirm if you still find this acceptable and I will include your response within the latest Flood Risk Assessment.

Kind regards,

Neil

From: Stella Davies <Stella.Davies@wessexwater.co.uk>
Sent: 20 May 2025 10:47
To: Neil Doble <ndoble@ima-tp.com>
Cc: Dave Sartin <dsartin@ima-tp.com>
Subject: RE: WW DEV RESP PL52480 - 20-058 Bath Road, Warminster

Good morning, Neil,

Thank you for the below enquiry.

Foul Water

Wessex Water can offer you point of connection to the existing public sewer manhole ref ST86465103 (5103 on the below extract) located in Centurion Way (east of the site). On your plan you have shown a possible connection to a private foul drainage. Please note that any connections to a private system would need to be pursued with the owner of that system. Such a connection is outside Wessex Water control.



Developers may connect to the nearest public foul sewer at their cost on a 'size for size' basis, and Wessex Water are responsible for managing the sewer network to accommodate the additional domestic foul flows from granted development. We fund this through our infrastructure charging arrangements.

Connection is agreed by application. More information is available under the link: [Sewer connection](#)

Surface Water Drainage (rainwater falling onto, and running off, impermeable surfaces)

Surface water must be disposed of via the SuDS Hierarchy which is subject to Building Regulations and NPPF.

No surface water runoff, land drainage or ground water will be accepted into a public sewer that carries sewerage, either directly or indirectly.

As you can see from the attached map, there are no public surface water sewers on site or in the vicinity of the site.

The National Planning Policy Framework (NPPF) mandates that Sustainable Drainage Systems (SuDS) must be incorporated into new developments to manage surface water runoff, mitigate flood risks, and provide additional benefits, including enhanced water quality and green spaces. However, the proposed surface water drainage strategy fails to meet NPPF requirements regarding SuDS and sustainable development. Additionally, it omits compliance with the surface water discharge hierarchy.

In line with the drainage hierarchy outlined in Approved Document H of the Building Regulations, Planning Practice Guidance, and the necessity to address water scarcity, all surface water runoff should aim to be discharged as high up the following hierarchy as feasible:

- Rainwater reuse through harvesting or greywater recycling
- An adequate soakaway or other infiltration system
- A hybrid solution involving infiltration and discharge to a surface water body
- Discharge directly to a surface water body (e.g., an ordinary watercourse)
- Discharge to a surface water sewer, highway drain, or other drainage system

Wessex Water statement on surface water discharge can be accessed via the following link: [wwds-dev063p-surface-water-drainage-policy.pdf/](https://www.wessexwater.co.uk/dev063p-surface-water-drainage-policy.pdf/)

Review of your plan indicates connection to a Highway Drainage. Please liaise with the Wiltshire Council LLFA on the relevant agreements. Surface water drainage strategy to be agreed with the LLFA.

Proposed Layout and conflict with Wessex Water Assets

A review of the our assets map indicates the presence of an existing **300mm diameter water distribution main** crossing the site.

To accommodate this infrastructure, the development layout must be designed to include a dedicated **corridor along the water main's route**, ensuring a **minimum 5-meter standoff** on either side of the pipe.

Additionally:

- **No tree planting** is permitted within **6 meters** of the water main.
- The **mature tree canopy** and **root structure** must not interfere with Wessex Water apparatus or restrict access for maintenance and excavation along the public main.

Ensuring compliance with these requirements is essential for protecting the integrity of the water infrastructure and maintaining access for future operational needs.

The current layout shows trees encroaching the area that should be dedicated for the stand-off. This is not permitted. You would also review positioning of the dwellings.

More information about building near or over minor sewer can be found here: [Building near to or over a minor public sewer](#)

Note: These comments are based upon known circumstances prevailing at the time of writing. A review of the contents of this email is required where 18 months or more have elapsed since issue or in the light of significant changes likely to impact upon the response (e.g. changes in development numbers or phasing). Please email review requests to planning.liaison@wessexwater.co.uk

Best Regards,

Stella Davies

Senior Planning Liaison Engineer



Wessex Water

Operations Centre, Claverton Down, Bath BA2 7WW

Web ytl.com | wessexwater.co.uk



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From: Neil Doble <ndoble@ima-tp.com>
Sent: 20 May 2025 08:14
To: Planning Liaison <planning.liaison@wessexwater.co.uk>
Cc: Dave Sartin <dsartin@ima-tp.com>
Subject: RE: WW DEV RESP PL52480 - 20-058 Bath Road, Warminster

Hi,

Thanks for your email. We have investigated the foul route to the south and there are potential issues with connecting through this route. We are looking at a possible alternative foul connection to the east of the site into Centurion Way (see attached). This would be a pumped to the boundary of the site and then a gravity connection through third party land (via sewer requisitions or through agreement with the land owner) to connect into public foul manhole 5103. We would be looking to offer length of gravity sewer for adoption. Can you confirm if this is also acceptable?

Please note we are looking at the surface water connection shown as a possible alternative surface water connection into highway drainage subject to a S102 application/capacity. We are aware that we would need to reach agreement through the highways authority and Leep for this connection.

Kind regards,
Neil

From: Planning Liaison
Sent: 29 October 2024 11:38
To: Neil Doble
Cc: Dave Sartin
Subject: FW: WW DEV RESP PL52480 - 20-058 Bath Road, Warminster
PL52480

Good Morning Neil,
Thank you for your email.

Water Supply

Subject to application Wessex Water will supply the proposed 9 dwellings via a connection to the 150mm public water main at Bath Road.

For more information and how to apply please see here: [Supply connections \(wessexwater.co.uk\)](https://www.wessexwater.co.uk)

Foul Water Disposal

Subject to application Wessex Water will accept the foul flows only from the proposed 9 dwellings via a connection to the public 150mm foul sewer located in Roman Way.

For more information and how to apply please see here: [Wastewater \(wessexwater.co.uk\)](https://www.wessexwater.co.uk)

Surface Water Drainage

Surface water must be disposed of via the SuDS Hierarchy which is subject to Building Regulations.

Please Note: No surface water runoff, land drainage or ground water will be accepted into a public sewer that carries sewerage, either directly or indirectly.

We note you are proposing surface water discharge from the site to connect into the 300mm public surface water sewer at a rate of 2l/s for the 9 dwellings and this is acceptable to us. However, this must remain the maximum rate for the site for all events including for all 1 in 100 year storm events.

It is also important that there is no ingress of groundwater into our network from the proposed permeable paving.

Kind regards,

Lydia Daniel

Senior Planning Liaison Technician

Wessex Water

Claverton Down Bath BA2 7WW

wessexwater.co.uk



These comments are based upon known circumstances prevailing at the time of writing. A review of the contents of this email is required where 18 months or more have elapsed since issue or in the light of significant changes likely to impact upon the response (e.g. changes in development numbers or phasing). Please email review requests to

planning.liaison@wessexwater.co.uk

From: Neil Doble <ndoble@ima-tp.com>

Sent: Monday, October 28, 2024 12:08 PM

To: Planning Liaison <planning.liaison@wessexwater.co.uk>

Cc: Dave Sartin <dsartin@ima-tp.com>

Subject: 20-058 Bath Road, Warminster

Hi,

We have a site located off Bath Rd, Warminster. The development site is for 9 dwellings with access via the south of the site. Please find attached Conceptual Drainage Strategy drawing for your information.

Grid reference: 386384 , 146132

Postcode: BA12 7RY

We are looking for a capacity check for the following:

Foul Discharge Option 1

Possible connection to MH 5103 located to the east of the development site. Estimated proposed discharge rate 0.45l/s.

Foul Discharge Option 2

Possible connection to private chamber to the south of the development. Estimated discharge rate 0.45l/s.

Surface Water Discharge

Connection to 5901 at 2l/s (Qbar) for the 1:100 + 45% climate change event

If you could advise on capacity within your network. We look forwards to hearing from you.

Many Thanks,

Neil

Neil Doble

Infrastructure Engineer

IMA Transport Planning Ltd

Montreux House, 18A James Street West, Bath. BA1 2BT | Office: 01225 444 011 | DD: 01225 939129

E: ndoble@ima-tp.com | www.ima-tp.com



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Wessex Water Services Limited, Registered in England No 2366648. Registered Office – Wessex Water Operations Centre, Claverton Down Road, Claverton Down, Bath, BA2 7WW

From: Drainage <Drainage@wiltshire.gov.uk>
Sent: 25 March 2026 13:42
To: Neil Doble
Cc: Drainage
Subject: Re: 20-058 Bath Road / Highway Drainage Connection tbc / Warminster

Good afternoon Neil,

Please see below regarding connecting to highway assets:

There is no automatic right to connect to the highway drainage network. Before any such connection can be considered, the following hierarchy for the disposal of surface water must be fully assessed:

1. **Disposal of surface water on-site**

2. **Disposal to a watercourse**

(Note: An LDC will also be required for any connection works.)

3. **Disposal to a public surface water sewer**

4. **Disposal to a public foul sewer**

5. **Potential connection to the highway drainage network**

Wiltshire Council maintains a standing objection to proposals that rely on the highway drainage system as a primary means of surface water disposal. Connection will only be considered where the first four options have been comprehensively investigated and demonstrably proven to be unviable.

As an initial step, we strongly recommend that the proposed site is tested in accordance with **BRE365 Guidance**, to determine whether on-site infiltration—via soakaway or borehole—is feasible. This may significantly reduce the time and effort required at later stages.

If, following BRE365 testing, a connection to the highway drainage system is still to be pursued, the following evidence must be provided:

- **A full CCTV survey** of the drainage system from the proposed connect point to the outfall.
- *(This requirement applies even if the outfall is more than 1 km away.)*
- **Hydraulic modelling** demonstrating that the proposed limited discharge rate will not cause surcharging or downstream capacity issues.
- **A schedule of required remedial or improvement works** to the downstream drainage system, including:
 - Necessary repairs to ensure capacity
 - Upsizing of infrastructure where modelling shows surcharge risk
 - Evidence that any proposed upsizing will resolve the identified issues

Applicants must undertake all necessary investigation, modelling, and design work, including provision of significant on-site attenuation. This information must then be submitted as part of the supporting evidence for consideration.

Even with full supporting documentation, approval is not guaranteed. The highway drainage system exists to drain the highway, not adjacent land, and this principle remains paramount.

Where an existing connection is present, this may support the application; however, Wiltshire Council will likely require attenuation of flows to **below** the existing discharge rate, or removal of the existing connection entirely. As a privately owned asset, Wiltshire Council reserves the right to determine an appropriate connection rate to protect the functionality of the highway drainage system. All other hierarchy options must still be fully exhausted before this will be considered.

If an alternative method of surface water disposal exists, it must be investigated and evidenced first. This will generally weigh against permitting use of the highway drainage network. Supporting evidence demonstrating that infiltration is not viable—such as BRE365 test results—will also be required.

Finally, if the site is currently discharging surface water onto the highway, this may constitute an offence under **Section 163 of the Highways Act**.

Many Thanks,

Harry McCall
Drainage Engineer
Highways Asset Management and Commissioning

Wiltshire Council

From: Neil Doble <ndoble@ima-tp.com>
Sent: 19 March 2026 10:38
To: Drainage <Drainage@wiltshire.gov.uk>
Subject: FW: 20-058 Bath Road / Highway Drainage Connection tbc / Warminster

You don't often get email from ndoble@ima-tp.com. [Learn why this is important](#)
Hi,

I wonder if you could assist with our enquiry noted below as I don't appear to have received a response.

Thanks,

Neil

From: Flower, Kerry <Kerry.Flower@wiltshire.gov.uk>
Sent: 15 December 2025 11:13
To: Drainage <Drainage@wiltshire.gov.uk>
Cc: Neil Doble <ndoble@ima-tp.com>
Subject: FW: 20-058 Bath Road

Good morning

Please can you assist Mr Noble with the attached enquiry.

Kind regards

Neil Doble

From: richdesk <richdesk@leeputilities.co.uk>
Sent: 25 March 2026 09:35
To: Neil Doble
Subject: C2 Request Submitted ID: 22165
Attachments: C2 - 22165 Bath Road.png

Hello,

Thank you for your enquiry.

Our records confirm that there are Leep Utilities assets and/or cables located within the area you searched. Please take extra care when planning and carrying out works in this location.

Critical Safety Notice:

You must use approved Cable Avoidance Tools (CAT) and follow safe excavation practices in line with HSG47 – Avoiding Danger from Underground Services. This requirement applies even where assets are shown on the plan.

Key points to note:

- The attached plan is indicative only – asset positions are approximate and should not be treated as exact.
- The provided plan represent the presence of Leep Utilities assets. Additional assets (including assets from other organisations) may exist nearby that are not individually shown on our provided plan.
- The Leep Utilities Connections Map used to identify Leep Utilities assets are based on postcode areas, not individual addresses. This means that there might be assets in nearby postcodes but not the provided apparatus postcode. If you are unsure, please submit a fresh application for any other postcodes related to the planned works for your request.

Kind regards,

Leep Utilities Business Operations Support Team

Incident ID: 22165
Category: C2 REQUEST
Current Status: Assigned
Date Logged: Mar 19 2026 10:20AM
Summary: C2 Request Submitted
Details:

A new C2 has been submitted. Below are the inputs of the requester via the CSP:

Postal Address Line 1 IMA Transport Planning

Postal Address Line 2 Montreux House

Postal Address Line 3 Bath

Postal Address Line 4 Bath

Postcode for Postal Address BA1 2BT

Email address ndoble@ima-tp.com

Apparatus Postcode BA12 8PB

Northings & Eastings 386422 , 145974

Please provide any additional information or relevant queries here We understand that there are surface water and foul water sewers constructed within the area shown, which are going to be adopted by yourselves.

Was a Leep Asset found when searching the provided map? Yes

Please provide the date the work is set to commence 19/01/2027

Apparatus Address Line 2 Bath Road

Apparatus Address Line 3 Warminster

Submit your request

Kind regards,

Leep Utilities Business Operations Support Team

richdesk

Take a look at our [website](#)

e: richdesk@leeputilities.co.uk

w: www.leeputilities.co.uk

[Privacy Notice](#)

Leep uti



Leep Holdings (Utilities) Limited : Registered in England & Wales : Company Number 06729159 : Registered Office Metro, 33 Trafford Road, Manchester, Salford, M5 3NN

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DRAINAGE LEGEND



Surface water manhole to be adopted by Wessex Water



Surface water sewer to be adopted by Wessex Water



Surface water catchpit manhole to be adopted by Wessex Water



Surface water manhole to be adopted by County Council



Surface water highway drain to be adopted by County Council



Flood exceedance route



Foul water sewer to be adopted by County Council



Foul water manhole to be adopted by County Council



Maximum hydraulic modeled 1 in 10 flood extent (Drawing No. PB31/05)



Maximum hydraulic modeled 1 in 10 flood extent (Drawing No. PB31/05 Rev A)

[FFL 110.00]

Proposed finished floor level



Site Boundary



Application Boundary



1 in 100 + 40CC Fluvial Flood Model corresponding flood levels taken from the West-of-Warminster ISIS-TUFLOW AEG, found in document number 'PB31/05 Addendum (Part 1)'





Appendix F

Infiltration Testing

Mr Charles Woodhead
Greatworth Property Managers Ltd
127a High Street
Hungerford
RG17 0DL

14th June 2023

Dear Mr Woodhead

Re: Brick Hill Farm, Warminster – In-situ Infiltration and Percolation Testing

As instructed we attended the above site on the 12th and 13th June 2023 to undertake four in-situ infiltration and percolation tests at the general locations indicated by your engineer, as shown on the attached annotated plan, following agreement with Mr Ellis the site owner.

Summary of Site Works

The purpose of the works was to obtain the information necessary to support any future drainage solution discharging to land and to determine if the groundwater table is likely to be an issue.

For surface water discharge design four trial pits (SA01 to SA04), as detailed in Table 1, were dug to carryout infiltration tests in accordance with the procedures outlined in BRE Digest 365 Soakaway Design 1991. This test requires the time for the water level to drop from 25% to 75% to be recorded in three consecutive tests in order to calculate the infiltration rate.

Table 1 – Soakaway Trial Pit Dimensions

Date of Test	Trial Pit ref	Pit length	Pit width	Pit depth
12 th March 2022	SA01	2.30m	0.80m	2.25m
	SA02	2.00m	0.80m	2.25m
	SA03	2.10m	0.80m	2.30m
	SA04	2.60m	0.80m	2.20m

For the design of the drainage field for septic tank discharge a further four shallow pits, as detailed in Table 2, were also dug near the soakaway trial pits in which there was a 300mm x 300mm sump in the base. This is the approach required for the BS6297 percolation test to calculate the Vp value, which also uses the time for the sump to drain from 25% to 75% repeated three times in each pit.

Table 2 – Percolation Test Pits Depths Dimensions

Date Dug	Percolation Pit ref	Base depth
12 th March 2022	PT01	1.30m
	PT02	1.35m
	PT03	1.40m
	PT04	1.50m

As can be seen from the attached selection of photographs all the trial pits revealed a layer of clayey sandy topsoil resting directly on the natural chalk apart from trial pit SA01, which revealed a thin band of clay below the topsoil.

BRE365 - Infiltration Results

Attached are copies of the infiltration record sheets that unfortunately, as summarised in the table below, show the soils are not to be suitable for a soakaway drainage solution as none of the tests were completed in the time available.

Table 3 - Summary of the Infiltration Test Results based on BRE365 Method

Trial Pit	Test Number	Depth to Base (m)	Depth to Standing Water (m)	Total Water Level Drop (m)	Total Time Taken (min)	Infiltration Rate (m/s)
SA01	Round 1	2.25	Dry	0.045	240	n/a
SA02	Round 1	2.25	Dry	0.060	240	n/a
SA03	Round 1	2.30	Dry	0.090	330	n/a
SA04	Round 1	2.20	Dry	0.070	420	n/a

Also based upon the rate the pits were draining none of them would drain within 24 hours, which is a requirement for a soakaway design. Although, the soils did allow some water to infiltrate, which based upon the surface area of the test pits and recorded level drop the infiltration rates were in the region of 2×10^{-7} m/s to 6×10^{-7} m/s.

BS6297 - Percolation Results

As part of the test procedure for the percolation test the 300mm x 300mm x 300mm sumps in the base of each pit is filled with water and left overnight prior to start test. Unfortunately, as shown in the table below and attached photographs, three of the four sumps were found to still contain water the following morning and therefore were unsuitable for being used for the test.

Table 4 - Summary of the Percolation Test Results

Test Pit	Water level drop overnight	Test Number	Time to drop from 25-75%	Vp (s/mm)
PT01	65mm	Test abandoned as sump did not drain overnight		
PT02	300mm DRY	Round 1	Only dropped a total of 68.3% in 9 hours 20 minutes	n/a
PT03	100mm	Test abandoned as sump did not drain overnight		
PT04	110mm	Test abandoned as sump did not drain overnight		

The one drained sump was refilled to start the percolation test but unfortunately did not achieve the required 75% drop in level over a period of nearly 9½ hours. Therefore, the test has to be deemed unsuccessful because the calculated Vp based upon the fall achieved is 179s/mm, which exceeds the maximum allowable 100 s/mm.

Groundwater Level

A trial pit was excavated in the lowest south-western corner of the site but as can be seen from the attached photograph, the chalk was very hard and had to be broken out as blocks. The pit was widened to provide more working room but once it reached 2.7m deep the JCB no longer had the power extend the pit any deeper, however the pit was dry.

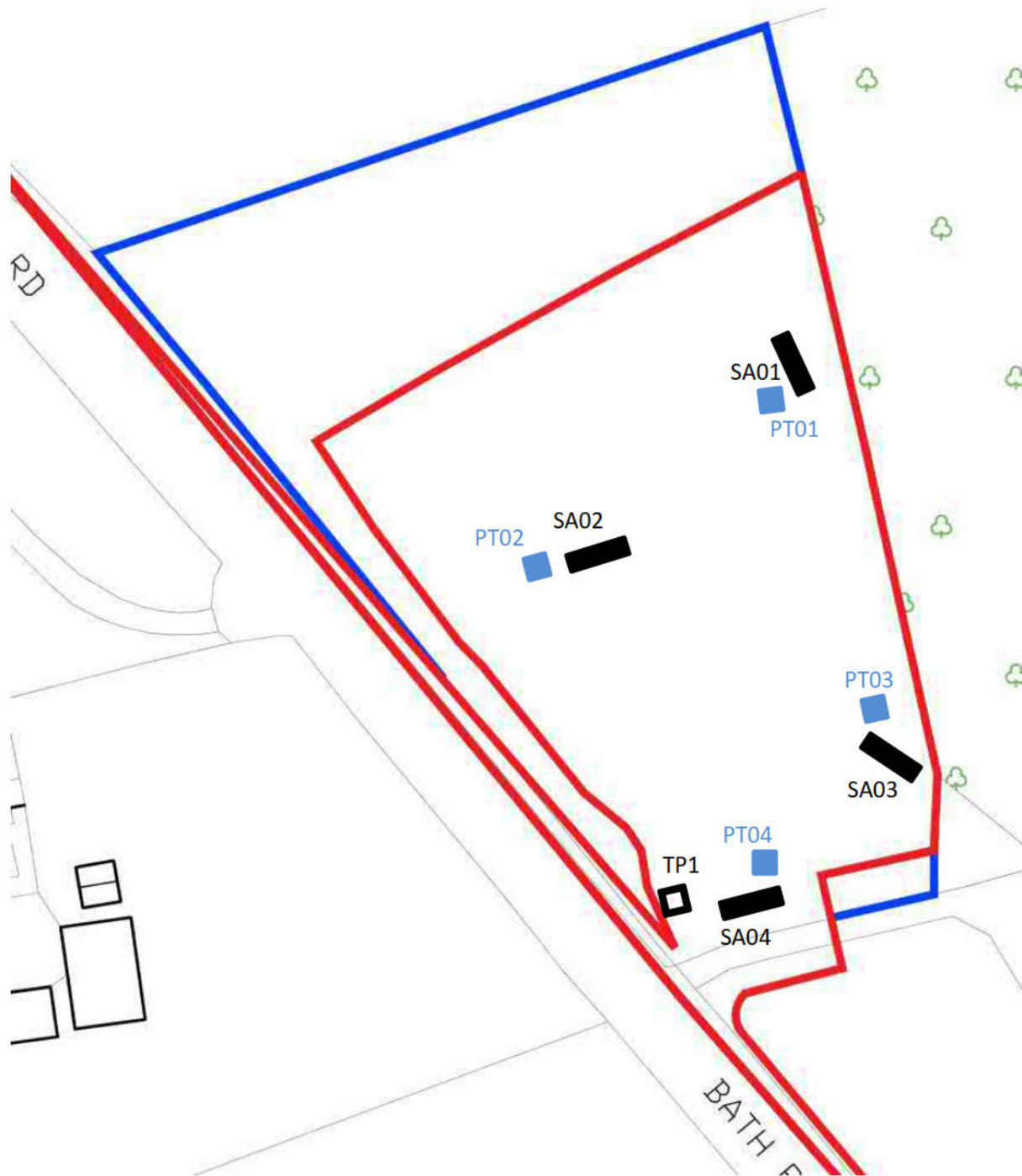
Conclusion

Although the natural soil is chalk and it has been shown to have limited capacity to permit the infiltration of water the rates achieved are insufficient to support the design of a soakaway drainage solution for surface water or a drainage field for the discharge from a septic tank.

I hope the above and attached are sufficiently detailed but if you have any queries or would like to discuss the results further then please do not hesitate to contact me.



Richard Blaney
for Forge Environmental Management Ltd



KEY



Location of BRE365 infiltration test pit



Position of BS6297 percolation test pit



Trial Pit position

PROJECT

Brick Hill Farm, Warminster

CLIENT

Greatworth Property Managers Ltd

Date : 14th June 2023

Scale : Not To Scale

DRAWING TITLE

Infiltration and Percolation Test Locations

DRAWING No.

BRI384.D/001



The Forge
Lower Vagg
Chilthorne Domer
Yeovil
Somerset
BA21 3PY
Tel : 01935 840 346



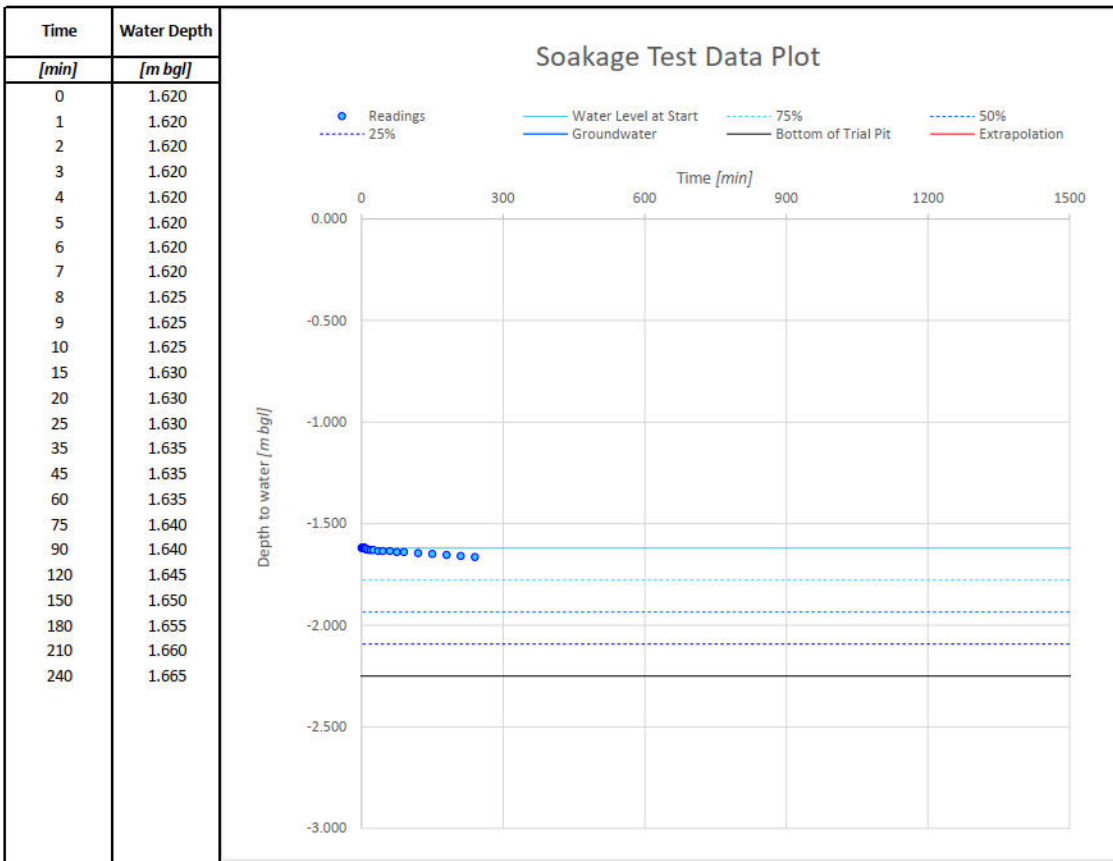
SOIL INFILTRATION RATE

Client: Greatworth Property Managers Ltd
Project Title: Brick Hill Farm, Warminster
Project No: BRI384.S

Trial Pit No: SA01
Test No: 1
Date: 12th June 2023
Logged by: RB

Length [m]: 2.30
Depth [m]: 2.25
Width [m]: 0.80
Groundwater [m bgl]:

Ground	Conditions	from - to [m bgl]		Description
		0.000	0.300	Dark Brown clayey silty SAND (Topsoil)
		0.300	0.600	Brown sandy CLAY
		0.600	2.250	White CHALK



Soil Infiltration Rate [m/s]:
$$f = \frac{V_{p75-25}}{a_{s50} \times t_{p75-25}}$$

with:

V_{p75-25} as Effective Storage Volume of water between 75% and 25% effective storage depth [m³] 0.58

a_{s50} as Internal Surface Area of the soakage trial pit up to 50% storage depth including the base area [m²] 3.79

t_{p75-25} as Time for the water level to fall from 75% to 25% effective storage depth [s] n/a

Soil Infiltration Rate [m/s]: n/a

Remarks: Result could not be calculated. Soakage test failed.



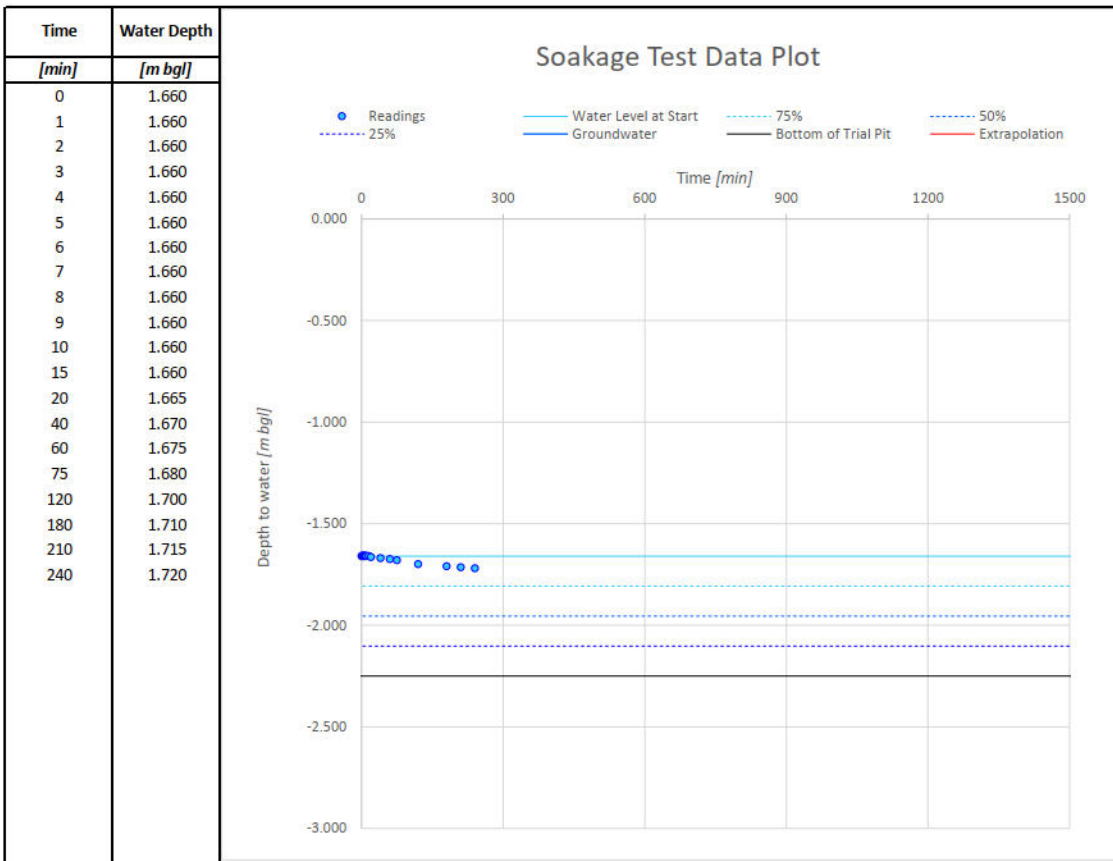
SOIL INFILTRATION RATE

Client: Greatworth Property Managers Ltd
Project Title: Brick Hill Farm, Warminster
Project No: BRI384.S

Trial Pit No: SA02
Test No: 1
Date: 12th June 2023
Logged by: RB

Length [m]: 2.00
Depth [m]: 2.25
Width [m]: 0.80
Groundwater [m bgl]:

Ground	Conditions	from - to [m bgl]		Description
		0.000	0.250	Dark Brown clayey silty SAND (Topsoil)
		0.250	2.250	White CHALK



Soil Infiltration Rate [m/s]:
$$f = \frac{V_{p75-25}}{a_{s50} \times t_{p75-25}}$$

with:

V_{p75-25} as Effective Storage Volume of water between 75% and 25% effective storage depth [m³] 0.47

a_{s50} as Internal Surface Area of the soakage trial pit up to 50% storage depth including the base area [m²] 3.25

t_{p75-25} as Time for the water level to fall from 75% to 25% effective storage depth [s] n/a

Soil Infiltration Rate [m/s]: n/a

Remarks: Result could not be calculated. Soakage test failed.



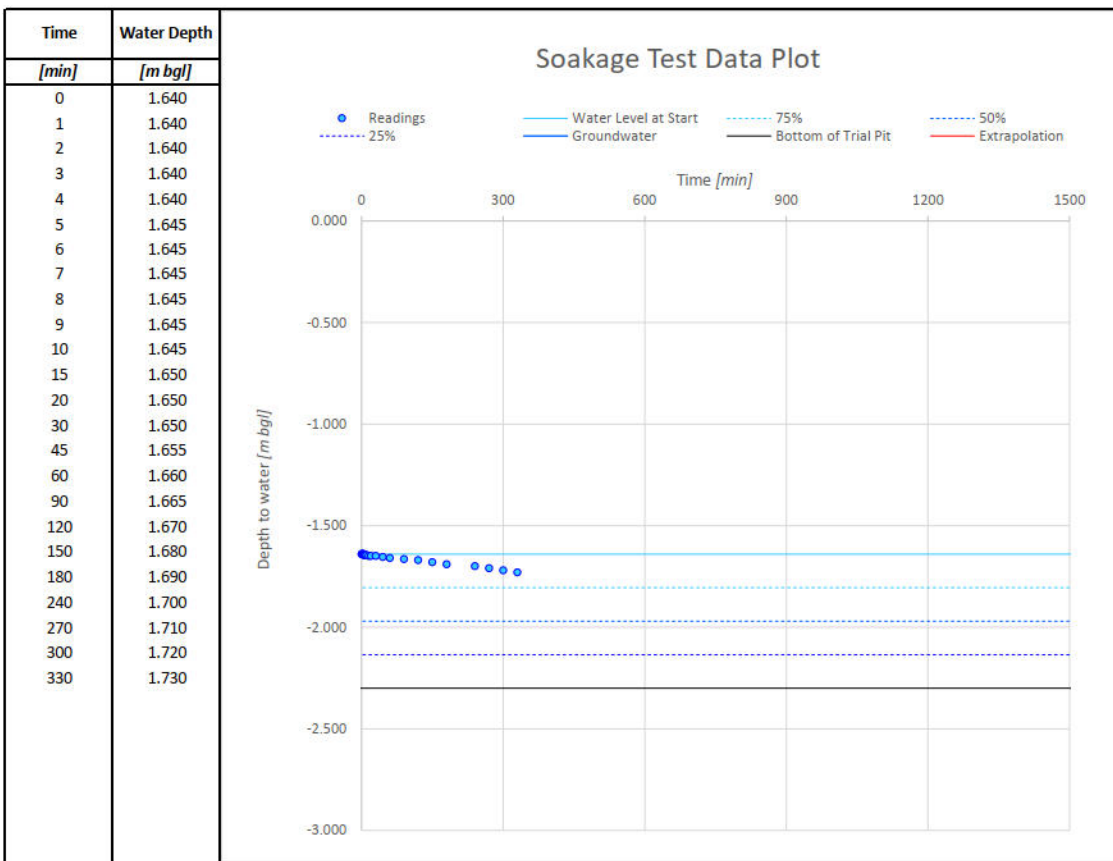
SOIL INFILTRATION RATE

Client: Greatworth Property Managers Ltd
Project Title: Brick Hill Farm, Warminster
Project No: BRI384.S

Trial Pit No: SA02
Test No: 1
Date: 12th June 2023
Logged by: RB

Length [m]: 2.10
Depth [m]: 2.30
Width [m]: 0.80
Groundwater [m bgl]:

Ground	Conditions	from - to [m bgl]		Description
		0.000	0.450	Dark Brown clayey silty SAND (Topsoil)
		0.450	2.250	White CHALK



Soil Infiltration Rate [m/s]:
$$f = \frac{V_{p75-25}}{a_{s50} \times t_{p75-25}}$$

with:

V_{p75-25} as Effective Storage Volume of water between 75% and 25% effective storage depth [m³] 0.55

a_{s50} as Internal Surface Area of the soakage trial pit up to 50% storage depth including the base area [m²] 3.59

t_{p75-25} as Time for the water level to fall from 75% to 25% effective storage depth [s] n/a

Soil Infiltration Rate [m/s]: n/a

Remarks: Result could not be calculated. Soakage test failed.

Digging the pit hit very hard band in southern end was pit was extended northwards and dig continued. The test was undertaken in deeper northern section



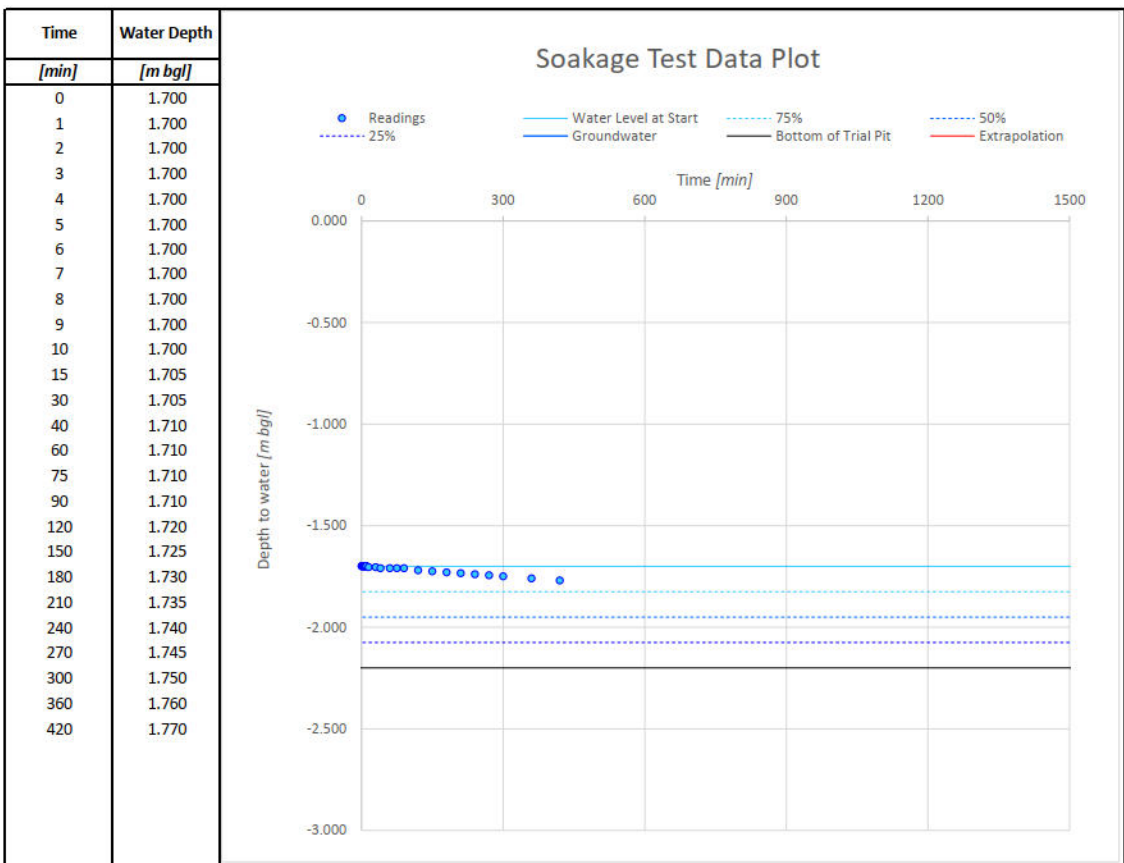
SOIL INFILTRATION RATE

Client: Greatworth Property Managers Ltd
Project Title: Brick Hill Farm, Warminster
Project No: BRI384.S

Trial Pit No: SA02
Test No: 1
Date: 12th June 2023
Logged by: RB

Length [m]: 2.60
Depth [m]: 2.20
Width [m]: 0.80
Groundwater [m bgl]:

Ground	Conditions	from - to [m bgl]		Description
		0.000	0.400	Dark Brown clayey silty SAND (Topsoil)
		0.400	2.250	White CHALK



Soil Infiltration Rate [m/s]:
$$f = \frac{V_{p75-25}}{a_{s50} \times t_{p75-25}}$$

with:

V_{p75-25} as Effective Storage Volume of water between 75% and 25% effective storage depth [m³] 0.52

a_{s50} as Internal Surface Area of the soakage trial pit up to 50% storage depth including the base area [m²] 3.78

t_{p75-25} as Time for the water level to fall from 75% to 25% effective storage depth [s] n/a

Soil Infiltration Rate [m/s]: n/a

Remarks: Result could not be calculated. Soakage test failed.

Digging the pit hit very hard band in southern end was pit was extended northwards and dig continued. The test was undertaken in deeper northern section



SOIL PERCOLATION RESULT

Client : Greatworth Property Managers Ltd
Date of Tests : 12th June 2023
Project Title : Brick Hill Farm, Warminster
Project No : BRI384.S

Test Pit No : SP02

Depth of pit (m) : 1.35
Depth to water level (m) :

Ground Conditions	From to (m bgl)		Description
	0.000	0.400	Dark brown clayey silty SAND (topsoil)
	0.400	1.350	White CHALK

Test No	Times				Time Lapse 25-75% drop			Vp (s/mm)
	Start	25% drop	75% drop	Dry	hours	minutes	second	
1	07:25	09:17	-	-	-	-	-	n/a
2								
3								
Average Vp =								n/a

Comments

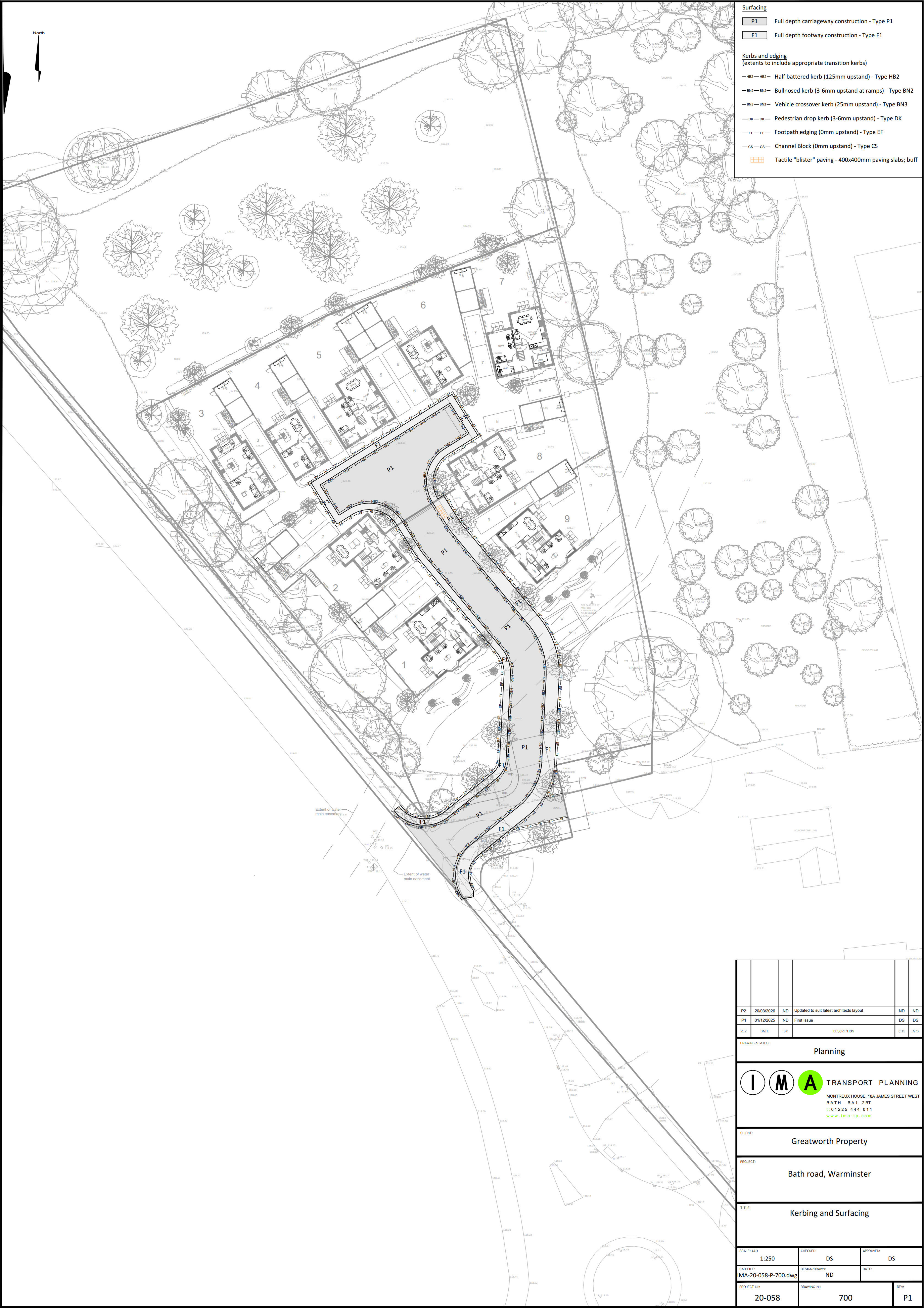
The test was run until 16:45 (9hours 20mins) when the the level had dropped to 205mm (i.e only achieved 68.3% drop). Therefore the test was abandoned.

Although not compliant with BS6297 for the fall from 25% to 68.3% the Vp = 179 > 100 = fails



Appendix G

Construction Details



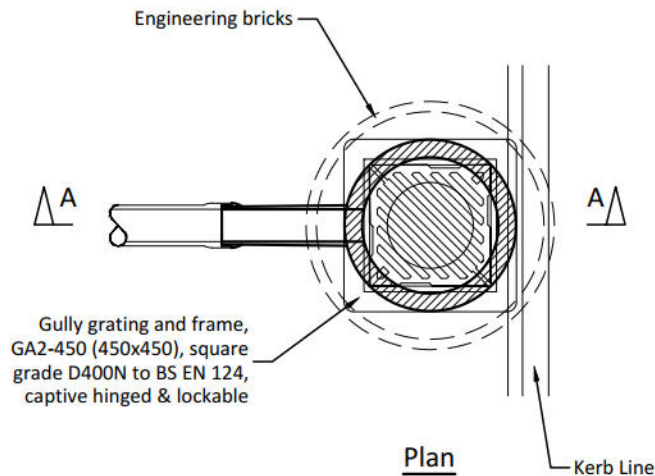
Surfacing

- P1** Full depth carriageway construction - Type P1
- F1** Full depth footway construction - Type F1

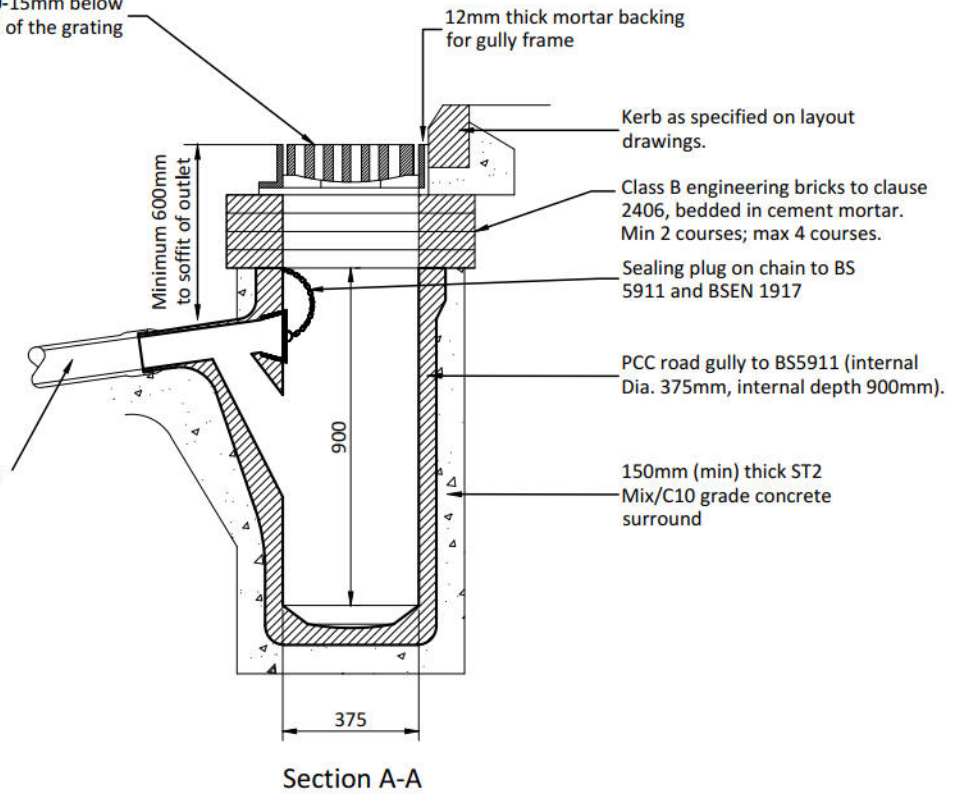
Kerbs and edging
(extends to include appropriate transition kerbs)

- HB2** — **HB2** — Half battered kerb (125mm upstand) - Type HB2
- BN2** — **BN2** — Bullnosed kerb (3-6mm upstand at ramps) - Type BN2
- BN3** — **BN3** — Vehicle crossover kerb (25mm upstand) - Type BN3
- DK** — **DK** — Pedestrian drop kerb (3-6mm upstand) - Type DK
- EF** — **EF** — Footpath edging (0mm upstand) - Type EF
- CS** — **CS** — Channel Block (0mm upstand) - Type CS
- Tactile "blister" paving - 400x400mm paving slabs; buff

P2	20/03/2026	ND	Updated to suit latest architects layout	ND	ND
P1	01/12/2025	ND	First Issue	DS	DS
REV	DATE	BY	DESCRIPTION	CHK	APD
DRAWING STATUS:					
Planning					
I M A TRANSPORT PLANNING MONTREUX HOUSE, 18A JAMES STREET WEST BATH BA1 2BT T: 01225 444 011 www.ima-tp.com					
CLIENT:					
Greatworth Property					
PROJECT:					
Bath road, Warminster					
TITLE:					
Kerbing and Surfacing					
SCALE: (A4)		CHECKED:		APPROVED:	
1:250		DS		DS	
CAD FILE:		DESIGN/DRAWN:		DATE:	
IMA-20-058-P-700.dwg		ND			
PROJECT NO:		DRAWING NO:			REV:
20-058		700			P1



Grating and frame shall be set 10-15mm below finished road level at the front of the grating



150mm outlet surround with 150mm thick concrete

Notes:

1. All dimensions in millimeters unless stated otherwise.
2. All works are to comply with the Water Authority & Local Authority standard details and specification, as well as the Sewerage Sector Guidance Appendix C - Design and Construction Guidance.
3. Gully gratings are to have ribless frames and manhole covers webs at least 30mm below the finished cover level, suitable for the abutting of block paving.
4. Gully gratings shall be Class D400, non-rocking & captive hinged, with hinge located at the on-coming traffic end of grating.
5. Gully pots should be positioned such that the inside edge of the pot lines up with the front of the kerb with a tolerance of + or - 50mm.
6. Detail to be read in conjunction with Wiltshire Council's Standard detail drawing WC-HCD-500-D001_A.

For Planning

I M A TRANSPORT PLANNING

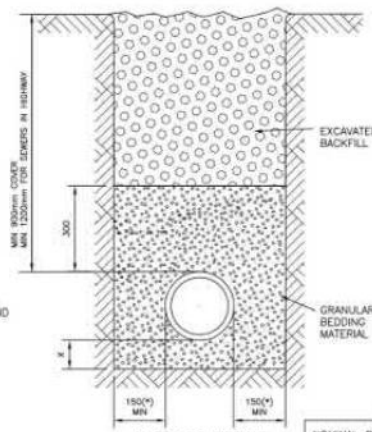
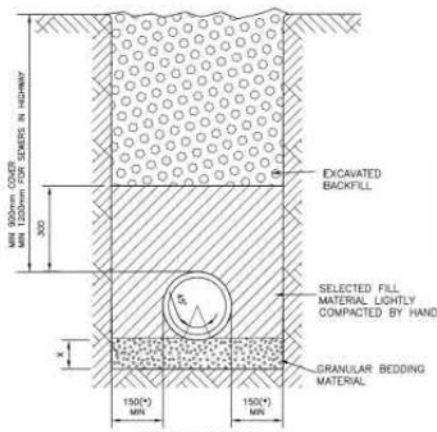
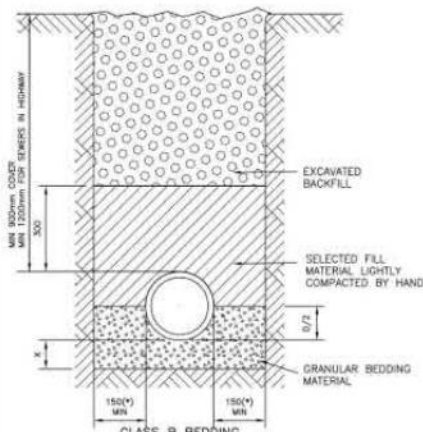
MONTREUX HOUSE, 18A JAMES STREET WEST
BATH BA1 2BT
T: 01225 444 011
www.ima-tp.com

CLIENT:
Greatworth Property

PROJECT:
Bath Road, Warminster

TITLE:
Standard Construction Details
Trapped Gully Detail

SCALE: (A4) NTS	CHECKED: DS	APPROVED: DS
CAD FILE: Standard Details.dwg	DESIGN/DRAWN: ND	DATE: 08/12/25
PROJECT No: 20-058	DRAWING No: 900501	REV: P01



NOTES

1. * = 150 FOR PIPES DIA UP TO 300mm.
* = 200mm FOR PIPE DIA OVER 300mm#
BASED ON NARROW TRENCH THEORY:
DESIGNER TO CONFIRM FOR SPECIFIC
PIPELINE.
2. BACKFILL MATERIAL TO BE SELECTED
EXCAVATED MATERIAL WHERE THIS MATERIAL
COMPLIES WITH CEMH. ADDITIONAL MATERIAL
TO MAKE UP ANY DEFICIENCY TO BE
GRANULAR SUB-BASE TYPE 1 UNLESS STATED
OTHERWISE.
3. IN WET, SOFT, OR SILTY SOILS, WHERE
LATERAL SUPPORT IS NOT OBTAINED OR
WHERE FINES MAY MIGRATE, THE GRANULAR
BEDDING MATERIAL SHALL BE SURROUNDED BY
GEOTEXTILE FABRIC WITH MIN 200 OVERLAP.
4. NOT ACCEPTABLE FOR USE ON SECTION
104 SITES
5. TRENCH BACKFILL TO MEET HIGHWAY
SPECIFICATION WHEN LAID IN ROAD OR
FOOTPATH
6. DIMENSION IN MILLIMETRES UNLESS OTHERWISE
STATED
7. DEPTH OF COVER REFER TO SEWERS
FOR ADOPTION 6th EDITION CLAUSE 2.10

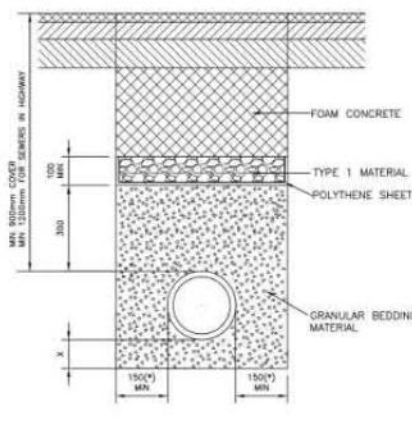
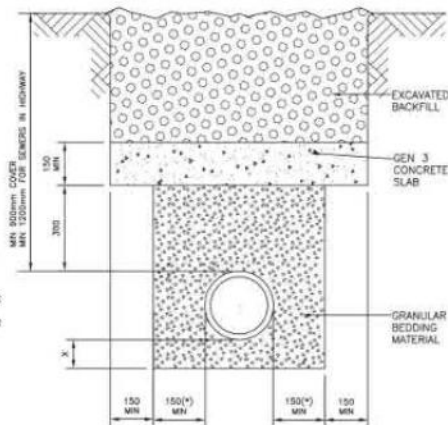
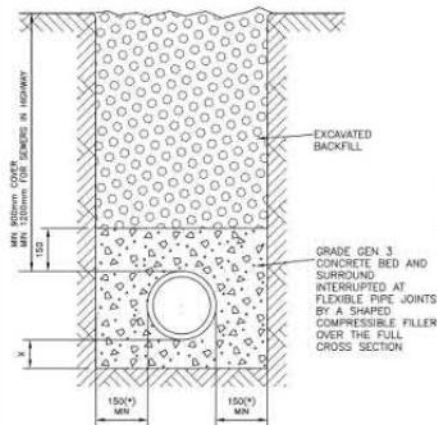
USE OF GRANULAR BEDDING MATERIAL

NOMINAL BORE OF PIPE (mm)	AGGREGATE SIZE (mm)	
	SINGLE SIZED	GRADED
100	10	14 TO 5
150	10 OR 14	14 TO 5 OR 20 TO 5
225-300	10, 14 OR 20	14 TO 5 OR 20 TO 5
375-525	14 OR 20	14 TO 5 OR 20 TO 5
EXCEEDING 525	14, 20 OR 40	14 TO 5 OR 20 TO 5, 40 TO 5

DIM X ≥ 100mm FOR PIPES ≤ 100mm#

DIM X ≥ 150mm FOR PIPES > 100mm#

DIM X, 200mm FOR PIPES TRENCHES IN ROCK



J	COVER DEPTHS FOR SEWERS UPDATED	CAM	CAM	LDH	06/06/2010
I	MIN COVER DIMS UPDATED	CAM	CAM	LDH	25/11/2009
H		CN	CAM	LDH	28/05/2009
MN	REVISIONS	DRN	CHK	APP	DATE

TYPICAL PIPE BEDDING DETAILS FOR PIPES UP TO 800mm DIA

STANDARD DRAWING

ORIGINAL DRAWING SIZE A2		SCALES	
INITIALS	DATE	1:10	
DESIGNED: SC	23/04/2007		
DRAWN BY: SC	23/04/2007		
DRAWING NUMBER	STD/220	REV	J

Yesssex Water Services Ltd

For Planning



TRANSPORT PLANNING

MONTREUX HOUSE, 18A JAMES STREET WEST
BATH BA1 2BT
T: 01225 444 011
www.ima-tp.com

CLIENT:

Greatworth Property

PROJECT:

Bath Road, Warminster

TITLE:

Standard Construction Details

Pipe Bedding Details

SCALE: (A4)
NTS

CHECKED:
DS

APPROVED:
DS

CAD FILE:
Standard Details.dwg

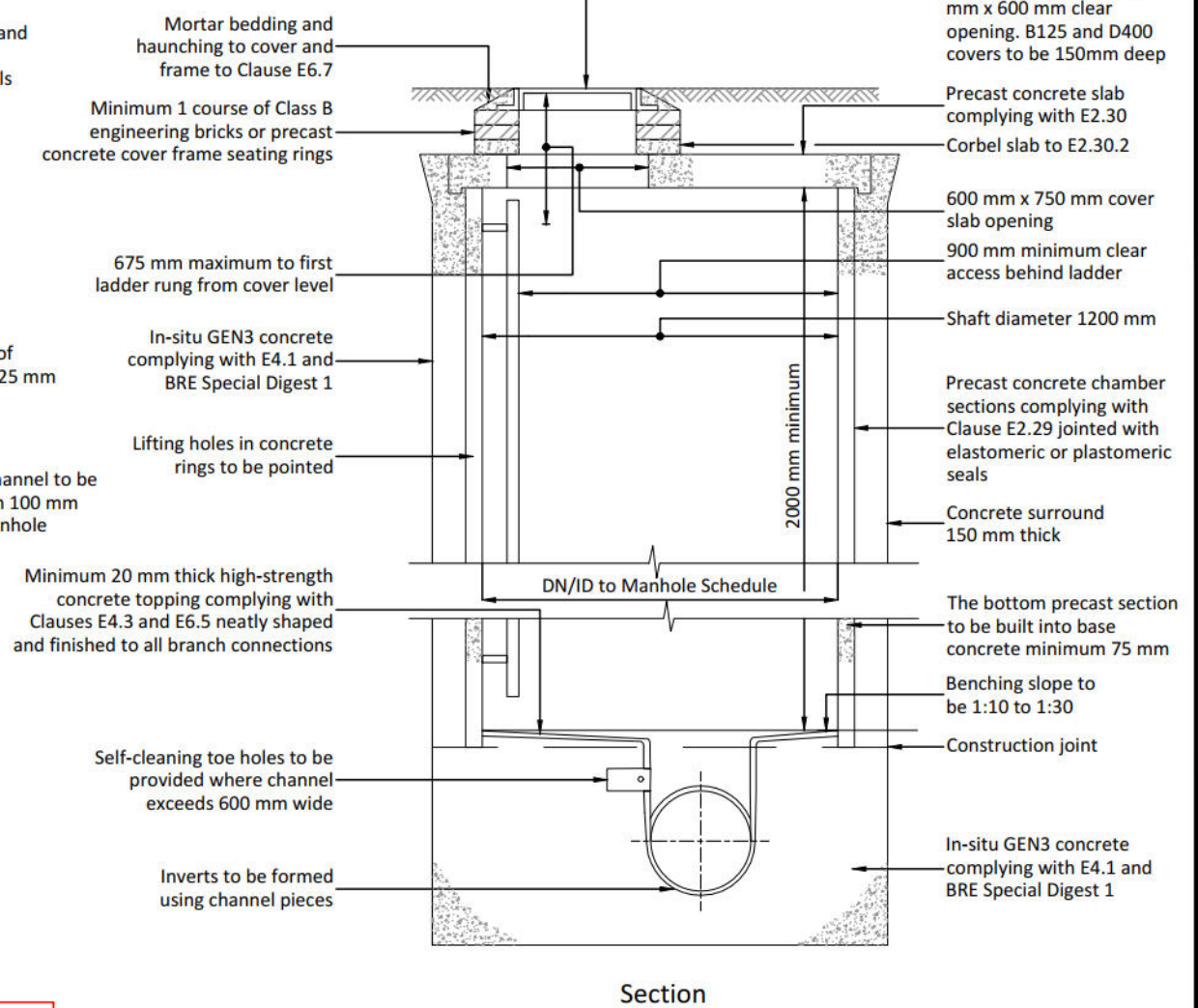
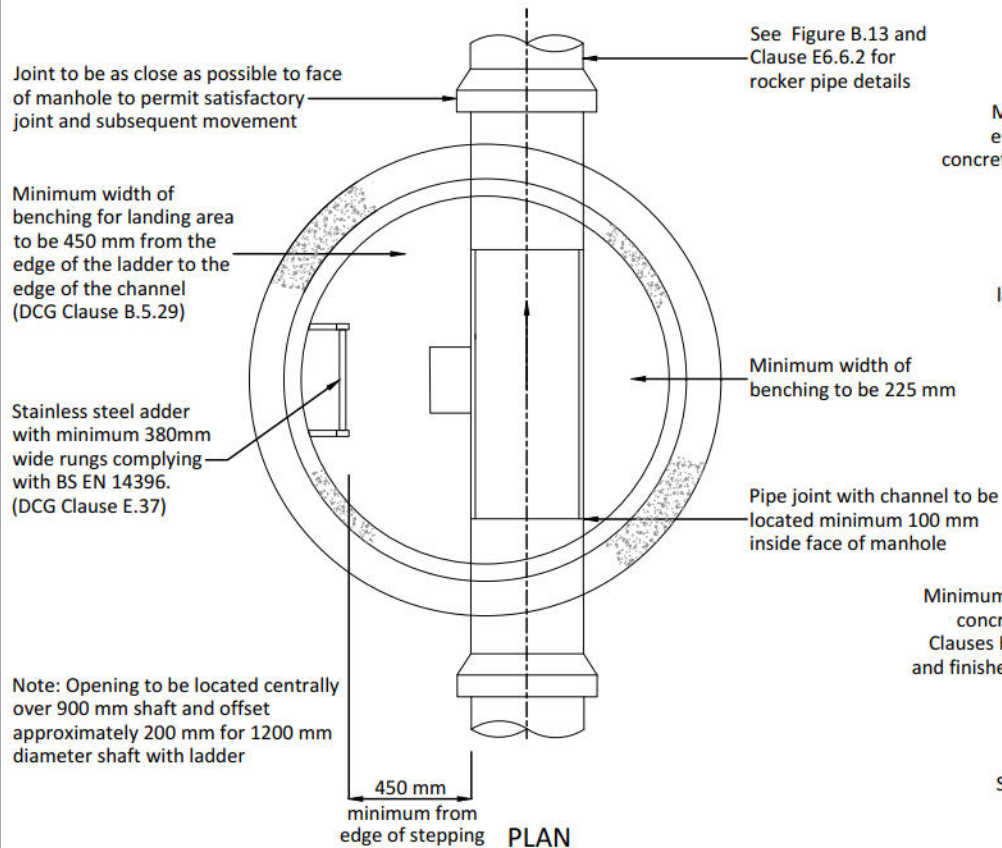
DESIGN/DRAWN:
ND

DATE:
08/12/25

PROJECT No:
20-058

DRAWING No:
0900502

REV:
P01



Notes:

- All works are to comply with the Water Authority & Local Authority standard details and specification, as well as the Sewerage Sector Guidance Appendix C - Design and Construction Guidance.
- Clause references can be found in the Design and Construction Guidance' (DCG).

For Planning

I M A TRANSPORT PLANNING

MONTREUX HOUSE, 18A JAMES STREET WEST
BATH BA1 2BT
T: 01225 444 011
www.ima-tp.com

CLIENT: Greatworth Property

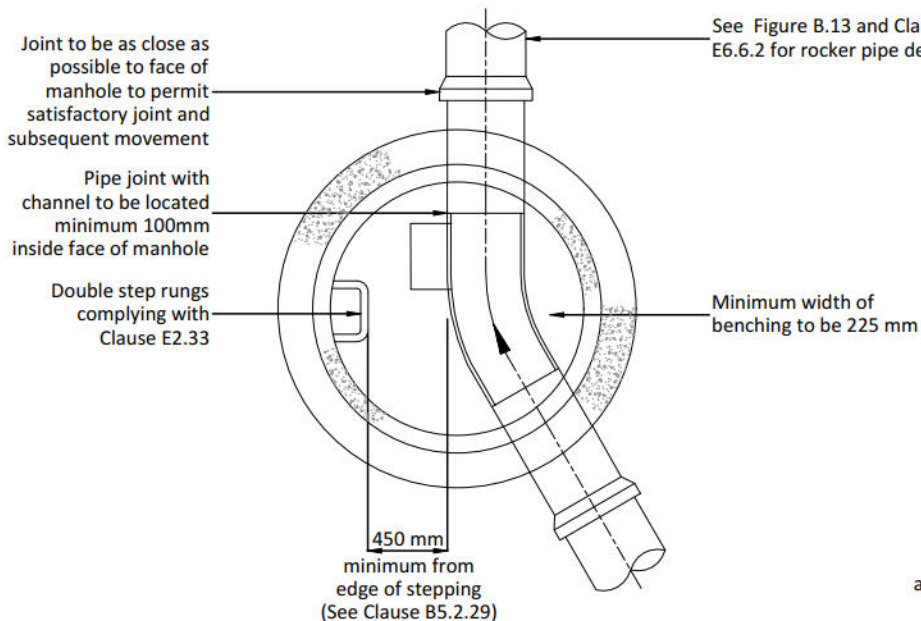
PROJECT: Bath Road, Warminster

TITLE: Standard Construction Details

Typical Manhole Detail - Type A

Depth to pipe soffit from 3m to 6m

SCALE: (A4) NTS	CHECKED: DS	APPROVED: DS
CAD FILE: Standard Details.dwg	DESIGN/DRAWN: ND	DATE: 08/12/25
PROJECT No: 20-058	DRAWING No: 0900503	REV: P01

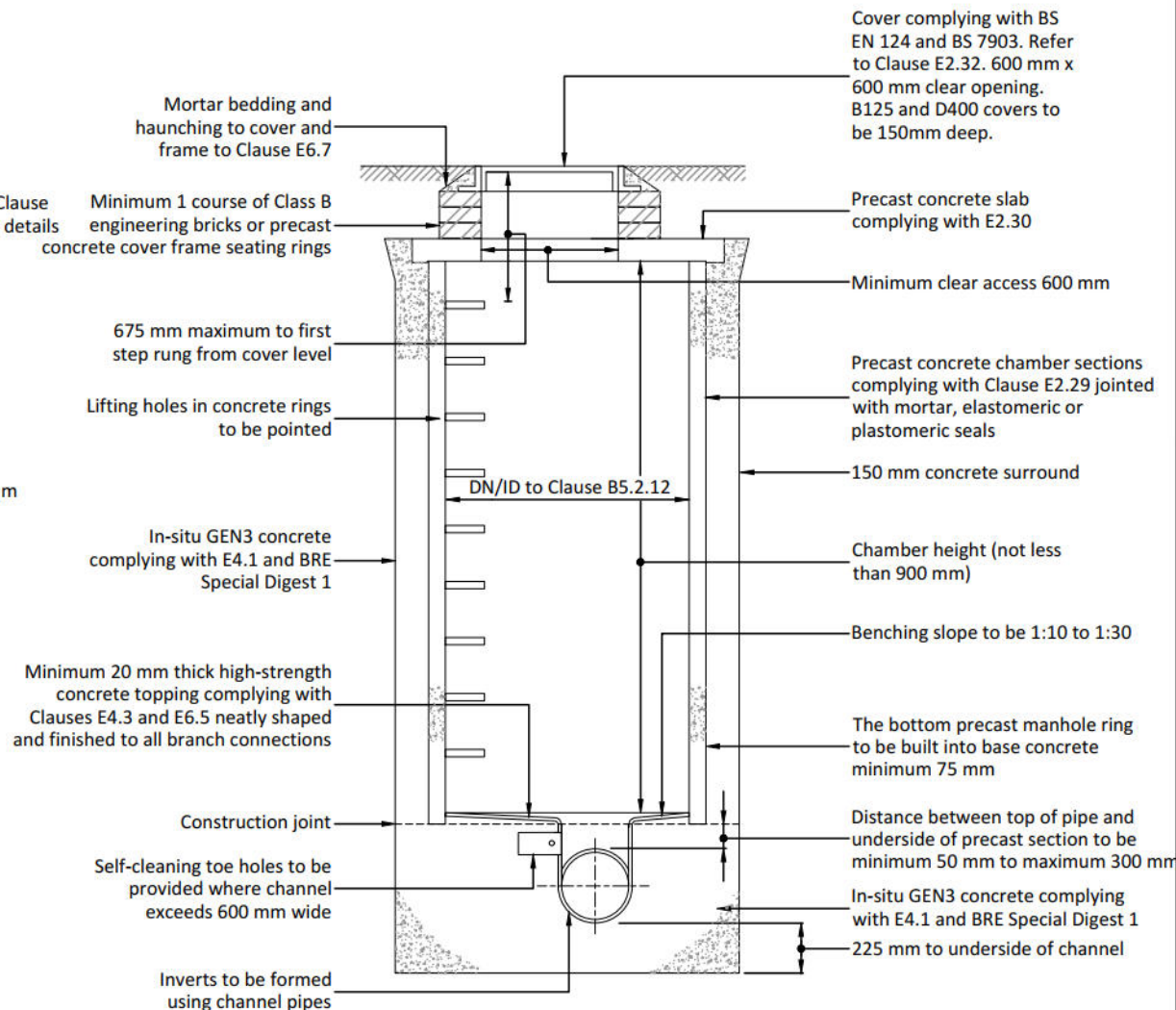


PLAN

For Planning

Notes:

- All works are to comply with the Water Authority & Local Authority standard details and specification, as well as the Sewerage Sector Guidance Appendix C - Design and Construction Guidance.
- Clause references can be found in the Design and Construction Guidance' (DCG).



Section

I M A TRANSPORT PLANNING

MONTREUX HOUSE, 18A JAMES STREET WEST
BATH BA1 2BT
T: 01225 444 011
www.ima-tp.com

CLIENT: Greatworth Property

PROJECT: Bath Road, Warminster

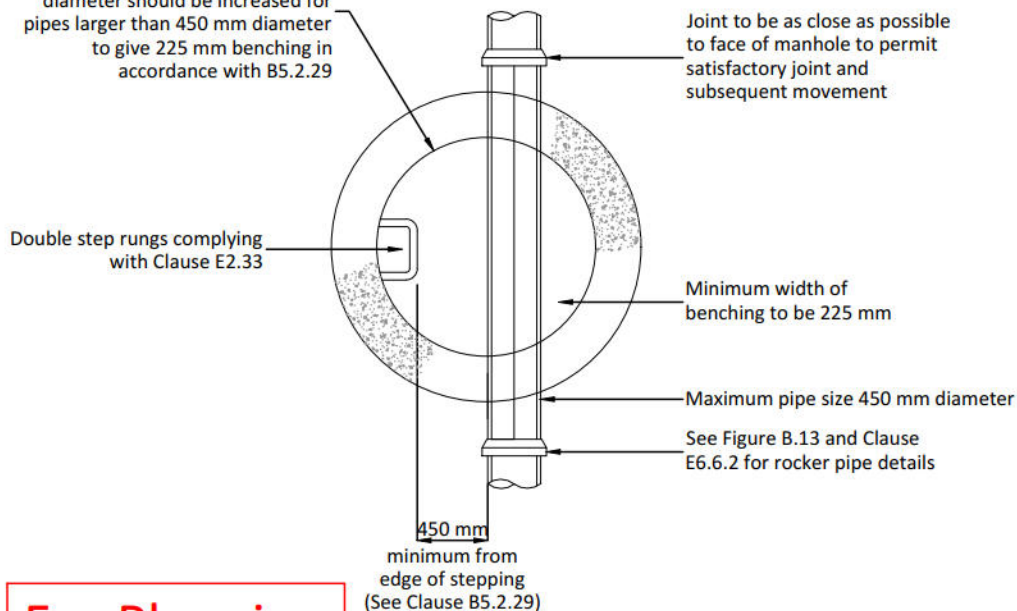
TITLE: Standard Construction Details

Typical Manhole Detail - Type B

Depth to pipe soffit from 1.5m to 3m

SCALE: (A4) NTS	CHECKED: DS	APPROVED: DS
CAD FILE: Standard Details.dwg	DESIGN/DRAWN: ND	DATE: 08/12/25
PROJECT No: 20-058	DRAWING No: 0900504	REV: P01

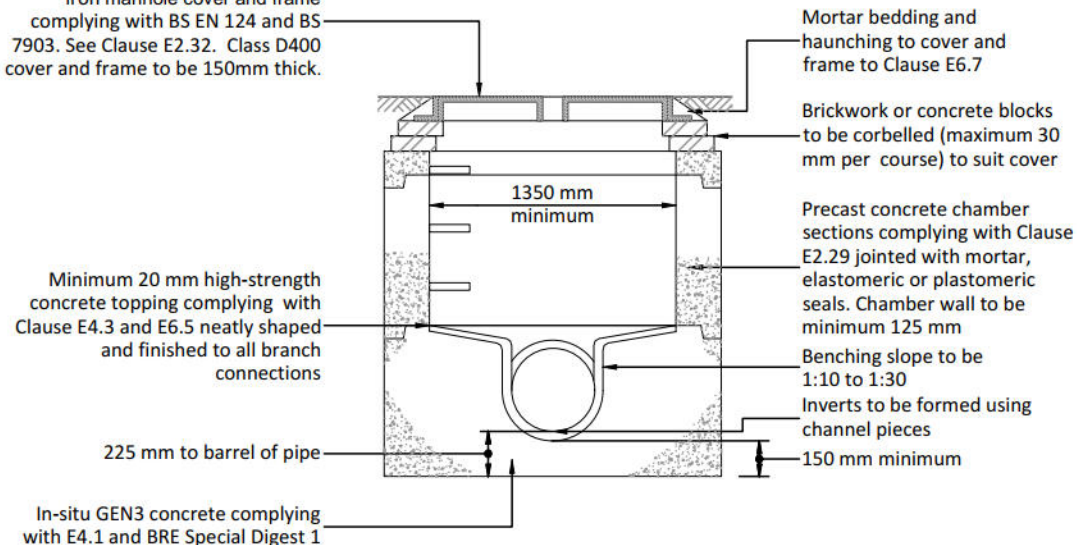
Internal dimensions of manhole normally 1350 mm but manhole diameter should be increased for pipes larger than 450 mm diameter to give 225 mm benching in accordance with B5.2.29



For Planning

PLAN

1220 mm x 685 mm multiple ductile iron manhole cover and frame complying with BS EN 124 and BS 7903. See Clause E2.32. Class D400 cover and frame to be 150mm thick.



SECTION

Notes:

1. All works are to comply with the Water Authority & Local Authority standard details and specification, as well as the Sewerage Sector Guidance Appendix C - Design and Construction Guidance.
2. The use of precast concrete chamber units to E2.29 with 150mm GEN3 in-situ concrete complying with E4.1 and BRE Special Digest 1 in place of brickwork construction is permitted.
3. Clause references can be found in the Design and Construction Guidance' (DCG).

I M A TRANSPORT PLANNING

MONTREUX HOUSE, 18A JAMES STREET WEST
BATH BA1 2BT
T: 01225 444 011
www.ima-tp.com

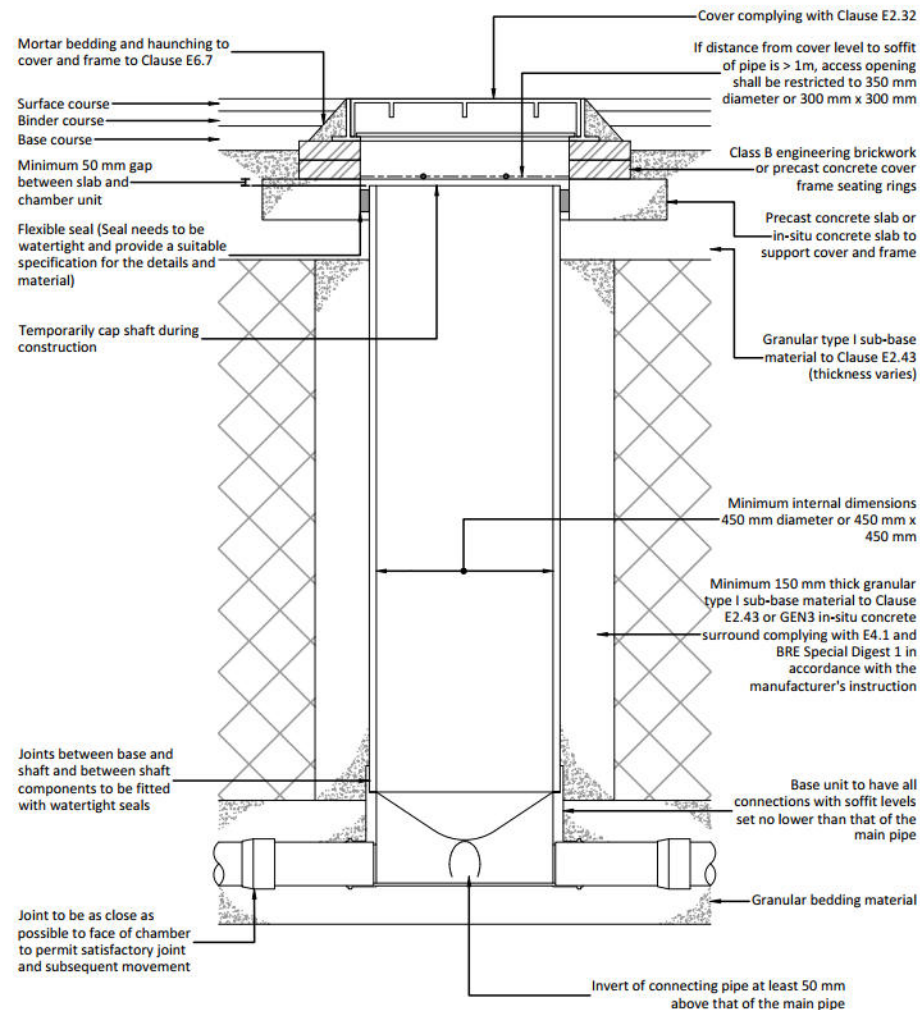
CLIENT: Greatworth Property

PROJECT: Bath Road, Warminster

TITLE: Standard Construction Details
Typical Manhole Detail - Type C
Depth to pipe soffit up to 1.5m

SCALE: (A4) NTS	CHECKED: DS	APPROVED: DS
CAD FILE: Standard Details.dwg	DESIGN/DRAWN: ND	DATE: 08/12/25
PROJECT No: 20-058	DRAWING No: 0900505	REV: P01

FIGURE B.18
TYPICAL INSPECTION CHAMBER DETAIL - TYPE D
 Depth from cover level to soffit of pipe up to 2 m
 Flexible material construction for use in areas subject to vehicle loading
 Plastic chambers and rings shall comply with Clause E2.31



For Planning

Notes:

1. All works are to comply with the Water Authority & Local Authority standard details and specification, as well as the Sewerage Sector Guidance Appendix C - Design and Construction Guidance.
2. Plastic chambers and rings shall comply with BS EN 13598-1 and BS EN 13598-2 or have equivalent independent approval.
3. Clause references can be found in the Design and Construction Guidance' (DCG).
4. Where the access chamber is in the highway (including any footway), the highway authority can have specific requirements.

I

M

A

TRANSPORT PLANNING

MONTREUX HOUSE, 18A JAMES STREET WEST
 BATH BA1 2BT
 T: 01225 444 011
www.ima-tp.com

CLIENT: **Greatworth Property**

PROJECT: **Bath Road, Warminster**

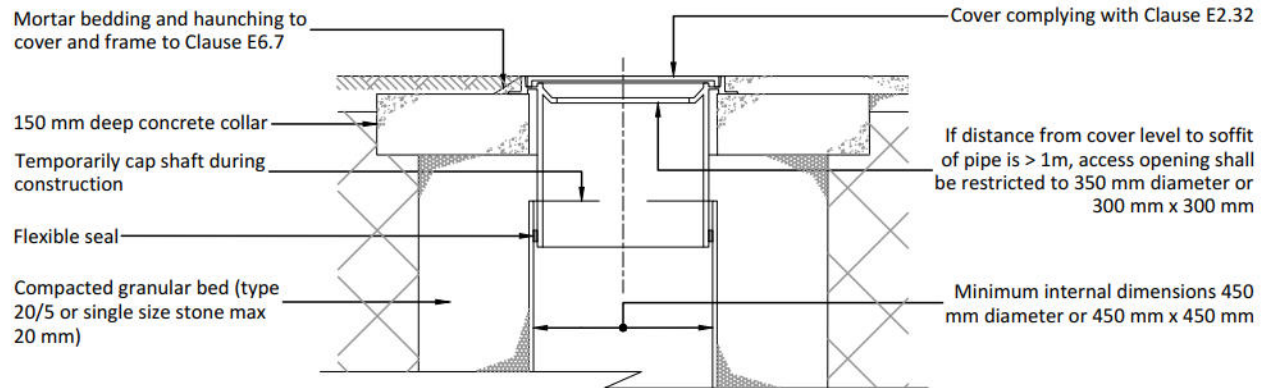
TITLE: **Standard Construction Details**
Typical Manhole Detail - Type D
Depth to pipe soffit up to 3m

SCALE: (A4) NTS	CHECKED: DS	APPROVED: DS
CAD FILE: Standard Details.dwg	DESIGN/DRAWN: ND	DATE: 08/12/25
PROJECT No: 20-058	DRAWING No: 0900506	REV: P01

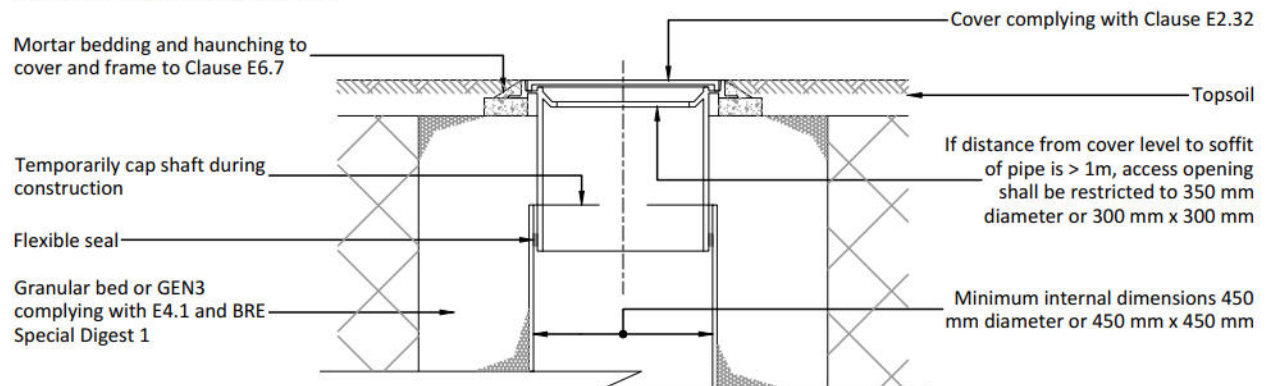
FIGURE B.19
TYPICAL INSPECTION CHAMBER DETAIL - TYPE D
 Flexible material construction alternative top details for use in areas of light
 vehicle loading or landscaped areas

Plastic chambers and rings shall comply with Clause E2.31

Sited in domestic driveways or footways



Sited in domestic gardens



For Planning

Notes:

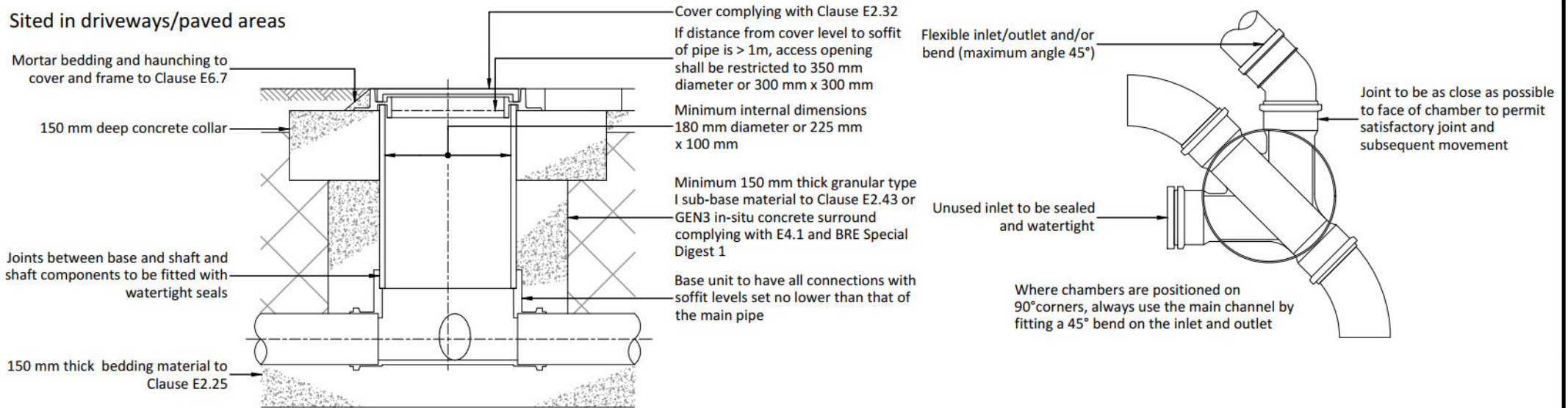
1. All works are to comply with the Water Authority & Local Authority standard details and specification, as well as the Sewerage Sector Guidance Appendix C - Design and Construction Guidance.
2. Plastic chambers and rings shall comply with BS EN 13598-1 and BS EN 13598-2 or have equivalent independent approval.
3. Clause references can be found in the Design and Construction Guidance' (DCG).
4. Where the access chamber is in the highway (including any footway), the highway authority can have specific requirement.

TRANSPORT PLANNING

MONTREUX HOUSE, 18A JAMES STREET WEST
 BATH BA1 2BT
 T: 01225 444 011
www.ima-tp.com

CLIENT: Greatworth Property	TITLE: Standard Construction Details		SCALE: (A4) NTS	CHECKED: DS	APPROVED: DS
	PROJECT: Bath Road, Warminster		Typical Inspection Chamber Detail - Type D		
			CAD FILE: Standard Details.dwg	DESIGN/DRAWN: ND	DATE: 08/12/25
		PROJECT No: 20-058	DRAWING No: 0900507	REV: P01	

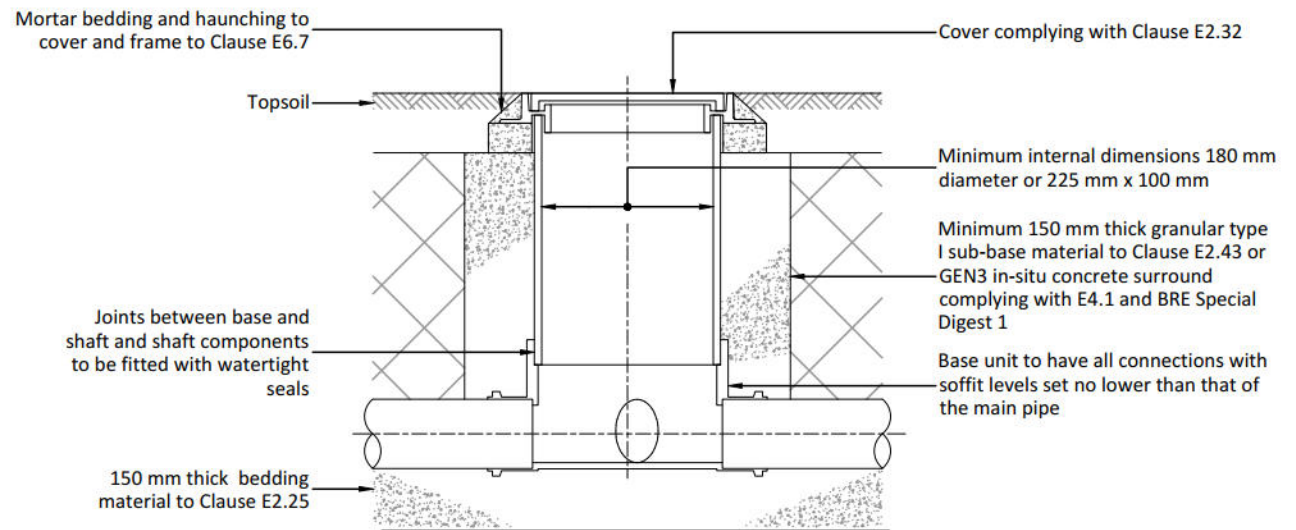
Sited in driveways/paved areas



For Planning

Notes:

1. All works are to comply with the Water Authority & Local Authority standard details and specification, as well as the Sewerage Sector Guidance Appendix C - Design and Construction Guidance.
2. Plastic chambers and rings shall comply with BS EN 13598-1 and BS EN 13598-2 or have equivalent independent approval.
3. Clause references can be found in the Design and Construction Guidance' (DCG).



Sited in domestic gardens

I M A TRANSPORT PLANNING

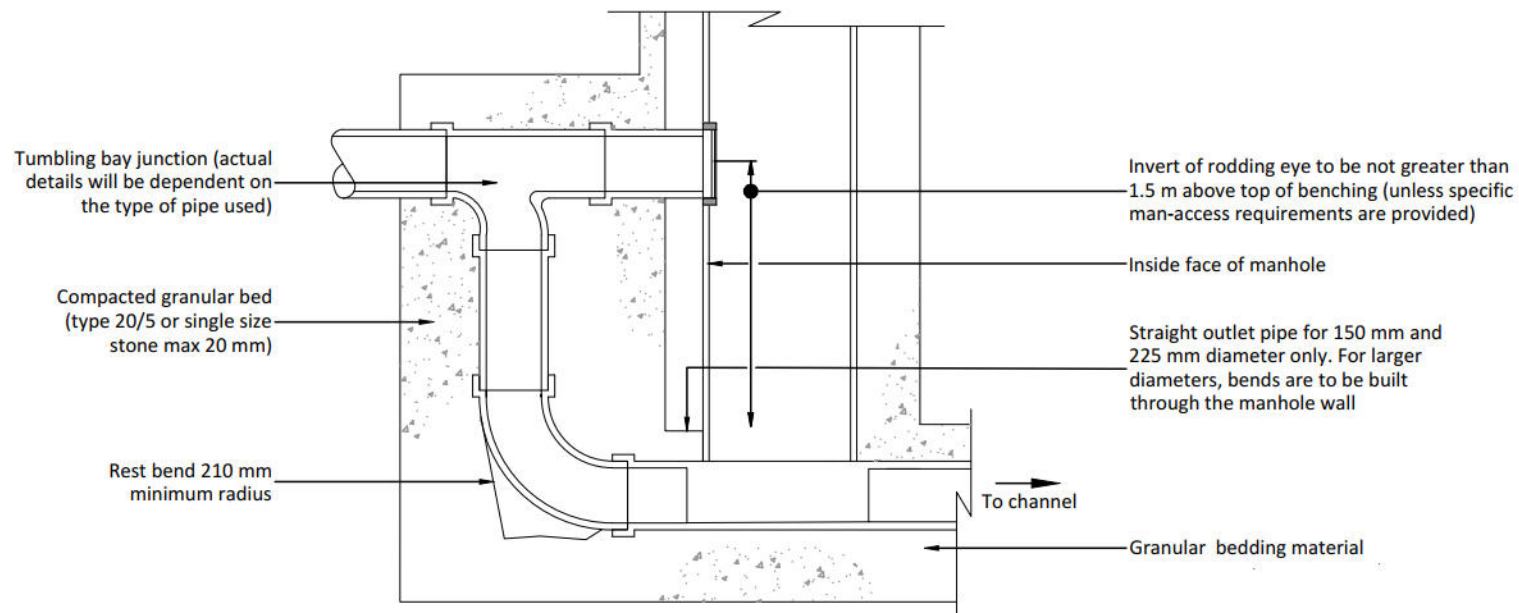
MONTREUX HOUSE, 18A JAMES STREET WEST
BATH BA1 2BT
T: 01225 444 011
www.ima-tp.com

CLIENT:
Greatworth Property

PROJECT:
Bath Road, Warminster

TITLE:
Standard Construction Details
Typical Inspection Chamber Detail - Type E
Depth to pipe soffit up to 2m

SCALE: (A4) NTS	CHECKED: DS	APPROVED: DS
CAD FILE: Standard Details.dwg	DESIGN/DRAWN: ND	DATE: 08/12/25
PROJECT No: 20-058	DRAWING No: 0900508	REV: P01



External Vertical Backdrop

For Planning

Notes:

1. All works are to comply with the Water Authority & Local Authority standard details and specification, as well as the Sewerage Sector Guidance Appendix C - Design and Construction Guidance.



TRANSPORT PLANNING

MONTREUX HOUSE, 18A JAMES STREET WEST
BATH BA1 2BT
T: 01225 444 011
www.ima-tp.com

CLIENT:

Greatworth Property

PROJECT:

Bath Road, Warminster

TITLE:

Standard Construction Details
Backdrop Detail For Use in Manholes A to D
Flexible Material

SCALE: (A4)
NTS

CHECKED:
DS

APPROVED:
DS

CAD FILE:
Standard Details.dwg

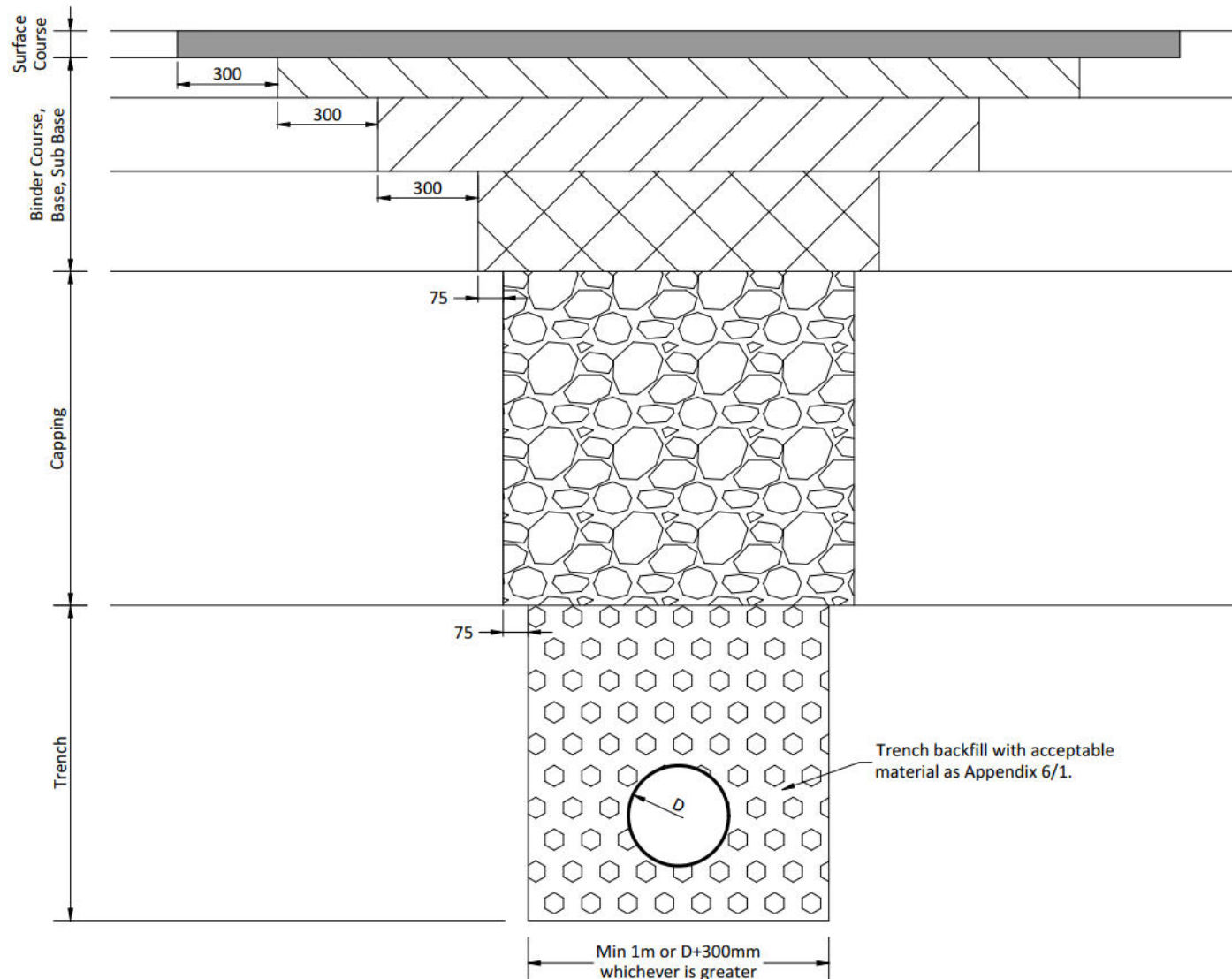
DESIGN/DRAWN:
ND

DATE:
08/12/25

PROJECT No:
20-058

DRAWING No:
0900509

REV:
P01



For Planning

Notes

1. All works are to comply with the Water Authority & local Authority standard details and specification, as well as the Sewerage Sector Guidance Appendix C - Design and Construction Guidance.
2. Reinstatement of the carriageway / footway construction shall be carried out as soon as is practicable after backfilling has been completed.
3. Where the existing carriageway / footway consists of bituminous materials, edges shall be neatly saw cut. Joints through macadam surfacing shall be saw cut and treated in accordance with clause 903 prior to layer reinstatement.
4. Compaction of capping to be in accordance with MCHW 600.
5. Existing block or flag paving shall be carefully reinstated to a minimum of 300 either side of the trench edge and bedded as described in relevant standard detail.
6. All carriageway / footway construction materials to be as specified in the relevant standard detail or by the Engineer.



TRANSPORT PLANNING

MONTREUX HOUSE, 18A JAMES STREET WEST
BATH BA1 2BT
T: 01225 444 011
www.ima-tp.com

CLIENT:

Greatworth Property

PROJECT:

Bath Road, Warminster

TITLE:

**Standard Construction Details
Reinstatement of Drain & Duct
In Existing Carriageway**

SCALE: (A4)
NTS

CHECKED:
DS

APPROVED:
DS

CAD FILE:
Standard Details.dwg

DESIGN/DRAWN:
ND

DATE:
08/12/25

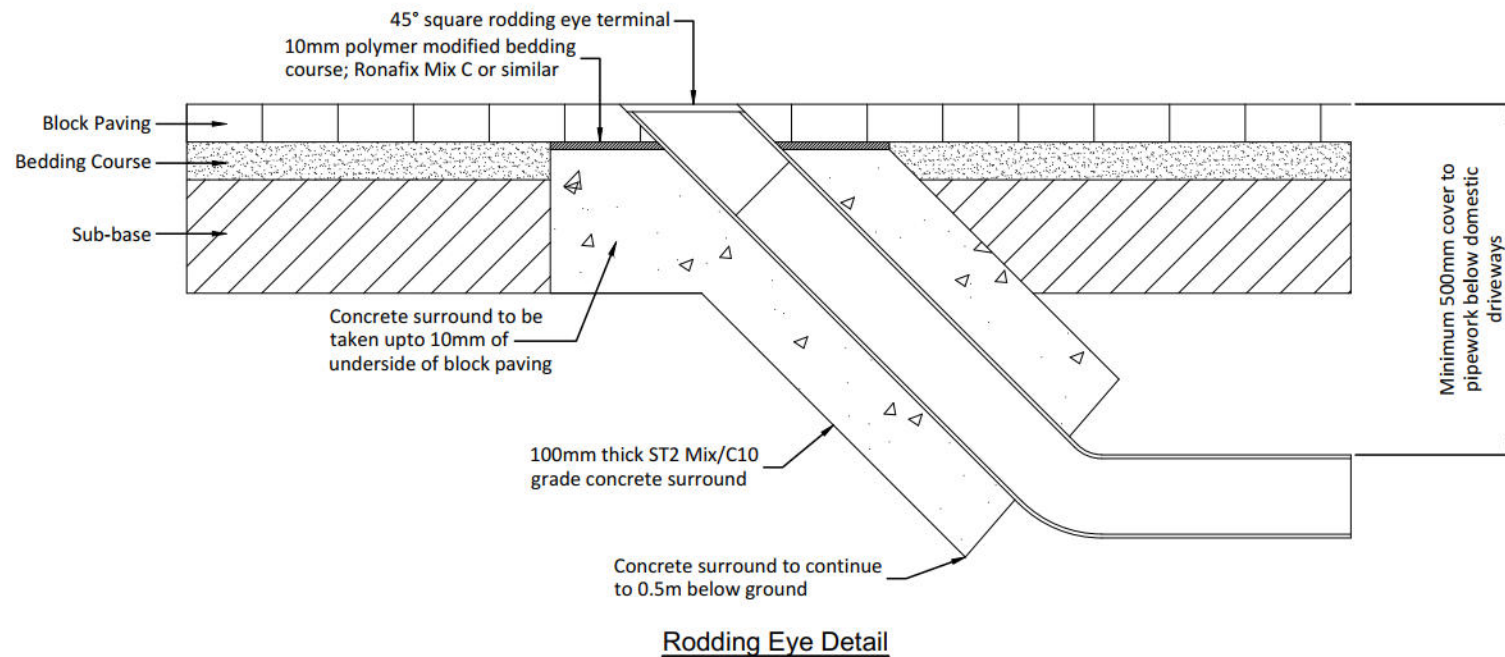
PROJECT No:
20-058

DRAWING No:
0900510

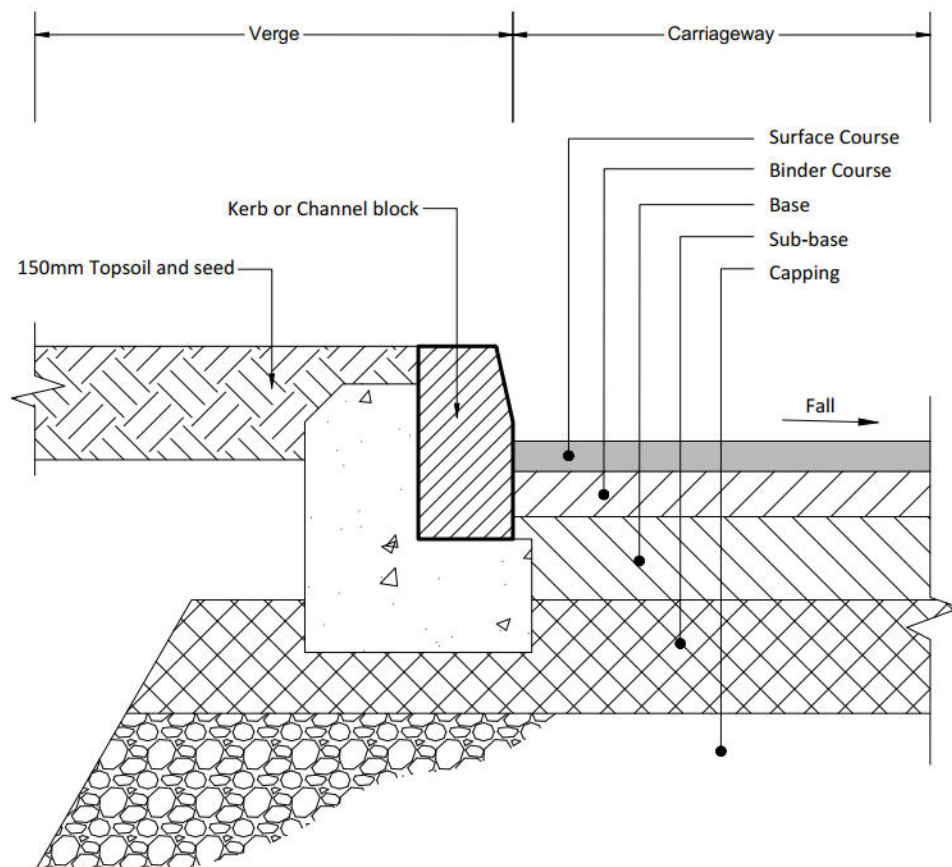
REV:
P01

Notes:

1. All works are to comply with the Water Authority & Local Authority standard details and specification, as well as the Sewerage Sector Guidance Appendix C - Design and Construction Guidance.



For Planning



Type P1 - Full depth carriageway construction

Surface Course: 40mm, **AC10 Close surf 40/60**, minimum 60 PSV, specification clause 912

Binder Course: 60mm, **AC20 dense bin 40/60** (20mm nom. size aggregate; pen50) Specification Clause 929 (min PSV 65 if trafficked)

Base Course: 125mm, **AC32 dense base 40/60**, (32mm nom. size aggregate; pen125) specification clause 929

Sub Base: **Type 1 granular material** to specification clause 803.

Thickness dependent on CBR of sub grade (see table below).

Capping: **Capping Material** to Specification clause 613. Thickness dependant on CBR of sub-grade. (See Table below). Top 130mm thick, non frost susceptible capping material, MCDHW Clause 613, class 6F2 or 6F3 or 130mm Granular Type 1 Material, clause 803.

Engineered Fill Material: In the event that levels require additional fill material this is to be brought to the attention of the Engineer. Use of 6F2 or 6F3 material or suitably approved alternative engineered fill material is to be considered.

CBR of Subgrade (%)	<2	2-5	>5
Sub Base (mm)	150	350	225
Capping (mm)	600	250	0

CBRs to be completed before construction and the resulting pavement design confirmed with Wiltshire Council site inspector.

Notes:

1. All pavement material within 450mm of finish surface to be non frost susceptible.
2. for specification and details of flexible carriageway construction (speed limit 40mph or less) refer to Wiltshire Council's Standard detail drawing WC-HCD-700-D001_A.

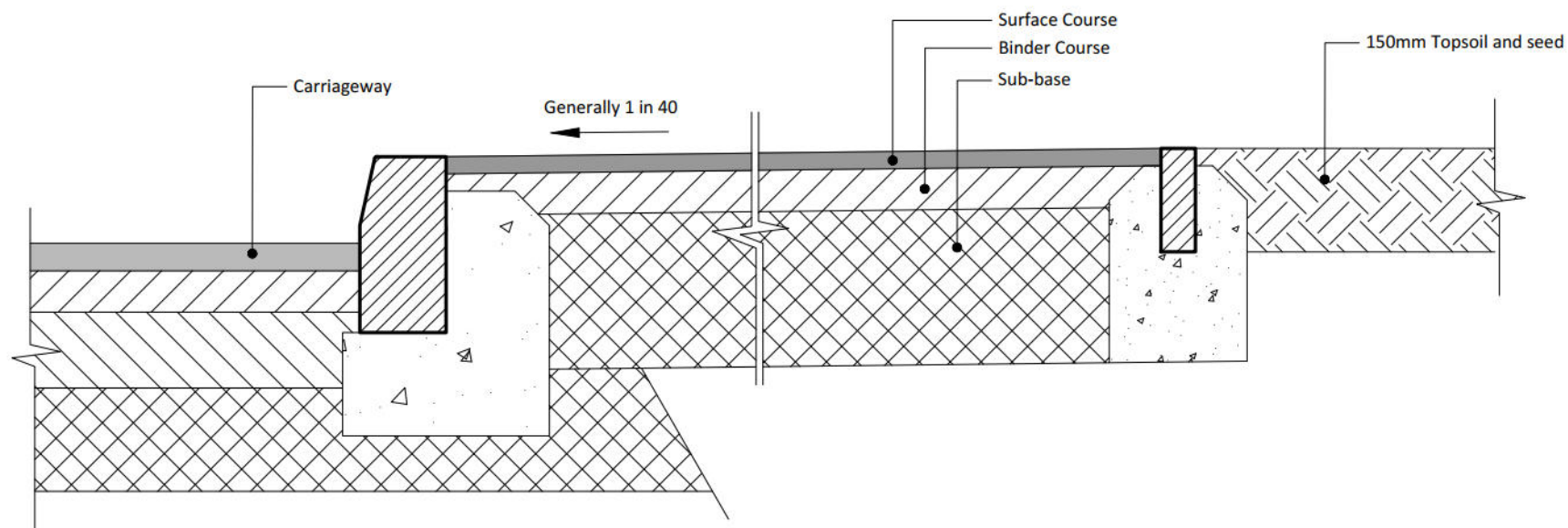
For Planning

I M A TRANSPORT PLANNING
 MONTREUX HOUSE, 18A JAMES STREET WEST
 BATH BA1 2BT
 T: 01225 444 011
 www.ima-tp.com

CLIENT: Greatworth Property
 PROJECT: Bath Road, Warminster

TITLE: Standard Construction Details
 Pavement Construction Details
 Type P1

SCALE: (A4) NTS	CHECKED: DS	APPROVED: DS
CAD FILE: Standard Details.dwg	DESIGN/DRAWN: ND	DATE: 08/12/25
PROJECT No: 20-058	DRAWING No: 0900701	REV: P01



Type F1: Full depth footway construction

Surface Course: 20mm **AC6 dense surf, 100/150**, PSV 45 (6mm nom. size aggregate) specification clause 912

Binder Course: 60mm, **AC20 dense bin 40/60** (20mm nom. size aggregate; pen50) specification clause 906

Sub Base: 225mm Type 1 granular material specification clause 803

Type F2: Full depth vehicle crossover

Surface Course: 20mm **AC6 dense surf, 100/150**, PSV 45 (6mm nom. size aggregate) specification clause 912

Binder Course: 60mm, **AC20 dense bin 40/60** (20mm nom. size aggregate; pen50) specification clause 906

Sub Base: 225mm Type 1 granular material specification clause 803

For Planning

Notes:

1. Edging & kerb details are to be as specified on engineering plans.
2. When excavating to footway formation, the full depth of existing top soil shall be removed. Any additional depth of excavation resulting from this shall be backfilled with suitable material as per specification.
3. Contractor to check and confirm actual depths of regulating material required prior to works commencing and report to the Engineer for confirmation and records.



TRANSPORT PLANNING

MONTREUX HOUSE, 18A JAMES STREET WEST
BATH BA1 2BT
T: 01225 444 011
www.ima-tp.com

CLIENT:

Greatworth Property

PROJECT:

Bath Road, Warminster

TITLE:

**Standard Construction Details
Pavement Construction Details
Type F1 & F2**

SCALE: (A4)
NTS

CHECKED:
DS

APPROVED:
DS

CAD FILE:
Standard Details.dwg

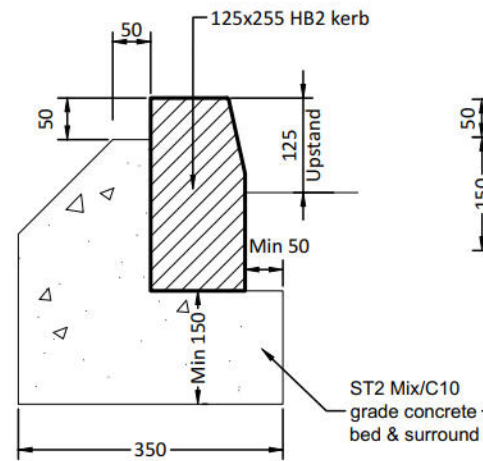
DESIGN/DRAWN:
ND

DATE:
08/12/25

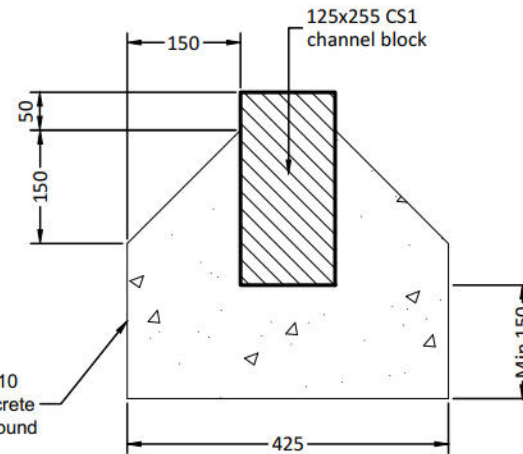
PROJECT No:
20-058

DRAWING No:
0900702

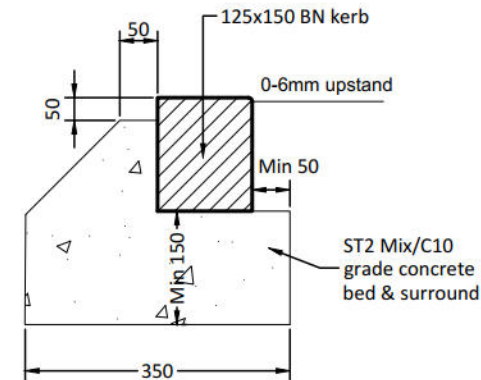
REV:
P01



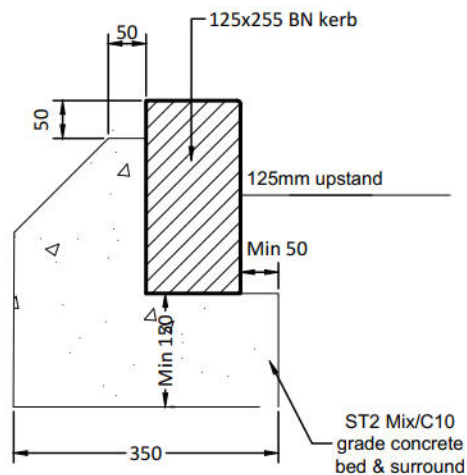
Half Battered Kerb (HB2)



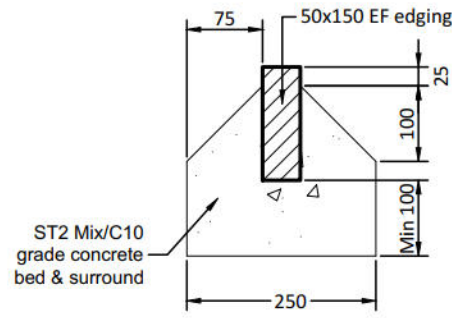
Channel Block (CS)



Pedestrian Drop Kerb (BN)



Vehicle Crossing (BN2)

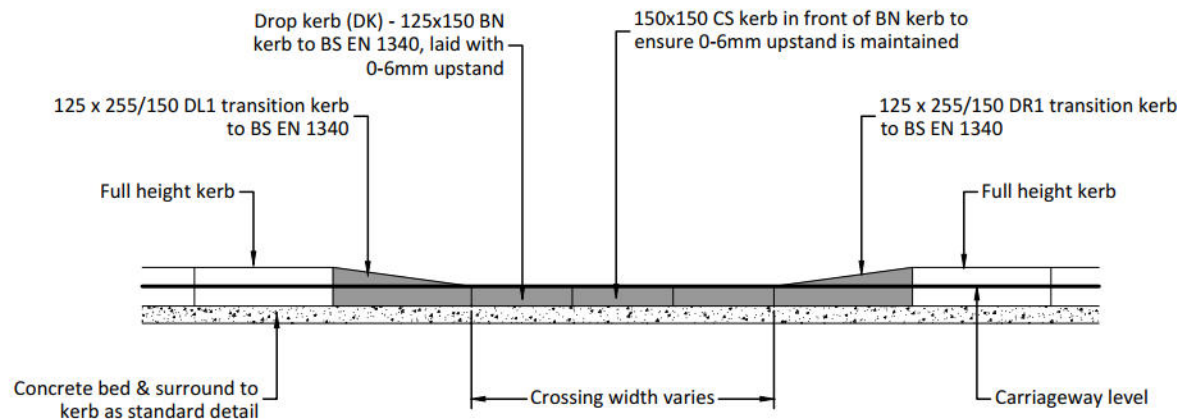


Edging Block (EF)

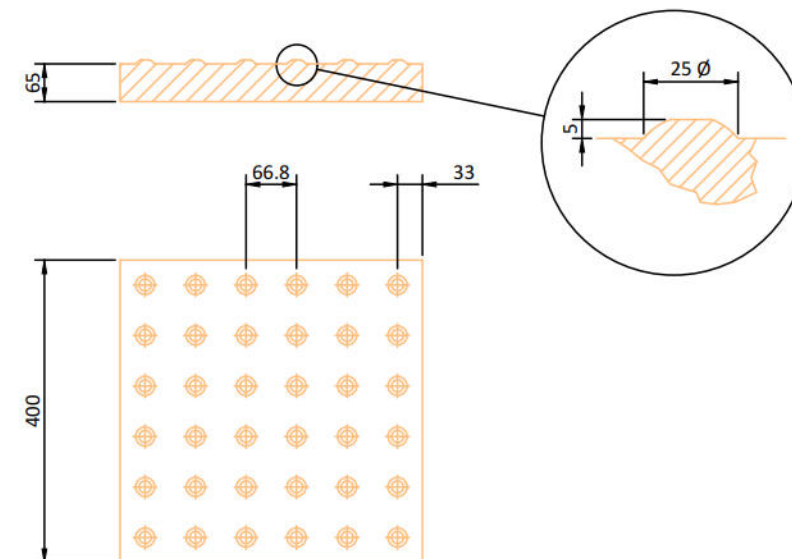
For Planning

Notes:

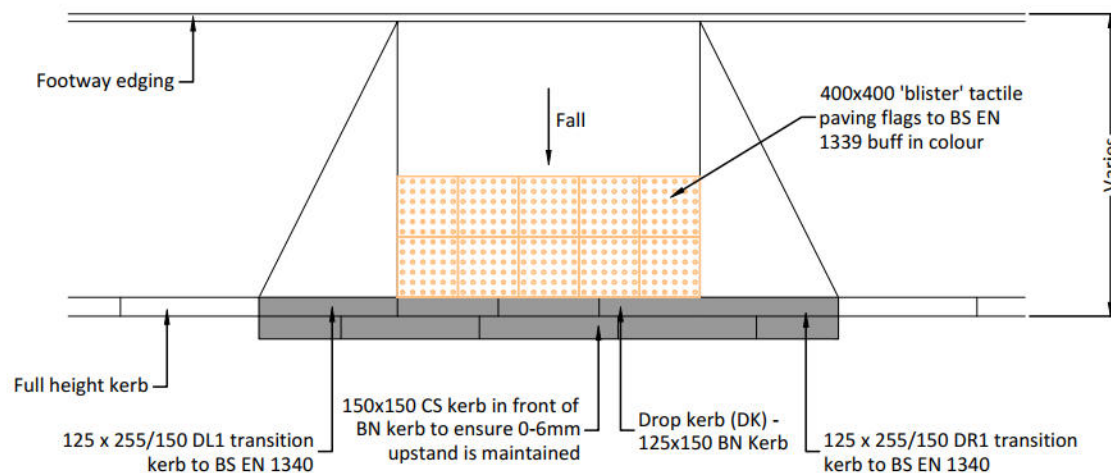
1. All dimensions are in millimeters unless stated otherwise.
2. All kerbs shall be in accordance with BS EN 1340.
3. for specification and details of kerbs refer to Wiltshire Council's Standard detail drawing WC-HCD-1100-D001.



Section
Scale 1:50



Blister Tactile Paving Flag
Scale 1:10



Typical Drop Kerb - Plan
Scale 1:50

For Planning

Notes:

1. All dimensions are in millimeters unless stated otherwise.



TRANSPORT PLANNING

MONTREUX HOUSE, 18A JAMES STREET WEST
BATH BA1 2BT
T: 01225 444 011
www.ima-tp.com

CLIENT:

Greatworth Property

PROJECT:

Bath Road, Warminster

TITLE:

**Standard Construction Details
Pedestrian Drop Kerb Detail**

SCALE: (A4)

NTS

CHECKED:

DS

APPROVED:

DS

CAD FILE:

Standard Details.dwg

DESIGN/DRAWN:

ND

DATE:

08/12/25

PROJECT No:

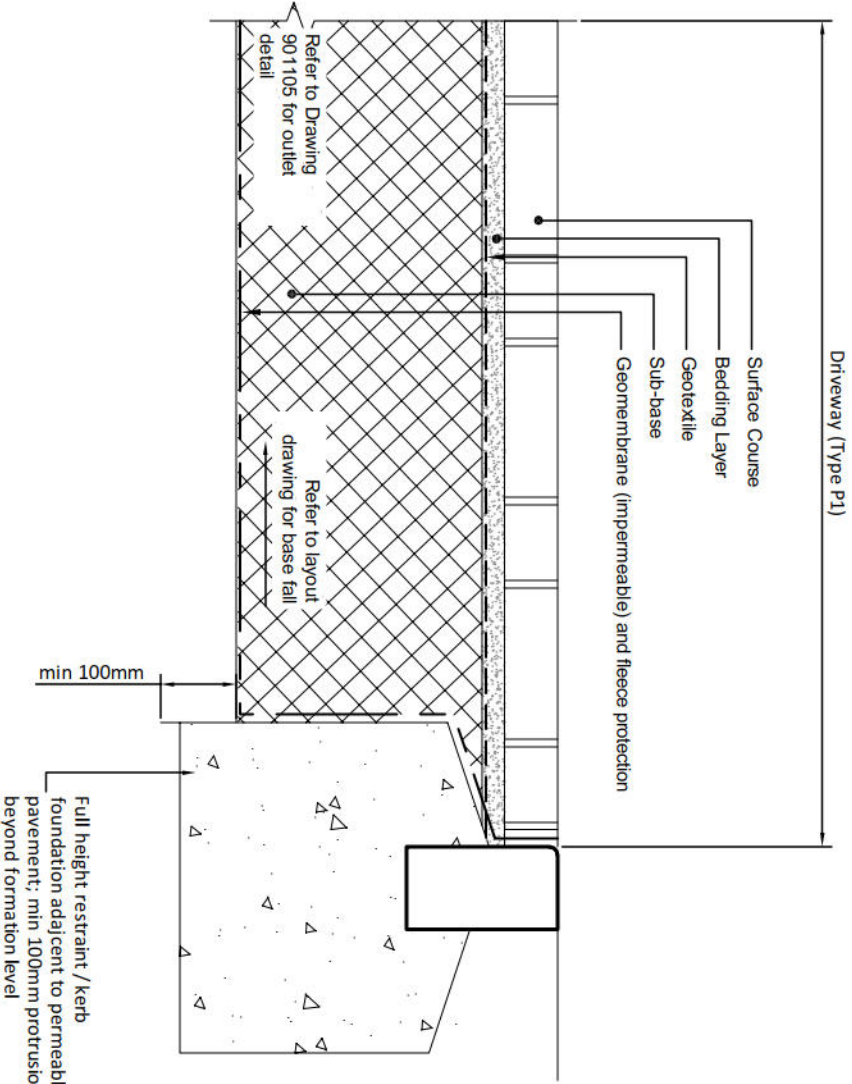
20-058

DRAWING No:

901103

REV:

P01

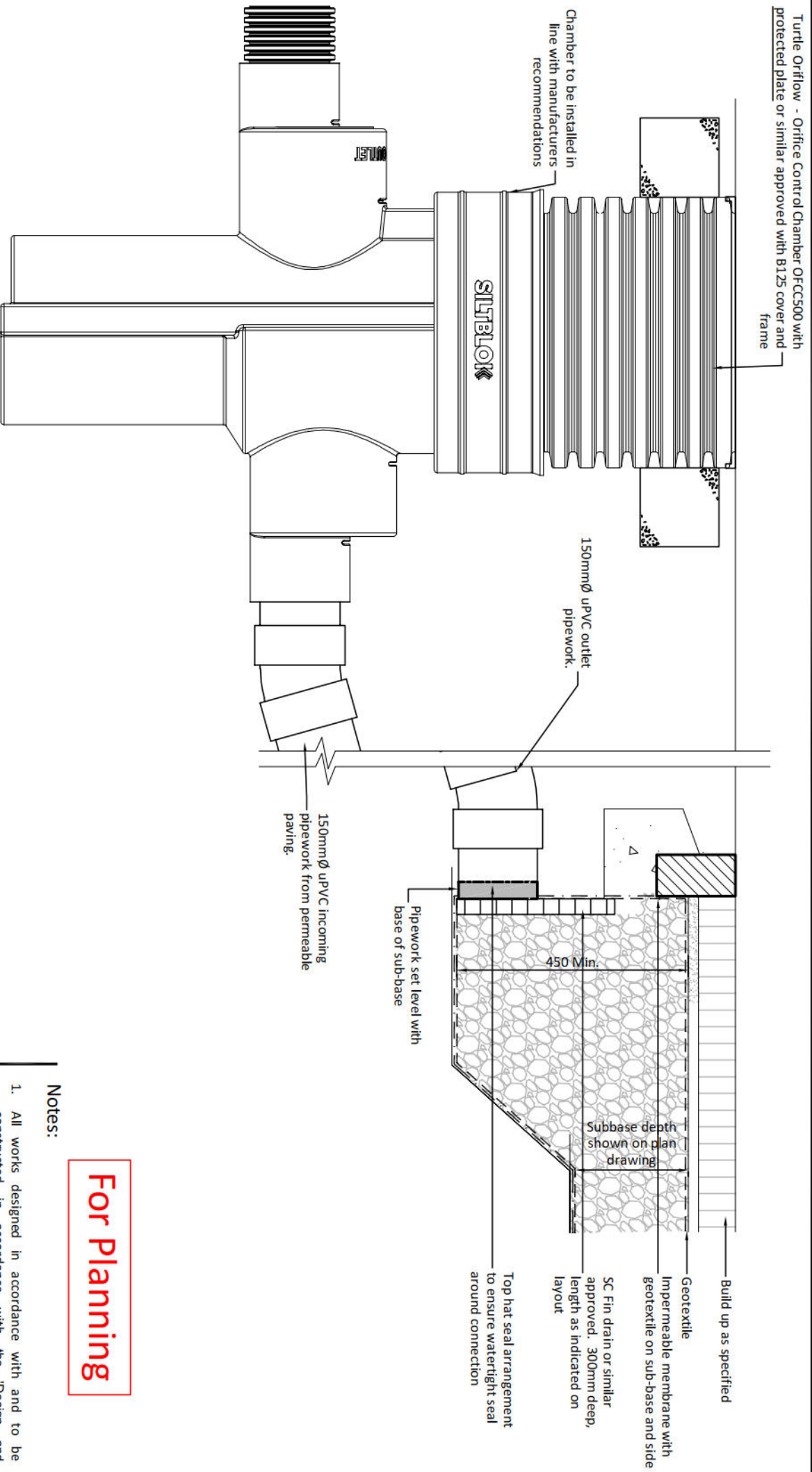


Type P1 - Full Depth Permeable Driveway Construction
(Assumed 5% CBR)

- Surface Course: 60mm thick permeable block paving; Colour as per Landscape Architect specification
- Bedding Course: 50mm thick - 2-6mm, Clean Crushed Stone
- Geotextile: Terram Inbitex
- Sub Base: Thickness varies - refer to Drawing 500, Type 3 Granular Material to specification clause 805.
- Geomembrane: Permavoid geomembrane by Poly/pipe (or similiar approved), fully sealed / welded joints and drainage outlets;

For Planning

I M A TRANSPORT PLANNING MONTREUX HOUSE, 19A JAMES STREET WEST BATH BA1 2BT T: 01225 444 011 www.ima-id.com	CLIENT: Greatworth Property		TITLE: Standard Construction Details	
	PROJECT: Bath Road, Warmminster		Permeable Driveway Construction	
	SCALE: (A4) NTS	CHECKED: DS	APPROVED: DS	
CAD FILE: Standard Details.dwg		DESIGN/DRAWN: ND	DATE: 08/12/25	
PROJECT NO: 20-058		DRAWING NO: 901104		REV: P01



For Planning

Notes:

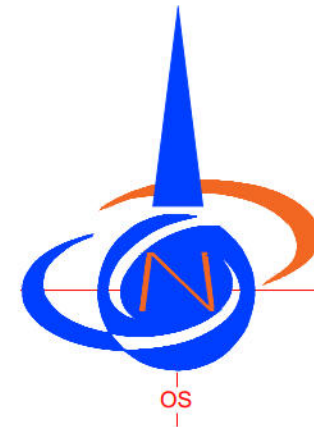
1. All works designed in accordance with and to be constructed in accordance with the 'Design and Construction Guidance' (DCG), formerly known as 'Sewers for Adoption'.

	TRANSPORT PLANNING MONTREUX HOUSE, 78A, JAMES STREET WEST BATH BA1 2BT T: 01225 444 011 www.ima-id.com	CLIENT: Greatworth Property	TITLE: Standard Construction Details Permeable Paving Outlet & Control Chamber Detail	SCALE: (As) NTS	CHECKED: DS	APPROVED: DS
	TRANSPORT PLANNING MONTREUX HOUSE, 78A, JAMES STREET WEST BATH BA1 2BT T: 01225 444 011 www.ima-id.com	PROJECT: Bath Road, Warmminster	PROJECT FILE: Standard Details.dwg	PROJECT NO: 20-058	DESIGN/DRAWN: ND	DATE: 26/06/25
	TRANSPORT PLANNING MONTREUX HOUSE, 78A, JAMES STREET WEST BATH BA1 2BT T: 01225 444 011 www.ima-id.com	DRAWING NO: 901105	REV:			



Appendix H

CCTV Sewer Survey Bath Road Warminster



BURIED SERVICES INFORMATION

LYNETYPE KEY			
POWER	POWER	POWER	GENERAL POWER
HA	HA	HA	HIGH VOLTAGE
LOW	LOW	LOW	LOW VOLTAGE
MC	MC	MC	MULTI CUT
MP	MP	MP	MULTI POWER
STREET	STREET	STREET	STREET LIGHTS
BT	BT	BT	BRITISH TELECOM
GATE	GATE	GATE	CABLE TELEVISION
CL	CL	CL	CLOSURE
COMM	COMM	COMM	DATA COMMUNICATIONS
TRAF	TRAF	TRAF	TRAFFIC SIGNAL CABLES
FILL	FILL	FILL	FILL WATER
STORM	STORM	STORM	STORM DRAIN
DRINK	DRINK	DRINK	GENERAL DRAINAGE
PUMP	PUMP	PUMP	PUMPING MAIN
AS	AS	AS	ASSUMED WATER
GA	GA	GA	GAS
HS	HS	HS	HEATING PIPES
AIRTE	AIRTE	AIRTE	AIRTE ASSUMED WATER
DL	DL	DL	DRILL
WATER	WATER	WATER	WATER
RADAR	RADAR	RADAR	RADAR LOCATOR
RADIO	RADIO	RADIO	RADIO FREQUENCY LOCATOR
TAKEN	TAKEN	TAKEN	TAKEN FROM RECORDS
WIDEN	WIDEN	WIDEN	WIDEN ROAD RECORDS
UNUSE	UNUSE	UNUSE	UNUSE
UNKN	UNKN	UNKN	UNKNOWN
LYNETYPE	LYNETYPE	LYNETYPE	LYNETYPE
STREET	STREET	STREET	STREET LIGHTS

ABBREVIATIONS			
AR	Assumed Route	MH	Manhole
BT	British Television	LP	Lamp Post
CAT	Cable Television	RE	Roading Eye
CH	Channel	RF	Radio Frequency Locate
COM	Data Communications	RDS	Red Stopped
D	Depth	ROA	Soakaway
nwp	Rainwater Down Pipe	swp	Soft Wet Pipe
EL	Electricity	SW	Storm Water
EOT	End Of Trace	TL	Traffic Light
ER	Earth Road	TP	Telegraph Pole
EW	Electricity Warrant	UTL	Unable To Lift
FWS	Foul Water Sewer	UTL	Unable To Survey
GV	Gas Valve	UTTS	Unable To Trace Further
G	Gully	WV	Water Valve
IC	Inspection Chamber	W	Wounded
I	Invert Level		

GENERAL GUIDANCE NOTES - PLEASE READ CAREFULLY

1. A number of technologies were used to obtain the information shown on this drawing. Various types of equipment and personnel were used on these systems, therefore 100% detection is not guaranteed.
2. Where electric & metallic services are illustrated on this drawing as a single utility line, these may represent multiple pipes/cables.
3. Possible road targets show the position of suspected underground line features, these features have produced an inconsistent response to the radar.
4. It is not always possible to differentiate between construction features and services.
5. Every care has been taken to ensure correct utility identification. However this should be independently verified prior to any design/ building works.
6. As pipe diameters and levels are assumed to be correct. However due to non entry to inspection chambers, these should be verified before any

works commence.

7. Depth indicated by a "D" has been measured using radio frequency locators, one or two in the case of pipe/cables and one in millimeters.

8. Score indicated is only applicable when plotted at sheet size.

9. Some materials may be discarded or abandoned. It is not always possible to detect these materials.

10. It is not possible to trace plastic pipes by radio detection as GPR/Water, etc. may be detected. The detection of plastic pipes is not possible due to their non-conductivity. It may not be possible to induce signal.

11. In the absence of evidence to the contrary the records of confirmed utility locations are to be used.

12. Underground service information should be read in conjunction with latest statutory drawings.

13. Please note that it is illegal to fly telecommunications covers in public areas. Such offences can be ascertained by contacting the relevant statutory authorities.

14. All utility drawings and monuments are not filed by Datasat Surveying Ltd.

15. The utility information has been obtained from non-invasive survey techniques: it always remains possible that there are additional utilities within the survey boundary that we have not been able to detect.

16. The surveyor or our agent shall not be liable for any damage to the site shall be that of the persons proposing to excavate within the surveyed area, who shall be liable to the asset owner and any third party who may be affected.

ACCURACY OF GPR REFLECTIONS/GROUND RADAR

As an alternative GPR techniques can be employed at additional cost in attempt to locate services not detectable by radio detection. All tracing is subject to retrieval of clear signals.

The material surrounding and particularly above buried utilities can affect the services can be located by GPR. Reinforced concrete, buried metallic objects, the presence of moisture or clay, and changes in the material construction often produces poor data resolution.

GPR methods can only give a guaranteed accuracy of 50% depth. Results using GPR are typically accurate to within 10% with a horizontal accuracy of 50%.

The results of the GPR survey should be treated with caution as it cannot be guaranteed that any service shown actually exists. Only a possibility that something can be seen on the records.

USE EXTREME CAUTION WHEN EXCAVATING IN ANY AREA.



Utility Mapping & Specialist Surveys

27-29 New Street
Charfield
South Glos.
GL12 8ES

Tel: 01453 84501
Tel: 01453 84536
www.dandoutilities.co.uk
enquiries@dandoutilities.co.uk

Project Name:
Bath Road
Warminster

27 Drawing Title:

Client:
Greatworth Property Managers Ltd
Agent:
IMA Transport

Date: 6th August 2026 Scale: 1:200 @ A1

Grid Orientation	Sheet ID	Rev
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Existing topo by others	IMAWarminsterrdDRN	None
State of D.R.	Switzerland, D.R.	D.R.

Site Level Datum	Surveyed By	Drawn By
Existing topo by others	CP	CP



110.94

Project

Project Name: Bath Road Warminster

Project Date: 7/29/2026

Table of Contents

Project Name	Project Number	Project Date
Bath Road Warminster		7/29/2026

Project Information	P-1
Section Item 1: mh1 > ds (mh1ds)	1
Section Item 2: mh2 > mh3 (mh2dsmh3)	4
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Project Information

Project Name
Bath Road Warminster

Project Number

Project Date
7/29/2026

Client

Company: Greatworth Property Managers Ltd
Department: Freemans House
Street: 127a High Street
Town or City: Hungerford
County: Berkshire
Post Code: RG17 0LD

Site

Street: Bath Road
Town or City: Warminster

Contractor

Company: Dando Utilities Ltd
Contact: Craig Piper
Department: Drainage
Street: 27-29 New Street
Town or City: Charfield
County: South Glos
Post Code: GL12 8ES
Phone: 01453845017
Email: craig@dandoutilities.co.uk

Item No. 1	Insp. No. 1	Date 29/07/26	Time 8:40	Client's Job Ref Not Specified	Weather No Rain Or Snow	Pre Cleaned No	PLR MH1DS
Operator craig piper		Vehicle WX20 OZO		Camera Not Specified	Preset Length Not Specified	Legal Status Not Specified	Alternative ID Not Specified

Town or Village:	Warminster	Inspection Direction:	Downstream	Upstream Node:	MH1
Road:	Bath Road	Inspected Length:	68.93 m	US Pipe Depth:	0.940 m (0.940 m)
Location:		Total Length:	68.93 m	Downstream Node:	DS
Surface Type:		Joint Length:		DS Pipe Depth:	
Use:	Surface water	Pipe Shape:	Circular		
Type of Pipe:	Gravity drain/sewer	Dia/Height:	225 mm		
Flow Control:	No flow control	Material:	Polyvinyl chloride		
Year Constructed:	Not Specified	Lining Type:	No Lining		
Inspection Purpose:	Routine inspection	Lining Material:	No Lining		

Recommendations:

Scale:	1:597	Position [m]	Code	Observation	MPEG	Photo	Grade																																																								
Depth: 0.94 m mh1 ds Depth: m <table><tr><td>0.00</td><td>MH</td><td>Start node, manhole, reference: mh1</td><td>00:00:07</td><td></td><td></td><td></td></tr><tr><td>0.00</td><td>WL</td><td>Water level, 0% of the vertical dimension</td><td>00:00:11</td><td></td><td></td><td></td></tr><tr><td>5.27</td><td>JN</td><td>Junction at 9 o'clock, 150mm dia</td><td>00:01:43</td><td>1</td><td></td><td></td></tr><tr><td>5.78</td><td>JN</td><td>Junction at 3 o'clock, 150mm dia</td><td>00:02:00</td><td>2</td><td></td><td></td></tr><tr><td>20.44</td><td>JN</td><td>Junction at 9 o'clock, 150mm dia</td><td>00:04:40</td><td>3</td><td></td><td></td></tr><tr><td>43.38</td><td>JN</td><td>Junction at 9 o'clock, 150mm dia</td><td>00:08:57</td><td>4</td><td></td><td></td></tr><tr><td>63.06</td><td>JN</td><td>Junction at 9 o'clock, 150mm dia</td><td>00:12:37</td><td>5</td><td></td><td></td></tr><tr><td>68.93</td><td>MHF</td><td>Finish node, manhole, reference: Mh10 il940 cp</td><td>00:14:14</td><td>6</td><td></td><td></td></tr></table>								0.00	MH	Start node, manhole, reference: mh1	00:00:07				0.00	WL	Water level, 0% of the vertical dimension	00:00:11				5.27	JN	Junction at 9 o'clock, 150mm dia	00:01:43	1			5.78	JN	Junction at 3 o'clock, 150mm dia	00:02:00	2			20.44	JN	Junction at 9 o'clock, 150mm dia	00:04:40	3			43.38	JN	Junction at 9 o'clock, 150mm dia	00:08:57	4			63.06	JN	Junction at 9 o'clock, 150mm dia	00:12:37	5			68.93	MHF	Finish node, manhole, reference: Mh10 il940 cp	00:14:14	6		
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43.38	JN	Junction at 9 o'clock, 150mm dia	00:08:57	4																																																											
63.06	JN	Junction at 9 o'clock, 150mm dia	00:12:37	5																																																											
68.93	MHF	Finish node, manhole, reference: Mh10 il940 cp	00:14:14	6																																																											

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

Section Pictures - 7/29/2026 - mh1ds

Item No.	Inspection Direction	PLR	Client's Job Ref	Contractor's Job Ref
1	Downstream	MH1DS		



1, 00:01:43, 5.27 m
Junction at 9 o'clock, 150mm dia



2, 00:02:00, 5.78 m
Junction at 3 o'clock, 150mm dia



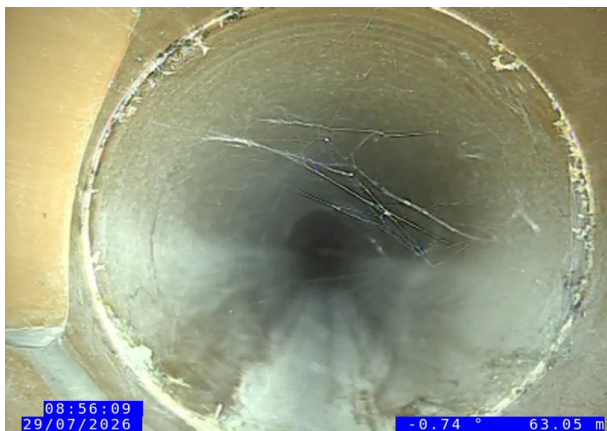
3, 00:04:40, 20.44 m
Junction at 9 o'clock, 150mm dia



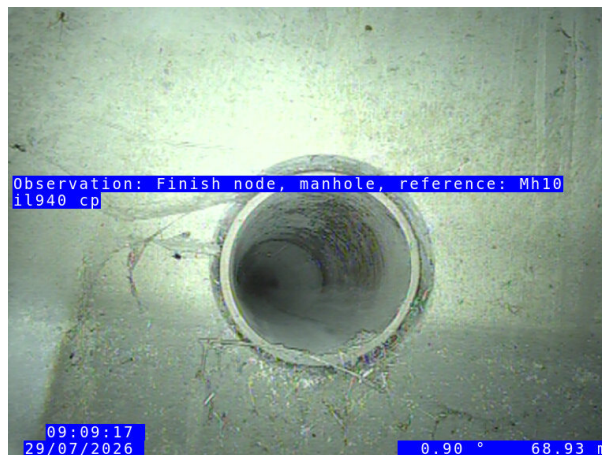
4, 00:08:57, 43.38 m
Junction at 9 o'clock, 150mm dia

Section Pictures - 7/29/2026 - mh1ds

Item No.	Inspection Direction	PLR	Client's Job Ref	Contractor's Job Ref
1	Downstream	MH1DS		



5, 00:12:37, 63.06 m
Junction at 9 o'clock, 150mm dia



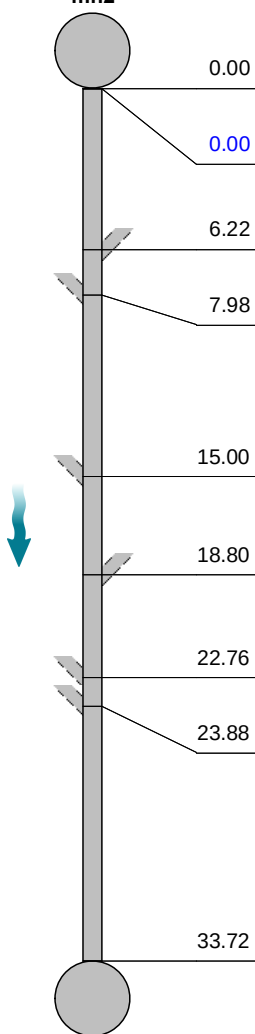
6, 00:14:14, 68.93 m
Finish node, manhole, reference: Mh10 il940 cp

Section Inspection - 7/29/2026 - mh2dsmh3

Item No.	Insp. No.	Date	Time	Client's Job Ref	Weather	Pre Cleaned	PLR
2	1	29/07/26	9:23	Not Specified	No Rain Or Snow	Yes	MH2DSMH3
Operator		Vehicle		Camera	Preset Length	Legal Status	Alternative ID
craig piper		WX20 OZO		Not Specified	Not Specified	Not Specified	Not Specified

Town or Village:	Warminster	Inspection Direction:	Downstream	Upstream Node:	MH2
Road:	Bath Road	Inspected Length:	33.72 m	US Pipe Depth:	1.200 m (1.200 m)
Location:		Total Length:	33.72 m	Downstream Node:	MH3
Surface Type:		Joint Length:		DS Pipe Depth:	1.730 m (1.730 m)
Use:	Surface water	Pipe Shape:	Circular		
Type of Pipe:	Gravity drain/sewer	Dia/Height:	450 mm		
Flow Control:	No flow control	Material:	Concrete		
Year Constructed:	Not Specified	Lining Type:	No Lining		
Inspection Purpose:	Routine inspection	Lining Material:	No Lining		

Comments:
Recommendations:

Scale:	1:292	Position [m]	Code	Observation	MPEG	Photo	Grade
Depth: 1.20 m mh2  mh3 Depth: 1.73 m							
		0.00	MH	Start node, manhole, reference: mh2	00:00:05	1	
		0.00	WL	Water level, 5% of the vertical dimension	00:00:09		
		6.22	JN	Junction at 11 o'clock, 150mm dia	00:01:42	2	
		7.98	JN	Junction at 2 o'clock, 150mm dia	00:02:06	3	
		15.00	JN	Junction at 2 o'clock, 150mm dia	00:03:36	4	
		18.80	JN	Junction at 10 o'clock, 150mm dia	00:04:35	5	
		22.76	JN	Junction at 2 o'clock, 150mm dia	00:05:36	6	
		23.88	JN	Junction at 2 o'clock, 150mm dia	00:05:55	7	
		33.72	MHF	Finish node, manhole, reference: mh3	00:08:37		

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

Section Pictures - 7/29/2026 - mh2dsmh3

Item No.	Inspection Direction	PLR	Client's Job Ref	Contractor's Job Ref
2	Downstream	MH2DSMH3		



1, 00:00:05, 0.00 m
Start node, manhole, reference: mh2



2, 00:01:42, 6.22 m
Junction at 11 o'clock, 150mm dia



3, 00:02:06, 7.98 m
Junction at 2 o'clock, 150mm dia



4, 00:03:36, 15.00 m
Junction at 2 o'clock, 150mm dia

Section Pictures - 7/29/2026 - mh2dsmh3

Item No.	Inspection Direction	PLR	Client's Job Ref	Contractor's Job Ref
2	Downstream	MH2DSMH3		



5, 00:04:35, 18.80 m
Junction at 10 o'clock, 150mm dia



6, 00:05:36, 22.76 m
Junction at 2 o'clock, 150mm dia



7, 00:05:55, 23.88 m
Junction at 2 o'clock, 150mm dia

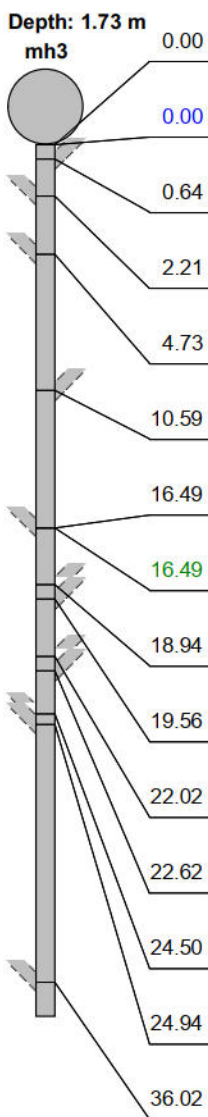
Section Inspection - 7/29/2026 - mh3dsmh4

Item No. 3	Insp. No. 1	Date 29/07/26	Time 9:51	Client's Job Ref Not Specified	Weather No Rain Or Snow	Pre Cleaned Yes	PLR MH3DSMH4
Operator craig piper		Vehicle WX20 OZO		Camera Not Specified	Preset Length Not Specified	Legal Status Not Specified	Alternative ID Not Specified

Town or Village:	Warminster	Inspection Direction:	Downstream	Upstream Node:	MH3
Road:	Bath Road	Inspected Length:	46.30 m	US Pipe Depth:	1.730 m (1.730 m)
Location:		Total Length:	46.30 m	Downstream Node:	MH4
Surface Type:		Joint Length:		DS Pipe Depth:	1.700 m (1.700 m)
Use:	Surface water	Pipe Shape:	Circular		
Type of Pipe:	Gravity drain/sewer	Dia/Height:	600 mm		
Flow Control:	No flow control	Material:	Concrete		
Year Constructed:	Not Specified	Lining Type:	No Lining		
Inspection Purpose:	Routine inspection	Lining Material:	No Lining		

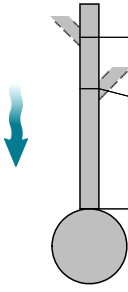
Comments:

Recommendations:

Scale:	1:325	Position [m]	Code	Observation	MPEG	Photo	Grade
							
		Depth: 1.73 m mh3	MH	Start node, manhole, reference: mh3	00:00:11		
		0.00	WL	Water level, 5% of the vertical dimension	00:00:14		
		0.64	JN	Junction at 11 o'clock, 150mm dia	00:00:32	1	
		2.21	JN	Junction at 2 o'clock, 150mm dia	00:01:00	2	
		4.73	JN	Junction at 2 o'clock, 150mm dia	00:01:47	3	
		10.59	JN	Junction at 10 o'clock, 150mm dia	00:02:47	4	
		16.49	JN	Junction at 2 o'clock, 150mm dia	00:03:23	5	
		16.49	DES	Settled deposits, fine, 10% cross-sectional area loss	00:03:23	6	3
		18.94	JN	Junction at 11 o'clock, 150mm dia	00:04:01	7	
		19.56	JN	Junction at 11 o'clock, 150mm dia	00:04:09	8	
		22.02	JN	Junction at 11 o'clock, 150mm dia	00:04:49	9	
		22.62	JN	Junction at 10 o'clock, 150mm dia	00:04:59	10	
		24.50	JN	Junction at 2 o'clock, 150mm dia	00:06:01	11	
		24.94	JN	Junction at 2 o'clock, 150mm dia	00:06:05	12	
		36.02	JN	Junction at 2 o'clock, 150mm dia	00:08:14	13	

Section Inspection - 7/29/2026 - mh3dsmh4

Item No.	Insp. No.	Date	Time	Client's Job Ref	Weather	Pre Cleaned	PLR
3	1	29/07/26	9:51	Not Specified	No Rain Or Snow	Yes	MH3DSMH4
Operator		Vehicle		Camera	Preset Length	Legal Status	Alternative ID
craig piper		WX20 OZO		Not Specified	Not Specified	Not Specified	Not Specified

Scale:	1:325	Position [m]	Code	Observation	MPEG	Photo	Grade		
 mh4 Depth: 1.70 m		38.94	JN	Junction at 2 o'clock, 150mm dia	00:08:49	14			
		41.12	JN	Junction at 10 o'clock, 150mm dia	00:09:16	15			
		46.30	MHF	Finish node, manhole, reference: mh4	00:10:31				
Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	1	2.0	0.0	2.0	3.0

Section Pictures - 7/29/2026 - mh3dsmh4

Item No.	Inspection Direction	PLR	Client's Job Ref	Contractor's Job Ref
3	Downstream	MH3DSMH4		



1, 00:00:32, 0.64 m
Junction at 11 o'clock, 150mm dia



2, 00:01:00, 2.21 m
Junction at 2 o'clock, 150mm dia



3, 00:01:47, 4.73 m
Junction at 2 o'clock, 150mm dia



4, 00:02:47, 10.59 m
Junction at 10 o'clock, 150mm dia

Section Pictures - 7/29/2026 - mh3dsmh4

Item No.	Inspection Direction	PLR	Client's Job Ref	Contractor's Job Ref
3	Downstream	MH3DSMH4		



5, 00:03:23, 16.49 m
Junction at 2 o'clock, 150mm dia



6, 00:03:23, 16.49 m
Settled deposits, fine, 10% cross-sectional area loss



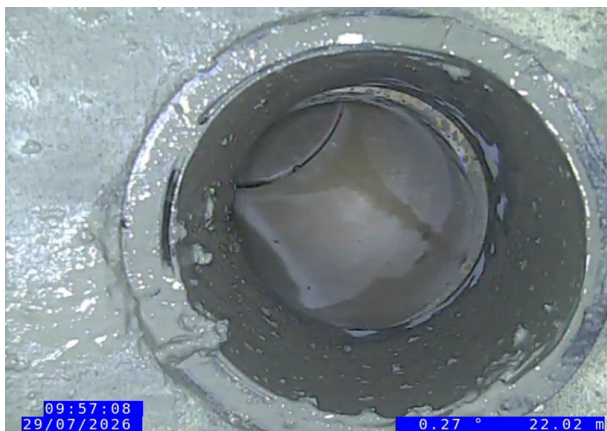
7, 00:04:01, 18.94 m
Junction at 11 o'clock, 150mm dia



8, 00:04:09, 19.56 m
Junction at 11 o'clock, 150mm dia

Section Pictures - 7/29/2026 - mh3dsmh4

Item No.	Inspection Direction	PLR	Client's Job Ref	Contractor's Job Ref
3	Downstream	MH3DSMH4		



9, 00:04:49, 22.02 m
Junction at 11 o'clock, 150mm dia



10, 00:04:59, 22.62 m
Junction at 10 o'clock, 150mm dia



11, 00:06:01, 24.50 m
Junction at 2 o'clock, 150mm dia



12, 00:06:05, 24.94 m
Junction at 2 o'clock, 150mm dia

Section Pictures - 7/29/2026 - mh3dsmh4

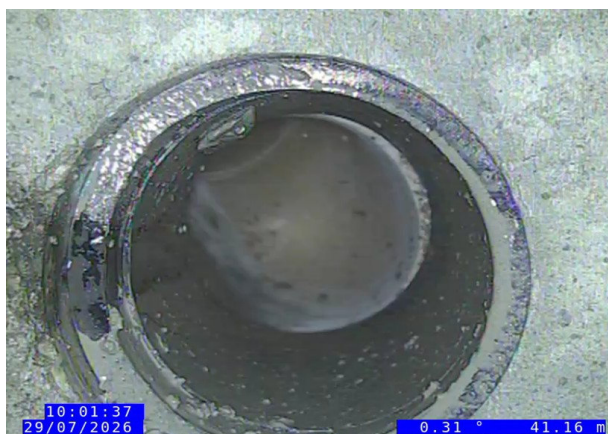
Item No.	Inspection Direction	PLR	Client's Job Ref	Contractor's Job Ref
3	Downstream	MH3DSMH4		



13, 00:08:14, 36.02 m
Junction at 2 o'clock, 150mm dia



14, 00:08:49, 38.94 m
Junction at 2 o'clock, 150mm dia



15, 00:09:16, 41.12 m
Junction at 10 o'clock, 150mm dia

Section Inspection - 7/29/2026 - mh4dsmh5

Item No.	Insp. No.	Date	Time	Client's Job Ref	Weather	Pre Cleaned	PLR
4	1	29/07/26	10:27	Not Specified	No Rain Or Snow	Yes	MH4DSMH5
Operator		Vehicle		Camera	Preset Length	Legal Status	Alternative ID
craig piper		WX20 OZO		Not Specified	Not Specified	Not Specified	Not Specified

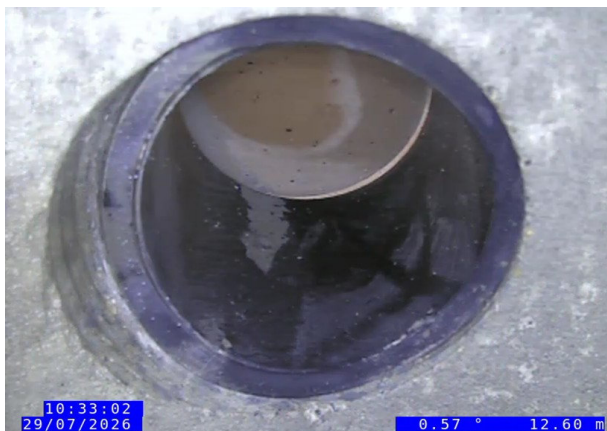
Town or Village:	Warminster	Inspection Direction:	Downstream	Upstream Node:	MH4
Road:	Bath Road	Inspected Length:	20.75 m	US Pipe Depth:	1.700 m (1.700 m)
Location:		Total Length:	20.75 m	Downstream Node:	MH5
Surface Type:		Joint Length:		DS Pipe Depth:	1.880 m (1.880 m)
Use:	Surface water	Pipe Shape:	Circular		
Type of Pipe:	Gravity drain/sewer	Dia/Height:	600 mm		
Flow Control:	No flow control	Material:	Concrete		
Year Constructed:	Not Specified	Lining Type:	No Lining		
Inspection Purpose:	Routine inspection	Lining Material:	No Lining		
Comments:	None				
Recommendations:					

Scale:	1:180	Position [m]	Code	Observation	MPEG	Photo	Grade
Depth: 1.70 m mh4 0.00 0.00 12.60 14.33 20.75 mh5 Depth: 1.88 m							
		0.00	MH	Start node, manhole, reference: mh4	00:00:05		
		0.00	WL	Water level, 5% of the vertical dimension	00:00:09		
		12.60	JN	Junction at 10 o'clock, 150mm dia	00:02:17	1	
		14.33	JN	Junction at 10 o'clock, 150mm dia	00:02:43	2	
		20.75	MHF	Finish node, manhole, reference: mh5	00:03:49		

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

Section Pictures - 7/29/2026 - mh4dsmh5

Item No.	Inspection Direction	PLR	Client's Job Ref	Contractor's Job Ref
4	Downstream	MH4DSMH5		



1, 00:02:17, 12.60 m
Junction at 10 o'clock, 150mm dia



2, 00:02:43, 14.33 m
Junction at 10 o'clock, 150mm dia