

Land at High Street, Dilton Marsh, Westbury

Drainage Technical Note

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Contents

Page

1. INTRODUCTION	2
2. EXISTING SITE CONDITIONS & DRAINAGE	4
3. PROPOSED SURFACE WATER DRAINAGE	5
4. WATER QUALITY	7
5. PROPOSED FOUL WATER DRAINAGE	9

Appendices

Appendix 1	- Topographical Survey
Appendix 2	- Drainage and Water Search – Wessex Searches
Appendix 3	- Impermeable Areas Plan
Appendix 4	- Proposed Drainage Strategy
Appendix 5	- Causeway Flow Calculations
Appendix 6	- Exceedance Flow Plan

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1. Introduction

- 1.1 Morgan Civil & Structural were instructed by Redcliffe Homes Ltd to produce a foul and surface water drainage strategy for a development on Land at High Street, Dilton Marsh, Westbury.
- 1.2 The development will consist of 54 dwellings with associated drainage, access, hard and soft landscaping.
- 1.3 This Technical Note and accompanying drainage strategy have been prepared following the grant of outline planning permission via appeal (APP/Y3940/W/24/3352160, dated 12th March 2025), subsequent to the earlier refusal under application Ref: PL/2023/01880.
- 1.4 The drainage design has been developed in line with LLFA guidance and Sustainable Drainage Systems (SuDS) principles.

Background

- 1.5 The purpose of this Technical Note is to further develop the drainage design principles established as part of the outline planning permission granted on appeal (Ref: APP/Y3940/W/24/3352160), subsequent to the earlier refusal under application Ref: PL/2023/01880 and considering subsequent correspondence between Morgans C&S and the LLFA.
- 1.6 As part of refusal application PL/2023/01880, Andy Clay consulting produced a Flood Risk Assessment, ref CD2.18 – FRA compressed.
- 1.7 Key information extracted from Phoenix Design's approved documentation, is as follows:
 - The site area is 3.0 ha of existing agricultural land (greenfield), located on the edge of Dilton Marsh.
 - Existing topography falls from south to north.
 - Ground levels fall from south/south-east to north/north-east (approx. 78 mAOD to 73 mAOD).
 - Underlying geology is Gault Formation (mudstone) with clayey soils.
 - Soakaway testing confirmed infiltration is not feasible due to low permeability and high groundwater.
 - Site located within Flood Zone 1 (low risk).
 - Low overall flood risk, with localised surface water flow paths along minor watercourses.
 - Site drains to existing minor watercourses, connecting to a tributary of Biss Brook.
 - No surface water sewers in vicinity; foul sewers present on/near site.

- Surface water discharge to watercourses in accordance with drainage hierarchy.
- SuDS proposed including detention basins, swales, permeable paving, and geocellular storage.
- Post-development runoff will be attenuated to QBAR rate with 20% betterment to 6l/s for 1-year events.
- Runoff to be attenuated to greenfield rates with flow control.
- Foul drainage to connect to Wessex Water network (likely pumped system).

2. Existing Site Conditions & Drainage

- 2.1 The existing site conditions and drainage are key to how the proposed drainage system should function for this development.
- 2.2 The site is located on the North-Western edge of Dilton Marsh, Wiltshire, and comprises approximately 3.0 ha of greenfield agricultural land, bounded by existing residential development to the south and east, and farmland to the West and North-West.
- 2.3 Site levels generally fall from the South and South-East towards the North and North-East (approx. 78mAOD to 73mAOD), directing surface water runoff towards adjacent watercourses. A topographical survey is provided in **Appendix 1**.

Ground Conditions

- 2.4 The site is underlain by the Gault Formation (mudstone) with overlying clayey soils. Ground investigations and soakaway testing confirmed low permeability and a relatively high groundwater table, indicating that infiltration drainage is not feasible.
- 2.5 The Flood Risk Assessment confirms the site is within Flood Zone 1 and is therefore at low risk of flooding from fluvial and tidal sources. There are no significant risks identified from groundwater, reservoir, or sewer flooding.
- 2.6 There are no recorded historic flood events affecting the site. The site is hydraulically connected to minor watercourses within and adjacent to the site, which ultimately drain to a tributary of Biss Brook.

Surface Water Drainage

- 2.7 There are no formal surface water drainage systems on-site. Surface water runoff currently drains into existing minor watercourses located along the site boundaries and within the site.
- 2.8 Minor watercourses are present along the Western, Northern, and Eastern boundaries, with an additional flow path through the centre of the site. These features convey runoff towards downstream catchments.
- 2.9 Wessex Water asset plans, included in **Appendix 2**, confirm no public surface water infrastructure exists on-site.
- 2.10 Existing drainage infrastructure in the vicinity includes highway drainage to the south, which may contribute flows to the central watercourse via culverted connections.

Foul Water Drainage

- 2.11 Public foul sewers are present within and adjacent to the site, including along the southern boundary.

3. Proposed Surface Water Drainage

- 3.1 In July 2025, DEFRA updated the National Standards for Sustainable Drainage Systems (SuDS).
- 3.2 The national standards provide an update to the SuDS hierarchy of discharge. Per Standard 1, runoff destinations should be sought in order of preference as follows:
- Priority 1 – Collected for non-potable use
 - Priority 2 – Infiltrated to ground
 - Priority 3 - Discharged to an above ground surface water body
 - Priority 4 - Discharged to a surface water sewer, or another piped surface water drainage system
 - Priority 5 – Discharged to a combined sewer
- 3.3 In order to determine the most suitable method of surface water disposal from the site, the options listed above have been considered as follows:

Rainwater Harvesting for Non-Potable Use

- 3.4 As the proposed site consists of 54 dwellings, there will be a need for non-potable and potable water.
- 3.5 Rainwater harvesting can be utilised for non-potable use including the flushing of toilets, watering of vegetation and washing of cars.
- 3.6 The roof areas of plots present opportunity to harvest rainwater. As a minimum, water butts will be provided and installed to properties.
- 3.7 As part of detailed design works, it must be reviewed whether a rainwater harvesting system can be effectively incorporated to the proposed plots.
- 3.8 For any rainwater harvesting measures, overflow pipes will be provided and connect any surplus flows into the wider surface water drainage system for the site.

Infiltration

- 3.9 In accordance with the drainage hierarchy, infiltration has been considered for the site. However, soakaway testing presented within the Flood Risk Assessment (Ref: CD2.18, Section 2.18 and Appendix C) recorded standing and rising groundwater levels, with tests failing to achieve sufficient drawdown to determine an infiltration rate.
- 3.10 This confirms that infiltration is not feasible due to low permeability soils and a high groundwater table. Accordingly, infiltration has been

discounted, and surface water runoff will be discharged to the adjacent watercourse at a controlled rate in line with the drainage hierarchy.

- 3.11 The roof is to drain via traditional rainwater downpipes and be directed to the permeable surfacing, raingardens and swales.
- 3.12 The private access road and some driveways will use permeable surfacing, but flows do not infiltrate to the ground. All SuDS are lined, storing water and discharging to the watercourse at a controlled rate.
- 3.13 A storage estimate has been undertaken in Causeway Flow based on the FEH-22 point data from <https://fehweb.ceh.ac.uk/Map>.
- 3.14 It is noted that the gradient of the access road and drives is indicated as greater than 1 in 20 in some locations, and therefore baffles/check dams will need incorporating as part of detail design works.
- 3.15 The proposed drainage layout is included in **Appendix 3**.

DEFRA National SuDS Standard 2: management of everyday rainfall (interception)

- 3.16 Water Butts have been specified for rainwater harvesting however, it is understood that these do not contribute to Standard 2.
- 3.17 The private access road and some of the driveways are specified to be permeable surfacing and unlined, as such they comply for their own area.
- 3.18 The permeable paving can accommodate up to 3,878m² of contributing area based on the 2x multiplier.
- 3.19 The swales can accommodate up to 866.5m², the rain gardens up to 2,362.3m², and the attenuation basins up to 3,022.5m², each based on a 5x multiplier.
- 3.20 In total, these features can serve 10,129.3m², which exceeds the total impermeable area of 9,420.98m². This site therefore complies with Standard 2.

Exceedance Flows:

- 3.21 In the case of system failure, or an event beyond the 1 in 100 Year + 40% Climate Change Storm, exceedance flows for the site must be considered.
- 3.22 The proposed levels will maintain this drainage pattern; routing exceedance flows along the site road network. The majority of flows will be directed towards the attenuation basin, with localised flows at the western extent of the site directed towards and intercepted by the existing ditch along the site boundary.
- 3.23 An exceedance flow plan has been included in **Appendix 6**.

4. Water Quality

- 4.1 The SuDS Manual (CIRIA C753) states that the design of surface water drainage should consider minimising contaminants in surface water runoff discharged from site. The level of treatment required depends on the proposed land use, according to the pollution hazard indices.
- 4.2 The site will comprise of three properties and their associated residential car parking. As per Table 26.2 of the SuDS Manual this is classified as a low pollution hazard level.
- 4.3 Using Tables 26.2 and 26.4 of the SuDS Manual the water quality mitigation has been assessed in the following table:

Land Use	Pollution Hazard Level	Total Suspended Solids (TSS)	Metals	Hydrocarbons
Individual property driveways, residential car parks, low traffic roads (e.g. Cul de sacs, homezones and general access roads)	Low	0.5	0.4	0.4
SuDS Component & Mitigation Indices				
Permeable Surfacing		0.7	0.6	0.7
Swale		0.5	0.6	0.6
Detention Basin		0.5	0.5	0.6
Mitigation Indices $\geq$ Pollutants		Yes	Yes	Yes

- 4.4 As per the above table, the permeable surfacing, swale and detention basin provides suitable mitigation for Water Quality on site.
- 4.5 In any case, further methods of good practise shall still be utilised across site.
- 4.6 It is recommended that any gullies have suitable silt traps/catchpits to reduce sediments entering the system.
- 4.7 It is advised that for maintenance, and the reduction of blockage risk to control devices, upstream and downstream chambers of SuDS and/or attenuation features have suitable catchpits to reduce sediments/particles and their associated risk of blockage.
- 4.8 It is recommended that all properties utilise water butts to intercept rainwater for re-use.

Maintenance Regime:

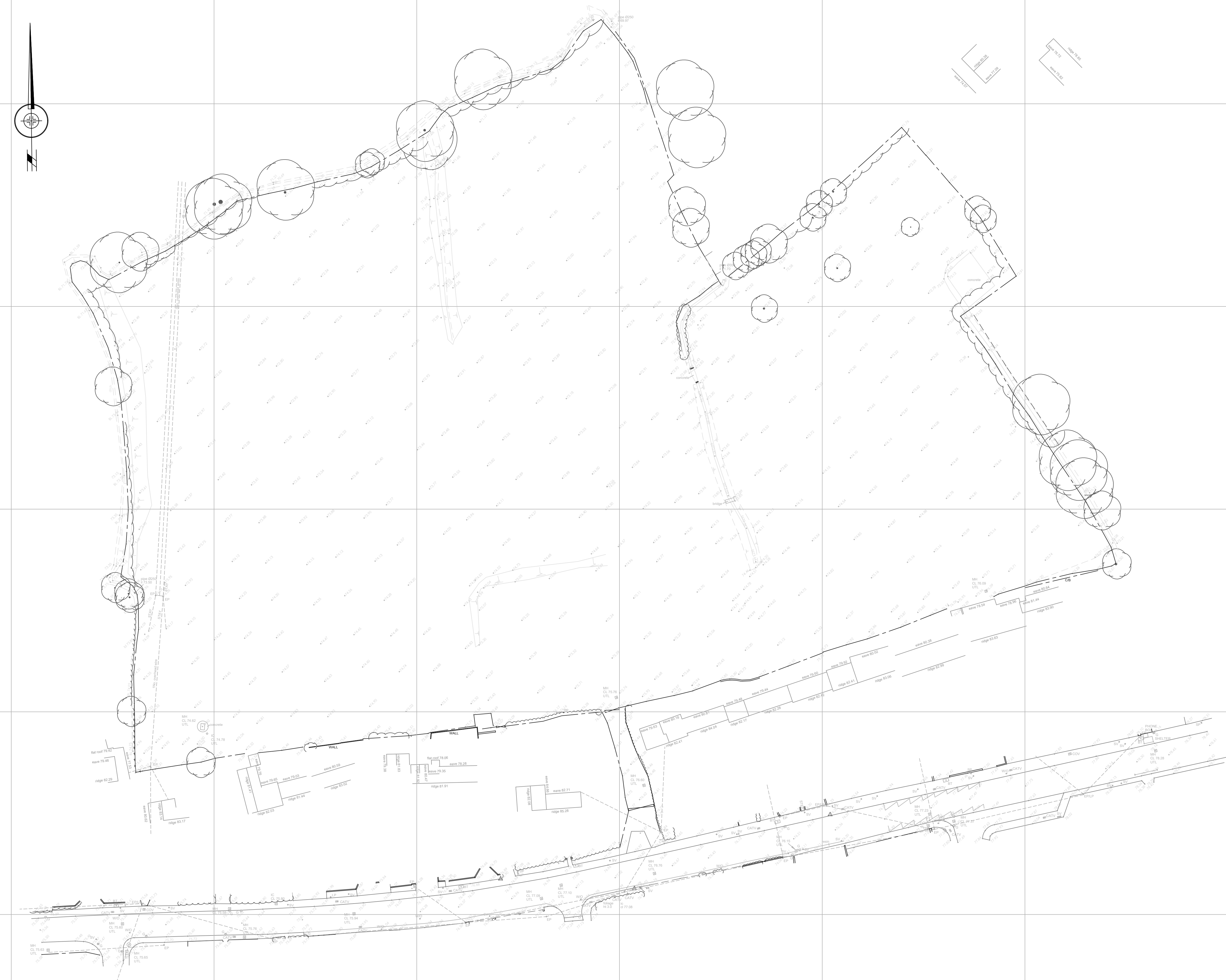
- 4.9 Morgan Civil and Structural have provided an Operations and Maintenance Manual to accompany this technical note to support planning, ref 148009-MCS-XX-RP-OM-01.

5. Proposed Foul Water Drainage

- 5.1 It is proposed to drain the foul sewerage for the site via pump package system with connections to the public foul network crossing the Southern extent of the site.
- 5.2 As per Sewerage Sector Guidance, proposed foul flows based on 4000l/dwelling/day equates to 2.5l/s for 54 dwellings.
- 5.3 The drainage strategy is included in **Appendix 4** and confirms the proposed connection point.

APPENDIX 1

Topographical Survey



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The Contractor is to check and verify all building and site dimensions, levels and sewer invert levels at connection points before work starts.

KEY.

B	Bollard.
BH	Borehole
Bpav.	Block Paving.
BS	Bus Stop.
BT	British Telecom.
CB	Channel Block.
Conc.	Concrete.
CT	Cable TV.
EP	Electricity pole.
FH	Fire Hydrant
FP	Footpath.
FS	Footstyle.
GT	Gate.
GV	Gas Valve.
G	Gully
IC	Inspection Chamber.
LB	Letter Box.
LP	Existing Street Light.
MH	Manhole.
OBM	Ordinance Bench Mark.
OHC	Overhead Cable.
PM	Parking Meter.
PO	Pole.
PY	Pylon.
RS	Road Sign.
RS	Retaining Wall.
Sap.	Sapling.
Slab.	Concrete Paving Slab.
SS	Electricity Sub-Station.
SV	Stop Valve.
Tar.	Tarmac.
TB	Telephone Box.
TL	Traffic Lights.
TP	Telegraph Pole.
WM	Water Meter.
WV	Water valve.
No. 1	Survey Station.

LEVEL INFORMATION.

CL	Manhole Cover Level.
IL	Manhole Invert Level.
SL	Manhole Soffit Level.
BL	Stream Bed Level.
+123.45	Spot Level.
T.O.K.	Top of Kerb.
T.O.W.	Top of Wall.
T.O.B.	Top of Bank.
+123.45	Top of Wall level.

NOTES.

1. Some of these abbreviations may not appear on this drawing.
2. Contour interval:- 0.25m.
3. All levels in metres related on OSBM.
4. Ridge and eaves Hts indicative.

[illegible]

Client **REDCLIFFE HOMES**

Project	HIGH STREET DILTON MARSH
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Title	SITE SURVEY
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MIKE PRINGLE
DEVELOPMENT SERVICES

31 LANES END
BRISLINGTON
BRISTOL
BS4 5DP

◻ CONVEYANCE PLANS
◻ TOPOGRAPHICAL SURVEYS
◻ AS BUILT SURVEYS

TEL: 0117 9714034 - 07799 845313
FAX: 0117 9714034



DRN BY MJP	SCALE 1/500	DRAWING NUMBER DIL-01	REV
DATE 07/08/25			

APPENDIX 2

Drainage and Water Search – Wessex Searches

Requested on: 07/05/2021

Produced on: 11/05/2021

Our reference: 83809002
Your reference: SF30137708000

COMMERCIAL DRAINAGE AND WATER ENQUIRY – EXTRA

SEARCH ADDRESS

Land at the rear of,
117, High Street,
Dilton Marsh,
Westbury,
BA13 4DP

For any queries please contact our dedicated customer service team on **01225 526206**.

Our standard terms and conditions for Commercial Drainage and Water - Extra enquiries apply to this report. They are included in this document and are available on our website www.wessexsearches.co.uk.

The following records are searched in compiling this drainage and water report:

- The public sewer maps.
- The maps of public water mains.
- Water and sewerage billing records.
- The register of properties subject to internal foul flooding.
- The register of properties subject to poor water pressure.
- The records of build over consents.
- The records of sewer adoption agreements.

Where relevant; information is provided from Bristol Water, Bournemouth Water and Wessex Water.

INTRODUCTION

Dear Sir/Madam,

RE: Land at the rear of, 117, High Street, Dilton Marsh, Westbury, BA13 4DP – 83809002

Please find enclosed the results of your Drainage and Water Search request for the above site dated 11/05/2021.

Wessex Searches has made all reasonable efforts to ensure the accuracy of this information, but provides it subject to the following conditions:

- Service pipes and drainage connections may not be shown.
- Our liability for any inaccuracies or omissions in the information is limited and your attention is drawn to the terms and conditions attached to this search and those on the CON29DW order form.
- No reference is made in the information to any interest or right of the Company on any land, this is not to be taken as conclusive evidence that no such interest or right exists.

These reservations are in addition to any statutory regulations which may apply. Please refer to notes at the end of this search report for further information and advice on sewers and water mains and for the full terms and conditions under which this report is supplied.

The person who prepared this report has not knowingly had any personal or business relationship with any individual involved in the sale of the property.

Records searched in order to compile this report, including the public sewer and water maps, customer account information and any other statutory registers, together with records on build-over consents and sewer adoption agreements, are all held by the relevant water and/or drainage company identified in this report.

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For more information on the searches & services offered by Wessex Searches, please visit www.wessexsearches.co.uk.

Thank you for your enquiry. If you require further assistance, please contact us by emailing contactus@wessexsearches.co.uk or phone **01225 526206**.

Yours faithfully,

Laura Taylor
Wessex Searches

Did you know?

Wessex Searches is a trading name for Wessex Water Enterprises limited

We are the official provider of the CON29DW and Commercial Drainage and Water Enquiry for Wessex Water Services Limited, Bournemouth Water Limited and Bristol Water Limited.

We can also provide you with a one stop shop for all your residential and commercial property searches across England and Wales.

Your guide to changes in private sewers and pumping stations.

On 1 October 2011 ownership of private sewers and lateral drains changed in accordance with The Water Industry (Schemes for Adoption of Private Sewers) Regulations 2011. The contents of this search may not reflect all of these changes. Please visit <http://www.wessexwater.co.uk/about-us/publications/private-sewers-leaflet/> for more details.

Further information is also supplied in Appendix 4.

SEARCH SUMMARY

Question		Response
MAPS		
1.1	Where relevant, please include a copy of an extract from the public sewer map.	See Details
1.2	Where relevant, please include a copy of an extract from the map of waterworks.	See Details
DRAINAGE		
2.1	Does foul water from the property drain to a public sewer?	See Details
2.2	Does surface water from the property drain to a public sewer?	See Details
2.3	Is a surface water drainage charge applicable?	See Details
2.4	Does the public sewer map indicate any public sewer, disposal main or lateral drain within the boundaries of the property?	Yes
2.4.1	Does the sewer map indicate any public pumping station or any other ancillary apparatus within the boundaries of the property?	No
2.5	Does the public sewer map indicate any public sewer within 30.48 meters (100 feet) of any buildings within the property?	Yes
2.5.1	Does the public sewer map indicate any public pumping station or any other ancillary apparatus within 50 metres of any buildings within the property?	No
2.6	Are any sewers or lateral drains serving or which are proposed to serve the property the subject of an existing adoption agreement or an application for such an agreement?	No
2.7	Has the sewerage undertaker approved or been consulted about any plans to erect a building or extension on the property over or in the vicinity of a public sewer, disposal main or drain?	No
2.8	Is the normally occupied building which is or forms part of the property at risk of internal flooding due to overloaded public sewers?	No
2.9	Please state the distance from the property to the nearest boundary of the nearest sewage treatment works.	See Details
WATER		
3.1	Is the property connected to mains water supply?	See Details
3.2	Are there any water mains, resource mains or discharge pipes within the boundaries of the property?	No
3.3	Is any water main or service pipe serving or which is proposed to serve the property the subject of an existing adoption agreement or an application for such an agreement?	No
3.4	Is the property at risk of receiving low water pressure or flow?	No
3.5	What is the classification of the water supply for the property?	See Details
3.6	Please include details of the location of any water meter serving the property.	See Details
CHARGING		
4.1.1	Who is responsible for providing the sewerage services for the property?	See Details
4.1.2	Who is responsible for providing the water services for the property?	See Details
4.2	Who bills the property for sewerage services?	See Details
4.3	Who bills the property for water services?	See Details
4.4	Is there a meter installed at this property?	See Details
4.5	Is there a Consent, on this property, to discharge Trade Effluent under S118 of the Water Industry Act (1991) into the public sewerage system?	No

MAPS

1.1 PUBLIC SEWER MAP

Where relevant, please include a copy of an extract from the public sewer map.

A copy of an extract from the public sewer map is included in which the location of the property is identified.

- 1) *The Water Industry Act 1991 defines Public Sewers as those which Wessex Water Services Limited have responsibility for. Other assets and rivers, watercourses, ponds, culverts or highway drains may be shown for information purposes only.*
- 2) *Any private sewers or lateral drains which are indicated on the extract of the public sewer map as being subject to an agreement under Section 104 of the Water Industry Act 1991 are not an 'as constructed' record. It is recommended these details be checked with the developer.*

1.2 MAP OF WATERWORKS

Where relevant, please include a copy of an extract from the map of waterworks.

A copy of an extract of the map of waterworks is included, showing water mains, resource drains or discharge pipes in the vicinity of the property.

- 1) *The "water mains" in this context are those which are vested in and maintainable by the water company under statute.*
- 2) *Assets other than public water mains may be shown on the plan, for information only.*
- 3) *Water companies are not responsible for private supply pipes connecting the property to the public water main and do not hold details of these. These may pass through land outside of the control of the seller, or may be shared with adjacent properties. The buyer may wish to investigate whether separate rights or easements are needed for their inspection, repair or renewal.*
- 4) *The copy extract will show known public water mains in the vicinity of the property. It should be possible to estimate the likely length and route of any private water supply pipe connecting the property to the public water network.*

DRAINAGE

2.1 FOUL WATER

Does foul water from the property drain to a public sewer?

Land at the rear of,117,High Street,Dilton Marsh,Westbury,BA13 4DP

Records indicate that this enquiry relates to a plot of land or recently built property.

It is recommended that the drainage proposals are checked with the vendor/developer.

- 1) *Water companies are not normally responsible for any private drains serving the property and do not hold details of these. The property owner will normally have sole responsibility for private drains serving the property. From 1st October 2011, lateral drains and private sewers serving the property may become public.*
- 2) *An extract from the public sewer map is enclosed. This will show known public sewers in the vicinity of the property and it should be possible to estimate the likely length and route of any private drains and/or sewers connecting the property to the public sewerage system.*
- 3) *If foul water does not drain to the public sewerage system the property may have private facilities in the form of a cesspit, septic tank or other type of treatment plant.*

2.2 SURFACE WATER

Does surface water from the property drain to a public sewer?

Land at the rear of,117,High Street,Dilton Marsh,Westbury,BA13 4DP

Records indicate that this enquiry relates to a plot of land or recently built property.

It is recommended that the drainage proposals are checked with the vendor/developer.

- 1) *Water companies are not responsible for private drains and sewers that connect the property to the public sewerage system and do not hold details of these. From 1st October 2011, lateral drains and private sewers serving the property may become public.*
- 2) *The property owner will normally have sole responsibility for private drains serving the property and may have shared responsibility with other users, if the property is served by a private sewer which also serves other properties. These may pass through land outside of the control of the seller and the buyer may wish to investigate whether separate rights or easements are needed for their inspection, repair or renewal*
- 3) *In some cases, water company records do not distinguish between foul and surface water connections to the public sewerage system*

- 4) *If on inspection the buyer finds that the property is not connected for surface water drainage, the property may be eligible for a rebate of the surface water drainage charge. Details can be obtained from the company*
- 5) *An extract from the public sewer map is enclosed. This will show known public sewers in the vicinity of the property and it should be possible to estimate the likely length and route of any private drains and/or sewers connecting the property to the public sewerage system.*

2.3 SURFACE WATER DRAINAGE CHARGES

Is a surface water drainage charge applicable?

Land at the rear of, 117, High Street, Dilton Marsh, Westbury, BA13 4DP

Records indicate that this enquiry relates to a plot of land or recently built property.

It is recommended that the drainage proposals are checked with the vendor/developer.

- 1) *Where surface water from a property does not drain to the public sewerage system no surface water drainage charges are payable.*
- 2) *Where surface water drainage charges are payable but upon inspection the property owner believes that surface water does not drain to the public sewerage system, application can be made to the company to end surface water charges.*
- 3) *This charge forms part of the annual water and sewerage service charge.*

2.4 PUBLIC SEWERS WITHIN THE BOUNDARY OF THE PROPERTY

Does the public sewer map indicate any public sewer, disposal main or lateral drain within the boundaries of the property?

The public sewer map indicates that there is a public sewer, disposal main or lateral drain within the boundaries of the property. However, from the 1st October 2011 there may be additional public sewers, disposal mains or lateral drains which are not recorded on the public sewer map but may prevent or restrict further development of the property.

- 1) *Wessex Water Services Limited has a statutory right of access to carry out work on its assets. Employees of Wessex Water Services Limited or its contractors may, therefore, need to enter the property to carry out work.*
- 2) *The approximate boundary of the property has been determined by reference to the Ordnance Survey record or the map supplied.*
- 3) *Any private sewers or lateral drains which are indicated on the extract of the public sewer map as being subject to an agreement under Section 104 of the Water Industry Act 1991*

are not an 'as constructed' record. It is recommended these details be checked with the developer.

- 4) *Please note if the property was constructed after 1st July 2011 any sewers and/or lateral drain within the boundary of the property are the responsibility of the householder.*
- 5) *A Strategic sewer is a public sewer of critical importance. Wessex Water will not normally permit any works over or within 6M (measured horizontally) of such an asset. In some circumstances, Wessex Water may permit certain build over or build near proposals subject to a number of conditions.*
Please contact Wessex Water Developer Services for further information.

2.4.1 PUBLIC SEWER APPARATUS WITHIN THE BOUNDARY OF THE PROPERTY

Does the sewer map indicate any public pumping station or any other ancillary apparatus within the boundaries of the property?

Land at the rear of, 117, High Street, Dilton Marsh, Westbury, BA13 4DP

The public sewer map included indicates that there is no public pumping station or other ancillary apparatus within the boundaries of the property. However, from the 1st October 2016 private pumping stations which serve more than one property will be transferred into public ownership but may not be recorded on the public sewer map until that time. Any other ancillary apparatus is shown on the public sewer map and referenced in the legend.

2.5 PUBLIC SEWERS NEAR TO THE PROPERTY

Does the public sewer map indicate any public sewer within 30.48 metres (100 feet) of any buildings within the property?

The public sewer map included indicates that there is a public sewer and/or strategic sewer within 30.48 metres (100 feet) of the property boundary.

- 1) *From 1st October 2011 there may be additional lateral drains and/or public sewers which are not recorded on the public sewer map but are also within 30.48 metres (100 feet) of a building within the property.*
- 2) *The presence of a public sewer within 30.48 metres (100 feet) of the building(s) within the property can result in the Local Authority requiring a property to be connected to the public sewer.*
- 3) *The measure is estimated from the Ordnance Survey record, between the building(s) within the boundary of the property and the nearest public sewer.*
- 4) *Any private sewers or lateral drains which are indicated on the extract of the public sewer map as being subject to an agreement under Section 104 of the Water Industry Act 1991 are not an 'as constructed' record. It is recommended these details be checked with the developer.*

2.5.1 PUBLIC SEWER APPARATUS NEAR TO THE PROPERTY

Does the public sewer map indicate any public pumping station or any other ancillary apparatus within 50 metres of any buildings within the property?

Land at the rear of, 117, High Street, Dilton Marsh, Westbury, BA13 4DP

The public sewer map included indicates that there is no public pumping station or other ancillary apparatus within 50 metres of any buildings within the property. However, from the 1st October 2016 private pumping stations which serve more than one property will be transferred into public ownership but may not be recorded on the public sewer map until that time. Any other ancillary apparatus is shown on the public sewer map and referenced on the legend.

2.6 PUBLIC ADOPTION OF SEWERS AND LATERAL DRAINS

Are any sewers or lateral drains serving or which are proposed to serve the property the subject of an existing adoption agreement or an application for such an agreement?

Records indicate that sewers serving the development, of which the property forms part, are not the subject of an existing adoption agreement or an application for such an agreement.

- 1) *Please see Appendix 4 - PRIVATE SEWER TRANSFER for more information relating to changes to S104 agreements following 1st October 2011.*
- 2) *This enquiry is of interest to purchasers of new homes who will want to know whether or not the property will be linked to a public sewer.*
- 3) *Where the property is part of a very recent or ongoing development and the sewers are not the subject of an adoption application, buyers should consult with the developer to ascertain the extent of private drains and sewers for which they will hold maintenance and renewal liabilities.*

2.7 BUILDING OVER OR NEAR A PUBLIC SEWER, DISPOSAL MAIN OR DRAIN

Has a sewerage undertaker approved or been consulted about any plans to erect a building or extension on the property over or in the vicinity of a public sewer,

disposal main or drain?

There are no records in relation to any approval or consultation about any plans to erect a building or extension on the property over or in the vicinity of a public sewer, disposal main or drain. However, the sewerage undertaker might not be aware of a building or extension on the property over or in the vicinity of a public sewer, disposal main or drain.

- 1) *Buildings or extensions erected over a sewer in contravention of building controls may have to be removed or altered.*
- 2) *From 1st October 2011 private sewers, disposal mains and lateral drains were transferred into public ownership and the sewerage undertaker may not have been approved or consulted about any plans to erect a building or extension on the property over or in the vicinity of these.*

2.8 RISK OF FLOODING DUE TO OVERLOADED PUBLIC SEWERS

Is the building which is or forms part of the property at risk of internal flooding due to overloaded public sewers?

Land at the rear of, 117, High Street, Dilton Marsh, Westbury, BA13 4DP

The property is not recorded as being at risk of internal flooding due to overloaded public sewers. From 1st October 2011 private sewers, disposal mains and lateral drains were transferred into public ownership. It is therefore possible that a property may be at risk of internal flooding due to an overloaded public sewer which the sewerage undertaker is not aware of. For further information, it is recommended that enquiries are made of the vendor.

- 1) *A sewer is "overloaded" when the flow from a storm is unable to pass through it due to a permanent problem (e.g. flat gradient, small diameter). Flooding as a result of temporary problems such as blockages, siltation collapses and equipment or operational failures are excluded.*
- 2) *"Internal flooding" from public sewers is defined as flooding which enters a building or passes below a suspended floor. For reporting purposes, buildings are restricted to those normally occupied and used for residential, public, commercial, business or industrial purposes.*
- 3) *"At Risk" properties are those that the water company is required to include in the Regulatory Register that is reported annually to the Water Services Regulatory Authority (OFWAT). These are defined as properties that have suffered or are likely to suffer internal flooding from public foul, combined or surface water sewers due to overloading of the sewerage system more frequently than the relevant reference period (either once or twice in ten years) as determined by the Company's reporting procedure.*
- 4) *Flooding as a result of storm events proven to be exceptional and beyond the reference period of one in ten years are not included on the at Risk register.*
- 5) *Properties may be at risk of flooding but not included on the Register where flooding incidents have not been reported to the Company.*

- 6) *Public sewers are defined as those for which the Company holds statutory responsibility under the Water Industry Act 1991.*
- 7) *It should be noted that flooding can occur from private sewers and drains which are not the responsibility of the Company. This report excludes flooding from private sewers and drains and the Company makes no comment upon this matter.*
- 8) *For reporting purposes buildings are restricted to those normally occupied and used for residential, public, commercial, business or industrial purposes.*

2.9 SEWAGE TREATMENT WORKS

Please state the distance from the property to the nearest boundary of the nearest sewage treatment works

The nearest sewage treatment works is 0.724 km to the West of the property.
The name of the sewage treatment works is DILTON MARSH

- 1) *The nearest sewage treatment works will not always be the sewage treatment works serving the catchment within which the property is situated.*
- 2) *The Sewerage undertaker's records were inspected to determine the nearest sewage treatment works.*
- 3) *It should be noted therefore that there may be a private sewage treatment works closer than the one detailed above that have not been identified.*
- 4) *As a responsible utility operator, Wessex Water seeks on all its operational sites to manage the impact of odour from our sewage works on the surrounding area in accordance with the Code of Practice on Odour Nuisance from Sewage Treatment Works issued via the Department of Food and Rural Affairs (DEFRA). This Code recognises that odour from sewage treatment works can have a detrimental impact on the quality of the local environment for those living close to works. However, DEFRA also recognises that sewage treatment works provide important services to communities and are essential for maintaining standards in water quality and protecting aquatic based environments.*

WATER

3.1 CONNECTION TO MAINS WATER SUPPLY

Is the property connected to mains water supply?

Land at the rear of, 117, High Street, Dilton Marsh, Westbury, BA13 4DP

This enquiry relates to a plot of land or recently built property. It is recommended that the water supply proposals are checked with the developer.

- 1) Details of troughs are not supplied. As they have no permanent location, we are unable to confirm what they serve. Any information relating to troughs should be checked with the current owner of the property.*

3.2 WATERS MAINS, RESOURCE MAINS OR DISCHARGE PIPES

Are there any water mains, resource mains or discharge pipes within the boundaries of the property?

The map of waterworks does not indicate any water mains, resource mains or discharge pipes within the boundaries of the property.

- 1) The boundary of the property has been determined by reference to the Ordnance Survey record.*
- 2) The presence of a public water main within the boundary of the property may restrict further development within it. Water companies have a statutory right of access to carry out work on their assets, subject to notice. This may result in employees of the company or its contractors needing to enter the property to carry out work.*

3.3 ADOPTION OF WATER MAINS AND SERVICE PIPES

Is any water main or service pipe serving or which is proposed to serve the property the subject of an existing adoption agreement or an application for such an agreement?

Records confirm that water mains or service pipes serving the property are not the subject of an existing adoption agreement or an application for such an agreement.

- 1) This enquiry is only of interest to buyers of new homes who will want to know whether or not the property will be linked to the mains water supply.*

3.4 RISK OF LOW WATER PRESSURE OR FLOW

Is the property at risk of receiving low water pressure or flow?

Land at the rear of, 117, High Street, Dilton Marsh, Westbury, BA13 4DP

Records confirm that the property is not recorded on a register kept by the water undertaker as being at risk of receiving low water pressure or flow.

- 1) *1) The boundary of the property has been determined by reference to the Ordnance Survey record.*
- 2) *"Low water pressure" means water pressure below the regulatory reference level which is the minimum pressure when demand on the system is not abnormal.*
- 3) *Water Companies are required to include in the Regulatory Register that is reported annually to the Water Services Regulatory Authority (OFWAT) properties receiving pressure below the reference level, provided that allowable exclusions do not apply (i.e. events which can cause pressure to temporarily fall below the reference level).*
- 4) *The reference level of service is a flow of 9 litres/minute at a pressure of 10metres head on the customer's side of the main stop tap (mst). The reference level of service must be applied on the customer's side of a meter or any other company fittings that are on the customer's side of the main stop tap.*
The reference level applies to a single property. Where more than one property is served by a common service pipe, the flow assumed in the reference level must be appropriately increased to take account of the total number of properties served.
For two properties, a flow of 18 litres/minute at a pressure of 10metres head on the customers' side of the mst is appropriate. For three or more properties the appropriate flow should be calculated from the standard loadings provided in BS806-3 or the Institute of Plumbing handbook
- 5) *Allowable exclusions*
The Company is required to include in the Regulatory Register properties receiving pressure below the reference level, provided that allowable exclusions listed below do not apply.
- 6) *One-off incidents:*
This exclusion covers a number of causes of low pressure; mains bursts; Failures of company equipment (such as PRVs or booster pumps); Firefighting; and Action by a third party.
However, if problems of this type affect a property frequently, they cannot be classed as one-off events and further investigation will be required before they can be excluded.

3.5 WATER HARDNESS ANALYSIS

What is the classification of the water supply for the property?

Land at the rear of, 117, High Street, Dilton Marsh, Westbury, BA13 4DP

The water supplied to the property has an average water hardness of 325 mg/l of Calcium Carbonate which is defined as Very hard by Wessex Water Services Ltd.

Water hardness can be expressed in various indices for example the hardness settings for dishwashers are commonly expressed in Clark's degrees, but check with the manufacturer as there are also other units. The following table shows the normal ranges of hardness

Hardness category	Calcium (mg/l)	Calcium carbonate (mg/l)	English Clarke degrees	French degrees	General/ German degrees
Soft	0 to 20	0 to 50	0 to 3.5	0 to 5	0 to 2.8
Moderately soft	21 to 40	51 to 100	3.6 to 7	6 to 10	2.9 to 5.6
Slightly hard	41 to 60	101 to 150	8 to 10.5	11 to 15	5.7 to 8.4
Moderately hard	61 to 80	151 to 200	10.6 to 14	16 to 20	8.5 to 11.2
Hard	81 to 120	201 to 300	15 to 21	21 to 30	11.3 to 16.8
Very hard	Over 120	Over 300	Over 21	Over 30	Over 16.8

SAMPLE TABLE FOR INFORMATION ONLY

3.6 WATER METERS

Please include details of the location of any water meter serving the property

Land at the rear of,117,High Street,Dilton Marsh,Westbury,BA13 4DP

Records indicate that this enquiry relates to a plot of land or recently built property.

It is recommended that the charging proposals are checked with the vendor/developer.

CHARGING

4.1.1 SEWERAGE UNDERTAKER

Who is responsible for providing the sewerage services for the property?

Wessex Water Services Limited, Operations Centre, Claverton Down Road, Bath, BA2 7WW is responsible for providing the sewerage services for the property.

4.1.2 WATER UNDERTAKER

Who is responsible for providing the water services for the property?

Wessex Water Services Limited, Operations Centre, Claverton Down Road, Bath, BA2 7WW is responsible for providing the water services for the property.

4.2 SEWERAGE BILLS

Who bills the property for sewerage services?

Land at the rear of, 117, High Street, Dilton Marsh, Westbury, BA13 4DP

Records indicate that this enquiry relates to a plot of land or a recently built property. It is recommended that the charging proposals are checked with the developer.

It is policy to meter all new water connections which would result in charges being levied according to the measured tariff

4.3 WATER BILLS

Who bills the property for water services?

Land at the rear of, 117, High Street, Dilton Marsh, Westbury, BA13 4DP

Records indicate that this enquiry relates to a plot of land or a recently built property. It is recommended that the charging proposals are checked with the developer.

It is policy to meter all new water connections which would result in charges being levied according to the measured tariff

4.4 METERS

Is there a meter installed at this property?

Land at the rear of, 117, High Street, Dilton Marsh, Westbury, BA13 4DP

Records indicate that this enquiry relates to a plot of land or recently built property. It is recommended that the charging proposals are checked with the developer.

- 1) *Water and Sewerage companies' full charges are set out in their charges schemes which are available from the company free of charge upon request.*
- 2) *It is policy to meter all new water connections which would result in charges being levied according to the measured tariff*

4.5 TRADE EFFLUENT

Is there a Consent , on this property, to discharge Trade Effluent under S118 of the Water Industry Act (1991) into the public sewerage system?

No, records indicate that there is no consent on this property to discharge Trade effluent into the public sewerage system however should be reminded that it is an offence under S118 of the Water industry act to discharge Trade Effluent into a public sewer vested in Wessex Water without consent.

ADDITIONAL

INTERPRETATION of Drainage and Water Search

Appendix 1 of this report contains definitions of terms and expressions referred to within the search result.

ENQUIRIES AND RESPONSES

The search report on the above property was completed on 11/05/2021

In the event of any queries about the preparation of this search report, enquiries should be directed to contactus@wessexsearches.co.uk or the Wessex Searches Manager, Wessex Water Enterprises at the address below.

Wessex Water Enterprises has put in place procedures to ensure that customers receive support in the event of any complaint. Our formal Complaints Procedure is set out in Appendix 3.

The address for all correspondence is Wessex Water Enterprises Ltd, Wessex Water Operations Centre, Claverton Down, Bath BA2 7WW.

APPENDIX 1

COMMON TERMS

"**the 1991 Act**" means the Water Industry Act 1991[61];

"**the 2000 Regulations**" means the Water Supply (Water Quality) Regulations 2000[62];

"**the 2001 Regulations**" means the Water Supply (Water Quality) Regulations 2001[63];

"**adoption agreement**" means an agreement made or to be made under section 51A(1) or 104(1) of the 1991 Act[64];

"**bond**" means a surety granted by a developer who is a party to an adoption agreement;

"**bond waiver**" means an agreement with a developer for the provision of a form of financial security as a substitute for a bond;

"**calendar year**" means the twelve months ending with 31st December;

"**discharge pipe**" means a pipe from which discharges are made or are to be made under section 165(1) of the 1991 Act;

"**disposal main**" means (subject to section 219(2) of the 1991 Act) any outfall pipe or other pipe which—

(a) is a pipe for the conveyance of effluent to or from any sewage disposal works, whether of a sewerage undertaker or of any other person; and

(b) is not a public sewer;

"drain" means (subject to section 219(2) of the 1991 Act) a drain used for the drainage of one building or of any buildings or yards appurtenant to buildings within the same curtilage;

"combined Sewer" A sewer carrying both foul water as well as surface water.

"effluent" means any liquid, including particles of matter and other substances in suspension in the liquid;

"financial year" means the twelve months ending with 31st March;

"lateral drain" means—

(a) that part of a drain which runs from the curtilage of a building (or buildings or yards within the same curtilage) to the sewer with which the drain communicates or is to communicate; or

(b) (if different and the context so requires) the part of a drain identified in a declaration of vesting made under section 102 of the 1991 Act or in an agreement made under section 104 of that Act[65];

"licensed water supplier" means a company which is the holder for the time being of a water supply licence under section 17A(1) of the 1991 Act[66];

"maintenance period" means the period so specified in an adoption agreement as a period of time—

(a) from the date of issue of a certificate by a sewerage undertaker to the effect that a developer has built (or substantially built) a private sewer or lateral drain to that undertaker's satisfaction; and

(b) until the date that private sewer or lateral drain is vested in the sewerage undertaker;

"map of waterworks" means the map made available under section 198(3) of the 1991 Act [67] in relation to the information specified in subsection (1A);

"private sewer" means a pipe or pipes which drain foul or surface water, or both, from premises, and are not vested in a sewerage undertaker;

"private sewage treatment plant" Generally a small treatment works (which could be a septic tank) owned and operated by a community, hotel or household. Treatment plants should conform to the same operational and environmental standards applied to sewage works operated by the water company. Accordingly, the running costs for small plants can be substantial and as environmental standards are raised there may be a need for additional capital investment.

"private water supply" Where a property has no connection to the water mains, a suitable private spring or surface water source may be used. This may require extensive treatment to make the supplies safe and will be subject to examination and control by the local environmental health officer. Approval under the Building Act 1984 for new building work for domestic properties will not be granted unless adequate water supplies and drainage facilities are available,.

"public sewer" means, subject to section 106(1A) of the 1991 Act[68], a sewer for the time being vested in a sewerage undertaker in its capacity as such, whether vested in that undertaker—

(a) by virtue of a scheme under Schedule 2 to the Water Act 1989[69];

(b) by virtue of a scheme under Schedule 2 to the 1991 Act[70];

(c) under section 179 of the 1991 Act[71]; or

(d) otherwise;

"public sewer map" means the map made available under section 199(5) of the 1991 Act[72];

"pre-1936 Sewers" The Public health Act of 1936 set out a range of responsibilities for the operation and maintenance of sewerage systems but the Act recognised that little was known about the existing sewer network. Some had been maintained by private individuals and others by local authorities. Some of the costs had been re-charged to the owners and the location of all these early sewers had not been surveyed and was unknown. The Act acknowledged the different status of these early sewers and made different provisions in respect of them.

"resource main" means (subject to section 219(2) of the 1991 Act) any pipe, not being a trunk main, which is or is to be used for the purpose of—

(a) conveying water from one source of supply to another, from a source of supply to a regulating reservoir or from a regulating reservoir to a source of supply; or

(b) giving or taking a supply of water in bulk;

"rising mains/pumping mains" These are pipes carrying untreated sewage pumped under pressure. There is no right to connect into them.

"septic tank" A settlement chamber, which provides treatment to sewage and drainage waters. Overflow from the tank goes to a soak-away or drainage field, occasionally to a sewer. Septic tanks are unpowered. Properties operating then are responsible for the operation, the maintenance and occasional emptying of the chamber. Septic tanks function excellently in well drained land. It is becoming less acceptable to operate a septic tank in low-lying land, particularly near rivers and streams. Any pollution problems precipitated by poorly performing septic tanks may mean they need to be decommissioned and connections to the public sewer network need to be undertaken.

"sewerage services" includes the collection and disposal of foul and surface water and any other services which are required to be provided by a sewerage undertaker for the purpose of carrying out its functions;

"sewerage undertaker" means the company appointed to be the sewerage undertaker under section 6(1) of the 1991 Act for the area in which the property is or will be situated;

"soakaway or drainage field" Buried pipes or aggregates that allow treated effluents or surface waters to disperse. They are owned and maintained by the property owner.

"Strategic Sewers" means sewers critical to the running of the sewerage network. No work permitted over or within 6m (horizontal) of this asset

"surface water" includes water from roofs and other impermeable surfaces within the curtilage of the property;

"water main" means (subject to section 219(2) of the 1991 Act) any pipe, not being a pipe for the time being vested in a person other than the water undertaker, which is used or to be used by a water undertaker or licensed water supplier for the purpose of making a general supply of water available to customers or potential customers of the undertaker or supplier, as distinct from for the purpose of providing a supply to particular customers;

"water meter" means any apparatus for measuring or showing the volume of water supplied to, or of effluent discharged from any premises;

"water supplier" means the company supplying water in the water supply zone, whether a water undertaker or licensed water supplier;

"water supply zone" in relation to a calendar year means the names and areas designated by a water undertaker within its area of supply that are to be its water supply zones for that year; and

"water undertaker" means the company appointed to be the water undertaker under section 6(1) of the 1991 Act for the area in which the property is or will be situated.

APPENDIX 2

Wessex Searches General Terms and Conditions

These terms and conditions (the **General Terms**) set out the terms and conditions which will apply to any orders placed either through the Wessex Searches website (the **Website**) or when ordering by post, Xml or email.

If you register as a user of the Website and / or you place an order with Wessex Searches, you agree to be bound by these General Terms. If you do not accept these General Terms, please do not place an order.

The General Terms apply in addition to either the CON29DW Terms, the Commercial DW Terms, and / or Third Party terms as applicable, depending on the search ordered (the **Report Terms**). Together, the General Terms and the relevant Report Terms are referred to as the **Terms**.

Please read the Terms carefully, as by using the Website and our services, you agree to the Terms.

1 About us

- 1.1 Wessex Searches (we, us, our) is a trading name of Wessex Water Enterprises Limited, company registration number 02279151 and registered office address Operations Centre, Claverton Down Road, Claverton Down, Bath BA2 7WW. We can be emailed at contactus@wessexsearches.co.uk, or contacted by telephone on 01225 526 206.

2 About our services

- 2.1 We are the official producer of the CON29DW Drainage and Water enquiry and the Commercial Drainage and Water enquiry in the Wessex Water, Bristol Water and Bournemouth Water areas. Searches can be requested for residential properties (**CON29DW Search**) or commercial properties (**Commercial DW Search**).
- 2.2 We also offer a number of third party searches through our Website (**Third Party Searches**). CON29DW Searches, Commercial DW Searches and Third Party Searches are referred to together as **Searches**.
- 2.3 Searches can be ordered by any person, company, firm or legal body (a **Client**) either on their own behalf or through their authorised representative(s). References to **you** and **your** in the Terms are references to the person, firm or company requesting the provision of search information and reports from us.

3 Your account and data protection

- 3.1 You will need to set up an account to use our services. To do this you will need to provide us with some information, which we will treat in accordance with our Privacy Policy (available on the Website). You will have a password, which you are responsible for keeping secure.
- 3.2 By signing up for an account, you warrant that you have the necessary capacity, authority and consents to request Searches from us. If you are acting on behalf of a Client, you are also responsible for ensuring that you have the necessary consent for names, addresses, and other personal information to be submitted to us when you request Searches and agree that you will comply with all applicable data protection legislation (including, without limitation the Data Protection Act 2018. The Privacy and Electronic Communications (EC Directive) Regulations 2003 and General Data Protection Regulation EU 2016/679) at all times.
- 3.3 You acknowledge that some or all information needed to provide a Search may come from a third party (**Third Party**). Where this is the case, we will pass on your request (and where necessary personal data) to the relevant Third Party.

4 Use of our Website

- 4.1 You must not use our Website for fraudulent or illegal purposes, or in any way that would interrupt or damage the Website. In particular you must not knowingly transmit viruses, Trojan horses, worms or any other malicious code.
- 4.2 You are responsible for ensuring that your computer is secure and you have up-to-date antivirus protection. We accept no liability for viruses transmitted through our Website.
- 4.3 Our Website is intended for use in the UK and we make no guarantee that the Website will be available or appropriate for use in other locations.
- 4.4 We give no guarantees as to the operation, availability or functionality of the Website or that it will be error-free.
- 4.5 Information on our Website is not intended as advice which you should rely on.
- 4.6 We can change the content of our Website at any time but are under no obligation to update it.

5 Ordering services

- 5.1 You can order Searches through our Website by submitting an electronic search request or by post, Xml or email (a **Request**).
- 5.2 For Requests by post, xml or email you must complete our order form, including full details of the Search(es) you would like to order. You can find a copy of the order form on our Website or alternatively can request a copy by email or by telephone using the contact details in 1.1 above.
- 5.3 Requests by post or email should be sent to the postal or email address below:

Wessex Searches
Operations Centre
Claverton Down Road
Bath BA2 7WW

contactus@wessexsearches.co.uk

We cannot accept liability in the event that you order a Search by post or email and the letter or email is not received by us.

- 5.4 If the Search you have ordered is a Third Party Search, we will pass your Request on to the relevant search provider (each a **Provider**).
- 5.5 Third Party Searches are subject to the relevant Provider's terms and conditions. You can view their terms on our Website before you submit a Request, and if you submit a Request you agree to their terms. We are not responsible for any Third Party Searches and accept no liability in relation to Third Party Searches or the terms on which they are provided. If there is any conflict or inconsistency between these General Terms and the Provider's terms, the provisions of the Provider's terms shall apply in relation to the provision of the Third Party Search.
- 5.6 We may choose not to accept a Request, in which case we will notify you within 48 hours.

6 Cancelling services

- 6.1 You are always entitled to cancel any Requests you have submitted at any time before we start to process it.
- 6.2 If you are a business customer, you can cancel your Request after we have started to process it, but we may charge a cancellation fee. Where a Search has been ordered, and has been fulfilled or partly fulfilled prior to cancellation, then the full price of the Search shall be payable.
- 6.3 If you are a consumer (and not trading as a business), you can cancel your Request within 14 days of the date of your Request. You can tell us of your decision to cancel by post or email and you can (but you don't have to) use our cancellation form (available on the Website).
- 6.4 If you are a consumer, due to your cancellation rights, we won't start to process your Request until the 14-day cancellation period is up, unless you expressly tell us to do so and acknowledge that you waive your cancellation rights. If you waive these rights, you can still cancel after we have started to process your Request, but we may charge a cancellation fee. Where a Third Party Search has been ordered, and has been fulfilled or partly fulfilled prior to cancellation, then the full price of the search shall be payable.

7 Services and standards

- 7.1 If we accept your Request, we will perform the Search you have requested and will produce an electronic report (a **Report**). If you have ordered a Third Party Search, and this has been

accepted by the Provider, the Provider will produce an electronic report in response to your order (a **Third Party Report**).

- 7.2 We will use reasonable skill and care when we perform Searches and produce Reports.
- 7.3 Reports and Third Party Reports provided in response to your requests will be sent to the contact details provided in your request. We will provide Reports within a reasonable period of time and we won't be responsible for delays in providing Third Party Reports.
- 7.4 It is your responsibility to ensure that the Searches and Reports meet your or your Client's requirements.

8 Accuracy of information

- 8.1 We will prepare Reports using the details you provide when you submit a Request. You must make sure all details you submit with your Request are accurate and complete.

9 Prices and payment

- 9.1 All prices for Searches are published on our Website. Prices are in pounds sterling and include VAT unless otherwise stated.
- 9.2 Our prices may change from time to time and our Website will be updated to reflect those changes. The price you pay will be the price stated on our Website at the time the Request is submitted.
- 9.3 Unless you have an account with us, we must receive payment for Searches in full before the Report is produced.
- 9.4 If you have an account with us, we will invoice you in arrears for Searches which may be weekly, monthly or in relation to each Search. Invoices are payable within 30 days of the date of the invoice. You acknowledge and agree that if payment is not made in full by the due date for payment, we may at our discretion, and without prejudice to our right to seek recovery of late payment through the courts or any other appropriate means: (a) charge you interest on any overdue amounts at the rate of 4% per annum above HSBC's base lending rate from time to time, calculated from the date of the invoice to the date actual payment is received, whether before or after judgment; and/or (b) put your account on hold until such time as all overdue amounts (including interest due) are paid in full.
- 9.5 In respect of LLC1 searches we provide to you, you acknowledge and agree that these will be treated as disbursements in line with current HMRC guidance. Should HMRC change their guidance, we reserve the right to recover any output tax due on these from you.

10 Intellectual property rights

- 10.1 All intellectual property rights in the Website are owned by us and/or our licensors.
- 10.2 You may only print out or copy any pages from our Website for your own personal use. You can link to our homepage but only if this is legal and fair and doesn't damage our reputation or suggest an endorsement by us. You must not frame our site on any other site or link to any part other than our homepage.
- 10.3 Except as set out in this clause, neither you nor your Client (if applicable) obtains any rights in any intellectual or other property.

11 Limitation of liability

- 11.1 Nothing in the Terms limits our liability for death or personal injury arising from our negligence.
- 11.2 As far as we are allowed to do so, we exclude:
 - 11.2.1 liability for errors, omissions and/or inconsistencies in the content of Reports or Third Party Reports unless these are directly due to our negligent acts or omissions;
 - 11.2.2 all conditions, warranties and other implied terms; and
 - 11.2.3 all liability for direct, indirect or consequential loss or damage you incur in connection with our Website; and
 - 11.2.4 all liability for indirect or consequential loss or damage you incur in connection with the Reports.
- 11.3 Our entire liability in respect of all causes of action arising by reason of or in connection with a CON29DW Search Report or a Commercial DW Search Report shall be limited as set out in the relevant Report Terms. It is your responsibility to ensure that you order the correct Report in relation to the property in accordance with the Report Terms.
- 11.4 All other liability which we may incur under or in connection with the Terms shall be limited to £250,000.
- 11.5 Transmission of information via the internet is never completely secure and we will not be liable to you for any loss, expense or damage you incur or suffer as a result of electronic transmission of information being intercepted by unauthorised third parties.

12 Complaints

- 12.1 If you need to send us a complaint, please follow our Complaints Procedure (available on the Website).
- 12.2 If you are still not satisfied with our response or action, you can refer your complaint to The Property Ombudsman scheme at Milford House, 43-55 Milford Street, Salisbury, Wiltshire SP1 2BP or by email to admin@tpos.co.uk.

13 Termination

- 13.1 If you breach the Terms, we may take any appropriate action, including but not limited to closing your account, suspending the provision of our services, withdrawing your right to use the Website and/or taking legal proceedings against you.
- 13.2 You can close your account and terminate any Requests if we materially breach the Terms.
- 13.3 You can stop using our services at any time by using our “unsubscribe” procedure.

14 General

- 14.1 We reserve the right to modify, add to or change the Terms at any time. Any changes will be effective as soon as they are posted on our Website. If you continue to use the Website you will be deemed to have accepted the changes.
- 14.2 If you are acting on behalf of a Client, your Client is entitled to the benefit of the Terms.
- 14.3 Our Website may contain links to third party websites. These websites are not under our control and we accept no responsibility for them.
- 14.4 You may not assign, sub-license or otherwise transfer your rights under the Terms.
- 14.5 If any provision of the Terms is invalid or unenforceable, it will be taken to be removed from the rest of the Terms to the extent it is invalid or unenforceable.
- 14.6 The Terms (including, for the avoidance of doubt, both the General Terms and the Report Terms) are the only terms that apply to any Request you make and any Report we produce and are the entire agreement between us relating to such Requests and Reports.
- 14.7 The Terms and any disputes or claims in connection with them (including non-contractual disputes or claims) are governed by English law. Any disputes or claims (including non-contractual disputes or claims) will be subject to the exclusive jurisdiction of the courts of England and Wales.

Version 1st March 2019

Commercial DW Terms and Conditions

1 About these Terms

- 1.1 These terms and conditions (the **Commercial DW Terms**) apply to the provision of reports resulting from Commercial Drainage and Water enquiries (**Commercial DW Reports**).
- 1.2 Please read the Commercial DW Terms carefully. By ordering a Commercial DW Report you agree to the General Terms and the Commercial DW Terms (together, the **Terms**).
- 1.3 If you have ordered a Commercial DW Report on behalf of your Client, you are responsible for bringing the Commercial DW Terms to your Client's attention.
- 1.4 Unless otherwise specified, capitalised words have the same meanings as in the General Terms.

2 About Commercial Reports

- 2.1 We use reasonable skill and care in producing Commercial DW Reports, but please note that information in a Commercial DW Report can change on a regular basis. We cannot be responsible to you or to your Client for any change in information after the Commercial DW Report was produced.
- 2.2 The Commercial DW Report does not give details about the state or condition of the property. It should not be relied on to indicate suitability or saleability of the property.
- 2.3 The Commercial DW Report provides information as to the location and connection of existing services and other information in relation to drainage and water enquiries and should not be relied on for any other purpose.
- 2.4 The position and depth of apparatus shown on any Ordnance Survey maps attached to the Commercial DW Report (**Maps**) are approximate and are provided as a general guide only. The exact positions and depths should be obtained by excavating trial holes carried out by appropriately skilled and experienced engineers.
- 2.5 The Commercial DW Report may contain opinions or general advice which we cannot ensure is accurate, complete or valid and for which we accept no liability.
- 2.6 We will not be liable to you or your Client for any failure, defect or non-performance of our obligations arising from any failure of or defect in any machine, processing system or transmission

link or anything beyond our reasonable control or the acts or omissions of any party for whom we are not responsible.

- 2.7 If you sell a Commercial DW Report to a Client (other than in the case of a bona fide legal adviser or authorised representative acting on behalf of a legal adviser recharging the cost of the Report as a disbursement), we will not be liable for any loss or damage whatsoever and you indemnify us in respect of any claim by the Client.
- 2.8 Where we provide a Report for a Commercial Property which receives either water or drainage services from us, and another company ("**other service provider**") provides the other service, then our total liability, whether for breach of contract, tort, negligence, breach of statutory duty, misrepresentation or otherwise, arising under or in connection with the supply of the information from the other service provider is limited to such sums as we are entitled to and able to recover from the other service provider.

3 How you can use the Commercial DW Report

- 3.1 Commercial DW Reports should be used in relation to individual property transactions where the property is not a single residential, domestic property and for land to be developed for commercial gain.
- 3.2 Commercial DW Reports may only be used in relation to the property which the Search was carried out against. The Commercial DW Report you receive will be relevant to the Search that you submitted. The provisions of clauses 3.3 to 3.5 shall also apply.
- 3.3 "Basic Commercial DW Reports" may only be used for small properties or land occupying a site of less than 100m².
- 3.4 "Standard Commercial DW Reports" may only be used where a property occupies a site of less than 1 hectare. Where the property has more than two connections, the report will be restricted to two connections.
- 3.5 "Commercial Extra DW Reports" may only be used where a property:
 - 3.5.1 Occupies a site of 1 hectare or more; and/or
 - 3.5.2 Has multiple connections.

Where the property has more than four connections, the report will be restricted to four connections.

4 Intellectual property rights

- 4.1 Commercial DW Reports are confidential and intended for your and your Client's own internal purposes or personal use. You and your Client must not use or copy any part of a Commercial DW Report for any other reason.
- 4.2 All intellectual property rights in Commercial DW Reports are owned by us and/or our licensors.
- 4.3 Maps are protected by Crown copyright and must not be used for any purpose other than as part of a Commercial DW Report.
- 4.4 The enquiries in Commercial DW Reports are protected by copyright by the Law Society of 113 Chancery Lane, London WC2A 1PL and must not be used for any purpose outside the context of the Commercial DW Report.
- 4.5 You may:
 - 4.5.1 make copies of the Commercial DW Report (except any Maps) for your own internal purposes;
 - 4.5.2 incorporate the Commercial DW Report (other than Maps) into any written advice you provide in the normal course of your business; and
 - 4.5.3 disclose the Commercial DW Report in the normal course of your business to your Client and/or to anyone who is interested in the property to which the relevant Commercial DW Report relates, and their professional advisers.
- 4.6 You and/or your Client must not change any part of any Commercial DW Report, including altering, removing or obscuring any logos and/or branding in a Commercial DW Report.

5 Limitation of liability

- 5.1 Please note in particular the provisions regarding limitation of liability in the General Terms, which apply in addition to this clause.
- 5.2 Our entire liability in respect of all causes of action arising by reason of or in connection with a Commercial DW Report shall be limited to:
- 5.2.1 the sum of £500,000 in respect of Basic Commercial DW Reports;
- 5.2.2 the sum of £2 million in respect of Standard Commercial DW Reports; and
- 5.2.3 the sum of £5 million in respect of Commercial Extra DW Reports.

Version 1
1st October 2017

APPENDIX 3

COMPLAINTS PROCEDURE

If you want to make a complaint, we will:

- Acknowledge it within 5 working days of receipt.
- Normally deal with it fully and provide a final response, in writing, within 20 working days of receipt.
- Keep you informed by letter, telephone or e-mail, as you prefer, if we need more time.
- Provide a final response, in writing, at the latest within 40 working days of receipt.
- Liaise, at your request, with anyone acting formally on your behalf.

Complaints should be sent to: Laura Taylor, Searches Operations Manager, Wessex Searches, Operations Centre, Claverton Down Road, Bath, BA2 7WW. Phone number: 01225 526206, Fax: 01225 528994, email: contactus@wessexsearches.co.uk.

If you are not satisfied with our final response, or if we exceed the response timescales, you may refer the complaint to The Property Ombudsman scheme (TPOs): Tel: 01722 333306, www.tpos.co.uk, E-mail: admin@tpos.co.uk.

We will co-operate fully with the Ombudsman during an investigation and comply with his final decision.

APPENDIX 4

Sewer Protection – Building over or close to a public sewerage system

Wessex Water is responsible for maintaining public sewers that have sometimes been laid within the boundaries of properties. Agreement will be required to carry out any building work over or within three metres of a public sewer to ensure no damage is caused to it or restrictions made to the way it is used and maintained.

Wessex Water is normally willing to consider building over or near non-strategic public sewers up to 225mm in diameter where diversion is not practical and the building cannot be redesigned.

However, building over a public sewer will not be permitted where the following criteria apply.

- The sewer has a formal easement preventing overbuilding – this is normally shown in the deeds of the property.
- The sewer is greater than 300mm in diameter or above.
- The sewer depth is in excess of three metres.
- The sewer is a pressurised pumping main.
- The building will span or cover any existing public sewer access chamber.
- The building is a 'new build' property.

Building within fifteen metres of a public sewerage pumping station will also not be permitted due to potential nuisance arising from odour, noise and vibration.

In the case of strategically important or deep sewers, generally greater than 300mm in diameter or in excess of 3.0m deep, the minimum distance between any building work and the sewer will be greater than 3.0 metres. You will need to seek guidance from the Sewer Protection Team on 01225 526000.

Wessex Water should be consulted early on in the design process where building work is proposed near or over a public sewer to agree any necessary arrangements for the protection of infrastructure crossing the site.

An application form for building over a public sewer is available from the Sewer Protection Team on 01225 526000.

The information included in this report does not constitute an approval to alter, divert, build over, or connect to, any public apparatus.

Depending on your proposals, you may need to contact our Planning Liaison Team on 01225 526000 and/or the Local Authority.

Sewer Protection – Discharges

Section 111 of the Water Industry Act (1991) places an absolute prohibition on the discharge of the following into a public sewer or drain or sewer communicating with a public sewer.

- Any matter likely to injure the sewer or drain, to interfere with free flow of its contents, or to affect prejudicially the treatment or disposal of its contents.
- Any chemical refuse or waste steam or any liquid of temperature higher than 110 degrees Fahrenheit.
- Any petroleum spirit or carbide of calcium.

On conviction in the Magistrates' court, offences under this section carry a fine of up to £5,000 and to a further fine of up to £50 for each day on which the offence continues after conviction.

On conviction in the Crown Court, offences can lead to imprisonment for a term not exceeding two years, or to a fine, or both.

Water Main Protection - Building over or close to a public water main

Building over water mains presents two principal problems.

1. They become completely inaccessible for maintenance and repair.
2. Should they burst, water discharging under pressure may cause significant damage to property and may endanger the structure of the building, possibly to the point of collapse. Even a small-volume, undetected, long-term leak on a built over main can erode foundations to the point of collapse.

Accordingly:-

- Building over a water main is not permitted.
- Building alongside a water main is permitted provided a minimum distance of 3.0 metres each side is maintained from any part of the structure. In the case of large-diameter mains (any main over 300mm nominal bore) and strategically important or deep mains, a minimum distance of 5.0 metres is required.
- Where development has taken place and buildovers have occurred, it is likely that diversion at the landowner's expense will be required.

Wessex Water Services Ltd should be consulted early on in the design process where building work is proposed near a public water main to agree any necessary arrangements for the protection of infrastructure crossing the site.

Private Sewer Transfer

From 1 October 2011 by virtue of a scheme made under the Water Industry (Schemes for Adoption of Private Sewers) Regulations 2011 ("the 2011 Regulations") and by virtue of section 105A of the Water Industry Act 1991 ("the 1991 Act") private sewers and lateral drains which immediately before 1 July 2011 communicated with a public sewer became vested in sewerage undertakers.

Under the 2011 Regulations adoptable private sewers and private lateral drains the subject of an agreement under section 104 also vest in sewerage undertakers if immediately before 1 July 2011 they communicated with a public sewer. The section 104 agreement insofar as it relates to that sewer or lateral drain is treated as terminating on that date.

Where adoptable private sewers and private lateral drains the subject of an agreement under section 104 did not immediately before 1 July 2011 communicate with a public sewer they will vest on the earlier of the date of vesting under the agreement or the date of vesting pursuant to a supplementary scheme made under Regulation 4 to the 2011 Regulations. The section 104 agreement insofar as it relates to that sewer or lateral drain is treated as terminating on the date of vesting.

Where an agreement covers assets which do not and will not communicate with a public sewer those assets will remain private and subject to the provisions of the agreement.

The attached extracts from the public sewer map may show sewers and private laterals the subject of an agreement under section 104 of the Act as being private notwithstanding the fact that they may have vested in Wessex Water pursuant to the 2011 Regulations. Wessex Water is in the process of

confirming with developers the date of communication with public sewerage and will be updating the public sewer map when this information is known.

Where there is any doubt as to the status of a particular length of pipe it is recommended that Wessex Water is contacted for advice.

Details of sewers and private laterals the subject of an agreement under section 104 of the Act have not been compiled from an "as constructed" record and Wessex Water will be updating the sewer map when that information is provided by developers. Until then it is recommended that details of the route these pipes follow be checked with the developer.

IMPORTANT CONSUMER PROTECTION INFORMATION

IMPORTANT CONSUMER PROTECTION INFORMATION

This search has been produced by Wessex Searches, Wessex Water Operations Centre, Claverton Down, Bath, BA2 7WW, phone number: 01225 526206, fax: 01225 528994, email: contactus@wessexsearches.co.uk.

Complaints

If you have a query or complaint about your search, you should raise it directly with the search firm, and if appropriate ask for any complaint to be considered under their formal internal complaints procedure. If you remain dissatisfied with the firm's final response, after your complaint has been formally considered, or if the firm has exceeded the response timescales, you may refer your complaint for consideration under The Property Ombudsman scheme (TPOs). The Ombudsman can award compensation of up to £5,000 to you if he finds that you have suffered actual loss as a result of your search provider failing to keep to the Code.

Please note that all queries or complaints regarding your search should be directed to your search provider in the first instance, not to TPOs.

TPOs Contact Details:

The Property Ombudsman scheme
Milford House
43-55 Milford Street
Salisbury
Wiltshire SP1 2BP
Tel: 01722 333306
Fax: 01722 332296
Website: www.tpos.co.uk
Email: admin@tpos.co.uk



CONTACT US

Telephone: 01225 526 206

Post:

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

Email: Contactus@wessexsearches.co.uk

Web: www.wessexsearches.co.uk



Twitter:
@wessexsearches



LinkedIn:
Wessex Searches

Order all your searches from www.wessexsearches.co.uk

You can order all your searches from us quickly and simply at
www.wessexsearches.co.uk



117, Land at the rear of, High Street, Dilton Marsh, Westbury, BA13 4DP



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Information in this plan 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. Building over or near Wessex Water's apparatus is not normally permitted.



Sewerage Key

Types of Sewer:

	Public Foul Sewer A sewer that carries waste water from domestic and commercial sources to a Sewage Treatment Works.
	Public Combined Sewer An older sewer that carries a combined flow of surface water and foul sewer to a Sewage Treatment Works.
	Public Surface Water Sewer A sewer that carries surface water (e.g. rain water from roofs, yards, car parks etc) to a point of discharge.
	Strategic Sewer Sewers essential to the running of the sewerage network. No work permitted over or within 6m (horizontal) of this asset.
	Abandoned Sewer Sewers abandoned in situ. These sewers are sealed and should not be used for connections.
	Private Sewer Sewers not in the ownership of Wessex Water, but recorded to assist work in the geographical vicinity. Wessex Water does not know ownership.

Other Wessex Pipes:

	Public Rising Main A pipe that carries a pressurised pumped flow to another part of the sewerage system.
	Public Overflow A pipe that relieves upstream sewers of flows in excess of the hydraulic capacity (e.g. from a CSO).
	Effluent Disposal Main A pipe that carries treated effluent from a Sewage Treatment Works to a watercourse or other point of discharge.

Non-Wessex Pipes:

	Culverted Watercourse A natural (or diverted) watercourse which has been piped.
	Highway Drain Part of drainage system maintained by the highway authority to drain surface water from the highway.

Sewer Annotation:

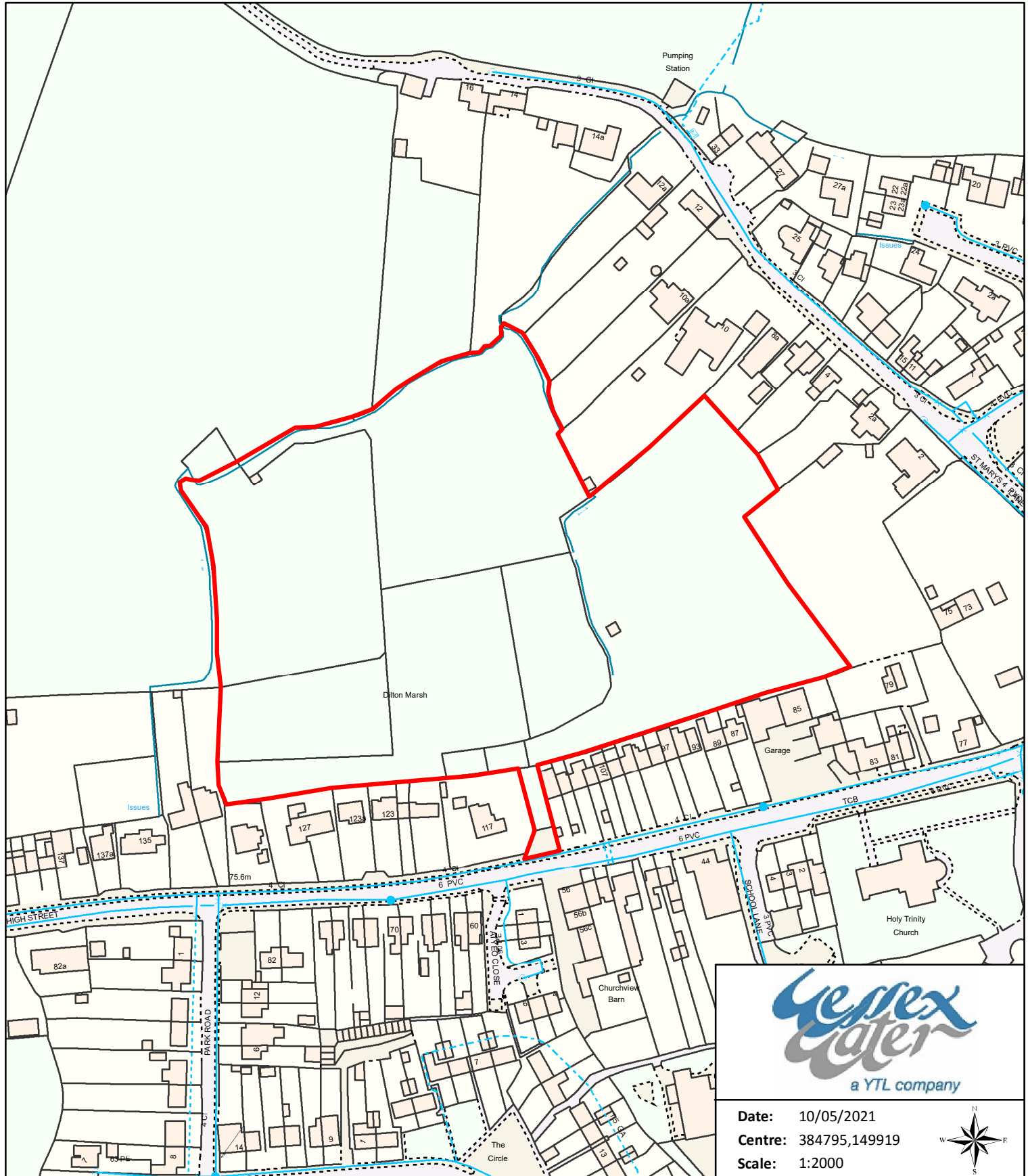
The sizes of the individual sewers are shown as annotations on the map. A non-circular pipe is indicated by two dimensions (e.g. 600x400).

Sewerage Apparatus:

The following are the most common type of apparatus found on the Wessex Water sewerage network;

	Manhole - An access chamber to the sewerage network.
	Pumping Station - Facility used to lift sewer flows to a higher point in the gravity system, or to pump to another facility.
	NRV (Non-return valve) - Valve that allows flow to pass in only one direction.
	CSO (Combined Sewer Overflow) - Chamber where excess sewage can be discharged when the capacity of the network is exceeded.
	Bifurcation - Chamber where flow may be split into two or more channels. May operate in both dry and wet weather conditions.
	Lamphole - A small shaft between manholes that is used to illuminate sewer lengths for inspection.
	Rodding Eye - A small hatch in the drainage system that is used for inspection or cleaning.
	Catchpit - A pit on the sewerage network in which matter, that may otherwise block a sewer, is collected and periodically removed.
	Vent Column - An above-ground structure that vents odours from the sewerage network away from ground level.
	Soakaway - A form of infiltration drainage that allows water (usually surface water) to infiltrate into the ground rather than discharge directly into a sewer.

117, Land at the rear of, High Street, Dilton Marsh, Westbury, BA13 4DP



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Information in this plan 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. Building over or near Wessex Water's apparatus is not normally permitted.



Water Supply Key

Types of Water Main:

	Distribution Main A distribution main carries treated water to customers. With few exceptions, domestic water connections are only made to distribution mains.
	Raw Water Main A raw water main carries untreated (raw) water to a Water Treatment Works.
	Washout Main A main used for maintenance and management of the water supply network, to flush out or empty connected assets.
	Abandoned Main Abandoned mains are not in use, but may still be in the ground.
	Private Main Mains not in the ownership of Wessex Water, but are recorded to assist work in the geographical vicinity. Wessex Water does not know ownership.

Water Main Annotation:

The size and material of the individual water mains are shown as an annotation on the map. The main's material is shown as an abbreviation with the most common materials being;

AC	Asbestos Cement	CI	Cast Iron	DI	Ductile Iron
SI	Spun Iron	ST	Steel	PE	Polyethylene
PVC	uPVC	POLY	Plastic/Polythene	UNK	Unknown

A main's diameter will fall between 0.25" - 24" for imperial sizes, and 50mm - 1200mm for metric sizes.

Water Main Apparatus:

The following are the most common type of apparatus found on the Wessex Water supply network;

- Open Valve - Open sluice valve used to regulate the flow of water.
- Closed Valve - Closed sluice valve used to regulate the flow of water.
- Closed Valve (DMA) - Closed sluice valve that denotes the boundary of a metered area.
- Closed Valve (Black Cap) - Permanently closed sluice valve.
- Washout Valve - Valve that is occasionally used to clear out sediment or drain-down part of the network.
- Fire Hydrant -
- Washout Hydrant - Hydrant that is occasionally used to clear out sediment or drain-down part of the network.
- Air Valve - Valve used to remove (bleed) air from the mains network.
- PRV (Pressure reducing valve) - Valve used to control or limit the pressure in the mains network.
- PSV (Pressure sustaining valve) - Valve used to maintain a set pressure at a specific point in the mains network.
- NRV (Non-return valve) - Valve that allows water to flow in only one direction.
- End Cap - Fitting used to terminate (cap-off) a main.
- Network Meter - Meter used to internally manage\monitor the mains network.
- Booster Pump - Pump used to maintain pressure in the mains network.

APPENDIX 3

Impermeable Areas Plan



DO NOT SCALE this drawing. Use figured dimensions only.
The Contractor must check & verify all dimensions on site.
Any discrepancies must be reported immediately to the Engineer for clarification before proceeding.
This drawing is copyright and owned by Morgan Civil + Structural.

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION
Refer to the relevant Construction (Design and Management) documentation where applicable.
It is assumed that all works on this drawing will be carried out by a competent contractor, working where appropriate to an approved method statement.

Key:

- Impermeable area - Road (0.19 ha)
- Impermeable area - Housing (0.37ha)
- Impermeable area - Private Drive (0.38ha)
- Total Impermeable area - 0.94ha



P01 01/04/2026 First Issue AM

Rev Date Description By

Client

Redcliffe Homes Ltd

Project

Dilton Marsh

Title

Exceedance Flow Plan

Drawing Status

PLANNING

Drawn Checked Approved Date Scale @ A1

AM OT NT MAR 2026 1:500

Project No. Drawing No. Revision

148009 148009-MCS-XX-DR-C-5200 P01



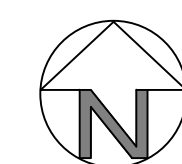
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0m 10 20 30 40 50

SCALE 1 : 500

APPENDIX 4

Proposed Drainage Strategy



DO NOT SCALE this drawing. Use figured dimensions only. The Contractor must check & verify all dimensions on site. Any discrepancies must be reported immediately to the Engineer for clarification before proceeding. This drawing is copyright and owned by Morgan Civil + Structural.

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION
Refer to the relevant Construction (Design and Management) documentation where applicable.
It is assumed that all works on this drawing will be carried out by a competent contractor, working where appropriate to an approved method statement.

- Notes**
- The drawing is to be read in conjunction with all other relevant drawings/specifications.
 - Do not scale from this drawing, use figured dimensions only. All dimensions are in meters.
 - All adoptable highway works shall be carried out in accordance with the specific requirements of Wiltshire County Council's specification and the general requirements of the Highway Act 1980 (S104) and the general requirements of the Highway Act 1980 (S104) and the general requirements of the Highway Act 1980 (S104).
 - All the above requirements shall apply unless otherwise stated in the general arrangement drawings/specification. In the event of a contradiction the contract specific documents shall be deemed to prevail.
 - The contractor is to check and verify all site dimensions and levels, including existing sewer levels and offsets, prior to start on site.
 - Positions of existing semi-circular underground apparatus adjacent to or crossing proposed excavations are to be confirmed prior to start on site.
 - This drawing is to be read in conjunction with and checked against all engineering details, specifications, geotechnical and other relevant documentation provided.
 - Where items adjacent to highways or drainage are proposed, not barriers (type to be approved) are required to prevent structural damage.
 - Any anomaly or contradictions between any of the above is to be reported immediately.
 - The contractor is to comply in all aspects with the current British standards, building regulations and building legislation etc.

Drawing Sheet Key Plan



Key:

- Site Boundary
- Major Contour (0.25m)
- Minor Contour (0.05m)
- Plot Finished Floor Level
- Garage Finished Floor Level
- Centreline
- Foul Water Manhole (S104 Adoptable)
- Surface Water Sewer (S104 Adoptable)
- Surface Water Manhole (S104 Adoptable)
- Hydrobrake Flow Control (S104 Adoptable)
- Headwall
- Permeable Paving or other Suitable Porous Surfacing Medium
- Rain gardens

PO: 148009 Updated to include Redcliffe Homes layout. AM

Rev	Change	Date	Description	By
1	Issue	14/02/2026	Issue for construction	AM

Client: Redcliffe Homes Ltd

Project: Dilton Marsh

Title: Drainage Layout

Drawing Status: PLANNING

Drawn	Checked	Approved	Date	Scale @ A0
AM	OT	NT	FEB 2026	1:250

Project No.	Drawing No.	Revision
148009	148009-MCS-XX-DR-C-5100	P02

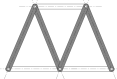
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APPENDIX 5

Causeway Flow Calculations

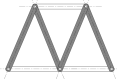


Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	100	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

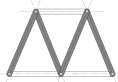
Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
S1	0.045	5.00	74.279	1200	384704.257	149876.783	1.509
S2	0.031	5.00	74.682	1350	384730.081	149879.924	2.117
S3	0.027	5.00	74.939	1350	384746.854	149881.259	2.441
S4	0.060	5.00	75.164	1350	384764.792	149882.009	2.813
S5	0.024	5.00	74.437	1350	384764.374	149902.731	2.138
S6	0.028	5.00	73.622	1350	384758.199	149921.960	1.651
S7	0.030	5.00	73.042	1500	384752.857	149939.330	1.727
S8			72.857	1500	384757.834	149948.611	1.592
S9	0.000	5.00	72.664	1500	384793.087	149959.295	1.509
Basin 1b			71.600		384800.438	149991.554	1.000
S11	0.039	5.00	75.082	1200	384788.243	149883.191	1.503
S10		5.00	76.850	1200	384801.926	149821.997	1.425
S12	0.035	5.00	74.972	1350	384799.976	149887.936	1.558
S13	0.061	5.00	74.779	1350	384819.009	149892.948	1.429
S14	0.048	5.00	74.450	1200	384849.908	149901.975	1.500
S15	0.021	5.00	74.272	1350	384862.891	149905.197	1.577
S16	0.028	5.00	74.060	1350	384865.922	149912.228	1.650
S17	0.020	5.00	73.426	1350	384859.789	149935.301	1.649
S18	0.038	5.00	72.759	1500	384853.355	149959.509	1.373
S19			72.438	1500	384814.017	149948.914	1.158
Basin 2c	0.010	5.00	74.300		384823.530	149915.472	1.000
Basin 1a			71.100		384794.617	150009.193	1.000
Basin 2a	0.005	5.00	73.300		384815.710	149940.923	1.000
Outfall			70.710	1200	384792.946	150020.517	0.910
Swale	0.060	5.00	72.820		384746.162	149934.415	0.620
Basin 2b	0.010	5.00	73.800		384819.459	149927.811	1.000
Basin 1c			72.100		384806.200	149970.442	1.000
Carpark 1	0.062	5.00	74.292		384897.433	149921.717	1.059
Carpark 2	0.035	5.00	72.600		384876.112	149965.572	1.057
Carpark 3	0.006	5.00	74.170		384712.257	149882.486	1.102
Carpark 4	0.012	5.00	74.550		384716.215	149859.331	1.373
Carpark 5	0.010	5.00	74.650		384721.702	149883.891	1.712
Carpark 6	0.010	5.00	74.850		384734.813	149885.082	1.935
Carpark 7	0.014	5.00	74.475		384728.582	149864.872	1.479
Swale 1	0.055	5.00	75.100		384822.766	149865.940	0.700
S20			71.050	1500	384794.077	150014.276	0.961
1	0.075		72.850		384766.519	149954.073	1.209
J1		5.00	72.750		384797.082	149964.029	1.109
Carpark 8	0.041	5.00	73.550		384856.925	149931.667	1.502



Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
1.000	S1	S2	26.012	0.600	72.770	72.640	0.130	200.0	300	5.86	50.0
1.001	S2	S3	16.826	0.600	72.565	72.498	0.067	250.0	375	6.10	50.0
1.002	S3	S4	17.954	0.600	72.498	72.426	0.072	250.0	375	6.36	50.0
1.003	S4	S5	20.726	0.600	72.351	72.299	0.052	400.0	450	6.71	50.0
1.004	S5	S6	20.197	0.600	72.299	71.971	0.328	61.6	450	6.83	50.0
1.005	S6	S7	18.172	0.600	71.971	71.390	0.581	31.3	450	6.92	50.0
1.006	S7	S8	10.532	0.600	71.315	71.265	0.050	210.6	525	7.03	50.0
1.007	S8	S9	36.836	0.600	71.265	71.155	0.110	334.9	525	7.54	50.0
1.008	S9	Basin 1c	12.674	0.600	71.155	71.100	0.055	230.4	525	7.68	50.0
2.000	S10	S11	62.705	0.600	75.425	73.654	1.771	35.4	225	5.47	50.0
2.001	S11	S12	12.656	0.600	73.579	73.489	0.090	140.6	300	5.63	50.0
2.002	S12	S13	19.562	0.600	73.414	73.350	0.064	305.7	375	5.95	50.0
3.000	S14	S15	13.377	0.600	72.950	72.770	0.180	74.3	300	5.12	50.0
3.001	S15	S16	7.656	0.600	72.695	72.485	0.210	36.5	375	5.16	50.0
3.002	S16	S17	23.874	0.600	72.410	71.777	0.633	37.7	450	5.28	50.0
3.003	S17	S18	25.048	0.600	71.777	71.461	0.316	79.3	450	5.47	50.0
3.004	S18	S19	40.740	0.600	71.386	71.280	0.106	384.3	525	6.06	50.0
2.003	S13	Basin 2c	23.103	0.600	73.350	73.300	0.050	462.1	375	6.41	50.0
3.006	S19	Basin 1c	7.350	0.600	71.280	71.100	0.180	40.8	525	6.59	50.0
2.000_1	Swale	S7	8.305	0.600	72.200	71.690	0.510	16.3	150	5.06	50.0
2.003_1	Basin 2c	Basin 2b	13.034	0.600	73.300	72.800	0.500	26.1	375	6.47	50.0
2.003_2	Basin 2b	Basin 2a	13.637	0.600	72.800	72.300	0.500	27.3	375	6.54	50.0
3.005	Basin 2a	S19	8.168	0.600	72.300	71.430	0.870	9.4	375	6.56	50.0
3.006_1	Basin 1c	Basin 1b	21.884	0.600	71.100	70.600	0.500	43.8	525	7.79	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
1.000	1.108	78.3	8.5	1.209	1.742	0.063	0.0	67	0.733
1.001	1.141	126.0	17.3	1.742	2.066	0.128	0.0	93	0.808
1.002	1.141	126.0	21.0	2.066	2.363	0.155	0.0	103	0.853
1.003	1.010	160.7	29.1	2.363	1.688	0.215	0.0	129	0.773
1.004	2.593	412.5	32.4	1.688	1.201	0.239	0.0	84	1.566
1.005	3.644	579.5	36.2	1.201	1.202	0.267	0.0	75	2.065
1.006	1.539	333.2	48.4	1.202	1.067	0.357	0.0	134	1.110
1.007	1.218	263.7	48.4	1.067	0.984	0.357	0.0	152	0.938
1.008	1.471	318.4	48.4	0.984	0.475	0.357	0.0	137	1.074
2.000	2.206	87.7	0.0	1.200	1.203	0.000	0.0	0	0.000
2.001	1.324	93.6	5.3	1.203	1.183	0.039	0.0	48	0.720
2.002	1.031	113.9	10.0	1.183	1.054	0.074	0.0	74	0.641
3.000	1.826	129.1	6.5	1.200	1.202	0.048	0.0	45	0.966
3.001	3.007	332.1	9.4	1.202	1.200	0.069	0.0	43	1.348
3.002	3.319	527.8	13.1	1.200	1.199	0.097	0.0	48	1.431
3.003	2.284	363.3	21.4	1.199	0.848	0.158	0.0	73	1.274
3.004	1.136	246.0	26.6	0.848	0.633	0.196	0.0	116	0.754
2.003	0.836	92.3	25.7	1.054	0.625	0.190	0.0	135	0.720
3.006	3.512	760.3	55.7	0.633	0.475	0.411	0.0	95	2.092
2.000_1	2.508	44.3	8.1	0.470	1.202	0.060	0.0	44	1.924
2.003_1	3.561	393.2	27.1	0.625	0.625	0.200	0.0	66	2.080
2.003_2	3.481	384.4	28.5	0.625	0.625	0.210	0.0	68	2.073
3.005	5.942	656.2	29.1	0.625	0.633	0.215	0.0	53	3.045
3.006_1	3.392	734.3	104.1	0.475	0.475	0.768	0.0	132	2.430



Links

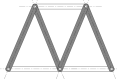
Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
3.006_2	Basin 1b	Basin 1a	18.575	0.600	70.600	70.100	0.500	37.2	525	7.87	50.0
3.007	Basin 1a	S20	5.112	0.600	70.100	70.089	0.011	464.7	525	7.95	50.0
2.000_2	Carpark 3	S1	9.825	0.600	73.068	72.970	0.098	100.0	100	5.21	50.0
1.000_1	Carpark 4	S1	21.156	0.600	73.177	72.970	0.207	102.2	100	5.46	50.0
4.000	Carpark 5	S2	9.271	0.600	72.938	72.845	0.093	100.0	100	5.20	50.0
5.000	Carpark 6	S2	7.000	0.600	72.915	72.845	0.070	100.0	100	5.15	50.0
3.000_1	Carpark 7	S2	15.126	0.600	72.996	72.845	0.151	100.2	100	5.33	50.0
9.000	Swale 1	S13	27.268	0.600	74.400	73.575	0.825	33.1	100	5.34	50.0
3.008	S20	Outfall	6.343	0.600	70.089	69.800	0.289	21.9	300	7.99	50.0
7.000	J1	S9	6.194	0.600	71.641	71.580	0.061	101.5	100	5.14	50.0
11.000	Carpark 8	S17	4.627	0.600	72.048	72.002	0.046	100.6	100	5.10	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
3.006_2	3.683	797.2	104.1	0.475	0.475	0.768	0.0	127	2.582
3.007	1.032	223.4	104.1	0.475	0.436	0.768	0.0	251	1.014
2.000_2	0.769	6.0	0.8	1.002	1.209	0.006	0.0	25	0.531
1.000_1	0.760	6.0	1.6	1.273	1.209	0.012	0.0	36	0.645
4.000	0.769	6.0	1.4	1.612	1.737	0.010	0.0	32	0.621
5.000	0.769	6.0	1.4	1.835	1.737	0.010	0.0	32	0.621
3.000_1	0.768	6.0	1.9	1.379	1.737	0.014	0.0	39	0.681
9.000	1.346	10.6	7.5	0.600	1.104	0.055	0.0	62	1.459
3.008	3.370	238.2	104.1	0.661	0.610	0.768	0.0	139	3.260
7.000	0.763	6.0	0.0	1.009	0.984	0.000	0.0	0	0.000
11.000	0.766	6.0	5.6	1.402	1.324	0.041	0.0	76	0.870

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.000	26.012	200.0	300	Circular	74.279	72.770	1.209	74.682	72.640	1.742
1.001	16.826	250.0	375	Circular	74.682	72.565	1.742	74.939	72.498	2.066
1.002	17.954	250.0	375	Circular	74.939	72.498	2.066	75.164	72.426	2.363
1.003	20.726	400.0	450	Circular	75.164	72.351	2.363	74.437	72.299	1.688
1.004	20.197	61.6	450	Circular	74.437	72.299	1.688	73.622	71.971	1.201
1.005	18.172	31.3	450	Circular	73.622	71.971	1.201	73.042	71.390	1.202
1.006	10.532	210.6	525	Circular	73.042	71.315	1.202	72.857	71.265	1.067
1.007	36.836	334.9	525	Circular	72.857	71.265	1.067	72.664	71.155	0.984
1.008	12.674	230.4	525	Circular	72.664	71.155	0.984	72.100	71.100	0.475

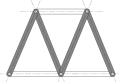
Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	S1	1200	Manhole	Adoptable	S2	1350	Manhole	Adoptable
1.001	S2	1350	Manhole	Adoptable	S3	1350	Manhole	Adoptable
1.002	S3	1350	Manhole	Adoptable	S4	1350	Manhole	Adoptable
1.003	S4	1350	Manhole	Adoptable	S5	1350	Manhole	Adoptable
1.004	S5	1350	Manhole	Adoptable	S6	1350	Manhole	Adoptable
1.005	S6	1350	Manhole	Adoptable	S7	1500	Manhole	Adoptable
1.006	S7	1500	Manhole	Adoptable	S8	1500	Manhole	Adoptable
1.007	S8	1500	Manhole	Adoptable	S9	1500	Manhole	Adoptable
1.008	S9	1500	Manhole	Adoptable	Basin 1c		Junction	



Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
2.000	62.705	35.4	225	Circular	76.850	75.425	1.200	75.082	73.654	1.203
2.001	12.656	140.6	300	Circular	75.082	73.579	1.203	74.972	73.489	1.183
2.002	19.562	305.7	375	Circular	74.972	73.414	1.183	74.779	73.350	1.054
3.000	13.377	74.3	300	Circular	74.450	72.950	1.200	74.272	72.770	1.202
3.001	7.656	36.5	375	Circular	74.272	72.695	1.202	74.060	72.485	1.200
3.002	23.874	37.7	450	Circular	74.060	72.410	1.200	73.426	71.777	1.199
3.003	25.048	79.3	450	Circular	73.426	71.777	1.199	72.759	71.461	0.848
3.004	40.740	384.3	525	Circular	72.759	71.386	0.848	72.438	71.280	0.633
2.003	23.103	462.1	375	Circular	74.779	73.350	1.054	74.300	73.300	0.625
3.006	7.350	40.8	525	Circular	72.438	71.280	0.633	72.100	71.100	0.475
2.000_1	8.305	16.3	150	Circular	72.820	72.200	0.470	73.042	71.690	1.202
2.003_1	13.034	26.1	375	Circular	74.300	73.300	0.625	73.800	72.800	0.625
2.003_2	13.637	27.3	375	Circular	73.800	72.800	0.625	73.300	72.300	0.625
3.005	8.168	9.4	375	Circular	73.300	72.300	0.625	72.438	71.430	0.633
3.006_1	21.884	43.8	525	Circular	72.100	71.100	0.475	71.600	70.600	0.475
3.006_2	18.575	37.2	525	Circular	71.600	70.600	0.475	71.100	70.100	0.475
3.007	5.112	464.7	525	Circular	71.100	70.100	0.475	71.050	70.089	0.436
2.000_2	9.825	100.0	100	Circular	74.170	73.068	1.002	74.279	72.970	1.209
1.000_1	21.156	102.2	100	Circular	74.550	73.177	1.273	74.279	72.970	1.209
4.000	9.271	100.0	100	Circular	74.650	72.938	1.612	74.682	72.845	1.737
5.000	7.000	100.0	100	Circular	74.850	72.915	1.835	74.682	72.845	1.737
3.000_1	15.126	100.2	100	Circular	74.475	72.996	1.379	74.682	72.845	1.737
9.000	27.268	33.1	100	Circular	75.100	74.400	0.600	74.779	73.575	1.104
3.008	6.343	21.9	300	Circular	71.050	70.089	0.661	70.710	69.800	0.610
7.000	6.194	101.5	100	Circular	72.750	71.641	1.009	72.664	71.580	0.984

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
2.000	S10	1200	Manhole	Adoptable	S11	1200	Manhole	Adoptable
2.001	S11	1200	Manhole	Adoptable	S12	1350	Manhole	Adoptable
2.002	S12	1350	Manhole	Adoptable	S13	1350	Manhole	Adoptable
3.000	S14	1200	Manhole	Adoptable	S15	1350	Manhole	Adoptable
3.001	S15	1350	Manhole	Adoptable	S16	1350	Manhole	Adoptable
3.002	S16	1350	Manhole	Adoptable	S17	1350	Manhole	Adoptable
3.003	S17	1350	Manhole	Adoptable	S18	1500	Manhole	Adoptable
3.004	S18	1500	Manhole	Adoptable	S19	1500	Manhole	Adoptable
2.003	S13	1350	Manhole	Adoptable	Basin 2c		Junction	
3.006	S19	1500	Manhole	Adoptable	Basin 1c		Junction	
2.000_1	Swale		Junction		S7	1500	Manhole	Adoptable
2.003_1	Basin 2c		Junction		Basin 2b		Junction	
2.003_2	Basin 2b		Junction		Basin 2a		Junction	
3.005	Basin 2a		Junction		S19	1500	Manhole	Adoptable
3.006_1	Basin 1c		Junction		Basin 1b		Junction	
3.006_2	Basin 1b		Junction		Basin 1a		Junction	
3.007	Basin 1a		Junction		S20	1500	Manhole	Adoptable
2.000_2	Carpark 3		Junction		S1	1200	Manhole	Adoptable
1.000_1	Carpark 4		Junction		S1	1200	Manhole	Adoptable
4.000	Carpark 5		Junction		S2	1350	Manhole	Adoptable
5.000	Carpark 6		Junction		S2	1350	Manhole	Adoptable
3.000_1	Carpark 7		Junction		S2	1350	Manhole	Adoptable
9.000	Swale 1		Junction		S13	1350	Manhole	Adoptable
3.008	S20	1500	Manhole	Adoptable	Outfall	1200	Manhole	Adoptable
7.000	J1		Junction		S9	1500	Manhole	Adoptable



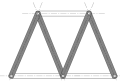
Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
11.000	4.627	100.6	100	Circular	73.550	72.048	1.402	73.426	72.002	1.324

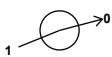
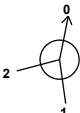
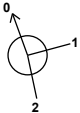
Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
11.000	Carpark 8		Junction		S17	1350	Manhole	Adoptable

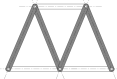
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
S1	384704.257	149876.783	74.279	1.509	1200		1 2.000_2 2 1.000_1	72.970 72.970	100 100
S2	384730.081	149879.924	74.682	2.117	1350		1 5.000 2 4.000 3 3.000_1 4 1.000 0 1.001	72.845 72.845 72.845 72.640 72.565	100 100 100 300 375
S3	384746.854	149881.259	74.939	2.441	1350		1 1.001 0 1.002	72.498 72.498	375 375
S4	384764.792	149882.009	75.164	2.813	1350		1 1.002 0 1.003	72.426 72.351	375 450
S5	384764.374	149902.731	74.437	2.138	1350		1 1.003 0 1.004	72.299 72.299	450 450
S6	384758.199	149921.960	73.622	1.651	1350		1 1.004 0 1.005	71.971 71.971	450 450
S7	384752.857	149939.330	73.042	1.727	1500		1 2.000_1 2 1.005 0 1.006	71.690 71.390 71.315	150 450 525
S8	384757.834	149948.611	72.857	1.592	1500		1 1.006 0 1.007	71.265 71.265	525 525
S9	384793.087	149959.295	72.664	1.509	1500		1 7.000 2 1.007 0 1.008	71.580 71.155 71.155	100 525 525
Basin 1b	384800.438	149991.554	71.600	1.000			1 3.006_1 0 3.006_2	70.600 70.600	525 525

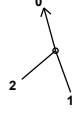


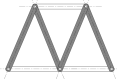
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
S11	384788.243	149883.191	75.082	1.503	1200	 1	2.000	73.654	225
S10	384801.926	149821.997	76.850	1.425	1200	 0	2.001	73.579	300
S12	384799.976	149887.936	74.972	1.558	1350	 0	2.000	75.425	225
S13	384819.009	149892.948	74.779	1.429	1350	 1	2.001	73.489	300
S14	384849.908	149901.975	74.450	1.500	1200	 0	2.002	73.414	375
S15	384862.891	149905.197	74.272	1.577	1350	 1	2.002	73.350	375
S16	384865.922	149912.228	74.060	1.650	1350	 0	2.003	73.350	375
S17	384859.789	149935.301	73.426	1.649	1350	 0	3.000	72.950	300
S18	384853.355	149959.509	72.759	1.373	1500	 1	3.000	72.770	300
S19	384814.017	149948.914	72.438	1.158	1500	 0	3.001	72.695	375
Basin 2c	384823.530	149915.472	74.300	1.000		 1	3.001	72.485	375
Basin 1a	384794.617	150009.193	71.100	1.000		 0	3.002	72.410	450
Basin 2a	384815.710	149940.923	73.300	1.000		 1	3.002	72.002	100
						 0	3.002	71.777	450
						 1	3.003	71.777	450
						0	3.003	71.461	450
						0	3.004	71.386	525
						1	3.004	71.280	525
						2	3.005	71.430	375
						0	3.006	71.280	525
						1	2.003	73.300	375
						0	2.003_1	73.300	375
						1	3.006_2	70.100	525
						0	3.007	70.100	525
						1	2.003_2	72.300	375
						0	3.005	72.300	375



Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
Outfall	384792.946	150020.517	70.710	0.910	1200	 1	3.008	69.800	300
Swale	384746.162	149934.415	72.820	0.620		 0			
Basin 2b	384819.459	149927.811	73.800	1.000		 0	2.000_1	72.200	150
Basin 1c	384806.200	149970.442	72.100	1.000		 0	2.003_1	72.800	375
						 1	2.003_2	72.800	375
						 2	3.006	71.100	525
						 1	1.008	71.100	525
						 0	3.006_1	71.100	525
Carpark 1	384897.433	149921.717	74.292	1.059					
Carpark 2	384876.112	149965.572	72.600	1.057					
Carpark 3	384712.257	149882.486	74.170	1.102		 0			
						 0	2.000_2	73.068	100
Carpark 4	384716.215	149859.331	74.550	1.373		 0			
						 0	1.000_1	73.177	100
Carpark 5	384721.702	149883.891	74.650	1.712		 0			
						 0	4.000	72.938	100
Carpark 6	384734.813	149885.082	74.850	1.935		 0			
						 0	5.000	72.915	100
Carpark 7	384728.582	149864.872	74.475	1.479		 0			
						 0	3.000_1	72.996	100
Swale 1	384822.766	149865.940	75.100	0.700		 0			
						 0	9.000	74.400	100
S20	384794.077	150014.276	71.050	0.961	1500	 1	3.007	70.089	525
						 0	3.008	70.089	300



Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
1	384766.519	149954.073	72.850	1.209						
J1	384797.082	149964.029	72.750	1.109			0	7.000	71.641	100
Carpark 8	384856.925	149931.667	73.550	1.502			0	11.000	72.048	100

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	1.000	Drain Down Time (mins)	240	Check Discharge Volume	x
Winter CV	1.000	Additional Storage (m³/ha)	20.0		

Storm Durations

15	60	240	480	960	2880	10080
30	120	360	720	1440	7200	

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
1	0	0	0
30	0	0	0
100	40	10	0

Node S20 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	70.089	Product Number	CTL-SHE-0111-5600-1000-5600
Design Depth (m)	1.000	Min Outlet Diameter (m)	0.150
Design Flow (l/s)	5.6	Min Node Diameter (mm)	1200

Node Basin 1b Online Orifice Control

Flap Valve	x	Invert Level (m)	70.600	Diameter (m)	0.068
Downstream Link	3.006_2	Design Depth (m)	1.000	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	9.7		

Node Basin 1c Online Orifice Control

Flap Valve	x	Invert Level (m)	71.100	Diameter (m)	0.087
Downstream Link	3.006_1	Design Depth (m)	1.000	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	15.5		

Node Basin 2a Online Orifice Control

Flap Valve	x	Invert Level (m)	72.300	Diameter (m)	0.029
Downstream Link	3.005	Design Depth (m)	1.000	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	1.8		

Node Basin 2b Online Orifice Control

Flap Valve	x	Invert Level (m)	72.800	Diameter (m)	0.042
Downstream Link	2.003_2	Design Depth (m)	1.000	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	3.8		

Node Basin 2c Online Orifice Control

Flap Valve	x	Invert Level (m)	73.300	Diameter (m)	0.071
Downstream Link	2.003_1	Design Depth (m)	1.000	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	10.5		

Node S18 Online Orifice Control

Flap Valve	x	Invert Level (m)	71.386	Diameter (m)	0.036
Downstream Link	3.004	Design Depth (m)	0.450	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	1.8		

Node S16 Online Orifice Control

Flap Valve	x	Invert Level (m)	72.410	Diameter (m)	0.026
Downstream Link	3.002	Design Depth (m)	0.450	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	1.0		

Node Carpark 4 Online Orifice Control

Flap Valve	x	Invert Level (m)	73.177	Diameter (m)	0.008
Downstream Link	1.000_1	Design Depth (m)	0.450	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	0.1		

Node Carpark 3 Online Orifice Control

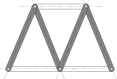
Flap Valve	x	Invert Level (m)	73.068	Diameter (m)	0.008
Downstream Link	2.000_2	Design Depth (m)	0.450	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	0.1		

Node Carpark 5 Online Orifice Control

Flap Valve	x	Invert Level (m)	72.938	Diameter (m)	0.008
Downstream Link	4.000	Design Depth (m)	0.450	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	0.1		

Node Carpark 6 Online Orifice Control

Flap Valve	x	Invert Level (m)	72.915	Diameter (m)	0.008
Downstream Link	5.000	Design Depth (m)	0.450	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	0.1		



Node Carpark 7 Online Orifice Control

Flap Valve	x	Invert Level (m)	72.996	Diameter (m)	0.008
Downstream Link	3.000_1	Design Depth (m)	0.450	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	0.1		

Node Swale Online Orifice Control

Flap Valve	x	Invert Level (m)	72.200	Diameter (m)	0.007
Downstream Link	2.000_1	Design Depth (m)	0.600	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	0.1		

Node Swale 1 Online Orifice Control

Flap Valve	x	Invert Level (m)	74.400	Diameter (m)	0.007
Downstream Link	9.000	Design Depth (m)	0.600	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	0.1		

Node J1 Online Orifice Control

Flap Valve	x	Invert Level (m)	71.641	Diameter (m)	0.008
Downstream Link	7.000	Design Depth (m)	0.500	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	0.1		

Node Carpark 8 Online Orifice Control

Flap Valve	x	Invert Level (m)	72.048	Diameter (m)	0.008
Downstream Link	11.000	Design Depth (m)	0.450	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	0.1		

Node Basin 2a Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	72.300
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	97.4	97.4	1.000	205.5	213.7

Node Swale Depth/Area Storage Structure

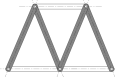
Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	72.200
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	127.5	127.5	0.600	232.1	235.8

Node Basin 2c Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	73.300
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	98

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	48.4	48.4	1.000	162.4	167.6



Node Basin 2b Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	72.800
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	97.0	97.0	1.000	172.4	182.7

Node Basin 1c Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	71.100
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	216

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	112.2	112.2	1.000	281.1	287.9

Node Basin 1b Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	70.600
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	108.1	108.1	1.000	236.3	244.2

Node Basin 1a Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	70.100
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	141.4	141.4	1.000	371.6	378.1

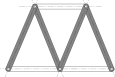
Node S16 Porous Paving Storage Structure

Underdrain Link Type	Circular	Base Inf Coefficient (m/hr)	0.00000
Underdrain Diameter (mm)	150	Side Inf Coefficient (m/hr)	0.00000
Underdrain Velocity	Colebrook-White	Safety Factor	2.0
Underdrain ks (mm) / n	0.600	Porosity	1.00
Underdrain Length (m)	32.909	Invert Level (m)	72.410
Underdrain Slope (1:X)	40.0	Time to half empty (mins)	
Underdrain Height above base (m)	0.000		

Inlets

Carpark 1

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	11.5	0.0	0.450	11.5	0.0	0.451	314.5	303.0



Node S18 Porous Paving Storage Structure

Underdrain Link Type	Circular	Base Inf Coefficient (m/hr)	0.00000
Underdrain Diameter (mm)	150	Side Inf Coefficient (m/hr)	0.00000
Underdrain Velocity	Colebrook-White	Safety Factor	2.0
Underdrain ks (mm) / n	0.600	Porosity	1.00
Underdrain Length (m)	23.552	Invert Level (m)	71.386
Underdrain Slope (1:X)	150.0	Time to half empty (mins)	
Underdrain Height above base (m)	0.000		

Inlets

Carpark 2

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	8.2	0.0	0.450	8.2	0.0	0.451	167.1	158.9

Node Carpark 3 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	73.068	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	
Safety Factor	2.0	Width (m)	4.800	Inf Depth (m)	
Porosity	1.00	Length (m)	7.170		

Node Carpark 4 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	73.177	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	
Safety Factor	2.0	Width (m)	4.800	Inf Depth (m)	
Porosity	1.00	Length (m)	6.299		

Node Carpark 5 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	72.938	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	
Safety Factor	2.0	Width (m)	9.600	Inf Depth (m)	
Porosity	1.00	Length (m)	5.520		

Node Carpark 6 Carpark Storage Structure

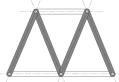
Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	72.915	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	
Safety Factor	2.0	Width (m)	9.600	Inf Depth (m)	
Porosity	1.00	Length (m)	5.302		

Node Carpark 7 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	72.996	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	
Safety Factor	2.0	Width (m)	5.451	Inf Depth (m)	
Porosity	1.00	Length (m)	13.046		

Node Swale 1 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	74.400
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	



Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	45.8	45.8	0.600	223.9	225.4

Node J1 Rain Garden Storage Structure

Filter Conductivity (m/hr)	0.00000	Porosity	1.00
Filter Depth (m)	0.500	Invert Level (m)	71.641
Base Inf Coefficient (m/hr)	0.10000	Time to half empty (mins)	0
Side Inf Coefficient (m/hr)	0.00000	Analyse flow through structure	x
Safety Factor	2.0		

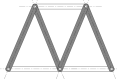
Inlets

1

Depth (m)	Area (m ²)
0.000	344.4

Node Carpark 8 Carpark Storage Structure

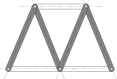
Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	72.048	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	
Safety Factor	2.0	Width (m)	4.800	Inf Depth (m)	
Porosity	1.00	Length (m)	41.044		



Results for 1 year Critical Storm Duration. Lowest mass balance: 99.92%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1	11	72.818	0.048	4.3	0.0824	0.0000	OK
15 minute summer	S2	11	72.626	0.061	7.1	0.1049	0.0000	OK
15 minute summer	S3	11	72.570	0.072	9.7	0.1187	0.0000	OK
15 minute summer	S4	11	72.443	0.092	15.1	0.1704	0.0000	OK
15 minute summer	S5	11	72.364	0.065	17.2	0.1072	0.0000	OK
15 minute summer	S6	11	72.029	0.058	19.7	0.1028	0.0000	OK
15 minute summer	S7	11	71.415	0.100	22.2	0.2106	0.0000	OK
15 minute summer	S8	12	71.369	0.104	22.0	0.1837	0.0000	OK
360 minute summer	S9	224	71.267	0.112	8.0	0.1977	0.0000	OK
720 minute summer	Basin 1b	555	70.810	0.210	5.2	25.4769	0.0000	OK
15 minute summer	S11	10	73.620	0.041	3.7	0.0684	0.0000	OK
15 minute summer	S10	1	75.425	0.000	0.0	0.0000	0.0000	OK
15 minute summer	S12	11	73.476	0.062	7.0	0.1164	0.0000	OK
15 minute summer	S13	11	73.439	0.089	12.6	0.2023	0.0000	OK
15 minute summer	S14	10	72.989	0.039	4.6	0.0697	0.0000	OK
480 minute summer	S15	320	72.936	0.241	1.9	0.4094	0.0000	OK
480 minute summer	S16	320	72.936	0.526	4.2	13.8352	0.0000	SURCHARGED
360 minute summer	S17	248	71.867	0.090	1.7	0.1504	0.0000	OK
360 minute summer	S18	240	71.866	0.480	3.6	6.5278	0.0000	OK
720 minute summer	S19	555	71.301	0.021	2.3	0.0378	0.0000	OK
240 minute summer	Basin 2c	144	73.430	0.130	5.8	7.2856	0.0000	OK
960 minute summer	Basin 1a	765	70.218	0.118	4.0	18.3439	0.0000	OK
960 minute summer	Basin 2a	900	72.460	0.160	1.3	17.0289	0.0000	OK
960 minute summer	Outfall	765	69.827	0.027	3.9	0.0000	0.0000	OK
10080 minute winter	Swale	7320	72.367	0.167	0.2	24.0404	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S1	1.000	S2	4.2	0.594	0.054	0.1845	
15 minute summer	S2	1.001	S3	7.2	0.546	0.057	0.2211	
15 minute summer	S3	1.002	S4	9.6	0.670	0.076	0.2564	
15 minute summer	S4	1.003	S5	15.0	0.818	0.094	0.3846	
15 minute summer	S5	1.004	S6	17.1	1.323	0.041	0.2614	
15 minute summer	S6	1.005	S7	19.5	1.680	0.034	0.2106	
15 minute summer	S7	1.006	S8	22.0	0.757	0.066	0.3067	
15 minute summer	S8	1.007	S9	22.2	0.802	0.084	1.0216	
360 minute summer	S9	1.008	Basin 1c	7.6	0.630	0.024	0.5863	
720 minute summer	Basin 1b	3.006_2	Basin 1a	4.0	0.629	0.005	0.3739	
15 minute summer	S11	2.001	S12	3.6	0.638	0.039	0.0724	
15 minute summer	S10	2.000	S11	0.0	0.000	0.000	0.0000	
15 minute summer	S12	2.002	S13	6.9	0.442	0.061	0.3098	
15 minute summer	S13	2.003	Basin 2c	12.7	1.060	0.137	0.3575	
15 minute summer	S14	3.000	S15	4.6	0.850	0.036	0.1603	
480 minute summer	S15	3.001	S16	1.7	0.462	0.005	0.7088	
480 minute summer	S16	3.002	S17	1.0	0.560	0.002	0.2772	
360 minute summer	S17	3.003	S18	1.9	0.438	0.005	2.1643	
360 minute summer	S18	3.004	S19	1.8	0.438	0.007	0.1726	
720 minute summer	S19	3.006	Basin 1c	2.3	0.577	0.003	0.2027	
240 minute summer	Basin 2c	2.003_1	Basin 2b	3.2	0.815	0.008	0.2426	
960 minute summer	Basin 1a	3.007	S20	3.9	0.103	0.018	0.1981	
960 minute summer	Basin 2a	3.005	S19	0.7	0.974	0.001	0.0056	
10080 minute winter	Swale	2.000_1	S7	0.0	0.394	0.001	0.0009	



Results for 1 year Critical Storm Duration. Lowest mass balance: 99.92%

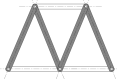
Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute summer	Basin 2b	344	72.947	0.147	3.1	15.1111	0.0000	OK
360 minute summer	Basin 1c	224	71.267	0.167	9.4	21.0805	0.0000	OK
15 minute winter	Carpark 1	10	73.243	0.010	5.6	0.0000	0.0000	OK
360 minute summer	Carpark 2	240	71.868	0.325	1.2	0.0000	0.0000	OK
960 minute winter	Carpark 3	585	73.126	0.058	0.1	0.8020	0.0000	OK
1440 minute winter	Carpark 4	990	73.272	0.095	0.1	1.9356	0.0000	OK
1440 minute winter	Carpark 5	930	72.996	0.058	0.1	1.6036	0.0000	OK
1440 minute winter	Carpark 6	930	72.973	0.058	0.1	1.6034	0.0000	OK
7200 minute summer	Carpark 7	3960	73.089	0.093	0.1	2.3722	0.0000	OK
10080 minute summer	Swale 1	6720	74.632	0.232	0.2	18.9580	0.0000	SURCHARGED
960 minute summer	S20	765	70.218	0.129	3.9	0.2282	0.0000	OK
10080 minute winter	1	7560	71.739	0.098	0.2	0.0000	0.0000	OK
10080 minute winter	J1	7620	71.738	0.097	0.1	33.7458	0.0000	OK
15 minute summer	J1 Filter Layer	1	71.141	0.000	0.0	0.0000	0.0000	OK
10080 minute winter	Carpark 8	6780	72.256	0.208	0.1	10.5185	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute summer	Basin 2b	2.003_2	Basin 2a	1.3	0.577	0.003	0.2743	
360 minute summer	Basin 1c	3.006_1	Basin 1b	5.6	0.706	0.008	0.8703	
15 minute winter	Carpark 1	Porous Paving	S16	0.0	0.007	0.001		
360 minute summer	Carpark 2	Porous Paving	S18	0.9	0.049	0.059		
960 minute winter	Carpark 3	2.000_2	S1	0.0	0.200	0.005	0.0015	
1440 minute winter	Carpark 4	1.000_1	S1	0.0	0.216	0.007	0.0039	
1440 minute winter	Carpark 5	4.000	S2	0.0	0.200	0.005	0.0014	
1440 minute winter	Carpark 6	5.000	S2	0.0	0.200	0.005	0.0011	
7200 minute summer	Carpark 7	3.000_1	S2	0.0	0.216	0.007	0.0028	
10080 minute summer	Swale 1	9.000	S13	0.0	0.340	0.005	0.0039	
960 minute summer	S20	3.008	Outfall	3.9	1.238	0.016	0.0201	148.6
10080 minute winter	J1	7.000	S9	0.0	0.217	0.007	0.0012	
10080 minute winter	J1	Filtration		0.0				
15 minute summer	J1 Filter Layer	Infiltration		0.0				
10080 minute winter	Carpark 8	11.000	S17	0.1	0.245	0.010	0.0011	

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.68%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1	10	72.873	0.103	18.9	0.1774	0.0000	OK
15 minute summer	S2	10	72.704	0.139	31.5	0.2403	0.0000	OK
15 minute summer	S3	11	72.657	0.159	42.4	0.2628	0.0000	OK
15 minute summer	S4	11	72.544	0.193	66.6	0.3577	0.0000	OK
15 minute summer	S5	11	72.441	0.142	76.6	0.2345	0.0000	OK
15 minute summer	S6	11	72.093	0.122	88.1	0.2157	0.0000	OK
15 minute summer	S7	11	71.550	0.235	100.3	0.4979	0.0000	OK
240 minute summer	S8	164	71.495	0.230	29.4	0.4064	0.0000	OK
240 minute summer	S9	164	71.495	0.340	27.8	0.6007	0.0000	OK
720 minute summer	Basin 1b	675	71.061	0.461	8.7	63.5050	0.0000	OK
120 minute summer	S11	84	73.681	0.102	7.5	0.1684	0.0000	OK
15 minute summer	S10	1	75.425	0.000	0.0	0.0000	0.0000	OK
120 minute summer	S12	84	73.681	0.267	14.2	0.5020	0.0000	OK
120 minute summer	S13	84	73.681	0.331	24.4	0.7561	0.0000	OK
360 minute winter	S14	344	73.229	0.279	2.9	0.4939	0.0000	OK
360 minute winter	S15	344	73.229	0.534	4.1	0.9065	0.0000	SURCHARGED
360 minute winter	S16	344	73.229	0.819	8.6	55.7898	0.0000	SURCHARGED
240 minute winter	S17	240	72.064	0.287	2.8	0.4799	0.0000	OK
240 minute winter	S18	236	72.063	0.677	7.9	28.9442	0.0000	SURCHARGED
240 minute summer	S19	172	71.498	0.218	15.1	0.3851	0.0000	OK
120 minute summer	Basin 2c	84	73.681	0.381	24.0	26.7839	0.0000	SURCHARGED
720 minute summer	Basin 1a	900	70.337	0.237	6.3	40.0402	0.0000	OK
960 minute winter	Basin 2a	1155	72.705	0.405	2.2	48.3261	0.0000	SURCHARGED
720 minute summer	Outfall	900	69.831	0.031	5.5	0.0000	0.0000	OK
10080 minute winter	Swale	8760	72.527	0.327	0.3	51.6002	0.0000	FLOOD RISK

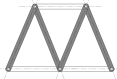
Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S1	1.000	S2	18.5	0.901	0.236	0.5372	
15 minute summer	S2	1.001	S3	31.3	0.769	0.248	0.6861	
15 minute summer	S3	1.002	S4	42.6	1.006	0.338	0.7600	
15 minute summer	S4	1.003	S5	66.9	1.250	0.417	1.1130	
15 minute summer	S5	1.004	S6	76.8	1.991	0.186	0.7803	
15 minute summer	S6	1.005	S7	88.3	2.100	0.152	0.7746	
15 minute summer	S7	1.006	S8	100.5	1.092	0.302	0.9698	
240 minute summer	S8	1.007	S9	27.8	0.549	0.105	4.3988	
240 minute summer	S9	1.008	Basin 1c	26.0	0.900	0.082	2.0401	
720 minute summer	Basin 1b	3.006_2	Basin 1a	6.3	0.754	0.008	0.9275	
120 minute summer	S11	2.001	S12	7.5	0.756	0.080	0.4348	
15 minute summer	S10	2.000	S11	0.0	0.000	0.000	0.0320	
120 minute summer	S12	2.002	S13	12.7	0.383	0.111	1.8278	
120 minute summer	S13	2.003	Basin 2c	22.1	0.724	0.240	2.4636	
360 minute winter	S14	3.000	S15	2.8	0.443	0.022	0.9276	
360 minute winter	S15	3.001	S16	3.9	0.527	0.012	0.8444	
360 minute winter	S16	3.002	S17	1.3	0.507	0.002	1.2891	
240 minute winter	S17	3.003	S18	2.8	0.461	0.008	3.3190	
240 minute winter	S18	3.004	S19	3.1	0.443	0.013	2.2281	
240 minute summer	S19	3.006	Basin 1c	17.8	0.727	0.023	0.9493	
120 minute summer	Basin 2c	2.003_1	Basin 2b	6.2	1.084	0.016	0.7031	
720 minute summer	Basin 1a	3.007	S20	5.5	0.103	0.025	0.4989	
960 minute winter	Basin 2a	3.005	S19	1.1	1.135	0.002	0.0079	
10080 minute winter	Swale	2.000_1	S7	0.1	0.439	0.001	0.0011	



Results for 30 year Critical Storm Duration. Lowest mass balance: 99.68%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute winter	Basin 2b	376	73.213	0.413	5.8	46.5336	0.0000	SURCHARGED
240 minute summer	Basin 1c	168	71.495	0.395	27.6	57.4544	0.0000	OK
15 minute summer	Carpark 1	10	73.252	0.020	26.0	0.0000	0.0000	OK
240 minute winter	Carpark 2	232	72.066	0.523	2.8	0.0000	0.0000	OK
480 minute winter	Carpark 3	440	73.184	0.116	0.3	2.7645	0.0000	SURCHARGED
720 minute summer	Carpark 4	720	73.403	0.226	0.6	5.9280	0.0000	SURCHARGED
720 minute summer	Carpark 5	675	73.061	0.123	0.5	5.0664	0.0000	SURCHARGED
720 minute summer	Carpark 6	675	73.041	0.126	0.5	5.0581	0.0000	SURCHARGED
960 minute summer	Carpark 7	960	73.163	0.167	0.6	7.2934	0.0000	SURCHARGED
7200 minute winter	Swale 1	6720	74.796	0.396	0.3	42.0788	0.0000	SURCHARGED
720 minute summer	S20	900	70.337	0.248	5.5	0.4387	0.0000	OK
10080 minute summer	1	9360	71.845	0.204	0.6	0.0000	0.0000	OK
10080 minute summer	J1	9420	71.845	0.204	0.3	70.5281	0.0000	SURCHARGED
15 minute summer	J1 Filter Layer	1	71.141	0.000	0.0	0.0000	0.0000	OK
2880 minute winter	Carpark 8	2760	72.367	0.319	0.5	24.6526	0.0000	SURCHARGED

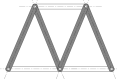
Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute winter	Basin 2b	2.003_2	Basin 2a	2.3	0.628	0.006	0.7134	
240 minute summer	Basin 1c	3.006_1	Basin 1b	9.4	0.955	0.013	2.1055	
15 minute summer	Carpark 1	Porous Paving	S16	0.2	0.021	0.008		
240 minute winter	Carpark 2	Porous Paving	S18	1.9	0.107	0.130		
480 minute winter	Carpark 3	2.000_2	S1	0.0	0.224	0.007	0.0019	
720 minute summer	Carpark 4	1.000_1	S1	0.1	0.247	0.010	0.0053	
720 minute summer	Carpark 5	4.000	S2	0.0	0.226	0.008	0.0019	
720 minute summer	Carpark 6	5.000	S2	0.0	0.227	0.008	0.0014	
960 minute summer	Carpark 7	3.000_1	S2	0.1	0.237	0.009	0.0034	
7200 minute winter	Swale 1	9.000	S13	0.1	0.368	0.006	0.0047	
720 minute summer	S20	3.008	Outfall	5.5	1.362	0.023	0.0256	200.2
10080 minute summer	J1	7.000	S9	0.1	0.243	0.010	0.0015	
10080 minute summer	J1	Filtration		0.0				
15 minute summer	J1 Filter Layer	Infiltration		0.0				
2880 minute winter	Carpark 8	11.000	S17	0.1	0.262	0.012	0.0013	



Results for 100 year +40% CC +10% A Critical Storm Duration. Lowest mass balance: 99.69%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1	10	72.921	0.151	36.8	0.2693	0.0000	OK
15 minute summer	S2	10	72.781	0.216	61.6	0.3797	0.0000	OK
15 minute summer	S3	11	72.736	0.238	82.9	0.3985	0.0000	OK
15 minute summer	S4	10	72.631	0.280	130.2	0.5318	0.0000	OK
15 minute summer	S5	11	72.507	0.208	149.2	0.3487	0.0000	OK
15 minute summer	S6	11	72.150	0.179	171.8	0.3235	0.0000	OK
240 minute summer	S7	176	71.780	0.465	57.0	0.9999	0.0000	OK
240 minute summer	S8	176	71.780	0.515	55.5	0.9104	0.0000	OK
240 minute summer	S9	176	71.780	0.625	53.1	1.1046	0.0000	SURCHARGED
720 minute winter	Basin 1b	735	71.301	0.701	11.6	107.3380	0.0000	FLOOD RISK
120 minute summer	S11	92	73.991	0.412	14.6	0.7005	0.0000	SURCHARGED
15 minute summer	S10	1	75.425	0.000	0.0	0.0000	0.0000	OK
120 minute summer	S12	92	73.991	0.577	23.7	1.1104	0.0000	SURCHARGED
120 minute summer	S13	92	73.991	0.641	45.5	1.5187	0.0000	SURCHARGED
720 minute winter	S14	690	73.694	0.744	3.3	1.3657	0.0000	SURCHARGED
720 minute winter	S15	690	73.694	0.999	4.6	1.7227	0.0000	SURCHARGED
720 minute winter	S16	690	73.694	1.284	10.1	127.8255	0.0000	SURCHARGED
720 minute winter	S17	705	72.337	0.560	2.8	0.9515	0.0000	SURCHARGED
720 minute winter	S18	705	72.337	0.951	5.1	75.6438	0.0000	SURCHARGED
240 minute summer	S19	176	71.780	0.500	20.2	0.8836	0.0000	OK
120 minute summer	Basin 2c	92	73.990	0.690	48.0	60.7231	0.0000	SURCHARGED
2880 minute summer	Basin 1a	3120	70.771	0.671	14.0	146.6475	0.0000	SURCHARGED
1440 minute summer	Basin 2a	1680	73.001	0.701	5.5	94.9950	0.0000	FLOOD RISK
360 minute summer	Outfall	576	69.832	0.032	5.6	0.0000	0.0000	OK
10080 minute summer	Swale	10080	72.738	0.538	0.8	94.9074	0.0000	FLOOD RISK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S1	1.000	S2	36.2	1.063	0.462	0.8855	
15 minute summer	S2	1.001	S3	60.8	0.875	0.483	1.1732	
15 minute summer	S3	1.002	S4	82.9	1.205	0.658	1.2346	
15 minute summer	S4	1.003	S5	130.5	1.491	0.812	1.8112	
15 minute summer	S5	1.004	S6	149.8	2.299	0.363	1.3167	
15 minute summer	S6	1.005	S7	172.3	2.098	0.297	1.5175	
240 minute summer	S7	1.006	S8	55.5	0.793	0.166	2.1982	
240 minute summer	S8	1.007	S9	53.1	0.564	0.201	7.9392	
240 minute summer	S9	1.008	Basin 1c	50.9	1.132	0.160	2.7380	
720 minute winter	Basin 1b	3.006_2	Basin 1a	7.9	0.896	0.010	1.8984	
120 minute summer	S11	2.001	S12	10.6	0.726	0.114	0.8912	
15 minute summer	S10	2.000	S11	0.0	0.000	0.000	0.8410	
120 minute summer	S12	2.002	S13	22.7	0.350	0.199	2.1576	
120 minute summer	S13	2.003	Basin 2c	44.3	0.851	0.480	2.5482	
720 minute winter	S14	3.000	S15	3.2	0.465	0.025	0.9420	
720 minute winter	S15	3.001	S16	4.5	0.508	0.013	0.8444	
720 minute winter	S16	3.002	S17	1.6	0.518	0.003	1.9163	
720 minute winter	S17	3.003	S18	2.5	0.437	0.007	3.9687	
720 minute winter	S18	3.004	S19	3.2	0.431	0.013	6.2529	
240 minute summer	S19	3.006	Basin 1c	-15.6	0.804	-0.021	1.5740	
120 minute summer	Basin 2c	2.003_1	Basin 2b	8.5	1.270	0.022	0.8580	
2880 minute summer	Basin 1a	3.007	S20	5.6	0.103	0.025	1.1044	
1440 minute summer	Basin 2a	3.005	S19	1.5	1.235	0.002	0.2468	
10080 minute summer	Swale	2.000_1	S7	0.1	0.474	0.002	0.0013	



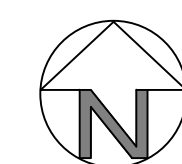
Results for 100 year +40% CC +10% A Critical Storm Duration. Lowest mass balance: 99.69%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute winter	Basin 2b	504	73.505	0.705	8.1	87.2110	0.0000	FLOOD RISK
240 minute summer	Basin 1c	176	71.780	0.680	50.9	115.3561	0.0000	SURCHARGED
720 minute winter	Carpark 1	675	73.697	0.464	4.2	0.0000	0.0000	OK
720 minute winter	Carpark 2	690	72.340	0.796	2.4	0.0000	0.0000	OK
960 minute winter	Carpark 3	900	73.274	0.206	0.3	5.8657	0.0000	SURCHARGED
1440 minute winter	Carpark 4	1380	73.605	0.428	0.5	12.0853	0.0000	SURCHARGED
1440 minute summer	Carpark 5	1440	73.175	0.237	0.6	11.0720	0.0000	SURCHARGED
1440 minute summer	Carpark 6	1440	73.158	0.243	0.6	11.0320	0.0000	SURCHARGED
2880 minute winter	Carpark 7	2700	73.281	0.285	0.3	15.6261	0.0000	SURCHARGED
10080 minute summer	Swale 1	10080	75.004	0.604	0.7	82.8478	0.0000	FLOOD RISK
2880 minute summer	S20	3120	70.771	0.682	5.6	1.2047	0.0000	FLOOD RISK
10080 minute summer	1	10080	71.990	0.349	1.0	0.0000	0.0000	OK
10080 minute summer	J1	10080	71.990	0.349	0.5	120.6625	0.0000	SURCHARGED
15 minute summer	J1 Filter Layer	1	71.141	0.000	0.0	0.0000	0.0000	OK
2880 minute winter	Carpark 8	2820	72.525	0.477	0.9	53.9043	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute winter	Basin 2b	2.003_2	Basin 2a	3.0	0.716	0.008	0.7735	
240 minute summer	Basin 1c	3.006_1	Basin 1b	12.6	1.089	0.017	2.8695	
720 minute winter	Carpark 1	Porous Paving	S16	2.0	0.134	0.071		
720 minute winter	Carpark 2	Porous Paving	S18	1.3	0.072	0.088		
960 minute winter	Carpark 3	2.000_2	S1	0.1	0.245	0.010	0.0024	
1440 minute winter	Carpark 4	1.000_1	S1	0.1	0.274	0.015	0.0067	
1440 minute summer	Carpark 5	4.000	S2	0.1	0.251	0.011	0.0024	
1440 minute summer	Carpark 6	5.000	S2	0.1	0.252	0.011	0.0018	
2880 minute winter	Carpark 7	3.000_1	S2	0.1	0.258	0.012	0.0041	
10080 minute summer	Swale 1	9.000	S13	0.1	0.393	0.007	0.0055	
2880 minute summer	S20	3.008	Outfall	5.6	1.369	0.023	0.0259	709.3
10080 minute summer	J1	7.000	S9	0.1	0.265	0.013	0.0018	
10080 minute summer	J1	Filtration		0.0				
15 minute summer	J1 Filter Layer	Infiltration		0.0				
2880 minute winter	Carpark 8	11.000	S17	0.1	0.279	0.016	0.0362	

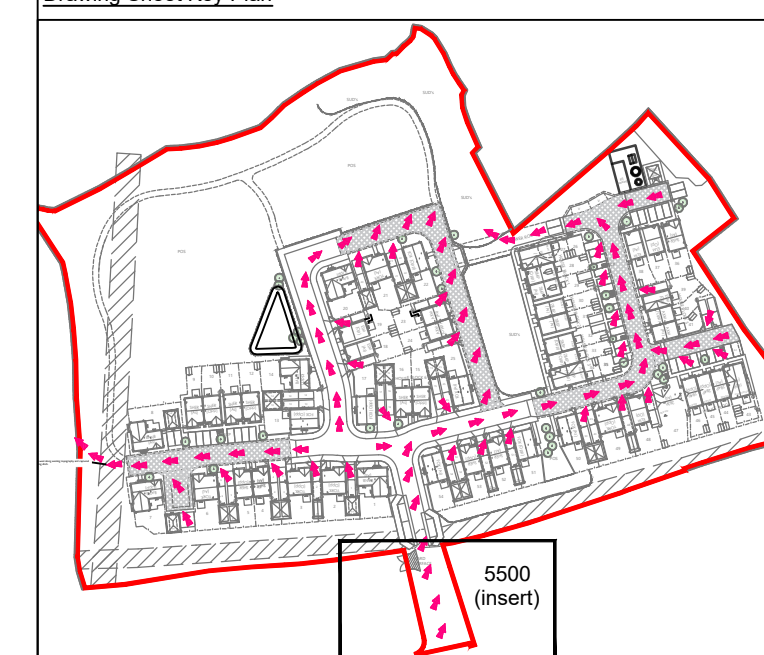
APPENDIX 6

Exceedance Flow Plan

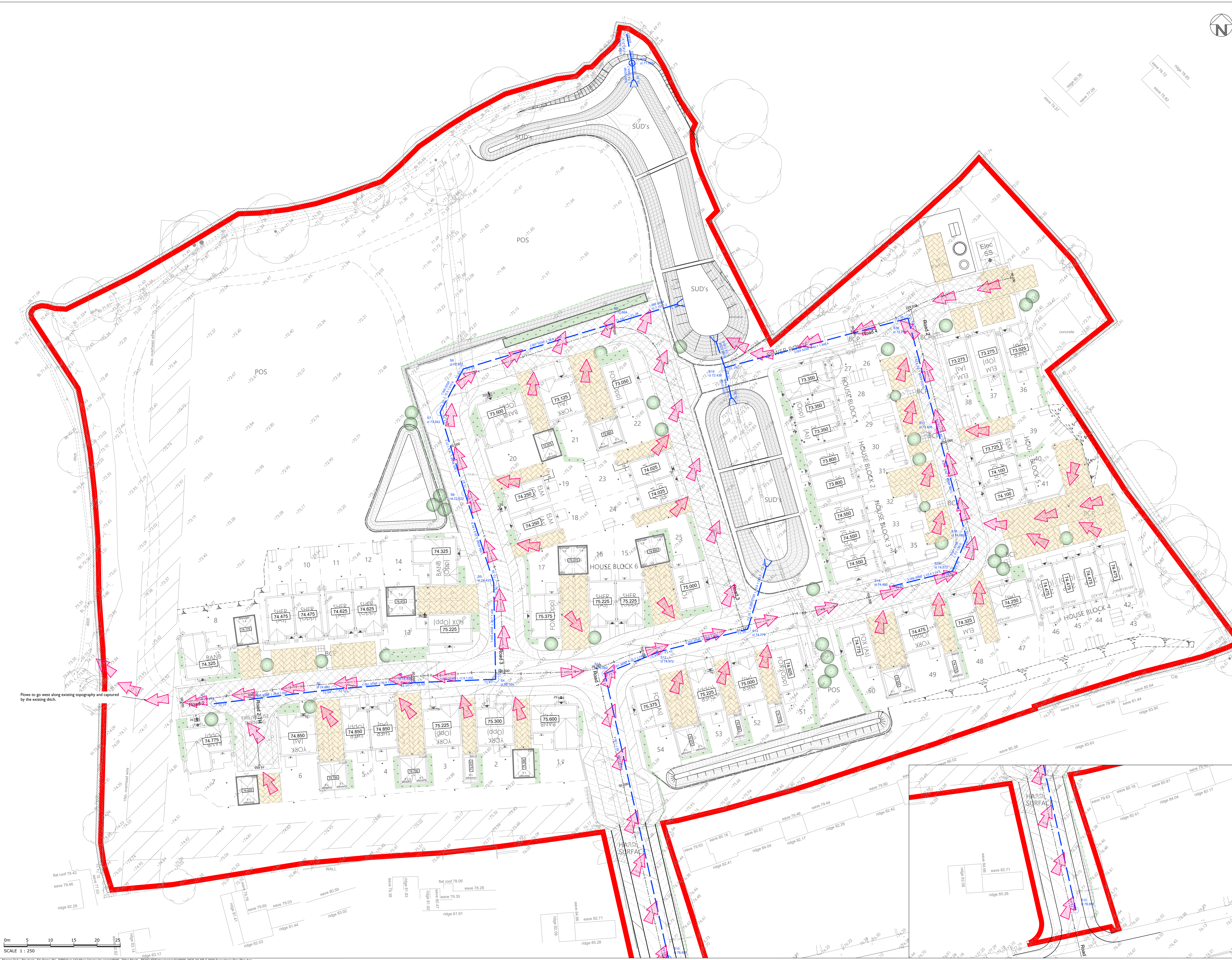


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Any discrepancies must be reported immediately to the Engineer for
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Refer to the relevant Construction (Design and Management) documentation
where applicable.
It is assumed that all works on this drawing will be carried out by a competent
contractor, working where appropriate to an approved method statement.

Drawing Sheet Key Plan



- Key:**
- Site Boundary
 - Exceedance Flow Route
 - Major Contour (0.25m)
 - Minor Contour (0.05m)



0m 5 10 15 20 25
SCALE 1 : 250

Redcliffe Homes Ltd

Project
Dilton Marsh

Title
Exceedance Flow Plan

Drawing Status
PLANNING

Drawn	Checked	Approved	Date	Scale @ A0
AM	OT	NT	MAR 2026	1:250

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