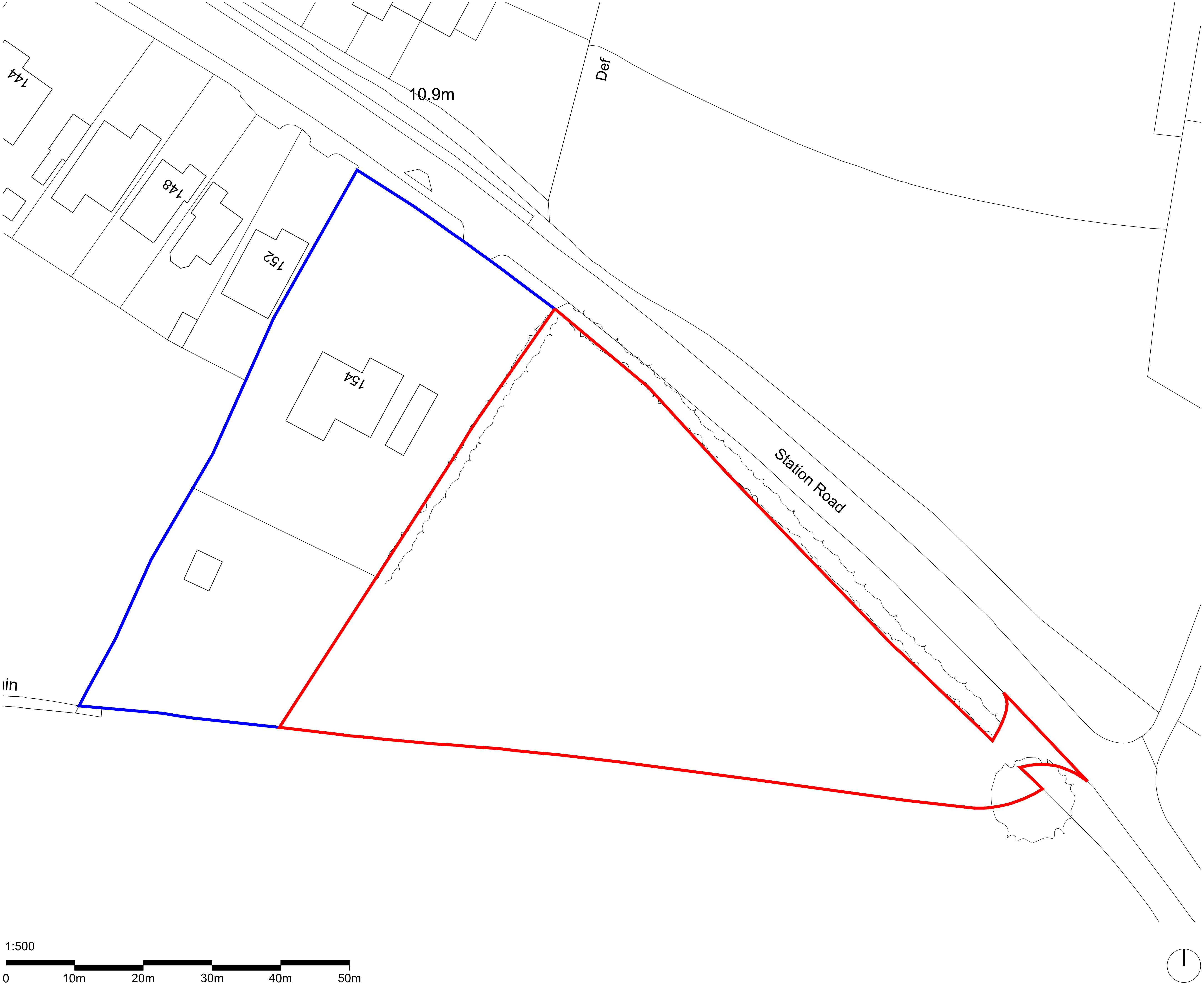

2950.dwg

OS LICENCE NO. 100 022432

Notes:

Key:

Planning Boundary (3834.52 m^2)

Ownership Boundary

Issued for Review and Comment

Revision:	Rev By:	Checked By:
A. 14.12.2022	RB	DP

bloomfields

01892 831 600
www.bloomfieldsltd.co.uk
drawing@bloomfieldsltd.co.uk

Client: Mr I Martin

Project: Proposed Development

Site Address: Land at 154 Station Road, Hailsham, BN27 2SB

Scale: 1:500 @ A3

Drawn By: RB

Date: 14.12.2022

Checked By: DP

Drawing Title: Existing Block Plan

St:	Job No:	Drawing No:	Rev:
/	.2950	.020	.A

2950.dwg

OS LICENCE NO. 100 022432
Contractors must verify all dimensions on site prior to commencement of works. **DO NOT** scale from this drawing. **FOR PLANNING PURPOSES ONLY**. Drawing to be read in accordance with other schematic documentation. It is the responsibility of the client/employer to instruct a suitably qualified specialist to conform with the requirements of the current CDM 2015 Regulations. Client/employer to appoint a principal designer/contractor, as required under the HSE legal requirements. Refer to www.hse.gov.uk for further guidance.

Notes:

Key:

- Planning Boundary ($3834.52\ m^2$)
- Visibility Splay

Issued for Review and Comment

Revision:	Rev By:	Checked By:
A. 14.12.2022	RB	DP

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Client:
Mr I Martin

Project:
Proposed Development

Site Address:
Land at 154 Station Road
Hailsham
BN27 2SB

Scale: 1:200 @ A1
Drawn By: RB

Date: 14.12.2022
Checked By: DP

Drawing Title:
Visibility Splays

St:	Job No:	Drawing No:	Rev:
/	.2950	.080	.A

2950.dwg

OS LICENCE NO. 100 022432

Contractors must verify all dimensions on site prior to commencement of works. **DO NOT** scale from this drawing. **FOR PLANNING PURPOSES ONLY**. Drawing to be read in accordance with other schematic documentation. It is the responsibility of the client/employer to instruct a suitably qualified specialist to conform with the requirements of the current CDM 2015 Regulations. Client/employer to appoint a principal designer/contractor, as required under the HSE legal requirements. Refer to www.hse.gov.uk for further guidance.

Notes:

Key:

- Planning Boundary ($3834.52\ m^2$)
- Ownership Boundary

Issued for Planning

Revision:	Rev By:	Checked By:
B. 10.01.2023	RB	DP
C. 17.01.2023	RB	DD
D. 22.03.2023	RB	DD

bloomfields

01435 873 999
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drawing@bloomfieldsltd.co.uk

Client:
Mr I Martin

Project:
Proposed Development

Site Address:
Land at 154 Station Road
Hailsham
BN27 2SB

Scale: 1:500 @ A3
Drawn By: RB

Date: 14.12.2022
Checked By: DP

Drawing Title:
Indicative Block Plan

St: | **Job No:** | **Drawing No:** | **Rev:**

P.2950.030.D

2950.dwg

Notes:

Key:

- Planning Boundary ($3834.52\ m^2$)
- Ownership Boundary

Issued for Planning

Revision:	Rev By:	Checked By:
C. 17.01.2023	RB	DD
D. 22.03.2023	RB	DD
E. 06.06.2023	RB	DD

bloomfields

01435 873 999
www.bloomfieldsltd.co.uk
drawing@bloomfieldsltd.co.uk

Client:
Mr I Martin

Project:
Proposed Development

Site Address:
Land at 154 Station Road
Hailsham
BN27 2SB

Scale: 1:500 @ A3

Drawn By: RB

Date: 14.12.2022

Checked By: DP

Drawing Title:
Indicative Block Plan

St: | **Job No:** | **Drawing No:** | **Rev:**

P.2950.030.E

Town and Country Planning Act 1990

Notice of Decision
Application No. **WD/2023/0699/O**

Wealden District Council

Bloomfields Chartered Town Planners
Hillhurst Farm
Stone Street
Westenhanger
Hythe
CT21 4HU

Council Offices
Vicarage Lane
Hailsham
East Sussex
BN27 2AX

DESCRIPTION AND LOCATION OF DEVELOPMENT
ERECTION OF UP TO 9 NO DWELLING HOUSES, INCLUDING ACCESS WITH ALL OTHER MATTERS RESERVED, TO INCLUDE A CHANGE OF USE OF LAND TO RESIDENTIAL.
LAND ADJ. TO 154, STATION ROAD, HAILSHAM, BN27 2SB

With reference to the proposals set out in the application numbered as above and shown on the plans submitted therewith, Wealden District Council, in pursuance of powers under the Town and Country Planning Act 1990 (as amended), hereby **GRANTS OUTLINE PLANNING PERMISSION** for the said proposals, subject to the conditions stated below imposed for the reasons stated thereunder:-

1. Permission is granted subject to the subsequent approval by the Local Planning Authority of the detailed particulars of the layout, scale and appearance of the buildings to which this permission relates, and the landscaping of the site before any development is commenced, such matters being reserved from the permission. STD1A

   REASON: To meet the requirements of The Town and Country Planning (Development Management Procedure) (England) Order 2015.

2. (a) Application for approval of the matters reserved for subsequent approval must be made to the Local Planning Authority no later than the expiration of 18 months beginning with the date of the grant of this outline permission; and

   (b) the development to which this permission relates must be begun no later than the expiration of 18 months from the final approval of the reserved matters or, in the case of approval on different dates, the final approval of the last such matter to be approved. STD3

   REASON: To meet the requirements of Section 92 of the Town and Country Planning Act 1990 and to incentivise delivery to deal with under supply in accordance with the Wealden Housing Action Plan 2022 and paras 76 and 77 of the NPPF 2021.

3. No development shall take place until full details relating to the construction of an extension of the footpath on the eastern side of Station Road and crossing point on the western side, as indicated on drawing numbered P.2950.030 Rev E date stamped 6 June 2023 to provide a link between the site and other footpaths along Station Road have been submitted to and approved in writing by the Local Planning Authority in consultation with the local highway authority. Those details shall include a licence for such works obtained from the local highway authority. The footpath extension and the crossing point shall be constructed in accordance with the approved details prior to the first occupation of the development hereby permitted and shall be maintained and made available for the intended purposes thereafter.

REASON: To ensure that suitable access to and from the site for pedestrians is provided in the interests of highway safety, having regard to Saved Policy TR3 of the Adopted Wealden Local Plan 1998, coupled with the requirements of paragraphs 8, 11 and 110-112 of National Planning Policy Framework 2021.

4. No development shall take place until the applicant has secured the implementation of a programme of archaeological works in accordance with a written scheme of investigation which has been submitted to and approved in writing by the Local Planning Authority.

REASON: To enable the recording of any items of historical or archaeological interest, in accordance with the requirements of SPO2, SPO13 and WCS14 to the Wealden Core Strategy Local Plan 2013.

5. No phase of the development hereby permitted shall be brought into use until the archaeological site investigation and post-investigation assessment (including provision for analysis, publication and dissemination of results and archive deposition) for that phase has been completed and approved in writing by the Local Planning Authority. The archaeological site investigation and post - investigation assessment will be undertaken in accordance with the programme set out in the written scheme of investigation approved under Condition 4.

REASON: To enable the recording of any items of historical or archaeological interest, in accordance with the requirements of SPO2, SPO13 and WCS14 to the Wealden Core Strategy Local Plan 2013, coupled with the requirements of the National Planning Policy Framework 2021.

6. Notwithstanding the Drainage & SUDS Strategy report submitted with the application, no development shall take place until full details of the surface water drainage scheme have been submitted to and approved in writing by the Local Planning Authority. The surface water drainage scheme should be confirmed as deliverable by an assessment of the site's potential for disposing of surface water by means of a sustainable drainage system and shall secure two stage treatment Sustainable Urban Drainage System (SUDS) to protect the Pevensey Levels Special Area of Conservation. The submitted details shall include the following:

a. Detailed drawings and hydraulic calculations. The hydraulic calculations shall take into account the connectivity of the different surface water drainage features. The calculations shall demonstrate that surface water flows can be limited to 2 l/s (or a rate agreed to by East Sussex Highways) for all rainfall events, including those with a 1 in 100 (plus climate change) annual probability of occurrence.

b. The details of the outfall of the proposed drainage system and how it connects into the watercourse shall be submitted as part of a detailed design including cross sections and invert levels.

c. The detailed design shall include information on how surface water flows exceeding the capacity of the surface water drainage features will be managed safely.

d. The detailed design of the surface water drainage features (underground tank) shall be informed by findings of groundwater monitoring between autumn and spring at the location of the proposed tank. The design should leave at least 1m unsaturated zone between the base of the drainage structures and the highest recorded groundwater level. If this cannot be achieved, details of measures which will be taken to manage the impacts of high groundwater on the hydraulic capacity and structural integrity of the drainage system should be provided

REASON: In order to secure a satisfactory standard of development, having regard to SPO12, SPO13 and WCS14 to the Wealden Core Strategy Local Plan 2013, Saved

Policy CS2 of the adopted Wealden Local Plan 1998, coupled with the requirements of the National Planning Policy Framework 2021.

7. Details for the long-term maintenance and management plan for the entire drainage system shall be submitted to and approved by the Local Planning Authority before any construction commences on site to ensure the designed system takes into account design standards of those responsible for maintenance. The management plan shall cover the following:

a. This plan should clearly state who will be responsible for managing all aspects of the surface water drainage system for the lifetime of the development, including piped drains, and timetable for implementation of the sustainable urban drainage system;

b. Evidence of how these responsibility arrangements will remain in place throughout the lifetime of the development

The management and maintenance arrangements shall be carried out in accordance with the approved details over the period specified for the lifetime of the development. DS05(M)

REASON: To ensure the satisfactory maintenance of unadopted drainage systems in accordance with SPO12, SPO13 and WCS14 to the Wealden Core Strategy Local Plan 2013, Saved Policy CS2 of the adopted Wealden Local Plan 1998, coupled with the requirements of the National Planning Policy Framework 2021.

8. Prior to occupation of the development evidence (including photographs) shall be submitted to the local planning authority showing that the surface water drainage system has been constructed as per the final agreed detailed drainage designs.

REASON: In order to secure a satisfactory standard of development, having regard to SPO12, SPO13 and WCS14 to the Wealden Core Strategy Local Plan 2013 and Saved Policy CS2 of the adopted Wealden Local Plan 1998, coupled with the requirements of the National Planning Policy Framework 2021.

9. Before preparation of ground levels of the development approved by this permission full details of the proposed means of foul drainage disposal shall be submitted to and approved in writing by the Local Planning Authority. The approved drainage works shall be completed prior to the completion or occupation of any dwelling on site, whichever is the sooner.

REASON: In order to secure a satisfactory standard of development, having regard to SPO13 and WCS14 to the Wealden Core Strategy Local Plan 2013 and Saved Policy CS2 of the adopted Wealden Local Plan 1998.

10. The reserved matters shall include a Arboricultural Impact Assessment along with an Arboricultural Method Statement which shall include numbering and detailing trees, confirming root protection areas, routing of service trenches, overhead services and carriageway positions and any details of no dig techniques along with associated use of geotextiles and an indication of the methodology for necessary ground treatments to deal with compacted areas of soil. The works shall be implemented in accordance with the approved details. TP05(M)

REASON: To preserve trees and hedges on the site in the interests of visual amenity and the character of the area, having regard to SPO13 and WCS14 to the Wealden Core Strategy Local Plan 2013, Saved Policies EN12 and EN14 of the adopted Wealden Local Plan 1998, coupled with the requirements of the National Planning Policy Framework 2021.

11. Prior to works below ground level an investigation and risk assessment, in addition to any assessment provided with the planning application, must be completed in accordance with a scheme to assess the nature and extent of any contamination on the site, whether or not it originates on the site. The contents of the scheme are subject to the approval in writing of the Local Planning Authority. The investigation and risk assessment must be undertaken by competent persons and a written report of the findings must be produced. The written report is subject to the approval in writing of the Local Planning Authority. The report of the findings must include:

(i) A survey of the extent, scale and nature of contamination;

(ii) An assessment of the potential risks to:

. Human health
. Property (existing or proposed) including buildings, crops, livestock, pets, woodland, and service lines and pipes
. Adjoining land
. Groundwaters and surface waters
. Ecological systems
. Archaeological sites and ancient monuments;

(iii) An appraisal of remedial options and proposal of the preferred option(s).

This must be conducted in accordance with the Environment Agency's "Land Contamination Risk Management (LCRM)" web pages:

https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm
(or any subsequent equivalent guidance). CL01

REASON: To ensure that risks from land contamination to the future users of the land and neighbouring land are minimised, together with those to controlled waters, property and ecological systems, and to ensure that the development can be carried out safely without unacceptable risks to workers, neighbours and other off-site receptors, having regard to SPO13 and WCS14 to the Wealden Core Strategy Local Plan 2013 and the requirements of the National Planning Policy Framework 2021.

12. In the event that contamination is found at any time when carrying out the approved development that was not previously identified, it must be reported in writing immediately to the Local Planning Authority. An investigation and risk assessment must be undertaken in accordance with the requirements of Condition 11 and where remediation is necessary a remediation scheme must be prepared, which is subject to the prior approval in writing of the Local Planning Authority.

Following completion of measures identified in the approved remediation scheme, a verification report must be prepared, which is subject to the approval in writing of the Local Planning Authority. CL04

REASON: To ensure that risks from land contamination to the future users of the land and neighbouring land are minimised, together with those to controlled waters, property and ecological systems, and to ensure that the development can be carried out safely without unacceptable risks to workers, neighbours and other off-site receptors, having regard to SPO13 and WCS14 to the Wealden Core Strategy Local Plan 2013 and the requirements of the National Planning Policy Framework 2021.

13. No development shall take place, including any ground works or works of demolition, until a Construction Management Plan has been submitted to and approved in writing by the Local Planning Authority. Thereafter the approved Plan shall be implemented and

adhered to in full throughout the entire construction period. The Plan shall provide details as appropriate but not be restricted to the following matters:

• The anticipated number, frequency and types of vehicles used during construction,

• The method of access and egress and routeing of vehicles during construction,

• The parking of vehicles by site operatives and visitors,

• The loading and unloading of plant, materials and waste,

• The storage of plant and materials used in construction of the development,

• The erection and maintenance of security hoarding,

• The provision and utilisation of wheel washing facilities and other works required to mitigate the impact of construction upon the public highway (including the provision of temporary Traffic Regulation Orders).

REASON: In the interests of and for the safety of persons and vehicles on the site and/or adjoining road and to minimise loss of amenity to adjoining properties and minimise potential for environmental impact having regard to SPO12, SPO13 and WCS14 to the Wealden Core Strategy Local Plan 2013, Saved Policies EN27 and TR3 of the adopted Wealden Local Plan 1998, coupled with the requirements of the National Planning Policy Framework 2021.

14. No work below ground level shall be carried out on site for the development hereby approved, until full written details for a Code of Construction Practice has been submitted and approved in writing by the Local Planning Authority. The Code of Construction Practice should detail good practice measures for site working to mitigate potential impacts from construction including protection of retained features and surface water bodies on or adjacent to the site, the control of surface water run-off, application of design controls for construction equipment and construction vehicles, vehicle routing, wheel washing facilities, sheeting of lorries during transportation of construction materials, provision of water sprays during delivery and dumping of sand and gravel, mixing and batching on wet rather than dry aggregate materials, minimum drop heights to be used for continuous and batch drop activities and waste disposal. The approved Code of Construction Practice shall be implemented throughout the period of work on site. C04(M)

REASON: In the interests of and for the safety of persons and vehicles on the site and/or adjoining road and to minimise loss of amenity to adjoining properties and minimise potential for environmental impact having regard to SPO13 and WCS14 to the Wealden Core Strategy Local Plan 2013, Saved Policies EN27 and TR3 of the adopted Wealden Local Plan 1998.

15. Prior to preparation of ground levels for the construction of the development hereby approved, a detailed scheme for the enhancement of the site for biodiversity purposes and protection of wildlife during construction to include timescales for implementation and future management, shall be submitted to and approved in writing by the Local Planning Authority. The approved scheme of enhancements shall be implemented in accordance with the approved details and thereafter so retained.

REASON: To identify and ensure the survival and protection of important species and those protected by legislation that could be adversely affected by the development, having regard to SPO1, WCS12 and WCS14 to the Wealden Core Strategy Local Plan 2013.

16. Prior to the commencement of development on site, detailed drawings of levels, sections and constructional details of the proposed roads surface water drainage, outfall disposal and street lighting to be provided, shall be submitted to the Planning Authority and be subject to its approval, in consultation with the Highway Authority. The approved details shall be constructed before the first occupation of the development and thereafter retained.

    REASON: In the interests of highway safety and for the benefit and convenience of the public at large, having regard to SPO12 and SPO13 to the adopted Wealden Core Strategy Local Plan 2013, Saved Policies EN27 and TR3 of the adopted Wealden Local Plan 1998, and the requirements of the National Planning Policy Framework 2021.

17. No development shall be occupied until the vehicular access serving the development has been constructed in the position shown on submitted drawing numbered P.2950.030. Rev E and constructed in accordance with the requirements of the Local Highway Authority. HW09(M)

    REASON: To ensure the safety of persons and vehicles entering and leaving the access and proceeding along the highway, in the interests of and for the safety of persons and vehicles using the premises and/or the adjoining road, having regard to SPO12, SPO13 and WCS14 to the Wealden Core Strategy Local Plan 2013, Saved Policy TR3 of the adopted Wealden Local Plan 1998, and the requirements of the National Planning Policy Framework 2021.

18. Notwithstanding the detail on drawing numbered 2950.080. Rev A, the access shall not be used until visibility splays of 2.4m by 75m are provided in both directions and maintained thereafter. Details of the 2.4m x 75m visibility splays shall be shown on detailed plans submitted for the reserved matters listed in condition 1.

    REASON: In order to provide visibility for vehicles entering and leaving the site In the interests of and for the safety of persons and vehicles using the development and the adjoining road having regard to SPO12, SPO13 and WCS14 to the Wealden Core Strategy Local Plan 2013, Saved Policy TR3 of the adopted Wealden Local Plan 1998.

19. The reserved matters shall include details of the provision of electric vehicle charging points at the site. The approved charging points shall be installed prior to first occupation or substantial completion of the dwellings whichever is the sooner.

    REASON: In the interests of air quality and climate change having regard to WCS14 of the Wealden Core Strategy 2013 and Policy AQ1 of the Hailsham Neighbourhood Plan.

20. This planning decision relates solely to the information contained within the application form, and the following plans and documents:

Ref.	Date Stamped. STN4
2950.010 Rev A	13 March 2023
2950.030 Rev E (access only)	6 June 2023
2950.080 Rev A (access only)	13 March 2023
Supporting Planning Statement	13 March 2023
Preliminary Ecological Appraisal	13 March 2023
Drainage & SUDs Strategy	1 June 2023
Transport Report	13 March 2023
Desk Based Assessment (Archaeology)	13 March 2023

    REASON: For the avoidance of doubt.

The Local Planning Authority's reasons for its decision to grant planning permission are set out in the officer's report which can be viewed on the Council's website at www.planning.wealden.gov.uk

NOTE: Should alterations or amendments be required to the approved plans, it will be necessary to apply either under Section 96A of the Town and Country Planning Act 1990 for non-material alterations or Section 73 of the Act for minor material alterations. An application must be made using the standard application forms and you should consult with us, to establish the correct type of application to be made.

NOTE 1: East Sussex County Council local highway authority requirements associated with this development proposal will need to be secured through a Section (106/184/171/278) Legal Agreement between the applicant and East Sussex County Council The applicant is requested to contact the Transport Development Control Team (01273 482254) to commence this process. The applicant is advised that it is an offence to undertake any works within the highway prior to the agreement being in place.

NOTE 2: The applicant is reminded that under the Wildlife and Countryside Act 1981 (Section 1) it is an offence to take, damage or destroy the nest of any wild bird while that nest is in use or being built. Planning consent for a development does not provide a defence against prosecution under this Act. Trees and scrub are likely to contain nesting birds between 1 March and 31 July. Trees and scrub are present on the application site and should be assumed to contain nesting birds between the above dates unless survey has shown it is absolutely certain that nesting birds are not present. NCN1

NOTE 3: The applicant is reminded that it is an offence to damage or destroy species protected under separate legislation. Planning consent for a development does not provide a defence against prosecution under European and UK wildlife protection legislation. You are advised that it may be necessary, shortly before development commences, for the applicant to commission an ecological survey from suitably qualified and experienced professionals to determine the presence or otherwise of such protected species. If protected species are found to be present, Natural England should be consulted. NCN2

NOTE: Your attention is drawn to the requirements of the Building Act 1984 for the deposit of Plans under the Building Regulations and associated legislation. ACCESS FOR FIRE BRIGADE: Your attention is hereby drawn to the provisions of Section 35 of the East Sussex Act 1981.

DISCHARGE OF CONDITIONS: It is advised that under The Town and Country Planning Act 1990, the Council has up to 8 weeks from the date of an application to discharge any condition(s) and advise the applicant of the Council's decision. This information should be submitted using the 'Approval of Details Reserved by Condition' Form which can be downloaded from the Council's website. Please note there is also a fee payable for this type of application.

IMPORTANT: See Notes overleaf
DATE OF ISSUE: 7 July 2023

Stacey Robins
Head of Planning & Environmental Services

NOTES

Appeals to the Secretary of State

- If the Applicant is aggrieved by the decision of the Local Planning Authority (LPA) to refuse permission for the proposed development or to grant it subject to conditions, then an appeal may be lodged with The Planning Inspectorate (PINS) under Section 78 of the Town and Country Planning Act 1990.
- Appeals must be made on a form which is obtainable from:
  The Planning Inspectorate, Temple Quay House, 2 The Square, Temple Quay, Bristol BS1 6PN
  Tel. No. 0303 444 5000
  www.gov.uk/appeal-planning-inspectorate

Appeal Timescales

- Householder planning application or minor commercial application:

  12 weeks from the date on the decision notice

  However, if an enforcement notice has been served for the same or very similar development the time limit is:
  - **28 days** from the date of the LPA decision if the enforcement notice was served before the decision was made yet not longer than 2 years before the application was made.
  - **28 days** from the date the enforcement notice was served if served on or after the date the decision was made (unless this extends the appeal period beyond 12 weeks).

  NB – if the LPA have failed to determine the householder planning application, or for an appeal against the grant of permission subject to conditions, please follow the time limits under "Planning application" below.

- Planning application:

  6 months from the date on the decision notice, or
  6 months from the expiry of the period which the LPA had to determine the application.

  However, if an enforcement notice has been served for the same or very similar development within the previous 2 years, the time limit is:
  - **28 days** from the date of the LPA decision if the enforcement notice was served before the decision was made yet not longer than 2 years before the application was made.
  - **28 days** from the date the enforcement notice was served if served on or after the date the decision was made (unless this extends the appeal period beyond 6 months).

  NB – the LPA determination period is usually 8 weeks (13 weeks for major developments and 28 days for non-material amendment applications). If a longer period has been agreed with the LPA, the time limit runs from that date.

Further information

- The Planning Inspectorate has discretionary power to allow a longer period for the giving of a notice of appeal but will not normally be prepared to exercise this power unless there are special circumstances which excuse the delay in giving notice to appeal.
- The Planning Inspectorate is not required to entertain an appeal if it appears that the local planning authority could not have granted planning permission for the proposed development or could not have granted it without the conditions they imposed, having regard to the statutory requirements, to the provisions of any development order and to any directions given under a development order.
- The Planning Inspectorate does not in practice refuse to entertain appeals solely because the decision of the local planning authority was based on a direction issued by the Secretary of State.

Purchase Notices

- If either the LPA or Secretary of State refuses permission to develop land or grants it subject to conditions, the owner may claim that the land has become incapable of reasonably beneficial use in its existing state nor rendered capable of a reasonably beneficial use by the carrying out of any development which has been or would be permitted.
- In these circumstances the owner may serve a purchase notice on the District Council. This notice will require the Council to purchase their interest in the land in accordance with the provisions of Part VI of the Town and Country Planning Act 1990.

Delegated Officer Recommendation

Case Officer:	**AMB**	**Date:**	**06 July 2023**
		Consults Expiry:	**25 April 2023**
		Site Notice Expiry:	**5 May 2023**
		Advert Expiry:	**14 May 2023**
		Neighbour Expiry:	
		Expiry Date:	**10 July 2023**
		Extension of Time:	**10 July 2023**
		BVPI Category:	

WD/2023/0699/O
ERECTION OF UP TO 9 NO DWELLING HOUSES, INCLUDING ACCESS WITH ALL OTHER MATTERS RESERVED, TO INCLUDE A CHANGE OF USE OF LAND TO RESIDENTIAL.
LAND ADJ. TO 154, STATION ROAD, HAILSHAM, BN27 2SB
Parish: Hailsham LB ref:
Received Complete: 29 March 2023 Cons Area:

Recommendation - Approval

Case Officer	**Initials**	*AMB*	**Date**	06/07/2023
Pre-commencement conditions agreed with applicant?				N/A, outline
CIL Liability checked by Officer	**Initials**	*AMB*	**Date**	06/07/2023
		CIL Liable	o	**Yes – but outline**
	CIL Exemption Claimed			**No**
Team Leader/Senior	**Initials**	**ceb**	**Date**	**7/72023**
Authority to Delegate Required?		NO	**Date**	
Fields filled in on Custom screen on Datawright?				ü

Admin

Decision notice checked	**Initials**	**BH**	**Date**	**07.07.23**
CIL Liability Notice Issued		NO	**Date**	**07.07.23**

Reason CIL Notice Not Issued:

o Less than 100 m²
o Not Residential
o No increase in floor area
þ Other: **Outline**

1. Permission is granted subject to the subsequent approval by the Local Planning Authority of the detailed particulars of the layout, scale and appearance of the buildings to which this permission relates, and the landscaping of the site before any development is commenced, such matters being reserved from the permission. STD1A

REASON: To meet the requirements of The Town and Country Planning (Development Management Procedure) (England) Order 2015.

2. (a) Application for approval of the matters reserved for subsequent approval must be made to the Local Planning Authority no later than the expiration of 18 months beginning with the date of the grant of this outline permission; and

(b) the development to which this permission relates must be begun no later than the expiration of 18 months from the final approval of the reserved matters or, in the case of approval on different dates, the final approval of the last such matter to be approved. STD3

REASON: To meet the requirements of Section 92 of the Town and Country Planning Act 1990 and to incentivise delivery to deal with under supply in accordance with the Wealden Housing Action Plan 2022 and paras 76 and 77 of the NPPF 2021.

3. No development shall take place until full details relating to the construction of an extension of the footpath on the eastern side of Station Road and crossing point on the western side, as indicated on drawing numbered P.2950.030 Rev E date stamped 6 June 2023 to provide a link between the site and other footpaths along Station Road have been submitted to and approved in writing by the Local Planning Authority in consultation with the local highway authority. Those details shall include a licence for such works obtained from the local highway authority. The footpath extension and the crossing point shall be constructed in accordance with the approved details prior to the first occupation of the development hereby permitted and shall be maintained and made available for the intended purposes thereafter.

REASON: To ensure that suitable access to and from the site for pedestrians is provided in the interests of highway safety, having regard to Saved Policy TR3 of the Adopted Wealden Local Plan 1998, coupled with the requirements of paragraphs 8, 11 and 110-112 of National Planning Policy Framework 2021.

4. No development shall take place until the applicant has secured the implementation of a programme of archaeological works in accordance with a written scheme of investigation which has been submitted to and approved in writing by the Local Planning Authority.

REASON: To enable the recording of any items of historical or archaeological interest, in accordance with the requirements of SPO2, SPO13 and WCS14 to the Wealden Core Strategy Local Plan 2013.

5. No phase of the development hereby permitted shall be brought into use until the archaeological site investigation and post-investigation assessment (including provision for analysis, publication and dissemination of results and archive deposition) for that phase has been completed and approved in writing by the Local Planning

Authority. The archaeological site investigation and post - investigation assessment will be undertaken in accordance with the programme set out in the written scheme of investigation approved under Condition 4.

REASON: To enable the recording of any items of historical or archaeological interest, in accordance with the requirements of SPO2, SPO13 and WCS14 to the Wealden Core Strategy Local Plan 2013, coupled with the requirements of the National Planning Policy Framework 2021.

6. Notwithstanding the Drainage & SUDS Strategy report submitted with the application, no development shall take place until full details of the surface water drainage scheme have been submitted to and approved in writing by the Local Planning Authority. The surface water drainage scheme should be confirmed as deliverable by an assessment of the site's potential for disposing of surface water by means of a sustainable drainage system and shall secure two stage treatment Sustainable Urban Drainage System (SUDS) to protect the Pevensey Levels Special Area of Conservation. The submitted details shall include the following:

a. Detailed drawings and hydraulic calculations. The hydraulic calculations shall take into account the connectivity of the different surface water drainage features. The calculations shall demonstrate that surface water flows can be limited to 2 l/s (or a rate agreed to by East Sussex Highways) for all rainfall events, including those with a 1 in 100 (plus climate change) annual probability of occurrence.

b. The details of the outfall of the proposed drainage system and how it connects into the watercourse shall be submitted as part of a detailed design including cross sections and invert levels.

c. The detailed design shall include information on how surface water flows exceeding the capacity of the surface water drainage features will be managed safely.

d. The detailed design of the surface water drainage features (underground tank) shall be informed by findings of groundwater monitoring between autumn and spring at the location of the proposed tank. The design should leave at least 1m unsaturated zone between the base of the drainage structures and the highest recorded groundwater level. If this cannot be achieved, details of measures which will be taken to manage the impacts of high groundwater on the hydraulic capacity and structural integrity of the drainage system should be provided

REASON: In order to secure a satisfactory standard of development, having regard to SPO12, SPO13 and WCS14 to the Wealden Core Strategy Local Plan 2013, Saved Policy CS2 of the adopted Wealden Local Plan 1998, coupled with the requirements of the National Planning Policy Framework 2021.

7. Details for the long-term maintenance and management plan for the entire drainage system shall be submitted to and approved by the Local Planning Authority before any construction commences on site to ensure the designed system takes into account design standards of those responsible for maintenance. The management plan shall cover the following:

a. This plan should clearly state who will be responsible for managing all aspects of the surface water drainage system for the lifetime of the development, including piped drains, and timetable for implementation of the sustainable urban drainage system;

b. Evidence of how these responsibility arrangements will remain in place throughout the lifetime of the development

The management and maintenance arrangements shall be carried out in accordance with the approved details over the period specified for the lifetime of the development. DS05(M)

REASON: To ensure the satisfactory maintenance of unadopted drainage systems in accordance with SPO12, SPO13 and WCS14 to the Wealden Core Strategy Local Plan 2013, Saved Policy CS2 of the adopted Wealden Local Plan 1998, coupled with the requirements of the National Planning Policy Framework 2021.

8. Prior to occupation of the development evidence (including photographs) shall be submitted to the local planning authority showing that the surface water drainage system has been constructed as per the final agreed detailed drainage designs.

   REASON: In order to secure a satisfactory standard of development, having regard to SPO12, SPO13 and WCS14 to the Wealden Core Strategy Local Plan 2013 and Saved Policy CS2 of the adopted Wealden Local Plan 1998, coupled with the requirements of the National Planning Policy Framework 2021.

9. Before preparation of ground levels of the development approved by this permission full details of the proposed means of foul drainage disposal shall be submitted to and approved in writing by the Local Planning Authority. The approved drainage works shall be completed prior to the completion or occupation of any dwelling on site, whichever is the sooner.

   REASON: In order to secure a satisfactory standard of development, having regard to SPO13 and WCS14 to the Wealden Core Strategy Local Plan 2013 and Saved Policy CS2 of the adopted Wealden Local Plan 1998.

10. The reserved matters shall include an Arboricultural Impact Assessment along with an Arboricultural Method Statement which shall include numbering and detailing trees, confirming root protection areas, routing of service trenches, overhead services and carriageway positions and any details of no dig techniques along with associated use of geotextiles and an indication of the methodology for necessary ground treatments to deal with compacted areas of soil. The works shall be implemented in accordance with the approved details. TP05(M)

    REASON: To preserve trees and hedges on the site in the interests of visual amenity and the character of the area, having regard to SPO13 and WCS14 to the Wealden Core Strategy Local Plan 2013, Saved Policies EN12 and EN14 of the adopted Wealden Local Plan 1998, coupled with the requirements of the National Planning Policy Framework 2021.

11. Prior to works below ground level an investigation and risk assessment, in addition to any assessment provided with the planning application, must be completed in accordance with a scheme to assess the nature and extent of any contamination on

the site, whether or not it originates on the site. The contents of the scheme are subject to the approval in writing of the Local Planning Authority. The investigation and risk assessment must be undertaken by competent persons and a written report of the findings must be produced. The written report is subject to the approval in writing of the Local Planning Authority. The report of the findings must include:

(i) A survey of the extent, scale and nature of contamination;

(ii) An assessment of the potential risks to:

. Human health
. Property (existing or proposed) including buildings, crops, livestock, pets, woodland, and service lines and pipes
. Adjoining land
. Groundwaters and surface waters
. Ecological systems
. Archaeological sites and ancient monuments;

(iii) An appraisal of remedial options and proposal of the preferred option(s).

This must be conducted in accordance with the Environment Agency's "Land Contamination Risk Management (LCRM)" web pages:

https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm (or any subsequent equivalent guidance). CL01

REASON: To ensure that risks from land contamination to the future users of the land and neighbouring land are minimised, together with those to controlled waters, property and ecological systems, and to ensure that the development can be carried out safely without unacceptable risks to workers, neighbours and other off-site receptors, having regard to SPO13 and WCS14 to the Wealden Core Strategy Local Plan 2013 and the requirements of the National Planning Policy Framework 2021.

12. In the event that contamination is found at any time when carrying out the approved development that was not previously identified, it must be reported in writing immediately to the Local Planning Authority. An investigation and risk assessment must be undertaken in accordance with the requirements of Condition 11 and where remediation is necessary a remediation scheme must be prepared, which is subject to the prior approval in writing of the Local Planning Authority.

Following completion of measures identified in the approved remediation scheme, a verification report must be prepared, which is subject to the approval in writing of the Local Planning Authority. CL04

REASON: To ensure that risks from land contamination to the future users of the land and neighbouring land are minimised, together with those to controlled waters, property and ecological systems, and to ensure that the development can be carried out safely without unacceptable risks to workers, neighbours and other off-site receptors, having regard to SPO13 and WCS14 to the Wealden Core Strategy Local Plan 2013 and the requirements of the National Planning Policy Framework 2021.

13. No development shall take place, including any ground works or works of demolition, until a Construction Management Plan has been submitted to and approved in writing by the Local Planning Authority. Thereafter the approved Plan shall be implemented and adhered to in full throughout the entire construction period. The Plan shall provide details as appropriate but not be restricted to the following matters:

• The anticipated number, frequency and types of vehicles used during construction,

• The method of access and egress and routeing of vehicles during construction,

• The parking of vehicles by site operatives and visitors,

• The loading and unloading of plant, materials and waste,

• The storage of plant and materials used in construction of the development,

• The erection and maintenance of security hoarding,

• The provision and utilisation of wheel washing facilities and other works required to mitigate the impact of construction upon the public highway (including the provision of temporary Traffic Regulation Orders).

REASON: In the interests of and for the safety of persons and vehicles on the site and/or adjoining road and to minimise loss of amenity to adjoining properties and minimise potential for environmental impact having regard to SPO12, SPO13 and WCS14 to the Wealden Core Strategy Local Plan 2013, Saved Policies EN27 and TR3 of the adopted Wealden Local Plan 1998, coupled with the requirements of the National Planning Policy Framework 2021.

14. No work below ground level shall be carried out on site for the development hereby approved, until full written details for a Code of Construction Practice has been submitted and approved in writing by the Local Planning Authority. The Code of Construction Practice should detail good practice measures for site working to mitigate potential impacts from construction including protection of retained features and surface water bodies on or adjacent to the site, the control of surface water run-off, application of design controls for construction equipment and construction vehicles, vehicle routing, wheel washing facilities, sheeting of lorries during transportation of construction materials, provision of water sprays during delivery and dumping of sand and gravel, mixing and batching on wet rather than dry aggregate materials, minimum drop heights to be used for continuous and batch drop activities and waste disposal. The approved Code of Construction Practice shall be implemented throughout the period of work on site. C04(M)

REASON: In the interests of and for the safety of persons and vehicles on the site and/or adjoining road and to minimise loss of amenity to adjoining properties and minimise potential for environmental impact having regard to SPO13 and WCS14 to the Wealden Core Strategy Local Plan 2013, Saved Policies EN27 and TR3 of the adopted Wealden Local Plan 1998.

15. Prior to preparation of ground levels for the construction of the development hereby approved, a detailed scheme for the enhancement of the site for biodiversity purposes and protection of wildlife during construction to include timescales for implementation

and future management, shall be submitted to and approved in writing by the Local Planning Authority. The approved scheme of enhancements shall be implemented in accordance with the approved details and thereafter so retained.

REASON: To identify and ensure the survival and protection of important species and those protected by legislation that could be adversely affected by the development, having regard to SPO1, WCS12 and WCS14 to the Wealden Core Strategy Local Plan 2013.

16. Prior to the commencement of development on site, detailed drawings of levels, sections and constructional details of the proposed roads surface water drainage, outfall disposal and street lighting to be provided, shall be submitted to the Planning Authority and be subject to its approval, in consultation with the Highway Authority. The approved details shall be constructed before the first occupation of the development and thereafter retained.

    REASON: In the interests of highway safety and for the benefit and convenience of the public at large, having regard to SPO12 and SPO13 to the adopted Wealden Core Strategy Local Plan 2013, Saved Policies EN27 and TR3 of the adopted Wealden Local Plan 1998, and the requirements of the National Planning Policy Framework 2021.

17. No development shall be occupied until the vehicular access serving the development has been constructed in the position shown on submitted drawing numbered P.2950.030. Rev E and constructed in accordance with the requirements of the Local Highway Authority. HW09(M)

    REASON: To ensure the safety of persons and vehicles entering and leaving the access and proceeding along the highway, in the interests of and for the safety of persons and vehicles using the premises and/or the adjoining road, having regard to SPO12, SPO13 and WCS14 to the Wealden Core Strategy Local Plan 2013, Saved Policy TR3 of the adopted Wealden Local Plan 1998, and the requirements of the National Planning Policy Framework 2021.

18. Notwithstanding the detail on drawing numbered 2950.080. Rev A, the access shall not be used until visibility splays of 2.4m by 75m are provided in both directions and maintained thereafter. Details of the 2.4m x 75m visibility splays shall be shown on detailed plans submitted for the reserved matters listed in condition 1.

    REASON: In order to provide visibility for vehicles entering and leaving the site In the interests of and for the safety of persons and vehicles using the development and the adjoining road having regard to SPO12, SPO13 and WCS14 to the Wealden Core Strategy Local Plan 2013, Saved Policy TR3 of the adopted Wealden Local Plan 1998.

19. The reserved matters shall include details of the provision of electric vehicle charging points at the site. The approved charging points shall be installed prior to first occupation or substantial completion of the dwellings whichever is the sooner.

    REASON: In the interests of air quality and climate change having regard to WCS14 of the Wealden Core Strategy 2013 and Policy AQ1 of the Hailsham Neighbourhood Plan.

20. This planning decision relates solely to the information contained within the application form, and the following plans and documents:

Ref.	Date Stamped. STN4
2950.010 Rev A	13 March 2023
2950.030 Rev E (access only)	6 June 2023
2950.080 Rev A (access only)	13 March 2023
Supporting Planning Statement	13 March 2023
Preliminary Ecological Appraisal	13 March 2023
Drainage & SUDs Strategy	1 June 2023
Transport Report	13 March 2023
Desk Based Assessment (Archaeology)	13 March 2023

REASON: For the avoidance of doubt.

The Local Planning Authority's reasons for its decision to grant planning permission are set out in the officer's report which can be viewed on the Council's website at www.planning.wealden.gov.uk

NOTE: Should alterations or amendments be required to the approved plans, it will be necessary to apply either under Section 96A of the Town and Country Planning Act 1990 for non-material alterations or Section 73 of the Act for minor material alterations. An application must be made using the standard application forms and you should consult with us, to establish the correct type of application to be made.

21. NOTE 1: East Sussex County Council local highway authority requirements associated with this development proposal will need to be secured through a Section (106/184/171/278) Legal Agreement between the applicant and East Sussex County Council The applicant is requested to contact the Transport Development Control Team (01273 482254) to commence this process. The applicant is advised that it is an offence to undertake any works within the highway prior to the agreement being in place.

22. NOTE 2: The applicant is reminded that under the Wildlife and Countryside Act 1981 (Section 1) it is an offence to take, damage or destroy the nest of any wild bird while that nest is in use or being built. Planning consent for a development does not provide a defence against prosecution under this Act. Trees and scrub are likely to contain nesting birds between 1 March and 31 July. Trees and scrub are present on the application site and should be assumed to contain nesting birds between the above dates unless survey has shown it is absolutely certain that nesting birds are not present. NCN1

23. NOTE 3: The applicant is reminded that it is an offence to damage or destroy species protected under separate legislation. Planning consent for a development does not provide a defence against prosecution under European and UK wildlife protection legislation. You are advised that it may be necessary, shortly before development commences, for the applicant to commission an ecological survey from suitably qualified and experienced professionals to determine the presence or otherwise of such protected species. If protected species are found to be present, Natural England should be consulted. NCN2

Site Description

The application site on the south-western side of Station Road at the perimeter of the built-up area of Hailsham. It is a triangular shape of land enclosed with tall leylandii hedge on the road boundary. The site has its own access, in its eastern corner, and there are remains of hardsurface and the foundations of a demolished building.

This application seeks outline planning permission to develop the site with up to 9 new dwellings. Access is for consideration at this stage, with appearance, landscaping, layout and scale reserved. The size (bedroom numbers) of the dwellings is not specified, the application form stating 'unknown'.

Relevant Planning History

See planning history sheet on the Wealden Council website. Of relevance is outline planning permission WD/2020/1596/MAO (approved December 2022) for up to 12 dwellings to be developed on the site. Also of relevance is outline planning permission WD/2018/0470/MAO granted for a development of up to 400 dwellings on land abutting the southern boundary of the application site.

Constraints

The application site is located outside the defined development boundary for Hailsham and within the Low Weald landscape character area. The site is potentially contaminated land.

Policy Framework

The up-to-date approved 'development plan' for Wealden District Council comprises the following documents:

- The Wealden District Council (incorporating part of the South Downs National Park) Core Strategy Local Plan (adopted 19th February 2013)
- The Wealden Local Plan (adopted December 1998) (Saved Policies via Direction of the Secretary of State dated 25 September 2007).
- The East Sussex and Brighton & Hove Waste Local Plan (adopted February 2006) (Saved Policies).
- East Sussex, South Downs and Brighton and Hove Waste and Minerals Local Plan (adopted February 2013).
- The Affordable Housing Delivery Local Plan (May 2016)
- Wealden Design Guide, November 2008, as a Supplementary Planning Document
- Herstmonceux, Hailsham and Hellingly Neighbourhood Plans

High Weald AONB Management Plan
National Planning Policy Framework (NPPF): paragraphs 8, 11, 14, 55, 56, 60, 61, 74, 105, 110 – 112, 126, 130, 131, 132, 159, 167, 169, 174, 180, 183, 185, 189 – 203, 218 and 219
National Planning Policy Guidance (NPPG)

Relevant Local Plan and Core Strategy Polices:

Wealden Local Plan: GD2, EN1, EN12, EN14, EN27, DC17, TR3, TR16, CS2
Core Strategy: SPO1, SPO3, SPO7, SPO12, SPO13, WCS2, WSC12, WCS14
Hailsham Neighbourhood Development Plan: D1, D2, AT1, AQ1, GS2, SD2, AQ1.

Consultation Responses

Statutory

Hailsham Town Council: No objections.

ESCC Highways: No objection

In 2022, a scheme for the erection of 12 no. dwelling houses, including access with all other matters reserved was approved by WDC - planning reference WD/2020/1596. This planning application was also considered to be acceptable from a highway perspective.

With this in mind the principle of the development has already been accepted. Therefore, as this new application proposes the same access arrangement as previously agreed I have no major concerns regarding the development proposal and do not wish to object; however, I again recommend that any grant of consent includes appropriate highway conditions.

Nearby Development
The site is located immediately adjacent to land to the west and south that has outline planning consent for up to 700 dwellings accessed from Ersham Road and Station Road (WDC planning reference WD/2018/0475/MAO, WD/2019/1864/MAO and WD/2022/1450/MAO).

Those proposals incorporate a new vehicular access into the Cuckoo Fields site from Station Road via a new four-arm 28m compound roundabout incorporating Old Swan Lane. Each of the Station Road approaches to the junction are to be realigned allowing for a 59m forward visibility envelope to the give-way lines.

As part of the works proposed the 30mph speed limit on Station Road will also be extended to the south of the roundabout. A pair of new bus stops located to the north of the proposed roundabout have also been secured as part of the development proposal. The works also include a new footway along Station Road, providing a pedestrian link between the site access roundabout and the built-up area of Hailsham to the north.

Accessibility
Pedestrian footways are available along each side of Station Road to the north of the site, terminating shortly before the site frontage onto Station Road and providing a continuous route into central Hailsham.

The approved outline application for land at Ersham Park and Cuckoo Fields proposes the extension of the Station Road footways along the site frontage to the south to the proposed roundabout junction with Old Swan Lane. The footways would be constructed within the existing grassed verge areas.

In the event that the Ersham Park development does not come forward the pedestrian link to the site requires improving as part of the development proposal. In order to achieve this, the existing footpath along the eastern side of Station Road will be extended south to where a dropped kerb with tactile paving will be provided broadly in line with the pedestrian link into the site opposite. Pedestrian access into the site will then be provided from the northern corner, connecting with Station Road as this would represent the pedestrian desire line for movements to and from the town centre to the north.

The nearest bus stops to the site are currently located approximately 450m to the north on Station Road. Although within walking distance the location of the bus stops is not ideal; however, a pair of bus stops are to be provided on Station Road as part of the approved scheme at Ersham Park and Cuckoo Fields. These bus stops would be located immediately to the south of the site access and are envisaged to serve an improved bus service that will operate on weekdays and Saturdays in and around Hailsham.

Site Access
The site is served via an existing access onto Station Road. The submitted plan (Drawing No. 2950. 080 A) indicates that the access will be reconstructed with a width of 5.0m and 8.0m radii. Tracking drawings have been submitted to demonstrate that a refuse vehicle can enter and leave the site in a safe and convenient manner. The access layout is considered to be acceptable.

In the vicinity of the site access, Station Road is a two-way, 5.5 metre wide single carriageway with grassed verges along both sides. Vehicle speeds are derestricted along the site frontage, although the limit reduces to 30mph at the northern boundary of the site where the road enters the existing built-up area of Hailsham.

As part of the large Ersham Park and Cuckoo Fields residential developments to the south (Planning applications - WD/2018/0475/MAO, WD/2019/1864/MAO and WD/2022/1450/MAO) works to extend the 30mph speed limit further to the south beyond the site access have been secured; however, there is no guarantee when or if the larger developments will come forward and as a result it is necessary to ensure that a safe access into this site can be provided under existing conditions.

Ideally the 30mph speed limit would be extended as part of this development proposal; however, this would require further investigation as it is unlikely that this development, on its own would alter the character of the road sufficiently for the speed limit to be lowered, especially as the trees fronting the site are likely to remain.

Nonetheless, the extension of the speed limit will need to be discussed and hopefully agreed with the ESCC Road Safety at a later stage. A TRO would be required to extend the speed limit, and this would necessitate a contribution of £5,000 to implement.

In anticipation that the 30mph speed limit may not be extended it is necessary to determine actual vehicle speeds along Station Road to ensure that appropriate visibility splays are provided either side of the site access under current conditions.

The results of the speed survey indicate 85th percentile vehicle speeds are 38.8mph northbound and 39.6mph southbound. It can therefore be seen that although the road is subject to the national speed limit of 60mph, the actual vehicle speeds are substantially within the limit. The calculations are based on measured speeds and no factors for wet weather speeds have been applied, as per DMRB document CA185 (vehicle speed measurement).

Based on the recorded speeds guidance provided in MfS2 indicates that the visibility requirements are 2.4m x 64m to the north; and 2.4m x 62m to the south. As the recorded speeds are above 37mph MfS 2 recommends that visibility splays should be provided as per guidance provided by DMRB. It is acknowledged that Station Road is not typical of a road where DMRB would be used, and that the character of the road is likely to change once nearby residential developments are built; however, as the road is currently without frontage development and footways on both sides of the carriageway it does not share all of characteristics of being a street either. With this in mind splays measuring 2.4m x 97m or one *step below at 2.4m x 77m as recommend by DMRB are required either side of the access. The splays indicated on the submitted plan fall below this requirement measuring 2.4m x 64m to the north and 2.4m x 62m to the south; however, having visited the site I am satisfied that splays in excess of 2.4m x 75m are achievable either side of the access when measured to a point 1m in from the nearside kerb line.*

With this in mind I have no major concerns regarding the proposed new access, especially as the character of Station Road is likely to be changed and the speed limit reduced in the near future.

Pedestrian access into the site is provided from the northern corner, connecting with Station Road as this would represent the pedestrian desire line for movements to and from the town centre to the north.

In order to link the site with the existing pedestrian facilities on Station Road, the existing footpath along the eastern side of Station Road will be extended south to where a dropped kerb with tactile paving will be provided broadly in line with the pedestrian link into the site opposite.

The off-site highway works would need to be secured by a Section 106/278 Legal Agreement between the applicant and the County Council as Highway Authority.

Also, as a result of the new access road serving the site it may be necessary for the street lighting on Station Road (C411) to be extended to the south as a result of the development proposal.

Trip Generation and Highway Impact
The traffic generation predicted by TRICS amounts to an additional increase in daily trip level of 40 trips per day with the 5 to 4 trips in the AM and PM peak hours.

No capacity assessment of the site access has been undertaken; however, bearing in mind the relatively low level of traffic likely to be generated by the development I am satisfied that no adverse impacts would arise.

With regards to the impact further afield, I have some concern that previous assessments have indicated that in future year scenarios the Station Road/South Road junction to the north of the site will operate at or close to capacity; however, considering baseline peak hour traffic flows along Station Road during the AM and PM peak hours and the presumed distribution of development traffic, the developments impact on junctions to the north and south of the site are likely to be relatively minor. As such, it is considered that the impact of the development traffic will not be severe, or to the extent that the proposals should be resisted or refused on transport grounds.

Internal Layout
This is an outline application with all matters reserved except for access. As a result, the internal layout and parking provision details will be finalised at reserved matter stage.

Should the road be put forward for adoption this would be secured though a s38 Legal Agreement. The extent of the highway adoption would have to be agreed and would depend on the emerging layout at reserved matters stage.

Car Parking
Car parking would be required in accordance with the East Sussex County Council Parking Standards, should this development be approved.

Details of the car parking provision will be provided at the reserved matters stage. Nevertheless, the indicative site layout plan indicates that an appropriate level of provision can be accommodated on site.

Cycle Parking
Safe, secure and covered cycle parking facilities need to be provided at new developments and are equally important as car parking, as cycling has the potential to replace shorter car journeys. The level of cycle parking will need to meet the requirements of the East Sussex County Council standards

Construction Traffic
Should consent be granted then careful consideration would need to be given to how the site can be built in a safe manner minimising disruption as much as possible.

<u>Natural England</u> - comment (in respect of the Habitat Regulations Appropriate Assessment)

"Natural England is not able to provide specific advice on this application and therefore has no comment to make on its details. Although we have not been able to assess the potential impacts of this proposal on statutory nature conservation sites or protected landscapes, we offer the further advice and references to Standing Advice."

<u>Other</u>

<u>WDC Drainage Officer</u>: No objection.

Surface water from roofs, parking spaces and other hard surface areas will be drained via a number of ACO drains and attenuation crates which are located beneath the parking spaces for each property. The Q-bar rate is 2.02l/s. A new orifice plate has now been fitted in manhole S5 to restrict the flow from the site to this rate and the calculations reworked accordingly.

The water was to originally run in a south-easterly direction towards the discharge point which is via an outfall into the ordinary watercourse close to the south-eastern boundary of, but outside, the site and within highway land. ESCC Highways have given permission to allow such a connection in principle and the applicants have also applied for Ordinary Watercourse Consenting.

I note there is no proposal for the surface water system to be adopted. A maintenance plan will therefore be required when the drainage design is finalised and must include details on who will be managing the system.
Condition recommended for details of detailed drainage scheme.

<u>ESCC Lead Local Flood Authority</u>: No objection

We previously commented on a 12 unit scheme at the development site when we were consulted on planning application WD/2020/1596/MAO. We had no objection to the proposed development subject to the imposition of conditions relating to the detailed design of the proposed drainage system.

We note that the applicant has submitted a revised drainage strategy for this development with attenuation provided beneath the driveways of the proposed residential units. This will not be acceptable to the LLFA and should be revised at the detailed design stage. The driveways are likely to be resurfaced over the lifetime of the proposed development, resulting in a loss of surface water storage capacity.

The application site drains surface water runoff to the Pevensey and Cuckmere Water Level Management Board drainage district, which is approximately 60m downstream of the application site. Therefore the applicant should apply to agree the surface water discharge rates with the Board. This should be done at the time of fixing the development layout and should be accompanied by a detailed drainage design.

Recommends condition for details of detailed drainage scheme.

Southern Water: No objection. Connection to public foul sewer requires a formal application from the developer / applicant.

ESCC Archaeology: No objection

The proposed development site lies in a region containing extensive evidence of human activity from the later prehistoric period onwards.
Current archaeological excavations taking place immediately adjacent the site under consideration here, are exposing and recording areas of fairly dense archaeological activity.

It is acknowledged that the central area and south-eastern corner of the application site have been subject to 20th century construction ('The Fishing Tackle Factory': buildings now demolished). However, it is still my opinion that any groundworks undertaken in association with the proposed development have a high potential to expose archaeological remains that shed further light on past human activity in the area, from prehistoric times to the modern era.
Conditions are recommended to secure programme of archaeological works.

WDC-Rother Pollution Control: No objection. Recommends conditions for investigation of ground contamination.

WDC Footpaths Officer: No objection.

ESCC Fire & Rescue: No objection. The developer is required to ensure there is sufficient water for firefighting in accordance with the Water UK National Guidance Document.

WDC Housing: No objection
As the proposed development is now for 9 units and is on a site of around 0.4 hectares and is not within the AONB, affordable housing provision is not required.

WDC Conservation & Design: No observations to make from a heritage perspective.

Neighbour One notification of objection to the application raise the following issues:

- Building just 3 and 4 bedrooms houses which are for people for existing wealth is inequitable. More affordable housing is needed and the proposed development does not achieve this.

Assessment

Principle of Development

The site is outside development boundaries of the adopted Wealden Local Plan (1998) and Core Strategy 2013, but the outline planning permission granted December 2022 accepts the principle of development for up to 12 dwellings. A S106 planning obligation makes provision for affordable housing.

The current outline application proposing up to nine dwellings represents a potential net loss of three dwellings from the housing supply and the amount of development is also just under the threshold at which affordable housing can be sought. Therefore, the benefits of this proposal will require balancing in consideration of other planning matters set out below.

Highways Impact

Access is the single detailed matter for approval with this application.

The Highway Authority, subject to conditions and the relevant S278 application are satisfied that the vehicular access is acceptable, and that indicative plans demonstrate parking and turning arrangements could be accommodated within the site. The details for the access can be secured via condition and the Local Highway Authority has control over access works under the S278 works application. A reserved matters application for layout would be considered for detail of number and location of parking spaces and vehicle turning areas.

ESCC Highways consultation response refers to a Traffic Regulation Order in the event of "a need to extend the 30mph." However, as the visibility splays for the site access are deemed suitable for the average speeds detected in surveys, it is considered that extending the 30mph singularly for this proposed development would not an argument that could be sustained.

Hailsham Neighbourhood Plan requires electric vehicle charging points as part of any development (provision of electric vehicle charging is also required by Building Regulations). This can be secured via condition.

The indicative plans show a path within the site to provide a pedestrian connection at the north corner of the site, with works outside of the site on the public highway also required to provide a pedestrian crossing and an extension of the existing footpath on the opposite side of Station Road. The pedestrian exit/entrance at the site and extending the footpath on the eastern side of Station Road would provide full pedestrian connectively with the town centre and the option to walk, or cycle, to access these services from Station Road. Securing footpath improvements by way of a Grampian-style condition will ensure that this development would have suitable pedestrian connectivity.

Visual Impact on Street Scene or Wider Landscape

Appearance and scale are reserved matters. Indicative details show two-storey dwellings around a cul-de-sac layout. The indicative plans provided with the application show similar layout and pattern of development to the illustrative drawings for the earlier proposal for up to 12 units, including some of the dwellings on the indicative layout have back gardens to Station Road.

There is some housing development on the other side of Station Road with their backs to Station Road, but have bigger buffer/screening. This matter therefore remains to be considered and will be assessed at RM stage, but as this application is for *up to* 9 dwellings, subject to detailed matters, the proposal could reduce dwelling numbers slightly or alter dwelling sizes in order to deliver acceptable development for the character of this urban area. A development of up to 9 units would provide more space between buildings and space to accommodate circulation areas and landscaping; private gardens for each of the nine dwellings indicated mostly achieve a 10 metre length and provide around 100sq m of outdoor amenity space, similar to advice in the Wealden Design Guide. The exact number of dwellings is subject to further analysis and consideration with detail designs. The size and layout of these dwellings are also for consideration at that stage and will need careful consideration, to ensure development can fit on site in a satisfactory manner. However, subject to these issues being addressed, the amount of development indicated could be accommodated on site in some manner.

The indicative site layout with the internal road for access and parking shows a limited opportunities for soft landscaping in communal areas. Detailed layout and landscaping proposals will need to ensure tree planting accommodated in reserved matters submissions, and have regard to NPPF paragraph 131 about new streets being tree lined.

Impact on Adjoining Properties / Future Occupiers

The existing dwelling at 154 Station Road is side on to the proposed development. The indicative layout illustrates new dwellings could be positioned so that acceptable levels of amenity can be maintained at the neighbouring dwelling.

Within the site, the indicative layout for new dwellings shows reasonable spacing between buildings and orientated so reasonable levels of outlook and privacy could be provided. Private amenity gardens are generally around 10m in length and front gardens are generally minimal.

The largescale housing development proposal for the site to the south has reserved matters application (for layout, landscaping, appearance and scale) submitted. That proposes public open space adjacent to the boundary of this site and includes a play area that would have a buffer of 20m to site boundaries.

Details of scale and layout at the reserved matters stage would refine the position and spacing. With the proposal for up to 9 dwellings, there is also scope for less dwellings to be delivered in order to take account of the constraints of site area and delivering an acceptable layout and appearance of development.

The site is within 500 metres of the South Hailsham Waste Water Treatment Works (WWTW). Whilst this application has not provide a specific odour assessment, having regard to housing developments approved in the vicinity and identified odour contours, and the comments from Southern Water, it is concluded that the proposal for this site would not be unacceptable effected by the WWTW.

Flood Risk Assessment / Drainage

The site lies is in Flood Risk Zone 1 and new residential development is compatible with the level of flood risk.

The indicative surface water drainage scheme shows on site attenuation and discharge to a highways drainage ditch just beside the access and just outside the site area. ESCC Asset Management Team has given technical approval for discharge the highway ditch. The LLFA commented that it does not consider the drainage strategy for the indicative proposed is suitable due to some reliance on surface water attenuation below driveways. Notwithstanding this, planning conditions can secure details of a detailed drainage system. Matters relating to the Pevensey Levels SAC from surface water drainage are dealt with in the Appropriate Assessment Below.

Ecology and Trees

There are no significant ecological constraints at the site based on the submitted ecological report. The site consists mostly of species poor grassland that is heavily managed and considered unsuitable for common reptile species (but precautionary measures are recommended by the ecological report).

The roadside boundary is enclosed with tall leylandii hedgerow, which is also present on part of the southern boundary. Development will likely result in removal of these coniferous hedgerows, which are generally consider to have lower value. Other hedgerows could be protected as part of the development and enhanced where necessary and secured via condition and the reserved matters stage for landscaping.

The site has high potential to support breeding birds within the trees, hedges and scrub. Effects on birds can be avoided if vegetation clearance undertaken outside of the nesting season or after a survey has confirmed the absence of nesting birds.

The ecological report includes a number of potential biodiversity enhancements that could be provided within the development site.

Heritage Impact

There are no designated heritage assets impacted by the proposal, and the site falls outside any Archaeological Notification Area. Whilst this is not a major application, ESCC Archaeology have been consulted following comments it made for the previous application (for up to 12 dwellings). Archaeological resources have been identified in the area, and the site has potential to contain evidence related to medieval occupation in the wider vicinity. A programme of archaeological works, as recommended by County Archaeologist, can be secured by condition.

Developer Contributions

The residential development will bring with it demands upon infrastructure. National Planning Practice Guidance (NPPG) sets out that whether CIL is material to a particular decision will depend on whether it could help to make the development acceptable in planning terms. In this instance these requirements are expected to be responded to by the CIL payment, to deliver improvements set out in the Councils IDP and Regulation 123 List.

Habitat Regulations Assessment

The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 requires that where a plan or project is likely to result in a significant effect on a European site, and where the plan or project is not directly connected with or necessary to the management of the European site, as is the case here, a competent authority is required to make an Appropriate Assessment of the implications of that plan or project on the integrity of the European site in view of its conservation objectives. In so doing, an assessment is required as to whether the development proposed is likely to have a significant effect upon a European site, either individually or in combination with other plans and projects.

Assessment of likely significant effects on the Special Protection Area

The Ashdown Forest is an attractive semi-natural area which is close to the application site. Evidence in the form of visitor surveys carried out for the Council demonstrates that it is residents living within 7km of the Ashdown Forest are likely to visit it.

The application site is beyond the 7km distance and as such, the evidence held does not provide a pathway of effect for recreational disturbance.

Given the above analysis, an Appropriate Assessment, in accordance with Regulation 63 of the Habitats and Species Regulations, is not required to consider the implications of the proposal for the integrity of the SPA in view of the conservation objectives.

Assessment of likely significant effects on the Special Area of Conservation

The qualifying features underpinning the SAC designation are the presence of European dry heath, North Atlantic wet heath and great crested newts. The conservation objectives for the SAC can be summarised as ensuring the favourable conservation status of its qualifying features by, amongst other things, maintaining or restoring qualifying habitats.

NE's supplementary advice on conserving and restoring the SAC, linked to the PPG, explains that the heathland habitat of the Ashdown Forest is sensitive to changes in air quality. Exceedance of 'critical values' for air pollutants may modify its chemical substrate, accelerating or damaging plant growth, altering its vegetation structure and composition and causing the loss of typical heathland species. Accordingly, the application development could result in an impact pathway that could adversely affect the SAC if it contributes to an exceedance in critical values.

The heathland habitat in the Ashdown Forest SAC is vulnerable to atmospheric pollution from several sources including vehicle emissions from motor vehicles. There is a potential impact pathway from increased traffic flows associated with new development on the roads which go through, or run adjacent to, the SAC. Many of the characteristic plants, mosses and lichens of heathland habitats are adapted to nutrient poor conditions and extra input of nitrogen can disadvantage these characteristic species in favour of others with a greater tolerance of higher nitrogen levels.

The Council had proposed a new Local Plan in 2019 which sought to deliver 14,228 homes and 22,500 square metres of business floorspace (now withdrawn). Considering the effects of that quantum of growth, NE was satisfied that this would not adversely affect the integrity of Ashdown Forest Special Area of Conservation (SAC), Lewes Downs SAC from air quality impacts. NE's advice regarding air quality is that this conclusion can be reached without mitigation measures being needed under the specific requirements of the Habitats Regulations. The advice is based on the evidence provided, their expert knowledge of the particular characteristics, interest features and management of the designated sites in question and professional judgement.

The development proposed is also considerably less that the quantum of growth promoted in the Submission Wealden Local Plan 2019 and considered by NE. For the reasons set out above, when considered on its own or in combination, the proposed development would not adversely impact on the integrity of the protected European Sites. It is noted that Natural England do not and have never objected to the application.

Assessment of likely significant effects on the Pevensey Levels SAC

The sits is about 600m from the boundary of the SAC but the drainage the surface water scheme connects to is understood to flow into the Pevensey Levels SAC.

The SAC was classified in February 2016 under Regulations 11 and 13-15 of the Conservation of Habitats and Species Regulations 2010. The SAC designation is principally concerned with the protection of the Ramshorn Snail (Anisus vorticulus) identified in Annex II of the Directive as a Primary reason for selection of the site. There are no non-primary reasons for the site selection and the screening (and any Appropriate Assessment) therefore must relate to the sole Primary reason for selection.

Anisus vorticulus occurs across a range of sites in southern and eastern England. Pevensey Levels is a large and expansive grazing marsh that supports Anisus vorticulus in both a wide spatial distribution and in good population density classes. It is recorded across a number of the levels, including at Hooe level, Manxey level, Glynleigh and Horse Eye Levels. The western areas of the Hooe Levels should be regarded as one of the richest locations for this species within an often linked complex of ditches and channels. The Pevensey Levels, with an occupation of some 38% of sampled ditches, supports the largest known population of Anisus vorticulus in the UK.

Anisus vorticulus is a small aquatic snail with a flattened spiral shell rarely more than 5 mm in diameter. It occurs in unpolluted, calcareous waters in marsh drains with a dense aquatic flora, and favours ditches with a diverse flora but little emergent vegetation. It often floats on the surface amongst duckweed Lemna spp. Ditches that are either completely cleared of vegetation or are choked with weed and silt are unsuitable. Winter flooding may be important in enabling young snails to colonise new ditches. The main threats to the species include land drainage, inappropriate habitat management and eutrophication. Studies of its requirements and conservation management have been undertaken.

The Primary reason for site selection for the SAC is therefore sensitive to:-

- Land Drainage
- Inappropriate Habitat Management
- Eutrophication

The RAMSAR site was designated in February 1999. Pevensey Levels is one of the largest and least-fragmented lowland wet grassland systems in southeast England. The low-lying grazing meadows are intersected by a complex system of ditches which support a variety of important wetland communities, including nationally rare and scarce aquatic plants and invertebrates.

The Ramsar Information Sheet (RIS) identifies designation under the following RAMSAR Criterion:-

- Criteria 2 - The site supports an outstanding assemblage of wetland plants and invertebrates including many British Red Data Book species.

- Criteria 3 - The site supports 68% of vascular plant species in Great Britain that can be described as aquatic. It is probably the best site in Britain for freshwater molluscs, one of the five best sites for aquatic beetles Coleoptera and supports an outstanding assemblage of dragonflies Odonata.

The site also supports a notable assemblage of breeding and wintering wildfowl though this is not included as being a criterion for designation on the RIS (which would be criterion 5 or 6).

The Ramsar Information Sheet (RIS) identifies two threat factors:

- Introduction/invasion of non-native plant species
- Pollution – domestic sewage

Natural England in their response has identified the following as potential threats to the protected sites:

- Changes in Water Levels
- Changes in Water Quality

The Hydrological Report in the evidence for the HRA for the Core Strategy sets out hydrological potential impacts as:-

- Increased surface water run-off produced by development;
- Pollutants contained in surface water run-off produced by development;
- Discharge of waste products from waste water treatment works, causing a detrimental impact on the water quality of the Pevensey Levels
- Increased water abstraction/ demand produced by additional development.

It identifies the conservation objectives for the RAMSAR site to be '*to promote the conservation of the wetland, to avoid deterioration of the wetland habitats of Ramsar interest and to avoid significant disturbance of associated species'.* Natural England's objective is stated as *'to restore (or maintain) the international site features of the Ramsar site to achieve favourable conservation status'.*

Important actions to protecting the sites integrity are set out as:-

- Unpolluted water;
- Low levels of nutrient enrichment (primarily from surface runoff and hydrological pathways, but also from atmospheric deposition);
- Control of non-native species (e.g. pennywort and Crassula sp.);
- Maintenance of appropriate hydrological regime; and
- Control of recreational disturbance.

The Council as the 'competent authority' must decide whether an 'Appropriate Assessment' is required, thus implementing Article 6(3) of the Habitats Directive (92/43/EEC). Circular 06/05 sets out guidance to enable the consideration of new plans and projects, including development such as this. Figure 1 of the circular provides a flow chart approach to be taken in order to consider a proposal that may affect protected sites.

There are 7 steps to a Habitats Regulations assessment that are set out in a flow chart in Figure 1 of Circular 06/05. This chart has been used to assess the application proposals. The assessment draws on the detailed evidence reports produced in relation to the WCSLP HRA. It is noted that no detailed ecological evidence has been submitted by the Applicant. The HRA relates to both the RAMSAR and SAC features set out above (though not each element would relate to both in regard to Step 2).

<u>Step 1</u> – *Is the proposal directly connected with or necessary to the management of a protected site?*

No

<u>Step 2</u> **-** *Is the proposal likely to have a significant effect on the interest features of the site, alone or in combination?*

<u>Land Drainage/Water Levels</u>
The proposed development does not propose any land drainage or abstraction from the watercourses. As the site will result in a significant amount of additional hardsurfacing and built area there is the potential for increased surface water runoff flow rates. The development proposes attenuation measures to control surface water run-off from the site that will reduce the flow to below greenfield rates resulting in a betterment. This will assist in preventing overloading of the system during intense rainfall events. With the distance to the receiving SAC waterbodies this control over flows would not materially impact upon water levels within the Pevensey Levels.

<u>Inappropriate Habitat Management</u>
The proposal does not propose any alterations to existing habitat managements to the SAC/RAMSAR site these falling outside the site area. The current proposal does not affect any existing habitat management operations.

<u>Water Quality/Silting of channels</u>
Surface water run-off has the potential to be a major source of water pollution.
Pollutants reach wetland areas mainly through run-off whereby water flows over impervious surfaces picking up a number of pollutants generated by human activity. Such pollutants can include sediment from construction sites, toxic metals and petroleum wastes from roadways and industrial or commercial areas, nutrients and bacteria from residential areas and nutrients and pesticides from agriculture and gardening activities. In this instance it is the construction works and impermeable areas used for parking that are identified as pathways for pollutants to reach the SAC. An environmental construction management plan will control surface water and sediment during construction, this can be secured via condition.

Turning to contaminants from the parking areas a detailed designs of a two stage treatment process can be secured within the surface water management scheme by condition. The application’s “Drainage & SUDs Strategy In support of Residential Development” includes (at the 65th page of the document) an indicative layout of development with drainage scheme that shows two catchment areas (1 – the roofs of buildings; 2 – roadway and vehicle parking areas) within the site; attenuation crates and permavoid crates are indicated for collecting surface water, with flow restrictors to the outlet side of the crates before connecting to main surface pipe that would connect to highways drain (with a flow restrict before that connection). These indicative details brought forward into a detailed design (incorporating a two stage treatment that can be secured by planning condition) specific for a final development layout to be considered as a reserved matter and secured by planning condition, coupled with the 600m distance to the Pevensey Levels SAC waterbodies would prevent an increased contaminants or silt reaching the protected waterbodies.

With the surface water treatment in the context of the Pevensey Levels hydrological water quality overall there is no likely significant effect to water quality.

Invasive species
The proposal will not result in any likely significant effect to the SAC/RAMSAR site through introduction or inhibiting of management of any invasive species. Alterations to water quality and/or nutrient enrichment are set out in a separate section in relation to any 'competition' matters.

Eutrophication - Eutrophication is the depletion of oxygen in a water body. It is a response to the addition of excess nutrients, mainly phosphates which induces explosive growth of plants and algae, the decaying of which consumes oxygen from the water. Eutrophication is most commonly induced by the discharge of phosphate-containing detergents, fertilizers, or sewage, into an aquatic system.

The proposal secures foul drainage to the mains sewer. As the proposal does not relate to agricultural operations there are no other pathways for eutrophication.

There would be no other potential increase of discharge to watercourses of phosphate-containing detergents, fertilizers, or sewage any private treatment works operating within the permits set by the Environment Agency and no additional surface water runoff created as set out above.

Stage 2 conclusion
The proposal would therefore result in likely significant effects to the integrity of the SAC and its Primary reason for designation and the RASMAR site and its criterion for designation.

Appropriate Assessment Comments

The above detailed consideration of the impacts demonstrates that, subject to a two stage surface water treatment and control on flow rates, the proposed development would mitigate for the increased surface water run off flows and contaminant loads that would mitigate against any in combination impacts to the SAC. As such, based on this report which forms the Appropriate Assessment, consultation with Natural England was undertaken. Natural England, the relevant conservation body, did not raise comments to the Appropriate Assessment.

Having regard to the HRA flowchart with conditions to secure two stage surface water treatment and flow control attenuation consent can be issued, taking into the representation from Natural England.

Conclusion

Planning law requires that applications for planning permission be determined in accordance with the development plan, unless material considerations indicate otherwise.

National guidance states that plans and decisions should apply a presumption in favour of sustainable development. This means approving development proposals that accord with an up-to-date development plan without delay or where there are no relevant development plan policies, or the policies which are most important for determining the application are out-of-date, granting permission unless the NPPF provides a clear reason for refusing the development proposed or any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in the Framework taken as a whole.

Wealden District Council are unable to demonstrate a 5 year supply of housing. The NPPF requires therefore that permission should be granted unless the application of policies in the Framework that protect areas or assets of particular importance provide a clear reason for refusing the development proposed; or if any adverse impacts of doing so would significantly and demonstrably outweigh the benefits when assessed against the policies in this Framework taken as a whole.

The policies referred to are those in the Framework relating to habitats sites (and those sites listed in paragraph 181) and/or designated as Sites of Special Scientific Interest; land designated as Green Belt, Local Green Space, an Area of Outstanding Natural Beauty, a National Park (or within the Broads Authority) or defined as Heritage Coast; irreplaceable habitats; designated heritage assets (and other heritage assets of archaeological interest referred to in footnote 63); and areas at risk of flooding or coastal change.

The quantum of development proposed is just below the threshold for a contribution to affordable housing. This proposal therefore would not provide all the benefits secured with the previous outline planning permission, and the reduction to the overall housing number also weighs slightly against. However, the current proposal would still contribute towards housing supply, even if three less than could potentially be delivered with WD/2020/1596/MAO. Density of development, at around 23 dwellings per hectare, would be reasonably consistent with density of existing housing in the built-up area in the vicinity and not be demonstrably inefficient use of land given the shape of the site. With the 5-year housing land supply having a substantial deficit, presumption of sustainable development under para 11 of the NPPF applies, and delivery of up to nine new dwellings at this site is not significantly and demonstrably outweighed by adverse impacts.

While the objections to the proposal have been considered, it is concluded that on balance taking account of the above assessment, the impact of the development, its contribution to Wealden’s 5 year housing land supply, along with other material planning considerations and the public benefits of the proposal as detailed in the main body of this report, conditional planning permission should be granted.

LAND AT STATION ROAD, HAILSHAM, EAST SUSSEX

Proposed C3 Residential Development

Transport Report
On behalf of Mr I Martin

January 2023

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1 INTRODUCTION

1.1 Crosby Transport Planning is instructed by Mr I Martin to prepare this transport report in respect of development proposals on land at Station Road, Hailsham, East Sussex, BN27 2SB.

1.2 This report accompanies an outline planning application for development of a residential scheme comprising 9 dwellings with all matters reserved except access. The site is located 1km to the south of Hailsham town centre and 2.2km to the east of the A22 Hailsham bypass. The location of the site is shown in **Figure 1**.

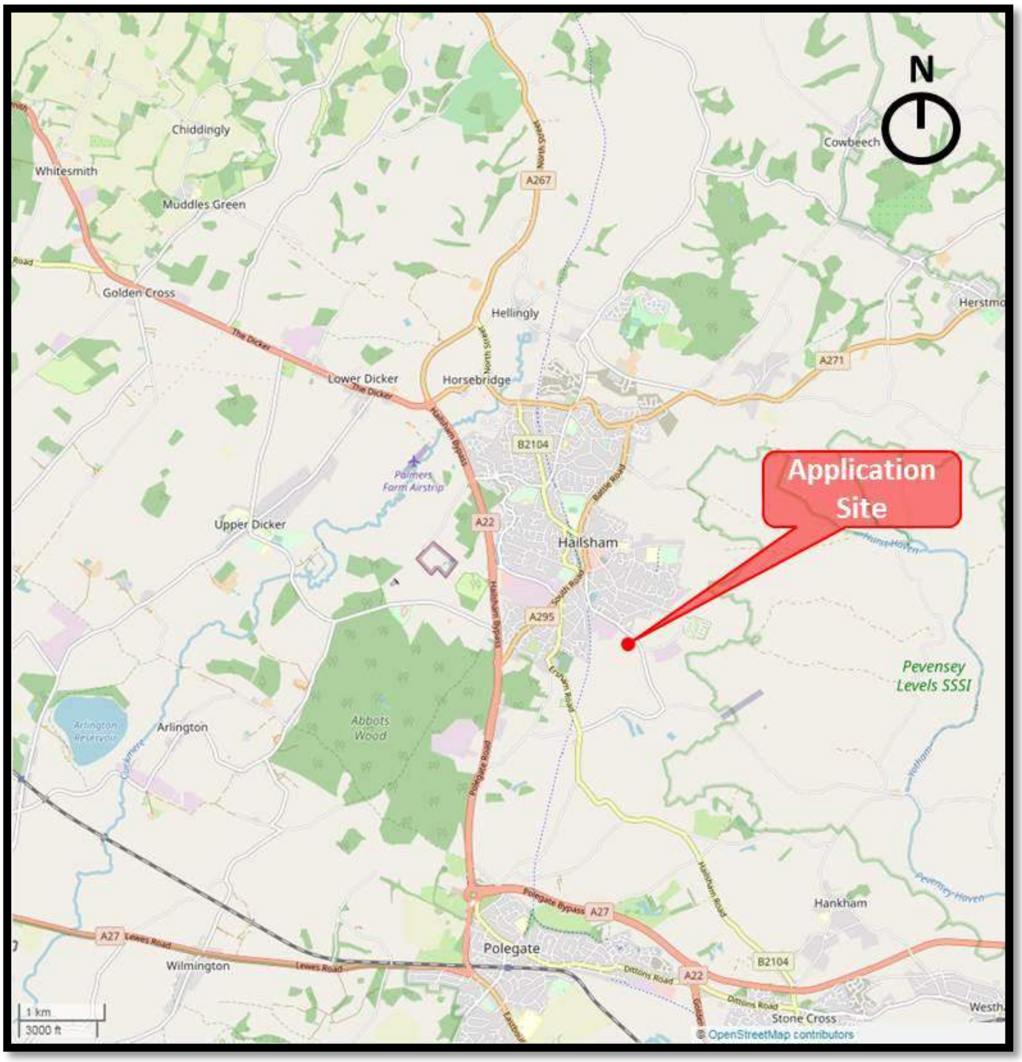


Figure 1: Site Location

1.3 The site is presently open fields and is located within the District Council of Wealden for which East Sussex County Council (ESCC) is the local highway authority. In December 2022, a scheme for the "*erection of 12 no. dwellinghouses comprising 2, 3 and 4 bedroom units, including access with all other matters reserved, to include a change of use of land to residential"* was approved (Wealden District Council planning reference WD/2020/1596).

1.4 With reference to the ESCC guidance for development proposals in East Sussex entitled *'Transport Assessments, Transport Statement and Transport Reports'*, dated October 2009, the proposed scheme falls well within the threshold (5 to 35 dwellings) for which a Transport Report is required.

1.5 The ESCC guidance defines a Transport Report as a relatively simple document and typically covering various aspects including general planning context, accessibility, site access arrangements, car and cycle parking provision, internal road layout and transport generations and impacts.

1.6 In terms of national planning policy relating to transport planning matters, the National Planning Policy Framework (NPPF) states at paragraph 110 that in assessing specific applications for development, it should be ensured that appropriate opportunities to promote sustainable transport modes can be taken up, given the type of development and its location. Additionally, safe and suitable access to the site should be achieved for all users and any significant impacts from the development on the transport network or on highway safety should be cost effectively mitigates to an acceptable degree.

1.7 Paragraph 111 states:

> *"Development should only be prevented or refused on highway grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe."*

1.8 Within this context, paragraph 112 states that applications for development should:

a. *"Give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second – so far as possible – to facilitating access to high quality public transport…..*

b. *"address the needs of people with disabilities and reduced mobility in relation to all modes of transport;*

c. *create places that are safe, secure and attractive – which minimise the scope for conflicts between pedestrians, cyclists and vehicles, avoid unnecessary street clutter, and respond to local character and design standards;*

d. *allow for the efficient delivery of goods, and access by service and emergency vehicles; and*

e. *be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations."*

Scope of Report

1.9 This Transport Report duly considers the highways and transport implications of the proposed development and is set out as follows:-

- Section 2 provides a description of the application site and the surrounding highway network;
- Section 3 describes the accessibility of the application development site by non-car modes of travel;

- Section 4 provides details of the development proposals, including car and cycle parking provision and access arrangements;

- Section 5 provides an overview of the likely vehicle trip generation of the proposed development and considers the likely impact on the local highway network; and

- Section 6 provides a summary and conclusions to the report.

2 SITE LOCATION AND SURROUNDING HIGHWAY NETWORK

Site Location and Use

2.1 The location of the application site in the context of its local setting is shown in **Figure 2**.

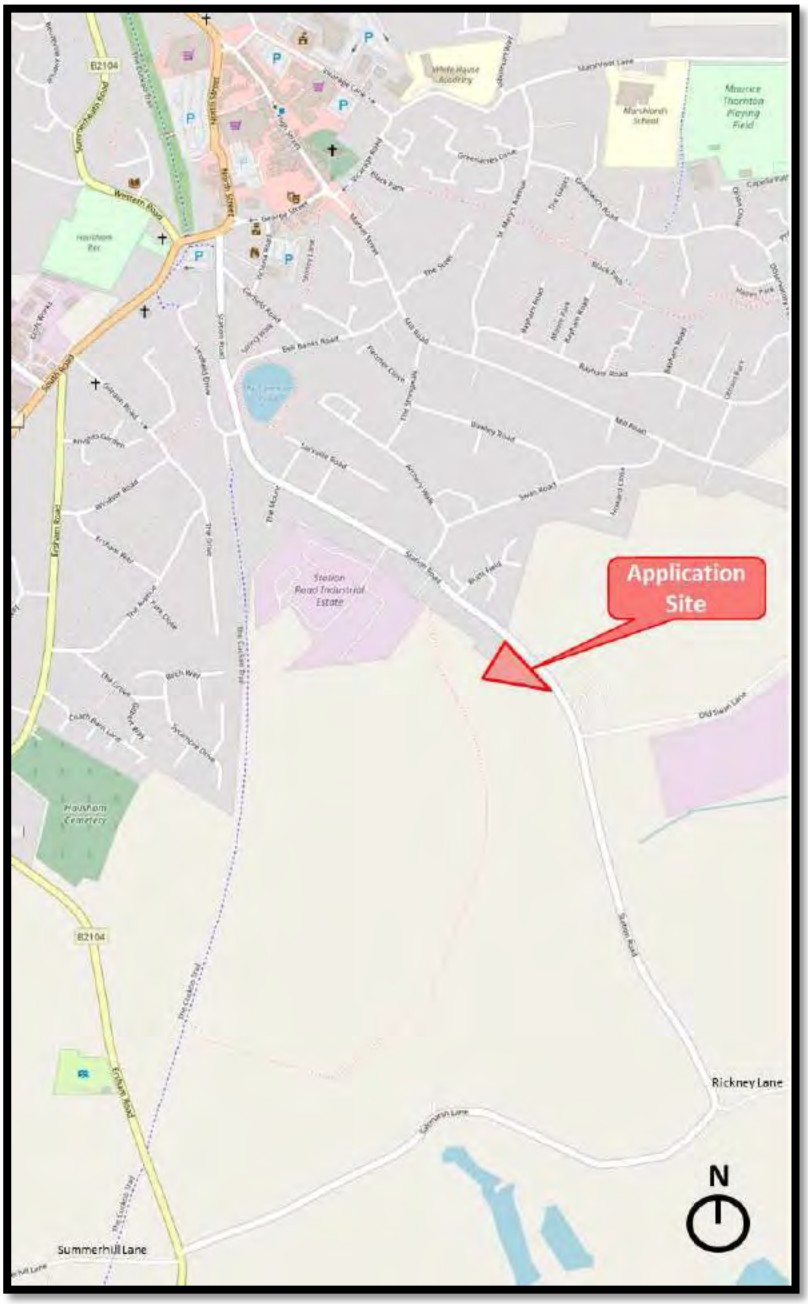


Figure 2: The site in its local context

2.2 The site is located 1km to the south of Hailsham centre and is bounded by Station Road to the east and by residential properties fronting onto Station Road to the north.

2.3 Land immediately to the west and south of the site is previously undeveloped agricultural land that is referred to as Cuckoo Fields and which forms part of a wider area of land (including Ersham Park) that was granted outline planning permission in March 2020 for up to 400 dwellings (see paragraphs 2.19 to 2.25 below).

Surrounding Highway Network

2.4 Vehicular access to the site is presently taken from Station Road to the east via a bellmouth priority junction access.

2.5 Some 150 metres to the south of the site, Station Road forms a three-arm priority junction with Old Swan Lane and continues southbound for a further 700 metres where it turns to the west and becomes Saltmarsh Lane at its junction with Rickney Lane.

2.6 Further afield, connections to the strategic road network (SRN) are provided by the A22 which is located to the west of Hailsham and links Eastbourne and Croydon, via East Grinstead. The A27 is located some 3km south of Hailsham, north of Polegate and forms strategic links between Portsmouth in the west and Pevensey in the east where it continues as the A259.

2.7 The site access presently comprises a 5.0m wide gated entrance with the bellmouth access widening to some 14m where it meets the running edge of the carriageway.

2.8 In the vicinity of the site access, Station Road is a two-way, 5.5 metre wide single carriageway with grassed verges along both sides. Vehicle speeds are derestricted along the site frontage, although the limit reduces to 30mph at the northern boundary of the site where the road enters the existing built-up area of Hailsham. Consequently vehicle speeds along the site frontage are observed to be much closer to 30mph than 60mph. This is also due in part to many vehicle movements observed to be associated with entering and leaving the Hailsham Household Waste Recycling Site which is located 70 metres to the south of the site access on the eastern side of Station Road.

2.9 In order to determine the actual vehicle approach speeds along Station Road and hence establish the required visibility splays for the vehicular access point in accordance with national guidance, the applicant commissioned an independent 7-day speed survey during a neutral month.

2.10 The speed survey was carried out by way of two automatic traffic counters (ATCs) laid down by Auto Surveys Ltd for the duration of a week commencing Wednesday 4 November 2020. The ATCs were positioned to the north and south of the proposed access point in order to pick up approaching speeds at the anticipated extents of the visibility splays.

2.11 The raw results of both ATCs are attached at **Appendix A**. Focussing on the approaching flows, the mean vehicle speeds are 29.3mph northbound and 32.7mph southbound and 85th percentile vehicle speeds are 38.8mph northbound and 39.6mph southbound. It can therefore be seen that although the road is subject to the national speed limit of 60mph, the actual vehicle speeds are substantially within the limit.

2.12 *Manual for Streets 2 'Wider Application of the Principles'* (MfS2) published by the Chartered Institution of Highways and Transportation takes the principles of *Manual for Streets* (MfS) and applies them to busier streets and roads in both urban and rural locations up to, but not including, trunk roads. MfS2 is therefore considered the appropriate national guidance for determining visibility splay requirements in this instance.

2.13 MfS2 discusses the stopping sight distance (SSD) parameters based on research and recommends a deceleration rate of 0.45g and a driver perception-reaction time of 1.5seconds where the proportion of heavy goods vehicle (HGV) traffic is less than 5% of traffic flow. The ATC results show the overall proportion of HGVs is between 2.2% and 2.3% and consequently the use of the recommended factors is considered appropriate here.

2.14 Based upon MfS2 guidance, the visibility splay requirements from the proposed access are Y-distances of:-

- 64 metres to the north; and
- 62 metres to the south

2.15 The calculations using the standard formula are provided at **Appendix B**. It should be noted that the calculations are based on measured speeds and no factors for wet weather speeds have been applied, as per DMRB document CA185 (vehicle speed measurement).

2.16 Vehicular visibility splays from the access have been measured on site to be some 2.4m x 70m in each direction. The visibility splay requirements can therefore be achieved in both directions within the public highway and land within the applicant's control and are certainly compliant with the proposed future speed limit of 30mph along the site frontage.

Road Safety

2.17 A review of the most recently available 5-year published road traffic accident data, dated from 2015, has been undertaken utilising data obtained from CrashMap. The analysis shows there have been no recorded collisions within the vicinity of the site frontage and access.

2.18 It can therefore be concluded that there are no inherent safety issues with regards to the surrounding highway network.

Nearby Development

2.19 As referred to above, the site is located immediately adjacent to land to the west and south that received outline planning consent in March 2020 for up to 400 dwellings accessed from Ersham Road and Station Road (WDC planning reference WD/2018/0475/MAO). The site is bounded by Station Road to the east, Ersham Road to the west with the Cuckoo Trail passing directly through the centre of the site. Land to the west of Cuckoo Trail is known as 'Ersham Park' and is proposed for development of up to 135 dwellings, with land to the east of Cuckoo Trail known as 'Cuckoo Fields', where up to 265 dwellings are proposed (i.e. a total of 400 dwellings). At the time of writing, construction work has commenced on the 'Ersham Park' development.

2.20 The draft Wealden Local Plan proposes to allocate the site under Policy SWGA 25 'Development in Sector Hailsham South 4' for up to 400 residential dwellings with education provision. Policy SWGA 26 (Strategic Infrastructure Requirement Sector Hailsham South 4) of the same plan states that "*transport improvements relating to affected local roads, as identified in transport studies, may be required before the completion of Sector Hailsham South 4, or at such time as agreed with the Highways Authority, in order to mitigate the impact of development on the local road network.*"

2.21 The proposals incorporate a new vehicular access into the Cuckoo Fields site from Station Road via a new four-arm 28m compound roundabout incorporating Old Swan Lane (see **Appendix C** – i-Transport drawing reference ITB10106-GA-204 rev. G). The roundabout accommodates a 5.4m single circulatory lane around a 17.2m central island that incorporates a 2.0 over-run area. Each of the Station Road approaches to the junction (i.e. northbound and southbound) are to be realigned allowing for a 59m forward visibility envelope to the give-way lines. The proposed access road is taken off the west side of the roundabout and is to be 6m wide.

2.22 The roundabout accords with the design standards set out in Design Manual for Roads and Bridges TD50/04, with the 59m sight lines achievable being sufficient for traffic speeds of up to 37.5mph (based on guidance provided by Manual for Streets). I-Transport have undertaken capacity modelling of the roundabout that shows the RFCs for the '*2021 + Committed Development + Development'* scenario are no greater than 0.25 on all approaches, so the junction is designed to operate well within capacity.

2.23 Based on the existing mean recorded speeds on Station Road, and with the implementation of a new roundabout, the extension of the 30mph speed limit on Station Road to the south of the roundabout is advised and is also a measure recommended in the accompanying Road Safety Audit to reduce the approach speeds of vehicles. The proposed extension of the 30mph speed limit is shown on the drawing at Appendix A.

2.24 It is also notable that the proposed highways arrangements also incorporate a pair of new bus stops located to the north of the proposed roundabout. These are anticipated to serve an improved half-hourly H1 service operated by Cuckmere Buses. The works, which would form part of the Section 278 Agreement, would include shelters, hard standing, raised kerbs, bus stop poles and bus stop clearway protection. The works also include a new footway along Station Road, providing a pedestrian link between the site access roundabout and the built up area of Hailsham to the north.

2.25 When considering the application and accompanying transport modelling, ESCC as local highway authority considered the impact of the proposed development to be acceptable, subject to conditions and a Section 106/278 agreement securing various matters including the provision of the access points, provision of new bus stops and a financial contribution towards improved bus services on Station Road.

3 ACCESSIBILITY BY NON-CAR MODES

Walking and Cycling

3.1 The site is located on the southern edge of Hailsham and is bounded by Station Road to the east onto which access to the site is taken. Pedestrian footways along each side of Station Road are provided to the north of the site, terminating shortly before the site frontage onto Station Road and providing a continuous walking route into central Hailsham.

3.2 A wide grassed verge is present along the site frontage in order to accommodate vehicular visibility splays from the existing site access. As referenced in paragraph 2.19 to 2.25, the approved outline application for land at Ersham Park and Cuckoo Fields proposes the extension of the Station Road footways along the site frontage to the south to the proposed roundabout junction with Old Swan Lane. These would be constructed within the existing grassed verge areas.

3.3 A public Right of Way (PROW) to the west of the site (PROW reference Hailsham FP46a) provides a connection between Station Road (via The Sidings) to the north of the site and Saltmarsh Lane to the south. The Cuckoo Trail is also located to the west of the site and is a long distance permissive walking and cycling route that forms part of the National Cycle Network (NCN) route 21 (London to Pevensey via Eastbourne). The Cuckoo Trail follows the disused 'Cuckoo Line' railway track and is a largely off-road cycle route which provides a high quality walking and cycling connection to Polegate to the south (which ties into NCN route 2 - Dover to St Austell) and into central Hailsham to the north via Station Road, Freshfield Close and Lindfield Drive.

3.4 In terms of local amenities, Hailsham town centre provides a significant range of local services and facilities, most notably along the High Street, which will be accessible to future residents of the proposed development. Town centre amenities include a good range of shops and facilities including supermarkets, local convenience stores, food retail, health provision, employment areas, leisure facilities and local schools.

Public Transport

3.5 Presently there are no bus stops located within an acceptable (i.e. 400 metres - reference The Chartered Institute of Highways and Transportation (CIHT) publication *'Guidelines for Planning for Public Transport in Developments' (1999)*) walk distance of the site.

3.6 However as noted in paragraph 2.24, a pair of bus stops are to be provided on Station Road as part of the approved scheme at Ersham Park and Cuckoo Fields. These bus stops would be located immediately to the south of the site access and are envisaged to serve an improved H1 service that will operate on weekdays and Saturdays in and around Hailsham.

3.7 The nearest railway station to the site is located in Polegate which can be accessed via bus services from Hailsham town centre or by bicycle via the Cuckoo Trail. Polegate station is situated on the East Coastway Line with frequent and regular services provided by Southern towards Eastbourne, Brighton, Ashford, Ore and London Victoria. Typical off-peak services towards London Victoria run half hourly, with services routing towards Eastbourne and Brighton running every 15-20 minutes. The typical journey times to London Victoria, Eastbourne and Brighton are 82 minutes, 8 minutes and 30 minutes respectively.

4 DEVELOPMENT PROPOSALS

4.1 The planning application seeks outline consent only, with all matters except access to be confirmed at the reserved matters stage. To assist the planning application and this Transport Report, the indicative proposals are for 9 residential dwellings with associated car parking, cycle parking and access arrangements. The indicative schedule of accommodation is:

- 4 x 3-bed houses (semi-detached); and
- 5 x 4-bed houses (detached)
- TOTAL: 9 houses

4.2 The indicative site layout plan which demonstrates how the development could be delivered on site accompanies the planning application submission.

4.3 The illustrative site layout plan identifies how a central two-way access road can be delivered within the site to provide access for all modes of travel. In the interests of highway safety and for the benefit and convenience of the public at large, a turning area can be provided within the site to enable larger vehicles to manoeuvre within the site. The central access road shall be designed and constructed to a standard approved by the Planning Authority, with the details of the access arrangements to be confirmed as part of the future reserved matters applications.

4.4 The remainder of this section describes the highways and transportation aspects of the proposals on the basis of the indicative scheme in order to demonstrate to a high degree of confidence that the proposed level of development can be accommodated on site.

Access

4.5 On the basis of the indicative site layout plan, the proposed vehicle and pedestrian access arrangements are illustrated within **Appendix D**. It should be noted that the arrangements are consistent with those agreed with ESCC Highways for the recently-approved 12-unit scheme.

4.6 The vehicular access provides appropriate radii on both sides and visibility splays commensurate to the measured vehicle speeds along Station Road are demonstrated as being fully achievable within highways land.

4.7 The access plan illustrates how a pedestrian link at the northern corner of the site, connecting with Station Road, could be incorporated. This effectively represents the pedestrian desire line for movements between the site and the town centre. A short extension to the south of the existing footpath along the eastern side of Station Road would be provided. This would continue to where a dropped kerb with tactile paving broadly in line with the pedestrian link into the site would be provided. The details of the arrangements would be agreed at the detailed Section 278 design stage.

4.8 As advised above, the approved Cuckoo Fields development to the south has proposed pedestrian facilities along this stretch of road and so the proposed pedestrian access works would be subject to change at a later date.

Car Parking Provision

4.9 Wealden District Council's parking standards for residential development are those set out within the ESCC Transport Development Control document entitled '*Guidance for Parking at New Residential Development*', dated October 2017. The document gives local planning authorities specific evidence based parking guidelines to enable them to apply local factors and characteristics when formulating parking provision at new residential development. The guidance applies data from the 2011 Census in order to define optimum levels of car parking provision, including allowances for allocated or unallocated provision and visitor provision.

4.10 Based on the indicative layout, the car parking calculation tool output is provided in full at **Appendix E** and summarised below in **Table 4**.

Development Mix (Private Houses)		Allocated Parking	Unallocated Parking Demand		Total Demand
Unit	Bedrooms	Spaces	Residents	Visitors	
1	4	2	0.14	0.20	2.34
2	4	2	0.14	0.20	2.34
3	3	2	0.12	0.20	2.32
4	3	2	0.12	0.20	2.32
5	3	2	0.12	0.20	2.32
6	3	2	0.12	0.20	2.32
7	4	2	0.14	0.20	2.34
8	4	2	0.14	0.20	2.34
9	4	2	0.14	0.20	2.34
Total		18	1.18	1.80	**20.98**

Table 4: ESCC Car Parking Calculation Tool Summary – 9 dwellings

4.16 It can be seen that Total Parking Demand for the proposed 9 dwelling scheme would be 21 spaces of which 18 spaces would be allocated and 3 spaces unallocated for residents and visitors.

4.17 The ESCC guidance states that only a third of garages count as a car parking space, regardless of size. This is due to research undertaken in 2011 showing that 33% of garages in East Sussex are used for parking. The main reasons for garages not being used for parking were stated as being insufficient storage in the home (47%) and the garage being too small (40%). All car parking is to be provided as marked bays, with no garage parking provided.

4.18 The indicative layout plan shows a potential six unallocated/visitor car parking spaces can be provided across the site, thereby exceeding the requirement for three unallocated/visitor spaces. The level and location of visitor car parking spaces could therefore be readily detailed at the reserved matters application stage.

4.19 The ESCC guidance document provides design advice on car parking spaces from which the following criteria will be applied to the proposed detailed scheme:

- <u>Standard car parking space dimensions</u> – 5.0m x 2.5m. An additional 0.5m will be added to either or both dimensions where the space is adjacent to a wall(s) or fence(s).

4.20 Although garages are not to be provided, the following design advice for garages is noted:

- <u>Spaces in front of garages</u> – 6.0m x 2.5m, plus additional 0.5m if required, as above.
- <u>Garages</u> – minimum internal dimension of 6.0m x 3.0m, positioned a minimum of 6.0m from the highway.
- <u>Garages incorporating cycle parking</u> – minimum of 7.0m x 3.0m, positioned a minimum of 6.0m from the highway.

4.21 Details of the car parking provision will be provided at the reserved matters stage. Nevertheless, the indicative site layout plan shows how an appropriate level of allocated and unallocated provision can be accommodated on site.

Cycle Parking

4.22 Page 8 of the ESCC parking guidance document contains recommendations for cycle parking and states that "*Safe and secure cycle storage facilities are equally important at new development as cycling has the potential to replace short car journeys. Requirements need to take account of the location, size and type of dwelling. The recommended levels of cycle provision can be found in the table below. The storage provided will need to be safe, secure and covered.*"

Dwelling Type	*Number of Bedrooms*	*Cycle Provision per Unit*
Flat	*1 & 2*	*0.5 spaces if communal* *1 space if individual*
Flat	*3 or more*	*1 space*
House	*1 & 2*	*2 spaces*
House	*3 of more*	*2 spaces*

4.23 Applying the cycle parking standards to the proposed schedule results in a requirement for a minimum of two cycle parking spaces per dwelling. It is expected that all dwellings that have direct access to gardens will provide cycle parking on plot. Any dwellings that do not have direct access to gardens will have access to an external sheltered and secure cycle store, details of which are shown on the indicative layout plan.

Deliveries and Servicing

4.24 It is not expected that the development will generate a significant number of delivery and servicing vehicle movements. The majority of service vehicles are likely to be in relation to home deliveries, for which smaller panel vans are typically used.

4.25 The site layout incorporates a turning area that will enable the most regular vehicles (daily delivery vehicles and refuse vehicle) to be able to turn within the site.

4.26 The swept path analysis of a large refuse vehicle accessing and turning within the site is shown within **Appendix F**. All dwellings would be able to present their refuse and recycling bins for collection within 10m of the refuse vehicle swept path.

5 DEVELOPMENT TRIP GENERATION

5.1 To determine the level of traffic likely to be generated by the proposal, the proprietary TRICS/7.9.4 database has been interrogated. This provides the results of traffic surveys for a wide range of developments from which trip rates can be derived and applied to other similar development for assessment purposes.

5.2 In order to generate a sufficient number of representative sites from which meaningful traffic generation data can be derived, the following search criteria has been applied:

<u>Proposed C3 residential use</u>

- Land Use/Category – 03 Residential/A Houses Privately Owned
- Regions – England, excluding Greater London
- Number of Dwellings – 6 - 20 units
- Location – Suburban Area / Edge of Town / Neighbourhood Centre
- Days – Weekdays only
- Car Parking Provision – greater than 1.9 spaces per unit

5.3 The results of the TRICS/7.9.4 analysis are summarised in **Table 5** below and contained in full in **Appendix G**.

	Vehicle Trip Rate (trips per unit)			Vehicle Trips (9 units)		
	Arr	Dep	Two-way	Arr	Dep	Two-way
AM Peak Hour	0.185	0.298	0.483	2	3	5
PM Peak Hour	0.265	0.172	0.437	2	2	4
Daily Total (07:00-19:00)	2.212	2.258	4.470	20	20	40

Table 5: Summary of vehicle trip rate analysis (trip rates and movements)

5.4 It can be seen from Table 5 that the proposed development could be expected to generate in the order of 4-5 movements during peak hours, which is an average of one movement every 12-15 minutes.

5.5 To put these flow levels into context, the Transport Assessment that accompanied the outline planning application for the Cuckoo Fields and Ersham Park development observed baseline peak hour traffic flows along Station Road of 437 vehicles in the AM peak and 175 vehicles in the PM peak. An increase of 4-5 vehicles would therefore have an imperceptible impact upon the capacity or safety of the local highway network

5.6 As the proposed development would not result in a significant increase in traffic onto the highway network in the vicinity of the site and thus no adverse impacts would arise, no further assessments of the capacity of the local highway network or the local junctions are deemed necessary.

6 SUMMARY AND CONCLUSIONS

6.1 Crosby Transport Planning Limited has been instructed by Mr I Martin to prepare this transport report in respect of development proposals on land at Station Road, Hailsham, East Sussex.

6.2 This report has considered the transport and highways implications of the outline proposals for the development of a residential scheme comprising 9 dwellings with all matters reserved except access.

6.3 Section 2 described the site location as being at the southern edge of Hailsham town centre, with the adjacent highway network having no inherent safety issues. Through the use of independent ATC counts, the proposed use of the existing vehicular access would be suitable for the proposed development and there would be appropriate inter-visibility between vehicles at the access and along Station Road.

6.4 The site is located adjacent to land that has outline planning consent for up to 400 dwellings and which will secure various highways and transport improvements including the bus stops, pedestrian footway along the site frontage and improved bus services on Station Road.

6.5 Section 3 described the accessibility of the site by non-car modes of travel and advised that the Hailsham town centre provides a significant range of local services and facilities which will be accessible to future residents of the proposed development. The Cuckoo Trail and public rights of way are located within the vicinity of the site which provide high quality connections to the wider transport networks accessible from Hailsham town centre and Polegate.

6.6 Section 4 provided details of the outline proposals from which it was demonstrated how the development could be delivered on site whilst accommodating access for all users, including refuse vehicles, and providing a level of car and cycle parking that will be in accordance with locally adopted standards.

6.7 Section 5 considered the likely vehicle trip generation levels of the proposed development and concluded that the development would not result in a significant increase in traffic onto the highway network in the vicinity of the site and thus no adverse impacts would arise.

6.8 It has therefore been demonstrated that the proposed development would not have a material impact upon the safety and operation of the adjoining highway network. Consequently it is concluded that the development would not give rise to any adverse transport impacts and is considered an entirely appropriate form of development in transport and highways terms.

Appendix A:
ATC Data

10159		HAILSHAM								
		NOVEMBER 2020								
Site	Location	Direction	Start Date	End Date	Posted Speed Limit (PSL)	Total Vehicles	5 Day Ave.	7 Day Ave.	Average 85%ile Speed	Average Mean Speed
Site No: 10159001	Site 1 - Station Rd, Hailsham (N of WR Site) OSGR TQ 59606 08548	Channel: Northbound	Wed 04-Nov-20	Tue 10-Nov-20	60	5984	966	855	38.8	29.3
		Channel: Southbound	Wed 04-Nov-20	Tue 10-Nov-20		5411	846	773	38.2	28.5

Data produced by
Auto Surveys Ltd

10159 HAILSHAM Site No: 10159001 Location Site 1 - Station Rd, Hailsham (N of WR Site)

NOVEMBER 2020 Channel: Northbound

TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	CARS OR CAR-BASED LGV	LIGHT GOODS VEHICLES	BUSES	TWO AXLE, SIX TYRE, RIGID/BUSES	THREE AXLE RIGID	FOUR OR MORE AXLE RIGID	FOUR OR LESS AXLE ARTIC	FIVE AXLE ARTIC	SIX OR MORE AXLE ARTIC	FIVE OR LESS AXLE MULTI-TRAILER ARTIC	SIX AXLE MULTI-TRAILER ARTIC	SEVEN OR MORE AXLE ARTIC
Wed 04-Nov-20														
00:00	**1**	0	1	0	0	0	0	0	0	0	0	0	0	0
01:00	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	**3**	0	2	0	0	0	1	0	0	0	0	0	0	0
05:00	**4**	0	4	0	0	0	0	0	0	0	0	0	0	0
06:00	**38**	1	29	8	0	0	0	0	0	0	0	0	0	0
07:00	**115**	1	88	23	0	2	0	0	1	0	0	0	0	0
08:00	**104**	1	84	18	0	0	0	0	1	0	0	0	0	0
09:00	**69**	2	57	8	0	1	0	0	1	0	0	0	0	0
10:00	**89**	3	68	14	0	1	0	0	1	0	2	0	0	0
11:00	**93**	1	69	19	0	1	1	0	2	0	0	0	0	0
12:00	**82**	2	72	6	0	1	0	0	1	0	0	0	0	0
13:00	**96**	3	80	11	0	0	0	0	2	0	0	0	0	0
14:00	**94**	3	75	15	0	1	0	0	0	0	0	0	0	0
15:00	**95**	0	76	18	0	1	0	0	0	0	0	0	0	0
16:00	**105**	0	86	16	0	1	1	0	1	0	0	0	0	0
17:00	**81**	3	69	9	0	0	0	0	0	0	0	0	0	0
18:00	**37**	2	33	2	0	0	0	0	0	0	0	0	0	0
19:00	**23**	0	22	1	0	0	0	0	0	0	0	0	0	0
20:00	**14**	0	12	2	0	0	0	0	0	0	0	0	0	0
21:00	**10**	0	9	1	0	0	0	0	0	0	0	0	0	0
22:00	**6**	0	6	0	0	0	0	0	0	0	0	0	0	0
23:00	**3**	0	2	1	0	0	0	0	0	0	0	0	0	0
12H,7-19	**1060**	**21**	**857**	**159**	**0**	**9**	**2**	**0**	**10**	**0**	**2**	**0**	**0**	**0**
16H,6-22	**1145**	**22**	**929**	**171**	**0**	**9**	**2**	**0**	**10**	**0**	**2**	**0**	**0**	**0**
18H,6-24	**1154**	**22**	**937**	**172**	**0**	**9**	**2**	**0**	**10**	**0**	**2**	**0**	**0**	**0**
24H,0-24	**1162**	**22**	**944**	**172**	**0**	**9**	**3**	**0**	**10**	**0**	**2**	**0**	**0**	**0**

Data produced by
Auto Surveys Ltd

10159 HAILSHAM Site No: 10159001 Location Site 1 - Station Rd, Hailsham (N of WR Site)

NOVEMBER 2020 Channel: Northbound

TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	CARS OR CAR-BASED LGV	LIGHT GOODS VEHICLES	BUSES	TWO AXLE, SIX TYRE, RIGID/BUSES	THREE AXLE RIGID	FOUR OR MORE AXLE RIGID	FOUR OR LESS AXLE ARTIC	FIVE AXLE ARTIC	SIX OR MORE AXLE ARTIC	FIVE OR LESS AXLE MULTI-TRAILER ARTIC	SIX AXLE MULTI-TRAILER ARTIC	SEVEN OR MORE AXLE ARTIC
Thu 05-Nov-20														
00:00	**1**	0	1	0	0	0	0	0	0	0	0	0	0	0
01:00	**1**	0	1	0	0	0	0	0	0	0	0	0	0	0
02:00	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	**1**	0	1	0	0	0	0	0	0	0	0	0	0	0
05:00	**8**	0	7	1	0	0	0	0	0	0	0	0	0	0
06:00	**23**	1	18	4	0	0	0	0	0	0	0	0	0	0
07:00	**82**	0	63	19	0	0	0	0	0	0	0	0	0	0
08:00	**75**	0	54	19	0	0	0	0	1	0	0	1	0	0
09:00	**53**	1	41	10	0	1	0	0	0	0	0	0	0	0
10:00	**61**	2	47	9	0	0	1	0	1	0	1	0	0	0
11:00	**70**	0	52	15	0	2	0	0	1	0	0	0	0	0
12:00	**73**	2	59	11	0	0	0	0	1	0	0	0	0	0
13:00	**59**	1	45	9	0	3	0	0	1	0	0	0	0	0
14:00	**78**	1	64	11	0	0	0	0	2	0	0	0	0	0
15:00	**77**	1	55	17	1	0	1	0	2	0	0	0	0	0
16:00	**94**	2	78	14	0	0	0	0	0	0	0	0	0	0
17:00	**46**	1	39	6	0	0	0	0	0	0	0	0	0	0
18:00	**20**	1	17	2	0	0	0	0	0	0	0	0	0	0
19:00	**22**	0	21	1	0	0	0	0	0	0	0	0	0	0
20:00	**8**	0	8	0	0	0	0	0	0	0	0	0	0	0
21:00	**4**	0	4	0	0	0	0	0	0	0	0	0	0	0
22:00	**1**	0	1	0	0	0	0	0	0	0	0	0	0	0
23:00	**3**	0	3	0	0	0	0	0	0	0	0	0	0	0
12H,7-19	**788**	**12**	**614**	**142**	**1**	**6**	**2**	**0**	**9**	**0**	**1**	**1**	**0**	**0**
16H,6-22	**845**	**13**	**665**	**147**	**1**	**6**	**2**	**0**	**9**	**0**	**1**	**1**	**0**	**0**
18H,6-24	**849**	**13**	**669**	**147**	**1**	**6**	**2**	**0**	**9**	**0**	**1**	**1**	**0**	**0**
24H,0-24	**860**	**13**	**679**	**148**	**1**	**6**	**2**	**0**	**9**	**0**	**1**	**1**	**0**	**0**

10159			HAILSHAM			Site No: 10159001		Location	Site 1 - Station Rd, Hailsham (N of WR Site)					
NOVEMBER 2020						Channel: Northbound								
TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	CARS OR CAR-BASED LGV	LIGHT GOODS VEHICLES	BUSES	TWO AXLE, SIX TYRE, RIGID/BUSES	THREE AXLE RIGID	FOUR OR MORE AXLE RIGID	FOUR OR LESS AXLE ARTIC	FIVE AXLE ARTIC	SIX OR MORE AXLE ARTIC	FIVE OR LESS AXLE MULTI-TRAILER ARTIC	SIX AXLE MULTI-TRAILER ARTIC	SEVEN OR MORE AXLE ARTIC
Fri 06-Nov-20														
00:00	1	0	1	0	0	0	0	0	0	0	0	0	0	0
01:00	2	0	2	0	0	0	0	0	0	0	0	0	0	0
02:00	1	0	0	1	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	1	0	1	0	0	0	0	0	0	0	0	0	0	0
05:00	12	0	9	3	0	0	0	0	0	0	0	0	0	0
06:00	37	0	32	4	0	1	0	0	0	0	0	0	0	0
07:00	69	1	53	15	0	0	0	0	0	0	0	0	0	0
08:00	74	0	57	13	0	1	1	0	2	0	0	0	0	0
09:00	67	2	43	18	1	0	1	0	2	0	0	0	0	0
10:00	82	2	61	15	0	1	0	0	3	0	0	0	0	0
11:00	87	9	65	12	0	0	1	0	0	0	0	0	0	0
12:00	70	2	54	9	0	2	3	0	0	0	0	0	0	0
13:00	71	1	58	9	0	0	0	0	2	0	1	0	0	0
14:00	87	3	68	12	0	1	0	0	3	0	0	0	0	0
15:00	84	0	71	13	0	0	0	0	0	0	0	0	0	0
16:00	77	1	68	7	0	1	0	0	0	0	0	0	0	0
17:00	43	2	38	3	0	0	0	0	0	0	0	0	0	0
18:00	27	1	23	3	0	0	0	0	0	0	0	0	0	0
19:00	12	0	11	1	0	0	0	0	0	0	0	0	0	0
20:00	15	0	12	3	0	0	0	0	0	0	0	0	0	0
21:00	7	0	6	1	0	0	0	0	0	0	0	0	0	0
22:00	2	0	2	0	0	0	0	0	0	0	0	0	0	0
23:00	4	0	4	0	0	0	0	0	0	0	0	0	0	0
12H,7-19	838	24	659	129	1	6	6	0	12	0	1	0	0	0
16H,6-22	909	24	720	138	1	7	6	0	12	0	1	0	0	0
18H,6-24	915	24	726	138	1	7	6	0	12	0	1	0	0	0
24H,0-24	932	24	739	142	1	7	6	0	12	0	1	0	0	0

Data produced by
Auto Surveys Ltd

10159			HAILSHAM			Site No: 10159001		Location	Site 1 - Station Rd, Hailsham (N of WR Site)					
	NOVEMBER 2020					Channel: Northbound								
TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	CARS OR CAR-BASED LGV	LIGHT GOODS VEHICLES	BUSES	TWO AXLE, SIX TYRE, RIGID/BUSES	THREE AXLE RIGID	FOUR OR MORE AXLE RIGID	FOUR OR LESS AXLE ARTIC	FIVE AXLE ARTIC	SIX OR MORE AXLE ARTIC	FIVE OR LESS AXLE MULTI-TRAILER ARTIC	SIX AXLE MULTI-TRAILER ARTIC	SEVEN OR MORE AXLE ARTIC
Sat 07-Nov-20														
00:00	**6**	0	6	0	0	0	0	0	0	0	0	0	0	0
01:00	**5**	1	4	0	0	0	0	0	0	0	0	0	0	0
02:00	**2**	0	2	0	0	0	0	0	0	0	0	0	0	0
03:00	**1**	0	1	0	0	0	0	0	0	0	0	0	0	0
04:00	**1**	0	1	0	0	0	0	0	0	0	0	0	0	0
05:00	**6**	0	4	2	0	0	0	0	0	0	0	0	0	0
06:00	**7**	1	5	1	0	0	0	0	0	0	0	0	0	0
07:00	**11**	0	8	3	0	0	0	0	0	0	0	0	0	0
08:00	**25**	1	19	4	0	0	0	0	1	0	0	0	0	0
09:00	**57**	0	54	3	0	0	0	0	0	0	0	0	0	0
10:00	**79**	3	65	7	0	1	0	0	2	0	1	0	0	0
11:00	**84**	2	69	10	0	1	1	0	1	0	0	0	0	0
12:00	**62**	4	48	4	0	0	2	1	2	0	0	1	0	0
13:00	**39**	1	33	4	0	0	0	0	0	0	1	0	0	0
14:00	**45**	4	36	5	0	0	0	0	0	0	0	0	0	0
15:00	**47**	7	36	3	0	0	1	0	0	0	0	0	0	0
16:00	**36**	0	33	3	0	0	0	0	0	0	0	0	0	0
17:00	**22**	1	20	1	0	0	0	0	0	0	0	0	0	0
18:00	**29**	4	23	2	0	0	0	0	0	0	0	0	0	0
19:00	**12**	2	7	3	0	0	0	0	0	0	0	0	0	0
20:00	**10**	1	8	1	0	0	0	0	0	0	0	0	0	0
21:00	**6**	1	4	1	0	0	0	0	0	0	0	0	0	0
22:00	**7**	1	6	0	0	0	0	0	0	0	0	0	0	0
23:00	**3**	0	3	0	0	0	0	0	0	0	0	0	0	0
12H,7-19	**536**	**27**	**444**	**49**	**0**	**2**	**4**	**1**	**6**	**0**	**2**	**1**	**0**	**0**
16H,6-22	**571**	**32**	**468**	**55**	**0**	**2**	**4**	**1**	**6**	**0**	**2**	**1**	**0**	**0**
18H,6-24	**581**	**33**	**477**	**55**	**0**	**2**	**4**	**1**	**6**	**0**	**2**	**1**	**0**	**0**
24H,0-24	**602**	**34**	**495**	**57**	**0**	**2**	**4**	**1**	**6**	**0**	**2**	**1**	**0**	**0**

10159 HAILSHAM Site No: 10159001 Location Site 1 - Station Rd, Hailsham (N of WR Site)

NOVEMBER 2020 Channel: Northbound

TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	CARS OR CAR-BASED LGV	LIGHT GOODS VEHICLES	BUSES	TWO AXLE, SIX TYRE, RIGID/BUSES	THREE AXLE RIGID	FOUR OR MORE AXLE RIGID	FOUR OR LESS AXLE ARTIC	FIVE AXLE ARTIC	SIX OR MORE AXLE ARTIC	FIVE OR LESS AXLE MULTI-TRAILER ARTIC	SIX AXLE MULTI-TRAILER ARTIC	SEVEN OR MORE AXLE ARTIC
Sun 08-Nov-20														
00:00	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	**1**	0	1	0	0	0	0	0	0	0	0	0	0	0
02:00	**3**	2	1	0	0	0	0	0	0	0	0	0	0	0
03:00	**3**	3	0	0	0	0	0	0	0	0	0	0	0	0
04:00	**5**	0	3	2	0	0	0	0	0	0	0	0	0	0
05:00	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	**5**	0	1	4	0	0	0	0	0	0	0	0	0	0
07:00	**6**	0	6	0	0	0	0	0	0	0	0	0	0	0
08:00	**26**	0	21	3	0	0	1	0	0	0	1	0	0	0
09:00	**66**	4	56	5	0	0	0	0	1	0	0	0	0	0
10:00	**72**	4	65	1	0	0	0	0	1	0	1	0	0	0
11:00	**92**	8	78	6	0	0	0	0	0	0	0	0	0	0
12:00	**64**	4	57	2	0	0	1	0	0	0	0	0	0	0
13:00	**38**	5	24	6	0	0	1	0	2	0	0	0	0	0
14:00	**37**	7	28	2	0	0	0	0	0	0	0	0	0	0
15:00	**39**	2	33	4	0	0	0	0	0	0	0	0	0	0
16:00	**32**	2	24	6	0	0	0	0	0	0	0	0	0	0
17:00	**23**	2	20	1	0	0	0	0	0	0	0	0	0	0
18:00	**12**	0	12	0	0	0	0	0	0	0	0	0	0	0
19:00	**8**	0	7	1	0	0	0	0	0	0	0	0	0	0
20:00	**12**	2	10	0	0	0	0	0	0	0	0	0	0	0
21:00	**5**	0	5	0	0	0	0	0	0	0	0	0	0	0
22:00	**3**	0	2	1	0	0	0	0	0	0	0	0	0	0
23:00	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
12H,7-19	**507**	**38**	**424**	**36**	**0**	**0**	**3**	**0**	**4**	**0**	**2**	**0**	**0**	**0**
16H,6-22	**537**	**40**	**447**	**41**	**0**	**0**	**3**	**0**	**4**	**0**	**2**	**0**	**0**	**0**
18H,6-24	**540**	**40**	**449**	**42**	**0**	**0**	**3**	**0**	**4**	**0**	**2**	**0**	**0**	**0**
24H,0-24	**552**	**45**	**454**	**44**	**0**	**0**	**3**	**0**	**4**	**0**	**2**	**0**	**0**	**0**

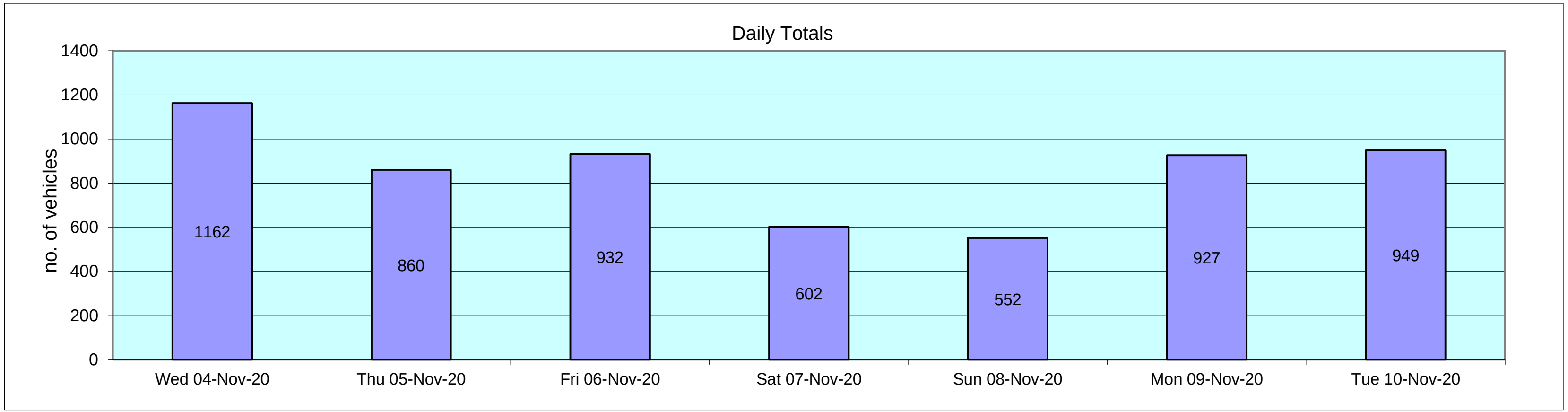
10159 HAILSHAM Site No: 10159001 Location Site 1 - Station Rd, Hailsham (N of WR Site)

NOVEMBER 2020 Channel: Northbound

TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	CARS OR CAR-BASED LGV	LIGHT GOODS VEHICLES	BUSES	TWO AXLE, SIX TYRE, RIGID/BUSES	THREE AXLE RIGID	FOUR OR MORE AXLE RIGID	FOUR OR LESS AXLE ARTIC	FIVE AXLE ARTIC	SIX OR MORE AXLE ARTIC	FIVE OR LESS AXLE MULTI-TRAILER ARTIC	SIX AXLE MULTI-TRAILER ARTIC	SEVEN OR MORE AXLE ARTIC
Mon 09-Nov-20														
00:00	**2**	1	1	0	0	0	0	0	0	0	0	0	0	0
01:00	**2**	0	1	1	0	0	0	0	0	0	0	0	0	0
02:00	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	**2**	2	0	0	0	0	0	0	0	0	0	0	0	0
04:00	**3**	0	3	0	0	0	0	0	0	0	0	0	0	0
05:00	**7**	0	7	0	0	0	0	0	0	0	0	0	0	0
06:00	**32**	1	23	7	0	0	1	0	0	0	0	0	0	0
07:00	**84**	0	67	15	0	0	1	0	0	1	0	0	0	0
08:00	**107**	0	86	18	0	1	1	0	1	0	0	0	0	0
09:00	**74**	0	63	7	0	0	1	0	2	1	0	0	0	0
10:00	**65**	2	51	9	0	0	1	0	1	0	1	0	0	0
11:00	**86**	1	75	7	0	1	0	0	0	0	1	0	0	1
12:00	**80**	0	62	9	0	1	3	1	3	0	0	0	0	1
13:00	**66**	1	60	3	0	0	0	0	2	0	0	0	0	0
14:00	**77**	2	69	6	0	0	0	0	0	0	0	0	0	0
15:00	**65**	1	55	6	0	1	0	0	2	0	0	0	0	0
16:00	**78**	2	55	20	0	1	0	0	0	0	0	0	0	0
17:00	**41**	1	39	1	0	0	0	0	0	0	0	0	0	0
18:00	**18**	0	16	2	0	0	0	0	0	0	0	0	0	0
19:00	**10**	0	10	0	0	0	0	0	0	0	0	0	0	0
20:00	**17**	1	16	0	0	0	0	0	0	0	0	0	0	0
21:00	**9**	0	8	1	0	0	0	0	0	0	0	0	0	0
22:00	**1**	0	0	1	0	0	0	0	0	0	0	0	0	0
23:00	**1**	0	1	0	0	0	0	0	0	0	0	0	0	0
12H,7-19	**841**	**10**	**698**	**103**	**0**	**5**	**7**	**1**	**11**	**2**	**2**	**0**	**0**	**2**
16H,6-22	**909**	**12**	**755**	**111**	**0**	**5**	**8**	**1**	**11**	**2**	**2**	**0**	**0**	**2**
18H,6-24	**911**	**12**	**756**	**112**	**0**	**5**	**8**	**1**	**11**	**2**	**2**	**0**	**0**	**2**
24H,0-24	**927**	**15**	**768**	**113**	**0**	**5**	**8**	**1**	**11**	**2**	**2**	**0**	**0**	**2**

10159			HAILSHAM			Site No: 10159001		Location	Site 1 - Station Rd, Hailsham (N of WR Site)					
NOVEMBER 2020						Channel: Northbound								
TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	CARS OR CAR-BASED LGV	LIGHT GOODS VEHICLES	BUSES	TWO AXLE, SIX TYRE, RIGID/BUSES	THREE AXLE RIGID	FOUR OR MORE AXLE RIGID	FOUR OR LESS AXLE ARTIC	FIVE AXLE ARTIC	SIX OR MORE AXLE ARTIC	FIVE OR LESS AXLE MULTI-TRAILER ARTIC	SIX AXLE MULTI-TRAILER ARTIC	SEVEN OR MORE AXLE ARTIC
Tue 10-Nov-20														
00:00	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	**4**	2	2	0	0	0	0	0	0	0	0	0	0	0
02:00	**3**	0	3	0	0	0	0	0	0	0	0	0	0	0
03:00	**2**	1	1	0	0	0	0	0	0	0	0	0	0	0
04:00	**1**	0	1	0	0	0	0	0	0	0	0	0	0	0
05:00	**7**	0	6	1	0	0	0	0	0	0	0	0	0	0
06:00	**32**	1	23	8	0	0	0	0	0	0	0	0	0	0
07:00	**82**	0	63	19	0	0	0	0	0	0	0	0	0	0
08:00	**92**	0	75	15	0	1	0	0	1	0	0	0	0	0
09:00	**56**	1	44	9	0	1	1	0	0	0	0	0	0	0
10:00	**84**	2	64	15	0	0	1	0	1	0	1	0	0	0
11:00	**81**	1	62	14	0	2	0	0	2	0	0	0	0	0
12:00	**74**	2	57	13	2	0	0	0	0	0	0	0	0	0
13:00	**86**	2	66	17	1	0	0	0	0	0	0	0	0	0
14:00	**94**	1	77	16	0	0	0	0	0	0	0	0	0	0
15:00	**68**	0	53	11	1	1	0	0	1	0	1	0	0	0
16:00	**81**	0	66	14	0	1	0	0	0	0	0	0	0	0
17:00	**48**	1	41	5	0	0	0	0	1	0	0	0	0	0
18:00	**18**	0	16	2	0	0	0	0	0	0	0	0	0	0
19:00	**18**	1	16	1	0	0	0	0	0	0	0	0	0	0
20:00	**7**	2	4	1	0	0	0	0	0	0	0	0	0	0
21:00	**6**	0	6	0	0	0	0	0	0	0	0	0	0	0
22:00	**2**	0	1	1	0	0	0	0	0	0	0	0	0	0
23:00	**3**	0	3	0	0	0	0	0	0	0	0	0	0	0
12H,7-19	**864**	**10**	**684**	**150**	**4**	**6**	**2**	**0**	**6**	**0**	**2**	**0**	**0**	**0**
16H,6-22	**927**	**14**	**733**	**160**	**4**	**6**	**2**	**0**	**6**	**0**	**2**	**0**	**0**	**0**
18H,6-24	**932**	**14**	**737**	**161**	**4**	**6**	**2**	**0**	**6**	**0**	**2**	**0**	**0**	**0**
24H,0-24	**949**	**17**	**750**	**162**	**4**	**6**	**2**	**0**	**6**	**0**	**2**	**0**	**0**	**0**

10159			HAILSHAM			Site No: 10159001		Location	Site 1 - Station Rd, Hailsham (N of WR Site)					
NOVEMBER 2020						Channel: Northbound								
TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	CARS OR CAR-BASED LGV	LIGHT GOODS VEHICLES	BUSES	TWO AXLE, SIX TYRE, RIGID/BUSES	THREE AXLE RIGID	FOUR OR MORE AXLE RIGID	FOUR OR LESS AXLE ARTIC	FIVE AXLE ARTIC	SIX OR MORE AXLE ARTIC	FIVE OR LESS AXLE MULTI-TRAILER ARTIC	SIX AXLE MULTI-TRAILER ARTIC	SEVEN OR MORE AXLE ARTIC
Daily Totals														
Wed 04-Nov-20	**1162**	22	944	172	0	9	3	0	10	0	2	0	0	0
Thu 05-Nov-20	**860**	13	679	148	1	6	2	0	9	0	1	1	0	0
Fri 06-Nov-20	**932**	24	739	142	1	7	6	0	12	0	1	0	0	0
Sat 07-Nov-20	**602**	34	495	57	0	2	4	1	6	0	2	1	0	0
Sun 08-Nov-20	**552**	45	454	44	0	0	3	0	4	0	2	0	0	0
Mon 09-Nov-20	**927**	15	768	113	0	5	8	1	11	2	2	0	0	2
Tue 10-Nov-20	**949**	17	750	162	4	6	2	0	6	0	2	0	0	0
Total Vehicles														
[--]	**5984**	170	4829	838	6	35	28	2	58	2	12	2	0	2



Data produced by
Auto Surveys Ltd

10159		HAILSHAM			Site No: 10159001		Location	Site 1 - Station Rd, Hailsham (N of WR Site)			
	NOVEMBER 2020				Channel: Northbound						
TIME PERIOD	**TOTAL VEHICLES**	**MOTOR-CYCLES**	**MOTOR-CYCLES%**	**CARS**	**CARS %**	**LGV**	**LGV %**	**HGV**	**HGV %**	**BUS**	**BUS %**
Wed 04-Nov-20											
00:00	**1**	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
01:00	**0**	0	-	0	-	0	-	0	-	0	-
02:00	**0**	0	-	0	-	0	-	0	-	0	-
03:00	**0**	0	-	0	-	0	-	0	-	0	-
04:00	**3**	0	0.0	2	66.7	0	0.0	1	33.3	0	0.0
05:00	**4**	0	0.0	4	100.0	0	0.0	0	0.0	0	0.0
06:00	**38**	1	2.6	29	76.3	8	21.1	0	0.0	0	0.0
07:00	**115**	1	0.9	88	76.5	23	20.0	3	2.6	0	0.0
08:00	**104**	1	1.0	84	80.8	18	17.3	1	1.0	0	0.0
09:00	**69**	2	2.9	57	82.6	8	11.6	2	2.9	0	0.0
10:00	**89**	3	3.4	68	76.4	14	15.7	4	4.5	0	0.0
11:00	**93**	1	1.1	69	74.2	19	20.4	4	4.3	0	0.0
12:00	**82**	2	2.4	72	87.8	6	7.3	2	2.4	0	0.0
13:00	**96**	3	3.1	80	83.3	11	11.5	2	2.1	0	0.0
14:00	**94**	3	3.2	75	79.8	15	16.0	1	1.1	0	0.0
15:00	**95**	0	0.0	76	80.0	18	19.0	1	1.1	0	0.0
16:00	**105**	0	0.0	86	81.9	16	15.2	3	2.9	0	0.0
17:00	**81**	3	3.7	69	85.2	9	11.1	0	0.0	0	0.0
18:00	**37**	2	5.4	33	89.2	2	5.4	0	0.0	0	0.0
19:00	**23**	0	0.0	22	95.7	1	4.4	0	0.0	0	0.0
20:00	**14**	0	0.0	12	85.7	2	14.3	0	0.0	0	0.0
21:00	**10**	0	0.0	9	90.0	1	10.0	0	0.0	0	0.0
22:00	**6**	0	0.0	6	100.0	0	0.0	0	0.0	0	0.0
23:00	**3**	0	0.0	2	66.7	1	33.3	0	0.0	0	0.0
12H,7-19	**1060**	**21**	**2.0**	**857**	**80.9**	**159**	**15.0**	**23**	**2.2**	**0**	**0.0**
16H,6-22	**1145**	**22**	**1.9**	**929**	**81.1**	**171**	**14.9**	**23**	**2.0**	**0**	**0.0**
18H,6-24	**1154**	**22**	**1.9**	**937**	**81.2**	**172**	**14.9**	**23**	**2.0**	**0**	**0.0**
24H,0-24	**1162**	**22**	**1.9**	**944**	**81.2**	**172**	**14.8**	**24**	**2.1**	**0**	**0.0**

Data produced by
Auto Surveys Ltd

10159	HAILSHAM				Site No: 10159001		Location	Site 1 - Station Rd, Hailsham (N of WR Site)			
	NOVEMBER 2020				Channel: Northbound						
TIME PERIOD	**TOTAL VEHICLES**	**MOTOR-CYCLES**	**MOTOR-CYCLES%**	**CARS**	**CARS %**	**LGV**	**LGV %**	**HGV**	**HGV %**	**BUS**	**BUS %**
Thu 05-Nov-20											
00:00	**1**	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
01:00	**1**	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
02:00	**0**	0	-	0	-	0	-	0	-	0	-
03:00	**0**	0	-	0	-	0	-	0	-	0	-
04:00	**1**	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
05:00	**8**	0	0.0	7	87.5	1	12.5	0	0.0	0	0.0
06:00	**23**	1	4.4	18	78.3	4	17.4	0	0.0	0	0.0
07:00	**82**	0	0.0	63	76.8	19	23.2	0	0.0	0	0.0
08:00	**75**	0	0.0	54	72.0	19	25.3	2	2.7	0	0.0
09:00	**53**	1	1.9	41	77.4	10	18.9	1	1.9	0	0.0
10:00	**61**	2	3.3	47	77.1	9	14.8	3	4.9	0	0.0
11:00	**70**	0	0.0	52	74.3	15	21.4	3	4.3	0	0.0
12:00	**73**	2	2.7	59	80.8	11	15.1	1	1.4	0	0.0
13:00	**59**	1	1.7	45	76.3	9	15.3	4	6.8	0	0.0
14:00	**78**	1	1.3	64	82.1	11	14.1	2	2.6	0	0.0
15:00	**77**	1	1.3	55	71.4	17	22.1	3	3.9	1	1.3
16:00	**94**	2	2.1	78	83.0	14	14.9	0	0.0	0	0.0
17:00	**46**	1	2.2	39	84.8	6	13.0	0	0.0	0	0.0
18:00	**20**	1	5.0	17	85.0	2	10.0	0	0.0	0	0.0
19:00	**22**	0	0.0	21	95.5	1	4.6	0	0.0	0	0.0
20:00	**8**	0	0.0	8	100.0	0	0.0	0	0.0	0	0.0
21:00	**4**	0	0.0	4	100.0	0	0.0	0	0.0	0	0.0
22:00	**1**	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
23:00	**3**	0	0.0	3	100.0	0	0.0	0	0.0	0	0.0
12H,7-19	**788**	**12**	**1.5**	**614**	**77.9**	**142**	**18.0**	**19**	**2.4**	**1**	**0.1**
16H,6-22	**845**	**13**	**1.5**	**665**	**78.7**	**147**	**17.4**	**19**	**2.3**	**1**	**0.1**
18H,6-24	**849**	**13**	**1.5**	**669**	**78.8**	**147**	**17.3**	**19**	**2.2**	**1**	**0.1**
24H,0-24	**860**	**13**	**1.5**	**679**	**79.0**	**148**	**17.2**	**19**	**2.2**	**1**	**0.1**

10159 HAILSHAM Site No: 10159001 Location Site 1 - Station Rd, Hailsham (N of WR Site)

NOVEMBER 2020 Channel: Northbound

TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	MOTOR-CYCLES%	CARS	CARS %	LGV	LGV %	HGV	HGV %	BUS	BUS %
Fri 06-Nov-20											
00:00	1	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
01:00	2	0	0.0	2	100.0	0	0.0	0	0.0	0	0.0
02:00	1	0	0.0	0	0.0	1	100.0	0	0.0	0	0.0
03:00	0	0	-	0	-	0	-	0	-	0	-
04:00	1	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
05:00	12	0	0.0	9	75.0	3	25.0	0	0.0	0	0.0
06:00	37	0	0.0	32	86.5	4	10.8	1	2.7	0	0.0
07:00	69	1	1.5	53	76.8	15	21.7	0	0.0	0	0.0
08:00	74	0	0.0	57	77.0	13	17.6	4	5.4	0	0.0
09:00	67	2	3.0	43	64.2	18	26.9	3	4.5	1	1.5
10:00	82	2	2.4	61	74.4	15	18.3	4	4.9	0	0.0
11:00	87	9	10.3	65	74.7	12	13.8	1	1.2	0	0.0
12:00	70	2	2.9	54	77.1	9	12.9	5	7.1	0	0.0
13:00	71	1	1.4	58	81.7	9	12.7	3	4.2	0	0.0
14:00	87	3	3.5	68	78.2	12	13.8	4	4.6	0	0.0
15:00	84	0	0.0	71	84.5	13	15.5	0	0.0	0	0.0
16:00	77	1	1.3	68	88.3	7	9.1	1	1.3	0	0.0
17:00	43	2	4.7	38	88.4	3	7.0	0	0.0	0	0.0
18:00	27	1	3.7	23	85.2	3	11.1	0	0.0	0	0.0
19:00	12	0	0.0	11	91.7	1	8.3	0	0.0	0	0.0
20:00	15	0	0.0	12	80.0	3	20.0	0	0.0	0	0.0
21:00	7	0	0.0	6	85.7	1	14.3	0	0.0	0	0.0
22:00	2	0	0.0	2	100.0	0	0.0	0	0.0	0	0.0
23:00	4	0	0.0	4	100.0	0	0.0	0	0.0	0	0.0
12H,7-19	838	24	2.9	659	78.6	129	15.4	25	3.0	1	0.1
16H,6-22	909	24	2.6	720	79.2	138	15.2	26	2.9	1	0.1
18H,6-24	915	24	2.6	726	79.3	138	15.1	26	2.8	1	0.1
24H,0-24	932	24	2.6	739	79.3	142	15.2	26	2.8	1	0.1

10159		HAILSHAM			Site No: 10159001		Location	Site 1 - Station Rd, Hailsham (N of WR Site)			
	NOVEMBER 2020				Channel: Northbound						
TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	MOTOR-CYCLES%	CARS	CARS %	LGV	LGV %	HGV	HGV %	BUS	BUS %
Sat 07-Nov-20											
00:00	**6**	0	0.0	6	100.0	0	0.0	0	0.0	0	0.0
01:00	**5**	1	20.0	4	80.0	0	0.0	0	0.0	0	0.0
02:00	**2**	0	0.0	2	100.0	0	0.0	0	0.0	0	0.0
03:00	**1**	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
04:00	**1**	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
05:00	**6**	0	0.0	4	66.7	2	33.3	0	0.0	0	0.0
06:00	**7**	1	14.3	5	71.4	1	14.3	0	0.0	0	0.0
07:00	**11**	0	0.0	8	72.7	3	27.3	0	0.0	0	0.0
08:00	**25**	1	4.0	19	76.0	4	16.0	1	4.0	0	0.0
09:00	**57**	0	0.0	54	94.7	3	5.3	0	0.0	0	0.0
10:00	**79**	3	3.8	65	82.3	7	8.9	4	5.1	0	0.0
11:00	**84**	2	2.4	69	82.1	10	11.9	3	3.6	0	0.0
12:00	**62**	4	6.5	48	77.4	4	6.5	6	9.7	0	0.0
13:00	**39**	1	2.6	33	84.6	4	10.3	1	2.6	0	0.0
14:00	**45**	4	8.9	36	80.0	5	11.1	0	0.0	0	0.0
15:00	**47**	7	14.9	36	76.6	3	6.4	1	2.1	0	0.0
16:00	**36**	0	0.0	33	91.7	3	8.3	0	0.0	0	0.0
17:00	**22**	1	4.6	20	90.9	1	4.6	0	0.0	0	0.0
18:00	**29**	4	13.8	23	79.3	2	6.9	0	0.0	0	0.0
19:00	**12**	2	16.7	7	58.3	3	25.0	0	0.0	0	0.0
20:00	**10**	1	10.0	8	80.0	1	10.0	0	0.0	0	0.0
21:00	**6**	1	16.7	4	66.7	1	16.7	0	0.0	0	0.0
22:00	**7**	1	14.3	6	85.7	0	0.0	0	0.0	0	0.0
23:00	**3**	0	0.0	3	100.0	0	0.0	0	0.0	0	0.0
12H,7-19	**536**	**27**	**5.0**	**444**	**82.8**	**49**	**9.1**	**16**	**3.0**	**0**	**0.0**
16H,6-22	**571**	**32**	**5.6**	**468**	**82.0**	**55**	**9.6**	**16**	**2.8**	**0**	**0.0**
18H,6-24	**581**	**33**	**5.7**	**477**	**82.1**	**55**	**9.5**	**16**	**2.8**	**0**	**0.0**
24H,0-24	**602**	**34**	**5.7**	**495**	**82.2**	**57**	**9.5**	**16**	**2.7**	**0**	**0.0**

Data produced by
Auto Surveys Ltd

10159 HAILSHAM Site No: 10159001 Location Site 1 - Station Rd, Hailsham (N of WR Site)

NOVEMBER 2020 Channel: Northbound

TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	MOTOR-CYCLES%	CARS	CARS %	LGV	LGV %	HGV	HGV %	BUS	BUS %
Sun 08-Nov-20											
00:00	0	0	-	0	-	0	-	0	-	0	-
01:00	1	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
02:00	3	2	66.7	1	33.3	0	0.0	0	0.0	0	0.0
03:00	3	3	100.0	0	0.0	0	0.0	0	0.0	0	0.0
04:00	5	0	0.0	3	60.0	2	40.0	0	0.0	0	0.0
05:00	0	0	-	0	-	0	-	0	-	0	-
06:00	5	0	0.0	1	20.0	4	80.0	0	0.0	0	0.0
07:00	6	0	0.0	6	100.0	0	0.0	0	0.0	0	0.0
08:00	26	0	0.0	21	80.8	3	11.5	2	7.7	0	0.0
09:00	66	4	6.1	56	84.9	5	7.6	1	1.5	0	0.0
10:00	72	4	5.6	65	90.3	1	1.4	2	2.8	0	0.0
11:00	92	8	8.7	78	84.8	6	6.5	0	0.0	0	0.0
12:00	64	4	6.3	57	89.1	2	3.1	1	1.6	0	0.0
13:00	38	5	13.2	24	63.2	6	15.8	3	7.9	0	0.0
14:00	37	7	18.9	28	75.7	2	5.4	0	0.0	0	0.0
15:00	39	2	5.1	33	84.6	4	10.3	0	0.0	0	0.0
16:00	32	2	6.3	24	75.0	6	18.8	0	0.0	0	0.0
17:00	23	2	8.7	20	87.0	1	4.4	0	0.0	0	0.0
18:00	12	0	0.0	12	100.0	0	0.0	0	0.0	0	0.0
19:00	8	0	0.0	7	87.5	1	12.5	0	0.0	0	0.0
20:00	12	2	16.7	10	83.3	0	0.0	0	0.0	0	0.0
21:00	5	0	0.0	5	100.0	0	0.0	0	0.0	0	0.0
22:00	3	0	0.0	2	66.7	1	33.3	0	0.0	0	0.0
23:00	0	0	-	0	-	0	-	0	-	0	-
12H,7-19	507	38	7.5	424	83.6	36	7.1	9	1.8	0	0.0
16H,6-22	537	40	7.5	447	83.2	41	7.6	9	1.7	0	0.0
18H,6-24	540	40	7.4	449	83.2	42	7.8	9	1.7	0	0.0
24H,0-24	552	45	8.2	454	82.3	44	8.0	9	1.6	0	0.0

10159		HAILSHAM			Site No: 10159001		Location	Site 1 - Station Rd, Hailsham (N of WR Site)			
	NOVEMBER 2020				Channel: Northbound						
TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	MOTOR-CYCLES%	CARS	CARS %	LGV	LGV %	HGV	HGV %	BUS	BUS %
Mon 09-Nov-20											
00:00	**2**	1	50.0	1	50.0	0	0.0	0	0.0	0	0.0
01:00	**2**	0	0.0	1	50.0	1	50.0	0	0.0	0	0.0
02:00	**0**	0	-	0	-	0	-	0	-	0	-
03:00	**2**	2	100.0	0	0.0	0	0.0	0	0.0	0	0.0
04:00	**3**	0	0.0	3	100.0	0	0.0	0	0.0	0	0.0
05:00	**7**	0	0.0	7	100.0	0	0.0	0	0.0	0	0.0
06:00	**32**	1	3.1	23	71.9	7	21.9	1	3.1	0	0.0
07:00	**84**	0	0.0	67	79.8	15	17.9	2	2.4	0	0.0
08:00	**107**	0	0.0	86	80.4	18	16.8	3	2.8	0	0.0
09:00	**74**	0	0.0	63	85.1	7	9.5	4	5.4	0	0.0
10:00	**65**	2	3.1	51	78.5	9	13.9	3	4.6	0	0.0
11:00	**86**	1	1.2	75	87.2	7	8.1	3	3.5	0	0.0
12:00	**80**	0	0.0	62	77.5	9	11.3	9	11.3	0	0.0
13:00	**66**	1	1.5	60	90.9	3	4.6	2	3.0	0	0.0
14:00	**77**	2	2.6	69	89.6	6	7.8	0	0.0	0	0.0
15:00	**65**	1	1.5	55	84.6	6	9.2	3	4.6	0	0.0
16:00	**78**	2	2.6	55	70.5	20	25.6	1	1.3	0	0.0
17:00	**41**	1	2.4	39	95.1	1	2.4	0	0.0	0	0.0
18:00	**18**	0	0.0	16	88.9	2	11.1	0	0.0	0	0.0
19:00	**10**	0	0.0	10	100.0	0	0.0	0	0.0	0	0.0
20:00	**17**	1	5.9	16	94.1	0	0.0	0	0.0	0	0.0
21:00	**9**	0	0.0	8	88.9	1	11.1	0	0.0	0	0.0
22:00	**1**	0	0.0	0	0.0	1	100.0	0	0.0	0	0.0
23:00	**1**	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
12H,7-19	**841**	**10**	**1.2**	**698**	**83.0**	**103**	**12.3**	**30**	**3.6**	**0**	**0.0**
16H,6-22	**909**	**12**	**1.3**	**755**	**83.1**	**111**	**12.2**	**31**	**3.4**	**0**	**0.0**
18H,6-24	**911**	**12**	**1.3**	**756**	**83.0**	**112**	**12.3**	**31**	**3.4**	**0**	**0.0**
24H,0-24	**927**	**15**	**1.6**	**768**	**82.9**	**113**	**12.2**	**31**	**3.3**	**0**	**0.0**

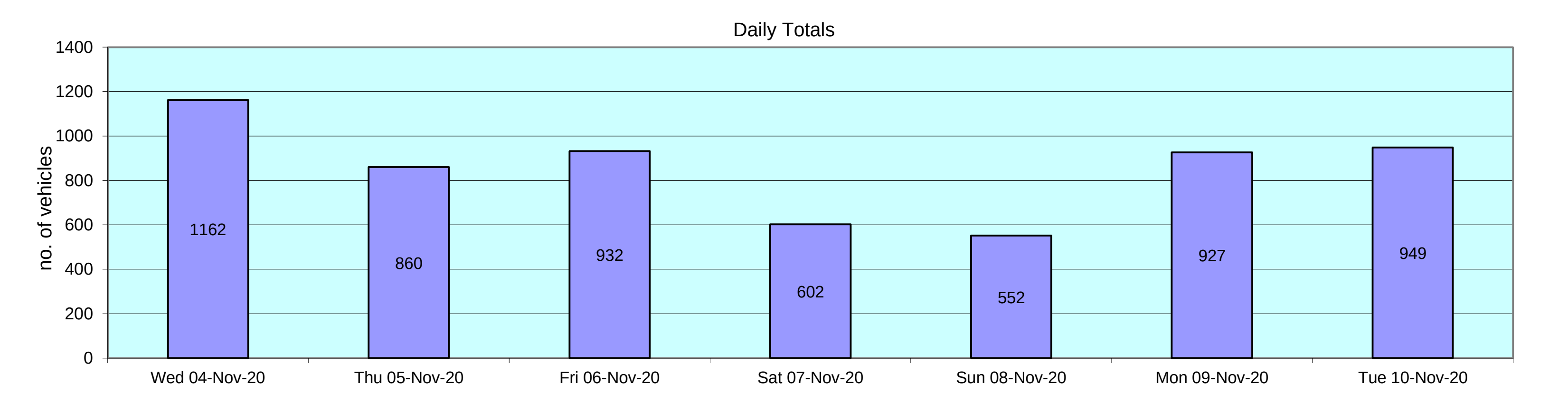
10159 HAILSHAM Site No: 10159001 Location Site 1 - Station Rd, Hailsham (N of WR Site)

NOVEMBER 2020 Channel: Northbound

TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	MOTOR-CYCLES%	CARS	CARS %	LGV	LGV %	HGV	HGV %	BUS	BUS %
Tue 10-Nov-20											
00:00	0	0	-	0	-	0	-	0	-	0	-
01:00	4	2	50.0	2	50.0	0	0.0	0	0.0	0	0.0
02:00	3	0	0.0	3	100.0	0	0.0	0	0.0	0	0.0
03:00	2	1	50.0	1	50.0	0	0.0	0	0.0	0	0.0
04:00	1	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
05:00	7	0	0.0	6	85.7	1	14.3	0	0.0	0	0.0
06:00	32	1	3.1	23	71.9	8	25.0	0	0.0	0	0.0
07:00	82	0	0.0	63	76.8	19	23.2	0	0.0	0	0.0
08:00	92	0	0.0	75	81.5	15	16.3	2	2.2	0	0.0
09:00	56	1	1.8	44	78.6	9	16.1	2	3.6	0	0.0
10:00	84	2	2.4	64	76.2	15	17.9	3	3.6	0	0.0
11:00	81	1	1.2	62	76.5	14	17.3	4	4.9	0	0.0
12:00	74	2	2.7	57	77.0	13	17.6	0	0.0	2	2.7
13:00	86	2	2.3	66	76.7	17	19.8	0	0.0	1	1.2
14:00	94	1	1.1	77	81.9	16	17.0	0	0.0	0	0.0
15:00	68	0	0.0	53	77.9	11	16.2	3	4.4	1	1.5
16:00	81	0	0.0	66	81.5	14	17.3	1	1.2	0	0.0
17:00	48	1	2.1	41	85.4	5	10.4	1	2.1	0	0.0
18:00	18	0	0.0	16	88.9	2	11.1	0	0.0	0	0.0
19:00	18	1	5.6	16	88.9	1	5.6	0	0.0	0	0.0
20:00	7	2	28.6	4	57.1	1	14.3	0	0.0	0	0.0
21:00	6	0	0.0	6	100.0	0	0.0	0	0.0	0	0.0
22:00	2	0	0.0	1	50.0	1	50.0	0	0.0	0	0.0
23:00	3	0	0.0	3	100.0	0	0.0	0	0.0	0	0.0
12H,7-19	864	10	1.2	684	79.2	150	17.4	16	1.9	4	0.5
16H,6-22	927	14	1.5	733	79.1	160	17.3	16	1.7	4	0.4
18H,6-24	932	14	1.5	737	79.1	161	17.3	16	1.7	4	0.4
24H,0-24	949	17	1.8	750	79.0	162	17.1	16	1.7	4	0.4

Data produced by
Auto Surveys Ltd

10159	HAILSHAM			Site No: 10159001		Location	Site 1 - Station Rd, Hailsham (N of WR Site)				
	NOVEMBER 2020			Channel: Northbound							
TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	MOTOR-CYCLES%	CARS	CARS %	LGV	LGV %	HGV	HGV %	BUS	BUS %
Daily Totals											
Wed 04-Nov-20	**1162**	22	1.9	944	81.2	172	14.8	24	2.1	0	0.0
Thu 05-Nov-20	**860**	13	1.5	679	79.0	148	17.2	19	2.2	1	0.1
Fri 06-Nov-20	**932**	24	2.6	739	79.3	142	15.2	26	2.8	1	0.1
Sat 07-Nov-20	**602**	34	5.7	495	82.2	57	9.5	16	2.7	0	0.0
Sun 08-Nov-20	**552**	45	8.2	454	82.3	44	8.0	9	1.6	0	0.0
Mon 09-Nov-20	**927**	15	1.6	768	82.9	113	12.2	31	3.3	0	0.0
Tue 10-Nov-20	**949**	17	1.8	750	79.0	162	17.1	16	1.7	4	0.4
Total Vehicles											
[--]	**5984**	170	3.3	4829	80.8	838	13.4	141	2.3	6	0.1



Data produced by
Auto Surveys Ltd

10159		HAILSHAM					Site No: 10159001			Location	Site 1 - Station Rd, Hailsham (N of WR Site)					
	NOVEMBER 2020						Channel: Northbound									
Time Period	Total Vehicles	85%ile Speed	Mean Speed	Stand Dev.	<6Mph	60	11-<16	16-<21	21-<26	26-<31	31-<36	36-<41	41-<46	46-<51	51-<56	=>56
Wed 04-Nov-20																
00:00	**1**	-	43.5	-	0	0	0	0	0	0	0	0	1	0	0	0
01:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
02:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
03:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
04:00	**3**	-	25.2	10.4	0	0	1	0	0	1	1	0	0	0	0	0
05:00	**4**	-	36	8.8	0	0	0	0	0	2	0	0	2	0	0	0
06:00	**38**	42.6	34.7	6.9	0	0	1	0	1	8	14	5	9	0	0	0
07:00	**115**	39.9	32.5	8.2	0	0	3	14	7	12	37	31	8	3	0	0
08:00	**104**	40.3	34	7.7	0	0	3	6	5	13	27	39	9	1	1	0
09:00	**69**	38.4	28.1	9.5	0	0	6	15	11	7	13	13	2	2	0	0
10:00	**89**	37.7	28	9.5	0	1	6	19	15	10	20	12	3	2	1	0
11:00	**93**	37.1	28.6	8.1	0	0	3	19	11	24	19	12	4	1	0	0
12:00	**82**	35.8	26.7	7.8	0	0	0	28	16	9	17	10	2	0	0	0
13:00	**96**	36.6	27.6	8.9	0	1	6	26	6	16	25	10	6	0	0	0
14:00	**94**	37.3	29.4	8	0	0	4	15	12	15	30	13	5	0	0	0
15:00	**95**	38.6	31.1	7.9	0	3	1	8	7	19	33	18	6	0	0	0
16:00	**105**	38.1	31.6	6.5	0	0	0	9	6	31	34	21	2	2	0	0
17:00	**81**	43.2	35.4	8.2	0	0	0	5	5	9	25	19	12	4	1	1
18:00	**37**	40.3	34	7.8	0	0	1	2	1	5	15	8	2	3	0	0
19:00	**23**	39.2	33.3	6.8	0	0	0	1	2	5	6	8	0	1	0	0
20:00	**14**	40.5	36.4	5.9	0	0	0	0	0	3	3	6	1	1	0	0
21:00	**10**	41	34.5	7.1	0	0	0	0	0	4	3	1	1	1	0	0
22:00	**6**	-	41	6.3	0	0	0	0	0	0	1	3	0	2	0	0
23:00	**3**	-	38.5	13.2	0	0	0	0	0	1	1	0	0	0	1	0
12H,7-19	**1060**	**39.1**	**30.5**	**8.6**	**0**	**5**	**33**	**166**	**102**	**170**	**295**	**206**	**61**	**18**	**3**	**1**
16H,6-22	**1145**	**39.3**	**30.8**	**8.5**	**0**	**5**	**34**	**167**	**105**	**190**	**321**	**226**	**72**	**21**	**3**	**1**
18H,6-24	**1154**	**39.4**	**30.9**	**8.6**	**0**	**5**	**34**	**167**	**105**	**191**	**323**	**229**	**72**	**23**	**4**	**1**
24H,0-24	**1162**	**39.4**	**30.9**	**8.6**	**0**	**5**	**35**	**167**	**105**	**194**	**324**	**229**	**75**	**23**	**4**	**1**

Data produced by
Auto Surveys Ltd

10159			HAILSHAM				Site No: 10159001			Location	Site 1 - Station Rd, Hailsham (N of WR Site)					
	NOVEMBER 2020						Channel: Northbound									
Time Period	**Total Vehicles**	**85%ile Speed**	**Mean Speed**	**Stand Dev.**	**<6Mph**	**60**	**11-<16**	**16-<21**	**21-<26**	**26-<31**	**31-<36**	**36-<41**	**41-<46**	**46-<51**	**51-<56**	**=>56**
Thu 05-Nov-20																
00:00	**1**	-	38.5	-	0	0	0	0	0	0	0	1	0	0	0	0
01:00	**1**	-	18.5	-	0	0	0	1	0	0	0	0	0	0	0	0
02:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
03:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
04:00	**1**	-	28.5	-	0	0	0	0	0	1	0	0	0	0	0	0
05:00	**8**	-	40.4	9.7	0	0	0	0	0	1	2	2	1	1	0	1
06:00	**23**	38.5	31.5	6.7	0	0	0	2	2	7	4	8	0	0	0	0
07:00	**82**	40.1	33	7.6	0	0	1	7	8	11	20	27	8	0	0	0
08:00	**75**	39.7	32.6	7.5	0	0	1	6	5	15	23	18	6	0	1	0
09:00	**53**	39.4	30.7	8.6	0	0	1	8	6	14	6	14	3	0	1	0
10:00	**61**	37.5	27.7	8.8	0	0	7	10	8	12	11	11	2	0	0	0
11:00	**70**	38.2	28.8	9.2	0	0	4	16	7	11	17	9	4	2	0	0
12:00	**73**	36.3	26.7	8.1	0	0	3	22	9	17	10	10	2	0	0	0
13:00	**59**	38.6	28.8	8.6	0	0	3	11	7	15	8	11	4	0	0	0
14:00	**78**	37.8	28.9	8.2	0	0	4	12	13	15	17	13	4	0	0	0
15:00	**77**	36.5	29.2	8.1	0	0	4	12	11	9	28	10	2	1	0	0
16:00	**94**	37.6	30.7	7.5	0	1	2	10	5	24	33	14	4	1	0	0
17:00	**46**	40.7	34.5	7	0	0	1	1	2	8	14	13	6	1	0	0
18:00	**20**	39.8	32.5	10.3	0	0	1	3	1	3	3	6	2	0	1	0
19:00	**22**	45.2	39.4	7.1	0	0	0	0	0	2	5	7	5	2	0	1
20:00	**8**	-	31	9.3	0	0	0	1	2	1	2	0	2	0	0	0
21:00	**4**	-	29.8	10.4	0	0	0	1	1	0	0	2	0	0	0	0
22:00	**1**	-	33.5	-	0	0	0	0	0	0	1	0	0	0	0	0
23:00	**3**	-	36.8	15.3	0	0	0	0	1	0	1	0	0	0	1	0
12H,7-19	**788**	**39**	**30.1**	**8.4**	**0**	**1**	**32**	**118**	**82**	**154**	**190**	**156**	**47**	**5**	**3**	**0**
16H,6-22	**845**	**39.2**	**30.4**	**8.5**	**0**	**1**	**32**	**122**	**87**	**164**	**201**	**173**	**54**	**7**	**3**	**1**
18H,6-24	**849**	**39.2**	**30.5**	**8.5**	**0**	**1**	**32**	**122**	**88**	**164**	**203**	**173**	**54**	**7**	**4**	**1**
24H,0-24	**860**	**39.3**	**30.5**	**8.6**	**0**	**1**	**32**	**123**	**88**	**166**	**205**	**176**	**55**	**8**	**4**	**2**

Data produced by
Auto Surveys Ltd

10159		HAILSHAM		Site No: 10159001		Location	Site 1 - Station Rd, Hailsham (N of WR Site)
	NOVEMBER 2020			Channel: Northbound			

Time Period	Total Vehicles	85%ile Speed	Mean Speed	Stand Dev.	<6Mph	60	11-<16	16-<21	21-<26	26-<31	31-<36	36-<41	41-<46	46-<51	51-<56	=>56
Fri 06-Nov-20																
00:00	**1**	-	33.5	-	0	0	0	0	0	0	1	0	0	0	0	0
01:00	**2**	-	36	3.5	0	0	0	0	0	0	1	1	0	0	0	0
02:00	**1**	-	38.5	-	0	0	0	0	0	0	0	1	0	0	0	0
03:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
04:00	**1**	-	28.5	-	0	0	0	0	0	1	0	0	0	0	0	0
05:00	**12**	47.8	37.7	9.6	0	0	0	1	0	0	6	1	1	2	1	0
06:00	**37**	40	33.4	6.8	0	0	0	2	3	7	11	10	4	0	0	0
07:00	**69**	42.4	34.8	8.4	0	0	1	6	3	6	20	19	11	1	2	0
08:00	**74**	40.5	33.1	8.3	0	0	1	8	6	6	27	16	6	4	0	0
09:00	**67**	35.2	27.6	8.3	0	0	3	12	17	12	15	4	1	3	0	0
10:00	**82**	37.6	28.7	8	0	1	2	13	16	15	17	16	2	0	0	0
11:00	**87**	33.4	24.9	7.6	0	2	7	24	11	20	20	3	0	0	0	0
12:00	**70**	36.6	27.6	9.1	0	0	4	20	8	9	17	9	1	1	1	0
13:00	**71**	37.2	28.9	7.8	0	0	2	12	14	9	20	12	2	0	0	0
14:00	**87**	38.7	27.8	9.6	0	1	10	15	12	13	16	12	8	0	0	0
15:00	**84**	39.6	32.2	7.5	0	0	1	9	7	13	25	22	7	0	0	0
16:00	**77**	39.1	32.9	7.4	0	0	0	5	6	15	31	13	3	3	0	1
17:00	**43**	41.1	34.1	9.2	0	0	3	2	1	8	6	16	5	1	1	0
18:00	**27**	44.2	35.5	8.6	0	0	1	0	0	8	7	2	7	1	1	0
19:00	**12**	40.3	36	7	0	0	0	1	0	1	2	6	2	0	0	0
20:00	**15**	43.1	32.8	9.9	0	0	0	2	3	1	3	2	3	1	0	0
21:00	**7**	-	39.2	10.3	0	0	0	0	1	0	0	5	0	0	0	1
22:00	**2**	-	38.5	7.1	0	0	0	0	0	0	1	0	1	0	0	0
23:00	**4**	-	31	6.5	0	0	0	0	1	1	1	1	0	0	0	0
12H,7-19	**838**	**39.2**	**30.2**	**8.8**	**0**	**4**	**35**	**126**	**101**	**134**	**221**	**144**	**53**	**14**	**5**	**1**
16H,6-22	**909**	**39.4**	**30.5**	**8.8**	**0**	**4**	**35**	**131**	**108**	**143**	**237**	**167**	**62**	**15**	**5**	**2**
18H,6-24	**915**	**39.4**	**30.5**	**8.8**	**0**	**4**	**35**	**131**	**109**	**144**	**239**	**168**	**63**	**15**	**5**	**2**
24H,0-24	**932**	**39.5**	**30.6**	**8.9**	**0**	**4**	**35**	**132**	**109**	**145**	**247**	**171**	**64**	**17**	**6**	**2**

Data produced by
Auto Surveys Ltd

10159			HAILSHAM				Site No: 10159001			Location	Site 1 - Station Rd, Hailsham (N of WR Site)					
	NOVEMBER 2020						Channel: Northbound									
Time Period	Total Vehicles	85%ile Speed	Mean Speed	Stand Dev.	<6Mph	60	11-<16	16-<21	21-<26	26-<31	31-<36	36-<41	41-<46	46-<51	51-<56	=>56
Sat 07-Nov-20																
00:00	6	-	32.7	10.3	0	0	1	0	0	0	3	1	1	0	0	0
01:00	5	-	19.5	10.9	0	0	3	1	0	0	0	1	0	0	0	0
02:00	2	-	31	3.5	0	0	0	0	0	1	1	0	0	0	0	0
03:00	1	-	23.5	-	0	0	0	0	1	0	0	0	0	0	0	0
04:00	1	-	28.5	-	0	0	0	0	0	1	0	0	0	0	0	0
05:00	6	-	36.8	9.9	0	0	0	1	0	0	1	1	3	0	0	0
06:00	7	-	37.1	11.1	0	0	1	0	0	0	0	4	1	1	0	0
07:00	11	38.3	30.3	7.6	0	0	0	1	3	2	1	4	0	0	0	0
08:00	25	40.6	32.1	9.2	0	0	1	3	1	7	3	6	3	1	0	0
09:00	57	38.1	26.5	10.2	0	1	5	18	7	6	8	7	4	0	1	0
10:00	79	33.8	25	7.8	0	2	6	20	15	18	10	8	0	0	0	0
11:00	84	34.3	24.6	8.6	0	3	7	23	20	10	12	5	4	0	0	0
12:00	62	29.2	20.9	8.5	1	4	10	23	11	5	4	3	0	1	0	0
13:00	39	38.9	32.1	7.6	0	1	0	3	2	7	15	8	3	0	0	0
14:00	45	39.6	31.3	9.6	0	3	1	3	2	7	16	8	4	1	0	0
15:00	47	39.7	29.8	11	0	4	6	0	2	8	12	10	4	1	0	0
16:00	36	42.4	34.3	8.8	0	0	1	1	4	6	8	9	4	2	1	0
17:00	22	41.5	34.5	10.2	1	0	0	1	1	2	7	6	2	1	1	0
18:00	29	43.6	33.8	11.8	0	0	4	3	1	0	3	10	6	1	1	0
19:00	12	38.1	30.2	9.2	0	0	2	0	1	2	3	4	0	0	0	0
20:00	10	34.3	29.5	5.3	0	0	0	0	3	3	3	1	0	0	0	0
21:00	6	-	28.5	9	0	0	1	0	1	1	2	1	0	0	0	0
22:00	7	-	37.1	13.2	0	0	1	0	0	1	0	3	0	1	1	0
23:00	3	-	31.8	5.9	0	0	0	0	0	2	0	1	0	0	0	0
12H,7-19	536	38.9	28	10.1	2	18	41	99	69	78	99	84	34	8	4	0
16H,6-22	571	39	28.2	10	2	18	45	99	74	84	107	94	35	9	4	0
18H,6-24	581	39.1	28.3	10.1	2	18	46	99	74	87	107	98	35	10	5	0
24H,0-24	602	39.2	28.4	10.1	2	18	50	101	75	89	112	101	39	10	5	0

Data produced by
Auto Surveys Ltd

10159			HAILSHAM				Site No: 10159001			Location	Site 1 - Station Rd, Hailsham (N of WR Site)					
	NOVEMBER 2020						Channel: Northbound									
Time Period	Total Vehicles	85%ile Speed	Mean Speed	Stand Dev.	<6Mph	60	11-<16	16-<21	21-<26	26-<31	31-<36	36-<41	41-<46	46-<51	51-<56	=>56
Sun 08-Nov-20																
00:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
01:00	**1**	-	28.5	-	0	0	0	0	0	1	0	0	0	0	0	0
02:00	**3**	-	18.5	8.8	0	0	2	0	0	1	0	0	0	0	0	0
03:00	**3**	-	13.5	1.7	0	0	3	0	0	0	0	0	0	0	0	0
04:00	**5**	-	35.5	12.1	0	0	0	0	1	2	0	0	0	2	0	0
05:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
06:00	**5**	-	35.5	8.4	0	0	0	0	0	2	1	1	0	1	0	0
07:00	**6**	-	32.7	9.8	0	0	0	1	0	1	3	0	0	1	0	0
08:00	**26**	36.6	26.4	8	0	0	1	8	4	6	2	5	0	0	0	0
09:00	**66**	31.6	23.8	7.6	0	0	5	26	14	10	5	5	0	1	0	0
10:00	**72**	30.8	22.1	7.4	0	0	11	32	11	7	7	3	1	0	0	0
11:00	**92**	27	20.1	6.3	0	6	15	36	18	14	2	1	0	0	0	0
12:00	**64**	35.9	24.8	8.9	0	0	6	21	17	5	5	6	3	1	0	0
13:00	**38**	39.9	30.3	10.8	0	2	3	4	2	6	7	10	3	0	1	0
14:00	**37**	38	29	10	0	1	6	1	3	7	11	5	2	1	0	0
15:00	**39**	39.8	32.2	9	0	1	1	3	3	6	11	10	2	2	0	0
16:00	**32**	40.3	33.5	8.5	0	0	2	0	4	3	10	9	3	0	1	0
17:00	**23**	44.4	35.9	9.8	0	0	2	1	0	1	6	5	6	2	0	0
18:00	**12**	39.7	34.8	5.5	0	0	0	0	0	4	2	5	1	0	0	0
19:00	**8**	-	29.8	8	0	0	0	2	0	2	2	2	0	0	0	0
20:00	**12**	42.8	31.8	12	0	0	2	1	1	0	3	2	2	1	0	0
21:00	**5**	-	36.5	9.8	0	0	0	0	0	1	3	0	0	0	1	0
22:00	**3**	-	33.5	1.7	0	0	0	0	0	0	3	0	0	0	0	0
23:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
12H,7-19	**507**	**37.4**	**26.2**	**9.6**	**0**	**10**	**52**	**133**	**76**	**70**	**71**	**64**	**21**	**8**	**2**	**0**
16H,6-22	**537**	**37.7**	**26.6**	**9.7**	**0**	**10**	**54**	**136**	**77**	**75**	**80**	**69**	**23**	**10**	**3**	**0**
18H,6-24	**540**	**37.7**	**26.6**	**9.7**	**0**	**10**	**54**	**136**	**77**	**75**	**83**	**69**	**23**	**10**	**3**	**0**
24H,0-24	**552**	**37.7**	**26.6**	**9.8**	**0**	**10**	**59**	**136**	**78**	**79**	**83**	**69**	**23**	**12**	**3**	**0**

Data produced by
Auto Surveys Ltd

10159 HAILSHAM Site No: 10159001 Location Site 1 - Station Rd, Hailsham (N of WR Site)

NOVEMBER 2020 Channel: Northbound

Time Period	Total Vehicles	85%ile Speed	Mean Speed	Stand Dev.	<6Mph	60	11-<16	16-<21	21-<26	26-<31	31-<36	36-<41	41-<46	46-<51	51-<56	=>56
Mon 09-Nov-20																
00:00	**2**	-	16	10.6	0	1	0	0	1	0	0	0	0	0	0	0
01:00	**2**	-	31	10.6	0	0	0	0	1	0	0	1	0	0	0	0
02:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
03:00	**2**	-	13.5	1.8	0	0	2	0	0	0	0	0	0	0	0	0
04:00	**3**	-	26.8	7.6	0	0	0	1	0	1	1	0	0	0	0	0
05:00	**7**	-	33.5	10	0	0	0	0	1	3	1	1	0	0	1	0
06:00	**32**	39.5	34.4	5.5	0	0	0	1	1	4	13	11	2	0	0	0
07:00	**84**	40.5	34.1	7.8	1	0	0	6	3	12	23	29	7	3	0	0
08:00	**107**	38.6	32.1	6.8	0	0	1	10	8	13	46	24	5	0	0	0
09:00	**74**	37	27.1	8.2	0	0	4	20	7	20	9	12	2	0	0	0
10:00	**65**	36.5	25.8	9.2	0	1	5	20	10	11	7	7	3	1	0	0
11:00	**86**	35.6	26.3	8.2	0	0	5	25	16	10	18	11	0	1	0	0
12:00	**80**	37.3	27.1	8.8	0	0	6	20	14	11	14	10	5	0	0	0
13:00	**66**	35.4	26.5	8.8	0	0	6	16	12	12	11	4	4	1	0	0
14:00	**77**	35.6	25.8	8.8	0	0	6	27	9	11	13	8	2	1	0	0
15:00	**65**	37.9	30.1	8.2	0	0	5	7	4	13	22	10	4	0	0	0
16:00	**78**	35.5	29.5	7.4	0	0	4	9	7	19	30	5	4	0	0	0
17:00	**41**	36.4	30	7.1	0	0	1	4	6	10	13	5	2	0	0	0
18:00	**18**	39.8	34.3	6.4	0	0	0	1	1	1	8	5	2	0	0	0
19:00	**10**	34	29.5	5.3	0	0	0	1	1	3	5	0	0	0	0	0
20:00	**17**	40.1	34.1	6.5	0	0	0	0	2	4	3	6	2	0	0	0
21:00	**9**	-	30.2	4.5	0	0	0	0	1	5	2	1	0	0	0	0
22:00	**1**	-	38.5	-	0	0	0	0	0	0	0	1	0	0	0	0
23:00	**1**	-	33.5	-	0	0	0	0	0	0	1	0	0	0	0	0
12H,7-19	**841**	**37.9**	**28.8**	**8.5**	**1**	**1**	**43**	**165**	**97**	**143**	**214**	**130**	**40**	**7**	**0**	**0**
16H,6-22	**909**	**38.1**	**29.2**	**8.4**	**1**	**1**	**43**	**167**	**102**	**159**	**237**	**148**	**44**	**7**	**0**	**0**
18H,6-24	**911**	**38.1**	**29.2**	**8.4**	**1**	**1**	**43**	**167**	**102**	**159**	**238**	**149**	**44**	**7**	**0**	**0**
24H,0-24	**927**	**38.1**	**29.1**	**8.5**	**1**	**2**	**45**	**168**	**105**	**163**	**240**	**151**	**44**	**7**	**1**	**0**

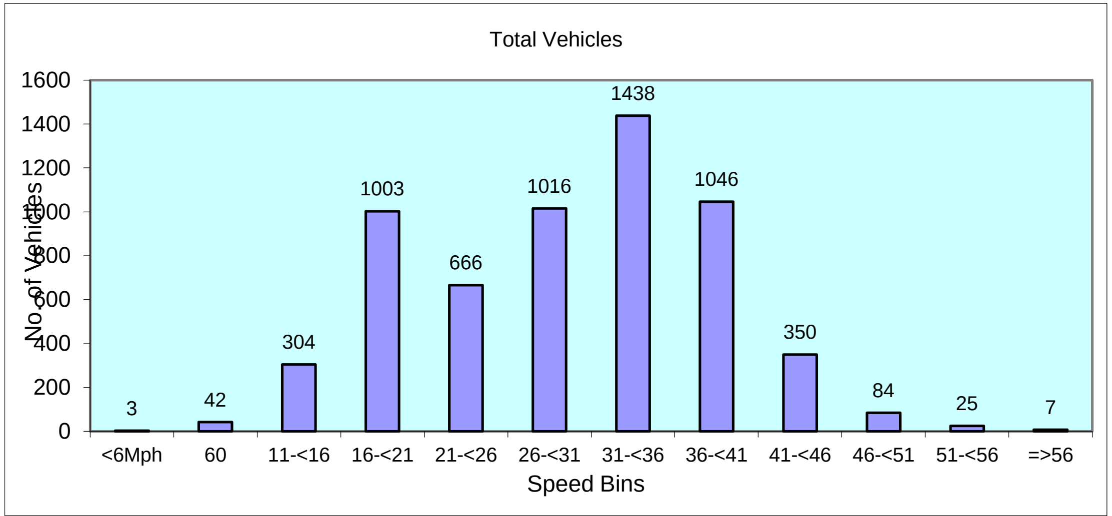
Data produced by
Auto Surveys Ltd

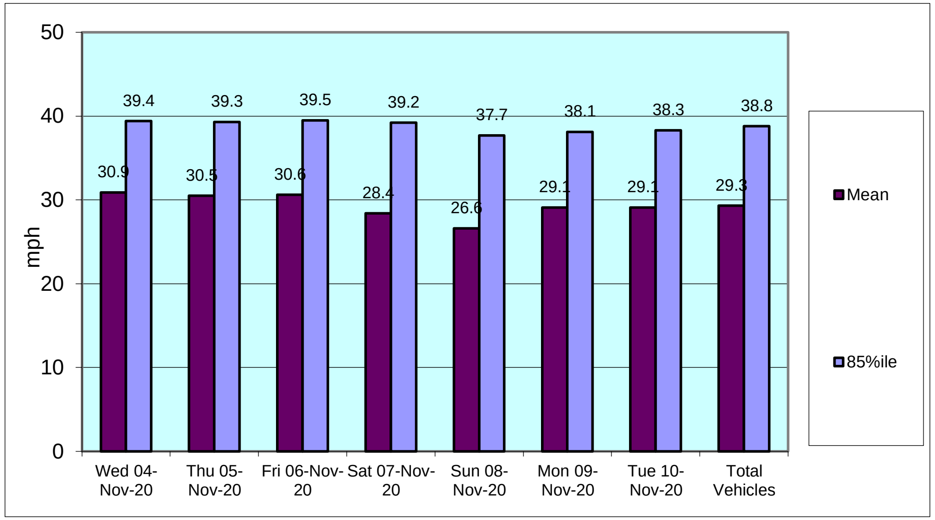
10159			HAILSHAM					Site No: 10159001			Location	Site 1 - Station Rd, Hailsham (N of WR Site)				
	NOVEMBER 2020							Channel: Northbound								
Time Period	Total Vehicles	85%ile Speed	Mean Speed	Stand Dev.	<6Mph	60	11-<16	16-<21	21-<26	26-<31	31-<36	36-<41	41-<46	46-<51	51-<56	=>56
Tue 10-Nov-20																
00:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
01:00	**4**	-	22.3	10.4	0	0	2	0	0	1	1	0	0	0	0	0
02:00	**3**	-	40.2	12.6	0	0	0	0	0	1	0	1	0	0	1	0
03:00	**2**	-	23.5	14.1	0	0	1	0	0	0	1	0	0	0	0	0
04:00	**1**	-	38.5	-	0	0	0	0	0	0	0	1	0	0	0	0
05:00	**7**	-	37.8	7.4	0	0	0	0	1	0	1	2	3	0	0	0
06:00	**32**	39	32.9	6.2	0	0	1	0	1	11	7	11	1	0	0	0
07:00	**82**	39.4	33.1	6.5	0	0	1	3	7	15	25	27	4	0	0	0
08:00	**92**	39.8	31.5	8.4	0	0	2	12	13	7	30	18	8	2	0	0
09:00	**56**	37.7	27.2	9.2	0	0	2	21	4	8	9	9	2	1	0	0
10:00	**84**	34	26	8.1	0	0	5	26	9	19	20	4	0	0	0	1
11:00	**81**	30.8	23.7	7.6	0	1	6	31	14	17	7	3	1	1	0	0
12:00	**74**	37.7	27.6	9.5	0	0	6	16	14	12	12	7	5	1	1	0
13:00	**86**	36.9	26.1	9.1	0	1	8	24	12	15	11	9	6	0	0	0
14:00	**94**	35.6	26.6	8.4	0	0	7	25	13	18	18	9	4	0	0	0
15:00	**68**	38.3	31	7.7	0	0	3	8	4	10	26	14	3	0	0	0
16:00	**81**	35.5	30.5	6.4	0	0	0	5	11	27	28	8	1	0	0	1
17:00	**48**	40.7	33.2	8.5	0	0	3	3	2	5	16	12	6	1	0	0
18:00	**18**	40.7	33.2	7.1	0	0	0	1	1	5	5	3	3	0	0	0
19:00	**18**	40.7	34.3	7.7	0	0	1	0	0	5	3	6	3	0	0	0
20:00	**7**	-	31.4	6.5	0	0	0	1	0	1	4	1	0	0	0	0
21:00	**6**	-	36.8	7.6	0	0	0	0	0	2	0	3	0	1	0	0
22:00	**2**	-	36	3.5	0	0	0	0	0	0	1	1	0	0	0	0
23:00	**3**	-	31.8	3.1	0	0	0	0	0	1	2	0	0	0	0	0
12H,7-19	**864**	**37.8**	**28.7**	**8.6**	**0**	**2**	**43**	**175**	**104**	**158**	**207**	**123**	**43**	**6**	**1**	**2**
16H,6-22	**927**	**38.1**	**29**	**8.6**	**0**	**2**	**45**	**176**	**105**	**177**	**221**	**144**	**47**	**7**	**1**	**2**
18H,6-24	**932**	**38.1**	**29**	**8.6**	**0**	**2**	**45**	**176**	**105**	**178**	**224**	**145**	**47**	**7**	**1**	**2**
24H,0-24	**949**	**38.3**	**29.1**	**8.7**	**0**	**2**	**48**	**176**	**106**	**180**	**227**	**149**	**50**	**7**	**2**	**2**

Data produced by
Auto Surveys Ltd

10159			HAILSHAM			Site No: 10159001				Location	Site 1 - Station Rd, Hailsham (N of WR Site)					
	NOVEMBER 2020					Channel: Northbound										

Time Period	Total Vehicles	85%ile Speed	Mean Speed	Stand Dev.	<6Mph	60	11-<16	16-<21	21-<26	26-<31	31-<36	36-<41	41-<46	46-<51	51-<56	=>56
Daily Totals																
Wed 04-Nov-20	**1162**	39.4	30.9	8.6	0	5	35	167	105	194	324	229	75	23	4	1
Thu 05-Nov-20	**860**	39.3	30.5	8.6	0	1	32	123	88	166	205	176	55	8	4	2
Fri 06-Nov-20	**932**	39.5	30.6	8.9	0	4	35	132	109	145	247	171	64	17	6	2
Sat 07-Nov-20	**602**	39.2	28.4	10.1	2	18	50	101	75	89	112	101	39	10	5	0
Sun 08-Nov-20	**552**	37.7	26.6	9.8	0	10	59	136	78	79	83	69	23	12	3	0
Mon 09-Nov-20	**927**	38.1	29.1	8.5	1	2	45	168	105	163	240	151	44	7	1	0
Tue 10-Nov-20	**949**	38.3	29.1	8.7	0	2	48	176	106	180	227	149	50	7	2	2
Total Vehicles																
[--]	**5984**	38.8	29.3	9.0	3	42	304	1003	666	1016	1438	1046	350	84	25	7

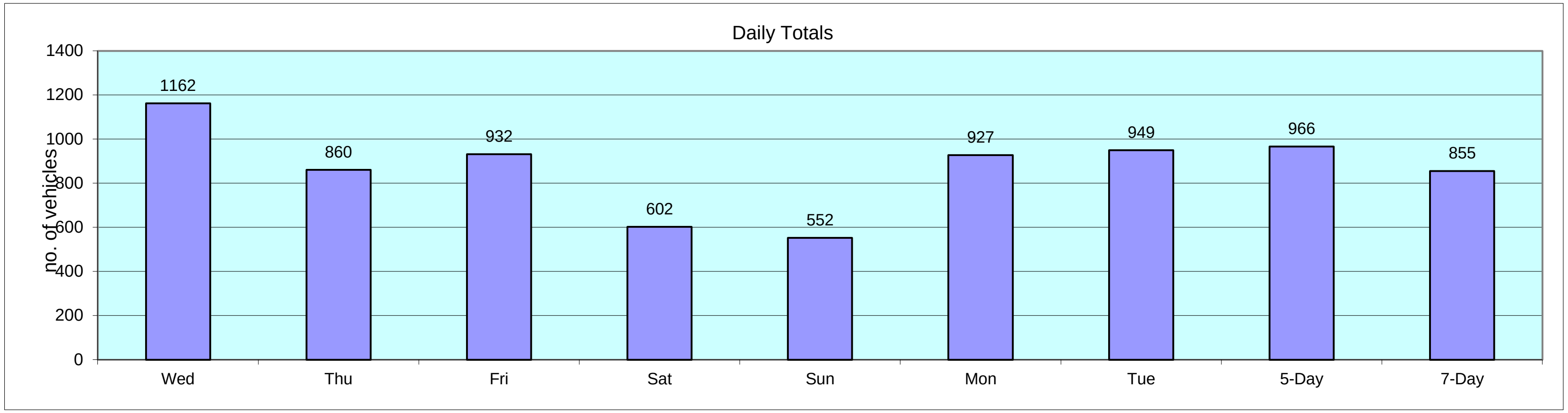




Data produced by
Auto Surveys Ltd

10159	NOVEMBER 2020	HAILSHAM		Site No: 10159001 Channel: Northbound		Location	Site 1 - Station Rd, Hailsham (N of WR Site)		
TIME PERIOD	Wed 04/11/20	Thu 05/11/20	Fri 06/11/20	Sat 07/11/20	Sun 08/11/20	Mon 09/11/20	Tue 10/11/20	5-Day Av	7-Day Av
Week Begin: 04-Nov-20									
00:00	**1**	1	1	6	0	2	0	1	2
01:00	**0**	1	2	5	1	2	4	2	2
02:00	**0**	0	1	2	3	0	3	1	1
03:00	**0**	0	0	1	3	2	2	1	1
04:00	**3**	1	1	1	5	3	1	2	2
05:00	**4**	8	12	6	0	7	7	8	6
06:00	**38**	23	37	7	5	32	32	32	25
07:00	**115**	82	69	11	6	84	82	86	64
08:00	**104**	75	74	25	26	107	92	90	72
09:00	**69**	53	67	57	66	74	56	64	63
10:00	**89**	61	82	79	72	65	84	76	76
11:00	**93**	70	87	84	92	86	81	83	85
12:00	**82**	73	70	62	64	80	74	76	72
13:00	**96**	59	71	39	38	66	86	76	65
14:00	**94**	78	87	45	37	77	94	86	73
15:00	**95**	77	84	47	39	65	68	78	68
16:00	**105**	94	77	36	32	78	81	87	72
17:00	**81**	46	43	22	23	41	48	52	43
18:00	**37**	20	27	29	12	18	18	24	23
19:00	**23**	22	12	12	8	10	18	17	15
20:00	**14**	8	15	10	12	17	7	12	12
21:00	**10**	4	7	6	5	9	6	7	7
22:00	**6**	1	2	7	3	1	2	2	3
23:00	**3**	3	4	3	0	1	3	3	2
12H,7-19	**1060**	**788**	**838**	**536**	**507**	**841**	**864**	**878**	**776**
16H,6-22	**1145**	**845**	**909**	**571**	**537**	**909**	**927**	**947**	**835**
18H,6-24	**1154**	**849**	**915**	**581**	**540**	**911**	**932**	**952**	**840**
24H,0-24	**1162**	**860**	**932**	**602**	**552**	**927**	**949**	**966**	**855**
Am	**07:00**	**07:00**	**11:00**	**11:00**	**11:00**	**08:00**	**08:00**		
Peak	**115**	**82**	**87**	**84**	**92**	**107**	**92**		
Pm	**16:00**	**16:00**	**14:00**	**12:00**	**12:00**	**12:00**	**14:00**		
Peak	**105**	**94**	**87**	**62**	**64**	**80**	**94**		

10159		HAILSHAM		Site No: 10159001		Location	Site 1 - Station Rd, Hailsham (N of WR Site)		
	NOVEMBER 2020			Channel: Northbound					
	Wed	Thu	Fri	Sat	Sun	Mon	Tue	5-Day	7-Day
TIME PERIOD	04/11/20	05/11/20	06/11/20	07/11/20	08/11/20	09/11/20	10/11/20	Av	Av



Data produced by
Auto Surveys Ltd

10159			HAILSHAM			Site No: 10159001		Location	Site 1 - Station Rd, Hailsham (N of WR Site)					
NOVEMBER 2020						Channel: Southbound								
TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	CARS OR CAR-BASED LGV	LIGHT GOODS VEHICLES	BUSES	TWO AXLE, SIX TYRE, RIGID/BUSES	THREE AXLE RIGID	FOUR OR MORE AXLE RIGID	FOUR OR LESS AXLE ARTIC	FIVE AXLE ARTIC	SIX OR MORE AXLE ARTIC	FIVE OR LESS AXLE MULTI-TRAILER ARTIC	SIX AXLE MULTI-TRAILER ARTIC	SEVEN OR MORE AXLE ARTIC
Wed 04-Nov-20														
00:00	1	0	1	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	1	0	1	0	0	0	0	0	0	0	0	0	0	0
04:00	3	1	1	0	0	0	1	0	0	0	0	0	0	0
05:00	4	0	3	1	0	0	0	0	0	0	0	0	0	0
06:00	31	1	15	12	0	1	2	0	0	0	0	0	0	0
07:00	68	0	51	15	0	1	0	0	1	0	0	0	0	0
08:00	60	0	49	10	0	0	0	0	1	0	0	0	0	0
09:00	99	3	72	19	0	2	2	1	0	0	0	0	0	0
10:00	94	2	70	13	0	3	1	0	4	0	0	0	0	1
11:00	70	0	56	12	0	0	0	0	2	0	0	0	0	0
12:00	95	2	80	12	0	1	0	0	0	0	0	0	0	0
13:00	89	0	70	13	0	1	0	0	5	0	0	0	0	0
14:00	67	3	57	6	0	1	0	0	0	0	0	0	0	0
15:00	87	3	66	13	0	3	0	0	1	0	0	1	0	0
16:00	79	1	66	12	0	0	0	0	0	0	0	0	0	0
17:00	45	1	37	7	0	0	0	0	0	0	0	0	0	0
18:00	30	0	29	1	0	0	0	0	0	0	0	0	0	0
19:00	14	0	12	1	0	0	1	0	0	0	0	0	0	0
20:00	14	0	14	0	0	0	0	0	0	0	0	0	0	0
21:00	9	0	9	0	0	0	0	0	0	0	0	0	0	0
22:00	7	0	6	1	0	0	0	0	0	0	0	0	0	0
23:00	6	0	5	1	0	0	0	0	0	0	0	0	0	0
12H,7-19	883	15	703	133	0	12	3	1	14	0	0	1	0	1
16H,6-22	951	16	753	146	0	13	6	1	14	0	0	1	0	1
18H,6-24	964	16	764	148	0	13	6	1	14	0	0	1	0	1
24H,0-24	973	17	770	149	0	13	7	1	14	0	0	1	0	1

10159			HAILSHAM			Site No: 10159001		Location	Site 1 - Station Rd, Hailsham (N of WR Site)					
NOVEMBER 2020						Channel: Southbound								
TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	CARS OR CAR-BASED LGV	LIGHT GOODS VEHICLES	BUSES	TWO AXLE, SIX TYRE, RIGID/BUSES	THREE AXLE RIGID	FOUR OR MORE AXLE RIGID	FOUR OR LESS AXLE ARTIC	FIVE AXLE ARTIC	SIX OR MORE AXLE ARTIC	FIVE OR LESS AXLE MULTI-TRAILER ARTIC	SIX AXLE MULTI-TRAILER ARTIC	SEVEN OR MORE AXLE ARTIC
Thu 05-Nov-20														
00:00	**1**	0	1	0	0	0	0	0	0	0	0	0	0	0
01:00	**1**	0	1	0	0	0	0	0	0	0	0	0	0	0
02:00	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	**1**	0	1	0	0	0	0	0	0	0	0	0	0	0
04:00	**2**	0	2	0	0	0	0	0	0	0	0	0	0	0
05:00	**3**	0	3	0	0	0	0	0	0	0	0	0	0	0
06:00	**33**	0	26	7	0	0	0	0	0	0	0	0	0	0
07:00	**56**	1	38	14	0	0	3	0	0	0	0	0	0	0
08:00	**41**	0	29	9	0	1	1	0	1	0	0	0	0	0
09:00	**57**	2	41	13	0	0	0	0	1	0	0	0	0	0
10:00	**67**	3	53	7	0	2	1	0	0	0	1	0	0	0
11:00	**69**	4	47	14	0	1	2	0	1	0	0	0	0	0
12:00	**68**	2	48	14	0	3	0	0	1	0	0	0	0	0
13:00	**67**	2	56	5	0	2	0	0	1	0	0	1	0	0
14:00	**57**	2	44	8	1	0	1	0	0	1	0	0	0	0
15:00	**73**	3	55	12	0	1	0	0	1	1	0	0	0	0
16:00	**64**	2	55	7	0	0	0	0	0	0	0	0	0	0
17:00	**41**	0	34	6	0	0	1	0	0	0	0	0	0	0
18:00	**15**	1	11	3	0	0	0	0	0	0	0	0	0	0
19:00	**13**	0	12	1	0	0	0	0	0	0	0	0	0	0
20:00	**10**	0	9	1	0	0	0	0	0	0	0	0	0	0
21:00	**8**	1	6	1	0	0	0	0	0	0	0	0	0	0
22:00	**1**	0	1	0	0	0	0	0	0	0	0	0	0	0
23:00	**2**	0	2	0	0	0	0	0	0	0	0	0	0	0
12H,7-19	**675**	**22**	**511**	**112**	**1**	**10**	**9**	**0**	**6**	**2**	**1**	**1**	**0**	**0**
16H,6-22	**739**	**23**	**564**	**122**	**1**	**10**	**9**	**0**	**6**	**2**	**1**	**1**	**0**	**0**
18H,6-24	**742**	**23**	**567**	**122**	**1**	**10**	**9**	**0**	**6**	**2**	**1**	**1**	**0**	**0**
24H,0-24	**750**	**23**	**575**	**122**	**1**	**10**	**9**	**0**	**6**	**2**	**1**	**1**	**0**	**0**

10159		HAILSHAM				Site No: 10159001		Location	Site 1 - Station Rd, Hailsham (N of WR Site)					
	NOVEMBER 2020					Channel: Southbound								
TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	CARS OR CAR-BASED LGV	LIGHT GOODS VEHICLES	BUSES	TWO AXLE, SIX TYRE, RIGID/BUSES	THREE AXLE RIGID	FOUR OR MORE AXLE RIGID	FOUR OR LESS AXLE ARTIC	FIVE AXLE ARTIC	SIX OR MORE AXLE ARTIC	FIVE OR LESS AXLE MULTI-TRAILER ARTIC	SIX AXLE MULTI-TRAILER ARTIC	SEVEN OR MORE AXLE ARTIC
Fri 06-Nov-20														
00:00	**2**	0	2	0	0	0	0	0	0	0	0	0	0	0
01:00	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	**5**	1	4	0	0	0	0	0	0	0	0	0	0	0
05:00	**12**	1	9	1	0	0	1	0	0	0	0	0	0	0
06:00	**34**	0	27	6	0	0	1	0	0	0	0	0	0	0
07:00	**56**	1	36	15	0	3	1	0	0	0	0	0	0	0
08:00	**54**	0	43	8	0	1	0	0	2	0	0	0	0	0
09:00	**56**	3	37	12	0	1	1	0	1	0	1	0	0	0
10:00	**81**	5	59	12	0	3	0	0	2	0	0	0	0	0
11:00	**80**	1	64	10	0	2	2	0	1	0	0	0	0	0
12:00	**67**	1	53	10	1	1	0	0	1	0	0	0	0	0
13:00	**71**	8	51	7	0	2	0	0	3	0	0	0	0	0
14:00	**87**	3	76	6	0	0	1	0	1	0	0	0	0	0
15:00	**82**	2	69	10	0	1	0	0	0	0	0	0	0	0
16:00	**51**	1	43	6	0	1	0	0	0	0	0	0	0	0
17:00	**33**	0	29	4	0	0	0	0	0	0	0	0	0	0
18:00	**20**	0	17	3	0	0	0	0	0	0	0	0	0	0
19:00	**16**	0	16	0	0	0	0	0	0	0	0	0	0	0
20:00	**6**	0	6	0	0	0	0	0	0	0	0	0	0	0
21:00	**6**	0	5	1	0	0	0	0	0	0	0	0	0	0
22:00	**4**	0	3	1	0	0	0	0	0	0	0	0	0	0
23:00	**3**	0	2	1	0	0	0	0	0	0	0	0	0	0
12H,7-19	**738**	**25**	**577**	**103**	**1**	**15**	**5**	**0**	**11**	**0**	**1**	**0**	**0**	**0**
16H,6-22	**800**	**25**	**631**	**110**	**1**	**15**	**6**	**0**	**11**	**0**	**1**	**0**	**0**	**0**
18H,6-24	**807**	**25**	**636**	**112**	**1**	**15**	**6**	**0**	**11**	**0**	**1**	**0**	**0**	**0**
24H,0-24	**826**	**27**	**651**	**113**	**1**	**15**	**7**	**0**	**11**	**0**	**1**	**0**	**0**	**0**

Data produced by
Auto Surveys Ltd

10159		HAILSHAM				Site No: 10159001		Location	Site 1 - Station Rd, Hailsham (N of WR Site)					
NOVEMBER 2020						Channel: Southbound								
TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	CARS OR CAR-BASED LGV	LIGHT GOODS VEHICLES	BUSES	TWO AXLE, SIX TYRE, RIGID/BUSES	THREE AXLE RIGID	FOUR OR MORE AXLE RIGID	FOUR OR LESS AXLE ARTIC	FIVE AXLE ARTIC	SIX OR MORE AXLE ARTIC	FIVE OR LESS AXLE MULTI-TRAILER ARTIC	SIX AXLE MULTI-TRAILER ARTIC	SEVEN OR MORE AXLE ARTIC
Sat 07-Nov-20														
00:00	**3**	0	3	0	0	0	0	0	0	0	0	0	0	0
01:00	**4**	0	3	1	0	0	0	0	0	0	0	0	0	0
02:00	**1**	0	1	0	0	0	0	0	0	0	0	0	0	0
03:00	**1**	0	1	0	0	0	0	0	0	0	0	0	0	0
04:00	**2**	1	1	0	0	0	0	0	0	0	0	0	0	0
05:00	**3**	0	3	0	0	0	0	0	0	0	0	0	0	0
06:00	**17**	1	14	2	0	0	0	0	0	0	0	0	0	0
07:00	**20**	1	14	5	0	0	0	0	0	0	0	0	0	0
08:00	**37**	5	29	2	0	0	0	0	1	0	0	0	0	0
09:00	**58**	2	51	5	0	0	0	0	0	0	0	0	0	0
10:00	**89**	9	69	10	0	0	0	0	1	0	0	0	0	0
11:00	**84**	3	70	8	0	0	0	0	3	0	0	0	0	0
12:00	**61**	1	55	5	0	0	0	0	0	0	0	0	0	0
13:00	**36**	5	31	0	0	0	0	0	0	0	0	0	0	0
14:00	**39**	2	34	3	0	0	0	0	0	0	0	0	0	0
15:00	**52**	3	45	3	0	1	0	0	0	0	0	0	0	0
16:00	**31**	1	26	4	0	0	0	0	0	0	0	0	0	0
17:00	**16**	0	15	1	0	0	0	0	0	0	0	0	0	0
18:00	**22**	4	16	2	0	0	0	0	0	0	0	0	0	0
19:00	**17**	3	14	0	0	0	0	0	0	0	0	0	0	0
20:00	**8**	0	8	0	0	0	0	0	0	0	0	0	0	0
21:00	**7**	1	6	0	0	0	0	0	0	0	0	0	0	0
22:00	**7**	2	4	1	0	0	0	0	0	0	0	0	0	0
23:00	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
12H,7-19	**545**	**36**	**455**	**48**	**0**	**1**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**
16H,6-22	**594**	**41**	**497**	**50**	**0**	**1**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**
18H,6-24	**601**	**43**	**501**	**51**	**0**	**1**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**
24H,0-24	**615**	**44**	**513**	**52**	**0**	**1**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**

Data produced by
Auto Surveys Ltd

10159		HAILSHAM				Site No: 10159001		Location	Site 1 - Station Rd, Hailsham (N of WR Site)					
NOVEMBER 2020						Channel: Southbound								
TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	CARS OR CAR-BASED LGV	LIGHT GOODS VEHICLES	BUSES	TWO AXLE, SIX TYRE, RIGID/BUSES	THREE AXLE RIGID	FOUR OR MORE AXLE RIGID	FOUR OR LESS AXLE ARTIC	FIVE AXLE ARTIC	SIX OR MORE AXLE ARTIC	FIVE OR LESS AXLE MULTI-TRAILER ARTIC	SIX AXLE MULTI-TRAILER ARTIC	SEVEN OR MORE AXLE ARTIC
Sun 08-Nov-20														
00:00	**1**	0	1	0	0	0	0	0	0	0	0	0	0	0
01:00	**1**	0	1	0	0	0	0	0	0	0	0	0	0	0
02:00	**1**	1	0	0	0	0	0	0	0	0	0	0	0	0
03:00	**5**	3	0	1	0	0	1	0	0	0	0	0	0	0
04:00	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	**2**	0	1	1	0	0	0	0	0	0	0	0	0	0
06:00	**6**	0	5	1	0	0	0	0	0	0	0	0	0	0
07:00	**11**	0	10	1	0	0	0	0	0	0	0	0	0	0
08:00	**31**	3	25	2	0	0	0	0	1	0	0	0	0	0
09:00	**82**	7	66	9	0	0	0	0	0	0	0	0	0	0
10:00	**91**	10	77	3	0	0	0	0	1	0	0	0	0	0
11:00	**84**	7	72	2	2	1	0	0	0	0	0	0	0	0
12:00	**60**	5	51	3	0	0	1	0	0	0	0	0	0	0
13:00	**44**	5	34	4	0	0	1	0	0	0	0	0	0	0
14:00	**29**	7	20	2	0	0	0	0	0	0	0	0	0	0
15:00	**31**	2	25	3	0	0	0	1	0	0	0	0	0	0
16:00	**31**	1	26	4	0	0	0	0	0	0	0	0	0	0
17:00	**9**	2	6	1	0	0	0	0	0	0	0	0	0	0
18:00	**16**	0	16	0	0	0	0	0	0	0	0	0	0	0
19:00	**10**	1	9	0	0	0	0	0	0	0	0	0	0	0
20:00	**13**	2	10	1	0	0	0	0	0	0	0	0	0	0
21:00	**4**	0	4	0	0	0	0	0	0	0	0	0	0	0
22:00	**4**	0	2	2	0	0	0	0	0	0	0	0	0	0
23:00	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
12H,7-19	**519**	**49**	**428**	**34**	**2**	**1**	**2**	**1**	**2**	**0**	**0**	**0**	**0**	**0**
16H,6-22	**552**	**52**	**456**	**36**	**2**	**1**	**2**	**1**	**2**	**0**	**0**	**0**	**0**	**0**
18H,6-24	**556**	**52**	**458**	**38**	**2**	**1**	**2**	**1**	**2**	**0**	**0**	**0**	**0**	**0**
24H,0-24	**566**	**56**	**461**	**40**	**2**	**1**	**3**	**1**	**2**	**0**	**0**	**0**	**0**	**0**

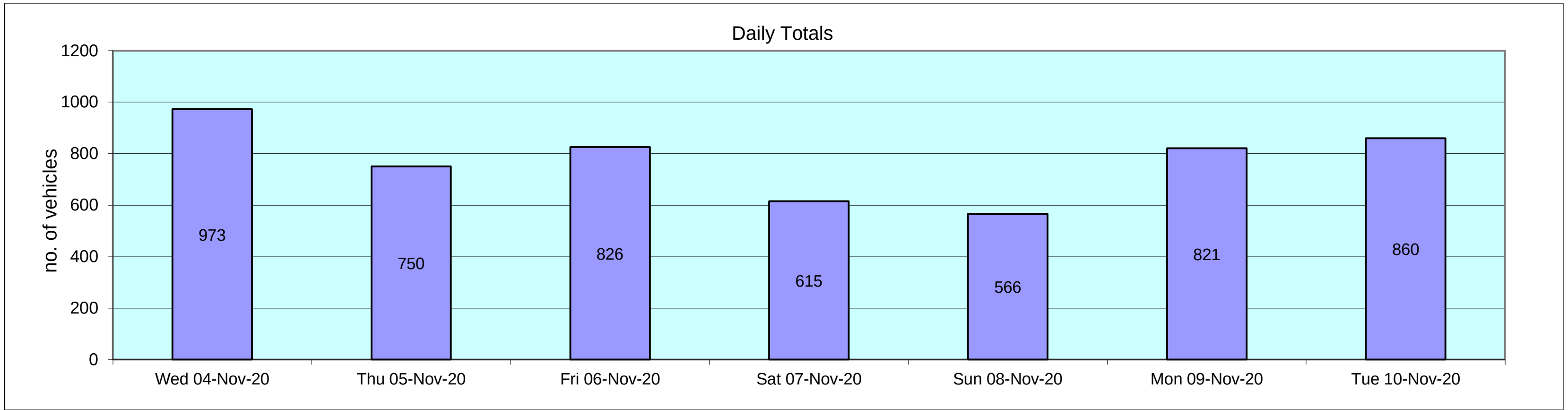
Data produced by
Auto Surveys Ltd

10159		HAILSHAM				Site No: 10159001		Location	Site 1 - Station Rd, Hailsham (N of WR Site)					
	NOVEMBER 2020					Channel: Southbound								
TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	CARS OR CAR-BASED LGV	LIGHT GOODS VEHICLES	BUSES	TWO AXLE, SIX TYRE, RIGID/BUSES	THREE AXLE RIGID	FOUR OR MORE AXLE RIGID	FOUR OR LESS AXLE ARTIC	FIVE AXLE ARTIC	SIX OR MORE AXLE ARTIC	FIVE OR LESS AXLE MULTI-TRAILER ARTIC	SIX AXLE MULTI-TRAILER ARTIC	SEVEN OR MORE AXLE ARTIC
Mon 09-Nov-20														
00:00	**1**	1	0	0	0	0	0	0	0	0	0	0	0	0
01:00	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	**1**	0	1	0	0	0	0	0	0	0	0	0	0	0
03:00	**2**	2	0	0	0	0	0	0	0	0	0	0	0	0
04:00	**5**	1	4	0	0	0	0	0	0	0	0	0	0	0
05:00	**4**	0	3	1	0	0	0	0	0	0	0	0	0	0
06:00	**33**	0	24	8	0	0	1	0	0	0	0	0	0	0
07:00	**48**	0	34	13	0	0	1	0	0	0	0	0	0	0
08:00	**71**	1	57	9	0	0	0	0	3	1	0	0	0	0
09:00	**75**	1	59	11	0	3	0	0	1	0	0	0	0	0
10:00	**80**	1	68	7	0	1	0	0	3	0	0	0	0	0
11:00	**84**	2	73	8	0	1	0	0	0	0	0	0	0	0
12:00	**75**	1	59	13	0	0	0	0	2	0	0	0	0	0
13:00	**71**	4	63	4	0	0	0	0	0	0	0	0	0	0
14:00	**73**	0	55	14	0	4	0	0	0	0	0	0	0	0
15:00	**71**	1	61	8	0	0	0	0	1	0	0	0	0	0
16:00	**52**	2	44	5	0	1	0	0	0	0	0	0	0	0
17:00	**34**	0	29	4	0	0	0	0	0	0	0	1	0	0
18:00	**15**	0	14	1	0	0	0	0	0	0	0	0	0	0
19:00	**12**	1	10	1	0	0	0	0	0	0	0	0	0	0
20:00	**8**	0	8	0	0	0	0	0	0	0	0	0	0	0
21:00	**6**	0	6	0	0	0	0	0	0	0	0	0	0	0
22:00	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
12H,7-19	**749**	**13**	**616**	**97**	**0**	**10**	**1**	**0**	**10**	**1**	**0**	**1**	**0**	**0**
16H,6-22	**808**	**14**	**664**	**106**	**0**	**10**	**2**	**0**	**10**	**1**	**0**	**1**	**0**	**0**
18H,6-24	**808**	**14**	**664**	**106**	**0**	**10**	**2**	**0**	**10**	**1**	**0**	**1**	**0**	**0**
24H,0-24	**821**	**18**	**672**	**107**	**0**	**10**	**2**	**0**	**10**	**1**	**0**	**1**	**0**	**0**

10159		HAILSHAM				Site No: 10159001		Location	Site 1 - Station Rd, Hailsham (N of WR Site)					
	NOVEMBER 2020					Channel: Southbound								
TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	CARS OR CAR-BASED LGV	LIGHT GOODS VEHICLES	BUSES	TWO AXLE, SIX TYRE, RIGID/BUSES	THREE AXLE RIGID	FOUR OR MORE AXLE RIGID	FOUR OR LESS AXLE ARTIC	FIVE AXLE ARTIC	SIX OR MORE AXLE ARTIC	FIVE OR LESS AXLE MULTI-TRAILER ARTIC	SIX AXLE MULTI-TRAILER ARTIC	SEVEN OR MORE AXLE ARTIC
Tue 10-Nov-20														
00:00	2	0	2	0	0	0	0	0	0	0	0	0	0	0
01:00	3	2	1	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	1	1	0	0	0	0	0	0	0	0	0	0	0	0
04:00	2	0	2	0	0	0	0	0	0	0	0	0	0	0
05:00	5	1	3	1	0	0	0	0	0	0	0	0	0	0
06:00	35	0	22	12	0	1	0	0	0	0	0	0	0	0
07:00	49	0	37	11	0	0	1	0	0	0	0	0	0	0
08:00	65	0	51	9	0	3	1	0	1	0	0	0	0	0
09:00	58	2	46	9	0	0	1	0	0	0	0	0	0	0
10:00	78	3	58	13	0	3	0	0	1	0	0	0	0	0
11:00	80	4	60	14	0	1	0	0	1	0	0	0	0	0
12:00	82	3	67	12	0	0	0	0	0	0	0	0	0	0
13:00	91	5	72	12	0	1	1	0	0	0	0	0	0	0
14:00	74	3	53	14	0	2	0	0	2	0	0	0	0	0
15:00	75	1	63	9	1	1	0	0	0	0	0	0	0	0
16:00	57	2	49	5	0	1	0	0	0	0	0	0	0	0
17:00	44	0	32	12	0	0	0	0	0	0	0	0	0	0
18:00	24	1	21	2	0	0	0	0	0	0	0	0	0	0
19:00	14	0	11	3	0	0	0	0	0	0	0	0	0	0
20:00	13	2	11	0	0	0	0	0	0	0	0	0	0	0
21:00	4	0	4	0	0	0	0	0	0	0	0	0	0	0
22:00	2	0	2	0	0	0	0	0	0	0	0	0	0	0
23:00	2	1	1	0	0	0	0	0	0	0	0	0	0	0
12H,7-19	777	24	609	122	1	12	4	0	5	0	0	0	0	0
16H,6-22	843	26	657	137	1	13	4	0	5	0	0	0	0	0
18H,6-24	847	27	660	137	1	13	4	0	5	0	0	0	0	0
24H,0-24	860	31	668	138	1	13	4	0	5	0	0	0	0	0

Data produced by
Auto Surveys Ltd

10159			HAILSHAM			Site No: 10159001		Location	Site 1 - Station Rd, Hailsham (N of WR Site)					
NOVEMBER 2020						Channel: Southbound								
TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	CARS OR CAR-BASED LGV	LIGHT GOODS VEHICLES	BUSES	TWO AXLE, SIX TYRE, RIGID/BUSES	THREE AXLE RIGID	FOUR OR MORE AXLE RIGID	FOUR OR LESS AXLE ARTIC	FIVE AXLE ARTIC	SIX OR MORE AXLE ARTIC	FIVE OR LESS AXLE MULTI-TRAILER ARTIC	SIX AXLE MULTI-TRAILER ARTIC	SEVEN OR MORE AXLE ARTIC
Daily Totals														
Wed 04-Nov-20	**973**	17	770	149	0	13	7	1	14	0	0	1	0	1
Thu 05-Nov-20	**750**	23	575	122	1	10	9	0	6	2	1	1	0	0
Fri 06-Nov-20	**826**	27	651	113	1	15	7	0	11	0	1	0	0	0
Sat 07-Nov-20	**615**	44	513	52	0	1	0	0	5	0	0	0	0	0
Sun 08-Nov-20	**566**	56	461	40	2	1	3	1	2	0	0	0	0	0
Mon 09-Nov-20	**821**	18	672	107	0	10	2	0	10	1	0	1	0	0
Tue 10-Nov-20	**860**	31	668	138	1	13	4	0	5	0	0	0	0	0
Total Vehicles														
[--]	**5411**	216	4310	721	5	63	32	2	53	3	2	3	0	1



Data produced by
Auto Surveys Ltd

10159		HAILSHAM			Site No: 10159001		Location	Site 1 - Station Rd, Hailsham (N of WR Site)			
	NOVEMBER 2020				Channel: Southbound						
TIME PERIOD	**TOTAL VEHICLES**	**MOTOR-CYCLES**	**MOTOR-CYCLES%**	**CARS**	**CARS %**	**LGV**	**LGV %**	**HGV**	**HGV %**	**BUS**	**BUS %**
Wed 04-Nov-20											
00:00	**1**	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
01:00	**0**	0	-	0	-	0	-	0	-	0	-
02:00	**0**	0	-	0	-	0	-	0	-	0	-
03:00	**1**	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
04:00	**3**	1	33.3	1	33.3	0	0.0	1	33.3	0	0.0
05:00	**4**	0	0.0	3	75.0	1	25.0	0	0.0	0	0.0
06:00	**31**	1	3.2	15	48.4	12	38.7	3	9.7	0	0.0
07:00	**68**	0	0.0	51	75.0	15	22.1	2	2.9	0	0.0
08:00	**60**	0	0.0	49	81.7	10	16.7	1	1.7	0	0.0
09:00	**99**	3	3.0	72	72.7	19	19.2	5	5.1	0	0.0
10:00	**94**	2	2.1	70	74.5	13	13.8	9	9.6	0	0.0
11:00	**70**	0	0.0	56	80.0	12	17.1	2	2.9	0	0.0
12:00	**95**	2	2.1	80	84.2	12	12.6	1	1.1	0	0.0
13:00	**89**	0	0.0	70	78.7	13	14.6	6	6.7	0	0.0
14:00	**67**	3	4.5	57	85.1	6	9.0	1	1.5	0	0.0
15:00	**87**	3	3.5	66	75.9	13	14.9	5	5.8	0	0.0
16:00	**79**	1	1.3	66	83.5	12	15.2	0	0.0	0	0.0
17:00	**45**	1	2.2	37	82.2	7	15.6	0	0.0	0	0.0
18:00	**30**	0	0.0	29	96.7	1	3.3	0	0.0	0	0.0
19:00	**14**	0	0.0	12	85.7	1	7.1	1	7.1	0	0.0
20:00	**14**	0	0.0	14	100.0	0	0.0	0	0.0	0	0.0
21:00	**9**	0	0.0	9	100.0	0	0.0	0	0.0	0	0.0
22:00	**7**	0	0.0	6	85.7	1	14.3	0	0.0	0	0.0
23:00	**6**	0	0.0	5	83.3	1	16.7	0	0.0	0	0.0
12H,7-19	**883**	**15**	**1.7**	**703**	**79.6**	**133**	**15.1**	**32**	**3.6**	**0**	**0.0**
16H,6-22	**951**	**16**	**1.7**	**753**	**79.2**	**146**	**15.4**	**36**	**3.8**	**0**	**0.0**
18H,6-24	**964**	**16**	**1.7**	**764**	**79.3**	**148**	**15.4**	**36**	**3.7**	**0**	**0.0**
24H,0-24	**973**	**17**	**1.8**	**770**	**79.1**	**149**	**15.3**	**37**	**3.8**	**0**	**0.0**

10159	HAILSHAM					Site No: 10159001		Location	Site 1 - Station Rd, Hailsham (N of WR Site)		
	NOVEMBER 2020					Channel: Southbound					
TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	MOTOR-CYCLES%	CARS	CARS %	LGV	LGV %	HGV	HGV %	BUS	BUS %
Thu 05-Nov-20											
00:00	**1**	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
01:00	**1**	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
02:00	**0**	0	-	0	-	0	-	0	-	0	-
03:00	**1**	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
04:00	**2**	0	0.0	2	100.0	0	0.0	0	0.0	0	0.0
05:00	**3**	0	0.0	3	100.0	0	0.0	0	0.0	0	0.0
06:00	**33**	0	0.0	26	78.8	7	21.2	0	0.0	0	0.0
07:00	**56**	1	1.8	38	67.9	14	25.0	3	5.4	0	0.0
08:00	**41**	0	0.0	29	70.7	9	22.0	3	7.3	0	0.0
09:00	**57**	2	3.5	41	71.9	13	22.8	1	1.8	0	0.0
10:00	**67**	3	4.5	53	79.1	7	10.5	4	6.0	0	0.0
11:00	**69**	4	5.8	47	68.1	14	20.3	4	5.8	0	0.0
12:00	**68**	2	2.9	48	70.6	14	20.6	4	5.9	0	0.0
13:00	**67**	2	3.0	56	83.6	5	7.5	4	6.0	0	0.0
14:00	**57**	2	3.5	44	77.2	8	14.0	2	3.5	1	1.8
15:00	**73**	3	4.1	55	75.3	12	16.4	3	4.1	0	0.0
16:00	**64**	2	3.1	55	85.9	7	10.9	0	0.0	0	0.0
17:00	**41**	0	0.0	34	82.9	6	14.6	1	2.4	0	0.0
18:00	**15**	1	6.7	11	73.3	3	20.0	0	0.0	0	0.0
19:00	**13**	0	0.0	12	92.3	1	7.7	0	0.0	0	0.0
20:00	**10**	0	0.0	9	90.0	1	10.0	0	0.0	0	0.0
21:00	**8**	1	12.5	6	75.0	1	12.5	0	0.0	0	0.0
22:00	**1**	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
23:00	**2**	0	0.0	2	100.0	0	0.0	0	0.0	0	0.0
12H,7-19	**675**	**22**	**3.3**	**511**	**75.7**	**112**	**16.6**	**29**	**4.3**	**1**	**0.2**
16H,6-22	**739**	**23**	**3.1**	**564**	**76.3**	**122**	**16.5**	**29**	**3.9**	**1**	**0.1**
18H,6-24	**742**	**23**	**3.1**	**567**	**76.4**	**122**	**16.4**	**29**	**3.9**	**1**	**0.1**
24H,0-24	**750**	**23**	**3.1**	**575**	**76.7**	**122**	**16.3**	**29**	**3.9**	**1**	**0.1**

Data produced by
Auto Surveys Ltd

10159 HAILSHAM Site No: 10159001 Location Site 1 - Station Rd, Hailsham (N of WR Site)

NOVEMBER 2020 Channel: Southbound

TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	MOTOR-CYCLES%	CARS	CARS %	LGV	LGV %	HGV	HGV %	BUS	BUS %
Fri 06-Nov-20											
00:00	**2**	0	0.0	2	100.0	0	0.0	0	0.0	0	0.0
01:00	**0**	0	-	0	-	0	-	0	-	0	-
02:00	**0**	0	-	0	-	0	-	0	-	0	-
03:00	**0**	0	-	0	-	0	-	0	-	0	-
04:00	**5**	1	20.0	4	80.0	0	0.0	0	0.0	0	0.0
05:00	**12**	1	8.3	9	75.0	1	8.3	1	8.3	0	0.0
06:00	**34**	0	0.0	27	79.4	6	17.7	1	2.9	0	0.0
07:00	**56**	1	1.8	36	64.3	15	26.8	4	7.1	0	0.0
08:00	**54**	0	0.0	43	79.6	8	14.8	3	5.6	0	0.0
09:00	**56**	3	5.4	37	66.1	12	21.4	4	7.1	0	0.0
10:00	**81**	5	6.2	59	72.8	12	14.8	5	6.2	0	0.0
11:00	**80**	1	1.3	64	80.0	10	12.5	5	6.3	0	0.0
12:00	**67**	1	1.5	53	79.1	10	14.9	2	3.0	1	1.5
13:00	**71**	8	11.3	51	71.8	7	9.9	5	7.0	0	0.0
14:00	**87**	3	3.5	76	87.4	6	6.9	2	2.3	0	0.0
15:00	**82**	2	2.4	69	84.2	10	12.2	1	1.2	0	0.0
16:00	**51**	1	2.0	43	84.3	6	11.8	1	2.0	0	0.0
17:00	**33**	0	0.0	29	87.9	4	12.1	0	0.0	0	0.0
18:00	**20**	0	0.0	17	85.0	3	15.0	0	0.0	0	0.0
19:00	**16**	0	0.0	16	100.0	0	0.0	0	0.0	0	0.0
20:00	**6**	0	0.0	6	100.0	0	0.0	0	0.0	0	0.0
21:00	**6**	0	0.0	5	83.3	1	16.7	0	0.0	0	0.0
22:00	**4**	0	0.0	3	75.0	1	25.0	0	0.0	0	0.0
23:00	**3**	0	0.0	2	66.7	1	33.3	0	0.0	0	0.0
12H,7-19	**738**	**25**	**3.4**	**577**	**78.2**	**103**	**14.0**	**32**	**4.3**	**1**	**0.1**
16H,6-22	**800**	**25**	**3.1**	**631**	**78.9**	**110**	**13.8**	**33**	**4.1**	**1**	**0.1**
18H,6-24	**807**	**25**	**3.1**	**636**	**78.8**	**112**	**13.9**	**33**	**4.1**	**1**	**0.1**
24H,0-24	**826**	**27**	**3.3**	**651**	**78.8**	**113**	**13.7**	**34**	**4.1**	**1**	**0.1**

10159 HAILSHAM Site No: 10159001 Location Site 1 - Station Rd, Hailsham (N of WR Site)

NOVEMBER 2020 Channel: Southbound

TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	MOTOR-CYCLES%	CARS	CARS %	LGV	LGV %	HGV	HGV %	BUS	BUS %
Sat 07-Nov-20											
00:00	3	0	0.0	3	100.0	0	0.0	0	0.0	0	0.0
01:00	4	0	0.0	3	75.0	1	25.0	0	0.0	0	0.0
02:00	1	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
03:00	1	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
04:00	2	1	50.0	1	50.0	0	0.0	0	0.0	0	0.0
05:00	3	0	0.0	3	100.0	0	0.0	0	0.0	0	0.0
06:00	17	1	5.9	14	82.4	2	11.8	0	0.0	0	0.0
07:00	20	1	5.0	14	70.0	5	25.0	0	0.0	0	0.0
08:00	37	5	13.5	29	78.4	2	5.4	1	2.7	0	0.0
09:00	58	2	3.5	51	87.9	5	8.6	0	0.0	0	0.0
10:00	89	9	10.1	69	77.5	10	11.2	1	1.1	0	0.0
11:00	84	3	3.6	70	83.3	8	9.5	3	3.6	0	0.0
12:00	61	1	1.6	55	90.2	5	8.2	0	0.0	0	0.0
13:00	36	5	13.9	31	86.1	0	0.0	0	0.0	0	0.0
14:00	39	2	5.1	34	87.2	3	7.7	0	0.0	0	0.0
15:00	52	3	5.8	45	86.5	3	5.8	1	1.9	0	0.0
16:00	31	1	3.2	26	83.9	4	12.9	0	0.0	0	0.0
17:00	16	0	0.0	15	93.8	1	6.3	0	0.0	0	0.0
18:00	22	4	18.2	16	72.7	2	9.1	0	0.0	0	0.0
19:00	17	3	17.7	14	82.4	0	0.0	0	0.0	0	0.0
20:00	8	0	0.0	8	100.0	0	0.0	0	0.0	0	0.0
21:00	7	1	14.3	6	85.7	0	0.0	0	0.0	0	0.0
22:00	7	2	28.6	4	57.1	1	14.3	0	0.0	0	0.0
23:00	0	0	-	0	-	0	-	0	-	0	-
12H,7-19	545	36	6.6	455	83.5	48	8.8	6	1.1	0	0.0
16H,6-22	594	41	6.9	497	83.7	50	8.4	6	1.0	0	0.0
18H,6-24	601	43	7.2	501	83.4	51	8.5	6	1.0	0	0.0
24H,0-24	615	44	7.2	513	83.4	52	8.5	6	1.0	0	0.0

10159		HAILSHAM			Site No: 10159001		Location	Site 1 - Station Rd, Hailsham (N of WR Site)			
	NOVEMBER 2020				Channel: Southbound						
TIME PERIOD	**TOTAL VEHICLES**	**MOTOR-CYCLES**	**MOTOR-CYCLES%**	**CARS**	**CARS %**	**LGV**	**LGV %**	**HGV**	**HGV %**	**BUS**	**BUS %**
Sun 08-Nov-20											
00:00	**1**	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
01:00	**1**	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
02:00	**1**	1	100.0	0	0.0	0	0.0	0	0.0	0	0.0
03:00	**5**	3	60.0	0	0.0	1	20.0	1	20.0	0	0.0
04:00	**0**	0	-	0	-	0	-	0	-	0	-
05:00	**2**	0	0.0	1	50.0	1	50.0	0	0.0	0	0.0
06:00	**6**	0	0.0	5	83.3	1	16.7	0	0.0	0	0.0
07:00	**11**	0	0.0	10	90.9	1	9.1	0	0.0	0	0.0
08:00	**31**	3	9.7	25	80.7	2	6.5	1	3.2	0	0.0
09:00	**82**	7	8.5	66	80.5	9	11.0	0	0.0	0	0.0
10:00	**91**	10	11.0	77	84.6	3	3.3	1	1.1	0	0.0
11:00	**84**	7	8.3	72	85.7	2	2.4	1	1.2	2	2.4
12:00	**60**	5	8.3	51	85.0	3	5.0	1	1.7	0	0.0
13:00	**44**	5	11.4	34	77.3	4	9.1	1	2.3	0	0.0
14:00	**29**	7	24.1	20	69.0	2	6.9	0	0.0	0	0.0
15:00	**31**	2	6.5	25	80.7	3	9.7	1	3.2	0	0.0
16:00	**31**	1	3.2	26	83.9	4	12.9	0	0.0	0	0.0
17:00	**9**	2	22.2	6	66.7	1	11.1	0	0.0	0	0.0
18:00	**16**	0	0.0	16	100.0	0	0.0	0	0.0	0	0.0
19:00	**10**	1	10.0	9	90.0	0	0.0	0	0.0	0	0.0
20:00	**13**	2	15.4	10	76.9	1	7.7	0	0.0	0	0.0
21:00	**4**	0	0.0	4	100.0	0	0.0	0	0.0	0	0.0
22:00	**4**	0	0.0	2	50.0	2	50.0	0	0.0	0	0.0
23:00	**0**	0	-	0	-	0	-	0	-	0	-
12H,7-19	**519**	**49**	**9.4**	**428**	**82.5**	**34**	**6.6**	**6**	**1.2**	**2**	**0.4**
16H,6-22	**552**	**52**	**9.4**	**456**	**82.6**	**36**	**6.5**	**6**	**1.1**	**2**	**0.4**
18H,6-24	**556**	**52**	**9.4**	**458**	**82.4**	**38**	**6.8**	**6**	**1.1**	**2**	**0.4**
24H,0-24	**566**	**56**	**9.9**	**461**	**81.5**	**40**	**7.1**	**7**	**1.2**	**2**	**0.4**

Data produced by
Auto Surveys Ltd

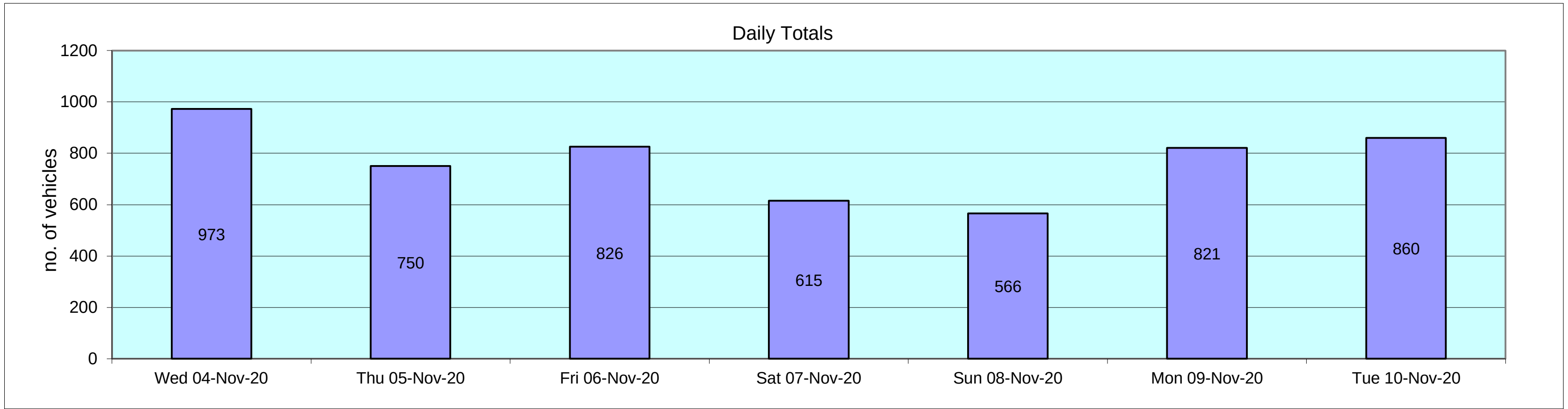
10159		HAILSHAM			Site No: 10159001		Location	Site 1 - Station Rd, Hailsham (N of WR Site)			
	NOVEMBER 2020				Channel: Southbound						
TIME PERIOD	**TOTAL VEHICLES**	**MOTOR-CYCLES**	**MOTOR-CYCLES%**	**CARS**	**CARS %**	**LGV**	**LGV %**	**HGV**	**HGV %**	**BUS**	**BUS %**
Mon 09-Nov-20											
00:00	**1**	1	100.0	0	0.0	0	0.0	0	0.0	0	0.0
01:00	**0**	0	-	0	-	0	-	0	-	0	-
02:00	**1**	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
03:00	**2**	2	100.0	0	0.0	0	0.0	0	0.0	0	0.0
04:00	**5**	1	20.0	4	80.0	0	0.0	0	0.0	0	0.0
05:00	**4**	0	0.0	3	75.0	1	25.0	0	0.0	0	0.0
06:00	**33**	0	0.0	24	72.7	8	24.2	1	3.0	0	0.0
07:00	**48**	0	0.0	34	70.8	13	27.1	1	2.1	0	0.0
08:00	**71**	1	1.4	57	80.3	9	12.7	4	5.6	0	0.0
09:00	**75**	1	1.3	59	78.7	11	14.7	4	5.3	0	0.0
10:00	**80**	1	1.3	68	85.0	7	8.8	4	5.0	0	0.0
11:00	**84**	2	2.4	73	86.9	8	9.5	1	1.2	0	0.0
12:00	**75**	1	1.3	59	78.7	13	17.3	2	2.7	0	0.0
13:00	**71**	4	5.6	63	88.7	4	5.6	0	0.0	0	0.0
14:00	**73**	0	0.0	55	75.3	14	19.2	4	5.5	0	0.0
15:00	**71**	1	1.4	61	85.9	8	11.3	1	1.4	0	0.0
16:00	**52**	2	3.9	44	84.6	5	9.6	1	1.9	0	0.0
17:00	**34**	0	0.0	29	85.3	4	11.8	1	2.9	0	0.0
18:00	**15**	0	0.0	14	93.3	1	6.7	0	0.0	0	0.0
19:00	**12**	1	8.3	10	83.3	1	8.3	0	0.0	0	0.0
20:00	**8**	0	0.0	8	100.0	0	0.0	0	0.0	0	0.0
21:00	**6**	0	0.0	6	100.0	0	0.0	0	0.0	0	0.0
22:00	**0**	0	-	0	-	0	-	0	-	0	-
23:00	**0**	0	-	0	-	0	-	0	-	0	-
12H,7-19	**749**	**13**	**1.7**	**616**	**82.2**	**97**	**13.0**	**23**	**3.1**	**0**	**0.0**
16H,6-22	**808**	**14**	**1.7**	**664**	**82.2**	**106**	**13.1**	**24**	**3.0**	**0**	**0.0**
18H,6-24	**808**	**14**	**1.7**	**664**	**82.2**	**106**	**13.1**	**24**	**3.0**	**0**	**0.0**
24H,0-24	**821**	**18**	**2.2**	**672**	**81.9**	**107**	**13.0**	**24**	**2.9**	**0**	**0.0**

Data produced by
Auto Surveys Ltd

10159		HAILSHAM			Site No: 10159001		Location	Site 1 - Station Rd, Hailsham (N of WR Site)			
	NOVEMBER 2020				Channel: Southbound						
TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	MOTOR-CYCLES%	CARS	CARS %	LGV	LGV %	HGV	HGV %	BUS	BUS %
Tue 10-Nov-20											
00:00	**2**	0	0.0	2	100.0	0	0.0	0	0.0	0	0.0
01:00	**3**	2	66.7	1	33.3	0	0.0	0	0.0	0	0.0
02:00	**0**	0	-	0	-	0	-	0	-	0	-
03:00	**1**	1	100.0	0	0.0	0	0.0	0	0.0	0	0.0
04:00	**2**	0	0.0	2	100.0	0	0.0	0	0.0	0	0.0
05:00	**5**	1	20.0	3	60.0	1	20.0	0	0.0	0	0.0
06:00	**35**	0	0.0	22	62.9	12	34.3	1	2.9	0	0.0
07:00	**49**	0	0.0	37	75.5	11	22.5	1	2.0	0	0.0
08:00	**65**	0	0.0	51	78.5	9	13.9	5	7.7	0	0.0
09:00	**58**	2	3.5	46	79.3	9	15.5	1	1.7	0	0.0
10:00	**78**	3	3.9	58	74.4	13	16.7	4	5.1	0	0.0
11:00	**80**	4	5.0	60	75.0	14	17.5	2	2.5	0	0.0
12:00	**82**	3	3.7	67	81.7	12	14.6	0	0.0	0	0.0
13:00	**91**	5	5.5	72	79.1	12	13.2	2	2.2	0	0.0
14:00	**74**	3	4.1	53	71.6	14	18.9	4	5.4	0	0.0
15:00	**75**	1	1.3	63	84.0	9	12.0	1	1.3	1	1.3
16:00	**57**	2	3.5	49	86.0	5	8.8	1	1.8	0	0.0
17:00	**44**	0	0.0	32	72.7	12	27.3	0	0.0	0	0.0
18:00	**24**	1	4.2	21	87.5	2	8.3	0	0.0	0	0.0
19:00	**14**	0	0.0	11	78.6	3	21.4	0	0.0	0	0.0
20:00	**13**	2	15.4	11	84.6	0	0.0	0	0.0	0	0.0
21:00	**4**	0	0.0	4	100.0	0	0.0	0	0.0	0	0.0
22:00	**2**	0	0.0	2	100.0	0	0.0	0	0.0	0	0.0
23:00	**2**	1	50.0	1	50.0	0	0.0	0	0.0	0	0.0
12H,7-19	**777**	**24**	**3.1**	**609**	**78.4**	**122**	**15.7**	**21**	**2.7**	**1**	**0.1**
16H,6-22	**843**	**26**	**3.1**	**657**	**77.9**	**137**	**16.3**	**22**	**2.6**	**1**	**0.1**
18H,6-24	**847**	**27**	**3.2**	**660**	**77.9**	**137**	**16.2**	**22**	**2.6**	**1**	**0.1**
24H,0-24	**860**	**31**	**3.6**	**668**	**77.7**	**138**	**16.1**	**22**	**2.6**	**1**	**0.1**

Data produced by
Auto Surveys Ltd

10159	HAILSHAM				Site No: 10159001		Location	Site 1 - Station Rd, Hailsham (N of WR Site)			
	NOVEMBER 2020				Channel: Southbound						
TIME PERIOD	**TOTAL VEHICLES**	**MOTOR-CYCLES**	**MOTOR-CYCLES%**	**CARS**	**CARS %**	**LGV**	**LGV %**	**HGV**	**HGV %**	**BUS**	**BUS %**
Daily Totals											
Wed 04-Nov-20	**973**	17	1.8	770	79.1	149	15.3	37	3.8	0	0.0
Thu 05-Nov-20	**750**	23	3.1	575	76.7	122	16.3	29	3.9	1	0.1
Fri 06-Nov-20	**826**	27	3.3	651	78.8	113	13.7	34	4.1	1	0.1
Sat 07-Nov-20	**615**	44	7.2	513	83.4	52	8.5	6	1.0	0	0.0
Sun 08-Nov-20	**566**	56	9.9	461	81.5	40	7.1	7	1.2	2	0.4
Mon 09-Nov-20	**821**	18	2.2	672	81.9	107	13.0	24	2.9	0	0.0
Tue 10-Nov-20	**860**	31	3.6	668	77.7	138	16.1	22	2.6	1	0.1
Total Vehicles											
[--]	**5411**	216	4.4	4310	79.9	721	12.8	159	2.8	5	0.1



Data produced by
Auto Surveys Ltd

10159 HAILSHAM Site No: 10159001 Location Site 1 - Station Rd, Hailsham (N of WR Site)

NOVEMBER 2020 Channel: Southbound

Time Period	Total Vehicles	85%ile Speed	Mean Speed	Stand Dev.	<6Mph	60	11-<16	16-<21	21-<26	26-<31	31-<36	36-<41	41-<46	46-<51	51-<56	=>56
Wed 04-Nov-20																
00:00	**1**	-	43.5	-	0	0	0	0	0	0	0	0	1	0	0	0
01:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
02:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
03:00	**1**	-	23.5	-	0	0	0	0	1	0	0	0	0	0	0	0
04:00	**3**	-	16.8	7.6	0	1	0	1	1	0	0	0	0	0	0	0
05:00	**4**	-	27.3	4.9	0	0	0	0	2	1	1	0	0	0	0	0
06:00	**31**	39.9	33.3	8.9	0	0	0	5	2	1	10	10	1	1	1	0
07:00	**68**	39.7	31.7	7.5	0	0	0	8	7	12	23	10	8	0	0	0
08:00	**60**	38	29.2	8.2	0	0	2	12	5	15	12	11	3	0	0	0
09:00	**99**	34.7	25.9	8	0	0	5	32	17	14	21	8	1	1	0	0
10:00	**94**	35.1	26.7	7.9	0	0	3	23	24	14	19	8	2	0	1	0
11:00	**70**	36.6	27.7	8.2	0	0	4	12	18	8	16	9	3	0	0	0
12:00	**95**	36.5	27.8	7.9	0	0	2	16	33	7	21	12	3	1	0	0
13:00	**89**	37.6	27.9	8.5	0	0	4	19	18	15	15	13	4	1	0	0
14:00	**67**	36.3	27	8.4	0	0	1	21	12	12	10	7	3	1	0	0
15:00	**87**	39.1	31.3	7.6	0	0	1	8	13	17	22	20	5	1	0	0
16:00	**79**	40	34.8	6.6	0	0	1	1	3	12	28	27	4	2	0	1
17:00	**45**	43.8	36.9	6.7	0	0	0	1	1	6	11	12	12	2	0	0
18:00	**30**	41	36.2	7.3	0	0	0	0	1	5	11	8	2	2	0	1
19:00	**14**	40	33.9	7.3	0	0	0	0	2	3	4	3	1	1	0	0
20:00	**14**	39.4	34.6	6.1	0	0	0	1	0	1	6	5	1	0	0	0
21:00	**9**	-	32.9	5.4	0	0	0	0	1	2	3	3	0	0	0	0
22:00	**7**	-	34.9	5.7	0	0	0	0	0	2	2	2	1	0	0	0
23:00	**6**	-	40.2	4.3	0	0	0	0	0	0	1	2	3	0	0	0
12H,7-19	**883**	**38.6**	**29.5**	**8.4**	**0**	**0**	**23**	**153**	**152**	**137**	**209**	**145**	**50**	**11**	**1**	**2**
16H,6-22	**951**	**38.8**	**29.8**	**8.5**	**0**	**0**	**23**	**159**	**157**	**144**	**232**	**166**	**53**	**13**	**2**	**2**
18H,6-24	**964**	**38.9**	**29.9**	**8.5**	**0**	**0**	**23**	**159**	**157**	**146**	**235**	**170**	**57**	**13**	**2**	**2**
24H,0-24	**973**	**38.9**	**29.9**	**8.5**	**0**	**1**	**23**	**160**	**161**	**147**	**236**	**170**	**58**	**13**	**2**	**2**

Data produced by
Auto Surveys Ltd

10159		HAILSHAM					Site No: 10159001			Location	Site 1 - Station Rd, Hailsham (N of WR Site)					
	NOVEMBER 2020						Channel: Southbound									
Time Period	Total Vehicles	85%ile Speed	Mean Speed	Stand Dev.	<6Mph	60	11-<16	16-<21	21-<26	26-<31	31-<36	36-<41	41-<46	46-<51	51-<56	=>56
Thu 05-Nov-20																
00:00	**1**	-	43.5	-	0	0	0	0	0	0	0	0	1	0	0	0
01:00	**1**	-	23.5	-	0	0	0	0	1	0	0	0	0	0	0	0
02:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
03:00	**1**	-	33.5	-	0	0	0	0	0	0	1	0	0	0	0	0
04:00	**2**	-	33.5	7.1	0	0	0	0	0	1	0	1	0	0	0	0
05:00	**3**	-	26.8	5.9	0	0	0	0	2	0	1	0	0	0	0	0
06:00	**33**	42.6	35.5	7.8	0	0	0	2	2	2	12	8	5	1	1	0
07:00	**56**	37.5	30.4	7.4	0	0	0	5	14	8	18	7	3	1	0	0
08:00	**41**	37.1	29.5	8.4	0	0	2	6	6	6	13	6	1	1	0	0
09:00	**57**	35.7	28.9	7.4	0	0	1	9	11	9	19	6	2	0	0	0
10:00	**67**	36.9	29.1	7.8	0	0	1	12	12	11	19	8	4	0	0	0
11:00	**69**	36.7	27.9	8.8	0	1	3	14	13	9	17	8	3	1	0	0
12:00	**68**	37.4	27.5	8.2	0	1	1	14	17	14	7	12	1	1	0	0
13:00	**67**	36.8	29.6	7.5	0	0	1	8	15	10	21	9	2	1	0	0
14:00	**57**	35	27.4	8.5	0	0	2	16	8	10	15	1	4	1	0	0
15:00	**73**	37.8	31	7	0	0	1	6	10	15	26	10	5	0	0	0
16:00	**64**	40.5	34.9	6.9	0	1	0	2	3	5	22	23	7	1	0	0
17:00	**41**	42.7	36.2	5.9	0	0	0	0	3	2	16	10	10	0	0	0
18:00	**15**	40.1	32.5	8.4	0	0	0	2	2	1	4	4	2	0	0	0
19:00	**13**	42.9	36.6	6.4	0	0	0	0	1	1	4	3	4	0	0	0
20:00	**10**	39.3	33.5	6.8	0	0	0	0	2	1	3	3	1	0	0	0
21:00	**8**	-	29.1	11.8	0	0	1	2	1	0	0	3	1	0	0	0
22:00	**1**	-	43.5	-	0	0	0	0	0	0	0	0	1	0	0	0
23:00	**2**	-	43.5	7.1	0	0	0	0	0	0	0	1	0	1	0	0
12H,7-19	**675**	**38.6**	**30.1**	**8.1**	**0**	**3**	**12**	**94**	**114**	**100**	**197**	**104**	**44**	**7**	**0**	**0**
16H,6-22	**739**	**39**	**30.5**	**8.2**	**0**	**3**	**13**	**98**	**120**	**104**	**216**	**121**	**55**	**8**	**1**	**0**
18H,6-24	**742**	**39.1**	**30.5**	**8.2**	**0**	**3**	**13**	**98**	**120**	**104**	**216**	**122**	**56**	**9**	**1**	**0**
24H,0-24	**750**	**39.1**	**30.5**	**8.2**	**0**	**3**	**13**	**98**	**123**	**105**	**218**	**123**	**57**	**9**	**1**	**0**

Data produced by
Auto Surveys Ltd

10159	NOVEMBER 2020	HAILSHAM					Site No: 10159001		Location	Site 1 - Station Rd, Hailsham (N of WR Site)					
							Channel: Southbound								
Time Period	Total Vehicles	85%ile Speed	Mean Speed	Stand Dev.	<6Mph	60	11-<16	16-<21	21-<26	26-<31	31-<36	36-<41	41-<46	46-<51	51-<56	=>56
Fri 06-Nov-20																
00:00	**2**	-	41	17.7	0	0	0	0	0	1	0	0	0	0	1	0
01:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
02:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
03:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
04:00	**5**	-	28.5	12.3	0	1	0	0	0	2	0	2	0	0	0	0
05:00	**12**	33.8	27.3	6.9	0	0	0	3	2	3	3	1	0	0	0	0
06:00	**34**	40.1	34.2	7.3	0	0	0	1	3	6	11	9	2	1	1	0
07:00	**56**	40.6	33	8	0	0	0	5	6	8	19	10	6	1	1	0
08:00	**54**	36.3	28.7	7.7	0	1	2	6	7	18	11	7	2	0	0	0
09:00	**56**	39.6	28.2	9.8	0	0	3	15	8	9	7	7	5	2	0	0
10:00	**81**	36.9	27.8	8.6	0	0	3	20	16	7	20	13	1	0	1	0
11:00	**80**	32.3	24.6	6.5	0	0	4	20	30	11	10	5	0	0	0	0
12:00	**67**	38.5	29.9	8.4	0	0	2	10	9	15	15	11	4	0	1	0
13:00	**71**	37.8	27.2	9.3	0	1	3	21	9	12	10	11	2	2	0	0
14:00	**87**	38.5	28.7	8.5	0	0	3	16	21	9	16	17	5	0	0	0
15:00	**82**	40.4	33.1	8.2	0	0	2	6	8	10	24	22	7	2	1	0
16:00	**51**	40.8	35.8	7	0	0	0	0	4	7	16	16	3	4	1	0
17:00	**33**	42.6	35.9	6.8	0	0	0	1	1	4	11	9	5	2	0	0
18:00	**20**	42.9	35	8.2	0	0	1	0	0	6	3	5	4	1	0	0
19:00	**16**	39.6	34.4	6.3	0	0	0	1	0	3	4	7	1	0	0	0
20:00	**6**	-	33.5	7.1	0	0	0	0	1	1	2	1	1	0	0	0
21:00	**6**	-	35.2	6.9	0	0	0	0	0	1	4	0	0	1	0	0
22:00	**4**	-	37.3	15.5	0	0	0	0	1	1	0	1	0	0	0	1
23:00	**3**	-	35.2	5.9	0	0	0	0	0	1	0	2	0	0	0	0
12H,7-19	**738**	**39.2**	**29.9**	**8.8**	**0**	**2**	**23**	**120**	**119**	**116**	**162**	**133**	**44**	**14**	**5**	**0**
16H,6-22	**800**	**39.3**	**30.2**	**8.7**	**0**	**2**	**23**	**122**	**123**	**127**	**183**	**150**	**48**	**16**	**6**	**0**
18H,6-24	**807**	**39.3**	**30.3**	**8.8**	**0**	**2**	**23**	**122**	**124**	**129**	**183**	**153**	**48**	**16**	**6**	**1**
24H,0-24	**826**	**39.3**	**30.3**	**8.8**	**0**	**3**	**23**	**125**	**126**	**135**	**186**	**156**	**48**	**16**	**7**	**1**

Data produced by
Auto Surveys Ltd

10159			HAILSHAM				Site No: 10159001			Location	Site 1 - Station Rd, Hailsham (N of WR Site)				
	NOVEMBER 2020						Channel: Southbound								
Time Period	Total Vehicles	85%ile Speed	Mean Speed	Stand Dev.	<6Mph	60	11-<16	16-<21	21-<26	26-<31	31-<36	36-<41	41-<46	46-<51	51-<56	=>56
Sat 07-Nov-20																
00:00	**3**	-	41.8	12.6	0	0	0	0	0	1	0	0	1	0	1	0
01:00	**4**	-	27.3	8.5	0	0	0	1	1	1	0	1	0	0	0	0
02:00	**1**	-	33.5	-	0	0	0	0	0	0	1	0	0	0	0	0
03:00	**1**	-	33.5	-	0	0	0	0	0	0	1	0	0	0	0	0
04:00	**2**	-	16	10.6	0	1	0	0	1	0	0	0	0	0	0	0
05:00	**3**	-	23.5	8.8	0	0	0	2	0	0	1	0	0	0	0	0
06:00	**17**	42.6	34.1	9.9	0	0	0	3	2	0	2	6	3	1	0	0
07:00	**20**	40.2	32.3	7.4	0	0	0	1	4	2	8	2	3	0	0	0
08:00	**37**	38.2	25.4	11.6	3	2	3	6	5	4	4	9	1	0	0	0
09:00	**58**	34.1	25	7.7	0	0	2	22	14	4	11	3	2	0	0	0
10:00	**89**	32.2	23.9	6.9	0	0	6	34	17	15	13	4	0	0	0	0
11:00	**84**	35.4	26.1	7.9	0	0	7	15	26	15	9	9	3	0	0	0
12:00	**61**	37.7	26	9.8	1	3	2	15	14	7	7	7	5	0	0	0
13:00	**36**	35.6	30	7.9	0	0	0	4	7	10	10	1	3	0	1	0
14:00	**39**	39.1	31.7	7.3	0	0	0	5	2	10	10	9	3	0	0	0
15:00	**52**	39.4	31.4	8.1	0	1	1	5	3	11	18	7	6	0	0	0
16:00	**31**	42.5	34	8.1	0	0	1	0	5	3	10	5	6	1	0	0
17:00	**16**	35.3	30.4	5.6	0	0	0	1	2	5	6	2	0	0	0	0
18:00	**22**	41.3	31.7	10.4	0	0	3	1	1	5	3	5	3	1	0	0
19:00	**17**	38.4	30	9.7	0	0	3	0	2	2	6	2	2	0	0	0
20:00	**8**	-	36.6	9.3	0	0	0	0	0	3	2	0	2	0	1	0
21:00	**7**	-	39.2	9	0	0	0	0	0	2	0	2	2	0	1	0
22:00	**7**	-	27.1	12.6	0	0	2	0	2	1	0	0	2	0	0	0
23:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
12H,7-19	**545**	**37.5**	**27.7**	**8.9**	**4**	**6**	**25**	**109**	**100**	**91**	**109**	**63**	**35**	**2**	**1**	**0**
16H,6-22	**594**	**38.3**	**28.2**	**9.1**	**4**	**6**	**28**	**112**	**104**	**98**	**119**	**73**	**44**	**3**	**3**	**0**
18H,6-24	**601**	**38.4**	**28.2**	**9.1**	**4**	**6**	**30**	**112**	**106**	**99**	**119**	**73**	**46**	**3**	**3**	**0**
24H,0-24	**615**	**38.4**	**28.2**	**9.2**	**4**	**7**	**30**	**115**	**108**	**101**	**122**	**74**	**47**	**3**	**4**	**0**

Data produced by
Auto Surveys Ltd

10159		HAILSHAM				Site No: 10159001			Location	Site 1 - Station Rd, Hailsham (N of WR Site)						
	NOVEMBER 2020					Channel: Southbound										
Time Period	Total Vehicles	85%ile Speed	Mean Speed	Stand Dev.	<6Mph	60	11-<16	16-<21	21-<26	26-<31	31-<36	36-<41	41-<46	46-<51	51-<56	=>56
Sun 08-Nov-20																
00:00	**1**	-	28.5	-	0	0	0	0	0	1	0	0	0	0	0	0
01:00	**1**	-	33.5	-	0	0	0	0	0	0	1	0	0	0	0	0
02:00	**1**	-	13.5	-	0	0	1	0	0	0	0	0	0	0	0	0
03:00	**5**	-	19.5	8.3	0	0	3	0	0	2	0	0	0	0	0	0
04:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
05:00	**2**	-	36	3.5	0	0	0	0	0	0	1	1	0	0	0	0
06:00	**6**	-	32.7	5.1	0	0	0	0	1	0	4	1	0	0	0	0
07:00	**11**	50.6	36.7	11.3	0	0	0	1	1	1	3	1	2	0	2	0
08:00	**31**	29.6	21	9.8	2	2	5	8	6	4	2	1	0	1	0	0
09:00	**82**	31.1	22.9	7.1	0	2	4	36	19	8	7	6	0	0	0	0
10:00	**91**	26.5	18.7	8.3	8	6	18	30	14	8	4	2	1	0	0	0
11:00	**84**	26.8	17.4	8.6	10	9	20	19	11	12	2	0	0	1	0	0
12:00	**60**	33.9	22.1	10.5	6	2	9	14	7	9	6	5	2	0	0	0
13:00	**44**	39.5	29.1	9.4	1	0	2	6	7	10	6	7	5	0	0	0
14:00	**29**	38.2	28	11.4	0	1	5	3	3	4	6	5	0	1	1	0
15:00	**31**	39.6	29.3	10	0	0	4	3	2	11	3	4	2	2	0	0
16:00	**31**	40.9	33.7	7.7	0	0	1	1	3	4	9	8	5	0	0	0
17:00	**9**	-	27.9	10.5	0	0	2	1	0	2	1	3	0	0	0	0
18:00	**16**	43.8	36	9.6	0	0	1	0	2	1	1	7	2	2	0	0
19:00	**10**	32.7	27	6.8	0	0	1	1	1	4	3	0	0	0	0	0
20:00	**13**	38.6	31.6	10	0	0	2	0	1	1	5	3	0	1	0	0
21:00	**4**	-	36	5.2	0	0	0	0	0	0	3	0	1	0	0	0
22:00	**4**	-	37.3	8.5	0	0	0	0	0	1	1	1	0	1	0	0
23:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
12H,7-19	**519**	**36**	**23.7**	**10.6**	**27**	**22**	**71**	**122**	**75**	**74**	**50**	**49**	**19**	**7**	**3**	**0**
16H,6-22	**552**	**36.1**	**24.1**	**10.6**	**27**	**22**	**74**	**123**	**78**	**79**	**65**	**53**	**20**	**8**	**3**	**0**
18H,6-24	**556**	**36.2**	**24.2**	**10.6**	**27**	**22**	**74**	**123**	**78**	**80**	**66**	**54**	**20**	**9**	**3**	**0**
24H,0-24	**566**	**36.1**	**24.2**	**10.6**	**27**	**22**	**78**	**123**	**78**	**83**	**68**	**55**	**20**	**9**	**3**	**0**

Data produced by
Auto Surveys Ltd

10159		HAILSHAM				Site No: 10159001			Location	Site 1 - Station Rd, Hailsham (N of WR Site)		
	NOVEMBER 2020					Channel: Southbound						

Time Period	Total Vehicles	85%ile Speed	Mean Speed	Stand Dev.	<6Mph	60	11-<16	16-<21	21-<26	26-<31	31-<36	36-<41	41-<46	46-<51	51-<56	=>56
Mon 09-Nov-20																
00:00	**1**	-	13.5	-	0	0	1	0	0	0	0	0	0	0	0	0
01:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
02:00	**1**	-	38.5	-	0	0	0	0	0	0	0	1	0	0	0	0
03:00	**2**	-	13.5	1.8	0	0	2	0	0	0	0	0	0	0	0	0
04:00	**5**	-	24.5	10.9	0	1	0	1	0	1	2	0	0	0	0	0
05:00	**4**	-	27.3	8.5	0	0	0	1	1	1	0	1	0	0	0	0
06:00	**33**	41.5	33	8.1	0	0	0	2	7	3	7	8	6	0	0	0
07:00	**48**	39.8	32.7	7.7	0	0	0	5	6	5	13	15	3	1	0	0
08:00	**71**	36.9	28.1	7.7	0	0	1	15	13	17	12	10	3	0	0	0
09:00	**75**	35.7	26.5	7.7	0	0	0	24	19	8	13	9	2	0	0	0
10:00	**80**	33.9	25.3	7.7	0	0	6	25	11	18	13	6	1	0	0	0
11:00	**84**	35.9	25.9	8.9	0	0	6	29	15	6	15	7	6	0	0	0
12:00	**75**	35.1	25.4	8.3	0	1	5	23	13	13	10	8	2	0	0	0
13:00	**71**	33.4	25.1	7.3	0	0	2	23	20	10	10	4	2	0	0	0
14:00	**73**	35.5	27.1	8.4	0	0	1	23	12	12	15	8	1	0	0	1
15:00	**71**	38.3	30.8	7.4	0	0	0	9	7	21	16	15	2	0	1	0
16:00	**52**	38.9	31.4	7.7	0	0	2	3	6	12	15	10	3	1	0	0
17:00	**34**	40.3	32.8	7.4	0	0	0	1	5	8	11	4	3	2	0	0
18:00	**15**	40.1	34.2	6.7	0	0	0	0	3	0	6	4	2	0	0	0
19:00	**12**	35.3	28.9	7	0	0	1	0	2	5	2	2	0	0	0	0
20:00	**8**	-	35.4	6.6	0	0	0	0	0	2	3	2	0	1	0	0
21:00	**6**	-	32.7	11.2	0	0	0	0	2	1	2	0	0	0	1	0
22:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
23:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
12H,7-19	**749**	**37.2**	**27.9**	**8.3**	**0**	**1**	**23**	**180**	**130**	**130**	**149**	**100**	**30**	**4**	**1**	**1**
16H,6-22	**808**	**37.5**	**28.2**	**8.4**	**0**	**1**	**24**	**182**	**141**	**141**	**163**	**112**	**36**	**5**	**2**	**1**
18H,6-24	**808**	**37.5**	**28.2**	**8.4**	**0**	**1**	**24**	**182**	**141**	**141**	**163**	**112**	**36**	**5**	**2**	**1**
24H,0-24	**821**	**37.5**	**28.1**	**8.4**	**0**	**2**	**27**	**184**	**142**	**143**	**165**	**114**	**36**	**5**	**2**	**1**

Data produced by
Auto Surveys Ltd

10159 HAILSHAM Site No: 10159001 Location Site 1 - Station Rd, Hailsham (N of WR Site)

NOVEMBER 2020 Channel: Southbound

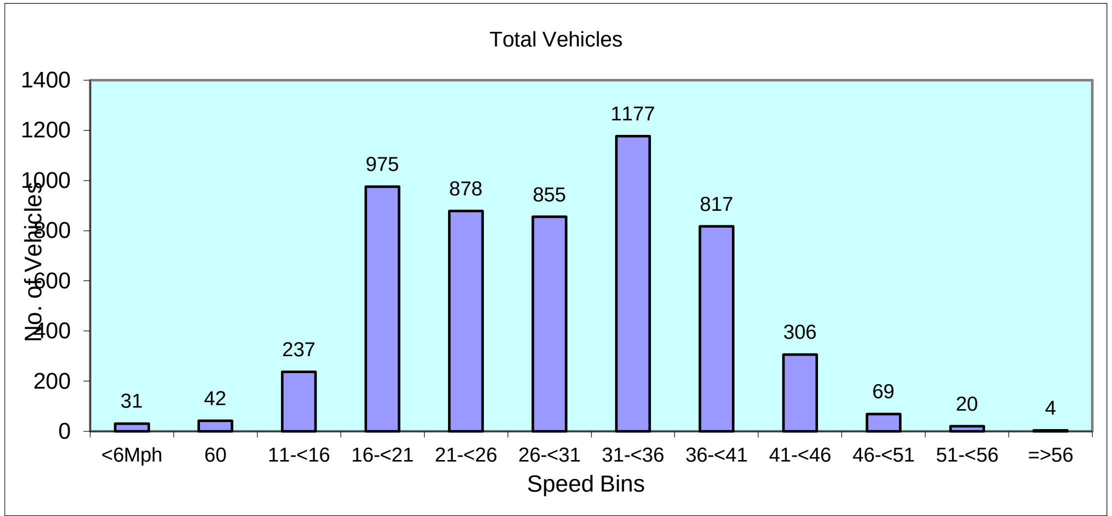
Time Period	Total Vehicles	85%ile Speed	Mean Speed	Stand Dev.	<6Mph	60	11-<16	16-<21	21-<26	26-<31	31-<36	36-<41	41-<46	46-<51	51-<56	=>56
Tue 10-Nov-20																
00:00	**2**	-	38.5	14.1	0	0	0	0	0	1	0	0	0	1	0	0
01:00	**3**	-	15.2	3.1	0	0	2	1	0	0	0	0	0	0	0	0
02:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
03:00	**1**	-	18.5	-	0	0	0	1	0	0	0	0	0	0	0	0
04:00	**2**	-	31	10.6	0	0	0	0	1	0	0	1	0	0	0	0
05:00	**5**	-	26.5	7.6	0	0	0	1	2	1	0	1	0	0	0	0
06:00	**35**	40.5	33.6	7.9	0	0	0	2	4	6	10	8	2	3	0	0
07:00	**49**	39.4	32.4	7.4	0	0	1	2	7	7	18	9	4	1	0	0
08:00	**65**	38.9	28.2	9.7	0	2	4	13	10	7	10	15	4	0	0	0
09:00	**58**	35.8	24.9	9.3	0	1	6	18	12	7	5	6	1	2	0	0
10:00	**78**	35.5	25.3	8.1	0	0	4	26	21	5	11	9	2	0	0	0
11:00	**80**	34.6	25	7.7	0	0	5	26	19	11	9	9	1	0	0	0
12:00	**82**	35.1	26.8	8.1	0	0	5	20	15	13	20	5	4	0	0	0
13:00	**91**	35.2	25.8	8.6	0	1	8	25	15	12	19	9	1	1	0	0
14:00	**74**	34.1	25.4	8	0	0	4	24	16	11	12	4	2	1	0	0
15:00	**75**	39.4	31.9	7.8	0	0	1	5	9	20	18	15	4	2	1	0
16:00	**57**	38.3	32.5	5.9	0	0	0	2	4	15	21	13	1	1	0	0
17:00	**44**	39.8	33.7	6.1	0	0	0	1	3	10	13	13	4	0	0	0
18:00	**24**	40.8	32.3	9.1	0	0	2	1	1	6	6	4	3	1	0	0
19:00	**14**	41.7	34.6	6.1	0	0	0	0	0	5	4	2	3	0	0	0
20:00	**13**	38.8	32.3	9.7	0	0	1	1	1	1	5	2	1	1	0	0
21:00	**4**	-	39.8	7.6	0	0	0	0	0	1	0	0	3	0	0	0
22:00	**2**	-	31	3.5	0	0	0	0	0	1	1	0	0	0	0	0
23:00	**2**	-	23.5	7.1	0	0	0	1	0	1	0	0	0	0	0	0
12H,7-19	**777**	**37.6**	**28**	**8.6**	**0**	**4**	**40**	**163**	**132**	**124**	**162**	**111**	**31**	**9**	**1**	**0**
16H,6-22	**843**	**38**	**28.5**	**8.7**	**0**	**4**	**41**	**166**	**137**	**137**	**181**	**123**	**40**	**13**	**1**	**0**
18H,6-24	**847**	**38**	**28.5**	**8.7**	**0**	**4**	**41**	**167**	**137**	**139**	**182**	**123**	**40**	**13**	**1**	**0**
24H,0-24	**860**	**38**	**28.4**	**8.8**	**0**	**4**	**43**	**170**	**140**	**141**	**182**	**125**	**40**	**14**	**1**	**0**

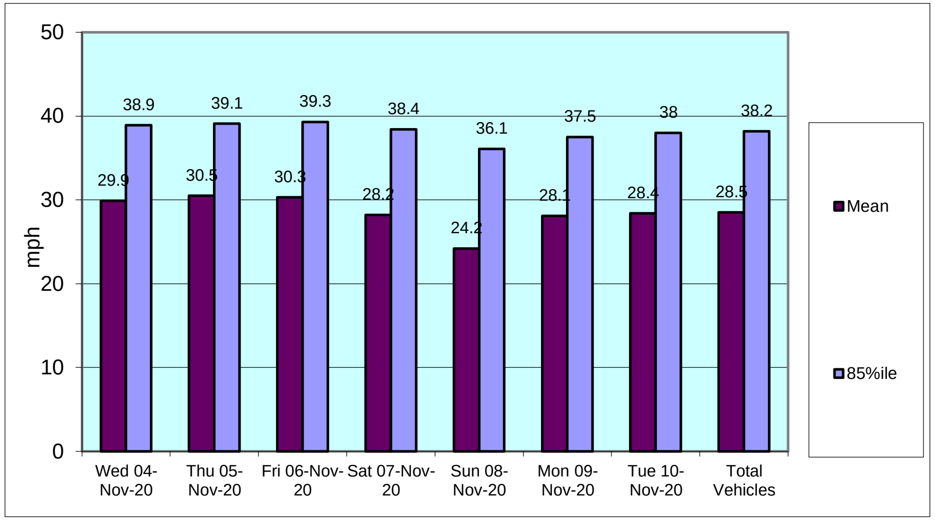
Data produced by
Auto Surveys Ltd

10159 HAILSHAM Site No: 10159001 Location Site 1 - Station Rd, Hailsham (N of WR Site)

NOVEMBER 2020 Channel: Southbound

Time Period	Total Vehicles	85%ile Speed	Mean Speed	Stand Dev.	<6Mph	60	11-<16	16-<21	21-<26	26-<31	31-<36	36-<41	41-<46	46-<51	51-<56	=>56
Daily Totals																
Wed 04-Nov-20	**973**	38.9	29.9	8.5	0	1	23	160	161	147	236	170	58	13	2	2
Thu 05-Nov-20	**750**	39.1	30.5	8.2	0	3	13	98	123	105	218	123	57	9	1	0
Fri 06-Nov-20	**826**	39.3	30.3	8.8	0	3	23	125	126	135	186	156	48	16	7	1
Sat 07-Nov-20	**615**	38.4	28.2	9.2	4	7	30	115	108	101	122	74	47	3	4	0
Sun 08-Nov-20	**566**	36.1	24.2	10.6	27	22	78	123	78	83	68	55	20	9	3	0
Mon 09-Nov-20	**821**	37.5	28.1	8.4	0	2	27	184	142	143	165	114	36	5	2	1
Tue 10-Nov-20	**860**	38	28.4	8.8	0	4	43	170	140	141	182	125	40	14	1	0
Total Vehicles																
[--]	**5411**	38.2	28.5	8.9	31	42	237	975	878	855	1177	817	306	69	20	4



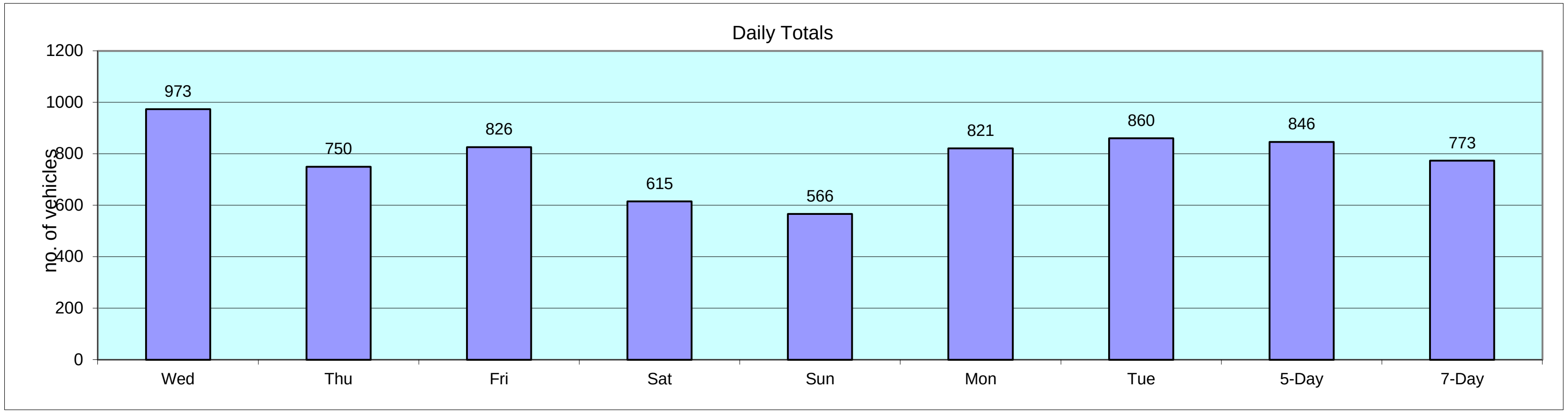


Data produced by
Auto Surveys Ltd

10159		HAILSHAM		Site No: 10159001		Location	Site 1 - Station Rd, Hailsham (N of WR Site)		
	NOVEMBER 2020			Channel: Southbound					
	Wed	Thu	Fri	Sat	Sun	Mon	Tue	5-Day	7-Day
TIME PERIOD	04/11/20	05/11/20	06/11/20	07/11/20	08/11/20	09/11/20	10/11/20	Av	Av
Week Begin: 04-Nov-20									
00:00	1	1	2	3	1	1	2	1	2
01:00	0	1	0	4	1	0	3	1	1
02:00	0	0	0	1	1	1	0	0	0
03:00	1	1	0	1	5	2	1	1	2
04:00	3	2	5	2	0	5	2	3	3
05:00	4	3	12	3	2	4	5	6	5
06:00	31	33	34	17	6	33	35	33	27
07:00	68	56	56	20	11	48	49	55	44
08:00	60	41	54	37	31	71	65	58	51
09:00	99	57	56	58	82	75	58	69	69
10:00	94	67	81	89	91	80	78	80	83
11:00	70	69	80	84	84	84	80	77	79
12:00	95	68	67	61	60	75	82	77	73
13:00	89	67	71	36	44	71	91	78	67
14:00	67	57	87	39	29	73	74	72	61
15:00	87	73	82	52	31	71	75	78	67
16:00	79	64	51	31	31	52	57	61	52
17:00	45	41	33	16	9	34	44	39	32
18:00	30	15	20	22	16	15	24	21	20
19:00	14	13	16	17	10	12	14	14	14
20:00	14	10	6	8	13	8	13	10	10
21:00	9	8	6	7	4	6	4	7	6
22:00	7	1	4	7	4	0	2	3	4
23:00	6	2	3	0	0	0	2	3	2
12H,7-19	883	675	738	545	519	749	777	764	698
16H,6-22	951	739	800	594	552	808	843	828	755
18H,6-24	964	742	807	601	556	808	847	834	761
24H,0-24	973	750	826	615	566	821	860	846	773
Am	09:00	11:00	10:00	10:00	10:00	11:00	11:00		
Peak	99	69	81	89	91	84	80		
Pm	12:00	15:00	14:00	12:00	12:00	12:00	13:00		
Peak	95	73	87	61	60	75	91		

Data produced by
Auto Surveys Ltd

10159		HAILSHAM		Site No: 10159001		Location	Site 1 - Station Rd, Hailsham (N of WR Site)		
	NOVEMBER 2020			Channel: Southbound					
	Wed	Thu	Fri	Sat	Sun	Mon	Tue	5-Day	7-Day
TIME PERIOD	04/11/20	05/11/20	06/11/20	07/11/20	08/11/20	09/11/20	10/11/20	Av	Av



Data produced by
Auto Surveys Ltd

Classification Schemes

Scheme F Classification Scheme (Non-metric)

Scheme F is an attempt to implement the FWHA's visual classification scheme as an axle-based classification scheme. This is one of several interpretations.

Class	Vehicle Type	No. of Axles	Axle spacing in feet: Axle 1 to 2	Axle 2 to 3	Axle 3 to 4	Axle 4 to 5	Axle 5 to 6
1	motorcycle	2	<6.0				
2	passenger car	2	6.0 - 10.0				
	car + 1 axle trailer	3	<10.0	10.0 - 18.0			
	car + 2 axle trailer	4	<10.0		<3.5		
3	pickup	2	10.0 - 15.0				
	pickup + 1 axle trailer	3	10.0 - 15.0	10.0 - 18.0			
	pickup + 2 axle trailer	4	10.0 -15.0		<3.5		
	pickup + 3 axle trailer	5	9.9 - 15.0			<3.5	
4	Traditional bus/coach	2	>20.0				
	Traditional bus/coach	3	>19.0				
5	single unit truck/bus - dual rear axle	2	14.9 - 20.0			<3.5	
6	3 axle truck	3		<18.0			
7	4 axle truck	4					
8	2S1	3		>18.0			
	2S2	4		>5.0	>3.5		
	3S1	4		<5.0	>10.0		
9	3S2	5		<6.1		3.5 - 8.0	
	5 axle combination	5					
10	6 axle combination	6			3.5 - 5.0		
	3S3	6					
11	2S1-2	5		>6.0			
12	3S1-2	6					>10.0
13	truck	7 or more					

10159		HAILSHAM								
		NOVEMBER 2020								
Site	Location	Direction	Start Date	End Date	Posted Speed Limit (PSL)	Total Vehicles	5 Day Ave.	7 Day Ave.	Average 85%ile Speed	Average Mean Speed
Site No: 10159002	Site 2 - Station Rd, Hailsham (N of access) Attached to 30mph sign OSGR TQ 59515 08635	Channel: Northbound	Wed 04-Nov-20	Tue 10-Nov-20	30	5907	951	844	36.8	30.2
		Channel: Southbound	Wed 04-Nov-20	Tue 10-Nov-20		5390	837	770	39.6	32.7

Data produced by
Auto Surveys Ltd

10159			HAILSHAM			Site No: 10159002		Location	Site 2 - Station Rd, Hailsham (N of access)					
	NOVEMBER 2020					Channel: Northbound								
TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	CARS OR CAR-BASED LGV	LIGHT GOODS VEHICLES	BUSES	TWO AXLE, SIX TYRE, RIGID/BUSES	THREE AXLE RIGID	FOUR OR MORE AXLE RIGID	FOUR OR LESS AXLE ARTIC	FIVE AXLE ARTIC	SIX OR MORE AXLE ARTIC	FIVE OR LESS AXLE MULTI-TRAILER ARTIC	SIX AXLE MULTI-TRAILER ARTIC	SEVEN OR MORE AXLE ARTIC
Wed 04-Nov-20														
00:00	**1**	0	1	0	0	0	0	0	0	0	0	0	0	0
01:00	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	**3**	0	2	0	0	0	1	0	0	0	0	0	0	0
05:00	**4**	0	4	0	0	0	0	0	0	0	0	0	0	0
06:00	**38**	1	29	8	0	0	0	0	0	0	0	0	0	0
07:00	**115**	1	86	24	0	3	0	0	1	0	0	0	0	0
08:00	**103**	1	82	19	0	0	0	0	1	0	0	0	0	0
09:00	**70**	2	58	8	0	1	0	0	1	0	0	0	0	0
10:00	**85**	2	65	14	0	1	1	1	1	0	0	0	0	0
11:00	**96**	2	69	23	0	1	0	0	0	0	0	1	0	0
12:00	**81**	2	71	6	0	1	0	0	0	0	1	0	0	0
13:00	**95**	2	79	12	0	0	0	0	2	0	0	0	0	0
14:00	**92**	2	73	15	1	0	0	0	1	0	0	0	0	0
15:00	**95**	1	73	19	0	1	0	0	1	0	0	0	0	0
16:00	**105**	0	84	19	0	1	0	0	0	0	0	1	0	0
17:00	**81**	3	69	8	0	0	0	0	0	0	1	0	0	0
18:00	**40**	2	35	3	0	0	0	0	0	0	0	0	0	0
19:00	**23**	0	21	2	0	0	0	0	0	0	0	0	0	0
20:00	**14**	0	12	2	0	0	0	0	0	0	0	0	0	0
21:00	**10**	0	9	1	0	0	0	0	0	0	0	0	0	0
22:00	**6**	0	5	1	0	0	0	0	0	0	0	0	0	0
23:00	**3**	0	2	1	0	0	0	0	0	0	0	0	0	0
12H,7-19	**1058**	**20**	**844**	**170**	**1**	**9**	**1**	**1**	**8**	**0**	**2**	**2**	**0**	**0**
16H,6-22	**1143**	**21**	**915**	**183**	**1**	**9**	**1**	**1**	**8**	**0**	**2**	**2**	**0**	**0**
18H,6-24	**1152**	**21**	**922**	**185**	**1**	**9**	**1**	**1**	**8**	**0**	**2**	**2**	**0**	**0**
24H,0-24	**1160**	**21**	**929**	**185**	**1**	**9**	**2**	**1**	**8**	**0**	**2**	**2**	**0**	**0**

Data produced by
Auto Surveys Ltd

10159			HAILSHAM			Site No: 10159002		Location	Site 2 - Station Rd, Hailsham (N of access)					
	NOVEMBER 2020					Channel: Northbound								
TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	CARS OR CAR-BASED LGV	LIGHT GOODS VEHICLES	BUSES	TWO AXLE, SIX TYRE, RIGID/BUSES	THREE AXLE RIGID	FOUR OR MORE AXLE RIGID	FOUR OR LESS AXLE ARTIC	FIVE AXLE ARTIC	SIX OR MORE AXLE ARTIC	FIVE OR LESS AXLE MULTI-TRAILER ARTIC	SIX AXLE MULTI-TRAILER ARTIC	SEVEN OR MORE AXLE ARTIC
Thu 05-Nov-20														
00:00	1	0	1	0	0	0	0	0	0	0	0	0	0	0
01:00	1	0	1	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	1	0	1	0	0	0	0	0	0	0	0	0	0	0
05:00	8	0	7	1	0	0	0	0	0	0	0	0	0	0
06:00	22	1	17	3	0	1	0	0	0	0	0	0	0	0
07:00	81	0	58	22	0	1	0	0	0	0	0	0	0	0
08:00	77	0	55	20	0	0	0	0	1	0	0	1	0	0
09:00	52	1	41	9	0	1	0	0	0	0	0	0	0	0
10:00	59	2	45	10	0	0	1	0	1	0	0	0	0	0
11:00	68	0	47	17	0	3	0	0	1	0	0	0	0	0
12:00	72	2	54	14	0	0	0	0	2	0	0	0	0	0
13:00	61	1	46	10	0	3	0	1	0	0	0	0	0	0
14:00	73	1	56	14	0	0	0	0	1	0	0	1	0	0
15:00	73	1	49	18	1	1	1	0	2	0	0	0	0	0
16:00	93	1	74	17	0	1	0	0	0	0	0	0	0	0
17:00	46	1	38	6	0	0	0	0	1	0	0	0	0	0
18:00	20	1	16	3	0	0	0	0	0	0	0	0	0	0
19:00	22	0	21	1	0	0	0	0	0	0	0	0	0	0
20:00	8	0	8	0	0	0	0	0	0	0	0	0	0	0
21:00	4	0	4	0	0	0	0	0	0	0	0	0	0	0
22:00	1	0	1	0	0	0	0	0	0	0	0	0	0	0
23:00	3	0	3	0	0	0	0	0	0	0	0	0	0	0
12H,7-19	775	11	579	160	1	10	2	1	9	0	0	2	0	0
16H,6-22	831	12	629	164	1	11	2	1	9	0	0	2	0	0
18H,6-24	835	12	633	164	1	11	2	1	9	0	0	2	0	0
24H,0-24	846	12	643	165	1	11	2	1	9	0	0	2	0	0

Data produced by
Auto Surveys Ltd

10159			HAILSHAM			Site No: 10159002		Location	Site 2 - Station Rd, Hailsham (N of access)					
	NOVEMBER 2020					Channel: Northbound								
TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	CARS OR CAR-BASED LGV	LIGHT GOODS VEHICLES	BUSES	TWO AXLE, SIX TYRE, RIGID/BUSES	THREE AXLE RIGID	FOUR OR MORE AXLE RIGID	FOUR OR LESS AXLE ARTIC	FIVE AXLE ARTIC	SIX OR MORE AXLE ARTIC	FIVE OR LESS AXLE MULTI-TRAILER ARTIC	SIX AXLE MULTI-TRAILER ARTIC	SEVEN OR MORE AXLE ARTIC
Fri 06-Nov-20														
00:00	**1**	0	1	0	0	0	0	0	0	0	0	0	0	0
01:00	**2**	0	2	0	0	0	0	0	0	0	0	0	0	0
02:00	**1**	0	0	1	0	0	0	0	0	0	0	0	0	0
03:00	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	**1**	0	1	0	0	0	0	0	0	0	0	0	0	0
05:00	**12**	0	9	3	0	0	0	0	0	0	0	0	0	0
06:00	**37**	0	32	4	0	1	0	0	0	0	0	0	0	0
07:00	**68**	1	51	16	0	0	0	0	0	0	0	0	0	0
08:00	**71**	0	54	12	0	2	1	0	2	0	0	0	0	0
09:00	**65**	3	41	18	1	0	1	0	1	0	0	0	0	0
10:00	**81**	1	61	16	0	1	0	0	2	0	0	0	0	0
11:00	**88**	4	69	13	0	1	0	0	1	0	0	0	0	0
12:00	**68**	2	49	14	0	2	0	0	0	0	0	1	0	0
13:00	**68**	1	53	12	0	0	0	0	2	0	0	0	0	0
14:00	**87**	2	69	13	0	0	0	0	2	0	1	0	0	0
15:00	**83**	0	67	16	0	0	0	0	0	0	0	0	0	0
16:00	**76**	1	68	5	0	2	0	0	0	0	0	0	0	0
17:00	**43**	2	36	5	0	0	0	0	0	0	0	0	0	0
18:00	**28**	1	24	3	0	0	0	0	0	0	0	0	0	0
19:00	**13**	0	12	1	0	0	0	0	0	0	0	0	0	0
20:00	**15**	0	12	3	0	0	0	0	0	0	0	0	0	0
21:00	**7**	0	6	1	0	0	0	0	0	0	0	0	0	0
22:00	**2**	0	2	0	0	0	0	0	0	0	0	0	0	0
23:00	**4**	0	4	0	0	0	0	0	0	0	0	0	0	0
12H,7-19	**826**	**18**	**642**	**143**	**1**	**8**	**2**	**0**	**10**	**0**	**1**	**1**	**0**	**0**
16H,6-22	**898**	**18**	**704**	**152**	**1**	**9**	**2**	**0**	**10**	**0**	**1**	**1**	**0**	**0**
18H,6-24	**904**	**18**	**710**	**152**	**1**	**9**	**2**	**0**	**10**	**0**	**1**	**1**	**0**	**0**
24H,0-24	**921**	**18**	**723**	**156**	**1**	**9**	**2**	**0**	**10**	**0**	**1**	**1**	**0**	**0**

Data produced by
Auto Surveys Ltd

10159		HAILSHAM				Site No: 10159002		Location	Site 2 - Station Rd, Hailsham (N of access)					
	NOVEMBER 2020					Channel: Northbound								
TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	CARS OR CAR-BASED LGV	LIGHT GOODS VEHICLES	BUSES	TWO AXLE, SIX TYRE, RIGID/BUSES	THREE AXLE RIGID	FOUR OR MORE AXLE RIGID	FOUR OR LESS AXLE ARTIC	FIVE AXLE ARTIC	SIX OR MORE AXLE ARTIC	FIVE OR LESS AXLE MULTI-TRAILER ARTIC	SIX AXLE MULTI-TRAILER ARTIC	SEVEN OR MORE AXLE ARTIC
Sat 07-Nov-20														
00:00	**6**	0	6	0	0	0	0	0	0	0	0	0	0	0
01:00	**5**	0	4	0	0	0	0	0	1	0	0	0	0	0
02:00	**2**	0	2	0	0	0	0	0	0	0	0	0	0	0
03:00	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	**1**	0	1	0	0	0	0	0	0	0	0	0	0	0
05:00	**6**	0	4	2	0	0	0	0	0	0	0	0	0	0
06:00	**7**	1	5	1	0	0	0	0	0	0	0	0	0	0
07:00	**11**	0	8	2	0	1	0	0	0	0	0	0	0	0
08:00	**28**	1	21	5	0	0	0	0	1	0	0	0	0	0
09:00	**56**	0	53	3	0	0	0	0	0	0	0	0	0	0
10:00	**81**	2	65	11	0	1	0	1	1	0	0	0	0	0
11:00	**81**	4	61	13	1	0	1	0	1	0	0	0	0	0
12:00	**54**	3	45	3	0	0	0	0	3	0	0	0	0	0
13:00	**40**	1	33	4	1	0	0	0	0	0	1	0	0	0
14:00	**44**	3	35	6	0	0	0	0	0	0	0	0	0	0
15:00	**44**	6	35	3	0	0	0	0	0	0	0	0	0	0
16:00	**35**	0	31	4	0	0	0	0	0	0	0	0	0	0
17:00	**20**	0	19	1	0	0	0	0	0	0	0	0	0	0
18:00	**30**	4	24	2	0	0	0	0	0	0	0	0	0	0
19:00	**12**	2	7	3	0	0	0	0	0	0	0	0	0	0
20:00	**11**	1	9	1	0	0	0	0	0	0	0	0	0	0
21:00	**6**	1	4	1	0	0	0	0	0	0	0	0	0	0
22:00	**7**	1	6	0	0	0	0	0	0	0	0	0	0	0
23:00	**3**	0	3	0	0	0	0	0	0	0	0	0	0	0
12H,7-19	**524**	**24**	**430**	**57**	**2**	**2**	**1**	**1**	**6**	**0**	**1**	**0**	**0**	**0**
16H,6-22	**560**	**29**	**455**	**63**	**2**	**2**	**1**	**1**	**6**	**0**	**1**	**0**	**0**	**0**
18H,6-24	**570**	**30**	**464**	**63**	**2**	**2**	**1**	**1**	**6**	**0**	**1**	**0**	**0**	**0**
24H,0-24	**590**	**30**	**481**	**65**	**2**	**2**	**1**	**1**	**7**	**0**	**1**	**0**	**0**	**0**

10159 NOVEMBER 2020 HAILSHAM Site No: 10159002 Channel: Northbound Location Site 2 - Station Rd, Hailsham (N of access)

TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	CARS OR CAR-BASED LGV	LIGHT GOODS VEHICLES	BUSES	TWO AXLE, SIX TYRE, RIGID/BUSES	THREE AXLE RIGID	FOUR OR MORE AXLE RIGID	FOUR OR LESS AXLE ARTIC	FIVE AXLE ARTIC	SIX OR MORE AXLE ARTIC	FIVE OR LESS AXLE MULTI-TRAILER ARTIC	SIX AXLE MULTI-TRAILER ARTIC	SEVEN OR MORE AXLE ARTIC
Sun 08-Nov-20														
00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	1	0	1	0	0	0	0	0	0	0	0	0	0	0
02:00	3	2	1	0	0	0	0	0	0	0	0	0	0	0
03:00	3	3	0	0	0	0	0	0	0	0	0	0	0	0
04:00	5	0	3	2	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	5	0	1	4	0	0	0	0	0	0	0	0	0	0
07:00	6	0	5	1	0	0	0	0	0	0	0	0	0	0
08:00	22	1	18	2	0	0	0	0	0	0	1	0	0	0
09:00	67	4	56	7	0	0	0	0	0	0	0	0	0	0
10:00	70	4	62	2	0	0	0	0	2	0	0	0	0	0
11:00	100	6	84	7	0	1	1	0	1	0	0	0	0	0
12:00	70	4	63	2	0	0	1	0	0	0	0	0	0	0
13:00	39	6	24	6	0	1	1	0	1	0	0	0	0	0
14:00	37	6	30	1	0	0	0	0	0	0	0	0	0	0
15:00	38	1	33	3	0	0	1	0	0	0	0	0	0	0
16:00	31	1	24	6	0	0	0	0	0	0	0	0	0	0
17:00	23	2	20	1	0	0	0	0	0	0	0	0	0	0
18:00	13	0	13	0	0	0	0	0	0	0	0	0	0	0
19:00	8	0	7	1	0	0	0	0	0	0	0	0	0	0
20:00	12	2	10	0	0	0	0	0	0	0	0	0	0	0
21:00	5	0	5	0	0	0	0	0	0	0	0	0	0	0
22:00	3	0	2	1	0	0	0	0	0	0	0	0	0	0
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12H,7-19	516	35	432	38	0	2	4	0	4	0	1	0	0	0
16H,6-22	546	37	455	43	0	2	4	0	4	0	1	0	0	0
18H,6-24	549	37	457	44	0	2	4	0	4	0	1	0	0	0
24H,0-24	561	42	462	46	0	2	4	0	4	0	1	0	0	0

Data produced by
Auto Surveys Ltd

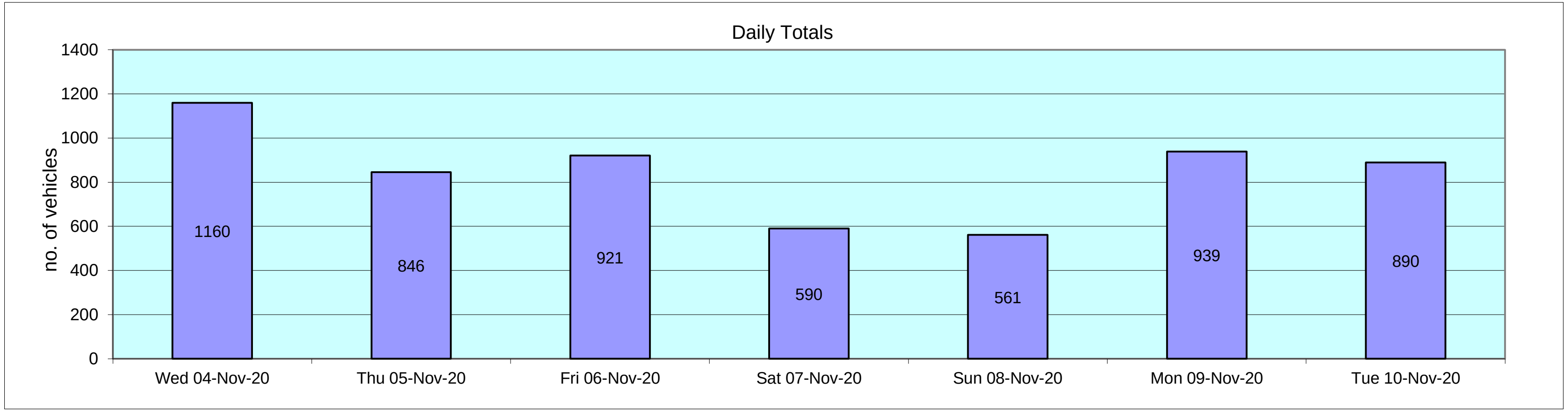
10159		HAILSHAM			Site No: 10159002		Location	Site 2 - Station Rd, Hailsham (N of access)					
NOVEMBER 2020					Channel: Northbound								
TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	CARS OR CAR-BASED LGV	LIGHT GOODS VEHICLES	BUSES	TWO AXLE, SIX TYRE, RIGID/BUSES	THREE AXLE RIGID	FOUR OR MORE AXLE RIGID	FOUR OR LESS AXLE ARTIC	FIVE AXLE ARTIC	SIX OR MORE AXLE ARTIC	FIVE OR LESS AXLE MULTI-TRAILER ARTIC	SIX AXLE MULTI-TRAILER ARTIC	SEVEN OR MORE AXLE ARTIC
Mon 09-Nov-20														
00:00	**2**	1	1	0	0	0	0	0	0	0	0	0	0	0
01:00	**2**	0	1	1	0	0	0	0	0	0	0	0	0	0
02:00	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	**2**	2	0	0	0	0	0	0	0	0	0	0	0	0
04:00	**3**	0	3	0	0	0	0	0	0	0	0	0	0	0
05:00	**7**	0	7	0	0	0	0	0	0	0	0	0	0	0
06:00	**33**	1	23	8	0	0	1	0	0	0	0	0	0	0
07:00	**81**	0	63	17	0	1	0	0	0	0	0	0	0	0
08:00	**111**	1	89	19	0	1	0	0	1	0	0	0	0	0
09:00	**76**	1	63	9	0	0	1	1	0	0	0	1	0	0
10:00	**67**	2	51	12	0	0	1	0	0	0	0	1	0	0
11:00	**88**	0	79	8	0	1	0	0	0	0	0	0	0	0
12:00	**81**	0	65	12	0	1	0	0	0	0	2	1	0	0
13:00	**67**	1	59	5	0	0	0	0	2	0	0	0	0	0
14:00	**77**	1	67	8	0	1	0	0	0	0	0	0	0	0
15:00	**66**	1	55	6	0	1	0	0	3	0	0	0	0	0
16:00	**76**	2	53	18	0	3	0	0	0	0	0	0	0	0
17:00	**43**	1	38	4	0	0	0	0	0	0	0	0	0	0
18:00	**19**	0	17	2	0	0	0	0	0	0	0	0	0	0
19:00	**10**	0	10	0	0	0	0	0	0	0	0	0	0	0
20:00	**17**	1	16	0	0	0	0	0	0	0	0	0	0	0
21:00	**9**	0	7	2	0	0	0	0	0	0	0	0	0	0
22:00	**1**	0	0	1	0	0	0	0	0	0	0	0	0	0
23:00	**1**	0	1	0	0	0	0	0	0	0	0	0	0	0
12H,7-19	**852**	**10**	**699**	**120**	**0**	**9**	**2**	**1**	**6**	**0**	**2**	**3**	**0**	**0**
16H,6-22	**921**	**12**	**755**	**130**	**0**	**9**	**3**	**1**	**6**	**0**	**2**	**3**	**0**	**0**
18H,6-24	**923**	**12**	**756**	**131**	**0**	**9**	**3**	**1**	**6**	**0**	**2**	**3**	**0**	**0**
24H,0-24	**939**	**15**	**768**	**132**	**0**	**9**	**3**	**1**	**6**	**0**	**2**	**3**	**0**	**0**

10159 HAILSHAM Site No: 10159002 Location Site 2 - Station Rd, Hailsham (N of access)

NOVEMBER 2020 Channel: Northbound

TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	CARS OR CAR-BASED LGV	LIGHT GOODS VEHICLES	BUSES	TWO AXLE, SIX TYRE, RIGID/BUSES	THREE AXLE RIGID	FOUR OR MORE AXLE RIGID	FOUR OR LESS AXLE ARTIC	FIVE AXLE ARTIC	SIX OR MORE AXLE ARTIC	FIVE OR LESS AXLE MULTI-TRAILER ARTIC	SIX AXLE MULTI-TRAILER ARTIC	SEVEN OR MORE AXLE ARTIC
Tue 10-Nov-20														
00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	4	2	2	0	0	0	0	0	0	0	0	0	0	0
02:00	3	0	3	0	0	0	0	0	0	0	0	0	0	0
03:00	2	1	1	0	0	0	0	0	0	0	0	0	0	0
04:00	1	0	1	0	0	0	0	0	0	0	0	0	0	0
05:00	7	0	6	1	0	0	0	0	0	0	0	0	0	0
06:00	31	0	22	9	0	0	0	0	0	0	0	0	0	0
07:00	82	0	62	19	0	1	0	0	0	0	0	0	0	0
08:00	91	0	75	14	0	2	0	0	0	0	0	0	0	0
09:00	59	1	47	9	0	1	0	0	0	0	0	1	0	0
10:00	80	1	57	18	0	1	0	1	1	0	1	0	0	0
11:00	79	1	61	13	0	2	1	0	0	0	0	1	0	0
12:00	76	3	59	11	2	0	1	0	0	0	0	0	0	0
13:00	62	1	54	4	0	0	0	0	3	0	0	0	0	0
14:00	82	1	67	12	0	2	0	0	0	0	0	0	0	0
15:00	60	1	47	9	0	1	0	0	2	0	0	0	0	0
16:00	74	2	49	21	0	2	0	0	0	0	0	0	0	0
17:00	36	1	33	2	0	0	0	0	0	0	0	0	0	0
18:00	22	0	21	1	0	0	0	0	0	0	0	0	0	0
19:00	12	0	11	0	0	0	0	0	0	1	0	0	0	0
20:00	15	1	14	0	0	0	0	0	0	0	0	0	0	0
21:00	9	0	7	2	0	0	0	0	0	0	0	0	0	0
22:00	2	0	0	1	0	0	0	0	0	1	0	0	0	0
23:00	1	0	1	0	0	0	0	0	0	0	0	0	0	0
12H,7-19	803	12	632	133	2	12	2	1	6	0	1	2	0	0
16H,6-22	870	13	686	144	2	12	2	1	6	1	1	2	0	0
18H,6-24	873	13	687	145	2	12	2	1	6	2	1	2	0	0
24H,0-24	890	16	700	146	2	12	2	1	6	2	1	2	0	0

10159			HAILSHAM			Site No: 10159002		Location	Site 2 - Station Rd, Hailsham (N of access)					
NOVEMBER 2020						Channel: Northbound								
TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	CARS OR CAR-BASED LGV	LIGHT GOODS VEHICLES	BUSES	TWO AXLE, SIX TYRE, RIGID/BUSES	THREE AXLE RIGID	FOUR OR MORE AXLE RIGID	FOUR OR LESS AXLE ARTIC	FIVE AXLE ARTIC	SIX OR MORE AXLE ARTIC	FIVE OR LESS AXLE MULTI-TRAILER ARTIC	SIX AXLE MULTI-TRAILER ARTIC	SEVEN OR MORE AXLE ARTIC
Daily Totals														
Wed 04-Nov-20	**1160**	21	929	185	1	9	2	1	8	0	2	2	0	0
Thu 05-Nov-20	**846**	12	643	165	1	11	2	1	9	0	0	2	0	0
Fri 06-Nov-20	**921**	18	723	156	1	9	2	0	10	0	1	1	0	0
Sat 07-Nov-20	**590**	30	481	65	2	2	1	1	7	0	1	0	0	0
Sun 08-Nov-20	**561**	42	462	46	0	2	4	0	4	0	1	0	0	0
Mon 09-Nov-20	**939**	15	768	132	0	9	3	1	6	0	2	3	0	0
Tue 10-Nov-20	**890**	16	700	146	2	12	2	1	6	2	1	2	0	0
Total Vehicles														
[--]	**5907**	154	4706	895	7	54	16	5	50	2	8	10	0	0



Data produced by
Auto Surveys Ltd

10159 HAILSHAM Site No: 10159002 Location Site 2 - Station Rd, Hailsham (N of access)

NOVEMBER 2020 Channel: Northbound

TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	MOTOR-CYCLES%	CARS	CARS %	LGV	LGV %	HGV	HGV %	BUS	BUS %
Wed 04-Nov-20											
00:00	**1**	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
01:00	**0**	0	-	0	-	0	-	0	-	0	-
02:00	**0**	0	-	0	-	0	-	0	-	0	-
03:00	**0**	0	-	0	-	0	-	0	-	0	-
04:00	**3**	0	0.0	2	66.7	0	0.0	1	33.3	0	0.0
05:00	**4**	0	0.0	4	100.0	0	0.0	0	0.0	0	0.0
06:00	**38**	1	2.6	29	76.3	8	21.1	0	0.0	0	0.0
07:00	**115**	1	0.9	86	74.8	24	20.9	4	3.5	0	0.0
08:00	**103**	1	1.0	82	79.6	19	18.5	1	1.0	0	0.0
09:00	**70**	2	2.9	58	82.9	8	11.4	2	2.9	0	0.0
10:00	**85**	2	2.4	65	76.5	14	16.5	4	4.7	0	0.0
11:00	**96**	2	2.1	69	71.9	23	24.0	2	2.1	0	0.0
12:00	**81**	2	2.5	71	87.7	6	7.4	2	2.5	0	0.0
13:00	**95**	2	2.1	79	83.2	12	12.6	2	2.1	0	0.0
14:00	**92**	2	2.2	73	79.4	15	16.3	1	1.1	1	1.1
15:00	**95**	1	1.1	73	76.8	19	20.0	2	2.1	0	0.0
16:00	**105**	0	0.0	84	80.0	19	18.1	2	1.9	0	0.0
17:00	**81**	3	3.7	69	85.2	8	9.9	1	1.2	0	0.0
18:00	**40**	2	5.0	35	87.5	3	7.5	0	0.0	0	0.0
19:00	**23**	0	0.0	21	91.3	2	8.7	0	0.0	0	0.0
20:00	**14**	0	0.0	12	85.7	2	14.3	0	0.0	0	0.0
21:00	**10**	0	0.0	9	90.0	1	10.0	0	0.0	0	0.0
22:00	**6**	0	0.0	5	83.3	1	16.7	0	0.0	0	0.0
23:00	**3**	0	0.0	2	66.7	1	33.3	0	0.0	0	0.0
12H,7-19	**1058**	**20**	**1.9**	**844**	**79.8**	**170**	**16.1**	**23**	**2.2**	**1**	**0.1**
16H,6-22	**1143**	**21**	**1.8**	**915**	**80.1**	**183**	**16.0**	**23**	**2.0**	**1**	**0.1**
18H,6-24	**1152**	**21**	**1.8**	**922**	**80.0**	**185**	**16.1**	**23**	**2.0**	**1**	**0.1**
24H,0-24	**1160**	**21**	**1.8**	**929**	**80.1**	**185**	**16.0**	**24**	**2.1**	**1**	**0.1**

10159 HAILSHAM Site No: 10159002 Location Site 2 - Station Rd, Hailsham (N of access)

NOVEMBER 2020 Channel: Northbound

TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	MOTOR-CYCLES%	CARS	CARS %	LGV	LGV %	HGV	HGV %	BUS	BUS %
Thu 05-Nov-20											
00:00	**1**	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
01:00	**1**	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
02:00	**0**	0	-	0	-	0	-	0	-	0	-
03:00	**0**	0	-	0	-	0	-	0	-	0	-
04:00	**1**	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
05:00	**8**	0	0.0	7	87.5	1	12.5	0	0.0	0	0.0
06:00	**22**	1	4.6	17	77.3	3	13.6	1	4.6	0	0.0
07:00	**81**	0	0.0	58	71.6	22	27.2	1	1.2	0	0.0
08:00	**77**	0	0.0	55	71.4	20	26.0	2	2.6	0	0.0
09:00	**52**	1	1.9	41	78.9	9	17.3	1	1.9	0	0.0
10:00	**59**	2	3.4	45	76.3	10	17.0	2	3.4	0	0.0
11:00	**68**	0	0.0	47	69.1	17	25.0	4	5.9	0	0.0
12:00	**72**	2	2.8	54	75.0	14	19.4	2	2.8	0	0.0
13:00	**61**	1	1.6	46	75.4	10	16.4	4	6.6	0	0.0
14:00	**73**	1	1.4	56	76.7	14	19.2	2	2.7	0	0.0
15:00	**73**	1	1.4	49	67.1	18	24.7	4	5.5	1	1.4
16:00	**93**	1	1.1	74	79.6	17	18.3	1	1.1	0	0.0
17:00	**46**	1	2.2	38	82.6	6	13.0	1	2.2	0	0.0
18:00	**20**	1	5.0	16	80.0	3	15.0	0	0.0	0	0.0
19:00	**22**	0	0.0	21	95.5	1	4.6	0	0.0	0	0.0
20:00	**8**	0	0.0	8	100.0	0	0.0	0	0.0	0	0.0
21:00	**4**	0	0.0	4	100.0	0	0.0	0	0.0	0	0.0
22:00	**1**	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
23:00	**3**	0	0.0	3	100.0	0	0.0	0	0.0	0	0.0
12H,7-19	**775**	**11**	**1.4**	**579**	**74.7**	**160**	**20.7**	**24**	**3.1**	**1**	**0.1**
16H,6-22	**831**	**12**	**1.4**	**629**	**75.7**	**164**	**19.7**	**25**	**3.0**	**1**	**0.1**
18H,6-24	**835**	**12**	**1.4**	**633**	**75.8**	**164**	**19.6**	**25**	**3.0**	**1**	**0.1**
24H,0-24	**846**	**12**	**1.4**	**643**	**76.0**	**165**	**19.5**	**25**	**3.0**	**1**	**0.1**

Data produced by
Auto Surveys Ltd

10159 HAILSHAM Site No: 10159002 Location Site 2 - Station Rd, Hailsham (N of access)

NOVEMBER 2020 Channel: Northbound

TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	MOTOR-CYCLES%	CARS	CARS %	LGV	LGV %	HGV	HGV %	BUS	BUS %
Fri 06-Nov-20											
00:00	**1**	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
01:00	**2**	0	0.0	2	100.0	0	0.0	0	0.0	0	0.0
02:00	**1**	0	0.0	0	0.0	1	100.0	0	0.0	0	0.0
03:00	**0**	0	-	0	-	0	-	0	-	0	-
04:00	**1**	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
05:00	**12**	0	0.0	9	75.0	3	25.0	0	0.0	0	0.0
06:00	**37**	0	0.0	32	86.5	4	10.8	1	2.7	0	0.0
07:00	**68**	1	1.5	51	75.0	16	23.5	0	0.0	0	0.0
08:00	**71**	0	0.0	54	76.1	12	16.9	5	7.0	0	0.0
09:00	**65**	3	4.6	41	63.1	18	27.7	2	3.1	1	1.5
10:00	**81**	1	1.2	61	75.3	16	19.8	3	3.7	0	0.0
11:00	**88**	4	4.6	69	78.4	13	14.8	2	2.3	0	0.0
12:00	**68**	2	2.9	49	72.1	14	20.6	3	4.4	0	0.0
13:00	**68**	1	1.5	53	77.9	12	17.7	2	2.9	0	0.0
14:00	**87**	2	2.3	69	79.3	13	14.9	3	3.5	0	0.0
15:00	**83**	0	0.0	67	80.7	16	19.3	0	0.0	0	0.0
16:00	**76**	1	1.3	68	89.5	5	6.6	2	2.6	0	0.0
17:00	**43**	2	4.7	36	83.7	5	11.6	0	0.0	0	0.0
18:00	**28**	1	3.6	24	85.7	3	10.7	0	0.0	0	0.0
19:00	**13**	0	0.0	12	92.3	1	7.7	0	0.0	0	0.0
20:00	**15**	0	0.0	12	80.0	3	20.0	0	0.0	0	0.0
21:00	**7**	0	0.0	6	85.7	1	14.3	0	0.0	0	0.0
22:00	**2**	0	0.0	2	100.0	0	0.0	0	0.0	0	0.0
23:00	**4**	0	0.0	4	100.0	0	0.0	0	0.0	0	0.0
12H,7-19	**826**	**18**	**2.2**	**642**	**77.7**	**143**	**17.3**	**22**	**2.7**	**1**	**0.1**
16H,6-22	**898**	**18**	**2.0**	**704**	**78.4**	**152**	**16.9**	**23**	**2.6**	**1**	**0.1**
18H,6-24	**904**	**18**	**2.0**	**710**	**78.5**	**152**	**16.8**	**23**	**2.5**	**1**	**0.1**
24H,0-24	**921**	**18**	**2.0**	**723**	**78.5**	**156**	**16.9**	**23**	**2.5**	**1**	**0.1**

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10159		HAILSHAM			Site No: 10159002		Location	Site 2 - Station Rd, Hailsham (N of access)			
	NOVEMBER 2020				Channel: Northbound						
TIME PERIOD	**TOTAL VEHICLES**	**MOTOR-CYCLES**	**MOTOR-CYCLES%**	**CARS**	**CARS %**	**LGV**	**LGV %**	**HGV**	**HGV %**	**BUS**	**BUS %**
Sat 07-Nov-20											
00:00	**6**	0	0.0	6	100.0	0	0.0	0	0.0	0	0.0
01:00	**5**	0	0.0	4	80.0	0	0.0	1	20.0	0	0.0
02:00	**2**	0	0.0	2	100.0	0	0.0	0	0.0	0	0.0
03:00	**0**	0	-	0	-	0	-	0	-	0	-
04:00	**1**	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
05:00	**6**	0	0.0	4	66.7	2	33.3	0	0.0	0	0.0
06:00	**7**	1	14.3	5	71.4	1	14.3	0	0.0	0	0.0
07:00	**11**	0	0.0	8	72.7	2	18.2	1	9.1	0	0.0
08:00	**28**	1	3.6	21	75.0	5	17.9	1	3.6	0	0.0
09:00	**56**	0	0.0	53	94.6	3	5.4	0	0.0	0	0.0
10:00	**81**	2	2.5	65	80.3	11	13.6	3	3.7	0	0.0
11:00	**81**	4	4.9	61	75.3	13	16.1	2	2.5	1	1.2
12:00	**54**	3	5.6	45	83.3	3	5.6	3	5.6	0	0.0
13:00	**40**	1	2.5	33	82.5	4	10.0	1	2.5	1	2.5
14:00	**44**	3	6.8	35	79.6	6	13.6	0	0.0	0	0.0
15:00	**44**	6	13.6	35	79.6	3	6.8	0	0.0	0	0.0
16:00	**35**	0	0.0	31	88.6	4	11.4	0	0.0	0	0.0
17:00	**20**	0	0.0	19	95.0	1	5.0	0	0.0	0	0.0
18:00	**30**	4	13.3	24	80.0	2	6.7	0	0.0	0	0.0
19:00	**12**	2	16.7	7	58.3	3	25.0	0	0.0	0	0.0
20:00	**11**	1	9.1	9	81.8	1	9.1	0	0.0	0	0.0
21:00	**6**	1	16.7	4	66.7	1	16.7	0	0.0	0	0.0
22:00	**7**	1	14.3	6	85.7	0	0.0	0	0.0	0	0.0
23:00	**3**	0	0.0	3	100.0	0	0.0	0	0.0	0	0.0
12H,7-19	**524**	**24**	**4.6**	**430**	**82.1**	**57**	**10.9**	**11**	**2.1**	**2**	**0.4**
16H,6-22	**560**	**29**	**5.2**	**455**	**81.3**	**63**	**11.3**	**11**	**2.0**	**2**	**0.4**
18H,6-24	**570**	**30**	**5.3**	**464**	**81.4**	**63**	**11.1**	**11**	**1.9**	**2**	**0.4**
24H,0-24	**590**	**30**	**5.1**	**481**	**81.5**	**65**	**11.0**	**12**	**2.0**	**2**	**0.3**

10159		HAILSHAM			Site No: 10159002		Location	Site 2 - Station Rd, Hailsham (N of access)			
	NOVEMBER 2020				Channel: Northbound						
TIME PERIOD	**TOTAL VEHICLES**	**MOTOR-CYCLES**	**MOTOR-CYCLES%**	**CARS**	**CARS %**	**LGV**	**LGV %**	**HGV**	**HGV %**	**BUS**	**BUS %**
Sun 08-Nov-20											
00:00	**0**	0	-	0	-	0	-	0	-	0	-
01:00	**1**	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
02:00	**3**	2	66.7	1	33.3	0	0.0	0	0.0	0	0.0
03:00	**3**	3	100.0	0	0.0	0	0.0	0	0.0	0	0.0
04:00	**5**	0	0.0	3	60.0	2	40.0	0	0.0	0	0.0
05:00	**0**	0	-	0	-	0	-	0	-	0	-
06:00	**5**	0	0.0	1	20.0	4	80.0	0	0.0	0	0.0
07:00	**6**	0	0.0	5	83.3	1	16.7	0	0.0	0	0.0
08:00	**22**	1	4.6	18	81.8	2	9.1	1	4.6	0	0.0
09:00	**67**	4	6.0	56	83.6	7	10.5	0	0.0	0	0.0
10:00	**70**	4	5.7	62	88.6	2	2.9	2	2.9	0	0.0
11:00	**100**	6	6.0	84	84.0	7	7.0	3	3.0	0	0.0
12:00	**70**	4	5.7	63	90.0	2	2.9	1	1.4	0	0.0
13:00	**39**	6	15.4	24	61.5	6	15.4	3	7.7	0	0.0
14:00	**37**	6	16.2	30	81.1	1	2.7	0	0.0	0	0.0
15:00	**38**	1	2.6	33	86.8	3	7.9	1	2.6	0	0.0
16:00	**31**	1	3.2	24	77.4	6	19.4	0	0.0	0	0.0
17:00	**23**	2	8.7	20	87.0	1	4.4	0	0.0	0	0.0
18:00	**13**	0	0.0	13	100.0	0	0.0	0	0.0	0	0.0
19:00	**8**	0	0.0	7	87.5	1	12.5	0	0.0	0	0.0
20:00	**12**	2	16.7	10	83.3	0	0.0	0	0.0	0	0.0
21:00	**5**	0	0.0	5	100.0	0	0.0	0	0.0	0	0.0
22:00	**3**	0	0.0	2	66.7	1	33.3	0	0.0	0	0.0
23:00	**0**	0	-	0	-	0	-	0	-	0	-
12H,7-19	**516**	**35**	**6.8**	**432**	**83.7**	**38**	**7.4**	**11**	**2.1**	**0**	**0.0**
16H,6-22	**546**	**37**	**6.8**	**455**	**83.3**	**43**	**7.9**	**11**	**2.0**	**0**	**0.0**
18H,6-24	**549**	**37**	**6.7**	**457**	**83.2**	**44**	**8.0**	**11**	**2.0**	**0**	**0.0**
24H,0-24	**561**	**42**	**7.5**	**462**	**82.4**	**46**	**8.2**	**11**	**2.0**	**0**	**0.0**

10159		HAILSHAM			Site No: 10159002		Location	Site 2 - Station Rd, Hailsham (N of access)			
	NOVEMBER 2020				Channel: Northbound						
TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	MOTOR-CYCLES%	CARS	CARS %	LGV	LGV %	HGV	HGV %	BUS	BUS %
Mon 09-Nov-20											
00:00	**2**	1	50.0	1	50.0	0	0.0	0	0.0	0	0.0
01:00	**2**	0	0.0	1	50.0	1	50.0	0	0.0	0	0.0
02:00	**0**	0	-	0	-	0	-	0	-	0	-
03:00	**2**	2	100.0	0	0.0	0	0.0	0	0.0	0	0.0
04:00	**3**	0	0.0	3	100.0	0	0.0	0	0.0	0	0.0
05:00	**7**	0	0.0	7	100.0	0	0.0	0	0.0	0	0.0
06:00	**33**	1	3.0	23	69.7	8	24.2	1	3.0	0	0.0
07:00	**81**	0	0.0	63	77.8	17	21.0	1	1.2	0	0.0
08:00	**111**	1	0.9	89	80.2	19	17.1	2	1.8	0	0.0
09:00	**76**	1	1.3	63	82.9	9	11.8	3	4.0	0	0.0
10:00	**67**	2	3.0	51	76.1	12	17.9	2	3.0	0	0.0
11:00	**88**	0	0.0	79	89.8	8	9.1	1	1.1	0	0.0
12:00	**81**	0	0.0	65	80.3	12	14.8	4	4.9	0	0.0
13:00	**67**	1	1.5	59	88.1	5	7.5	2	3.0	0	0.0
14:00	**77**	1	1.3	67	87.0	8	10.4	1	1.3	0	0.0
15:00	**66**	1	1.5	55	83.3	6	9.1	4	6.1	0	0.0
16:00	**76**	2	2.6	53	69.7	18	23.7	3	4.0	0	0.0
17:00	**43**	1	2.3	38	88.4	4	9.3	0	0.0	0	0.0
18:00	**19**	0	0.0	17	89.5	2	10.5	0	0.0	0	0.0
19:00	**10**	0	0.0	10	100.0	0	0.0	0	0.0	0	0.0
20:00	**17**	1	5.9	16	94.1	0	0.0	0	0.0	0	0.0
21:00	**9**	0	0.0	7	77.8	2	22.2	0	0.0	0	0.0
22:00	**1**	0	0.0	0	0.0	1	100.0	0	0.0	0	0.0
23:00	**1**	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
12H,7-19	**852**	**10**	**1.2**	**699**	**82.0**	**120**	**14.1**	**23**	**2.7**	**0**	**0.0**
16H,6-22	**921**	**12**	**1.3**	**755**	**82.0**	**130**	**14.1**	**24**	**2.6**	**0**	**0.0**
18H,6-24	**923**	**12**	**1.3**	**756**	**81.9**	**131**	**14.2**	**24**	**2.6**	**0**	**0.0**
24H,0-24	**939**	**15**	**1.6**	**768**	**81.8**	**132**	**14.1**	**24**	**2.6**	**0**	**0.0**

10159		HAILSHAM			Site No: 10159002		Location	Site 2 - Station Rd, Hailsham (N of access)			
	NOVEMBER 2020				Channel: Northbound						
TIME PERIOD	**TOTAL VEHICLES**	**MOTOR-CYCLES**	**MOTOR-CYCLES%**	**CARS**	**CARS %**	**LGV**	**LGV %**	**HGV**	**HGV %**	**BUS**	**BUS %**
Tue 10-Nov-20											
00:00	**0**	0	-	0	-	0	-	0	-	0	-
01:00	**4**	2	50.0	2	50.0	0	0.0	0	0.0	0	0.0
02:00	**3**	0	0.0	3	100.0	0	0.0	0	0.0	0	0.0
03:00	**2**	1	50.0	1	50.0	0	0.0	0	0.0	0	0.0
04:00	**1**	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
05:00	**7**	0	0.0	6	85.7	1	14.3	0	0.0	0	0.0
06:00	**31**	0	0.0	22	71.0	9	29.0	0	0.0	0	0.0
07:00	**82**	0	0.0	62	75.6	19	23.2	1	1.2	0	0.0
08:00	**91**	0	0.0	75	82.4	14	15.4	2	2.2	0	0.0
09:00	**59**	1	1.7	47	79.7	9	15.3	2	3.4	0	0.0
10:00	**80**	1	1.3	57	71.3	18	22.5	4	5.0	0	0.0
11:00	**79**	1	1.3	61	77.2	13	16.5	4	5.1	0	0.0
12:00	**76**	3	4.0	59	77.6	11	14.5	1	1.3	2	2.6
13:00	**62**	1	1.6	54	87.1	4	6.5	3	4.8	0	0.0
14:00	**82**	1	1.2	67	81.7	12	14.6	2	2.4	0	0.0
15:00	**60**	1	1.7	47	78.3	9	15.0	3	5.0	0	0.0
16:00	**74**	2	2.7	49	66.2	21	28.4	2	2.7	0	0.0
17:00	**36**	1	2.8	33	91.7	2	5.6	0	0.0	0	0.0
18:00	**22**	0	0.0	21	95.5	1	4.6	0	0.0	0	0.0
19:00	**12**	0	0.0	11	91.7	0	0.0	1	8.3	0	0.0
20:00	**15**	1	6.7	14	93.3	0	0.0	0	0.0	0	0.0
21:00	**9**	0	0.0	7	77.8	2	22.2	0	0.0	0	0.0
22:00	**2**	0	0.0	0	0.0	1	50.0	1	50.0	0	0.0
23:00	**1**	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
12H,7-19	**803**	**12**	**1.5**	**632**	**78.7**	**133**	**16.6**	**24**	**3.0**	**2**	**0.3**
16H,6-22	**870**	**13**	**1.5**	**686**	**78.9**	**144**	**16.6**	**25**	**2.9**	**2**	**0.2**
18H,6-24	**873**	**13**	**1.5**	**687**	**78.7**	**145**	**16.6**	**26**	**3.0**	**2**	**0.2**
24H,0-24	**890**	**16**	**1.8**	**700**	**78.7**	**146**	**16.4**	**26**	**2.9**	**2**	**0.2**

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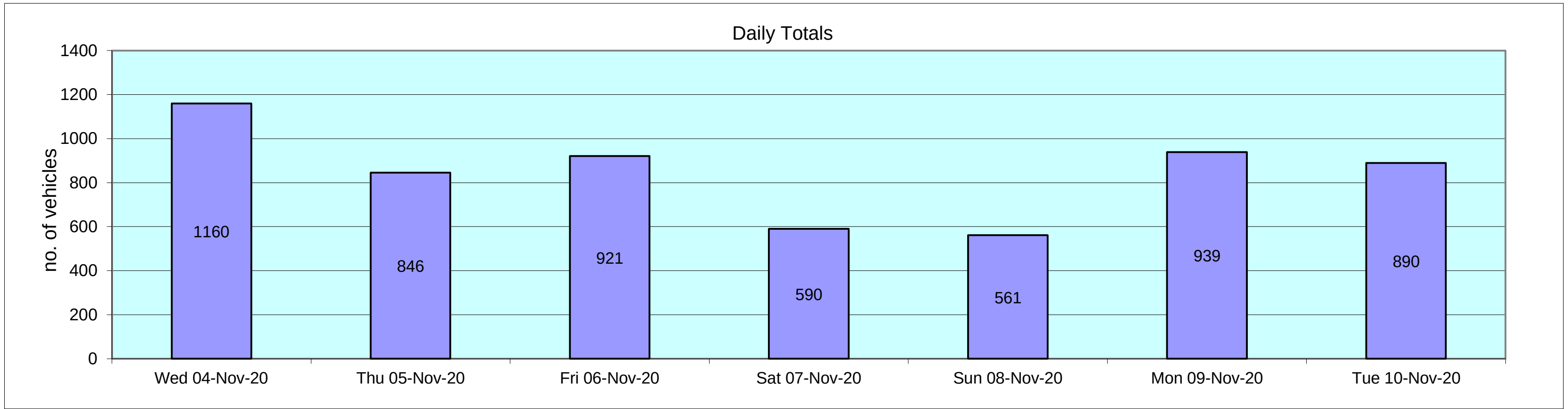
10159 HAILSHAM Site No: 10159002 Location Site 2 - Station Rd, Hailsham (N of access)

NOVEMBER 2020 Channel: Northbound

TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	MOTOR-CYCLES%	CARS	CARS %	LGV	LGV %	HGV	HGV %	BUS	BUS %
Daily Totals											
Wed 04-Nov-20	**1160**	21	1.8	929	80.1	185	16.0	24	2.1	1	0.1
Thu 05-Nov-20	**846**	12	1.4	643	76.0	165	19.5	25	3.0	1	0.1
Fri 06-Nov-20	**921**	18	2.0	723	78.5	156	16.9	23	2.5	1	0.1
Sat 07-Nov-20	**590**	30	5.1	481	81.5	65	11.0	12	2.0	2	0.3
Sun 08-Nov-20	**561**	42	7.5	462	82.4	46	8.2	11	2.0	0	0.0
Mon 09-Nov-20	**939**	15	1.6	768	81.8	132	14.1	24	2.6	0	0.0
Tue 10-Nov-20	**890**	16	1.8	700	78.7	146	16.4	26	2.9	2	0.2
Total Vehicles											
[--]	**5907**	154	3.0	4706	79.8	895	14.6	145	2.4	7	0.1



Data produced by
Auto Surveys Ltd

10159		HAILSHAM					Site No: 10159002			Location	Site 2 - Station Rd, Hailsham (N of access)					
	NOVEMBER 2020						Channel: Northbound									
Time Period	Total Vehicles	85%ile Speed	Mean Speed	Stand Dev.	<6Mph	30	11-<16	16-<21	21-<26	26-<31	31-<36	36-<41	41-<46	46-<51	51-<56	=>56
Wed 04-Nov-20																
00:00	**1**	-	38.5	-	0	0	0	0	0	0	0	1	0	0	0	0
01:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
02:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
03:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
04:00	**3**	-	30.2	5.9	0	0	0	0	1	0	2	0	0	0	0	0
05:00	**4**	-	34.8	8.5	0	0	0	0	1	0	1	1	1	0	0	0
06:00	**38**	39.8	32.7	6.8	0	0	1	0	4	9	14	5	5	0	0	0
07:00	**115**	35.8	30.5	5.7	0	0	2	3	14	41	39	14	2	0	0	0
08:00	**103**	38	31.8	6.1	0	0	2	1	11	32	33	20	3	1	0	0
09:00	**70**	35.2	29.4	6.6	0	1	1	3	12	27	18	6	1	1	0	0
10:00	**85**	35.7	29	7.3	0	1	4	5	12	32	19	11	0	0	1	0
11:00	**96**	33.1	26.7	6.6	0	3	1	7	35	30	12	7	1	0	0	0
12:00	**81**	34.3	29.1	6	0	0	4	3	8	38	23	3	2	0	0	0
13:00	**95**	34.6	28.7	6.1	0	0	2	7	21	28	31	4	2	0	0	0
14:00	**92**	36.6	30	6.3	0	0	1	4	21	25	25	14	2	0	0	0
15:00	**95**	36.8	30.7	5.8	0	0	1	2	14	34	27	15	2	0	0	0
16:00	**105**	35.8	30.9	5.4	0	0	0	1	14	44	31	11	3	1	0	0
17:00	**81**	40.8	34.7	6.4	0	0	0	1	6	12	31	19	10	1	1	0
18:00	**40**	39.8	33.3	6.6	0	0	1	0	1	13	14	6	4	1	0	0
19:00	**23**	38.9	33.3	5.7	0	0	0	0	3	4	8	7	1	0	0	0
20:00	**14**	39.4	34.9	4.8	0	0	0	0	0	3	5	5	1	0	0	0
21:00	**10**	34.8	31.5	7.3	0	0	0	0	2	3	4	0	0	1	0	0
22:00	**6**	-	36.8	7.6	0	0	0	0	1	0	1	2	2	0	0	0
23:00	**3**	-	36.8	14.5	0	0	0	0	0	2	0	0	0	0	1	0
12H,7-19	**1058**	**36.4**	**30.2**	**6.5**	**0**	**5**	**19**	**37**	**169**	**356**	**303**	**130**	**32**	**5**	**2**	**0**
16H,6-22	**1143**	**36.8**	**30.5**	**6.5**	**0**	**5**	**20**	**37**	**178**	**375**	**334**	**147**	**39**	**6**	**2**	**0**
18H,6-24	**1152**	**36.9**	**30.5**	**6.5**	**0**	**5**	**20**	**37**	**179**	**377**	**335**	**149**	**41**	**6**	**3**	**0**
24H,0-24	**1160**	**36.9**	**30.5**	**6.5**	**0**	**5**	**20**	**37**	**181**	**377**	**338**	**151**	**42**	**6**	**3**	**0**

Data produced by
Auto Surveys Ltd

10159		HAILSHAM					Site No: 10159002			Location	Site 2 - Station Rd, Hailsham (N of access)					
	NOVEMBER 2020						Channel: Northbound									

Time Period	Total Vehicles	85%ile Speed	Mean Speed	Stand Dev.	<6Mph	30	11-<16	16-<21	21-<26	26-<31	31-<36	36-<41	41-<46	46-<51	51-<56	=>56
Thu 05-Nov-20																
00:00	**1**	-	33.5	-	0	0	0	0	0	0	1	0	0	0	0	0
01:00	**1**	-	23.5	-	0	0	0	0	1	0	0	0	0	0	0	0
02:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
03:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
04:00	**1**	-	33.5	-	0	0	0	0	0	0	1	0	0	0	0	0
05:00	**8**	-	38.5	6.6	0	0	0	0	0	1	2	2	2	1	0	0
06:00	**22**	38.8	32.6	6.6	0	0	0	1	0	10	5	4	1	1	0	0
07:00	**81**	36.1	31.8	4.6	0	0	0	1	4	31	32	12	1	0	0	0
08:00	**77**	35.7	30.3	5.9	0	0	1	1	13	32	19	7	4	0	0	0
09:00	**52**	35.8	31.7	6	0	0	0	2	4	17	21	6	1	0	1	0
10:00	**59**	37.5	30.2	8.2	0	4	1	1	3	21	17	9	3	0	0	0
11:00	**68**	36.7	30.7	5.5	0	0	0	1	9	32	14	9	3	0	0	0
12:00	**72**	34.4	28.6	6	0	0	2	4	15	28	17	5	1	0	0	0
13:00	**61**	35.1	29.2	6.8	0	1	1	1	14	23	14	4	2	1	0	0
14:00	**73**	36.8	30.1	6.3	0	0	2	1	13	29	15	10	3	0	0	0
15:00	**73**	35.7	30.1	6.3	0	0	1	4	12	22	24	8	1	1	0	0
16:00	**93**	35.8	31.3	6	0	0	3	0	10	27	40	8	5	0	0	0
17:00	**46**	38.9	32.1	7.6	0	1	0	0	8	10	15	8	3	0	1	0
18:00	**20**	41.6	32.8	7.6	0	0	1	0	1	6	7	1	4	0	0	0
19:00	**22**	43	37.4	7.3	0	0	0	1	0	2	5	9	3	1	1	0
20:00	**8**	-	36.6	8.5	0	0	0	0	0	2	3	1	1	0	1	0
21:00	**4**	-	34.8	4.9	0	0	0	0	0	1	1	2	0	0	0	0
22:00	**1**	-	33.5	-	0	0	0	0	0	0	1	0	0	0	0	0
23:00	**3**	-	38.5	13.2	0	0	0	0	0	1	1	0	0	0	1	0
12H,7-19	**775**	**36.3**	**30.6**	**6.4**	**0**	**6**	**12**	**16**	**106**	**278**	**235**	**87**	**31**	**2**	**2**	**0**
16H,6-22	**831**	**37.1**	**30.9**	**6.5**	**0**	**6**	**12**	**18**	**106**	**293**	**249**	**103**	**36**	**4**	**4**	**0**
18H,6-24	**835**	**37.1**	**30.9**	**6.6**	**0**	**6**	**12**	**18**	**106**	**294**	**251**	**103**	**36**	**4**	**5**	**0**
24H,0-24	**846**	**37.2**	**31**	**6.6**	**0**	**6**	**12**	**18**	**107**	**295**	**255**	**105**	**38**	**5**	**5**	**0**

Data produced by
Auto Surveys Ltd

10159			HAILSHAM					Site No: 10159002			Location	Site 2 - Station Rd, Hailsham (N of access)				
	NOVEMBER 2020							Channel: Northbound								
Time Period	**Total Vehicles**	**85%ile Speed**	**Mean Speed**	**Stand Dev.**	**<6Mph**	**30**	**11-<16**	**16-<21**	**21-<26**	**26-<31**	**31-<36**	**36-<41**	**41-<46**	**46-<51**	**51-<56**	**=>56**
Fri 06-Nov-20																
00:00	**1**	-	28.5	-	0	0	0	0	0	1	0	0	0	0	0	0
01:00	**2**	-	38.5	7.1	0	0	0	0	0	0	1	0	1	0	0	0
02:00	**1**	-	43.5	-	0	0	0	0	0	0	0	0	1	0	0	0
03:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
04:00	**1**	-	33.5	-	0	0	0	0	0	0	1	0	0	0	0	0
05:00	**12**	42.8	34.8	7.2	0	0	0	0	0	5	3	1	2	1	0	0
06:00	**37**	38.5	33.2	5.1	0	0	0	0	3	8	15	10	1	0	0	0
07:00	**68**	38.7	32.8	5.9	0	0	1	0	5	20	21	19	1	1	0	0
08:00	**71**	37.4	31.7	5.7	0	0	0	2	6	26	23	10	4	0	0	0
09:00	**65**	34.6	29.3	5.5	0	0	2	0	10	34	12	6	1	0	0	0
10:00	**81**	35.6	29.4	6.8	0	0	1	8	13	28	20	6	5	0	0	0
11:00	**88**	34.1	28.2	6.4	0	2	1	6	16	38	18	5	2	0	0	0
12:00	**68**	35.8	29.8	6.1	0	0	0	3	15	24	16	8	1	1	0	0
13:00	**68**	34.2	29.5	4.9	0	0	0	0	14	33	16	4	0	1	0	0
14:00	**87**	35.3	29.4	7	0	2	2	2	17	28	26	7	2	1	0	0
15:00	**83**	37.3	32	4.8	0	0	0	0	7	29	30	16	1	0	0	0
16:00	**76**	38.6	31.2	7.3	0	0	1	3	12	25	19	8	5	3	0	0
17:00	**43**	42.3	34.8	8.2	0	0	1	0	5	7	11	11	4	3	1	0
18:00	**28**	40.5	34	7.1	0	0	1	0	0	9	7	7	3	1	0	0
19:00	**13**	42.4	37.3	7.2	0	0	0	0	0	3	2	5	2	0	1	0
20:00	**15**	42.6	33.5	8.8	0	0	0	0	5	2	0	4	4	0	0	0
21:00	**7**	-	37.8	8.9	0	0	0	0	0	2	1	2	1	0	1	0
22:00	**2**	-	41	10.6	0	0	0	0	0	0	1	0	0	1	0	0
23:00	**4**	-	31	3.2	0	0	0	0	0	2	2	0	0	0	0	0
12H,7-19	**826**	**37.1**	**30.6**	**6.5**	**0**	**4**	**10**	**24**	**120**	**301**	**219**	**107**	**29**	**11**	**1**	**0**
16H,6-22	**898**	**37.7**	**31**	**6.6**	**0**	**4**	**10**	**24**	**128**	**316**	**237**	**128**	**37**	**11**	**3**	**0**
18H,6-24	**904**	**37.7**	**31**	**6.6**	**0**	**4**	**10**	**24**	**128**	**318**	**240**	**128**	**37**	**12**	**3**	**0**
24H,0-24	**921**	**37.8**	**31.1**	**6.6**	**0**	**4**	**10**	**24**	**128**	**324**	**245**	**129**	**41**	**13**	**3**	**0**

Data produced by
Auto Surveys Ltd

10159		HAILSHAM				Site No: 10159002			Location	Site 2 - Station Rd, Hailsham (N of access)						
	NOVEMBER 2020					Channel: Northbound										
Time Period	Total Vehicles	85%ile Speed	Mean Speed	Stand Dev.	<6Mph	30	11-<16	16-<21	21-<26	26-<31	31-<36	36-<41	41-<46	46-<51	51-<56	=>56
Sat 07-Nov-20																
00:00	**6**	-	34.3	9.3	0	0	0	1	0	0	3	0	2	0	0	0
01:00	**5**	-	23.5	9.4	0	0	1	1	2	0	0	1	0	0	0	0
02:00	**2**	-	33.5	1.8	0	0	0	0	0	0	2	0	0	0	0	0
03:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
04:00	**1**	-	33.5	-	0	0	0	0	0	0	1	0	0	0	0	0
05:00	**6**	-	33.5	4.7	0	0	0	0	0	2	2	2	0	0	0	0
06:00	**7**	-	32.8	6.8	0	0	0	0	1	2	2	1	1	0	0	0
07:00	**11**	38.1	31.2	7	0	0	0	0	3	3	2	2	1	0	0	0
08:00	**28**	39.8	32.1	8.1	0	0	1	1	4	7	5	7	2	1	0	0
09:00	**56**	37.9	30.8	6.8	0	0	0	4	9	16	15	8	4	0	0	0
10:00	**81**	35.5	29.5	6.7	0	1	3	2	9	37	18	9	1	1	0	0
11:00	**81**	36.2	29.6	7	0	1	3	0	17	30	17	9	3	1	0	0
12:00	**54**	34.4	28	6.8	0	1	3	0	14	20	11	4	1	0	0	0
13:00	**40**	35.6	29.3	7	0	2	0	1	5	17	9	6	0	0	0	0
14:00	**44**	35.6	30.3	7.7	0	2	1	0	2	20	13	4	0	2	0	0
15:00	**44**	38.4	30.1	9.8	0	4	2	0	4	9	14	8	2	1	0	0
16:00	**35**	38.7	31.6	8	0	0	0	1	6	14	5	6	1	0	2	0
17:00	**20**	39.9	34	6.2	0	0	0	0	2	5	4	7	2	0	0	0
18:00	**30**	40.1	32.5	9.2	0	0	4	0	1	5	6	11	3	0	0	0
19:00	**12**	37.2	30.2	9.7	0	1	1	0	0	2	5	3	0	0	0	0
20:00	**11**	33.1	28.5	7.2	0	0	0	2	1	5	2	0	1	0	0	0
21:00	**6**	-	28.5	9.6	0	0	1	0	1	2	0	2	0	0	0	0
22:00	**7**	-	33.5	10.5	0	0	1	0	0	1	2	1	2	0	0	0
23:00	**3**	-	33.5	5	0	0	0	0	0	1	1	1	0	0	0	0
12H,7-19	**524**	**37.8**	**30.3**	**7.5**	**0**	**11**	**17**	**9**	**76**	**183**	**119**	**81**	**20**	**6**	**2**	**0**
16H,6-22	**560**	**37.9**	**30.3**	**7.6**	**0**	**12**	**19**	**11**	**79**	**194**	**128**	**87**	**22**	**6**	**2**	**0**
18H,6-24	**570**	**38**	**30.3**	**7.6**	**0**	**12**	**20**	**11**	**79**	**196**	**131**	**89**	**24**	**6**	**2**	**0**
24H,0-24	**590**	**38**	**30.3**	**7.6**	**0**	**12**	**21**	**13**	**81**	**198**	**139**	**92**	**26**	**6**	**2**	**0**

Data produced by
Auto Surveys Ltd

10159		HAILSHAM					Site No: 10159002			Location	Site 2 - Station Rd, Hailsham (N of access)					
	NOVEMBER 2020						Channel: Northbound									
Time Period	Total Vehicles	85%ile Speed	Mean Speed	Stand Dev.	<6Mph	30	11-<16	16-<21	21-<26	26-<31	31-<36	36-<41	41-<46	46-<51	51-<56	=>56
Sun 08-Nov-20																
00:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
01:00	**1**	-	28.5	-	0	0	0	0	0	1	0	0	0	0	0	0
02:00	**3**	-	16.8	10.4	0	1	1	0	0	1	0	0	0	0	0	0
03:00	**3**	-	11.8	3.1	0	1	2	0	0	0	0	0	0	0	0	0
04:00	**5**	-	36.5	10.4	0	0	0	0	0	2	1	1	0	0	1	0
05:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
06:00	**5**	-	32.5	4.4	0	0	0	0	0	2	2	1	0	0	0	0
07:00	**6**	-	36	6.3	0	0	0	0	0	1	3	0	2	0	0	0
08:00	**22**	36.3	30.1	6.2	0	0	1	0	3	9	5	4	0	0	0	0
09:00	**67**	34.1	28	7.5	0	2	4	4	7	29	17	3	0	0	1	0
10:00	**70**	34.9	28.2	7.6	0	1	4	4	17	18	19	4	2	1	0	0
11:00	**100**	32.3	24.5	7.6	0	4	10	20	18	28	17	2	1	0	0	0
12:00	**70**	37.7	30.5	7.8	0	0	4	1	11	23	18	6	6	0	1	0
13:00	**39**	38	28.7	10.3	1	1	6	0	4	7	10	9	0	1	0	0
14:00	**37**	35.3	26.2	9.6	0	2	7	1	5	9	8	4	1	0	0	0
15:00	**38**	39.2	31.1	8	0	1	1	1	4	12	9	6	4	0	0	0
16:00	**31**	39.9	32.9	7.5	0	0	1	0	2	11	8	5	2	2	0	0
17:00	**23**	41.1	35.2	9.3	0	0	2	0	0	4	4	9	2	1	1	0
18:00	**13**	37.9	32.3	5.3	0	0	0	0	1	5	3	4	0	0	0	0
19:00	**8**	-	30.4	6.6	0	0	0	1	1	1	4	1	0	0	0	0
20:00	**12**	44.5	32.3	12.3	0	0	2	0	1	3	1	3	0	1	1	0
21:00	**5**	-	35.5	7.7	0	0	0	0	0	1	3	0	0	1	0	0
22:00	**3**	-	35.2	3.1	0	0	0	0	0	0	2	1	0	0	0	0
23:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
12H,7-19	**516**	**36.5**	**28.7**	**8.5**	**1**	**11**	**40**	**31**	**72**	**156**	**121**	**56**	**20**	**5**	**3**	**0**
16H,6-22	**546**	**36.8**	**28.9**	**8.5**	**1**	**11**	**42**	**32**	**74**	**163**	**131**	**61**	**20**	**7**	**4**	**0**
18H,6-24	**549**	**36.8**	**29**	**8.5**	**1**	**11**	**42**	**32**	**74**	**163**	**133**	**62**	**20**	**7**	**4**	**0**
24H,0-24	**561**	**36.8**	**28.9**	**8.7**	**1**	**13**	**45**	**32**	**74**	**167**	**134**	**63**	**20**	**7**	**5**	**0**

Data produced by
Auto Surveys Ltd

10159 HAILSHAM Site No: 10159002 Location Site 2 - Station Rd, Hailsham (N of access)

NOVEMBER 2020 Channel: Northbound

Time Period	Total Vehicles	85%ile Speed	Mean Speed	Stand Dev.	<6Mph	30	11-<16	16-<21	21-<26	26-<31	31-<36	36-<41	41-<46	46-<51	51-<56	=>56
Mon 09-Nov-20																
00:00	**2**	-	21	10.6	0	0	1	0	0	1	0	0	0	0	0	0
01:00	**2**	-	31	10.6	0	0	0	0	1	0	0	1	0	0	0	0
02:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
03:00	**2**	-	13.5	1.8	0	0	2	0	0	0	0	0	0	0	0	0
04:00	**3**	-	31.8	3.1	0	0	0	0	0	1	2	0	0	0	0	0
05:00	**7**	-	33.5	8.2	0	0	0	0	1	2	2	1	0	1	0	0
06:00	**33**	35.6	32.6	3.9	0	0	0	0	1	9	18	5	0	0	0	0
07:00	**81**	39	32.9	6	0	0	0	3	4	23	25	22	3	1	0	0
08:00	**111**	35.4	30.5	5.9	0	0	2	3	11	43	40	11	0	0	0	1
09:00	**76**	35.1	28.6	6	0	0	1	2	27	21	16	8	1	0	0	0
10:00	**67**	35.5	29.4	6.8	0	1	1	1	16	24	15	6	2	1	0	0
11:00	**88**	34.5	28.3	5.9	0	0	2	6	23	25	26	6	0	0	0	0
12:00	**81**	35.7	30.6	5.6	0	0	0	2	12	32	24	7	4	0	0	0
13:00	**67**	33.8	27.9	5.9	0	0	1	5	18	28	8	6	1	0	0	0
14:00	**77**	33.9	28.2	6.2	0	1	0	4	22	27	19	3	0	0	1	0
15:00	**66**	34.2	28.7	6	0	0	3	4	8	28	20	2	1	0	0	0
16:00	**76**	34.9	29.1	6	0	0	2	3	17	24	23	6	1	0	0	0
17:00	**43**	34.9	29.1	6.4	0	0	2	2	5	20	9	4	1	0	0	0
18:00	**19**	39.5	34	5.9	0	0	0	0	2	4	4	8	1	0	0	0
19:00	**10**	34.3	30.5	4.4	0	0	0	0	1	5	3	1	0	0	0	0
20:00	**17**	39.7	33.8	6.9	0	0	0	0	4	1	3	8	1	0	0	0
21:00	**9**	-	30.7	4.6	0	0	0	0	1	4	3	1	0	0	0	0
22:00	**1**	-	43.5	-	0	0	0	0	0	0	0	0	1	0	0	0
23:00	**1**	-	33.5	-	0	0	0	0	0	0	1	0	0	0	0	0
12H,7-19	**852**	**35.6**	**29.6**	**6.2**	**0**	**2**	**14**	**35**	**165**	**299**	**229**	**89**	**15**	**2**	**1**	**1**
16H,6-22	**921**	**35.7**	**29.8**	**6.2**	**0**	**2**	**14**	**35**	**172**	**318**	**256**	**104**	**16**	**2**	**1**	**1**
18H,6-24	**923**	**35.7**	**29.8**	**6.2**	**0**	**2**	**14**	**35**	**172**	**318**	**257**	**104**	**17**	**2**	**1**	**1**
24H,0-24	**939**	**35.7**	**29.8**	**6.2**	**0**	**2**	**17**	**35**	**174**	**322**	**261**	**106**	**17**	**3**	**1**	**1**

10159		HAILSHAM				Site No: 10159002			Location	Site 2 - Station Rd, Hailsham (N of access)						
	NOVEMBER 2020					Channel: Northbound										
Time Period	Total Vehicles	85%ile Speed	Mean Speed	Stand Dev.	<6Mph	30	11-<16	16-<21	21-<26	26-<31	31-<36	36-<41	41-<46	46-<51	51-<56	=>56
Tue 10-Nov-20																
00:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
01:00	**4**	-	23.5	12.3	0	0	2	0	0	1	0	1	0	0	0	0
02:00	**3**	-	40.2	17.6	0	0	0	0	1	0	0	1	0	0	0	1
03:00	**2**	-	23.5	14.1	0	0	1	0	0	0	1	0	0	0	0	0
04:00	**1**	-	58.5	-	0	0	0	0	0	0	0	0	0	0	0	1
05:00	**7**	-	35.6	4.2	0	0	0	0	0	1	2	4	0	0	0	0
06:00	**31**	35.9	31.6	4.5	0	0	0	0	2	13	11	5	0	0	0	0
07:00	**82**	36.5	31.9	5.4	0	0	0	4	3	25	36	11	3	0	0	0
08:00	**91**	35.6	31.2	5.1	0	0	0	2	10	28	40	9	2	0	0	0
09:00	**59**	33.2	27.7	5.4	0	0	1	3	18	22	13	1	1	0	0	0
10:00	**80**	34.2	28.8	6.1	0	0	1	1	23	33	15	6	0	0	0	1
11:00	**79**	34	27.7	6.4	0	2	0	6	22	27	16	5	1	0	0	0
12:00	**76**	35.8	29.9	6.5	0	1	1	2	13	28	20	8	3	0	0	0
13:00	**62**	33.2	27.9	5.9	0	0	1	4	17	28	5	6	1	0	0	0
14:00	**82**	34.4	28.4	6.4	0	1	0	6	22	26	21	5	0	0	1	0
15:00	**60**	34.1	29	5.4	0	0	2	3	5	30	17	3	0	0	0	0
16:00	**74**	34.8	28.8	6	0	0	3	2	17	23	23	6	0	0	0	0
17:00	**36**	34.1	28.8	6	0	0	1	2	5	19	5	3	1	0	0	0
18:00	**22**	39.4	34.4	5.4	0	0	0	0	2	3	7	9	1	0	0	0
19:00	**12**	34.7	31	4.2	0	0	0	0	1	5	5	1	0	0	0	0
20:00	**15**	39	32.8	6.7	0	0	0	0	4	1	3	7	0	0	0	0
21:00	**9**	-	30.7	4.6	0	0	0	0	1	4	3	1	0	0	0	0
22:00	**2**	-	43.5	1.8	0	0	0	0	0	0	0	0	2	0	0	0
23:00	**1**	-	33.5	-	0	0	0	0	0	0	1	0	0	0	0	0
12H,7-19	**803**	**35.2**	**29.4**	**6.1**	**0**	**4**	**10**	**35**	**157**	**292**	**218**	**72**	**13**	**0**	**1**	**1**
16H,6-22	**870**	**35.4**	**29.5**	**6**	**0**	**4**	**10**	**35**	**165**	**315**	**240**	**86**	**13**	**0**	**1**	**1**
18H,6-24	**873**	**35.4**	**29.6**	**6**	**0**	**4**	**10**	**35**	**165**	**315**	**241**	**86**	**15**	**0**	**1**	**1**
24H,0-24	**890**	**35.5**	**29.7**	**6.3**	**0**	**4**	**13**	**35**	**166**	**317**	**244**	**92**	**15**	**0**	**1**	**3**

Data produced by
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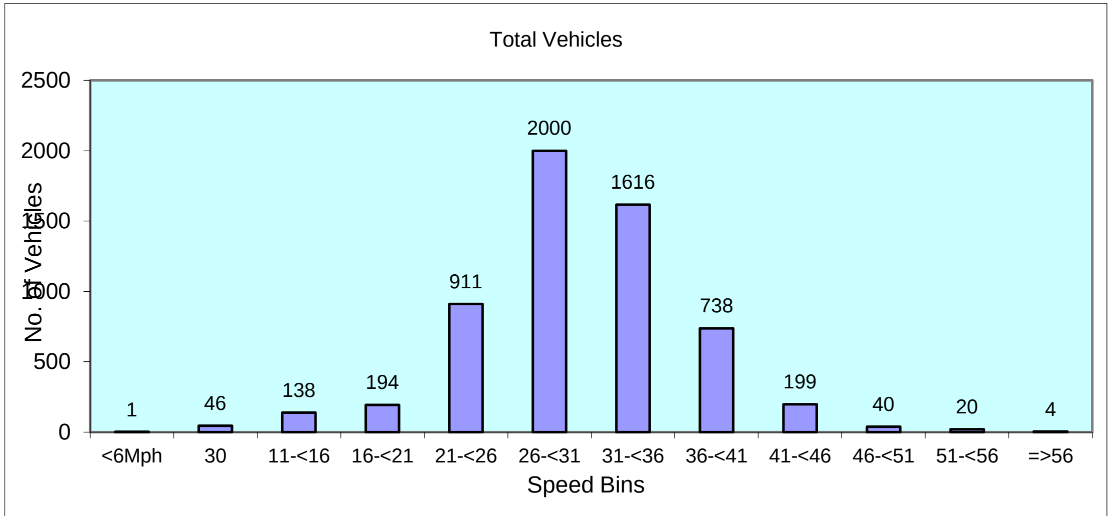
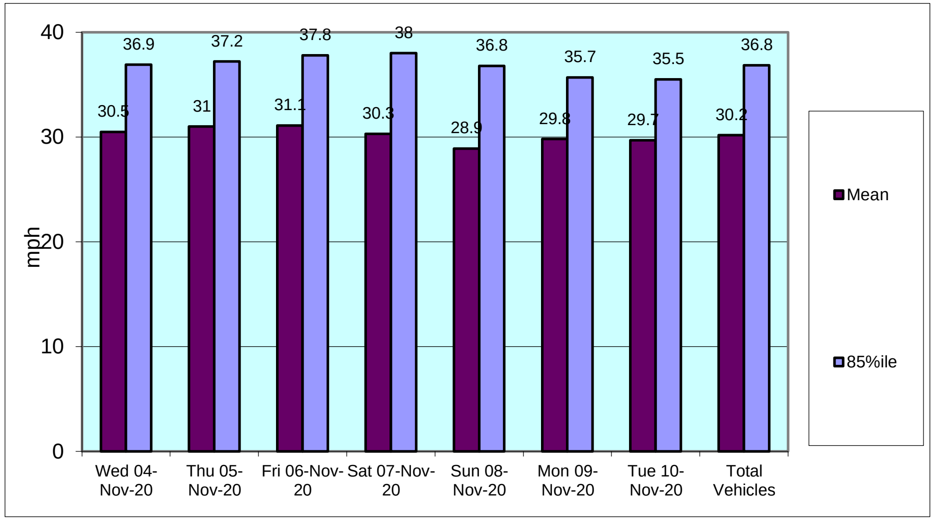
10159		HAILSHAM					Site No: 10159002			Location	Site 2 - Station Rd, Hailsham (N of access)				
	NOVEMBER 2020						Channel: Northbound								

Time Period	Total Vehicles	85%ile Speed	Mean Speed	Stand Dev.	<6Mph	30	11-<16	16-<21	21-<26	26-<31	31-<36	36-<41	41-<46	46-<51	51-<56	=>56
Daily Totals																
Wed 04-Nov-20	**1160**	36.9	30.5	6.5	0	5	20	37	181	377	338	151	42	6	3	0
Thu 05-Nov-20	**846**	37.2	31	6.6	0	6	12	18	107	295	255	105	38	5	5	0
Fri 06-Nov-20	**921**	37.8	31.1	6.6	0	4	10	24	128	324	245	129	41	13	3	0
Sat 07-Nov-20	**590**	38	30.3	7.6	0	12	21	13	81	198	139	92	26	6	2	0
Sun 08-Nov-20	**561**	36.8	28.9	8.7	1	13	45	32	74	167	134	63	20	7	5	0
Mon 09-Nov-20	**939**	35.7	29.8	6.2	0	2	17	35	174	322	261	106	17	3	1	1
Tue 10-Nov-20	**890**	35.5	29.7	6.3	0	4	13	35	166	317	244	92	15	0	1	3
Total Vehicles																
[--]	**5907**	36.8	30.2	6.9	1	46	138	194	911	2000	1616	738	199	40	20	4



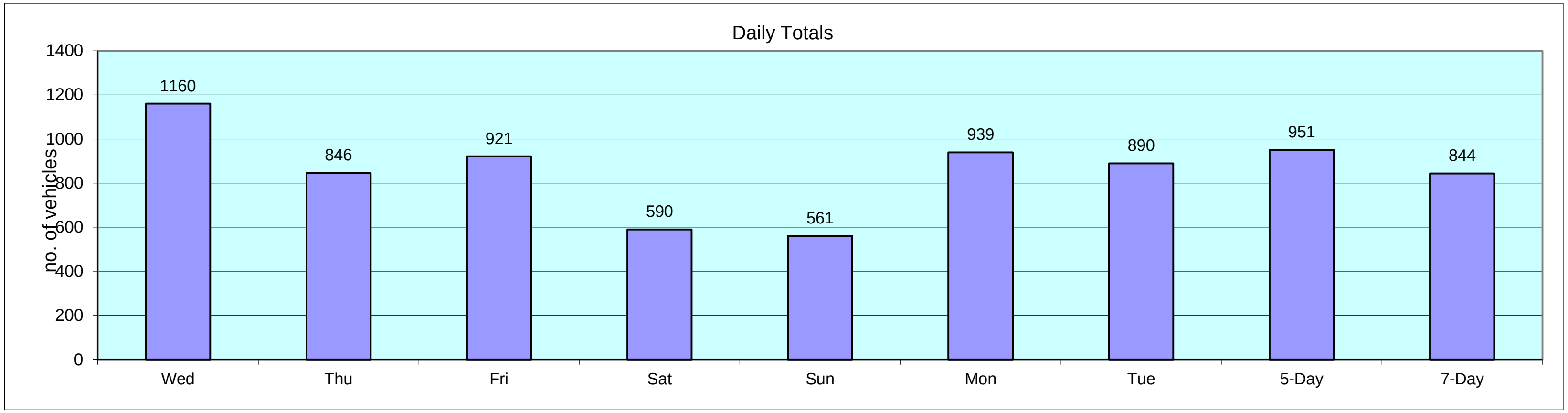


Data produced by
Auto Surveys Ltd

10159		HAILSHAM		Site No: 10159002		Location	Site 2 - Station Rd, Hailsham (N of access)		
	NOVEMBER 2020			Channel: Northbound					
	Wed	**Thu**	**Fri**	**Sat**	**Sun**	**Mon**	**Tue**	**5-Day**	**7-Day**
TIME PERIOD	**04/11/20**	**05/11/20**	**06/11/20**	**07/11/20**	**08/11/20**	**09/11/20**	**10/11/20**	**Av**	**Av**
Week Begin: 04-Nov-20									
00:00	**1**	1	1	6	0	2	0	1	2
01:00	**0**	1	2	5	1	2	4	2	2
02:00	**0**	0	1	2	3	0	3	1	1
03:00	**0**	0	0	0	3	2	2	1	1
04:00	**3**	1	1	1	5	3	1	2	2
05:00	**4**	8	12	6	0	7	7	8	6
06:00	**38**	22	37	7	5	33	31	32	25
07:00	**115**	81	68	11	6	81	82	85	63
08:00	**103**	77	71	28	22	111	91	91	72
09:00	**70**	52	65	56	67	76	59	64	64
10:00	**85**	59	81	81	70	67	80	74	75
11:00	**96**	68	88	81	100	88	79	84	86
12:00	**81**	72	68	54	70	81	76	76	72
13:00	**95**	61	68	40	39	67	62	71	62
14:00	**92**	73	87	44	37	77	82	82	70
15:00	**95**	73	83	44	38	66	60	75	66
16:00	**105**	93	76	35	31	76	74	85	70
17:00	**81**	46	43	20	23	43	36	50	42
18:00	**40**	20	28	30	13	19	22	26	25
19:00	**23**	22	13	12	8	10	12	16	14
20:00	**14**	8	15	11	12	17	15	14	13
21:00	**10**	4	7	6	5	9	9	8	7
22:00	**6**	1	2	7	3	1	2	2	3
23:00	**3**	3	4	3	0	1	1	2	2
12H,7-19	**1058**	**775**	**826**	**524**	**516**	**852**	**803**	**863**	**765**
16H,6-22	**1143**	**831**	**898**	**560**	**546**	**921**	**870**	**933**	**824**
18H,6-24	**1152**	**835**	**904**	**570**	**549**	**923**	**873**	**937**	**829**
24H,0-24	**1160**	**846**	**921**	**590**	**561**	**939**	**890**	**951**	**844**
Am	**07:00**	**07:00**	**11:00**	**11:00**	**11:00**	**08:00**	**08:00**		
Peak	**115**	**81**	**88**	**81**	**100**	**111**	**91**		
Pm	**16:00**	**16:00**	**14:00**	**12:00**	**12:00**	**12:00**	**14:00**		
Peak	**105**	**93**	**87**	**54**	**70**	**81**	**82**		

Data produced by
Auto Surveys Ltd

10159		HAILSHAM		Site No: 10159002		Location	Site 2 - Station Rd, Hailsham (N of access)		
	NOVEMBER 2020			Channel: Northbound					
TIME PERIOD	**Wed 04/11/20**	**Thu 05/11/20**	**Fri 06/11/20**	**Sat 07/11/20**	**Sun 08/11/20**	**Mon 09/11/20**	**Tue 10/11/20**	**5-Day Av**	**7-Day Av**



Data produced by
Auto Surveys Ltd

10159			HAILSHAM			Site No: 10159002		Location	Site 2 - Station Rd, Hailsham (N of access)					
NOVEMBER 2020						Channel: Southbound								
TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	CARS OR CAR-BASED LGV	LIGHT GOODS VEHICLES	BUSES	TWO AXLE, SIX TYRE, RIGID/BUSES	THREE AXLE RIGID	FOUR OR MORE AXLE RIGID	FOUR OR LESS AXLE ARTIC	FIVE AXLE ARTIC	SIX OR MORE AXLE ARTIC	FIVE OR LESS AXLE MULTI-TRAILER ARTIC	SIX AXLE MULTI-TRAILER ARTIC	SEVEN OR MORE AXLE ARTIC
Wed 04-Nov-20														
00:00	**1**	0	1	0	0	0	0	0	0	0	0	0	0	0
01:00	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	**1**	0	1	0	0	0	0	0	0	0	0	0	0	0
04:00	**3**	1	1	0	0	0	1	0	0	0	0	0	0	0
05:00	**4**	0	3	1	0	0	0	0	0	0	0	0	0	0
06:00	**31**	1	16	13	0	0	1	0	0	0	0	0	0	0
07:00	**69**	0	51	15	0	2	0	0	1	0	0	0	0	0
08:00	**60**	0	49	9	0	0	0	0	2	0	0	0	0	0
09:00	**98**	3	74	18	0	1	2	0	0	0	0	0	0	0
10:00	**96**	2	75	13	0	1	1	0	4	0	0	0	0	0
11:00	**70**	0	57	11	0	0	0	0	2	0	0	0	0	0
12:00	**96**	2	84	10	0	0	0	0	0	0	0	0	0	0
13:00	**89**	2	69	13	0	0	0	0	5	0	0	0	0	0
14:00	**67**	3	57	6	0	0	0	0	0	0	1	0	0	0
15:00	**90**	2	72	16	0	0	0	0	0	0	0	0	0	0
16:00	**79**	1	65	13	0	0	0	0	0	0	0	0	0	0
17:00	**43**	1	35	7	0	0	0	0	0	0	0	0	0	0
18:00	**30**	0	29	1	0	0	0	0	0	0	0	0	0	0
19:00	**14**	0	13	1	0	0	0	0	0	0	0	0	0	0
20:00	**14**	0	14	0	0	0	0	0	0	0	0	0	0	0
21:00	**9**	0	9	0	0	0	0	0	0	0	0	0	0	0
22:00	**7**	0	6	1	0	0	0	0	0	0	0	0	0	0
23:00	**6**	0	5	1	0	0	0	0	0	0	0	0	0	0
12H,7-19	**887**	**16**	**717**	**132**	**0**	**4**	**3**	**0**	**14**	**0**	**1**	**0**	**0**	**0**
16H,6-22	**955**	**17**	**769**	**146**	**0**	**4**	**4**	**0**	**14**	**0**	**1**	**0**	**0**	**0**
18H,6-24	**968**	**17**	**780**	**148**	**0**	**4**	**4**	**0**	**14**	**0**	**1**	**0**	**0**	**0**
24H,0-24	**977**	**18**	**786**	**149**	**0**	**4**	**5**	**0**	**14**	**0**	**1**	**0**	**0**	**0**

Data produced by
Auto Surveys Ltd

10159 HAILSHAM Site No: 10159002 Location Site 2 - Station Rd, Hailsham (N of access)

NOVEMBER 2020 Channel: Southbound

TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	CARS OR CAR-BASED LGV	LIGHT GOODS VEHICLES	BUSES	TWO AXLE, SIX TYRE, RIGID/BUSES	THREE AXLE RIGID	FOUR OR MORE AXLE RIGID	FOUR OR LESS AXLE ARTIC	FIVE AXLE ARTIC	SIX OR MORE AXLE ARTIC	FIVE OR LESS AXLE MULTI-TRAILER ARTIC	SIX AXLE MULTI-TRAILER ARTIC	SEVEN OR MORE AXLE ARTIC
Thu 05-Nov-20														
00:00	**1**	0	1	0	0	0	0	0	0	0	0	0	0	0
01:00	**1**	0	1	0	0	0	0	0	0	0	0	0	0	0
02:00	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	**1**	0	1	0	0	0	0	0	0	0	0	0	0	0
04:00	**2**	0	2	0	0	0	0	0	0	0	0	0	0	0
05:00	**3**	0	3	0	0	0	0	0	0	0	0	0	0	0
06:00	**33**	0	24	9	0	0	0	0	0	0	0	0	0	0
07:00	**53**	1	36	14	0	0	1	0	0	0	1	0	0	0
08:00	**41**	0	30	9	0	0	1	0	1	0	0	0	0	0
09:00	**59**	2	44	12	0	0	0	0	1	0	0	0	0	0
10:00	**68**	3	56	7	0	0	1	0	1	0	0	0	0	0
11:00	**71**	3	56	10	0	0	0	0	2	0	0	0	0	0
12:00	**66**	2	49	13	0	1	0	0	1	0	0	0	0	0
13:00	**69**	1	60	6	0	0	1	0	1	0	0	0	0	0
14:00	**59**	2	48	6	0	0	1	1	1	0	0	0	0	0
15:00	**76**	3	58	13	0	0	0	0	2	0	0	0	0	0
16:00	**64**	2	55	7	0	0	0	0	0	0	0	0	0	0
17:00	**40**	0	33	7	0	0	0	0	0	0	0	0	0	0
18:00	**15**	1	11	3	0	0	0	0	0	0	0	0	0	0
19:00	**13**	0	12	1	0	0	0	0	0	0	0	0	0	0
20:00	**10**	0	9	1	0	0	0	0	0	0	0	0	0	0
21:00	**8**	1	6	1	0	0	0	0	0	0	0	0	0	0
22:00	**1**	0	1	0	0	0	0	0	0	0	0	0	0	0
23:00	**2**	0	2	0	0	0	0	0	0	0	0	0	0	0
12H,7-19	**681**	**20**	**536**	**107**	**0**	**1**	**5**	**1**	**10**	**0**	**1**	**0**	**0**	**0**
16H,6-22	**745**	**21**	**587**	**119**	**0**	**1**	**5**	**1**	**10**	**0**	**1**	**0**	**0**	**0**
18H,6-24	**748**	**21**	**590**	**119**	**0**	**1**	**5**	**1**	**10**	**0**	**1**	**0**	**0**	**0**
24H,0-24	**756**	**21**	**598**	**119**	**0**	**1**	**5**	**1**	**10**	**0**	**1**	**0**	**0**	**0**

Data produced by
Auto Surveys Ltd

10159			HAILSHAM			Site No: 10159002		Location	Site 2 - Station Rd, Hailsham (N of access)					
NOVEMBER 2020						Channel: Southbound								
TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	CARS OR CAR-BASED LGV	LIGHT GOODS VEHICLES	BUSES	TWO AXLE, SIX TYRE, RIGID/BUSES	THREE AXLE RIGID	FOUR OR MORE AXLE RIGID	FOUR OR LESS AXLE ARTIC	FIVE AXLE ARTIC	SIX OR MORE AXLE ARTIC	FIVE OR LESS AXLE MULTI-TRAILER ARTIC	SIX AXLE MULTI-TRAILER ARTIC	SEVEN OR MORE AXLE ARTIC
Fri 06-Nov-20														
00:00	**2**	0	2	0	0	0	0	0	0	0	0	0	0	0
01:00	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	**5**	1	4	0	0	0	0	0	0	0	0	0	0	0
05:00	**11**	0	9	0	0	1	1	0	0	0	0	0	0	0
06:00	**34**	0	27	7	0	0	0	0	0	0	0	0	0	0
07:00	**56**	1	37	16	0	2	0	0	0	0	0	0	0	0
08:00	**54**	0	41	9	0	0	0	0	3	1	0	0	0	0
09:00	**58**	3	39	14	0	0	0	0	1	0	1	0	0	0
10:00	**82**	5	63	12	0	0	0	0	2	0	0	0	0	0
11:00	**72**	1	60	10	0	0	0	0	0	0	1	0	0	0
12:00	**67**	1	55	9	1	0	0	0	0	0	0	1	0	0
13:00	**71**	4	52	9	1	0	1	0	4	0	0	0	0	0
14:00	**87**	2	78	4	1	0	1	0	1	0	0	0	0	0
15:00	**79**	2	71	6	0	0	0	0	0	0	0	0	0	0
16:00	**50**	1	42	7	0	0	0	0	0	0	0	0	0	0
17:00	**33**	0	28	5	0	0	0	0	0	0	0	0	0	0
18:00	**20**	0	16	3	0	0	0	0	1	0	0	0	0	0
19:00	**15**	0	15	0	0	0	0	0	0	0	0	0	0	0
20:00	**6**	0	6	0	0	0	0	0	0	0	0	0	0	0
21:00	**6**	0	6	0	0	0	0	0	0	0	0	0	0	0
22:00	**4**	0	3	1	0	0	0	0	0	0	0	0	0	0
23:00	**3**	0	2	1	0	0	0	0	0	0	0	0	0	0
12H,7-19	**729**	**20**	**582**	**104**	**3**	**2**	**2**	**0**	**12**	**1**	**2**	**1**	**0**	**0**
16H,6-22	**790**	**20**	**636**	**111**	**3**	**2**	**2**	**0**	**12**	**1**	**2**	**1**	**0**	**0**
18H,6-24	**797**	**20**	**641**	**113**	**3**	**2**	**2**	**0**	**12**	**1**	**2**	**1**	**0**	**0**
24H,0-24	**815**	**21**	**656**	**113**	**3**	**3**	**3**	**0**	**12**	**1**	**2**	**1**	**0**	**0**

Data produced by
Auto Surveys Ltd

10159		HAILSHAM				Site No: 10159002		Location	Site 2 - Station Rd, Hailsham (N of access)					
NOVEMBER 2020						Channel: Southbound								
TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	CARS OR CAR-BASED LGV	LIGHT GOODS VEHICLES	BUSES	TWO AXLE, SIX TYRE, RIGID/BUSES	THREE AXLE RIGID	FOUR OR MORE AXLE RIGID	FOUR OR LESS AXLE ARTIC	FIVE AXLE ARTIC	SIX OR MORE AXLE ARTIC	FIVE OR LESS AXLE MULTI-TRAILER ARTIC	SIX AXLE MULTI-TRAILER ARTIC	SEVEN OR MORE AXLE ARTIC
Sat 07-Nov-20														
00:00	3	0	3	0	0	0	0	0	0	0	0	0	0	0
01:00	4	0	3	1	0	0	0	0	0	0	0	0	0	0
02:00	1	0	1	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	2	1	1	0	0	0	0	0	0	0	0	0	0	0
05:00	3	0	3	0	0	0	0	0	0	0	0	0	0	0
06:00	17	1	14	2	0	0	0	0	0	0	0	0	0	0
07:00	21	1	16	4	0	0	0	0	0	0	0	0	0	0
08:00	40	4	30	4	0	0	0	0	2	0	0	0	0	0
09:00	58	1	54	3	0	0	0	0	0	0	0	0	0	0
10:00	88	9	71	7	0	0	0	0	1	0	0	0	0	0
11:00	83	3	71	5	0	0	0	0	4	0	0	0	0	0
12:00	61	0	58	2	0	0	0	0	1	0	0	0	0	0
13:00	34	4	28	1	0	0	0	1	0	0	0	0	0	0
14:00	40	2	35	3	0	0	0	0	0	0	0	0	0	0
15:00	51	1	45	5	0	0	0	0	0	0	0	0	0	0
16:00	32	1	28	3	0	0	0	0	0	0	0	0	0	0
17:00	16	0	15	1	0	0	0	0	0	0	0	0	0	0
18:00	22	4	16	2	0	0	0	0	0	0	0	0	0	0
19:00	17	3	13	1	0	0	0	0	0	0	0	0	0	0
20:00	9	0	9	0	0	0	0	0	0	0	0	0	0	0
21:00	7	1	6	0	0	0	0	0	0	0	0	0	0	0
22:00	7	2	4	1	0	0	0	0	0	0	0	0	0	0
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12H,7-19	546	30	467	40	0	0	0	1	8	0	0	0	0	0
16H,6-22	596	35	509	43	0	0	0	1	8	0	0	0	0	0
18H,6-24	603	37	513	44	0	0	0	1	8	0	0	0	0	0
24H,0-24	616	38	524	45	0	0	0	1	8	0	0	0	0	0

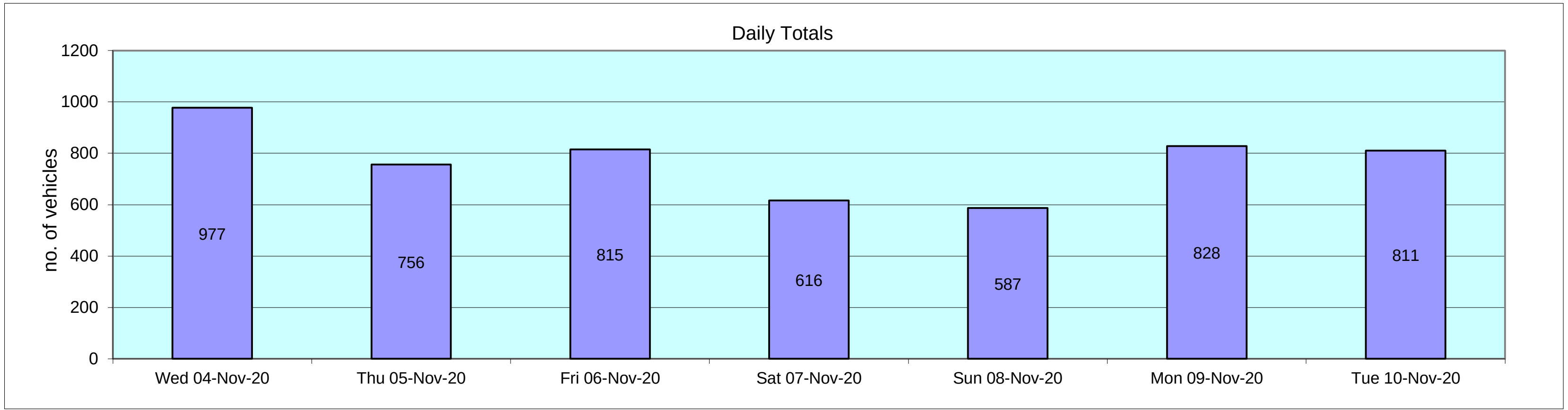
Data produced by
Auto Surveys Ltd

10159			HAILSHAM			Site No: 10159002		Location	Site 2 - Station Rd, Hailsham (N of access)					
	NOVEMBER 2020					Channel: Southbound								
TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	CARS OR CAR-BASED LGV	LIGHT GOODS VEHICLES	BUSES	TWO AXLE, SIX TYRE, RIGID/BUSES	THREE AXLE RIGID	FOUR OR MORE AXLE RIGID	FOUR OR LESS AXLE ARTIC	FIVE AXLE ARTIC	SIX OR MORE AXLE ARTIC	FIVE OR LESS AXLE MULTI-TRAILER ARTIC	SIX AXLE MULTI-TRAILER ARTIC	SEVEN OR MORE AXLE ARTIC
Sun 08-Nov-20														
00:00	**1**	0	1	0	0	0	0	0	0	0	0	0	0	0
01:00	**1**	0	1	0	0	0	0	0	0	0	0	0	0	0
02:00	**1**	1	0	0	0	0	0	0	0	0	0	0	0	0
03:00	**5**	3	0	1	0	0	1	0	0	0	0	0	0	0
04:00	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	**2**	0	1	1	0	0	0	0	0	0	0	0	0	0
06:00	**6**	0	5	1	0	0	0	0	0	0	0	0	0	0
07:00	**11**	0	11	0	0	0	0	0	0	0	0	0	0	0
08:00	**30**	3	25	1	0	0	0	0	1	0	0	0	0	0
09:00	**80**	4	68	7	0	0	1	0	0	0	0	0	0	0
10:00	**97**	5	83	5	0	0	0	0	4	0	0	0	0	0
11:00	**106**	5	93	5	1	0	0	1	1	0	0	0	0	0
12:00	**57**	5	46	3	0	0	3	0	0	0	0	0	0	0
13:00	**42**	2	37	3	0	0	0	0	0	0	0	0	0	0
14:00	**29**	6	20	2	0	0	0	0	1	0	0	0	0	0
15:00	**31**	5	23	3	0	0	0	0	0	0	0	0	0	0
16:00	**33**	1	27	5	0	0	0	0	0	0	0	0	0	0
17:00	**9**	2	6	1	0	0	0	0	0	0	0	0	0	0
18:00	**15**	0	15	0	0	0	0	0	0	0	0	0	0	0
19:00	**10**	1	9	0	0	0	0	0	0	0	0	0	0	0
20:00	**13**	2	10	1	0	0	0	0	0	0	0	0	0	0
21:00	**4**	0	4	0	0	0	0	0	0	0	0	0	0	0
22:00	**4**	0	2	2	0	0	0	0	0	0	0	0	0	0
23:00	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
12H,7-19	**540**	**38**	**454**	**35**	**1**	**0**	**4**	**1**	**7**	**0**	**0**	**0**	**0**	**0**
16H,6-22	**573**	**41**	**482**	**37**	**1**	**0**	**4**	**1**	**7**	**0**	**0**	**0**	**0**	**0**
18H,6-24	**577**	**41**	**484**	**39**	**1**	**0**	**4**	**1**	**7**	**0**	**0**	**0**	**0**	**0**
24H,0-24	**587**	**45**	**487**	**41**	**1**	**0**	**5**	**1**	**7**	**0**	**0**	**0**	**0**	**0**

10159		HAILSHAM				Site No: 10159002		Location	Site 2 - Station Rd, Hailsham (N of access)					
	NOVEMBER 2020					Channel: Southbound								
TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	CARS OR CAR-BASED LGV	LIGHT GOODS VEHICLES	BUSES	TWO AXLE, SIX TYRE, RIGID/BUSES	THREE AXLE RIGID	FOUR OR MORE AXLE RIGID	FOUR OR LESS AXLE ARTIC	FIVE AXLE ARTIC	SIX OR MORE AXLE ARTIC	FIVE OR LESS AXLE MULTI-TRAILER ARTIC	SIX AXLE MULTI-TRAILER ARTIC	SEVEN OR MORE AXLE ARTIC
Mon 09-Nov-20														
00:00	1	1	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	1	0	1	0	0	0	0	0	0	0	0	0	0	0
03:00	2	2	0	0	0	0	0	0	0	0	0	0	0	0
04:00	5	1	4	0	0	0	0	0	0	0	0	0	0	0
05:00	4	0	4	0	0	0	0	0	0	0	0	0	0	0
06:00	32	0	24	7	0	0	1	0	0	0	0	0	0	0
07:00	49	0	33	14	0	1	1	0	0	0	0	0	0	0
08:00	71	1	57	9	0	0	0	0	3	1	0	0	0	0
09:00	77	1	61	14	0	0	0	0	1	0	0	0	0	0
10:00	79	1	67	7	0	1	0	0	3	0	0	0	0	0
11:00	86	2	77	7	0	0	0	0	0	0	0	0	0	0
12:00	76	0	64	9	0	0	0	0	3	0	0	0	0	0
13:00	71	4	64	3	0	0	0	0	0	0	0	0	0	0
14:00	73	0	55	16	0	1	0	0	1	0	0	0	0	0
15:00	71	1	61	8	0	0	0	0	1	0	0	0	0	0
16:00	53	3	42	8	0	0	0	0	0	0	0	0	0	0
17:00	36	0	32	3	0	0	0	0	0	0	0	1	0	0
18:00	14	0	13	1	0	0	0	0	0	0	0	0	0	0
19:00	12	1	10	1	0	0	0	0	0	0	0	0	0	0
20:00	8	0	8	0	0	0	0	0	0	0	0	0	0	0
21:00	6	0	6	0	0	0	0	0	0	0	0	0	0	0
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	1	0	1	0	0	0	0	0	0	0	0	0	0	0
12H,7-19	756	13	626	99	0	3	1	0	12	1	0	1	0	0
16H,6-22	814	14	674	107	0	3	2	0	12	1	0	1	0	0
18H,6-24	815	14	675	107	0	3	2	0	12	1	0	1	0	0
24H,0-24	828	18	684	107	0	3	2	0	12	1	0	1	0	0

10159		HAILSHAM				Site No: 10159002		Location	Site 2 - Station Rd, Hailsham (N of access)					
NOVEMBER 2020						Channel: Southbound								
TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	CARS OR CAR-BASED LGV	LIGHT GOODS VEHICLES	BUSES	TWO AXLE, SIX TYRE, RIGID/BUSES	THREE AXLE RIGID	FOUR OR MORE AXLE RIGID	FOUR OR LESS AXLE ARTIC	FIVE AXLE ARTIC	SIX OR MORE AXLE ARTIC	FIVE OR LESS AXLE MULTI-TRAILER ARTIC	SIX AXLE MULTI-TRAILER ARTIC	SEVEN OR MORE AXLE ARTIC
Tue 10-Nov-20														
00:00	**2**	0	2	0	0	0	0	0	0	0	0	0	0	0
01:00	**2**	2	0	0	0	0	0	0	0	0	0	0	0	0
02:00	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	**1**	1	0	0	0	0	0	0	0	0	0	0	0	0
04:00	**2**	0	2	0	0	0	0	0	0	0	0	0	0	0
05:00	**5**	1	3	1	0	0	0	0	0	0	0	0	0	0
06:00	**36**	0	24	12	0	0	0	0	0	0	0	0	0	0
07:00	**47**	0	37	9	0	0	1	0	0	0	0	0	0	0
08:00	**66**	0	50	12	0	2	1	0	1	0	0	0	0	0
09:00	**57**	1	45	9	0	0	1	0	1	0	0	0	0	0
10:00	**79**	2	62	14	0	0	0	0	1	0	0	0	0	0
11:00	**85**	4	67	11	2	0	0	0	1	0	0	0	0	0
12:00	**81**	3	65	12	0	1	0	0	0	0	0	0	0	0
13:00	**71**	5	64	2	0	0	0	0	0	0	0	0	0	0
14:00	**80**	0	57	21	0	1	0	0	1	0	0	0	0	0
15:00	**67**	1	58	7	0	0	0	0	1	0	0	0	0	0
16:00	**61**	4	50	7	0	0	0	0	0	0	0	0	0	0
17:00	**32**	0	27	4	0	0	0	0	0	0	0	1	0	0
18:00	**13**	0	12	1	0	0	0	0	0	0	0	0	0	0
19:00	**9**	1	7	1	0	0	0	0	0	0	0	0	0	0
20:00	**9**	0	9	0	0	0	0	0	0	0	0	0	0	0
21:00	**4**	0	4	0	0	0	0	0	0	0	0	0	0	0
22:00	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	**2**	0	2	0	0	0	0	0	0	0	0	0	0	0
12H,7-19	**739**	**20**	**594**	**109**	**2**	**4**	**3**	**0**	**6**	**0**	**0**	**1**	**0**	**0**
16H,6-22	**797**	**21**	**638**	**122**	**2**	**4**	**3**	**0**	**6**	**0**	**0**	**1**	**0**	**0**
18H,6-24	**799**	**21**	**640**	**122**	**2**	**4**	**3**	**0**	**6**	**0**	**0**	**1**	**0**	**0**
24H,0-24	**811**	**25**	**647**	**123**	**2**	**4**	**3**	**0**	**6**	**0**	**0**	**1**	**0**	**0**

10159			HAILSHAM			Site No: 10159002		Location	Site 2 - Station Rd, Hailsham (N of access)					
	NOVEMBER 2020					Channel: Southbound								
TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	CARS OR CAR-BASED LGV	LIGHT GOODS VEHICLES	BUSES	TWO AXLE, SIX TYRE, RIGID/BUSES	THREE AXLE RIGID	FOUR OR MORE AXLE RIGID	FOUR OR LESS AXLE ARTIC	FIVE AXLE ARTIC	SIX OR MORE AXLE ARTIC	FIVE OR LESS AXLE MULTI-TRAILER ARTIC	SIX AXLE MULTI-TRAILER ARTIC	SEVEN OR MORE AXLE ARTIC
Daily Totals														
Wed 04-Nov-20	**977**	18	786	149	0	4	5	0	14	0	1	0	0	0
Thu 05-Nov-20	**756**	21	598	119	0	1	5	1	10	0	1	0	0	0
Fri 06-Nov-20	**815**	21	656	113	3	3	3	0	12	1	2	1	0	0
Sat 07-Nov-20	**616**	38	524	45	0	0	0	1	8	0	0	0	0	0
Sun 08-Nov-20	**587**	45	487	41	1	0	5	1	7	0	0	0	0	0
Mon 09-Nov-20	**828**	18	684	107	0	3	2	0	12	1	0	1	0	0
Tue 10-Nov-20	**811**	25	647	123	2	4	3	0	6	0	0	1	0	0
Total Vehicles														
[--]	**5390**	186	4382	697	6	15	23	3	69	2	4	3	0	0



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10159 HAILSHAM Site No: 10159002 Location Site 2 - Station Rd, Hailsham (N of access)

NOVEMBER 2020 Channel: Southbound

TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	MOTOR-CYCLES%	CARS	CARS %	LGV	LGV %	HGV	HGV %	BUS	BUS %
Wed 04-Nov-20											
00:00	1	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
01:00	0	0	-	0	-	0	-	0	-	0	-
02:00	0	0	-	0	-	0	-	0	-	0	-
03:00	1	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
04:00	3	1	33.3	1	33.3	0	0.0	1	33.3	0	0.0
05:00	4	0	0.0	3	75.0	1	25.0	0	0.0	0	0.0
06:00	31	1	3.2	16	51.6	13	41.9	1	3.2	0	0.0
07:00	69	0	0.0	51	73.9	15	21.7	3	4.4	0	0.0
08:00	60	0	0.0	49	81.7	9	15.0	2	3.3	0	0.0
09:00	98	3	3.1	74	75.5	18	18.4	3	3.1	0	0.0
10:00	96	2	2.1	75	78.1	13	13.5	6	6.3	0	0.0
11:00	70	0	0.0	57	81.4	11	15.7	2	2.9	0	0.0
12:00	96	2	2.1	84	87.5	10	10.4	0	0.0	0	0.0
13:00	89	2	2.3	69	77.5	13	14.6	5	5.6	0	0.0
14:00	67	3	4.5	57	85.1	6	9.0	1	1.5	0	0.0
15:00	90	2	2.2	72	80.0	16	17.8	0	0.0	0	0.0
16:00	79	1	1.3	65	82.3	13	16.5	0	0.0	0	0.0
17:00	43	1	2.3	35	81.4	7	16.3	0	0.0	0	0.0
18:00	30	0	0.0	29	96.7	1	3.3	0	0.0	0	0.0
19:00	14	0	0.0	13	92.9	1	7.1	0	0.0	0	0.0
20:00	14	0	0.0	14	100.0	0	0.0	0	0.0	0	0.0
21:00	9	0	0.0	9	100.0	0	0.0	0	0.0	0	0.0
22:00	7	0	0.0	6	85.7	1	14.3	0	0.0	0	0.0
23:00	6	0	0.0	5	83.3	1	16.7	0	0.0	0	0.0
12H,7-19	887	16	1.8	717	80.8	132	14.9	22	2.5	0	0.0
16H,6-22	955	17	1.8	769	80.5	146	15.3	23	2.4	0	0.0
18H,6-24	968	17	1.8	780	80.6	148	15.3	23	2.4	0	0.0
24H,0-24	977	18	1.8	786	80.5	149	15.3	24	2.5	0	0.0

10159		HAILSHAM			Site No: 10159002		Location	Site 2 - Station Rd, Hailsham (N of access)			
	NOVEMBER 2020				Channel: Southbound						
TIME PERIOD	**TOTAL VEHICLES**	**MOTOR-CYCLES**	**MOTOR-CYCLES%**	**CARS**	**CARS %**	**LGV**	**LGV %**	**HGV**	**HGV %**	**BUS**	**BUS %**
Thu 05-Nov-20											
00:00	**1**	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
01:00	**1**	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
02:00	**0**	0	-	0	-	0	-	0	-	0	-
03:00	**1**	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
04:00	**2**	0	0.0	2	100.0	0	0.0	0	0.0	0	0.0
05:00	**3**	0	0.0	3	100.0	0	0.0	0	0.0	0	0.0
06:00	**33**	0	0.0	24	72.7	9	27.3	0	0.0	0	0.0
07:00	**53**	1	1.9	36	67.9	14	26.4	2	3.8	0	0.0
08:00	**41**	0	0.0	30	73.2	9	22.0	2	4.9	0	0.0
09:00	**59**	2	3.4	44	74.6	12	20.3	1	1.7	0	0.0
10:00	**68**	3	4.4	56	82.4	7	10.3	2	2.9	0	0.0
11:00	**71**	3	4.2	56	78.9	10	14.1	2	2.8	0	0.0
12:00	**66**	2	3.0	49	74.2	13	19.7	2	3.0	0	0.0
13:00	**69**	1	1.5	60	87.0	6	8.7	2	2.9	0	0.0
14:00	**59**	2	3.4	48	81.4	6	10.2	3	5.1	0	0.0
15:00	**76**	3	4.0	58	76.3	13	17.1	2	2.6	0	0.0
16:00	**64**	2	3.1	55	85.9	7	10.9	0	0.0	0	0.0
17:00	**40**	0	0.0	33	82.5	7	17.5	0	0.0	0	0.0
18:00	**15**	1	6.7	11	73.3	3	20.0	0	0.0	0	0.0
19:00	**13**	0	0.0	12	92.3	1	7.7	0	0.0	0	0.0
20:00	**10**	0	0.0	9	90.0	1	10.0	0	0.0	0	0.0
21:00	**8**	1	12.5	6	75.0	1	12.5	0	0.0	0	0.0
22:00	**1**	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
23:00	**2**	0	0.0	2	100.0	0	0.0	0	0.0	0	0.0
12H,7-19	**681**	**20**	**2.9**	**536**	**78.7**	**107**	**15.7**	**18**	**2.6**	**0**	**0.0**
16H,6-22	**745**	**21**	**2.8**	**587**	**78.8**	**119**	**16.0**	**18**	**2.4**	**0**	**0.0**
18H,6-24	**748**	**21**	**2.8**	**590**	**78.9**	**119**	**15.9**	**18**	**2.4**	**0**	**0.0**
24H,0-24	**756**	**21**	**2.8**	**598**	**79.1**	**119**	**15.7**	**18**	**2.4**	**0**	**0.0**

Data produced by
Auto Surveys Ltd

10159		HAILSHAM			Site No: 10159002		Location	Site 2 - Station Rd, Hailsham (N of access)			
	NOVEMBER 2020				Channel: Southbound						
TIME PERIOD	**TOTAL VEHICLES**	**MOTOR-CYCLES**	**MOTOR-CYCLES%**	**CARS**	**CARS %**	**LGV**	**LGV %**	**HGV**	**HGV %**	**BUS**	**BUS %**
Fri 06-Nov-20											
00:00	**2**	0	0.0	2	100.0	0	0.0	0	0.0	0	0.0
01:00	**0**	0	-	0	-	0	-	0	-	0	-
02:00	**0**	0	-	0	-	0	-	0	-	0	-
03:00	**0**	0	-	0	-	0	-	0	-	0	-
04:00	**5**	1	20.0	4	80.0	0	0.0	0	0.0	0	0.0
05:00	**11**	0	0.0	9	81.8	0	0.0	2	18.2	0	0.0
06:00	**34**	0	0.0	27	79.4	7	20.6	0	0.0	0	0.0
07:00	**56**	1	1.8	37	66.1	16	28.6	2	3.6	0	0.0
08:00	**54**	0	0.0	41	75.9	9	16.7	4	7.4	0	0.0
09:00	**58**	3	5.2	39	67.2	14	24.1	2	3.5	0	0.0
10:00	**82**	5	6.1	63	76.8	12	14.6	2	2.4	0	0.0
11:00	**72**	1	1.4	60	83.3	10	13.9	1	1.4	0	0.0
12:00	**67**	1	1.5	55	82.1	9	13.4	1	1.5	1	1.5
13:00	**71**	4	5.6	52	73.2	9	12.7	5	7.0	1	1.4
14:00	**87**	2	2.3	78	89.7	4	4.6	2	2.3	1	1.2
15:00	**79**	2	2.5	71	89.9	6	7.6	0	0.0	0	0.0
16:00	**50**	1	2.0	42	84.0	7	14.0	0	0.0	0	0.0
17:00	**33**	0	0.0	28	84.9	5	15.2	0	0.0	0	0.0
18:00	**20**	0	0.0	16	80.0	3	15.0	1	5.0	0	0.0
19:00	**15**	0	0.0	15	100.0	0	0.0	0	0.0	0	0.0
20:00	**6**	0	0.0	6	100.0	0	0.0	0	0.0	0	0.0
21:00	**6**	0	0.0	6	100.0	0	0.0	0	0.0	0	0.0
22:00	**4**	0	0.0	3	75.0	1	25.0	0	0.0	0	0.0
23:00	**3**	0	0.0	2	66.7	1	33.3	0	0.0	0	0.0
12H,7-19	**729**	**20**	**2.7**	**582**	**79.8**	**104**	**14.3**	**20**	**2.7**	**3**	**0.4**
16H,6-22	**790**	**20**	**2.5**	**636**	**80.5**	**111**	**14.1**	**20**	**2.5**	**3**	**0.4**
18H,6-24	**797**	**20**	**2.5**	**641**	**80.4**	**113**	**14.2**	**20**	**2.5**	**3**	**0.4**
24H,0-24	**815**	**21**	**2.6**	**656**	**80.5**	**113**	**13.9**	**22**	**2.7**	**3**	**0.4**

10159		HAILSHAM			Site No: 10159002		Location	Site 2 - Station Rd, Hailsham (N of access)			
	NOVEMBER 2020				Channel: Southbound						
TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	MOTOR-CYCLES%	CARS	CARS %	LGV	LGV %	HGV	HGV %	BUS	BUS %
Sat 07-Nov-20											
00:00	**3**	0	0.0	3	100.0	0	0.0	0	0.0	0	0.0
01:00	**4**	0	0.0	3	75.0	1	25.0	0	0.0	0	0.0
02:00	**1**	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
03:00	**0**	0	-	0	-	0	-	0	-	0	-
04:00	**2**	1	50.0	1	50.0	0	0.0	0	0.0	0	0.0
05:00	**3**	0	0.0	3	100.0	0	0.0	0	0.0	0	0.0
06:00	**17**	1	5.9	14	82.4	2	11.8	0	0.0	0	0.0
07:00	**21**	1	4.8	16	76.2	4	19.1	0	0.0	0	0.0
08:00	**40**	4	10.0	30	75.0	4	10.0	2	5.0	0	0.0
09:00	**58**	1	1.7	54	93.1	3	5.2	0	0.0	0	0.0
10:00	**88**	9	10.2	71	80.7	7	8.0	1	1.1	0	0.0
11:00	**83**	3	3.6	71	85.5	5	6.0	4	4.8	0	0.0
12:00	**61**	0	0.0	58	95.1	2	3.3	1	1.6	0	0.0
13:00	**34**	4	11.8	28	82.4	1	2.9	1	2.9	0	0.0
14:00	**40**	2	5.0	35	87.5	3	7.5	0	0.0	0	0.0
15:00	**51**	1	2.0	45	88.2	5	9.8	0	0.0	0	0.0
16:00	**32**	1	3.1	28	87.5	3	9.4	0	0.0	0	0.0
17:00	**16**	0	0.0	15	93.8	1	6.3	0	0.0	0	0.0
18:00	**22**	4	18.2	16	72.7	2	9.1	0	0.0	0	0.0
19:00	**17**	3	17.7	13	76.5	1	5.9	0	0.0	0	0.0
20:00	**9**	0	0.0	9	100.0	0	0.0	0	0.0	0	0.0
21:00	**7**	1	14.3	6	85.7	0	0.0	0	0.0	0	0.0
22:00	**7**	2	28.6	4	57.1	1	14.3	0	0.0	0	0.0
23:00	**0**	0	-	0	-	0	-	0	-	0	-
12H,7-19	**546**	**30**	**5.5**	**467**	**85.5**	**40**	**7.3**	**9**	**1.7**	**0**	**0.0**
16H,6-22	**596**	**35**	**5.9**	**509**	**85.4**	**43**	**7.2**	**9**	**1.5**	**0**	**0.0**
18H,6-24	**603**	**37**	**6.1**	**513**	**85.1**	**44**	**7.3**	**9**	**1.5**	**0**	**0.0**
24H,0-24	**616**	**38**	**6.2**	**524**	**85.1**	**45**	**7.3**	**9**	**1.5**	**0**	**0.0**

10159		HAILSHAM			Site No: 10159002		Location	Site 2 - Station Rd, Hailsham (N of access)			
	NOVEMBER 2020				Channel: Southbound						
TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	MOTOR-CYCLES%	CARS	CARS %	LGV	LGV %	HGV	HGV %	BUS	BUS %
Sun 08-Nov-20											
00:00	1	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
01:00	1	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
02:00	1	1	100.0	0	0.0	0	0.0	0	0.0	0	0.0
03:00	5	3	60.0	0	0.0	1	20.0	1	20.0	0	0.0
04:00	0	0	-	0	-	0	-	0	-	0	-
05:00	2	0	0.0	1	50.0	1	50.0	0	0.0	0	0.0
06:00	6	0	0.0	5	83.3	1	16.7	0	0.0	0	0.0
07:00	11	0	0.0	11	100.0	0	0.0	0	0.0	0	0.0
08:00	30	3	10.0	25	83.3	1	3.3	1	3.3	0	0.0
09:00	80	4	5.0	68	85.0	7	8.8	1	1.3	0	0.0
10:00	97	5	5.2	83	85.6	5	5.2	4	4.1	0	0.0
11:00	106	5	4.7	93	87.7	5	4.7	2	1.9	1	0.9
12:00	57	5	8.8	46	80.7	3	5.3	3	5.3	0	0.0
13:00	42	2	4.8	37	88.1	3	7.1	0	0.0	0	0.0
14:00	29	6	20.7	20	69.0	2	6.9	1	3.5	0	0.0
15:00	31	5	16.1	23	74.2	3	9.7	0	0.0	0	0.0
16:00	33	1	3.0	27	81.8	5	15.2	0	0.0	0	0.0
17:00	9	2	22.2	6	66.7	1	11.1	0	0.0	0	0.0
18:00	15	0	0.0	15	100.0	0	0.0	0	0.0	0	0.0
19:00	10	1	10.0	9	90.0	0	0.0	0	0.0	0	0.0
20:00	13	2	15.4	10	76.9	1	7.7	0	0.0	0	0.0
21:00	4	0	0.0	4	100.0	0	0.0	0	0.0	0	0.0
22:00	4	0	0.0	2	50.0	2	50.0	0	0.0	0	0.0
23:00	0	0	-	0	-	0	-	0	-	0	-
12H,7-19	540	38	7.0	454	84.1	35	6.5	12	2.2	1	0.2
16H,6-22	573	41	7.2	482	84.1	37	6.5	12	2.1	1	0.2
18H,6-24	577	41	7.1	484	83.9	39	6.8	12	2.1	1	0.2
24H,0-24	587	45	7.7	487	83.0	41	7.0	13	2.2	1	0.2

Data produced by
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10159		HAILSHAM				Site No: 10159002		Location	Site 2 - Station Rd, Hailsham (N of access)		
	NOVEMBER 2020					Channel: Southbound					
TIME PERIOD	TOTAL VEHICLES	MOTOR-CYCLES	MOTOR-CYCLES%	CARS	CARS %	LGV	LGV %	HGV	HGV %	BUS	BUS %
Mon 09-Nov-20											
00:00	**1**	1	100.0	0	0.0	0	0.0	0	0.0	0	0.0
01:00	**0**	0	-	0	-	0	-	0	-	0	-
02:00	**1**	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
03:00	**2**	2	100.0	0	0.0	0	0.0	0	0.0	0	0.0
04:00	**5**	1	20.0	4	80.0	0	0.0	0	0.0	0	0.0
05:00	**4**	0	0.0	4	100.0	0	0.0	0	0.0	0	0.0
06:00	**32**	0	0.0	24	75.0	7	21.9	1	3.1	0	0.0
07:00	**49**	0	0.0	33	67.4	14	28.6	2	4.1	0	0.0
08:00	**71**	1	1.4	57	80.3	9	12.7	4	5.6	0	0.0
09:00	**77**	1	1.3	61	79.2	14	18.2	1	1.3	0	0.0
10:00	**79**	1	1.3	67	84.8	7	8.9	4	5.1	0	0.0
11:00	**86**	2	2.3	77	89.5	7	8.1	0	0.0	0	0.0
12:00	**76**	0	0.0	64	84.2	9	11.8	3	4.0	0	0.0
13:00	**71**	4	5.6	64	90.1	3	4.2	0	0.0	0	0.0
14:00	**73**	0	0.0	55	75.3	16	21.9	2	2.7	0	0.0
15:00	**71**	1	1.4	61	85.9	8	11.3	1	1.4	0	0.0
16:00	**53**	3	5.7	42	79.3	8	15.1	0	0.0	0	0.0
17:00	**36**	0	0.0	32	88.9	3	8.3	1	2.8	0	0.0
18:00	**14**	0	0.0	13	92.9	1	7.1	0	0.0	0	0.0
19:00	**12**	1	8.3	10	83.3	1	8.3	0	0.0	0	0.0
20:00	**8**	0	0.0	8	100.0	0	0.0	0	0.0	0	0.0
21:00	**6**	0	0.0	6	100.0	0	0.0	0	0.0	0	0.0
22:00	**0**	0	-	0	-	0	-	0	-	0	-
23:00	**1**	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0
12H,7-19	**756**	**13**	**1.7**	**626**	**82.8**	**99**	**13.1**	**18**	**2.4**	**0**	**0.0**
16H,6-22	**814**	**14**	**1.7**	**674**	**82.8**	**107**	**13.1**	**19**	**2.3**	**0**	**0.0**
18H,6-24	**815**	**14**	**1.7**	**675**	**82.8**	**107**	**13.1**	**19**	**2.3**	**0**	**0.0**
24H,0-24	**828**	**18**	**2.2**	**684**	**82.6**	**107**	**12.9**	**19**	**2.3**	**0**	**0.0**

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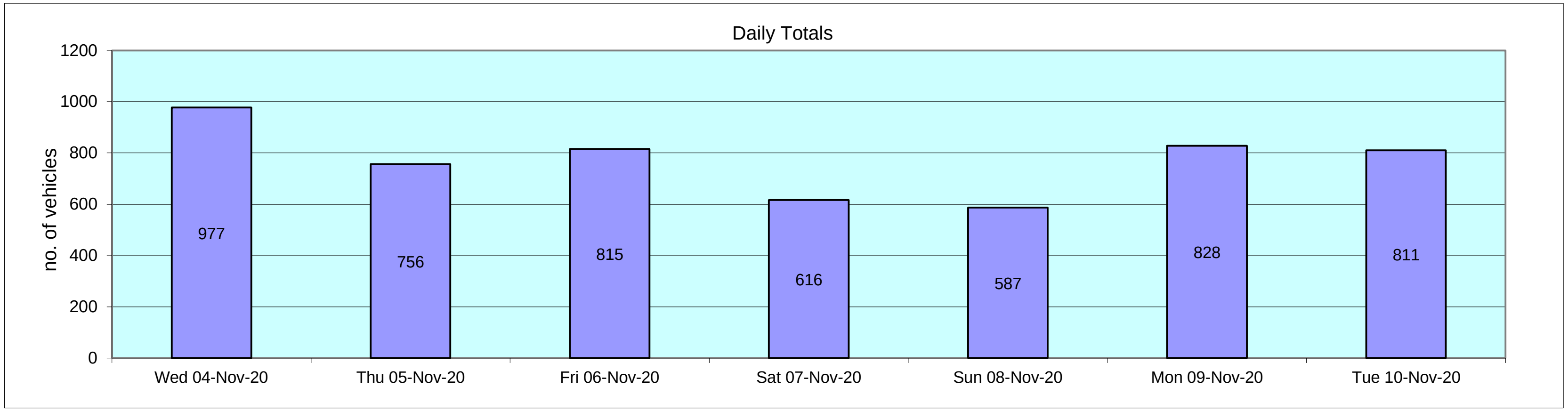
10159		HAILSHAM			Site No: 10159002		Location	Site 2 - Station Rd, Hailsham (N of access)			
	NOVEMBER 2020				Channel: Southbound						
TIME PERIOD	**TOTAL VEHICLES**	**MOTOR-CYCLES**	**MOTOR-CYCLES%**	**CARS**	**CARS %**	**LGV**	**LGV %**	**HGV**	**HGV %**	**BUS**	**BUS %**
Tue 10-Nov-20											
00:00	**2**	0	0.0	2	100.0	0	0.0	0	0.0	0	0.0
01:00	**2**	2	100.0	0	0.0	0	0.0	0	0.0	0	0.0
02:00	**0**	0	-	0	-	0	-	0	-	0	-
03:00	**1**	1	100.0	0	0.0	0	0.0	0	0.0	0	0.0
04:00	**2**	0	0.0	2	100.0	0	0.0	0	0.0	0	0.0
05:00	**5**	1	20.0	3	60.0	1	20.0	0	0.0	0	0.0
06:00	**36**	0	0.0	24	66.7	12	33.3	0	0.0	0	0.0
07:00	**47**	0	0.0	37	78.7	9	19.2	1	2.1	0	0.0
08:00	**66**	0	0.0	50	75.8	12	18.2	4	6.1	0	0.0
09:00	**57**	1	1.8	45	79.0	9	15.8	2	3.5	0	0.0
10:00	**79**	2	2.5	62	78.5	14	17.7	1	1.3	0	0.0
11:00	**85**	4	4.7	67	78.8	11	12.9	1	1.2	2	2.4
12:00	**81**	3	3.7	65	80.3	12	14.8	1	1.2	0	0.0
13:00	**71**	5	7.0	64	90.1	2	2.8	0	0.0	0	0.0
14:00	**80**	0	0.0	57	71.3	21	26.3	2	2.5	0	0.0
15:00	**67**	1	1.5	58	86.6	7	10.5	1	1.5	0	0.0
16:00	**61**	4	6.6	50	82.0	7	11.5	0	0.0	0	0.0
17:00	**32**	0	0.0	27	84.4	4	12.5	1	3.1	0	0.0
18:00	**13**	0	0.0	12	92.3	1	7.7	0	0.0	0	0.0
19:00	**9**	1	11.1	7	77.8	1	11.1	0	0.0	0	0.0
20:00	**9**	0	0.0	9	100.0	0	0.0	0	0.0	0	0.0
21:00	**4**	0	0.0	4	100.0	0	0.0	0	0.0	0	0.0
22:00	**0**	0	-	0	-	0	-	0	-	0	-
23:00	**2**	0	0.0	2	100.0	0	0.0	0	0.0	0	0.0
12H,7-19	**739**	**20**	**2.7**	**594**	**80.4**	**109**	**14.8**	**14**	**1.9**	**2**	**0.3**
16H,6-22	**797**	**21**	**2.6**	**638**	**80.1**	**122**	**15.3**	**14**	**1.8**	**2**	**0.3**
18H,6-24	**799**	**21**	**2.6**	**640**	**80.1**	**122**	**15.3**	**14**	**1.8**	**2**	**0.3**
24H,0-24	**811**	**25**	**3.1**	**647**	**79.8**	**123**	**15.2**	**14**	**1.7**	**2**	**0.3**

10159		HAILSHAM			Site No: 10159002		Location	Site 2 - Station Rd, Hailsham (N of access)			
	NOVEMBER 2020				Channel: Southbound						
TIME PERIOD	**TOTAL VEHICLES**	**MOTOR-CYCLES**	**MOTOR-CYCLES%**	**CARS**	**CARS %**	**LGV**	**LGV %**	**HGV**	**HGV %**	**BUS**	**BUS %**
Daily Totals											
Wed 04-Nov-20	**977**	18	1.8	786	80.5	149	15.3	24	2.5	0	0.0
Thu 05-Nov-20	**756**	21	2.8	598	79.1	119	15.7	18	2.4	0	0.0
Fri 06-Nov-20	**815**	21	2.6	656	80.5	113	13.9	22	2.7	3	0.4
Sat 07-Nov-20	**616**	38	6.2	524	85.1	45	7.3	9	1.5	0	0.0
Sun 08-Nov-20	**587**	45	7.7	487	83.0	41	7.0	13	2.2	1	0.2
Mon 09-Nov-20	**828**	18	2.2	684	82.6	107	12.9	19	2.3	0	0.0
Tue 10-Nov-20	**811**	25	3.1	647	79.8	123	15.2	14	1.7	2	0.3
Total Vehicles											
[--]	**5390**	186	3.8	4382	81.5	697	12.5	119	2.2	6	0.1



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10159			HAILSHAM				Site No: 10159002			Location	Site 2 - Station Rd, Hailsham (N of access)					
	NOVEMBER 2020						Channel: Southbound									

Time Period	Total Vehicles	85%ile Speed	Mean Speed	Stand Dev.	<6Mph	30	11-<16	16-<21	21-<26	26-<31	31-<36	36-<41	41-<46	46-<51	51-<56	=>56
Wed 04-Nov-20																
00:00	**1**	-	43.5	-	0	0	0	0	0	0	0	0	1	0	0	0
01:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
02:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
03:00	**1**	-	23.5	-	0	0	0	0	1	0	0	0	0	0	0	0
04:00	**3**	-	20.2	10.4	0	1	0	0	1	1	0	0	0	0	0	0
05:00	**4**	-	34.8	4.9	0	0	0	0	0	1	1	2	0	0	0	0
06:00	**31**	40.5	36.2	7.4	0	0	1	0	0	3	11	12	2	1	0	1
07:00	**69**	38.7	33.4	5.1	0	0	0	0	2	21	27	15	3	1	0	0
08:00	**60**	40.7	34.7	6	0	0	0	1	1	15	19	15	8	1	0	0
09:00	**98**	36.9	32	5.8	0	0	1	2	7	29	41	15	2	0	1	0
10:00	**96**	39.2	32.7	6.5	0	0	0	2	11	25	31	19	6	1	1	0
11:00	**70**	37.5	31.5	7	0	0	1	2	10	19	24	10	3	0	0	1
12:00	**96**	38.1	33	5.2	0	0	0	1	2	31	40	17	3	2	0	0
13:00	**89**	38.4	32	6.2	0	0	0	4	10	22	31	17	5	0	0	0
14:00	**67**	39	32.2	6.6	0	0	0	2	11	15	19	16	3	1	0	0
15:00	**90**	41.5	35.1	6.7	0	1	1	0	2	13	38	20	11	4	0	0
16:00	**79**	42	36	6.8	0	1	0	0	0	12	31	21	8	4	2	0
17:00	**43**	43.8	36.9	6.1	0	0	0	0	1	5	16	8	11	2	0	0
18:00	**30**	43.5	36.5	8	0	0	0	1	1	3	11	7	4	2	0	1
19:00	**14**	42	34.6	6.7	0	0	0	0	0	5	5	1	2	1	0	0
20:00	**14**	40.3	35.6	4.9	0	0	0	0	0	2	6	4	2	0	0	0
21:00	**9**	-	32.9	5.4	0	0	0	0	1	2	3	3	0	0	0	0
22:00	**7**	-	34.9	7	0	0	0	0	0	2	3	1	0	1	0	0
23:00	**6**	-	41	5.4	0	0	0	0	0	0	1	2	2	1	0	0
12H,7-19	**887**	**39.8**	**33.5**	**6.4**	**0**	**2**	**3**	**15**	**58**	**210**	**328**	**180**	**67**	**18**	**4**	**2**
16H,6-22	**955**	**39.9**	**33.6**	**6.5**	**0**	**2**	**4**	**15**	**59**	**222**	**353**	**200**	**73**	**20**	**4**	**3**
18H,6-24	**968**	**40**	**33.7**	**6.5**	**0**	**2**	**4**	**15**	**59**	**224**	**357**	**203**	**75**	**22**	**4**	**3**
24H,0-24	**977**	**40**	**33.7**	**6.5**	**0**	**3**	**4**	**15**	**61**	**226**	**358**	**205**	**76**	**22**	**4**	**3**

Data produced by
Auto Surveys Ltd

10159		HAILSHAM					Site No: 10159002			Location	Site 2 - Station Rd, Hailsham (N of access)				
	NOVEMBER 2020						Channel: Southbound								
Time Period	Total Vehicles	85%ile Speed	Mean Speed	Stand Dev.	<6Mph	30	11-<16	16-<21	21-<26	26-<31	31-<36	36-<41	41-<46	46-<51	51-<56	=>56
Thu 05-Nov-20																
00:00	**1**	-	48.5	-	0	0	0	0	0	0	0	0	0	1	0	0
01:00	**1**	-	23.5	-	0	0	0	0	1	0	0	0	0	0	0	0
02:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
03:00	**1**	-	28.5	-	0	0	0	0	0	1	0	0	0	0	0	0
04:00	**2**	-	31	10.6	0	0	0	0	1	0	0	1	0	0	0	0
05:00	**3**	-	35.2	3.1	0	0	0	0	0	0	2	1	0	0	0	0
06:00	**33**	42.6	37.4	5.2	0	0	0	0	0	2	12	12	5	2	0	0
07:00	**53**	37.8	31.9	6.3	0	0	1	1	5	15	20	7	4	0	0	0
08:00	**41**	39.3	33.9	5.3	0	0	0	0	2	10	15	11	3	0	0	0
09:00	**59**	37.3	32.4	5.6	0	0	0	2	4	14	27	10	1	1	0	0
10:00	**68**	40	34.1	6.9	0	1	1	2	1	9	28	19	6	1	0	0
11:00	**71**	39	32.6	6.6	0	0	0	2	9	16	25	13	5	0	1	0
12:00	**66**	37.3	31.9	5.4	0	0	0	1	6	22	24	10	3	0	0	0
13:00	**69**	39.4	33.1	6	0	0	0	0	8	16	26	12	6	1	0	0
14:00	**59**	39.5	33.1	6.7	0	0	0	3	3	15	21	11	4	2	0	0
15:00	**76**	39.3	33.8	5.8	0	0	0	3	2	14	32	20	4	1	0	0
16:00	**64**	41.9	35.6	5.9	0	0	0	0	4	8	22	18	11	1	0	0
17:00	**40**	41.9	37	4.6	0	0	0	0	0	3	14	15	8	0	0	0
18:00	**15**	41.4	35.5	6.1	0	0	0	0	0	5	2	5	3	0	0	0
19:00	**13**	44.2	37.7	7.1	0	0	0	0	1	1	3	3	4	1	0	0
20:00	**10**	39.3	34.5	5.8	0	0	0	0	1	1	4	3	1	0	0	0
21:00	**8**	-	32.9	7.4	0	0	0	1	0	2	1	4	0	0	0	0
22:00	**1**	-	38.5	-	0	0	0	0	0	0	0	1	0	0	0	0
23:00	**2**	-	46	10.6	0	0	0	0	0	0	0	1	0	0	1	0
12H,7-19	**681**	**39.8**	**33.5**	**6.1**	**0**	**1**	**2**	**14**	**44**	**147**	**256**	**151**	**58**	**7**	**1**	**0**
16H,6-22	**745**	**40**	**33.8**	**6.2**	**0**	**1**	**2**	**15**	**46**	**153**	**276**	**173**	**68**	**10**	**1**	**0**
18H,6-24	**748**	**40.1**	**33.8**	**6.2**	**0**	**1**	**2**	**15**	**46**	**153**	**276**	**175**	**68**	**10**	**2**	**0**
24H,0-24	**756**	**40.1**	**33.8**	**6.2**	**0**	**1**	**2**	**15**	**48**	**154**	**278**	**177**	**68**	**11**	**2**	**0**

Data produced by
Auto Surveys Ltd

10159		HAILSHAM					Site No: 10159002			Location	Site 2 - Station Rd, Hailsham (N of access)				
	NOVEMBER 2020						Channel: Southbound								

Time Period	Total Vehicles	85%ile Speed	Mean Speed	Stand Dev.	<6Mph	30	11-<16	16-<21	21-<26	26-<31	31-<36	36-<41	41-<46	46-<51	51-<56	=>56
Fri 06-Nov-20																
00:00	**2**	-	36	17.7	0	0	0	0	1	0	0	0	0	1	0	0
01:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
02:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
03:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
04:00	**5**	-	27.5	11.4	0	1	0	0	0	2	1	1	0	0	0	0
05:00	**11**	35	31.2	4.9	0	0	0	0	2	2	6	1	0	0	0	0
06:00	**34**	42.2	35.7	6	0	0	0	0	0	9	9	9	6	1	0	0
07:00	**56**	40.7	35.1	5.6	0	0	1	0	0	8	25	14	8	0	0	0
08:00	**54**	38.9	32.9	5.9	0	0	0	1	3	17	18	11	3	1	0	0
09:00	**58**	41.6	34.9	7.2	0	0	0	2	2	14	14	16	7	2	1	0
10:00	**82**	39.4	33.4	6.6	0	0	0	1	7	23	24	21	3	2	0	1
11:00	**72**	37.2	32.5	5.3	0	0	0	3	2	18	35	11	3	0	0	0
12:00	**67**	39.5	33.4	6.9	0	0	1	0	7	15	20	19	4	0	0	1
13:00	**71**	38.6	32.4	6.1	0	0	0	3	4	22	23	15	3	1	0	0
14:00	**87**	39.5	32.8	6.4	0	0	1	1	7	26	26	18	7	1	0	0
15:00	**79**	40.3	35	6.1	0	0	0	2	1	14	29	24	6	2	1	0
16:00	**50**	41	36	6.6	0	0	0	0	1	9	18	14	4	3	0	1
17:00	**33**	42.6	36.1	6.3	0	0	0	0	1	6	10	9	5	2	0	0
18:00	**20**	40.2	34.3	8.4	0	1	0	1	0	1	8	6	3	0	0	0
19:00	**15**	39.5	35.8	5.1	0	0	0	0	0	2	6	6	0	1	0	0
20:00	**6**	-	36.8	6.9	0	0	0	0	0	1	2	2	0	1	0	0
21:00	**6**	-	34.3	6	0	0	0	0	0	2	2	1	1	0	0	0
22:00	**4**	-	37.3	15	0	0	0	0	1	0	2	0	0	0	0	1
23:00	**3**	-	33.5	5	0	0	0	0	0	1	1	1	0	0	0	0
12H,7-19	**729**	**40**	**33.9**	**6.4**	**0**	**1**	**3**	**14**	**35**	**173**	**250**	**178**	**56**	**14**	**2**	**3**
16H,6-22	**790**	**40.1**	**34**	**6.4**	**0**	**1**	**3**	**14**	**35**	**187**	**269**	**196**	**63**	**17**	**2**	**3**
18H,6-24	**797**	**40.1**	**34**	**6.4**	**0**	**1**	**3**	**14**	**36**	**188**	**272**	**197**	**63**	**17**	**2**	**4**
24H,0-24	**815**	**40.1**	**33.9**	**6.5**	**0**	**2**	**3**	**14**	**39**	**192**	**279**	**199**	**63**	**18**	**2**	**4**

Data produced by
Auto Surveys Ltd

10159		HAILSHAM				Site No: 10159002			Location	Site 2 - Station Rd, Hailsham (N of access)						
	NOVEMBER 2020					Channel: Southbound										
Time Period	**Total Vehicles**	**85%ile Speed**	**Mean Speed**	**Stand Dev.**	**<6Mph**	**30**	**11-<16**	**16-<21**	**21-<26**	**26-<31**	**31-<36**	**36-<41**	**41-<46**	**46-<51**	**51-<56**	**=>56**
Sat 07-Nov-20																
00:00	**3**	-	43.5	15	0	0	0	0	0	1	0	0	1	0	0	1
01:00	**4**	-	29.8	10.4	0	0	0	1	1	0	0	2	0	0	0	0
02:00	**1**	-	33.5	-	0	0	0	0	0	0	1	0	0	0	0	0
03:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
04:00	**2**	-	16	10.6	0	1	0	0	1	0	0	0	0	0	0	0
05:00	**3**	-	30.2	5.9	0	0	0	0	1	0	2	0	0	0	0	0
06:00	**17**	44	37.3	7.9	0	0	0	1	1	1	2	6	5	1	0	0
07:00	**21**	40.5	35.6	5.8	0	0	0	0	1	2	9	6	2	1	0	0
08:00	**40**	38.5	30.1	8.5	0	1	0	6	6	5	13	5	4	0	0	0
09:00	**58**	38.2	32.2	5.7	0	0	0	1	6	17	20	11	3	0	0	0
10:00	**88**	37.6	30.9	6.2	0	0	0	5	15	21	28	17	2	0	0	0
11:00	**83**	39	31.9	6.6	0	0	0	4	9	27	21	15	6	1	0	0
12:00	**61**	39.5	33	7	1	0	0	1	2	20	17	15	3	2	0	0
13:00	**34**	35.7	30.3	6.9	0	0	0	1	9	10	9	2	2	1	0	0
14:00	**40**	38.5	32.3	6.5	0	0	0	3	3	8	16	7	3	0	0	0
15:00	**51**	38.7	32.4	6.1	0	0	0	2	5	12	18	11	3	0	0	0
16:00	**32**	44.9	35.1	9	0	0	1	0	3	8	6	4	6	4	0	0
17:00	**16**	35.1	31	4.3	0	0	0	0	1	8	5	2	0	0	0	0
18:00	**22**	41.5	34.2	9.5	0	0	0	4	0	1	8	5	2	1	1	0
19:00	**17**	40.9	32.9	9.4	0	0	1	2	0	2	6	3	2	1	0	0
20:00	**9**	-	35.2	9.4	0	0	0	0	1	3	1	2	1	0	1	0
21:00	**7**	-	35.6	6.5	0	0	0	0	0	2	2	1	2	0	0	0
22:00	**7**	-	29.2	10.7	0	0	0	2	1	2	0	0	2	0	0	0
23:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
12H,7-19	**546**	**39.2**	**32.1**	**6.9**	**1**	**1**	**1**	**27**	**60**	**139**	**170**	**100**	**36**	**10**	**1**	**0**
16H,6-22	**596**	**39.7**	**32.4**	**7.1**	**1**	**1**	**2**	**30**	**62**	**147**	**181**	**112**	**46**	**12**	**2**	**0**
18H,6-24	**603**	**39.7**	**32.4**	**7.2**	**1**	**1**	**2**	**32**	**63**	**149**	**181**	**112**	**48**	**12**	**2**	**0**
24H,0-24	**616**	**39.7**	**32.3**	**7.3**	**1**	**2**	**2**	**33**	**66**	**150**	**184**	**114**	**49**	**12**	**2**	**1**

Data produced by
Auto Surveys Ltd

10159	NOVEMBER 2020	HAILSHAM			Site No: 10159002 Channel: Southbound				Location	Site 2 - Station Rd, Hailsham (N of access)						
Time Period	Total Vehicles	85%ile Speed	Mean Speed	Stand Dev.	<6Mph	30	11-<16	16-<21	21-<26	26-<31	31-<36	36-<41	41-<46	46-<51	51-<56	=>56
Sun 08-Nov-20																
00:00	**1**	-	18.5	-	0	0	0	1	0	0	0	0	0	0	0	0
01:00	**1**	-	28.5	-	0	0	0	0	0	1	0	0	0	0	0	0
02:00	**1**	-	13.5	-	0	0	1	0	0	0	0	0	0	0	0	0
03:00	**5**	-	23.5	7.2	0	0	0	3	0	1	1	0	0	0	0	0
04:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
05:00	**2**	-	33.5	1.8	0	0	0	0	0	0	2	0	0	0	0	0
06:00	**6**	-	31.8	4.3	0	0	0	0	0	3	2	1	0	0	0	0
07:00	**11**	48.3	39	8.6	0	0	0	0	1	0	4	2	0	4	0	0
08:00	**30**	37.3	30.8	6.3	0	0	0	1	5	11	7	4	2	0	0	0
09:00	**80**	37.5	32.1	5.5	0	0	0	2	9	17	35	15	2	0	0	0
10:00	**97**	37.5	30.1	7.2	0	0	3	6	13	36	21	10	7	1	0	0
11:00	**106**	28.4	20.6	8	3	8	17	30	24	16	4	2	2	0	0	0
12:00	**57**	39.7	32.2	7.8	0	1	0	4	6	11	17	12	5	1	0	0
13:00	**42**	38.9	31.8	7.4	0	0	2	2	2	11	13	9	3	0	0	0
14:00	**29**	38.2	28.3	10.6	0	1	2	5	5	4	5	5	0	1	1	0
15:00	**31**	39.6	30	10.1	0	1	2	2	3	12	3	4	2	1	1	0
16:00	**33**	39.9	34.1	6.3	0	0	0	1	3	4	11	11	3	0	0	0
17:00	**9**	-	29.6	8.3	0	0	0	2	1	2	1	3	0	0	0	0
18:00	**15**	43.8	37.5	7.3	0	0	0	0	2	0	3	5	4	1	0	0
19:00	**10**	32.7	27.5	6.7	0	0	1	1	0	5	3	0	0	0	0	0
20:00	**13**	38.6	32.3	7.5	0	0	0	2	0	2	5	3	1	0	0	0
21:00	**4**	-	34.8	2.8	0	0	0	0	0	0	3	1	0	0	0	0
22:00	**4**	-	36	6.5	0	0	0	0	0	1	1	1	1	0	0	0
23:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
12H,7-19	**540**	**38.5**	**29.5**	**8.9**	**3**	**11**	**26**	**55**	**74**	**124**	**124**	**82**	**30**	**9**	**2**	**0**
16H,6-22	**573**	**38.4**	**29.6**	**8.8**	**3**	**11**	**27**	**58**	**74**	**134**	**137**	**87**	**31**	**9**	**2**	**0**
18H,6-24	**577**	**38.5**	**29.6**	**8.8**	**3**	**11**	**27**	**58**	**74**	**135**	**138**	**88**	**32**	**9**	**2**	**0**
24H,0-24	**587**	**38.4**	**29.5**	**8.8**	**3**	**11**	**28**	**62**	**74**	**137**	**141**	**88**	**32**	**9**	**2**	**0**

10159	NOVEMBER 2020	HAILSHAM			Site No: 10159002	Channel: Southbound			Location	Site 2 - Station Rd, Hailsham (N of access)						

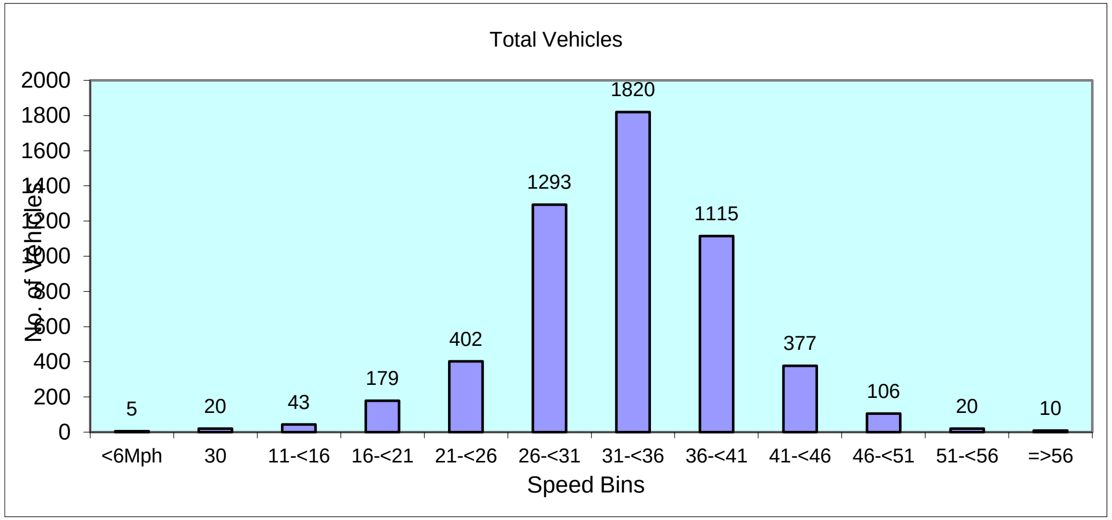
Time Period	Total Vehicles	85%ile Speed	Mean Speed	Stand Dev.	<6Mph	30	11-<16	16-<21	21-<26	26-<31	31-<36	36-<41	41-<46	46-<51	51-<56	=>56
Mon 09-Nov-20																
00:00	**1**	-	18.5	-	0	0	0	1	0	0	0	0	0	0	0	0
01:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
02:00	**1**	-	43.5	-	0	0	0	0	0	0	0	0	1	0	0	0
03:00	**2**	-	18.5	1.8	0	0	0	2	0	0	0	0	0	0	0	0
04:00	**5**	-	30.5	14.4	0	1	0	0	0	1	2	0	0	1	0	0
05:00	**4**	-	33.5	6	0	0	0	0	0	2	0	2	0	0	0	0
06:00	**32**	40.5	36.6	5.7	0	0	0	0	1	3	10	13	3	2	0	0
07:00	**49**	40.5	35.5	7.6	1	0	0	0	1	8	14	19	4	1	0	1
08:00	**71**	38.7	33.1	5.4	0	0	0	0	5	21	24	18	2	1	0	0
09:00	**77**	39.6	33.1	6.2	0	0	0	2	5	20	30	11	8	1	0	0
10:00	**79**	37.8	32.5	5.9	0	0	1	0	5	26	31	10	4	2	0	0
11:00	**86**	39.6	33	6.3	0	0	0	2	9	20	28	19	7	1	0	0
12:00	**76**	37.1	32.8	4.9	0	0	0	0	3	24	35	10	3	1	0	0
13:00	**71**	35.1	30.4	5.1	0	0	0	4	4	32	24	6	1	0	0	0
14:00	**73**	38.4	33.2	5.4	0	0	0	0	6	17	30	18	1	0	1	0
15:00	**71**	39.6	33.5	6.2	0	0	0	1	3	21	27	11	6	1	1	0
16:00	**53**	39.3	32.2	7.5	0	0	1	4	5	9	19	10	4	1	0	0
17:00	**36**	40.6	34.5	7.1	0	0	0	0	3	10	8	10	3	1	1	0
18:00	**14**	40.4	35.3	5.9	0	0	0	0	1	2	4	5	2	0	0	0
19:00	**12**	33.7	28.9	5.6	0	0	0	2	0	5	5	0	0	0	0	0
20:00	**8**	-	37.3	6	0	0	0	0	0	1	2	4	0	1	0	0
21:00	**6**	-	33.5	13.1	0	0	0	0	2	1	2	0	0	0	0	1
22:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
23:00	**1**	-	23.5	-	0	0	0	0	1	0	0	0	0	0	0	0
12H,7-19	**756**	**39.1**	**33**	**6.1**	**1**	**0**	**2**	**13**	**50**	**210**	**274**	**147**	**45**	**10**	**3**	**1**
16H,6-22	**814**	**39.3**	**33.1**	**6.2**	**1**	**0**	**2**	**15**	**53**	**220**	**293**	**164**	**48**	**13**	**3**	**2**
18H,6-24	**815**	**39.3**	**33.1**	**6.2**	**1**	**0**	**2**	**15**	**54**	**220**	**293**	**164**	**48**	**13**	**3**	**2**
24H,0-24	**828**	**39.3**	**33**	**6.4**	**1**	**1**	**2**	**18**	**54**	**223**	**295**	**166**	**49**	**14**	**3**	**2**

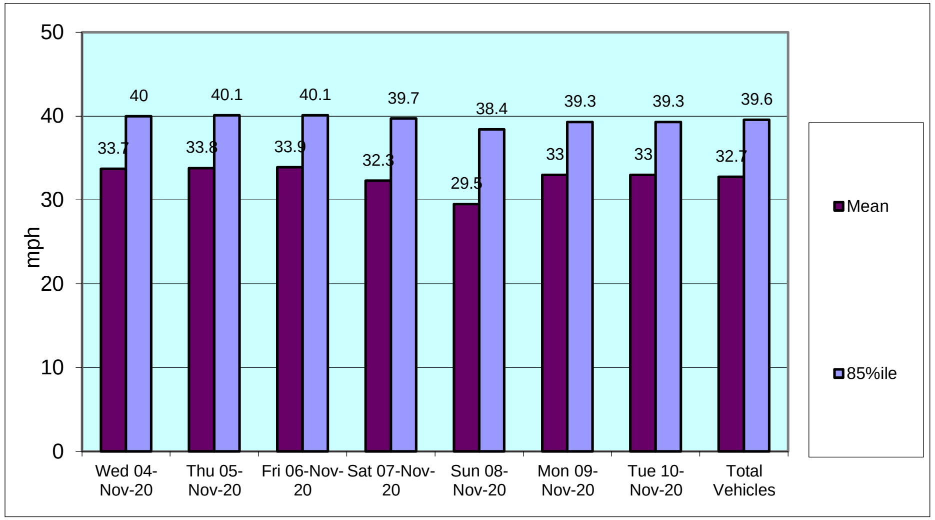
Data produced by
Auto Surveys Ltd

10159		HAILSHAM				Site No: 10159002			Location	Site 2 - Station Rd, Hailsham (N of access)					
	NOVEMBER 2020					Channel: Southbound									
Time Period	Total Vehicles	85%ile Speed	Mean Speed	Stand Dev.	<6Mph	30	11-<16	16-<21	21-<26	26-<31	31-<36	36-<41	41-<46	46-<51	51-<56	=>56
Tue 10-Nov-20																
00:00	**2**	-	38.5	14.1	0	0	0	0	0	1	0	0	0	1	0	0
01:00	**2**	-	16	3.5	0	0	1	1	0	0	0	0	0	0	0	0
02:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
03:00	**1**	-	18.5	-	0	0	0	1	0	0	0	0	0	0	0	0
04:00	**2**	-	28.5	7.1	0	0	0	0	1	0	1	0	0	0	0	0
05:00	**5**	-	32.5	6.6	0	0	0	0	1	1	1	2	0	0	0	0
06:00	**36**	40.6	36.6	5.7	0	0	0	0	0	4	15	12	1	4	0	0
07:00	**47**	39.4	34.7	5.8	0	0	0	1	0	9	20	14	1	1	1	0
08:00	**66**	40.5	34.7	5.9	0	0	0	0	3	17	16	22	7	1	0	0
09:00	**57**	39.9	33.4	6.7	0	0	0	1	6	14	16	14	4	2	0	0
10:00	**79**	37.9	32	6	0	0	0	1	7	30	23	15	1	1	1	0
11:00	**85**	38.9	32.7	6.4	0	0	0	2	7	24	33	10	6	3	0	0
12:00	**81**	38.3	32.8	6.2	0	0	0	3	6	18	35	14	2	3	0	0
13:00	**71**	34.9	30.2	5.3	0	0	0	6	4	27	29	4	1	0	0	0
14:00	**80**	38.1	32.8	5.5	0	0	0	0	8	20	32	18	1	0	1	0
15:00	**67**	38.5	32.9	6	0	0	0	1	2	25	23	11	3	1	1	0
16:00	**61**	41.2	33.3	7.5	0	0	1	3	7	6	24	10	9	1	0	0
17:00	**32**	40.5	35.1	7.5	0	0	0	0	4	6	6	11	3	1	1	0
18:00	**13**	39.2	33.9	5.7	0	0	0	0	1	3	4	4	1	0	0	0
19:00	**9**	-	27.9	6	0	0	0	2	0	4	3	0	0	0	0	0
20:00	**9**	-	37.4	5.6	0	0	0	0	0	1	2	5	0	1	0	0
21:00	**4**	-	29.8	4.9	0	0	0	0	1	1	2	0	0	0	0	0
22:00	**0**	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
23:00	**2**	-	23.5	1.8	0	0	0	0	2	0	0	0	0	0	0	0
12H,7-19	**739**	**39.2**	**33**	**6.3**	**0**	**0**	**1**	**18**	**55**	**199**	**261**	**147**	**39**	**14**	**5**	**0**
16H,6-22	**797**	**39.3**	**33.1**	**6.3**	**0**	**0**	**1**	**20**	**56**	**209**	**283**	**164**	**40**	**19**	**5**	**0**
18H,6-24	**799**	**39.3**	**33.1**	**6.3**	**0**	**0**	**1**	**20**	**58**	**209**	**283**	**164**	**40**	**19**	**5**	**0**
24H,0-24	**811**	**39.3**	**33**	**6.4**	**0**	**0**	**2**	**22**	**60**	**211**	**285**	**166**	**40**	**20**	**5**	**0**

Data produced by
Auto Surveys Ltd

10159			HAILSHAM			Site No: 10159002			Location	Site 2 - Station Rd, Hailsham (N of access)						
	NOVEMBER 2020					Channel: Southbound										
Time Period	Total Vehicles	85%ile Speed	Mean Speed	Stand Dev.	<6Mph	30	11-<16	16-<21	21-<26	26-<31	31-<36	36-<41	41-<46	46-<51	51-<56	=>56
Daily Totals																
Wed 04-Nov-20	**977**	40	33.7	6.5	0	3	4	15	61	226	358	205	76	22	4	3
Thu 05-Nov-20	**756**	40.1	33.8	6.2	0	1	2	15	48	154	278	177	68	11	2	0
Fri 06-Nov-20	**815**	40.1	33.9	6.5	0	2	3	14	39	192	279	199	63	18	2	4
Sat 07-Nov-20	**616**	39.7	32.3	7.3	1	2	2	33	66	150	184	114	49	12	2	1
Sun 08-Nov-20	**587**	38.4	29.5	8.8	3	11	28	62	74	137	141	88	32	9	2	0
Mon 09-Nov-20	**828**	39.3	33	6.4	1	1	2	18	54	223	295	166	49	14	3	2
Tue 10-Nov-20	**811**	39.3	33	6.4	0	0	2	22	60	211	285	166	40	20	5	0
Total Vehicles																
[--]	**5390**	39.6	32.7	6.9	5	20	43	179	402	1293	1820	1115	377	106	20	10



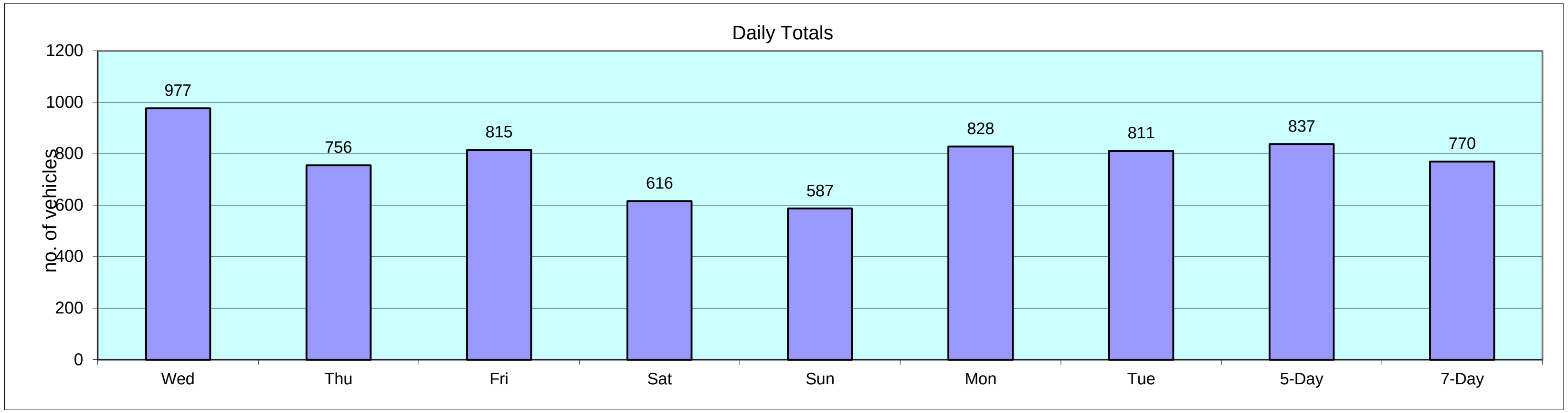


Data produced by
Auto Surveys Ltd

10159	NOVEMBER 2020	HAILSHAM		Site No: 10159002 Channel: Southbound		Location	Site 2 - Station Rd, Hailsham (N of access)		
TIME PERIOD	**Wed 04/11/20**	**Thu 05/11/20**	**Fri 06/11/20**	**Sat 07/11/20**	**Sun 08/11/20**	**Mon 09/11/20**	**Tue 10/11/20**	**5-Day Av**	**7-Day Av**
Week Begin: 04-Nov-20									
00:00	**1**	1	2	3	1	1	2	1	2
01:00	**0**	1	0	4	1	0	2	1	1
02:00	**0**	0	0	1	1	1	0	0	0
03:00	**1**	1	0	0	5	2	1	1	1
04:00	**3**	2	5	2	0	5	2	3	3
05:00	**4**	3	11	3	2	4	5	5	5
06:00	**31**	33	34	17	6	32	36	33	27
07:00	**69**	53	56	21	11	49	47	55	44
08:00	**60**	41	54	40	30	71	66	58	52
09:00	**98**	59	58	58	80	77	57	70	70
10:00	**96**	68	82	88	97	79	79	81	84
11:00	**70**	71	72	83	106	86	85	77	82
12:00	**96**	66	67	61	57	76	81	77	72
13:00	**89**	69	71	34	42	71	71	74	64
14:00	**67**	59	87	40	29	73	80	73	62
15:00	**90**	76	79	51	31	71	67	77	66
16:00	**79**	64	50	32	33	53	61	61	53
17:00	**43**	40	33	16	9	36	32	37	30
18:00	**30**	15	20	22	15	14	13	18	18
19:00	**14**	13	15	17	10	12	9	13	13
20:00	**14**	10	6	9	13	8	9	9	10
21:00	**9**	8	6	7	4	6	4	7	6
22:00	**7**	1	4	7	4	0	0	2	3
23:00	**6**	2	3	0	0	1	2	3	2
12H,7-19	**887**	**681**	**729**	**546**	**540**	**756**	**739**	**758**	**697**
16H,6-22	**955**	**745**	**790**	**596**	**573**	**814**	**797**	**820**	**753**
18H,6-24	**968**	**748**	**797**	**603**	**577**	**815**	**799**	**825**	**758**
24H,0-24	**977**	**756**	**815**	**616**	**587**	**828**	**811**	**837**	**770**
Am	**09:00**	**11:00**	**10:00**	**10:00**	**11:00**	**11:00**	**11:00**		
Peak	**98**	**71**	**82**	**88**	**106**	**86**	**85**		
Pm	**12:00**	**15:00**	**14:00**	**12:00**	**12:00**	**12:00**	**12:00**		
Peak	**96**	**76**	**87**	**61**	**57**	**76**	**81**		

Data produced by
Auto Surveys Ltd

10159	HAILSHAM		Site No: 10159002		Location	Site 2 - Station Rd, Hailsham (N of access)			
	NOVEMBER 2020		Channel: Southbound						
TIME PERIOD	Wed 04/11/20	Thu 05/11/20	Fri 06/11/20	Sat 07/11/20	Sun 08/11/20	Mon 09/11/20	Tue 10/11/20	5-Day Av	7-Day Av



Data produced by
Auto Surveys Ltd

Classification Schemes

Scheme F Classification Scheme (Non-metric)

Scheme F is an attempt to implement the FWHA's visual classification scheme as an axle-based classification scheme. This is one of several interpretations.

Class	Vehicle Type	No. of Axles	Axle spacing in feet				
			Axle 1 to 2	Axle 2 to 3	Axle 3 to 4	Axle 4 to 5	Axle 5 to 6
1	motorcycle	2	<6.0				
2	passenger car	2	6.0 - 10.0				
	car + 1 axle trailer	3	<10.0	10.0 - 18.0			
	car + 2 axle trailer	4	<10.0		<3.5		
3	pickup	2	10.0 - 15.0				
	pickup + 1 axle trailer	3	10.0 - 15.0	10.0 - 18.0			
	pickup + 2 axle trailer	4	10.0 -15.0		<3.5		
	pickup + 3 axle trailer	5	9.9 - 15.0			<3.5	
4	Traditional bus/coach	2	>20.0				
	Traditional bus/coach	3	>19.0				
5	single unit truck/bus - dual rear axle	2	14.9 - 20.0			<3.5	
6	3 axle truck	3		<18.0			
7	4 axle truck	4					
8	2S1	3		>18.0			
	2S2	4		>5.0	>3.5		
	3S1	4		<5.0	>10.0		
9	3S2	5		<6.1		3.5 - 8.0	
	5 axle combination	5					
10	6 axle combination	6			3.5 - 5.0		
	3S3	6					
11	2S1-2	5		>6.0			
12	3S1-2	6					>10.0
13	truck	7 or more					

Appendix B:
Visibility Splay Calculation

MfS2 / TD9/93 Stopping Sight Distance Calculations

Site ATC1 (SSD Recommended Factors)

Direction	Measured 85%ile Speed (mph)	Measured 85%ile Speed (kph)	Speed, v (m/s)	Reaction time, t (secs)	Reaction distance, vt	Decel rate relative to g	Gradient, +/-a (%)	Decel, d (m/s^2)	Stopping distance, $v^2/2(d+0.1a)$	Bonnet length (b)	SSD (m)
Northbound	**38.8**	**62.4**	**17.3**	**1.5**	**26.0**	**0.450**	**0.0**	**4.41**	**34.1**	**2.4**	***62***
Southbound	38.2	61.5	17.1	1.5	25.6	0.450	0.0	4.41	33.0	2.4	*61*

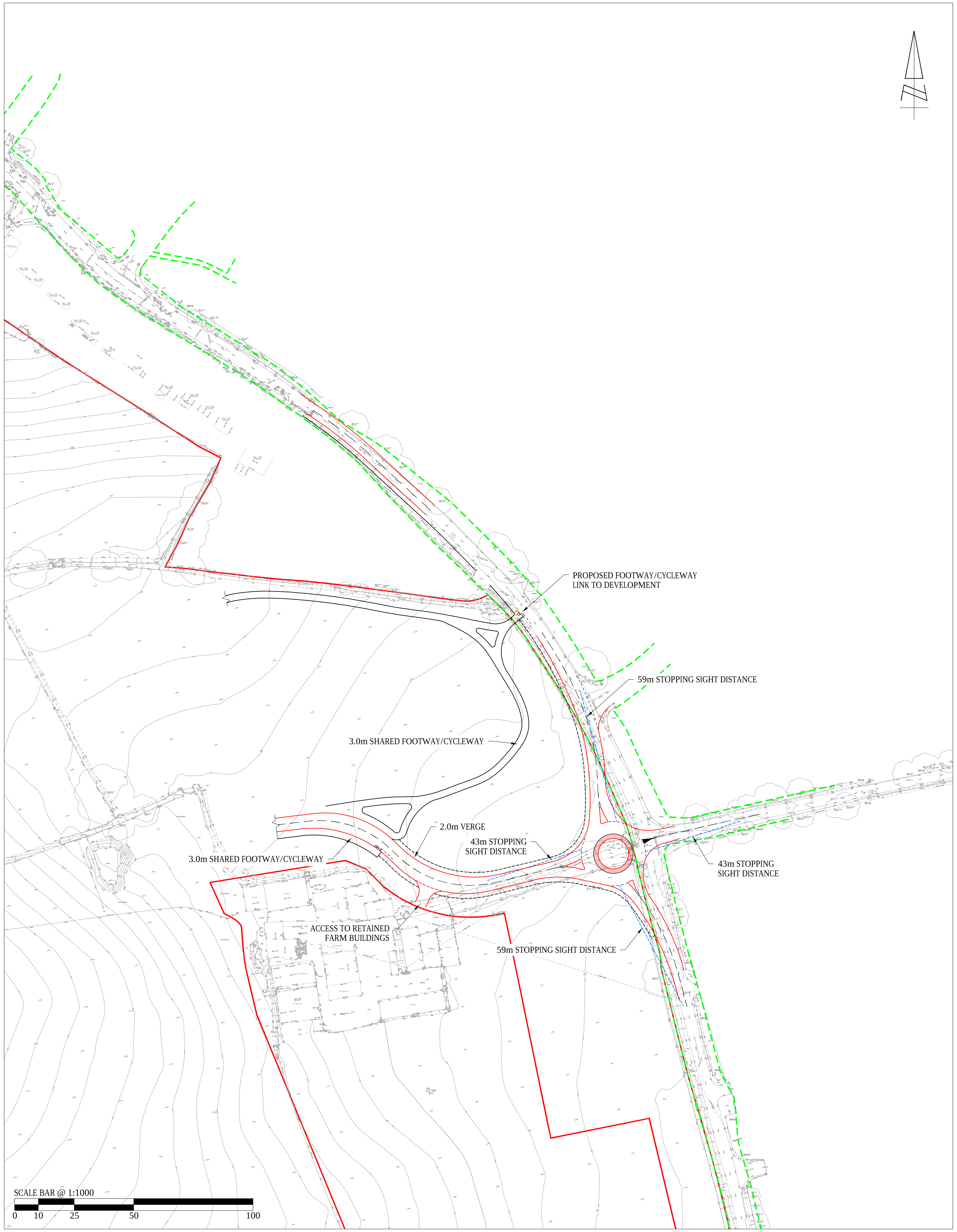
Site ATC2 (SSD Recommended Factors)

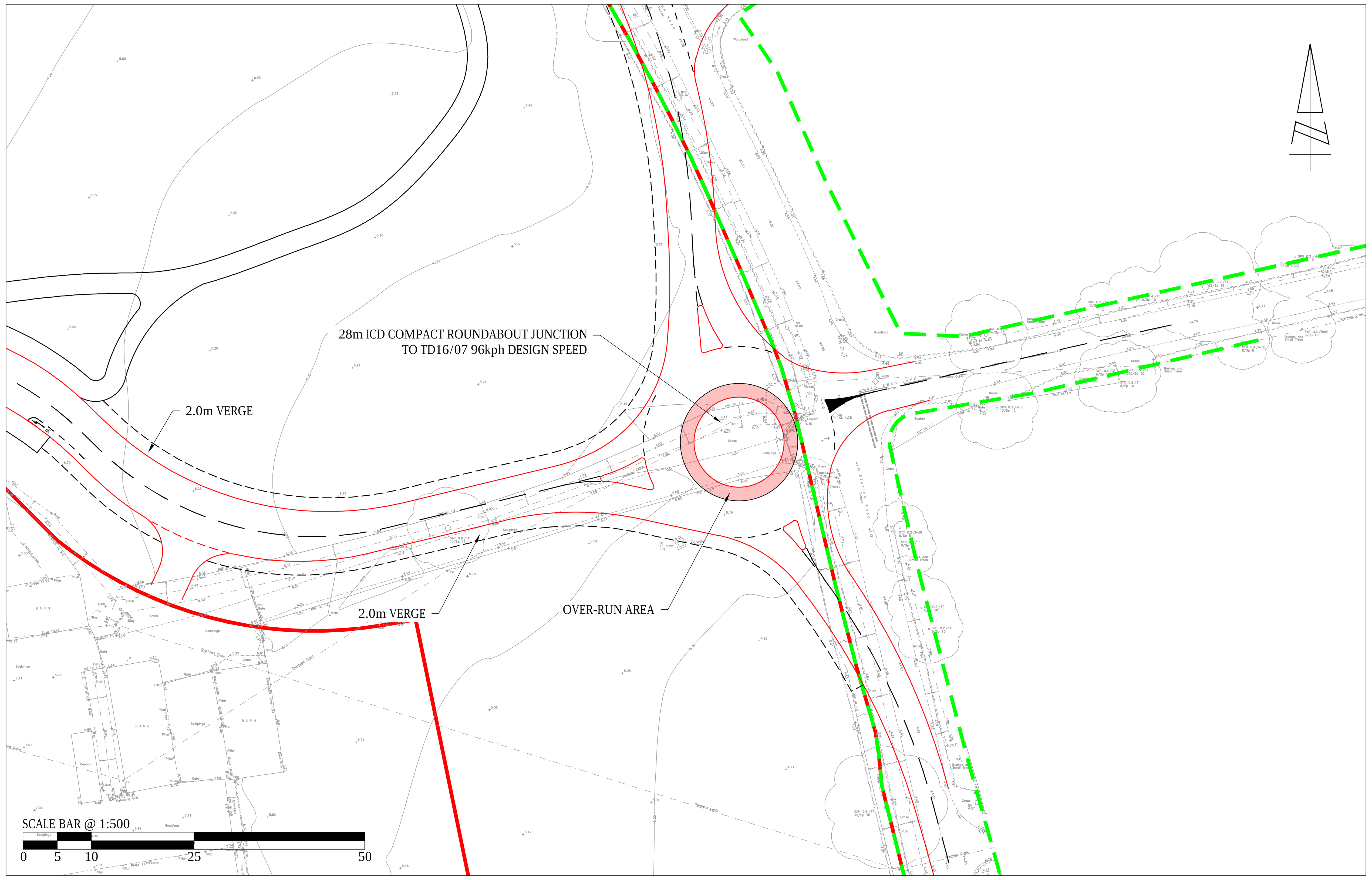
Direction	Dry Speed (mph)	Dry Speed (kph)	Speed, v (m/s)	Reaction time, t (secs)	Reaction distance, vt	Decel rate relative to g	Gradient, +/-a (%)	Decel, d (m/s^2)	Stopping distance, $v^2/2(d+0.1a)$	Bonnet length (b)	SSD (m)
Northbound	36.8	59.2	16.5	1.5	24.7	0.450	0.0	4.41	30.7	2.4	*58*
Southbound	**39.6**	**63.7**	**17.7**	**1.5**	**26.6**	**0.450**	**0.0**	**4.41**	**35.5**	**2.4**	***64***

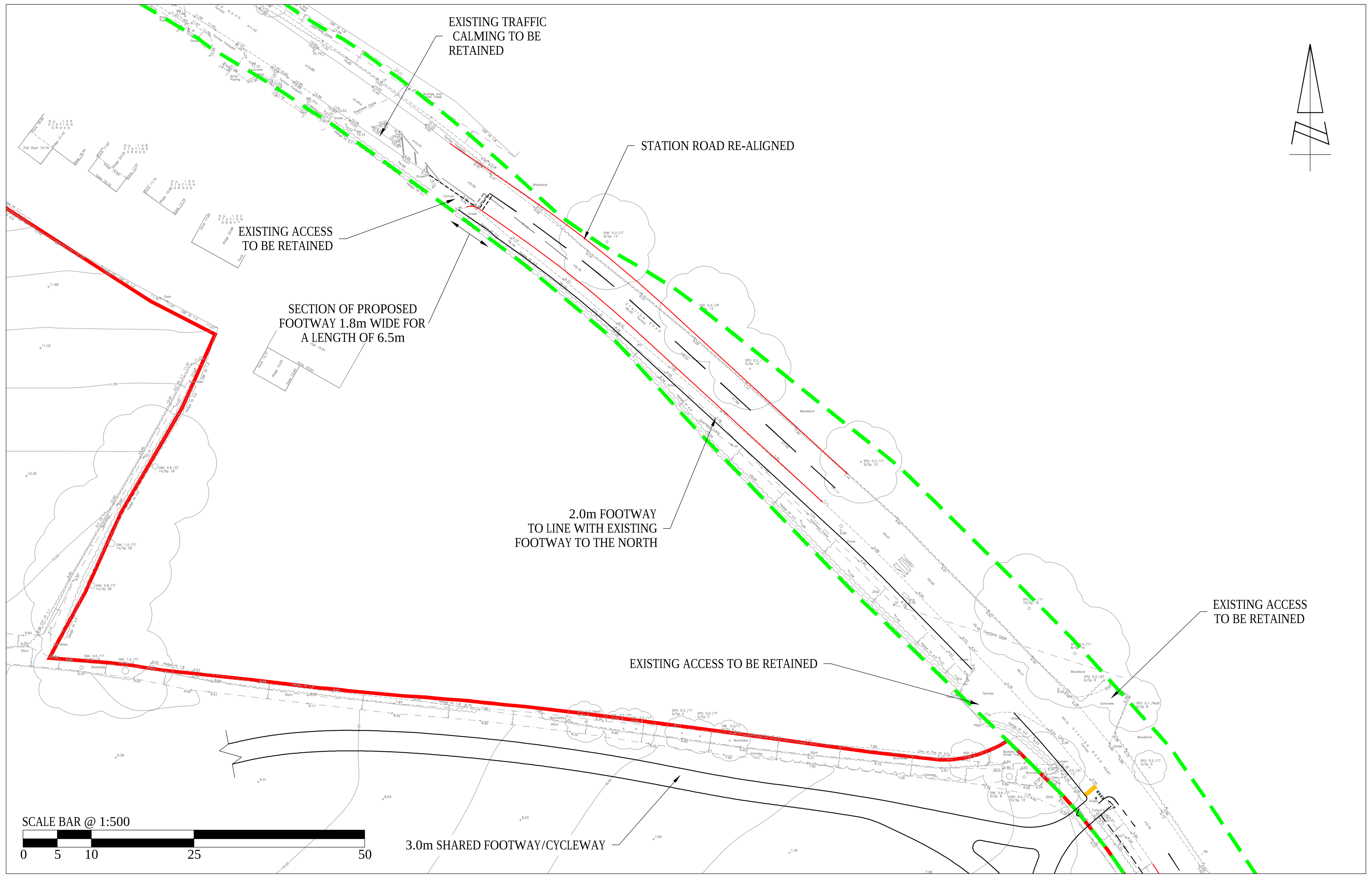
Based on the formula: $SSD = vt + v^2/2(d+0.1a) + b$

Appendix C:

i-Transport drawing reference ITB10106-GA-204 rev. G







DRAWING ISSUED FOR FEASIBILITY CONSIDERATION AND PLANNING PURPOSES ONLY. DRAWING NOT TO BE USED FOR CONSTRUCTION. I-TRANSPORT LLP ACCEPT NO RESPONSIBILITY FOR ERRORS MADE BY OTHERS IN SCALING FROM THIS DRAWING. MEASUREMENTS SHOULD BE TAKEN FROM FIGURED DIMENSIONS ONLY. CDM REQUIREMENTS CONSIDERED AT FEASIBILITY STAGE ONLY. FURTHER CONSIDERATION REQUIRED BY DETAILED DESIGN TEAM.

i-Transport
Grove House, Lutyens Close, Chineham
Basingstoke, Hampshire, RG24 8AG
Tel: 01256 338640
Fax: 01256 338644
www.i-transport.co.uk

REV	DATE	BY	DESCRIPTION	CHK	APD
E	13.12.17	MC	REDLINE BOUNDARY UPDATED	TW	TW
D	28.11.17	MC	UPDATED AS PER STAGE 1 RSA COMMENTS	TW	TW
C	28.11.17	MC	MINOR AMENDMENTS	TW	TW
B	09.11.17	MC	LAYOUT REVISED	TW	TW
A	01.11.17	MC	TOPO SURVEY ADDED	TW	TW

STATUS: FOR PLANNING

TITLE: PROPOSED ROUNDABIOUT ACCESS AND FOOTWAY/CYCLEWAY STRATEGY TO STATION ROAD

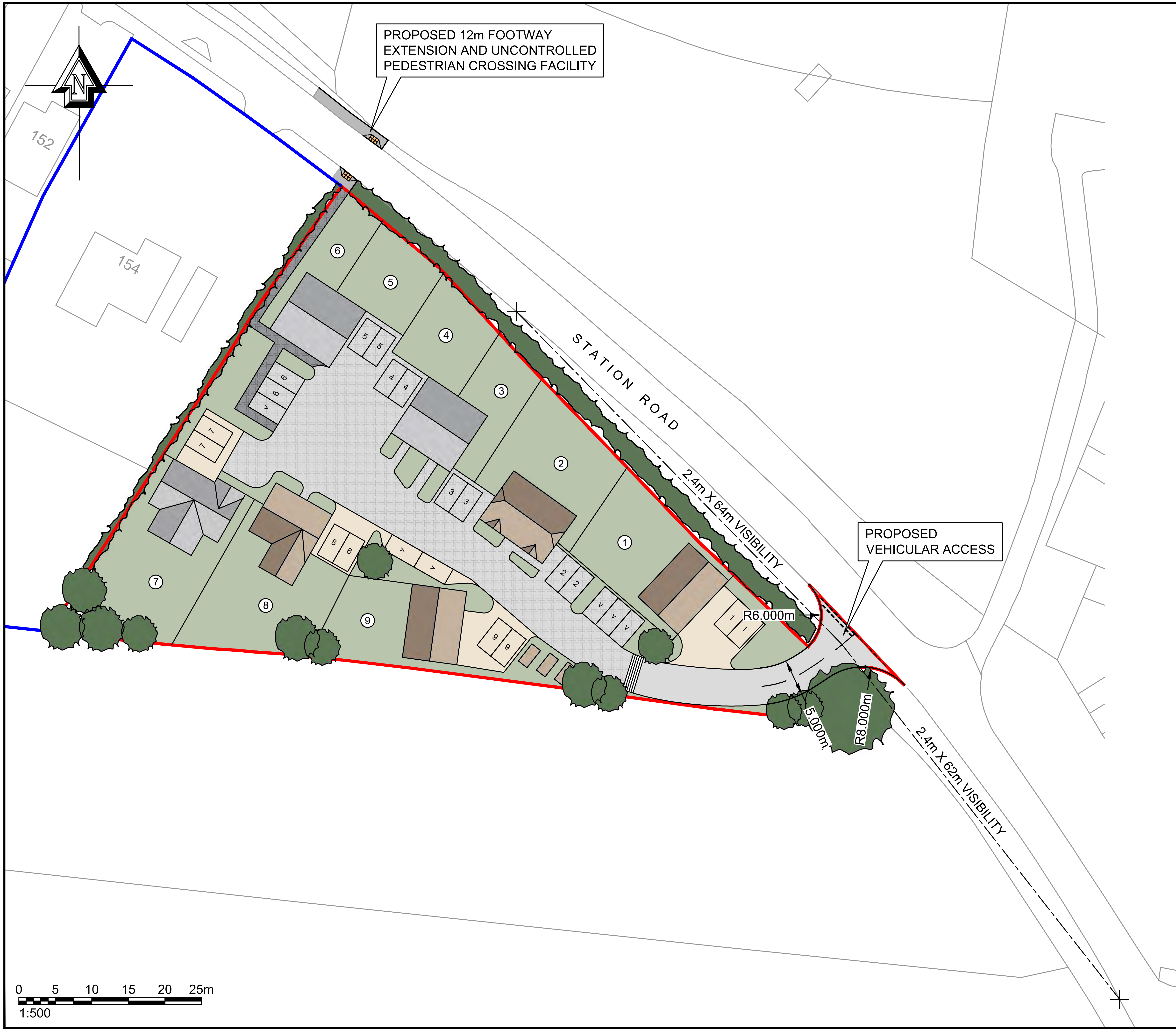
PROJECT: LAND TO THE SOUTH OF HAILSHAM, WEALDEN

CLIENT: GLEESON DEVELOPMENTS LTD

SCALE @ A1:	AS SHOWN
CHECKED:	TW
APPROVED:	TW
FILE REF:	ITB10106
DRAWN:	MC
DATE:	03.07.17
DRAWING No:	ITB10106-GA-204
PROJECT No:	ITB10106
REV:	E

Appendix D:

Proposed Vehicle and Pedestrian Access Arrangement Plan



NOTES:

1. Do not scale from this drawing.
2. This drawing to be read & printed in colour.
3. This drawing is for illustrative purposes only, and not for construction.

Rev	Details	Drawn	Checked	Date
A	Site layout updated.	DW	PC	23.01.2023

Status
- [x] Preliminary
- [ ] For Approval
- [ ] For Construction
- [x] For Information
- [ ] For Tender
- [ ] As Built

Client

Mr I Martin

Project

Land adj 154 Station Road, Hailsham

Drawing Title

Proposed Vehicle and Pedestrian Access Arrangements

Scale	Size
1:500	A3

Drawn By	Checked By	Approved By
DW	PC	PC
Date 26.03.2021	Date 26.03.2021	Date 26.03.2021

Crosby Transport Planning

Willow House, Forest Close, East Horsley, Surrey KT24 5BU
01483 282560 | 07741 282560 | contact@crosbytp.com | www.crosbytp.com

Project Ref	Drawing No	Rev
P2022	001	A

Appendix E:

Car Parking Calculation Tool Output

EAST SUSSEX COUNTY COUNCIL CAR OWNERSHIP PARKING DEMAND TOOL

Ward 1	Hailsham South and West
District	Wealden
Ward 2	Hailsham East
District	Wealden
Ward 3	Hailsham Central and North
District	Wealden
Ward Tempro Factor 2011-2026	1.081
District Tempro Factor 2011-2026	1.059

STAGE 1

Please input the ward name for your development location by double clicking in the box or click box and use the drop down menu to the right of the box. The spreadsheet will automatically show the District and Ward of this location. If the ward is not known please refer to http://www.neighbourhood.statistics.gov.uk/dissemination/ and input postcode or search on Map viewer. Where Census data contains small samples for certain sized dwellings this is highlighted in red if <20, and green if <50 in the Total Demand column. In such cases, other wards should be selected to achieve a higher sample size, the tool allows for 3 wards. If there is still a low sample then the tool will automatically choose district/borough data.

East Sussex County Council

GUIDANCE NOTE

The Parking Demand Tool should be used with reference to East Sussex County Council Residential Parking Policy Guidance. The tool uses Census 2011 Car Ownership and Tempro predicted growth to 2026 to predict residential development parking demand. The tool is not a definitive standard but a guide to the expected level of car ownership. For more information please refer to the guidance document or contact developmentcontrol.transport@eastsussex.gov.uk

STAGE 2

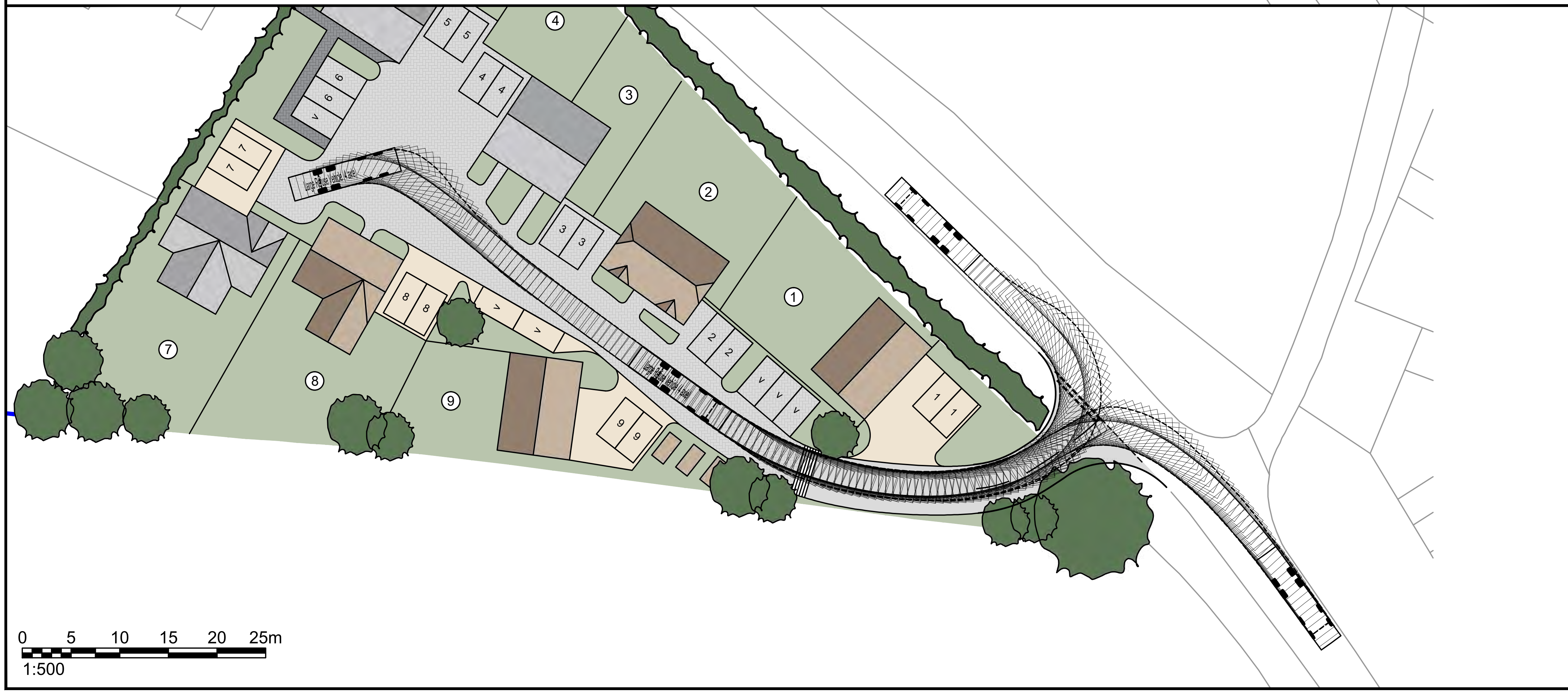
Please input the unit type, number of bedrooms, number of units of that type and number of allocated parking spaces

DEVELOPMENT MIX						ALLOCATED PARKING	PARKING DEMAND					
Ref.	Unit Type	Tenure	Habitable Rooms (Per Unit)	Bedrooms (Per Unit)	No. of Units (Total)	Spaces (Per Unit)	Allocated No.	Unallocated for Residents		Unallocated for Visitors		Total Demand
								per unit	Total	per unit	Total	
A	Houses	Private	6	4	1	2	2	0.14	0.14	0.20	0.20	2.34
B	Houses	Private	6	4	1	2	2	0.14	0.14	0.20	0.20	2.34
C	Houses	Private	5	3	1	2	2	0.12	0.12	0.20	0.20	2.32
D	Houses	Private	5	3	1	2	2	0.12	0.12	0.20	0.20	2.32
E	Houses	Private	5	3	1	2	2	0.12	0.12	0.20	0.20	2.32
F	Houses	Private	5	3	1	2	2	0.12	0.12	0.20	0.20	2.32
G	Houses	Private	6	4	1	2	2	0.14	0.14	0.20	0.20	2.34
H	Houses	Private	6	4	1	2	2	0.14	0.14	0.20	0.20	2.34
I	Houses	Private	6	4	1	2	2	0.14	0.14	0.20	0.20	2.34
J												
K												
L												
M												
N												
O												
P												
Q												
R												
S												
Total					9		18		1.14		1.80	20.94

Total Parking Demand for Development

Appendix F:

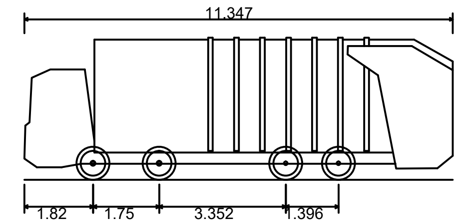
Vehicle Swept Path Analysis Plan



NOTES:

1. Do not scale from this drawing.
2. This drawing to be read & printed in colour.
3. This drawing is for illustrative purposes only, and not for construction.

LARGE REFUSE VEHICLE (4 AXLE)



Overall Length	11.347m
Overall Width	2.500m
Overall Body Height	3.751m
Min Body Ground Clearance	0.304m
Track Width	2.500m
Lock to Lock Time	6.00s
Wall to Wall Turning Radius	11.330m

	FORWARD MOVEMENTS (design speed - 5kph)
	REVERSE MOVEMENTS (design speed - 2.5kph)

Rev	Details	Drawn	Checked	Date
...	...	...	...	...

Status: ☑ Preliminary ☐ For Approval ☐ For Construction ☑ For Information ☐ For Tender ☐ As Built

Client
Mr I Martin

Project
Land adj 154 Station Road, Hailsham

Drawing Title
Vehicular Swept Paths Analysis

Scale	Size
1:500	A3

Drawn By	Checked By	Approved By
DW	PC	PC
Date 23.01.2023	Date 23.01.2023	Date 23.01.2023

Crosby Transport Planning

Willow House, Forest Close, East Horsley, Surrey KT24 5BU
01483 282560 | 07741 282560 | contact@crosbytp.com | www.crosbytp.com

Project Ref	Drawing No	Rev
P2022	TRK01	

Appendix G:

TRICS Output – Proposed Residential Use – C3

Calculation Reference: AUDIT-302901-230116-0127

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : A - HOUSES PRIVATELY OWNED
TOTAL VEHICLES

<u>Selected regions and areas:</u>

02	SOUTH EAST		
	ES	EAST SUSSEX	1 days
	HF	HERTFORDSHIRE	1 days
	KC	KENT	1 days
	MW	MEDWAY	2 days
04	EAST ANGLIA		
	NF	NORFOLK	2 days
	SF	SUFFOLK	1 days
06	WEST MIDLANDS		
	SH	SHROPSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	NY	NORTH YORKSHIRE	1 days
	SY	SOUTH YORKSHIRE	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: No of Dwellings
Actual Range: 8 to 19 (units:)
Range Selected by User: 6 to 20 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

<u>Public Transport Provision:</u>
Selection by: Include all surveys

Date Range: 01/01/14 to 06/06/22

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

<u>Selected survey days:</u>

Monday	1 days
Tuesday	1 days
Wednesday	7 days
Thursday	1 days
Friday	1 days

This data displays the number of selected surveys by day of the week.

<u>Selected survey types:</u>

Manual count	10 days
Directional ATC Count	1 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

<u>Selected Locations:</u>

Suburban Area (PPS6 Out of Centre)	1
Edge of Town	7
Neighbourhood Centre (PPS6 Local Centre)	3

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

<u>Selected Location Sub Categories:</u>

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Inclusion of Servicing Vehicles Counts:

Servicing vehicles Included	2 days - Selected
Servicing vehicles Excluded	9 days - Selected

Secondary Filtering selection:

Use Class:

C3	11 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order (England) 2020 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:
All Surveys Included

Population within 1 mile:

1,001 to 5,000	4 days
10,001 to 15,000	5 days
15,001 to 20,000	1 days
20,001 to 25,000	1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000	1 days
25,001 to 50,000	3 days
50,001 to 75,000	2 days
75,001 to 100,000	1 days
125,001 to 250,000	4 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	5 days
1.1 to 1.5	5 days
1.6 to 2.0	1 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

Yes	4 days
No	7 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	11 days

This data displays the number of selected surveys with PTAL Ratings.

Covid-19 Restrictions	Yes	At least one survey within the selected data set was undertaken at a time of Covid-19 restrictions

<u>*LIST OF SITES relevant to selection parameters*</u>

1 ES-03-A-06 MIXED HOUSES EAST SUSSEX
BISHOPS LANE
RINGMER

Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 12
Survey date: WEDNESDAY 16/06/21 Survey Type: MANUAL

2 HF-03-A-04 TERRACED HOUSES HERTFORDSHIRE
HOLMSIDE RISE
WATFORD
SOUTH OXHEY
Edge of Town
Residential Zone
Total No of Dwellings: 8
Survey date: TUESDAY 08/06/21 Survey Type: MANUAL

3 KC-03-A-09 MIXED HOUSES & FLATS KENT
WESTERN LINK
FAVERSHAM
DAVINGTON
Edge of Town
Residential Zone
Total No of Dwellings: 14
Survey date: WEDNESDAY 09/06/21 Survey Type: MANUAL

4 MW-03-A-01 DETACHED & SEMI-DETACHED MEDWAY
ROCHESTER ROAD
NEAR CHATHAM
BURHAM
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 8
Survey date: FRIDAY 22/09/17 Survey Type: MANUAL

5 MW-03-A-02 MIXED HOUSES MEDWAY
OTTERHAM QUAY LANE
RAINHAM

Edge of Town
Residential Zone
Total No of Dwellings: 19
Survey date: MONDAY 06/06/22 Survey Type: MANUAL

6 NF-03-A-03 DETACHED HOUSES NORFOLK
HALING WAY
THETFORD

Edge of Town
Residential Zone
Total No of Dwellings: 10
Survey date: WEDNESDAY 16/09/15 Survey Type: MANUAL

7 NF-03-A-10 MIXED HOUSES & FLATS NORFOLK
HUNSTANTON ROAD
HUNSTANTON

Edge of Town
Residential Zone
Total No of Dwellings: 17
Survey date: WEDNESDAY 12/09/18 Survey Type: DIRECTIONAL ATC COUNT

8 NY-03-A-13 TERRACED HOUSES NORTH YORKSHIRE
CATTERICK ROAD
CATTERICK GARRISON
OLD HOSPITAL COMPOUND
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 10
Survey date: WEDNESDAY 10/05/17 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

9 SF-03-A-05 DETACHED HOUSES SUFFOLK
VALE LANE
BURY ST EDMUNDS

Edge of Town
Residential Zone
Total No of Dwellings: 18
Survey date: WEDNESDAY 09/09/15 Survey Type: MANUAL

10 SH-03-A-06 BUNGALOWS SHROPSHIRE
ELLESMERE ROAD
SHREWSBURY

Edge of Town
Residential Zone
Total No of Dwellings: 16
Survey date: THURSDAY 22/05/14 Survey Type: MANUAL

11 SY-03-A-03 BUNGALOWS & DETACHED SOUTH YORKSHIRE
CHURCH LANE
NEAR BARNSLEY
WORSBROUGH
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 19
Survey date: WEDNESDAY 09/09/20 Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

TOTAL VEHICLES

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS No. Days	ARRIVALS Ave. DWELLS	ARRIVALS Trip Rate	DEPARTURES No. Days	DEPARTURES Ave. DWELLS	DEPARTURES Trip Rate	TOTALS No. Days	TOTALS Ave. DWELLS	TOTALS Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	11	14	0.113	11	14	0.245	11	14	0.358
08:00 - 09:00	11	14	0.185	**11**	**14**	**0.298**	**11**	**14**	**0.483**
09:00 - 10:00	11	14	0.093	11	14	0.152	11	14	0.245
10:00 - 11:00	11	14	0.192	11	14	0.212	11	14	0.404
11:00 - 12:00	11	14	0.119	11	14	0.119	11	14	0.238
12:00 - 13:00	11	14	0.225	11	14	0.185	11	14	0.410
13:00 - 14:00	11	14	0.212	11	14	0.199	11	14	0.411
14:00 - 15:00	11	14	0.132	11	14	0.172	11	14	0.304
15:00 - 16:00	11	14	0.219	11	14	0.166	11	14	0.385
16:00 - 17:00	11	14	0.212	11	14	0.192	11	14	0.404
17:00 - 18:00	**11**	**14**	**0.265**	11	14	0.172	11	14	0.437
18:00 - 19:00	11	14	0.245	11	14	0.146	11	14	0.391
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.212			2.258			4.470

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Parameter summary

Trip rate parameter range selected:	8 - 19 (units:)
Survey date date range:	01/01/14 - 06/06/22
Number of weekdays (Monday-Friday):	11
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

Station Road, Hailsham, East Sussex

Preliminary Ecological Appraisal

10th February 2023 / Ref No 2020/02/04

Client: Mr I Martin

Prepared by Katia Bresso CEnv MCIEEM
Trading as 'KB Ecology Ltd' (Reg 7595382)
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Contents

1 Introduction

1.1 Background to the Scheme

KB Ecology Ltd was commissioned to undertake a baseline ecological survey and a preliminary ecological appraisal with regards to a proposed development at land off Station Road, Hailsham, East Sussex BN27 2SB in support of a planning application for a residential scheme.

1.2 Survey Location/Area

The site is located at approximately TQ595086. The location of the site is shown on Figure 1 and Figure 2.

1.3 Survey Objectives

The purpose of this survey is to provide a scoping assessment and to assist in demonstrating compliance with wildlife legislation and planning policy objectives.

The key objectives are as follows:

- Identify all relevant statutory and non-statutory designated sites and features of ecological significance within the site and its surroundings.
- Assess the potential for the presence of protected species and species of principal conservation importance, important habitats or other biodiversity features within the site and its surroundings.
- Provide recommendations for further surveys where assessed as necessary and suggest potential enhancements.
- Present the likely significance of ecological impacts on the proposed development.
- Provide an early indication of potential ecological mitigation and compensation requirements necessary as part of any development proposals.

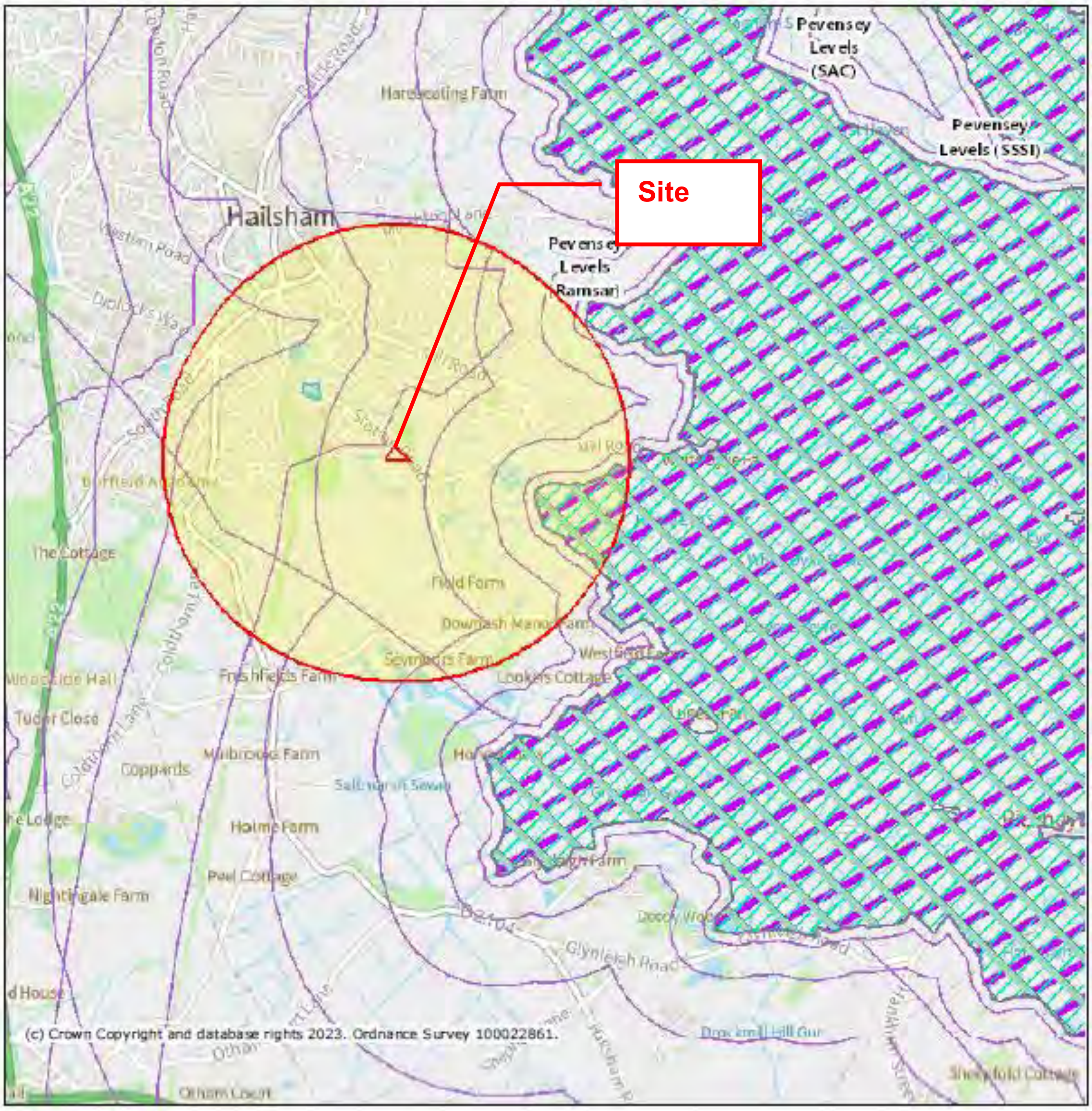
A summary of wildlife legislation and policy has been included in Appendix A.

1.4 Limitations

This report has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct and the opinions expressed are true and professional bona fide opinions. It records the potential for flora and fauna evident on the days of the site visits. It does not record any flora or fauna that may appear at other times of the year and, as such, were not evident at the time of visit.

The findings of this report represent the professional opinion of a qualified ecologist and do not constitute professional legal advice. The client may wish to seek professional legal interpretation of the relevant wildlife legislation cited in this document.

Figure 1



Legend

- Ramsar Sites (England)
- Sites of Special Scientific Interest (England)
- SSSI Impact Risk Zones - to assess planning applications for likely impacts on SSSIs/SACs/SPAs & Ramsar sites (England)
- Special Areas of Conservation (England)
- Special Protection Areas (England)

0 0.75 1.5
km

Projection = OSGB36
xmin = 553800
ymin = 105000
xmax = 566500
ymax = 111300

Map produced by MAGIC on 9 February, 2023. Copyright resides with the data suppliers and the map must not be reproduced without their permission. Some information in MAGIC is a snapshot of the information that is being maintained or continually updated by the originating organisation. Please refer to the metadata for details as information may be illustrative or representative rather than definitive at this stage.

MAGIC **Figure 2 - Habitats**

Legend

- Priority Habitat Inventory - Coastal and Floodplain Grazing Marsh (England)

Ancient Woodland (England)

- Ancient and Semi-Natural Woodland
- Ancient Replanted Woodland
- Priority Habitat Inventory - Deciduous Woodland (England)
- Priority Habitat Inventory - Traditional Orchards (England)
- Open Mosaic Habitat (Draft)

0 0.2 0.4 km

Projection = OSGB36
xmin = 557700
ymin = 107500
xmax = 561500
ymax = 109400

Map produced by MAGIC on 9 February, 2023. Copyright resides with the data suppliers and the map must not be reproduced without their permission. Some information in MAGIC is a snapshot of the information that is being maintained or continually updated by the originating organisation. Please refer to the metadata for details as information may be illustrative or representative rather than definitive at this stage.

Figure 3: Aerial photo

2 Methodology

2.1 Desk Study

Internet-based resources were consulted to identify designated nature conservation sites within 1km of the site and habitats of potentially high ecological importance and sensitivity within 500m of the site (e.g. ancient woodlands, ponds)[1].

2.2 Scoping Survey

The site and its immediate surroundings were considered in terms of habitats, protected species and species of principal conservation importance during a walkover survey undertaken on 31st January 2023 by Katia Bresso CEnv MCIEEM, a qualified professional consultant ecologist with over 20 years of experience[2], licensed bat surveyor (Class Licence CL19, Level 3, Registration Number: 2016-27133-CLS-CLS[3]) and Registered Consultant of the Bat Mitigation Class Licence (BMCL) WML-CL21 with Natural England (Registered Consultant Reference Number RC056, since May 2015), licensed dormouse surveyor (Class Survey Licences Registration Number 2016-22060-CLS-CLS) and licensed great crested newt surveyor (Class Licence registration number 2020-50030-CLS-CLS). Evidence of the use of the site by species was recorded (i.e. field signs).

The habitat survey was undertaken in general accordance with Phase 1 Habitat Survey (JNCC 2010), i.e. within the survey area every parcel of land is classified, recorded and mapped in accordance with a list of ninety specified habitat types using standard colour codes to allow rapid visual assessment of the extent and distribution of different habitat types.

The survey and report aim at following the guidance and recommendations in the 'British Standard Biodiversity Code of Practice for Planning and Development (BS 42020: 2013)'.

All trees were also checked for suitability for roosting bats (from the ground only, using binoculars and an endoscope[4]).

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[1] Due to the scale of the project, it was judged disproportionate to undertake a costly data search with the local Biological Record Centre as the data would be unlikely to be relevant to this site.

[2] Katia Bresso is a Suitably Qualified Ecologist with regards to Code for Sustainable Homes assessment and BREEAM

[3] This licence allows the holder to disturb or capture bats using: torches, endoscopes, hand nets, static hand-held nets, mist nets for development surveys (can be used for a maximum of 3 days at any one site), acoustic lures and to disturb but not handle hibernating bats.

[4] RIDGID CA-350x Inspection Camera System 63888

3 Baseline Ecological Conditions

3.1 Designated Nature Conservation Sites

The site is not part of, nor directly adjacent to, any statutory designated sites.

But the 'Pevensey Levels' is located 600m to the east of the site. It is a Site of Special Scientific Interest (SSSI), a Ramsar site[5] and a Special Area of Conservation SAC[6], which is a large area of low-lying grazing meadows intersected by a complex system of ditches which show a wide variety of form and species composition and support important communities of wetland flora and fauna. The site supports one nationally rare and several nationally scarce aquatic plants and many nationally rate invertebrates. Ornithologically, the site is of national importance as the number of wintering lapwings has regularly exceeded 1% of the total British population in recent years.

3.2 Habitats

The site is surrounded by dwellings to the north and arable land with numerous drains and ditches to the south[7].

It consists of short-mowed grass[8] with an area of hard standing partly covered in moss and other low growing vegetation; as well as a small area of bramble scrub. Tall *Leylandii* hedges line the north, east and part of the south boundary; it is replaced by a strip of bramble behind some hard standing and then a 3-4m tall hedge (with elm, blackthorn, elder, hawthorn and rose) along a drain on the southern aspect. The drain had 5cm of water at the time of site visit and was 40cm wide, being shaded by dense bramble and the hedge. It is not expected to hold water in the summer.

Historical aerial photos show that a number of buildings were present (a former factory) until 2009 but had been demolished by 2013, with only areas of hardstanding remaining, with short-mowed grass.[9]

---

[5] Ramsar sites are designated under the Convention on Wetlands of International Importance especially as Waterfowl Habitat. Wetlands are designated, protected and promoted in order to stem the progressive encroachment on and loss of wetlands, which are broadly defined to include marsh, fen, peatland and water.

[6] Special Areas of Conservation (SACs) are strictly protected sites designated under the EC Habitats Directive. Article 3 of the Habitats Directive requires the establishment of a European network of important high-quality conservation sites that will make a significant contribution to conserving the 189 habitat types and 788 species identified in Annexes I and II of the Directive (as amended). The listed habitat types and species are those considered to be most in need of conservation at a European level (excluding birds).

[7] The adjacent fields to the south are due to be developed under planning permission WD/2018/0475/MAO.

[8] Mown weekly with a domestic ride on mower during the growing season.

[9] A survey had also been undertaken on 12th March 2020 by KB Ecology regarding WD/2020/1596/MAO and it is confirmed that the habitats have hardly changed in the intervening period from 2020 to 2023.

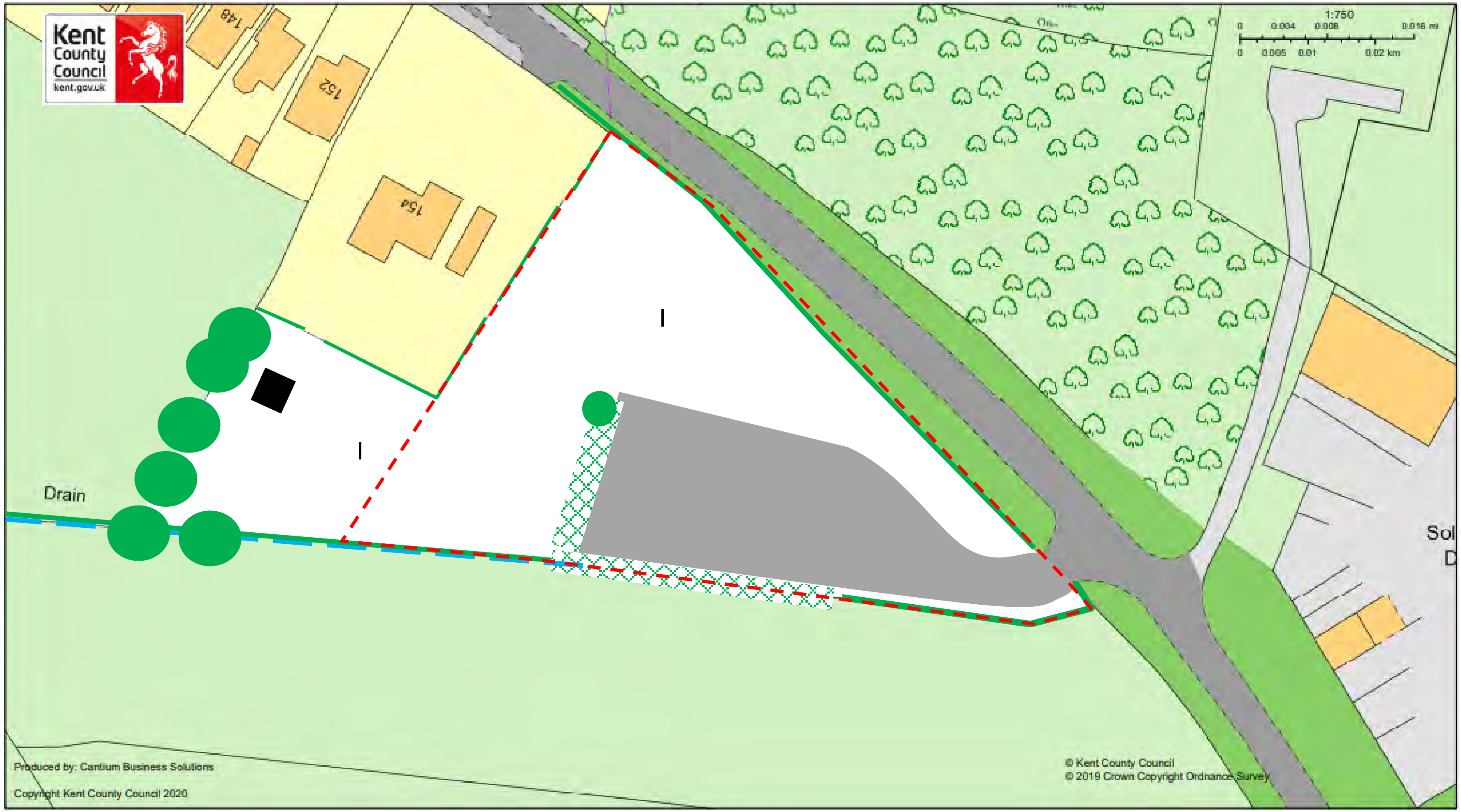
Plates are present in Appendix B. Figure 4 below shows the location of the habitats.

Legend of Phase 1 habitat survey map hereafter:

- Site boundary
- Hard standing (partly covered in moss and other low growing vegetation)
- Building
- Bramble Scrub
- I Improved grassland
- Individual tree (number and location approximate)
- Hedge
- Drain

Figure 4

March 31, 2020



3.3 Amphibians

Like nearly all amphibians, the great crested newt is dependent on water-bodies for breeding but usually spends most of its life on land. Great crested newts favour areas of high pond density and occupancy levels can exceed 40% of ponds when conditions are favourable.

The 'Great Crested Newt Mitigation Guidelines' (English Nature 2001) state the following:
'Great crested newts have been found to move over considerable distances (up to 1.3km from breeding sites). However, the vast majority of newts will inhabit an area much closer to the pond, and the exact distribution and migration patterns of newts on land depends on a variety of factors. The quality of terrestrial habitat near to breeding ponds is important, as are the lack of barriers to dispersal (such as fast-flowing rivers, or very busy roads). The distribution of ponds and hibernation opportunities may also influence movements. […] Several studies have been conducted which reveal a great deal of variation, but great crested newts commonly move between ponds that are within around 250m of each other.'

In *Advice for land managers,* Natural England (2007) states:
'Great crested newt may disperse several hundred metres, sometimes over 1km, from the breeding pond, though at most sites the majority of the population is normally found within around 100m of it.'

The Great Crested Newt Conservation Handbook, 2001 states that 'very short pasture is easily traversed by newts, and provides night time foraging, but little in the way of shelter' (Great Crested Newt Conservation Handbook, 2001). More optimal habitats include woodland, scrub, ditches, hedgerows, taller/rougher grassland.

No ponds were present on site or within 250m. Thus, due to the paucity of ponds in the general area and the distance to the nearest pond, it is judged unlikely that great crested newts would be present on site.

Common amphibian species are afforded limited legal protection under the Wildlife & Countryside Act 1981 (as amended). The great crested newt is afforded full legal protection under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). It is also listed under Schedule 2 of the Conservation of Habitats and Species Regulations 2017 and are therefore a European Protected Species (EPS). Great crested newts and common toads are also listed as species of principal conservation importance (See Appendix A).

For more information, guidance from Natural England is available at https://www.gov.uk/guidance/great-crested-newts-surveys-and-mitigation-for-development-projects

3.4 Reptiles

The proposed development area consists of grassland, which is species poor, heavily managed and kept at a short sward, without a thatch layer. This habitat is considered unsuitable for common reptile species, due to a lack of cover from predators and foraging opportunities.

However a small number of reptiles could be present in the area of unmanaged scrub along the drain.

Common reptiles are afforded limited legal protection under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). They are also listed as species of principal conservation importance (See Appendix A).

For more information, guidance from Natural England is available at https://www.gov.uk/reptiles-protection-surveys-and-licences

3.5 Birds

It is considered that the site has high potential to support breeding birds within the trees, hedges and scrub.

All species of bird whilst actively nesting are afforded legal protection under the Wildlife & Countryside Act 1981 (as amended) and special penalties are available for offences related to birds listed on Schedule 1. Some species are also listed as species of principal conservation importance, including sky lark, common cuckoo, house sparrow, tree sparrow and song thrush (See Appendix A).

For more information, guidance from Natural England is available at https://www.gov.uk/wild-birds-protection-surveys-and-licences

3.6 Hazel Dormouse

It is considered that the site has no potential to support the hazel dormouse *Muscardinus avellanarius* due to lack of connection to suitable woodlands.

3.7 Badger

No setts or signs of badgers *Meles meles* were identified during the survey.

3.8 Bats

None of the trees present on site offered potential for roosting bats. But the surrounding area is likely to be used by foraging and commuting bats.

All species of bat are afforded full legal protection under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). They are also listed under Schedule 2 of the Conservation of Habitats and Species Regulations 2017 and are therefore a “European Protected Species” (EPS). Some species of bats (noctule, soprano pipistrelle, brown long-eared bat, barbastelle) are also listed as species of principal conservation importance.

The legislation makes it a criminal offence to:

- Deliberately capture, injure or kill a bat;
- Intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats;
- Damage or destroy a bat roosting place (even if bats are not occupying the roost at the time);
- Possess or advertise/sell/exchange a bat (dead or alive) or any part of a bat;
- Intentionally or recklessly obstruct access to a bat roost.

For more information, guidance from Natural England is available at
https://www.gov.uk/bats-protection-surveys-and-licences

3.9 Other Species

It is considered that the surroundings have potential to support hedgehogs (*Erinaceus europaeus*), which are a Species of Principal Importance under Section 41 of the NERC Act (2008 updated list).

All mammals are afforded protection against unnecessary suffering by the Wild Mammals (Protection) Act 1996 (see Appendix A).

4 Ecological constraints and opportunities, recommendations for mitigation, compensation and further survey

The details of the proposed development were as below at the time of writing this report.

Should the scope of the proposed works be amended following the completion of this scoping survey, or be deferred for an extended period of time, there may be a requirement to update this scoping report and its recommendations.

4.1 Designated Nature Conservation Sites

The near-by Pevensey Levels have been designated as a SAC due to the presence of the lesser whirlpool ram’s-horn snail *Anisus vorticulus*, an Annex II species (the IUCN Red Data Book for Invertebrates places *Anisus vorticulus* on the Vulnerable list).

It is a small aquatic snail with a flattened spiral shell rarely more than 5 mm in diameter. It occurs in unpolluted, calcareous waters in marsh drains with a dense aquatic flora, and favours ditches with a diverse flora but little emergent vegetation. It often floats on the surface amongst duckweed *Lemna* spp.

The drain present along the southern aspect of the boundary of the site does not offer suitable conditions for the snail to be present (being shallow without dense aquatic flora) and thus the snail is not expected to the present on site or to be impacted by the proposal.

A site check report was generated for the site using the Impact Risk Zones on the Magic website[10]:

Site Check Report Report generated on Thu Feb 09 2023
You selected the location: Centroid Grid Ref: TQ59510860
The following features have been found in your search area:

SSSI Impact Risk Zones - to assess planning applications for likely impacts on SSSIs/SACs/SPAs & Ramsar sites (England)

1. DOES PLANNING PROPOSAL FALL INTO ONE OR MORE OF THE CATEGORIES BELOW?	2. IF YES, CHECK THE CORRESPONDING DESCRIPTION(S) BELOW. LPA SHOULD CONSULT NATURAL ENGLAND ON LIKELY RISKS FROM THE FOLLOWING:
All Planning Applications	All planning applications (except householder) outside or extending outside existing settlements/urban areas affecting greenspace, farmland, semi natural habitats or landscape features such as trees, hedges, streams, rural buildings/structures.
Infrastructure	Pipelines, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.
Wind & Solar Energy	Solar schemes with footprint > 0.5ha, all wind turbines.
Minerals, Oil & Gas	Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.
Rural Non Residential	Large non residential developments outside existing settlements/urban areas where net additional gross internal floorspace is > 1,000m² or footprint exceeds 0.2ha.
Residential	Residential development of 10 units or more.
Rural Residential	Any residential development of 10 or more houses outside existing settlements/urban areas.
Air Pollution	
Combustion	
Waste	Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill.
Composting	
Discharges	Any discharge of water or liquid waste of more than 2m³/day to ground (ie to seep away) or to surface water, such as a beck or stream.
Water Supply	Large infrastructure such as warehousing / industry where net additional gross internal floorspace is > 1,000m² or any development needing its own water supply .
Notes 1	
Notes 2	
GUIDANCE - How to use the Impact Risk Zones	/Metadata_for_magic/SSSI IRZ User Guidance MAGIC.pdf

Given the distance between the site and near-by Ramsar site, direct impacts to the qualifying features are unlikely. However, indirect impacts, such as increased recreational pressure cannot be ruled out at this stage. A Screening Assessment[11] may be required to include the site alone and in-combination with any other projects or plans within 6km of these designated sites.

4.2 Habitats

Trees to be retained should be protected during any construction work and guidance is given in the 'BS 5837:2012 Trees in relation to design, demolition and construction. Recommendations' document. This standard requires a tree protection plan to be developed which involves erecting physical barriers to prevent damage to existing trees, with an exclusion area around the trees. It also looks at defining a root protection area and requires consideration when compulsory work is carried out within the root protection area.

[10] The Impact Risk Zones (IRZs) dataset is a GIS tool which maps zones around each SSSI according to the particular sensitivities of the features for which it is notified and specifies the types of development that have the potential to have adverse impacts.

Natural England uses the IRZs to make an initial assessment of the likely risk of impacts on SSSIs and to quickly determine which consultations are unlikely to pose risks and which require more detailed consideration. Publishing the IRZs will allow LPAs, developers and other partners to make use of this key evidence tool.

http://www.naturalengland.org.uk/ourwork/planningdevelopment/impactriskzonesgistoolfeature.aspx

[11] Under the Conservation of Habitats and Species (Amendment) Regulations 2012, Appropriate Assessments are required to be carried out where a project has potential to result in significant adverse effects to a Natura 2000 site. The Appropriate Assessment focuses on the qualifying interests of the Natura 2000 site in question and considers impacts on the conservation objectives. Screening Assessment assess whether a full Appropriate Assessment is required.

4.3 Amphibians

Pond loss is often seen as the most damaging impact on great crested newt populations, but the loss of terrestrial habitat can also have serious consequences. Great crested newts live on land for the majority of their lives, and so loss of terrestrial areas, particularly those close to the breeding pond, can be very damaging. The main effect of habitat loss is reduction in population size, reduced foraging opportunities, reduced refuge opportunities leading to exposure to predators or harsh conditions, and unsuccessful hibernation.

There are a number of development activities which can affect great crested newts, which should be fully considered at the application stage. Great crested newts can migrate more than 500 metres from their breeding ponds in areas of suitable terrestrial habitat. However, generally the scale of potential impacts will decrease as the distance from the breeding pond increases.

Natural England provides a rapid risk assessment tool to work out whether a licence will be needed.

Application tools: (1) "Do I need a licence?" - rapid risk assessment
Caveats and limitations
This risk assessment tool has been developed as a <u>general guide only</u>, and it is inevitably rather simplistic. It has been generated by examining where impacts occurred in past mitigation projects, alongside recent research on newt ecology. <u>It is not a substitute for a site-specific risk assessment informed by survey.</u> In particular, the following factors are not included for sake of simplicity, though they will often have an important role in determining whether an offence would occur: population size, terrestrial habitat quality, presence of dispersal barriers, timing and duration of works, detailed layout of development in relation to newt resting and dispersal. The following factors could increase the risk of committing an offence: large population size, high pond density, good terrestrial habitat, low pre-existing habitat fragmentation, large development footprint, long construction period. The following factors could decrease the risk: small population size, low pond density, poor terrestrial habitat, substantial pre-existing dispersal barriers, small development footprint, short construction period. You should bear these mitigating and aggravating factors in mind when considering risk.
It is critical that, even if you decide not to apply for a licence, you ensure that any development takes account of potential newt dispersal. Where great crested newts are present, landuse in that area must ensure there is adequate connectivity. Retaining and improving connectivity will often involve no licensable activities.

Guidance on risk assessment result categories
"Green: offence highly unlikely" indicates that the development activities are of such a type, scale and location that it is highly unlikely any offence would be committed should the development proceed. Therefore, no licence would be required. However, bearing in mind that this is a generic assessment, you should carefully examine your specific plans to ensure this is a sound conclusion, and take precautions (see **Non-licensed avoidance measures tool**) to avoid offences if appropriate. It is likely that any residual offences would have negligible impact on conservation status, and enforcement of such breaches is unlikely to be in the public interest.
"Amber: offence likely" indicates that the development activities are of such a type, scale and location that an offence is likely. In this case, the best option is to redesign the development (location, layout, methods, duration or timing; see **Non-licensed avoidance measures tool**) so that the effects are minimised. You can do this and then re-run the risk assessment to test whether the result changes, or preferably run your own detailed site-specific assessment. Bear in mind that this generic risk assessment will over- or under-estimate some risks because it cannot take into account site-specific details, as mentioned in caveats above. In particular, the exact location of the development in relation to resting places, dispersal areas and barriers should be critically examined. Once you have amended the scheme you will need to decide if a licence is required; this should be done if on balance you believe an offence is reasonably likely.
"Red: offence highly likely" indicates that the development activities are of such a type, scale and location that an offence is highly likely. In this case, you should attempt to re-design the development location, layout, timing, methods or duration in order to avoid impacts (see **Non-licensed avoidance measures tool**), and re-run the risk assessment. You may also wish to run a site-specific risk assessment to check that this is a valid conclusion. If you cannot avoid the offences, then a licence should be applied for.

The site measures less than 0.5ha. Below is the risk assessment if great crested newts are present within 250m:

Component	**Likely effect** (select one for each component; select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)	Notional offence probability
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	No effect	0
Land 100-250m from any breeding pond(s)	0.1 - 0.5 ha lost or damaged	0.1
Land >250m from any breeding pond(s)	No effect	0
Individual great crested newts	No effect	0
	Maximum:	0.1
Rapid risk assessment result:	GREEN: OFFENCE HIGHLY UNLIKELY	

Therefore no impact is expected onto great crested newts and no further work is recommended for this species.

4.4 Reptiles

Due to the low likelihood of reptile presence on site, the following precautionary mitigation strategy is proposed to minimise any potential impacts: it is recommended to prepare the development site using habitat manipulation as below:

- Any tree/shrub uprooting should be done outside of the hibernation season (taken to be November to March included);

- The works area should be mowed using hand held machinery only[12] (to 15cm height minimum), during sunny conditions, during the reptile active season (April to October), in order to force the animals out of the area;
- A second cut should be given to ground level, 2 days following the first cut, during sunny conditions.

4.5 Birds

Although a breeding bird survey is not deemed to be necessary, on the basis that the site contains suitable habitat for breeding birds, consideration must be given to the timing of the clearance works, if any is to take place.

The effect on birds can be avoided by undertaking any vegetation clearance outside of the nesting season (which extends from March – August inclusive[13]) or only after a survey has confirmed the absence of nesting birds[14]. New hedgerow/trees/scrub planted and bird nesting boxes erected as part of the proposed development can replace the habitat lost.

4.6 Hazel Dormouse

No impact is expected onto dormice.

4.7 Badger

No impact is expected onto badgers and thus no further work is recommended for this species. However, as sett use can fluctuate (with setts becoming active when were not previously and new setts appearing over time), a pre-commencement of works badger survey is recommended if they works take place less more than one year after the date of the site visit of this report.

4.8 Bats

No impact is expected onto bats and thus no further work is recommended for these species. However, as lighting can be detrimental to roosting, foraging and commuting bats[15], the recommendations from the Bat Conservation Trust and the Institution of Lighting Professionals, titled ‘Guidance Note 8 Bats and Artificial Lighting’[16], should be considered, when designing any lighting scheme for the proposed development.

4.9 Other Species

There is some potential for hedgehogs to be present on site. Therefore any areas where mammals could be sheltering should be hand searched prior to disturbance. Excavations should be backfilled, covered overnight, or ramps placed in to allow any animals to escape.

---

[12] strimmer, brush-cutter

[13] It should be noted however that certain species are known to breed throughout the year (e.g. collard dove) and remain protected.

[14] Inspection by a qualified ecologist must first be completed a maximum of 48hrs before clearance works commence. If during the inspection a nest considered to be in use is discovered, works must be delayed until the young have fledged.

[15] https://www.bats.org.uk/about-bats/threats-to-bats/lighting

[16] https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/

4.10 Additional Recommendations: Enhancements

Ecological enhancements should where possible be incorporated into the proposed development to contribute towards the objectives of planning legislation.

The Government announced it would mandate net gains for biodiversity in the Environment Bill in the 2019 Spring Statement. The Environment Bill received Royal Assent on 9 November 2021, meaning it is now an Act of Parliament. Mandatory biodiversity net gain as set out in the Environment Act applies in England only by amending the Town & Country Planning Act (TCPA) and is likely to become law in 2023. Biodiversity net gain requires developers to ensure habitats for wildlife are enhanced and left in a measurably better state than they were pre-development. They must assess the type of habitat and its condition before submitting plans, and then demonstrate how they are improving biodiversity – such as through the creation of green corridors, planting more trees, or forming local nature spaces. Green improvements on site would be encouraged, but in the rare circumstances where they are not possible, developers will need to pay a levy for habitat creation or improvement elsewhere[17].

Under section 40 of the NERC Act (2006), paragraph 174 of the NPPF (2021) and the Environment Act (2021), biodiversity must be maintained and enhanced through the planning system. Additionally, in alignment with paragraph 180 of the NPPF 2021, the implementation of enhancements for biodiversity should be encouraged.

The design and implementation of habitat enhancements could also be used to contribute towards the 'Home Quality Mark' or similar accreditation, should this be a consideration for this site.

Suggested biodiversity enhancements are listed below, as a palette for the developer to choose from:

- Provision of hedgehog nesting boxes[18].
- If any close board fencing is to be installed around the new development, we recommend that at least 13 x 13 cm holes should be cut into the base of the fences (one per garden) to allow greater permeability across the site to benefit ground-based terrestrial animals (such as hedgehog)[19].
- Provision of ready-made bird boxes[20] on retained trees;
- Provision of integrated 'swift bricks' in new buildings (as these are often occupied by other small cavity-nesting birds[21],[22])[23]. A ratio of at least two per residential dwelling, or one per 50sqm of commercial floor space is generally accepted now as good practice (see BS 42021:2022). It is suggested better to install them in small groups of

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[17] https://deframedia.blog.gov.uk/2019/03/13/government-to-mandate-biodiversity-net-gain/

[18] http://www.hedgehogstreet.org/pages/hedgehog-homes.html

[19] https://www.hedgehogstreet.org/wp-content/uploads/2019/03/Hedgehogs-and-developers-ZR.pdf

[20] Integrated nest boxes in new buildings are preferred as they provide longer term nesting opportunities.

[21] https://drive.google.com/file/d/1ljcJ7rIkNMrr4lxd41XcBU3YC6IFKM6z/view

[22] https://www.actionforswifts.com/

[23] Boxes integrated into buildings offer much greater longevity but need to be considered in the design process. One study found that incorporating bird/bat boxes into walls could cause cold spots on the interior, leading to condensation and possibly mould. They recommend additional insulation to prevent this; advice from an architect is advisable.

2/6 approx. one metre+ apart in suitable locations at a minimum height of 4 metres (5 metres is better).[24]

- Provision of integrated bat boxes on new buildings[25].
- Establish climbing plants on walls and other vertical structures[26].
- Establish wildflower plug/bulb planting in amenity grassland and private gardens [27].
- Hedge planting[28]
- Consider using grid mesh system (or Ground Reinforcement Grids) with topsoil and seeding with a wildflower species mix, to car parking areas and new access drives to retain some vegetation as well as drainage, or Gravel turf[29].
- Planting of trees, with species suitable for planting in gardens, such as birch and rowan[30].
- Establish Fruit Espaliers[31].

[24] Please note that there may be a need to provide insulation around the integrated box (thickness of 5 cm of insulation) in order to increase the thermal resistance of this wall and thus avoid the risk of condensation. The project architect should be consulted about such matters.

[25] Please note that there may be a need to provide insulation around the integrated box (thickness of 5 cm of insulation) in order to increase the thermal resistance of this wall and thus avoid the risk of condensation. The project architect should be consulted about such matters.

[26] More information can be found here: http://www.greenblueurban.com/climbing-plant-guide.php and http://www.london.gov.uk/priorities/environment/urban-space/parks-green-spaces/green-roofs-walls

[27] Spring flowering bulbs and plugs of nectar rich flowering plants should be embedded into amenity grassland to increase the biodiversity and amenity value of the grassland and to provide early sources of nectar for insects. Suitable bulbs include Snake's head fritillary *Fritillaria meleagris*, Ramsons *Allium ursinum*, Snowdrop *Galanthus nivalis*, Primrose *Primula vulgaris*, Bluebell *Hyacinthoides non-scriptus*, Wild daffodil *Narcissus pseudonarcissus*, Lesser celandine *Ranunculus ficaria*

[28] https://www.kentwildlifetrust.org.uk/actions/how-make-hedge-wildlife

[29] http://www.schotterrasen.at/e_index.htm

[30] https://www.rspb.org.uk/birds-and-wildlife/advice/gardening-for-wildlife/plants-for-wildlife/garden-trees/best-trees/

[31] http://apps.rhs.org.uk/advicesearch/profile.aspx?PID=319 for more information

5 References and Bibliography

- Joint Nature Conservation Committee (2003). *Handbook for Phase 1 Habitat Survey: A Technique for Environmental Audit*. JNCC, Peterborough. [32]
- English Nature (2004). *Research Reports Number 576: An assessment of the efficiency of capture techniques and the value of different habitats for the great crested newt Triturus cristatus*. English Nature, Peterborough

Websites Visited:

- http://www.magic.gov.uk/magicmap.aspx

With kind permission from Google Earth Brand

[32] http://www.jncc.gov.uk/pdf/pub90_HandbookforPhase1HabitatSurveyA5.pdf

Appendix A – Wildlife Legislation & Policy

The following is a summary of wildlife legislation and planning policy which affords protection to plants and animals and seeks to conserve, enhance and restore biodiversity. This section is provided for general guidance only. While every effort has been made to ensure accuracy, this section should not be relied upon as a definitive statement of the law.

For further information, please see:
https://www.gov.uk/protected-species-and-sites-how-to-review-planning-proposals

Commonly encountered protected species

Many species of plants, invertebrates and animals receive protection under the legislation detailed above. However, of these, the following are the most likely to be affected by development in the southeast:

Species	**Legal Protection**
Great crested newts and other amphibians	The great crested newt is afforded full legal protection under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). It is also listed under Schedule 2 of the Conservation of Habitats and Species Regulations 2019 (as amended) and is therefore a European Protected Species (EPS); further protection is afforded by the Countryside and Rights of Way Act 2000. Taken together, the legislation makes it a criminal offence to: • Deliberately capture (or take), injure or kill GCN • Deliberately or recklessly disturb GCN, in particular (i) any disturbance which is likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young; (ii) any disturbance which is likely to impair their ability to hibernate or migrate; or (iii) any disturbance which is likely to affect significantly the local distribution or abundance of the species. • Damage or destroy a breeding site or resting place - even if GCN are not occupying the place at the time; • Intentionally or recklessly obstruct access to a sheltering or resting place. An EPS licence is required from Natural England before works can be undertaken which will impact on GCN and/or their habitat (such as any damage to or removal of ponds, grassland, hedgerow bases or dense scrub in which they are likely to occur). Great crested newts and common toads are also listed as Species of Principal Importance under Section 41 of the NERC Act 2006.
Hazel dormice	The hazel dormouse is afforded full legal protection under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). It is also listed under Schedule 2 of the Conservation of Habitats and Species Regulations 2019 (as amended) and is therefore a European Protected Species (EPS); further protection is afforded by the Countryside and Rights of Way Act 2000. Taken together, the legislation makes it a criminal offence to: • Deliberately capture (or take), injure or kill hazel dormouse • Deliberately or recklessly disturb hazel dormouse, in particular (i) any

	disturbance which is likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young; (ii) any disturbance which is likely to impair their ability to hibernate or migrate; or (iii) any disturbance which is likely to affect significantly the local distribution or abundance of the species. • Damage or destroy a breeding site or resting place - even if dormice are not occupying the place at the time; • Intentionally or recklessly obstruct access to a sheltering or resting place. An EPS licence is required from Natural England before works can be undertaken which will impact on dormouse and/or their habitat (such as any damage or removal of hedgerows, woodland or dense scrub in which they are likely to occur). Hazel dormouse is also listed as a Species of Principal Importance under Section 41 of the NERC Act 2006.
Bats	All British bat species receive full legal protection in the United Kingdom. The Conservation of Habitats and Species Regulations 2019 (as amended) legally protects all bat species in the UK and further protection is afforded by the Wildlife and Countryside Act 1981 (Schedule 5) and the Countryside and Rights of Way Act 2000. Taken together, the legislation makes it a criminal offence to: • Deliberately capture (or take), injure or kill a bat. • Deliberately or recklessly disturb a bat, in particular (i) any disturbance which is likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young; (ii) any disturbance which is likely to impair their ability to hibernate or migrate; or (iii) any disturbance which is likely to affect significantly the local distribution or abundance of the species concerned. • Damage or destroy a breeding site or resting place (roost) of a bat- even if bats are not occupying the roost at the time; • Intentionally or recklessly obstruct access to a roost; • Possess or advertise/sell/exchange a bat (dead or alive) or any part of a bat. An EPS Licence for bats is required where works are expected to contravene the above legal protection. Under the law, a roost is ‘any structure or place used for shelter or protection’. For example any building or suitable tree. Bats use many roost sites and feeding areas throughout the year. Since bats tend to re-use the same roosts for generations, the roost is protected whether the bats are present or not.
Reptiles	The more widespread species of reptile – slow-worm, viviparous lizard, grass snake and adder - are afforded legal protection against killing and injury under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). All six UK reptile species are listed as Species of Principal Importance under Section 41 of the NERC Act 2006.
Badgers	The Protection of Badgers Act 1992 was introduced in recognition of the additional threats that badgers face from illegal badger digging and baiting. Under the Act, it is an offence to: • Wilfully kill, injure or take a badger, or to attempt to do so; • Cruelly ill-treat a badger; or • Intentionally or recklessly interfere with a badger sett by (a) damaging a sett or any part of one; (b) destroying a sett; (c) obstructing access to or

	any entrance of a sett; (d) causing a dog to enter a sett; or (e) disturbing a badger when it is occupying a sett.
Breeding birds	The Wildlife & Countryside Act 1981 (as amended) protects all birds, their nests and eggs – it is an offence to intentionally kill, injure or take any wild bird or its eggs, and/or to take, damage or destroy the nest (whilst being built or in use). There is additional protection for rarer species – making it an offence to disturb any wild bird listed on Schedule 1 (such as hobby) while it is nest building, or at a nest containing eggs or young, or to disturb the dependent young of such a bird. Some species are also listed as species of a Species of Principal Importance under Section 41 of the NERC Act 2006, including skylark, common cuckoo, house sparrow, tree sparrow and song thrush.
Hedgehogs	Hedgehogs are listed on schedule 6 of the Wildlife and Countryside Act (1981) which makes it illegal to kill or capture wild hedgehogs. They are also listed under the Wild Mammals Protection Act (1996), which prohibits cruel treatment of hedgehogs Hedgehogs are a species of 'principal importance' under the NERC Act, the act confers 'a duty of responsibility' on local authorities with regard to the species.
Water voles	The Wildlife and Countryside Act 1981 (as amended). This makes it illegal to intentionally damage, destroy or obstruct access to any structure or place which water voles use for shelter or protection; it is also an offence to intentionally disturb water voles while they are using these places.

Red Data Books

British Red Data Books (RDB) are an additional method for classifying the rarity of species, and are often seen as a natural progression from Biodiversity Action Plans.

RDB species have no automatic legal protection (unless they are protected under any of the legislation previously mentioned). Instead they provide a means of assessing rarity and highlight areas where resources may be targeted. Various categories of RDB species are recorded, based on the IUCN criteria and the UK national criteria based on presence within certain numbers of 10x10km grid-squares (see http://www.jncc.gov.uk/page-3425). As with Biodiversity Action Plans, where possible, steps should be taken to conserve RDB species which are to be affected by development.

Appendix B – Plates


IMG_4881


IMG_4882


IMG_4883


IMG_4884


IMG_4888


IMG_4889


IMG_4890


IMG_4891


IMG_4892


IMG_4893


IMG_4894


IMG_4895


IMG_4896


IMG_4897


IMG_4902


IMG_4903


IMG_4904


IMG_4905


IMG_4906


IMG_4907


IMG_4908

RSPD

Roads & Sewers for Planning & Design

Drainage & SUDs Strategy
In support of Residential Development at

Land at 154 Station Road,
Hailsham,
East Sussex,
BN27 2SB

Luke Shaw
February 2023
REV [0]
Job No: 5678

Drainage & SUDS Strategy
At
Land at 154 Station Road, Hailsham, East Sussex

Contents

Amendments

Revision	Date	Description
0	February 2023	First Issue

References

Reference	Title
A	CIRIA Publication 753 – The SUDS Manual (2015)
B	Sewers for Adoption 7th Edition (Wrc 2012)
C	Part H of the Building Regulations (2015)
D	Guide to Sustainable Drainage Systems in East Sussex (2015)
E	Planning Practice Guidance (2016)
F	Guidance to the National Planning Policy Framework (2012)

Introduction

This Drainage & SUDS Strategy has been developed in support of a planning application for the construction of 9 new residential dwellings at Land at 154 Station Road, Hailsham, East Sussex, BN27 2SB.

The aim of the Drainage Strategy is to incorporate and adopt Best Management Practices (BMP's) for Sustainable Urban Drainage Systems (SUD's) in accordance with Site Specific Technical Reports and Published Documents referenced in Page (ii). This document also aims to identify the methods of drainage available for the Surface Water Drainage.

A layout of the proposed scheme can be found in the appendices of this document.

Development Description and Location

The development proposal is for the erection of 9 new residential dwellings, situated on Land at 154 Station Road, East Sussex, BN27 2SB.

The location of the proposed site is at grid reference 559601, 108606 as shown in the location plans in the appendices.

Existing Drainage

There is a public foul water sewer in the vicinity of the application site, approximately 135m to the South at the junction of Old Swan Lane. There are no public surface water sewers in the vicinity of the site, however there is an ordinary watercourse to the South of the proposed development which would be suitable for connecting the development surface water discharge.

Site Geology

The site is underlain by the Weald Clay Formation which is typically described by the British Geological Survey as Dark grey thinly-bedded mudstones (shales) and mudstones with subordinate siltstones, fine- to medium-grained sandstones, including calcareous sandstone, shelly limestones and clay ironstones.

Typically, Weald Clay is deemed as unsuitable for infiltration, therefore, no soakage testing has been undertaken at this site.

Topography

The land at Station Road is bounded at the North and Western boundaries with mature conifer and mixture of deciduous trees. The Southern boundary with the ordinary watercourse has an established hedgerow.

The existing land is quite variable and generally slopes to the Southeast corner of the land. The site has had the benefit of a full topographical survey which shows the land peaks at around 10.500mAOD and falls to the Southeast down to about 7.000mAOD.

Ground Water

Local geotechnical records have been checked, which indicates groundwater is more than 4m below ground level.

The proposed development site has been checked against Environment Agency Source Protection Zones (SPZ's) for groundwater and can be confirmed that the proposed development is outside of any SPZ's. A plan of the SPZ map is contained in the appendices.

Design Objective

The objective of the design will be to;

a) Retain/reduce the quantity of surface water runoff leaving the development area, to equal or less than the greenfield runoff rate for all storms, up to and including the 1 in 100 year return period + 40% climate change.
b) Improve the quality of surface water runoff by infiltration methods and open SUD's wherever possible.

Development Drainage Proposals

Surface Water Drainage

It is not intended that the proposed development drainage will be offered for adoption to any of the statutory authorities, however, the surface water calculations for the proposed development will be in accordance with the requirements set out in Planning Practice Guidance, East Sussex County Council SUDS publications and CIRIA 753 SUDS Manual.

The local geology may be not suitable for infiltration to ground, and the LLFA had discouraged the use of permeable paving at this scheme in prior consultation responses in a previous application. Therefore, the strategy will focus on utilising geocellular storage to retain surface water in the climate change adjusted critical storm before being allowed to discharge via a Orifice Plate to the ordinary watercourse at the South.

The development consists of up to 9 new residential dwellings. These dwellings will be serviced by a new access road and off-road parking for each of the new homes.

The Drainage Strategy drawing shows the indicative surface water network for the development, directing the development water through a series of trapped gullies, Linear drainage, geocellular storage tanks and Orifice Plates, before discharging the water to the ordinary watercourse. This drainage system has been designed on the basis of 100% of the water being attenuated and discharged at the controlled rate of 2.02 litres per second and will fully accommodate the storage required for the 1 in 100 year 40% climate change adjusted critical storm scenario.

The surface water drainage will discharge into the adjacent riparian owned ditch as agreed in the previous application (WD/2020/1596/MAO), after having consulted with East Sussex County Council Highways and received their Technical Approval of the proposed connection, subject to conditions, on 26th March 2021.

The greenfield runoff at Qbar for the site has been calculated at 2.02l/s and therefore the discharge from the planned attenuation has been designed to accommodate this limited discharge, as agreed in the previous application.

Water Quality

Part of the design process is to consider all aspects of water quality to ensure the appropriate levels of treatment are being implemented and that there are no adverse effects occurring to off-site areas.

When considering potential sources of pollution and their respective methods of treatment and mitigation, the CIRIA SuDS Manual 2015 (C753) provides guidance on how this can be assessed and mitigated appropriately.

The following tables are provided to ensure and check that the design methodology and treatment systems have been considered to adequately mitigate against the pollution hazard.

Total SuDS Mitigation Index (for each contamination type)	≥	Pollution Hazard Index (for each contaminant type)

TABLE 26.2 Pollution hazard indices for different land use classifications

Land use	Pollution hazard level	Total suspended solids (TSS)	Metals	Hydro-carbons
Residential roofs	Very low	0.2	0.2	0.05
Other roofs (typically commercial/ industrial roofs)	Low	0.3	0.2 (up to 0.8 where there is potential for metals to leach from the roof)	0.05
Individual property driveways, residential car parks, low traffic roads (eg cul de sacs, homezones and general access roads) and non-residential car parking with infrequent change (eg schools, offices) ie < 300 traffic movements/day	Low	0.5	0.4	0.4
Commercial yard and delivery areas, non-residential car parking with frequent change (eg hospitals, retail), all roads except low traffic roads and trunk roads/motorways[1]	Medium	0.7	0.6	0.7
Sites with heavy pollution (eg haulage yards, lorry parks, highly frequented lorry approaches to industrial estates, waste sites), sites where chemicals and fuels (other than domestic fuel oil) are to be delivered, handled, stored, used or manufactured; industrial sites; trunk roads and motorways[1]	High	0.8[2]	0.8[2]	0.9[2]

For the site at Station Road, the consideration will be for the dwelling roofs, and outer carpark areas. The roof areas of the dwellings a 'very low hazard', with the car park areas representing a 'low' hazard.

TABLE 26.3 Indicative SuDS mitigation indices for discharges to surface waters

	Mitigation indices[1]		
Type of SuDS component	TSS	Metals	Hydrocarbons
Filter strip	0.4	0.4	0.5
Filter drain	0.4[2]	0.4	0.4
Swale	0.5	0.6	0.6
Bioretention system	0.8	0.8	0.8
Permeable pavement	0.7	0.6	0.7
Detention basin	0.5	0.5	0.6
Pond[4]	0.7[3]	0.7	0.5
Wetland	0.8[3]	0.8	0.8
Proprietary treatment systems[5,6]	These must demonstrate that they can address each of the contaminant types to acceptable levels for frequent events up to approximately the 1 in 1 year return period event, for inflow concentrations relevant to the contributing drainage area.		

By using yard and road gullies on the access roads, this should be deemed appropriate mitigation for the SUDS design.

Foul Water Drainage

There is a public foul water sewer in the vicinity of the application site, approximately 135m to the South at the junction of Old Swan Lane. Subject to final levels being confirmed and a S106 application to the statutory water undertaker, this would be the likely point of discharge.

It should be noted that the application under s106 of the Water Industry Act may not be refused on the basis of capacity and the new infrastructure charges introduced by Southern Water in April 2018 stated clearly that these Infrastructure Charge increases would fund any reinforcement or necessary upgrades to their network to accommodate the given development.

Using peak flow criteria given in Sewers for Adoption 7th edition, foul flows from this development will be around 0.414 l/s. This is highly unlikely to have a notable effect on the existing sewer network.

Residual Flood Risk

This development has not been formally assessed in a site specific flood risk assessment as the site sits entirely within Environment Agency Flood Zone 1. This is confirmed in the Flood Maps for Planning, contained in the appendices. Although there is no formal flood risk assessment for this site, this Drainage strategy takes the principles normally identified within a flood risk assessment, to incorporate them within the detailed design, focusing on reduction and mitigation of flood risk for both on and off site.

Surface water flooding maps have been checked and shows no risk to the proposed development.

Surface Water Drainage systems have been designed to cater for and up to the 1 in 100 year return period, plus 20% and 40% climate change, retaining the surface water on site in accordance with LLFA requirements and Industry Guidance.

Local groundwater levels have been assessed and considered a low risk of groundwater flooding, as the groundwater is more than 4m BGL, which is confirmed in nearby borehole records.

Future Maintenance

Maintenance regimes of the various drainage methods will vary, depending on the development proposals and surroundings. However, a general guide to the maintenance of the various methods of drainage have been provided below;

Maintenance of Gullies and Catch pits

To ensure the long-term effectiveness of the surface water collection asset, the sediment that accumulates within the sump of the conventional gully pot or catch pit must periodically be removed to prevent it from entering the rest of the network. The frequency of this maintenance operation will vary depending on the density of the site, vegetation, design of the drainage system, other permeable areas and if the site is pre or post construction.

The ongoing maintenance activities for this system are tabulated below in Table 2.

Table 2 – Gully and Catch Pit Maintenance – By the appointed Management Company.

Maintenance Activity	Remedial Action	Inspection Frequency	
Inspect Gullies and Catch-pits	Clear any sediment or detritus found in the chamber/s. If sediment has built up within the pipe network, this should be cleared with rodding equipment or professional jetting techniques.	Pre-completion	Monthly
		Post completion – up to 1 year	Quarterly
		On-going	Annually

Maintenance of Attenuation Crates

The property owners will need to check and empty the chamber, if necessary, on a quarterly basis initially. This will ensure that the attenuation crates can be utilised to their capacity, as a blockage would reduce the overall storage area of the crates.

Appendices

- Site Location Plans
- Flood Maps for Planning
- Surface Water Flood Map
- Geoindex Map
- SPZ Plan
- Public Sewer Asset Plans
- Topographical Survey
- Greenfield Runoff Rates (Q-Bar)
- Permavoid Brochure
- ACO Drain Brochure
- Drainage Layout Plan
- Calculations
- Long Sections

Location Plan

0 0.1 0.2
km

Projection = OSGB36
xmin = 558300
ymin = 108000
xmax = 560600
ymax = 109200

Map produced by MAGIC on 22 February, 2023.

Flood map for planning

Your reference	Location (easting/northing)	Created
<Unspecified>	**559515/108606**	**7 Mar 2023 17:04**

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

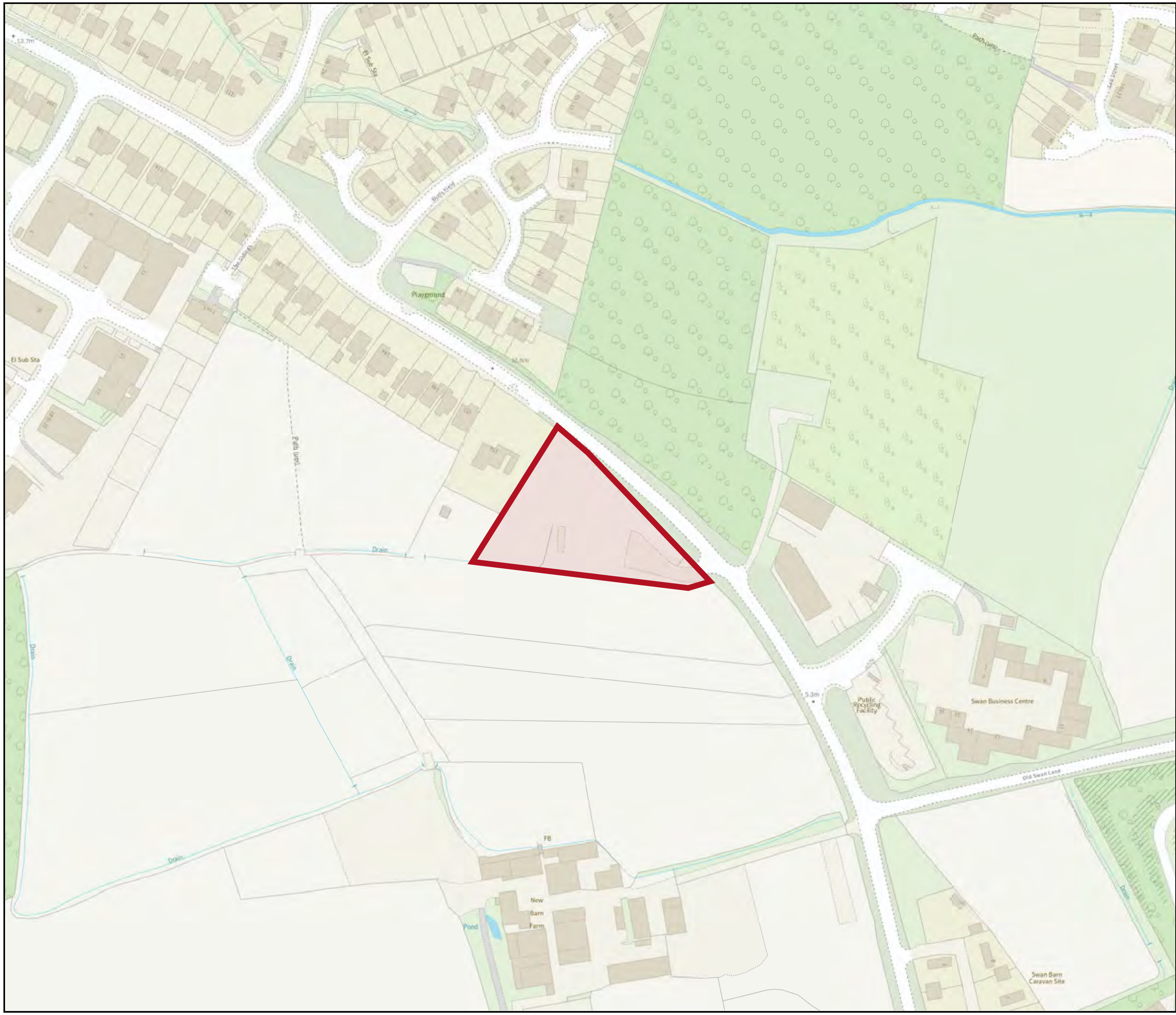
You will need to do a flood risk assessment if your site is **any of the following:**

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

Notes

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

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



Environment Agency

Flood map for planning

Your reference
<Unspecified>

Location (easting/northing)
559515/108606

Scale
1:2500

Created
7 Mar 2023 17:04

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

0 20 40 60m

Flood risk

Extent of flooding

Location

BN27 2SB

Extent of flooding from rivers or the sea

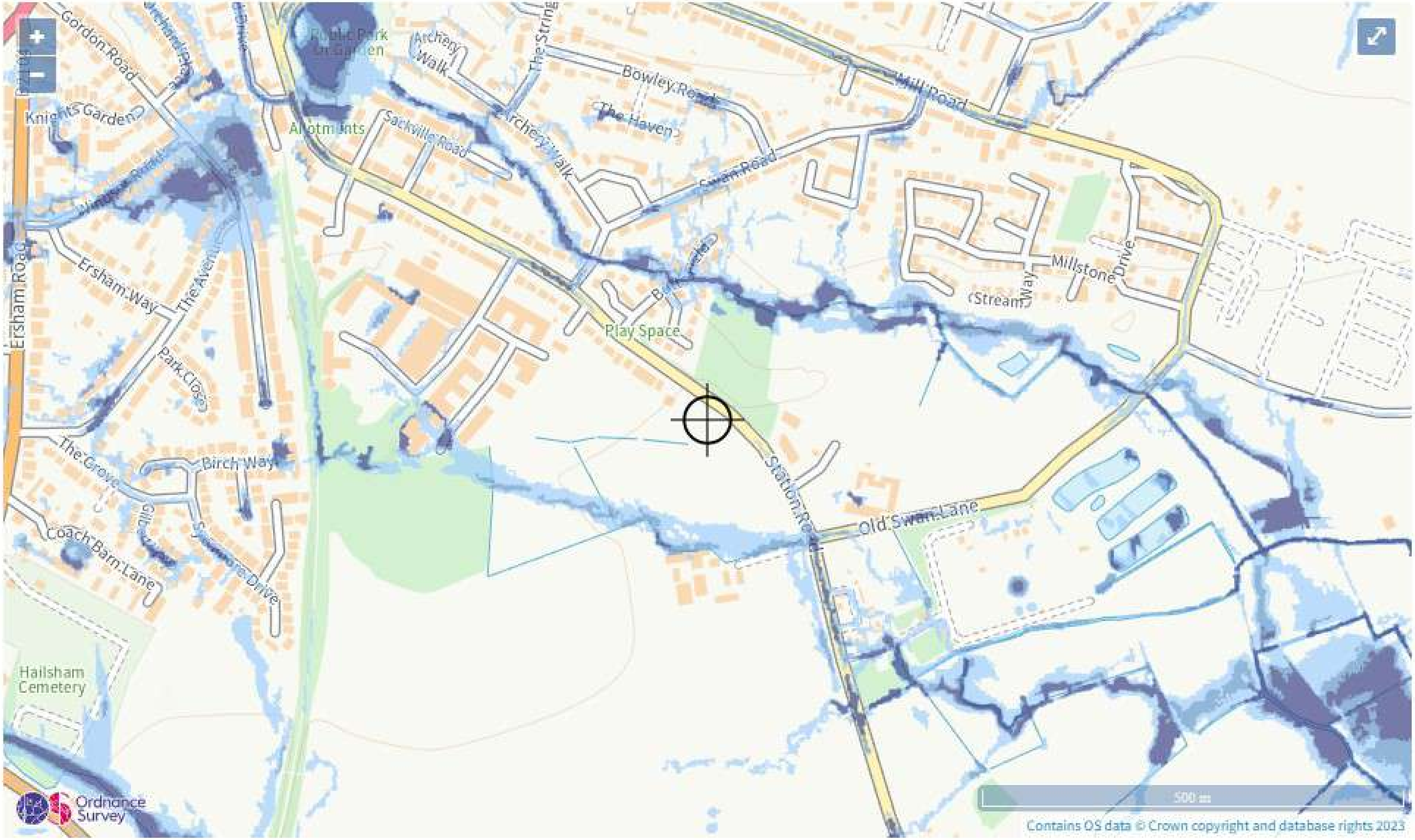
High Medium Low Very low Location you selected

Flood risk

Extent of flooding

Location

BN27 2SB



Extent of flooding from surface water

High Medium Low Very low Location you selected

Flood risk

Extent of flooding

Location

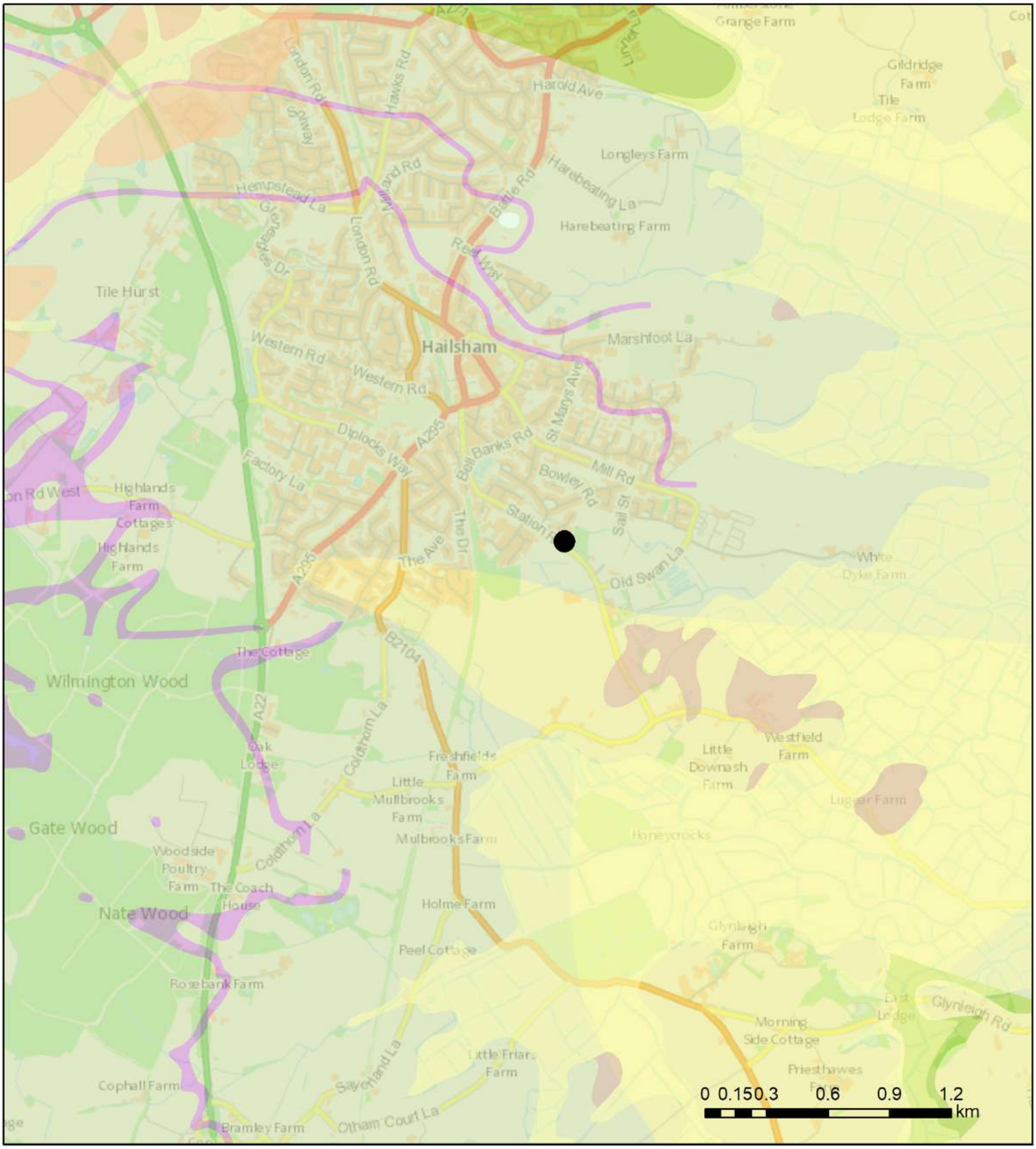
BN27 2SB

Maximum extent of flooding from reservoirs:

when river levels are normal · when there is also flooding from rivers · Location you selected

GeoIndex Report

British Geological Survey



Contains OS data © Crown Copyright and database right 2020

GeoIndex Onshore Data Sources: NERC, Natural England, English Heritage and Ordnance Survey

Map Key

Bedrock geology 1:50,000 scale

- WEALD CLAY FORMATION - SANDSTONE
- LOWER GREENSAND GROUP - SANDSTONE, SILTSTONE AND MUDSTONE
- WEALD CLAY FORMATION - SILICATE-CLAYSTONE
- GAULT FORMATION - MUDSTONE
- WEALD CLAY FORMATION - MUDSTONE
- TUNBRIDGE WELLS SAND FORMATION - SANDSTONE
- TUNBRIDGE WELLS SAND FORMATION - MUDSTONE
- WEALD CLAY FORMATION - LIMESTONE

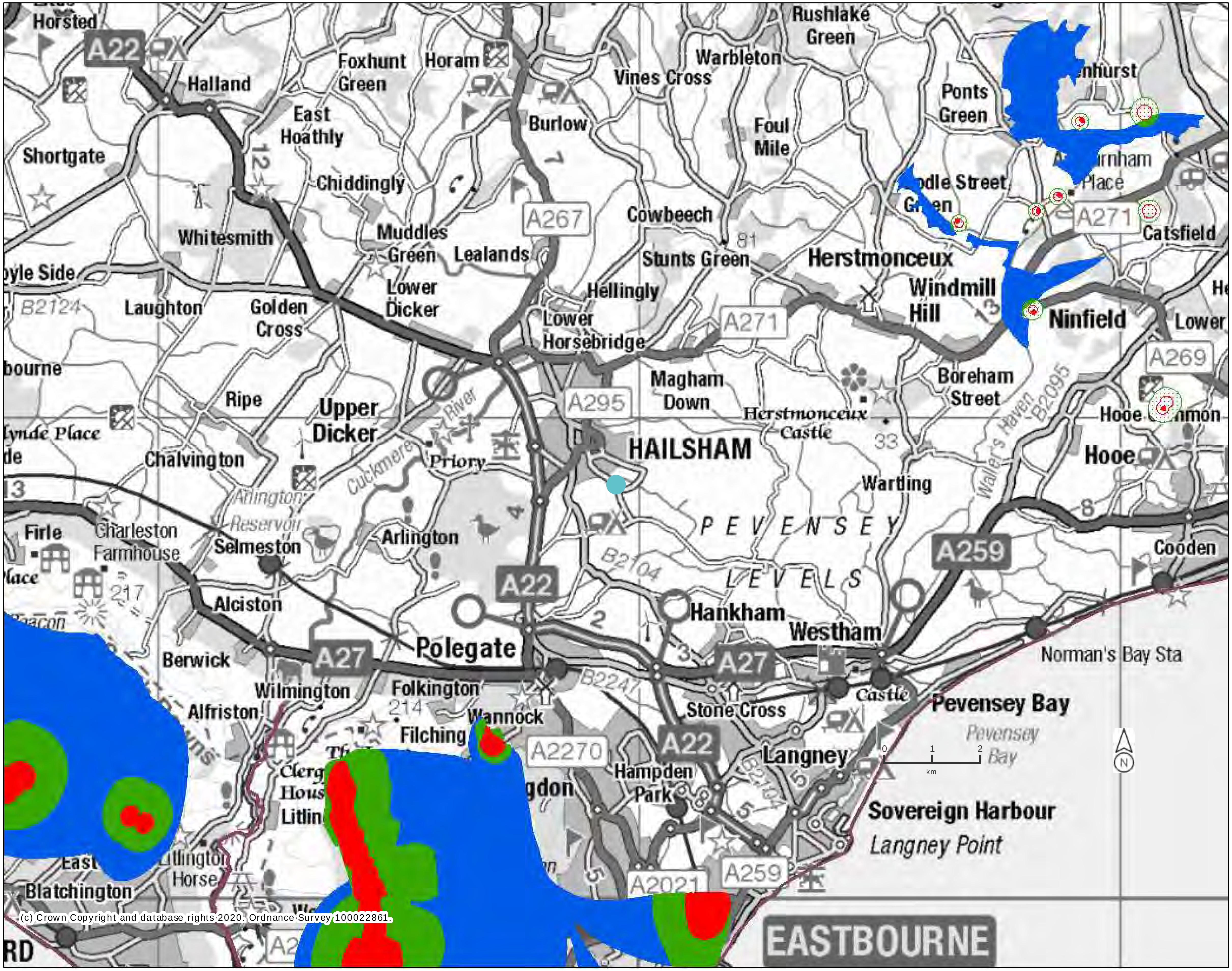
Superficial deposits 1:50,000 scale

- ALLUVIUM - CLAY, SILT, SAND AND PEAT
- HEAD - CLAY, SILT, SAND AND GRAVEL
- RIVER TERRACE DEPOSITS, 1 - SAND AND GRAVEL
- PEAT - PEAT

Selection Results

MAGIC

SPZ Map



Legend

Source Protection Zones merged (England)

- Zone I - Inner Protection Zone
- Zone I - Subsurface Activity
- Zone II - Outer Protection Zone
- Zone II - Subsurface Activity
- Zone III - Total Catchment
- Zone III - Subsurface Activity
- Zone of Special Interest

Projection = OSGB36
xmin = 541800
ymin = 95810
xmax = 577300
ymax = 121400

0 1.5 3 km

Map produced by MAGIC on 13 April, 2020.

(c) Crown copyright and database rights 2020 Ordnance Survey 100031673 | Date: 12/04/20 | Scale: 1:1250 | Map Centre: 559512,108603 | Data updated: 01/04/20 | Our Ref: 381321 - 2 | Wastewater Plan A3

The positions of pipes shown on this plan are believed to be correct, but Southern Water Services Ltd accept no responsibility in the event of inaccuracy. The actual positions should be determined on site. This plan is produced by Southern Water Services Ltd (c) Crown copyright and database rights 2020 Ordnance Survey 100031673 .This map is to be used for the purposes of viewing the location of Southern Water plant only. Any other uses of the map data or further copies is not permitted.

WARNING: BAC pipes are constructed of Bonded Asbestos Cement.

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

Foul Gravity Sewer
Combined Gravity Sewer
Culverted Water Course or Treated Effluent
Surface Water Gravity Sewer
Rising Main, Vacuum or Syphon
Combined Outfall
Surface Water Outfall
Foul Outfall
Surface Water Inlet
Combined Pumping Station
Surface Water Pumping Station
Foul Pumping Station
Water Treatment Works
Section 104 Area
Building Over Agreement Area
Foul Manhole
Combined Manhole
Surface Water Manhole
Side Entry Manhole, Decarcation Chamber, Dummy Manhole or Surface Water Soakaway

jamie.finch@roadsandsewers.co.uk

Station Rd, Hailsham

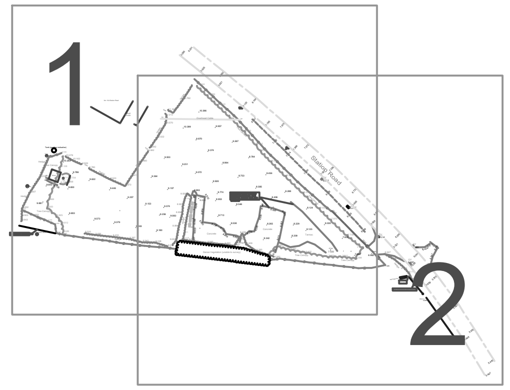
WATER for LIFE

from Southern Water.

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert
3706	F	14.03	12.37	
4701	F	12.65	10.38	
4702	F	13.03	11.27	
4703	F	13.01	10.91	
471D	F	0.00	0.00	
472D	F	0.00	0.00	
5601	F	0.00	0.00	
5602	F	0.00	0.00	
561D	F	0.00	0.00	
562D	F	0.00	0.00	
6402	F	4.86	3.57	
6601	F	9.93	8.13	
6602	F	8.93	8.93	
7401	F	4.85	3.55	
7501	F	8.31	5.29	
7502	F	5.01	0.00	
4752	S	12.82	9.82	
4753	S	12.72	9.72	
4759	S	12.61	9.86	
4760	S	11.19	9.59	

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert



Survey based on GNSS OSTN15 and OSGM15
Drawing Scale 1:200@A1

Client
Mr Martin

Site Address
Site adj
154 Station Road
Hailsham
East Sussex

SOUTH EAST GEOMATICS

South East Geomatics Ltd
3 Portfield Close
Bexhill-on-sea
East Sussex
TN40 2ER
01424 81 91 22
07928 350 178
www.southeastgeomatics.com
segeomatics@outlook.com

Drawing Tittle	Topographical Survey
Drawing Number	001 Sheet 1
Drawn By	JP
Drawing Status	Info
Draft Date	15/11/2020
Rev	-

Greenfield runoff rate estimation for sites

www.uksuds.com | Greenfield runoff tool

Calculated by:	Jamie Finch
Site name:	Station Road
Site location:	Hailsham

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

Site Details

Latitude:	50.85487° N
Longitude:	0.26488° E
Reference:	2394342855
Date:	Sep 03 2020 09:18

Runoff estimation approach IH124

Site characteristics

Total site area (ha): 0.3775

Methodology

Q_{BAR} estimation method:	Calculate from SPR and SAAR
SPR estimation method:	Calculate from SOIL type

Soil characteristics

	Default	Edited
SOIL type:	4	4
HOST class:	N/A	N/A
SPR/SPRHOST:	0.47	0.47

Hydrological characteristics

	Default	Edited
SAAR (mm):	764	764
Hydrological region:	7	7
Growth curve factor 1 year:	0.85	0.85
Growth curve factor 30 years:	2.3	2.3
Growth curve factor 100 years:	3.19	3.19
Growth curve factor 200 years:	3.74	3.74

Notes

(1) Is Q_{BAR} < 2.0 l/s/ha?

When Q_{BAR} is < 2.0 l/s/ha then limiting discharge rates are set at 2.0 l/s/ha.

(2) Are flow rates < 5.0 l/s?

Where flow rates are less than 5.0 l/s consent for discharge is usually set at 5.0 l/s if blockage from vegetation and other materials is possible. Lower consent flow rates may be set where the blockage risk is addressed by using appropriate drainage elements.

(3) Is SPR/SPRHOST ≤ 0.3?

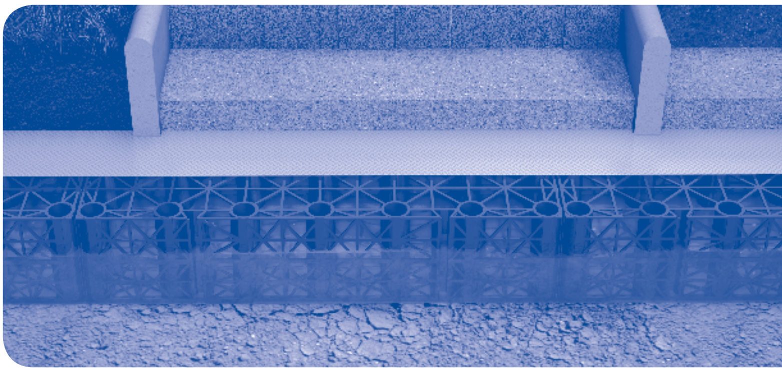
Where groundwater levels are low enough the use of soakaways to avoid discharge offsite would normally be preferred for disposal of surface water runoff.

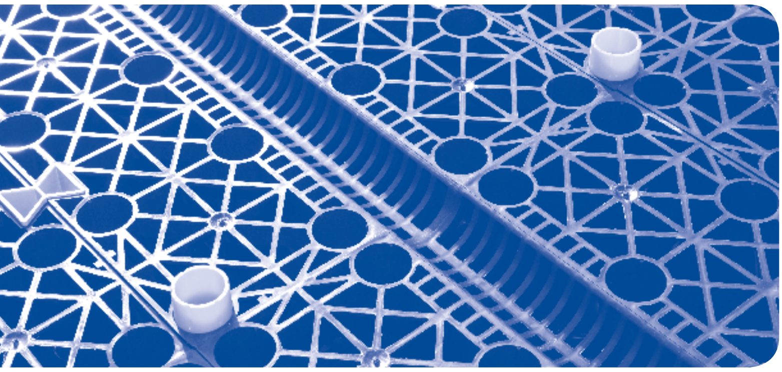
Greenfield runoff rates

	Default	Edited
Q_{BAR} (l/s):	2.02	2.02
1 in 1 year (l/s):	1.72	1.72
1 in 30 years (l/s):	4.64	4.64
1 in 100 year (l/s):	6.44	6.44
1 in 200 years (l/s):	7.55	7.55

PMVTM1 | JANUARY 2016

Permavoid System Technical Manual



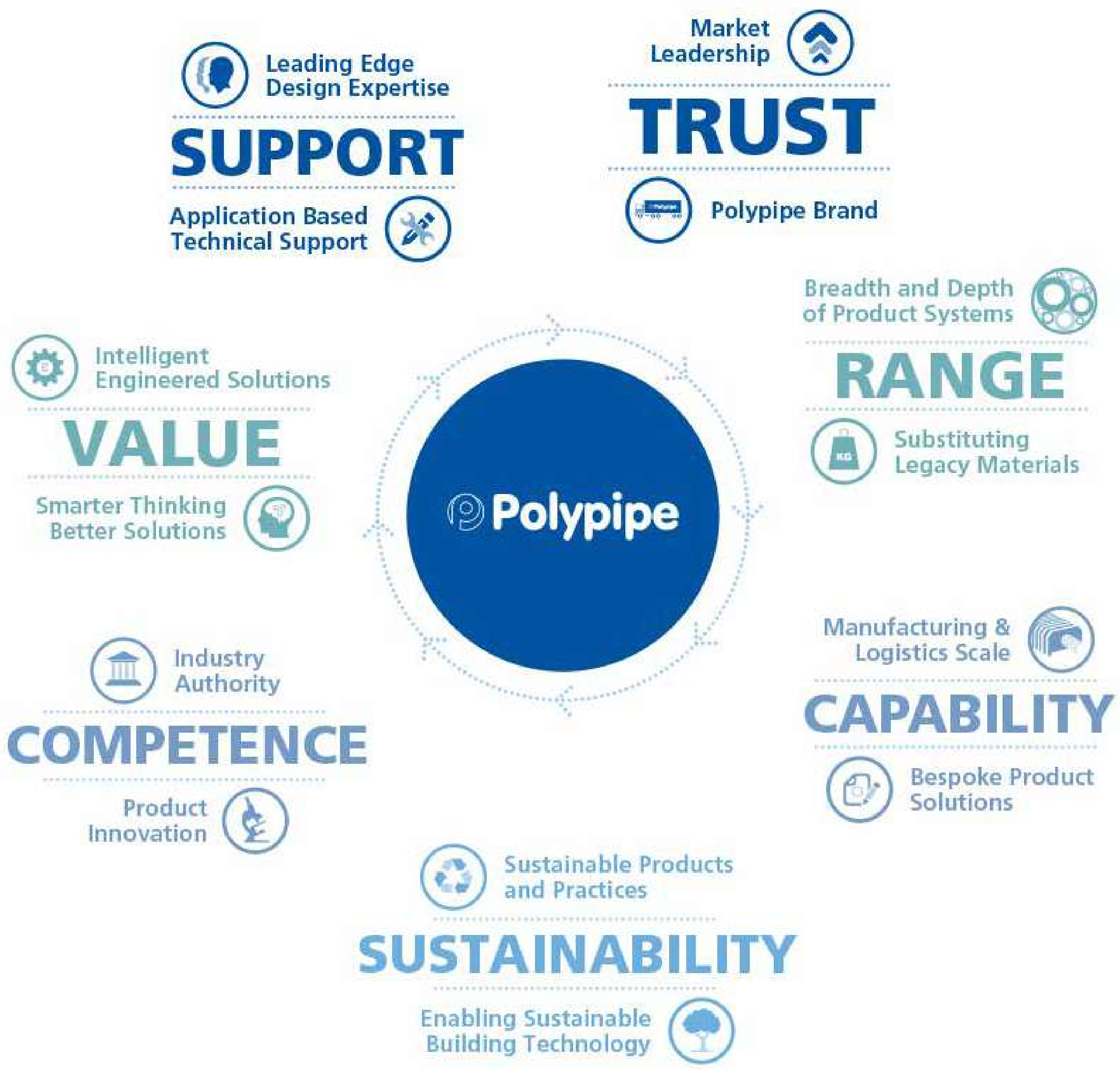


Planning, design, specification and installation guide

Polypipe

Welcome to Polypipe

At Polypipe, conceiving, designing, manufacturing and delivering the most advanced products and systems is more than just an occupation. We see it as our passion. Everything we do has always been based around a few simple beliefs: Quality always beats quantity. Products are nothing without service and support. Sustainability isn't just a 'green' word and working with our customers is much better than simply supplying them.



Polypipe is the UK's largest plastic piping systems manufacturer

With over 20,000 product lines, a substantial fleet of over 400 vehicles and employing over 2,000 people, we have an enviable reputation amongst installers, contractors, stockists and specifiers.

The broadest product range available in the UK

With over 100 product systems, our unrivalled portfolio offers dependable, innovative solutions for pressure and non-pressure applications, enabling the movement of water, air, power, chemicals and telecoms throughout the built environment.

Market-sector focused

We operate through sector-focused businesses, ensuring that our Sales and Technical Teams are equipped to meet the specific needs of residential, civils and infrastructure, commercial and industrial projects.

Innovating for today's construction challenges

Recognising the twin challenges of managing water and carbon resources, we have invested for many years in our water management and carbon efficient solutions, with systems that meet all legislative requirements.

Polypipe intelligent engineering

Through initial involvement our substantial technical knowledge and capabilities can be utilised, ensuring our customers can engage with the project team to deliver the most appropriate and cost-effective solutions and supporting them in a close working relationship from design right through to installation.

Overview - our company, our products, our people

Our product knowledge and service teams provide an unrivalled level of technical support. Working closely with our customers, we can help guide them through current legislation and complex building regulations. This helps us to match the right product range with the correct project requirements, or develop a fully engineered system for specific project needs.

We invest heavily in research and new production technology that allows us to provide high quality products with more precise performance specifications and even greater reliability. Our products are covered by third party accreditations including BBA, BSI Kitemark and WRc, which ensure we meet specification standards. Supporting our product accreditations, our business systems are regularly assessed by BSI to ensure we maintain our BS EN ISO 9001:2008 and BS EN ISO 14001:2004 certifications. These independent assessments confirm that we adhere to strict regulatory requirements and ensure we provide greener credentials for our products.

UKAS accredited laboratories

Our in-house research and development facility is one of the most advanced of its kind and includes the independent UKAS accredited Berry & Hayward Laboratory. This operates 24 hours a day and gives us the body of knowledge and expertise needed to produce the most advanced range of products and solutions.

Full technical design and fabrication service

Polypipe is unique in having its own in-house fabrication unit. In the 2600m² facility, our skilled and highly experienced technicians deliver modular engineered drainage and water management systems. These are provided ready-to-install, maximising the benefits of pre-fabrication, for ease of delivery and reduced installation time on-site.

Design

From the outset, our Design Team will bring their technical expertise and experience to bear, providing assistance with hydraulic, structural and flotation calculations supported by system CAD designs and specifications.

Installation guidance

Providing guidance at the critical installation stage, coordinating deliveries and ensuring the most cost and time efficient pathways to completion.

The calibre of our people

The calibre of the people within our support team is a reflection of the importance we place on customer service in helping to deliver a successful project outcome. They include fully qualified design engineers who, through their experience and in-depth product knowledge, can help to provide detailed specification guidance.

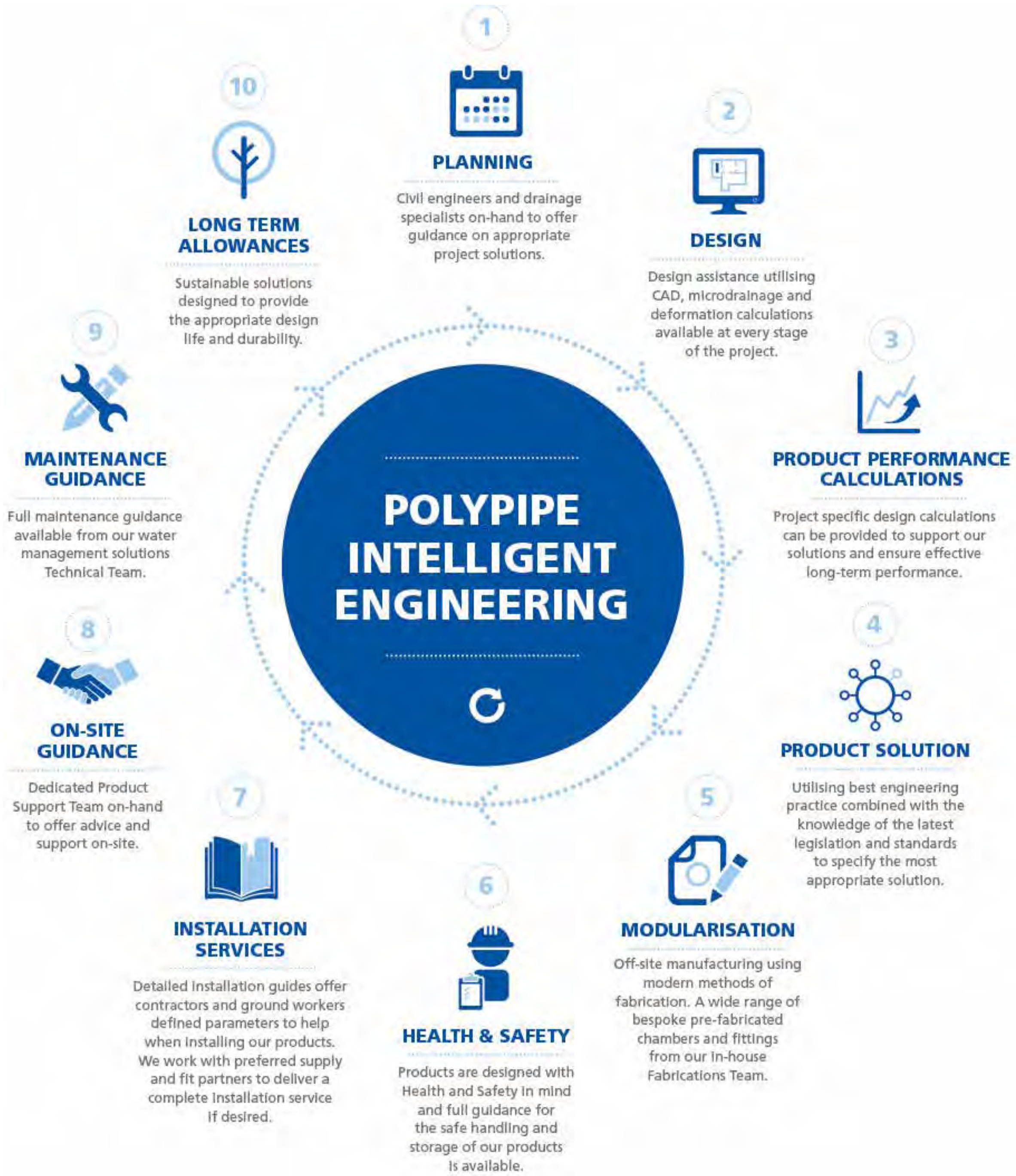
Our accreditations

Polypipe is a member of influential bodies such as the British Plastics Federation (BPF) and Construction Products Association (CPA). We also work with organisations such as DEFRA, CIRIA and Constructing Excellence, which enable us to have an active involvement and understanding of industry drivers. Combining this industry involvement with the high calibre of our staff enables us to provide an unrivalled level of service.

Intelligent engineering

The market leaders in surface water management

Our team of fully qualified drainage specialists, civil engineers and technical support experts offer invaluable experience and knowledge through each and every stage of a project. We provide the most commercially viable solution for a project through our ability to be unbiased. As we offer both pipe and geocellular systems, we have a truly holistic range of products meaning we can tailor our solutions to your needs. You can contact our team on **+44 (0) 1509 615100** or arrange a visit from one of our commercial or technical specialists.



Water management solutions

Our water management solutions embrace a comprehensive range of sustainable drainage systems (SuDS) and services that together address the surface water management requirements of every commercial and domestic project, regardless of the project size.

With a choice of market leading products, plus the highest level of technical support, you can depend on Polypipe to help you deliver the most effective and compliant surface water management plan.

Whether your scheme is adoptable or non-adoptable, we have the right solution for you; retention, attenuation or infiltration systems combined with or without treatment solutions, all supported by our fabrication service that provides off-site engineered solutions.

Stormwater retention, attenuation and infiltration

Large diameter pipes and geocellular systems offer a versatile method of creating shallow or deep buried water storage systems, capable of holding back the impacts of rainfall events and helping to mitigate the risk of surface water flooding.

At Polypipe we understand that every project and site is unique and many have significant challenges when it comes to the design and construction of an efficient and effective drainage system. That is why we have developed the industry's largest range of pipe and geocellular retention, attenuation and infiltration systems.


Polystorm


Permavoid


Ridgistorm-XL


Rainstream RXL

Surface water treatment

Regulations on the management of surface water through source control and the use of SuDS are now well established. Increasingly, legislation is presenting developers and designers with additional challenges in the control of surface water pollution. New standards aimed at reducing pollution levels in groundwater and rivers are often based on the Polluter Pays Principle (PPP), so our range of water treatment systems are designed to intercept and extract pollution as close to source as possible.

At Polypipe you will find the largest range of treatment solutions for silt removal, collection and separation. From our silt traps and oil interception, to advanced treatment textiles such as Permafilter Geotextile for the removal of heavy metals and RIDGISTORM-X4 for dissolved pollutants. They can all be integrated within an overall 'Roof to River' solution and can be combined to form progressively more efficient treatment depending on anticipated contamination levels.


Permafilter


Permachannel


RIDGISTORMSeparate


RIDGISTORM-X4

What is the Permavoid system?

Permavoid is a geocellular sub-base replacement system, designed to provide shallow stormwater retention, attenuation or infiltration. Permavoid can be used as part of an engineered or soft SuDS solution. It enables designers to offer a source control system incorporating water treatment to manage water where it lands.

Our Permavoid system has been extensively tested over the last decade with Salford and Coventry University, the Transport Research Laboratory and Highways England, to ensure that the system meets the legislative requirements set out by CIRIA, the Environment Agency, SEPA and PPG.

Academic site wide trials include:

- Transport Research Laboratory - A pilot-scale trial of reservoir pavements for drainage attenuation incorporating Permavoid sub-base replacement system.
- Coventry University - Assessment and monitoring of the oil retention and performance of the Permaceptor Treatment System.
- SEPA-Perth Prison - A 2 year field monitoring exercise of macro-pervious pavement and car park installation incorporating Permachannel oil and silt retention devices.

Index - pages

How this manual is organised

This manual is presented in clearly marked sections to help you find the information you require quickly and easily.

Index - illustrations & tables

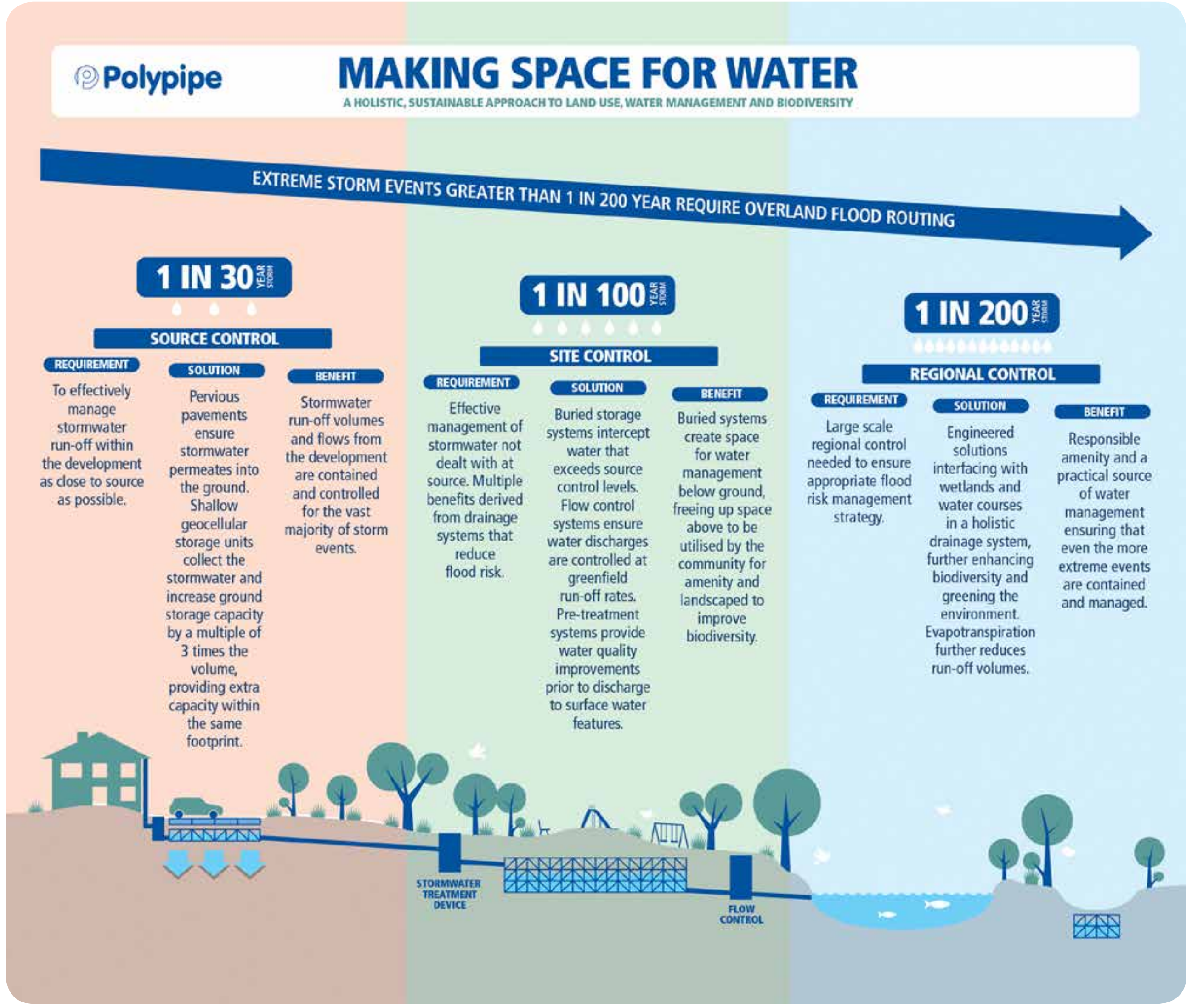
For updates and a PDF of this manual go to:
www.polypipe.com/toolbox

***Please note:** Illustrations shown within this publication are available as downloadable CAD drawings from:
www.polypipe.com/toolbox

The growing importance of SuDS

'Making Space for Water' is an integrated, forward-thinking strategy for managing future flood risk in England, first published in 2004.

Among its many recommendations is the adoption of a 'joined-up' approach to drainage management in high-risk urban areas and the widespread use of sustainable drainage systems (SuDS) to control the rate at which rainwater runs off paved areas and into sewer networks and rivers.



The challenge each developer faces on both greenfield and brownfield developments is knowing what to do with the excess run-off generated by the development which has to be retained in and around the site. BS8533:2011, 'Assessing and Managing Flood Risk in Development Code of Practice', has been created to help designers analyse flood risk and to guide the selection of appropriate flood risk management solutions.

Soft SuDS alone may not provide sufficient storage on certain sites due to space constraints, particularly driven by the housing density requirements in PPS3:Housing. The Permavoid system can help address these challenges, by providing an effective controlled retention, attenuation or infiltration system to suit site specific requirements.

Government planning policy has defined the need for sustainable drainage systems (SuDS) to ensure that flood risk is taken into account during all stages of the planning process.

CIRIA (SuDS Manual)

The SuDS Manual provides guidance on all aspects of the design, construction, operation and maintenance of SuDS. In particular, it places a real emphasis on the use of source control techniques and requires designers to consider pollution removal.

The SuDS Manual defines that a sustainable drainage system should consider certain basic requirements, including:

- Run-off from a developed area should be no greater than the run-off prior to development
- Run-off from a developed area should not result in any down-grading of downstream watercourses or habitat
- Consideration should be given at the development feasibility stage to water resource management and control in the developed area
- Run-off should replicate, as far as possible, the natural response of the site to rainfall

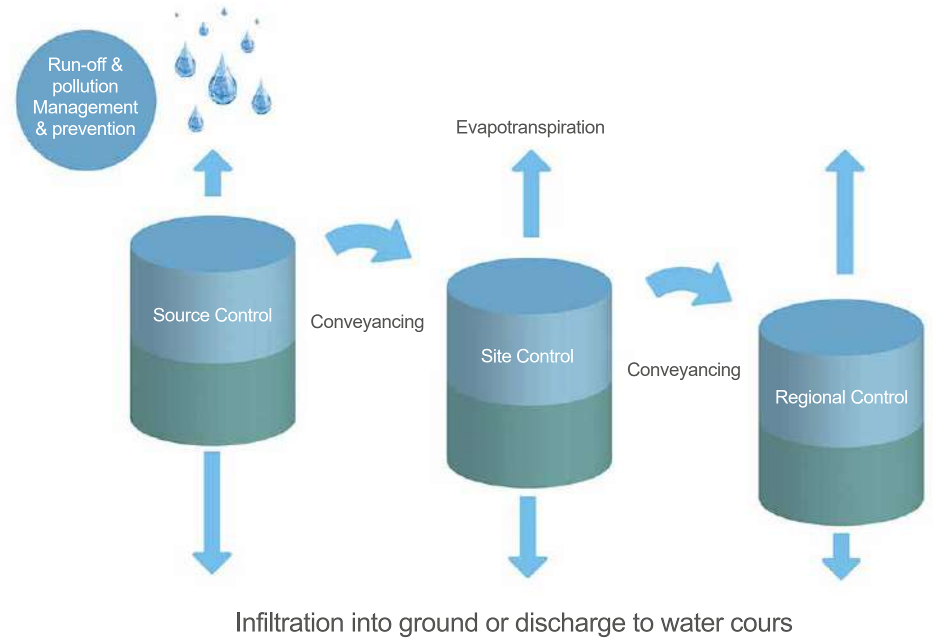
Urbanisation has led to an increasing number of negative impacts on the environment, in particular pollution. Depending on the land use, the following typical surface pollutants can be found in surface water run-off:

- Hydrocarbons and oils
- Sediments
- Heavy metals
- Fertilisers and pesticides
- Salts
- Animal wastes
- Pathogens

Traditionally, pollutants are collected from impermeable surfaces into the drainage systems and treated downstream via large, deep, in-line separators that are typically designed to treat the first 'flush' only. Emulsified oils and hydrocarbons can still be discharged downstream, the discharge of oil and hydrocarbons constitutes a major pollution source and is a serious threat to groundwater sources.

The SuDS Management Train

This is a staged design concept used in sustainable drainage systems (SuDS) which controls volume and quality of surface water run-off. Permavoid gives designers a versatile source control system.



SECTION 1 LEGISLATION AND REGULATIONS
SECTION 2 PERMAVOID SYSTEM OVERVIEW AND APPLICATIONS
SECTION 3 PERMAVOID SYSTEM COMPONENTS
SECTION 4 HYDRAULIC DESIGN
SECTION 5 STRUCTURAL DESIGN
SECTION 6 SURFACE WATER TREATMENT
SECTION 7 DELIVERY, INSTALLATION & MAINTENANCE
SECTION 8 STANDARD DETAILS
SECTION 9 CASE STUDIES
SECTION 10 SUMMARY

Legislation and regulations

We understand how important it is to keep up to date with legislation. That is why our advice and system selection is informed by the very latest regulations and standards.

Water Framework Directive

The Water Framework Directive (WFD) is a piece of EU legislation to improve water quality in watercourses and coastal areas. It identifies the treatment of pollution at source as one of the most effective ways of reducing pollution and improving water quality. Our geocellular solutions can meet that challenge by integrating a number of surface water treatment and water management control systems into your attenuation and soakaway structures at source.

Flood and Water Management Act 2010 (amended 2012)

The Flood and Water Management Act (FWMA) came into effect in 2010 with the aim to mitigate flood risk and improve water management. As part of the Act, Schedule 3 requires new developments to implement sustainable drainage systems (SuDS) on all new developments using natural and proprietary features in place of conventional drainage, to reduce surface water run-off, mitigate flood risk and improve water quality.

Building Regulations

Building Regulations Approved Document H3 requires rainwater to be either stored in a tank or discharged in the following order:

1. Soakaway or other infiltration
2. Rivers and watercourses
3. Direct to sewers

Many developments are being built on land that is not suitable for infiltration. Brownfield sites, sites with contaminated ground, high water tables, poor percolation and with natural aquifers are all examples of this. Rivers and watercourses are not always in close proximity/reasonable construction distance from the site, resulting in a very large number of sites still having to utilise mains sewer connections as their only viable means of stormwater discharge.

Lead Local Flood Authorities

The Flood and Water Management Act (FWMA) 2010 requires the Lead Local Flood Authority (LLFA) to be responsible for co-ordinating flood risk management within its area. They have the responsibility for managing the risk of flooding from surface water, groundwater and ordinary watercourses and for developing, maintaining and applying a strategy for local flood risk management. LLFAs are also responsible for maintaining a register of significant flood risk assets.

It is a requirement under the FWMA that LLFAs develop a local flood risk strategy focused on local issues. The strategy should incorporate effective and robust surface water drainage systems for new developments in accordance with SuDS principles.

National Planning Policy Framework

The National Planning Policy Framework (NPPF) requires that development is undertaken in a sustainable manner and has a presumption in favour of sustainable development. The systems should be designed to control surface water run-off close to where it falls and mimic natural drainage as closely as possible to:

- Reduce the causes and impacts of flooding
- Remove pollutants from urban run-off at source
- Combine water management with green space with benefits for amenity, recreation and wildlife

Information on how this should be applied is provided in the DEFRA non-statutory technical standards for sustainable drainage systems (SuDS).

Local Planning Authorities

When determining planning applications Local Planning Authorities (LPAs) should ensure that any new or redevelopment avoids flood risk to people and property, does not increase flood risk elsewhere and mitigates any flood risk taking into account the impacts of climate change.

The LPA will be required to consult with the LLFA as a statutory consultee on major developments with surface water drainage requirements along with other statutory and non-statutory consultees as required.

Process integration

BS EN 752:2008

BS EN 752:2008 takes a more integrated view of designing sewer systems in the context of the wider urban drainage system and water environment. It helps engineers understand and implement integrated urban drainage systems and management. The National Annex provides information on how to incorporate BS EN 752:2008 practices within the UK.

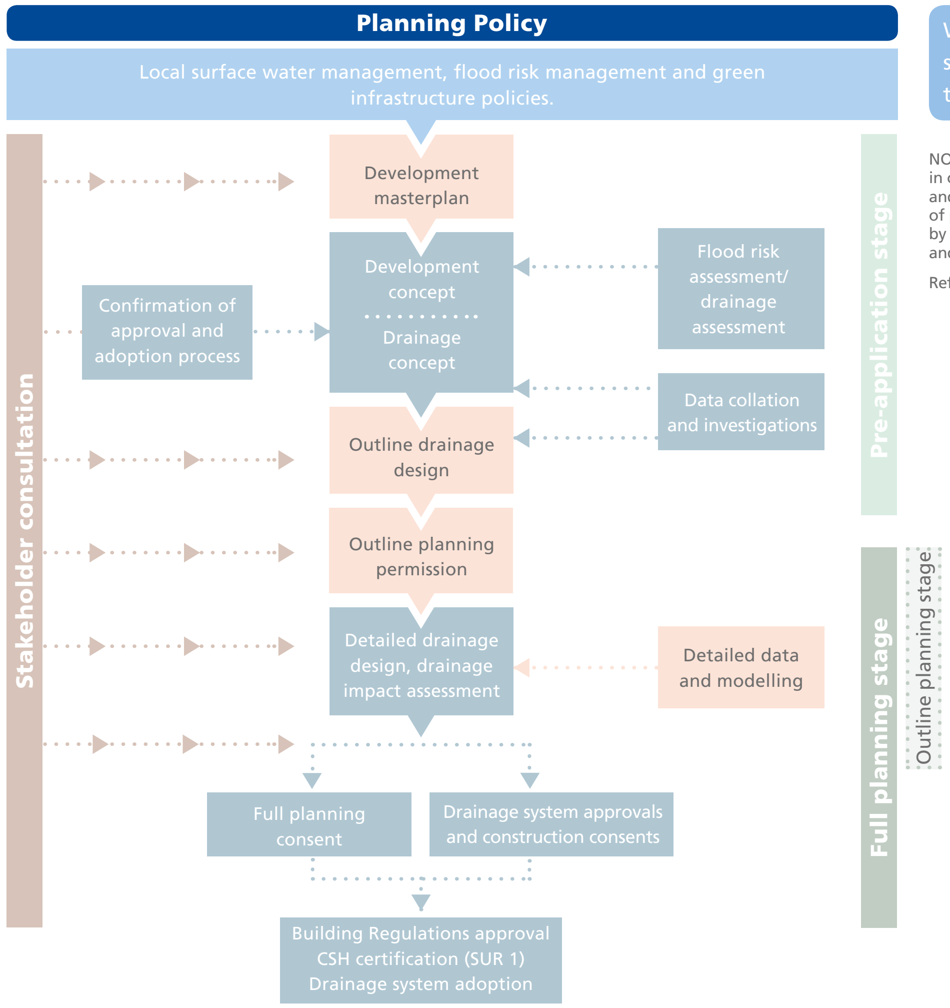
BS 8582:2013

This Code of Practice is for surface water management for development sites. The standard has been developed to support:

- Planners and drainage approval bodies: In setting consistent drainage criteria and principles (for new developments and redevelopments) that deliver effective surface water flood risk management as sustainably as possible while contributing towards the delivery of relevant environmental, sustainability and urban design planning objectives for the site and local area.
- Designers: In planning and implementing safe, robust surface water management systems that meet the criteria and principles referred to above.

In addition, this standard gives recommendations on the planning, design, construction and maintenance of surface water management systems for new developments and redevelopment sites, focusing on the sustainable management of flood risks arising from surface water run-off.

The diagram below demonstrates pertinent key links between the development planning process and the drainage system design process, emphasising the involvement of stakeholders throughout.



We can provide help and support at every stage of the planning process.

NOTE: The need for the steps given in colour would depend on the nature and/or scale of the development and type of planning application and is determined by agreement with the planning authority and drainage approval body.

Ref:- Page 8 of British Standard BS 8582:2013.

Geocellular solutions - for shallower depths

Polypipe provides the widest range of geocellular solutions to meet the needs of SuDS in a wide variety of applications.

Shallower applications

The Permavoid system extends the choice and flexibility of the Polypipe range by providing robust, effective source control through retention, attenuation or infiltration at shallower levels.

Shallower retention, attenuation or infiltration structures are often necessary because the ground at greater depths can present a construction challenge. This could be the presence of chemicals or contamination left behind from previous land use, a high water table or perched water and hard rock areas. A shallower approach reduces or omits the requirement for expensive pumping equipment. Shallower systems have a lower environmental impact, requiring less excavation, temporary works and fewer trips to transport infill and rubble to and from the site reducing construction costs.

Key benefits

Application

- Provides effective source control
- Can be installed above a high water table
- Allows water to be spread across a wide area
- Ideal for brownfield or contaminated sites
- Provides treatment to remove silt and hydrocarbon deposits

Design

- Designed and tested for retention, attenuation and infiltration at shallower depths
- Removes the requirement for pumping stations
- Oil interception at source – no need for petrol interceptors
- Can be used in combination with the full range of Polystorm geocellular solutions for deeper applications

Installation

- Interlocking raft for rigidity and a high compressive and tensile strength under load
- Suitable for use beneath porous and non-porous surfaces
- Reduction in excavation depth and cost
- No need for trench supports or plant to deliver and remove trench support panels

Permavoid modular cell
95% void ratio

Traditional aggregate
30% void ratio

Permavoid - at a glance

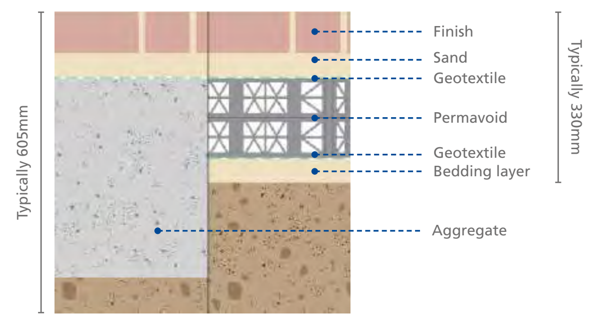
The Permavoid system offers a means of providing integrated source control drainage solutions that can meet the volume control and water treatment demands of current guidance and regulations.

The Permavoid system is designed to be used in place of a traditional aggregate sub-base within trafficked pavements. It provides a unique, high strength, consistent structural raft in accordance with BS7533-13:2009, 'Guide for the Design of Permeable Pavements Constructed with Concrete Paving Blocks and Flags, Natural Stone Slabs, Setts and Clay Pavers'.

Permavoid cells have a 95% void ratio, thus considerably enhancing the attenuation capacity of a pavement and also enabling the reduction of aggregate requirements in hydraulic pavements. The system is suitable beneath asphaltic, block-paved or concrete pavements and for the full range of traffic conditions from domestic driveways to highways. The units have a high compressive strength and are joined together with Permaties, a unique patented tapered jointing system, to create a horizontal structural raft.

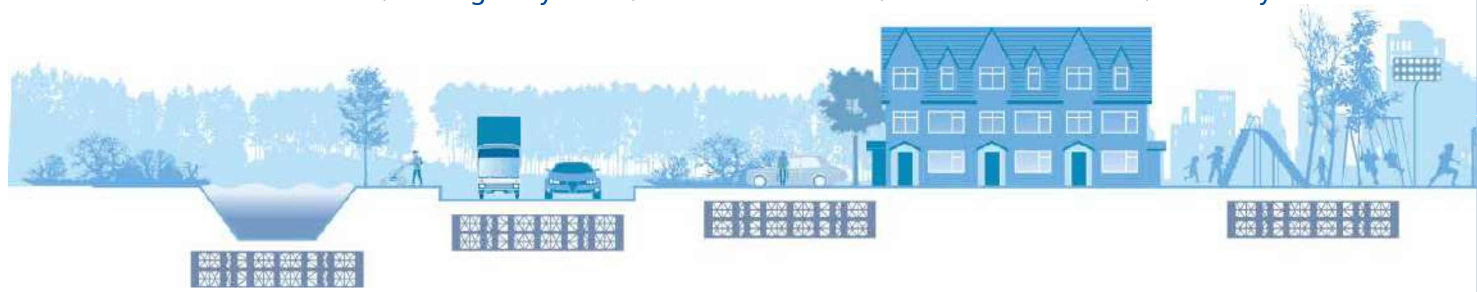
Figure 2.1.1: Typical Permavoid system vs. traditional aggregate sub-base

For car park applications



Key benefits

- Individual modular units tie together using Permatie interlocking connectors
- The Permaties have integral creep resistance
- The Permatie provides rigidity and minimises deflections
- Permavoid sub-base replacement systems comply fully with the latest CIRIA guidance on structural design of geocellular drainage tanks
- On multi-layer systems, Shear Connectors are inserted to maintain rigidity and minimise lateral displacement
- Permavoid geocellular units are manufactured from recycled polypropylene and can be recycled at the end of their useful life



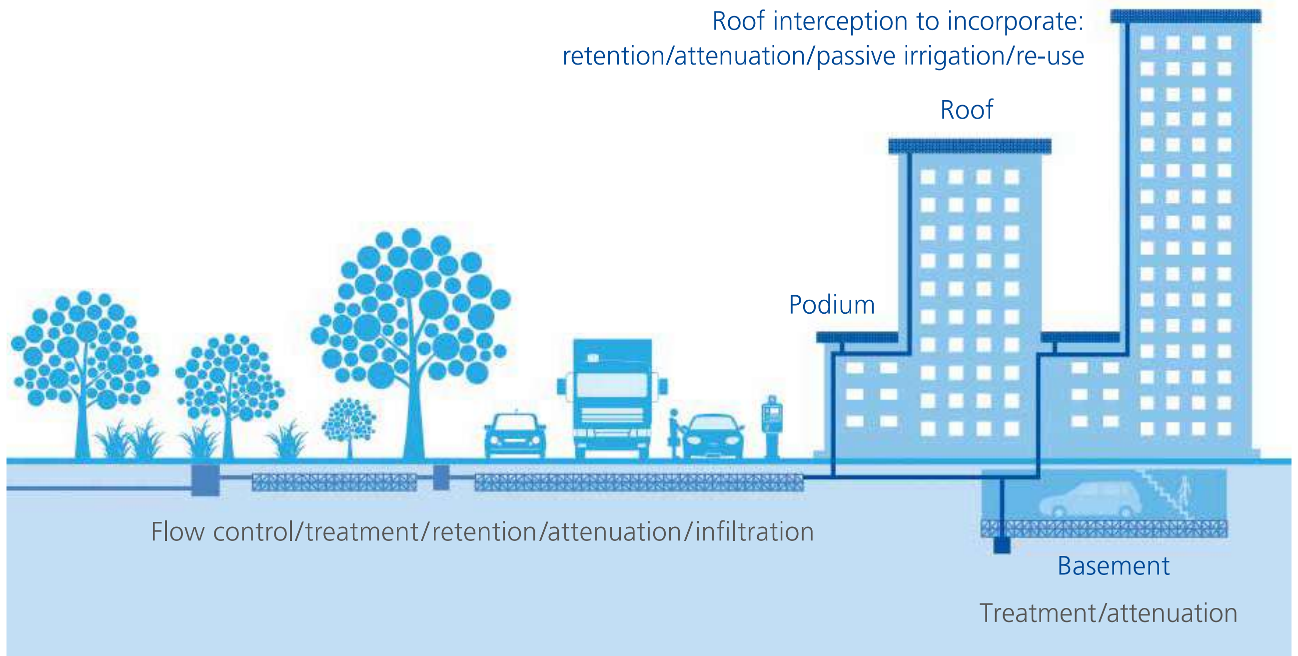
Please note: Illustrations are for guidance only. Not to scale.

Permavoid - at a glance

Source control

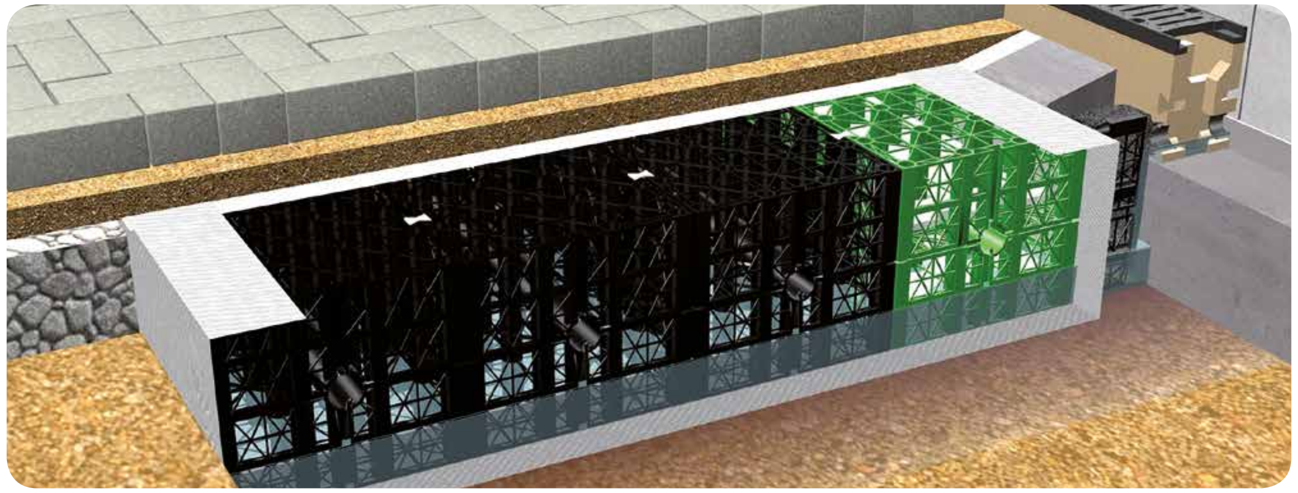
Source control is a vital element of the SuDS Management Train, allowing silt/debris and contaminants to be managed at the head of the system. The versatility of the Permavoid geocellular system allows for numerous variations of stormwater treatment.

SOURCE CONTROL DRAINAGE SYSTEM



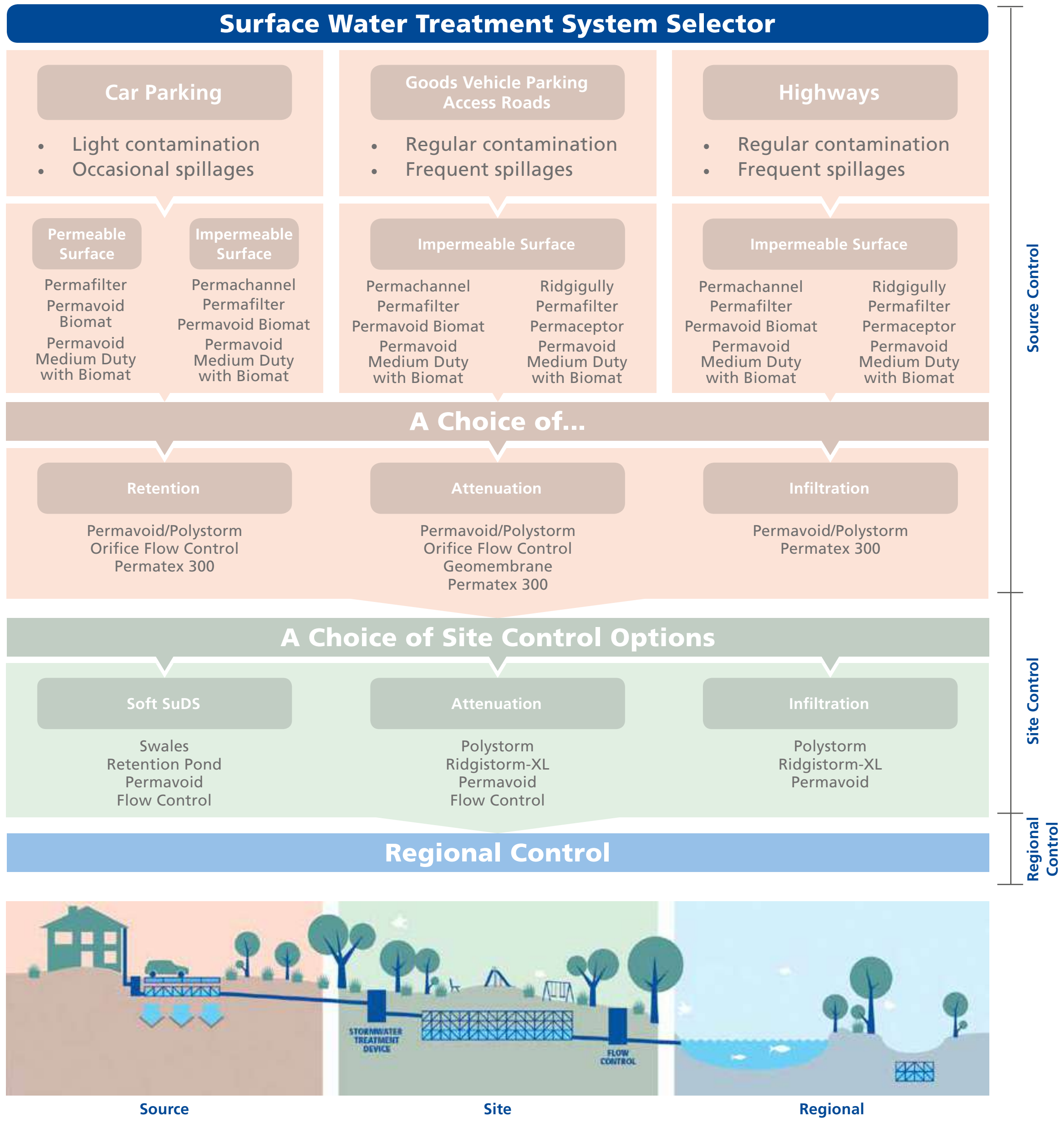
For pollution management

Increasingly, regulations and design guidance highlight developer's obligations to mitigate the risk of pollutants emanating from contaminated run-off from hardstanding surfaces. The most common diffuse pollutants are hydrocarbons and contaminated silts. The Permavoid system offers an integrated technique for the source control treatment of polluted run-off using advanced geotextiles and flotation techniques.



In traditional stormwater drainage systems, silt/debris and contaminants are managed within the system via in-line separators typically installed downstream in the system. This requires larger and deeper chamber installations.

Permavoid is an effective interception system supported by over 10 years of laboratory and field trials to ensure effectual water treatment close to source at shallower depths.



Key benefits

- Effluent loading under normal conditions treated and degraded at source
- Accidental and catastrophic spills recoverable at source
- Outperforms Class I and II separators as defined by PPG3
- Low velocity water flow throughout, minimising emulsification and sediment mobilisation
- No large deep storage tanks or access required
- Routine maintenance easily achieved at source

Permavoid applications

The Permavoid system can be incorporated into the full range of traffic conditions from domestic driveways to HGV applications and is suitable below pervious and impervious asphaltic, block paved or concrete paved areas. The Permavoid system complies with the requirements of BS 7533-13 and incorporates a high vertical compressive strength of 715 kN/m^2 and lateral compressive strength of 156 kN/m^2.

High water tables

High water tables and even perched water at shallow depths require specific design and construction measures to avoid issues such as flotation of attenuation structures and often prevents the use of soakaways. Anti-flotation and temporary dewatering measures are invariably very expensive. The Permavoid system can provide the attenuation or infiltration solution for such projects avoiding groundwater issues.

Contaminated land

Redevelopment of brownfield sites is commonplace and issues of ground contamination often come hand in hand. The use of the Permavoid system can often negate the need to excavate into contaminated soils that invariably incur significant costs in either on-site remediation or off-site disposal, as well as numerous associated environmental issues.

Excavation of hard rock

Excavation of hard rock is usually expensive and slow. However, the Permavoid system is ideal for use on sites that are underlain by hard rock at shallow depths, as the systems can be incorporated into the pavement construction, invariably avoiding any net additional excavation for the drainage system.

Shallow outfalls

The Permavoid systems can very often avoid the need for pumping that might otherwise be required with conventional drainage or deep attention tank solutions. Pumped solutions can be costly to install and maintain and are considered to be environmentally unsustainable.

Limited access sites

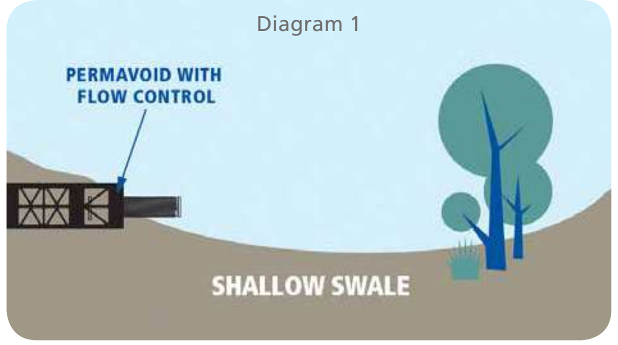
The Permavoid system can be easily manhandled into place without any heavy lifting or off-loading equipment. The footprint of the tank does not have to be square. Segmented tanks can fit into the available space.

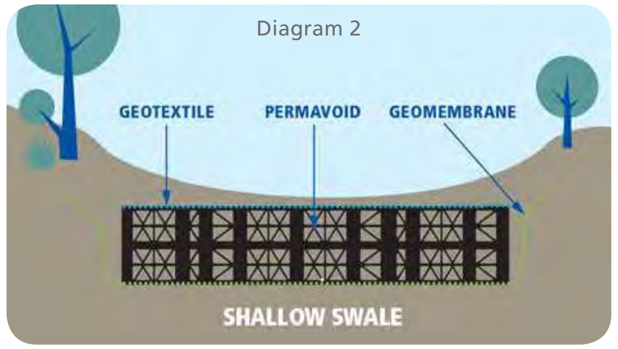
Ground stabilisation

Due to its high compressive strength and bending resistance within the joints, Permavoid cells create a horizontal consistent structural raft providing a stable structure.

Soft landscaped areas

The Permavoid system can be used to provide pre-treatment of stormwater run-off before it enters a swale, dry basin, pond or wetland (Diagram 1). It is even possible to install Permavoid below swales and dry basins to improve treatment and increase storage capacity (Diagram 2).





Public open spaces / Leisure and play areas

Acting as both a sub-base replacement system and drainage component, the Permavoid system can give maximum attenuation and infiltration capabilities for both natural and artificial surfaces and can be integrated into site-wide sustainable drainage systems more effectively. The result is a sustainable development in line with the DEFRA national standards for delivery of sustainable drainage systems.

Driveways

Any domestic driveway or front garden over 5m^2 that is being paved must incorporate SuDS to minimise the risk of flooding. The Permavoid system, used in conjunction with permeable paving, can help adhere to these requirements whilst allowing a wide range of landscaping options.

Permavoid in the urban environment

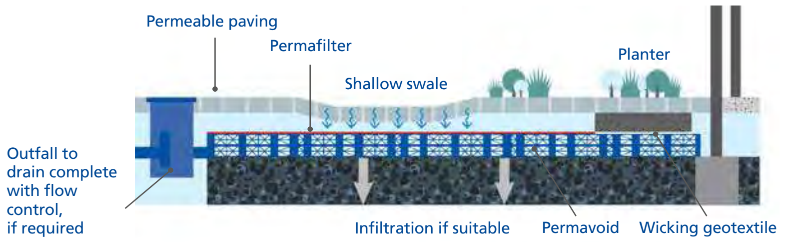
The introduction of SuDS in urban areas allows landscape architects and engineers to design multifunctional urban spaces.

The Permavoid system can help enhance natural features in built-up areas. As it provides excellent source control at shallow depths, the system can not only manage, but also treat water from high stormwater volumes. It also creates a structural platform on which green areas can be cultivated, irrigated and oxygenated.

Key benefits

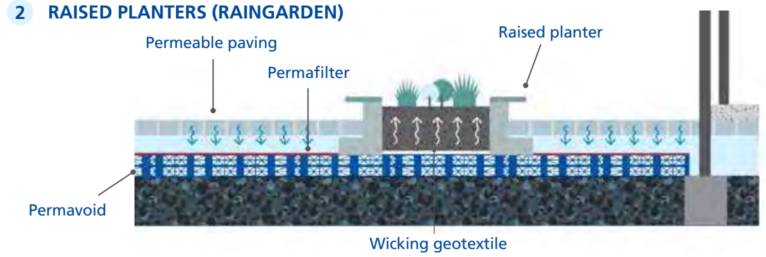
- Controls and manages surface water run-off at source
- Provides effective drainage
- Re-uses water as a resource
- Can be installed above a higher water table
- Removes silt and hydrocarbons to improve biodiversity
- Helps establish calming, tranquil spaces
- Promotes health & wellbeing
- Provides a cooling effect
- Connects people with nature

1 SHALLOW SWALE & PLANTER



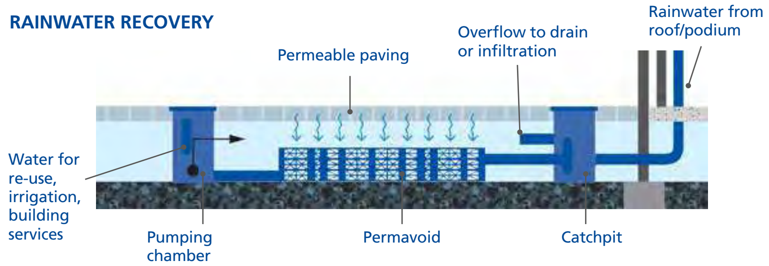
Permeable surfaces can be used to attenuate run-off. Intercepting, storing and re-using surface water at source, this enhances stormwater management and enhances biodiversity.

2 RAISED PLANTERS (RAINGARDEN)



Collected surface water can be used to irrigate planter areas through passive irrigation, providing amenity, infiltration and evapotranspiration, assisting with cooling in urban areas.

3 RAINWATER RECOVERY

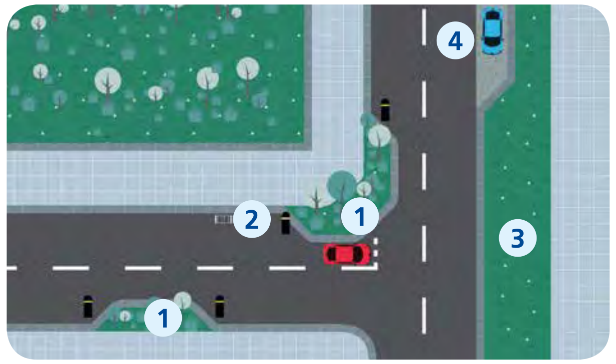


Rainwater from adjacent buildings and porous surfaces can be intercepted and stored for non-potable water use within the building, or re-used for irrigation.

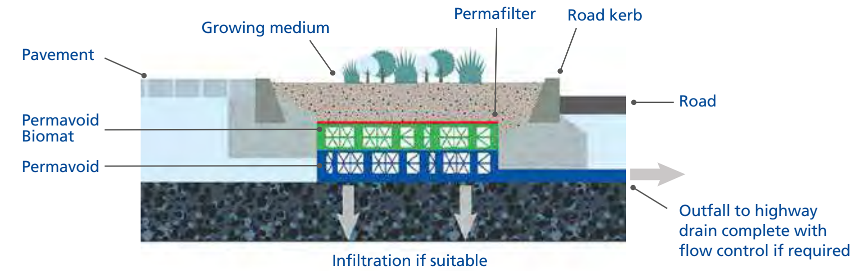
Permavoid in the urban environment

The management of surface water run-off from roads and highways can provide substantial benefits to the built environment.

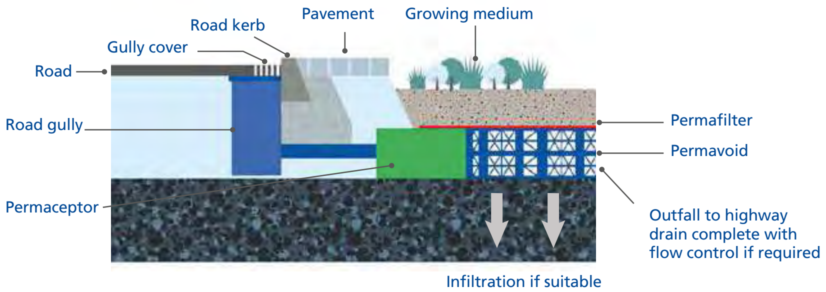
Water management features can be prime design elements in road and highway drainage. Incorporated into a new development or retrofitted into an overall SuDS scheme, Permavoid can enhance the natural environment by providing improved attenuation and treatment at source.



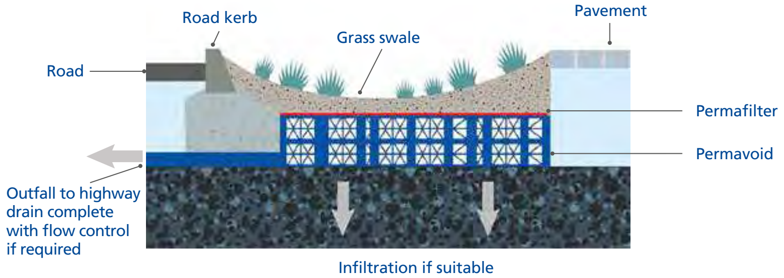
1 BIORETENTION ZONE



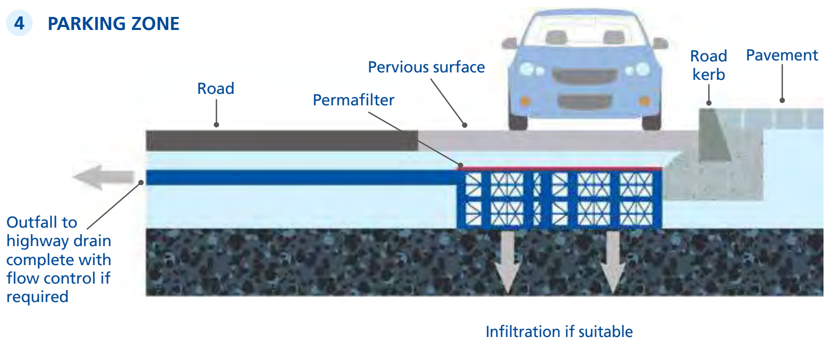
2 BIORETENTION ZONE



3 GRASS SWALE



4 PARKING ZONE



Bioretention zones

The stormwater run-off from highways and pavement areas can be collected and treated using bioretention. Incorporated into traffic calming zones, bioretention systems can enhance biodiversity and amenity, along with providing effective stormwater management at source.

Key benefits

- Traffic calming
- Easy to retrofit
- Reduced pollution loading
- Aesthetically pleasing spaces
- Shallow, easy to maintain systems
- Creates small source control sub-catchments

Grass swales

Highways England have used grass swales alongside roads and highways for many years, due to their cost-effective nature. Swales are designed to be shallow for safety reasons, and can be underdrained to provide effective retention and treatment.

Parking zones

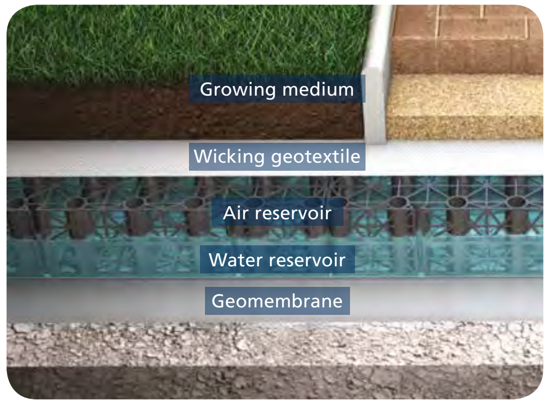
Pervious off-road parking zones can be incorporated into highway designs, particularly in residential areas. Installed beneath pervious surfaces, the Permavoid range of components perform as a sub-base replacement and drainage system to manage the majority of rainfall events, providing treatment and retention at source, at shallow depths.

Passive capillary irrigation

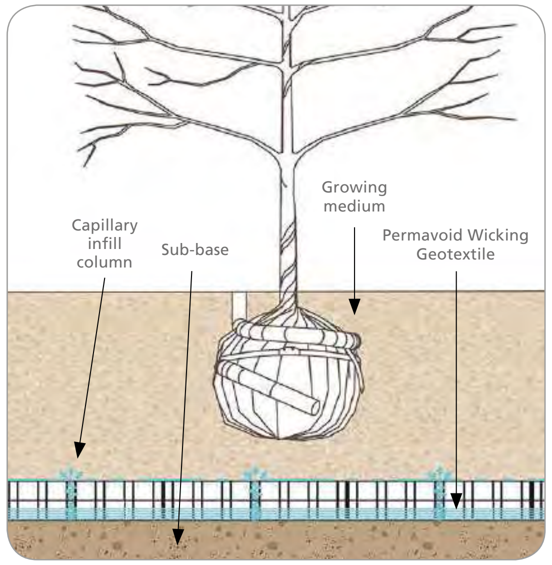
Passive capillary irrigation provides enhanced amenity and biodiversity in urban greenfield developments.

Passive capillary irrigation is a method of growing plants and grasses using an inert porous medium to transport water and oxygen to the root zone by capillary action. The hollow structural columns within the Permavoid geocellular units are filled with an absorbent rockwool, which draws up the water being stored within the unit.

The Permavoid raft is covered with a proprietary wicking geotextile that supplies water on demand across the structural raft to irrigate the growing medium. As the vegetation is planted in a growing medium, access to minerals and nutrients is still available, minimising the requirement for fertilisers and helping to develop a healthy root system.



Typical section through Permavoid capillary irrigation system showing rockwool infilled Permavoid column



Applications

- Green roofs
- Brown roofs
- Landscaped areas
- Sports pitches
- Amenity areas
- Bioretention systems
- Raingardens

Key benefits

- Provides rainwater interception at source
- Enhances storage capacity for green and brown roofs
- Regulates subterranean irrigation
- Air reservoir provides oxygen to root system
- Provides a consistent high strength raft to support growing medium, vegetation and amenity
- Evaporative cooling mitigates the heat island effect by reducing urban air temperatures
- Supports the creation of landscapes in urban settings that mimic nature
- Can remove excess soil moisture through wicking geotextile
- Provides an undersoil drainage system and can be incorporated into a sustainable stormwater management system
- Minimises the requirement for expensive pumping systems, providing 24 hour irrigation
- Reduces energy requirements

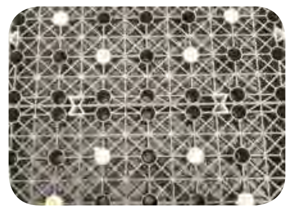
Permafoam irrigation units

For smaller areas or individual landscaped areas it is possible to provide on-demand irrigation using Permafoam units.

Permafoam is an open celled, highly absorbent and water retentive phenolic foam that is incorporated into a Permavoid geocellular unit.

Please see datasheet on page 32 for more information.

Permafoam irrigation units



Rockwool filled columns

Permavoid system

The Permavoid system comprises of high strength modular cells, channel and gully components that incorporate silt/oil gravity separation features, floating oil treatment devices, special oil treatment geotextiles and shallow flow control devices.

Below shows the individual components that may be required within a Permavoid system design.

For full technical datasheets, see pages 24-37.

The Permavoid system comprises of:

Permavoid (85 and 150mm)

Geocellular sub-base replacement system that locks together to form an interlocking raft of exceptional high compressive and tensile strength.

See page 24

Permachannel

A linear treatment system that combines run-off collection, silt and effluent interception and water treatment functions.

See page 25

Permavoid Biomat

High strength geocellular unit containing a low density, oil treating, geosynthetic floating mat.

See page 26

Permafilter Geotextile

A non-woven dimpled, needle-punched geotextile designed for hydrocarbon pollution treatment.

See page 27

Geomembrane

An impermeable membrane for wrapping around Permavoid structures to form watertight tanks.

See page 28

Permaties

Fully interlocking tapered tie connections to securely link Permavoid cells together horizontally in a single structure and to transfer tensile loads.

See page 29

Shear Connector

Securely links multiple layers of Permavoid together in a single structure.

See page 29

Permavoid Medium Duty with Biomat

Comprising of a low density, oil treating geosynthetic floating mat for use with the Polystorm range of modular geocellular units.

See page 30

Permaceptor

A combined run-off collection, silt/oil interceptor and treatment system used with road/yard gullies.

See page 31

Permafoam

An open celled absorbent phenolic foam incorporated into Permavoid geocellular units for 'on demand' irrigation or check dams.

See page 32

Permatex 300

A heavy duty, non-woven, polypropylene, geotextile designed to protect and separate Permavoid geocellular layers.

See page 33

Orifice Plate Flow Control Chamber

A pre-fabricated orifice plate flow control unit incorporating a removable filter to protect the orifice.

See page 34

Permavoid Saddle Connectors

A range of spigot and saddle connectors allowing piped connection to the Permavoid structure.

See page 34

Permavoid Wicking Geotextile

A heavy duty, non-woven geotextile formulated to provide passive irrigation to soft and landscaped areas.

See page 35

Permavoid Rainwater Diffuser Unit

Permavoid units encapsulated with a 2mm mesh fabric diffuse the collected run-off into the surrounding granular sub-base.

See page 36

Permavoid system - components

Permavoid 85 and 150

Product code: PVPP85 and PVPP150

Permavoid is a geocellular interlocking system designed for shallow groundwater storage or infiltration, to be used in place of traditional aggregate sub-base. The system has an exceptionally high compressive and tensile strength and bending resistance with a proprietary jointing system to create a horizontal structural 'raft' within the pavement that is ideal for the shallow attenuation of surface water. The system can also be combined in layers using interlocking shear connectors to increase depth in 85mm and 150mm increments. This is particularly useful in designing infiltration systems, allowing flexibility in balancing the soil permeability/infiltration area of the Permavoid storage units and residual temporary attenuation.

Element	85mm	150mm
Physical Properties		
Weight per unit	2.25kg	3kg
Weight per square metre	9kg	12kg
Length	708mm	708mm
Width	354mm	354mm
Depth	85mm	150mm
Short Term Compressive Strength		
Vertical	715kN/m²	715kN/m²
Lateral	156kN/m²	156kN/m²
Short Term Deflection		
Vertical	1mm per 126kN/m²	1mm per 126kN/m²
Lateral	1mm per 15kN/m²	1mm per 15kN/m²
Tensile Strength		
Of a single joint	42.4kN/m²	42.4kN/m²
Of a single joint at (1% secant modulus)	18.8kN/m²	18.8kN/m²
Bending resistance of unit	0.71kN/m	0.71kN/m
Bending resistance of single joint	0.16kN/m	0.16kN/m
Volumetric void ratio	92%	95%
Average effective perforated surface area	52%	52%
Other Properties		
Intrinsic permeability (k)	1.0×10^{-5}	1.0×10^{-5}
Ancillary	Permavoid Permatie Permavoid Shear Connector	Permavoid Permatie Permavoid Shear Connector
Material	Polypropylene (PP)	Polypropylene (PP)

Hydraulic Performance 85mm			
3 units wide, 1 unit deep (1.06m x 0.15m)			
Free Discharge			
Gradient (%)	0	1	2
Flow Rate (l/m/s)	4	6	7

Hydraulic Performance 150mm						
3 units wide, 1 unit deep (1.06m x 0.15m)						
Free Discharge						
Gradient (%)	0	1	2	3	4	5
Flow Rate (l/m/s)	8	13	15	17	19	21

Applications

The Permavoid units are suitable for use as a stormwater attenuation and/or infiltration system. The system comprises of single, interconnected cells which can be installed in the ground as part of sub-base formation. Permavoid is suitable for use in a range of applications including residential, industrial estates, car parks, sports pitches, roofs, basements, pedestrian areas and rainwater harvesting.

Performance

The structural load bearing capacity of the Permavoid units have been tested in accordance with the following European Standard: BS 7533-13:2009. The system's structural design life expectancy, based upon creep test data (tested in accordance with CIRIA guidelines) is as follows; for lightly loaded areas such as car parks, a design life of 50 years is achievable. For areas with prolonged HGV loading a typical design life may only be 25 years, depending on the design of the pavement surfacing and structural layers over the tank.

Installation standard

All calculations for Permavoid units are based upon site-specific load cases, pavement construction types and thicknesses, soil cover and ground conditions and the suitability must therefore be approved for each project.

Key benefits

- High strength, high capacity, shallow, sub-base replacement system
- Stormwater attenuation and/or infiltration system
- Used as part of a SuDS scheme to offer stormwater storage at shallow construction depths
- Units are manufactured from 90% recycled polypropylene (PP)
- 100% recyclable

Available to download on the website toolbox.

Permachannel

Product code: PV03001

Permachannel is a versatile, linear treatment system that can provide source control and pollution treatment in a wide variety of locations and applications.

The Permachannel functions as a combined run-off collection, silt and oil interceptor and treatment system. It is designed to be ideally laid with zero gradient to prevent the development of lateral velocities, 'stilling' sheet run-off from each sub-catchment and encouraging silt deposition within each channel. The outlets discharge from the side of the channel via a weir and baffle component which separates oils and prevents the effluent and silt from progressing into the rest of the drainage system.

Element	Value
Physical Properties	
Weight per unit	29kg
Length	1000mm
Width	150mm
Depth	210mm
Material	Polymer concrete
Grating	Ductile iron standard steel safe
Catchment area	30m²
Loading	Rated to D400
Average effective perforated surface area	Polymer concrete
Chemical resistance	The polymer concrete has a capillary-free, non-porous sealed structure, which makes it naturally resistant to most chemicals (i.e. petrol, oils and acids)
Effluent concentrations are below PPG3 Class I requirements	

Note: Ancillary Universal Channel Connector 40mm diameter.

Applications

Permachannel is used for stormwater collection, interception and the treatment of associated pollutants. The system comprises of single or multiple interconnected channels appropriately located to collect surface water run-off from sub-catchments of predominantly impervious or pervious pavements. Permachannel is suitable for use in a range of applications including residential, industrial estates, car parks, sports pitches, roofs, basements, pedestrian areas and rainwater harvesting.

Performance

Permachannel is related to D400 loading in accordance with BS EN124:1994 when installed with concrete bed and haunch in accordance with site specific construction details.

Installation standard

Permachannel must be installed on a load bearing concrete bed and haunch in accordance with site specific construction details.

Key benefits

- Gravity separation of oil and silts at source
- Trapped effluent naturally treated by aerobic digestion
- Can enhance the water quality and eliminate the need for end of line petrol/oil interceptors
- The system complies with the regulations of the treatment train criteria in a SuDS scheme as defined in the PPG3
- 100% recyclable

Available to download on the website toolbox.

Permavoid system - components

Permavoid Biomat

Product code: PV150BM

Permavoid Biomat is a high strength geocellular unit, containing a low density, oil treating, geosynthetic floating mat (biomat). The biomat floats on water and is designed to intercept and treat any potential residue emulsified oils that may be present within the surface water. The use of Permavoid Biomat provides additional oil retention and water treatment capability to an underground water storage system.

Element	Value
Physical Properties	
Weight per unit	3kg
Length	708mm
Width	354mm
Depth	150mm
Short Term Compressive Strength	
Vertical	715kN/m^2
Lateral	156kN/m^2
Short Term Deflection	
Vertical	1mm per 126kN/m^2
Lateral	1mm per 15kN/m^2
Tensile Strength	
Of a single joint	42.4kN/m^2
Of a single joint at (1% secant modulus)	18.8kN/m^2
Bending resistance of unit	0.71kN/m
Bending resistance of single joint	0.16kN/m
Volumetric void ratio	92%
Average effective perforated surface area	52%
Other Properties	
Intrinsic permeability (k)	1.0×10^{-5}
Oil retention	56g/m^2
Effluent discharge at max. oil loading	10ppm
Ancillary	Permavoid Permatie Permavoid Shear Connector

Applications

Permavoid Biomat units are suitable for use as a stormwater attenuation and/or infiltration system. The system comprises of single, interconnected cells which can be installed in the ground as part of a sub-base formation. Permavoid Biomat is suitable for use in a range of applications including residential, industrial estates, car parks, sports pitches, roofs, basements, pedestrian areas and rainwater harvesting.

Performance

The structural load bearing capacity of the Permavoid Biomat units have been tested in accordance with the following European Standard: BS 7533-13:2009. The system's structural design life expectancy, based upon creep test data (tested in accordance with CIRIA guidelines) is as follows; for lightly loaded areas such as car parks a design life of 50 years is achievable. For areas with prolonged HGV loading a typical design life may only be 25 years, depending on the design of the pavement surfacing and structural layers over the tank.

Installation standard

All calculations for Permavoid Biomat units are based upon site-specific load cases, pavement construction types and thickness, soil cover and ground conditions and the suitability must therefore be approved for each project.

Key benefits

- Secondary treatment phase for potential residual hydrocarbons
- Pollutant-intercepting floating mat
- Same size as Permavoid so can be incorporated into Permavoid attenuation designs
- Floating medium maintained at air-water interface allowing optimum conditions for aerobic degradation
- Self maintaining, degrades residual oils by absorption and aerobic digestion
- Units are manufactured from 90% recycled polypropylene (pp)
- 100% recyclable

Available to download on the website toolbox.

Permafilter Geotextile

Product code: PV23002

Permafilter Geotextile is a non-woven, dimpled, needle-punched Geotextile that has been specifically designed for hydrocarbon pollution treatment in sustainable drainage systems (SuDS) and other civil engineering applications.

Element	Value
Physical Properties	
Weight per unit	300g/m^2
Roll length	100m
Roll width	2.4m
Roll weight	72kg
Mechanical Properties	
Tensile strength EN10319 (md/cmd)	9/12kN/m
Static puncture (CBR test) EN12236	1575N
Hydraulic Properties	
Water permeability EN ISO 11058	57 l/m^2/s
Other Properties	
Air permeability	1000 l/m^2/s
Max. oil retention	6L/10m^2
Effluent discharge at max. oil loading	10ppm
Material	Modified polyester

Key benefits

- Captures residual hydrocarbons
- Removes pollutants by biodegradation
- 100% recyclable
- Enhances water quality when used as part of a source control SuDS and eliminates the need for end of line petrol/oil interceptors
- Designed to be self-maintaining for the life of the installation

Applications

Permafilter Geotextile is suitable for use in a range of applications including residential, industrial estates, swales, sports pitches, car parks, roofs, basements, pedestrian areas and rainwater harvesting.

Performance

The dimpled Geotextile comprises a proprietary blend of polyester fibres that incorporates hydrophilic (water attracting and oil repellent) and hydrophobic (oil attracting and water repellent) properties to achieve superior oil retention. Permafilter Geotextile is capable of retaining oil contamination ranging from daily car drip losses up to catastrophic spillages, i.e. originating from car oil-sump failures. The entrapped hydrocarbons are biodegraded by naturally occurring microorganisms providing a self-cleansing mechanism.

Laying generally

Permafilter will be laid to suit site specific requirements. Overlaps shall be a minimum of 300mm or heat sealed. Ensure Geotextile is clean and debris free before installing Permavoid.

Available to download on the website toolbox.

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SECTION 3 PERMAVOID SYSTEM COMPONENTS
SECTION 4 HYDRAULIC DESIGN
SECTION 5 STRUCTURAL DESIGN
SECTION 6 SURFACE WATER TREATMENT
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Permavoid system - components

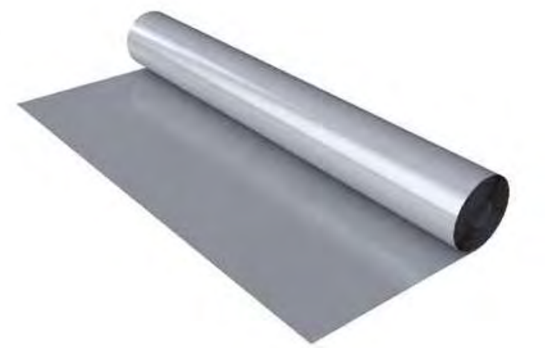
Permavoid Geomembrane

Geomembranes are impermeable liners used in sustainable drainage systems (SuDS) to form water tight tanks.
The membrane used depends on a risk assessment of the site and the ground and groundwater conditions.

Element	Value	Test Method
Physical Properties		
Thickness mm ±10%	1.0	ASTN D-751
Density g/cm^3 minimum	0.9	ASTM D-792
Tensile stress at break minimum N/mm^2	18	ASTM D-638
Elongation at break %	>700	ASTM D-638
Puncture resistance minimum N	150	FTMS 101C method 2065
Tear resistance minimum N	60	ASTM D-104
Dimensional stability % change max	±2.0	ASTM D-1204 1hr at 100°C
Stress crack resistance	100%	ASTM 5397
Volatile loss 5% loss max	0.2	ASTM D-1203 method A
Ozone resistance	No cracks	ASTM D-1149
Carbon black content	2-3%	ASTM 1603
Moisture vapour g/m^2/day	<0.1	ASTM E96
Friction angle (non-woven Geotextile)	21°	Shear box
Methane permeability	0.11 g/m^2/ day/atm	European standard
Methane transmission rate	1.8 x 10^{-9} $m^3/m^2/s/atm$	BRE
Permeability coefficient	1.8 x 10^{-12}	
Core material	Polypropylene	

Laying generally

For retention and attenuation applications the units need a sealed geomembrane to prevent the release of water and prevent the ingress of groundwater. All joints should be sealed, using proprietary techniques recommended by the manufacturer. Advice on seam testing procedures as given in CIRIA SP 124:1996. Barriers, lines and cover systems for containment and control of land contamination.



Applications

The Geomembrane is suitable for use in a range of applications including residential, industrial estates, swales, sports pitches, car parks, roofs, basements, pedestrian areas and rainwater harvesting.

Performance

A robust, heavy duty Geomembrane resistant to puncture. Geomembrane combines excellent chemical resistance with low flexural modulus to provide a malleable, flexible membrane suitable for nonsmooth surfaces and factory pre-fabrication to optimise on-site installation. Jointing shall be formed using fusion or extrusion bead welding in accordance with manufacturing recommendations.

Key benefits

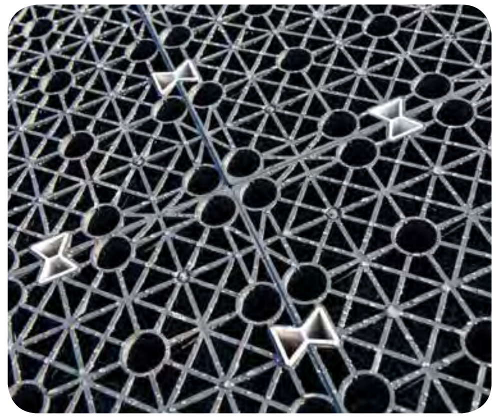
- Heavy duty polypropylene membrane
- Used to create a water-tight construction and minimise risk of subgrade softening
- 100% recyclable

Permaties

Product code: PVCLIP

Permatie is a patented tapered tie that interlocks the Permavoid geocellular units into a secure and consistent raft. Once connected the ties provide tensile resistance within the Permavoid structure.

Element	Value
Physical Properties	
Weight per unit	30g
Length	74mm
Width	45mm
Depth	34mm
Other Properties	
Material	Polypropylene



Shear Connector

Product code: PVSC

When two or more layers of Permavoid are used to form a structure, Shear Connectors are inserted between the layers to create stability and prevent lateral movement and shear resistance.

Element	Value
Physical Properties	
Weight per unit	10g
Length	40mm
Diameter	35mm
Other Properties	
Material	Polypropylene

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Permavoid system - components

Permavoid - Medium Duty with Biomat

Product code: PSM1BM

Permavoid Medium Duty with Biomat is designed for use with Polystorm attenuation and infiltration systems and comprises of a tri-laminate of low density plastic composite (biomat). The biomat floats on water and is designed to intercept and treat any potential residual emulsified oils that may be present within the surface water. The use of Permavoid Medium Duty with Biomat provides additional oil retention and water treatment capability to an underground water storage system.

Exact colour may vary due to recycled materials.

Technical Specification Overview	
Length	1m
Width	0.5m
Depth	0.4m
Total volume	0.2m^3
Unit weight	9kg (approx)
Unit storage volume	0.19m^3 (190 litres)
Void ratio	95%
Vertical compressive strength	Maximum 610 kN/m^2 **
Lateral compressive strength	Maximum 63 kN/m^2 **
Short-term vertical deflection	70.1 kN/m^2 per mm
Short-term lateral deflection	4.4 kN/m^2 per mm
Estimated long term vertical deflection (creep)	0.2798 Ln (design life in hrs) [Based on an applied test load = 162 kN/m^2] Creep data limit 60 years
Estimated long term lateral deflection (creep)	1.0192 Ln (design life in hrs) [Based on an applied test load = 30.8 kN/m^2] Creep data limit 60 years
Other Properties	
Intrinsic permeability (k)	Minimum 1.0 x 10^{-5}
Oil retention	56g/m^2
Effluent discharge at max. oil loading	10ppm

Note: Permavoid Medium Duty With Biomat is ideal for use in trafficked and pedestrian applications subject to a structural design check and suitable installation conditions.

* Each unit includes 4 clips and 2 shear connectors.

** Compressive strength at yield, maximum recommended value for design purposes.

Applications

The Permavoid Medium Duty with Biomat units are suitable for use as a stormwater retention, attenuation or infiltration system. Used to provide hydrocarbon treatment, they are suitable for a range of applications including, retail, residential, commercial and off-road car parking.

Performance

The structural load bearing capacity of the Permavoid units have been tested in accordance with CIRIA C680. The structural design life is a minimum 60 years.

The units provide 3D flow and have a void ratio of 95%.

Key benefits

- Pollutant-intercepting floating mat degrades residual oils by absorption and aerobic digestion
- Can be incorporated into Polystorm retention, attenuation and infiltration systems
- 95% void ratio
- Light weight yet robust – excellent health and safety and installation benefits
- 60 years creep limited life expectancy
- 100% recyclable
- Units are manufactured from recycled materials

Available to download on the website toolbox.

Permaceptor

Product code: PV04002

The Permaceptor functions as a combined run-off collection, silt/oil interceptor and treatment system. The system is designed to be used with conventional road/yard gullies and ideally laid with zero gradient to prevent the development of lateral velocities. Thus, its initial function is to 'still' sheet run-off from each sub-catchment and to encourage silt deposition. The outlet discharges via a weir and baffle component that separates oils and prevents the effluent and silt from progressing into the rest of the drainage system.

Element	Value
Physical Properties	
Weight per unit	29kg
Length	1062mm
Width	708mm
Height	300mm
Short Term Compressive Strength	
Vertical	715kN/m^2
Lateral	156kN/m^2
Short Term Deflection	
Vertical	1mm per 126kN/m^2
Lateral	1mm per 15kN/m^2
Tensile Strength	
Of a single joint	42.4kN/m^2
Of a single joint at (1% secant modulus)	18.8kN/m^2
Bending resistance of unit	0.71kN/m
Bending resistance of single joint	0.16kN/m
Volumetric void ratio	92%
Average effective perforated surface area	52%
Other Properties	
Intrinsic permeability (k)	Minimum 1.0 x 10^{-5}
Oil retention	56g/m^2
Effluent discharge at max. oil loading	10ppm
Ancillary	Permavoid Permatie
Material	Polymer concrete

Applications

Permaceptor is used for stormwater collection, interception and the treatment of associated pollutants. The system comprises of Permavoid and Permavoid Biomat units located to collect surface water run-off from sub-catchments of predominantly impervious or pervious pavements via Polypipe Ridgigully and Midigully. Permaceptor is suitable for use in a range of applications including residential, industrial estates, car parks and basements.

Performance

The structural load bearing capacity of the Permavoid units have been tested in accordance with the following European Standard: BS 7533-13:2009. The system's structural design life expectancy, based upon creep test data (tested in accordance with CIRIA guidelines) is as follows; for lightly loaded areas such as car parks a design life of 50 years is achievable. For areas with prolonged HGV loading a typical design life may only be 25 years, depending on the design of the pavement surfacing and structural layers over the tank.

Installation standard

All calculations for Permaceptor units are based upon site-specific load cases, construction types and thickness, soil cover and ground conditions and the suitability must therefore be approved for each project.

Key benefits

- Gravity separation of oils and silts at source
- Accidental/catastrophic spills recoverable at source
- Trapped effluent naturally treated by aerobic digestion
- Can enhance the water quality and eliminate the need for end of line petrol/oil interceptors
- The system complies with the regulations of the treatment train criteria in a SuDS scheme as defined in the PPG3
- 100% recyclable
- Units are manufactured from 90% recycled polypropylene (PP)

Available to download on the website toolbox.

Permavoid system - components

Permafoam

Product code: PVPP85PF or PVPP150PF

Permafoam is an open-celled, phenolic foam that is highly absorbent and water retentive. Incorporated into Permavoid high-strength units, Permafoam has the capacity to store 31 litres of water for 'on-demand' irrigation or check dams. The Permavoid structure prevents the foam from damage due to imposed backfill or traffic loads.

Element	Value
Physical Properties	
Weight per unit	2.5kg or 3.65kg
Length	708mm
Width	354mm
Depth	85mm or 150mm
Short Term Compressive Strength	
Vertical	715kN/m²
Lateral	156kN/m²
Short Term Deflection	
Vertical	1mm per 126kN/m²
Lateral	1mm per 15kN/m²
Tensile Strength	
Of a single joint	42.4kN/m²
Of a single joint at (1% secant modulus)	18.8kN/m²
Bending resistance of unit	0.71kN/m
Bending resistance of single joint	0.16kN/m
Volumetric void ratio	83%
Water storage capacity (foam)	31 Litres
Water permeability (in plane flow)	0.0452 Litres/second/lin.m
Other Properties	
Ancillary	Permavoid Permatie Permavoid Shear Connector
Material	Polypropylene (CoPo), polyurethane

Applications

Permafoam units are used for stormwater collection and provide velocity control to drainage flows within sub-bases laid over sloping surfaces. Due to the very large surface area compared to traditional check-gate flow control, Permafoam assures against the risk of the control clogging associated with traditional check-gate flow controls. It is used in conjunction with the Permavoid Wicking Geotextile. They can be incorporated into irrigation systems to provide water 'on-demand' around landscaped areas.

Performance

The structural load bearing capacity of the Permavoid units have been tested in accordance with the following European Standard:
BS 7533-13:2009. The system's structural design life expectancy, based upon creep test data (tested in accordance with CIRIA guidelines) is as follows; For lightly loaded areas such as car parks a design life of 50 years is achievable. For areas with prolonged HGV loading a typical design life may only be 25 years, depending on the design of the pavement surfacing and structural layers over the tank.

Installation standard

All calculations for Permafoam within designs are based upon site-specific load cases, construction types and thicknesses, soil cover and ground conditions and the suitability must therefore be approved for each project.

Key benefits

- Can be used to provide 'on-demand' irrigation for landscaped areas when used with Permavoid Wicking Geotextile
- Permafoam units can be used to form check dams and gates within pervious pavements

Permavoid Permatex 300

Product code: PV23006

A heavy duty, non-woven, needle punched, polypropylene geotextile designed to protect and separate Permavoid geocellular layers. It comprises of a three-layer composite scrim reinforced with low elongation. 300mm lap-jointing is required.

Element	Value	Test Method
Physical Properties		
Roll length	65m	
Roll width	5.25m	
Mass per unit area	300g/sq.m	EN ISO 9864
Thickness under load 2kPa	2mm	EN ISO 9863-1
CBR puncture resistance	4000N	EN ISO 12236
Dynamic cone drop	11mm	EN ISO 13433
Tensile strength (min) at max. load	25kN/m	EN ISO 10319
Tensile extension (max) at max. load	50%	EN ISO 10319
Protection efficiency	300N	EN ISO 14575
Breakthrough head	nil	BS EN ISO 10319
Coefficient of permeability	55 x 10-3m/s	EN ISO 11058
Characteristic opening size	70 microns	EN ISO 12956

Applications

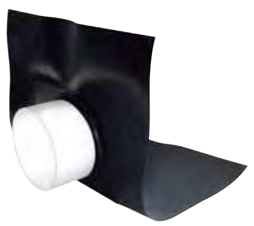
- Separation
- Protection

Laying generally

Permatex protection geotextile shall be laid continuously around the drainage to suit site specific requirements. Overlaps shall be a minimum of 300mm or heat sealed. Ensure geotextile is clean and debris free before installing Permavoid.

Permavoid system - components

Preformed Spigot Connector with weldable membrane



Element	Value
Physical Properties	
Weight per unit	50g
Other Properties	
Material	Polypropylene

When forming a Permavoid attenuation or storage structure, it is necessary to use the Preformed Spigot Connector with weldable membrane in association with the Permavoid Geomembrane. A welded joint can be made to ensure the tank is leak free.

Orifice Plate Flow Control Chamber

Element	Value
Physical Properties	
Weight per unit	Variable
Minimum diameter	500mm
Height	Variable
Sump depth	300mm as standard, others available on request
Other Properties	
Material	Polypropylene

Discharge limitations are normally achieved by the incorporation of pre-fabricated orifice plate flow control devices, fitted with removable filters to protect the orifices. These are sized to suit the permitted discharge rate and the size of the subcatchment using standard hydraulic theory.

Universal Permachannel Connector

Product code: PV06305

Element	Value
Physical Properties	
Weight per unit	210 g
Length	260mm
Width	180mm
Depth	39mm
Spigot diameter	40mm
Spigot Length	135mm
Other Properties	
Material	Polypropylene

The Permachannel Connector is installed where adjacent Permachannel units butt against each other to form a 40mm diameter outlet. The connector fits into the outlet from the Permachannel and allows water to be conveyed from the Permachannel into the Permavoid system. One connection unit is required per linear metre of Permachannel.

If required, outlet connections can be extended using 40mm HDPE pipework.

Saddle Connector for infiltration applications

Element	Value
Physical Properties	
Weight per unit	80g
Other Properties	
Material	Polypropylene

Proprietary saddle connections for use within Permavoid storage structures installed to soakaway captured water.

Permavoid Wicking Geotextile

Product code: PV23008

A heavy-duty, non-woven, needle-punched geotextile made from a blend of modified polyester fibres. It is specially formulated to absorb water to irrigate mineral substrates when used in conjunction with Permafoam units.

Element	Value
Physical Properties	
Nominal thickness	3.6mm
Surface weight	500gm²
Saturated weight	4.5K/gm²
Roll width	2m
Roll length	25m
Roll weight	26kg
Mechanical Properties	
Maximum tensile strength - Longitudinal	10kN/m
Maximum tensile strength - Lateral	28kN/m
Puncture resistance	2600N
Hydraulic Properties	
Water retention capacity	4 l/m²
Water permeability	37 l/m²/s

Laying generally

Permavoid Wicking Geotextile shall be laid continuously to suit the site specific requirements. Overlaps shall be a minimum of 300mm or heat sealed.

Applications

The Wicking Geotextile is suitable for use in most landscaped applications including roof gardens, soft SuDS applications and sports pitches.

Performance

A robust heavy duty geotextile, when constantly charged with water, it allows moisture to be fed naturally by capillary action to landscaped areas for irrigation. 300mm lap jointing is required. Used in conjunction with Permafoam units. Water is drawn by capillary attraction to ensure the Wicking Geotextile is kept charged.

Key benefits

- Passive capillary irrigation
- Can remove excess soil moisture

Permavoid system - components

Permavoid Rainwater Diffuser Unit

Element	Value
Physical Properties	
Weight per unit	3kg
Length	708mm
Width	354mm
Depth	150mm
Short Term Compressive Strength	
Vertical	715kN/m^2
Lateral	156kN/m^2
Short Term Deflection	
Vertical	1mm per 126kN/m^2
Lateral	1mm per 15kN/m^2
Tensile Strength	
Of a single joint	42.4kN/m^2
Of a single joint at (1% secant modulus)	18.8kN/m^2
Bending resistance of unit	0.71kN/m
Bending resistance of single joint	0.16kN/m
Volumetric void ratio	95%
Average effective perforated surface area	52%
Other Properties	
Intrinsic permeability (k)	Minimum 1.0 x 10-5
Ancillary	Permavoid Permatie Permavoid Shear Connector
Material	Polypropylene (PP)

Hydraulic Performance						
3 units wide, 1 unit deep (1.06m x 0.15m)						
Free Discharge						
Gradient (%)	0	1	2	3	4	5
Flow rate (l/m/s)	8	13	15	17	19	21

Run-off from building roofs is collected into downpipes and flows into a back inlet gully incorporating an internal filter or catchpit inspection chambers. The back inlet gully or chamber discharges the filtered stormwater into the permeable sub-base via Permavoid Rainwater Diffuser Unit encapsulated in a 2mm mesh fabric. The run-off will then diffuse out of the Permavoid Rainwater Diffuser Unit and into the modified granular sub-base layer. The Permavoid unit is a 150mm deep modular interlocking plastic unit storage system designed for use as a combined drainage component and sub-base replacement system, ideal for shallow infiltration/attenuation.

Permavoid Rainwater Diffuser unit - Configuration options

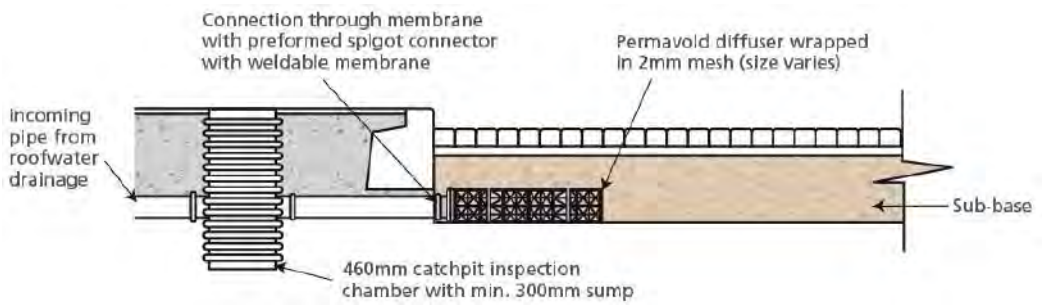
Width

Length	354mm	708mm	1062mm	1416mm	2124mm
708mm	✓	✓	✓	✓	✓
1062mm	✓	✓	✗	✓	✓
1416mm	✓	✓	✓	✓	✓
2124mm	✓	✓	✓	✓	✓

Depths available are either 150mm or 300mm. Connections available are either Ø110mm or Ø160mm.

Catchpit: 460mm diameter catchpit with 160mm inlet - PSMT 160
460mm diameter catchpit with 110mm inlet - PSMT 110

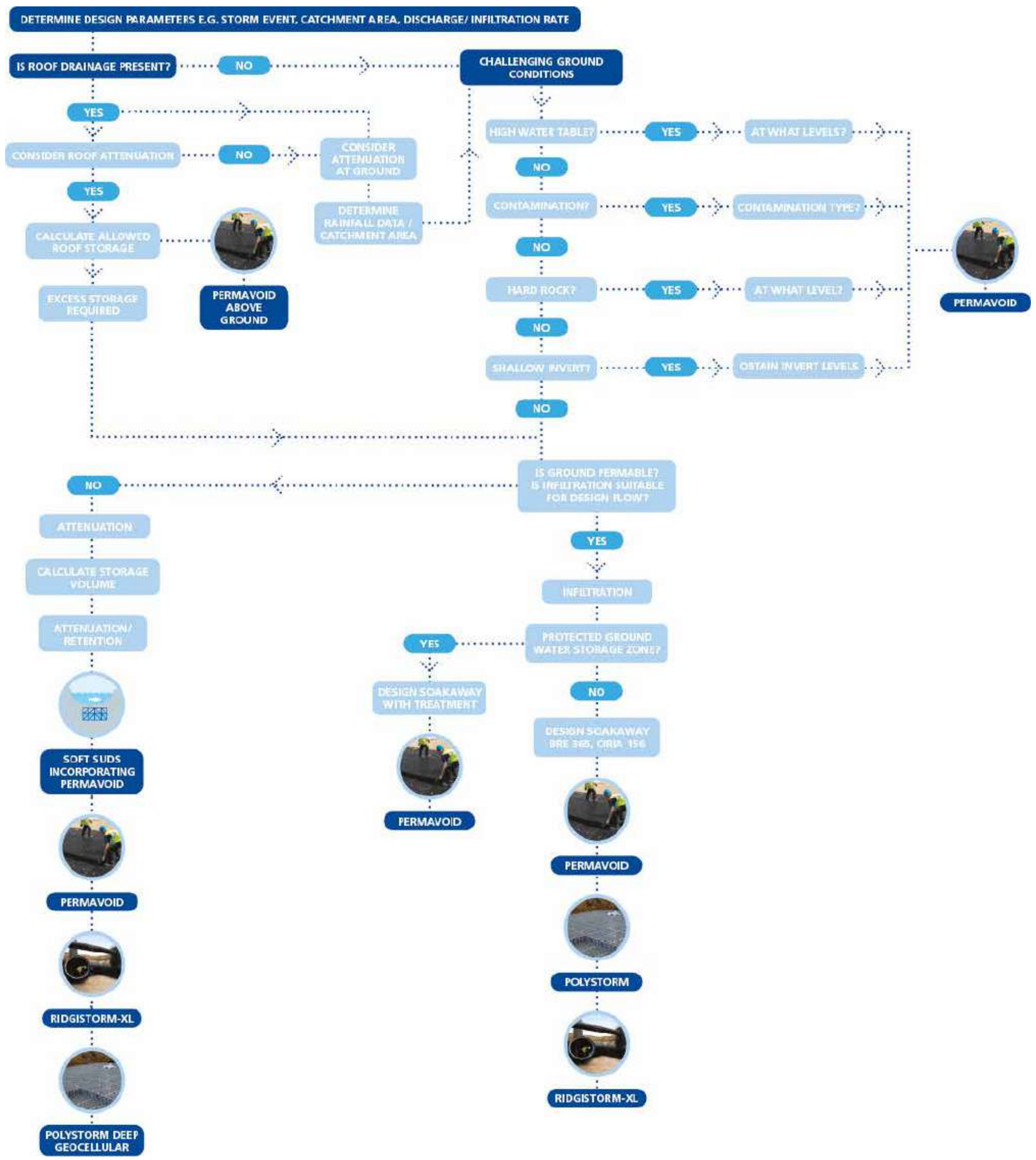
Figure 3.1.1: Typical layout - Rainwater downpipe drainage into sub-base reservoir



SECTION 1 LEGISLATION AND REGULATIONS
SECTION 2 PERMAVOID SYSTEM OVERVIEW AND APPLICATIONS
SECTION 3 PERMAVOID SYSTEM COMPONENTS
SECTION 4 HYDRAULIC DESIGN
SECTION 5 STRUCTURAL DESIGN
SECTION 6 SURFACE WATER TREATMENT
SECTION 7 DELIVERY, INSTALLATION & MAINTENANCE
SECTION 8 STANDARD DETAILS
SECTION 9 CASE STUDIES
SECTION 10 SUMMARY

Sustainable drainage systems - selection & design

It is important to consider as many factors as possible when selecting the most appropriate sustainable drainage system. The process below is a guide to the most efficient design.



Hydraulic design - attenuation

Hydraulic design calculations provide the storage volume required on any particular site that is needed to reduce the speed, frequency and volume of rainfall run-off into rivers or sewers. The required volume depends on the site location, the size of the area being drained, the soil infiltration rate (for soakaways) or allowable discharge rate (for attenuations systems).

The design of SuDS should follow the requirements in the CIRIA Report C 753 The SuDS Manual. This identifies three types of storage that are required:

Interception storage

The aim is to reduce the frequency of run-off and **prevent run-off from sites for rainfall events up to 5mm** in order to simulate the behaviour of greenfield catchments more closely. This is achieved using infiltration or source control methods where evapotranspiration can reduce the volume of run-off. Typically this is achieved using soft SuDS solutions. Increased capacity of soft SuDS solutions can be achieved utilising Permavoid beneath them.

Attenuation storage

Reduces the peak discharge rate from a site (i.e. how fast water flows off the site) and is used to store excess water where the rate of discharge is limited to greenfield run-off rates or stormwater sewer rates. It is designed to operate for a range of annual probabilities in accordance with the Environment Agency and/or local water company requirements.

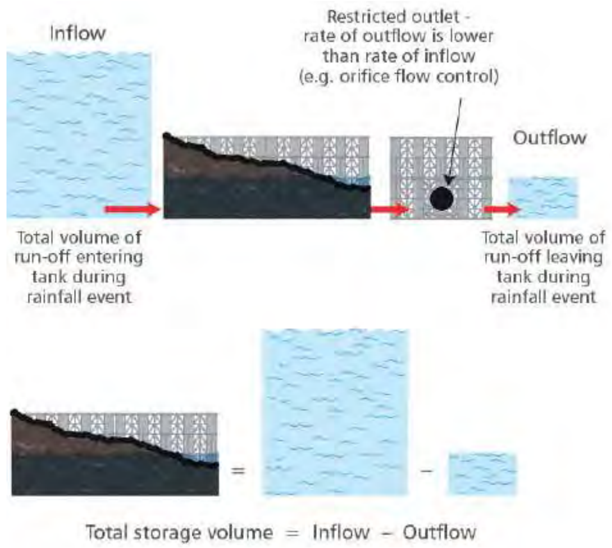
Long term storage

Used to reduce the additional volume of run-off caused by developments. Stores excess water that is the difference in total volume of run-off between the developed and greenfield site for a 1 in 100 year, 6 hour rainfall event. Outflow from the long term storage should be to either infiltration or to a water course or sewer.

Design of attenuation storage

The volume of Permavoid required for attenuation storage is typically calculated using drainage software based on the Wallingford Procedure. The volume of temporary run-off storage required is shown below and is simply the difference between the volume of run-off that enters the tank during a design storm and the volume of water that is allowed to flow out in the same period (which is governed by the discharge rate allowed by the regulators). In this way, Permavoid can be used to limit the peak rate of run-off from a site (usually to the greenfield run-off rate). The calculations are completed for a range of return periods and durations.

Attenuation storage volume



Attenuation

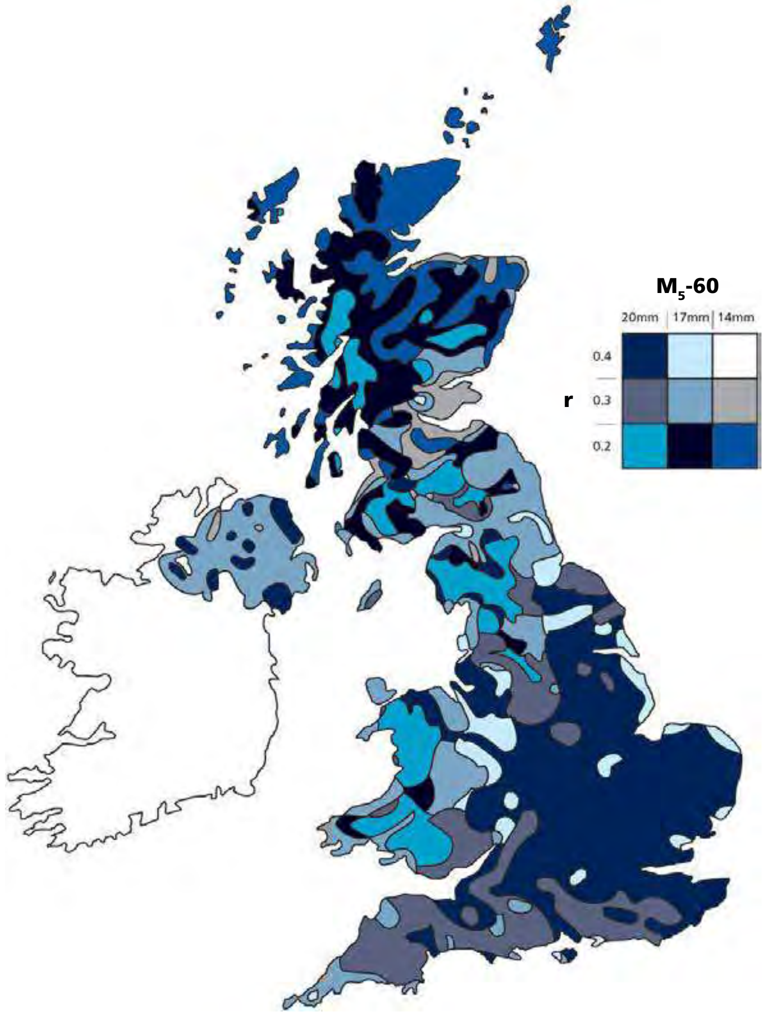
Hydrological rainfall zones for the UK

The table below can be used to size a Permavoid tank. The tables are based on the hydrological rainfall regions shown on the map.

The tables are based on the following assumptions:

- Storage is provided for development design events of 1 in 30 years, 1 in 100 years and 1 in 100 years plus 20% increase for climate change but the greenfield run-off rate is always considered to be 5 l/s/ha
- Time of entry and time of concentration within the drainage system is not considered
- 100% run-off is assumed

Note: HR Wallingford, use of SuDS in high density developments, defining hydraulic performance criteria, Report SR 640, December 2003.



Note:

Volumes include allowance for 95% void ratio of Permavoid.

Permavoid has a void ratio of 95% (i.e. for every 1m³ there is 0.95m³ of space available for water storage).

The volume of Permavoid required is therefore calculated by dividing the required storage volume by 0.95.

This factor is allowed for in the design table.

M_5-60 Rainfall depth (mm)
The rainfall depth for the 60 minutes, 5 years return period event

'r' Ratio M_5-60 / M_5-2 day:
Variable 'r' represents the ratio of the rainfall depth of the 60 minute to the 2 day, 5 year rainfall event.

Required attenuation storage (m³ of storage per Ha of impermeable area)

	r	1 in 30 year design event	1 in 100 year event	1 in 100 year event plus 20% climate change
M_5-60 = 20mm	0.4	357	510	643
	0.3	413	582	749
	0.2	556	770	968
M_5-60 = 17mm	0.4	293	419	545
	0.3	335	483	631
	0.2	444	637	822
M_5-60 = 14mm	0.3	258	383	511
	0.2	335	500	665

Example of Permavoid sizing for attenuation storage

A site in London has impermeable area as follows:

1200m² roof area

1475m² car park and other areas

Therefore the total impermeable area = **2675m²**

Assume the required return period for the drainage design is 1 in 100 years as agreed with the Environment Agency

From the table on page 40, London is in the region where M_5-60=20mm and r=0.4

Therefore from the table the volume of the Permavoid tank required is 510m³/ha

Required attenuation storage on this site =
510 x 2675/10000 = 136.4m³

Hydraulic design - infiltration

Design of infiltration storage

Where ground infiltration is suitable for design flows, there are three approaches for hydraulic sizing:

1. BS EN 752:2008 'Drain and Sewer Systems Outside Buildings'
2. Soakaway Design BRE Digest 365
3. CIRIA Report 156 'Infiltration Drainage - Manual of Good Practice'

A simplified approximate approach can be used on a very small site (i.e. a single house development) where detailed site infiltration rate information may not be required nor available. Approved document H3 allows a storage volume equal to the area to be drained multiplied by 10mm for areas up to 25m². Beyond this size, designs should be carried out in accordance with BS EN 752-4:2008 or BRE Digest 365.

Percolation test for designing a shallow infiltration system

The depth of the trial pit should reflect the (expected) proposed depth of installation and water depth likely to occur in the completed structure.

Step 1 - Trial hole excavation

- Where the infiltration test is to be conducted in a 'kept turfed' area; first carefully cut and remove the turf in location of the excavation and put to one side
- Excavate a shallow rectangular pit either by hand or by machine (suggested minimum 2000mm x 1000mm x 500mm depth, subject to ground conditions), attempting to get the base as flat and the sides as vertical as possible (subject to ground conditions). Aiming to get close to the proposed depth of installation of the infiltrated device(s)
- Measure and record the dimensions of the pit
- Record the soil type(s) excavated and general ground conditions, the apparent moisture content of the soil(s) and any visual or olfactory (odour) evidence of possible contamination
- Place length of level timber or similar across pit with a mark near the centre (but within easy reach) as a measure datum
- If there are any inflows of groundwater into the pit; record the apparent inflow rate (slow flow etc.) and delay the start of the test to see if the groundwater flows away or rises to a constant level. If standing groundwater is present measure from the datum the level of any standing water in the base of the pit

Infiltration

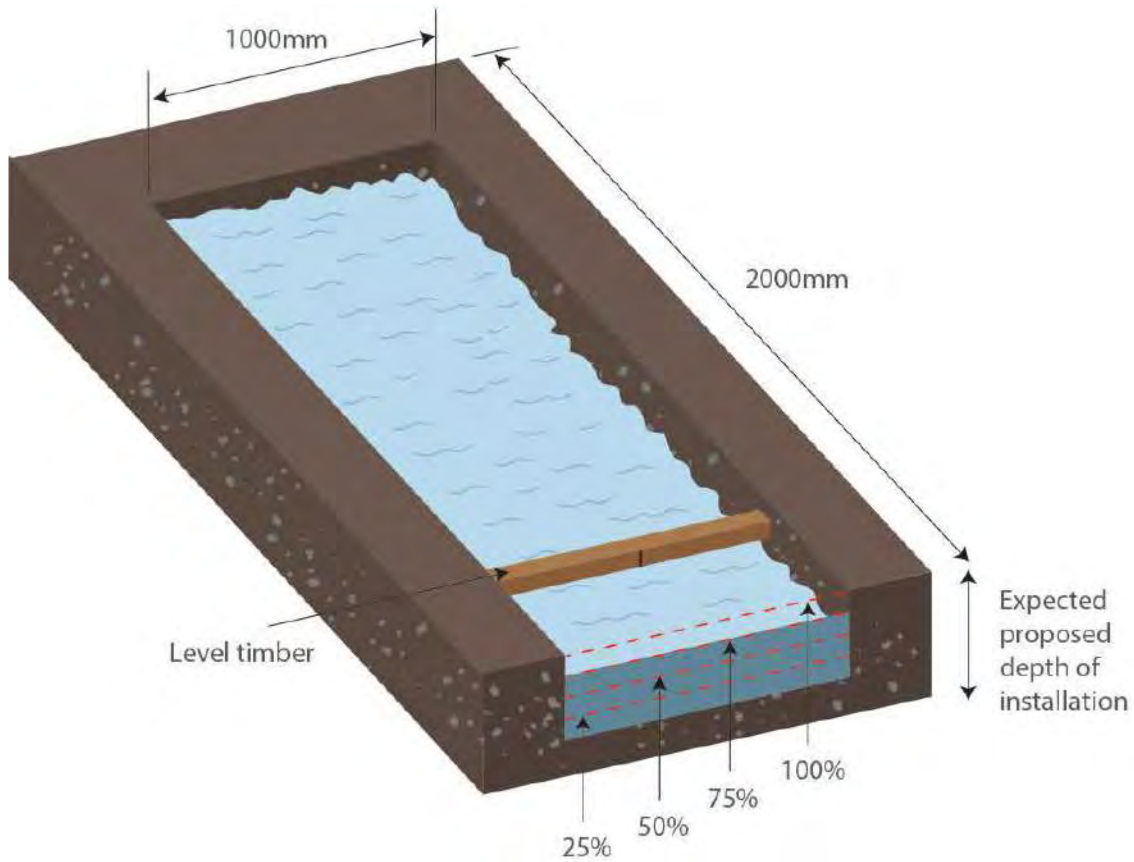
Step 2 - Fill trial hole with water

- Fill the pit as quickly as possible with water to at least 75% of the pit depth or the top level of the proposed soakaway to mimic a real storm event
- Measuring from the marked point on the datum rod, record depth to water at start of test
- Then record depth to water at typically:
  - 20 second intervals up to 2 minutes, then at
  - 30 second intervals up to 5 minutes, then at
  - 1 min. intervals up to 10 minutes, then at
  - 5 min. intervals up to 30 minutes, then at
  - 15 min. intervals up to 2 hours then,
  - Hourly thereafter to the end of day if water has not soaked away

Until the water level drops below 25% of the initial recorded water depth within the trial pit.

- Refill and retest the test pit twice more (where time permits) allowing the trial hole to drain between tests
- Record the weather conditions before and during the tests, particularly any rainfall (duration and relative intensity)
- Unless instructed otherwise, place the excavated material back in the exaction and compact as best as possible
- If turf was kept, place back over the filled exaction as best as possible

Step 1 and 2 - Illustrated example



Infiltration

Step 3 - The results - soil infiltration rate

Calculation principles

Adopting the approach given in Construction Industry Research and Information Association (CIRIA) Report 156 Infiltration Drainage - Manual of Good Practice.

$$\text{Soil infiltration co-efficient, } f = \frac{V_{p75\text{-}25}}{a_{p50} \times t_{p75\text{-}25}}$$

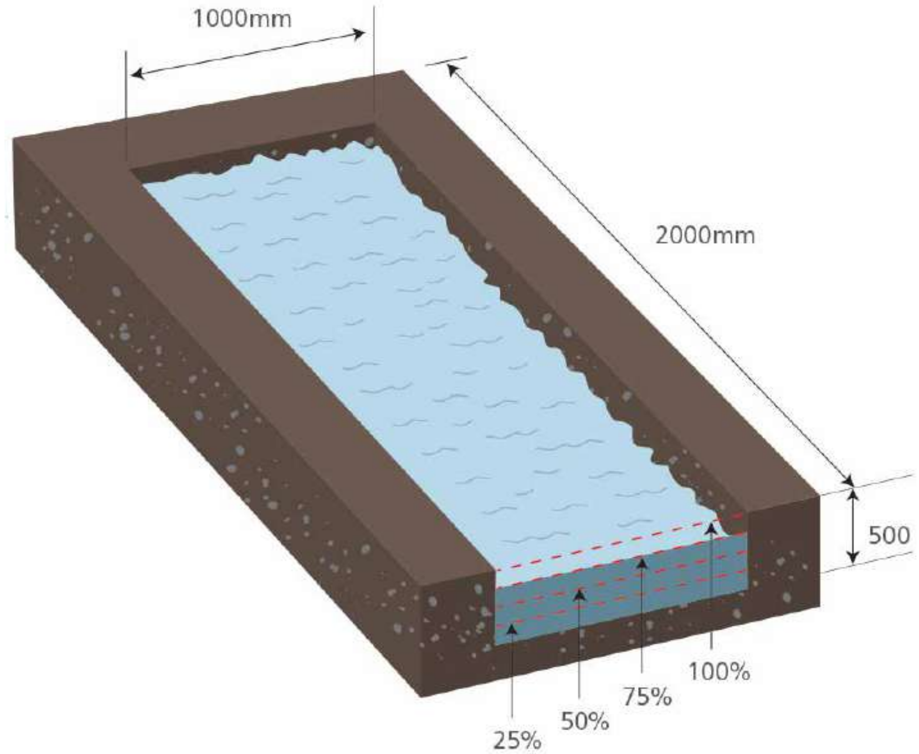
Where:

$V_{p75\text{-}25}$ = Volume of the hole from 75% and 25% depth (m³)

a_{p50} = Internal surface area of test hole at 50% depth (including base) (m²)

$t_{p75\text{-}25}$ = Time taken for the hole to drain from 75% to 25% depth (sec)

Continuing with the example given:



$V_{(p75\text{-}25)} = 1.000 \times 2.000 \times (0.375 - 0.125) = 0.5\text{m}^3$

Test hole depth at 75% and 25%

$a_{(p50)} = 0.250 \times [2 \times (1.000 + 2.000)] + (1.000 \times 2.000) = 0.250 \times (6.000) + 2.000 = 3.500\text{m}^2$

From the completed tests, the longest duration test took 11 and 80 minutes to drain to 75 & 25% trail hole depths respectively.

$t_{(p75\text{-}25)} = 80 - 11$
$= 69$ minutes

Therefore:

$$\text{Soil Infiltration rate, } f = \frac{0.500}{3.500 \times (69 \times 60)} = \mathbf{3.45 \times 10^{-5}\ m/sec}$$

The soil infiltration rate can be used in volume calculations. If you require assistance, please call our Technical Team on +44 (0) 1509 615100.

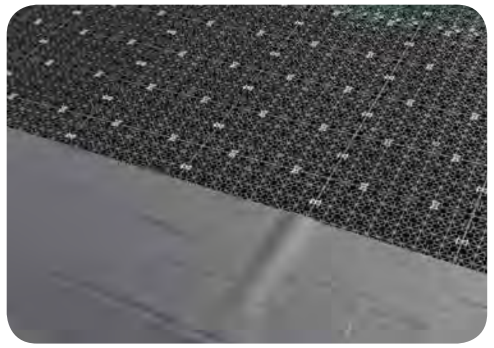
Geotextiles and Geomembranes

The use of geosynthetics is an integral component of a geocellular structure. They are wrapped around the geocellular units to create attenuation or infiltration tanks. The function of the geotextiles and geomembranes are to prevent:

- Silt that may be contained in the surface water run-off from contaminating the surrounding soil (infiltration)
- Surrounding soil from entering the units (infiltration)
- The release of surface water into the surrounding ground (attenuation)
- Inflow of groundwater that may overload downstream systems and contain pollutants on contaminated sites (attenuation)

Therefore any damage of the geosynthetic wrap, may lead to a decreased performance of the tank.

The design of the surrounding medium and choice of geosynthetic is an important consideration. The designer/installer should confirm with the geosynthetic manufacturer that the specification of the proposed material is suitable for the application and site conditions. The designer should determine and define the following:



- The application requirements - retention, attenuation and infiltration
- Boundary conditions – site investigation to establish in-situ soil parameters, enabling lateral earth pressures and water flow conditions to be calculated
- Soil retention requirements – using the in-situ soil parameters, determine if additional bed and surround measures should be specified
- Geosynthetic permeability requirements – the breakthrough head should be considered in addition to water flow rates
- Anti-clogging requirements (infiltration only) – ensure that the porosity of the geotextile in conjunction with the specified bed and surround is sufficient to prevent the geotextile from prematurely clogging
- Resistance to mechanical damage requirements – the geosynthetic should be sufficiently robust to survive installation activities
- Durability requirements – consideration should be given as to whether the geosynthetic will be subjected to a significant chemical exposure, either present in the ground or rainwater run-off

Structural design

When designing Permavoid geocellular structures for attenuation or infiltration, care has to be taken to ensure the finished system is safe to carry the loads they will be subjected to. A brief summary of the points which should be considered for a typical installation are given below:

Applied loads

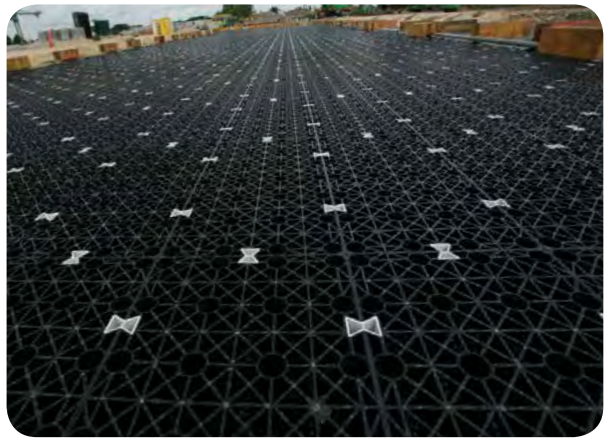
- Uniformly distributed
- Concentrated
- Backfill
- Stockpiles
- Traffic
  - Construction
  - In service
- Earth pressure
- Hydrostatic pressure (groundwater)
- Uplift

Partial factors of safety

- On material properties
- On loads

Unit characteristics

- Compressive strength at yield
- Deflection
- Creep



The main design considerations to ensure system integrity are:

- Structure failure or collapse – where the structure cannot support the applied loads
- Excessive deflection or movement of the structure when vehicles pass over the tank; that compromises the structural integrity of a surface pavement (i.e. crack)

Limit state design

Current structural design philosophy is based on limit state criteria, where a number of limit states are considered. The methodology applies partial factors of safety to the various design parameters, the magnitude of which is dependent on the potential variability of that parameter and the consequences of the limit state being exceeded.

In the case of the Permavoid system, the two limit states typically considered are:

Ultimate Limit State (ULS)

Considers if the strength of the geocellular unit is exceeded by the applied loads and cause the structure or structural element to fail.

This is obviously serious, therefore the partial factors of safety used in this assessment are chosen to ensure the installation remains serviceable. In the case of Permavoid this would typically mean that deflections are not excessive and do not cause damage to overlying surfaces (such as asphalt pavements) or cause a significant reduction in the storage volume of the structure.

Serviceability Limit State (SLS)

Considers the operational behaviour of a geocellular structure to ensure that the installation remains serviceable. In the case of Permavoid this would typically mean that deflections are not excessive and do not cause damage to overlying surfaces (such as asphalt pavements) or cause a significant reduction in the storage volume of the structure.

Applied loads and load factors

Loads that may be imposed on a cellular storage structure such as Permavoid can be broken down into the following types.

Partial material factors of safety: Permavoid

Limit state	f_m
Ultimate limit state	2.75
Serviceability limit state	1.50

Industry guidance

A generic design method has been developed that can be applied to most types of cells, using basic structural design theory and relevant British Standards. Imposed loading on geocellular plastic tanks may be considered to be similar to other buried structures. Loads and partial factors of safety applied to loads and materials detailed in this section have been based on latest CIRIA Guidance.

CIRIA Guidance

Currently the only guidance to the structural design of geocellular structures is published by CIRIA.

Factors of safety

To minimise the risk of exceeding the limit states, factors of safety are applied to the geocellular units characteristic compressive strengths and to any applied loads.

Material factors

The strength characteristics of the Permavoid cells have been obtained from laboratory testing. A design strength is derived by dividing the cell's characteristics strength by a material partial factor of safety (f_m), appropriate to the material and limit state. This takes into consideration variations due to manufacturing processes, variability and uncertainties in material strength, damage during installation and environmental effects.

Structural design life

The design life is based on the scale and frequency of loadings and extrapolation of creep test data. The lighter and less frequent the load, the longer the design life. Large permanent loads (e.g. from a significant depth of fill on top of a tank) will give shorter design life compared to light permanent loads. Areas where heavy vehicles are standing for prolonged periods will give a shorter design life than where vehicles are mainly transient.

For lightly loaded areas such as car parks a design life of 50 years is achievable. For areas with prolonged HGV loading a typical design life may only be 25 years, depending on the design of the pavement surfacing and structural layers over the tank. Maintenance of the pavement will be required after the design life has exceeded. It is recommended structural calculations are always carried out in accordance with the latest CIRIA Guidance.

Chemical resistance

Permavoid is resistant to automotive products such as motor oil, petrol, diesel, brake fluid, antifreeze, grease and washer fluid at the concentrations and temperatures likely to be encountered within a typical surface water drainage application.

Permanent (dead) loads

Permanent loads applied to the Permavoid cells, including the weight of backfill material placed over the top and lateral (horizontal) earth and water pressure loads acting on the side of the system.

Transient (live) loads

Loads due to pedestrian, vehicle and construction traffic that are temporary. Traffic wheel loads are normally given as static loads, with a factor applied to allow for dynamic effects (a moving wheel will impose more force on the ground than a static one).

Design loads

A design load is obtained by applying a partial factor of safety to the estimated characteristic load. This allows for unforeseen variations of loading and also the severity of the consequences of the limit state occurring. The loads detailed within CIRIA Guidance have been based on loads applied in the design of structures using rigid materials such as concrete and therefore the partial safety factors for loads that are appropriate to the design of plastic storage systems are taken from British Standard BS 8110.

Partial material factors of safety

Limit state	Imposed vertical dead load f_m	Imposed earth pressure dead load f_m	Imposed live load f_m
Ultimate limit state	1.4	1.4	1.6
Serviceability limit state	1.0	1.0	1.0

Additional dynamic amplification factors may be applied where structures are expected to be heavily trafficked by HGV's.

If you require assistance, please call our Technical Team on +44 (0) 1509 615100.

Structural design

Pavement applications

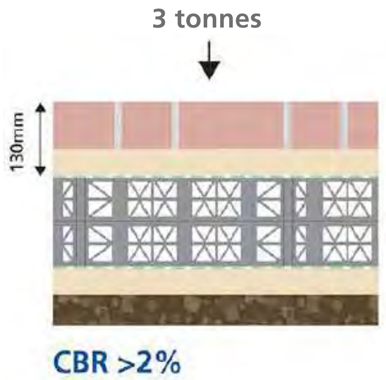
The Permavoid system has undergone numerous laboratory tests and instrumented site trials to validate use in pavement constructions. Permavoid exceeds the minimum unit performance recommended in industry guidance for geocellular units installed within a pavement structure.

Many factors should be considered when designing Permavoid below pavements, including:

- Vehicle types
- Frequency of loading
- Load duration
- Speed
- Pavement construction

Pavement construction examples

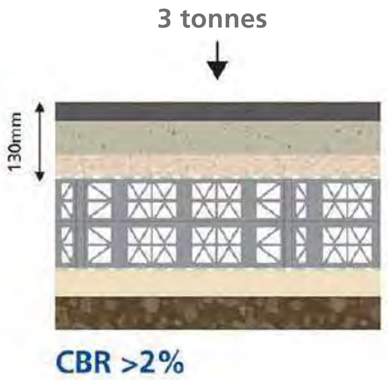
Typical minimum recommended pavement construction details, for a number of loading situations, are reproduced below; amended to illustrate how Permavoid would typically be installed within these pavement structures.



80mm block
+ 50mm sand bed
= 130mm

Applications:

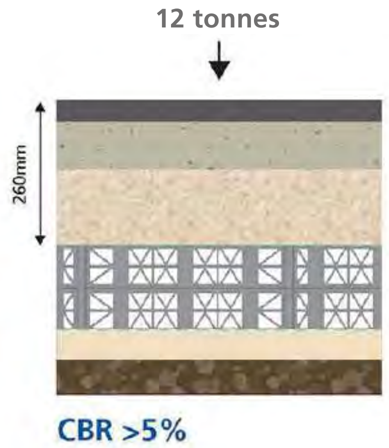
- Private drives
- Car parks with height restrictions



30mm asphalt surface
+ 60mm asphalt base
+ 40mm Type 1 sub-base
= 130mm

Applications:

- Private drives
- Car parks with height restrictions
- Includes for occasional/ accidental HGV overrun



30mm asphalt surface
+ 90mm asphalt base
+ 140mm Type 1 sub-base
= 260mm

Applications:

- Car parks without height restrictions
- Includes for occasional/ accidental HGV overrun
- Suitable for access roads

Industry guidance

The following guidance documents provide minimum pavement construction details for a range of typical installations; the construction detail varying according to the expected level of vehicle traffic and ground conditions.

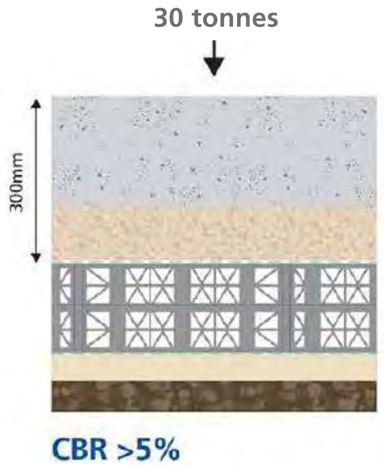
The Permavoid system complies with the requirements of BS 7533-13:2009 and incorporates a high vertical compressive strength of 715kN/m² and lateral compressive strength of 156kN/m².

British Standard

BS 7533-13:2009, Pavements Constructed with Clay, Natural Stone or Concrete Pavers – Part 13: Guide for the Design of Permeable Pavements Constructed with Concrete Paving Blocks and Flags, Natural Stone Slabs and Setts and Clay Pavers.

Interpave

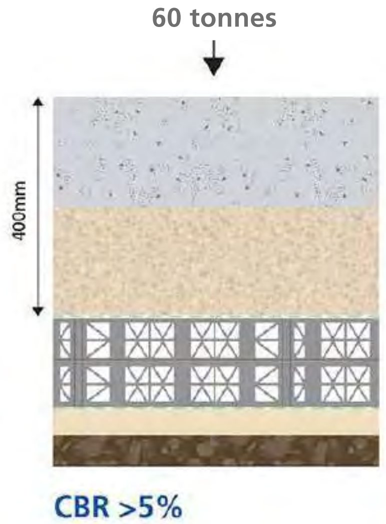
Interpave (2010); Permeable Pavements. Guide to the Design, Construction and Maintenance of Concrete Block Permeable Pavements; 6th Edition; British Precast Concrete Federation Ltd.



200mm concrete slab
+ 100mm Type 1 sub-base
= 300mm

Applications:

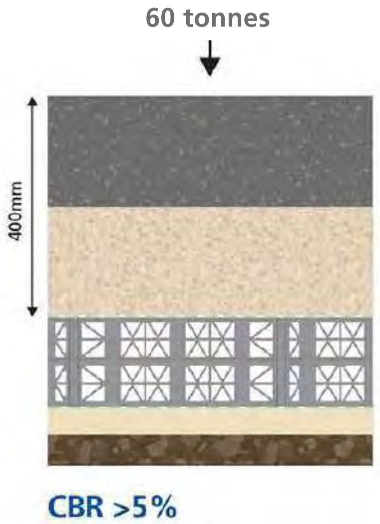
- Car parks and access roads
- Includes for occasional/ accidental HGV overrun



200mm concrete slab
+ 200mm Type 1 sub-base
= 400mm

Applications:

- HGV park access and small estate roads (<15mph)



200mm reinforced concrete slab
+ 200mm Type 1 sub-base
= 400mm

Applications:

- Main roads
- Frequent HGV's

Note: Site ground investigations are recommended in accordance with BS 7533-19:2009.
If CBR is below 5% an additional capping layer or geo-grid ground reinforcement is required.

Pollution control - Permachannel

The SuDS Management Train refers to source control and emphasises 'run-off should be managed as close to the source as possible'. Using Permavoid it is possible to collect and treat rainwater adjacent to where it falls. Silt, debris and hydrocarbons can be managed at the head of the system using system components preventing pollution migration into the rest of the stormwater drainage system and reducing lifetime maintenance.

Permachannel

Permachannel is a versatile linear treatment system that can provide source control and pollution treatment in a wide variety of locations and applications.

Can reduce hydrocarbon pollution loading below 5mg/l

Performance

Permachannel is not used to convey water like conventional channel drainage, instead it is used to trap silts and oils. The outlet incorporated in the channel is a weir and baffle system that captures any silt or free floating hydrocarbons and retains them in the channel. The performance of the Permachannel system has been assessed by laboratory testing of full-scale prototypes. The results show that the Permachannel alone will outperform conventional Class 2 oil separators and so will meet the design requirements of the Environment Agency's Pollution Prevention Guideline PPG3. The performance can be improved by providing a geotextile filter as a further stage of treatment after the Permachannel, which will ensure the whole treatment train meets the requirements of a Class 1 oil separator. Permachannel performs several key functions in relation to controlling pollution in run-off, including stilling the sheet flow to encourage controlled deposition of silt and effluent, interception and separation at source.

Water treatment design

The design of the Permachannel system should ensure sufficient pollution removal and storage capacity. A maximum catchment area of 30m² should drain to each 1m length of Permachannel. The volume of the silt trap within the channel or kerb is required to provide sufficient silt and floating oil storage capacity. The spacing of the Permachannel outlets also ensures that flow velocities are not excessive.

Catchment area 30m²

Example silt and oil loading calculation

Calculate required silt and oil storage volumes in accordance with the Environment Agency's Pollution Prevention Guideline 3.

Silt trap capacity

Volume of silt trap in Permachannel = 0.0045m³/m

Sediment load in catchment = 865kg/ha/y

Catchment area = 6800m²

Total sediment load from catchment = 588kg/ha/yr

Assume density of unconsolidated sediment in base of silt trap is 1200kg/m³ (typical value for dock silt) then volume of sediment per year from whole car park = 0.5m³

Channel length is 700m

Volume of silt trap in channel in total for the site = 3.15m³

So, time to fill this with silt is approximately 6.3 years (assuming no maintenance is undertaken) (3.15÷0.5)

Oil trap capacity

The amount of oil that can be retained is the difference in height between the weir and baffle in the separator

Height difference = 40mm

So, volume that can be accommodated = 0.003m³/m

Total volume for site = 2.1m³

Required capacity from PPG 3

Nominal size of separator = NSB = site area x 0.0018

NSB = 0.0018 x 6800 = 12.2 litres

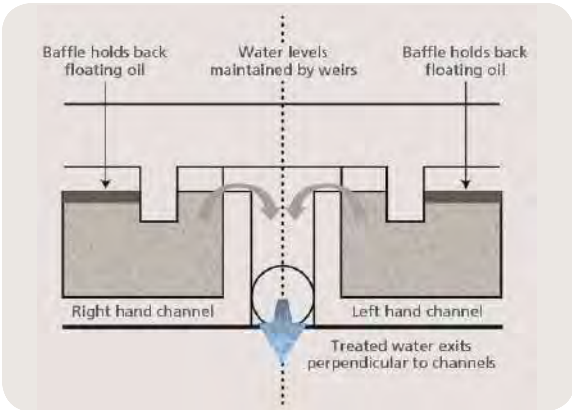
Required silt storage = NSB x 100 = 1220 litres = 1.2m³

Actual storage = 3.15m³ which is acceptable

Oil storage required

= NSB x 15 = 183 litres = 0.18mm³

Actual is 2.2m³ which is acceptable

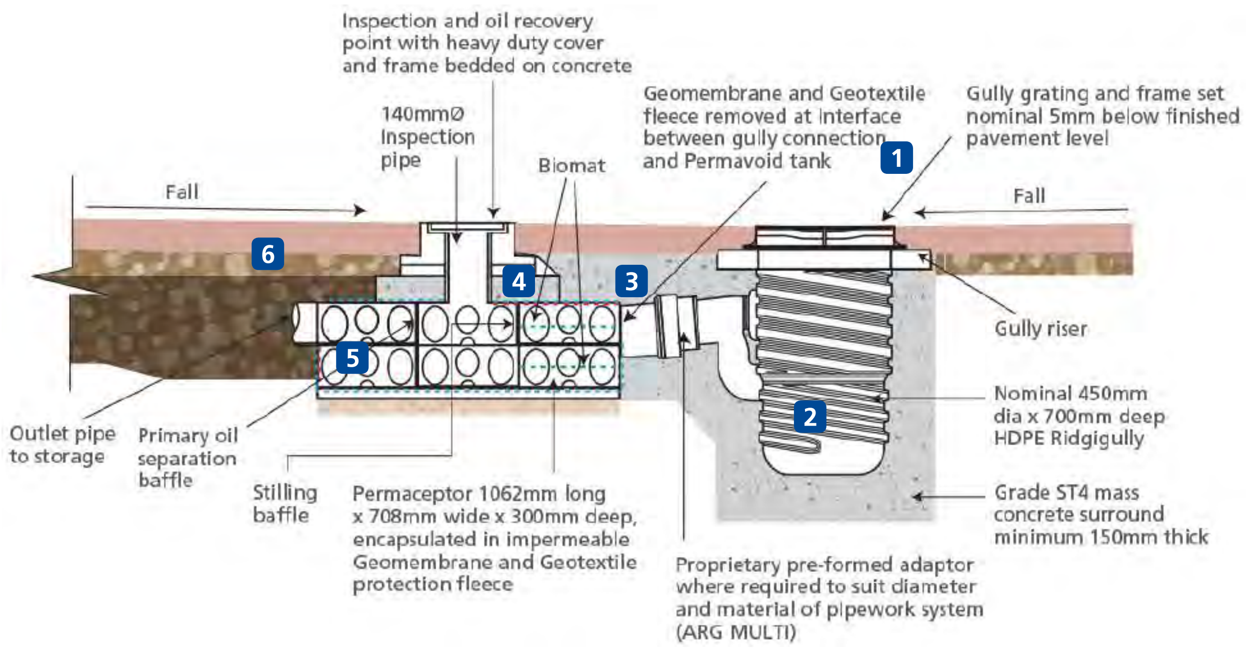


Pollution control - Permaceptor

Permaceptor

Permaceptor is a versatile, efficient and effective source control volume and treatment system for use with conventional road and yard gullies.

Figure 6.1.1: Performance



One Permaceptor can treat a catchment area of 150m²

Stormwater from impervious surfaces (1) enters the road/yard gully (2). The gully will slow down the inflow and silts/debris are separated out. The gullies incorporate a basic baffle arrangement and some hydrocarbons are retained or slowed down within the flow process. Stormwater passes from the gully into the Permaceptor unit via a raised inlet (3) and flows through to be 'stilled' by a baffle (4) allowing the water to pass through the biomat(s) where hydrocarbons are separated. As the water passes through the chamber a primary baffle (5) also retains hydrocarbons allowing clean water to discharge into the drainage system via a raised outlet (6). The raised outlets create a permanent pool of water. The chamber incorporates an inspection and oil recovery heavy duty cover. The biomats encourage natural biodegrading of free oil products, acting as an additional stilling element and prevention of entrainment of oil into drainage system due to poor maintenance.

All dimensions in millimeters, unless otherwise stated. All dimensions are nominal and may vary within manufacturing tolerances. All site temporary and enabling works by others. Ridgistorm-XL units to be installed in accordance with Polypipe Civils recommendations (refer to Polypipe technical guidance for further information); giving due consideration to the requirements of the organisation who will be taking ultimate ownership of the installation. These drawings are intended for guidance only. Confirmation of the information contained within this document should be sought from the consulting Engineers before final design or construction activities commence.

Pollution control - Permavoid Biomat

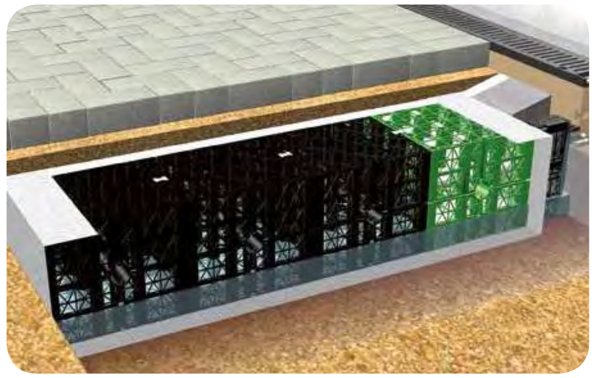
Permavoid Biomat

Permavoid Biomat has been specifically designed to remove hydrocarbon pollutants from surface water run-off. It comprises of a buoyant geocomposite located inside the Permavoid unit.

The composite interacts with oil deposits, allowing formation of a 'biofilm' on its solid surface and providing the opportunity for nutrient recycling which would allow active biofilm development. The system provides an environment which encourages the growth of oil-degrading microorganisms as moisture, oil and oxygen from the atmosphere are all present supplied with a large surface area for oil absorption and biofilm attachment.

Permavoid Biomat has been extensively researched in partnership with Coventry University. The experiments included studies of the oil retention, the biofilm formation and the mineralisation of the entrapped hydrocarbons. Model systems were used for the study, comprising of a full pavement cross-section.

One Permavoid Biomat cell is capable of retaining 56g of oil



Performance

Research has demonstrated that the system is capable of retaining and biodegrading the hydrocarbon pollutants from the surface water. The system is capable of retaining **56g of oil per m².** The entrapped hydrocarbons become part of a complex biofilm, which utilises the oil pollutants as a nutrient source (mineralisation). The system also demonstrates other beneficial results, such as that both unused and used lubricating oil can be degraded.

Permavoid Medium Duty with Biomat

Permavoid Medium Duty with Biomat is designed for use with Polystorm attenuation and infiltration systems. The use of Permavoid Medium Duty with Biomat provides additional oil retention and water treatment capability to deeper underground water storage systems. The size of this unit is 1m x 0.5m x 0.4m.

Pollution control - Permafilter Geotextile

Permafilter Geotextile

Permafilter Geotextile has been specially designed to retain hydrocarbon pollutants. Permafilter Geotextile comprises of a non-woven, needle punched geotextile made from a proprietary blend of modified polyester fibres. The entrapped pollutants are either removed or reduced to levels suitable for discharge into controlled waters.

Working principle

The proprietary blend of fibres in Permafilter Geotextile exhibit specific hydrophilic and hydrophobic properties and these, combined with the dimpled structure, work together to form multiple layers with inherent oil retention properties. The hydrophobic (repelling) material receives and retains the hydrocarbon pollutants, whilst the hydrophilic (water-attracting) elements simultaneously facilitate water retention resulting in a long-term stable biofilm, which subsequently degrades the entrapped pollutants.

Applications

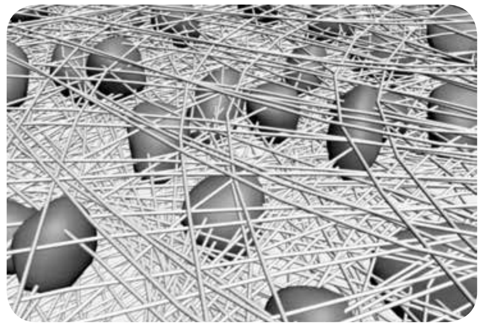
The range of applications for the Permafilter Geotextile is virtually unlimited in traditional geotextile applications, where enhanced hydrocarbon treatment can be achieved. Furthermore, it is applicable in many retrofit applications where the superior hydrocarbon retention is an indispensable requirement.

Performance

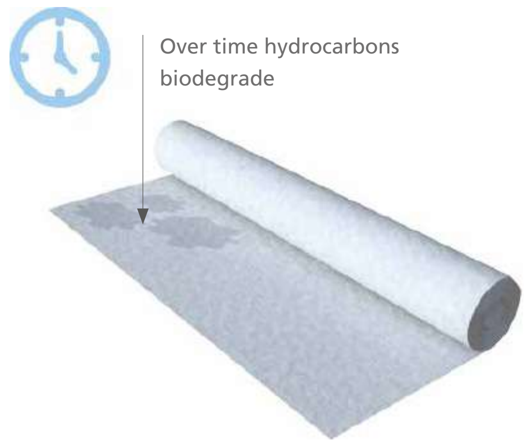
Permafilter Geotextile demonstrates retention of up to 6 litres of oil per 10m². The maximum discharge of effluent is typically 4.5ppm* during the first flush and during consecutive rain events only an average concentration of 1.5ppm.

*ppm = parts per million

6 litres of oil retained per 10m²



Microscopic view of self-maintaining eco-system



Delivery and storage

Permavoid

- Permavoid is delivered to site on pallets. Palletised load measurements are approx. 1.2m x 1.1m x 2.3m high and each pallet will contain 72 Permavoid units
- Pallet weight is circa 220kg
- Deliveries shall be unloaded using mechanical handling equipment

Permachannel

- Permachannel is delivered to site on pallets. Palletised load measurements are approx. 1.0m x 0.8m x 1.0m high and each pallet will contain 20 Permachannel units
- Pallet weight is circa 850kg
- Permachannel is delivered with gratings in position
- Deflection plates are supplied within the channel and need to be positioned during installation
- Deliveries shall be unloaded using mechanical handling equipment

Storage

- Position pallets on stable, level ground
- Stacking of pallets is not recommended
- Store away from direct sources of heat or ignition
- Transit banding should not be removed until installation

Geotextile and Geomembrane

- Deliveries shall be unloaded using mechanical handling equipment

Geosynthetic	Permafilter	Permatex 300	Wicking Geotextile	Geomembrane
Material	Polyester blend	Modified polyester	Polyester blend	Polypropylene
Roll size	2.4m x 100m	5.25m x 65m	2m x 25m	Variable
Weight	300g/m^2	300g/m^2	500g/m^2	900g/m^2
Delivery	Single rolls	Single rolls	Single rolls	Single rolls

Installation

Excavation and preparation

Excavation

- Ensure that the ground-bearing capacity at formation level is adequate for the design loads.
- The excavation is dug to the required plan, dimensions and level, ensuring that the excavation will allow installation of connecting pipework. Slopes must be cut to a safe angle or adequately supported and safe access must be provided to allow personnel to enter the excavation. Excavation should be carried out in accordance with BS 6031:2009, with particular attention paid to safety procedures.
- It is recommended that the excavation provides a minimum of 500mm clear zone on all sides of the plan dimensions of the tank to allow working space for the installation. If required, suitable protection and earthwork support must be provided beyond the clear zone to all excavated faces.

Base

To be trimmed smooth and free from sharp objects and projections to provide an even formation that shall be free from undulations. Any present must be excavated and replaced with compacted granular fill material.

Tolerance

The formation shall be graded to achieve a maximum deviation of 5mm in 3m in any direction to prevent formation of voids below installation which will cause Permavoid units to 'rock'. A blinding layer may be used to achieve required tolerances.

Blinding

A 50mm thick blinding layer of 20/6 clean crushed stone or sand to BS EN13242:2002 shall be used to achieve a suitable bedding surface.

Laying

Ensure membrane is clean and free from debris before laying Permavoid. Check installation plan/details to confirm Permavoid orientation. Commence laying in corner of installation area and work forwards in a diagonal line to the opposite corner until layer is complete. Repeat for further layers.

Permatie

Adjacent Permavoid units are connected using Permatie interlocking pins, which have integral creep resistance. Permaties must be inserted into all available slots where units butt together up to a maximum of 5 Permaties per Permavoid unit. The Permatie provides rigidity and minimises deflections.

Shear Connectors

Multi-layered Permavoid tank configurations shall be fixed with proprietary Shear Connectors between each layer interface to maintain rigidity and minimise lateral displacement. A minimum of four Shear Connectors per square meter at layer interface is recommended.

Drainage connections

Proprietary drainage connections are available where a drainage connection is required to the Permavoid installation. There are several different options available subject to type of tank encapsulation and whether the connection is at invert or centrally located.

Installation

Attenuation applications

Where required, all penetrations through an impermeable encapsulation shall be sealed. Create an impermeable seal using a preformed spigot connector with a weldable membrane.

The adaptors comprise a rigid body and spigot with a flexible outer membrane manufactured from compatible material to the geomembrane encapsulating the tank. Adaptors are available as invert or standard type and come in a range of diameters. The adaptors are fully welded to the main tank encapsulation.

All joints should be sealed, using proprietary techniques recommended by the manufacturer. Advice on seam testing procedures is given in CIRIA Report SP124.

Protection

Permatex protection geotextile should be installed to the outside face of the base, top and sides of the installation as protection layer to geomembrane.

Installation

Adjacent sheets to be lap jointed with a minimum lap of 300mm or heat sealed. Corners to be formed in folded welts and heat sealed if required. Ensure geotextile is clean and free from debris. Trafficking over placed material to be avoided.

Geotextile for infiltration

Permafilter Geotextile should be used for infiltrations applications. The geotextile should be laid with minimum of 300mm overlap or to lap marker and to be applied to all external surfaces of Permavoid units.

Installation

Corners to be formed into folded welts and heat sealed if required. Ensure geotextile is clean and free from debris before installing Permavoid. Trafficking over laid material to be kept to a minimum.

It is recommended that site vehicle traffic is prevented from trafficking the Permavoid tanks until the installation is complete.

Backfilling

The Permavoid tanks shall be backfilled with an initial layer minimum 50mm thick of 20/6 clean crushed stone or sand to BS EN 13242:2002. The preferred method of aggregate placement is for the plant to be situated on top of a minimum of 300mm thick aggregate layer. Recommended plant to be used for placement of the aggregate to be a tracked machine with a maximum operating bearing pressure of 200kN/m². Wheeled machines to have low bearing pressure tyres (maximum permitted pressure 30psi), maximum tread/cleat projection 15mm. **Under no circumstances should plant operate in direct contact with Permavoid units.**

Permachannel excavation and bedding preparation

Base

To be trimmed smooth and free from sharp objects and projections. For optimum capacity the Permachannel should be installed with zero gradient but it can be installed to shallow gradients should the drainage design require. The Permachannel should be laid on a 200mm deep concrete bed with a minimum 150mm thick haunch to both sides. A 30N/mm² concrete mix is recommended.

Tolerance

Local subgrade below concrete bed tolerance of ±5mm within any 3m direction. The commensurate level for the Permachannel installation should allow for the height of the Permachannel and the depth of the concrete bedding, plus a further 3-5mm below the finished level to protect the Permachannel and prevent ponding. Ensure the membrane encapsulation from the Permavoid tanks (if required) spans below the Permachannel installation with sufficient length to return up the rear of the Permachannel run.

Manual handling

It is recommended to remove the gratings and stainless steel diverter plate prior to installation to reduce the handling weight from 42kg to 29kg. Consult your employer for specific manual handling advice.

Installation of Permachannel

Check installation plan/details to confirm Permachannel orientation in relation to Permavoid tank(s). Align using a builder's line or suitable laser alignment equipment. When positioning the Permachannel, insertion of the stainless diverter plate will assist alignment. The diverter plate should be positioned so that it spans from the ends of adjacent Permachannel units to divert rainwater run-off into the central Permachannel unit. Install the Permachannel connection units along the length of the Permachannel run, 1 connection unit required per linear metre of Permachannel, installed where adjacent Permachannel units butt against each other to form a 40mm diameter outlet. Install the connection unit by firstly removing the fresh concrete bed (before hardening) in immediate area and inserting 'o' ring (supplied with connection unit) into the rebate of the 40mm diameter outlet from the Permachannel and then insert 40mm diameter spigot into the Permachannel aperture.

Ensure connection unit is seated in a vertical position if installing Permachannel ahead of the Permavoid tank, or is butted against the Permavoid tank if installing the Permachannel after the Permavoid tanks. Redundant Permachannel outlet, if not used must be blanked prior to placing concrete haunch. 40mm blanking plugs are available. Place the concrete haunch to the front and rear of the Permachannel. The channel elements must be kept clean during installation. Trafficking over laid material is to be kept to a minimum.

Surface finish options

It is recommended the grating is installed within the Permachannel prior to construction of the pavement.

Concrete

Between the minimum 150mm concrete surround and the concrete slab, an expansion joint must be inserted, as structural engineer's specification.

Bituminous bound

To avoid damaging the channels during compaction of the surfacing, the concrete surround must be haunched as high as possible (45° back to the Permachannel). The bituminous bound surfacing can be installed against the side of the channel. The finished level following compacting has to be 3-5mm above the height of the grating.

SECTION 1 LEGISLATION AND REGULATIONS
SECTION 2 PERMAVOID SYSTEM OVERVIEW AND APPLICATIONS
SECTION 3 PERMAVOID SYSTEM COMPONENTS
SECTION 4 HYDRAULIC DESIGN
SECTION 5 STRUCTURAL DESIGN
SECTION 6 SURFACE WATER TREATMENT
SECTION 7 DELIVERY, INSTALLATION & MAINTENANCE
SECTION 8 STANDARD DETAILS
SECTION 9 CASE STUDIES
SECTION 10 SUMMARY

Maintenance

Like any conventional drainage system, sustainable drainage systems (SuDS) should be inspected regularly and correctly maintained to ensure optimum performance.

Maintenance plan

This should be initiated by the drafting of routine maintenance plans to suit the site installation. A pre-handover inspection should be carried out and the Permavoid system cleaned prior to final handover.

Routine inspection and maintenance should include:

- Inspection of systems
- Removal of silts
- Decanting of oils and hydrocarbons
- Channel jetting
- Water sampling and testing at point of discharge (if required)

Excess silt/debris held within Permachannel and gullies should be cleared manually or with a vacuum tank. We do not recommend pressure led cleaning.

Routine maintenance

Permachannel

For Permachannel the following routine maintenance procedures are required:

- 3 monthly inspections of channels for signs of blockage and oil spillage
- Remove litter and blockages as required
- Every 12 months inspect all chambers for silt and oil build up
- Every 12 months sweep external surfaces
- Remove silt as required but at least every year
- Records of inspections and maintenance undertaken should be kept by the client

Permaceptor

For Permaceptors the following routine maintenance procedures are required:

- 3 monthly inspections of road/yard gullies for signs of blockage and oil spillage
- Remove litter and blockages as required
- Every 6 months inspect all Permaceptors for silt and oil build up
- Every 12 months sweep external surfaces
- Records of inspections and maintenance undertaken should be kept by the client

Accidental spillages

If accidental spillages occur of oil or other substances that can cause water pollution, they must be dealt with immediately. An example of this is if a car sump fails and there is large spillage of oil on the car park or road surfaces. A spillage kit appropriate to the size of the car park should be kept by the site caretaker. This should include absorbent pads, socks and rain seals.

As soon as a spillage is identified, the drain inlets in that area should be covered to prevent pollution entering the system. The pollution should then be cleared from the road or car park surface. The local channel system and/or Permaceptor receiving the spillage should be emptied of all pollution that has entered.

The Permachannels and Permaceptors should prevent any significant pollution entering the rest of the drainage system. The Environment Agency should be informed of the spillage and the appropriate actions should be taken.

General design details

The Permavoid range of products can be used individually or linked together to provide unique and flexible water management solutions.

The following typical design details highlight a range of solutions available. These drawings are available on the Polypipe website at www.polypipe.com/toolbox. Individual projects may require tailored solutions that are not detailed. For more information please contact our Technical Team on +44 (0) 1509 615100.

Typical permeable pavements

Figure 8.1.1: Sub-base infiltration detail (drawing no. PV_SD_IN_PP_001)

(For illustration purposes, we have shown a permeable block paving system.
For Permeable asphalt a 40mm surface course and 80mm binder course are recommended)

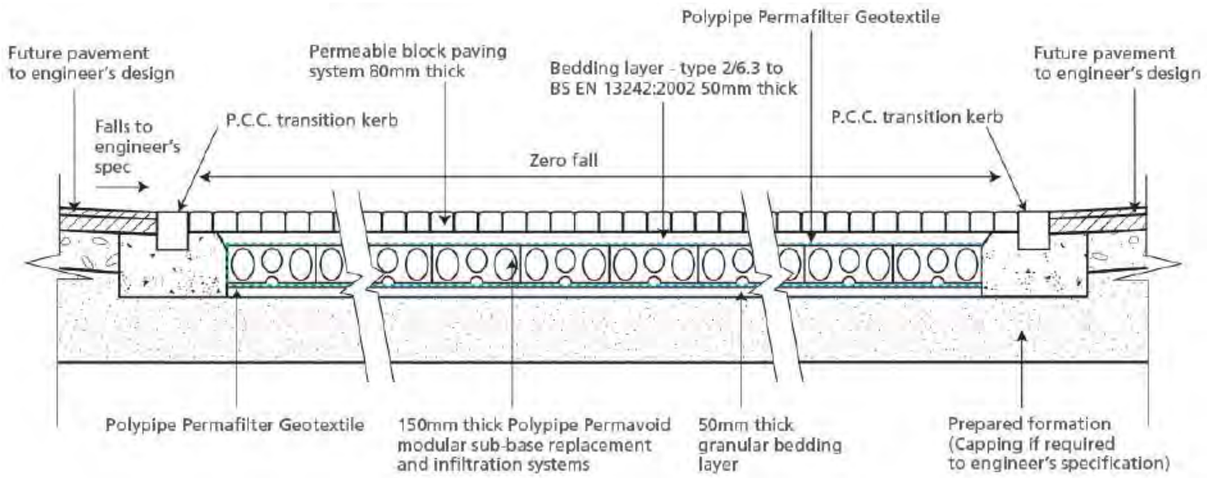
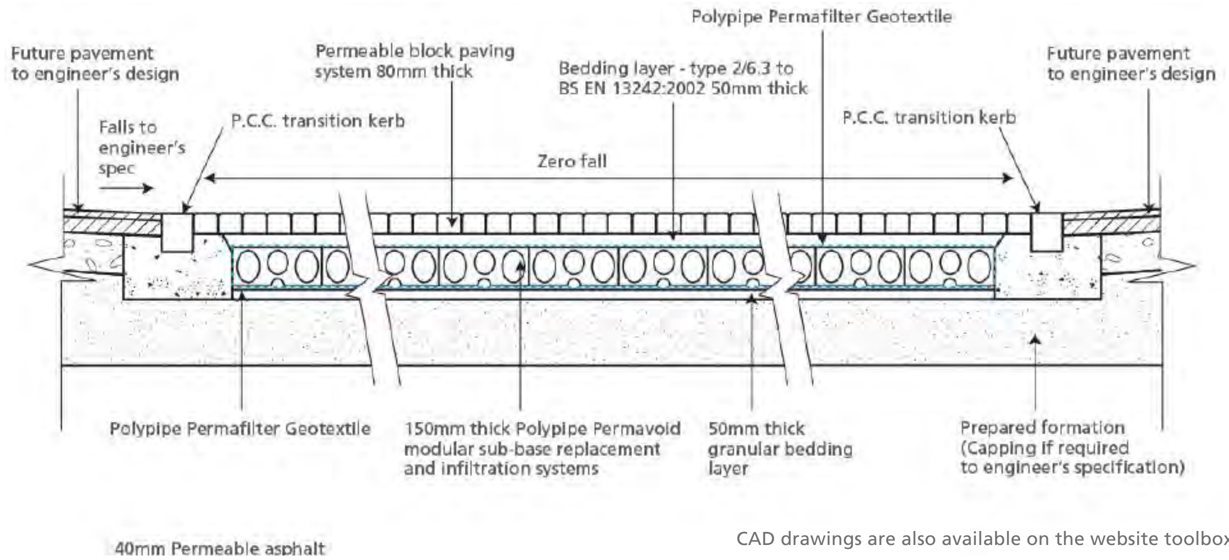


Figure 8.1.2: Permavoid permeable pavement sub-base attenuation detail (drawing no. PV_SD_AT_PP_001)

(For illustration purposes, we have shown a permeable block paving system.
For Permeable asphalt a 40mm surface course and 80mm binder course are recommended)



General design details

Typical permeable pavements - attenuation

Figure 8.2.1: Permavoid with Permachannel shallow cellular attenuation detail (drawing no. PV_SD_AT_PC_001)

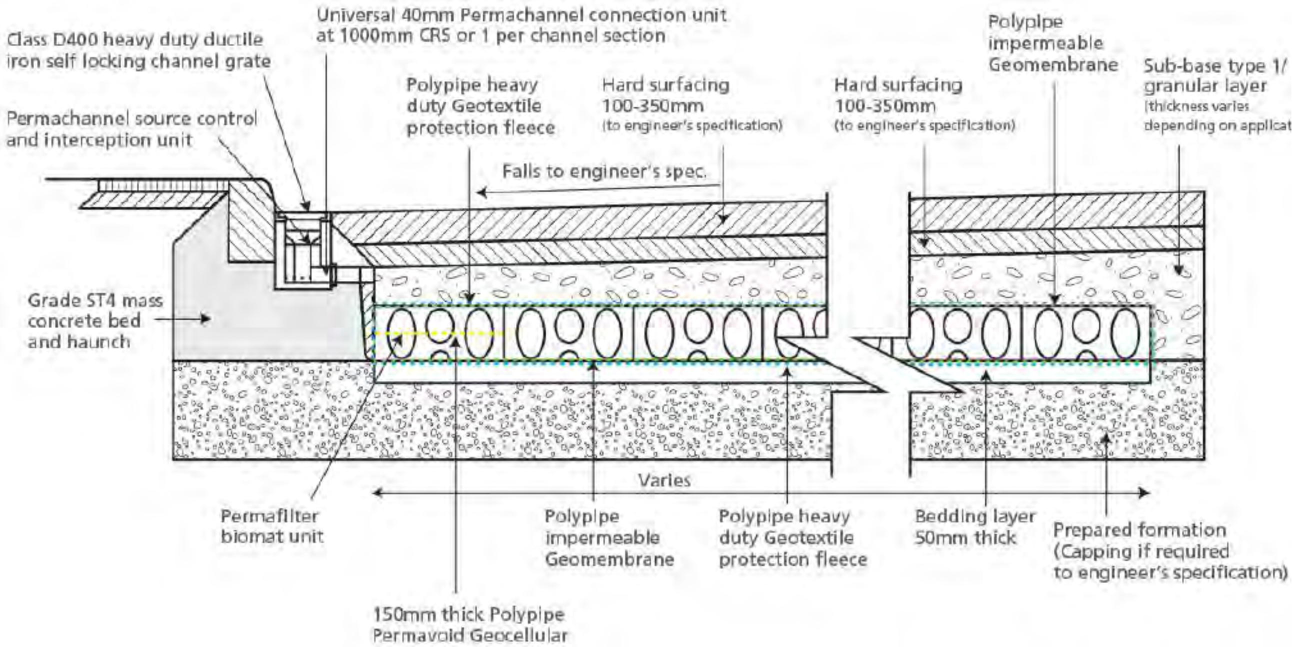


Figure 8.2.2: Permavoid with Permachannel SuDSAGG attenuation detail (drawing no. PV_SD_AT_PC_002)

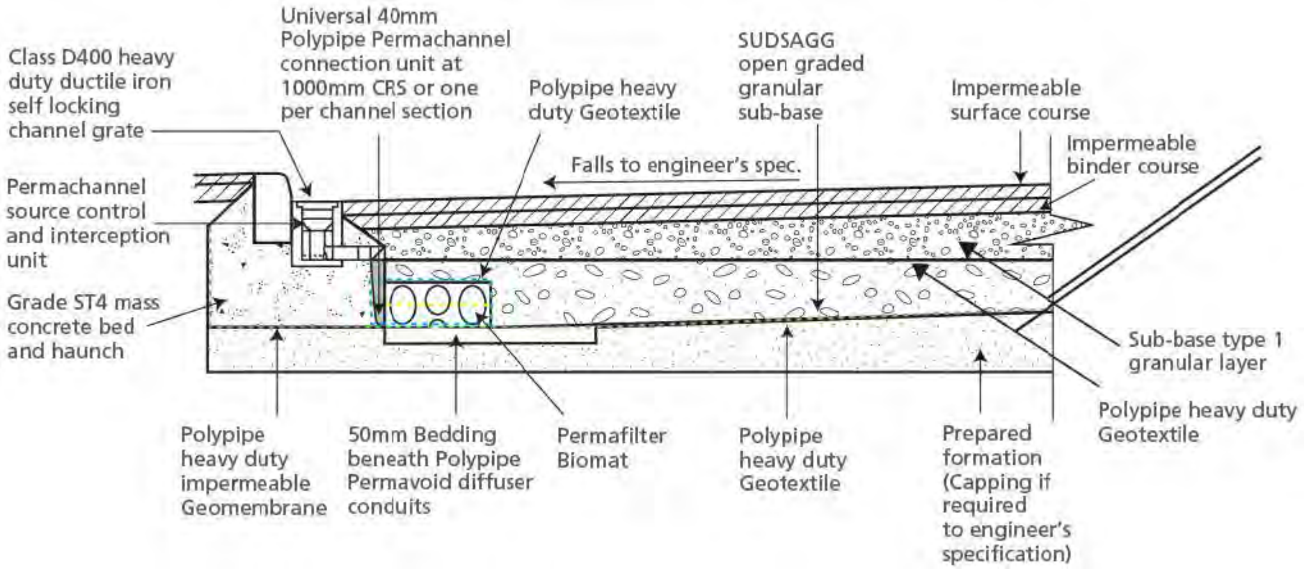


Figure 8.3.1: Permavoid with Permachannel deep cellular attenuation detail with Medium Duty Biomat (drawing no. PV_SD_AT_PC_003)

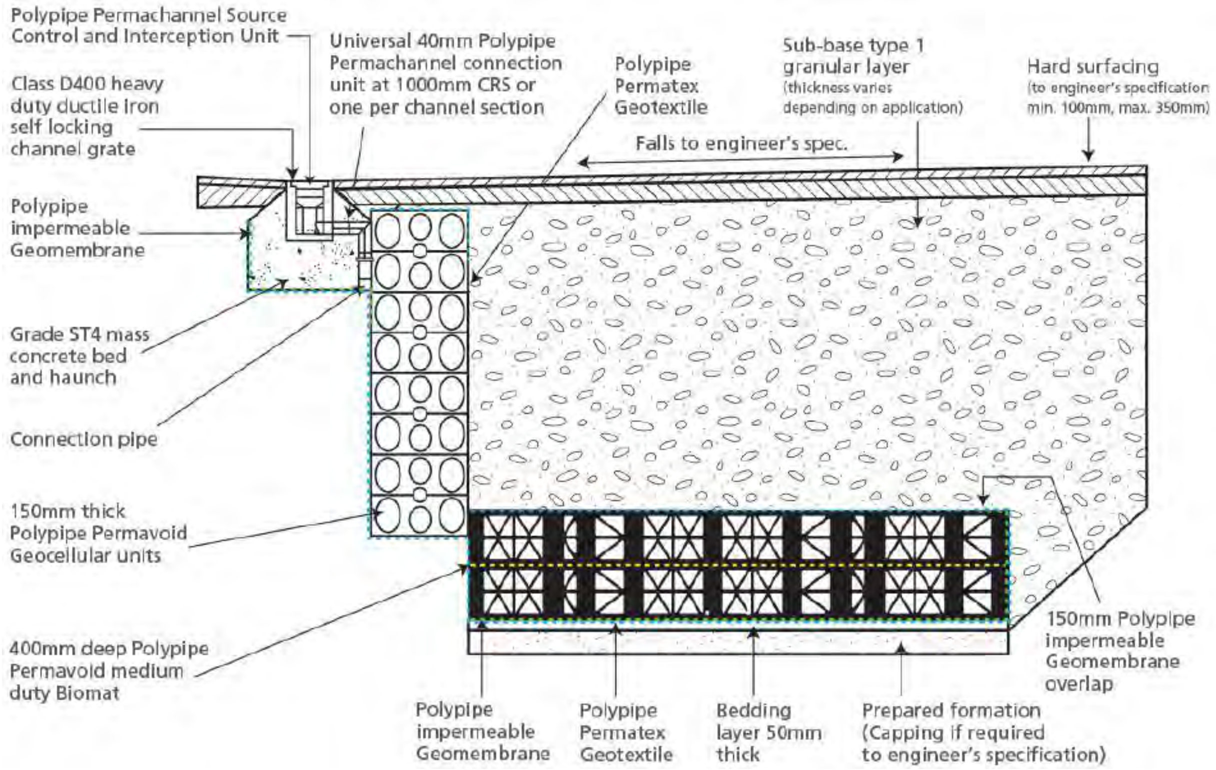
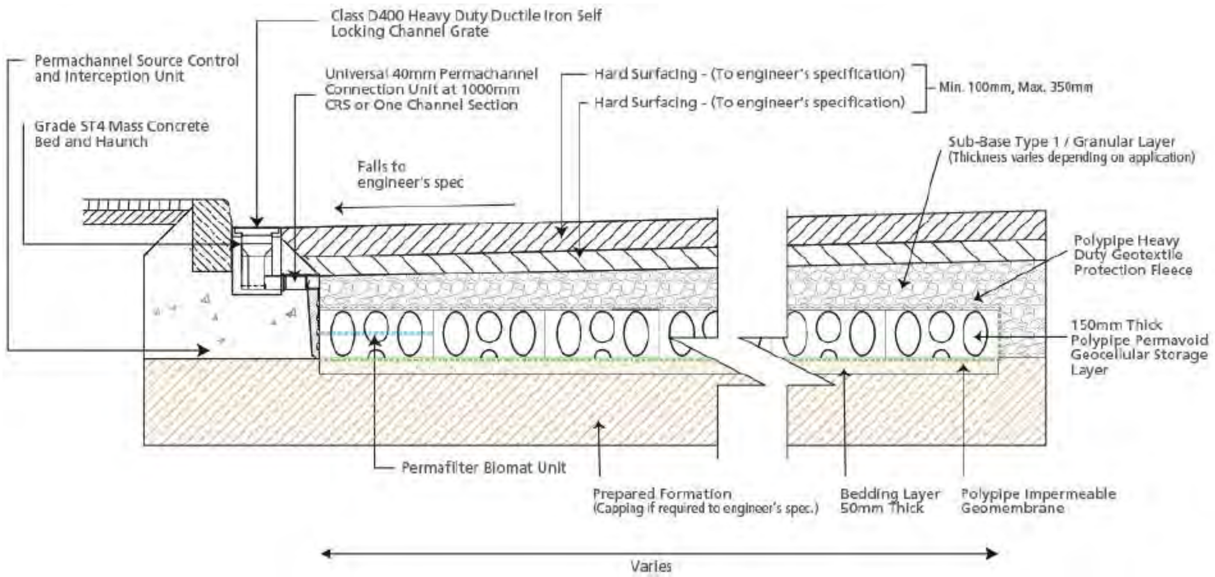


Figure 8.3.2: Permavoid with Permachannel shallow cellular infiltration detail (drawing no. PV_SD_IN_PC_001)



SECTION 1 LEGISLATION AND REGULATIONS
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General design details

Figure 8.4.1: Permavoid with Permachannel SuDSAGG infiltration detail
(drawing no. PV_SD_IN_PC_002)

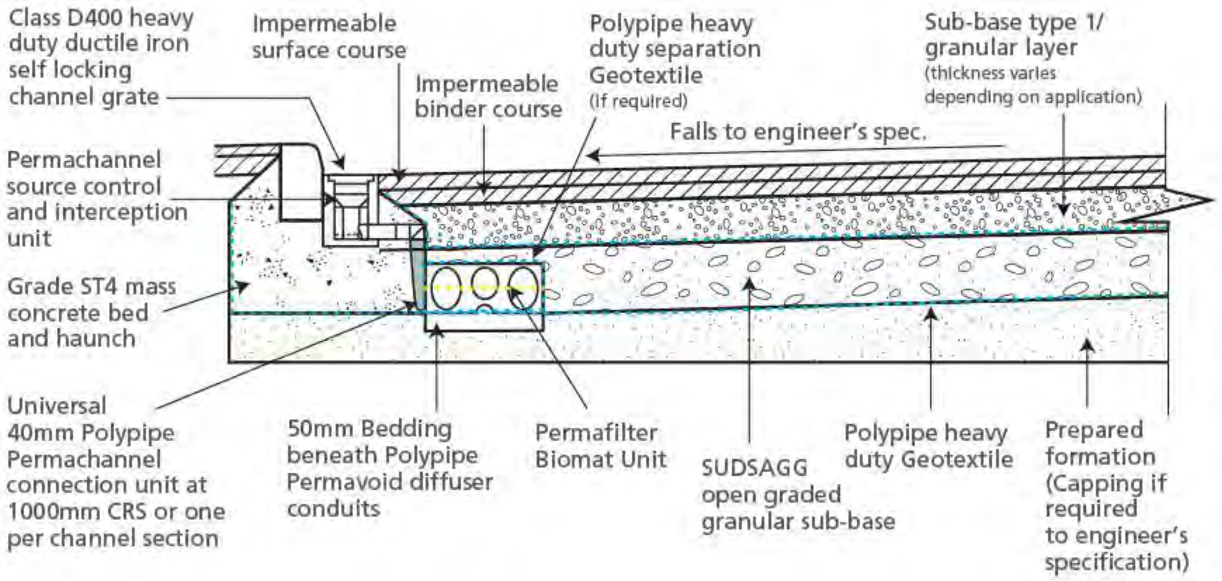


Figure 8.4.2: Permavoid with Permachannel deep cellular infiltration detail
(drawing no. PV_SD_IN_PC_003)

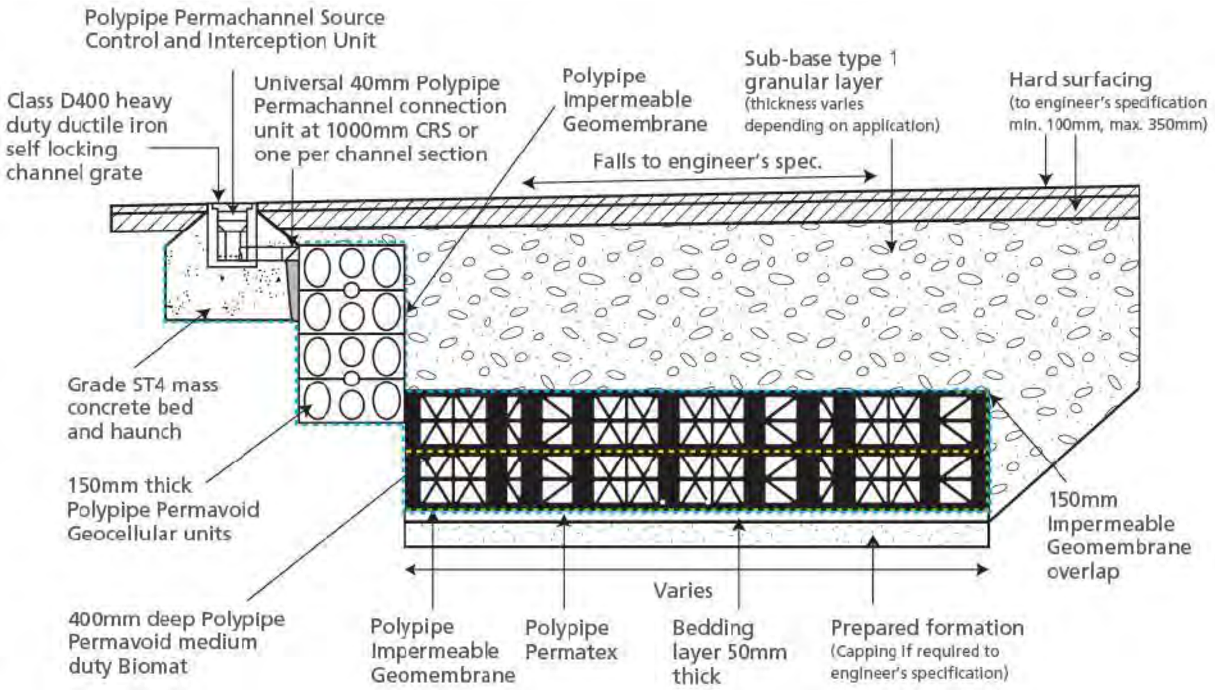


Figure 8.5.1: Permavoid with Gullyceptor detail
(drawing no. PV_SD_ID_GC_001)

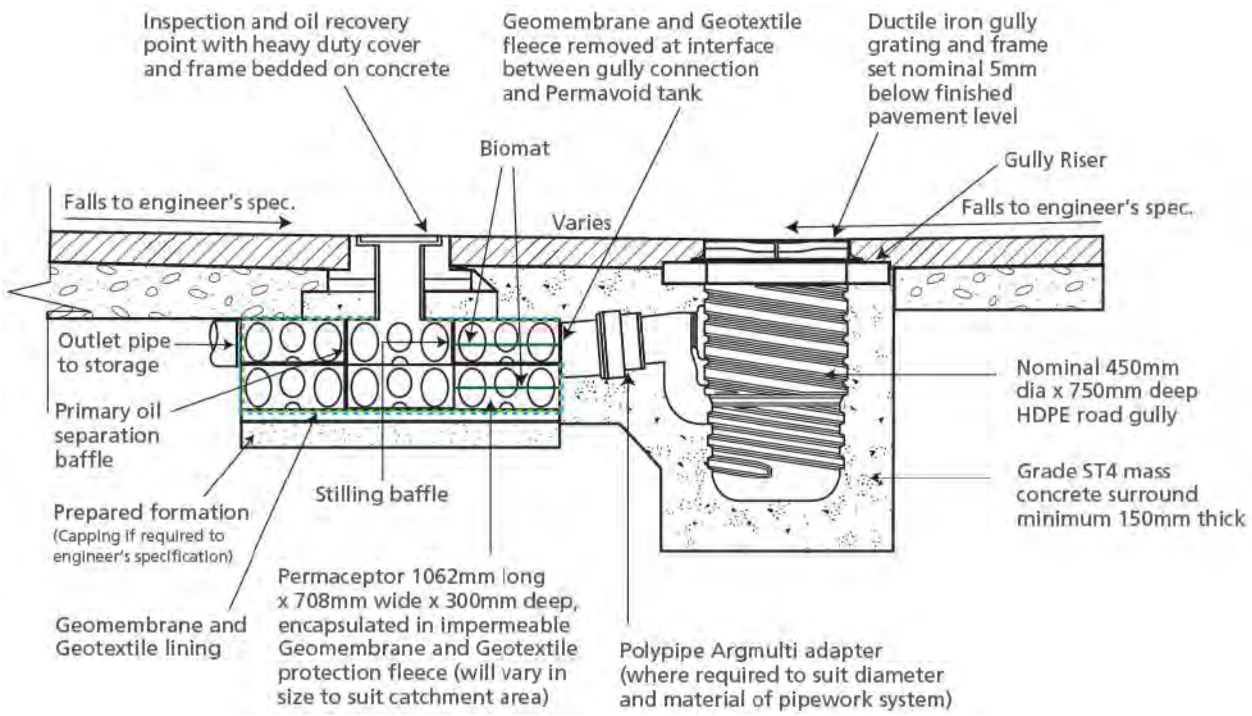
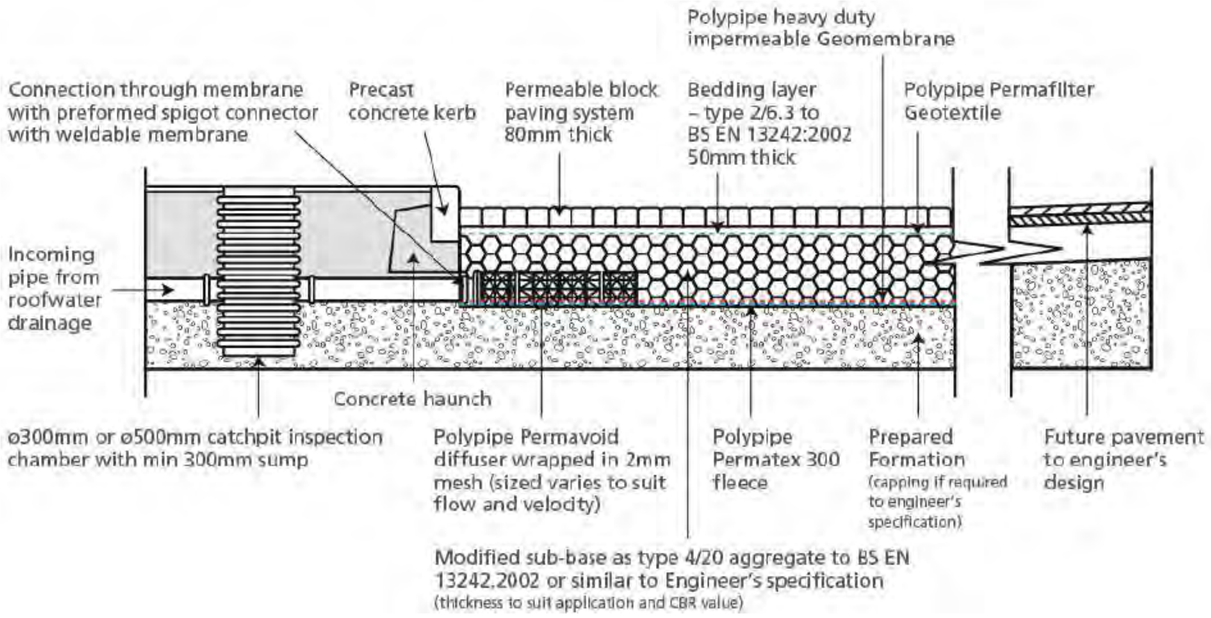


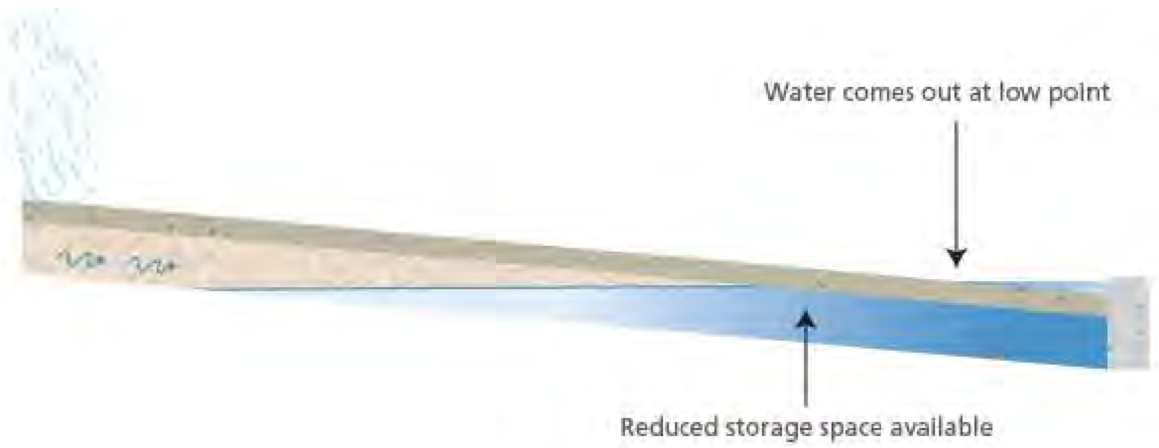
Figure 8.5.2: Permavoid rainwater pipe connection detail
(drawing no. PV_SD_AT_MC_001)



General design details

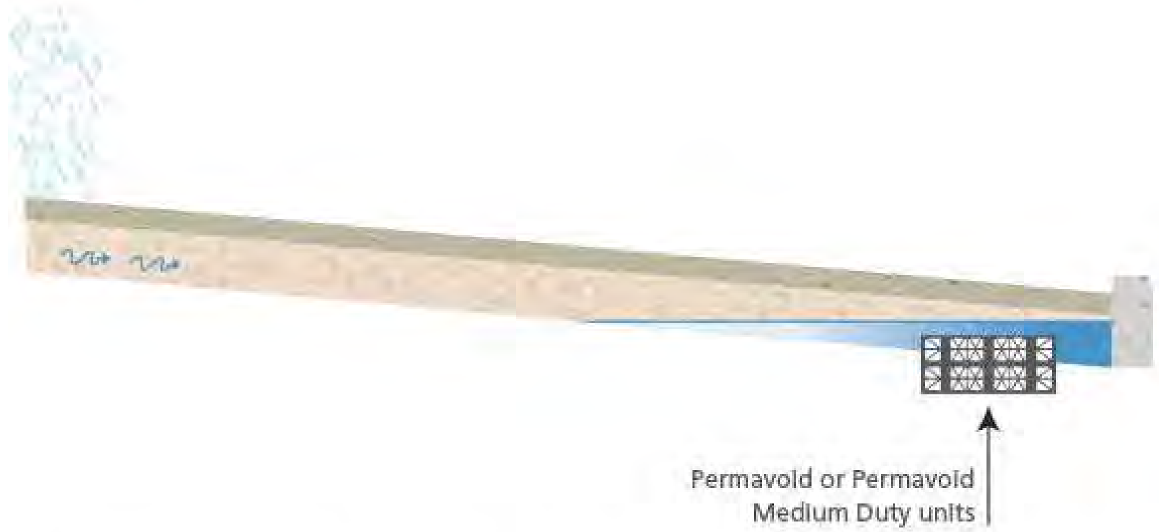
Managing permeable pavements on sloping sites:

THE PROBLEM



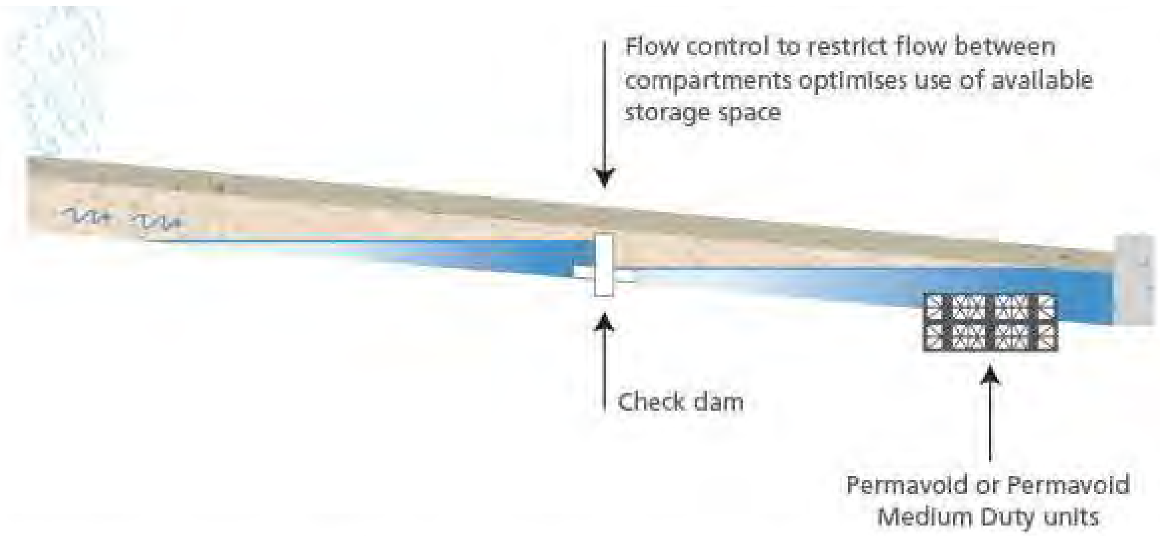
If a pervious pavement is built on a sloping site, it must be designed to prevent all the water in the sub-base running to the bottom of the slope and exiting the surface. The slope also reduces the available storage in the sub-base. The Permavoid system can be incorporated to create effective sub-catchments to control the quantity and quality of the water using various components and techniques.

SOLUTION 1



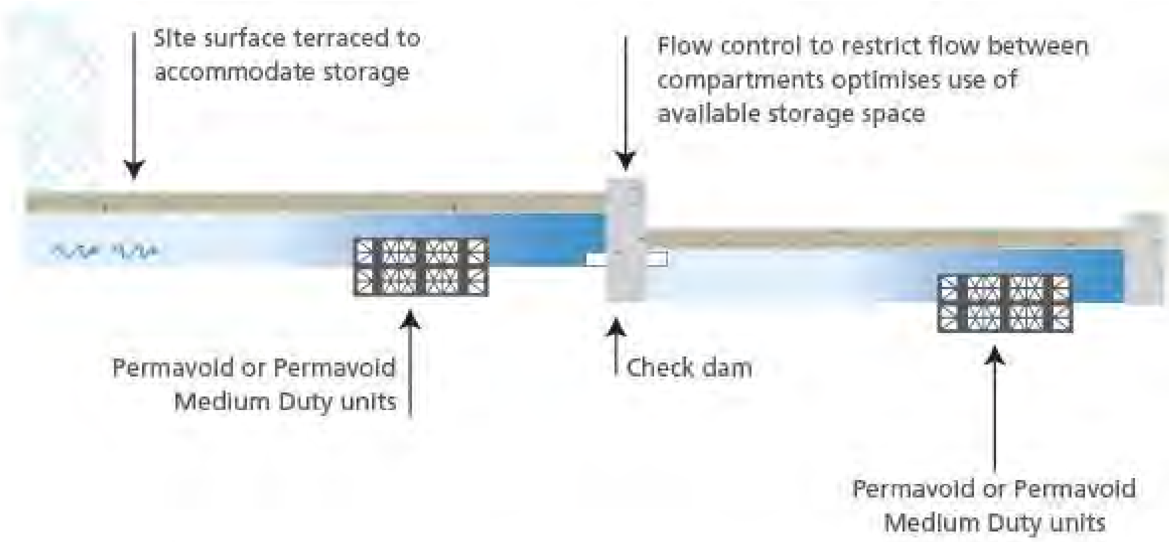
The use of Permavoid and/or Permavoid Medium Duty units at the lower end of the site to increase total storage capacity.

SOLUTION 2



Install dams as required within the sub-base with flow controls to reduce the flow down the slope. Flow control can be achieved in a number of ways including incorporating Permafoam units within the check dam.

SOLUTION 3



If practicable, terrace the site to give level areas of permeable paving separated by check dams to create manageable sub-base storage areas.

Case study - Walthamstow

Polypipe was called upon to provide a stormwater management system for the redevelopment of Walthamstow Stadium.

Working closely with main contractor Quadrant Construction and consultant engineers MLM, our Permavoid geocellular stormwater attenuation system was specified due to its ability to work perfectly as a sub-base replacement system, avoiding deep excavation at the site which contained contaminated ground and a high water table.

Located on the site of the former greyhound stadium and adjacent to the River Ching, the Walthamstow Stadium development boasts 294 new homes that incorporate sustainable drainage features, including brown roofs and permeable paving.

Utilising the high strength Permavoid system, we designed and supplied the system beneath 4,500m² of permeable paving to provide 1,500m³ of stormwater attenuation to meet the requirements of the Environment Agency.

The design featured 150mm deep Permavoid cells, with Permafilter geotextile laid on top between the cells and the permeable paving. The Permafilter acts as a barrier to capture and treat surface water run-off at source from the permeable paving above, before entering the tank. The sides and the bottom of the tank were wrapped in a geomembrane to allow for stormwater to be attenuated, before discharging at a rate set by the Environment Agency into the river with the use of flow control devices. In areas of hard standing, without permeable paving, Permachannel and Permavoid Biomat were installed to capture, treat and attenuate surface water run-off.

The Permavoid system is capable of handling rainfall in the event of a '1 in 100' year storm, and reduces urban stormwater run-off from the site by 80%.

Despite being so lightweight, the strength of the Permavoid cells allows them to support structural loads across heavily trafficked areas, making them suitable to withstand the compressive and dynamic loads produced by vehicles at the site.

Case study - Coronation Street

A shallow stormwater management system using Permavoid was specified for use as part of the construction of the new Coronation Street set.

Working closely with the construction company, The Carey Group Plc and international consultancy and construction company Mace, our supply and install partner, SEL, undertook an evaluation of the site and its ground conditions. They recommended a Permavoid system to provide a shallow solution, due to the site being on brownfield land, having a high water table and a shallow outfall.

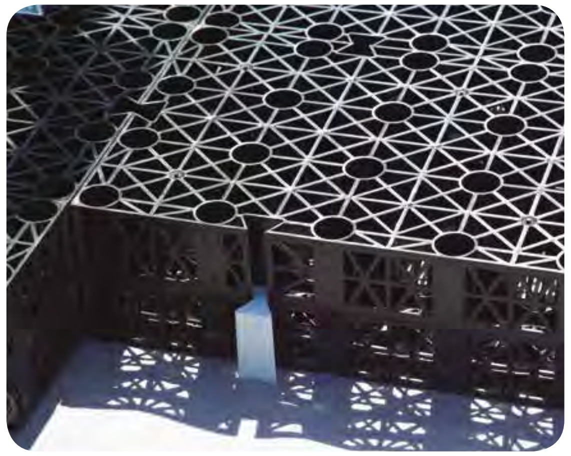
The shallow depth of the solution not only negated the need for pumping stations, it also reduced the need for temporary works, which in turn reduced installation and labour costs as well as Health and Safety risks.

The project saw 28 separate Permavoid attenuation tanks installed throughout the site, providing a combined storage capability of 420,000 litres.

High strength Permavoid cells were combined with strategically located Permachannel and Permavoid Biomat cells for the capture, treatment, storage and controlled discharge of rainwater at source.

Permachannel acts as both a surface water collection point and a treatment system that intercepts silt and oil with a zero gradient at pavement level. Water is then discharged from the side of each Permachannel into the Permavoid cells, complete with Permavoid Biomat and Permafilter for further treatment and storage, allowing only treated water to be discharged into the local watercourse.

The system incorporates a unique jointing mechanism that forms an interlocking 'raft' that will support structural loads across the most heavily trafficked areas, such as those found at the Coronation Street set.



Product summary

Product Summary

Product	WATER CAPTURE	TREATMENT	INFILTRATION	ATTENUATION	RETENTION (RE-USE)	
PERMAVOID 85mm & 150mm	✓		✔	✔	✔	Geocellular storage unit used to capture water for retention, attenuation or infiltration.
PERMACHANNEL	✔	✔	✓	✓	✓	A combined run-off collection, silt/oil interceptor and treatment system.
PERMACEPTOR	✔	✔	✓	✓	✓	A combined run-off collection, silt/oil interceptor and treatment system.
PERMAVOID BIOMAT		✔	✓	✓	✓	Used with Permavoid, Permachannel and Permaceptor to provide additional water treatment and storage.
PERMAVOID MEDIUM DUTY WITH BIOMAT		✔	✓	✓	✓	Geocellular storage unit for use with Permavoid, Permachannel, Permaceptor and Polystorm to provide additional water treatment and storage.
PERMAFILTER		✔	✔	✓	✓	Specifically designed for hydrocarbon treatment.
GEOMEMBRANE				✔	✔	Impermeable membrane used for retention and attenuation.
PERMATEX 300			✔	✓	✓	A geotextile designed to protect and separate Permavoid geocellular layers.
PERMAVOID WICKING	✓				✔	Formulated to provide passive irrigation to soft and landscaped areas.
PERMAFOAM	✓			✓	✔	Phenolic foam filled Permavoid geocellular unit used for irrigation and flow regulation.

✔ Key Primary Application

✓ Additional Application

Associated products

Permavoid

A sub-base replacement geocellular water management system for use at shallower depths.

Polystorm

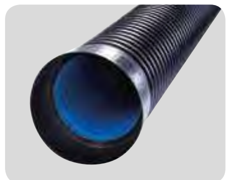
A geocellular system used for retention, attenuation and infiltration at deeper depths.

Ridgistorm-XL

An engineered, large diameter pipe solution for surface water, foul water and combined sewer applications.

Rainstream

Rainwater re-use systems for both commercial and residential applications.



Ridgidrain

A high strength HDPE surface water drainage piping system, used for surface and sub-surface drainage applications.

Polysewer

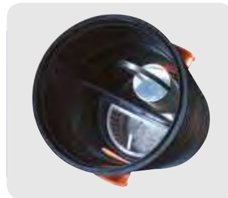
A PVCu sewer pipe system available in sizes 150mm-300 mm.

Ridgisewer

A highly durable and versatile polypropylene sewer pipe system, available in sizes 400mm-600mm.

RIDGISTORMCheck

Flow control chambers available with pre-fabricated vortex flow controllers and orifice plates.

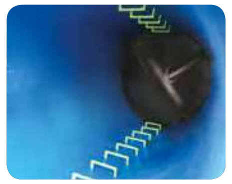


RIDGISTORMSeparate

A range of upstream catchpits and silt traps to separate slit and other particles before entering a drainage system or the environment.

RIDGISTORMControl

A range of pre-fabricated chambers with flow control components such as Gate Valves, Flap Valves and Penstocks.



RIDGISTORMAccess Manholes

Pre-fabricated manholes to provide easy access into a pipeline.

RIDGISTORM-X4

Advanced 4 stage water treatment system.

Landcoil

A land drainage system for the management of excess land water.

Cable protection

Protects cables and conduits carrying power, motorway communications, lighting and utilities in almost every application.

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Enabling sustainable building technology

At Polypipe, we provide plastic piping systems that enable the effective installation and performance of sustainable building technology, helping meet the twin global challenges of carbon reduction and water management.

Water management solutions

Roof to River

Offering a comprehensive range of standalone and modular SuDS products, rainwater harvesting and surface water treatment solutions plus legislative and technical support services, our Water Management Solutions Team address the requirements of every construction and civil engineering project.

Carbon efficient solutions

Sustainable indoor environments

Ever stricter building regulations and ever more environmentally conscious customers are driving the demand for greener building products and technologies. We fulfil that demand with a full range of systems that enable collection, transmission, emission and control in heating, ventilation and cooling systems.

Sector focus

Our product systems respond directly to sector-specific requirements thanks to focused Technical and Development Teams with hands on expertise in the following areas:

Civils and infrastructure

Delivering performance and sustainability, our surface water drainage and cable management systems, supported by our in-house Fabrications Team, offer civils and infrastructure project planners a complete suite of solutions.

Residential

We offer the broadest range of residential product and service solutions for both new build and RMI applications, as well as innovative solutions in response to legislative and industry targets for more sustainable housing.

Commercial

Major commercial projects from car parks and high rise office blocks to hospitals, educational premises and shopping centres have all benefited from our range of value engineered products and comprehensive service support.

Literature and website

Literature

All of our literature is available at www.polypipe.com/toolbox

Product literature

Civils & Infrastructure Product Guide

Civils & Infrastructure Pocket Guide

Ridgistorm-XL Technical Manual

Polystorm Technical Guide

Solutions literature

WMS Sector Brochure

Rail Solutions Brochure

Market sector literature

Additional market sector literature is available, please visit www.polypipe.com or contact the telephone numbers appearing under each brochure.

All of our literature is available at www.polypipe.com/toolbox

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Residential
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Commercial
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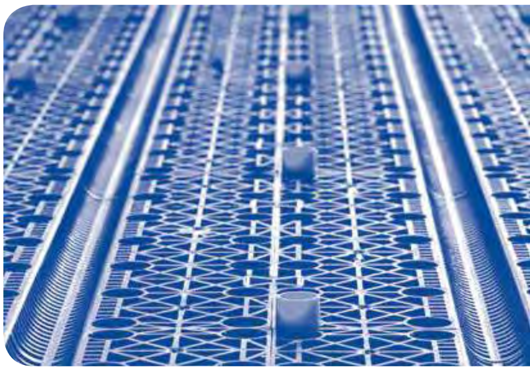
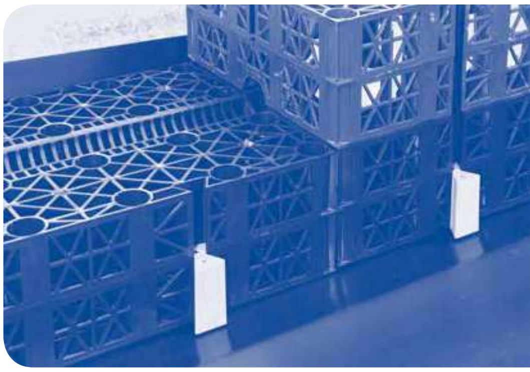
Permavoid System Technical Manual





Civils & Infrastructure

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Polypipe

Permavoid Modular Cell 150

Data Sheet

PRODUCT INFORMATION P1 ISSUE 5 - JUNE 2019

Product code: PVPP150

Permavoid is a geocellular interlocking system designed for shallow ground water storage or infiltration, to be used in place of traditional aggregate sub-base, or to provide source control above ground at both roof and podium level, removing the need for heavier and less efficient systems. The system has an exceptionally high compressive and tensile strength and bending resistance with a proprietary jointing system to create a horizontal structural 'raft' within the pavement that is ideal for the shallow attenuation of surface water. The system can also be combined in layers using interlocking shear connectors to increase depth in 85mm and 150mm increments. This is particularly useful in designing infiltration systems, allowing flexibility in balancing the soil permeability/ infiltration area of the Permavoid storage units and residual temporary attenuation.

Applications

The Permavoid units are suitable for use as a stormwater attenuation and/or infiltration. The system comprises of single, interconnected cells which can be installed in the ground as part of sub-base formation, or above ground as part of roof or podium attenuation systems for source control. Permavoid is suitable for use in a range of applications including residential, industrial estates, car parks, sports pitches, roofs, basements, pedestrian areas and rainwater harvesting.

Key Benefits

- High strength, high capacity, shallow, sub-base replacement system
- Stormwater attenuation and/or infiltration system
- Used as part of a sustainable drainage system (SuDS) scheme to offer stormwater storage at shallow construction depths
- 100% recyclable
- Units are manufactured from 100% recycled polypropylene (PP)

Performance

The structural load bearing capacity of the Permavoid units have been tested in accordance with the following European Standard: BS 7533-13:2009. The system's structural design life expectancy, based upon creep test data (tested in accordance with CIRIA guidelines) is as follows; for lightly loaded areas such as car parks a design life of 50 years is achievable. For areas with prolonged HGV loading a typical design life may only be 25 years, depending on the design of the pavement surfacing and structural layers over the tank.

Installation

All calculations for Permavoid units are based upon site-specific load cases, pavement construction types and thicknesses, soil cover and ground conditions and the suitability must therefore be approved for each project.

Technical Support

Detailed guidance and assistance is available.
For further information, please contact our Technical Team on +44 (0) 1509 615 100 or email civils@polypipe.com or visit www.polypipe.com/civils-technical-hub

ELEMENT	VALUE
PHYSICAL PROPERTIES	
Weight per unit	3kg
Weight per square metre	12kg
Length	708mm
Width	354mm
Depth	150mm
SHORT TERM COMPRESSIVE STRENGTH	
Vertical	715kN/m²
Lateral	156kN/m²
SHORT TERM DEFLECTION	
Vertical	1mm per 126kN/m²
Lateral	1mm per 15kN/m²
TENSILE STRENGTH	
Of a single joint	42.4kN/m²
Of a single joint at (1% secant modulus)	18.8kN/m²
Bending resistance of unit	0.71kN/m
Bending resistance of single joint	0.16kN/m
OTHER PROPERTIES	
Volumetric void ratio	95%
Average effective perforated surface area	52%
Intrinsic permeability (k)	Minimum 1.0×10^{-5}
Ancillary	Permavoid Permatie Permavoid Shear Connector
Material	Polypropylene (PP)

HYDRAULIC PERFORMANCE						
3 units wide, 1 unit deep (1.06m x 0.15m)						
FREE DISCHARGE						
Gradient (%)	0	1	2	3	4	5
Flow Rate (l/m/s)	8	13	15	17	19	21

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Charnwood Business Park, Loughborough, Leicestershire LE11 1LE
Tel: +44 (0) 1509 615100 Fax: +44 (0) 1509 610215 Email: civils@polypipe.com
www.polypipe.com/wms

Permavoid Modular Cell 150 can be utilised in these SuDS techniques

TECHNIQUES													
Blue-Green roofs	Podium Decks	Trees	Sports Pitches	Cycle Paths	Permeable Paving (sub base & podium)	Bioretention & Rain Gardens	Attenuation Storage Tanks	Infiltration	Swales	Filter Drains	Detention Basins	Ponds & Wetlands	Filter Strips
	✓		✓	✓	✓	✓	✓	✓	✓	✓			

Visit www.polypipe.com/greeninfrastructure

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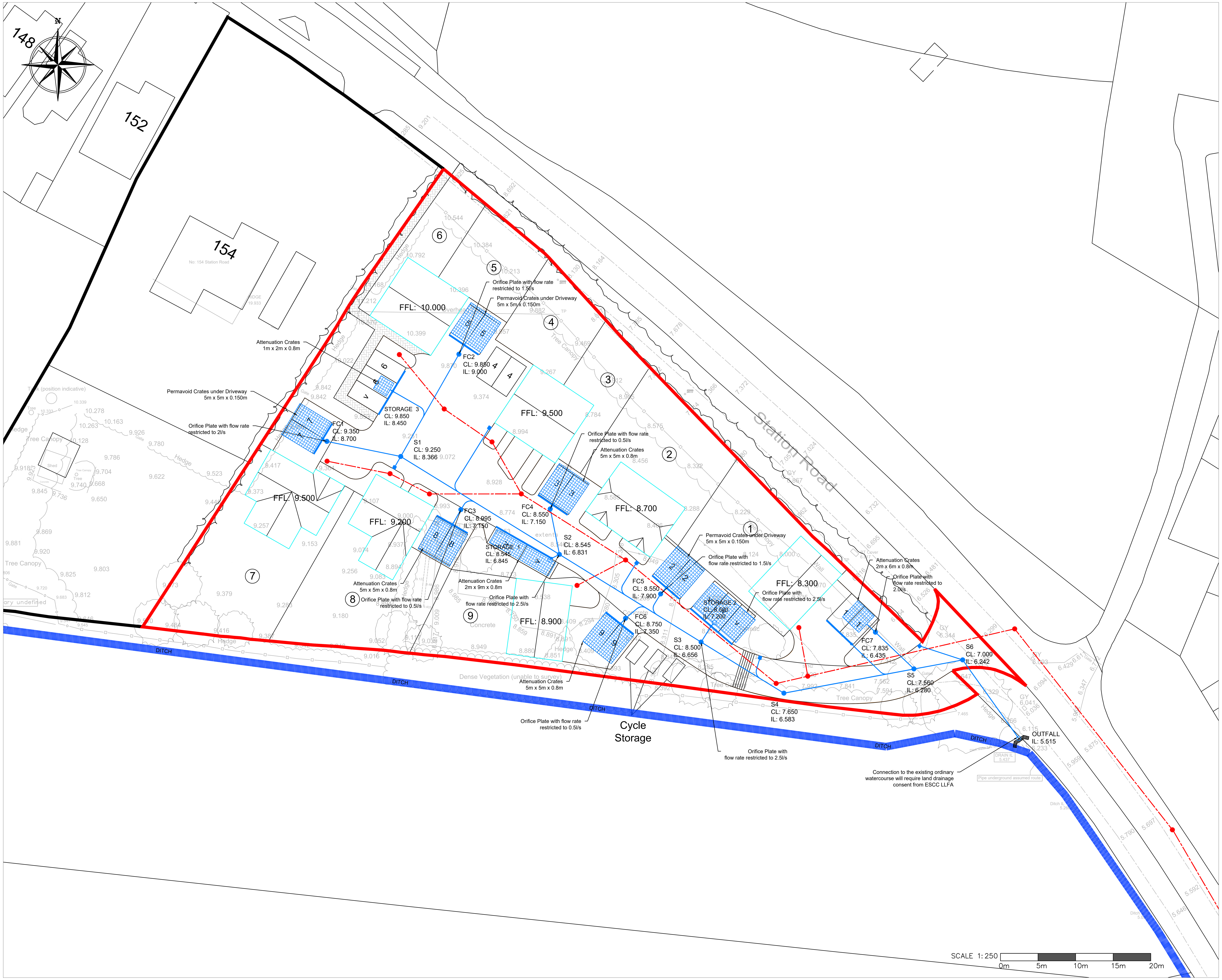


General Notes

KEY:

	Application Site Boundary
	Surface Water Drain
	Foul Water Drain
	Linear Drainage
	Pipe Protection
	SW Rising Main
	FW Rising Main
	French Drain/Perforated Pipe
	Surface Catch Pit/Manhole
	Foul Water Manhole
	Surface Water Soakaway
	Gully & Lead
	Waste Water Package Treatment Plant
1.2m	Retaining Wall
+153.100	Spot Levels
	Direction of Flow
	Embankment
	Brick Headwall
	ACO Linear Drain
	Catchment Area 601m2
	Catchment Area 1254m2

FOR PLANNING

No.	Revision/Issue	Date

RSPD

Roads & Sewers for Planning & Design Ltd

www.roadsandsewers.co.uk 07876 573377

Project Name and Address

154 STATION ROAD,
HAILSHAM,
BN27 2SB

Description

DRAINAGE STRATEGY

Project
5678

Date
20/02/2023

Scale
1:250 @ A1

Sheet
01

Design Settings

Rainfall Methodology	FEH-13	Maximum Time of Concentration (mins)	30.00	Preferred Cover Depth (m)	0.450
Return Period (years)	2	Maximum Rainfall (mm/hr)	50.0	Include Intermediate Ground	✓
Additional Flow (%)	0	Minimum Velocity (m/s)	0.75	Enforce best practice design rules	✓
CV	0.750	Connection Type	Level Soffits		
Time of Entry (mins)	30.00	Minimum Backdrop Height (m)	0.200		

Adoptable Manhole Type

Max Width (mm)	Diameter (mm)	Max Width (mm)	Diameter (mm)	Max Width (mm)	Diameter (mm)	Max Width (mm)	Diameter (mm)
374	1200	499	1350	749	1500	900	1800

>900 Link+900 mm

Max Depth (m)	Diameter (mm)	Max Depth (m)	Diameter (mm)
1.500	1050	99.999	1200

Circular Link Type

Shape	Circular	Barrels	1	Auto Increment (mm)	75	Follow Ground	x

Available Diameters (mm)

100	150

Nodes

	Name	Area (ha)	T of E (mins)	Cover Level (m)	Node Type	Manhole Type	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
✓	S1			9.250	Manhole	Adoptable	450	559495.320	108606.130	0.884
✓	S2	0.050	30.00	8.545	Manhole	Adoptable	450	559516.440	108593.100	1.764
✓	S3	0.033	30.00	8.500	Manhole	Adoptable	450	559535.300	108581.440	1.844
✓	S4			7.650	Manhole	Adoptable	450	559546.310	108574.640	1.067
✓	S5			7.650	Manhole	Adoptable	1050	559563.620	108577.870	1.370
✓	S6	0.027	30.00	7.000	Manhole	Adoptable	450	559570.110	108579.070	0.758
✓	OUTFALL			6.115	Manhole	Adoptable	450	559577.570	108568.620	0.600

Nodes

	Name	Area (ha)	T of E (mins)	Cover Level (m)	Node Type	Manhole Type	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
✓	FC1	0.012	30.00	9.350	Manhole	Adoptable	450	559485.500	108608.130	0.650
✓	FC2	0.011	30.00	9.850	Manhole	Adoptable	450	559503.070	108619.740	0.850
✓	FC3	0.011	30.00	8.995	Manhole	Adoptable	450	559503.330	108599.060	1.845
✓	FC4	0.011	30.00	8.550	Manhole	Adoptable	450	559515.360	108599.360	1.400
✓	FC5	0.011	30.00	8.550	Manhole	Adoptable	450	559529.910	108587.840	0.650
✓	FC6	0.010	30.00	8.750	Manhole	Adoptable	450	559524.890	108584.310	1.400
✓	FC7	0.010	30.00	7.835	Manhole	Adoptable	450	559553.290	108581.480	1.400
✓	STORAGE 1		30.00	8.545	Manhole	Adoptable	1200	559515.230	108592.370	1.700
✓	STORAGE 2		30.00	8.500	Manhole	Adoptable	1200	559537.050	108584.020	1.300
✓	STORAGE 3		30.00	9.850	Manhole	Adoptable	1200	559494.170	108614.840	1.400

Links

	Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	Link Type	T of C (mins)	Rain (mm/hr)
✓	1.001	S1	S2	24.816	0.600	8.366	7.995	0.371	66.9	100	Circular	30.00	20.4
?	1.002	S2	S3	22.173	0.600	6.781	6.656	0.125	177.4	150	Circular	30.00	20.4
?	1.003	S3	S4	12.941	0.600	6.656	6.583	0.073	177.3	150	Circular	30.00	20.4
?	1.004	S4	S5	17.609	0.600	6.583	6.484	0.099	177.9	150	Circular	30.00	20.4
?	1.005	S5	S6	6.600	0.600	6.280	6.242	0.038	173.7	150	Circular	30.00	20.4
✓	1.006	S6	OUTFALL	12.840	0.600	6.242	5.515	0.727	17.7	150	Circular	30.00	20.4

	Name	US Node	DS Node	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Minimum Depth (m)	Maximum Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
✓	1.001	S1	S2	0.943	7.4	1.3	0.784	0.450	0.450	0.784	0.023	0.0	28	0.699
?	1.002	S2	S3	0.751	13.3	5.3	1.614	1.694	1.614	1.694	0.095	0.0	65	0.707
?	1.003	S3	S4	0.751	13.3	8.2	1.694	0.917	0.917	1.694	0.149	0.0	86	0.792
?	1.004	S4	S5	0.750	13.3	8.2	0.917	1.016	0.917	1.016	0.149	0.0	86	0.791
?	1.005	S5	S6	0.759	13.4	8.8	1.220	0.608	0.608	1.220	0.159	0.0	89	0.810
✓	1.006	S6	OUTFALL	2.408	42.6	10.3	0.608	0.450	0.450	0.608	0.186	0.0	50	1.988

Links

	Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	Link Type	T of C (mins)	Rain (mm/hr)
✓	2.000	FC1	S1	10.022	0.600	8.700	8.604	0.096	104.4	100	Circular	30.00	20.4
✓	1.000	FC2	S1	15.662	0.600	9.000	8.700	0.300	52.2	100	Circular	30.00	20.4
?	4.000	FC3	S2	14.401	0.600	7.150	6.831	0.319	45.1	100	Circular	30.00	20.4
?	5.000	FC4	S2	6.352	0.600	7.150	7.089	0.061	104.1	100	Circular	30.00	20.4
✓	8.000	FC5	S3	8.367	0.600	7.900	7.820	0.080	104.6	100	Circular	30.00	20.4
?	7.000	FC6	S3	10.798	0.600	7.350	7.247	0.103	104.8	100	Circular	30.00	20.4
?	10.000	FC7	S5	10.943	0.600	6.435	6.330	0.105	104.2	100	Circular	30.00	20.4
?	6.000	STORAGE 1	S2	1.413	0.600	6.845	6.831	0.014	100.9	100	Circular	30.00	20.4
?	9.000	STORAGE 2	S3	3.118	0.600	7.200	7.170	0.030	103.9	100	Circular	30.00	20.4

	Name	US Node	DS Node	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Minimum Depth (m)	Maximum Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
✓	2.000	FC1	S1	0.752	5.9	0.7	0.550	0.546	0.546	0.550	0.012	0.0	23	0.500
✓	1.000	FC2	S1	1.069	8.4	0.6	0.750	0.450	0.450	0.750	0.011	0.0	18	0.619
?	4.000	FC3	S2	1.150	9.0	0.6	1.745	1.614	1.614	1.745	0.011	0.0	18	0.649
?	5.000	FC4	S2	0.753	5.9	0.6	1.300	1.356	1.300	1.356	0.011	0.0	21	0.480
✓	8.000	FC5	S3	0.751	5.9	0.6	0.550	0.580	0.550	0.580	0.011	0.0	21	0.479
?	7.000	FC6	S3	0.750	5.9	0.6	1.300	1.153	1.153	1.300	0.010	0.0	21	0.467
?	10.000	FC7	S5	0.753	5.9	0.6	1.300	1.220	1.220	1.300	0.010	0.0	21	0.469
?	6.000	STORAGE 1	S2	0.765	6.0	0.0	1.600	1.614	1.600	1.614	0.000	0.0	0	0.000
?	9.000	STORAGE 2	S3	0.754	5.9	0.0	1.200	1.230	1.200	1.230	0.000	0.0	0	0.000

Links

	Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	Link Type	T of C (mins)	Rain (mm/hr)
?	3.000	STORAGE 3	S1	8.786	0.600	8.450	8.366	0.084	104.6	100	Circular	30.00	20.4

	Name	US Node	DS Node	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Minimum Depth (m)	Maximum Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
?	3.000	STORAGE 3	S1	0.751	5.9	0.0	1.300	0.784	0.784	1.300	0.000	0.0	0	0.000

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.001	24.816	66.9	100	Circular	9.250	8.366	0.784	8.545	7.995	0.450
1.002	22.173	177.4	150	Circular	8.545	6.781	1.614	8.500	6.656	1.694
1.003	12.941	177.3	150	Circular	8.500	6.656	1.694	7.650	6.583	0.917
1.004	17.609	177.9	150	Circular	7.650	6.583	0.917	7.650	6.484	1.016
1.005	6.600	173.7	150	Circular	7.650	6.280	1.220	7.000	6.242	0.608
1.006	12.840	17.7	150	Circular	7.000	6.242	0.608	6.115	5.515	0.450
2.000	10.022	104.4	100	Circular	9.350	8.700	0.550	9.250	8.604	0.546
1.000	15.662	52.2	100	Circular	9.850	9.000	0.750	9.250	8.700	0.450

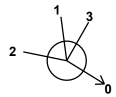
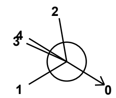
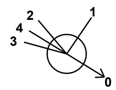
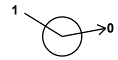
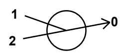
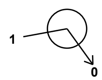
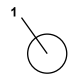
Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.001	S1	450	Manhole	Adoptable	S2	450	Manhole	Adoptable
1.002	S2	450	Manhole	Adoptable	S3	450	Manhole	Adoptable
1.003	S3	450	Manhole	Adoptable	S4	450	Manhole	Adoptable
1.004	S4	450	Manhole	Adoptable	S5	1050	Manhole	Adoptable
1.005	S5	1050	Manhole	Adoptable	S6	450	Manhole	Adoptable
1.006	S6	450	Manhole	Adoptable	OUTFALL	450	Manhole	Adoptable
2.000	FC1	450	Manhole	Adoptable	S1	450	Manhole	Adoptable
1.000	FC2	450	Manhole	Adoptable	S1	450	Manhole	Adoptable

Pipeline Schedule

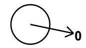
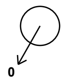
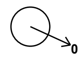
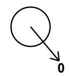
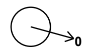
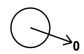
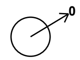
Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
4.000	14.401	45.1	100	Circular	8.995	7.150	1.745	8.545	6.831	1.614
5.000	6.352	104.1	100	Circular	8.550	7.150	1.300	8.545	7.089	1.356
8.000	8.367	104.6	100	Circular	8.550	7.900	0.550	8.500	7.820	0.580
7.000	10.798	104.8	100	Circular	8.750	7.350	1.300	8.500	7.247	1.153
10.000	10.943	104.2	100	Circular	7.835	6.435	1.300	7.650	6.330	1.220
6.000	1.413	100.9	100	Circular	8.545	6.845	1.600	8.545	6.831	1.614
9.000	3.118	103.9	100	Circular	8.500	7.200	1.200	8.500	7.170	1.230
3.000	8.786	104.6	100	Circular	9.850	8.450	1.300	9.250	8.366	0.784

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
4.000	FC3	450	Manhole	Adoptable	S2	450	Manhole	Adoptable
5.000	FC4	450	Manhole	Adoptable	S2	450	Manhole	Adoptable
8.000	FC5	450	Manhole	Adoptable	S3	450	Manhole	Adoptable
7.000	FC6	450	Manhole	Adoptable	S3	450	Manhole	Adoptable
10.000	FC7	450	Manhole	Adoptable	S5	1050	Manhole	Adoptable
6.000	STORAGE 1	1200	Manhole	Adoptable	S2	450	Manhole	Adoptable
9.000	STORAGE 2	1200	Manhole	Adoptable	S3	450	Manhole	Adoptable
3.000	STORAGE 3	1200	Manhole	Adoptable	S1	450	Manhole	Adoptable

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	MH Type	Connections		Link	IL (m)	Dia (mm)	Link Type
S1	559495.320	108606.130	9.250	0.884	450	Manhole	Adoptable		1	3.000	8.366	100	Circular
									2	2.000	8.604	100	Circular
									3	1.000	8.700	100	Circular
									0	1.001	8.366	100	Circular
S2	559516.440	108593.100	8.545	1.764	450	Manhole	Adoptable		1	6.000	6.831	100	Circular
									2	5.000	7.089	100	Circular
									3	4.000	6.831	100	Circular
									4	1.001	7.995	100	Circular
									0	1.002	6.781	150	Circular
S3	559535.300	108581.440	8.500	1.844	450	Manhole	Adoptable		1	9.000	7.170	100	Circular
									2	8.000	7.820	100	Circular
									3	7.000	7.247	100	Circular
									4	1.002	6.656	150	Circular
									0	1.003	6.656	150	Circular
S4	559546.310	108574.640	7.650	1.067	450	Manhole	Adoptable		1	1.003	6.583	150	Circular
									0	1.004	6.583	150	Circular
S5	559563.620	108577.870	7.650	1.370	1050	Manhole	Adoptable		1	10.000	6.330	100	Circular
									2	1.004	6.484	150	Circular
									0	1.005	6.280	150	Circular
S6	559570.110	108579.070	7.000	0.758	450	Manhole	Adoptable		1	1.005	6.242	150	Circular
									0	1.006	6.242	150	Circular
OUTFALL	559577.570	108568.620	6.115	0.600	450	Manhole	Adoptable		1	1.006	5.515	150	Circular

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	MH Type	Connections	Link	IL (m)	Dia (mm)	Link Type
FC1	559485.500	108608.130	9.350	0.650	450	Manhole	Adoptable	 0	2.000	8.700	100	Circular
FC2	559503.070	108619.740	9.850	0.850	450	Manhole	Adoptable	 0	1.000	9.000	100	Circular
FC3	559503.330	108599.060	8.995	1.845	450	Manhole	Adoptable	 0	4.000	7.150	100	Circular
FC4	559515.360	108599.360	8.550	1.400	450	Manhole	Adoptable	 0	5.000	7.150	100	Circular
FC5	559529.910	108587.840	8.550	0.650	450	Manhole	Adoptable	 0	8.000	7.900	100	Circular
FC6	559524.890	108584.310	8.750	1.400	450	Manhole	Adoptable	 0	7.000	7.350	100	Circular
FC7	559553.290	108581.480	7.835	1.400	450	Manhole	Adoptable	 0	10.000	6.435	100	Circular
STORAGE 1	559515.230	108592.370	8.545	1.700	1200	Manhole	Adoptable	 0	6.000	6.845	100	Circular

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	MH Type	Connections	Link	IL (m)	Dia (mm)	Link Type
STORAGE 2	559537.050	108584.020	8.500	1.300	1200	Manhole	Adoptable	0	9.000	7.200	100	Circular
STORAGE 3	559494.170	108614.840	9.850	1.400	1200	Manhole	Adoptable	0	3.000	8.450	100	Circular

Simulation Settings

Rainfall Methodology	FEH-13	Analysis Speed	Normal	Additional Storage (m^3/ha)	20.0
Summer CV	0.750	Skip Steady State	x	Check Discharge Rate(s)	x
Winter CV	0.840	Drain Down Time (mins)	240	Check Discharge Volume	x

Storm Durations

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

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)	Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0	100	20	0	0
30	0	0	0	100	40	10	0
100	0	0	0				

Node FC1 Online Orifice Control

Flap Valve	x	Invert Level (m)	8.700	Design Flow (l/s)	2.0	Discharge Coefficient	0.600
Replaces Downstream Link	✓	Design Depth (m)	0.550	Diameter (m)	0.036		

Node FC2 Online Orifice Control

Flap Valve	x	Invert Level (m)	9.000	Design Flow (l/s)	1.5	Discharge Coefficient	0.600
Replaces Downstream Link	✓	Design Depth (m)	0.750	Diameter (m)	0.028		

Node FC3 Online Orifice Control

Flap Valve	x	Invert Level (m)	7.150	Design Flow (l/s)	0.5	Discharge Coefficient	0.600
Replaces Downstream Link	✓	Design Depth (m)	0.550	Diameter (m)	0.018		

Node FC4 Online Orifice Control

Flap Valve	x	Invert Level (m)	7.150	Design Flow (l/s)	0.5	Discharge Coefficient	0.600
Replaces Downstream Link	✓	Design Depth (m)	0.550	Diameter (m)	0.018		

Node FC5 Online Orifice Control

Flap Valve	x	Invert Level (m)	7.900	Design Flow (l/s)	1.5	Discharge Coefficient	0.600
Replaces Downstream Link	✓	Design Depth (m)	0.550	Diameter (m)	0.031		

Node FC6 Online Orifice Control

Flap Valve	x	Invert Level (m)	7.350	Design Flow (l/s)	0.5	Discharge Coefficient	0.600
Replaces Downstream Link	✓	Design Depth (m)	0.550	Diameter (m)	0.018		

Node FC7 Online Orifice Control

Flap Valve	x	Invert Level (m)	6.435	Design Flow (l/s)	2.0	Discharge Coefficient	0.600
Replaces Downstream Link	✓	Design Depth (m)	0.550	Diameter (m)	0.036		

Node S1 Online Orifice Control

Flap Valve	x	Invert Level (m)	8.366	Design Flow (l/s)	2.0	Discharge Coefficient	0.600
Replaces Downstream Link	✓	Design Depth (m)	0.784	Diameter (m)	0.033		

Node S2 Online Orifice Control

Flap Valve	x	Invert Level (m)	6.781	Design Flow (l/s)	2.5	Discharge Coefficient	0.600
Replaces Downstream Link	✓	Design Depth (m)	1.214	Diameter (m)	0.072		

Node S3 Online Orifice Control

Flap Valve	x	Invert Level (m)	6.656	Design Flow (l/s)	2.5	Discharge Coefficient	0.600
Replaces Downstream Link	✓	Design Depth (m)	1.431	Diameter (m)	0.031		

Node S5 Online ACO Q-Brake Control

Flap Valve	x	Invert Level (m)	6.280	Design Flow (l/s)	2.0	Min Node Diameter (mm)	1050
Replaces Downstream Link	✓	Design Depth (m)	1.000	Min Outlet Diameter (m)	0.095	Orifice Diameter (mm)	0.065

Node FC1 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	8.700
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	76

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	25.0	0.0	0.150	25.0	0.0	0.151	0.0	0.0

Node FC2 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	9.000
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	88

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	25.0	0.0	0.150	25.0	0.0	0.151	0.0	0.0

Node FC3 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	7.150
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	25.0	0.0	0.800	25.0	0.0	0.801	0.0	0.0

Node FC4 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	7.150
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	25.0	0.0	0.800	25.0	0.0	0.801	0.0	0.0

Node FC5 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	7.900
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	74

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	25.0	0.0	0.150	25.0	0.0	0.151	0.0	0.0

Node FC6 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	7.350
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	208

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	25.0	0.0	0.800	25.0	0.0	0.801	0.0	0.0

Node FC7 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	6.435
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	6.0	0.0	0.800	6.0	0.0	0.801	0.0	0.0

Node STORAGE 1 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	6.845
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	18.0	0.0	0.800	18.0	0.0	0.801	0.0	0.0

Node STORAGE 2 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	7.200
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	37.5	0.0	0.800	37.5	0.0	0.801	0.0	0.0

Node STORAGE 3 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	8.450
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	9

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	2.0	0.0	0.800	2.0	0.0	0.801	0.0	0.0

Other (defaults)

Entry Loss (manhole)	0.250	Entry Loss (junction)	0.000	Apply Recommended Losses	x
Exit Loss (manhole)	0.250	Exit Loss (junction)	0.000	Flood Risk (m)	0.300

Approval Settings

Node Size	✓	Maximum Cover Depth (m)	3.000	Surcharged Depth	✓
Node Losses	✓	Backdrops	✓	Return Period (years)	
Link Size	✓	Minimum Backdrop Height (m)		Maximum Surcharged Depth (m)	0.100
Minimum Diameter (mm)	150	Maximum Backdrop Height (m)	1.500	Flooding	✓
Link Length	✓	Full Bore Velocity	✓	Return Period (years)	30
Maximum Length (m)	100.000	Minimum Full Bore Velocity (m/s)		Time to Half Empty	x
Coordinates	✓	Maximum Full Bore Velocity (m/s)	3.000	Discharge Rates	✓
Accuracy (m)	1.000	Proportional Velocity	✓	Discharge Volume	✓
Crossings	✓	Return Period (years)		100 year 360 minute (m^3)	
Cover Depth	✓	Minimum Proportional Velocity (m/s)	0.750		
Minimum Cover Depth (m)		Maximum Proportional Velocity (m/s)	3.000		

Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
2 year 15 minute summer	109.864	31.088	2 year 720 minute summer	10.180	2.728
2 year 15 minute winter	77.097	31.088	2 year 720 minute winter	6.841	2.728
2 year 30 minute summer	72.094	20.400	2 year 960 minute summer	8.392	2.210
2 year 30 minute winter	50.592	20.400	2 year 960 minute winter	5.559	2.210
2 year 60 minute summer	48.519	12.822	2 year 1440 minute summer	6.151	1.648
2 year 60 minute winter	32.235	12.822	2 year 1440 minute winter	4.134	1.648
2 year 120 minute summer	33.311	8.803	30 year 15 minute summer	281.841	79.751
2 year 120 minute winter	22.131	8.803	30 year 15 minute winter	197.783	79.751
2 year 180 minute summer	26.825	6.903	30 year 30 minute summer	185.960	52.620
2 year 180 minute winter	17.437	6.903	30 year 30 minute winter	130.498	52.620
2 year 240 minute summer	21.827	5.768	30 year 60 minute summer	126.005	33.299
2 year 240 minute winter	14.501	5.768	30 year 60 minute winter	83.715	33.299
2 year 360 minute summer	17.275	4.445	30 year 120 minute summer	75.392	19.924
2 year 360 minute winter	11.229	4.445	30 year 120 minute winter	50.089	19.924
2 year 480 minute summer	13.799	3.647	30 year 180 minute summer	57.005	14.669
2 year 480 minute winter	9.168	3.647	30 year 180 minute winter	37.055	14.669
2 year 600 minute summer	11.379	3.112	30 year 240 minute summer	44.577	11.780
2 year 600 minute winter	7.775	3.112	30 year 240 minute winter	29.616	11.780

Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
30 year 360 minute summer	33.519	8.626	100 year 960 minute summer	18.986	5.000
30 year 360 minute winter	21.788	8.626	100 year 960 minute winter	12.577	5.000
30 year 480 minute summer	26.056	6.886	100 year 1440 minute summer	13.646	3.657
30 year 480 minute winter	17.311	6.886	100 year 1440 minute winter	9.171	3.657
30 year 600 minute summer	21.121	5.777	100 year +20% CC 15 minute summer	428.330	121.203
30 year 600 minute winter	14.431	5.777	100 year +20% CC 15 minute winter	300.582	121.203
30 year 720 minute summer	18.673	5.005	100 year +20% CC 30 minute summer	286.071	80.948
30 year 720 minute winter	12.550	5.005	100 year +20% CC 30 minute winter	200.752	80.948
30 year 960 minute summer	15.178	3.997	100 year +20% CC 60 minute summer	194.576	51.421
30 year 960 minute winter	10.054	3.997	100 year +20% CC 60 minute winter	129.271	51.421
30 year 1440 minute summer	10.892	2.919	100 year +20% CC 120 minute summer	114.127	30.160
30 year 1440 minute winter	7.320	2.919	100 year +20% CC 120 minute winter	75.823	30.160
100 year 15 minute summer	356.941	101.002	100 year +20% CC 180 minute summer	85.639	22.038
100 year 15 minute winter	250.485	101.002	100 year +20% CC 180 minute winter	55.668	22.038
100 year 30 minute summer	238.393	67.457	100 year +20% CC 240 minute summer	66.713	17.630
100 year 30 minute winter	167.293	67.457	100 year +20% CC 240 minute winter	44.322	17.630
100 year 60 minute summer	162.146	42.851	100 year +20% CC 360 minute summer	49.996	12.866
100 year 60 minute winter	107.726	42.851	100 year +20% CC 360 minute winter	32.499	12.866
100 year 120 minute summer	95.106	25.134	100 year +20% CC 480 minute summer	38.909	10.282
100 year 120 minute winter	63.186	25.134	100 year +20% CC 480 minute winter	25.850	10.282
100 year 180 minute summer	71.366	18.365	100 year +20% CC 600 minute summer	31.595	8.642
100 year 180 minute winter	46.390	18.365	100 year +20% CC 600 minute winter	21.588	8.642
100 year 240 minute summer	55.594	14.692	100 year +20% CC 720 minute summer	27.980	7.499
100 year 240 minute winter	36.935	14.692	100 year +20% CC 720 minute winter	18.805	7.499
100 year 360 minute summer	41.664	10.721	100 year +20% CC 960 minute summer	22.784	5.999
100 year 360 minute winter	27.082	10.721	100 year +20% CC 960 minute winter	15.092	5.999
100 year 480 minute summer	32.424	8.569	100 year +20% CC 1440 minute summer	16.376	4.389
100 year 480 minute winter	21.542	8.569	100 year +20% CC 1440 minute winter	11.005	4.389
100 year 600 minute summer	26.329	7.202	100 year +40% CC +10% A 15 minute summer	499.718	141.403
100 year 600 minute winter	17.990	7.202	100 year +40% CC +10% A 15 minute winter	350.679	141.403
100 year 720 minute summer	23.317	6.249	100 year +40% CC +10% A 30 minute summer	333.750	94.440
100 year 720 minute winter	15.670	6.249	100 year +40% CC +10% A 30 minute winter	234.210	94.440

Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
100 year +40% CC +10% A 60 minute summer	227.005	59.991	100 year +40% CC +10% A 480 minute summer	45.394	11.996
100 year +40% CC +10% A 60 minute winter	150.817	59.991	100 year +40% CC +10% A 480 minute winter	30.159	11.996
100 year +40% CC +10% A 120 minute summer	133.149	35.187	100 year +40% CC +10% A 600 minute summer	36.861	10.082
100 year +40% CC +10% A 120 minute winter	88.461	35.187	100 year +40% CC +10% A 600 minute winter	25.186	10.082
100 year +40% CC +10% A 180 minute summer	99.912	25.711	100 year +40% CC +10% A 720 minute summer	32.644	8.749
100 year +40% CC +10% A 180 minute winter	64.946	25.711	100 year +40% CC +10% A 720 minute winter	21.939	8.749
100 year +40% CC +10% A 240 minute summer	77.831	20.569	100 year +40% CC +10% A 960 minute summer	26.581	6.999
100 year +40% CC +10% A 240 minute winter	51.709	20.569	100 year +40% CC +10% A 960 minute winter	17.608	6.999
100 year +40% CC +10% A 360 minute summer	58.329	15.010	100 year +40% CC +10% A 1440 minute summer	19.105	5.120
100 year +40% CC +10% A 360 minute winter	37.915	15.010	100 year +40% CC +10% A 1440 minute winter	12.840	5.120

Results for 2 year Critical Storm Duration. Lowest mass balance: 98.71%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute winter	S1	100	8.446	0.080	0.6	0.0128	0.0000	OK
180 minute winter	S2	144	7.238	0.457	2.6	0.3317	0.0000	SURCHARGED
180 minute winter	S3	140	7.229	0.573	2.0	0.2961	0.0000	SURCHARGED
180 minute winter	S4	140	6.618	0.035	1.5	0.0055	0.0000	OK
120 minute winter	S5	96	6.430	0.150	1.8	0.1301	0.0000	SURCHARGED
60 minute winter	S6	49	6.269	0.027	2.9	0.0235	0.0000	OK
60 minute winter	OUTFALL	49	5.541	0.026	2.9	0.0000	0.0000	OK
120 minute winter	FC1	94	8.734	0.034	0.5	0.8361	0.0000	OK
180 minute winter	FC2	132	9.037	0.037	0.4	0.9027	0.0000	OK
360 minute winter	FC3	320	7.231	0.081	0.3	1.9535	0.0000	OK
360 minute winter	FC4	320	7.231	0.081	0.3	1.9558	0.0000	OK
180 minute winter	FC5	132	7.935	0.035	0.4	0.8407	0.0000	OK
240 minute winter	FC6	180	7.395	0.045	0.3	1.0893	0.0000	OK
60 minute winter	FC7	51	6.479	0.044	0.5	0.2641	0.0000	OK
180 minute winter	STORAGE 1	144	7.238	0.393	2.4	7.1630	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)
120 minute winter	S1	Orifice	S2	0.6				
180 minute winter	S2	Orifice	S3	1.2				
180 minute winter	S3	Orifice	S4	1.5				
180 minute winter	S4	1.004	S5	1.5	0.496	0.113	0.0532	
120 minute winter	S5	ACO Q-Brake	S6	1.8				
60 minute winter	S6	1.006	OUTFALL	2.9	1.354	0.067	0.0271	19.0
120 minute winter	FC1	Orifice	S1	0.3				
180 minute winter	FC2	Orifice	S1	0.3				
360 minute winter	FC3	Orifice	S2	0.2				
360 minute winter	FC4	Orifice	S2	0.2				
180 minute winter	FC5	Orifice	S3	0.3				
240 minute winter	FC6	Orifice	S3	0.1				
60 minute winter	FC7	Orifice	S5	0.4				
180 minute winter	STORAGE 1	6.000	S2	-2.4	-0.457	-0.407	0.0111	

Results for 2 year Critical Storm Duration. Lowest mass balance: 98.71%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute winter	STORAGE 2	272	7.219	0.019	0.4	0.7164	0.0000	OK
15 minute summer	STORAGE 3	1	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute winter	STORAGE 2	9.000	S3	-0.4	0.217	-0.071	0.0077	
15 minute summer	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0102	

Results for 30 year Critical Storm Duration. Lowest mass balance: 98.71%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute winter	S1	122	8.573	0.207	1.1	0.0329	0.0000	SURCHARGED
180 minute winter	S2	180	7.478	0.697	4.6	0.5058	0.0000	SURCHARGED
180 minute winter	S3	180	7.469	0.813	5.6	0.4201	0.0000	SURCHARGED
120 minute winter	S4	250	6.812	0.229	1.8	0.0365	0.0000	SURCHARGED
120 minute winter	S5	248	6.811	0.531	2.2	0.4599	0.0000	SURCHARGED
60 minute winter	S6	48	6.279	0.037	5.3	0.0321	0.0000	OK
60 minute winter	OUTFALL	48	5.551	0.036	5.3	0.0000	0.0000	OK
60 minute winter	FC1	63	8.782	0.082	1.5	1.9795	0.0000	OK
60 minute winter	FC2	67	9.087	0.087	1.4	2.1054	0.0000	OK
360 minute winter	FC3	368	7.412	0.262	0.7	6.3061	0.0000	SURCHARGED
360 minute winter	FC4	368	7.412	0.262	0.7	6.3113	0.0000	SURCHARGED
60 minute winter	FC5	65	7.982	0.082	1.4	1.9833	0.0000	OK
180 minute winter	FC6	192	7.472	0.122	0.8	2.9352	0.0000	SURCHARGED
120 minute winter	FC7	250	6.811	0.376	1.0	2.2569	0.0000	SURCHARGED
180 minute winter	STORAGE 1	180	7.478	0.633	4.3	11.5358	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)
120 minute winter	S1	Orifice	S2	1.0				
180 minute winter	S2	Orifice	S3	2.5				
180 minute winter	S3	Orifice	S4	1.8				
120 minute winter	S4	1.004	S5	1.7	0.504	0.131	0.3100	
120 minute winter	S5	ACO Q-Brake	S6	2.0				
60 minute winter	S6	1.006	OUTFALL	5.3	1.613	0.125	0.0422	37.1
60 minute winter	FC1	Orifice	S1	0.7				
60 minute winter	FC2	Orifice	S1	0.4				
360 minute winter	FC3	Orifice	S2	0.3				
360 minute winter	FC4	Orifice	S2	0.3				
60 minute winter	FC5	Orifice	S3	0.5				
180 minute winter	FC6	Orifice	S3	0.2				
120 minute winter	FC7	Orifice	S5	0.6				
180 minute winter	STORAGE 1	6.000	S2	-4.3	-0.553	-0.720	0.0111	

Results for 30 year Critical Storm Duration. Lowest mass balance: 98.71%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute winter	STORAGE 2	180	7.469	0.269	4.0	9.8699	0.0000	SURCHARGED
120 minute winter	STORAGE 3	122	8.573	0.123	0.2	0.3719	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)
180 minute winter	STORAGE 2	9.000	S3	-4.0	-0.589	-0.671	0.0244	
120 minute winter	STORAGE 3	3.000	S1	-0.2	0.036	-0.032	0.0687	

Results for 100 year Critical Storm Duration. Lowest mass balance: 98.71%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
120 minute winter	S1	126	8.640	0.274	1.3	0.0435	0.0000	SURCHARGED
180 minute winter	S2	184	7.607	0.826	5.7	0.5994	0.0000	SURCHARGED
180 minute winter	S3	188	7.596	0.940	6.6	0.4862	0.0000	SURCHARGED
240 minute winter	S4	256	6.936	0.353	1.8	0.0562	0.0000	SURCHARGED
240 minute winter	S5	256	6.935	0.655	2.2	0.5670	0.0000	SURCHARGED
60 minute winter	S6	44	6.282	0.040	6.3	0.0351	0.0000	OK
60 minute winter	OUTFALL	44	5.554	0.039	6.3	0.0000	0.0000	OK
60 minute winter	FC1	64	8.808	0.108	1.9	2.6100	0.0000	SURCHARGED
60 minute winter	FC2	67	9.115	0.115	1.8	2.7675	0.0000	SURCHARGED
480 minute winter	FC3	480	7.508	0.358	0.8	8.5988	0.0000	SURCHARGED
480 minute winter	FC4	480	7.508	0.358	0.8	8.6075	0.0000	SURCHARGED
60 minute winter	FC5	66	8.008	0.108	1.8	2.6116	0.0000	SURCHARGED
240 minute winter	FC6	276	7.567	0.217	0.8	5.2166	0.0000	SURCHARGED
240 minute winter	FC7	260	6.935	0.500	0.8	2.9990	0.0000	SURCHARGED
180 minute winter	STORAGE 1	184	7.607	0.762	4.6	13.8853	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m^3)	Discharge Vol (m^3)
120 minute winter	S1	Orifice	S2	1.2				
180 minute winter	S2	Orifice	S3	2.7				
180 minute winter	S3	Orifice	S4	1.8				
240 minute winter	S4	1.004	S5	1.8	0.507	0.133	0.3100	
240 minute winter	S5	ACO Q-Brake	S6	2.0				
60 minute winter	S6	1.006	OUTFALL	6.3	1.692	0.148	0.0478	36.0
60 minute winter	FC1	Orifice	S1	0.8				
60 minute winter	FC2	Orifice	S1	0.5				
480 minute winter	FC3	Orifice	S2	0.2				
480 minute winter	FC4	Orifice	S2	0.2				
60 minute winter	FC5	Orifice	S3	0.6				
240 minute winter	FC6	Orifice	S3	0.2				
240 minute winter	FC7	Orifice	S5	0.5				
180 minute winter	STORAGE 1	6.000	S2	-4.6	-0.591	-0.769	0.0111	

Results for 100 year Critical Storm Duration. Lowest mass balance: 98.71%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute winter	STORAGE 2	192	7.596	0.396	4.8	14.5734	0.0000	SURCHARGED
120 minute winter	STORAGE 3	126	8.640	0.190	0.2	0.5752	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)
180 minute winter	STORAGE 2	9.000	S3	-4.8	-0.662	-0.811	0.0244	
120 minute winter	STORAGE 3	3.000	S1	-0.2	-0.036	-0.042	0.0687	

Results for 100 year +20% CC Critical Storm Duration. Lowest mass balance: 98.71%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute winter	S1	130	8.703	0.337	1.4	0.0535	0.0000	SURCHARGED
60 minute winter	S2	62	7.823	1.042	10.7	0.7566	0.0000	SURCHARGED
240 minute winter	S3	240	7.757	1.101	6.4	0.5694	0.0000	SURCHARGED
240 minute winter	S4	256	7.040	0.457	1.8	0.0726	0.0000	SURCHARGED
240 minute winter	S5	256	7.038	0.758	2.2	0.6562	0.0000	SURCHARGED
60 minute winter	S6	45	6.285	0.043	7.2	0.0376	0.0000	OK
60 minute winter	OUTFALL	45	5.557	0.042	7.2	0.0000	0.0000	OK
60 minute winter	FC1	65	8.833	0.133	2.3	3.2233	0.0000	SURCHARGED
60 minute winter	FC2	68	9.140	0.140	2.1	3.3740	0.0000	SURCHARGED
480 minute winter	FC3	504	7.613	0.463	1.0	11.1275	0.0000	SURCHARGED
480 minute winter	FC4	504	7.613	0.463	1.0	11.1372	0.0000	SURCHARGED
60 minute winter	FC5	66	8.032	0.132	2.1	3.1889	0.0000	SURCHARGED
360 minute winter	FC6	384	7.663	0.313	0.8	7.5293	0.0000	SURCHARGED
240 minute winter	FC7	252	7.038	0.603	1.0	3.6195	0.0000	SURCHARGED
60 minute winter	STORAGE 1	62	7.823	0.978	9.8	14.7949	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)
120 minute winter	S1	Orifice	S2	1.3				
60 minute winter	S2	Orifice	S3	5.3				
240 minute winter	S3	Orifice	S4	1.8				
240 minute winter	S4	1.004	S5	1.8	0.505	0.133	0.3100	
240 minute winter	S5	ACO Q-Brake	S6	2.0				
60 minute winter	S6	1.006	OUTFALL	7.2	1.752	0.168	0.0524	39.1
60 minute winter	FC1	Orifice	S1	0.9				
60 minute winter	FC2	Orifice	S1	0.6				
480 minute winter	FC3	Orifice	S2	0.2				
480 minute winter	FC4	Orifice	S2	0.2				
60 minute winter	FC5	Orifice	S3	0.7				
360 minute winter	FC6	Orifice	S3	0.2				
240 minute winter	FC7	Orifice	S5	0.5				
60 minute winter	STORAGE 1	6.000	S2	-9.8	-1.252	-1.630	0.0111	

Results for 100 year +20% CC Critical Storm Duration. Lowest mass balance: 98.71%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
240 minute winter	STORAGE 2	240	7.757	0.557	4.6	20.4901	0.0000	SURCHARGED
120 minute winter	STORAGE 3	130	8.703	0.253	0.3	0.7661	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m^3)	Discharge Vol (m^3)
240 minute winter	STORAGE 2	9.000	S3	-4.6	-0.594	-0.772	0.0244	
120 minute winter	STORAGE 3	3.000	S1	-0.3	-0.039	-0.050	0.0687	

Results for 100 year +40% CC +10% A Critical Storm Duration. Lowest mass balance: 98.71%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
60 minute winter	S1	73	8.898	0.532	3.0	0.0846	0.0000	SURCHARGED
60 minute winter	S2	58	8.473	1.692	13.1	1.3248	0.0000	FLOOD RISK
240 minute winter	S3	232	8.177	1.521	10.1	0.8409	0.0000	SURCHARGED
240 minute winter	S4	248	7.250	0.667	2.0	0.1060	0.0000	SURCHARGED
240 minute winter	S5	248	7.247	0.967	2.2	0.8376	0.0000	SURCHARGED
60 minute winter	S6	43	6.289	0.047	8.5	0.0446	0.0000	OK
60 minute winter	OUTFALL	43	5.560	0.045	8.5	0.0000	0.0000	OK
60 minute winter	FC1	61	9.131	0.431	2.9	3.8180	0.0000	FLOOD RISK
60 minute winter	FC2	63	9.634	0.634	2.7	3.8557	0.0000	FLOOD RISK
600 minute winter	FC3	615	7.819	0.669	1.0	16.0868	0.0000	SURCHARGED
600 minute winter	FC4	615	7.819	0.669	1.0	16.1021	0.0000	SURCHARGED
60 minute winter	FC5	62	8.377	0.477	2.7	3.8276	0.0000	FLOOD RISK
480 minute winter	FC6	512	7.858	0.508	1.0	12.2248	0.0000	SURCHARGED
240 minute winter	FC7	248	7.249	0.814	1.3	4.8200	0.0000	SURCHARGED
60 minute winter	STORAGE 1	58	8.473	1.628	10.8	15.5298	0.0000	FLOOD RISK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m^3)	Discharge Vol (m^3)
60 minute winter	S1	Orifice	S2	1.6				
60 minute winter	S2	Orifice	S3	8.6				
240 minute winter	S3	Orifice	S4	2.0				
240 minute winter	S4	1.004	S5	1.9	0.506	0.146	0.3100	
240 minute winter	S5	ACO Q-Brake	S6	2.0				
60 minute winter	S6	1.006	OUTFALL	8.5	1.835	0.199	0.0594	44.5
60 minute winter	FC1	Orifice	S1	1.7				
60 minute winter	FC2	Orifice	S1	1.3				
600 minute winter	FC3	Orifice	S2	0.3				
600 minute winter	FC4	Orifice	S2	0.3				
60 minute winter	FC5	Orifice	S3	1.4				
480 minute winter	FC6	Orifice	S3	0.3				
240 minute winter	FC7	Orifice	S5	0.5				
60 minute winter	STORAGE 1	6.000	S2	-10.8	-1.386	-1.805	0.0111	

Results for 100 year +40% CC +10% A Critical Storm Duration. Lowest mass balance: 98.71%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute winter	STORAGE 2	232	8.177	0.977	7.7	29.6224	0.0000	SURCHARGED
60 minute winter	STORAGE 3	73	8.898	0.448	1.4	1.3584	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)
240 minute winter	STORAGE 2	9.000	S3	-7.7	-0.986	-1.302	0.0244	
60 minute winter	STORAGE 3	3.000	S1	-1.4	-0.176	-0.234	0.0687	

Results for 2 year 15 minute summer. 255 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1	40	8.400	0.034	0.3	0.0054	0.0000	OK
15 minute summer	S2	40	7.000	0.219	2.1	0.1591	0.0000	SURCHARGED
15 minute summer	S3	38	6.997	0.341	1.7	0.1761	0.0000	SURCHARGED
15 minute summer	S4	38	6.613	0.030	1.1	0.0048	0.0000	OK
15 minute summer	S5	38	6.373	0.093	1.4	0.0801	0.0000	OK
15 minute summer	S6	31	6.266	0.024	2.2	0.0207	0.0000	OK
15 minute summer	OUTFALL	31	5.538	0.023	2.2	0.0000	0.0000	OK
15 minute summer	FC1	37	8.722	0.022	0.4	0.5289	0.0000	OK
15 minute summer	FC2	38	9.022	0.022	0.4	0.5282	0.0000	OK
15 minute summer	FC3	40	7.174	0.024	0.4	0.5712	0.0000	OK
15 minute summer	FC4	40	7.174	0.024	0.4	0.5713	0.0000	OK
15 minute summer	FC5	38	7.921	0.021	0.4	0.5184	0.0000	OK
15 minute summer	FC6	39	7.370	0.020	0.3	0.4735	0.0000	OK
15 minute summer	FC7	35	6.466	0.031	0.3	0.1850	0.0000	OK
15 minute summer	STORAGE 1	40	7.000	0.155	2.2	2.8292	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S1	Orifice	S2	0.3				
15 minute summer	S2	Orifice	S3	0.9				
15 minute summer	S3	Orifice	S4	1.1				
15 minute summer	S4	1.004	S5	1.1	0.459	0.086	0.0438	
15 minute summer	S5	ACO Q-Brake	S6	1.4				
15 minute summer	S6	1.006	OUTFALL	2.2	1.260	0.052	0.0227	10.2
15 minute summer	FC1	Orifice	S1	0.2				
15 minute summer	FC2	Orifice	S1	0.1				
15 minute summer	FC3	Orifice	S2	0.1				
15 minute summer	FC4	Orifice	S2	0.1				
15 minute summer	FC5	Orifice	S3	0.1				
15 minute summer	FC6	Orifice	S3	0.1				
15 minute summer	FC7	Orifice	S5	0.3				
15 minute summer	STORAGE 1	6.000	S2	-2.2	-0.686	-0.366	0.0111	

Results for 2 year 15 minute summer. 255 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	STORAGE 2	1	7.200	0.000	0.0	0.0000	0.0000	OK
15 minute summer	STORAGE 3	1	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	STORAGE 2	9.000	S3	0.0	0.000	0.000	0.0000	
15 minute summer	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0102	

Results for 2 year 15 minute winter. 255 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S1	41	8.403	0.037	0.3	0.0059	0.0000	OK
15 minute winter	S2	40	7.029	0.248	2.3	0.1799	0.0000	SURCHARGED
15 minute winter	S3	38	7.025	0.369	1.6	0.1907	0.0000	SURCHARGED
15 minute winter	S4	39	6.614	0.031	1.2	0.0049	0.0000	OK
15 minute winter	S5	37	6.387	0.107	1.5	0.0928	0.0000	OK
15 minute winter	S6	31	6.267	0.025	2.5	0.0217	0.0000	OK
15 minute winter	OUTFALL	31	5.540	0.025	2.5	0.0000	0.0000	OK
15 minute winter	FC1	38	8.723	0.023	0.4	0.5600	0.0000	OK
15 minute winter	FC2	38	9.024	0.024	0.4	0.5710	0.0000	OK
15 minute winter	FC3	40	7.176	0.026	0.4	0.6232	0.0000	OK
15 minute winter	FC4	40	7.176	0.026	0.4	0.6233	0.0000	OK
15 minute winter	FC5	38	7.923	0.023	0.4	0.5602	0.0000	OK
15 minute winter	FC6	40	7.375	0.025	0.4	0.5921	0.0000	OK
15 minute winter	FC7	31	6.472	0.037	0.4	0.2213	0.0000	OK
15 minute winter	STORAGE 1	40	7.029	0.184	2.7	3.3532	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	S1	Orifice	S2	0.3				
15 minute winter	S2	Orifice	S3	0.9				
15 minute winter	S3	Orifice	S4	1.2				
15 minute winter	S4	1.004	S5	1.2	0.465	0.090	0.0452	
15 minute winter	S5	ACO Q-Brake	S6	1.5				
15 minute winter	S6	1.006	OUTFALL	2.5	1.295	0.058	0.0243	11.5
15 minute winter	FC1	Orifice	S1	0.2				
15 minute winter	FC2	Orifice	S1	0.2				
15 minute winter	FC3	Orifice	S2	0.1				
15 minute winter	FC4	Orifice	S2	0.1				
15 minute winter	FC5	Orifice	S3	0.2				
15 minute winter	FC6	Orifice	S3	0.1				
15 minute winter	FC7	Orifice	S5	0.4				
15 minute winter	STORAGE 1	6.000	S2	-2.7	-0.724	-0.444	0.0111	

Results for 2 year 15 minute winter. 255 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	STORAGE 2	1	7.200	0.000	0.0	0.0000	0.0000	OK
15 minute winter	STORAGE 3	1	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	STORAGE 2	9.000	S3	0.0	0.000	0.000	0.0000	
15 minute winter	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0117	

Results for 2 year 30 minute summer. 270 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute summer	S1	49	8.413	0.047	0.4	0.0074	0.0000	OK
30 minute summer	S2	52	7.064	0.283	2.8	0.2058	0.0000	SURCHARGED
30 minute summer	S3	49	7.059	0.403	1.6	0.2085	0.0000	SURCHARGED
30 minute summer	S4	52	6.614	0.031	1.2	0.0050	0.0000	OK
30 minute summer	S5	45	6.397	0.117	1.6	0.1010	0.0000	OK
30 minute summer	S6	36	6.267	0.025	2.6	0.0222	0.0000	OK
30 minute summer	OUTFALL	36	5.540	0.025	2.6	0.0000	0.0000	OK
30 minute summer	FC1	46	8.727	0.027	0.5	0.6517	0.0000	OK
30 minute summer	FC2	46	9.026	0.026	0.5	0.6281	0.0000	OK
30 minute summer	FC3	52	7.179	0.029	0.5	0.6970	0.0000	OK
30 minute summer	FC4	52	7.179	0.029	0.5	0.6972	0.0000	OK
30 minute summer	FC5	46	7.925	0.025	0.5	0.6149	0.0000	OK
30 minute summer	FC6	51	7.376	0.026	0.4	0.6362	0.0000	OK
30 minute summer	FC7	40	6.473	0.038	0.4	0.2257	0.0000	OK
30 minute summer	STORAGE 1	52	7.064	0.219	2.6	4.0017	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute summer	S1	Orifice	S2	0.4				
30 minute summer	S2	Orifice	S3	1.0				
30 minute summer	S3	Orifice	S4	1.2				
30 minute summer	S4	1.004	S5	1.2	0.471	0.094	0.0467	
30 minute summer	S5	ACO Q-Brake	S6	1.6				
30 minute summer	S6	1.006	OUTFALL	2.6	1.311	0.060	0.0250	13.4
30 minute summer	FC1	Orifice	S1	0.2				
30 minute summer	FC2	Orifice	S1	0.2				
30 minute summer	FC3	Orifice	S2	0.1				
30 minute summer	FC4	Orifice	S2	0.1				
30 minute summer	FC5	Orifice	S3	0.2				
30 minute summer	FC6	Orifice	S3	0.1				
30 minute summer	FC7	Orifice	S5	0.4				
30 minute summer	STORAGE 1	6.000	S2	-2.6	-0.735	-0.440	0.0111	

Results for 2 year 30 minute summer. 270 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute summer	STORAGE 2	1	7.200	0.000	0.0	0.0000	0.0000	OK
30 minute summer	STORAGE 3	1	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute summer	STORAGE 2	9.000	S3	0.0	0.000	0.000	0.0000	
30 minute summer	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0158	

Results for 2 year 30 minute winter. 270 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute winter	S1	50	8.421	0.055	0.5	0.0087	0.0000	OK
30 minute winter	S2	53	7.103	0.322	3.2	0.2338	0.0000	SURCHARGED
30 minute winter	S3	50	7.097	0.441	1.8	0.2281	0.0000	SURCHARGED
30 minute winter	S4	51	6.615	0.032	1.3	0.0051	0.0000	OK
30 minute winter	S5	45	6.410	0.130	1.7	0.1123	0.0000	OK
30 minute winter	S6	37	6.269	0.027	2.8	0.0231	0.0000	OK
30 minute winter	OUTFALL	37	5.541	0.026	2.8	0.0000	0.0000	OK
30 minute winter	FC1	45	8.729	0.029	0.6	0.6992	0.0000	OK
30 minute winter	FC2	47	9.029	0.029	0.5	0.6916	0.0000	OK
30 minute winter	FC3	48	7.182	0.032	0.5	0.7801	0.0000	OK
30 minute winter	FC4	48	7.182	0.032	0.5	0.7803	0.0000	OK
30 minute winter	FC5	46	7.928	0.028	0.5	0.6761	0.0000	OK
30 minute winter	FC6	52	7.379	0.029	0.5	0.7075	0.0000	OK
30 minute winter	FC7	35	6.477	0.042	0.5	0.2517	0.0000	OK
30 minute winter	STORAGE 1	53	7.103	0.258	3.1	4.7046	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute winter	S1	Orifice	S2	0.4				
30 minute winter	S2	Orifice	S3	1.0				
30 minute winter	S3	Orifice	S4	1.3				
30 minute winter	S4	1.004	S5	1.3	0.478	0.099	0.0483	
30 minute winter	S5	ACO Q-Brake	S6	1.7				
30 minute winter	S6	1.006	OUTFALL	2.8	1.341	0.065	0.0265	15.0
30 minute winter	FC1	Orifice	S1	0.3				
30 minute winter	FC2	Orifice	S1	0.2				
30 minute winter	FC3	Orifice	S2	0.1				
30 minute winter	FC4	Orifice	S2	0.1				
30 minute winter	FC5	Orifice	S3	0.2				
30 minute winter	FC6	Orifice	S3	0.1				
30 minute winter	FC7	Orifice	S5	0.4				
30 minute winter	STORAGE 1	6.000	S2	-3.1	-0.737	-0.512	0.0111	

Results for 2 year 30 minute winter. 270 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute winter	STORAGE 2	1	7.200	0.000	0.0	0.0000	0.0000	OK
30 minute winter	STORAGE 3	1	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute winter	STORAGE 2	9.000	S3	0.0	0.000	0.000	0.0000	
30 minute winter	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0192	

Results for 2 year 60 minute summer. 300 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute summer	S1	66	8.424	0.058	0.5	0.0092	0.0000	OK
60 minute summer	S2	76	7.119	0.338	2.9	0.2456	0.0000	SURCHARGED
60 minute summer	S3	76	7.113	0.457	1.7	0.2364	0.0000	SURCHARGED
60 minute summer	S4	76	6.616	0.033	1.3	0.0052	0.0000	OK
60 minute summer	S5	61	6.407	0.127	1.7	0.1096	0.0000	OK
60 minute summer	S6	54	6.268	0.026	2.7	0.0227	0.0000	OK
60 minute summer	OUTFALL	54	5.541	0.026	2.7	0.0000	0.0000	OK
60 minute summer	FC1	61	8.729	0.029	0.5	0.7137	0.0000	OK
60 minute summer	FC2	62	9.030	0.030	0.5	0.7295	0.0000	OK
60 minute summer	FC3	66	7.185	0.035	0.5	0.8496	0.0000	OK
60 minute summer	FC4	66	7.185	0.035	0.5	0.8498	0.0000	OK
60 minute summer	FC5	62	7.929	0.029	0.5	0.7094	0.0000	OK
60 minute summer	FC6	75	7.380	0.030	0.4	0.7268	0.0000	OK
60 minute summer	FC7	56	6.473	0.038	0.4	0.2295	0.0000	OK
60 minute summer	STORAGE 1	76	7.119	0.274	2.8	5.0018	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute summer	S1	Orifice	S2	0.5				
60 minute summer	S2	Orifice	S3	1.1				
60 minute summer	S3	Orifice	S4	1.3				
60 minute summer	S4	1.004	S5	1.3	0.480	0.101	0.0489	
60 minute summer	S5	ACO Q-Brake	S6	1.6				
60 minute summer	S6	1.006	OUTFALL	2.7	1.326	0.063	0.0258	17.1
60 minute summer	FC1	Orifice	S1	0.3				
60 minute summer	FC2	Orifice	S1	0.2				
60 minute summer	FC3	Orifice	S2	0.1				
60 minute summer	FC4	Orifice	S2	0.1				
60 minute summer	FC5	Orifice	S3	0.2				
60 minute summer	FC6	Orifice	S3	0.1				
60 minute summer	FC7	Orifice	S5	0.4				
60 minute summer	STORAGE 1	6.000	S2	-2.8	-0.685	-0.461	0.0111	

Results for 2 year 60 minute summer. 300 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute summer	STORAGE 2	1	7.200	0.000	0.0	0.0000	0.0000	OK
60 minute summer	STORAGE 3	1	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute summer	STORAGE 2	9.000	S3	0.0	0.000	0.000	0.0000	
60 minute summer	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0207	

Results for 2 year 60 minute winter. 300 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute winter	S1	67	8.433	0.067	0.5	0.0106	0.0000	OK
60 minute winter	S2	77	7.165	0.384	3.4	0.2788	0.0000	SURCHARGED
60 minute winter	S3	77	7.158	0.502	1.8	0.2597	0.0000	SURCHARGED
60 minute winter	S4	77	6.616	0.033	1.4	0.0053	0.0000	OK
60 minute winter	S5	62	6.421	0.141	1.7	0.1224	0.0000	OK
60 minute winter	S6	49	6.269	0.027	2.9	0.0235	0.0000	OK
60 minute winter	OUTFALL	49	5.541	0.026	2.9	0.0000	0.0000	OK
60 minute winter	FC1	61	8.732	0.032	0.6	0.7762	0.0000	OK
60 minute winter	FC2	63	9.032	0.032	0.5	0.7732	0.0000	OK
60 minute winter	FC3	68	7.188	0.038	0.5	0.9145	0.0000	OK
60 minute winter	FC4	68	7.188	0.038	0.5	0.9147	0.0000	OK
60 minute winter	FC5	63	7.931	0.031	0.5	0.7471	0.0000	OK
60 minute winter	FC6	67	7.384	0.034	0.5	0.8284	0.0000	OK
60 minute winter	FC7	51	6.479	0.044	0.5	0.2641	0.0000	OK
60 minute winter	STORAGE 1	77	7.165	0.320	3.2	5.8347	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute winter	S1	Orifice	S2	0.5				
60 minute winter	S2	Orifice	S3	1.1				
60 minute winter	S3	Orifice	S4	1.4				
60 minute winter	S4	1.004	S5	1.4	0.487	0.106	0.0506	
60 minute winter	S5	ACO Q-Brake	S6	1.7				
60 minute winter	S6	1.006	OUTFALL	2.9	1.354	0.067	0.0271	19.0
60 minute winter	FC1	Orifice	S1	0.3				
60 minute winter	FC2	Orifice	S1	0.2				
60 minute winter	FC3	Orifice	S2	0.1				
60 minute winter	FC4	Orifice	S2	0.1				
60 minute winter	FC5	Orifice	S3	0.2				
60 minute winter	FC6	Orifice	S3	0.1				
60 minute winter	FC7	Orifice	S5	0.4				
60 minute winter	STORAGE 1	6.000	S2	-3.2	-0.653	-0.529	0.0111	

Results for 2 year 60 minute winter. 300 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute winter	STORAGE 2	1	7.200	0.000	0.0	0.0000	0.0000	OK
60 minute winter	STORAGE 3	1	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute winter	STORAGE 2	9.000	S3	0.0	0.000	0.000	0.0000	
60 minute winter	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0244	

Results for 2 year 120 minute summer. 360 minute analysis at 2 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute summer	S1	98	8.437	0.071	0.5	0.0113	0.0000	OK
120 minute summer	S2	120	7.193	0.412	3.2	0.2993	0.0000	SURCHARGED
120 minute summer	S3	118	7.187	0.531	1.8	0.2747	0.0000	SURCHARGED
120 minute summer	S4	118	6.617	0.034	1.4	0.0054	0.0000	OK
120 minute summer	S5	94	6.419	0.139	1.7	0.1205	0.0000	OK
120 minute summer	S6	80	6.269	0.027	2.8	0.0231	0.0000	OK
120 minute summer	OUTFALL	80	5.541	0.026	2.8	0.0000	0.0000	OK
120 minute summer	FC1	92	8.732	0.032	0.5	0.7874	0.0000	OK
120 minute summer	FC2	94	9.034	0.034	0.5	0.8222	0.0000	OK
120 minute summer	FC3	128	7.196	0.046	0.5	1.1158	0.0000	OK
120 minute summer	FC4	128	7.196	0.046	0.5	1.1166	0.0000	OK
120 minute summer	FC5	92	7.932	0.032	0.5	0.7864	0.0000	OK
120 minute summer	FC6	100	7.387	0.037	0.4	0.8838	0.0000	OK
120 minute summer	FC7	86	6.474	0.039	0.4	0.2318	0.0000	OK
120 minute summer	STORAGE 1	120	7.193	0.348	3.0	6.3504	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute summer	S1	Orifice	S2	0.5				
120 minute summer	S2	Orifice	S3	1.1				
120 minute summer	S3	Orifice	S4	1.4				
120 minute summer	S4	1.004	S5	1.4	0.491	0.109	0.0517	
120 minute summer	S5	ACO Q-Brake	S6	1.7				
120 minute summer	S6	1.006	OUTFALL	2.8	1.341	0.065	0.0265	23.5
120 minute summer	FC1	Orifice	S1	0.3				
120 minute summer	FC2	Orifice	S1	0.2				
120 minute summer	FC3	Orifice	S2	0.1				
120 minute summer	FC4	Orifice	S2	0.1				
120 minute summer	FC5	Orifice	S3	0.3				
120 minute summer	FC6	Orifice	S3	0.1				
120 minute summer	FC7	Orifice	S5	0.4				
120 minute summer	STORAGE 1	6.000	S2	-3.0	-0.526	-0.499	0.0111	

Results for 2 year 120 minute summer. 360 minute analysis at 2 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute summer	STORAGE 2	2	7.200	0.000	0.0	0.0000	0.0000	OK
120 minute summer	STORAGE 3	2	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute summer	STORAGE 2	9.000	S3	0.0	0.000	0.000	0.0014	
120 minute summer	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0261	

Results for 2 year 120 minute winter. 360 minute analysis at 2 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute winter	S1	100	8.446	0.080	0.6	0.0128	0.0000	OK
120 minute winter	S2	112	7.225	0.444	3.1	0.3221	0.0000	SURCHARGED
120 minute winter	S3	106	7.217	0.561	1.7	0.2902	0.0000	SURCHARGED
120 minute winter	S4	108	6.617	0.034	1.5	0.0055	0.0000	OK
120 minute winter	S5	96	6.430	0.150	1.8	0.1301	0.0000	SURCHARGED
120 minute winter	S6	84	6.269	0.027	2.8	0.0232	0.0000	OK
120 minute winter	OUTFALL	84	5.541	0.026	2.8	0.0000	0.0000	OK
120 minute winter	FC1	94	8.734	0.034	0.5	0.8361	0.0000	OK
120 minute winter	FC2	98	9.037	0.037	0.5	0.8844	0.0000	OK
120 minute winter	FC3	132	7.214	0.064	0.5	1.5314	0.0000	OK
120 minute winter	FC4	132	7.214	0.064	0.5	1.5325	0.0000	OK
120 minute winter	FC5	96	7.935	0.035	0.5	0.8368	0.0000	OK
120 minute winter	FC6	106	7.391	0.041	0.4	0.9846	0.0000	OK
120 minute winter	FC7	88	6.474	0.039	0.4	0.2343	0.0000	OK
120 minute winter	STORAGE 1	112	7.225	0.380	2.9	6.9225	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute winter	S1	Orifice	S2	0.6				
120 minute winter	S2	Orifice	S3	1.1				
120 minute winter	S3	Orifice	S4	1.5				
120 minute winter	S4	1.004	S5	1.5	0.495	0.112	0.0528	
120 minute winter	S5	ACO Q-Brake	S6	1.8				
120 minute winter	S6	1.006	OUTFALL	2.8	1.344	0.065	0.0266	26.0
120 minute winter	FC1	Orifice	S1	0.3				
120 minute winter	FC2	Orifice	S1	0.2				
120 minute winter	FC3	Orifice	S2	0.1				
120 minute winter	FC4	Orifice	S2	0.1				
120 minute winter	FC5	Orifice	S3	0.3				
120 minute winter	FC6	Orifice	S3	0.1				
120 minute winter	FC7	Orifice	S5	0.4				
120 minute winter	STORAGE 1	6.000	S2	-2.9	-0.493	-0.490	0.0111	

Results for 2 year 120 minute winter. 360 minute analysis at 2 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute winter	STORAGE 2	126	7.208	0.008	0.2	0.2939	0.0000	OK
120 minute winter	STORAGE 3	2	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute winter	STORAGE 2	9.000	S3	-0.2	0.212	-0.042	0.0058	
120 minute winter	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0296	

Results for 2 year 180 minute summer. 420 minute analysis at 4 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute summer	S1	132	8.439	0.073	0.5	0.0117	0.0000	OK
180 minute summer	S2	144	7.209	0.428	2.8	0.3107	0.0000	SURCHARGED
180 minute summer	S3	140	7.203	0.547	1.6	0.2826	0.0000	SURCHARGED
180 minute summer	S4	144	6.617	0.034	1.5	0.0054	0.0000	OK
180 minute summer	S5	128	6.422	0.142	1.7	0.1228	0.0000	OK
180 minute summer	S6	116	6.268	0.026	2.7	0.0227	0.0000	OK
180 minute summer	OUTFALL	116	5.541	0.026	2.7	0.0000	0.0000	OK
180 minute summer	FC1	124	8.733	0.033	0.5	0.8103	0.0000	OK
180 minute summer	FC2	128	9.033	0.033	0.4	0.8027	0.0000	OK
180 minute summer	FC3	180	7.207	0.057	0.4	1.3770	0.0000	OK
180 minute summer	FC4	180	7.207	0.057	0.4	1.3781	0.0000	OK
180 minute summer	FC5	124	7.931	0.031	0.4	0.7604	0.0000	OK
180 minute summer	FC6	136	7.392	0.042	0.4	1.0144	0.0000	OK
180 minute summer	FC7	116	6.474	0.039	0.4	0.2319	0.0000	OK
180 minute summer	STORAGE 1	144	7.209	0.364	2.7	6.6348	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute summer	S1	Orifice	S2	0.5				
180 minute summer	S2	Orifice	S3	1.2				
180 minute summer	S3	Orifice	S4	1.5				
180 minute summer	S4	1.004	S5	1.5	0.493	0.110	0.0522	
180 minute summer	S5	ACO Q-Brake	S6	1.7				
180 minute summer	S6	1.006	OUTFALL	2.7	1.327	0.063	0.0258	28.2
180 minute summer	FC1	Orifice	S1	0.3				
180 minute summer	FC2	Orifice	S1	0.2				
180 minute summer	FC3	Orifice	S2	0.1				
180 minute summer	FC4	Orifice	S2	0.1				
180 minute summer	FC5	Orifice	S3	0.3				
180 minute summer	FC6	Orifice	S3	0.1				
180 minute summer	FC7	Orifice	S5	0.4				
180 minute summer	STORAGE 1	6.000	S2	-2.7	-0.474	-0.444	0.0111	

Results for 2 year 180 minute summer. 420 minute analysis at 4 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute summer	STORAGE 2	152	7.201	0.001	0.1	0.0367	0.0000	OK
180 minute summer	STORAGE 3	4	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute summer	STORAGE 2	9.000	S3	-0.1	-0.071	-0.010	0.0034	
180 minute summer	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0270	

Results for 2 year 180 minute winter. 420 minute analysis at 4 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute winter	S1	136	8.441	0.075	0.6	0.0119	0.0000	OK
180 minute winter	S2	144	7.238	0.457	2.6	0.3317	0.0000	SURCHARGED
180 minute winter	S3	140	7.229	0.573	2.0	0.2961	0.0000	SURCHARGED
180 minute winter	S4	140	6.618	0.035	1.5	0.0055	0.0000	OK
180 minute winter	S5	132	6.428	0.148	1.8	0.1281	0.0000	OK
180 minute winter	S6	112	6.268	0.026	2.7	0.0226	0.0000	OK
180 minute winter	OUTFALL	112	5.540	0.025	2.7	0.0000	0.0000	OK
180 minute winter	FC1	124	8.732	0.032	0.4	0.7791	0.0000	OK
180 minute winter	FC2	132	9.037	0.037	0.4	0.9027	0.0000	OK
180 minute winter	FC3	184	7.226	0.076	0.4	1.8371	0.0000	OK
180 minute winter	FC4	184	7.226	0.076	0.4	1.8388	0.0000	OK
180 minute winter	FC5	132	7.935	0.035	0.4	0.8407	0.0000	OK
180 minute winter	FC6	144	7.395	0.045	0.4	1.0786	0.0000	OK
180 minute winter	FC7	112	6.473	0.038	0.4	0.2264	0.0000	OK
180 minute winter	STORAGE 1	144	7.238	0.393	2.4	7.1630	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute winter	S1	Orifice	S2	0.6				
180 minute winter	S2	Orifice	S3	1.2				
180 minute winter	S3	Orifice	S4	1.5				
180 minute winter	S4	1.004	S5	1.5	0.496	0.113	0.0532	
180 minute winter	S5	ACO Q-Brake	S6	1.8				
180 minute winter	S6	1.006	OUTFALL	2.7	1.325	0.062	0.0257	31.2
180 minute winter	FC1	Orifice	S1	0.3				
180 minute winter	FC2	Orifice	S1	0.3				
180 minute winter	FC3	Orifice	S2	0.2				
180 minute winter	FC4	Orifice	S2	0.2				
180 minute winter	FC5	Orifice	S3	0.3				
180 minute winter	FC6	Orifice	S3	0.1				
180 minute winter	FC7	Orifice	S5	0.4				
180 minute winter	STORAGE 1	6.000	S2	-2.4	-0.457	-0.407	0.0111	

Results for 2 year 180 minute winter. 420 minute analysis at 4 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute winter	STORAGE 2	164	7.219	0.019	0.5	0.7022	0.0000	OK
180 minute winter	STORAGE 3	4	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute winter	STORAGE 2	9.000	S3	-0.5	0.269	-0.088	0.0078	
180 minute winter	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0277	

Results for 2 year 240 minute summer. 480 minute analysis at 4 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute summer	S1	160	8.437	0.071	0.5	0.0112	0.0000	OK
240 minute summer	S2	176	7.215	0.434	2.6	0.3150	0.0000	SURCHARGED
240 minute summer	S3	176	7.209	0.553	1.6	0.2860	0.0000	SURCHARGED
240 minute summer	S4	176	6.617	0.034	1.5	0.0054	0.0000	OK
240 minute summer	S5	156	6.416	0.136	1.7	0.1179	0.0000	OK
240 minute summer	S6	140	6.268	0.026	2.6	0.0223	0.0000	OK
240 minute summer	OUTFALL	140	5.540	0.025	2.6	0.0000	0.0000	OK
240 minute summer	FC1	156	8.731	0.031	0.4	0.7626	0.0000	OK
240 minute summer	FC2	160	9.035	0.035	0.4	0.8579	0.0000	OK
240 minute summer	FC3	224	7.213	0.063	0.4	1.5226	0.0000	OK
240 minute summer	FC4	224	7.213	0.063	0.4	1.5241	0.0000	OK
240 minute summer	FC5	156	7.933	0.033	0.4	0.8066	0.0000	OK
240 minute summer	FC6	168	7.390	0.040	0.4	0.9665	0.0000	OK
240 minute summer	FC7	140	6.472	0.037	0.4	0.2193	0.0000	OK
240 minute summer	STORAGE 1	176	7.215	0.370	2.5	6.7434	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute summer	S1	Orifice	S2	0.5				
240 minute summer	S2	Orifice	S3	1.2				
240 minute summer	S3	Orifice	S4	1.5				
240 minute summer	S4	1.004	S5	1.5	0.494	0.111	0.0525	
240 minute summer	S5	ACO Q-Brake	S6	1.7				
240 minute summer	S6	1.006	OUTFALL	2.6	1.313	0.060	0.0252	31.4
240 minute summer	FC1	Orifice	S1	0.3				
240 minute summer	FC2	Orifice	S1	0.2				
240 minute summer	FC3	Orifice	S2	0.1				
240 minute summer	FC4	Orifice	S2	0.1				
240 minute summer	FC5	Orifice	S3	0.3				
240 minute summer	FC6	Orifice	S3	0.1				
240 minute summer	FC7	Orifice	S5	0.4				
240 minute summer	STORAGE 1	6.000	S2	-2.5	0.389	-0.417	0.0111	

Results for 2 year 240 minute summer. 480 minute analysis at 4 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute summer	STORAGE 2	192	7.203	0.003	0.1	0.1241	0.0000	OK
240 minute summer	STORAGE 3	4	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute summer	STORAGE 2	9.000	S3	-0.1	-0.111	-0.018	0.0045	
240 minute summer	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0260	

Results for 2 year 240 minute winter. 480 minute analysis at 4 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute winter	S1	164	8.438	0.072	0.5	0.0114	0.0000	OK
240 minute winter	S2	176	7.236	0.455	2.3	0.3302	0.0000	SURCHARGED
240 minute winter	S3	172	7.226	0.570	2.0	0.2949	0.0000	SURCHARGED
240 minute winter	S4	172	6.617	0.034	1.5	0.0055	0.0000	OK
240 minute winter	S5	160	6.422	0.142	1.7	0.1233	0.0000	OK
240 minute winter	S6	152	6.267	0.025	2.5	0.0219	0.0000	OK
240 minute winter	OUTFALL	152	5.540	0.025	2.5	0.0000	0.0000	OK
240 minute winter	FC1	152	8.732	0.032	0.4	0.7877	0.0000	OK
240 minute winter	FC2	164	9.034	0.034	0.4	0.8150	0.0000	OK
240 minute winter	FC3	236	7.227	0.077	0.4	1.8561	0.0000	OK
240 minute winter	FC4	236	7.227	0.077	0.4	1.8579	0.0000	OK
240 minute winter	FC5	160	7.931	0.031	0.4	0.7602	0.0000	OK
240 minute winter	FC6	180	7.395	0.045	0.3	1.0893	0.0000	OK
240 minute winter	FC7	156	6.467	0.032	0.3	0.1901	0.0000	OK
240 minute winter	STORAGE 1	176	7.236	0.391	2.2	7.1246	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute winter	S1	Orifice	S2	0.5				
240 minute winter	S2	Orifice	S3	1.1				
240 minute winter	S3	Orifice	S4	1.5				
240 minute winter	S4	1.004	S5	1.5	0.496	0.113	0.0531	
240 minute winter	S5	ACO Q-Brake	S6	1.7				
240 minute winter	S6	1.006	OUTFALL	2.5	1.301	0.058	0.0246	34.8
240 minute winter	FC1	Orifice	S1	0.3				
240 minute winter	FC2	Orifice	S1	0.2				
240 minute winter	FC3	Orifice	S2	0.2				
240 minute winter	FC4	Orifice	S2	0.2				
240 minute winter	FC5	Orifice	S3	0.3				
240 minute winter	FC6	Orifice	S3	0.1				
240 minute winter	FC7	Orifice	S5	0.3				
240 minute winter	STORAGE 1	6.000	S2	-2.2	0.366	-0.358	0.0111	

Results for 2 year 240 minute winter. 480 minute analysis at 4 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute winter	STORAGE 2	196	7.219	0.019	0.5	0.6935	0.0000	OK
240 minute winter	STORAGE 3	4	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute winter	STORAGE 2	9.000	S3	-0.5	0.227	-0.079	0.0076	
240 minute winter	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0264	

Results for 2 year 360 minute summer. 600 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute summer	S1	224	8.429	0.063	0.5	0.0100	0.0000	OK
360 minute summer	S2	248	7.210	0.429	2.1	0.3116	0.0000	SURCHARGED
360 minute summer	S3	240	7.204	0.548	1.5	0.2833	0.0000	SURCHARGED
360 minute summer	S4	240	6.617	0.034	1.5	0.0054	0.0000	OK
360 minute summer	S5	232	6.409	0.129	1.7	0.1117	0.0000	OK
360 minute summer	S6	208	6.267	0.025	2.4	0.0214	0.0000	OK
360 minute summer	OUTFALL	208	5.539	0.024	2.4	0.0000	0.0000	OK
360 minute summer	FC1	216	8.730	0.030	0.4	0.7305	0.0000	OK
360 minute summer	FC2	224	9.032	0.032	0.3	0.7702	0.0000	OK
360 minute summer	FC3	288	7.210	0.060	0.3	1.4374	0.0000	OK
360 minute summer	FC4	288	7.210	0.060	0.3	1.4388	0.0000	OK
360 minute summer	FC5	224	7.930	0.030	0.3	0.7256	0.0000	OK
360 minute summer	FC6	240	7.391	0.041	0.3	0.9824	0.0000	OK
360 minute summer	FC7	208	6.467	0.032	0.3	0.1893	0.0000	OK
360 minute summer	STORAGE 1	248	7.210	0.365	1.9	6.6580	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute summer	S1	Orifice	S2	0.5				
360 minute summer	S2	Orifice	S3	1.1				
360 minute summer	S3	Orifice	S4	1.5				
360 minute summer	S4	1.004	S5	1.5	0.493	0.110	0.0523	
360 minute summer	S5	ACO Q-Brake	S6	1.7				
360 minute summer	S6	1.006	OUTFALL	2.4	1.285	0.056	0.0238	34.5
360 minute summer	FC1	Orifice	S1	0.3				
360 minute summer	FC2	Orifice	S1	0.2				
360 minute summer	FC3	Orifice	S2	0.1				
360 minute summer	FC4	Orifice	S2	0.1				
360 minute summer	FC5	Orifice	S3	0.2				
360 minute summer	FC6	Orifice	S3	0.1				
360 minute summer	FC7	Orifice	S5	0.3				
360 minute summer	STORAGE 1	6.000	S2	-1.9	0.366	-0.322	0.0111	

Results for 2 year 360 minute summer. 600 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute summer	STORAGE 2	256	7.202	0.002	0.1	0.0581	0.0000	OK
360 minute summer	STORAGE 3	8	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute summer	STORAGE 2	9.000	S3	-0.1	-0.087	-0.013	0.0037	
360 minute summer	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0229	

Results for 2 year 360 minute winter. 600 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute winter	S1	232	8.431	0.065	0.5	0.0103	0.0000	OK
360 minute winter	S2	248	7.233	0.452	2.0	0.3279	0.0000	SURCHARGED
360 minute winter	S3	240	7.224	0.568	1.9	0.2937	0.0000	SURCHARGED
360 minute winter	S4	240	6.617	0.034	1.5	0.0055	0.0000	OK
360 minute winter	S5	240	6.414	0.134	1.7	0.1161	0.0000	OK
360 minute winter	S6	208	6.266	0.024	2.3	0.0211	0.0000	OK
360 minute winter	OUTFALL	208	5.539	0.024	2.3	0.0000	0.0000	OK
360 minute winter	FC1	224	8.730	0.030	0.3	0.7269	0.0000	OK
360 minute winter	FC2	224	9.034	0.034	0.3	0.8163	0.0000	OK
360 minute winter	FC3	320	7.231	0.081	0.3	1.9535	0.0000	OK
360 minute winter	FC4	320	7.231	0.081	0.3	1.9558	0.0000	OK
360 minute winter	FC5	216	7.931	0.031	0.3	0.7554	0.0000	OK
360 minute winter	FC6	248	7.392	0.042	0.3	1.0188	0.0000	OK
360 minute winter	FC7	200	6.465	0.030	0.3	0.1812	0.0000	OK
360 minute winter	STORAGE 1	248	7.233	0.388	1.6	7.0672	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute winter	S1	Orifice	S2	0.5				
360 minute winter	S2	Orifice	S3	1.2				
360 minute winter	S3	Orifice	S4	1.5				
360 minute winter	S4	1.004	S5	1.5	0.496	0.112	0.0530	
360 minute winter	S5	ACO Q-Brake	S6	1.7				
360 minute winter	S6	1.006	OUTFALL	2.3	1.274	0.054	0.0233	40.6
360 minute winter	FC1	Orifice	S1	0.3				
360 minute winter	FC2	Orifice	S1	0.2				
360 minute winter	FC3	Orifice	S2	0.2				
360 minute winter	FC4	Orifice	S2	0.2				
360 minute winter	FC5	Orifice	S3	0.3				
360 minute winter	FC6	Orifice	S3	0.1				
360 minute winter	FC7	Orifice	S5	0.3				
360 minute winter	STORAGE 1	6.000	S2	-1.6	0.364	-0.268	0.0111	

Results for 2 year 360 minute winter. 600 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute winter	STORAGE 2	272	7.219	0.019	0.4	0.7164	0.0000	OK
360 minute winter	STORAGE 3	8	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute winter	STORAGE 2	9.000	S3	-0.4	0.217	-0.071	0.0077	
360 minute winter	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0237	

Results for 2 year 480 minute summer. 720 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute summer	S1	280	8.423	0.057	0.5	0.0090	0.0000	OK
480 minute summer	S2	312	7.206	0.425	1.9	0.3088	0.0000	SURCHARGED
480 minute summer	S3	304	7.200	0.544	1.5	0.2814	0.0000	SURCHARGED
480 minute summer	S4	312	6.617	0.034	1.5	0.0054	0.0000	OK
480 minute summer	S5	296	6.404	0.124	1.6	0.1072	0.0000	OK
480 minute summer	S6	264	6.266	0.024	2.2	0.0207	0.0000	OK
480 minute summer	OUTFALL	264	5.538	0.023	2.2	0.0000	0.0000	OK
480 minute summer	FC1	280	8.728	0.028	0.3	0.6682	0.0000	OK
480 minute summer	FC2	280	9.031	0.031	0.3	0.7582	0.0000	OK
480 minute summer	FC3	352	7.208	0.058	0.3	1.4026	0.0000	OK
480 minute summer	FC4	352	7.208	0.058	0.3	1.4041	0.0000	OK
480 minute summer	FC5	280	7.930	0.030	0.3	0.7165	0.0000	OK
480 minute summer	FC6	296	7.389	0.039	0.3	0.9380	0.0000	OK
480 minute summer	FC7	264	6.466	0.031	0.3	0.1872	0.0000	OK
480 minute summer	STORAGE 1	312	7.206	0.361	1.7	6.5887	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute summer	S1	Orifice	S2	0.5				
480 minute summer	S2	Orifice	S3	1.1				
480 minute summer	S3	Orifice	S4	1.5				
480 minute summer	S4	1.004	S5	1.5	0.493	0.110	0.0522	
480 minute summer	S5	ACO Q-Brake	S6	1.6				
480 minute summer	S6	1.006	OUTFALL	2.2	1.261	0.052	0.0227	37.5
480 minute summer	FC1	Orifice	S1	0.2				
480 minute summer	FC2	Orifice	S1	0.2				
480 minute summer	FC3	Orifice	S2	0.1				
480 minute summer	FC4	Orifice	S2	0.1				
480 minute summer	FC5	Orifice	S3	0.2				
480 minute summer	FC6	Orifice	S3	0.1				
480 minute summer	FC7	Orifice	S5	0.3				
480 minute summer	STORAGE 1	6.000	S2	-1.7	0.422	-0.279	0.0111	

Results for 2 year 480 minute summer. 720 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute summer	STORAGE 2	312	7.200	0.000	0.0	0.0092	0.0000	OK
480 minute summer	STORAGE 3	8	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute summer	STORAGE 2	9.000	S3	0.0	-0.012	-0.002	0.0031	
480 minute summer	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0202	

Results for 2 year 480 minute winter. 720 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute winter	S1	280	8.414	0.048	0.4	0.0077	0.0000	OK
480 minute winter	S2	320	7.215	0.434	1.7	0.3150	0.0000	SURCHARGED
480 minute winter	S3	320	7.209	0.553	1.6	0.2857	0.0000	SURCHARGED
480 minute winter	S4	320	6.617	0.034	1.5	0.0054	0.0000	OK
480 minute winter	S5	304	6.408	0.128	1.7	0.1112	0.0000	OK
480 minute winter	S6	296	6.265	0.023	2.1	0.0203	0.0000	OK
480 minute winter	OUTFALL	296	5.538	0.023	2.1	0.0000	0.0000	OK
480 minute winter	FC1	272	8.727	0.027	0.3	0.6514	0.0000	OK
480 minute winter	FC2	312	9.028	0.028	0.2	0.6697	0.0000	OK
480 minute winter	FC3	376	7.216	0.066	0.3	1.5953	0.0000	OK
480 minute winter	FC4	376	7.216	0.066	0.3	1.5970	0.0000	OK
480 minute winter	FC5	312	7.926	0.026	0.2	0.6321	0.0000	OK
480 minute winter	FC6	312	7.391	0.041	0.2	0.9967	0.0000	OK
480 minute winter	FC7	296	6.459	0.024	0.2	0.1452	0.0000	OK
480 minute winter	STORAGE 1	320	7.215	0.370	1.2	6.7443	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute winter	S1	Orifice	S2	0.4				
480 minute winter	S2	Orifice	S3	1.1				
480 minute winter	S3	Orifice	S4	1.5				
480 minute winter	S4	1.004	S5	1.5	0.494	0.111	0.0525	
480 minute winter	S5	ACO Q-Brake	S6	1.7				
480 minute winter	S6	1.006	OUTFALL	2.1	1.246	0.050	0.0220	42.1
480 minute winter	FC1	Orifice	S1	0.2				
480 minute winter	FC2	Orifice	S1	0.2				
480 minute winter	FC3	Orifice	S2	0.2				
480 minute winter	FC4	Orifice	S2	0.2				
480 minute winter	FC5	Orifice	S3	0.2				
480 minute winter	FC6	Orifice	S3	0.1				
480 minute winter	FC7	Orifice	S5	0.2				
480 minute winter	STORAGE 1	6.000	S2	-1.2	0.374	-0.207	0.0111	

Results for 2 year 480 minute winter. 720 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute winter	STORAGE 2	344	7.205	0.005	0.1	0.1746	0.0000	OK
480 minute winter	STORAGE 3	8	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute winter	STORAGE 2	9.000	S3	-0.1	-0.092	-0.018	0.0044	
480 minute winter	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0165	

Results for 2 year 600 minute summer. 840 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute summer	S1	345	8.419	0.053	0.4	0.0085	0.0000	OK
600 minute summer	S2	375	7.189	0.408	1.7	0.2964	0.0000	SURCHARGED
600 minute summer	S3	375	7.183	0.527	1.4	0.2723	0.0000	SURCHARGED
600 minute summer	S4	375	6.617	0.034	1.4	0.0054	0.0000	OK
600 minute summer	S5	360	6.396	0.116	1.6	0.1004	0.0000	OK
600 minute summer	S6	330	6.265	0.023	2.1	0.0200	0.0000	OK
600 minute summer	OUTFALL	330	5.538	0.023	2.1	0.0000	0.0000	OK
600 minute summer	FC1	330	8.728	0.028	0.3	0.6787	0.0000	OK
600 minute summer	FC2	345	9.027	0.027	0.3	0.6614	0.0000	OK
600 minute summer	FC3	420	7.195	0.045	0.3	1.0814	0.0000	OK
600 minute summer	FC4	420	7.195	0.045	0.3	1.0825	0.0000	OK
600 minute summer	FC5	345	7.926	0.026	0.3	0.6299	0.0000	OK
600 minute summer	FC6	360	7.386	0.036	0.2	0.8575	0.0000	OK
600 minute summer	FC7	345	6.459	0.024	0.2	0.1452	0.0000	OK
600 minute summer	STORAGE 1	375	7.189	0.344	1.4	6.2768	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute summer	S1	Orifice	S2	0.4				
600 minute summer	S2	Orifice	S3	1.1				
600 minute summer	S3	Orifice	S4	1.4				
600 minute summer	S4	1.004	S5	1.4	0.490	0.108	0.0515	
600 minute summer	S5	ACO Q-Brake	S6	1.6				
600 minute summer	S6	1.006	OUTFALL	2.1	1.234	0.049	0.0215	39.5
600 minute summer	FC1	Orifice	S1	0.2				
600 minute summer	FC2	Orifice	S1	0.2				
600 minute summer	FC3	Orifice	S2	0.1				
600 minute summer	FC4	Orifice	S2	0.1				
600 minute summer	FC5	Orifice	S3	0.2				
600 minute summer	FC6	Orifice	S3	0.1				
600 minute summer	FC7	Orifice	S5	0.2				
600 minute summer	STORAGE 1	6.000	S2	-1.4	0.307	-0.241	0.0111	

Results for 2 year 600 minute summer. 840 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute summer	STORAGE 2	15	7.200	0.000	0.0	0.0000	0.0000	OK
600 minute summer	STORAGE 3	15	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute summer	STORAGE 2	9.000	S3	0.0	0.000	0.000	0.0009	
600 minute summer	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0187	

Results for 2 year 600 minute winter. 840 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
600 minute winter	S1	360	8.411	0.045	0.4	0.0071	0.0000	OK
600 minute winter	S2	405	7.203	0.422	1.5	0.3060	0.0000	SURCHARGED
600 minute winter	S3	390	7.197	0.541	1.5	0.2797	0.0000	SURCHARGED
600 minute winter	S4	390	6.617	0.034	1.5	0.0054	0.0000	OK
600 minute winter	S5	360	6.395	0.115	1.6	0.0992	0.0000	OK
600 minute winter	S6	330	6.264	0.022	2.0	0.0196	0.0000	OK
600 minute winter	OUTFALL	330	5.537	0.022	2.0	0.0000	0.0000	OK
600 minute winter	FC1	375	8.724	0.024	0.2	0.5811	0.0000	OK
600 minute winter	FC2	360	9.027	0.027	0.2	0.6626	0.0000	OK
600 minute winter	FC3	435	7.207	0.057	0.2	1.3737	0.0000	OK
600 minute winter	FC4	435	7.207	0.057	0.2	1.3754	0.0000	OK
600 minute winter	FC5	360	7.926	0.026	0.2	0.6260	0.0000	OK
600 minute winter	FC6	360	7.388	0.038	0.2	0.9035	0.0000	OK
600 minute winter	FC7	345	6.459	0.024	0.2	0.1452	0.0000	OK
600 minute winter	STORAGE 1	405	7.203	0.358	1.0	6.5177	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m^3)	Discharge Vol (m^3)
600 minute winter	S1	Orifice	S2	0.4				
600 minute winter	S2	Orifice	S3	1.1				
600 minute winter	S3	Orifice	S4	1.5				
600 minute winter	S4	1.004	S5	1.5	0.492	0.110	0.0520	
600 minute winter	S5	ACO Q-Brake	S6	1.6				
600 minute winter	S6	1.006	OUTFALL	2.0	1.219	0.047	0.0209	45.5
600 minute winter	FC1	Orifice	S1	0.2				
600 minute winter	FC2	Orifice	S1	0.2				
600 minute winter	FC3	Orifice	S2	0.1				
600 minute winter	FC4	Orifice	S2	0.1				
600 minute winter	FC5	Orifice	S3	0.2				
600 minute winter	FC6	Orifice	S3	0.1				
600 minute winter	FC7	Orifice	S5	0.2				
600 minute winter	STORAGE 1	6.000	S2	-1.0	0.338	-0.164	0.0111	

Results for 2 year 600 minute winter. 840 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute winter	STORAGE 2	15	7.200	0.000	0.0	0.0000	0.0000	OK
600 minute winter	STORAGE 3	15	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute winter	STORAGE 2	9.000	S3	0.0	0.000	0.000	0.0027	
600 minute winter	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0148	

Results for 2 year 720 minute summer. 960 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
720 minute summer	S1	405	8.410	0.044	0.4	0.0069	0.0000	OK
720 minute summer	S2	450	7.167	0.386	1.6	0.2802	0.0000	SURCHARGED
720 minute summer	S3	450	7.161	0.505	1.4	0.2609	0.0000	SURCHARGED
720 minute summer	S4	450	6.616	0.033	1.4	0.0053	0.0000	OK
720 minute summer	S5	420	6.388	0.108	1.5	0.0935	0.0000	OK
720 minute summer	S6	375	6.264	0.022	1.9	0.0193	0.0000	OK
720 minute summer	OUTFALL	390	5.537	0.022	1.9	0.0000	0.0000	OK
720 minute summer	FC1	390	8.725	0.025	0.3	0.6034	0.0000	OK
720 minute summer	FC2	405	9.026	0.026	0.2	0.6243	0.0000	OK
720 minute summer	FC3	420	7.187	0.037	0.2	0.8818	0.0000	OK
720 minute summer	FC4	420	7.187	0.037	0.2	0.8824	0.0000	OK
720 minute summer	FC5	405	7.924	0.024	0.2	0.5939	0.0000	OK
720 minute summer	FC6	420	7.386	0.036	0.2	0.8575	0.0000	OK
720 minute summer	FC7	405	6.459	0.024	0.2	0.1452	0.0000	OK
720 minute summer	STORAGE 1	450	7.167	0.322	1.2	5.8706	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m^3)	Discharge Vol (m^3)
720 minute summer	S1	Orifice	S2	0.4				
720 minute summer	S2	Orifice	S3	1.0				
720 minute summer	S3	Orifice	S4	1.4				
720 minute summer	S4	1.004	S5	1.4	0.487	0.106	0.0507	
720 minute summer	S5	ACO Q-Brake	S6	1.5				
720 minute summer	S6	1.006	OUTFALL	1.9	1.210	0.045	0.0205	41.4
720 minute summer	FC1	Orifice	S1	0.2				
720 minute summer	FC2	Orifice	S1	0.2				
720 minute summer	FC3	Orifice	S2	0.1				
720 minute summer	FC4	Orifice	S2	0.1				
720 minute summer	FC5	Orifice	S3	0.2				
720 minute summer	FC6	Orifice	S3	0.1				
720 minute summer	FC7	Orifice	S5	0.2				
720 minute summer	STORAGE 1	6.000	S2	-1.2	0.385	-0.207	0.0111	

Results for 2 year 720 minute summer. 960 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute summer	STORAGE 2	15	7.200	0.000	0.0	0.0000	0.0000	OK
720 minute summer	STORAGE 3	15	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute summer	STORAGE 2	9.000	S3	0.0	0.000	0.000	0.0000	
720 minute summer	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0144	

Results for 2 year 720 minute winter. 960 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute winter	S1	420	8.411	0.045	0.4	0.0071	0.0000	OK
720 minute winter	S2	465	7.194	0.413	1.4	0.2999	0.0000	SURCHARGED
720 minute winter	S3	465	7.187	0.531	1.4	0.2746	0.0000	SURCHARGED
720 minute winter	S4	465	6.617	0.034	1.4	0.0054	0.0000	OK
720 minute winter	S5	465	6.391	0.111	1.5	0.0966	0.0000	OK
720 minute winter	S6	420	6.264	0.022	1.9	0.0191	0.0000	OK
720 minute winter	OUTFALL	420	5.537	0.022	1.9	0.0000	0.0000	OK
720 minute winter	FC1	435	8.724	0.024	0.2	0.5816	0.0000	OK
720 minute winter	FC2	420	9.027	0.027	0.2	0.6643	0.0000	OK
720 minute winter	FC3	510	7.201	0.051	0.2	1.2179	0.0000	OK
720 minute winter	FC4	510	7.201	0.051	0.2	1.2193	0.0000	OK
720 minute winter	FC5	420	7.926	0.026	0.2	0.6273	0.0000	OK
720 minute winter	FC6	405	7.383	0.033	0.2	0.7849	0.0000	OK
720 minute winter	FC7	390	6.459	0.024	0.2	0.1446	0.0000	OK
720 minute winter	STORAGE 1	465	7.194	0.349	0.8	6.3632	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute winter	S1	Orifice	S2	0.4				
720 minute winter	S2	Orifice	S3	1.1				
720 minute winter	S3	Orifice	S4	1.4				
720 minute winter	S4	1.004	S5	1.4	0.491	0.109	0.0517	
720 minute winter	S5	ACO Q-Brake	S6	1.5				
720 minute winter	S6	1.006	OUTFALL	1.9	1.200	0.044	0.0201	47.8
720 minute winter	FC1	Orifice	S1	0.2				
720 minute winter	FC2	Orifice	S1	0.2				
720 minute winter	FC3	Orifice	S2	0.1				
720 minute winter	FC4	Orifice	S2	0.1				
720 minute winter	FC5	Orifice	S3	0.2				
720 minute winter	FC6	Orifice	S3	0.1				
720 minute winter	FC7	Orifice	S5	0.2				
720 minute winter	STORAGE 1	6.000	S2	-0.8	0.316	-0.136	0.0111	

Results for 2 year 720 minute winter. 960 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute winter	STORAGE 2	15	7.200	0.000	0.0	0.0000	0.0000	OK
720 minute winter	STORAGE 3	15	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute winter	STORAGE 2	9.000	S3	0.0	0.000	0.000	0.0014	
720 minute winter	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0149	

Results for 2 year 960 minute summer. 1200 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute summer	S1	525	8.406	0.040	0.4	0.0064	0.0000	OK
960 minute summer	S2	585	7.134	0.353	1.4	0.2566	0.0000	SURCHARGED
960 minute summer	S3	585	7.128	0.472	1.4	0.2443	0.0000	SURCHARGED
960 minute summer	S4	585	6.616	0.033	1.4	0.0052	0.0000	OK
960 minute summer	S5	585	6.379	0.099	1.5	0.0861	0.0000	OK
960 minute summer	S6	525	6.263	0.021	1.8	0.0187	0.0000	OK
960 minute summer	OUTFALL	525	5.536	0.021	1.8	0.0000	0.0000	OK
960 minute summer	FC1	525	8.723	0.023	0.2	0.5512	0.0000	OK
960 minute summer	FC2	525	9.026	0.026	0.2	0.6293	0.0000	OK
960 minute summer	FC3	540	7.188	0.038	0.2	0.9031	0.0000	OK
960 minute summer	FC4	540	7.188	0.038	0.2	0.9038	0.0000	OK
960 minute summer	FC5	525	7.925	0.025	0.2	0.5978	0.0000	OK
960 minute summer	FC6	525	7.381	0.031	0.2	0.7442	0.0000	OK
960 minute summer	FC7	510	6.459	0.024	0.2	0.1446	0.0000	OK
960 minute summer	STORAGE 1	585	7.134	0.289	1.0	5.2771	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute summer	S1	Orifice	S2	0.4				
960 minute summer	S2	Orifice	S3	1.0				
960 minute summer	S3	Orifice	S4	1.4				
960 minute summer	S4	1.004	S5	1.4	0.483	0.102	0.0495	
960 minute summer	S5	ACO Q-Brake	S6	1.5				
960 minute summer	S6	1.006	OUTFALL	1.8	1.186	0.043	0.0196	44.1
960 minute summer	FC1	Orifice	S1	0.2				
960 minute summer	FC2	Orifice	S1	0.2				
960 minute summer	FC3	Orifice	S2	0.1				
960 minute summer	FC4	Orifice	S2	0.1				
960 minute summer	FC5	Orifice	S3	0.2				
960 minute summer	FC6	Orifice	S3	0.1				
960 minute summer	FC7	Orifice	S5	0.2				
960 minute summer	STORAGE 1	6.000	S2	-1.0	0.295	-0.164	0.0111	

Results for 2 year 960 minute summer. 1200 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute summer	STORAGE 2	15	7.200	0.000	0.0	0.0000	0.0000	OK
960 minute summer	STORAGE 3	15	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute summer	STORAGE 2	9.000	S3	0.0	0.000	0.000	0.0000	
960 minute summer	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0130	

Results for 2 year 960 minute winter. 1200 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute winter	S1	510	8.396	0.030	0.3	0.0048	0.0000	OK
960 minute winter	S2	615	7.081	0.300	1.0	0.2179	0.0000	SURCHARGED
960 minute winter	S3	615	7.076	0.420	1.3	0.2171	0.0000	SURCHARGED
960 minute winter	S4	615	6.615	0.032	1.3	0.0051	0.0000	OK
960 minute winter	S5	615	6.369	0.089	1.4	0.0769	0.0000	OK
960 minute winter	S6	585	6.263	0.021	1.7	0.0180	0.0000	OK
960 minute winter	OUTFALL	585	5.535	0.020	1.7	0.0000	0.0000	OK
960 minute winter	FC1	510	8.721	0.021	0.2	0.5109	0.0000	OK
960 minute winter	FC2	690	9.018	0.018	0.1	0.4354	0.0000	OK
960 minute winter	FC3	690	7.179	0.029	0.1	0.6906	0.0000	OK
960 minute winter	FC4	690	7.179	0.029	0.1	0.6915	0.0000	OK
960 minute winter	FC5	690	7.917	0.017	0.1	0.4082	0.0000	OK
960 minute winter	FC6	675	7.378	0.028	0.1	0.6814	0.0000	OK
960 minute winter	FC7	495	6.450	0.015	0.1	0.0915	0.0000	OK
960 minute winter	STORAGE 1	615	7.081	0.236	0.5	4.3059	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute winter	S1	Orifice	S2	0.3				
960 minute winter	S2	Orifice	S3	0.9				
960 minute winter	S3	Orifice	S4	1.3				
960 minute winter	S4	1.004	S5	1.3	0.474	0.096	0.0474	
960 minute winter	S5	ACO Q-Brake	S6	1.4				
960 minute winter	S6	1.006	OUTFALL	1.7	1.158	0.039	0.0185	49.6
960 minute winter	FC1	Orifice	S1	0.2				
960 minute winter	FC2	Orifice	S1	0.1				
960 minute winter	FC3	Orifice	S2	0.1				
960 minute winter	FC4	Orifice	S2	0.1				
960 minute winter	FC5	Orifice	S3	0.1				
960 minute winter	FC6	Orifice	S3	0.1				
960 minute winter	FC7	Orifice	S5	0.1				
960 minute winter	STORAGE 1	6.000	S2	0.5	0.306	0.090	0.0111	

Results for 2 year 960 minute winter. 1200 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
960 minute winter	STORAGE 2	15	7.200	0.000	0.0	0.0000	0.0000	OK
960 minute winter	STORAGE 3	15	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m^3)	Discharge Vol (m^3)
960 minute winter	STORAGE 2	9.000	S3	0.0	0.000	0.000	0.0000	
960 minute winter	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0088	

Results for 2 year 1440 minute summer. 1680 minute analysis at 30 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute summer	S1	750	8.397	0.031	0.3	0.0049	0.0000	OK
1440 minute summer	S2	840	7.036	0.255	1.0	0.1848	0.0000	SURCHARGED
1440 minute summer	S3	840	7.030	0.374	1.2	0.1933	0.0000	SURCHARGED
1440 minute summer	S4	840	6.614	0.031	1.2	0.0049	0.0000	OK
1440 minute summer	S5	840	6.359	0.079	1.3	0.0688	0.0000	OK
1440 minute summer	S6	780	6.262	0.020	1.6	0.0174	0.0000	OK
1440 minute summer	OUTFALL	780	5.535	0.020	1.6	0.0000	0.0000	OK
1440 minute summer	FC1	750	8.722	0.022	0.2	0.5229	0.0000	OK
1440 minute summer	FC2	900	9.018	0.018	0.1	0.4350	0.0000	OK
1440 minute summer	FC3	900	7.178	0.028	0.1	0.6722	0.0000	OK
1440 minute summer	FC4	900	7.178	0.028	0.1	0.6731	0.0000	OK
1440 minute summer	FC5	900	7.917	0.017	0.1	0.4080	0.0000	OK
1440 minute summer	FC6	870	7.377	0.027	0.1	0.6430	0.0000	OK
1440 minute summer	FC7	780	6.450	0.015	0.1	0.0915	0.0000	OK
1440 minute summer	STORAGE 1	840	7.036	0.191	0.5	3.4735	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute summer	S1	Orifice	S2	0.3				
1440 minute summer	S2	Orifice	S3	0.9				
1440 minute summer	S3	Orifice	S4	1.2				
1440 minute summer	S4	1.004	S5	1.2	0.466	0.091	0.0454	
1440 minute summer	S5	ACO Q-Brake	S6	1.3				
1440 minute summer	S6	1.006	OUTFALL	1.6	1.137	0.037	0.0177	46.6
1440 minute summer	FC1	Orifice	S1	0.2				
1440 minute summer	FC2	Orifice	S1	0.1				
1440 minute summer	FC3	Orifice	S2	0.1				
1440 minute summer	FC4	Orifice	S2	0.1				
1440 minute summer	FC5	Orifice	S3	0.1				
1440 minute summer	FC6	Orifice	S3	0.1				
1440 minute summer	FC7	Orifice	S5	0.1				
1440 minute summer	STORAGE 1	6.000	S2	0.5	0.284	0.084	0.0111	

Results for 2 year 1440 minute summer. 1680 minute analysis at 30 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute summer	STORAGE 2	30	7.200	0.000	0.0	0.0000	0.0000	OK
1440 minute summer	STORAGE 3	30	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute summer	STORAGE 2	9.000	S3	0.0	0.000	0.000	0.0000	
1440 minute summer	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0090	

Results for 2 year 1440 minute winter. 1680 minute analysis at 30 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute winter	S1	960	8.392	0.026	0.2	0.0041	0.0000	OK
1440 minute winter	S2	870	7.025	0.244	0.9	0.1774	0.0000	SURCHARGED
1440 minute winter	S3	870	7.020	0.364	1.2	0.1882	0.0000	SURCHARGED
1440 minute winter	S4	870	6.614	0.031	1.2	0.0049	0.0000	OK
1440 minute winter	S5	870	6.357	0.077	1.3	0.0671	0.0000	OK
1440 minute winter	S6	780	6.262	0.020	1.5	0.0173	0.0000	OK
1440 minute winter	OUTFALL	780	5.535	0.020	1.5	0.0000	0.0000	OK
1440 minute winter	FC1	990	8.715	0.015	0.1	0.3700	0.0000	OK
1440 minute winter	FC2	960	9.018	0.018	0.1	0.4355	0.0000	OK
1440 minute winter	FC3	960	7.179	0.029	0.1	0.7071	0.0000	OK
1440 minute winter	FC4	960	7.179	0.029	0.1	0.7081	0.0000	OK
1440 minute winter	FC5	960	7.917	0.017	0.1	0.4083	0.0000	OK
1440 minute winter	FC6	930	7.379	0.029	0.1	0.6934	0.0000	OK
1440 minute winter	FC7	720	6.450	0.015	0.1	0.0915	0.0000	OK
1440 minute winter	STORAGE 1	870	7.025	0.180	0.3	3.2871	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute winter	S1	Orifice	S2	0.2				
1440 minute winter	S2	Orifice	S3	0.8				
1440 minute winter	S3	Orifice	S4	1.2				
1440 minute winter	S4	1.004	S5	1.2	0.464	0.089	0.0450	
1440 minute winter	S5	ACO Q-Brake	S6	1.3				
1440 minute winter	S6	1.006	OUTFALL	1.5	1.130	0.036	0.0174	56.7
1440 minute winter	FC1	Orifice	S1	0.1				
1440 minute winter	FC2	Orifice	S1	0.1				
1440 minute winter	FC3	Orifice	S2	0.1				
1440 minute winter	FC4	Orifice	S2	0.1				
1440 minute winter	FC5	Orifice	S3	0.1				
1440 minute winter	FC6	Orifice	S3	0.1				
1440 minute winter	FC7	Orifice	S5	0.1				
1440 minute winter	STORAGE 1	6.000	S2	0.5	0.229	0.078	0.0111	

Results for 2 year 1440 minute winter. 1680 minute analysis at 30 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute winter	STORAGE 2	30	7.200	0.000	0.0	0.0000	0.0000	OK
1440 minute winter	STORAGE 3	30	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute winter	STORAGE 2	9.000	S3	0.0	0.000	0.000	0.0000	
1440 minute winter	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0070	

Results for 30 year 15 minute summer. 255 minute analysis at 1 minute timestep. Mass balance: 99.49%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1	49	8.476	0.110	0.8	0.0174	0.0000	SURCHARGED
15 minute summer	S2	38	7.302	0.521	6.2	0.3782	0.0000	SURCHARGED
15 minute summer	S3	33	7.278	0.622	4.4	0.3215	0.0000	SURCHARGED
15 minute summer	S4	34	6.618	0.035	1.6	0.0056	0.0000	OK
15 minute summer	S5	38	6.506	0.226	2.0	0.1958	0.0000	SURCHARGED
15 minute summer	S6	31	6.275	0.033	4.2	0.0283	0.0000	OK
15 minute summer	OUTFALL	31	5.547	0.032	4.2	0.0000	0.0000	OK
15 minute summer	FC1	38	8.751	0.051	1.0	1.2274	0.0000	OK
15 minute summer	FC2	38	9.052	0.052	0.9	1.2447	0.0000	OK
15 minute summer	FC3	81	7.230	0.080	1.1	1.9327	0.0000	OK
15 minute summer	FC4	81	7.230	0.080	1.1	1.9337	0.0000	OK
15 minute summer	FC5	38	7.949	0.049	0.9	1.1954	0.0000	OK
15 minute summer	FC6	40	7.403	0.053	0.8	1.2647	0.0000	OK
15 minute summer	FC7	37	6.534	0.099	0.8	0.5925	0.0000	OK
15 minute summer	STORAGE 1	38	7.302	0.457	6.0	8.3367	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S1	Orifice	S2	0.7				
15 minute summer	S2	Orifice	S3	2.2				
15 minute summer	S3	Orifice	S4	1.6				
15 minute summer	S4	1.004	S5	1.6	0.502	0.118	0.0548	
15 minute summer	S5	ACO Q-Brake	S6	2.0				
15 minute summer	S6	1.006	OUTFALL	4.2	1.508	0.098	0.0354	24.6
15 minute summer	FC1	Orifice	S1	0.5				
15 minute summer	FC2	Orifice	S1	0.3				
15 minute summer	FC3	Orifice	S2	0.2				
15 minute summer	FC4	Orifice	S2	0.2				
15 minute summer	FC5	Orifice	S3	0.4				
15 minute summer	FC6	Orifice	S3	0.1				
15 minute summer	FC7	Orifice	S5	0.6				
15 minute summer	STORAGE 1	6.000	S2	-6.0	-1.086	-1.003	0.0111	

Results for 30 year 15 minute summer. 255 minute analysis at 1 minute timestep. Mass balance: 99.49%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	STORAGE 2	51	7.248	0.048	2.8	1.7793	0.0000	OK
15 minute summer	STORAGE 3	49	8.476	0.026	0.1	0.0780	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	STORAGE 2	9.000	S3	-2.8	-0.558	-0.480	0.0161	
15 minute summer	STORAGE 3	3.000	S1	-0.1	-0.032	-0.020	0.0414	

Results for 30 year 15 minute winter. 255 minute analysis at 1 minute timestep. Mass balance: 99.42%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S1	51	8.488	0.122	0.9	0.0194	0.0000	SURCHARGED
15 minute winter	S2	38	7.328	0.547	7.0	0.3971	0.0000	SURCHARGED
15 minute winter	S3	31	7.287	0.631	5.3	0.3261	0.0000	SURCHARGED
15 minute winter	S4	31	6.618	0.035	1.6	0.0056	0.0000	OK
15 minute winter	S5	40	6.527	0.247	2.1	0.2140	0.0000	SURCHARGED
15 minute winter	S6	31	6.276	0.034	4.5	0.0295	0.0000	OK
15 minute winter	OUTFALL	31	5.548	0.033	4.5	0.0000	0.0000	OK
15 minute winter	FC1	38	8.756	0.056	1.1	1.3681	0.0000	OK
15 minute winter	FC2	39	9.057	0.057	1.0	1.3776	0.0000	OK
15 minute winter	FC3	92	7.245	0.095	1.2	2.2767	0.0000	OK
15 minute winter	FC4	92	7.245	0.095	1.2	2.2778	0.0000	OK
15 minute winter	FC5	38	7.954	0.054	1.0	1.3205	0.0000	OK
15 minute winter	FC6	40	7.410	0.060	0.9	1.4480	0.0000	OK
15 minute winter	FC7	37	6.558	0.123	0.9	0.7361	0.0000	SURCHARGED
15 minute winter	STORAGE 1	38	7.328	0.483	6.6	8.8106	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	S1	Orifice	S2	0.7				
15 minute winter	S2	Orifice	S3	2.5				
15 minute winter	S3	Orifice	S4	1.6				
15 minute winter	S4	1.004	S5	1.6	0.503	0.119	0.0637	
15 minute winter	S5	ACO Q-Brake	S6	2.0				
15 minute winter	S6	1.006	OUTFALL	4.5	1.541	0.105	0.0374	26.3
15 minute winter	FC1	Orifice	S1	0.5				
15 minute winter	FC2	Orifice	S1	0.3				
15 minute winter	FC3	Orifice	S2	0.2				
15 minute winter	FC4	Orifice	S2	0.2				
15 minute winter	FC5	Orifice	S3	0.4				
15 minute winter	FC6	Orifice	S3	0.2				
15 minute winter	FC7	Orifice	S5	0.6				
15 minute winter	STORAGE 1	6.000	S2	-6.6	-1.137	-1.104	0.0111	

Results for 30 year 15 minute winter. 255 minute analysis at 1 minute timestep. Mass balance: 99.42%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	STORAGE 2	50	7.274	0.074	3.7	2.7144	0.0000	OK
15 minute winter	STORAGE 3	51	8.488	0.038	0.1	0.1160	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	STORAGE 2	9.000	S3	-3.7	-0.650	-0.620	0.0219	
15 minute winter	STORAGE 3	3.000	S1	-0.1	-0.035	-0.024	0.0465	

Results for 30 year 30 minute summer. 270 minute analysis at 1 minute timestep. Mass balance: 99.37%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute summer	S1	62	8.510	0.144	1.0	0.0229	0.0000	SURCHARGED
30 minute summer	S2	45	7.357	0.576	7.9	0.4182	0.0000	SURCHARGED
30 minute summer	S3	60	7.312	0.656	5.9	0.3393	0.0000	SURCHARGED
30 minute summer	S4	69	6.619	0.036	1.6	0.0057	0.0000	OK
30 minute summer	S5	50	6.556	0.276	2.1	0.2386	0.0000	SURCHARGED
30 minute summer	S6	30	6.278	0.036	4.9	0.0310	0.0000	OK
30 minute summer	OUTFALL	30	5.550	0.035	4.9	0.0000	0.0000	OK
30 minute summer	FC1	46	8.764	0.064	1.3	1.5523	0.0000	OK
30 minute summer	FC2	47	9.067	0.067	1.2	1.6180	0.0000	OK
30 minute summer	FC3	115	7.270	0.120	1.4	2.8867	0.0000	SURCHARGED
30 minute summer	FC4	116	7.270	0.120	1.4	2.8884	0.0000	SURCHARGED
30 minute summer	FC5	47	7.964	0.064	1.2	1.5425	0.0000	OK
30 minute summer	FC6	50	7.420	0.070	1.1	1.6900	0.0000	OK
30 minute summer	FC7	45	6.585	0.150	1.1	0.8988	0.0000	SURCHARGED
30 minute summer	STORAGE 1	45	7.357	0.512	7.5	9.3382	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute summer	S1	Orifice	S2	0.8				
30 minute summer	S2	Orifice	S3	2.7				
30 minute summer	S3	Orifice	S4	1.6				
30 minute summer	S4	1.004	S5	1.6	0.506	0.121	0.1004	
30 minute summer	S5	ACO Q-Brake	S6	2.0				
30 minute summer	S6	1.006	OUTFALL	4.9	1.581	0.116	0.0401	29.6
30 minute summer	FC1	Orifice	S1	0.6				
30 minute summer	FC2	Orifice	S1	0.4				
30 minute summer	FC3	Orifice	S2	0.2				
30 minute summer	FC4	Orifice	S2	0.2				
30 minute summer	FC5	Orifice	S3	0.4				
30 minute summer	FC6	Orifice	S3	0.2				
30 minute summer	FC7	Orifice	S5	0.7				
30 minute summer	STORAGE 1	6.000	S2	-7.5	-0.961	-1.252	0.0111	

Results for 30 year 30 minute summer. 270 minute analysis at 1 minute timestep. Mass balance: 99.37%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute summer	STORAGE 2	60	7.312	0.112	4.3	4.1259	0.0000	SURCHARGED
30 minute summer	STORAGE 3	62	8.510	0.060	0.2	0.1824	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute summer	STORAGE 2	9.000	S3	-4.3	-0.720	-0.724	0.0244	
30 minute summer	STORAGE 3	3.000	S1	-0.2	-0.041	-0.030	0.0560	

Results for 30 year 30 minute winter. 270 minute analysis at 1 minute timestep. Mass balance: 99.30%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
30 minute winter	S1	64	8.529	0.163	1.0	0.0259	0.0000	SURCHARGED
30 minute winter	S2	46	7.391	0.610	8.7	0.4426	0.0000	SURCHARGED
30 minute winter	S3	60	7.346	0.690	6.6	0.3567	0.0000	SURCHARGED
30 minute winter	S4	86	6.619	0.036	1.6	0.0057	0.0000	OK
30 minute winter	S5	52	6.592	0.312	2.2	0.2700	0.0000	SURCHARGED
30 minute winter	S6	32	6.279	0.037	5.3	0.0321	0.0000	OK
30 minute winter	OUTFALL	32	5.551	0.036	5.3	0.0000	0.0000	OK
30 minute winter	FC1	46	8.771	0.071	1.5	1.7350	0.0000	OK
30 minute winter	FC2	48	9.075	0.075	1.4	1.8191	0.0000	OK
30 minute winter	FC3	128	7.291	0.141	1.6	3.3801	0.0000	SURCHARGED
30 minute winter	FC4	128	7.291	0.141	1.6	3.3820	0.0000	SURCHARGED
30 minute winter	FC5	47	7.971	0.071	1.4	1.7313	0.0000	OK
30 minute winter	FC6	51	7.429	0.079	1.2	1.9000	0.0000	OK
30 minute winter	FC7	46	6.611	0.176	1.2	1.0584	0.0000	SURCHARGED
30 minute winter	STORAGE 1	46	7.391	0.546	8.2	9.9493	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m^3)	Discharge Vol (m^3)
30 minute winter	S1	Orifice	S2	0.9				
30 minute winter	S2	Orifice	S3	2.8				
30 minute winter	S3	Orifice	S4	1.6				
30 minute winter	S4	1.004	S5	1.6	0.508	0.124	0.1472	
30 minute winter	S5	ACO Q-Brake	S6	2.0				
30 minute winter	S6	1.006	OUTFALL	5.3	1.613	0.124	0.0422	31.4
30 minute winter	FC1	Orifice	S1	0.6				
30 minute winter	FC2	Orifice	S1	0.4				
30 minute winter	FC3	Orifice	S2	0.2				
30 minute winter	FC4	Orifice	S2	0.2				
30 minute winter	FC5	Orifice	S3	0.5				
30 minute winter	FC6	Orifice	S3	0.2				
30 minute winter	FC7	Orifice	S5	0.7				
30 minute winter	STORAGE 1	6.000	S2	-8.2	-1.052	-1.370	0.0111	

Results for 30 year 30 minute winter. 270 minute analysis at 1 minute timestep. Mass balance: 99.30%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute winter	STORAGE 2	61	7.346	0.146	4.9	5.3694	0.0000	SURCHARGED
30 minute winter	STORAGE 3	64	8.529	0.079	0.2	0.2391	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute winter	STORAGE 2	9.000	S3	-4.9	-0.810	-0.835	0.0244	
30 minute winter	STORAGE 3	3.000	S1	-0.2	-0.044	-0.034	0.0635	

Results for 30 year 60 minute summer. 300 minute analysis at 1 minute timestep. Mass balance: 99.33%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute summer	S1	83	8.540	0.174	1.0	0.0277	0.0000	SURCHARGED
60 minute summer	S2	63	7.402	0.621	8.1	0.4509	0.0000	SURCHARGED
60 minute summer	S3	84	7.373	0.717	6.6	0.3706	0.0000	SURCHARGED
60 minute summer	S4	114	6.619	0.036	1.7	0.0058	0.0000	OK
60 minute summer	S5	72	6.597	0.317	2.2	0.2747	0.0000	SURCHARGED
60 minute summer	S6	49	6.278	0.036	5.0	0.0311	0.0000	OK
60 minute summer	OUTFALL	49	5.550	0.035	5.0	0.0000	0.0000	OK
60 minute summer	FC1	62	8.772	0.072	1.3	1.7582	0.0000	OK
60 minute summer	FC2	64	9.078	0.078	1.2	1.8767	0.0000	OK
60 minute summer	FC3	154	7.310	0.160	1.4	3.8556	0.0000	SURCHARGED
60 minute summer	FC4	155	7.310	0.160	1.4	3.8579	0.0000	SURCHARGED
60 minute summer	FC5	63	7.973	0.073	1.2	1.7766	0.0000	OK
60 minute summer	FC6	74	7.435	0.085	1.1	2.0350	0.0000	OK
60 minute summer	FC7	64	6.610	0.175	1.1	1.0497	0.0000	SURCHARGED
60 minute summer	STORAGE 1	63	7.402	0.557	7.6	10.1573	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute summer	S1	Orifice	S2	0.9				
60 minute summer	S2	Orifice	S3	2.8				
60 minute summer	S3	Orifice	S4	1.7				
60 minute summer	S4	1.004	S5	1.7	0.510	0.127	0.1539	
60 minute summer	S5	ACO Q-Brake	S6	2.0				
60 minute summer	S6	1.006	OUTFALL	5.0	1.587	0.117	0.0404	35.1
60 minute summer	FC1	Orifice	S1	0.6				
60 minute summer	FC2	Orifice	S1	0.4				
60 minute summer	FC3	Orifice	S2	0.2				
60 minute summer	FC4	Orifice	S2	0.2				
60 minute summer	FC5	Orifice	S3	0.5				
60 minute summer	FC6	Orifice	S3	0.2				
60 minute summer	FC7	Orifice	S5	0.6				
60 minute summer	STORAGE 1	6.000	S2	-7.6	-0.977	-1.272	0.0111	

Results for 30 year 60 minute summer. 300 minute analysis at 1 minute timestep. Mass balance: 99.33%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute summer	STORAGE 2	84	7.373	0.173	4.9	6.3573	0.0000	SURCHARGED
60 minute summer	STORAGE 3	83	8.540	0.090	0.2	0.2734	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute summer	STORAGE 2	9.000	S3	-4.9	-0.784	-0.832	0.0244	
60 minute summer	STORAGE 3	3.000	S1	-0.2	-0.041	-0.034	0.0670	

Results for 30 year 60 minute winter. 300 minute analysis at 1 minute timestep. Mass balance: 99.28%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute winter	S1	85	8.566	0.200	1.1	0.0318	0.0000	SURCHARGED
60 minute winter	S2	65	7.445	0.664	8.3	0.4824	0.0000	SURCHARGED
60 minute winter	S3	84	7.415	0.759	7.2	0.3923	0.0000	SURCHARGED
60 minute winter	S4	104	6.655	0.072	1.7	0.0114	0.0000	OK
60 minute winter	S5	103	6.653	0.373	2.2	0.3233	0.0000	SURCHARGED
60 minute winter	S6	48	6.279	0.037	5.3	0.0321	0.0000	OK
60 minute winter	OUTFALL	48	5.551	0.036	5.3	0.0000	0.0000	OK
60 minute winter	FC1	63	8.782	0.082	1.5	1.9795	0.0000	OK
60 minute winter	FC2	67	9.087	0.087	1.4	2.1054	0.0000	OK
60 minute winter	FC3	167	7.336	0.186	1.6	4.4616	0.0000	SURCHARGED
60 minute winter	FC4	167	7.335	0.185	1.6	4.4642	0.0000	SURCHARGED
60 minute winter	FC5	65	7.982	0.082	1.4	1.9833	0.0000	OK
60 minute winter	FC6	76	7.446	0.096	1.2	2.3090	0.0000	OK
60 minute winter	FC7	103	6.653	0.218	1.2	1.3104	0.0000	SURCHARGED
60 minute winter	STORAGE 1	65	7.445	0.600	7.9	10.9475	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute winter	S1	Orifice	S2	1.0				
60 minute winter	S2	Orifice	S3	2.9				
60 minute winter	S3	Orifice	S4	1.7				
60 minute winter	S4	1.004	S5	1.7	0.504	0.130	0.2282	
60 minute winter	S5	ACO Q-Brake	S6	2.0				
60 minute winter	S6	1.006	OUTFALL	5.3	1.613	0.125	0.0422	37.1
60 minute winter	FC1	Orifice	S1	0.7				
60 minute winter	FC2	Orifice	S1	0.4				
60 minute winter	FC3	Orifice	S2	0.2				
60 minute winter	FC4	Orifice	S2	0.2				
60 minute winter	FC5	Orifice	S3	0.5				
60 minute winter	FC6	Orifice	S3	0.2				
60 minute winter	FC7	Orifice	S5	0.7				
60 minute winter	STORAGE 1	6.000	S2	-7.9	-1.013	-1.319	0.0111	

Results for 30 year 60 minute winter. 300 minute analysis at 1 minute timestep. Mass balance: 99.28%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute winter	STORAGE 2	84	7.415	0.215	5.5	7.8958	0.0000	SURCHARGED
60 minute winter	STORAGE 3	85	8.566	0.116	0.2	0.3515	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute winter	STORAGE 2	9.000	S3	-5.5	-0.851	-0.921	0.0244	
60 minute winter	STORAGE 3	3.000	S1	-0.2	-0.046	-0.038	0.0687	

Results for 30 year 120 minute summer. 360 minute analysis at 2 minute timestep. Mass balance: 99.38%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute summer	S1	116	8.549	0.183	1.0	0.0291	0.0000	SURCHARGED
120 minute summer	S2	130	7.418	0.637	6.8	0.4625	0.0000	SURCHARGED
120 minute summer	S3	134	7.410	0.754	6.3	0.3898	0.0000	SURCHARGED
120 minute summer	S4	166	6.620	0.037	1.7	0.0059	0.0000	OK
120 minute summer	S5	108	6.591	0.311	2.1	0.2694	0.0000	SURCHARGED
120 minute summer	S6	78	6.277	0.035	4.7	0.0301	0.0000	OK
120 minute summer	OUTFALL	78	5.549	0.034	4.7	0.0000	0.0000	OK
120 minute summer	FC1	94	8.772	0.072	1.2	1.7444	0.0000	OK
120 minute summer	FC2	98	9.078	0.078	1.1	1.8816	0.0000	OK
120 minute summer	FC3	202	7.342	0.192	1.3	4.6247	0.0000	SURCHARGED
120 minute summer	FC4	202	7.342	0.192	1.3	4.6273	0.0000	SURCHARGED
120 minute summer	FC5	96	7.972	0.072	1.1	1.7529	0.0000	OK
120 minute summer	FC6	124	7.444	0.094	1.0	2.2578	0.0000	OK
120 minute summer	FC7	104	6.600	0.165	1.0	0.9898	0.0000	SURCHARGED
120 minute summer	STORAGE 1	130	7.418	0.573	6.3	10.4483	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute summer	S1	Orifice	S2	0.9				
120 minute summer	S2	Orifice	S3	2.7				
120 minute summer	S3	Orifice	S4	1.7				
120 minute summer	S4	1.004	S5	1.7	0.514	0.130	0.1471	
120 minute summer	S5	ACO Q-Brake	S6	2.0				
120 minute summer	S6	1.006	OUTFALL	4.7	1.560	0.110	0.0387	41.9
120 minute summer	FC1	Orifice	S1	0.6				
120 minute summer	FC2	Orifice	S1	0.4				
120 minute summer	FC3	Orifice	S2	0.2				
120 minute summer	FC4	Orifice	S2	0.2				
120 minute summer	FC5	Orifice	S3	0.5				
120 minute summer	FC6	Orifice	S3	0.2				
120 minute summer	FC7	Orifice	S5	0.6				
120 minute summer	STORAGE 1	6.000	S2	-6.3	-0.805	-1.048	0.0111	

Results for 30 year 120 minute summer. 360 minute analysis at 2 minute timestep. Mass balance: 99.38%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute summer	STORAGE 2	134	7.410	0.210	4.6	7.7179	0.0000	SURCHARGED
120 minute summer	STORAGE 3	116	8.549	0.099	0.2	0.2997	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute summer	STORAGE 2	9.000	S3	-4.6	-0.755	-0.784	0.0244	
120 minute summer	STORAGE 3	3.000	S1	-0.2	-0.035	-0.031	0.0687	

Results for 30 year 120 minute winter. 360 minute analysis at 2 minute timestep. Mass balance: 98.95%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute winter	S1	122	8.573	0.207	1.1	0.0329	0.0000	SURCHARGED
120 minute winter	S2	126	7.468	0.687	6.3	0.4988	0.0000	SURCHARGED
120 minute winter	S3	134	7.458	0.802	6.5	0.4149	0.0000	SURCHARGED
120 minute winter	S4	250	6.812	0.229	1.8	0.0365	0.0000	SURCHARGED
120 minute winter	S5	248	6.811	0.531	2.2	0.4599	0.0000	SURCHARGED
120 minute winter	S6	78	6.277	0.035	4.7	0.0302	0.0000	OK
120 minute winter	OUTFALL	78	5.549	0.034	4.7	0.0000	0.0000	OK
120 minute winter	FC1	96	8.777	0.077	1.2	1.8735	0.0000	OK
120 minute winter	FC2	104	9.087	0.087	1.1	2.0962	0.0000	OK
120 minute winter	FC3	218	7.374	0.224	1.3	5.3799	0.0000	SURCHARGED
120 minute winter	FC4	218	7.374	0.224	1.3	5.3831	0.0000	SURCHARGED
120 minute winter	FC5	100	7.980	0.080	1.1	1.9314	0.0000	OK
120 minute winter	FC6	138	7.463	0.113	1.0	2.7133	0.0000	SURCHARGED
120 minute winter	FC7	250	6.811	0.376	1.0	2.2569	0.0000	SURCHARGED
120 minute winter	STORAGE 1	126	7.468	0.623	5.8	11.3589	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute winter	S1	Orifice	S2	1.0				
120 minute winter	S2	Orifice	S3	2.8				
120 minute winter	S3	Orifice	S4	1.8				
120 minute winter	S4	1.004	S5	1.7	0.504	0.131	0.3100	
120 minute winter	S5	ACO Q-Brake	S6	2.0				
120 minute winter	S6	1.006	OUTFALL	4.7	1.560	0.110	0.0387	39.7
120 minute winter	FC1	Orifice	S1	0.7				
120 minute winter	FC2	Orifice	S1	0.4				
120 minute winter	FC3	Orifice	S2	0.2				
120 minute winter	FC4	Orifice	S2	0.2				
120 minute winter	FC5	Orifice	S3	0.5				
120 minute winter	FC6	Orifice	S3	0.2				
120 minute winter	FC7	Orifice	S5	0.6				
120 minute winter	STORAGE 1	6.000	S2	-5.8	-0.744	-0.969	0.0111	

Results for 30 year 120 minute winter. 360 minute analysis at 2 minute timestep. Mass balance: 98.95%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute winter	STORAGE 2	134	7.459	0.258	4.8	9.5014	0.0000	SURCHARGED
120 minute winter	STORAGE 3	122	8.573	0.123	0.2	0.3719	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute winter	STORAGE 2	9.000	S3	-4.8	-0.737	-0.812	0.0244	
120 minute winter	STORAGE 3	3.000	S1	-0.2	0.036	-0.032	0.0687	

Results for 30 year 180 minute summer. 420 minute analysis at 4 minute timestep. Mass balance: 99.46%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute summer	S1	148	8.539	0.173	1.0	0.0276	0.0000	SURCHARGED
180 minute summer	S2	180	7.422	0.641	5.6	0.4653	0.0000	SURCHARGED
180 minute summer	S3	184	7.414	0.758	5.8	0.3919	0.0000	SURCHARGED
180 minute summer	S4	200	6.620	0.037	1.7	0.0059	0.0000	OK
180 minute summer	S5	140	6.573	0.293	2.1	0.2536	0.0000	SURCHARGED
180 minute summer	S6	108	6.275	0.033	4.3	0.0288	0.0000	OK
180 minute summer	OUTFALL	108	5.547	0.032	4.3	0.0000	0.0000	OK
180 minute summer	FC1	128	8.766	0.066	1.0	1.6136	0.0000	OK
180 minute summer	FC2	132	9.073	0.073	0.9	1.7760	0.0000	OK
180 minute summer	FC3	244	7.355	0.205	1.1	4.9359	0.0000	SURCHARGED
180 minute summer	FC4	244	7.355	0.205	1.1	4.9391	0.0000	SURCHARGED
180 minute summer	FC5	128	7.967	0.067	0.9	1.6320	0.0000	OK
180 minute summer	FC6	160	7.445	0.095	0.9	2.2957	0.0000	OK
180 minute summer	FC7	136	6.584	0.149	0.9	0.8972	0.0000	SURCHARGED
180 minute summer	STORAGE 1	180	7.422	0.577	5.3	10.5171	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute summer	S1	Orifice	S2	0.9				
180 minute summer	S2	Orifice	S3	2.6				
180 minute summer	S3	Orifice	S4	1.7				
180 minute summer	S4	1.004	S5	1.7	0.516	0.130	0.1243	
180 minute summer	S5	ACO Q-Brake	S6	2.0				
180 minute summer	S6	1.006	OUTFALL	4.3	1.521	0.101	0.0362	47.5
180 minute summer	FC1	Orifice	S1	0.6				
180 minute summer	FC2	Orifice	S1	0.4				
180 minute summer	FC3	Orifice	S2	0.2				
180 minute summer	FC4	Orifice	S2	0.2				
180 minute summer	FC5	Orifice	S3	0.5				
180 minute summer	FC6	Orifice	S3	0.2				
180 minute summer	FC7	Orifice	S5	0.5				
180 minute summer	STORAGE 1	6.000	S2	-5.3	-0.675	-0.879	0.0111	

Results for 30 year 180 minute summer. 420 minute analysis at 4 minute timestep. Mass balance: 99.46%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute summer	STORAGE 2	184	7.414	0.214	4.1	7.8685	0.0000	SURCHARGED
180 minute summer	STORAGE 3	148	8.539	0.089	0.2	0.2712	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute summer	STORAGE 2	9.000	S3	-4.1	-0.641	-0.696	0.0244	
180 minute summer	STORAGE 3	3.000	S1	-0.2	-0.028	-0.026	0.0668	

Results for 30 year 180 minute winter. 420 minute analysis at 4 minute timestep. Mass balance: 99.07%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute winter	S1	156	8.557	0.191	1.0	0.0303	0.0000	SURCHARGED
180 minute winter	S2	180	7.478	0.697	4.6	0.5058	0.0000	SURCHARGED
180 minute winter	S3	180	7.469	0.813	5.6	0.4201	0.0000	SURCHARGED
180 minute winter	S4	356	6.787	0.204	1.8	0.0324	0.0000	SURCHARGED
180 minute winter	S5	356	6.785	0.505	2.1	0.4375	0.0000	SURCHARGED
180 minute winter	S6	112	6.274	0.032	4.1	0.0281	0.0000	OK
180 minute winter	OUTFALL	112	5.546	0.031	4.1	0.0000	0.0000	OK
180 minute winter	FC1	132	8.768	0.068	0.9	1.6531	0.0000	OK
180 minute winter	FC2	140	9.081	0.081	0.9	1.9519	0.0000	OK
180 minute winter	FC3	256	7.392	0.242	1.1	5.8267	0.0000	SURCHARGED
180 minute winter	FC4	256	7.392	0.242	1.1	5.8306	0.0000	SURCHARGED
180 minute winter	FC5	136	7.973	0.073	0.9	1.7629	0.0000	OK
180 minute winter	FC6	192	7.472	0.122	0.8	2.9352	0.0000	SURCHARGED
180 minute winter	FC7	356	6.785	0.350	0.8	2.1020	0.0000	SURCHARGED
180 minute winter	STORAGE 1	180	7.478	0.633	4.3	11.5358	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute winter	S1	Orifice	S2	0.9				
180 minute winter	S2	Orifice	S3	2.5				
180 minute winter	S3	Orifice	S4	1.8				
180 minute winter	S4	1.004	S5	1.8	0.504	0.134	0.3100	
180 minute winter	S5	ACO Q-Brake	S6	2.0				
180 minute winter	S6	1.006	OUTFALL	4.1	1.502	0.096	0.0350	46.4
180 minute winter	FC1	Orifice	S1	0.6				
180 minute winter	FC2	Orifice	S1	0.4				
180 minute winter	FC3	Orifice	S2	0.2				
180 minute winter	FC4	Orifice	S2	0.2				
180 minute winter	FC5	Orifice	S3	0.5				
180 minute winter	FC6	Orifice	S3	0.2				
180 minute winter	FC7	Orifice	S5	0.5				
180 minute winter	STORAGE 1	6.000	S2	-4.3	-0.553	-0.720	0.0111	

Results for 30 year 180 minute winter. 420 minute analysis at 4 minute timestep. Mass balance: 99.07%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute winter	STORAGE 2	180	7.469	0.269	4.0	9.8699	0.0000	SURCHARGED
180 minute winter	STORAGE 3	156	8.557	0.107	0.1	0.3230	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute winter	STORAGE 2	9.000	S3	-4.0	-0.589	-0.671	0.0244	
180 minute winter	STORAGE 3	3.000	S1	0.1	0.032	0.024	0.0687	

Results for 30 year 240 minute summer. 480 minute analysis at 4 minute timestep. Mass balance: 99.52%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute summer	S1	180	8.533	0.167	1.0	0.0266	0.0000	SURCHARGED
240 minute summer	S2	208	7.421	0.640	4.9	0.4647	0.0000	SURCHARGED
240 minute summer	S3	212	7.414	0.758	5.5	0.3916	0.0000	SURCHARGED
240 minute summer	S4	212	6.620	0.037	1.7	0.0059	0.0000	OK
240 minute summer	S5	176	6.551	0.271	2.1	0.2344	0.0000	SURCHARGED
240 minute summer	S6	140	6.274	0.032	4.0	0.0277	0.0000	OK
240 minute summer	OUTFALL	140	5.546	0.031	4.0	0.0000	0.0000	OK
240 minute summer	FC1	156	8.763	0.063	0.9	1.5349	0.0000	OK
240 minute summer	FC2	164	9.071	0.071	0.8	1.7048	0.0000	OK
240 minute summer	FC3	280	7.365	0.215	1.0	5.1773	0.0000	SURCHARGED
240 minute summer	FC4	284	7.365	0.215	1.0	5.1807	0.0000	SURCHARGED
240 minute summer	FC5	164	7.964	0.064	0.8	1.5509	0.0000	OK
240 minute summer	FC6	192	7.445	0.095	0.8	2.2798	0.0000	OK
240 minute summer	FC7	168	6.564	0.129	0.8	0.7717	0.0000	SURCHARGED
240 minute summer	STORAGE 1	208	7.421	0.576	4.6	10.5019	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute summer	S1	Orifice	S2	0.9				
240 minute summer	S2	Orifice	S3	2.5				
240 minute summer	S3	Orifice	S4	1.7				
240 minute summer	S4	1.004	S5	1.7	0.517	0.130	0.0954	
240 minute summer	S5	ACO Q-Brake	S6	2.0				
240 minute summer	S6	1.006	OUTFALL	4.0	1.489	0.094	0.0343	52.6
240 minute summer	FC1	Orifice	S1	0.6				
240 minute summer	FC2	Orifice	S1	0.4				
240 minute summer	FC3	Orifice	S2	0.3				
240 minute summer	FC4	Orifice	S2	0.3				
240 minute summer	FC5	Orifice	S3	0.4				
240 minute summer	FC6	Orifice	S3	0.2				
240 minute summer	FC7	Orifice	S5	0.5				
240 minute summer	STORAGE 1	6.000	S2	-4.6	-0.587	-0.764	0.0111	

Results for 30 year 240 minute summer. 480 minute analysis at 4 minute timestep. Mass balance: 99.52%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute summer	STORAGE 2	212	7.414	0.214	3.8	7.8493	0.0000	SURCHARGED
240 minute summer	STORAGE 3	180	8.533	0.083	0.1	0.2525	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute summer	STORAGE 2	9.000	S3	-3.8	-0.601	-0.643	0.0244	
240 minute summer	STORAGE 3	3.000	S1	-0.1	0.026	-0.023	0.0650	

Results for 30 year 240 minute winter. 480 minute analysis at 4 minute timestep. Mass balance: 99.47%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute winter	S1	188	8.541	0.175	1.0	0.0278	0.0000	SURCHARGED
240 minute winter	S2	212	7.474	0.693	4.0	0.5031	0.0000	SURCHARGED
240 minute winter	S3	220	7.465	0.809	5.0	0.4181	0.0000	SURCHARGED
240 minute winter	S4	264	6.621	0.038	1.8	0.0060	0.0000	OK
240 minute winter	S5	204	6.570	0.290	2.1	0.2514	0.0000	SURCHARGED
240 minute winter	S6	140	6.273	0.031	3.8	0.0270	0.0000	OK
240 minute winter	OUTFALL	140	5.545	0.030	3.8	0.0000	0.0000	OK
240 minute winter	FC1	160	8.761	0.061	0.8	1.4882	0.0000	OK
240 minute winter	FC2	172	9.075	0.075	0.7	1.8089	0.0000	OK
240 minute winter	FC3	292	7.403	0.253	0.9	6.0778	0.0000	SURCHARGED
240 minute winter	FC4	292	7.403	0.253	0.9	6.0815	0.0000	SURCHARGED
240 minute winter	FC5	168	7.966	0.066	0.7	1.6097	0.0000	OK
240 minute winter	FC6	248	7.470	0.120	0.7	2.8917	0.0000	SURCHARGED
240 minute winter	FC7	204	6.575	0.140	0.7	0.8426	0.0000	SURCHARGED
240 minute winter	STORAGE 1	212	7.474	0.629	3.7	11.4664	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute winter	S1	Orifice	S2	0.9				
240 minute winter	S2	Orifice	S3	2.3				
240 minute winter	S3	Orifice	S4	1.8				
240 minute winter	S4	1.004	S5	1.8	0.519	0.135	0.1220	
240 minute winter	S5	ACO Q-Brake	S6	2.0				
240 minute winter	S6	1.006	OUTFALL	3.8	1.467	0.089	0.0331	55.8
240 minute winter	FC1	Orifice	S1	0.6				
240 minute winter	FC2	Orifice	S1	0.4				
240 minute winter	FC3	Orifice	S2	0.2				
240 minute winter	FC4	Orifice	S2	0.2				
240 minute winter	FC5	Orifice	S3	0.5				
240 minute winter	FC6	Orifice	S3	0.2				
240 minute winter	FC7	Orifice	S5	0.5				
240 minute winter	STORAGE 1	6.000	S2	-3.7	-0.467	-0.608	0.0111	

Results for 30 year 240 minute winter. 480 minute analysis at 4 minute timestep. Mass balance: 99.47%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute winter	STORAGE 2	220	7.465	0.265	3.4	9.7319	0.0000	SURCHARGED
240 minute winter	STORAGE 3	188	8.541	0.091	0.1	0.2761	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute winter	STORAGE 2	9.000	S3	-3.4	-0.542	-0.573	0.0244	
240 minute winter	STORAGE 3	3.000	S1	0.1	0.025	0.020	0.0672	

Results for 30 year 360 minute summer. 600 minute analysis at 8 minute timestep. Mass balance: 99.63%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute summer	S1	240	8.514	0.148	0.9	0.0235	0.0000	SURCHARGED
360 minute summer	S2	272	7.416	0.635	3.7	0.4610	0.0000	SURCHARGED
360 minute summer	S3	272	7.408	0.752	4.7	0.3888	0.0000	SURCHARGED
360 minute summer	S4	272	6.620	0.037	1.7	0.0059	0.0000	OK
360 minute summer	S5	232	6.528	0.248	2.0	0.2143	0.0000	SURCHARGED
360 minute summer	S6	200	6.272	0.030	3.6	0.0262	0.0000	OK
360 minute summer	OUTFALL	200	5.544	0.029	3.6	0.0000	0.0000	OK
360 minute summer	FC1	216	8.754	0.054	0.7	1.3029	0.0000	OK
360 minute summer	FC2	224	9.065	0.065	0.7	1.5829	0.0000	OK
360 minute summer	FC3	360	7.378	0.228	0.9	5.4793	0.0000	SURCHARGED
360 minute summer	FC4	360	7.378	0.228	0.9	5.4842	0.0000	SURCHARGED
360 minute summer	FC5	224	7.959	0.059	0.7	1.4262	0.0000	OK
360 minute summer	FC6	264	7.445	0.095	0.6	2.2772	0.0000	OK
360 minute summer	FC7	232	6.542	0.107	0.6	0.6415	0.0000	SURCHARGED
360 minute summer	STORAGE 1	272	7.416	0.571	3.2	10.4093	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute summer	S1	Orifice	S2	0.8				
360 minute summer	S2	Orifice	S3	2.2				
360 minute summer	S3	Orifice	S4	1.7				
360 minute summer	S4	1.004	S5	1.7	0.516	0.130	0.0658	
360 minute summer	S5	ACO Q-Brake	S6	2.0				
360 minute summer	S6	1.006	OUTFALL	3.6	1.444	0.084	0.0317	62.0
360 minute summer	FC1	Orifice	S1	0.5				
360 minute summer	FC2	Orifice	S1	0.4				
360 minute summer	FC3	Orifice	S2	0.3				
360 minute summer	FC4	Orifice	S2	0.3				
360 minute summer	FC5	Orifice	S3	0.4				
360 minute summer	FC6	Orifice	S3	0.2				
360 minute summer	FC7	Orifice	S5	0.5				
360 minute summer	STORAGE 1	6.000	S2	-3.2	-0.413	-0.537	0.0111	

Results for 30 year 360 minute summer. 600 minute analysis at 8 minute timestep. Mass balance: 99.63%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute summer	STORAGE 2	272	7.408	0.208	3.1	7.6499	0.0000	SURCHARGED
360 minute summer	STORAGE 3	240	8.514	0.064	0.1	0.1941	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute summer	STORAGE 2	9.000	S3	-3.1	-0.509	-0.527	0.0244	
360 minute summer	STORAGE 3	3.000	S1	0.1	0.023	0.018	0.0576	

Results for 30 year 360 minute winter. 600 minute analysis at 8 minute timestep. Mass balance: 99.59%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute winter	S1	248	8.509	0.143	0.8	0.0228	0.0000	SURCHARGED
360 minute winter	S2	280	7.457	0.676	3.2	0.4909	0.0000	SURCHARGED
360 minute winter	S3	288	7.449	0.793	4.1	0.4099	0.0000	SURCHARGED
360 minute winter	S4	288	6.621	0.038	1.8	0.0060	0.0000	OK
360 minute winter	S5	256	6.521	0.241	2.0	0.2089	0.0000	SURCHARGED
360 minute winter	S6	208	6.271	0.029	3.3	0.0251	0.0000	OK
360 minute winter	OUTFALL	208	5.543	0.028	3.3	0.0000	0.0000	OK
360 minute winter	FC1	224	8.750	0.050	0.6	1.2225	0.0000	OK
360 minute winter	FC2	240	9.062	0.062	0.5	1.5029	0.0000	OK
360 minute winter	FC3	368	7.412	0.262	0.7	6.3061	0.0000	SURCHARGED
360 minute winter	FC4	368	7.412	0.262	0.7	6.3113	0.0000	SURCHARGED
360 minute winter	FC5	240	7.954	0.054	0.5	1.3020	0.0000	OK
360 minute winter	FC6	320	7.458	0.108	0.5	2.6063	0.0000	SURCHARGED
360 minute winter	FC7	248	6.530	0.095	0.5	0.5705	0.0000	OK
360 minute winter	STORAGE 1	280	7.457	0.612	2.6	11.1599	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute winter	S1	Orifice	S2	0.8				
360 minute winter	S2	Orifice	S3	2.0				
360 minute winter	S3	Orifice	S4	1.8				
360 minute winter	S4	1.004	S5	1.8	0.520	0.133	0.0600	
360 minute winter	S5	ACO Q-Brake	S6	2.0				
360 minute winter	S6	1.006	OUTFALL	3.3	1.407	0.077	0.0298	65.8
360 minute winter	FC1	Orifice	S1	0.5				
360 minute winter	FC2	Orifice	S1	0.4				
360 minute winter	FC3	Orifice	S2	0.3				
360 minute winter	FC4	Orifice	S2	0.3				
360 minute winter	FC5	Orifice	S3	0.4				
360 minute winter	FC6	Orifice	S3	0.2				
360 minute winter	FC7	Orifice	S5	0.4				
360 minute winter	STORAGE 1	6.000	S2	-2.6	-0.332	-0.432	0.0111	

Results for 30 year 360 minute winter. 600 minute analysis at 8 minute timestep. Mass balance: 99.59%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute winter	STORAGE 2	288	7.449	0.249	2.5	9.1455	0.0000	SURCHARGED
360 minute winter	STORAGE 3	248	8.509	0.059	0.1	0.1793	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute winter	STORAGE 2	9.000	S3	-2.5	-0.457	-0.422	0.0244	
360 minute winter	STORAGE 3	3.000	S1	0.1	0.017	0.014	0.0556	

Results for 30 year 480 minute summer. 720 minute analysis at 8 minute timestep. Mass balance: 99.72%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute summer	S1	304	8.498	0.132	0.8	0.0210	0.0000	SURCHARGED
480 minute summer	S2	336	7.405	0.624	3.2	0.4531	0.0000	SURCHARGED
480 minute summer	S3	344	7.398	0.742	4.2	0.3835	0.0000	SURCHARGED
480 minute summer	S4	344	6.620	0.037	1.7	0.0059	0.0000	OK
480 minute summer	S5	296	6.490	0.210	2.0	0.1822	0.0000	SURCHARGED
480 minute summer	S6	256	6.271	0.029	3.3	0.0253	0.0000	OK
480 minute summer	OUTFALL	256	5.543	0.028	3.3	0.0000	0.0000	OK
480 minute summer	FC1	280	8.748	0.048	0.6	1.1576	0.0000	OK
480 minute summer	FC2	296	9.059	0.059	0.6	1.4234	0.0000	OK
480 minute summer	FC3	440	7.375	0.225	0.8	5.4104	0.0000	SURCHARGED
480 minute summer	FC4	448	7.375	0.225	0.8	5.4160	0.0000	SURCHARGED
480 minute summer	FC5	288	7.952	0.052	0.6	1.2603	0.0000	OK
480 minute summer	FC6	328	7.435	0.085	0.5	2.0413	0.0000	OK
480 minute summer	FC7	288	6.504	0.069	0.5	0.4125	0.0000	OK
480 minute summer	STORAGE 1	336	7.405	0.560	2.6	10.2115	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute summer	S1	Orifice	S2	0.8				
480 minute summer	S2	Orifice	S3	2.0				
480 minute summer	S3	Orifice	S4	1.7				
480 minute summer	S4	1.004	S5	1.7	0.515	0.129	0.0585	
480 minute summer	S5	ACO Q-Brake	S6	2.0				
480 minute summer	S6	1.006	OUTFALL	3.3	1.414	0.078	0.0302	70.7
480 minute summer	FC1	Orifice	S1	0.5				
480 minute summer	FC2	Orifice	S1	0.3				
480 minute summer	FC3	Orifice	S2	0.3				
480 minute summer	FC4	Orifice	S2	0.3				
480 minute summer	FC5	Orifice	S3	0.4				
480 minute summer	FC6	Orifice	S3	0.2				
480 minute summer	FC7	Orifice	S5	0.4				
480 minute summer	STORAGE 1	6.000	S2	-2.6	-0.336	-0.437	0.0111	

Results for 30 year 480 minute summer. 720 minute analysis at 8 minute timestep. Mass balance: 99.72%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
480 minute summer	STORAGE 2	344	7.398	0.198	2.5	7.2730	0.0000	SURCHARGED
480 minute summer	STORAGE 3	304	8.498	0.048	0.1	0.1464	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m^3)	Discharge Vol (m^3)
480 minute summer	STORAGE 2	9.000	S3	-2.5	-0.440	-0.430	0.0244	
480 minute summer	STORAGE 3	3.000	S1	0.1	0.020	0.015	0.0508	

Results for 30 year 480 minute winter. 720 minute analysis at 8 minute timestep. Mass balance: 99.68%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute winter	S1	312	8.489	0.123	0.8	0.0195	0.0000	SURCHARGED
480 minute winter	S2	360	7.441	0.660	2.7	0.4790	0.0000	SURCHARGED
480 minute winter	S3	360	7.433	0.777	3.5	0.4016	0.0000	SURCHARGED
480 minute winter	S4	360	6.620	0.037	1.8	0.0059	0.0000	OK
480 minute winter	S5	320	6.490	0.210	2.0	0.1821	0.0000	SURCHARGED
480 minute winter	S6	264	6.270	0.028	3.0	0.0241	0.0000	OK
480 minute winter	OUTFALL	264	5.542	0.027	3.0	0.0000	0.0000	OK
480 minute winter	FC1	280	8.744	0.044	0.5	1.0676	0.0000	OK
480 minute winter	FC2	304	9.055	0.055	0.4	1.3252	0.0000	OK
480 minute winter	FC3	464	7.410	0.260	0.6	6.2484	0.0000	SURCHARGED
480 minute winter	FC4	464	7.410	0.260	0.6	6.2551	0.0000	SURCHARGED
480 minute winter	FC5	296	7.947	0.047	0.4	1.1404	0.0000	OK
480 minute winter	FC6	384	7.449	0.099	0.4	2.3802	0.0000	OK
480 minute winter	FC7	312	6.499	0.064	0.4	0.3821	0.0000	OK
480 minute winter	STORAGE 1	360	7.441	0.596	2.1	10.8617	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute winter	S1	Orifice	S2	0.7				
480 minute winter	S2	Orifice	S3	1.7				
480 minute winter	S3	Orifice	S4	1.8				
480 minute winter	S4	1.004	S5	1.8	0.518	0.132	0.0595	
480 minute winter	S5	ACO Q-Brake	S6	2.0				
480 minute winter	S6	1.006	OUTFALL	3.0	1.376	0.071	0.0282	75.2
480 minute winter	FC1	Orifice	S1	0.4				
480 minute winter	FC2	Orifice	S1	0.3				
480 minute winter	FC3	Orifice	S2	0.3				
480 minute winter	FC4	Orifice	S2	0.3				
480 minute winter	FC5	Orifice	S3	0.4				
480 minute winter	FC6	Orifice	S3	0.2				
480 minute winter	FC7	Orifice	S5	0.4				
480 minute winter	STORAGE 1	6.000	S2	-2.1	-0.274	-0.357	0.0111	

Results for 30 year 480 minute winter. 720 minute analysis at 8 minute timestep. Mass balance: 99.68%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute winter	STORAGE 2	360	7.433	0.233	1.9	8.5557	0.0000	SURCHARGED
480 minute winter	STORAGE 3	312	8.489	0.039	0.0	0.1172	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute winter	STORAGE 2	9.000	S3	-1.9	-0.392	-0.328	0.0244	
480 minute winter	STORAGE 3	3.000	S1	0.1	0.015	0.010	0.0466	

Results for 30 year 600 minute summer. 840 minute analysis at 15 minute timestep. Mass balance: 99.83%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute summer	S1	360	8.481	0.115	0.7	0.0182	0.0000	SURCHARGED
600 minute summer	S2	405	7.383	0.602	2.8	0.4369	0.0000	SURCHARGED
600 minute summer	S3	405	7.376	0.720	3.7	0.3724	0.0000	SURCHARGED
600 minute summer	S4	405	6.620	0.037	1.7	0.0058	0.0000	OK
600 minute summer	S5	360	6.470	0.190	1.9	0.1643	0.0000	SURCHARGED
600 minute summer	S6	315	6.270	0.028	3.1	0.0244	0.0000	OK
600 minute summer	OUTFALL	315	5.542	0.027	3.1	0.0000	0.0000	OK
600 minute summer	FC1	345	8.743	0.043	0.5	1.0460	0.0000	OK
600 minute summer	FC2	345	9.049	0.049	0.5	1.1959	0.0000	OK
600 minute summer	FC3	495	7.360	0.210	0.7	5.0372	0.0000	SURCHARGED
600 minute summer	FC4	495	7.360	0.210	0.7	5.0423	0.0000	SURCHARGED
600 minute summer	FC5	345	7.944	0.044	0.5	1.0609	0.0000	OK
600 minute summer	FC6	375	7.428	0.078	0.4	1.8877	0.0000	OK
600 minute summer	FC7	345	6.481	0.046	0.4	0.2789	0.0000	OK
600 minute summer	STORAGE 1	405	7.383	0.538	2.1	9.8037	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute summer	S1	Orifice	S2	0.7				
600 minute summer	S2	Orifice	S3	1.7				
600 minute summer	S3	Orifice	S4	1.7				
600 minute summer	S4	1.004	S5	1.7	0.513	0.127	0.0578	
600 minute summer	S5	ACO Q-Brake	S6	1.9				
600 minute summer	S6	1.006	OUTFALL	3.1	1.386	0.073	0.0288	75.8
600 minute summer	FC1	Orifice	S1	0.4				
600 minute summer	FC2	Orifice	S1	0.3				
600 minute summer	FC3	Orifice	S2	0.2				
600 minute summer	FC4	Orifice	S2	0.2				
600 minute summer	FC5	Orifice	S3	0.3				
600 minute summer	FC6	Orifice	S3	0.2				
600 minute summer	FC7	Orifice	S5	0.4				
600 minute summer	STORAGE 1	6.000	S2	-2.1	-0.267	-0.347	0.0111	

Results for 30 year 600 minute summer. 840 minute analysis at 15 minute timestep. Mass balance: 99.83%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute summer	STORAGE 2	405	7.376	0.176	2.1	6.4807	0.0000	SURCHARGED
600 minute summer	STORAGE 3	360	8.481	0.031	0.0	0.0928	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute summer	STORAGE 2	9.000	S3	-2.1	-0.412	-0.355	0.0244	
600 minute summer	STORAGE 3	3.000	S1	0.1	0.012	0.009	0.0433	

Results for 30 year 600 minute winter. 840 minute analysis at 15 minute timestep. Mass balance: 99.77%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute winter	S1	360	8.470	0.104	0.7	0.0166	0.0000	SURCHARGED
600 minute winter	S2	420	7.415	0.634	2.3	0.4605	0.0000	SURCHARGED
600 minute winter	S3	435	7.408	0.752	3.0	0.3886	0.0000	SURCHARGED
600 minute winter	S4	435	6.620	0.037	1.7	0.0059	0.0000	OK
600 minute winter	S5	375	6.464	0.184	1.9	0.1594	0.0000	SURCHARGED
600 minute winter	S6	330	6.269	0.027	2.8	0.0231	0.0000	OK
600 minute winter	OUTFALL	330	5.541	0.026	2.8	0.0000	0.0000	OK
600 minute winter	FC1	345	8.738	0.038	0.4	0.9224	0.0000	OK
600 minute winter	FC2	345	9.049	0.049	0.4	1.1777	0.0000	OK
600 minute winter	FC3	510	7.398	0.248	0.6	5.9483	0.0000	SURCHARGED
600 minute winter	FC4	510	7.397	0.247	0.6	5.9546	0.0000	SURCHARGED
600 minute winter	FC5	345	7.942	0.042	0.4	1.0297	0.0000	OK
600 minute winter	FC6	435	7.437	0.087	0.3	2.0853	0.0000	OK
600 minute winter	FC7	360	6.473	0.038	0.3	0.2262	0.0000	OK
600 minute winter	STORAGE 1	420	7.415	0.570	1.7	10.3971	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute winter	S1	Orifice	S2	0.7				
600 minute winter	S2	Orifice	S3	1.5				
600 minute winter	S3	Orifice	S4	1.7				
600 minute winter	S4	1.004	S5	1.7	0.516	0.130	0.0588	
600 minute winter	S5	ACO Q-Brake	S6	1.9				
600 minute winter	S6	1.006	OUTFALL	2.8	1.342	0.065	0.0265	83.4
600 minute winter	FC1	Orifice	S1	0.4				
600 minute winter	FC2	Orifice	S1	0.3				
600 minute winter	FC3	Orifice	S2	0.3				
600 minute winter	FC4	Orifice	S2	0.3				
600 minute winter	FC5	Orifice	S3	0.3				
600 minute winter	FC6	Orifice	S3	0.2				
600 minute winter	FC7	Orifice	S5	0.3				
600 minute winter	STORAGE 1	6.000	S2	-1.7	-0.217	-0.283	0.0111	

Results for 30 year 600 minute winter. 840 minute analysis at 15 minute timestep. Mass balance: 99.77%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute winter	STORAGE 2	435	7.408	0.208	1.5	7.6348	0.0000	SURCHARGED
600 minute winter	STORAGE 3	360	8.470	0.020	0.0	0.0610	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute winter	STORAGE 2	9.000	S3	-1.5	-0.327	-0.246	0.0244	
600 minute winter	STORAGE 3	3.000	S1	0.0	0.009	0.006	0.0393	

Results for 30 year 720 minute summer. 960 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
720 minute summer	S1	420	8.471	0.105	0.7	0.0167	0.0000	SURCHARGED
720 minute summer	S2	465	7.367	0.586	2.5	0.4256	0.0000	SURCHARGED
720 minute summer	S3	465	7.361	0.705	3.3	0.3644	0.0000	SURCHARGED
720 minute summer	S4	465	6.619	0.036	1.7	0.0058	0.0000	OK
720 minute summer	S5	405	6.464	0.184	1.9	0.1593	0.0000	SURCHARGED
720 minute summer	S6	375	6.270	0.028	3.0	0.0240	0.0000	OK
720 minute summer	OUTFALL	375	5.542	0.027	3.0	0.0000	0.0000	OK
720 minute summer	FC1	405	8.739	0.039	0.5	0.9547	0.0000	OK
720 minute summer	FC2	420	9.047	0.047	0.4	1.1348	0.0000	OK
720 minute summer	FC3	555	7.349	0.199	0.6	4.7919	0.0000	SURCHARGED
720 minute summer	FC4	555	7.349	0.199	0.6	4.7969	0.0000	SURCHARGED
720 minute summer	FC5	405	7.941	0.041	0.4	1.0042	0.0000	OK
720 minute summer	FC6	450	7.425	0.075	0.4	1.8132	0.0000	OK
720 minute summer	FC7	405	6.479	0.044	0.4	0.2612	0.0000	OK
720 minute summer	STORAGE 1	465	7.367	0.522	1.9	9.5199	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m^3)	Discharge Vol (m^3)
720 minute summer	S1	Orifice	S2	0.7				
720 minute summer	S2	Orifice	S3	1.6				
720 minute summer	S3	Orifice	S4	1.7				
720 minute summer	S4	1.004	S5	1.7	0.511	0.126	0.0574	
720 minute summer	S5	ACO Q-Brake	S6	1.9				
720 minute summer	S6	1.006	OUTFALL	3.0	1.373	0.071	0.0281	78.8
720 minute summer	FC1	Orifice	S1	0.4				
720 minute summer	FC2	Orifice	S1	0.3				
720 minute summer	FC3	Orifice	S2	0.2				
720 minute summer	FC4	Orifice	S2	0.2				
720 minute summer	FC5	Orifice	S3	0.3				
720 minute summer	FC6	Orifice	S3	0.2				
720 minute summer	FC7	Orifice	S5	0.4				
720 minute summer	STORAGE 1	6.000	S2	-1.9	0.322	-0.320	0.0111	

Results for 30 year 720 minute summer. 960 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute summer	STORAGE 2	465	7.361	0.161	1.7	5.9116	0.0000	SURCHARGED
720 minute summer	STORAGE 3	420	8.471	0.021	0.0	0.0629	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute summer	STORAGE 2	9.000	S3	-1.7	-0.389	-0.295	0.0244	
720 minute summer	STORAGE 3	3.000	S1	0.0	0.012	0.007	0.0395	

Results for 30 year 720 minute winter. 960 minute analysis at 15 minute timestep. Mass balance: 99.83%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute winter	S1	390	8.449	0.083	0.6	0.0132	0.0000	OK
720 minute winter	S2	495	7.394	0.613	2.1	0.4453	0.0000	SURCHARGED
720 minute winter	S3	510	7.388	0.732	2.7	0.3782	0.0000	SURCHARGED
720 minute winter	S4	510	6.620	0.037	1.7	0.0059	0.0000	OK
720 minute winter	S5	420	6.457	0.177	1.9	0.1530	0.0000	SURCHARGED
720 minute winter	S6	390	6.268	0.026	2.7	0.0227	0.0000	OK
720 minute winter	OUTFALL	390	5.541	0.026	2.7	0.0000	0.0000	OK
720 minute winter	FC1	390	8.734	0.034	0.4	0.8152	0.0000	OK
720 minute winter	FC2	435	9.043	0.043	0.3	1.0404	0.0000	OK
720 minute winter	FC3	585	7.390	0.240	0.5	5.7602	0.0000	SURCHARGED
720 minute winter	FC4	585	7.390	0.240	0.5	5.7669	0.0000	SURCHARGED
720 minute winter	FC5	435	7.937	0.037	0.3	0.8862	0.0000	OK
720 minute winter	FC6	495	7.432	0.082	0.3	1.9761	0.0000	OK
720 minute winter	FC7	420	6.471	0.036	0.3	0.2151	0.0000	OK
720 minute winter	STORAGE 1	495	7.394	0.549	1.4	10.0160	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute winter	S1	Orifice	S2	0.6				
720 minute winter	S2	Orifice	S3	1.4				
720 minute winter	S3	Orifice	S4	1.7				
720 minute winter	S4	1.004	S5	1.7	0.514	0.128	0.0582	
720 minute winter	S5	ACO Q-Brake	S6	1.9				
720 minute winter	S6	1.006	OUTFALL	2.7	1.327	0.063	0.0258	90.9
720 minute winter	FC1	Orifice	S1	0.3				
720 minute winter	FC2	Orifice	S1	0.3				
720 minute winter	FC3	Orifice	S2	0.3				
720 minute winter	FC4	Orifice	S2	0.3				
720 minute winter	FC5	Orifice	S3	0.3				
720 minute winter	FC6	Orifice	S3	0.2				
720 minute winter	FC7	Orifice	S5	0.3				
720 minute winter	STORAGE 1	6.000	S2	-1.4	-0.185	-0.241	0.0111	

Results for 30 year 720 minute winter. 960 minute analysis at 15 minute timestep. Mass balance: 99.83%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute winter	STORAGE 2	510	7.388	0.188	1.2	6.8927	0.0000	SURCHARGED
720 minute winter	STORAGE 3	15	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute winter	STORAGE 2	9.000	S3	-1.2	-0.287	-0.203	0.0244	
720 minute winter	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0306	

Results for 30 year 960 minute summer. 1200 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute summer	S1	525	8.453	0.087	0.6	0.0138	0.0000	OK
960 minute summer	S2	600	7.332	0.551	2.1	0.3998	0.0000	SURCHARGED
960 minute summer	S3	600	7.326	0.670	2.9	0.3462	0.0000	SURCHARGED
960 minute summer	S4	600	6.619	0.036	1.6	0.0057	0.0000	OK
960 minute summer	S5	525	6.441	0.161	1.9	0.1394	0.0000	SURCHARGED
960 minute summer	S6	495	6.268	0.026	2.7	0.0229	0.0000	OK
960 minute summer	OUTFALL	495	5.541	0.026	2.7	0.0000	0.0000	OK
960 minute summer	FC1	510	8.736	0.036	0.4	0.8691	0.0000	OK
960 minute summer	FC2	525	9.038	0.038	0.3	0.9269	0.0000	OK
960 minute summer	FC3	675	7.327	0.177	0.4	4.2478	0.0000	SURCHARGED
960 minute summer	FC4	675	7.327	0.177	0.4	4.2526	0.0000	SURCHARGED
960 minute summer	FC5	525	7.934	0.034	0.3	0.8289	0.0000	OK
960 minute summer	FC6	570	7.417	0.067	0.3	1.6070	0.0000	OK
960 minute summer	FC7	525	6.467	0.032	0.3	0.1927	0.0000	OK
960 minute summer	STORAGE 1	600	7.332	0.487	1.6	8.8740	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute summer	S1	Orifice	S2	0.6				
960 minute summer	S2	Orifice	S3	1.5				
960 minute summer	S3	Orifice	S4	1.6				
960 minute summer	S4	1.004	S5	1.6	0.507	0.122	0.0563	
960 minute summer	S5	ACO Q-Brake	S6	1.9				
960 minute summer	S6	1.006	OUTFALL	2.7	1.333	0.064	0.0261	82.0
960 minute summer	FC1	Orifice	S1	0.4				
960 minute summer	FC2	Orifice	S1	0.3				
960 minute summer	FC3	Orifice	S2	0.2				
960 minute summer	FC4	Orifice	S2	0.2				
960 minute summer	FC5	Orifice	S3	0.3				
960 minute summer	FC6	Orifice	S3	0.2				
960 minute summer	FC7	Orifice	S5	0.3				
960 minute summer	STORAGE 1	6.000	S2	-1.6	0.359	-0.269	0.0111	

Results for 30 year 960 minute summer. 1200 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute summer	STORAGE 2	600	7.326	0.126	1.4	4.6167	0.0000	SURCHARGED
960 minute summer	STORAGE 3	525	8.453	0.003	0.0	0.0086	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute summer	STORAGE 2	9.000	S3	-1.4	-0.339	-0.232	0.0244	
960 minute summer	STORAGE 3	3.000	S1	0.0	-0.004	-0.002	0.0320	

Results for 30 year 960 minute winter. 1200 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute winter	S1	525	8.438	0.072	0.5	0.0114	0.0000	OK
960 minute winter	S2	645	7.341	0.560	1.7	0.4069	0.0000	SURCHARGED
960 minute winter	S3	645	7.334	0.678	2.4	0.3506	0.0000	SURCHARGED
960 minute winter	S4	645	6.619	0.036	1.6	0.0057	0.0000	OK
960 minute winter	S5	600	6.436	0.156	1.8	0.1349	0.0000	SURCHARGED
960 minute winter	S6	540	6.267	0.025	2.4	0.0214	0.0000	OK
960 minute winter	OUTFALL	540	5.539	0.024	2.4	0.0000	0.0000	OK
960 minute winter	FC1	540	8.731	0.031	0.3	0.7627	0.0000	OK
960 minute winter	FC2	525	9.036	0.036	0.3	0.8610	0.0000	OK
960 minute winter	FC3	720	7.348	0.198	0.4	4.7543	0.0000	SURCHARGED
960 minute winter	FC4	720	7.348	0.198	0.4	4.7607	0.0000	SURCHARGED
960 minute winter	FC5	510	7.932	0.032	0.3	0.7814	0.0000	OK
960 minute winter	FC6	600	7.411	0.061	0.2	1.4786	0.0000	OK
960 minute winter	FC7	600	6.459	0.024	0.2	0.1453	0.0000	OK
960 minute winter	STORAGE 1	645	7.341	0.496	1.1	9.0510	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute winter	S1	Orifice	S2	0.5				
960 minute winter	S2	Orifice	S3	1.3				
960 minute winter	S3	Orifice	S4	1.6				
960 minute winter	S4	1.004	S5	1.6	0.508	0.123	0.0566	
960 minute winter	S5	ACO Q-Brake	S6	1.8				
960 minute winter	S6	1.006	OUTFALL	2.4	1.283	0.056	0.0237	92.7
960 minute winter	FC1	Orifice	S1	0.3				
960 minute winter	FC2	Orifice	S1	0.2				
960 minute winter	FC3	Orifice	S2	0.2				
960 minute winter	FC4	Orifice	S2	0.2				
960 minute winter	FC5	Orifice	S3	0.3				
960 minute winter	FC6	Orifice	S3	0.2				
960 minute winter	FC7	Orifice	S5	0.2				
960 minute winter	STORAGE 1	6.000	S2	-1.1	0.285	-0.184	0.0111	

Results for 30 year 960 minute winter. 1200 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute winter	STORAGE 2	645	7.334	0.134	0.9	4.9272	0.0000	SURCHARGED
960 minute winter	STORAGE 3	15	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute winter	STORAGE 2	9.000	S3	-0.9	0.269	-0.152	0.0244	
960 minute winter	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0263	

Results for 30 year 1440 minute summer. 1680 minute analysis at 30 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute summer	S1	750	8.424	0.058	0.5	0.0091	0.0000	OK
1440 minute summer	S2	870	7.273	0.492	1.7	0.3568	0.0000	SURCHARGED
1440 minute summer	S3	870	7.265	0.609	2.1	0.3150	0.0000	SURCHARGED
1440 minute summer	S4	870	6.618	0.035	1.5	0.0056	0.0000	OK
1440 minute summer	S5	810	6.421	0.141	1.7	0.1220	0.0000	OK
1440 minute summer	S6	750	6.266	0.024	2.3	0.0210	0.0000	OK
1440 minute summer	OUTFALL	750	5.539	0.024	2.3	0.0000	0.0000	OK
1440 minute summer	FC1	750	8.730	0.030	0.3	0.7249	0.0000	OK
1440 minute summer	FC2	810	9.029	0.029	0.2	0.6892	0.0000	OK
1440 minute summer	FC3	930	7.280	0.130	0.3	3.1328	0.0000	SURCHARGED
1440 minute summer	FC4	930	7.280	0.130	0.3	3.1371	0.0000	SURCHARGED
1440 minute summer	FC5	810	7.927	0.027	0.2	0.6452	0.0000	OK
1440 minute summer	FC6	840	7.405	0.055	0.2	1.3280	0.0000	OK
1440 minute summer	FC7	780	6.459	0.024	0.2	0.1452	0.0000	OK
1440 minute summer	STORAGE 1	870	7.273	0.428	1.1	7.7939	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute summer	S1	Orifice	S2	0.5				
1440 minute summer	S2	Orifice	S3	1.1				
1440 minute summer	S3	Orifice	S4	1.5				
1440 minute summer	S4	1.004	S5	1.5	0.501	0.117	0.0544	
1440 minute summer	S5	ACO Q-Brake	S6	1.7				
1440 minute summer	S6	1.006	OUTFALL	2.3	1.272	0.054	0.0232	87.5
1440 minute summer	FC1	Orifice	S1	0.3				
1440 minute summer	FC2	Orifice	S1	0.2				
1440 minute summer	FC3	Orifice	S2	0.2				
1440 minute summer	FC4	Orifice	S2	0.2				
1440 minute summer	FC5	Orifice	S3	0.2				
1440 minute summer	FC6	Orifice	S3	0.1				
1440 minute summer	FC7	Orifice	S5	0.2				
1440 minute summer	STORAGE 1	6.000	S2	-1.1	0.290	-0.187	0.0111	

Results for 30 year 1440 minute summer. 1680 minute analysis at 30 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute summer	STORAGE 2	870	7.265	0.065	0.6	2.3975	0.0000	OK
1440 minute summer	STORAGE 3	30	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute summer	STORAGE 2	9.000	S3	-0.6	0.257	-0.101	0.0204	
1440 minute summer	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0205	

Results for 30 year 1440 minute winter. 1680 minute analysis at 30 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute winter	S1	840	8.413	0.047	0.4	0.0075	0.0000	OK
1440 minute winter	S2	900	7.292	0.511	1.4	0.3708	0.0000	SURCHARGED
1440 minute winter	S3	900	7.284	0.628	2.0	0.3246	0.0000	SURCHARGED
1440 minute winter	S4	900	6.618	0.035	1.6	0.0056	0.0000	OK
1440 minute winter	S5	810	6.421	0.141	1.7	0.1218	0.0000	OK
1440 minute winter	S6	750	6.266	0.024	2.2	0.0206	0.0000	OK
1440 minute winter	OUTFALL	750	5.538	0.023	2.2	0.0000	0.0000	OK
1440 minute winter	FC1	870	8.724	0.024	0.2	0.5873	0.0000	OK
1440 minute winter	FC2	840	9.029	0.029	0.2	0.6956	0.0000	OK
1440 minute winter	FC3	990	7.301	0.151	0.3	3.6163	0.0000	SURCHARGED
1440 minute winter	FC4	990	7.300	0.150	0.3	3.6217	0.0000	SURCHARGED
1440 minute winter	FC5	840	7.927	0.027	0.2	0.6476	0.0000	OK
1440 minute winter	FC6	840	7.407	0.057	0.2	1.3678	0.0000	OK
1440 minute winter	FC7	780	6.459	0.024	0.2	0.1452	0.0000	OK
1440 minute winter	STORAGE 1	900	7.292	0.447	0.7	8.1443	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute winter	S1	Orifice	S2	0.4				
1440 minute winter	S2	Orifice	S3	1.1				
1440 minute winter	S3	Orifice	S4	1.6				
1440 minute winter	S4	1.004	S5	1.6	0.503	0.118	0.0550	
1440 minute winter	S5	ACO Q-Brake	S6	1.7				
1440 minute winter	S6	1.006	OUTFALL	2.2	1.255	0.052	0.0225	104.1
1440 minute winter	FC1	Orifice	S1	0.2				
1440 minute winter	FC2	Orifice	S1	0.2				
1440 minute winter	FC3	Orifice	S2	0.2				
1440 minute winter	FC4	Orifice	S2	0.2				
1440 minute winter	FC5	Orifice	S3	0.2				
1440 minute winter	FC6	Orifice	S3	0.1				
1440 minute winter	FC7	Orifice	S5	0.2				
1440 minute winter	STORAGE 1	6.000	S2	-0.7	0.309	-0.124	0.0111	

Results for 30 year 1440 minute winter. 1680 minute analysis at 30 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute winter	STORAGE 2	900	7.284	0.084	0.5	3.0851	0.0000	OK
1440 minute winter	STORAGE 3	30	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute winter	STORAGE 2	9.000	S3	-0.5	0.221	-0.081	0.0231	
1440 minute winter	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0160	

Results for 100 year 15 minute summer. 255 minute analysis at 1 minute timestep. Mass balance: 99.34%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1	53	8.509	0.143	1.0	0.0228	0.0000	SURCHARGED
15 minute summer	S2	37	7.362	0.581	7.9	0.4221	0.0000	SURCHARGED
15 minute summer	S3	51	7.306	0.650	6.1	0.3361	0.0000	SURCHARGED
15 minute summer	S4	61	6.619	0.036	1.6	0.0057	0.0000	OK
15 minute summer	S5	42	6.561	0.281	2.2	0.2437	0.0000	SURCHARGED
15 minute summer	S6	31	6.277	0.035	4.8	0.0305	0.0000	OK
15 minute summer	OUTFALL	31	5.549	0.034	4.8	0.0000	0.0000	OK
15 minute summer	FC1	38	8.766	0.066	1.3	1.5984	0.0000	OK
15 minute summer	FC2	38	9.068	0.068	1.2	1.6407	0.0000	OK
15 minute summer	FC3	105	7.266	0.116	1.4	2.7940	0.0000	SURCHARGED
15 minute summer	FC4	105	7.266	0.116	1.4	2.7954	0.0000	SURCHARGED
15 minute summer	FC5	38	7.965	0.065	1.2	1.5720	0.0000	OK
15 minute summer	FC6	40	7.420	0.070	1.1	1.6921	0.0000	OK
15 minute summer	FC7	37	6.593	0.158	1.1	0.9457	0.0000	SURCHARGED
15 minute summer	STORAGE 1	38	7.363	0.518	7.6	9.4361	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S1	Orifice	S2	0.8				
15 minute summer	S2	Orifice	S3	2.8				
15 minute summer	S3	Orifice	S4	1.6				
15 minute summer	S4	1.004	S5	1.6	0.505	0.121	0.1081	
15 minute summer	S5	ACO Q-Brake	S6	2.0				
15 minute summer	S6	1.006	OUTFALL	4.8	1.569	0.113	0.0393	28.3
15 minute summer	FC1	Orifice	S1	0.6				
15 minute summer	FC2	Orifice	S1	0.4				
15 minute summer	FC3	Orifice	S2	0.2				
15 minute summer	FC4	Orifice	S2	0.2				
15 minute summer	FC5	Orifice	S3	0.4				
15 minute summer	FC6	Orifice	S3	0.2				
15 minute summer	FC7	Orifice	S5	0.7				
15 minute summer	STORAGE 1	6.000	S2	-7.6	-1.281	-1.261	0.0111	

Results for 100 year 15 minute summer. 255 minute analysis at 1 minute timestep. Mass balance: 99.34%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	STORAGE 2	51	7.306	0.106	4.5	3.9020	0.0000	SURCHARGED
15 minute summer	STORAGE 3	53	8.509	0.059	0.2	0.1801	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	STORAGE 2	9.000	S3	-4.5	-0.774	-0.759	0.0244	
15 minute summer	STORAGE 3	3.000	S1	-0.2	-0.043	-0.031	0.0557	

Results for 100 year 15 minute winter. 255 minute analysis at 1 minute timestep. Mass balance: 99.28%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S1	55	8.524	0.158	1.0	0.0251	0.0000	SURCHARGED
15 minute winter	S2	38	7.395	0.614	8.8	0.4460	0.0000	SURCHARGED
15 minute winter	S3	51	7.337	0.681	6.9	0.3519	0.0000	SURCHARGED
15 minute winter	S4	76	6.619	0.036	1.6	0.0057	0.0000	OK
15 minute winter	S5	43	6.596	0.316	2.2	0.2739	0.0000	SURCHARGED
15 minute winter	S6	28	6.278	0.036	5.2	0.0318	0.0000	OK
15 minute winter	OUTFALL	28	5.550	0.035	5.2	0.0000	0.0000	OK
15 minute winter	FC1	38	8.772	0.072	1.4	1.7553	0.0000	OK
15 minute winter	FC2	39	9.075	0.075	1.3	1.8064	0.0000	OK
15 minute winter	FC3	117	7.284	0.134	1.5	3.2121	0.0000	SURCHARGED
15 minute winter	FC4	117	7.284	0.134	1.5	3.2140	0.0000	SURCHARGED
15 minute winter	FC5	38	7.971	0.071	1.3	1.7278	0.0000	OK
15 minute winter	FC6	40	7.429	0.079	1.2	1.8969	0.0000	OK
15 minute winter	FC7	38	6.620	0.185	1.2	1.1082	0.0000	SURCHARGED
15 minute winter	STORAGE 1	38	7.396	0.551	8.3	10.0380	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	S1	Orifice	S2	0.9				
15 minute winter	S2	Orifice	S3	2.9				
15 minute winter	S3	Orifice	S4	1.6				
15 minute winter	S4	1.004	S5	1.6	0.507	0.123	0.1523	
15 minute winter	S5	ACO Q-Brake	S6	2.0				
15 minute winter	S6	1.006	OUTFALL	5.2	1.605	0.122	0.0416	30.0
15 minute winter	FC1	Orifice	S1	0.6				
15 minute winter	FC2	Orifice	S1	0.4				
15 minute winter	FC3	Orifice	S2	0.2				
15 minute winter	FC4	Orifice	S2	0.2				
15 minute winter	FC5	Orifice	S3	0.5				
15 minute winter	FC6	Orifice	S3	0.2				
15 minute winter	FC7	Orifice	S5	0.7				
15 minute winter	STORAGE 1	6.000	S2	-8.3	-1.194	-1.385	0.0111	

Results for 100 year 15 minute winter. 255 minute analysis at 1 minute timestep. Mass balance: 99.28%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	STORAGE 2	51	7.337	0.137	5.2	5.0265	0.0000	SURCHARGED
15 minute winter	STORAGE 3	55	8.524	0.074	0.2	0.2246	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	STORAGE 2	9.000	S3	-5.2	-0.819	-0.874	0.0244	
15 minute winter	STORAGE 3	3.000	S1	-0.2	-0.044	-0.036	0.0617	

Results for 100 year 30 minute summer. 270 minute analysis at 1 minute timestep. Mass balance: 99.24%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute summer	S1	66	8.556	0.190	1.1	0.0302	0.0000	SURCHARGED
30 minute summer	S2	46	7.444	0.663	9.5	0.4814	0.0000	SURCHARGED
30 minute summer	S3	61	7.389	0.733	7.5	0.3791	0.0000	SURCHARGED
30 minute summer	S4	57	6.653	0.070	1.7	0.0111	0.0000	OK
30 minute summer	S5	57	6.652	0.372	2.3	0.3217	0.0000	SURCHARGED
30 minute summer	S6	31	6.281	0.039	5.8	0.0336	0.0000	OK
30 minute summer	OUTFALL	31	5.552	0.037	5.8	0.0000	0.0000	OK
30 minute summer	FC1	46	8.783	0.083	1.7	2.0165	0.0000	OK
30 minute summer	FC2	48	9.087	0.087	1.5	2.1097	0.0000	OK
30 minute summer	FC3	142	7.318	0.168	1.7	4.0306	0.0000	SURCHARGED
30 minute summer	FC4	143	7.318	0.168	1.7	4.0330	0.0000	SURCHARGED
30 minute summer	FC5	47	7.983	0.083	1.5	2.0117	0.0000	OK
30 minute summer	FC6	52	7.442	0.092	1.4	2.2021	0.0000	OK
30 minute summer	FC7	46	6.655	0.220	1.4	1.3219	0.0000	SURCHARGED
30 minute summer	STORAGE 1	46	7.444	0.599	9.0	10.9268	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute summer	S1	Orifice	S2	0.9				
30 minute summer	S2	Orifice	S3	3.0				
30 minute summer	S3	Orifice	S4	1.7				
30 minute summer	S4	1.004	S5	1.7	0.505	0.129	0.2258	
30 minute summer	S5	ACO Q-Brake	S6	2.0				
30 minute summer	S6	1.006	OUTFALL	5.8	1.654	0.136	0.0450	33.7
30 minute summer	FC1	Orifice	S1	0.7				
30 minute summer	FC2	Orifice	S1	0.4				
30 minute summer	FC3	Orifice	S2	0.2				
30 minute summer	FC4	Orifice	S2	0.2				
30 minute summer	FC5	Orifice	S3	0.5				
30 minute summer	FC6	Orifice	S3	0.2				
30 minute summer	FC7	Orifice	S5	0.7				
30 minute summer	STORAGE 1	6.000	S2	-9.0	-1.157	-1.506	0.0111	

Results for 100 year 30 minute summer. 270 minute analysis at 1 minute timestep. Mass balance: 99.24%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute summer	STORAGE 2	61	7.389	0.189	5.8	6.9558	0.0000	SURCHARGED
30 minute summer	STORAGE 3	66	8.556	0.106	0.2	0.3207	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute summer	STORAGE 2	9.000	S3	-5.8	-0.887	-0.978	0.0244	
30 minute summer	STORAGE 3	3.000	S1	-0.2	-0.051	-0.042	0.0687	

Results for 100 year 30 minute winter. 270 minute analysis at 1 minute timestep. Mass balance: 98.75%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute winter	S1	67	8.581	0.215	1.2	0.0342	0.0000	SURCHARGED
30 minute winter	S2	47	7.492	0.711	10.3	0.5163	0.0000	SURCHARGED
30 minute winter	S3	63	7.431	0.775	8.3	0.4006	0.0000	SURCHARGED
30 minute winter	S4	155	6.818	0.235	1.7	0.0374	0.0000	SURCHARGED
30 minute winter	S5	155	6.817	0.537	2.3	0.4649	0.0000	SURCHARGED
30 minute winter	S6	31	6.282	0.040	6.2	0.0348	0.0000	OK
30 minute winter	OUTFALL	31	5.554	0.039	6.2	0.0000	0.0000	OK
30 minute winter	FC1	46	8.793	0.093	1.9	2.2676	0.0000	OK
30 minute winter	FC2	48	9.098	0.098	1.7	2.3633	0.0000	OK
30 minute winter	FC3	162	7.346	0.196	2.0	4.7054	0.0000	SURCHARGED
30 minute winter	FC4	162	7.346	0.196	2.0	4.7083	0.0000	SURCHARGED
30 minute winter	FC5	47	7.993	0.093	1.7	2.2508	0.0000	OK
30 minute winter	FC6	53	7.454	0.104	1.6	2.4968	0.0000	SURCHARGED
30 minute winter	FC7	155	6.817	0.382	1.6	2.2915	0.0000	SURCHARGED
30 minute winter	STORAGE 1	47	7.492	0.647	9.7	11.8002	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute winter	S1	Orifice	S2	1.0				
30 minute winter	S2	Orifice	S3	3.1				
30 minute winter	S3	Orifice	S4	1.7				
30 minute winter	S4	1.004	S5	1.7	0.505	0.127	0.3100	
30 minute winter	S5	ACO Q-Brake	S6	2.0				
30 minute winter	S6	1.006	OUTFALL	6.2	1.685	0.146	0.0473	30.8
30 minute winter	FC1	Orifice	S1	0.7				
30 minute winter	FC2	Orifice	S1	0.5				
30 minute winter	FC3	Orifice	S2	0.2				
30 minute winter	FC4	Orifice	S2	0.2				
30 minute winter	FC5	Orifice	S3	0.6				
30 minute winter	FC6	Orifice	S3	0.2				
30 minute winter	FC7	Orifice	S5	0.7				
30 minute winter	STORAGE 1	6.000	S2	-9.7	-1.237	-1.611	0.0111	

Results for 100 year 30 minute winter. 270 minute analysis at 1 minute timestep. Mass balance: 98.75%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute winter	STORAGE 2	63	7.431	0.231	6.5	8.4848	0.0000	SURCHARGED
30 minute winter	STORAGE 3	67	8.581	0.131	0.3	0.3974	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute winter	STORAGE 2	9.000	S3	-6.5	-0.967	-1.097	0.0244	
30 minute winter	STORAGE 3	3.000	S1	-0.3	-0.053	-0.047	0.0687	

Results for 100 year 60 minute summer. 300 minute analysis at 1 minute timestep. Mass balance: 98.84%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute summer	S1	87	8.602	0.236	1.2	0.0375	0.0000	SURCHARGED
60 minute summer	S2	64	7.513	0.732	9.5	0.5314	0.0000	SURCHARGED
60 minute summer	S3	85	7.471	0.815	8.2	0.4215	0.0000	SURCHARGED
60 minute summer	S4	168	6.843	0.260	1.7	0.0414	0.0000	SURCHARGED
60 minute summer	S5	168	6.842	0.562	2.3	0.4865	0.0000	SURCHARGED
60 minute summer	S6	45	6.281	0.039	5.9	0.0339	0.0000	OK
60 minute summer	OUTFALL	45	5.553	0.038	5.9	0.0000	0.0000	OK
60 minute summer	FC1	62	8.796	0.096	1.7	2.3344	0.0000	OK
60 minute summer	FC2	66	9.103	0.103	1.6	2.4958	0.0000	SURCHARGED
60 minute summer	FC3	191	7.375	0.225	1.9	5.4149	0.0000	SURCHARGED
60 minute summer	FC4	191	7.375	0.225	1.9	5.4185	0.0000	SURCHARGED
60 minute summer	FC5	64	7.997	0.097	1.6	2.3604	0.0000	OK
60 minute summer	FC6	90	7.470	0.120	1.4	2.8854	0.0000	SURCHARGED
60 minute summer	FC7	168	6.842	0.407	1.4	2.4413	0.0000	SURCHARGED
60 minute summer	STORAGE 1	64	7.513	0.668	9.0	12.1796	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute summer	S1	Orifice	S2	1.1				
60 minute summer	S2	Orifice	S3	3.2				
60 minute summer	S3	Orifice	S4	1.7				
60 minute summer	S4	1.004	S5	1.7	0.505	0.128	0.3100	
60 minute summer	S5	ACO Q-Brake	S6	2.0				
60 minute summer	S6	1.006	OUTFALL	5.9	1.662	0.139	0.0456	34.4
60 minute summer	FC1	Orifice	S1	0.8				
60 minute summer	FC2	Orifice	S1	0.5				
60 minute summer	FC3	Orifice	S2	0.2				
60 minute summer	FC4	Orifice	S2	0.2				
60 minute summer	FC5	Orifice	S3	0.6				
60 minute summer	FC6	Orifice	S3	0.2				
60 minute summer	FC7	Orifice	S5	0.7				
60 minute summer	STORAGE 1	6.000	S2	-9.0	-1.153	-1.502	0.0111	

Results for 100 year 60 minute summer. 300 minute analysis at 1 minute timestep. Mass balance: 98.84%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
60 minute summer	STORAGE 2	86	7.471	0.271	6.3	9.9753	0.0000	SURCHARGED
60 minute summer	STORAGE 3	87	8.602	0.152	0.3	0.4606	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m^3)	Discharge Vol (m^3)
60 minute summer	STORAGE 2	9.000	S3	-6.3	-0.917	-1.071	0.0244	
60 minute summer	STORAGE 3	3.000	S1	-0.3	-0.053	-0.046	0.0687	

Results for 100 year 60 minute winter. 300 minute analysis at 1 minute timestep. Mass balance: 98.87%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute winter	S1	89	8.632	0.266	1.3	0.0423	0.0000	SURCHARGED
60 minute winter	S2	66	7.572	0.791	9.8	0.5745	0.0000	SURCHARGED
60 minute winter	S3	87	7.523	0.867	8.8	0.4480	0.0000	SURCHARGED
60 minute winter	S4	159	6.875	0.292	1.8	0.0464	0.0000	SURCHARGED
60 minute winter	S5	160	6.873	0.593	2.3	0.5136	0.0000	SURCHARGED
60 minute winter	S6	44	6.282	0.040	6.3	0.0351	0.0000	OK
60 minute winter	OUTFALL	44	5.554	0.039	6.3	0.0000	0.0000	OK
60 minute winter	FC1	64	8.808	0.108	1.9	2.6100	0.0000	SURCHARGED
60 minute winter	FC2	67	9.115	0.115	1.8	2.7675	0.0000	SURCHARGED
60 minute winter	FC3	205	7.407	0.257	2.1	6.1669	0.0000	SURCHARGED
60 minute winter	FC4	205	7.406	0.256	2.1	6.1707	0.0000	SURCHARGED
60 minute winter	FC5	66	8.008	0.108	1.8	2.6116	0.0000	SURCHARGED
60 minute winter	FC6	120	7.501	0.151	1.6	3.6255	0.0000	SURCHARGED
60 minute winter	FC7	159	6.873	0.438	1.6	2.6291	0.0000	SURCHARGED
60 minute winter	STORAGE 1	66	7.572	0.727	9.0	13.2620	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute winter	S1	Orifice	S2	1.1				
60 minute winter	S2	Orifice	S3	3.4				
60 minute winter	S3	Orifice	S4	1.8				
60 minute winter	S4	1.004	S5	1.7	0.505	0.129	0.3100	
60 minute winter	S5	ACO Q-Brake	S6	2.0				
60 minute winter	S6	1.006	OUTFALL	6.3	1.692	0.148	0.0478	36.0
60 minute winter	FC1	Orifice	S1	0.8				
60 minute winter	FC2	Orifice	S1	0.5				
60 minute winter	FC3	Orifice	S2	0.2				
60 minute winter	FC4	Orifice	S2	0.2				
60 minute winter	FC5	Orifice	S3	0.6				
60 minute winter	FC6	Orifice	S3	0.2				
60 minute winter	FC7	Orifice	S5	0.7				
60 minute winter	STORAGE 1	6.000	S2	-9.0	-1.150	-1.497	0.0111	

Results for 100 year 60 minute winter. 300 minute analysis at 1 minute timestep. Mass balance: 98.87%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute winter	STORAGE 2	87	7.523	0.323	7.0	11.8596	0.0000	SURCHARGED
60 minute winter	STORAGE 3	89	8.632	0.182	0.3	0.5514	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute winter	STORAGE 2	9.000	S3	-7.0	-0.987	-1.179	0.0244	
60 minute winter	STORAGE 3	3.000	S1	-0.3	-0.051	-0.051	0.0687	

Results for 100 year 120 minute summer. 360 minute analysis at 2 minute timestep. Mass balance: 98.96%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
120 minute summer	S1	122	8.610	0.244	1.2	0.0387	0.0000	SURCHARGED
120 minute summer	S2	130	7.525	0.744	7.6	0.5399	0.0000	SURCHARGED
120 minute summer	S3	136	7.515	0.859	7.8	0.4440	0.0000	SURCHARGED
120 minute summer	S4	202	6.871	0.288	1.8	0.0458	0.0000	SURCHARGED
120 minute summer	S5	202	6.869	0.589	2.3	0.5103	0.0000	SURCHARGED
120 minute summer	S6	76	6.279	0.037	5.4	0.0324	0.0000	OK
120 minute summer	OUTFALL	76	5.551	0.036	5.4	0.0000	0.0000	OK
120 minute summer	FC1	96	8.793	0.093	1.5	2.2458	0.0000	OK
120 minute summer	FC2	100	9.102	0.102	1.4	2.4627	0.0000	SURCHARGED
120 minute summer	FC3	238	7.413	0.263	1.7	6.3097	0.0000	SURCHARGED
120 minute summer	FC4	238	7.412	0.262	1.7	6.3141	0.0000	SURCHARGED
120 minute summer	FC5	96	7.995	0.095	1.4	2.2948	0.0000	OK
120 minute summer	FC6	162	7.500	0.150	1.3	3.6019	0.0000	SURCHARGED
120 minute summer	FC7	202	6.869	0.434	1.3	2.6066	0.0000	SURCHARGED
120 minute summer	STORAGE 1	130	7.525	0.680	6.9	12.3905	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m^3)	Discharge Vol (m^3)
120 minute summer	S1	Orifice	S2	1.1				
120 minute summer	S2	Orifice	S3	3.0				
120 minute summer	S3	Orifice	S4	1.8				
120 minute summer	S4	1.004	S5	1.7	0.505	0.129	0.3100	
120 minute summer	S5	ACO Q-Brake	S6	2.0				
120 minute summer	S6	1.006	OUTFALL	5.4	1.621	0.127	0.0428	41.1
120 minute summer	FC1	Orifice	S1	0.7				
120 minute summer	FC2	Orifice	S1	0.5				
120 minute summer	FC3	Orifice	S2	0.2				
120 minute summer	FC4	Orifice	S2	0.2				
120 minute summer	FC5	Orifice	S3	0.6				
120 minute summer	FC6	Orifice	S3	0.2				
120 minute summer	FC7	Orifice	S5	0.6				
120 minute summer	STORAGE 1	6.000	S2	-6.9	-0.882	-1.148	0.0111	

Results for 100 year 120 minute summer. 360 minute analysis at 2 minute timestep. Mass balance: 98.96%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
120 minute summer	STORAGE 2	136	7.515	0.315	6.0	11.5712	0.0000	SURCHARGED
120 minute summer	STORAGE 3	122	8.610	0.160	0.2	0.4837	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m^3)	Discharge Vol (m^3)
120 minute summer	STORAGE 2	9.000	S3	-6.0	-0.880	-1.005	0.0244	
120 minute summer	STORAGE 3	3.000	S1	-0.2	-0.040	-0.041	0.0687	

Results for 100 year 120 minute winter. 360 minute analysis at 2 minute timestep. Mass balance: 98.99%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute winter	S1	126	8.640	0.274	1.3	0.0435	0.0000	SURCHARGED
120 minute winter	S2	130	7.589	0.808	7.0	0.5863	0.0000	SURCHARGED
120 minute winter	S3	136	7.577	0.921	7.7	0.4762	0.0000	SURCHARGED
120 minute winter	S4	190	6.909	0.326	1.8	0.0518	0.0000	SURCHARGED
120 minute winter	S5	190	6.907	0.627	2.3	0.5428	0.0000	SURCHARGED
120 minute winter	S6	74	6.279	0.037	5.4	0.0324	0.0000	OK
120 minute winter	OUTFALL	74	5.551	0.036	5.4	0.0000	0.0000	OK
120 minute winter	FC1	98	8.800	0.100	1.5	2.4307	0.0000	SURCHARGED
120 minute winter	FC2	104	9.112	0.112	1.4	2.7108	0.0000	SURCHARGED
120 minute winter	FC3	252	7.451	0.301	1.7	7.2347	0.0000	SURCHARGED
120 minute winter	FC4	252	7.451	0.301	1.7	7.2393	0.0000	SURCHARGED
120 minute winter	FC5	102	8.003	0.103	1.4	2.5000	0.0000	SURCHARGED
120 minute winter	FC6	184	7.538	0.188	1.3	4.5192	0.0000	SURCHARGED
120 minute winter	FC7	192	6.907	0.472	1.3	2.8317	0.0000	SURCHARGED
120 minute winter	STORAGE 1	130	7.589	0.744	6.2	13.5566	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute winter	S1	Orifice	S2	1.2				
120 minute winter	S2	Orifice	S3	3.1				
120 minute winter	S3	Orifice	S4	1.8				
120 minute winter	S4	1.004	S5	1.7	0.504	0.131	0.3100	
120 minute winter	S5	ACO Q-Brake	S6	2.0				
120 minute winter	S6	1.006	OUTFALL	5.4	1.621	0.127	0.0428	43.2
120 minute winter	FC1	Orifice	S1	0.8				
120 minute winter	FC2	Orifice	S1	0.5				
120 minute winter	FC3	Orifice	S2	0.2				
120 minute winter	FC4	Orifice	S2	0.2				
120 minute winter	FC5	Orifice	S3	0.6				
120 minute winter	FC6	Orifice	S3	0.2				
120 minute winter	FC7	Orifice	S5	0.6				
120 minute winter	STORAGE 1	6.000	S2	-6.2	-0.792	-1.031	0.0111	

Results for 100 year 120 minute winter. 360 minute analysis at 2 minute timestep. Mass balance: 98.99%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute winter	STORAGE 2	136	7.577	0.377	5.9	13.8638	0.0000	SURCHARGED
120 minute winter	STORAGE 3	126	8.640	0.190	0.2	0.5752	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute winter	STORAGE 2	9.000	S3	-5.9	-0.848	-0.997	0.0244	
120 minute winter	STORAGE 3	3.000	S1	-0.2	-0.036	-0.042	0.0687	

Results for 100 year 180 minute summer. 420 minute analysis at 4 minute timestep. Mass balance: 99.05%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute summer	S1	152	8.596	0.230	1.2	0.0366	0.0000	SURCHARGED
180 minute summer	S2	184	7.537	0.756	6.1	0.5486	0.0000	SURCHARGED
180 minute summer	S3	188	7.528	0.872	7.0	0.4507	0.0000	SURCHARGED
180 minute summer	S4	236	6.887	0.304	1.8	0.0483	0.0000	SURCHARGED
180 minute summer	S5	236	6.885	0.605	2.2	0.5242	0.0000	SURCHARGED
180 minute summer	S6	108	6.277	0.035	4.9	0.0308	0.0000	OK
180 minute summer	OUTFALL	108	5.549	0.034	4.9	0.0000	0.0000	OK
180 minute summer	FC1	128	8.784	0.084	1.3	2.0401	0.0000	OK
180 minute summer	FC2	132	9.098	0.098	1.2	2.3702	0.0000	OK
180 minute summer	FC3	280	7.435	0.285	1.5	6.8537	0.0000	SURCHARGED
180 minute summer	FC4	280	7.435	0.285	1.5	6.8588	0.0000	SURCHARGED
180 minute summer	FC5	132	7.990	0.090	1.2	2.1780	0.0000	OK
180 minute summer	FC6	212	7.517	0.167	1.1	4.0131	0.0000	SURCHARGED
180 minute summer	FC7	236	6.885	0.450	1.1	2.7029	0.0000	SURCHARGED
180 minute summer	STORAGE 1	184	7.537	0.692	5.2	12.6099	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute summer	S1	Orifice	S2	1.1				
180 minute summer	S2	Orifice	S3	2.8				
180 minute summer	S3	Orifice	S4	1.8				
180 minute summer	S4	1.004	S5	1.7	0.503	0.130	0.3100	
180 minute summer	S5	ACO Q-Brake	S6	2.0				
180 minute summer	S6	1.006	OUTFALL	4.9	1.578	0.115	0.0399	47.0
180 minute summer	FC1	Orifice	S1	0.7				
180 minute summer	FC2	Orifice	S1	0.5				
180 minute summer	FC3	Orifice	S2	0.2				
180 minute summer	FC4	Orifice	S2	0.2				
180 minute summer	FC5	Orifice	S3	0.5				
180 minute summer	FC6	Orifice	S3	0.2				
180 minute summer	FC7	Orifice	S5	0.5				
180 minute summer	STORAGE 1	6.000	S2	-5.2	-0.664	-0.865	0.0111	

Results for 100 year 180 minute summer. 420 minute analysis at 4 minute timestep. Mass balance: 99.05%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute summer	STORAGE 2	188	7.528	0.328	5.2	12.0492	0.0000	SURCHARGED
180 minute summer	STORAGE 3	152	8.596	0.146	0.2	0.4438	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute summer	STORAGE 2	9.000	S3	-5.2	-0.754	-0.879	0.0244	
180 minute summer	STORAGE 3	3.000	S1	-0.2	-0.032	-0.035	0.0687	

Results for 100 year 180 minute winter. 420 minute analysis at 4 minute timestep. Mass balance: 99.07%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute winter	S1	160	8.620	0.254	1.2	0.0405	0.0000	SURCHARGED
180 minute winter	S2	184	7.607	0.826	5.7	0.5994	0.0000	SURCHARGED
180 minute winter	S3	188	7.596	0.940	6.6	0.4862	0.0000	SURCHARGED
180 minute winter	S4	220	6.929	0.346	1.8	0.0550	0.0000	SURCHARGED
180 minute winter	S5	220	6.927	0.647	2.2	0.5605	0.0000	SURCHARGED
180 minute winter	S6	104	6.276	0.034	4.6	0.0298	0.0000	OK
180 minute winter	OUTFALL	104	5.548	0.033	4.6	0.0000	0.0000	OK
180 minute winter	FC1	132	8.787	0.087	1.2	2.1135	0.0000	OK
180 minute winter	FC2	140	9.108	0.108	1.1	2.6034	0.0000	SURCHARGED
180 minute winter	FC3	292	7.478	0.328	1.4	7.8835	0.0000	SURCHARGED
180 minute winter	FC4	292	7.478	0.328	1.4	7.8884	0.0000	SURCHARGED
180 minute winter	FC5	136	7.997	0.097	1.1	2.3578	0.0000	OK
180 minute winter	FC6	232	7.558	0.208	1.0	5.0084	0.0000	SURCHARGED
180 minute winter	FC7	220	6.927	0.492	1.0	2.9545	0.0000	SURCHARGED
180 minute winter	STORAGE 1	184	7.607	0.762	4.6	13.8853	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute winter	S1	Orifice	S2	1.1				
180 minute winter	S2	Orifice	S3	2.7				
180 minute winter	S3	Orifice	S4	1.8				
180 minute winter	S4	1.004	S5	1.7	0.505	0.131	0.3100	
180 minute winter	S5	ACO Q-Brake	S6	2.0				
180 minute winter	S6	1.006	OUTFALL	4.6	1.551	0.108	0.0381	49.5
180 minute winter	FC1	Orifice	S1	0.7				
180 minute winter	FC2	Orifice	S1	0.5				
180 minute winter	FC3	Orifice	S2	0.2				
180 minute winter	FC4	Orifice	S2	0.2				
180 minute winter	FC5	Orifice	S3	0.6				
180 minute winter	FC6	Orifice	S3	0.2				
180 minute winter	FC7	Orifice	S5	0.5				
180 minute winter	STORAGE 1	6.000	S2	-4.6	-0.591	-0.769	0.0111	

Results for 100 year 180 minute winter. 420 minute analysis at 4 minute timestep. Mass balance: 99.07%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute winter	STORAGE 2	192	7.596	0.396	4.8	14.5734	0.0000	SURCHARGED
180 minute winter	STORAGE 3	160	8.620	0.170	0.2	0.5167	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute winter	STORAGE 2	9.000	S3	-4.8	-0.662	-0.811	0.0244	
180 minute winter	STORAGE 3	3.000	S1	-0.2	0.036	-0.033	0.0687	

Results for 100 year 240 minute summer. 480 minute analysis at 4 minute timestep. Mass balance: 99.12%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute summer	S1	184	8.588	0.222	1.1	0.0353	0.0000	SURCHARGED
240 minute summer	S2	220	7.528	0.747	5.5	0.5420	0.0000	SURCHARGED
240 minute summer	S3	232	7.519	0.863	6.4	0.4460	0.0000	SURCHARGED
240 minute summer	S4	280	6.885	0.302	1.8	0.0480	0.0000	SURCHARGED
240 minute summer	S5	280	6.883	0.603	2.2	0.5222	0.0000	SURCHARGED
240 minute summer	S6	140	6.276	0.034	4.5	0.0295	0.0000	OK
240 minute summer	OUTFALL	140	5.548	0.033	4.5	0.0000	0.0000	OK
240 minute summer	FC1	156	8.780	0.080	1.1	1.9310	0.0000	OK
240 minute summer	FC2	164	9.093	0.093	1.0	2.2501	0.0000	OK
240 minute summer	FC3	316	7.443	0.293	1.3	7.0476	0.0000	SURCHARGED
240 minute summer	FC4	316	7.443	0.293	1.3	7.0529	0.0000	SURCHARGED
240 minute summer	FC5	164	7.984	0.084	1.0	2.0481	0.0000	OK
240 minute summer	FC6	260	7.516	0.166	0.9	3.9969	0.0000	SURCHARGED
240 minute summer	FC7	284	6.883	0.448	0.9	2.6887	0.0000	SURCHARGED
240 minute summer	STORAGE 1	220	7.528	0.683	4.4	12.4436	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute summer	S1	Orifice	S2	1.0				
240 minute summer	S2	Orifice	S3	2.7				
240 minute summer	S3	Orifice	S4	1.8				
240 minute summer	S4	1.004	S5	1.7	0.506	0.132	0.3100	
240 minute summer	S5	ACO Q-Brake	S6	2.0				
240 minute summer	S6	1.006	OUTFALL	4.5	1.542	0.106	0.0375	52.5
240 minute summer	FC1	Orifice	S1	0.7				
240 minute summer	FC2	Orifice	S1	0.5				
240 minute summer	FC3	Orifice	S2	0.2				
240 minute summer	FC4	Orifice	S2	0.2				
240 minute summer	FC5	Orifice	S3	0.5				
240 minute summer	FC6	Orifice	S3	0.2				
240 minute summer	FC7	Orifice	S5	0.5				
240 minute summer	STORAGE 1	6.000	S2	-4.4	-0.562	-0.732	0.0111	

Results for 100 year 240 minute summer. 480 minute analysis at 4 minute timestep. Mass balance: 99.12%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute summer	STORAGE 2	232	7.519	0.319	4.7	11.7140	0.0000	SURCHARGED
240 minute summer	STORAGE 3	184	8.588	0.138	0.2	0.4190	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute summer	STORAGE 2	9.000	S3	-4.7	-0.669	-0.794	0.0244	
240 minute summer	STORAGE 3	3.000	S1	-0.2	-0.028	-0.030	0.0687	

Results for 100 year 240 minute winter. 480 minute analysis at 4 minute timestep. Mass balance: 99.14%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute winter	S1	192	8.603	0.237	1.1	0.0377	0.0000	SURCHARGED
240 minute winter	S2	236	7.604	0.823	4.9	0.5973	0.0000	SURCHARGED
240 minute winter	S3	240	7.595	0.939	5.8	0.4853	0.0000	SURCHARGED
240 minute winter	S4	256	6.936	0.353	1.8	0.0562	0.0000	SURCHARGED
240 minute winter	S5	256	6.935	0.655	2.2	0.5670	0.0000	SURCHARGED
240 minute winter	S6	136	6.275	0.033	4.2	0.0285	0.0000	OK
240 minute winter	OUTFALL	136	5.547	0.032	4.2	0.0000	0.0000	OK
240 minute winter	FC1	164	8.779	0.079	1.0	1.9163	0.0000	OK
240 minute winter	FC2	176	9.098	0.098	0.9	2.3734	0.0000	OK
240 minute winter	FC3	328	7.494	0.344	1.2	8.2721	0.0000	SURCHARGED
240 minute winter	FC4	328	7.494	0.344	1.2	8.2773	0.0000	SURCHARGED
240 minute winter	FC5	172	7.987	0.087	0.9	2.1071	0.0000	OK
240 minute winter	FC6	276	7.567	0.217	0.8	5.2166	0.0000	SURCHARGED
240 minute winter	FC7	260	6.935	0.500	0.8	2.9990	0.0000	SURCHARGED
240 minute winter	STORAGE 1	236	7.604	0.759	3.7	13.8329	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute winter	S1	Orifice	S2	1.1				
240 minute winter	S2	Orifice	S3	2.5				
240 minute winter	S3	Orifice	S4	1.8				
240 minute winter	S4	1.004	S5	1.8	0.507	0.133	0.3100	
240 minute winter	S5	ACO Q-Brake	S6	2.0				
240 minute winter	S6	1.006	OUTFALL	4.2	1.512	0.099	0.0357	55.3
240 minute winter	FC1	Orifice	S1	0.7				
240 minute winter	FC2	Orifice	S1	0.5				
240 minute winter	FC3	Orifice	S2	0.2				
240 minute winter	FC4	Orifice	S2	0.2				
240 minute winter	FC5	Orifice	S3	0.5				
240 minute winter	FC6	Orifice	S3	0.2				
240 minute winter	FC7	Orifice	S5	0.5				
240 minute winter	STORAGE 1	6.000	S2	-3.7	-0.469	-0.611	0.0111	

Results for 100 year 240 minute winter. 480 minute analysis at 4 minute timestep. Mass balance: 99.14%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute winter	STORAGE 2	240	7.595	0.395	4.0	14.5096	0.0000	SURCHARGED
240 minute winter	STORAGE 3	192	8.603	0.153	0.2	0.4635	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute winter	STORAGE 2	9.000	S3	-4.0	-0.575	-0.679	0.0244	
240 minute winter	STORAGE 3	3.000	S1	-0.2	0.030	-0.026	0.0687	

Results for 100 year 360 minute summer. 600 minute analysis at 8 minute timestep. Mass balance: 99.24%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute summer	S1	248	8.565	0.199	1.0	0.0316	0.0000	SURCHARGED
360 minute summer	S2	272	7.515	0.734	4.4	0.5332	0.0000	SURCHARGED
360 minute summer	S3	280	7.506	0.850	5.4	0.4393	0.0000	SURCHARGED
360 minute summer	S4	376	6.891	0.308	1.8	0.0490	0.0000	SURCHARGED
360 minute summer	S5	376	6.890	0.610	2.1	0.5280	0.0000	SURCHARGED
360 minute summer	S6	200	6.274	0.032	4.0	0.0278	0.0000	OK
360 minute summer	OUTFALL	200	5.546	0.031	4.0	0.0000	0.0000	OK
360 minute summer	FC1	224	8.769	0.069	0.9	1.6753	0.0000	OK
360 minute summer	FC2	232	9.083	0.083	0.8	2.0028	0.0000	OK
360 minute summer	FC3	392	7.458	0.308	1.1	7.3934	0.0000	SURCHARGED
360 minute summer	FC4	392	7.457	0.307	1.1	7.3996	0.0000	SURCHARGED
360 minute summer	FC5	224	7.974	0.074	0.8	1.7928	0.0000	OK
360 minute summer	FC6	344	7.509	0.159	0.7	3.8242	0.0000	SURCHARGED
360 minute summer	FC7	376	6.890	0.455	0.7	2.7298	0.0000	SURCHARGED
360 minute summer	STORAGE 1	272	7.515	0.670	3.2	12.2224	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute summer	S1	Orifice	S2	1.0				
360 minute summer	S2	Orifice	S3	2.4				
360 minute summer	S3	Orifice	S4	1.8				
360 minute summer	S4	1.004	S5	1.8	0.508	0.135	0.3100	
360 minute summer	S5	ACO Q-Brake	S6	2.0				
360 minute summer	S6	1.006	OUTFALL	4.0	1.491	0.094	0.0344	62.7
360 minute summer	FC1	Orifice	S1	0.6				
360 minute summer	FC2	Orifice	S1	0.4				
360 minute summer	FC3	Orifice	S2	0.2				
360 minute summer	FC4	Orifice	S2	0.2				
360 minute summer	FC5	Orifice	S3	0.5				
360 minute summer	FC6	Orifice	S3	0.2				
360 minute summer	FC7	Orifice	S5	0.5				
360 minute summer	STORAGE 1	6.000	S2	-3.2	-0.411	-0.535	0.0111	

Results for 100 year 360 minute summer. 600 minute analysis at 8 minute timestep. Mass balance: 99.24%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
360 minute summer	STORAGE 2	280	7.506	0.306	3.8	11.2406	0.0000	SURCHARGED
360 minute summer	STORAGE 3	248	8.565	0.115	0.1	0.3475	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m^3)	Discharge Vol (m^3)
360 minute summer	STORAGE 2	9.000	S3	-3.8	-0.565	-0.636	0.0244	
360 minute summer	STORAGE 3	3.000	S1	-0.1	0.024	-0.023	0.0687	

Results for 100 year 360 minute winter. 600 minute analysis at 8 minute timestep. Mass balance: 99.25%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute winter	S1	256	8.564	0.198	1.0	0.0315	0.0000	SURCHARGED
360 minute winter	S2	296	7.581	0.800	3.9	0.5807	0.0000	SURCHARGED
360 minute winter	S3	304	7.572	0.916	4.7	0.4734	0.0000	SURCHARGED
360 minute winter	S4	368	6.932	0.349	1.9	0.0554	0.0000	SURCHARGED
360 minute winter	S5	368	6.930	0.650	2.1	0.5627	0.0000	SURCHARGED
360 minute winter	S6	208	6.272	0.030	3.6	0.0263	0.0000	OK
360 minute winter	OUTFALL	208	5.545	0.030	3.6	0.0000	0.0000	OK
360 minute winter	FC1	224	8.764	0.064	0.7	1.5460	0.0000	OK
360 minute winter	FC2	240	9.086	0.086	0.7	2.0679	0.0000	OK
360 minute winter	FC3	400	7.507	0.357	0.9	8.5817	0.0000	SURCHARGED
360 minute winter	FC4	400	7.507	0.357	0.9	8.5876	0.0000	SURCHARGED
360 minute winter	FC5	232	7.975	0.075	0.7	1.8116	0.0000	OK
360 minute winter	FC6	360	7.563	0.213	0.6	5.1349	0.0000	SURCHARGED
360 minute winter	FC7	368	6.930	0.495	0.6	2.9706	0.0000	SURCHARGED
360 minute winter	STORAGE 1	296	7.581	0.736	2.7	13.4153	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute winter	S1	Orifice	S2	1.0				
360 minute winter	S2	Orifice	S3	2.1				
360 minute winter	S3	Orifice	S4	1.9				
360 minute winter	S4	1.004	S5	1.8	0.508	0.137	0.3100	
360 minute winter	S5	ACO Q-Brake	S6	2.0				
360 minute winter	S6	1.006	OUTFALL	3.6	1.447	0.085	0.0319	66.1
360 minute winter	FC1	Orifice	S1	0.6				
360 minute winter	FC2	Orifice	S1	0.4				
360 minute winter	FC3	Orifice	S2	0.2				
360 minute winter	FC4	Orifice	S2	0.2				
360 minute winter	FC5	Orifice	S3	0.5				
360 minute winter	FC6	Orifice	S3	0.2				
360 minute winter	FC7	Orifice	S5	0.4				
360 minute winter	STORAGE 1	6.000	S2	-2.7	-0.344	-0.448	0.0111	

Results for 100 year 360 minute winter. 600 minute analysis at 8 minute timestep. Mass balance: 99.25%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute winter	STORAGE 2	304	7.572	0.372	3.0	13.6602	0.0000	SURCHARGED
360 minute winter	STORAGE 3	256	8.564	0.114	0.1	0.3450	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute winter	STORAGE 2	9.000	S3	-3.0	-0.447	-0.507	0.0244	
360 minute winter	STORAGE 3	3.000	S1	0.1	0.024	0.020	0.0687	

Results for 100 year 480 minute summer. 720 minute analysis at 8 minute timestep. Mass balance: 99.36%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute summer	S1	312	8.543	0.177	1.0	0.0281	0.0000	SURCHARGED
480 minute summer	S2	336	7.506	0.725	3.9	0.5260	0.0000	SURCHARGED
480 minute summer	S3	344	7.495	0.839	4.8	0.4338	0.0000	SURCHARGED
480 minute summer	S4	576	6.811	0.228	1.8	0.0363	0.0000	SURCHARGED
480 minute summer	S5	576	6.810	0.530	2.1	0.4587	0.0000	SURCHARGED
480 minute summer	S6	264	6.273	0.031	3.7	0.0267	0.0000	OK
480 minute summer	OUTFALL	264	5.545	0.030	3.7	0.0000	0.0000	OK
480 minute summer	FC1	280	8.761	0.061	0.8	1.4914	0.0000	OK
480 minute summer	FC2	288	9.074	0.074	0.7	1.7855	0.0000	OK
480 minute summer	FC3	472	7.451	0.301	0.9	7.2382	0.0000	SURCHARGED
480 minute summer	FC4	472	7.451	0.301	0.9	7.2454	0.0000	SURCHARGED
480 minute summer	FC5	288	7.965	0.065	0.7	1.5817	0.0000	OK
480 minute summer	FC6	392	7.498	0.148	0.6	3.5642	0.0000	SURCHARGED
480 minute summer	FC7	576	6.810	0.375	0.6	2.2490	0.0000	SURCHARGED
480 minute summer	STORAGE 1	336	7.506	0.661	2.6	12.0418	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute summer	S1	Orifice	S2	0.9				
480 minute summer	S2	Orifice	S3	2.2				
480 minute summer	S3	Orifice	S4	1.8				
480 minute summer	S4	1.004	S5	1.8	0.510	0.137	0.3100	
480 minute summer	S5	ACO Q-Brake	S6	2.0				
480 minute summer	S6	1.006	OUTFALL	3.7	1.458	0.087	0.0325	74.7
480 minute summer	FC1	Orifice	S1	0.6				
480 minute summer	FC2	Orifice	S1	0.4				
480 minute summer	FC3	Orifice	S2	0.2				
480 minute summer	FC4	Orifice	S2	0.2				
480 minute summer	FC5	Orifice	S3	0.4				
480 minute summer	FC6	Orifice	S3	0.2				
480 minute summer	FC7	Orifice	S5	0.4				
480 minute summer	STORAGE 1	6.000	S2	-2.6	-0.332	-0.433	0.0111	

Results for 100 year 480 minute summer. 720 minute analysis at 8 minute timestep. Mass balance: 99.36%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute summer	STORAGE 2	344	7.495	0.295	3.1	10.8477	0.0000	SURCHARGED
480 minute summer	STORAGE 3	312	8.543	0.093	0.1	0.2818	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute summer	STORAGE 2	9.000	S3	-3.1	-0.491	-0.528	0.0244	
480 minute summer	STORAGE 3	3.000	S1	0.1	0.023	0.020	0.0677	

Results for 100 year 480 minute winter. 720 minute analysis at 8 minute timestep. Mass balance: 99.33%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute winter	S1	320	8.528	0.162	0.9	0.0257	0.0000	SURCHARGED
480 minute winter	S2	360	7.554	0.773	3.3	0.5608	0.0000	SURCHARGED
480 minute winter	S3	368	7.543	0.887	3.9	0.4585	0.0000	SURCHARGED
480 minute winter	S4	480	6.910	0.327	1.9	0.0520	0.0000	SURCHARGED
480 minute winter	S5	480	6.908	0.628	2.1	0.5442	0.0000	SURCHARGED
480 minute winter	S6	272	6.271	0.029	3.3	0.0252	0.0000	OK
480 minute winter	OUTFALL	272	5.543	0.028	3.3	0.0000	0.0000	OK
480 minute winter	FC1	280	8.754	0.054	0.6	1.3028	0.0000	OK
480 minute winter	FC2	312	9.070	0.070	0.5	1.6894	0.0000	OK
480 minute winter	FC3	480	7.508	0.358	0.8	8.5988	0.0000	SURCHARGED
480 minute winter	FC4	480	7.508	0.358	0.8	8.6075	0.0000	SURCHARGED
480 minute winter	FC5	296	7.959	0.059	0.5	1.4408	0.0000	OK
480 minute winter	FC6	432	7.541	0.191	0.5	4.5946	0.0000	SURCHARGED
480 minute winter	FC7	472	6.909	0.474	0.5	2.8427	0.0000	SURCHARGED
480 minute winter	STORAGE 1	360	7.554	0.709	2.2	12.9170	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute winter	S1	Orifice	S2	0.9				
480 minute winter	S2	Orifice	S3	1.9				
480 minute winter	S3	Orifice	S4	1.9				
480 minute winter	S4	1.004	S5	1.8	0.513	0.139	0.3100	
480 minute winter	S5	ACO Q-Brake	S6	2.0				
480 minute winter	S6	1.006	OUTFALL	3.3	1.411	0.078	0.0300	76.5
480 minute winter	FC1	Orifice	S1	0.5				
480 minute winter	FC2	Orifice	S1	0.4				
480 minute winter	FC3	Orifice	S2	0.2				
480 minute winter	FC4	Orifice	S2	0.2				
480 minute winter	FC5	Orifice	S3	0.4				
480 minute winter	FC6	Orifice	S3	0.2				
480 minute winter	FC7	Orifice	S5	0.4				
480 minute winter	STORAGE 1	6.000	S2	-2.2	-0.286	-0.373	0.0111	

Results for 100 year 480 minute winter. 720 minute analysis at 8 minute timestep. Mass balance: 99.33%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
480 minute winter	STORAGE 2	368	7.543	0.343	2.3	12.5990	0.0000	SURCHARGED
480 minute winter	STORAGE 3	320	8.528	0.078	0.1	0.2353	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m^3)	Discharge Vol (m^3)
480 minute winter	STORAGE 2	9.000	S3	-2.3	-0.410	-0.384	0.0244	
480 minute winter	STORAGE 3	3.000	S1	0.1	0.017	0.014	0.0630	

Results for 100 year 600 minute summer. 840 minute analysis at 15 minute timestep. Mass balance: 99.70%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute summer	S1	360	8.520	0.154	0.9	0.0245	0.0000	SURCHARGED
600 minute summer	S2	405	7.486	0.705	3.4	0.5118	0.0000	SURCHARGED
600 minute summer	S3	405	7.477	0.821	4.2	0.4242	0.0000	SURCHARGED
600 minute summer	S4	435	6.621	0.038	1.8	0.0060	0.0000	OK
600 minute summer	S5	375	6.541	0.261	2.0	0.2264	0.0000	SURCHARGED
600 minute summer	S6	315	6.272	0.030	3.5	0.0258	0.0000	OK
600 minute summer	OUTFALL	315	5.544	0.029	3.5	0.0000	0.0000	OK
600 minute summer	FC1	345	8.755	0.055	0.7	1.3390	0.0000	OK
600 minute summer	FC2	345	9.063	0.063	0.6	1.5219	0.0000	OK
600 minute summer	FC3	525	7.441	0.291	0.8	6.9902	0.0000	SURCHARGED
600 minute summer	FC4	525	7.441	0.291	0.8	6.9972	0.0000	SURCHARGED
600 minute summer	FC5	345	7.955	0.055	0.6	1.3404	0.0000	OK
600 minute summer	FC6	450	7.481	0.131	0.5	3.1607	0.0000	SURCHARGED
600 minute summer	FC7	375	6.548	0.113	0.5	0.6765	0.0000	SURCHARGED
600 minute summer	STORAGE 1	405	7.486	0.641	2.0	11.6857	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute summer	S1	Orifice	S2	0.8				
600 minute summer	S2	Orifice	S3	1.9				
600 minute summer	S3	Orifice	S4	1.8				
600 minute summer	S4	1.004	S5	1.8	0.522	0.136	0.0842	
600 minute summer	S5	ACO Q-Brake	S6	2.0				
600 minute summer	S6	1.006	OUTFALL	3.5	1.430	0.081	0.0310	88.6
600 minute summer	FC1	Orifice	S1	0.5				
600 minute summer	FC2	Orifice	S1	0.4				
600 minute summer	FC3	Orifice	S2	0.3				
600 minute summer	FC4	Orifice	S2	0.3				
600 minute summer	FC5	Orifice	S3	0.4				
600 minute summer	FC6	Orifice	S3	0.2				
600 minute summer	FC7	Orifice	S5	0.4				
600 minute summer	STORAGE 1	6.000	S2	-2.0	-0.258	-0.335	0.0111	

Results for 100 year 600 minute summer. 840 minute analysis at 15 minute timestep. Mass balance: 99.70%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute summer	STORAGE 2	405	7.477	0.277	2.5	10.1661	0.0000	SURCHARGED
600 minute summer	STORAGE 3	360	8.520	0.070	0.1	0.2124	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute summer	STORAGE 2	9.000	S3	-2.5	-0.415	-0.427	0.0244	
600 minute summer	STORAGE 3	3.000	S1	0.1	0.018	0.016	0.0601	

Results for 100 year 600 minute winter. 840 minute analysis at 15 minute timestep. Mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute winter	S1	375	8.510	0.144	0.8	0.0229	0.0000	SURCHARGED
600 minute winter	S2	435	7.527	0.746	2.8	0.5417	0.0000	SURCHARGED
600 minute winter	S3	435	7.517	0.861	3.4	0.4450	0.0000	SURCHARGED
600 minute winter	S4	555	6.621	0.038	1.8	0.0060	0.0000	OK
600 minute winter	S5	450	6.573	0.293	2.0	0.2536	0.0000	SURCHARGED
600 minute winter	S6	330	6.270	0.028	3.1	0.0243	0.0000	OK
600 minute winter	OUTFALL	330	5.542	0.027	3.1	0.0000	0.0000	OK
600 minute winter	FC1	345	8.748	0.048	0.5	1.1544	0.0000	OK
600 minute winter	FC2	360	9.065	0.065	0.5	1.5629	0.0000	OK
600 minute winter	FC3	540	7.492	0.342	0.7	8.2125	0.0000	SURCHARGED
600 minute winter	FC4	555	7.492	0.342	0.7	8.2212	0.0000	SURCHARGED
600 minute winter	FC5	360	7.955	0.055	0.5	1.3312	0.0000	OK
600 minute winter	FC6	480	7.521	0.171	0.4	4.1133	0.0000	SURCHARGED
600 minute winter	FC7	450	6.575	0.140	0.4	0.8396	0.0000	SURCHARGED
600 minute winter	STORAGE 1	435	7.527	0.682	1.6	12.4354	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute winter	S1	Orifice	S2	0.8				
600 minute winter	S2	Orifice	S3	1.7				
600 minute winter	S3	Orifice	S4	1.8				
600 minute winter	S4	1.004	S5	1.8	0.521	0.139	0.1261	
600 minute winter	S5	ACO Q-Brake	S6	2.0				
600 minute winter	S6	1.006	OUTFALL	3.1	1.382	0.072	0.0285	93.6
600 minute winter	FC1	Orifice	S1	0.5				
600 minute winter	FC2	Orifice	S1	0.4				
600 minute winter	FC3	Orifice	S2	0.3				
600 minute winter	FC4	Orifice	S2	0.3				
600 minute winter	FC5	Orifice	S3	0.4				
600 minute winter	FC6	Orifice	S3	0.2				
600 minute winter	FC7	Orifice	S5	0.4				
600 minute winter	STORAGE 1	6.000	S2	-1.6	-0.206	-0.269	0.0111	

Results for 100 year 600 minute winter. 840 minute analysis at 15 minute timestep. Mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute winter	STORAGE 2	435	7.517	0.317	1.8	11.6414	0.0000	SURCHARGED
600 minute winter	STORAGE 3	375	8.510	0.060	0.1	0.1815	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute winter	STORAGE 2	9.000	S3	-1.8	-0.339	-0.309	0.0244	
600 minute winter	STORAGE 3	3.000	S1	0.1	0.013	0.011	0.0559	

Results for 100 year 720 minute summer. 960 minute analysis at 15 minute timestep. Mass balance: 99.77%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute summer	S1	420	8.499	0.133	0.8	0.0212	0.0000	SURCHARGED
720 minute summer	S2	465	7.472	0.691	3.0	0.5018	0.0000	SURCHARGED
720 minute summer	S3	480	7.464	0.808	3.8	0.4175	0.0000	SURCHARGED
720 minute summer	S4	480	6.621	0.038	1.8	0.0060	0.0000	OK
720 minute summer	S5	450	6.526	0.246	2.0	0.2126	0.0000	SURCHARGED
720 minute summer	S6	375	6.271	0.029	3.2	0.0249	0.0000	OK
720 minute summer	OUTFALL	375	5.543	0.028	3.2	0.0000	0.0000	OK
720 minute summer	FC1	390	8.746	0.046	0.6	1.1266	0.0000	OK
720 minute summer	FC2	405	9.060	0.060	0.5	1.4553	0.0000	OK
720 minute summer	FC3	585	7.434	0.284	0.7	6.8355	0.0000	SURCHARGED
720 minute summer	FC4	585	7.434	0.284	0.7	6.8426	0.0000	SURCHARGED
720 minute summer	FC5	405	7.953	0.053	0.5	1.2799	0.0000	OK
720 minute summer	FC6	510	7.473	0.123	0.5	2.9572	0.0000	SURCHARGED
720 minute summer	FC7	450	6.532	0.097	0.5	0.5830	0.0000	OK
720 minute summer	STORAGE 1	465	7.472	0.627	1.9	11.4332	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute summer	S1	Orifice	S2	0.8				
720 minute summer	S2	Orifice	S3	1.7				
720 minute summer	S3	Orifice	S4	1.8				
720 minute summer	S4	1.004	S5	1.8	0.521	0.135	0.0646	
720 minute summer	S5	ACO Q-Brake	S6	2.0				
720 minute summer	S6	1.006	OUTFALL	3.2	1.403	0.076	0.0296	95.9
720 minute summer	FC1	Orifice	S1	0.5				
720 minute summer	FC2	Orifice	S1	0.4				
720 minute summer	FC3	Orifice	S2	0.3				
720 minute summer	FC4	Orifice	S2	0.3				
720 minute summer	FC5	Orifice	S3	0.4				
720 minute summer	FC6	Orifice	S3	0.2				
720 minute summer	FC7	Orifice	S5	0.4				
720 minute summer	STORAGE 1	6.000	S2	-1.9	-0.242	-0.314	0.0111	

Results for 100 year 720 minute summer. 960 minute analysis at 15 minute timestep. Mass balance: 99.77%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute summer	STORAGE 2	480	7.464	0.264	2.2	9.6863	0.0000	SURCHARGED
720 minute summer	STORAGE 3	420	8.499	0.049	0.1	0.1498	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute summer	STORAGE 2	9.000	S3	-2.2	-0.373	-0.366	0.0244	
720 minute summer	STORAGE 3	3.000	S1	0.1	0.015	0.011	0.0513	

Results for 100 year 720 minute winter. 960 minute analysis at 15 minute timestep. Mass balance: 99.72%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
720 minute winter	S1	435	8.481	0.115	0.7	0.0182	0.0000	SURCHARGED
720 minute winter	S2	495	7.507	0.726	2.5	0.5271	0.0000	SURCHARGED
720 minute winter	S3	510	7.498	0.842	3.1	0.4353	0.0000	SURCHARGED
720 minute winter	S4	540	6.621	0.038	1.8	0.0061	0.0000	OK
720 minute winter	S5	495	6.534	0.254	2.0	0.2199	0.0000	SURCHARGED
720 minute winter	S6	390	6.269	0.027	3.0	0.0239	0.0000	OK
720 minute winter	OUTFALL	390	5.542	0.027	3.0	0.0000	0.0000	OK
720 minute winter	FC1	420	8.739	0.039	0.4	0.9458	0.0000	OK
720 minute winter	FC2	420	9.055	0.055	0.4	1.3338	0.0000	OK
720 minute winter	FC3	600	7.485	0.335	0.6	8.0555	0.0000	SURCHARGED
720 minute winter	FC4	600	7.485	0.335	0.6	8.0643	0.0000	SURCHARGED
720 minute winter	FC5	405	7.947	0.047	0.4	1.1317	0.0000	OK
720 minute winter	FC6	555	7.504	0.154	0.4	3.7032	0.0000	SURCHARGED
720 minute winter	FC7	495	6.538	0.103	0.4	0.6211	0.0000	SURCHARGED
720 minute winter	STORAGE 1	495	7.507	0.662	1.5	12.0694	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m^3)	Discharge Vol (m^3)
720 minute winter	S1	Orifice	S2	0.7				
720 minute winter	S2	Orifice	S3	1.5				
720 minute winter	S3	Orifice	S4	1.8				
720 minute winter	S4	1.004	S5	1.8	0.524	0.138	0.0752	
720 minute winter	S5	ACO Q-Brake	S6	2.0				
720 minute winter	S6	1.006	OUTFALL	3.0	1.368	0.070	0.0278	103.3
720 minute winter	FC1	Orifice	S1	0.4				
720 minute winter	FC2	Orifice	S1	0.3				
720 minute winter	FC3	Orifice	S2	0.3				
720 minute winter	FC4	Orifice	S2	0.3				
720 minute winter	FC5	Orifice	S3	0.4				
720 minute winter	FC6	Orifice	S3	0.2				
720 minute winter	FC7	Orifice	S5	0.3				
720 minute winter	STORAGE 1	6.000	S2	-1.5	-0.197	-0.256	0.0111	

Results for 100 year 720 minute winter. 960 minute analysis at 15 minute timestep. Mass balance: 99.72%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute winter	STORAGE 2	510	7.498	0.298	1.4	10.9539	0.0000	SURCHARGED
720 minute winter	STORAGE 3	435	8.481	0.031	0.0	0.0926	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute winter	STORAGE 2	9.000	S3	-1.4	-0.309	-0.239	0.0244	
720 minute winter	STORAGE 3	3.000	S1	0.0	0.008	0.006	0.0433	

Results for 100 year 960 minute summer. 1200 minute analysis at 15 minute timestep. Mass balance: 99.97%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute summer	S1	540	8.478	0.112	0.7	0.0179	0.0000	SURCHARGED
960 minute summer	S2	600	7.444	0.663	2.6	0.4815	0.0000	SURCHARGED
960 minute summer	S3	600	7.436	0.780	3.3	0.4030	0.0000	SURCHARGED
960 minute summer	S4	615	6.620	0.037	1.8	0.0060	0.0000	OK
960 minute summer	S5	555	6.485	0.205	2.0	0.1775	0.0000	SURCHARGED
960 minute summer	S6	495	6.270	0.028	3.0	0.0241	0.0000	OK
960 minute summer	OUTFALL	495	5.542	0.027	3.0	0.0000	0.0000	OK
960 minute summer	FC1	510	8.740	0.040	0.5	0.9684	0.0000	OK
960 minute summer	FC2	540	9.053	0.053	0.4	1.2893	0.0000	OK
960 minute summer	FC3	705	7.422	0.272	0.6	6.5292	0.0000	SURCHARGED
960 minute summer	FC4	705	7.422	0.272	0.6	6.5363	0.0000	SURCHARGED
960 minute summer	FC5	540	7.946	0.046	0.4	1.1060	0.0000	OK
960 minute summer	FC6	630	7.454	0.104	0.4	2.4908	0.0000	SURCHARGED
960 minute summer	FC7	540	6.494	0.059	0.4	0.3536	0.0000	OK
960 minute summer	STORAGE 1	600	7.444	0.599	1.5	10.9246	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute summer	S1	Orifice	S2	0.7				
960 minute summer	S2	Orifice	S3	1.6				
960 minute summer	S3	Orifice	S4	1.8				
960 minute summer	S4	1.004	S5	1.8	0.519	0.132	0.0595	
960 minute summer	S5	ACO Q-Brake	S6	2.0				
960 minute summer	S6	1.006	OUTFALL	3.0	1.375	0.071	0.0282	105.7
960 minute summer	FC1	Orifice	S1	0.4				
960 minute summer	FC2	Orifice	S1	0.3				
960 minute summer	FC3	Orifice	S2	0.3				
960 minute summer	FC4	Orifice	S2	0.3				
960 minute summer	FC5	Orifice	S3	0.3				
960 minute summer	FC6	Orifice	S3	0.2				
960 minute summer	FC7	Orifice	S5	0.4				
960 minute summer	STORAGE 1	6.000	S2	-1.5	0.295	-0.253	0.0111	

Results for 100 year 960 minute summer. 1200 minute analysis at 15 minute timestep. Mass balance: 99.97%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute summer	STORAGE 2	615	7.436	0.236	1.7	8.6574	0.0000	SURCHARGED
960 minute summer	STORAGE 3	540	8.478	0.028	0.0	0.0861	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute summer	STORAGE 2	9.000	S3	-1.7	-0.316	-0.290	0.0244	
960 minute summer	STORAGE 3	3.000	S1	0.0	-0.010	0.007	0.0424	

Results for 100 year 960 minute winter. 1200 minute analysis at 15 minute timestep. Mass balance: 99.84%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute winter	S1	525	8.451	0.085	0.6	0.0135	0.0000	OK
960 minute winter	S2	645	7.460	0.679	2.1	0.4926	0.0000	SURCHARGED
960 minute winter	S3	645	7.452	0.796	2.7	0.4114	0.0000	SURCHARGED
960 minute winter	S4	645	6.621	0.038	1.8	0.0060	0.0000	OK
960 minute winter	S5	630	6.483	0.203	2.0	0.1760	0.0000	SURCHARGED
960 minute winter	S6	525	6.268	0.026	2.7	0.0229	0.0000	OK
960 minute winter	OUTFALL	525	5.541	0.026	2.7	0.0000	0.0000	OK
960 minute winter	FC1	510	8.734	0.034	0.4	0.8195	0.0000	OK
960 minute winter	FC2	570	9.044	0.044	0.3	1.0749	0.0000	OK
960 minute winter	FC3	735	7.458	0.308	0.5	7.3892	0.0000	SURCHARGED
960 minute winter	FC4	735	7.457	0.307	0.5	7.3983	0.0000	SURCHARGED
960 minute winter	FC5	570	7.937	0.037	0.3	0.8996	0.0000	OK
960 minute winter	FC6	690	7.466	0.116	0.3	2.7975	0.0000	SURCHARGED
960 minute winter	FC7	570	6.490	0.055	0.3	0.3276	0.0000	OK
960 minute winter	STORAGE 1	645	7.460	0.615	1.1	11.2041	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute winter	S1	Orifice	S2	0.6				
960 minute winter	S2	Orifice	S3	1.3				
960 minute winter	S3	Orifice	S4	1.8				
960 minute winter	S4	1.004	S5	1.8	0.520	0.134	0.0600	
960 minute winter	S5	ACO Q-Brake	S6	2.0				
960 minute winter	S6	1.006	OUTFALL	2.7	1.336	0.064	0.0262	119.5
960 minute winter	FC1	Orifice	S1	0.3				
960 minute winter	FC2	Orifice	S1	0.3				
960 minute winter	FC3	Orifice	S2	0.3				
960 minute winter	FC4	Orifice	S2	0.3				
960 minute winter	FC5	Orifice	S3	0.3				
960 minute winter	FC6	Orifice	S3	0.2				
960 minute winter	FC7	Orifice	S5	0.3				
960 minute winter	STORAGE 1	6.000	S2	-1.1	-0.140	-0.183	0.0111	

Results for 100 year 960 minute winter. 1200 minute analysis at 15 minute timestep. Mass balance: 99.84%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute winter	STORAGE 2	645	7.452	0.252	1.1	9.2518	0.0000	SURCHARGED
960 minute winter	STORAGE 3	525	8.451	0.001	0.0	0.0032	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute winter	STORAGE 2	9.000	S3	-1.1	-0.280	-0.181	0.0244	
960 minute winter	STORAGE 3	3.000	S1	0.0	-0.002	-0.001	0.0312	

Results for 100 year 1440 minute summer. 1680 minute analysis at 30 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute summer	S1	780	8.445	0.079	0.6	0.0125	0.0000	OK
1440 minute summer	S2	870	7.380	0.599	1.9	0.4348	0.0000	SURCHARGED
1440 minute summer	S3	870	7.372	0.716	2.7	0.3702	0.0000	SURCHARGED
1440 minute summer	S4	870	6.620	0.037	1.7	0.0058	0.0000	OK
1440 minute summer	S5	840	6.445	0.165	1.9	0.1429	0.0000	SURCHARGED
1440 minute summer	S6	750	6.268	0.026	2.7	0.0226	0.0000	OK
1440 minute summer	OUTFALL	750	5.540	0.025	2.7	0.0000	0.0000	OK
1440 minute summer	FC1	780	8.731	0.031	0.3	0.7642	0.0000	OK
1440 minute summer	FC2	780	9.042	0.042	0.3	1.0071	0.0000	OK
1440 minute summer	FC3	960	7.381	0.231	0.4	5.5407	0.0000	SURCHARGED
1440 minute summer	FC4	960	7.381	0.231	0.4	5.5477	0.0000	SURCHARGED
1440 minute summer	FC5	780	7.936	0.036	0.3	0.8711	0.0000	OK
1440 minute summer	FC6	840	7.423	0.073	0.3	1.7651	0.0000	OK
1440 minute summer	FC7	750	6.467	0.032	0.3	0.1934	0.0000	OK
1440 minute summer	STORAGE 1	870	7.380	0.535	1.0	9.7515	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute summer	S1	Orifice	S2	0.6				
1440 minute summer	S2	Orifice	S3	1.4				
1440 minute summer	S3	Orifice	S4	1.7				
1440 minute summer	S4	1.004	S5	1.7	0.513	0.127	0.0577	
1440 minute summer	S5	ACO Q-Brake	S6	1.9				
1440 minute summer	S6	1.006	OUTFALL	2.7	1.325	0.062	0.0257	113.2
1440 minute summer	FC1	Orifice	S1	0.3				
1440 minute summer	FC2	Orifice	S1	0.3				
1440 minute summer	FC3	Orifice	S2	0.2				
1440 minute summer	FC4	Orifice	S2	0.2				
1440 minute summer	FC5	Orifice	S3	0.3				
1440 minute summer	FC6	Orifice	S3	0.2				
1440 minute summer	FC7	Orifice	S5	0.3				
1440 minute summer	STORAGE 1	6.000	S2	-1.0	0.332	-0.171	0.0111	

Results for 100 year 1440 minute summer. 1680 minute analysis at 30 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute summer	STORAGE 2	870	7.372	0.172	1.1	6.3259	0.0000	SURCHARGED
1440 minute summer	STORAGE 3	30	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute summer	STORAGE 2	9.000	S3	-1.1	-0.269	-0.192	0.0244	
1440 minute summer	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0290	

Results for 100 year 1440 minute winter. 1680 minute analysis at 30 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
1440 minute winter	S1	750	8.425	0.059	0.5	0.0094	0.0000	OK
1440 minute winter	S2	930	7.381	0.600	1.6	0.4356	0.0000	SURCHARGED
1440 minute winter	S3	960	7.372	0.716	2.1	0.3703	0.0000	SURCHARGED
1440 minute winter	S4	960	6.620	0.037	1.7	0.0058	0.0000	OK
1440 minute winter	S5	870	6.442	0.162	1.9	0.1403	0.0000	SURCHARGED
1440 minute winter	S6	780	6.267	0.025	2.4	0.0215	0.0000	OK
1440 minute winter	OUTFALL	780	5.539	0.024	2.4	0.0000	0.0000	OK
1440 minute winter	FC1	750	8.730	0.030	0.3	0.7284	0.0000	OK
1440 minute winter	FC2	900	9.029	0.029	0.2	0.6987	0.0000	OK
1440 minute winter	FC3	1020	7.391	0.241	0.3	5.7845	0.0000	SURCHARGED
1440 minute winter	FC4	1020	7.391	0.241	0.3	5.7930	0.0000	SURCHARGED
1440 minute winter	FC5	900	7.927	0.027	0.2	0.6481	0.0000	OK
1440 minute winter	FC6	870	7.419	0.069	0.2	1.6612	0.0000	OK
1440 minute winter	FC7	870	6.460	0.025	0.2	0.1503	0.0000	OK
1440 minute winter	STORAGE 1	930	7.381	0.536	0.9	9.7727	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m^3)	Discharge Vol (m^3)
1440 minute winter	S1	Orifice	S2	0.5				
1440 minute winter	S2	Orifice	S3	1.2				
1440 minute winter	S3	Orifice	S4	1.7				
1440 minute winter	S4	1.004	S5	1.7	0.513	0.127	0.0577	
1440 minute winter	S5	ACO Q-Brake	S6	1.9				
1440 minute winter	S6	1.006	OUTFALL	2.4	1.287	0.056	0.0239	127.4
1440 minute winter	FC1	Orifice	S1	0.3				
1440 minute winter	FC2	Orifice	S1	0.2				
1440 minute winter	FC3	Orifice	S2	0.2				
1440 minute winter	FC4	Orifice	S2	0.2				
1440 minute winter	FC5	Orifice	S3	0.2				
1440 minute winter	FC6	Orifice	S3	0.2				
1440 minute winter	FC7	Orifice	S5	0.2				
1440 minute winter	STORAGE 1	6.000	S2	-0.9	0.307	-0.148	0.0111	

Results for 100 year 1440 minute winter. 1680 minute analysis at 30 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute winter	STORAGE 2	960	7.372	0.172	0.6	6.3319	0.0000	SURCHARGED
1440 minute winter	STORAGE 3	30	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute winter	STORAGE 2	9.000	S3	-0.6	0.277	-0.101	0.0244	
1440 minute winter	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0212	

Results for 100 year +20% CC 15 minute summer. 255 minute analysis at 1 minute timestep. Mass balance: 99.25%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1	56	8.536	0.170	1.1	0.0270	0.0000	SURCHARGED
15 minute summer	S2	38	7.422	0.641	9.4	0.4652	0.0000	SURCHARGED
15 minute summer	S3	52	7.358	0.702	7.3	0.3631	0.0000	SURCHARGED
15 minute summer	S4	45	6.627	0.044	1.7	0.0070	0.0000	OK
15 minute summer	S5	45	6.626	0.346	2.2	0.2995	0.0000	SURCHARGED
15 minute summer	S6	26	6.279	0.037	5.4	0.0324	0.0000	OK
15 minute summer	OUTFALL	26	5.551	0.036	5.4	0.0000	0.0000	OK
15 minute summer	FC1	38	8.777	0.077	1.5	1.8809	0.0000	OK
15 minute summer	FC2	38	9.081	0.081	1.4	1.9668	0.0000	OK
15 minute summer	FC3	124	7.298	0.148	1.7	3.5470	0.0000	SURCHARGED
15 minute summer	FC4	124	7.297	0.147	1.7	3.5490	0.0000	SURCHARGED
15 minute summer	FC5	38	7.978	0.078	1.4	1.8846	0.0000	OK
15 minute summer	FC6	40	7.435	0.085	1.3	2.0532	0.0000	OK
15 minute summer	FC7	38	6.643	0.208	1.3	1.2469	0.0000	SURCHARGED
15 minute summer	STORAGE 1	38	7.422	0.577	8.9	10.5227	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S1	Orifice	S2	0.9				
15 minute summer	S2	Orifice	S3	3.0				
15 minute summer	S3	Orifice	S4	1.7				
15 minute summer	S4	1.004	S5	1.7	0.508	0.129	0.1901	
15 minute summer	S5	ACO Q-Brake	S6	2.0				
15 minute summer	S6	1.006	OUTFALL	5.4	1.622	0.127	0.0428	31.1
15 minute summer	FC1	Orifice	S1	0.7				
15 minute summer	FC2	Orifice	S1	0.4				
15 minute summer	FC3	Orifice	S2	0.2				
15 minute summer	FC4	Orifice	S2	0.2				
15 minute summer	FC5	Orifice	S3	0.5				
15 minute summer	FC6	Orifice	S3	0.2				
15 minute summer	FC7	Orifice	S5	0.7				
15 minute summer	STORAGE 1	6.000	S2	-8.9	-1.312	-1.480	0.0111	

Results for 100 year +20% CC 15 minute summer. 255 minute analysis at 1 minute timestep. Mass balance: 99.25%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	STORAGE 2	52	7.358	0.158	5.6	5.8251	0.0000	SURCHARGED
15 minute summer	STORAGE 3	56	8.536	0.086	0.2	0.2609	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	STORAGE 2	9.000	S3	-5.6	-0.846	-0.950	0.0244	
15 minute summer	STORAGE 3	3.000	S1	-0.2	-0.047	-0.039	0.0659	

Results for 100 year +20% CC 15 minute winter. 255 minute analysis at 1 minute timestep. Mass balance: 98.71%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S1	58	8.561	0.195	1.2	0.0310	0.0000	SURCHARGED
15 minute winter	S2	38	7.467	0.686	10.4	0.4981	0.0000	SURCHARGED
15 minute winter	S3	53	7.396	0.740	8.1	0.3824	0.0000	SURCHARGED
15 minute winter	S4	177	6.783	0.200	1.7	0.0318	0.0000	SURCHARGED
15 minute winter	S5	177	6.782	0.502	2.3	0.4347	0.0000	SURCHARGED
15 minute winter	S6	24	6.281	0.039	5.8	0.0336	0.0000	OK
15 minute winter	OUTFALL	24	5.552	0.037	5.8	0.0000	0.0000	OK
15 minute winter	FC1	38	8.788	0.088	1.7	2.1397	0.0000	OK
15 minute winter	FC2	39	9.092	0.092	1.6	2.2230	0.0000	OK
15 minute winter	FC3	140	7.322	0.172	1.9	4.1363	0.0000	SURCHARGED
15 minute winter	FC4	140	7.322	0.172	1.9	4.1389	0.0000	SURCHARGED
15 minute winter	FC5	38	7.988	0.088	1.6	2.1283	0.0000	OK
15 minute winter	FC6	41	7.445	0.095	1.4	2.2742	0.0000	OK
15 minute winter	FC7	178	6.782	0.347	1.4	2.0820	0.0000	SURCHARGED
15 minute winter	STORAGE 1	38	7.467	0.622	9.9	11.3484	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	S1	Orifice	S2	1.0				
15 minute winter	S2	Orifice	S3	3.1				
15 minute winter	S3	Orifice	S4	1.7				
15 minute winter	S4	1.004	S5	1.7	0.503	0.128	0.3100	
15 minute winter	S5	ACO Q-Brake	S6	2.0				
15 minute winter	S6	1.006	OUTFALL	5.8	1.654	0.136	0.0450	28.9
15 minute winter	FC1	Orifice	S1	0.7				
15 minute winter	FC2	Orifice	S1	0.5				
15 minute winter	FC3	Orifice	S2	0.2				
15 minute winter	FC4	Orifice	S2	0.2				
15 minute winter	FC5	Orifice	S3	0.5				
15 minute winter	FC6	Orifice	S3	0.2				
15 minute winter	FC7	Orifice	S5	0.7				
15 minute winter	STORAGE 1	6.000	S2	-9.9	-1.367	-1.640	0.0111	

Results for 100 year +20% CC 15 minute winter. 255 minute analysis at 1 minute timestep. Mass balance: 98.71%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	STORAGE 2	53	7.396	0.196	6.3	7.1926	0.0000	SURCHARGED
15 minute winter	STORAGE 3	58	8.561	0.111	0.3	0.3368	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	STORAGE 2	9.000	S3	-6.3	-0.892	-1.065	0.0244	
15 minute winter	STORAGE 3	3.000	S1	-0.3	-0.055	-0.045	0.0687	

Results for 100 year +20% CC 30 minute summer. 270 minute analysis at 1 minute timestep. Mass balance: 98.77%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute summer	S1	69	8.598	0.232	1.3	0.0370	0.0000	SURCHARGED
30 minute summer	S2	46	7.528	0.747	10.9	0.5424	0.0000	SURCHARGED
30 minute summer	S3	64	7.457	0.801	8.7	0.4143	0.0000	SURCHARGED
30 minute summer	S4	148	6.837	0.254	1.7	0.0403	0.0000	SURCHARGED
30 minute summer	S5	148	6.835	0.555	2.3	0.4808	0.0000	SURCHARGED
30 minute summer	S6	30	6.283	0.041	6.6	0.0360	0.0000	OK
30 minute summer	OUTFALL	30	5.555	0.040	6.6	0.0000	0.0000	OK
30 minute summer	FC1	46	8.802	0.102	2.0	2.4747	0.0000	SURCHARGED
30 minute summer	FC2	47	9.105	0.105	1.9	2.5301	0.0000	SURCHARGED
30 minute summer	FC3	171	7.362	0.212	2.1	5.0967	0.0000	SURCHARGED
30 minute summer	FC4	171	7.362	0.212	2.1	5.0999	0.0000	SURCHARGED
30 minute summer	FC5	47	8.000	0.100	1.9	2.4163	0.0000	OK
30 minute summer	FC6	57	7.464	0.114	1.7	2.7406	0.0000	SURCHARGED
30 minute summer	FC7	148	6.835	0.400	1.7	2.4019	0.0000	SURCHARGED
30 minute summer	STORAGE 1	46	7.528	0.683	10.2	12.4593	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute summer	S1	Orifice	S2	1.1				
30 minute summer	S2	Orifice	S3	3.3				
30 minute summer	S3	Orifice	S4	1.7				
30 minute summer	S4	1.004	S5	1.7	0.505	0.128	0.3100	
30 minute summer	S5	ACO Q-Brake	S6	2.0				
30 minute summer	S6	1.006	OUTFALL	6.6	1.713	0.155	0.0494	31.6
30 minute summer	FC1	Orifice	S1	0.8				
30 minute summer	FC2	Orifice	S1	0.5				
30 minute summer	FC3	Orifice	S2	0.2				
30 minute summer	FC4	Orifice	S2	0.2				
30 minute summer	FC5	Orifice	S3	0.6				
30 minute summer	FC6	Orifice	S3	0.2				
30 minute summer	FC7	Orifice	S5	0.7				
30 minute summer	STORAGE 1	6.000	S2	-10.2	-1.304	-1.698	0.0111	

Results for 100 year +20% CC 30 minute summer. 270 minute analysis at 1 minute timestep. Mass balance: 98.77%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute summer	STORAGE 2	64	7.457	0.257	6.9	9.4589	0.0000	SURCHARGED
30 minute summer	STORAGE 3	69	8.598	0.148	0.3	0.4501	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute summer	STORAGE 2	9.000	S3	-6.9	-1.001	-1.163	0.0244	
30 minute summer	STORAGE 3	3.000	S1	-0.3	-0.058	-0.051	0.0687	

Results for 100 year +20% CC 30 minute winter. 270 minute analysis at 1 minute timestep. Mass balance: 98.81%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute winter	S1	71	8.629	0.263	1.4	0.0419	0.0000	SURCHARGED
30 minute winter	S2	47	7.590	0.809	11.7	0.5871	0.0000	SURCHARGED
30 minute winter	S3	65	7.506	0.850	9.6	0.4396	0.0000	SURCHARGED
30 minute winter	S4	140	6.867	0.284	1.8	0.0452	0.0000	SURCHARGED
30 minute winter	S5	141	6.866	0.586	2.4	0.5073	0.0000	SURCHARGED
30 minute winter	S6	30	6.285	0.043	7.1	0.0374	0.0000	OK
30 minute winter	OUTFALL	30	5.556	0.041	7.1	0.0000	0.0000	OK
30 minute winter	FC1	47	8.814	0.114	2.3	2.7680	0.0000	SURCHARGED
30 minute winter	FC2	49	9.119	0.119	2.1	2.8734	0.0000	SURCHARGED
30 minute winter	FC3	185	7.395	0.245	2.4	5.8885	0.0000	SURCHARGED
30 minute winter	FC4	185	7.395	0.245	2.4	5.8922	0.0000	SURCHARGED
30 minute winter	FC5	48	8.013	0.113	2.1	2.7398	0.0000	SURCHARGED
30 minute winter	FC6	91	7.492	0.142	1.9	3.4094	0.0000	SURCHARGED
30 minute winter	FC7	141	6.866	0.431	1.9	2.5854	0.0000	SURCHARGED
30 minute winter	STORAGE 1	47	7.590	0.745	10.9	13.5797	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute winter	S1	Orifice	S2	1.1				
30 minute winter	S2	Orifice	S3	3.6				
30 minute winter	S3	Orifice	S4	1.8				
30 minute winter	S4	1.004	S5	1.7	0.506	0.129	0.3100	
30 minute winter	S5	ACO Q-Brake	S6	2.0				
30 minute winter	S6	1.006	OUTFALL	7.1	1.749	0.167	0.0521	33.1
30 minute winter	FC1	Orifice	S1	0.8				
30 minute winter	FC2	Orifice	S1	0.5				
30 minute winter	FC3	Orifice	S2	0.2				
30 minute winter	FC4	Orifice	S2	0.2				
30 minute winter	FC5	Orifice	S3	0.6				
30 minute winter	FC6	Orifice	S3	0.2				
30 minute winter	FC7	Orifice	S5	0.7				
30 minute winter	STORAGE 1	6.000	S2	-10.9	-1.392	-1.812	0.0111	

Results for 100 year +20% CC 30 minute winter. 270 minute analysis at 1 minute timestep. Mass balance: 98.81%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute winter	STORAGE 2	65	7.506	0.306	7.7	11.2583	0.0000	SURCHARGED
30 minute winter	STORAGE 3	71	8.629	0.179	0.3	0.5436	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute winter	STORAGE 2	9.000	S3	-7.7	-1.067	-1.296	0.0244	
30 minute winter	STORAGE 3	3.000	S1	-0.3	-0.061	-0.058	0.0687	

Results for 100 year +20% CC 60 minute summer. 300 minute analysis at 1 minute timestep. Mass balance: 98.89%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute summer	S1	90	8.656	0.290	1.4	0.0461	0.0000	SURCHARGED
60 minute summer	S2	64	7.617	0.836	10.8	0.6072	0.0000	SURCHARGED
60 minute summer	S3	88	7.557	0.901	9.4	0.4660	0.0000	SURCHARGED
60 minute summer	S4	152	6.897	0.314	1.8	0.0499	0.0000	SURCHARGED
60 minute summer	S5	151	6.895	0.615	2.4	0.5328	0.0000	SURCHARGED
60 minute summer	S6	42	6.283	0.041	6.6	0.0360	0.0000	OK
60 minute summer	OUTFALL	42	5.555	0.040	6.6	0.0000	0.0000	OK
60 minute summer	FC1	63	8.818	0.118	2.1	2.8739	0.0000	SURCHARGED
60 minute summer	FC2	66	9.125	0.125	1.9	3.0182	0.0000	SURCHARGED
60 minute summer	FC3	214	7.430	0.280	2.2	6.7247	0.0000	SURCHARGED
60 minute summer	FC4	214	7.430	0.280	2.2	6.7288	0.0000	SURCHARGED
60 minute summer	FC5	65	8.018	0.118	1.9	2.8594	0.0000	SURCHARGED
60 minute summer	FC6	136	7.523	0.173	1.7	4.1591	0.0000	SURCHARGED
60 minute summer	FC7	151	6.895	0.460	1.7	2.7624	0.0000	SURCHARGED
60 minute summer	STORAGE 1	64	7.617	0.772	9.9	14.0821	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute summer	S1	Orifice	S2	1.2				
60 minute summer	S2	Orifice	S3	3.6				
60 minute summer	S3	Orifice	S4	1.8				
60 minute summer	S4	1.004	S5	1.7	0.506	0.130	0.3100	
60 minute summer	S5	ACO Q-Brake	S6	2.0				
60 minute summer	S6	1.006	OUTFALL	6.6	1.714	0.155	0.0494	37.1
60 minute summer	FC1	Orifice	S1	0.9				
60 minute summer	FC2	Orifice	S1	0.5				
60 minute summer	FC3	Orifice	S2	0.2				
60 minute summer	FC4	Orifice	S2	0.2				
60 minute summer	FC5	Orifice	S3	0.6				
60 minute summer	FC6	Orifice	S3	0.2				
60 minute summer	FC7	Orifice	S5	0.7				
60 minute summer	STORAGE 1	6.000	S2	-9.9	-1.267	-1.649	0.0111	

Results for 100 year +20% CC 60 minute summer. 300 minute analysis at 1 minute timestep. Mass balance: 98.89%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute summer	STORAGE 2	88	7.557	0.357	7.5	13.1376	0.0000	SURCHARGED
60 minute summer	STORAGE 3	90	8.656	0.206	0.3	0.6247	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute summer	STORAGE 2	9.000	S3	-7.5	-1.022	-1.262	0.0244	
60 minute summer	STORAGE 3	3.000	S1	-0.3	-0.059	-0.056	0.0687	

Results for 100 year +20% CC 60 minute winter. 300 minute analysis at 1 minute timestep. Mass balance: 98.93%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute winter	S1	92	8.693	0.327	1.5	0.0521	0.0000	SURCHARGED
60 minute winter	S2	62	7.823	1.042	10.7	0.7566	0.0000	SURCHARGED
60 minute winter	S3	87	7.621	0.965	10.1	0.4989	0.0000	SURCHARGED
60 minute winter	S4	132	6.937	0.354	1.8	0.0563	0.0000	SURCHARGED
60 minute winter	S5	132	6.935	0.655	2.4	0.5676	0.0000	SURCHARGED
60 minute winter	S6	45	6.285	0.043	7.2	0.0376	0.0000	OK
60 minute winter	OUTFALL	45	5.557	0.042	7.2	0.0000	0.0000	OK
60 minute winter	FC1	65	8.833	0.133	2.3	3.2233	0.0000	SURCHARGED
60 minute winter	FC2	68	9.140	0.140	2.1	3.3740	0.0000	SURCHARGED
60 minute winter	FC3	229	7.470	0.320	2.4	7.6772	0.0000	SURCHARGED
60 minute winter	FC4	229	7.469	0.319	2.4	7.6821	0.0000	SURCHARGED
60 minute winter	FC5	66	8.032	0.132	2.1	3.1889	0.0000	SURCHARGED
60 minute winter	FC6	159	7.562	0.212	1.9	5.0936	0.0000	SURCHARGED
60 minute winter	FC7	133	6.935	0.500	1.9	3.0036	0.0000	SURCHARGED
60 minute winter	STORAGE 1	62	7.823	0.978	9.8	14.7949	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute winter	S1	Orifice	S2	1.3				
60 minute winter	S2	Orifice	S3	5.3				
60 minute winter	S3	Orifice	S4	1.8				
60 minute winter	S4	1.004	S5	1.7	0.506	0.130	0.3100	
60 minute winter	S5	ACO Q-Brake	S6	2.0				
60 minute winter	S6	1.006	OUTFALL	7.2	1.752	0.168	0.0524	39.1
60 minute winter	FC1	Orifice	S1	0.9				
60 minute winter	FC2	Orifice	S1	0.6				
60 minute winter	FC3	Orifice	S2	0.2				
60 minute winter	FC4	Orifice	S2	0.2				
60 minute winter	FC5	Orifice	S3	0.7				
60 minute winter	FC6	Orifice	S3	0.2				
60 minute winter	FC7	Orifice	S5	0.7				
60 minute winter	STORAGE 1	6.000	S2	-9.8	-1.252	-1.630	0.0111	

Results for 100 year +20% CC 60 minute winter. 300 minute analysis at 1 minute timestep. Mass balance: 98.93%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute winter	STORAGE 2	86	7.621	0.421	8.2	15.4790	0.0000	SURCHARGED
60 minute winter	STORAGE 3	92	8.693	0.243	0.4	0.7378	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute winter	STORAGE 2	9.000	S3	-8.2	-1.095	-1.377	0.0244	
60 minute winter	STORAGE 3	3.000	S1	-0.4	-0.057	-0.061	0.0687	

Results for 100 year +20% CC 120 minute summer. 360 minute analysis at 2 minute timestep. Mass balance: 99.01%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute summer	S1	126	8.667	0.301	1.4	0.0479	0.0000	SURCHARGED
120 minute summer	S2	132	7.630	0.849	8.4	0.6163	0.0000	SURCHARGED
120 minute summer	S3	140	7.619	0.963	8.9	0.4977	0.0000	SURCHARGED
120 minute summer	S4	172	6.940	0.357	1.8	0.0567	0.0000	SURCHARGED
120 minute summer	S5	174	6.938	0.658	2.3	0.5697	0.0000	SURCHARGED
120 minute summer	S6	72	6.282	0.040	6.1	0.0345	0.0000	OK
120 minute summer	OUTFALL	74	5.553	0.038	6.1	0.0000	0.0000	OK
120 minute summer	FC1	96	8.813	0.113	1.8	2.7406	0.0000	SURCHARGED
120 minute summer	FC2	102	9.126	0.126	1.7	3.0379	0.0000	SURCHARGED
120 minute summer	FC3	262	7.479	0.329	2.0	7.8959	0.0000	SURCHARGED
120 minute summer	FC4	264	7.478	0.328	2.0	7.9012	0.0000	SURCHARGED
120 minute summer	FC5	98	8.017	0.117	1.7	2.8322	0.0000	SURCHARGED
120 minute summer	FC6	198	7.566	0.216	1.5	5.1945	0.0000	SURCHARGED
120 minute summer	FC7	174	6.938	0.503	1.5	3.0178	0.0000	SURCHARGED
120 minute summer	STORAGE 1	132	7.630	0.785	7.1	14.3108	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute summer	S1	Orifice	S2	1.2				
120 minute summer	S2	Orifice	S3	3.5				
120 minute summer	S3	Orifice	S4	1.8				
120 minute summer	S4	1.004	S5	1.7	0.506	0.131	0.3100	
120 minute summer	S5	ACO Q-Brake	S6	2.0				
120 minute summer	S6	1.006	OUTFALL	6.1	1.677	0.143	0.0467	44.5
120 minute summer	FC1	Orifice	S1	0.8				
120 minute summer	FC2	Orifice	S1	0.5				
120 minute summer	FC3	Orifice	S2	0.2				
120 minute summer	FC4	Orifice	S2	0.2				
120 minute summer	FC5	Orifice	S3	0.6				
120 minute summer	FC6	Orifice	S3	0.2				
120 minute summer	FC7	Orifice	S5	0.6				
120 minute summer	STORAGE 1	6.000	S2	-7.1	-0.911	-1.186	0.0111	

Results for 100 year +20% CC 120 minute summer. 360 minute analysis at 2 minute timestep. Mass balance: 99.01%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute summer	STORAGE 2	140	7.619	0.419	7.0	15.3910	0.0000	SURCHARGED
120 minute summer	STORAGE 3	126	8.667	0.217	0.3	0.6589	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute summer	STORAGE 2	9.000	S3	-7.0	-0.956	-1.174	0.0244	
120 minute summer	STORAGE 3	3.000	S1	-0.3	-0.041	-0.050	0.0687	

Results for 100 year +20% CC 120 minute winter. 360 minute analysis at 2 minute timestep. Mass balance: 99.03%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
120 minute winter	S1	130	8.703	0.337	1.4	0.0535	0.0000	SURCHARGED
120 minute winter	S2	96	7.786	1.005	8.3	0.7298	0.0000	SURCHARGED
120 minute winter	S3	136	7.713	1.057	8.8	0.5466	0.0000	SURCHARGED
120 minute winter	S4	152	6.992	0.409	1.8	0.0651	0.0000	SURCHARGED
120 minute winter	S5	154	6.990	0.710	2.3	0.6152	0.0000	SURCHARGED
120 minute winter	S6	74	6.282	0.040	6.1	0.0344	0.0000	OK
120 minute winter	OUTFALL	74	5.553	0.038	6.1	0.0000	0.0000	OK
120 minute winter	FC1	98	8.822	0.122	1.8	2.9536	0.0000	SURCHARGED
120 minute winter	FC2	106	9.137	0.137	1.7	3.3184	0.0000	SURCHARGED
120 minute winter	FC3	276	7.525	0.375	2.0	9.0012	0.0000	SURCHARGED
120 minute winter	FC4	276	7.524	0.374	2.0	9.0070	0.0000	SURCHARGED
120 minute winter	FC5	102	8.026	0.126	1.7	3.0641	0.0000	SURCHARGED
120 minute winter	FC6	216	7.610	0.260	1.5	6.2613	0.0000	SURCHARGED
120 minute winter	FC7	154	6.990	0.555	1.5	3.3332	0.0000	SURCHARGED
120 minute winter	STORAGE 1	96	7.786	0.941	6.5	14.7531	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m^3)	Discharge Vol (m^3)
120 minute winter	S1	Orifice	S2	1.3				
120 minute winter	S2	Orifice	S3	4.6				
120 minute winter	S3	Orifice	S4	1.8				
120 minute winter	S4	1.004	S5	1.7	0.505	0.130	0.3100	
120 minute winter	S5	ACO Q-Brake	S6	2.0				
120 minute winter	S6	1.006	OUTFALL	6.1	1.674	0.142	0.0465	46.9
120 minute winter	FC1	Orifice	S1	0.9				
120 minute winter	FC2	Orifice	S1	0.6				
120 minute winter	FC3	Orifice	S2	0.2				
120 minute winter	FC4	Orifice	S2	0.2				
120 minute winter	FC5	Orifice	S3	0.7				
120 minute winter	FC6	Orifice	S3	0.2				
120 minute winter	FC7	Orifice	S5	0.6				
120 minute winter	STORAGE 1	6.000	S2	-6.5	-0.825	-1.074	0.0111	

Results for 100 year +20% CC 120 minute winter. 360 minute analysis at 2 minute timestep. Mass balance: 99.03%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute winter	STORAGE 2	136	7.713	0.513	6.9	18.8673	0.0000	SURCHARGED
120 minute winter	STORAGE 3	130	8.703	0.253	0.3	0.7661	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute winter	STORAGE 2	9.000	S3	-6.9	-0.898	-1.166	0.0244	
120 minute winter	STORAGE 3	3.000	S1	-0.3	-0.039	-0.050	0.0687	

Results for 100 year +20% CC 180 minute summer. 420 minute analysis at 4 minute timestep. Mass balance: 99.08%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute summer	S1	160	8.656	0.290	1.3	0.0461	0.0000	SURCHARGED
180 minute summer	S2	184	7.649	0.868	7.2	0.6302	0.0000	SURCHARGED
180 minute summer	S3	192	7.638	0.982	8.0	0.5078	0.0000	SURCHARGED
180 minute summer	S4	204	6.962	0.379	1.8	0.0602	0.0000	SURCHARGED
180 minute summer	S5	204	6.960	0.680	2.3	0.5886	0.0000	SURCHARGED
180 minute summer	S6	104	6.280	0.038	5.5	0.0327	0.0000	OK
180 minute summer	OUTFALL	104	5.551	0.036	5.5	0.0000	0.0000	OK
180 minute summer	FC1	128	8.805	0.105	1.5	2.5422	0.0000	SURCHARGED
180 minute summer	FC2	136	9.120	0.120	1.4	2.8973	0.0000	SURCHARGED
180 minute summer	FC3	304	7.505	0.355	1.7	8.5246	0.0000	SURCHARGED
180 minute summer	FC4	304	7.504	0.354	1.7	8.5307	0.0000	SURCHARGED
180 minute summer	FC5	132	8.010	0.110	1.4	2.6648	0.0000	SURCHARGED
180 minute summer	FC6	248	7.584	0.234	1.3	5.6370	0.0000	SURCHARGED
180 minute summer	FC7	204	6.960	0.525	1.3	3.1492	0.0000	SURCHARGED
180 minute summer	STORAGE 1	184	7.649	0.804	5.1	14.5980	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute summer	S1	Orifice	S2	1.2				
180 minute summer	S2	Orifice	S3	3.2				
180 minute summer	S3	Orifice	S4	1.8				
180 minute summer	S4	1.004	S5	1.7	0.504	0.132	0.3100	
180 minute summer	S5	ACO Q-Brake	S6	2.0				
180 minute summer	S6	1.006	OUTFALL	5.5	1.629	0.129	0.0433	50.8
180 minute summer	FC1	Orifice	S1	0.8				
180 minute summer	FC2	Orifice	S1	0.5				
180 minute summer	FC3	Orifice	S2	0.2				
180 minute summer	FC4	Orifice	S2	0.2				
180 minute summer	FC5	Orifice	S3	0.6				
180 minute summer	FC6	Orifice	S3	0.2				
180 minute summer	FC7	Orifice	S5	0.6				
180 minute summer	STORAGE 1	6.000	S2	-5.1	-0.646	-0.841	0.0111	

Results for 100 year +20% CC 180 minute summer. 420 minute analysis at 4 minute timestep. Mass balance: 99.08%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute summer	STORAGE 2	192	7.638	0.438	6.1	16.1075	0.0000	SURCHARGED
180 minute summer	STORAGE 3	160	8.656	0.206	0.3	0.6234	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute summer	STORAGE 2	9.000	S3	-6.1	-0.830	-1.027	0.0244	
180 minute summer	STORAGE 3	3.000	S1	-0.3	-0.035	-0.043	0.0687	

Results for 100 year +20% CC 180 minute winter. 420 minute analysis at 4 minute timestep. Mass balance: 99.10%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute winter	S1	164	8.689	0.323	1.4	0.0514	0.0000	SURCHARGED
180 minute winter	S2	180	7.761	0.980	6.8	0.7115	0.0000	SURCHARGED
180 minute winter	S3	188	7.748	1.092	7.5	0.5644	0.0000	SURCHARGED
180 minute winter	S4	200	7.019	0.436	1.8	0.0693	0.0000	SURCHARGED
180 minute winter	S5	200	7.017	0.737	2.3	0.6383	0.0000	SURCHARGED
180 minute winter	S6	104	6.278	0.036	5.2	0.0317	0.0000	OK
180 minute winter	OUTFALL	104	5.550	0.035	5.2	0.0000	0.0000	OK
180 minute winter	FC1	136	8.811	0.111	1.4	2.6908	0.0000	SURCHARGED
180 minute winter	FC2	140	9.130	0.130	1.3	3.1303	0.0000	SURCHARGED
180 minute winter	FC3	316	7.557	0.407	1.6	9.7698	0.0000	SURCHARGED
180 minute winter	FC4	316	7.556	0.406	1.6	9.7764	0.0000	SURCHARGED
180 minute winter	FC5	140	8.017	0.117	1.3	2.8370	0.0000	SURCHARGED
180 minute winter	FC6	264	7.633	0.283	1.2	6.8117	0.0000	SURCHARGED
180 minute winter	FC7	200	7.017	0.582	1.2	3.4938	0.0000	SURCHARGED
180 minute winter	STORAGE 1	180	7.761	0.916	4.5	14.7246	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute winter	S1	Orifice	S2	1.3				
180 minute winter	S2	Orifice	S3	3.9				
180 minute winter	S3	Orifice	S4	1.8				
180 minute winter	S4	1.004	S5	1.7	0.504	0.132	0.3100	
180 minute winter	S5	ACO Q-Brake	S6	2.0				
180 minute winter	S6	1.006	OUTFALL	5.2	1.603	0.122	0.0415	53.6
180 minute winter	FC1	Orifice	S1	0.8				
180 minute winter	FC2	Orifice	S1	0.6				
180 minute winter	FC3	Orifice	S2	0.2				
180 minute winter	FC4	Orifice	S2	0.2				
180 minute winter	FC5	Orifice	S3	0.6				
180 minute winter	FC6	Orifice	S3	0.2				
180 minute winter	FC7	Orifice	S5	0.5				
180 minute winter	STORAGE 1	6.000	S2	-4.5	-0.581	-0.757	0.0111	

Results for 100 year +20% CC 180 minute winter. 420 minute analysis at 4 minute timestep. Mass balance: 99.10%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute winter	STORAGE 2	188	7.748	0.548	5.6	20.1357	0.0000	SURCHARGED
180 minute winter	STORAGE 3	164	8.689	0.239	0.2	0.7251	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute winter	STORAGE 2	9.000	S3	-5.6	-0.711	-0.939	0.0244	
180 minute winter	STORAGE 3	3.000	S1	-0.2	0.035	-0.040	0.0687	

Results for 100 year +20% CC 240 minute summer. 480 minute analysis at 4 minute timestep. Mass balance: 99.14%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute summer	S1	188	8.645	0.279	1.3	0.0444	0.0000	SURCHARGED
240 minute summer	S2	236	7.656	0.875	6.5	0.6356	0.0000	SURCHARGED
240 minute summer	S3	240	7.646	0.990	7.2	0.5120	0.0000	SURCHARGED
240 minute summer	S4	260	6.979	0.396	1.8	0.0630	0.0000	SURCHARGED
240 minute summer	S5	260	6.977	0.697	2.2	0.6039	0.0000	SURCHARGED
240 minute summer	S6	136	6.278	0.036	5.1	0.0314	0.0000	OK
240 minute summer	OUTFALL	136	5.550	0.035	5.1	0.0000	0.0000	OK
240 minute summer	FC1	160	8.798	0.098	1.4	2.3822	0.0000	OK
240 minute summer	FC2	168	9.115	0.115	1.2	2.7839	0.0000	SURCHARGED
240 minute summer	FC3	344	7.527	0.377	1.5	9.0474	0.0000	SURCHARGED
240 minute summer	FC4	344	7.526	0.376	1.5	9.0542	0.0000	SURCHARGED
240 minute summer	FC5	164	8.004	0.104	1.2	2.5308	0.0000	SURCHARGED
240 minute summer	FC6	288	7.600	0.250	1.1	6.0094	0.0000	SURCHARGED
240 minute summer	FC7	260	6.978	0.543	1.1	3.2564	0.0000	SURCHARGED
240 minute summer	STORAGE 1	236	7.656	0.811	3.9	14.6063	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute summer	S1	Orifice	S2	1.2				
240 minute summer	S2	Orifice	S3	3.0				
240 minute summer	S3	Orifice	S4	1.8				
240 minute summer	S4	1.004	S5	1.8	0.506	0.133	0.3100	
240 minute summer	S5	ACO Q-Brake	S6	2.0				
240 minute summer	S6	1.006	OUTFALL	5.1	1.595	0.120	0.0410	56.8
240 minute summer	FC1	Orifice	S1	0.8				
240 minute summer	FC2	Orifice	S1	0.5				
240 minute summer	FC3	Orifice	S2	0.2				
240 minute summer	FC4	Orifice	S2	0.2				
240 minute summer	FC5	Orifice	S3	0.6				
240 minute summer	FC6	Orifice	S3	0.2				
240 minute summer	FC7	Orifice	S5	0.5				
240 minute summer	STORAGE 1	6.000	S2	-3.9	-0.494	-0.644	0.0111	

Results for 100 year +20% CC 240 minute summer. 480 minute analysis at 4 minute timestep. Mass balance: 99.14%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute summer	STORAGE 2	240	7.646	0.446	5.3	16.4095	0.0000	SURCHARGED
240 minute summer	STORAGE 3	188	8.645	0.195	0.2	0.5919	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute summer	STORAGE 2	9.000	S3	-5.3	-0.683	-0.902	0.0244	
240 minute summer	STORAGE 3	3.000	S1	-0.2	0.031	-0.038	0.0687	

Results for 100 year +20% CC 240 minute winter. 480 minute analysis at 4 minute timestep. Mass balance: 99.16%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute winter	S1	196	8.666	0.300	1.3	0.0477	0.0000	SURCHARGED
240 minute winter	S2	236	7.769	0.988	5.8	0.7170	0.0000	SURCHARGED
240 minute winter	S3	240	7.757	1.101	6.4	0.5694	0.0000	SURCHARGED
240 minute winter	S4	256	7.040	0.457	1.8	0.0726	0.0000	SURCHARGED
240 minute winter	S5	256	7.038	0.758	2.2	0.6562	0.0000	SURCHARGED
240 minute winter	S6	128	6.276	0.034	4.6	0.0298	0.0000	OK
240 minute winter	OUTFALL	128	5.548	0.033	4.6	0.0000	0.0000	OK
240 minute winter	FC1	164	8.799	0.099	1.2	2.3931	0.0000	OK
240 minute winter	FC2	176	9.122	0.122	1.1	2.9525	0.0000	SURCHARGED
240 minute winter	FC3	352	7.580	0.430	1.4	10.3432	0.0000	SURCHARGED
240 minute winter	FC4	352	7.580	0.430	1.4	10.3500	0.0000	SURCHARGED
240 minute winter	FC5	172	8.009	0.109	1.1	2.6398	0.0000	SURCHARGED
240 minute winter	FC6	304	7.652	0.302	1.0	7.2602	0.0000	SURCHARGED
240 minute winter	FC7	252	7.038	0.603	1.0	3.6195	0.0000	SURCHARGED
240 minute winter	STORAGE 1	236	7.769	0.924	3.7	14.7331	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute winter	S1	Orifice	S2	1.2				
240 minute winter	S2	Orifice	S3	3.3				
240 minute winter	S3	Orifice	S4	1.8				
240 minute winter	S4	1.004	S5	1.8	0.505	0.133	0.3100	
240 minute winter	S5	ACO Q-Brake	S6	2.0				
240 minute winter	S6	1.006	OUTFALL	4.6	1.551	0.108	0.0381	59.8
240 minute winter	FC1	Orifice	S1	0.8				
240 minute winter	FC2	Orifice	S1	0.5				
240 minute winter	FC3	Orifice	S2	0.2				
240 minute winter	FC4	Orifice	S2	0.2				
240 minute winter	FC5	Orifice	S3	0.6				
240 minute winter	FC6	Orifice	S3	0.2				
240 minute winter	FC7	Orifice	S5	0.5				
240 minute winter	STORAGE 1	6.000	S2	-3.7	-0.471	-0.613	0.0111	

Results for 100 year +20% CC 240 minute winter. 480 minute analysis at 4 minute timestep. Mass balance: 99.16%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute winter	STORAGE 2	240	7.757	0.557	4.6	20.4901	0.0000	SURCHARGED
240 minute winter	STORAGE 3	196	8.666	0.216	0.2	0.6551	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute winter	STORAGE 2	9.000	S3	-4.6	-0.594	-0.772	0.0244	
240 minute winter	STORAGE 3	3.000	S1	-0.2	0.032	-0.032	0.0687	

Results for 100 year +20% CC 360 minute summer. 600 minute analysis at 8 minute timestep. Mass balance: 99.24%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute summer	S1	248	8.619	0.253	1.2	0.0402	0.0000	SURCHARGED
360 minute summer	S2	296	7.639	0.858	5.3	0.6230	0.0000	SURCHARGED
360 minute summer	S3	304	7.630	0.974	6.1	0.5034	0.0000	SURCHARGED
360 minute summer	S4	368	6.980	0.397	1.8	0.0631	0.0000	SURCHARGED
360 minute summer	S5	368	6.978	0.698	2.2	0.6045	0.0000	SURCHARGED
360 minute summer	S6	192	6.275	0.033	4.4	0.0292	0.0000	OK
360 minute summer	OUTFALL	192	5.548	0.033	4.4	0.0000	0.0000	OK
360 minute summer	FC1	224	8.785	0.085	1.1	2.0640	0.0000	OK
360 minute summer	FC2	232	9.105	0.105	1.0	2.5371	0.0000	SURCHARGED
360 minute summer	FC3	416	7.544	0.394	1.3	9.4727	0.0000	SURCHARGED
360 minute summer	FC4	416	7.544	0.394	1.3	9.4799	0.0000	SURCHARGED
360 minute summer	FC5	224	7.993	0.093	1.0	2.2611	0.0000	OK
360 minute summer	FC6	368	7.607	0.257	0.9	6.1792	0.0000	SURCHARGED
360 minute summer	FC7	368	6.979	0.544	0.9	3.2664	0.0000	SURCHARGED
360 minute summer	STORAGE 1	296	7.639	0.794	3.0	14.4771	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute summer	S1	Orifice	S2	1.1				
360 minute summer	S2	Orifice	S3	2.5				
360 minute summer	S3	Orifice	S4	1.8				
360 minute summer	S4	1.004	S5	1.8	0.504	0.134	0.3100	
360 minute summer	S5	ACO Q-Brake	S6	2.0				
360 minute summer	S6	1.006	OUTFALL	4.4	1.532	0.103	0.0369	67.7
360 minute summer	FC1	Orifice	S1	0.7				
360 minute summer	FC2	Orifice	S1	0.5				
360 minute summer	FC3	Orifice	S2	0.2				
360 minute summer	FC4	Orifice	S2	0.2				
360 minute summer	FC5	Orifice	S3	0.6				
360 minute summer	FC6	Orifice	S3	0.2				
360 minute summer	FC7	Orifice	S5	0.5				
360 minute summer	STORAGE 1	6.000	S2	-3.0	-0.384	-0.500	0.0111	

Results for 100 year +20% CC 360 minute summer. 600 minute analysis at 8 minute timestep. Mass balance: 99.24%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute summer	STORAGE 2	304	7.630	0.430	4.3	15.7959	0.0000	SURCHARGED
360 minute summer	STORAGE 3	248	8.619	0.169	0.2	0.5108	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute summer	STORAGE 2	9.000	S3	-4.3	-0.559	-0.723	0.0244	
360 minute summer	STORAGE 3	3.000	S1	-0.2	0.025	-0.030	0.0687	

Results for 100 year +20% CC 360 minute winter. 600 minute analysis at 8 minute timestep. Mass balance: 99.25%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute winter	S1	256	8.625	0.259	1.2	0.0411	0.0000	SURCHARGED
360 minute winter	S2	296	7.738	0.957	4.6	0.6948	0.0000	SURCHARGED
360 minute winter	S3	312	7.728	1.072	5.2	0.5542	0.0000	SURCHARGED
360 minute winter	S4	368	7.032	0.449	1.9	0.0713	0.0000	SURCHARGED
360 minute winter	S5	368	7.030	0.750	2.1	0.6492	0.0000	SURCHARGED
360 minute winter	S6	192	6.274	0.032	4.0	0.0278	0.0000	OK
360 minute winter	OUTFALL	192	5.546	0.031	4.0	0.0000	0.0000	OK
360 minute winter	FC1	232	8.782	0.082	0.9	1.9852	0.0000	OK
360 minute winter	FC2	248	9.104	0.104	0.8	2.5223	0.0000	SURCHARGED
360 minute winter	FC3	424	7.603	0.453	1.1	10.8818	0.0000	SURCHARGED
360 minute winter	FC4	424	7.602	0.452	1.1	10.8891	0.0000	SURCHARGED
360 minute winter	FC5	240	7.990	0.090	0.8	2.1863	0.0000	OK
360 minute winter	FC6	384	7.663	0.313	0.8	7.5293	0.0000	SURCHARGED
360 minute winter	FC7	368	7.031	0.596	0.7	3.5770	0.0000	SURCHARGED
360 minute winter	STORAGE 1	296	7.738	0.893	2.8	14.6986	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute winter	S1	Orifice	S2	1.1				
360 minute winter	S2	Orifice	S3	2.4				
360 minute winter	S3	Orifice	S4	1.9				
360 minute winter	S4	1.004	S5	1.8	0.510	0.136	0.3100	
360 minute winter	S5	ACO Q-Brake	S6	2.0				
360 minute winter	S6	1.006	OUTFALL	4.0	1.491	0.094	0.0344	71.5
360 minute winter	FC1	Orifice	S1	0.7				
360 minute winter	FC2	Orifice	S1	0.5				
360 minute winter	FC3	Orifice	S2	0.2				
360 minute winter	FC4	Orifice	S2	0.2				
360 minute winter	FC5	Orifice	S3	0.5				
360 minute winter	FC6	Orifice	S3	0.2				
360 minute winter	FC7	Orifice	S5	0.4				
360 minute winter	STORAGE 1	6.000	S2	-2.8	-0.354	-0.461	0.0111	

Results for 100 year +20% CC 360 minute winter. 600 minute analysis at 8 minute timestep. Mass balance: 99.25%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute winter	STORAGE 2	312	7.728	0.528	3.3	19.4032	0.0000	SURCHARGED
360 minute winter	STORAGE 3	256	8.625	0.175	0.1	0.5290	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute winter	STORAGE 2	9.000	S3	-3.3	-0.486	-0.560	0.0244	
360 minute winter	STORAGE 3	3.000	S1	-0.1	0.021	-0.022	0.0687	

Results for 100 year +20% CC 480 minute summer. 720 minute analysis at 8 minute timestep. Mass balance: 99.32%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute summer	S1	312	8.590	0.224	1.1	0.0357	0.0000	SURCHARGED
480 minute summer	S2	360	7.620	0.839	4.6	0.6090	0.0000	SURCHARGED
480 minute summer	S3	360	7.611	0.955	5.3	0.4935	0.0000	SURCHARGED
480 minute summer	S4	448	6.967	0.384	1.8	0.0611	0.0000	SURCHARGED
480 minute summer	S5	448	6.966	0.686	2.1	0.5938	0.0000	SURCHARGED
480 minute summer	S6	256	6.274	0.032	4.0	0.0278	0.0000	OK
480 minute summer	OUTFALL	256	5.546	0.031	4.0	0.0000	0.0000	OK
480 minute summer	FC1	288	8.775	0.075	0.9	1.8200	0.0000	OK
480 minute summer	FC2	296	9.091	0.091	0.8	2.1884	0.0000	OK
480 minute summer	FC3	496	7.551	0.401	1.1	9.6323	0.0000	SURCHARGED
480 minute summer	FC4	496	7.551	0.401	1.1	9.6415	0.0000	SURCHARGED
480 minute summer	FC5	288	7.979	0.079	0.8	1.9154	0.0000	OK
480 minute summer	FC6	448	7.594	0.244	0.8	5.8651	0.0000	SURCHARGED
480 minute summer	FC7	448	6.967	0.532	0.8	3.1927	0.0000	SURCHARGED
480 minute summer	STORAGE 1	360	7.620	0.775	2.4	14.1258	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute summer	S1	Orifice	S2	1.0				
480 minute summer	S2	Orifice	S3	2.2				
480 minute summer	S3	Orifice	S4	1.8				
480 minute summer	S4	1.004	S5	1.8	0.508	0.134	0.3100	
480 minute summer	S5	ACO Q-Brake	S6	2.0				
480 minute summer	S6	1.006	OUTFALL	4.0	1.491	0.094	0.0344	78.0
480 minute summer	FC1	Orifice	S1	0.6				
480 minute summer	FC2	Orifice	S1	0.5				
480 minute summer	FC3	Orifice	S2	0.2				
480 minute summer	FC4	Orifice	S2	0.2				
480 minute summer	FC5	Orifice	S3	0.5				
480 minute summer	FC6	Orifice	S3	0.2				
480 minute summer	FC7	Orifice	S5	0.4				
480 minute summer	STORAGE 1	6.000	S2	-2.4	-0.303	-0.395	0.0111	

Results for 100 year +20% CC 480 minute summer. 720 minute analysis at 8 minute timestep. Mass balance: 99.32%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute summer	STORAGE 2	360	7.611	0.411	3.5	15.0909	0.0000	SURCHARGED
480 minute summer	STORAGE 3	312	8.590	0.140	0.1	0.4255	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute summer	STORAGE 2	9.000	S3	-3.5	-0.473	-0.590	0.0244	
480 minute summer	STORAGE 3	3.000	S1	-0.1	0.025	-0.023	0.0687	

Results for 100 year +20% CC 480 minute winter. 720 minute analysis at 8 minute timestep. Mass balance: 99.33%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute winter	S1	320	8.581	0.215	1.0	0.0342	0.0000	SURCHARGED
480 minute winter	S2	376	7.707	0.926	3.8	0.6721	0.0000	SURCHARGED
480 minute winter	S3	384	7.697	1.041	4.4	0.5381	0.0000	SURCHARGED
480 minute winter	S4	440	7.014	0.431	1.9	0.0686	0.0000	SURCHARGED
480 minute winter	S5	440	7.013	0.733	2.1	0.6344	0.0000	SURCHARGED
480 minute winter	S6	256	6.272	0.030	3.6	0.0263	0.0000	OK
480 minute winter	OUTFALL	256	5.545	0.030	3.6	0.0000	0.0000	OK
480 minute winter	FC1	288	8.767	0.067	0.7	1.6355	0.0000	OK
480 minute winter	FC2	304	9.089	0.089	0.7	2.1616	0.0000	OK
480 minute winter	FC3	504	7.613	0.463	1.0	11.1275	0.0000	SURCHARGED
480 minute winter	FC4	504	7.613	0.463	1.0	11.1372	0.0000	SURCHARGED
480 minute winter	FC5	304	7.976	0.076	0.7	1.8399	0.0000	OK
480 minute winter	FC6	472	7.655	0.305	0.7	7.3440	0.0000	SURCHARGED
480 minute winter	FC7	440	7.014	0.579	0.7	3.4744	0.0000	SURCHARGED
480 minute winter	STORAGE 1	376	7.707	0.862	2.2	14.6632	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute winter	S1	Orifice	S2	1.0				
480 minute winter	S2	Orifice	S3	2.0				
480 minute winter	S3	Orifice	S4	1.9				
480 minute winter	S4	1.004	S5	1.8	0.514	0.139	0.3100	
480 minute winter	S5	ACO Q-Brake	S6	2.0				
480 minute winter	S6	1.006	OUTFALL	3.6	1.448	0.085	0.0319	82.7
480 minute winter	FC1	Orifice	S1	0.6				
480 minute winter	FC2	Orifice	S1	0.4				
480 minute winter	FC3	Orifice	S2	0.2				
480 minute winter	FC4	Orifice	S2	0.2				
480 minute winter	FC5	Orifice	S3	0.5				
480 minute winter	FC6	Orifice	S3	0.2				
480 minute winter	FC7	Orifice	S5	0.4				
480 minute winter	STORAGE 1	6.000	S2	-2.2	-0.280	-0.364	0.0111	

Results for 100 year +20% CC 480 minute winter. 720 minute analysis at 8 minute timestep. Mass balance: 99.33%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
480 minute winter	STORAGE 2	384	7.697	0.497	2.6	18.2632	0.0000	SURCHARGED
480 minute winter	STORAGE 3	320	8.581	0.131	0.1	0.3975	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m^3)	Discharge Vol (m^3)
480 minute winter	STORAGE 2	9.000	S3	-2.6	-0.423	-0.441	0.0244	
480 minute winter	STORAGE 3	3.000	S1	0.1	0.020	0.017	0.0687	

Results for 100 year +20% CC 600 minute summer. 840 minute analysis at 15 minute timestep. Mass balance: 99.39%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute summer	S1	375	8.570	0.204	1.0	0.0325	0.0000	SURCHARGED
600 minute summer	S2	420	7.606	0.825	4.1	0.5989	0.0000	SURCHARGED
600 minute summer	S3	420	7.597	0.941	4.7	0.4863	0.0000	SURCHARGED
600 minute summer	S4	525	6.957	0.374	1.9	0.0595	0.0000	SURCHARGED
600 minute summer	S5	525	6.956	0.676	2.1	0.5851	0.0000	SURCHARGED
600 minute summer	S6	315	6.273	0.031	3.8	0.0270	0.0000	OK
600 minute summer	OUTFALL	315	5.545	0.030	3.8	0.0000	0.0000	OK
600 minute summer	FC1	345	8.767	0.067	0.8	1.6153	0.0000	OK
600 minute summer	FC2	360	9.084	0.084	0.7	2.0259	0.0000	OK
600 minute summer	FC3	585	7.546	0.396	1.0	9.5266	0.0000	SURCHARGED
600 minute summer	FC4	585	7.546	0.396	1.0	9.5371	0.0000	SURCHARGED
600 minute summer	FC5	345	7.973	0.073	0.7	1.7762	0.0000	OK
600 minute summer	FC6	495	7.584	0.234	0.7	5.6233	0.0000	SURCHARGED
600 minute summer	FC7	525	6.957	0.522	0.7	3.1335	0.0000	SURCHARGED
600 minute summer	STORAGE 1	420	7.606	0.761	1.9	13.8718	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute summer	S1	Orifice	S2	1.0				
600 minute summer	S2	Orifice	S3	2.0				
600 minute summer	S3	Orifice	S4	1.9				
600 minute summer	S4	1.004	S5	1.8	0.505	0.133	0.3100	
600 minute summer	S5	ACO Q-Brake	S6	2.0				
600 minute summer	S6	1.006	OUTFALL	3.8	1.469	0.089	0.0332	88.3
600 minute summer	FC1	Orifice	S1	0.6				
600 minute summer	FC2	Orifice	S1	0.4				
600 minute summer	FC3	Orifice	S2	0.2				
600 minute summer	FC4	Orifice	S2	0.2				
600 minute summer	FC5	Orifice	S3	0.5				
600 minute summer	FC6	Orifice	S3	0.2				
600 minute summer	FC7	Orifice	S5	0.4				
600 minute summer	STORAGE 1	6.000	S2	-1.9	-0.243	-0.317	0.0111	

Results for 100 year +20% CC 600 minute summer. 840 minute analysis at 15 minute timestep. Mass balance: 99.39%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute summer	STORAGE 2	420	7.597	0.397	3.0	14.5765	0.0000	SURCHARGED
600 minute summer	STORAGE 3	375	8.570	0.120	0.1	0.3641	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute summer	STORAGE 2	9.000	S3	-3.0	-0.430	-0.501	0.0244	
600 minute summer	STORAGE 3	3.000	S1	0.1	0.023	0.020	0.0687	

Results for 100 year +20% CC 600 minute winter. 840 minute analysis at 15 minute timestep. Mass balance: 99.39%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute winter	S1	375	8.551	0.185	1.0	0.0295	0.0000	SURCHARGED
600 minute winter	S2	450	7.672	0.891	3.3	0.6469	0.0000	SURCHARGED
600 minute winter	S3	450	7.662	1.006	3.9	0.5203	0.0000	SURCHARGED
600 minute winter	S4	525	6.997	0.414	1.9	0.0659	0.0000	SURCHARGED
600 minute winter	S5	525	6.996	0.716	2.1	0.6196	0.0000	SURCHARGED
600 minute winter	S6	315	6.271	0.029	3.4	0.0256	0.0000	OK
600 minute winter	OUTFALL	315	5.544	0.029	3.4	0.0000	0.0000	OK
600 minute winter	FC1	360	8.758	0.058	0.6	1.4166	0.0000	OK
600 minute winter	FC2	375	9.080	0.080	0.6	1.9328	0.0000	OK
600 minute winter	FC3	585	7.613	0.463	0.8	11.1186	0.0000	SURCHARGED
600 minute winter	FC4	585	7.613	0.463	0.8	11.1308	0.0000	SURCHARGED
600 minute winter	FC5	360	7.966	0.066	0.6	1.6102	0.0000	OK
600 minute winter	FC6	540	7.639	0.289	0.6	6.9442	0.0000	SURCHARGED
600 minute winter	FC7	525	6.997	0.562	0.6	3.3727	0.0000	SURCHARGED
600 minute winter	STORAGE 1	450	7.672	0.827	1.7	14.6240	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute winter	S1	Orifice	S2	0.9				
600 minute winter	S2	Orifice	S3	1.8				
600 minute winter	S3	Orifice	S4	1.9				
600 minute winter	S4	1.004	S5	1.8	0.511	0.138	0.3100	
600 minute winter	S5	ACO Q-Brake	S6	2.0				
600 minute winter	S6	1.006	OUTFALL	3.4	1.423	0.080	0.0307	92.3
600 minute winter	FC1	Orifice	S1	0.5				
600 minute winter	FC2	Orifice	S1	0.4				
600 minute winter	FC3	Orifice	S2	0.2				
600 minute winter	FC4	Orifice	S2	0.2				
600 minute winter	FC5	Orifice	S3	0.5				
600 minute winter	FC6	Orifice	S3	0.2				
600 minute winter	FC7	Orifice	S5	0.4				
600 minute winter	STORAGE 1	6.000	S2	-1.7	-0.217	-0.282	0.0111	

Results for 100 year +20% CC 600 minute winter. 840 minute analysis at 15 minute timestep. Mass balance: 99.39%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute winter	STORAGE 2	450	7.662	0.462	2.1	16.9979	0.0000	SURCHARGED
600 minute winter	STORAGE 3	375	8.551	0.101	0.1	0.3068	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute winter	STORAGE 2	9.000	S3	-2.1	-0.376	-0.360	0.0244	
600 minute winter	STORAGE 3	3.000	S1	0.1	0.014	0.014	0.0687	

Results for 100 year +20% CC 720 minute summer. 960 minute analysis at 15 minute timestep. Mass balance: 99.45%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute summer	S1	435	8.538	0.172	0.9	0.0273	0.0000	SURCHARGED
720 minute summer	S2	480	7.578	0.797	3.6	0.5789	0.0000	SURCHARGED
720 minute summer	S3	495	7.568	0.912	4.3	0.4715	0.0000	SURCHARGED
720 minute summer	S4	630	6.936	0.353	1.9	0.0562	0.0000	SURCHARGED
720 minute summer	S5	630	6.935	0.655	2.1	0.5670	0.0000	SURCHARGED
720 minute summer	S6	375	6.272	0.030	3.6	0.0263	0.0000	OK
720 minute summer	OUTFALL	375	5.544	0.029	3.6	0.0000	0.0000	OK
720 minute summer	FC1	405	8.756	0.056	0.7	1.3597	0.0000	OK
720 minute summer	FC2	420	9.077	0.077	0.6	1.8611	0.0000	OK
720 minute summer	FC3	630	7.532	0.382	0.9	9.1816	0.0000	SURCHARGED
720 minute summer	FC4	645	7.532	0.382	0.9	9.1920	0.0000	SURCHARGED
720 minute summer	FC5	405	7.966	0.066	0.6	1.5971	0.0000	OK
720 minute summer	FC6	555	7.563	0.213	0.6	5.1342	0.0000	SURCHARGED
720 minute summer	FC7	630	6.936	0.501	0.6	3.0077	0.0000	SURCHARGED
720 minute summer	STORAGE 1	480	7.578	0.733	1.8	13.3703	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute summer	S1	Orifice	S2	0.9				
720 minute summer	S2	Orifice	S3	1.8				
720 minute summer	S3	Orifice	S4	1.9				
720 minute summer	S4	1.004	S5	1.8	0.512	0.139	0.3100	
720 minute summer	S5	ACO Q-Brake	S6	2.0				
720 minute summer	S6	1.006	OUTFALL	3.6	1.445	0.084	0.0318	98.6
720 minute summer	FC1	Orifice	S1	0.5				
720 minute summer	FC2	Orifice	S1	0.4				
720 minute summer	FC3	Orifice	S2	0.2				
720 minute summer	FC4	Orifice	S2	0.2				
720 minute summer	FC5	Orifice	S3	0.5				
720 minute summer	FC6	Orifice	S3	0.2				
720 minute summer	FC7	Orifice	S5	0.4				
720 minute summer	STORAGE 1	6.000	S2	-1.8	-0.233	-0.304	0.0111	

Results for 100 year +20% CC 720 minute summer. 960 minute analysis at 15 minute timestep. Mass balance: 99.45%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute summer	STORAGE 2	495	7.568	0.368	2.5	13.5247	0.0000	SURCHARGED
720 minute summer	STORAGE 3	435	8.538	0.088	0.1	0.2660	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute summer	STORAGE 2	9.000	S3	-2.5	-0.361	-0.424	0.0244	
720 minute summer	STORAGE 3	3.000	S1	-0.1	0.020	-0.014	0.0664	

Results for 100 year +20% CC 720 minute winter. 960 minute analysis at 15 minute timestep. Mass balance: 99.45%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute winter	S1	435	8.520	0.154	0.9	0.0245	0.0000	SURCHARGED
720 minute winter	S2	525	7.625	0.844	3.0	0.6125	0.0000	SURCHARGED
720 minute winter	S3	525	7.615	0.959	3.5	0.4959	0.0000	SURCHARGED
720 minute winter	S4	645	6.969	0.386	1.9	0.0614	0.0000	SURCHARGED
720 minute winter	S5	645	6.968	0.688	2.1	0.5956	0.0000	SURCHARGED
720 minute winter	S6	390	6.270	0.028	3.2	0.0248	0.0000	OK
720 minute winter	OUTFALL	390	5.543	0.028	3.2	0.0000	0.0000	OK
720 minute winter	FC1	420	8.750	0.050	0.5	1.2026	0.0000	OK
720 minute winter	FC2	435	9.068	0.068	0.5	1.6521	0.0000	OK
720 minute winter	FC3	675	7.593	0.443	0.7	10.6388	0.0000	SURCHARGED
720 minute winter	FC4	675	7.593	0.443	0.7	10.6518	0.0000	SURCHARGED
720 minute winter	FC5	405	7.957	0.057	0.5	1.3763	0.0000	OK
720 minute winter	FC6	600	7.610	0.260	0.5	6.2490	0.0000	SURCHARGED
720 minute winter	FC7	645	6.969	0.534	0.5	3.2057	0.0000	SURCHARGED
720 minute winter	STORAGE 1	525	7.625	0.780	1.4	14.2150	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute winter	S1	Orifice	S2	0.8				
720 minute winter	S2	Orifice	S3	1.6				
720 minute winter	S3	Orifice	S4	1.9				
720 minute winter	S4	1.004	S5	1.9	0.520	0.141	0.3100	
720 minute winter	S5	ACO Q-Brake	S6	2.0				
720 minute winter	S6	1.006	OUTFALL	3.2	1.398	0.075	0.0294	103.4
720 minute winter	FC1	Orifice	S1	0.5				
720 minute winter	FC2	Orifice	S1	0.4				
720 minute winter	FC3	Orifice	S2	0.2				
720 minute winter	FC4	Orifice	S2	0.2				
720 minute winter	FC5	Orifice	S3	0.4				
720 minute winter	FC6	Orifice	S3	0.2				
720 minute winter	FC7	Orifice	S5	0.4				
720 minute winter	STORAGE 1	6.000	S2	-1.4	-0.179	-0.232	0.0111	

Results for 100 year +20% CC 720 minute winter. 960 minute analysis at 15 minute timestep. Mass balance: 99.45%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute winter	STORAGE 2	525	7.615	0.415	1.7	15.2606	0.0000	SURCHARGED
720 minute winter	STORAGE 3	435	8.520	0.070	0.0	0.2124	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute winter	STORAGE 2	9.000	S3	-1.7	-0.312	-0.292	0.0244	
720 minute winter	STORAGE 3	3.000	S1	0.1	0.013	0.010	0.0601	

Results for 100 year +20% CC 960 minute summer. 1200 minute analysis at 15 minute timestep. Mass balance: 99.56%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute summer	S1	555	8.514	0.148	0.8	0.0235	0.0000	SURCHARGED
960 minute summer	S2	615	7.544	0.763	3.1	0.5541	0.0000	SURCHARGED
960 minute summer	S3	615	7.534	0.878	3.7	0.4538	0.0000	SURCHARGED
960 minute summer	S4	825	6.906	0.323	1.9	0.0513	0.0000	SURCHARGED
960 minute summer	S5	825	6.904	0.624	2.0	0.5408	0.0000	SURCHARGED
960 minute summer	S6	495	6.271	0.029	3.3	0.0250	0.0000	OK
960 minute summer	OUTFALL	495	5.543	0.028	3.3	0.0000	0.0000	OK
960 minute summer	FC1	525	8.750	0.050	0.6	1.2050	0.0000	OK
960 minute summer	FC2	540	9.065	0.065	0.5	1.5647	0.0000	OK
960 minute summer	FC3	735	7.508	0.358	0.7	8.6085	0.0000	SURCHARGED
960 minute summer	FC4	750	7.508	0.358	0.7	8.6183	0.0000	SURCHARGED
960 minute summer	FC5	540	7.955	0.055	0.5	1.3319	0.0000	OK
960 minute summer	FC6	675	7.537	0.187	0.5	4.4923	0.0000	SURCHARGED
960 minute summer	FC7	825	6.906	0.471	0.5	2.8250	0.0000	SURCHARGED
960 minute summer	STORAGE 1	615	7.544	0.699	1.5	12.7478	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute summer	S1	Orifice	S2	0.8				
960 minute summer	S2	Orifice	S3	1.6				
960 minute summer	S3	Orifice	S4	1.9				
960 minute summer	S4	1.004	S5	1.9	0.515	0.140	0.3100	
960 minute summer	S5	ACO Q-Brake	S6	2.0				
960 minute summer	S6	1.006	OUTFALL	3.3	1.406	0.077	0.0298	114.8
960 minute summer	FC1	Orifice	S1	0.5				
960 minute summer	FC2	Orifice	S1	0.4				
960 minute summer	FC3	Orifice	S2	0.3				
960 minute summer	FC4	Orifice	S2	0.3				
960 minute summer	FC5	Orifice	S3	0.4				
960 minute summer	FC6	Orifice	S3	0.2				
960 minute summer	FC7	Orifice	S5	0.4				
960 minute summer	STORAGE 1	6.000	S2	-1.5	-0.191	-0.249	0.0111	

Results for 100 year +20% CC 960 minute summer. 1200 minute analysis at 15 minute timestep. Mass balance: 99.56%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute summer	STORAGE 2	615	7.534	0.334	2.0	12.2669	0.0000	SURCHARGED
960 minute summer	STORAGE 3	555	8.514	0.064	0.1	0.1937	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute summer	STORAGE 2	9.000	S3	-2.0	-0.350	-0.338	0.0244	
960 minute summer	STORAGE 3	3.000	S1	0.1	0.013	0.012	0.0576	

Results for 100 year +20% CC 960 minute winter. 1200 minute analysis at 15 minute timestep. Mass balance: 99.55%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute winter	S1	570	8.487	0.121	0.7	0.0193	0.0000	SURCHARGED
960 minute winter	S2	645	7.571	0.790	2.5	0.5732	0.0000	SURCHARGED
960 minute winter	S3	660	7.559	0.903	3.1	0.4670	0.0000	SURCHARGED
960 minute winter	S4	855	6.935	0.352	1.9	0.0559	0.0000	SURCHARGED
960 minute winter	S5	855	6.933	0.653	2.0	0.5656	0.0000	SURCHARGED
960 minute winter	S6	495	6.269	0.027	2.9	0.0238	0.0000	OK
960 minute winter	OUTFALL	495	5.542	0.027	2.9	0.0000	0.0000	OK
960 minute winter	FC1	555	8.739	0.039	0.4	0.9573	0.0000	OK
960 minute winter	FC2	555	9.059	0.059	0.4	1.4344	0.0000	OK
960 minute winter	FC3	765	7.565	0.415	0.6	9.9717	0.0000	SURCHARGED
960 minute winter	FC4	765	7.565	0.415	0.6	9.9842	0.0000	SURCHARGED
960 minute winter	FC5	540	7.950	0.050	0.4	1.2016	0.0000	OK
960 minute winter	FC6	735	7.567	0.217	0.4	5.2298	0.0000	SURCHARGED
960 minute winter	FC7	855	6.934	0.499	0.4	2.9974	0.0000	SURCHARGED
960 minute winter	STORAGE 1	645	7.571	0.726	1.1	13.2277	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute winter	S1	Orifice	S2	0.7				
960 minute winter	S2	Orifice	S3	1.4				
960 minute winter	S3	Orifice	S4	1.9				
960 minute winter	S4	1.004	S5	1.9	0.522	0.142	0.3100	
960 minute winter	S5	ACO Q-Brake	S6	2.0				
960 minute winter	S6	1.006	OUTFALL	2.9	1.365	0.069	0.0277	124.0
960 minute winter	FC1	Orifice	S1	0.4				
960 minute winter	FC2	Orifice	S1	0.3				
960 minute winter	FC3	Orifice	S2	0.2				
960 minute winter	FC4	Orifice	S2	0.2				
960 minute winter	FC5	Orifice	S3	0.4				
960 minute winter	FC6	Orifice	S3	0.2				
960 minute winter	FC7	Orifice	S5	0.3				
960 minute winter	STORAGE 1	6.000	S2	-1.1	-0.147	-0.191	0.0111	

Results for 100 year +20% CC 960 minute winter. 1200 minute analysis at 15 minute timestep. Mass balance: 99.55%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute winter	STORAGE 2	660	7.559	0.359	1.3	13.2055	0.0000	SURCHARGED
960 minute winter	STORAGE 3	570	8.487	0.037	0.0	0.1124	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute winter	STORAGE 2	9.000	S3	-1.3	-0.291	-0.224	0.0244	
960 minute winter	STORAGE 3	3.000	S1	0.0	0.008	0.006	0.0460	

Results for 100 year +20% CC 1440 minute summer. 1680 minute analysis at 30 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute summer	S1	780	8.472	0.106	0.7	0.0168	0.0000	SURCHARGED
1440 minute summer	S2	870	7.479	0.698	2.3	0.5069	0.0000	SURCHARGED
1440 minute summer	S3	870	7.470	0.814	3.0	0.4208	0.0000	SURCHARGED
1440 minute summer	S4	870	6.621	0.038	1.8	0.0060	0.0000	OK
1440 minute summer	S5	870	6.494	0.214	2.0	0.1855	0.0000	SURCHARGED
1440 minute summer	S6	750	6.269	0.027	2.8	0.0233	0.0000	OK
1440 minute summer	OUTFALL	750	5.541	0.026	2.8	0.0000	0.0000	OK
1440 minute summer	FC1	750	8.737	0.037	0.4	0.8979	0.0000	OK
1440 minute summer	FC2	780	9.053	0.053	0.4	1.2700	0.0000	OK
1440 minute summer	FC3	960	7.473	0.323	0.6	7.7618	0.0000	SURCHARGED
1440 minute summer	FC4	960	7.473	0.323	0.6	7.7709	0.0000	SURCHARGED
1440 minute summer	FC5	780	7.944	0.044	0.4	1.0735	0.0000	OK
1440 minute summer	FC6	930	7.482	0.132	0.3	3.1794	0.0000	SURCHARGED
1440 minute summer	FC7	870	6.499	0.064	0.3	0.3835	0.0000	OK
1440 minute summer	STORAGE 1	870	7.479	0.634	1.0	11.5615	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute summer	S1	Orifice	S2	0.7				
1440 minute summer	S2	Orifice	S3	1.4				
1440 minute summer	S3	Orifice	S4	1.8				
1440 minute summer	S4	1.004	S5	1.8	0.522	0.135	0.0605	
1440 minute summer	S5	ACO Q-Brake	S6	2.0				
1440 minute summer	S6	1.006	OUTFALL	2.8	1.349	0.066	0.0269	138.0
1440 minute summer	FC1	Orifice	S1	0.4				
1440 minute summer	FC2	Orifice	S1	0.3				
1440 minute summer	FC3	Orifice	S2	0.3				
1440 minute summer	FC4	Orifice	S2	0.3				
1440 minute summer	FC5	Orifice	S3	0.3				
1440 minute summer	FC6	Orifice	S3	0.2				
1440 minute summer	FC7	Orifice	S5	0.3				
1440 minute summer	STORAGE 1	6.000	S2	-1.0	0.248	-0.171	0.0111	

Results for 100 year +20% CC 1440 minute summer. 1680 minute analysis at 30 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute summer	STORAGE 2	870	7.470	0.270	1.3	9.9250	0.0000	SURCHARGED
1440 minute summer	STORAGE 3	780	8.472	0.022	0.0	0.0659	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute summer	STORAGE 2	9.000	S3	-1.3	-0.260	-0.213	0.0244	
1440 minute summer	STORAGE 3	3.000	S1	0.0	-0.006	-0.005	0.0399	

Results for 100 year +20% CC 1440 minute winter. 1680 minute analysis at 30 minute timestep. Mass balance: 99.92%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
1440 minute winter	S1	810	8.449	0.083	0.6	0.0132	0.0000	OK
1440 minute winter	S2	960	7.503	0.722	1.9	0.5244	0.0000	SURCHARGED
1440 minute winter	S3	960	7.491	0.835	2.5	0.4318	0.0000	SURCHARGED
1440 minute winter	S4	960	6.621	0.038	1.8	0.0061	0.0000	OK
1440 minute winter	S5	930	6.500	0.220	2.0	0.1906	0.0000	SURCHARGED
1440 minute winter	S6	780	6.268	0.026	2.6	0.0225	0.0000	OK
1440 minute winter	OUTFALL	780	5.540	0.025	2.6	0.0000	0.0000	OK
1440 minute winter	FC1	840	8.732	0.032	0.3	0.7696	0.0000	OK
1440 minute winter	FC2	810	9.045	0.045	0.3	1.0839	0.0000	OK
1440 minute winter	FC3	1020	7.512	0.362	0.4	8.7057	0.0000	SURCHARGED
1440 minute winter	FC4	1020	7.512	0.362	0.4	8.7180	0.0000	SURCHARGED
1440 minute winter	FC5	810	7.937	0.037	0.3	0.9025	0.0000	OK
1440 minute winter	FC6	1020	7.505	0.155	0.3	3.7172	0.0000	SURCHARGED
1440 minute winter	FC7	930	6.504	0.069	0.3	0.4158	0.0000	OK
1440 minute winter	STORAGE 1	960	7.503	0.658	0.9	12.0026	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m^3)	Discharge Vol (m^3)
1440 minute winter	S1	Orifice	S2	0.6				
1440 minute winter	S2	Orifice	S3	1.2				
1440 minute winter	S3	Orifice	S4	1.8				
1440 minute winter	S4	1.004	S5	1.8	0.524	0.137	0.0611	
1440 minute winter	S5	ACO Q-Brake	S6	2.0				
1440 minute winter	S6	1.006	OUTFALL	2.6	1.323	0.062	0.0256	161.1
1440 minute winter	FC1	Orifice	S1	0.3				
1440 minute winter	FC2	Orifice	S1	0.3				
1440 minute winter	FC3	Orifice	S2	0.3				
1440 minute winter	FC4	Orifice	S2	0.3				
1440 minute winter	FC5	Orifice	S3	0.3				
1440 minute winter	FC6	Orifice	S3	0.2				
1440 minute winter	FC7	Orifice	S5	0.3				
1440 minute winter	STORAGE 1	6.000	S2	-0.9	0.180	-0.148	0.0111	

Results for 100 year +20% CC 1440 minute winter. 1680 minute analysis at 30 minute timestep. Mass balance: 99.92%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute winter	STORAGE 2	960	7.491	0.291	0.8	10.7070	0.0000	SURCHARGED
1440 minute winter	STORAGE 3	30	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute winter	STORAGE 2	9.000	S3	-0.8	0.256	-0.132	0.0244	
1440 minute winter	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0305	

Results for 100 year +40% CC +10% A 15 minute summer. 255 minute analysis at 1 minute timestep. Mass balance: 98.83%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1	60	8.589	0.223	1.3	0.0354	0.0000	SURCHARGED
15 minute summer	S2	37	7.531	0.750	11.4	0.5876	0.0000	SURCHARGED
15 minute summer	S3	55	7.445	0.789	8.9	0.4362	0.0000	SURCHARGED
15 minute summer	S4	142	6.829	0.246	1.8	0.0391	0.0000	SURCHARGED
15 minute summer	S5	142	6.827	0.547	2.4	0.4739	0.0000	SURCHARGED
15 minute summer	S6	22	6.283	0.041	6.4	0.0383	0.0000	OK
15 minute summer	OUTFALL	22	5.554	0.039	6.4	0.0000	0.0000	OK
15 minute summer	FC1	38	8.800	0.100	1.9	2.4410	0.0000	SURCHARGED
15 minute summer	FC2	39	9.106	0.106	1.8	2.5542	0.0000	SURCHARGED
15 minute summer	FC3	158	7.354	0.204	2.1	4.9101	0.0000	SURCHARGED
15 minute summer	FC4	159	7.354	0.204	2.1	4.9136	0.0000	SURCHARGED
15 minute summer	FC5	38	8.001	0.101	1.8	2.4476	0.0000	SURCHARGED
15 minute summer	FC6	42	7.460	0.110	1.6	2.6385	0.0000	SURCHARGED
15 minute summer	FC7	141	6.827	0.392	1.6	2.3598	0.0000	SURCHARGED
15 minute summer	STORAGE 1	38	7.532	0.687	10.8	12.5238	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S1	Orifice	S2	1.0				
15 minute summer	S2	Orifice	S3	3.4				
15 minute summer	S3	Orifice	S4	1.8				
15 minute summer	S4	1.004	S5	1.7	0.504	0.128	0.3100	
15 minute summer	S5	ACO Q-Brake	S6	2.0				
15 minute summer	S6	1.006	OUTFALL	6.4	1.700	0.150	0.0484	30.1
15 minute summer	FC1	Orifice	S1	0.8				
15 minute summer	FC2	Orifice	S1	0.5				
15 minute summer	FC3	Orifice	S2	0.2				
15 minute summer	FC4	Orifice	S2	0.2				
15 minute summer	FC5	Orifice	S3	0.6				
15 minute summer	FC6	Orifice	S3	0.2				
15 minute summer	FC7	Orifice	S5	0.7				
15 minute summer	STORAGE 1	6.000	S2	-10.8	-1.557	-1.804	0.0111	

Results for 100 year +40% CC +10% A 15 minute summer. 255 minute analysis at 1 minute timestep. Mass balance: 98.83%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	STORAGE 2	55	7.445	0.245	7.0	8.9971	0.0000	SURCHARGED
15 minute summer	STORAGE 3	60	8.589	0.139	0.3	0.4203	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	STORAGE 2	9.000	S3	-7.0	-0.948	-1.181	0.0244	
15 minute summer	STORAGE 3	3.000	S1	-0.3	-0.060	-0.052	0.0687	

Results for 100 year +40% CC +10% A 15 minute winter. 255 minute analysis at 1 minute timestep. Mass balance: 98.86%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S1	62	8.621	0.255	1.4	0.0406	0.0000	SURCHARGED
15 minute winter	S2	38	7.593	0.812	12.6	0.6362	0.0000	SURCHARGED
15 minute winter	S3	56	7.492	0.836	9.7	0.4622	0.0000	SURCHARGED
15 minute winter	S4	133	6.859	0.276	1.8	0.0439	0.0000	SURCHARGED
15 minute winter	S5	133	6.857	0.577	2.4	0.5001	0.0000	SURCHARGED
15 minute winter	S6	21	6.284	0.042	6.9	0.0399	0.0000	OK
15 minute winter	OUTFALL	21	5.556	0.041	6.9	0.0000	0.0000	OK
15 minute winter	FC1	38	8.816	0.116	2.2	2.8172	0.0000	SURCHARGED
15 minute winter	FC2	39	9.118	0.118	2.0	2.8549	0.0000	SURCHARGED
15 minute winter	FC3	173	7.384	0.234	2.3	5.6243	0.0000	SURCHARGED
15 minute winter	FC4	174	7.384	0.234	2.3	5.6283	0.0000	SURCHARGED
15 minute winter	FC5	39	8.013	0.113	2.0	2.7360	0.0000	SURCHARGED
15 minute winter	FC6	73	7.483	0.133	1.8	3.2025	0.0000	SURCHARGED
15 minute winter	FC7	134	6.857	0.422	1.8	2.5413	0.0000	SURCHARGED
15 minute winter	STORAGE 1	38	7.594	0.749	11.8	13.6523	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	S1	Orifice	S2	1.1				
15 minute winter	S2	Orifice	S3	3.7				
15 minute winter	S3	Orifice	S4	1.8				
15 minute winter	S4	1.004	S5	1.7	0.506	0.129	0.3100	
15 minute winter	S5	ACO Q-Brake	S6	2.0				
15 minute winter	S6	1.006	OUTFALL	6.9	1.735	0.162	0.0511	31.5
15 minute winter	FC1	Orifice	S1	0.8				
15 minute winter	FC2	Orifice	S1	0.5				
15 minute winter	FC3	Orifice	S2	0.2				
15 minute winter	FC4	Orifice	S2	0.2				
15 minute winter	FC5	Orifice	S3	0.6				
15 minute winter	FC6	Orifice	S3	0.2				
15 minute winter	FC7	Orifice	S5	0.7				
15 minute winter	STORAGE 1	6.000	S2	-11.8	-1.502	-1.956	0.0111	

Results for 100 year +40% CC +10% A 15 minute winter. 255 minute analysis at 1 minute timestep. Mass balance: 98.86%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	STORAGE 2	56	7.492	0.292	7.8	10.7254	0.0000	SURCHARGED
15 minute winter	STORAGE 3	62	8.621	0.171	0.3	0.5190	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	STORAGE 2	9.000	S3	-7.8	-1.012	-1.312	0.0244	
15 minute winter	STORAGE 3	3.000	S1	-0.3	-0.064	-0.059	0.0687	

Results for 100 year +40% CC +10% A 30 minute summer. 270 minute analysis at 1 minute timestep. Mass balance: 98.93%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute summer	S1	73	8.671	0.305	1.5	0.0486	0.0000	SURCHARGED
30 minute summer	S2	45	7.832	1.051	12.9	0.8227	0.0000	SURCHARGED
30 minute summer	S3	45	7.576	0.920	10.6	0.5088	0.0000	SURCHARGED
30 minute summer	S4	124	6.908	0.325	1.8	0.0517	0.0000	SURCHARGED
30 minute summer	S5	124	6.907	0.627	2.5	0.5426	0.0000	SURCHARGED
30 minute summer	S6	29	6.287	0.045	7.8	0.0425	0.0000	OK
30 minute summer	OUTFALL	29	5.558	0.043	7.8	0.0000	0.0000	OK
30 minute summer	FC1	46	8.834	0.134	2.6	3.2463	0.0000	SURCHARGED
30 minute summer	FC2	48	9.138	0.138	2.4	3.3359	0.0000	SURCHARGED
30 minute summer	FC3	202	7.437	0.287	2.7	6.9070	0.0000	SURCHARGED
30 minute summer	FC4	202	7.437	0.287	2.7	6.9118	0.0000	SURCHARGED
30 minute summer	FC5	47	8.032	0.132	2.4	3.1932	0.0000	SURCHARGED
30 minute summer	FC6	123	7.532	0.182	2.2	4.3894	0.0000	SURCHARGED
30 minute summer	FC7	125	6.907	0.472	2.2	2.8368	0.0000	SURCHARGED
30 minute summer	STORAGE 1	45	7.832	0.987	12.0	14.8048	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute summer	S1	Orifice	S2	1.2				
30 minute summer	S2	Orifice	S3	5.5				
30 minute summer	S3	Orifice	S4	1.8				
30 minute summer	S4	1.004	S5	1.7	0.507	0.131	0.3100	
30 minute summer	S5	ACO Q-Brake	S6	2.0				
30 minute summer	S6	1.006	OUTFALL	7.8	1.792	0.183	0.0558	35.1
30 minute summer	FC1	Orifice	S1	0.9				
30 minute summer	FC2	Orifice	S1	0.6				
30 minute summer	FC3	Orifice	S2	0.1				
30 minute summer	FC4	Orifice	S2	0.1				
30 minute summer	FC5	Orifice	S3	0.7				
30 minute summer	FC6	Orifice	S3	0.2				
30 minute summer	FC7	Orifice	S5	0.8				
30 minute summer	STORAGE 1	6.000	S2	-12.0	-1.533	-1.997	0.0111	

Results for 100 year +40% CC +10% A 30 minute summer. 270 minute analysis at 1 minute timestep. Mass balance: 98.93%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute summer	STORAGE 2	65	7.572	0.372	8.6	13.6828	0.0000	SURCHARGED
30 minute summer	STORAGE 3	73	8.672	0.222	0.4	0.6714	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute summer	STORAGE 2	9.000	S3	-8.6	-1.133	-1.452	0.0244	
30 minute summer	STORAGE 3	3.000	S1	-0.4	-0.067	-0.066	0.0687	

Results for 100 year +40% CC +10% A 30 minute winter. 270 minute analysis at 1 minute timestep. Mass balance: 98.98%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute winter	S1	74	8.716	0.350	1.8	0.0557	0.0000	SURCHARGED
30 minute winter	S2	44	8.141	1.360	13.7	1.0653	0.0000	SURCHARGED
30 minute winter	S3	44	7.693	1.037	13.7	0.5734	0.0000	SURCHARGED
30 minute winter	S4	93	6.953	0.370	1.8	0.0589	0.0000	SURCHARGED
30 minute winter	S5	93	6.951	0.671	2.6	0.5813	0.0000	SURCHARGED
30 minute winter	S6	29	6.289	0.047	8.5	0.0445	0.0000	OK
30 minute winter	OUTFALL	29	5.560	0.045	8.5	0.0000	0.0000	OK
30 minute winter	FC1	47	8.850	0.150	2.9	3.6555	0.0000	SURCHARGED
30 minute winter	FC2	48	9.243	0.243	2.7	3.6825	0.0000	SURCHARGED
30 minute winter	FC3	216	7.479	0.329	3.1	7.9207	0.0000	SURCHARGED
30 minute winter	FC4	217	7.479	0.329	3.1	7.9262	0.0000	SURCHARGED
30 minute winter	FC5	48	8.048	0.148	2.7	3.6022	0.0000	SURCHARGED
30 minute winter	FC6	146	7.573	0.223	2.5	5.3594	0.0000	SURCHARGED
30 minute winter	FC7	94	6.951	0.516	2.4	3.1059	0.0000	SURCHARGED
30 minute winter	STORAGE 1	44	8.142	1.297	12.6	15.1550	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute winter	S1	Orifice	S2	1.3				
30 minute winter	S2	Orifice	S3	7.3				
30 minute winter	S3	Orifice	S4	1.8				
30 minute winter	S4	1.004	S5	1.8	0.510	0.133	0.3100	
30 minute winter	S5	ACO Q-Brake	S6	2.0				
30 minute winter	S6	1.006	OUTFALL	8.5	1.833	0.199	0.0593	37.1
30 minute winter	FC1	Orifice	S1	1.0				
30 minute winter	FC2	Orifice	S1	0.8				
30 minute winter	FC3	Orifice	S2	0.1				
30 minute winter	FC4	Orifice	S2	0.1				
30 minute winter	FC5	Orifice	S3	0.7				
30 minute winter	FC6	Orifice	S3	0.2				
30 minute winter	FC7	Orifice	S5	0.8				
30 minute winter	STORAGE 1	6.000	S2	-12.6	-1.617	-2.105	0.0111	

Results for 100 year +40% CC +10% A 30 minute winter. 270 minute analysis at 1 minute timestep. Mass balance: 98.98%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute winter	STORAGE 2	57	7.643	0.443	11.3	16.2976	0.0000	SURCHARGED
30 minute winter	STORAGE 3	74	8.716	0.266	0.5	0.8067	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute winter	STORAGE 2	9.000	S3	-11.3	-1.438	-1.901	0.0244	
30 minute winter	STORAGE 3	3.000	S1	-0.5	-0.068	-0.086	0.0687	

Results for 100 year +40% CC +10% A 60 minute summer. 300 minute analysis at 1 minute timestep. Mass balance: 99.02%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute summer	S1	80	8.752	0.386	2.2	0.0614	0.0000	SURCHARGED
60 minute summer	S2	59	8.229	1.448	12.3	1.1339	0.0000	SURCHARGED
60 minute summer	S3	61	7.741	1.085	14.2	0.6000	0.0000	SURCHARGED
60 minute summer	S4	87	7.012	0.429	1.9	0.0682	0.0000	SURCHARGED
60 minute summer	S5	87	7.010	0.730	2.5	0.6321	0.0000	SURCHARGED
60 minute summer	S6	41	6.287	0.045	7.9	0.0428	0.0000	OK
60 minute summer	OUTFALL	41	5.559	0.044	7.9	0.0000	0.0000	OK
60 minute summer	FC1	62	8.918	0.218	2.6	3.6978	0.0000	SURCHARGED
60 minute summer	FC2	63	9.368	0.368	2.4	3.7377	0.0000	SURCHARGED
60 minute summer	FC3	245	7.529	0.379	2.8	9.1036	0.0000	SURCHARGED
60 minute summer	FC4	245	7.528	0.378	2.8	9.1102	0.0000	SURCHARGED
60 minute summer	FC5	64	8.134	0.234	2.4	3.6986	0.0000	SURCHARGED
60 minute summer	FC6	181	7.619	0.269	2.4	6.4691	0.0000	SURCHARGED
60 minute summer	FC7	87	7.010	0.575	2.2	3.4587	0.0000	SURCHARGED
60 minute summer	STORAGE 1	59	8.229	1.384	11.3	15.2541	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute summer	S1	Orifice	S2	1.4				
60 minute summer	S2	Orifice	S3	7.6				
60 minute summer	S3	Orifice	S4	1.9				
60 minute summer	S4	1.004	S5	1.7	0.509	0.131	0.3100	
60 minute summer	S5	ACO Q-Brake	S6	2.0				
60 minute summer	S6	1.006	OUTFALL	7.9	1.798	0.185	0.0563	41.9
60 minute summer	FC1	Orifice	S1	1.2				
60 minute summer	FC2	Orifice	S1	1.0				
60 minute summer	FC3	Orifice	S2	0.1				
60 minute summer	FC4	Orifice	S2	0.1				
60 minute summer	FC5	Orifice	S3	0.9				
60 minute summer	FC6	Orifice	S3	0.2				
60 minute summer	FC7	Orifice	S5	0.8				
60 minute summer	STORAGE 1	6.000	S2	-11.3	-1.438	-1.873	0.0111	

Results for 100 year +40% CC +10% A 60 minute summer. 300 minute analysis at 1 minute timestep. Mass balance: 99.02%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute summer	STORAGE 2	85	7.737	0.537	11.7	19.7374	0.0000	SURCHARGED
60 minute summer	STORAGE 3	80	8.752	0.302	0.8	0.9153	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute summer	STORAGE 2	9.000	S3	-11.7	-1.500	-1.982	0.0244	
60 minute summer	STORAGE 3	3.000	S1	-0.8	-0.097	-0.129	0.0687	

Results for 100 year +40% CC +10% A 60 minute winter. 300 minute analysis at 1 minute timestep. Mass balance: 99.06%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute winter	S1	73	8.898	0.532	3.0	0.0846	0.0000	SURCHARGED
60 minute winter	S2	58	8.473	1.692	13.1	1.3248	0.0000	FLOOD RISK
60 minute winter	S3	61	7.873	1.217	16.1	0.6730	0.0000	SURCHARGED
60 minute winter	S4	86	7.089	0.506	1.9	0.0804	0.0000	SURCHARGED
60 minute winter	S5	86	7.087	0.807	2.5	0.6985	0.0000	SURCHARGED
60 minute winter	S6	43	6.289	0.047	8.5	0.0446	0.0000	OK
60 minute winter	OUTFALL	43	5.560	0.045	8.5	0.0000	0.0000	OK
60 minute winter	FC1	61	9.131	0.431	2.9	3.8180	0.0000	FLOOD RISK
60 minute winter	FC2	63	9.634	0.634	2.7	3.8557	0.0000	FLOOD RISK
60 minute winter	FC3	255	7.584	0.434	3.1	10.4304	0.0000	SURCHARGED
60 minute winter	FC4	255	7.583	0.433	3.1	10.4377	0.0000	SURCHARGED
60 minute winter	FC5	62	8.377	0.477	2.7	3.8276	0.0000	FLOOD RISK
60 minute winter	FC6	199	7.674	0.324	2.7	7.8091	0.0000	SURCHARGED
60 minute winter	FC7	86	7.087	0.652	2.5	3.9209	0.0000	SURCHARGED
60 minute winter	STORAGE 1	58	8.473	1.628	10.8	15.5298	0.0000	FLOOD RISK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute winter	S1	Orifice	S2	1.6				
60 minute winter	S2	Orifice	S3	8.6				
60 minute winter	S3	Orifice	S4	1.9				
60 minute winter	S4	1.004	S5	1.8	0.508	0.134	0.3100	
60 minute winter	S5	ACO Q-Brake	S6	2.0				
60 minute winter	S6	1.006	OUTFALL	8.5	1.835	0.199	0.0594	44.5
60 minute winter	FC1	Orifice	S1	1.7				
60 minute winter	FC2	Orifice	S1	1.3				
60 minute winter	FC3	Orifice	S2	0.1				
60 minute winter	FC4	Orifice	S2	0.1				
60 minute winter	FC5	Orifice	S3	1.4				
60 minute winter	FC6	Orifice	S3	0.2				
60 minute winter	FC7	Orifice	S5	0.8				
60 minute winter	STORAGE 1	6.000	S2	-10.8	-1.386	-1.805	0.0111	

Results for 100 year +40% CC +10% A 60 minute winter. 300 minute analysis at 1 minute timestep. Mass balance: 99.06%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute winter	STORAGE 2	85	7.861	0.661	13.5	24.2992	0.0000	SURCHARGED
60 minute winter	STORAGE 3	73	8.898	0.448	1.4	1.3584	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute winter	STORAGE 2	9.000	S3	-13.5	-1.721	-2.275	0.0244	
60 minute winter	STORAGE 3	3.000	S1	-1.4	-0.176	-0.234	0.0687	

Results for 100 year +40% CC +10% A 120 minute summer. 360 minute analysis at 2 minute timestep. Mass balance: 99.13%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute summer	S1	112	8.761	0.395	2.0	0.0629	0.0000	SURCHARGED
120 minute summer	S2	88	8.155	1.374	10.6	1.0755	0.0000	SURCHARGED
120 minute summer	S3	140	7.849	1.193	13.2	0.6600	0.0000	SURCHARGED
120 minute summer	S4	146	7.078	0.495	1.9	0.0787	0.0000	SURCHARGED
120 minute summer	S5	146	7.076	0.796	2.4	0.6892	0.0000	SURCHARGED
120 minute summer	S6	74	6.285	0.043	7.2	0.0408	0.0000	OK
120 minute summer	OUTFALL	74	5.557	0.042	7.2	0.0000	0.0000	OK
120 minute summer	FC1	96	8.861	0.161	2.4	3.6655	0.0000	SURCHARGED
120 minute summer	FC2	96	9.340	0.340	2.2	3.7255	0.0000	SURCHARGED
120 minute summer	FC3	290	7.595	0.445	2.6	10.6991	0.0000	SURCHARGED
120 minute summer	FC4	290	7.595	0.445	2.6	10.7064	0.0000	SURCHARGED
120 minute summer	FC5	98	8.092	0.192	2.2	3.6764	0.0000	SURCHARGED
120 minute summer	FC6	238	7.681	0.331	2.1	7.9692	0.0000	SURCHARGED
120 minute summer	FC7	146	7.076	0.641	2.0	3.8558	0.0000	SURCHARGED
120 minute summer	STORAGE 1	88	8.155	1.310	7.0	15.1697	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute summer	S1	Orifice	S2	1.4				
120 minute summer	S2	Orifice	S3	7.1				
120 minute summer	S3	Orifice	S4	1.9				
120 minute summer	S4	1.004	S5	1.8	0.507	0.134	0.3100	
120 minute summer	S5	ACO Q-Brake	S6	2.0				
120 minute summer	S6	1.006	OUTFALL	7.2	1.755	0.169	0.0527	50.4
120 minute summer	FC1	Orifice	S1	1.0				
120 minute summer	FC2	Orifice	S1	0.9				
120 minute summer	FC3	Orifice	S2	0.2				
120 minute summer	FC4	Orifice	S2	0.2				
120 minute summer	FC5	Orifice	S3	0.8				
120 minute summer	FC6	Orifice	S3	0.2				
120 minute summer	FC7	Orifice	S5	0.7				
120 minute summer	STORAGE 1	6.000	S2	-7.0	-0.890	-1.159	0.0111	

Results for 100 year +40% CC +10% A 120 minute summer. 360 minute analysis at 2 minute timestep. Mass balance: 99.13%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute summer	STORAGE 2	140	7.849	0.649	10.7	23.8725	0.0000	SURCHARGED
120 minute summer	STORAGE 3	110	8.761	0.311	0.5	0.9440	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute summer	STORAGE 2	9.000	S3	-10.7	-1.363	-1.802	0.0244	
120 minute summer	STORAGE 3	3.000	S1	-0.5	-0.068	-0.090	0.0687	

Results for 100 year +40% CC +10% A 120 minute winter. 360 minute analysis at 2 minute timestep. Mass balance: 99.14%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
120 minute winter	S1	112	8.893	0.527	2.6	0.0837	0.0000	SURCHARGED
120 minute winter	S2	88	8.286	1.505	10.6	1.1784	0.0000	FLOOD RISK
120 minute winter	S3	134	7.990	1.334	13.9	0.7374	0.0000	SURCHARGED
120 minute winter	S4	144	7.163	0.580	1.9	0.0922	0.0000	SURCHARGED
120 minute winter	S5	144	7.160	0.880	2.4	0.7624	0.0000	SURCHARGED
120 minute winter	S6	72	6.285	0.043	7.1	0.0404	0.0000	OK
120 minute winter	OUTFALL	72	5.556	0.041	7.1	0.0000	0.0000	OK
120 minute winter	FC1	98	9.007	0.307	2.3	3.7478	0.0000	SURCHARGED
120 minute winter	FC2	96	9.534	0.534	2.1	3.8116	0.0000	SURCHARGED
120 minute winter	FC3	300	7.663	0.513	2.7	12.3337	0.0000	SURCHARGED
120 minute winter	FC4	300	7.663	0.513	2.7	12.3420	0.0000	SURCHARGED
120 minute winter	FC5	96	8.270	0.370	2.1	3.7709	0.0000	FLOOD RISK
120 minute winter	FC6	262	7.746	0.396	2.2	9.5348	0.0000	SURCHARGED
120 minute winter	FC7	142	7.161	0.726	1.9	4.3666	0.0000	SURCHARGED
120 minute winter	STORAGE 1	88	8.286	1.441	6.5	15.3183	0.0000	FLOOD RISK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m^3)	Discharge Vol (m^3)
120 minute winter	S1	Orifice	S2	1.6				
120 minute winter	S2	Orifice	S3	7.6				
120 minute winter	S3	Orifice	S4	1.9				
120 minute winter	S4	1.004	S5	1.8	0.505	0.137	0.3100	
120 minute winter	S5	ACO Q-Brake	S6	2.0				
120 minute winter	S6	1.006	OUTFALL	7.1	1.745	0.166	0.0519	53.7
120 minute winter	FC1	Orifice	S1	1.4				
120 minute winter	FC2	Orifice	S1	1.2				
120 minute winter	FC3	Orifice	S2	0.2				
120 minute winter	FC4	Orifice	S2	0.2				
120 minute winter	FC5	Orifice	S3	1.2				
120 minute winter	FC6	Orifice	S3	0.2				
120 minute winter	FC7	Orifice	S5	0.7				
120 minute winter	STORAGE 1	6.000	S2	-6.5	-0.836	-1.089	0.0111	

Results for 100 year +40% CC +10% A 120 minute winter. 360 minute analysis at 2 minute timestep. Mass balance: 99.14%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute winter	STORAGE 2	134	7.990	0.790	11.4	29.0223	0.0000	SURCHARGED
120 minute winter	STORAGE 3	112	8.893	0.443	0.9	1.3418	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute winter	STORAGE 2	9.000	S3	-11.4	-1.453	-1.920	0.0244	
120 minute winter	STORAGE 3	3.000	S1	-0.9	-0.120	-0.159	0.0687	

Results for 100 year +40% CC +10% A 180 minute summer. 420 minute analysis at 4 minute timestep. Mass balance: 99.19%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute summer	S1	148	8.747	0.381	1.8	0.0606	0.0000	SURCHARGED
180 minute summer	S2	120	8.053	1.272	9.2	0.9958	0.0000	SURCHARGED
180 minute summer	S3	192	7.898	1.242	11.7	0.6868	0.0000	SURCHARGED
180 minute summer	S4	200	7.117	0.534	1.9	0.0849	0.0000	SURCHARGED
180 minute summer	S5	200	7.115	0.835	2.4	0.7232	0.0000	SURCHARGED
180 minute summer	S6	104	6.283	0.041	6.4	0.0383	0.0000	OK
180 minute summer	OUTFALL	104	5.554	0.039	6.4	0.0000	0.0000	OK
180 minute summer	FC1	128	8.840	0.140	2.0	3.4059	0.0000	SURCHARGED
180 minute summer	FC2	132	9.259	0.259	1.8	3.6893	0.0000	SURCHARGED
180 minute summer	FC3	328	7.636	0.486	2.2	11.6828	0.0000	SURCHARGED
180 minute summer	FC4	328	7.635	0.485	2.2	11.6905	0.0000	SURCHARGED
180 minute summer	FC5	132	8.046	0.146	1.8	3.5384	0.0000	SURCHARGED
180 minute summer	FC6	288	7.720	0.370	1.8	8.8953	0.0000	SURCHARGED
180 minute summer	FC7	200	7.116	0.681	1.7	4.0954	0.0000	SURCHARGED
180 minute summer	STORAGE 1	120	8.053	1.208	4.9	15.0546	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute summer	S1	Orifice	S2	1.4				
180 minute summer	S2	Orifice	S3	6.3				
180 minute summer	S3	Orifice	S4	1.9				
180 minute summer	S4	1.004	S5	1.8	0.505	0.134	0.3100	
180 minute summer	S5	ACO Q-Brake	S6	2.0				
180 minute summer	S6	1.006	OUTFALL	6.4	1.699	0.150	0.0483	57.6
180 minute summer	FC1	Orifice	S1	0.9				
180 minute summer	FC2	Orifice	S1	0.8				
180 minute summer	FC3	Orifice	S2	0.2				
180 minute summer	FC4	Orifice	S2	0.2				
180 minute summer	FC5	Orifice	S3	0.7				
180 minute summer	FC6	Orifice	S3	0.2				
180 minute summer	FC7	Orifice	S5	0.6				
180 minute summer	STORAGE 1	6.000	S2	-4.9	-0.622	-0.810	0.0111	

Results for 100 year +40% CC +10% A 180 minute summer. 420 minute analysis at 4 minute timestep. Mass balance: 99.19%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute summer	STORAGE 2	192	7.898	0.698	9.3	25.6535	0.0000	SURCHARGED
180 minute summer	STORAGE 3	148	8.747	0.297	0.4	0.9000	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute summer	STORAGE 2	9.000	S3	-9.3	-1.193	-1.577	0.0244	
180 minute summer	STORAGE 3	3.000	S1	-0.4	-0.050	-0.066	0.0687	

Results for 100 year +40% CC +10% A 180 minute winter. 420 minute analysis at 4 minute timestep. Mass balance: 99.20%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute winter	S1	148	8.809	0.443	1.9	0.0704	0.0000	SURCHARGED
180 minute winter	S2	184	8.165	1.384	8.6	1.0834	0.0000	SURCHARGED
180 minute winter	S3	184	8.148	1.492	11.6	0.8249	0.0000	SURCHARGED
180 minute winter	S4	196	7.213	0.630	2.0	0.1002	0.0000	SURCHARGED
180 minute winter	S5	196	7.211	0.931	2.3	0.8059	0.0000	SURCHARGED
180 minute winter	S6	100	6.281	0.039	5.9	0.0367	0.0000	OK
180 minute winter	OUTFALL	100	5.553	0.038	5.9	0.0000	0.0000	OK
180 minute winter	FC1	140	8.881	0.181	1.8	3.6765	0.0000	SURCHARGED
180 minute winter	FC2	132	9.394	0.394	1.7	3.7495	0.0000	SURCHARGED
180 minute winter	FC3	344	7.710	0.560	2.1	13.4659	0.0000	SURCHARGED
180 minute winter	FC4	344	7.710	0.560	2.1	13.4746	0.0000	SURCHARGED
180 minute winter	FC5	184	8.161	0.261	1.7	3.7132	0.0000	SURCHARGED
180 minute winter	FC6	308	7.785	0.435	1.8	10.4612	0.0000	SURCHARGED
180 minute winter	FC7	200	7.212	0.777	1.5	4.6723	0.0000	SURCHARGED
180 minute winter	STORAGE 1	184	8.165	1.320	4.4	15.1811	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute winter	S1	Orifice	S2	1.5				
180 minute winter	S2	Orifice	S3	6.3				
180 minute winter	S3	Orifice	S4	2.0				
180 minute winter	S4	1.004	S5	1.9	0.504	0.145	0.3100	
180 minute winter	S5	ACO Q-Brake	S6	2.0				
180 minute winter	S6	1.006	OUTFALL	5.9	1.660	0.138	0.0455	61.2
180 minute winter	FC1	Orifice	S1	1.0				
180 minute winter	FC2	Orifice	S1	1.0				
180 minute winter	FC3	Orifice	S2	0.2				
180 minute winter	FC4	Orifice	S2	0.2				
180 minute winter	FC5	Orifice	S3	0.9				
180 minute winter	FC6	Orifice	S3	0.2				
180 minute winter	FC7	Orifice	S5	0.6				
180 minute winter	STORAGE 1	6.000	S2	-4.4	-0.564	-0.734	0.0111	

Results for 100 year +40% CC +10% A 180 minute winter. 420 minute analysis at 4 minute timestep. Mass balance: 99.20%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute winter	STORAGE 2	184	8.148	0.948	9.2	29.5896	0.0000	SURCHARGED
180 minute winter	STORAGE 3	148	8.809	0.359	0.5	1.0874	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute winter	STORAGE 2	9.000	S3	-9.2	-1.174	-1.551	0.0244	
180 minute winter	STORAGE 3	3.000	S1	-0.5	-0.063	-0.083	0.0687	

Results for 100 year +40% CC +10% A 240 minute summer. 480 minute analysis at 4 minute timestep. Mass balance: 99.24%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute summer	S1	188	8.731	0.365	1.6	0.0581	0.0000	SURCHARGED
240 minute summer	S2	152	7.967	1.186	8.2	0.9287	0.0000	SURCHARGED
240 minute summer	S3	244	7.906	1.250	10.5	0.6914	0.0000	SURCHARGED
240 minute summer	S4	260	7.131	0.548	1.9	0.0871	0.0000	SURCHARGED
240 minute summer	S5	260	7.129	0.849	2.3	0.7349	0.0000	SURCHARGED
240 minute summer	S6	132	6.281	0.039	5.8	0.0366	0.0000	OK
240 minute summer	OUTFALL	132	5.553	0.038	5.8	0.0000	0.0000	OK
240 minute summer	FC1	164	8.828	0.128	1.7	3.1223	0.0000	SURCHARGED
240 minute summer	FC2	168	9.175	0.175	1.6	3.6523	0.0000	SURCHARGED
240 minute summer	FC3	364	7.661	0.511	2.0	12.2852	0.0000	SURCHARGED
240 minute summer	FC4	364	7.660	0.510	2.0	12.2929	0.0000	SURCHARGED
240 minute summer	FC5	164	8.038	0.138	1.6	3.3482	0.0000	SURCHARGED
240 minute summer	FC6	328	7.738	0.388	1.6	9.3452	0.0000	SURCHARGED
240 minute summer	FC7	260	7.130	0.695	1.5	4.1792	0.0000	SURCHARGED
240 minute summer	STORAGE 1	152	7.967	1.122	4.1	14.9577	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute summer	S1	Orifice	S2	1.3				
240 minute summer	S2	Orifice	S3	5.6				
240 minute summer	S3	Orifice	S4	1.9				
240 minute summer	S4	1.004	S5	1.8	0.506	0.133	0.3100	
240 minute summer	S5	ACO Q-Brake	S6	2.0				
240 minute summer	S6	1.006	OUTFALL	5.8	1.657	0.137	0.0453	64.3
240 minute summer	FC1	Orifice	S1	0.9				
240 minute summer	FC2	Orifice	S1	0.7				
240 minute summer	FC3	Orifice	S2	0.2				
240 minute summer	FC4	Orifice	S2	0.2				
240 minute summer	FC5	Orifice	S3	0.7				
240 minute summer	FC6	Orifice	S3	0.2				
240 minute summer	FC7	Orifice	S5	0.6				
240 minute summer	STORAGE 1	6.000	S2	-4.1	-0.524	-0.683	0.0111	

Results for 100 year +40% CC +10% A 240 minute summer. 480 minute analysis at 4 minute timestep. Mass balance: 99.24%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute summer	STORAGE 2	244	7.906	0.706	8.1	25.9576	0.0000	SURCHARGED
240 minute summer	STORAGE 3	188	8.731	0.281	0.3	0.8529	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute summer	STORAGE 2	9.000	S3	-8.1	-1.040	-1.374	0.0244	
240 minute summer	STORAGE 3	3.000	S1	-0.3	-0.036	-0.047	0.0687	

Results for 100 year +40% CC +10% A 240 minute winter. 480 minute analysis at 4 minute timestep. Mass balance: 99.25%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
240 minute winter	S1	184	8.774	0.408	1.8	0.0648	0.0000	SURCHARGED
240 minute winter	S2	232	8.194	1.413	7.3	1.1064	0.0000	SURCHARGED
240 minute winter	S3	232	8.177	1.521	10.1	0.8409	0.0000	SURCHARGED
240 minute winter	S4	248	7.250	0.667	2.0	0.1060	0.0000	SURCHARGED
240 minute winter	S5	248	7.247	0.967	2.2	0.8376	0.0000	SURCHARGED
240 minute winter	S6	128	6.278	0.036	5.2	0.0344	0.0000	OK
240 minute winter	OUTFALL	128	5.550	0.035	5.2	0.0000	0.0000	OK
240 minute winter	FC1	180	8.839	0.139	1.5	3.3792	0.0000	SURCHARGED
240 minute winter	FC2	168	9.303	0.303	1.4	3.7090	0.0000	SURCHARGED
240 minute winter	FC3	384	7.747	0.597	1.8	14.3446	0.0000	SURCHARGED
240 minute winter	FC4	384	7.746	0.596	1.8	14.3546	0.0000	SURCHARGED
240 minute winter	FC5	228	8.195	0.295	1.4	3.7310	0.0000	SURCHARGED
240 minute winter	FC6	352	7.811	0.461	1.5	11.1054	0.0000	SURCHARGED
240 minute winter	FC7	248	7.249	0.814	1.3	4.8200	0.0000	SURCHARGED
240 minute winter	STORAGE 1	232	8.194	1.349	3.4	15.2144	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m^3)	Discharge Vol (m^3)
240 minute winter	S1	Orifice	S2	1.4				
240 minute winter	S2	Orifice	S3	5.5				
240 minute winter	S3	Orifice	S4	2.0				
240 minute winter	S4	1.004	S5	1.9	0.506	0.146	0.3100	
240 minute winter	S5	ACO Q-Brake	S6	2.0				
240 minute winter	S6	1.006	OUTFALL	5.2	1.604	0.122	0.0416	68.4
240 minute winter	FC1	Orifice	S1	0.9				
240 minute winter	FC2	Orifice	S1	0.9				
240 minute winter	FC3	Orifice	S2	0.2				
240 minute winter	FC4	Orifice	S2	0.2				
240 minute winter	FC5	Orifice	S3	0.7				
240 minute winter	FC6	Orifice	S3	0.2				
240 minute winter	FC7	Orifice	S5	0.5				
240 minute winter	STORAGE 1	6.000	S2	-3.4	-0.480	-0.573	0.0111	

Results for 100 year +40% CC +10% A 240 minute winter. 480 minute analysis at 4 minute timestep. Mass balance: 99.25%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute winter	STORAGE 2	232	8.177	0.977	7.7	29.6224	0.0000	SURCHARGED
240 minute winter	STORAGE 3	184	8.774	0.324	0.4	0.9810	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute winter	STORAGE 2	9.000	S3	-7.7	-0.986	-1.302	0.0244	
240 minute winter	STORAGE 3	3.000	S1	-0.4	-0.045	-0.060	0.0687	

Results for 100 year +40% CC +10% A 360 minute summer. 600 minute analysis at 8 minute timestep. Mass balance: 99.32%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute summer	S1	256	8.718	0.352	1.4	0.0560	0.0000	SURCHARGED
360 minute summer	S2	304	7.911	1.130	6.7	0.8844	0.0000	SURCHARGED
360 minute summer	S3	312	7.899	1.243	8.2	0.6874	0.0000	SURCHARGED
360 minute summer	S4	344	7.132	0.549	1.9	0.0873	0.0000	SURCHARGED
360 minute summer	S5	344	7.130	0.850	2.2	0.7359	0.0000	SURCHARGED
360 minute summer	S6	192	6.278	0.036	5.0	0.0338	0.0000	OK
360 minute summer	OUTFALL	192	5.550	0.035	5.0	0.0000	0.0000	OK
360 minute summer	FC1	224	8.817	0.117	1.4	2.8517	0.0000	SURCHARGED
360 minute summer	FC2	232	9.142	0.142	1.3	3.4267	0.0000	SURCHARGED
360 minute summer	FC3	440	7.700	0.550	1.6	13.2189	0.0000	SURCHARGED
360 minute summer	FC4	440	7.699	0.549	1.6	13.2274	0.0000	SURCHARGED
360 minute summer	FC5	232	8.026	0.126	1.3	3.0672	0.0000	SURCHARGED
360 minute summer	FC6	408	7.767	0.417	1.3	10.0409	0.0000	SURCHARGED
360 minute summer	FC7	344	7.131	0.696	1.2	4.1877	0.0000	SURCHARGED
360 minute summer	STORAGE 1	304	7.911	1.066	3.1	14.8937	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute summer	S1	Orifice	S2	1.3				
360 minute summer	S2	Orifice	S3	4.5				
360 minute summer	S3	Orifice	S4	1.9				
360 minute summer	S4	1.004	S5	1.8	0.506	0.134	0.3100	
360 minute summer	S5	ACO Q-Brake	S6	2.0				
360 minute summer	S6	1.006	OUTFALL	5.0	1.590	0.118	0.0406	76.5
360 minute summer	FC1	Orifice	S1	0.9				
360 minute summer	FC2	Orifice	S1	0.6				
360 minute summer	FC3	Orifice	S2	0.2				
360 minute summer	FC4	Orifice	S2	0.2				
360 minute summer	FC5	Orifice	S3	0.7				
360 minute summer	FC6	Orifice	S3	0.3				
360 minute summer	FC7	Orifice	S5	0.5				
360 minute summer	STORAGE 1	6.000	S2	-3.1	-0.394	-0.513	0.0111	

Results for 100 year +40% CC +10% A 360 minute summer. 600 minute analysis at 8 minute timestep. Mass balance: 99.32%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
360 minute summer	STORAGE 2	312	7.899	0.699	5.9	25.6943	0.0000	SURCHARGED
360 minute summer	STORAGE 3	256	8.718	0.268	0.2	0.8132	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m^3)	Discharge Vol (m^3)
360 minute summer	STORAGE 2	9.000	S3	-5.9	-0.757	-1.001	0.0244	
360 minute summer	STORAGE 3	3.000	S1	-0.2	-0.029	-0.038	0.0687	

Results for 100 year +40% CC +10% A 360 minute winter. 600 minute analysis at 8 minute timestep. Mass balance: 99.33%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute winter	S1	264	8.716	0.350	1.4	0.0557	0.0000	SURCHARGED
360 minute winter	S2	280	8.081	1.300	5.7	1.0182	0.0000	SURCHARGED
360 minute winter	S3	304	8.057	1.401	8.0	0.7745	0.0000	SURCHARGED
360 minute winter	S4	344	7.226	0.643	1.9	0.1022	0.0000	SURCHARGED
360 minute winter	S5	344	7.224	0.944	2.2	0.8173	0.0000	SURCHARGED
360 minute winter	S6	184	6.276	0.034	4.4	0.0317	0.0000	OK
360 minute winter	OUTFALL	184	5.548	0.033	4.4	0.0000	0.0000	OK
360 minute winter	FC1	232	8.806	0.106	1.1	2.5860	0.0000	SURCHARGED
360 minute winter	FC2	248	9.144	0.144	1.0	3.4798	0.0000	SURCHARGED
360 minute winter	FC3	464	7.789	0.639	1.4	15.3562	0.0000	SURCHARGED
360 minute winter	FC4	464	7.788	0.638	1.4	15.3685	0.0000	SURCHARGED
360 minute winter	FC5	304	8.068	0.168	1.0	3.6634	0.0000	SURCHARGED
360 minute winter	FC6	432	7.842	0.492	1.2	11.8447	0.0000	SURCHARGED
360 minute winter	FC7	344	7.228	0.793	1.0	4.7715	0.0000	SURCHARGED
360 minute winter	STORAGE 1	280	8.081	1.236	2.5	15.0870	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute winter	S1	Orifice	S2	1.3				
360 minute winter	S2	Orifice	S3	4.3				
360 minute winter	S3	Orifice	S4	1.9				
360 minute winter	S4	1.004	S5	1.8	0.511	0.139	0.3100	
360 minute winter	S5	ACO Q-Brake	S6	2.0				
360 minute winter	S6	1.006	OUTFALL	4.4	1.536	0.104	0.0371	81.5
360 minute winter	FC1	Orifice	S1	0.8				
360 minute winter	FC2	Orifice	S1	0.6				
360 minute winter	FC3	Orifice	S2	0.2				
360 minute winter	FC4	Orifice	S2	0.2				
360 minute winter	FC5	Orifice	S3	0.7				
360 minute winter	FC6	Orifice	S3	0.3				
360 minute winter	FC7	Orifice	S5	0.4				
360 minute winter	STORAGE 1	6.000	S2	-2.5	-0.320	-0.417	0.0111	

Results for 100 year +40% CC +10% A 360 minute winter. 600 minute analysis at 8 minute timestep. Mass balance: 99.33%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
360 minute winter	STORAGE 2	304	8.057	0.857	5.7	29.4867	0.0000	SURCHARGED
360 minute winter	STORAGE 3	264	8.716	0.266	0.2	0.8075	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m^3)	Discharge Vol (m^3)
360 minute winter	STORAGE 2	9.000	S3	-5.7	-0.725	-0.958	0.0244	
360 minute winter	STORAGE 3	3.000	S1	-0.2	0.026	-0.028	0.0687	

Results for 100 year +40% CC +10% A 480 minute summer. 720 minute analysis at 8 minute timestep. Mass balance: 99.38%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute summer	S1	320	8.676	0.310	1.3	0.0493	0.0000	SURCHARGED
480 minute summer	S2	368	7.876	1.095	5.8	0.8572	0.0000	SURCHARGED
480 minute summer	S3	368	7.865	1.209	6.8	0.6685	0.0000	SURCHARGED
480 minute summer	S4	416	7.108	0.525	1.9	0.0836	0.0000	SURCHARGED
480 minute summer	S5	416	7.106	0.826	2.2	0.7157	0.0000	SURCHARGED
480 minute summer	S6	256	6.276	0.034	4.5	0.0321	0.0000	OK
480 minute summer	OUTFALL	256	5.548	0.033	4.5	0.0000	0.0000	OK
480 minute summer	FC1	288	8.800	0.100	1.2	2.4293	0.0000	OK
480 minute summer	FC2	304	9.125	0.125	1.1	3.0128	0.0000	SURCHARGED
480 minute summer	FC3	512	7.708	0.558	1.4	13.4059	0.0000	SURCHARGED
480 minute summer	FC4	512	7.707	0.557	1.4	13.4150	0.0000	SURCHARGED
480 minute summer	FC5	296	8.009	0.109	1.1	2.6463	0.0000	SURCHARGED
480 minute summer	FC6	488	7.760	0.410	1.1	9.8559	0.0000	SURCHARGED
480 minute summer	FC7	416	7.108	0.673	1.0	4.0475	0.0000	SURCHARGED
480 minute summer	STORAGE 1	368	7.876	1.031	2.5	14.8545	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute summer	S1	Orifice	S2	1.2				
480 minute summer	S2	Orifice	S3	3.8				
480 minute summer	S3	Orifice	S4	1.9				
480 minute summer	S4	1.004	S5	1.8	0.512	0.136	0.3100	
480 minute summer	S5	ACO Q-Brake	S6	2.0				
480 minute summer	S6	1.006	OUTFALL	4.5	1.545	0.107	0.0377	87.5
480 minute summer	FC1	Orifice	S1	0.8				
480 minute summer	FC2	Orifice	S1	0.5				
480 minute summer	FC3	Orifice	S2	0.2				
480 minute summer	FC4	Orifice	S2	0.2				
480 minute summer	FC5	Orifice	S3	0.6				
480 minute summer	FC6	Orifice	S3	0.3				
480 minute summer	FC7	Orifice	S5	0.4				
480 minute summer	STORAGE 1	6.000	S2	-2.5	-0.317	-0.413	0.0111	

Results for 100 year +40% CC +10% A 480 minute summer. 720 minute analysis at 8 minute timestep. Mass balance: 99.38%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute summer	STORAGE 2	368	7.865	0.665	4.5	24.4411	0.0000	SURCHARGED
480 minute summer	STORAGE 3	320	8.676	0.226	0.2	0.6852	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute summer	STORAGE 2	9.000	S3	-4.5	-0.581	-0.768	0.0244	
480 minute summer	STORAGE 3	3.000	S1	-0.2	-0.023	-0.030	0.0687	

Results for 100 year +40% CC +10% A 480 minute winter. 720 minute analysis at 8 minute timestep. Mass balance: 99.38%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute winter	S1	328	8.672	0.306	1.3	0.0486	0.0000	SURCHARGED
480 minute winter	S2	368	8.021	1.240	4.8	0.9706	0.0000	SURCHARGED
480 minute winter	S3	368	8.004	1.348	6.6	0.7456	0.0000	SURCHARGED
480 minute winter	S4	408	7.210	0.627	1.9	0.0997	0.0000	SURCHARGED
480 minute winter	S5	408	7.208	0.928	2.1	0.8035	0.0000	SURCHARGED
480 minute winter	S6	240	6.274	0.032	4.0	0.0299	0.0000	OK
480 minute winter	OUTFALL	240	5.546	0.031	4.0	0.0000	0.0000	OK
480 minute winter	FC1	296	8.790	0.090	0.9	2.1939	0.0000	OK
480 minute winter	FC2	320	9.125	0.125	0.8	3.0290	0.0000	SURCHARGED
480 minute winter	FC3	536	7.815	0.665	1.2	15.9982	0.0000	SURCHARGED
480 minute winter	FC4	536	7.815	0.665	1.2	16.0096	0.0000	SURCHARGED
480 minute winter	FC5	384	8.010	0.110	0.8	2.6743	0.0000	SURCHARGED
480 minute winter	FC6	512	7.858	0.508	1.0	12.2248	0.0000	SURCHARGED
480 minute winter	FC7	400	7.211	0.776	0.9	4.6692	0.0000	SURCHARGED
480 minute winter	STORAGE 1	368	8.021	1.176	2.0	15.0182	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute winter	S1	Orifice	S2	1.2				
480 minute winter	S2	Orifice	S3	3.7				
480 minute winter	S3	Orifice	S4	1.9				
480 minute winter	S4	1.004	S5	1.8	0.512	0.138	0.3100	
480 minute winter	S5	ACO Q-Brake	S6	2.0				
480 minute winter	S6	1.006	OUTFALL	4.0	1.488	0.093	0.0343	93.4
480 minute winter	FC1	Orifice	S1	0.7				
480 minute winter	FC2	Orifice	S1	0.5				
480 minute winter	FC3	Orifice	S2	0.2				
480 minute winter	FC4	Orifice	S2	0.2				
480 minute winter	FC5	Orifice	S3	0.6				
480 minute winter	FC6	Orifice	S3	0.3				
480 minute winter	FC7	Orifice	S5	0.4				
480 minute winter	STORAGE 1	6.000	S2	-2.0	-0.253	-0.329	0.0111	

Results for 100 year +40% CC +10% A 480 minute winter. 720 minute analysis at 8 minute timestep. Mass balance: 99.38%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute winter	STORAGE 2	368	8.004	0.804	4.4	29.4275	0.0000	SURCHARGED
480 minute winter	STORAGE 3	328	8.672	0.222	0.1	0.6726	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute winter	STORAGE 2	9.000	S3	-4.4	-0.565	-0.746	0.0244	
480 minute winter	STORAGE 3	3.000	S1	0.1	0.016	0.021	0.0687	

Results for 100 year +40% CC +10% A 600 minute summer. 840 minute analysis at 15 minute timestep. Mass balance: 99.43%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute summer	S1	375	8.638	0.272	1.2	0.0432	0.0000	SURCHARGED
600 minute summer	S2	420	7.839	1.058	5.1	0.8286	0.0000	SURCHARGED
600 minute summer	S3	435	7.829	1.173	5.7	0.6488	0.0000	SURCHARGED
600 minute summer	S4	465	7.097	0.514	1.9	0.0817	0.0000	SURCHARGED
600 minute summer	S5	465	7.095	0.815	2.1	0.7057	0.0000	SURCHARGED
600 minute summer	S6	315	6.275	0.033	4.2	0.0310	0.0000	OK
600 minute summer	OUTFALL	315	5.547	0.032	4.2	0.0000	0.0000	OK
600 minute summer	FC1	345	8.786	0.086	1.0	2.0809	0.0000	OK
600 minute summer	FC2	360	9.111	0.111	0.9	2.6906	0.0000	SURCHARGED
600 minute summer	FC3	600	7.699	0.549	1.2	13.2009	0.0000	SURCHARGED
600 minute summer	FC4	600	7.699	0.549	1.2	13.2157	0.0000	SURCHARGED
600 minute summer	FC5	360	7.996	0.096	0.9	2.3310	0.0000	OK
600 minute summer	FC6	555	7.744	0.394	1.0	9.4744	0.0000	SURCHARGED
600 minute summer	FC7	465	7.096	0.661	0.8	3.9786	0.0000	SURCHARGED
600 minute summer	STORAGE 1	420	7.839	0.994	2.1	14.8130	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute summer	S1	Orifice	S2	1.1				
600 minute summer	S2	Orifice	S3	3.2				
600 minute summer	S3	Orifice	S4	1.9				
600 minute summer	S4	1.004	S5	1.8	0.505	0.136	0.3100	
600 minute summer	S5	ACO Q-Brake	S6	2.0				
600 minute summer	S6	1.006	OUTFALL	4.2	1.516	0.100	0.0359	98.1
600 minute summer	FC1	Orifice	S1	0.7				
600 minute summer	FC2	Orifice	S1	0.5				
600 minute summer	FC3	Orifice	S2	0.2				
600 minute summer	FC4	Orifice	S2	0.2				
600 minute summer	FC5	Orifice	S3	0.6				
600 minute summer	FC6	Orifice	S3	0.3				
600 minute summer	FC7	Orifice	S5	0.4				
600 minute summer	STORAGE 1	6.000	S2	-2.1	-0.263	-0.343	0.0111	

Results for 100 year +40% CC +10% A 600 minute summer. 840 minute analysis at 15 minute timestep. Mass balance: 99.43%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute summer	STORAGE 2	435	7.829	0.629	3.6	23.1259	0.0000	SURCHARGED
600 minute summer	STORAGE 3	375	8.638	0.188	0.1	0.5698	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute summer	STORAGE 2	9.000	S3	-3.6	-0.464	-0.613	0.0244	
600 minute summer	STORAGE 3	3.000	S1	-0.1	0.023	-0.024	0.0687	

Results for 100 year +40% CC +10% A 600 minute winter. 840 minute analysis at 15 minute timestep. Mass balance: 99.43%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute winter	S1	390	8.631	0.265	1.2	0.0421	0.0000	SURCHARGED
600 minute winter	S2	435	7.977	1.196	4.2	0.9366	0.0000	SURCHARGED
600 minute winter	S3	450	7.963	1.307	5.5	0.7230	0.0000	SURCHARGED
600 minute winter	S4	480	7.180	0.597	1.9	0.0949	0.0000	SURCHARGED
600 minute winter	S5	480	7.178	0.898	2.1	0.7776	0.0000	SURCHARGED
600 minute winter	S6	300	6.273	0.031	3.7	0.0288	0.0000	OK
600 minute winter	OUTFALL	300	5.545	0.030	3.7	0.0000	0.0000	OK
600 minute winter	FC1	345	8.779	0.079	0.8	1.9161	0.0000	OK
600 minute winter	FC2	375	9.108	0.108	0.7	2.6189	0.0000	SURCHARGED
600 minute winter	FC3	615	7.819	0.669	1.0	16.0868	0.0000	SURCHARGED
600 minute winter	FC4	615	7.819	0.669	1.0	16.1021	0.0000	SURCHARGED
600 minute winter	FC5	375	7.990	0.090	0.7	2.1743	0.0000	OK
600 minute winter	FC6	600	7.844	0.494	0.9	11.8916	0.0000	SURCHARGED
600 minute winter	FC7	480	7.180	0.745	0.8	4.4825	0.0000	SURCHARGED
600 minute winter	STORAGE 1	435	7.977	1.132	1.8	14.9690	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute winter	S1	Orifice	S2	1.1				
600 minute winter	S2	Orifice	S3	3.1				
600 minute winter	S3	Orifice	S4	1.9				
600 minute winter	S4	1.004	S5	1.8	0.510	0.135	0.3100	
600 minute winter	S5	ACO Q-Brake	S6	2.0				
600 minute winter	S6	1.006	OUTFALL	3.7	1.457	0.087	0.0325	103.7
600 minute winter	FC1	Orifice	S1	0.7				
600 minute winter	FC2	Orifice	S1	0.5				
600 minute winter	FC3	Orifice	S2	0.3				
600 minute winter	FC4	Orifice	S2	0.3				
600 minute winter	FC5	Orifice	S3	0.5				
600 minute winter	FC6	Orifice	S3	0.3				
600 minute winter	FC7	Orifice	S5	0.4				
600 minute winter	STORAGE 1	6.000	S2	-1.8	-0.248	-0.291	0.0111	

Results for 100 year +40% CC +10% A 600 minute winter. 840 minute analysis at 15 minute timestep. Mass balance: 99.43%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute winter	STORAGE 2	450	7.963	0.763	3.3	28.0585	0.0000	SURCHARGED
600 minute winter	STORAGE 3	390	8.631	0.181	0.1	0.5478	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute winter	STORAGE 2	9.000	S3	-3.3	-0.421	-0.556	0.0244	
600 minute winter	STORAGE 3	3.000	S1	0.1	0.018	0.018	0.0687	

Results for 100 year +40% CC +10% A 720 minute summer. 960 minute analysis at 15 minute timestep. Mass balance: 99.47%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute summer	S1	435	8.622	0.256	1.2	0.0407	0.0000	SURCHARGED
720 minute summer	S2	495	7.833	1.052	4.6	0.8239	0.0000	SURCHARGED
720 minute summer	S3	495	7.823	1.167	5.2	0.6455	0.0000	SURCHARGED
720 minute summer	S4	540	7.089	0.506	1.9	0.0804	0.0000	SURCHARGED
720 minute summer	S5	540	7.087	0.807	2.1	0.6988	0.0000	SURCHARGED
720 minute summer	S6	375	6.274	0.032	4.0	0.0299	0.0000	OK
720 minute summer	OUTFALL	375	5.546	0.031	4.0	0.0000	0.0000	OK
720 minute summer	FC1	405	8.779	0.079	0.9	1.9279	0.0000	OK
720 minute summer	FC2	420	9.104	0.104	0.8	2.5214	0.0000	SURCHARGED
720 minute summer	FC3	675	7.705	0.555	1.1	13.3437	0.0000	SURCHARGED
720 minute summer	FC4	675	7.705	0.555	1.1	13.3596	0.0000	SURCHARGED
720 minute summer	FC5	420	7.989	0.089	0.8	2.1670	0.0000	OK
720 minute summer	FC6	615	7.740	0.390	0.9	9.3778	0.0000	SURCHARGED
720 minute summer	FC7	540	7.088	0.653	0.8	3.9299	0.0000	SURCHARGED
720 minute summer	STORAGE 1	495	7.833	0.988	1.8	14.8063	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute summer	S1	Orifice	S2	1.1				
720 minute summer	S2	Orifice	S3	2.8				
720 minute summer	S3	Orifice	S4	1.9				
720 minute summer	S4	1.004	S5	1.8	0.508	0.136	0.3100	
720 minute summer	S5	ACO Q-Brake	S6	2.0				
720 minute summer	S6	1.006	OUTFALL	4.0	1.486	0.093	0.0342	108.8
720 minute summer	FC1	Orifice	S1	0.7				
720 minute summer	FC2	Orifice	S1	0.5				
720 minute summer	FC3	Orifice	S2	0.2				
720 minute summer	FC4	Orifice	S2	0.2				
720 minute summer	FC5	Orifice	S3	0.5				
720 minute summer	FC6	Orifice	S3	0.3				
720 minute summer	FC7	Orifice	S5	0.4				
720 minute summer	STORAGE 1	6.000	S2	-1.8	-0.225	-0.293	0.0111	

Results for 100 year +40% CC +10% A 720 minute summer. 960 minute analysis at 15 minute timestep. Mass balance: 99.47%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute summer	STORAGE 2	495	7.823	0.623	3.2	22.9100	0.0000	SURCHARGED
720 minute summer	STORAGE 3	435	8.622	0.172	0.1	0.5214	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute summer	STORAGE 2	9.000	S3	-3.2	-0.403	-0.532	0.0244	
720 minute summer	STORAGE 3	3.000	S1	-0.1	0.019	-0.020	0.0687	

Results for 100 year +40% CC +10% A 720 minute winter. 960 minute analysis at 15 minute timestep. Mass balance: 99.48%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute winter	S1	450	8.593	0.227	1.1	0.0361	0.0000	SURCHARGED
720 minute winter	S2	525	7.936	1.155	3.7	0.9041	0.0000	SURCHARGED
720 minute winter	S3	525	7.924	1.268	4.9	0.7010	0.0000	SURCHARGED
720 minute winter	S4	555	7.166	0.583	1.9	0.0928	0.0000	SURCHARGED
720 minute winter	S5	555	7.164	0.884	2.1	0.7659	0.0000	SURCHARGED
720 minute winter	S6	360	6.272	0.030	3.5	0.0281	0.0000	OK
720 minute winter	OUTFALL	360	5.544	0.029	3.5	0.0000	0.0000	OK
720 minute winter	FC1	405	8.768	0.068	0.7	1.6492	0.0000	OK
720 minute winter	FC2	435	9.095	0.095	0.6	2.3090	0.0000	OK
720 minute winter	FC3	705	7.806	0.656	0.9	15.7795	0.0000	SURCHARGED
720 minute winter	FC4	705	7.806	0.656	0.9	15.7989	0.0000	SURCHARGED
720 minute winter	FC5	420	7.978	0.078	0.6	1.9054	0.0000	OK
720 minute winter	FC6	660	7.828	0.478	0.8	11.4993	0.0000	SURCHARGED
720 minute winter	FC7	555	7.167	0.732	0.7	4.4029	0.0000	SURCHARGED
720 minute winter	STORAGE 1	525	7.936	1.091	1.6	14.9221	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute winter	S1	Orifice	S2	1.0				
720 minute winter	S2	Orifice	S3	2.7				
720 minute winter	S3	Orifice	S4	1.9				
720 minute winter	S4	1.004	S5	1.9	0.517	0.140	0.3100	
720 minute winter	S5	ACO Q-Brake	S6	2.0				
720 minute winter	S6	1.006	OUTFALL	3.5	1.435	0.082	0.0313	115.2
720 minute winter	FC1	Orifice	S1	0.6				
720 minute winter	FC2	Orifice	S1	0.5				
720 minute winter	FC3	Orifice	S2	0.3				
720 minute winter	FC4	Orifice	S2	0.3				
720 minute winter	FC5	Orifice	S3	0.5				
720 minute winter	FC6	Orifice	S3	0.3				
720 minute winter	FC7	Orifice	S5	0.4				
720 minute winter	STORAGE 1	6.000	S2	-1.6	-0.203	-0.264	0.0111	

Results for 100 year +40% CC +10% A 720 minute winter. 960 minute analysis at 15 minute timestep. Mass balance: 99.48%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute winter	STORAGE 2	525	7.924	0.724	2.8	26.5974	0.0000	SURCHARGED
720 minute winter	STORAGE 3	450	8.593	0.143	0.1	0.4336	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute winter	STORAGE 2	9.000	S3	-2.8	-0.358	-0.473	0.0244	
720 minute winter	STORAGE 3	3.000	S1	0.1	0.017	0.016	0.0687	

Results for 100 year +40% CC +10% A 960 minute summer. 1200 minute analysis at 15 minute timestep. Mass balance: 99.55%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute summer	S1	555	8.576	0.210	1.0	0.0334	0.0000	SURCHARGED
960 minute summer	S2	630	7.781	1.000	3.8	0.7827	0.0000	SURCHARGED
960 minute summer	S3	630	7.771	1.115	4.4	0.6169	0.0000	SURCHARGED
960 minute summer	S4	675	7.062	0.479	1.9	0.0762	0.0000	SURCHARGED
960 minute summer	S5	675	7.060	0.780	2.1	0.6757	0.0000	SURCHARGED
960 minute summer	S6	495	6.272	0.030	3.6	0.0285	0.0000	OK
960 minute summer	OUTFALL	495	5.545	0.030	3.6	0.0000	0.0000	OK
960 minute summer	FC1	525	8.766	0.066	0.7	1.5978	0.0000	OK
960 minute summer	FC2	555	9.088	0.088	0.7	2.1234	0.0000	OK
960 minute summer	FC3	795	7.688	0.538	1.0	12.9436	0.0000	SURCHARGED
960 minute summer	FC4	795	7.688	0.538	1.0	12.9597	0.0000	SURCHARGED
960 minute summer	FC5	540	7.974	0.074	0.7	1.7897	0.0000	OK
960 minute summer	FC6	735	7.713	0.363	0.7	8.7267	0.0000	SURCHARGED
960 minute summer	FC7	675	7.062	0.627	0.6	3.7695	0.0000	SURCHARGED
960 minute summer	STORAGE 1	630	7.781	0.936	1.3	14.7467	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute summer	S1	Orifice	S2	1.0				
960 minute summer	S2	Orifice	S3	2.2				
960 minute summer	S3	Orifice	S4	1.9				
960 minute summer	S4	1.004	S5	1.9	0.516	0.140	0.3100	
960 minute summer	S5	ACO Q-Brake	S6	2.0				
960 minute summer	S6	1.006	OUTFALL	3.6	1.447	0.084	0.0319	129.9
960 minute summer	FC1	Orifice	S1	0.6				
960 minute summer	FC2	Orifice	S1	0.4				
960 minute summer	FC3	Orifice	S2	0.2				
960 minute summer	FC4	Orifice	S2	0.2				
960 minute summer	FC5	Orifice	S3	0.5				
960 minute summer	FC6	Orifice	S3	0.3				
960 minute summer	FC7	Orifice	S5	0.4				
960 minute summer	STORAGE 1	6.000	S2	-1.3	-0.171	-0.223	0.0111	

Results for 100 year +40% CC +10% A 960 minute summer. 1200 minute analysis at 15 minute timestep. Mass balance: 99.55%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute summer	STORAGE 2	630	7.771	0.571	2.4	21.0057	0.0000	SURCHARGED
960 minute summer	STORAGE 3	555	8.576	0.126	0.1	0.3814	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute summer	STORAGE 2	9.000	S3	-2.4	-0.339	-0.413	0.0244	
960 minute summer	STORAGE 3	3.000	S1	0.1	0.015	0.016	0.0687	

Results for 100 year +40% CC +10% A 960 minute winter. 1200 minute analysis at 15 minute timestep. Mass balance: 99.55%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute winter	S1	570	8.539	0.173	0.9	0.0276	0.0000	SURCHARGED
960 minute winter	S2	675	7.859	1.078	3.1	0.8438	0.0000	SURCHARGED
960 minute winter	S3	675	7.849	1.193	4.0	0.6598	0.0000	SURCHARGED
960 minute winter	S4	705	7.128	0.545	1.9	0.0866	0.0000	SURCHARGED
960 minute winter	S5	705	7.126	0.846	2.1	0.7325	0.0000	SURCHARGED
960 minute winter	S6	480	6.270	0.028	3.2	0.0269	0.0000	OK
960 minute winter	OUTFALL	480	5.543	0.028	3.2	0.0000	0.0000	OK
960 minute winter	FC1	555	8.751	0.051	0.5	1.2346	0.0000	OK
960 minute winter	FC2	555	9.081	0.081	0.5	1.9624	0.0000	OK
960 minute winter	FC3	825	7.786	0.636	0.8	15.2930	0.0000	SURCHARGED
960 minute winter	FC4	825	7.786	0.636	0.8	15.3122	0.0000	SURCHARGED
960 minute winter	FC5	540	7.966	0.066	0.5	1.6024	0.0000	OK
960 minute winter	FC6	795	7.794	0.444	0.6	10.6931	0.0000	SURCHARGED
960 minute winter	FC7	705	7.128	0.693	0.7	4.1712	0.0000	SURCHARGED
960 minute winter	STORAGE 1	675	7.859	1.014	1.2	14.8350	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute winter	S1	Orifice	S2	0.9				
960 minute winter	S2	Orifice	S3	2.2				
960 minute winter	S3	Orifice	S4	1.9				
960 minute winter	S4	1.004	S5	1.9	0.518	0.142	0.3100	
960 minute winter	S5	ACO Q-Brake	S6	2.0				
960 minute winter	S6	1.006	OUTFALL	3.2	1.399	0.075	0.0294	136.7
960 minute winter	FC1	Orifice	S1	0.5				
960 minute winter	FC2	Orifice	S1	0.4				
960 minute winter	FC3	Orifice	S2	0.3				
960 minute winter	FC4	Orifice	S2	0.3				
960 minute winter	FC5	Orifice	S3	0.5				
960 minute winter	FC6	Orifice	S3	0.3				
960 minute winter	FC7	Orifice	S5	0.3				
960 minute winter	STORAGE 1	6.000	S2	-1.2	-0.169	-0.207	0.0111	

Results for 100 year +40% CC +10% A 960 minute winter. 1200 minute analysis at 15 minute timestep. Mass balance: 99.55%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute winter	STORAGE 2	675	7.849	0.649	1.8	23.8609	0.0000	SURCHARGED
960 minute winter	STORAGE 3	570	8.539	0.089	0.0	0.2707	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute winter	STORAGE 2	9.000	S3	-1.8	-0.295	-0.311	0.0244	
960 minute winter	STORAGE 3	3.000	S1	0.1	0.013	0.011	0.0668	

Results for 100 year +40% CC +10% A 1440 minute summer. 1680 minute analysis at 30 minute timestep. Mass balance: 99.67%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute summer	S1	810	8.512	0.146	0.8	0.0232	0.0000	SURCHARGED
1440 minute summer	S2	900	7.653	0.872	3.0	0.6827	0.0000	SURCHARGED
1440 minute summer	S3	900	7.644	0.988	3.5	0.5465	0.0000	SURCHARGED
1440 minute summer	S4	960	6.995	0.412	1.9	0.0655	0.0000	SURCHARGED
1440 minute summer	S5	960	6.993	0.713	2.1	0.6178	0.0000	SURCHARGED
1440 minute summer	S6	750	6.270	0.028	3.2	0.0269	0.0000	OK
1440 minute summer	OUTFALL	750	5.543	0.028	3.2	0.0000	0.0000	OK
1440 minute summer	FC1	750	8.746	0.046	0.5	1.1188	0.0000	OK
1440 minute summer	FC2	780	9.070	0.070	0.5	1.6937	0.0000	OK
1440 minute summer	FC3	1050	7.632	0.482	0.7	11.5758	0.0000	SURCHARGED
1440 minute summer	FC4	1050	7.631	0.481	0.7	11.5921	0.0000	SURCHARGED
1440 minute summer	FC5	780	7.959	0.059	0.5	1.4205	0.0000	OK
1440 minute summer	FC6	990	7.640	0.290	0.5	6.9744	0.0000	SURCHARGED
1440 minute summer	FC7	990	6.995	0.560	0.4	3.3676	0.0000	SURCHARGED
1440 minute summer	STORAGE 1	900	7.653	0.808	1.1	14.6022	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute summer	S1	Orifice	S2	0.8				
1440 minute summer	S2	Orifice	S3	1.7				
1440 minute summer	S3	Orifice	S4	1.9				
1440 minute summer	S4	1.004	S5	1.9	0.514	0.141	0.3100	
1440 minute summer	S5	ACO Q-Brake	S6	2.0				
1440 minute summer	S6	1.006	OUTFALL	3.2	1.399	0.075	0.0294	159.9
1440 minute summer	FC1	Orifice	S1	0.5				
1440 minute summer	FC2	Orifice	S1	0.4				
1440 minute summer	FC3	Orifice	S2	0.3				
1440 minute summer	FC4	Orifice	S2	0.3				
1440 minute summer	FC5	Orifice	S3	0.4				
1440 minute summer	FC6	Orifice	S3	0.2				
1440 minute summer	FC7	Orifice	S5	0.3				
1440 minute summer	STORAGE 1	6.000	S2	-1.1	-0.136	-0.178	0.0111	

Results for 100 year +40% CC +10% A 1440 minute summer. 1680 minute analysis at 30 minute timestep. Mass balance: 99.67%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute summer	STORAGE 2	900	7.644	0.444	1.7	16.3298	0.0000	SURCHARGED
1440 minute summer	STORAGE 3	810	8.512	0.062	0.0	0.1879	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute summer	STORAGE 2	9.000	S3	-1.7	-0.215	-0.284	0.0244	
1440 minute summer	STORAGE 3	3.000	S1	0.1	0.010	0.010	0.0568	

Results for 100 year +40% CC +10% A 1440 minute winter. 1680 minute analysis at 30 minute timestep. Mass balance: 99.66%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute winter	S1	810	8.484	0.118	0.7	0.0187	0.0000	SURCHARGED
1440 minute winter	S2	1020	7.694	0.913	2.3	0.7147	0.0000	SURCHARGED
1440 minute winter	S3	1020	7.685	1.029	2.9	0.5690	0.0000	SURCHARGED
1440 minute winter	S4	1020	7.027	0.444	1.9	0.0706	0.0000	SURCHARGED
1440 minute winter	S5	1020	7.025	0.745	2.0	0.6453	0.0000	SURCHARGED
1440 minute winter	S6	750	6.269	0.027	2.9	0.0256	0.0000	OK
1440 minute winter	OUTFALL	750	5.542	0.027	2.9	0.0000	0.0000	OK
1440 minute winter	FC1	810	8.740	0.040	0.4	0.9648	0.0000	OK
1440 minute winter	FC2	780	9.055	0.055	0.4	1.3299	0.0000	OK
1440 minute winter	FC3	1080	7.700	0.550	0.6	13.2132	0.0000	SURCHARGED
1440 minute winter	FC4	1080	7.700	0.550	0.6	13.2338	0.0000	SURCHARGED
1440 minute winter	FC5	780	7.945	0.045	0.4	1.0967	0.0000	OK
1440 minute winter	FC6	1080	7.692	0.342	0.4	8.2346	0.0000	SURCHARGED
1440 minute winter	FC7	1020	7.026	0.591	0.4	3.5581	0.0000	SURCHARGED
1440 minute winter	STORAGE 1	1020	7.694	0.849	0.8	14.6486	0.0000	SURCHARGED

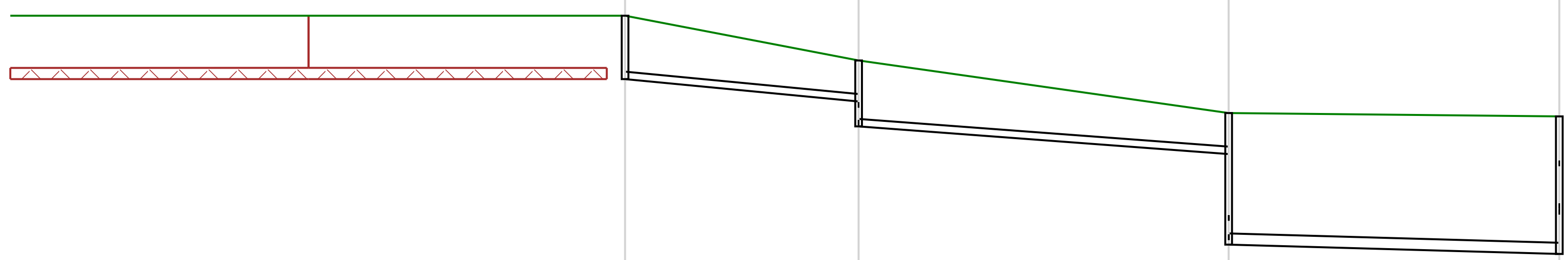
Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute winter	S1	Orifice	S2	0.7				
1440 minute winter	S2	Orifice	S3	1.5				
1440 minute winter	S3	Orifice	S4	1.9				
1440 minute winter	S4	1.004	S5	1.9	0.523	0.143	0.3100	
1440 minute winter	S5	ACO Q-Brake	S6	2.0				
1440 minute winter	S6	1.006	OUTFALL	2.9	1.359	0.068	0.0274	177.0
1440 minute winter	FC1	Orifice	S1	0.4				
1440 minute winter	FC2	Orifice	S1	0.3				
1440 minute winter	FC3	Orifice	S2	0.3				
1440 minute winter	FC4	Orifice	S2	0.3				
1440 minute winter	FC5	Orifice	S3	0.3				
1440 minute winter	FC6	Orifice	S3	0.2				
1440 minute winter	FC7	Orifice	S5	0.3				
1440 minute winter	STORAGE 1	6.000	S2	-0.8	-0.109	-0.135	0.0111	

Results for 100 year +40% CC +10% A 1440 minute winter. 1680 minute analysis at 30 minute timestep. Mass balance: 99.66%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute winter	STORAGE 2	1020	7.685	0.485	1.0	17.8222	0.0000	SURCHARGED
1440 minute winter	STORAGE 3	810	8.484	0.034	0.0	0.1019	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute winter	STORAGE 2	9.000	S3	-1.0	-0.235	-0.173	0.0244	
1440 minute winter	STORAGE 3	3.000	S1	0.0	0.004	0.004	0.0445	

RSPD	Roads & Sewers For Planning & Design Ltd	File: 5678 LS.pfd Network: Storm Network Luke Shaw 24/02/2023	Page 1



A4 drawing

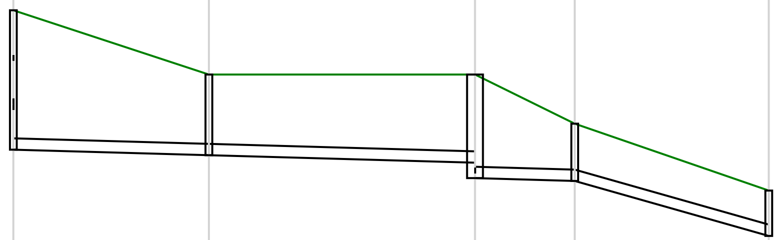
Hor Scale 500
Ver Scale 100

Datum (m) 3.000

Link Name	1.000	1.001	1.002
Section Type	100mm	100mm	150mm
Slope (1:X)	52.2	66.9	177.4
Length (m)	15.662	24.816	22.173

Node Name	FC2	S1	S2	S3
Cover Level (m)	9.850	9.250	8.545	8.500
Invert Level (m)	9.000	8.700 / 8.366	7.995 / 6.781	6.656

Node Name	S3	S4	S5	S6	OUTFALL
Cover Level (m)	8.500	7.650	7.650	7.000	6.115



A4 drawing

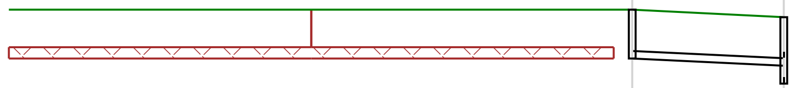
Hor Scale 500
Ver Scale 100

Datum (m) 1.000

Link Name	1.003	1.004	1.005	1.006
Section Type	150mm	150mm	150mm	150mm
Slope (1:X)	177.3	177.9	173.7	17.7
Invert Level (m)	6.656 / 6.583	6.583 / 6.484	6.280 / 6.242	6.242 / 5.515
Length (m)	12.941	17.609	6.600	12.840

Roads & Sewers For Planning & Design Ltd	File: 5678 LS.pfd Network: Storm Network Luke Shaw 24/02/2023	

Node Name	FC1	S1



A4 drawing

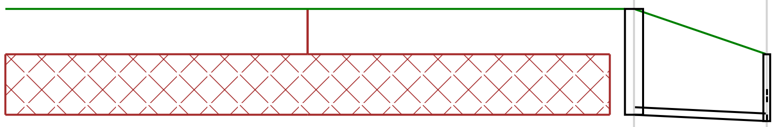
Hor Scale 500
Ver Scale 100

Datum (m) 3.000

	FC1 → S1	
Link Name	2.000	
Section Type	100mm	
Slope (1:X)	104.4	
Cover Level (m)	9.350	9.250
Invert Level (m)	8.700	8.604
Length (m)	10.022	

RSPD	Roads & Sewers For Planning & Design Ltd	File: 5678 LS.pfd Network: Storm Network Luke Shaw 24/02/2023	Page 4

Node Name	STORAGE 3	S1



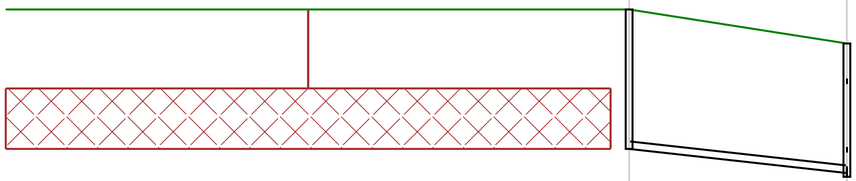
A4 drawing

Hor Scale 500
Ver Scale 100

Datum (m) 3.000

	STORAGE 3	S1
Link Name	3.000	
Section Type	100mm	
Slope (1:X)	104.6	
Cover Level (m)	9.850	9.250
Invert Level (m)	8.450	8.366
Length (m)	8.786	

Node Name	FC3	S2



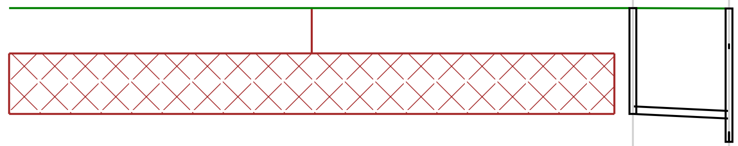
A4 drawing

Hor Scale 500
Ver Scale 100

Datum (m) 2.000

	FC3		S2
Link Name		4.000	
Section Type		100mm	
Slope (1:X)		45.1	
Cover Level (m)	8.995		8.545
Invert Level (m)	7.150		6.831
Length (m)		14.401	

Node Name	FC4	S2

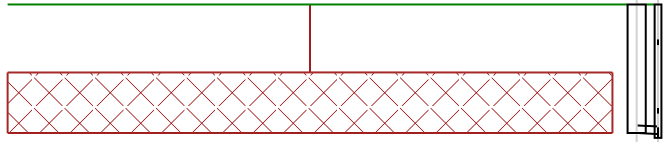


A4 drawing

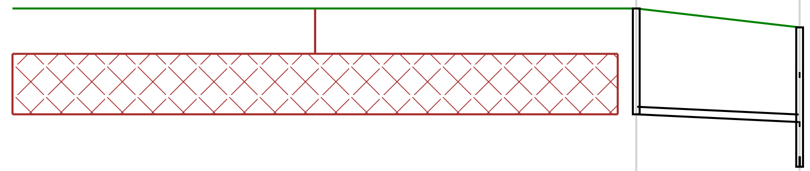
Hor Scale 500
Ver Scale 100

Datum (m) 2.000

Link Name	5.000	
Section Type	100mm	
Slope (1:X)	104.1	
Cover Level (m)	8.550	8.545
Invert Level (m)	7.150	7.089
Length (m)	6.352	

Node Name	ST / STORAGE 1
A4 drawing Hor Scale 500 Ver Scale 100 Datum (m) 2.000	
Link Name	6.
Section Type	10
Slope (1:X)	10
Cover Level (m)	8.545 8.545
Invert Level (m)	6.831 6.845
Length (m)	1.

Node Name	FC6	S3



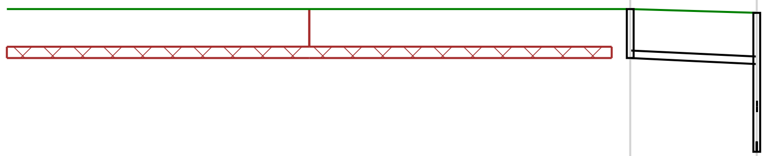
A4 drawing

Hor Scale 500
Ver Scale 100

Datum (m) 2.000

Link Name	7.000	
Section Type	100mm	
Slope (1:X)	104.8	
Cover Level (m)	8.750	8.500
Invert Level (m)	7.350	7.247
Length (m)	10.798	

Node Name	FC5	S3



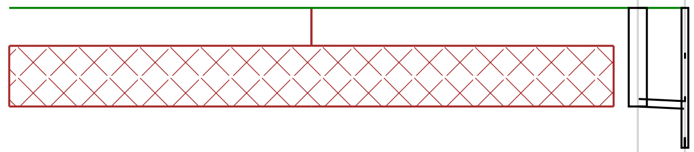
A4 drawing

Hor Scale 500
Ver Scale 100

Datum (m) 2.000

Link Name	8.000	
Section Type	100mm	
Slope (1:X)	104.6	
Cover Level (m)	8.550	8.500
Invert Level (m)	7.900	7.820
Length (m)	8.367	

Node Name	STORAGE 2	S3



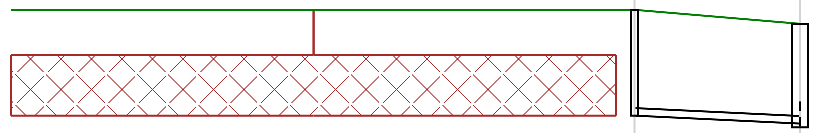
A4 drawing

Hor Scale 500
Ver Scale 100

Datum (m) 2.000

Link Name	9.00	
Section Type	100r	
Slope (1:X)	103.	
Cover Level (m)	8.500	8.500
Invert Level (m)	7.208	7.178
Length (m)	3.11	

Node Name		FC7	S5



A4 drawing

Hor Scale 500
Ver Scale 100

Datum (m) 1.000

Link Name		10.000	
Section Type		100mm	
Slope (1:X)		104.2	
Cover Level (m)		7.835	7.650
Invert Level (m)		6.435	6.330
Length (m)		10.943	

Drainage & SUDs Strategy
In support of Residential Development at

Land at 154 Station Road,
Hailsham,
East Sussex,
BN27 2SB

Luke Shaw
February 2023
REV [A]
Job No: 5678

Drainage & SUDS Strategy
At
Land at 154 Station Road, Hailsham, East Sussex

Contents

Amendments

Revision	Date	Description
0	February 2023	First Issue
A	May 2023	Amendment to network and calculations to control final discharge to Qbar Rates.

References

Reference	Title
A	CIRIA Publication 753 – The SUDS Manual (2015)
B	Sewers for Adoption 7th Edition (Wrc 2012)
C	Part H of the Building Regulations (2015)
D	Guide to Sustainable Drainage Systems in East Sussex (2015)
E	Planning Practice Guidance (2016)
F	Guidance to the National Planning Policy Framework (2012)

Introduction

This Drainage & SUDS Strategy has been developed in support of a planning application for the construction of 9 new residential dwellings at Land at 154 Station Road, Hailsham, East Sussex, BN27 2SB.

The aim of the Drainage Strategy is to incorporate and adopt Best Management Practices (BMP's) for Sustainable Urban Drainage Systems (SUD's) in accordance with Site Specific Technical Reports and Published Documents referenced in Page (ii). This document also aims to identify the methods of drainage available for the Surface Water Drainage.

A layout of the proposed scheme can be found in the appendices of this document.

Development Description and Location

The development proposal is for the erection of 9 new residential dwellings, situated on Land at 154 Station Road, East Sussex, BN27 2SB.

The location of the proposed site is at grid reference 559601, 108606 as shown in the location plans in the appendices.

Existing Drainage

There is a public foul water sewer in the vicinity of the application site, approximately 135m to the South at the junction of Old Swan Lane. There are no public surface water sewers in the vicinity of the site, however there is an ordinary watercourse to the South of the proposed development which would be suitable for connecting the development surface water discharge.

Site Geology

The site is underlain by the Weald Clay Formation which is typically described by the British Geological Survey as Dark grey thinly-bedded mudstones (shales) and mudstones with subordinate siltstones, fine- to medium-grained sandstones, including calcareous sandstone, shelly limestones and clay ironstones.

Typically, Weald Clay is deemed as unsuitable for infiltration, therefore, no soakage testing has been undertaken at this site.

Topography

The land at Station Road is bounded at the North and Western boundaries with mature conifer and mixture of deciduous trees. The Southern boundary with the ordinary watercourse has an established hedgerow.

The existing land is quite variable and generally slopes to the Southeast corner of the land. The site has had the benefit of a full topographical survey which shows the land peaks at around 10.500mAOD and falls to the Southeast down to about 7.000mAOD.

Ground Water

Local geotechnical records have been checked, which indicates groundwater is more than 4m below ground level.

The proposed development site has been checked against Environment Agency Source Protection Zones (SPZ's) for groundwater and can be confirmed that the proposed development is outside of any SPZ's. A plan of the SPZ map is contained in the appendices.

Design Objective

The objective of the design will be to;

a) Retain/reduce the quantity of surface water runoff leaving the development area, to equal or less than the greenfield runoff rate for all storms, up to and including the 1 in 100 year return period + 40% climate change.

b) Improve the quality of surface water runoff by infiltration methods and open SUD's wherever possible.

Development Drainage Proposals

Surface Water Drainage

It is not intended that the proposed development drainage will be offered for adoption to any of the statutory authorities, however, the surface water calculations for the proposed development will be in accordance with the requirements set out in Planning Practice Guidance, East Sussex County Council SUDS publications and CIRIA 753 SUDS Manual.

The local geology may be not suitable for infiltration to ground, and the LLFA had discouraged the use of permeable paving at this scheme in prior consultation responses in a previous application. Therefore, the strategy will focus on utilising geocellular storage to retain surface water in the climate change adjusted critical storm before being allowed to discharge via a Orifice Plate to the ordinary watercourse at the South.

The development consists of up to 9 new residential dwellings. These dwellings will be serviced by a new access road and off-road parking for each of the new homes.

The Drainage Strategy drawing shows the indicative surface water network for the development, directing the development water through a series of trapped gullies, Linear drainage, geocellular storage tanks and Orifice Plates, before discharging the water to the ordinary watercourse. This drainage system has been designed on the basis of 100% of the water being attenuated and discharged at the controlled rate of 2.02 litres per second and will fully accommodate the storage required for the 1 in 100 year 40% climate change adjusted critical storm scenario.

The surface water drainage will discharge into the adjacent riparian owned ditch as agreed in the previous application (WD/2020/1596/MAO), after having consulted with East Sussex County Council Highways and received their Technical Approval of the proposed connection, subject to conditions, on 26th March 2021.

The greenfield runoff at Qbar for the site has been calculated at 2.02l/s and therefore the discharge from the planned attenuation has been designed to accommodate this limited discharge, as agreed in the previous application.

Water Quality

Part of the design process is to consider all aspects of water quality to ensure the appropriate levels of treatment are being implemented and that there are no adverse effects occurring to off-site areas.

When considering potential sources of pollution and their respective methods of treatment and mitigation, the CIRIA SuDS Manual 2015 (C753) provides guidance on how this can be assessed and mitigated appropriately.

The following tables are provided to ensure and check that the design methodology and treatment systems have been considered to adequately mitigate against the pollution hazard.

Total SuDS Mitigation Index (for each contamination type)	≥	Pollution Hazard Index (for each contaminant type)

TABLE 26.2 Pollution hazard indices for different land use classifications

Land use	Pollution hazard level	Total suspended solids (TSS)	Metals	Hydro-carbons
Residential roofs	Very low	0.2	0.2	0.05
Other roofs (typically commercial/ industrial roofs)	Low	0.3	0.2 (up to 0.8 where there is potential for metals to leach from the roof)	0.05
Individual property driveways, residential car parks, low traffic roads (eg cul de sacs, homezones and general access roads) and non-residential car parking with infrequent change (eg schools, offices) ie < 300 traffic movements/day	Low	0.5	0.4	0.4
Commercial yard and delivery areas, non-residential car parking with frequent change (eg hospitals, retail), all roads except low traffic roads and trunk roads/motorways[1]	Medium	0.7	0.6	0.7
Sites with heavy pollution (eg haulage yards, lorry parks, highly frequented lorry approaches to industrial estates, waste sites), sites where chemicals and fuels (other than domestic fuel oil) are to be delivered, handled, stored, used or manufactured; industrial sites; trunk roads and motorways[1]	High	0.8[2]	0.8[2]	0.9[2]

For the site at Station Road, the consideration will be for the dwelling roofs, and outer carpark areas. The roof areas of the dwellings a 'very low hazard', with the car park areas representing a 'low' hazard.

TABLE 26.3 Indicative SuDS mitigation indices for discharges to surface waters

	Mitigation indices[1]		
Type of SuDS component	TSS	Metals	Hydrocarbons
Filter strip	0.4	0.4	0.5
Filter drain	0.4[2]	0.4	0.4
Swale	0.5	0.6	0.6
Bioretention system	0.8	0.8	0.8
Permeable pavement	0.7	0.6	0.7
Detention basin	0.5	0.5	0.6
Pond[4]	0.7[3]	0.7	0.5
Wetland	0.8[3]	0.8	0.8
Proprietary treatment systems[5,6]	These must demonstrate that they can address each of the contaminant types to acceptable levels for frequent events up to approximately the 1 in 1 year return period event, for inflow concentrations relevant to the contributing drainage area.		

By using yard and road gullies on the access roads, this should be deemed appropriate mitigation for the SUDS design.

Foul Water Drainage

There is a public foul water sewer in the vicinity of the application site, approximately 135m to the South at the junction of Old Swan Lane. Subject to final levels being confirmed and a S106 application to the statutory water undertaker, this would be the likely point of discharge.

It should be noted that the application under s106 of the Water Industry Act may not be refused on the basis of capacity and the new infrastructure charges introduced by Southern Water in April 2018 stated clearly that these Infrastructure Charge increases would fund any reinforcement or necessary upgrades to their network to accommodate the given development.

Using peak flow criteria given in Sewers for Adoption 7th edition, foul flows from this development will be around 0.414 l/s. This is highly unlikely to have a notable effect on the existing sewer network.

Residual Flood Risk

This development has not been formally assessed in a site specific flood risk assessment as the site sits entirely within Environment Agency Flood Zone 1. This is confirmed in the Flood Maps for Planning, contained in the appendices. Although there is no formal flood risk assessment for this site, this Drainage strategy takes the principles normally identified within a flood risk assessment, to incorporate them within the detailed design, focusing on reduction and mitigation of flood risk for both on and off site.

Surface water flooding maps have been checked and shows no risk to the proposed development.

Surface Water Drainage systems have been designed to cater for and up to the 1 in 100 year return period, plus 20% and 40% climate change, retaining the surface water on site in accordance with LLFA requirements and Industry Guidance.

Local groundwater levels have been assessed and considered a low risk of groundwater flooding, as the groundwater is more than 4m BGL, which is confirmed in nearby borehole records.

Future Maintenance

Maintenance regimes of the various drainage methods will vary, depending on the development proposals and surroundings. However, a general guide to the maintenance of the various methods of drainage have been provided below;

Maintenance of Gullies and Catch pits

To ensure the long-term effectiveness of the surface water collection asset, the sediment that accumulates within the sump of the conventional gully pot or catch pit must periodically be removed to prevent it from entering the rest of the network. The frequency of this maintenance operation will vary depending on the density of the site, vegetation, design of the drainage system, other permeable areas and if the site is pre or post construction.

The ongoing maintenance activities for this system are tabulated below in Table 2.

Table 2 – Gully and Catch Pit Maintenance – By the appointed Management Company.

Maintenance Activity	Remedial Action	Inspection Frequency	
Inspect Gullies and Catch-pits	Clear any sediment or detritus found in the chamber/s. If sediment has built up within the pipe network, this should be cleared with rodding equipment or professional jetting techniques.	Pre-completion	Monthly
		Post completion – up to 1 year	Quarterly
		On-going	Annually

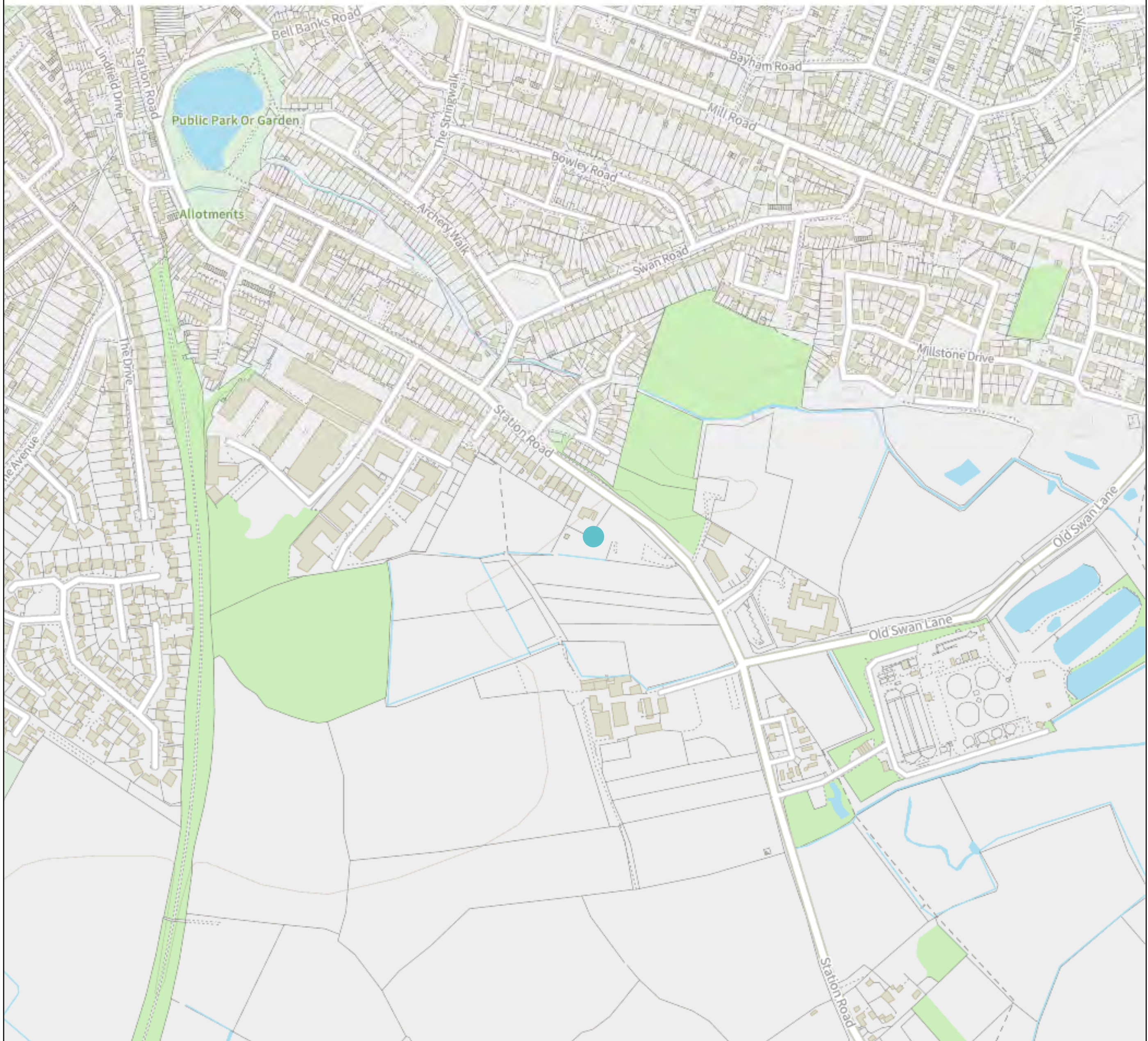
Maintenance of Attenuation Crates

The property owners will need to check and empty the chamber, if necessary, on a quarterly basis initially. This will ensure that the attenuation crates can be utilised to their capacity, as a blockage would reduce the overall storage area of the crates.

Appendices

- Site Location Plans
- Flood Maps for Planning
- Surface Water Flood Map
- Geoindex Map
- SPZ Plan
- Public Sewer Asset Plans
- Topographical Survey
- Greenfield Runoff Rates (Q-Bar)
- Permavoid Brochure
- ACO Drain Brochure
- Drainage Layout Plan
- Calculations
- Long Sections

Location Plan



0 0.1 0.2
km

Projection = OSGB36
xmin = 558300
ymin = 108000
xmax = 560600
ymax = 109200

Map produced by MAGIC on 22 February, 2023.

Flood map for planning

Your reference	Location (easting/northing)	Created
<Unspecified>	**559515/108606**	**7 Mar 2023 17:04**

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

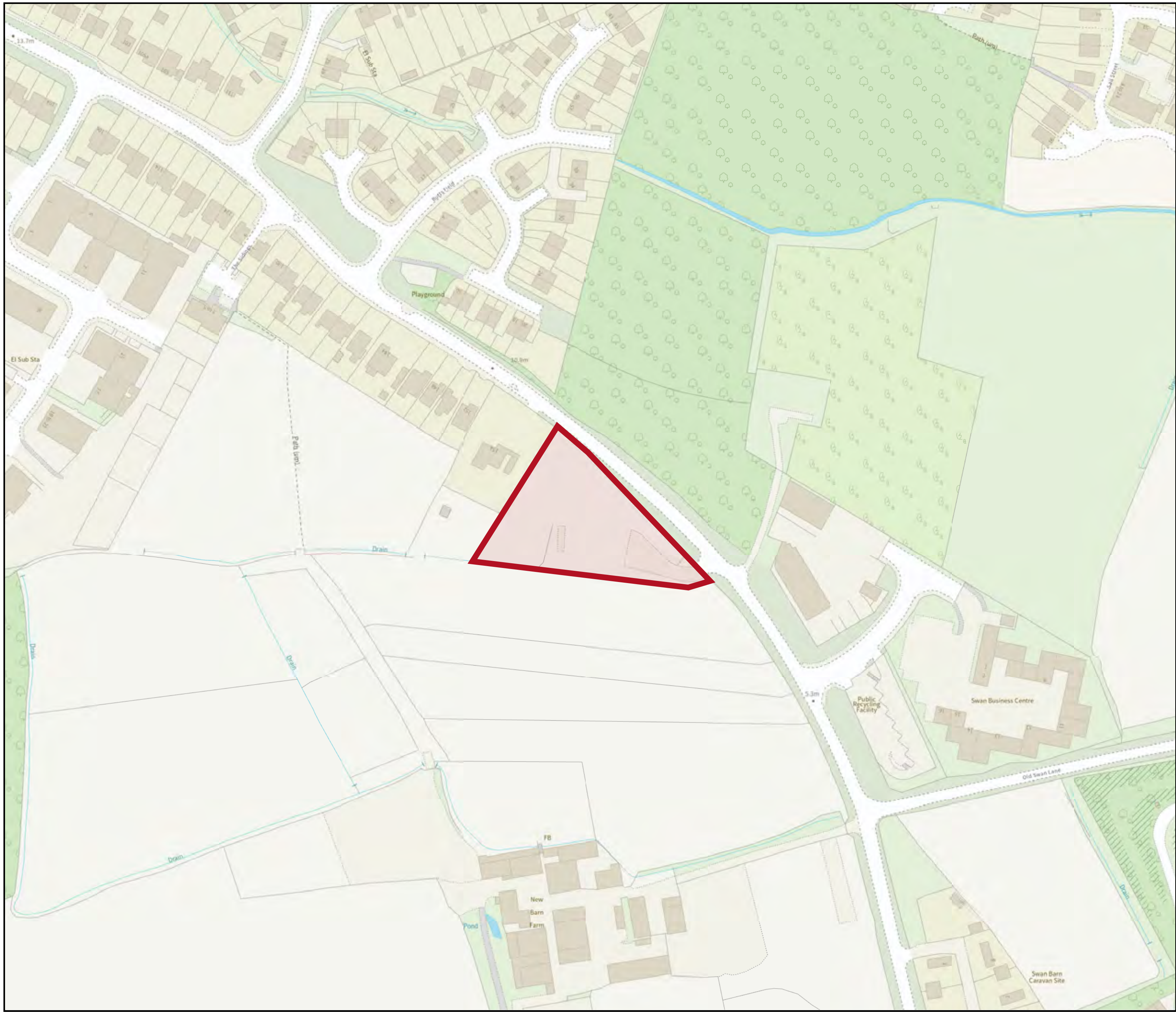
You will need to do a flood risk assessment if your site is **any of the following:**

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

Notes

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

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



Environment Agency

Flood map for planning

Your reference
<Unspecified>

Location (easting/northing)
559515/108606

Scale
1:2500

Created
7 Mar 2023 17:04

Selected area

Flood zone 3

Flood zone 2

Flood zone 1

Flood defence

Main river

Water storage area

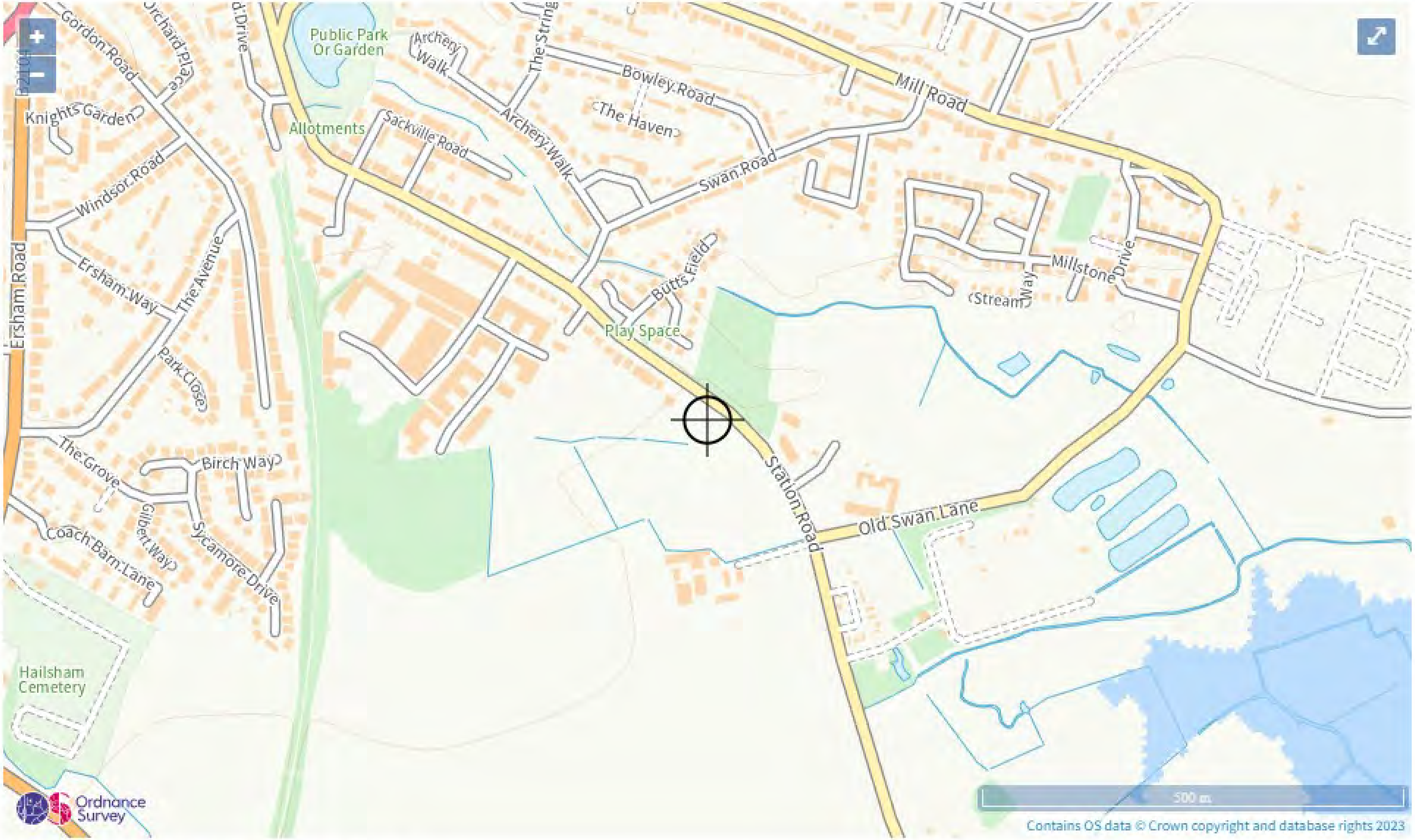
0 20 40 60m

Flood risk

Extent of flooding

Location

BN27 2SB



Extent of flooding from rivers or the sea

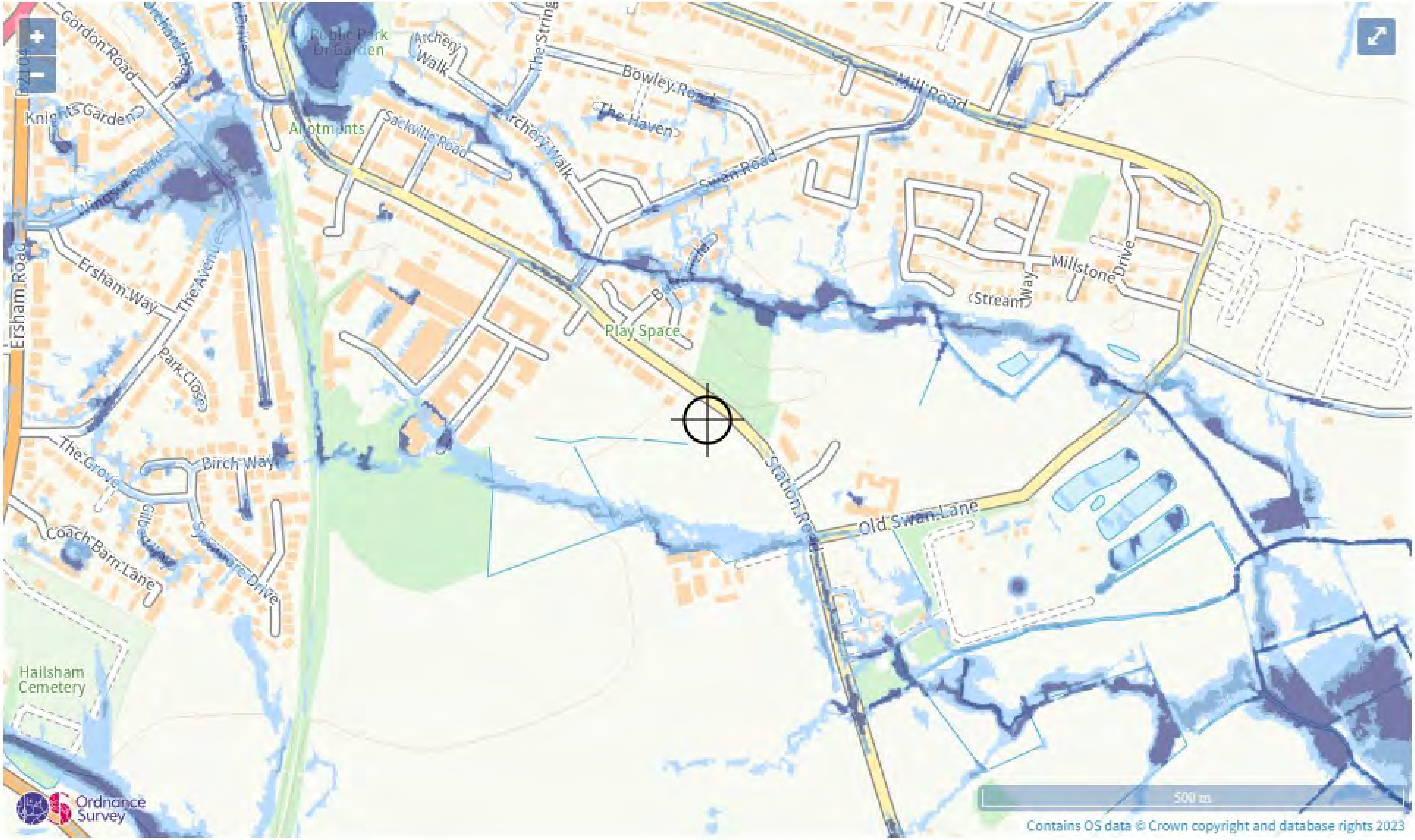
High Medium Low Very low Location you selected

Flood risk

Extent of flooding

Location

BN27 2SB



Extent of flooding from surface water

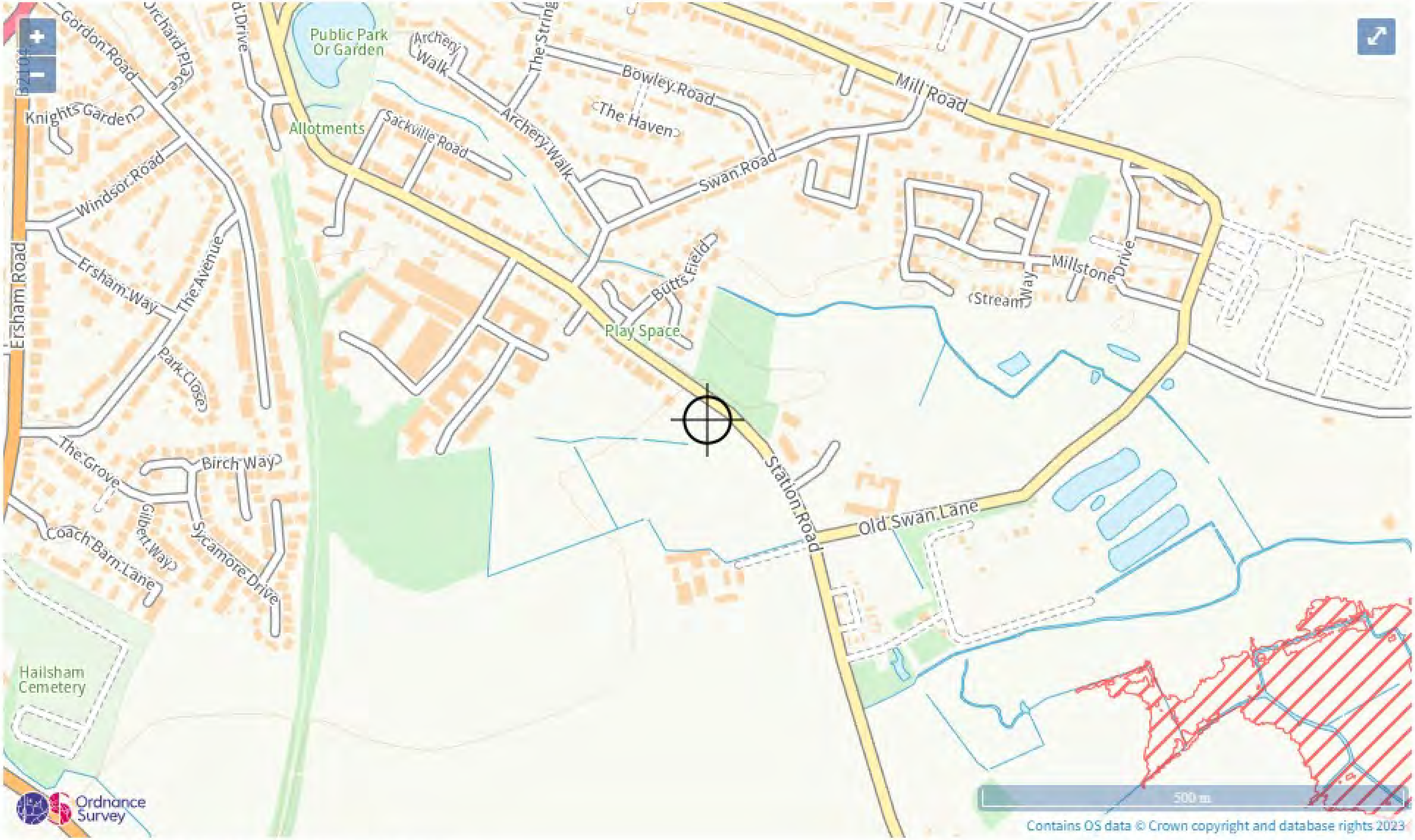
High Medium Low Very low Location you selected

Flood risk

Extent of flooding

Location

BN27 2SB

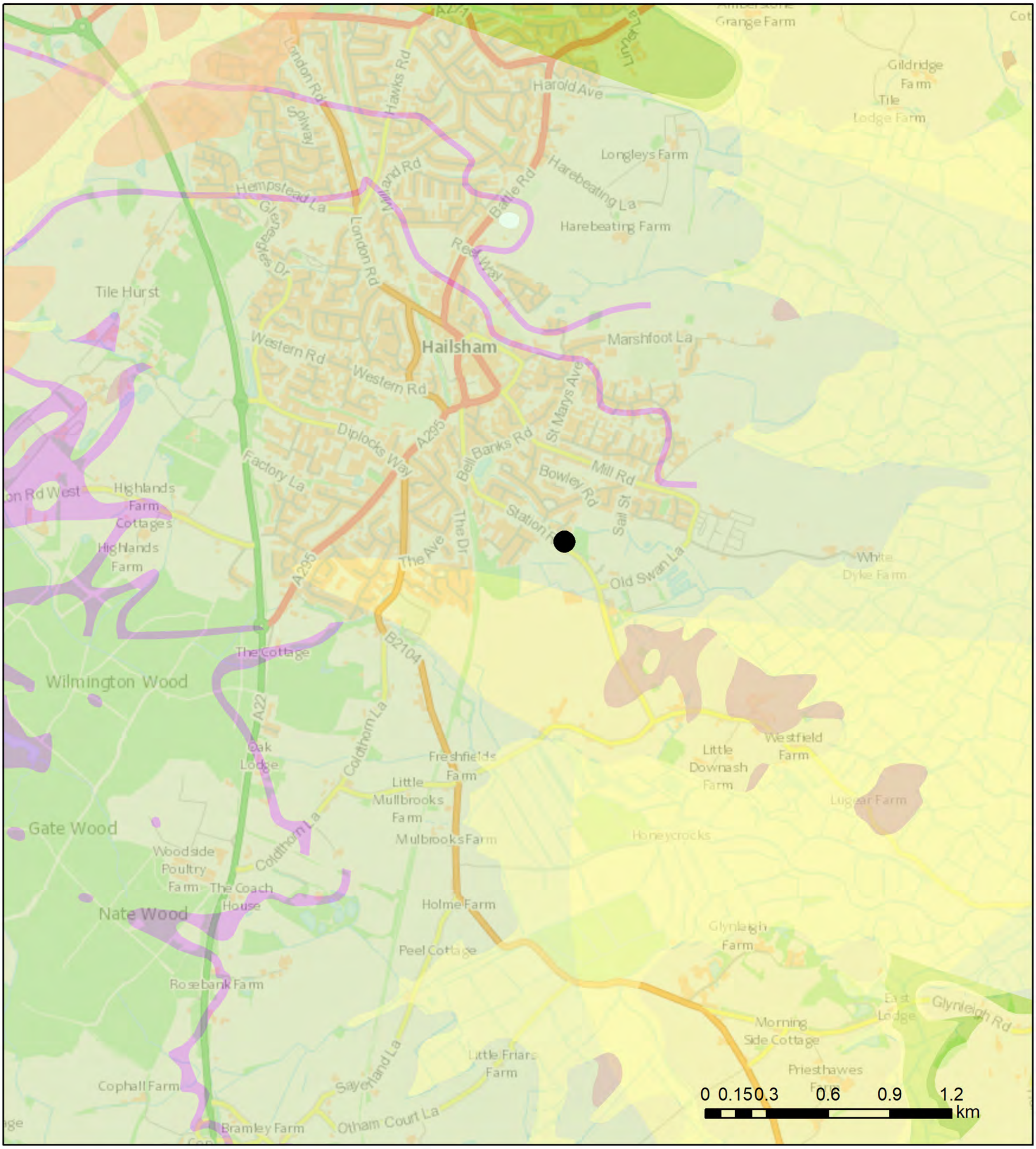


Maximum extent of flooding from reservoirs:

when river levels are normal | when there is also flooding from rivers | Location you selected

GeoIndex Report

British Geological Survey



Contains OS data © Crown Copyright and database right 2020

GeoIndex Onshore Data Sources: NERC, Natural England, English Heritage and Ordnance Survey

Map Key

Bedrock geology 1:50,000 scale

- WEALD CLAY FORMATION - SANDSTONE
- LOWER GREENSAND GROUP - SANDSTONE, SILTSTONE AND MUDSTONE
- WEALD CLAY FORMATION - SILICATE-CLAYSTONE
- GAULT FORMATION - MUDSTONE
- WEALD CLAY FORMATION - MUDSTONE
- TUNBRIDGE WELLS SAND FORMATION - SANDSTONE
- TUNBRIDGE WELLS SAND FORMATION - MUDSTONE
- WEALD CLAY FORMATION - LIMESTONE

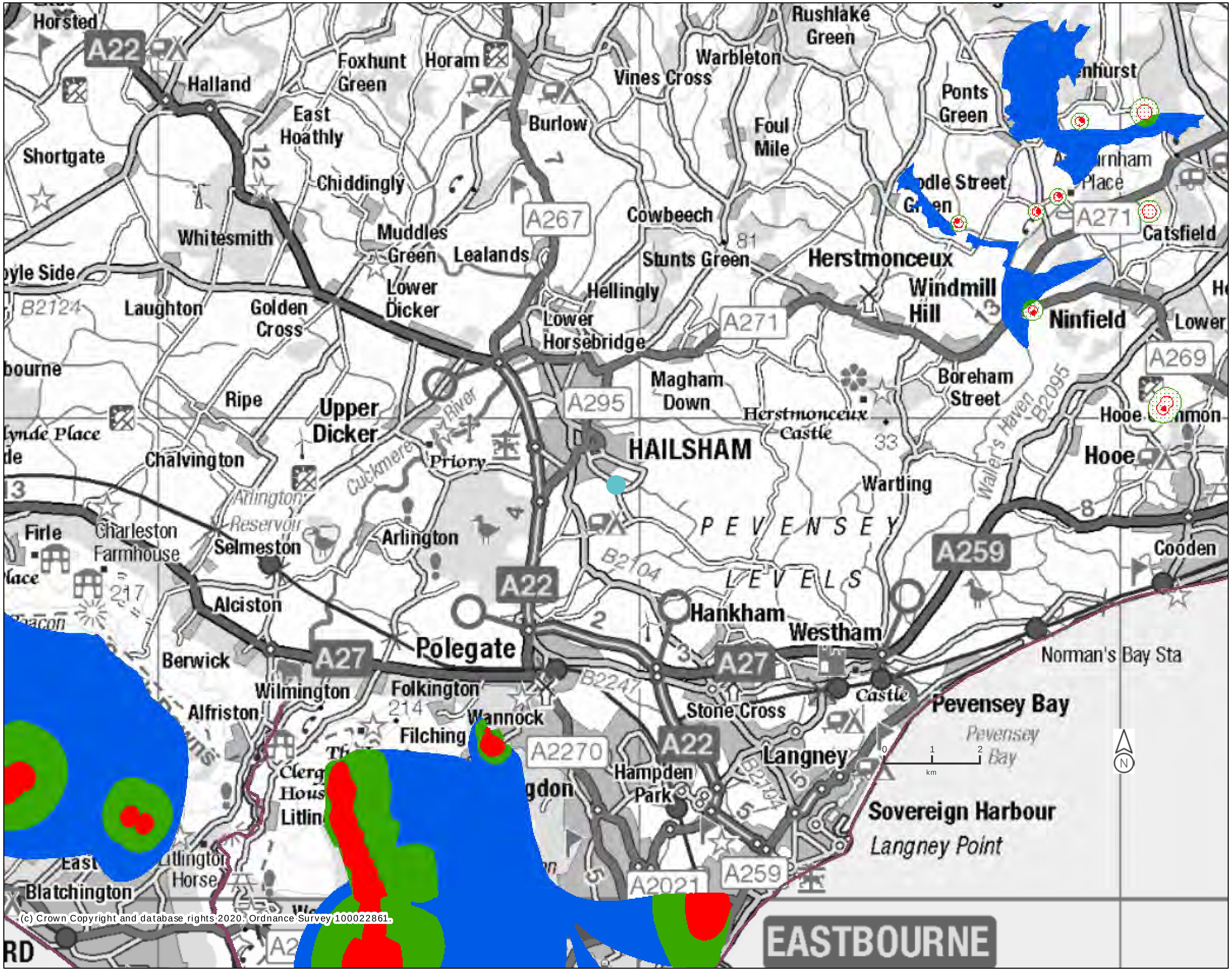
Superficial deposits 1:50,000 scale

- ALLUVIUM - CLAY, SILT, SAND AND PEAT
- HEAD - CLAY, SILT, SAND AND GRAVEL
- RIVER TERRACE DEPOSITS, 1 - SAND AND GRAVEL
- PEAT - PEAT

Selection Results

MAGIC

SPZ Map



Legend

Source Protection Zones merged (England)

- Zone I - Inner Protection Zone
- Zone I - Subsurface Activity
- Zone II - Outer Protection Zone
- Zone II - Subsurface Activity
- Zone III - Total Catchment
- Zone III - Subsurface Activity
- Zone of Special Interest

Projection = OSGB36
xmin = 541800
ymin = 95810
xmax = 577300
ymax = 121400

0 1.5 3 km

Map produced by MAGIC on 13 April, 2020.

(c) Crown copyright and database rights 2020 Ordnance Survey 100031673 | Date: 12/04/20 | Scale: 1:1250 | Map Centre: 559512,108603 | Data updated: 01/04/20 | Our Ref: 381321 - 2 | Wastewater Plan A3

The positions of pipes shown on this plan are believed to be correct, but Southern Water Services Ltd accept no responsibility in the event of inaccuracy. The actual positions should be determined on site. This plan is produced by Southern Water Services Ltd (c) Crown copyright and database rights 2020 Ordnance Survey 100031673 .This map is to be used for the purposes of viewing the location of Southern Water plant only. Any other uses of the map data or further copies is not permitted.

WARNING: BAC pipes are constructed of Bonded Asbestos Cement.

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

Foul Gravity Sewer
Combined Gravity Sewer
Culverted Water Course or Treated Effluent
Surface Water Gravity Sewer
Rising Main, Vacuum or Syphon
Combined Outfall
Surface Water Outfall
Foul Outfall
Surface Water Inlet
Combined Pumping Station
Surface Water Pumping Station
Foul Pumping Station
Water Treatment Works
Section 104 Area
Building Over Agreement Area
Foul Manhole
Combined Manhole
Surface Water Manhole
Side Entry Manhole, Decarcation Chamber, Dummy Manhole or Surface Water Soakaway

jamie.finch@roadsandsewers.co.uk

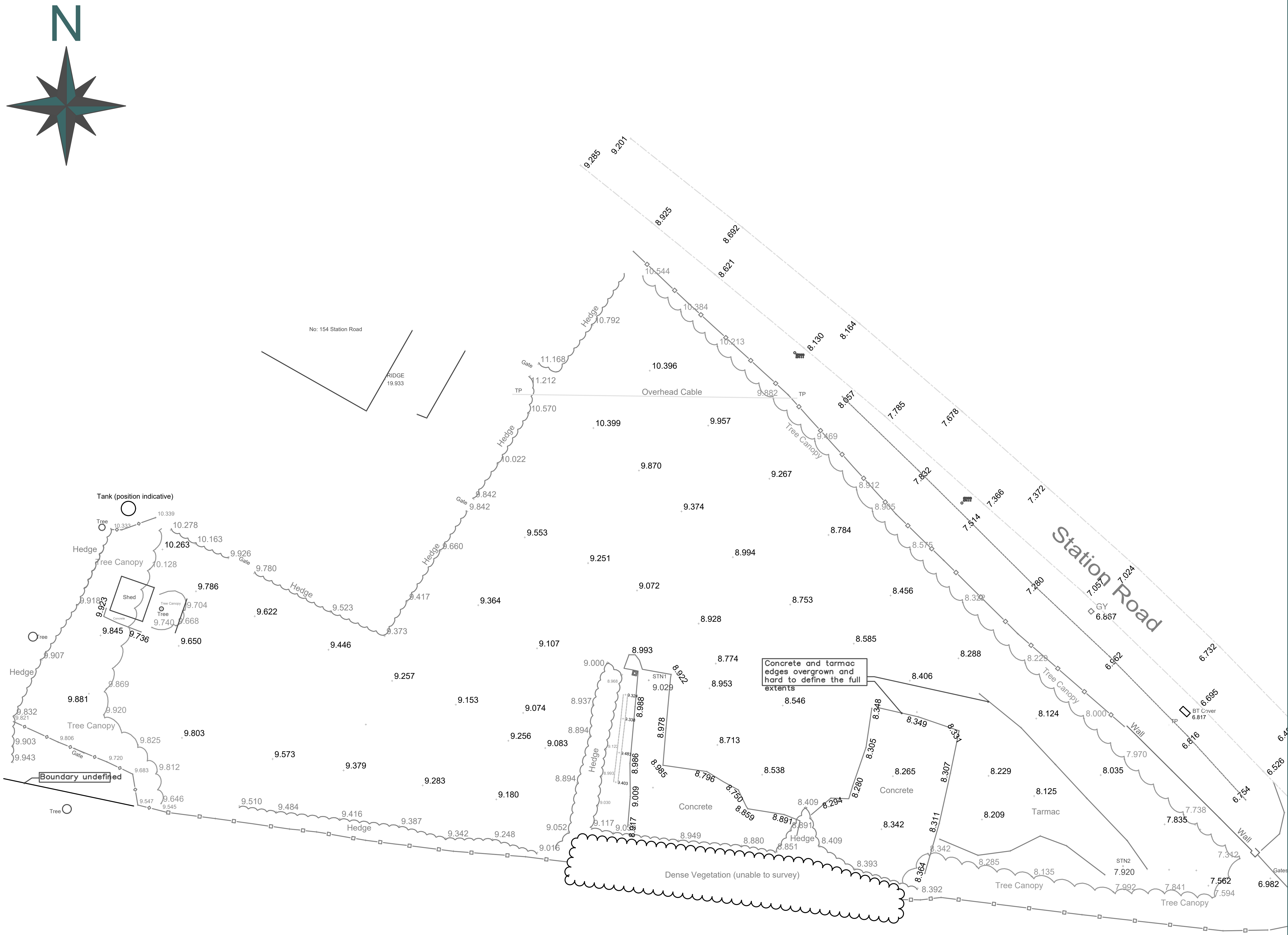
Station Rd, Hailsham

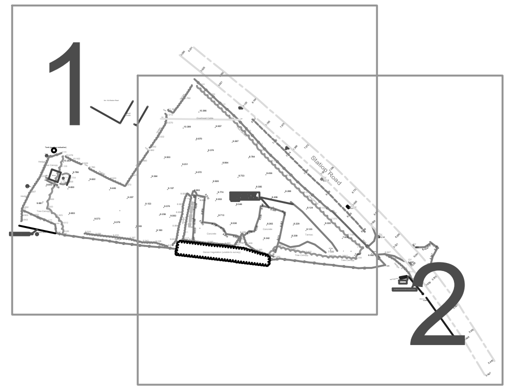
WATER for LIFE
from Southern Water.

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert
3706	F	14.03	12.37	
4701	F	12.65	10.38	
4702	F	13.03	11.27	
4703	F	13.01	10.91	
471D	F	0.00	0.00	
472D	F	0.00	0.00	
5601	F	0.00	0.00	
5602	F	0.00	0.00	
561D	F	0.00	0.00	
562D	F	0.00	0.00	
6402	F	4.86	3.57	
6601	F	9.93	8.13	
6602	F	8.93	8.93	
7401	F	4.85	3.55	
7501	F	8.31	5.29	
7502	F	5.01	0.00	
4752	S	12.82	9.82	
4753	S	12.72	9.72	
4759	S	12.61	9.86	
4760	S	11.19	9.59	

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert





Survey based on GNSS OSTN15 and OSGM15
Drawing Scale 1:200@A1

Client
Mr Martin

Site Address
Site adj
154 Station Road
Hailsham
East Sussex

SOUTH EAST GEOMATICS
South East Geomatics Ltd
3 Portfield Close
Bexhill-on-sea
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TN40 2ER
www.southeastgeomatics.com
segeomatics@outlook.com
01424 81 91 22
07928 350 178

Drawing Tittle	Topographical Survey
Drawing Number	001 Sheet 1
Drawn By	JP
Drawing Status	Info
Draft Date	15/11/2020
Rev	-

Greenfield runoff rate estimation for sites

www.uksuds.com | Greenfield runoff tool

Calculated by:	Jamie Finch
Site name:	Station Road
Site location:	Hailsham

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

Site Details

Latitude:	50.85487° N
Longitude:	0.26488° E
Reference:	2394342855
Date:	Sep 03 2020 09:18

Runoff estimation approach IH124

Site characteristics

Total site area (ha): 0.3775

Methodology

Q_{BAR} estimation method:	Calculate from SPR and SAAR
SPR estimation method:	Calculate from SOIL type

Soil characteristics

	Default	Edited
SOIL type:	4	4
HOST class:	N/A	N/A
SPR/SPRHOST:	0.47	0.47

Hydrological characteristics

	Default	Edited
SAAR (mm):	764	764
Hydrological region:	7	7
Growth curve factor 1 year:	0.85	0.85
Growth curve factor 30 years:	2.3	2.3
Growth curve factor 100 years:	3.19	3.19
Growth curve factor 200 years:	3.74	3.74

Notes

(1) Is Q_{BAR} < 2.0 l/s/ha?

When Q_{BAR} is < 2.0 l/s/ha then limiting discharge rates are set at 2.0 l/s/ha.

(2) Are flow rates < 5.0 l/s?

Where flow rates are less than 5.0 l/s consent for discharge is usually set at 5.0 l/s if blockage from vegetation and other materials is possible. Lower consent flow rates may be set where the blockage risk is addressed by using appropriate drainage elements.

(3) Is SPR/SPRHOST ≤ 0.3?

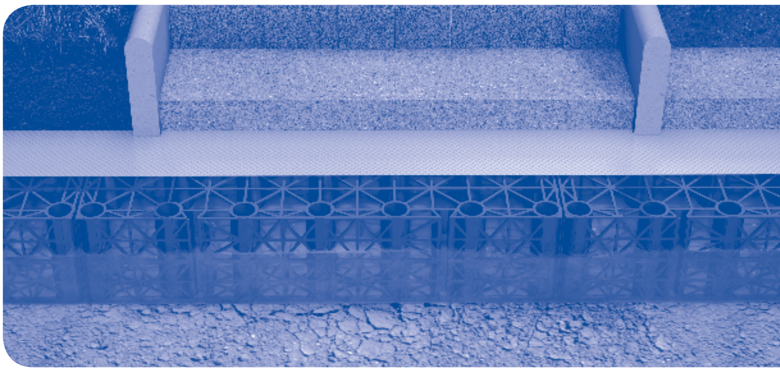
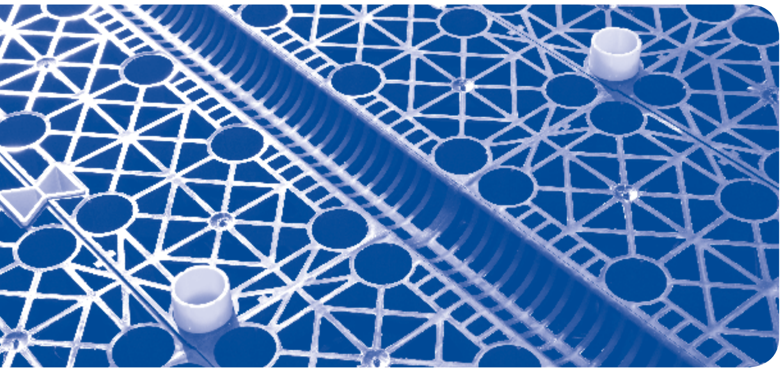
Where groundwater levels are low enough the use of soakaways to avoid discharge offsite would normally be preferred for disposal of surface water runoff.

Greenfield runoff rates

	Default	Edited
Q_{BAR} (l/s):	2.02	2.02
1 in 1 year (l/s):	1.72	1.72
1 in 30 years (l/s):	4.64	4.64
1 in 100 year (l/s):	6.44	6.44
1 in 200 years (l/s):	7.55	7.55

PMVTM1 | JANUARY 2016

Permavoid System Technical Manual

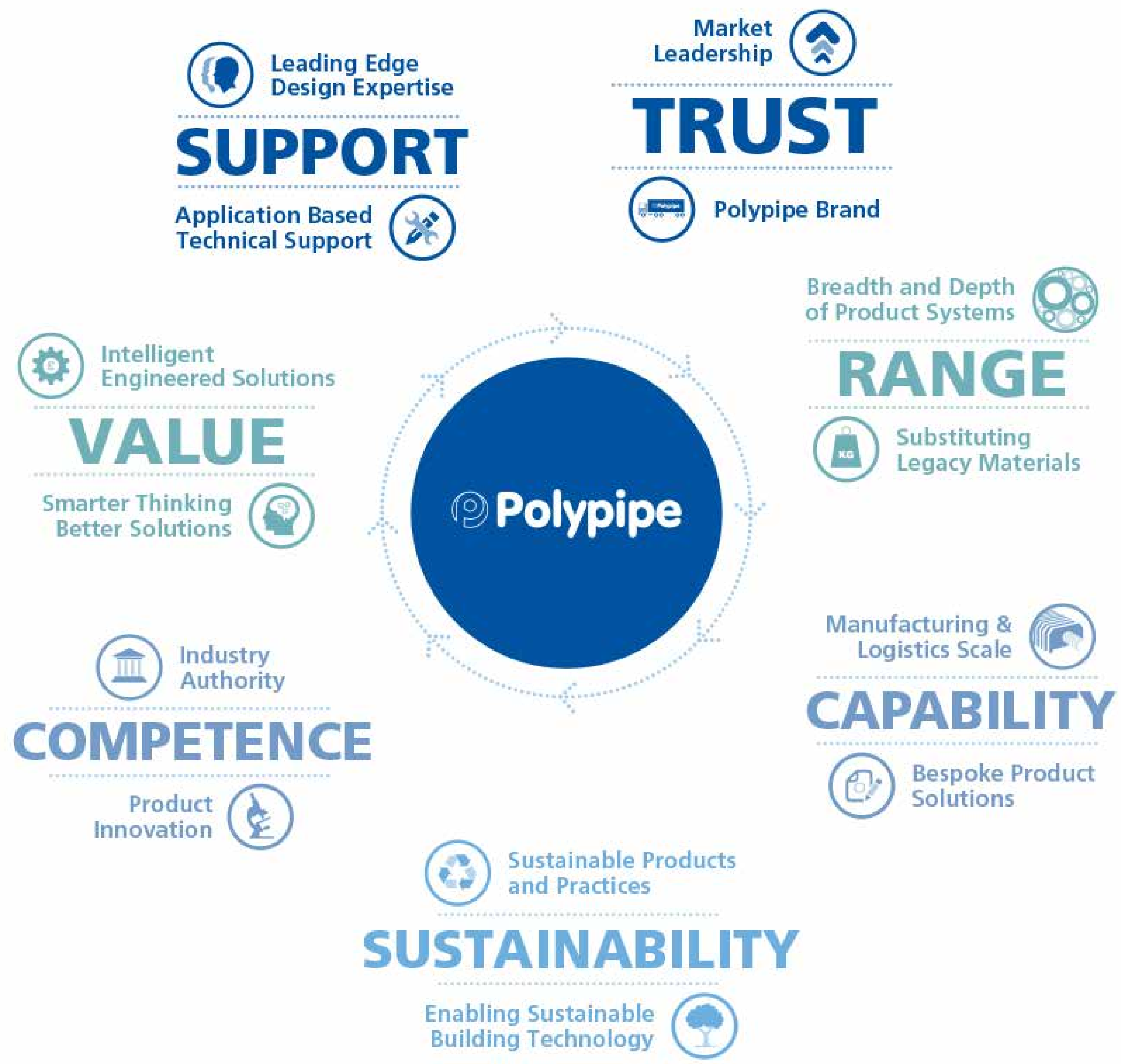





Planning, design, specification and installation guide

Polypipe

Welcome to Polypipe

At Polypipe, conceiving, designing, manufacturing and delivering the most advanced products and systems is more than just an occupation. We see it as our passion. Everything we do has always been based around a few simple beliefs: Quality always beats quantity. Products are nothing without service and support. Sustainability isn't just a 'green' word and working with our customers is much better than simply supplying them.



Polypipe is the UK's largest plastic piping systems manufacturer

With over 20,000 product lines, a substantial fleet of over 400 vehicles and employing over 2,000 people, we have an enviable reputation amongst installers, contractors, stockists and specifiers.

The broadest product range available in the UK

With over 100 product systems, our unrivalled portfolio offers dependable, innovative solutions for pressure and non-pressure applications, enabling the movement of water, air, power, chemicals and telecoms throughout the built environment.

Market-sector focused

We operate through sector-focused businesses, ensuring that our Sales and Technical Teams are equipped to meet the specific needs of residential, civils and infrastructure, commercial and industrial projects.

Innovating for today's construction challenges

Recognising the twin challenges of managing water and carbon resources, we have invested for many years in our water management and carbon efficient solutions, with systems that meet all legislative requirements.

Polypipe intelligent engineering

Through initial involvement our substantial technical knowledge and capabilities can be utilised, ensuring our customers can engage with the project team to deliver the most appropriate and cost-effective solutions and supporting them in a close working relationship from design right through to installation.

Overview - our company, our products, our people

Our product knowledge and service teams provide an unrivalled level of technical support. Working closely with our customers, we can help guide them through current legislation and complex building regulations. This helps us to match the right product range with the correct project requirements, or develop a fully engineered system for specific project needs.

We invest heavily in research and new production technology that allows us to provide high quality products with more precise performance specifications and even greater reliability. Our products are covered by third party accreditations including BBA, BSI Kitemark and WRc, which ensure we meet specification standards. Supporting our product accreditations, our business systems are regularly assessed by BSI to ensure we maintain our BS EN ISO 9001:2008 and BS EN ISO 14001:2004 certifications. These independent assessments confirm that we adhere to strict regulatory requirements and ensure we provide greener credentials for our products.

UKAS accredited laboratories

Our in-house research and development facility is one of the most advanced of its kind and includes the independent UKAS accredited Berry & Hayward Laboratory. This operates 24 hours a day and gives us the body of knowledge and expertise needed to produce the most advanced range of products and solutions.

Full technical design and fabrication service

Polypipe is unique in having its own in-house fabrication unit. In the 2600m² facility, our skilled and highly experienced technicians deliver modular engineered drainage and water management systems. These are provided ready-to-install, maximising the benefits of pre-fabrication, for ease of delivery and reduced installation time on-site.

Design

From the outset, our Design Team will bring their technical expertise and experience to bear, providing assistance with hydraulic, structural and flotation calculations supported by system CAD designs and specifications.

Installation guidance

Providing guidance at the critical installation stage, coordinating deliveries and ensuring the most cost and time efficient pathways to completion.

The calibre of our people

The calibre of the people within our support team is a reflection of the importance we place on customer service in helping to deliver a successful project outcome. They include fully qualified design engineers who, through their experience and in-depth product knowledge, can help to provide detailed specification guidance.

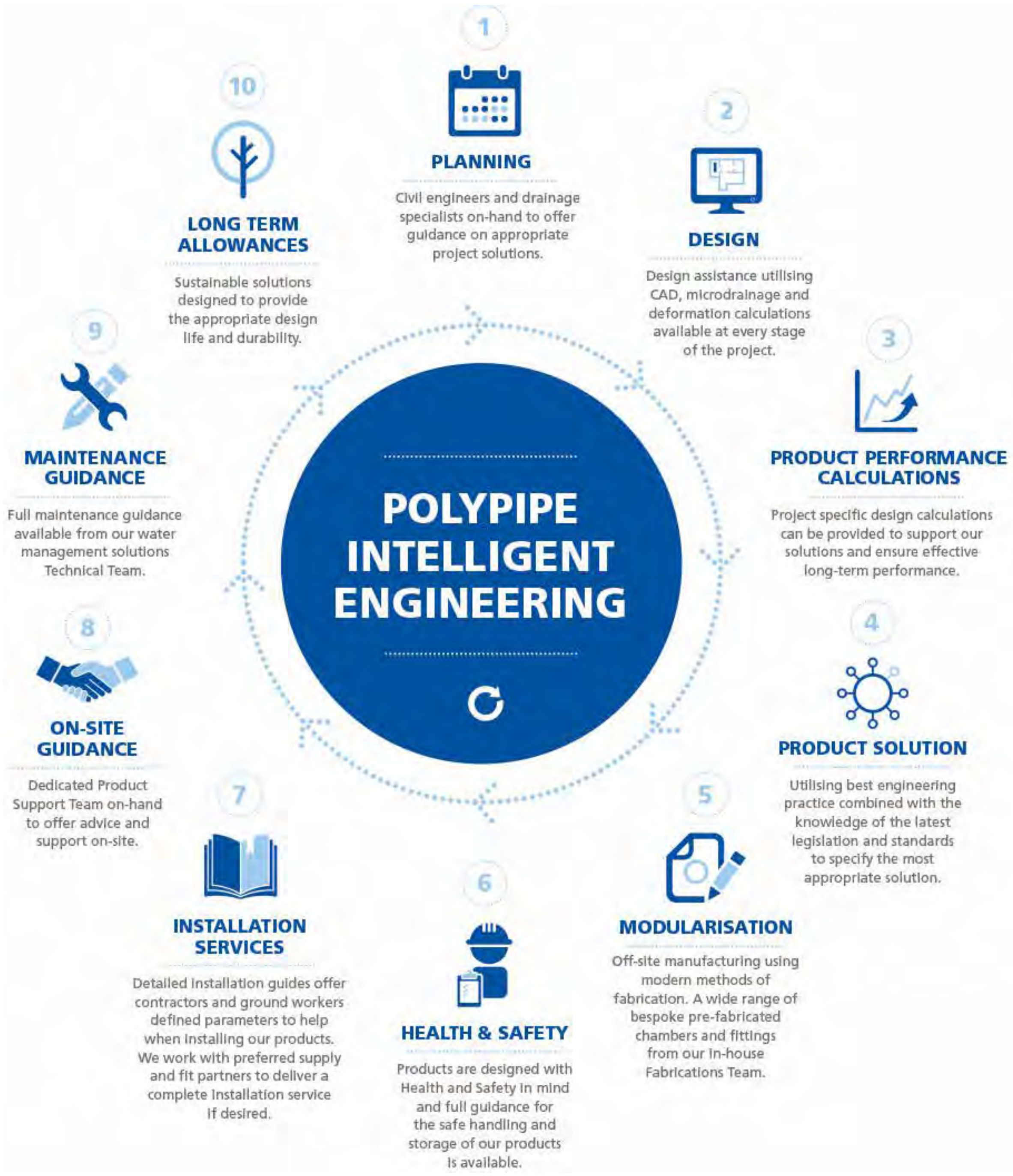
Our accreditations

Polypipe is a member of influential bodies such as the British Plastics Federation (BPF) and Construction Products Association (CPA). We also work with organisations such as DEFRA, CIRIA and Constructing Excellence, which enable us to have an active involvement and understanding of industry drivers. Combining this industry involvement with the high calibre of our staff enables us to provide an unrivalled level of service.

Intelligent engineering

The market leaders in surface water management

Our team of fully qualified drainage specialists, civil engineers and technical support experts offer invaluable experience and knowledge through each and every stage of a project. We provide the most commercially viable solution for a project through our ability to be unbiased. As we offer both pipe and geocellular systems, we have a truly holistic range of products meaning we can tailor our solutions to your needs. You can contact our team on **+44 (0) 1509 615100** or arrange a visit from one of our commercial or technical specialists.



Water management solutions

Our water management solutions embrace a comprehensive range of sustainable drainage systems (SuDS) and services that together address the surface water management requirements of every commercial and domestic project, regardless of the project size.

With a choice of market leading products, plus the highest level of technical support, you can depend on Polypipe to help you deliver the most effective and compliant surface water management plan.

Whether your scheme is adoptable or non-adoptable, we have the right solution for you; retention, attenuation or infiltration systems combined with or without treatment solutions, all supported by our fabrication service that provides off-site engineered solutions.

Stormwater retention, attenuation and infiltration

Large diameter pipes and geocellular systems offer a versatile method of creating shallow or deep buried water storage systems, capable of holding back the impacts of rainfall events and helping to mitigate the risk of surface water flooding.

At Polypipe we understand that every project and site is unique and many have significant challenges when it comes to the design and construction of an efficient and effective drainage system. That is why we have developed the industry's largest range of pipe and geocellular retention, attenuation and infiltration systems.

Surface water treatment

Regulations on the management of surface water through source control and the use of SuDS are now well established. Increasingly, legislation is presenting developers and designers with additional challenges in the control of surface water pollution. New standards aimed at reducing pollution levels in groundwater and rivers are often based on the Polluter Pays Principle (PPP), so our range of water treatment systems are designed to intercept and extract pollution as close to source as possible.

At Polypipe you will find the largest range of treatment solutions for silt removal, collection and separation. From our silt traps and oil interception, to advanced treatment textiles such as Permafilter Geotextile for the removal of heavy metals and RIDGISTORM-X4 for dissolved pollutants. They can all be integrated within an overall 'Roof to River' solution and can be combined to form progressively more efficient treatment depending on anticipated contamination levels.

What is the Permavoid system?

Permavoid is a geocellular sub-base replacement system, designed to provide shallow stormwater retention, attenuation or infiltration. Permavoid can be used as part of an engineered or soft SuDS solution. It enables designers to offer a source control system incorporating water treatment to manage water where it lands.

Our Permavoid system has been extensively tested over the last decade with Salford and Coventry University, the Transport Research Laboratory and Highways England, to ensure that the system meets the legislative requirements set out by CIRIA, the Environment Agency, SEPA and PPG.

Academic site wide trials include:

- Transport Research Laboratory - A pilot-scale trial of reservoir pavements for drainage attenuation incorporating Permavoid sub-base replacement system.
- Coventry University - Assessment and monitoring of the oil retention and performance of the Permaceptor Treatment System.
- SEPA-Perth Prison - A 2 year field monitoring exercise of macro-pervious pavement and car park installation incorporating Permachannel oil and silt retention devices.

Index - pages

How this manual is organised

This manual is presented in clearly marked sections to help you find the information you require quickly and easily.

Index - illustrations & tables

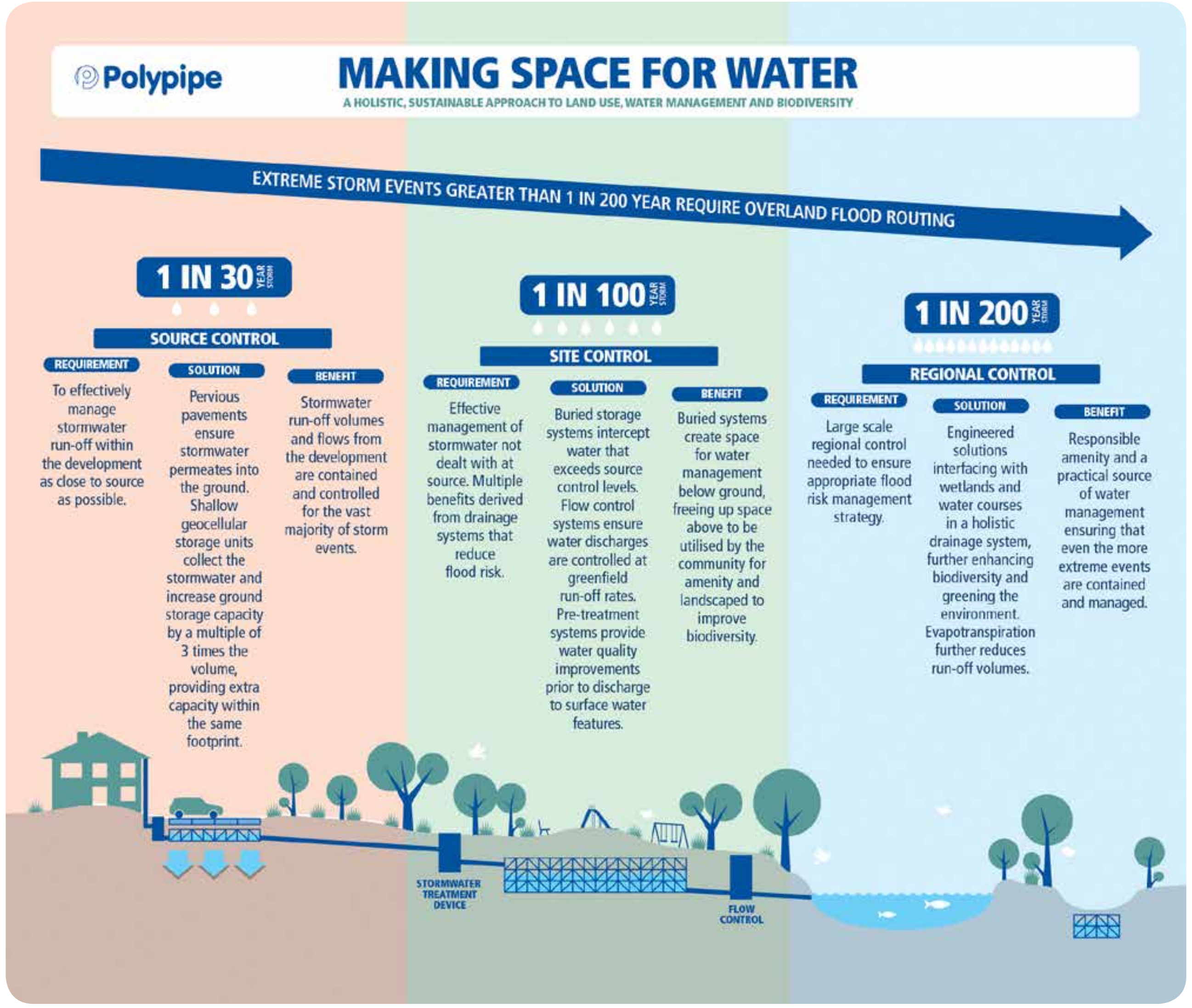
For updates and a PDF of this manual go to:
www.polypipe.com/toolbox

***Please note:** Illustrations shown within this publication are available as downloadable CAD drawings from:
www.polypipe.com/toolbox

The growing importance of SuDS

'Making Space for Water' is an integrated, forward-thinking strategy for managing future flood risk in England, first published in 2004.

Among its many recommendations is the adoption of a 'joined-up' approach to drainage management in high-risk urban areas and the widespread use of sustainable drainage systems (SuDS) to control the rate at which rainwater runs off paved areas and into sewer networks and rivers.



The challenge each developer faces on both greenfield and brownfield developments is knowing what to do with the excess run-off generated by the development which has to be retained in and around the site. BS8533:2011, 'Assessing and Managing Flood Risk in Development Code of Practice', has been created to help designers analyse flood risk and to guide the selection of appropriate flood risk management solutions.

Soft SuDS alone may not provide sufficient storage on certain sites due to space constraints, particularly driven by the housing density requirements in PPS3:Housing. The Permavoid system can help address these challenges, by providing an effective controlled retention, attenuation or infiltration system to suit site specific requirements.

Government planning policy has defined the need for sustainable drainage systems (SuDS) to ensure that flood risk is taken into account during all stages of the planning process.

CIRIA (SuDS Manual)

The SuDS Manual provides guidance on all aspects of the design, construction, operation and maintenance of SuDS. In particular, it places a real emphasis on the use of source control techniques and requires designers to consider pollution removal.

The SuDS Manual defines that a sustainable drainage system should consider certain basic requirements, including:

- Run-off from a developed area should be no greater than the run-off prior to development
- Run-off from a developed area should not result in any down-grading of downstream watercourses or habitat
- Consideration should be given at the development feasibility stage to water resource management and control in the developed area
- Run-off should replicate, as far as possible, the natural response of the site to rainfall

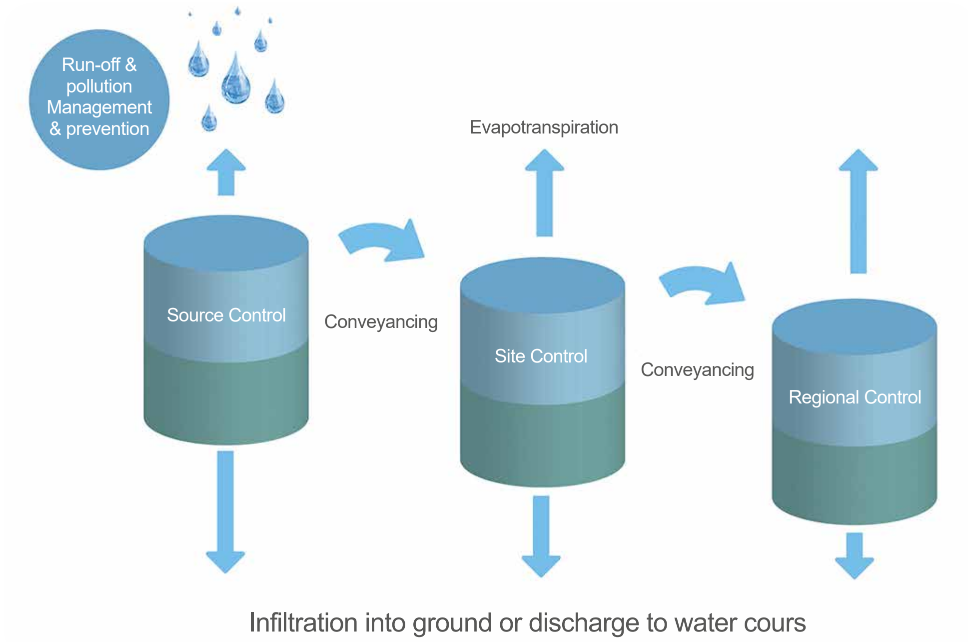
Urbanisation has led to an increasing number of negative impacts on the environment, in particular pollution. Depending on the land use, the following typical surface pollutants can be found in surface water run-off:

- Hydrocarbons and oils
- Sediments
- Heavy metals
- Fertilisers and pesticides
- Salts
- Animal wastes
- Pathogens

Traditionally, pollutants are collected from impermeable surfaces into the drainage systems and treated downstream via large, deep, in-line separators that are typically designed to treat the first 'flush' only. Emulsified oils and hydrocarbons can still be discharged downstream, the discharge of oil and hydrocarbons constitutes a major pollution source and is a serious threat to groundwater sources.

The SuDS Management Train

This is a staged design concept used in sustainable drainage systems (SuDS) which controls volume and quality of surface water run-off. Permavoid gives designers a versatile source control system.



Legislation and regulations

We understand how important it is to keep up to date with legislation. That is why our advice and system selection is informed by the very latest regulations and standards.

Water Framework Directive

The Water Framework Directive (WFD) is a piece of EU legislation to improve water quality in watercourses and coastal areas. It identifies the treatment of pollution at source as one of the most effective ways of reducing pollution and improving water quality. Our geocellular solutions can meet that challenge by integrating a number of surface water treatment and water management control systems into your attenuation and soakaway structures at source.

Flood and Water Management Act 2010 (amended 2012)

The Flood and Water Management Act (FWMA) came into effect in 2010 with the aim to mitigate flood risk and improve water management. As part of the Act, Schedule 3 requires new developments to implement sustainable drainage systems (SuDS) on all new developments using natural and proprietary features in place of conventional drainage, to reduce surface water run-off, mitigate flood risk and improve water quality.

Building Regulations

Building Regulations Approved Document H3 requires rainwater to be either stored in a tank or discharged in the following order:

1. Soakaway or other infiltration
2. Rivers and watercourses
3. Direct to sewers

Many developments are being built on land that is not suitable for infiltration. Brownfield sites, sites with contaminated ground, high water tables, poor percolation and with natural aquifers are all examples of this. Rivers and watercourses are not always in close proximity/reasonable construction distance from the site, resulting in a very large number of sites still having to utilise mains sewer connections as their only viable means of stormwater discharge.

Lead Local Flood Authorities

The Flood and Water Management Act (FWMA) 2010 requires the Lead Local Flood Authority (LLFA) to be responsible for co-ordinating flood risk management within its area. They have the responsibility for managing the risk of flooding from surface water, groundwater and ordinary watercourses and for developing, maintaining and applying a strategy for local flood risk management. LLFAs are also responsible for maintaining a register of significant flood risk assets.

It is a requirement under the FWMA that LLFAs develop a local flood risk strategy focused on local issues. The strategy should incorporate effective and robust surface water drainage systems for new developments in accordance with SuDS principles.

National Planning Policy Framework

The National Planning Policy Framework (NPPF) requires that development is undertaken in a sustainable manner and has a presumption in favour of sustainable development. The systems should be designed to control surface water run-off close to where it falls and mimic natural drainage as closely as possible to:

- Reduce the causes and impacts of flooding
- Remove pollutants from urban run-off at source
- Combine water management with green space with benefits for amenity, recreation and wildlife

Information on how this should be applied is provided in the DEFRA non-statutory technical standards for sustainable drainage systems (SuDS).

Local Planning Authorities

When determining planning applications Local Planning Authorities (LPAs) should ensure that any new or redevelopment avoids flood risk to people and property, does not increase flood risk elsewhere and mitigates any flood risk taking into account the impacts of climate change.

The LPA will be required to consult with the LLFA as a statutory consultee on major developments with surface water drainage requirements along with other statutory and non-statutory consultees as required.

Process integration

BS EN 752:2008

BS EN 752:2008 takes a more integrated view of designing sewer systems in the context of the wider urban drainage system and water environment. It helps engineers understand and implement integrated urban drainage systems and management. The National Annex provides information on how to incorporate BS EN 752:2008 practices within the UK.

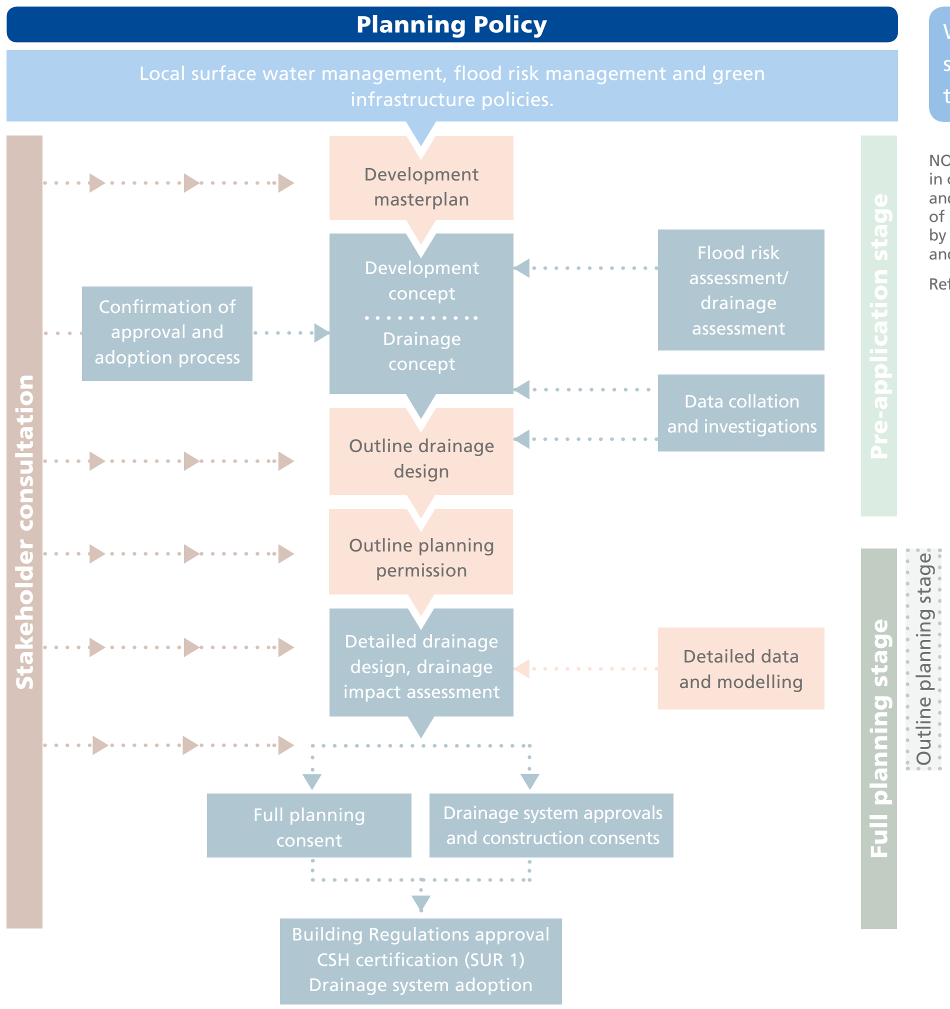
BS 8582:2013

This Code of Practice is for surface water management for development sites. The standard has been developed to support:

- Planners and drainage approval bodies: In setting consistent drainage criteria and principles (for new developments and redevelopments) that deliver effective surface water flood risk management as sustainably as possible while contributing towards the delivery of relevant environmental, sustainability and urban design planning objectives for the site and local area.
- Designers: In planning and implementing safe, robust surface water management systems that meet the criteria and principles referred to above.

In addition, this standard gives recommendations on the planning, design, construction and maintenance of surface water management systems for new developments and redevelopment sites, focusing on the sustainable management of flood risks arising from surface water run-off.

The diagram below demonstrates pertinent key links between the development planning process and the drainage system design process, emphasising the involvement of stakeholders throughout.



We can provide help and support at every stage of the planning process.

NOTE: The need for the steps given in colour would depend on the nature and/or scale of the development and type of planning application and is determined by agreement with the planning authority and drainage approval body.

Ref:- Page 8 of British Standard BS 8582:2013.

Geocellular solutions - for shallower depths

Polypipe provides the widest range of geocellular solutions to meet the needs of SuDS in a wide variety of applications.

Shallower applications

The Permavoid system extends the choice and flexibility of the Polypipe range by providing robust, effective source control through retention, attenuation or infiltration at shallower levels.

Shallower retention, attenuation or infiltration structures are often necessary because the ground at greater depths can present a construction challenge. This could be the presence of chemicals or contamination left behind from previous land use, a high water table or perched water and hard rock areas. A shallower approach reduces or omits the requirement for expensive pumping equipment. Shallower systems have a lower environmental impact, requiring less excavation, temporary works and fewer trips to transport infill and rubble to and from the site reducing construction costs.

Key benefits

Application

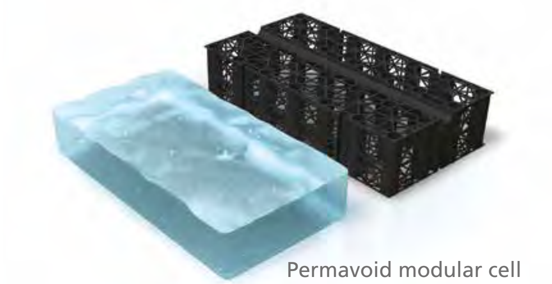
- Provides effective source control
- Can be installed above a high water table
- Allows water to be spread across a wide area
- Ideal for brownfield or contaminated sites
- Provides treatment to remove silt and hydrocarbon deposits

Design

- Designed and tested for retention, attenuation and infiltration at shallower depths
- Removes the requirement for pumping stations
- Oil interception at source – no need for petrol interceptors
- Can be used in combination with the full range of Polystorm geocellular solutions for deeper applications

Installation

- Interlocking raft for rigidity and a high compressive and tensile strength under load
- Suitable for use beneath porous and non-porous surfaces
- Reduction in excavation depth and cost
- No need for trench supports or plant to deliver and remove trench support panels



Permavoid modular cell
95% void ratio

Traditional aggregate
30% void ratio

Permavoid - at a glance

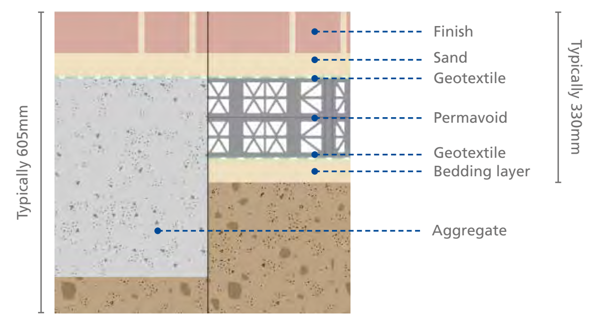
The Permavoid system offers a means of providing integrated source control drainage solutions that can meet the volume control and water treatment demands of current guidance and regulations.

The Permavoid system is designed to be used in place of a traditional aggregate sub-base within trafficked pavements. It provides a unique, high strength, consistent structural raft in accordance with BS7533-13:2009, 'Guide for the Design of Permeable Pavements Constructed with Concrete Paving Blocks and Flags, Natural Stone Slabs, Setts and Clay Pavers'.

Permavoid cells have a 95% void ratio, thus considerably enhancing the attenuation capacity of a pavement and also enabling the reduction of aggregate requirements in hydraulic pavements. The system is suitable beneath asphaltic, block-paved or concrete pavements and for the full range of traffic conditions from domestic driveways to highways. The units have a high compressive strength and are joined together with Permaties, a unique patented tapered jointing system, to create a horizontal structural raft.

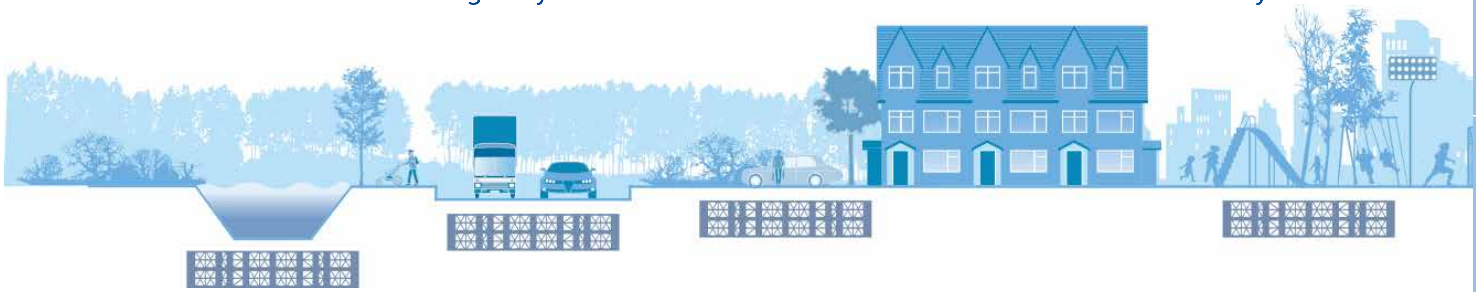
Figure 2.1.1: Typical Permavoid system vs. traditional aggregate sub-base

For car park applications



Key benefits

- Individual modular units tie together using Permatie interlocking connectors
- The Permaties have integral creep resistance
- The Permatie provides rigidity and minimises deflections
- Permavoid sub-base replacement systems comply fully with the latest CIRIA guidance on structural design of geocellular drainage tanks
- On multi-layer systems, Shear Connectors are inserted to maintain rigidity and minimise lateral displacement
- Permavoid geocellular units are manufactured from recycled polypropylene and can be recycled at the end of their useful life



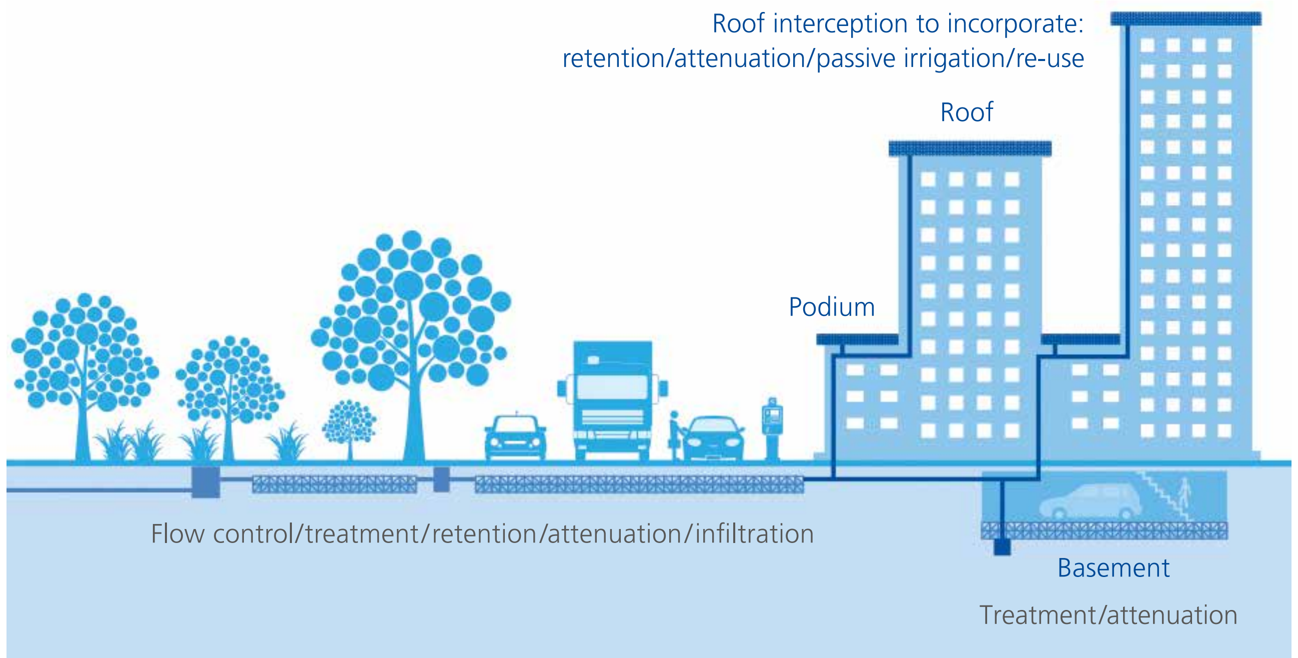
Please note: Illustrations are for guidance only. Not to scale.

Permavoid - at a glance

Source control

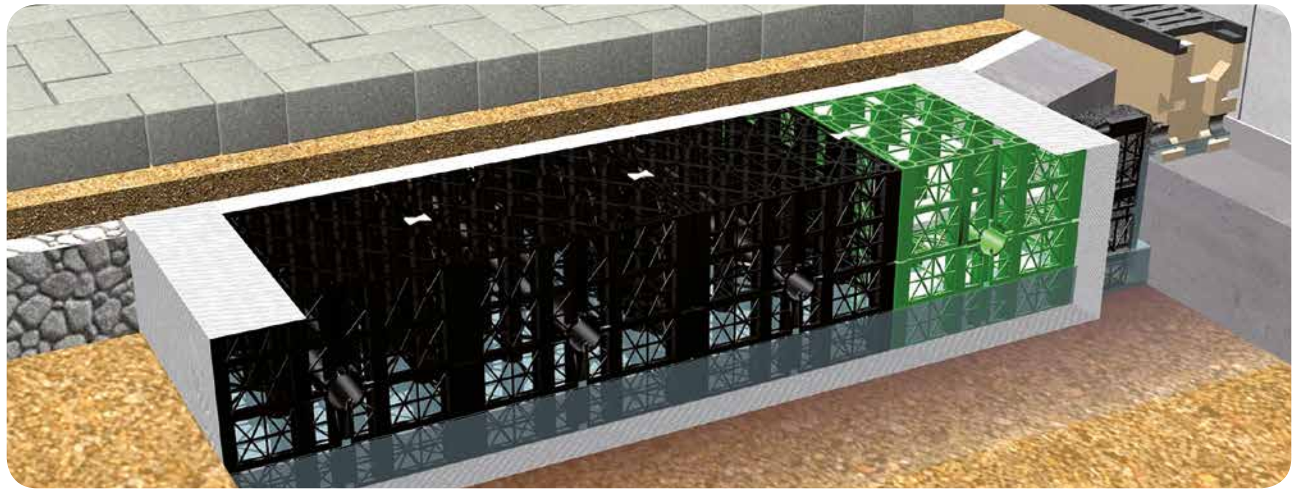
Source control is a vital element of the SuDS Management Train, allowing silt/debris and contaminants to be managed at the head of the system. The versatility of the Permavoid geocellular system allows for numerous variations of stormwater treatment.

SOURCE CONTROL DRAINAGE SYSTEM



For pollution management

Increasingly, regulations and design guidance highlight developer's obligations to mitigate the risk of pollutants emanating from contaminated run-off from hardstanding surfaces. The most common diffuse pollutants are hydrocarbons and contaminated silts. The Permavoid system offers an integrated technique for the source control treatment of polluted run-off using advanced geotextiles and flotation techniques.



In traditional stormwater drainage systems, silt/debris and contaminants are managed within the system via in-line separators typically installed downstream in the system. This requires larger and deeper chamber installations.

Permavoid is an effective interception system supported by over 10 years of laboratory and field trials to ensure effectual water treatment close to source at shallower depths.

Surface Water Treatment System Selector

Source Control

Car Parking
- Light contamination
- Occasional spillages

Permeable Surface: Permafilter, Permavoid Biomat, Permavoid Medium Duty with Biomat

Impermeable Surface: Permachannel, Permafilter, Permavoid Biomat, Permavoid Medium Duty with Biomat

Goods Vehicle Parking Access Roads
- Regular contamination
- Frequent spillages

Impermeable Surface: Permachannel, Permafilter, Permavoid Biomat, Permavoid Medium Duty with Biomat; Ridgigully, Permafilter, Permaceptor, Permavoid Medium Duty with Biomat

Highways
- Regular contamination
- Frequent spillages

Impermeable Surface: Permachannel, Permafilter, Permavoid Biomat, Permavoid Medium Duty with Biomat; Ridgigully, Permafilter, Permaceptor, Permavoid Medium Duty with Biomat

A Choice of...

Retention: Permavoid/Polystorm, Orifice Flow Control, Permatex 300

Attenuation: Permavoid/Polystorm, Orifice Flow Control, Geomembrane, Permatex 300

Infiltration: Permavoid/Polystorm, Permatex 300

Site Control

A Choice of Site Control Options

Soft SuDS: Swales, Retention Pond, Permavoid, Flow Control

Attenuation: Polystorm, Ridgistorm-XL, Permavoid, Flow Control

Infiltration: Polystorm, Ridgistorm-XL, Permavoid

Regional Control

Key benefits

- Effluent loading under normal conditions treated and degraded at source
- Accidental and catastrophic spills recoverable at source
- Outperforms Class I and II separators as defined by PPG3
- Low velocity water flow throughout, minimising emulsification and sediment mobilisation
- No large deep storage tanks or access required
- Routine maintenance easily achieved at source

Permavoid applications

The Permavoid system can be incorporated into the full range of traffic conditions from domestic driveways to HGV applications and is suitable below pervious and impervious asphaltic, block paved or concrete paved areas. The Permavoid system complies with the requirements of BS 7533-13 and incorporates a high vertical compressive strength of 715 kN/m^2 and lateral compressive strength of 156 kN/m^2.

High water tables

High water tables and even perched water at shallow depths require specific design and construction measures to avoid issues such as flotation of attenuation structures and often prevents the use of soakaways. Anti-flotation and temporary dewatering measures are invariably very expensive. The Permavoid system can provide the attenuation or infiltration solution for such projects avoiding groundwater issues.

Contaminated land

Redevelopment of brownfield sites is commonplace and issues of ground contamination often come hand in hand. The use of the Permavoid system can often negate the need to excavate into contaminated soils that invariably incur significant costs in either on-site remediation or off-site disposal, as well as numerous associated environmental issues.

Excavation of hard rock

Excavation of hard rock is usually expensive and slow. However, the Permavoid system is ideal for use on sites that are underlain by hard rock at shallow depths, as the systems can be incorporated into the pavement construction, invariably avoiding any net additional excavation for the drainage system.

Shallow outfalls

The Permavoid systems can very often avoid the need for pumping that might otherwise be required with conventional drainage or deep attention tank solutions. Pumped solutions can be costly to install and maintain and are considered to be environmentally unsustainable.

Limited access sites

The Permavoid system can be easily manhandled into place without any heavy lifting or off-loading equipment. The footprint of the tank does not have to be square. Segmented tanks can fit into the available space.

Ground stabilisation

Due to its high compressive strength and bending resistance within the joints, Permavoid cells create a horizontal consistent structural raft providing a stable structure.

Soft landscaped areas

The Permavoid system can be used to provide pre-treatment of stormwater run-off before it enters a swale, dry basin, pond or wetland (Diagram 1). It is even possible to install Permavoid below swales and dry basins to improve treatment and increase storage capacity (Diagram 2).

Diagram 1

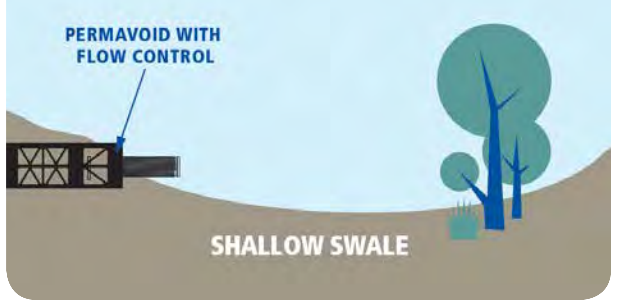
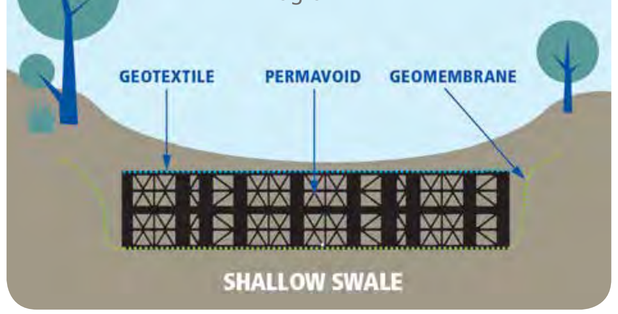


Diagram 2



Public open spaces / Leisure and play areas

Acting as both a sub-base replacement system and drainage component, the Permavoid system can give maximum attenuation and infiltration capabilities for both natural and artificial surfaces and can be integrated into site-wide sustainable drainage systems more effectively. The result is a sustainable development in line with the DEFRA national standards for delivery of sustainable drainage systems.

Driveways

Any domestic driveway or front garden over 5m^2 that is being paved must incorporate SuDS to minimise the risk of flooding. The Permavoid system, used in conjunction with permeable paving, can help adhere to these requirements whilst allowing a wide range of landscaping options.

Permavoid in the urban environment

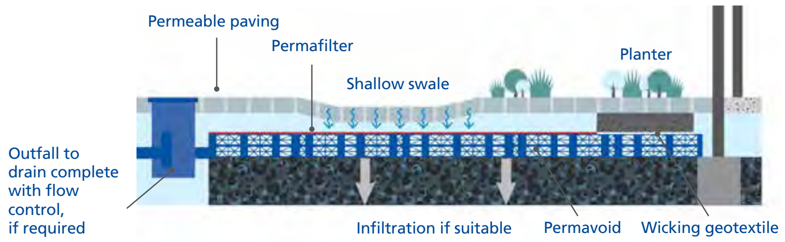
The introduction of SuDS in urban areas allows landscape architects and engineers to design multifunctional urban spaces.

The Permavoid system can help enhance natural features in built-up areas. As it provides excellent source control at shallow depths, the system can not only manage, but also treat water from high stormwater volumes. It also creates a structural platform on which green areas can be cultivated, irrigated and oxygenated.

Key benefits

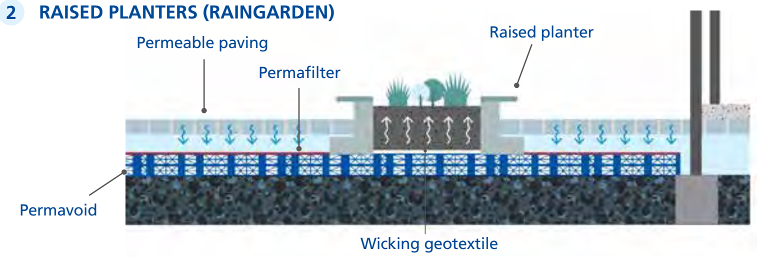
- Controls and manages surface water run-off at source
- Provides effective drainage
- Re-uses water as a resource
- Can be installed above a higher water table
- Removes silt and hydrocarbons to improve biodiversity
- Helps establish calming, tranquil spaces
- Promotes health & wellbeing
- Provides a cooling effect
- Connects people with nature

1 SHALLOW SWALE & PLANTER



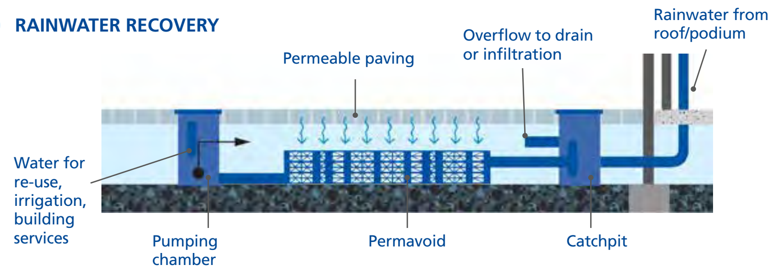
Permeable surfaces can be used to attenuate run-off. Intercepting, storing and re-using surface water at source, this enhances stormwater management and enhances biodiversity.

2 RAISED PLANTERS (RAINGARDEN)



Collected surface water can be used to irrigate planter areas through passive irrigation, providing amenity, infiltration and evapotranspiration, assisting with cooling in urban areas.

3 RAINWATER RECOVERY

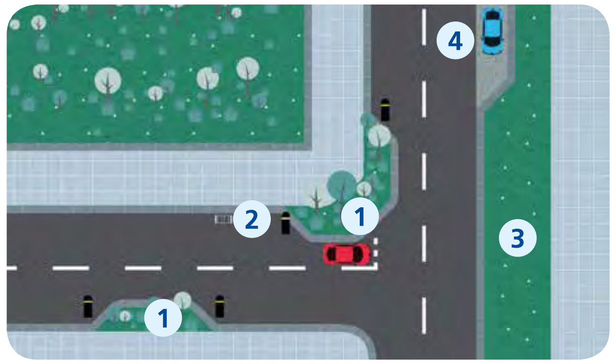


Rainwater from adjacent buildings and porous surfaces can be intercepted and stored for non-potable water use within the building, or re-used for irrigation.

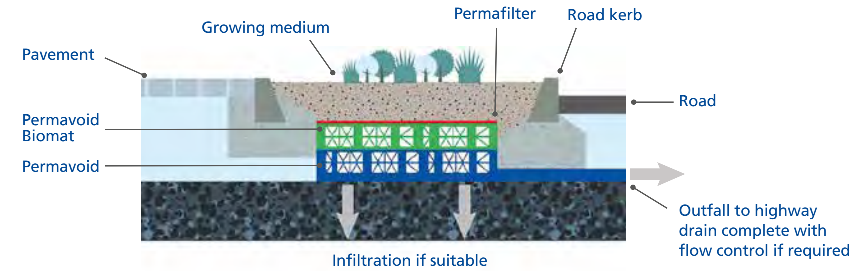
Permavoid in the urban environment

The management of surface water run-off from roads and highways can provide substantial benefits to the built environment.

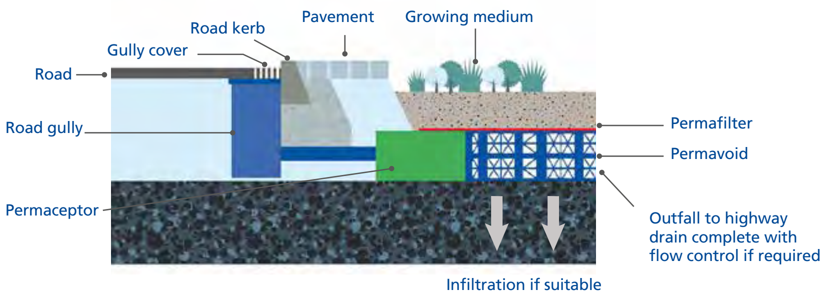
Water management features can be prime design elements in road and highway drainage. Incorporated into a new development or retrofitted into an overall SuDS scheme, Permavoid can enhance the natural environment by providing improved attenuation and treatment at source.



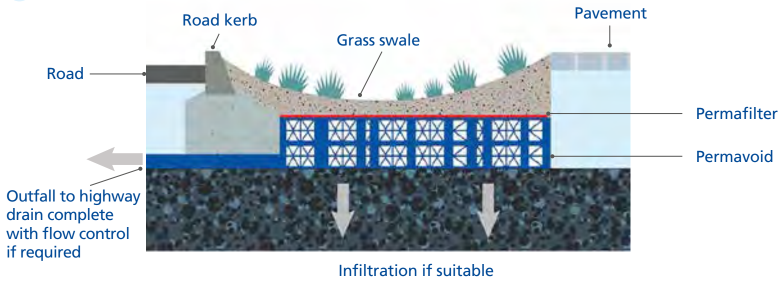
1 BIORETENTION ZONE



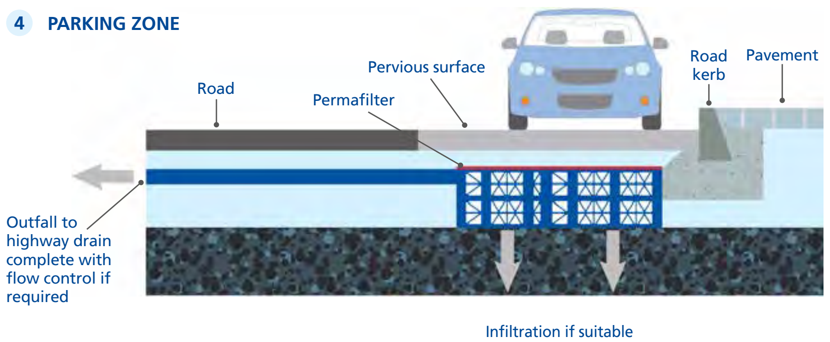
2 BIORETENTION ZONE



3 GRASS SWALE



4 PARKING ZONE



Bioretention zones

The stormwater run-off from highways and pavement areas can be collected and treated using bioretention. Incorporated into traffic calming zones, bioretention systems can enhance biodiversity and amenity, along with providing effective stormwater management at source.

Key benefits

- Traffic calming
- Easy to retrofit
- Reduced pollution loading
- Aesthetically pleasing spaces
- Shallow, easy to maintain systems
- Creates small source control sub-catchments

Grass swales

Highways England have used grass swales alongside roads and highways for many years, due to their cost-effective nature. Swales are designed to be shallow for safety reasons, and can be underdrained to provide effective retention and treatment.

Parking zones

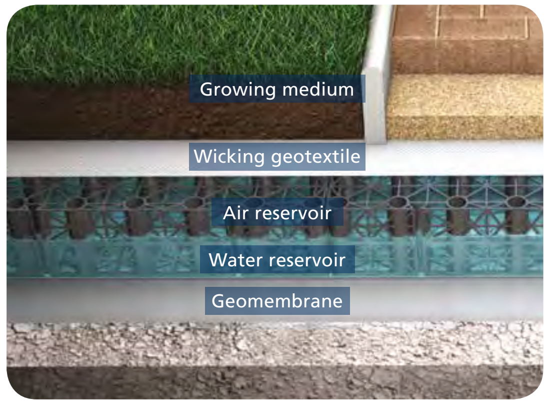
Pervious off-road parking zones can be incorporated into highway designs, particularly in residential areas. Installed beneath pervious surfaces, the Permavoid range of components perform as a sub-base replacement and drainage system to manage the majority of rainfall events, providing treatment and retention at source, at shallow depths.

Passive capillary irrigation

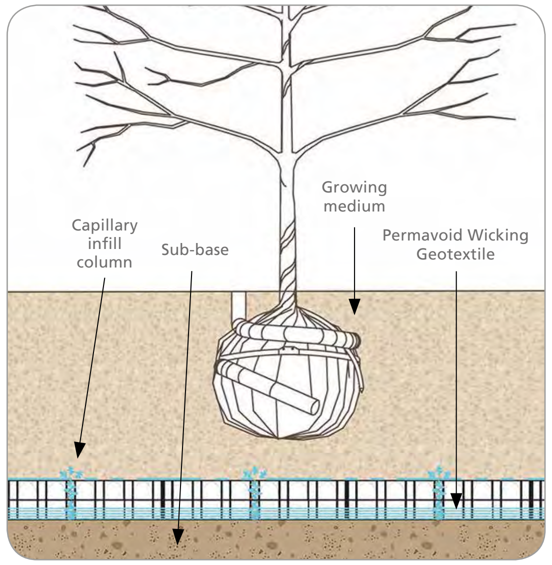
Passive capillary irrigation provides enhanced amenity and biodiversity in urban greenfield developments.

Passive capillary irrigation is a method of growing plants and grasses using an inert porous medium to transport water and oxygen to the root zone by capillary action. The hollow structural columns within the Permavoid geocellular units are filled with an absorbent rockwool, which draws up the water being stored within the unit.

The Permavoid raft is covered with a proprietary wicking geotextile that supplies water on demand across the structural raft to irrigate the growing medium. As the vegetation is planted in a growing medium, access to minerals and nutrients is still available, minimising the requirement for fertilisers and helping to develop a healthy root system.



Typical section through Permavoid capillary irrigation system showing rockwool infilled Permavoid column



Applications

- Green roofs
- Brown roofs
- Landscaped areas
- Sports pitches
- Amenity areas
- Bioretention systems
- Raingardens

Key benefits

- Provides rainwater interception at source
- Enhances storage capacity for green and brown roofs
- Regulates subterranean irrigation
- Air reservoir provides oxygen to root system
- Provides a consistent high strength raft to support growing medium, vegetation and amenity
- Evaporative cooling mitigates the heat island effect by reducing urban air temperatures
- Supports the creation of landscapes in urban settings that mimic nature
- Can remove excess soil moisture through wicking geotextile
- Provides an undersoil drainage system and can be incorporated into a sustainable stormwater management system
- Minimises the requirement for expensive pumping systems, providing 24 hour irrigation
- Reduces energy requirements

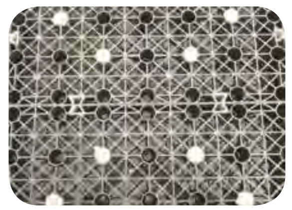
Permafoam irrigation units

For smaller areas or individual landscaped areas it is possible to provide on-demand irrigation using Permafoam units.

Permafoam is an open celled, highly absorbent and water retentive phenolic foam that is incorporated into a Permavoid geocellular unit.

Please see datasheet on page 32 for more information.

Permafoam irrigation units



Rockwool filled columns

Permavoid system

The Permavoid system comprises of high strength modular cells, channel and gully components that incorporate silt/oil gravity separation features, floating oil treatment devices, special oil treatment geotextiles and shallow flow control devices.

Below shows the individual components that may be required within a Permavoid system design.

For full technical datasheets, see pages 24-37.

The Permavoid system comprises of:

Permavoid (85 and 150mm)

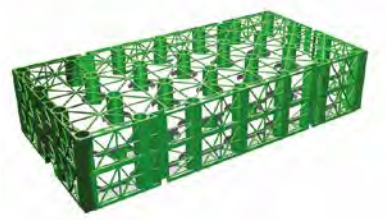
Geocellular sub-base replacement system that locks together to form an interlocking raft of exceptional high compressive and tensile strength.

See page 24

Permachannel

A linear treatment system that combines run-off collection, silt and effluent interception and water treatment functions.

See page 25



Permavoid Biomat

High strength geocellular unit containing a low density, oil treating, geosynthetic floating mat.

See page 26

Permafilter Geotextile

A non-woven dimpled, needle-punched geotextile designed for hydrocarbon pollution treatment.

See page 27

Geomembrane

An impermeable membrane for wrapping around Permavoid structures to form watertight tanks.

See page 28

Permaties

Fully interlocking tapered tie connections to securely link Permavoid cells together horizontally in a single structure and to transfer tensile loads.

See page 29

Shear Connector

Securely links multiple layers of Permavoid together in a single structure.

See page 29

Permavoid Medium Duty with Biomat

Comprising of a low density, oil treating geosynthetic floating mat for use with the Polystorm range of modular geocellular units.

See page 30

Permaceptor

A combined run-off collection, silt/oil interceptor and treatment system used with road/yard gullies.

See page 31

Permafoam

An open celled absorbent phenolic foam incorporated into Permavoid geocellular units for 'on demand' irrigation or check dams.

See page 32

Permatex 300

A heavy duty, non-woven, polypropylene, geotextile designed to protect and separate Permavoid geocellular layers.

See page 33

Orifice Plate Flow Control Chamber

A pre-fabricated orifice plate flow control unit incorporating a removable filter to protect the orifice.

See page 34

Permavoid Saddle Connectors

A range of spigot and saddle connectors allowing piped connection to the Permavoid structure.

See page 34

Permavoid Wicking Geotextile

A heavy duty, non-woven geotextile formulated to provide passive irrigation to soft and landscaped areas.

See page 35

Permavoid Rainwater Diffuser Unit

Permavoid units encapsulated with a 2mm mesh fabric diffuse the collected run-off into the surrounding granular sub-base.

See page 36

SECTION 1 LEGISLATION AND REGULATIONS
SECTION 2 PERMAVOID SYSTEM OVERVIEW AND APPLICATIONS
SECTION 3 PERMAVOID SYSTEM COMPONENTS
SECTION 4 HYDRAULIC DESIGN
SECTION 5 STRUCTURAL DESIGN
SECTION 6 SURFACE WATER TREATMENT
SECTION 7 DELIVERY, INSTALLATION & MAINTENANCE
SECTION 8 STANDARD DETAILS
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SECTION 10 SUMMARY

Permavoid system - components

Permavoid 85 and 150

Product code: PVPP85 and PVPP150

Permavoid is a geocellular interlocking system designed for shallow groundwater storage or infiltration, to be used in place of traditional aggregate sub-base. The system has an exceptionally high compressive and tensile strength and bending resistance with a proprietary jointing system to create a horizontal structural 'raft' within the pavement that is ideal for the shallow attenuation of surface water. The system can also be combined in layers using interlocking shear connectors to increase depth in 85mm and 150mm increments. This is particularly useful in designing infiltration systems, allowing flexibility in balancing the soil permeability/infiltration area of the Permavoid storage units and residual temporary attenuation.

Element	85mm	150mm
Physical Properties		
Weight per unit	2.25kg	3kg
Weight per square metre	9kg	12kg
Length	708mm	708mm
Width	354mm	354mm
Depth	85mm	150mm
Short Term Compressive Strength		
Vertical	715kN/m^2	715kN/m^2
Lateral	156kN/m^2	156kN/m^2
Short Term Deflection		
Vertical	1mm per 126kN/m^2	1mm per 126kN/m^2
Lateral	1mm per 15kN/m^2	1mm per 15kN/m^2
Tensile Strength		
Of a single joint	42.4kN/m^2	42.4kN/m^2
Of a single joint at (1% secant modulus)	18.8kN/m^2	18.8kN/m^2
Bending resistance of unit	0.71kN/m	0.71kN/m
Bending resistance of single joint	0.16kN/m	0.16kN/m
Volumetric void ratio	92%	95%
Average effective perforated surface area	52%	52%
Other Properties		
Intrinsic permeability (k)	1.0×10^{-5}	1.0×10^{-5}
Ancillary	Permavoid Permatie Permavoid Shear Connector	Permavoid Permatie Permavoid Shear Connector
Material	Polypropylene (PP)	Polypropylene (PP)

Hydraulic Performance 85mm			
3 units wide, 1 unit deep (1.06m x 0.15m)			
Free Discharge			
Gradient (%)	0	1	2
Flow Rate (l/m/s)	4	6	7

Hydraulic Performance 150mm						
3 units wide, 1 unit deep (1.06m x 0.15m)						
Free Discharge						
Gradient (%)	0	1	2	3	4	5
Flow Rate (l/m/s)	8	13	15	17	19	21

Applications

The Permavoid units are suitable for use as a stormwater attenuation and/or infiltration system. The system comprises of single, interconnected cells which can be installed in the ground as part of sub-base formation. Permavoid is suitable for use in a range of applications including residential, industrial estates, car parks, sports pitches, roofs, basements, pedestrian areas and rainwater harvesting.

Performance

The structural load bearing capacity of the Permavoid units have been tested in accordance with the following European Standard: BS 7533-13:2009. The system's structural design life expectancy, based upon creep test data (tested in accordance with CIRIA guidelines) is as follows; for lightly loaded areas such as car parks, a design life of 50 years is achievable. For areas with prolonged HGV loading a typical design life may only be 25 years, depending on the design of the pavement surfacing and structural layers over the tank.

Installation standard

All calculations for Permavoid units are based upon site-specific load cases, pavement construction types and thicknesses, soil cover and ground conditions and the suitability must therefore be approved for each project.

Key benefits

- High strength, high capacity, shallow, sub-base replacement system
- Stormwater attenuation and/or infiltration system
- Used as part of a SuDS scheme to offer stormwater storage at shallow construction depths
- Units are manufactured from 90% recycled polypropylene (PP)
- 100% recyclable

Permachannel

Product code: PV03001

Permachannel is a versatile, linear treatment system that can provide source control and pollution treatment in a wide variety of locations and applications.

The Permachannel functions as a combined run-off collection, silt and oil interceptor and treatment system. It is designed to be ideally laid with zero gradient to prevent the development of lateral velocities, 'stilling' sheet run-off from each sub-catchment and encouraging silt deposition within each channel. The outlets discharge from the side of the channel via a weir and baffle component which separates oils and prevents the effluent and silt from progressing into the rest of the drainage system.

Element	Value
Physical Properties	
Weight per unit	29kg
Length	1000mm
Width	150mm
Depth	210mm
Material	Polymer concrete
Grating	Ductile iron standard steel safe
Catchment area	30m^2
Loading	Rated to D400
Average effective perforated surface area	Polymer concrete
Chemical resistance	The polymer concrete has a capillary-free, non-porous sealed structure, which makes it naturally resistant to most chemicals (i.e. petrol, oils and acids)
Effluent concentrations are below PPG3 Class I requirements	

Note: Ancillary Universal Channel Connector 40mm diameter.

Applications

Permachannel is used for stormwater collection, interception and the treatment of associated pollutants. The system comprises of single or multiple interconnected channels appropriately located to collect surface water run-off from sub-catchments of predominantly impervious or pervious pavements. Permachannel is suitable for use in a range of applications including residential, industrial estates, car parks, sports pitches, roofs, basements, pedestrian areas and rainwater harvesting.

Performance

Permachannel is related to D400 loading in accordance with BS EN124:1994 when installed with concrete bed and haunch in accordance with site specific construction details.

Installation standard

Permachannel must be installed on a load bearing concrete bed and haunch in accordance with site specific construction details.

Key benefits

- Gravity separation of oil and silts at source
- Trapped effluent naturally treated by aerobic digestion
- Can enhance the water quality and eliminate the need for end of line petrol/oil interceptors
- The system complies with the regulations of the treatment train criteria in a SuDS scheme as defined in the PPG3
- 100% recyclable

Permavoid system - components

Permavoid Biomat

Product code: PV150BM

Permavoid Biomat is a high strength geocellular unit, containing a low density, oil treating, geosynthetic floating mat (biomat). The biomat floats on water and is designed to intercept and treat any potential residue emulsified oils that may be present within the surface water. The use of Permavoid Biomat provides additional oil retention and water treatment capability to an underground water storage system.

Element	Value
Physical Properties	
Weight per unit	3kg
Length	708mm
Width	354mm
Depth	150mm
Short Term Compressive Strength	
Vertical	715kN/m²
Lateral	156kN/m²
Short Term Deflection	
Vertical	1mm per 126kN/m²
Lateral	1mm per 15kN/m²
Tensile Strength	
Of a single joint	42.4kN/m²
Of a single joint at (1% secant modulus)	18.8kN/m²
Bending resistance of unit	0.71kN/m
Bending resistance of single joint	0.16kN/m
Volumetric void ratio	92%
Average effective perforated surface area	52%
Other Properties	
Intrinsic permeability (k)	1.0×10^{-5}
Oil retention	56g/m²
Effluent discharge at max. oil loading	10ppm
Ancillary	Permavoid Permatie Permavoid Shear Connector

Applications

Permavoid Biomat units are suitable for use as a stormwater attenuation and/or infiltration system. The system comprises of single, interconnected cells which can be installed in the ground as part of a sub-base formation. Permavoid Biomat is suitable for use in a range of applications including residential, industrial estates, car parks, sports pitches, roofs, basements, pedestrian areas and rainwater harvesting.

Performance

The structural load bearing capacity of the Permavoid Biomat units have been tested in accordance with the following European Standard: BS 7533-13:2009. The system's structural design life expectancy, based upon creep test data (tested in accordance with CIRIA guidelines) is as follows; for lightly loaded areas such as car parks a design life of 50 years is achievable. For areas with prolonged HGV loading a typical design life may only be 25 years, depending on the design of the pavement surfacing and structural layers over the tank.

Installation standard

All calculations for Permavoid Biomat units are based upon site-specific load cases, pavement construction types and thickness, soil cover and ground conditions and the suitability must therefore be approved for each project.

Key benefits

- Secondary treatment phase for potential residual hydrocarbons
- Pollutant-intercepting floating mat
- Same size as Permavoid so can be incorporated into Permavoid attenuation designs
- Floating medium maintained at air-water interface allowing optimum conditions for aerobic degradation
- Self maintaining, degrades residual oils by absorption and aerobic digestion
- Units are manufactured from 90% recycled polypropylene (pp)
- 100% recyclable

Permafilter Geotextile

Product code: PV23002

Permafilter Geotextile is a non-woven, dimpled, needle-punched Geotextile that has been specifically designed for hydrocarbon pollution treatment in sustainable drainage systems (SuDS) and other civil engineering applications.

Element	Value
Physical Properties	
Weight per unit	300g/m²
Roll length	100m
Roll width	2.4m
Roll weight	72kg
Mechanical Properties	
Tensile strength EN10319 (md/cmd)	9/12kN/m
Static puncture (CBR test) EN12236	1575N
Hydraulic Properties	
Water permeability EN ISO 11058	57 l/m²/s
Other Properties	
Air permeability	1000 l/m²/s
Max. oil retention	6L/10m²
Effluent discharge at max. oil loading	10ppm
Material	Modified polyester

Key benefits

- Captures residual hydrocarbons
- Removes pollutants by biodegradation
- 100% recyclable
- Enhances water quality when used as part of a source control SuDS and eliminates the need for end of line petrol/oil interceptors
- Designed to be self-maintaining for the life of the installation

Applications

Permafilter Geotextile is suitable for use in a range of applications including residential, industrial estates, swales, sports pitches, car parks, roofs, basements, pedestrian areas and rainwater harvesting.

Performance

The dimpled Geotextile comprises a proprietary blend of polyester fibres that incorporates hydrophilic (water attracting and oil repellent) and hydrophobic (oil attracting and water repellent) properties to achieve superior oil retention. Permafilter Geotextile is capable of retaining oil contamination ranging from daily car drip losses up to catastrophic spillages, i.e. originating from car oil-sump failures. The entrapped hydrocarbons are biodegraded by naturally occurring microorganisms providing a self-cleansing mechanism.

Laying generally

Permafilter will be laid to suit site specific requirements. Overlaps shall be a minimum of 300mm or heat sealed. Ensure Geotextile is clean and debris free before installing Permavoid.

Permavoid system - components

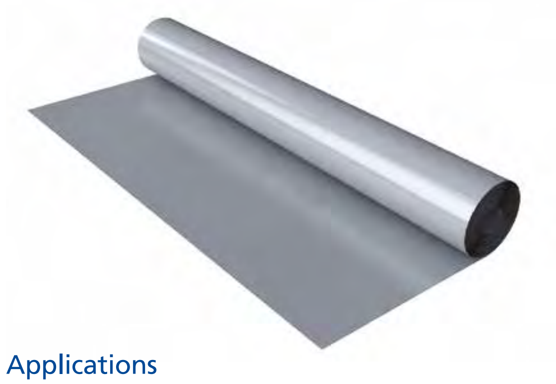
Permavoid Geomembrane

Geomembranes are impermeable liners used in sustainable drainage systems (SuDS) to form water tight tanks.
The membrane used depends on a risk assessment of the site and the ground and groundwater conditions.

Element	Value	Test Method
Physical Properties		
Thickness mm ±10%	1.0	ASTN D-751
Density g/cm³ minimum	0.9	ASTM D-792
Tensile stress at break minimum N/mm²	18	ASTM D-638
Elongation at break %	>700	ASTM D-638
Puncture resistance minimum N	150	FTMS 101C method 2065
Tear resistance minimum N	60	ASTM D-104
Dimensional stability % change max	±2.0	ASTM D-1204 1hr at 100°C
Stress crack resistance	100%	ASTM 5397
Volatile loss 5% loss max	0.2	ASTM D-1203 method A
Ozone resistance	No cracks	ASTM D-1149
Carbon black content	2-3%	ASTM 1603
Moisture vapour g/m²/day	<0.1	ASTM E96
Friction angle (non-woven Geotextile)	21°	Shear box
Methane permeability	0.11 g/m²/day/atm	European standard
Methane transmission rate	1.8×10^{-9} m³/m²/s/atm	BRE
Permeability coefficient	1.8×10^{-12}	
Core material	Polypropylene	

Laying generally

For retention and attenuation applications the units need a sealed geomembrane to prevent the release of water and prevent the ingress of groundwater. All joints should be sealed, using proprietary techniques recommended by the manufacturer. Advice on seam testing procedures as given in CIRIA SP 124:1996. Barriers, lines and cover systems for containment and control of land contamination.



Applications

The Geomembrane is suitable for use in a range of applications including residential, industrial estates, swales, sports pitches, car parks, roofs, basements, pedestrian areas and rainwater harvesting.

Performance

A robust, heavy duty Geomembrane resistant to puncture. Geomembrane combines excellent chemical resistance with low flexural modulus to provide a malleable, flexible membrane suitable for nonsmooth surfaces and factory pre-fabrication to optimise on-site installation. Jointing shall be formed using fusion or extrusion bead welding in accordance with manufacturing recommendations.

Key benefits

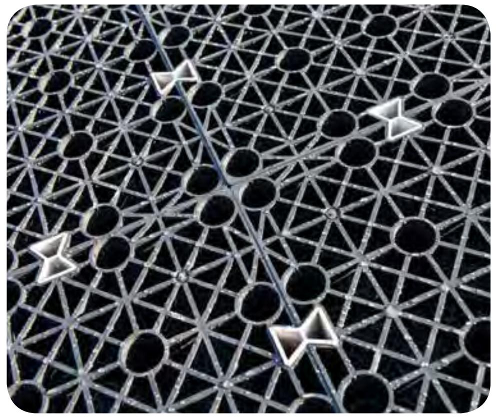
- Heavy duty polypropylene membrane
- Used to create a water-tight construction and minimise risk of subgrade softening
- 100% recyclable

Permaties

Product code: PVCLIP

Permatie is a patented tapered tie that interlocks the Permavoid geocellular units into a secure and consistent raft. Once connected the ties provide tensile resistance within the Permavoid structure.

Element	Value
Physical Properties	
Weight per unit	30g
Length	74mm
Width	45mm
Depth	34mm
Other Properties	
Material	Polypropylene



Shear Connector

Product code: PVSC

When two or more layers of Permavoid are used to form a structure, Shear Connectors are inserted between the layers to create stability and prevent lateral movement and shear resistance.

Element	Value
Physical Properties	
Weight per unit	10g
Length	40mm
Diameter	35mm
Other Properties	
Material	Polypropylene

Permavoid system - components

Permavoid - Medium Duty with Biomat

Product code: PSM1BM

Permavoid Medium Duty with Biomat is designed for use with Polystorm attenuation and infiltration systems and comprises of a tri-laminate of low density plastic composite (biomat). The biomat floats on water and is designed to intercept and treat any potential residual emulsified oils that may be present within the surface water. The use of Permavoid Medium Duty with Biomat provides additional oil retention and water treatment capability to an underground water storage system.

Exact colour may vary due to recycled materials.

Technical Specification Overview	
Length	1m
Width	0.5m
Depth	0.4m
Total volume	0.2m^3
Unit weight	9kg (approx)
Unit storage volume	0.19m^3 (190 litres)
Void ratio	95%
Vertical compressive strength	Maximum 610 kN/m^2 **
Lateral compressive strength	Maximum 63 kN/m^2 **
Short-term vertical deflection	70.1 kN/m^2 per mm
Short-term lateral deflection	4.4 kN/m^2 per mm
Estimated long term vertical deflection (creep)	0.2798 Ln (design life in hrs) [Based on an applied test load = 162 kN/m^2] Creep data limit 60 years
Estimated long term lateral deflection (creep)	1.0192 Ln (design life in hrs) [Based on an applied test load = 30.8 kN/m^2] Creep data limit 60 years
Other Properties	
Intrinsic permeability (k)	Minimum 1.0×10^{-5}
Oil retention	56g/m^2
Effluent discharge at max. oil loading	10ppm

Note: Permavoid Medium Duty With Biomat is ideal for use in trafficked and pedestrian applications subject to a structural design check and suitable installation conditions.

* Each unit includes 4 clips and 2 shear connectors.

** Compressive strength at yield, maximum recommended value for design purposes.

Applications

The Permavoid Medium Duty with Biomat units are suitable for use as a stormwater retention, attenuation or infiltration system. Used to provide hydrocarbon treatment, they are suitable for a range of applications including, retail, residential, commercial and off-road car parking.

Performance

The structural load bearing capacity of the Permavoid units have been tested in accordance with CIRIA C680. The structural design life is a minimum 60 years.

The units provide 3D flow and have a void ratio of 95%.

Key benefits

- Pollutant-intercepting floating mat degrades residual oils by absorption and aerobic digestion
- Can be incorporated into Polystorm retention, attenuation and infiltration systems
- 95% void ratio
- Light weight yet robust – excellent health and safety and installation benefits
- 60 years creep limited life expectancy
- 100% recyclable
- Units are manufactured from recycled materials

Permaceptor

Product code: PV04002

The Permaceptor functions as a combined run-off collection, silt/oil interceptor and treatment system. The system is designed to be used with conventional road/yard gullies and ideally laid with zero gradient to prevent the development of lateral velocities. Thus, its initial function is to 'still' sheet run-off from each sub-catchment and to encourage silt deposition. The outlet discharges via a weir and baffle component that separates oils and prevents the effluent and silt from progressing into the rest of the drainage system.

Element	Value
Physical Properties	
Weight per unit	29kg
Length	1062mm
Width	708mm
Height	300mm
Short Term Compressive Strength	
Vertical	715kN/m^2
Lateral	156kN/m^2
Short Term Deflection	
Vertical	1mm per 126kN/m^2
Lateral	1mm per 15kN/m^2
Tensile Strength	
Of a single joint	42.4kN/m^2
Of a single joint at (1% secant modulus)	18.8kN/m^2
Bending resistance of unit	0.71kN/m
Bending resistance of single joint	0.16kN/m
Volumetric void ratio	92%
Average effective perforated surface area	52%
Other Properties	
Intrinsic permeability (k)	Minimum 1.0×10^{-5}
Oil retention	56g/m^2
Effluent discharge at max. oil loading	10ppm
Ancillary	Permavoid Permatie
Material	Polymer concrete

Applications

Permaceptor is used for stormwater collection, interception and the treatment of associated pollutants. The system comprises of Permavoid and Permavoid Biomat units located to collect surface water run-off from sub-catchments of predominantly impervious or pervious pavements via Polypipe Ridgigully and Midigully. Permaceptor is suitable for use in a range of applications including residential, industrial estates, car parks and basements.

Performance

The structural load bearing capacity of the Permavoid units have been tested in accordance with the following European Standard: BS 7533-13:2009. The system's structural design life expectancy, based upon creep test data (tested in accordance with CIRIA guidelines) is as follows; for lightly loaded areas such as car parks a design life of 50 years is achievable. For areas with prolonged HGV loading a typical design life may only be 25 years, depending on the design of the pavement surfacing and structural layers over the tank.

Installation standard

All calculations for Permaceptor units are based upon site-specific load cases, construction types and thickness, soil cover and ground conditions and the suitability must therefore be approved for each project.

Key benefits

- Gravity separation of oils and silts at source
- Accidental/catastrophic spills recoverable at source
- Trapped effluent naturally treated by aerobic digestion
- Can enhance the water quality and eliminate the need for end of line petrol/oil interceptors
- The system complies with the regulations of the treatment train criteria in a SuDS scheme as defined in the PPG3
- 100% recyclable
- Units are manufactured from 90% recycled polypropylene (PP)

Permavoid system - components

Permafoam

Product code: PVPP85PF or PVPP150PF

Permafoam is an open-celled, phenolic foam that is highly absorbent and water retentive. Incorporated into Permavoid high-strength units, Permafoam has the capacity to store 31 litres of water for 'on-demand' irrigation or check dams. The Permavoid structure prevents the foam from damage due to imposed backfill or traffic loads.

Element	Value
Physical Properties	
Weight per unit	2.5kg or 3.65kg
Length	708mm
Width	354mm
Depth	85mm or 150mm
Short Term Compressive Strength	
Vertical	715kN/m²
Lateral	156kN/m²
Short Term Deflection	
Vertical	1mm per 126kN/m²
Lateral	1mm per 15kN/m²
Tensile Strength	
Of a single joint	42.4kN/m²
Of a single joint at (1% secant modulus)	18.8kN/m²
Bending resistance of unit	0.71kN/m
Bending resistance of single joint	0.16kN/m
Volumetric void ratio	83%
Water storage capacity (foam)	31 Litres
Water permeability (in plane flow)	0.0452 Litres/second/lin.m
Other Properties	
Ancillary	Permavoid Permatie Permavoid Shear Connector
Material	Polypropylene (CoPo), polyurethane

Applications

Permafoam units are used for stormwater collection and provide velocity control to drainage flows within sub-bases laid over sloping surfaces. Due to the very large surface area compared to traditional check-gate flow control, Permafoam assures against the risk of the control clogging associated with traditional check-gate flow controls. It is used in conjunction with the Permavoid Wicking Geotextile. They can be incorporated into irrigation systems to provide water 'on-demand' around landscaped areas.

Performance

The structural load bearing capacity of the Permavoid units have been tested in accordance with the following European Standard:
BS 7533-13:2009. The system's structural design life expectancy, based upon creep test data (tested in accordance with CIRIA guidelines) is as follows; For lightly loaded areas such as car parks a design life of 50 years is achievable. For areas with prolonged HGV loading a typical design life may only be 25 years, depending on the design of the pavement surfacing and structural layers over the tank.

Installation standard

All calculations for Permafoam within designs are based upon site-specific load cases, construction types and thicknesses, soil cover and ground conditions and the suitability must therefore be approved for each project.

Key benefits

- Can be used to provide 'on-demand' irrigation for landscaped areas when used with Permavoid Wicking Geotextile
- Permafoam units can be used to form check dams and gates within pervious pavements

Permavoid Permatex 300

Product code: PV23006

A heavy duty, non-woven, needle punched, polypropylene geotextile designed to protect and separate Permavoid geocellular layers. It comprises of a three-layer composite scrim reinforced with low elongation. 300mm lap-jointing is required.

Element	Value	Test Method
Physical Properties		
Roll length	65m	
Roll width	5.25m	
Mass per unit area	300g/sq.m	EN ISO 9864
Thickness under load 2kPa	2mm	EN ISO 9863-1
CBR puncture resistance	4000N	EN ISO 12236
Dynamic cone drop	11mm	EN ISO 13433
Tensile strength (min) at max. load	25kN/m	EN ISO 10319
Tensile extension (max) at max. load	50%	EN ISO 10319
Protection efficiency	300N	EN ISO 14575
Breakthrough head	nil	BS EN ISO 10319
Coefficient of permeability	55 x 10-3m/s	EN ISO 11058
Characteristic opening size	70 microns	EN ISO 12956

Applications

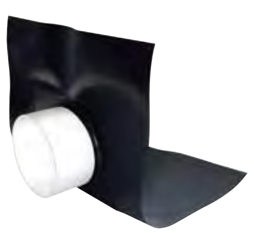
- Separation
- Protection

Laying generally

Permatex protection geotextile shall be laid continuously around the drainage to suit site specific requirements. Overlaps shall be a minimum of 300mm or heat sealed. Ensure geotextile is clean and debris free before installing Permavoid.

Permavoid system - components

Preformed Spigot Connector with weldable membrane



Element	Value
Physical Properties	
Weight per unit	50g
Other Properties	
Material	Polypropylene

When forming a Permavoid attenuation or storage structure, it is necessary to use the Preformed Spigot Connector with weldable membrane in association with the Permavoid Geomembrane. A welded joint can be made to ensure the tank is leak free.

Orifice Plate Flow Control Chamber

Element	Value
Physical Properties	
Weight per unit	Variable
Minimum diameter	500mm
Height	Variable
Sump depth	300mm as standard, others available on request
Other Properties	
Material	Polypropylene

Discharge limitations are normally achieved by the incorporation of pre-fabricated orifice plate flow control devices, fitted with removable filters to protect the orifices. These are sized to suit the permitted discharge rate and the size of the subcatchment using standard hydraulic theory.

Universal Permachannel Connector

Product code: PV06305

Element	Value
Physical Properties	
Weight per unit	210 g
Length	260mm
Width	180mm
Depth	39mm
Spigot diameter	40mm
Spigot Length	135mm
Other Properties	
Material	Polypropylene

The Permachannel Connector is installed where adjacent Permachannel units butt against each other to form a 40mm diameter outlet. The connector fits into the outlet from the Permachannel and allows water to be conveyed from the Permachannel into the Permavoid system. One connection unit is required per linear metre of Permachannel.

If required, outlet connections can be extended using 40mm HDPE pipework.

Saddle Connector for infiltration applications

Element	Value
Physical Properties	
Weight per unit	80g
Other Properties	
Material	Polypropylene

Proprietary saddle connections for use within Permavoid storage structures installed to soakaway captured water.

Permavoid Wicking Geotextile

Product code: PV23008

A heavy-duty, non-woven, needle-punched geotextile made from a blend of modified polyester fibres. It is specially formulated to absorb water to irrigate mineral substrates when used in conjunction with Permafoam units.

Element	Value
Physical Properties	
Nominal thickness	3.6mm
Surface weight	500gm²
Saturated weight	4.5K/gm²
Roll width	2m
Roll length	25m
Roll weight	26kg
Mechanical Properties	
Maximum tensile strength - Longitudinal	10kN/m
Maximum tensile strength - Lateral	28kN/m
Puncture resistance	2600N
Hydraulic Properties	
Water retention capacity	4 l/m²
Water permeability	37 l/m²/s

Laying generally

Permavoid Wicking Geotextile shall be laid continuously to suit the site specific requirements. Overlaps shall be a minimum of 300mm or heat sealed.

Applications

The Wicking Geotextile is suitable for use in most landscaped applications including roof gardens, soft SuDS applications and sports pitches.

Performance

A robust heavy duty geotextile, when constantly charged with water, it allows moisture to be fed naturally by capillary action to landscaped areas for irrigation. 300mm lap jointing is required. Used in conjunction with Permafoam units. Water is drawn by capillary attraction to ensure the Wicking Geotextile is kept charged.

Key benefits

- Passive capillary irrigation
- Can remove excess soil moisture

Permavoid system - components

Permavoid Rainwater Diffuser Unit

Element	Value
Physical Properties	
Weight per unit	3kg
Length	708mm
Width	354mm
Depth	150mm
Short Term Compressive Strength	
Vertical	715kN/m^2
Lateral	156kN/m^2
Short Term Deflection	
Vertical	1mm per 126kN/m^2
Lateral	1mm per 15kN/m^2
Tensile Strength	
Of a single joint	42.4kN/m^2
Of a single joint at (1% secant modulus)	18.8kN/m^2
Bending resistance of unit	0.71kN/m
Bending resistance of single joint	0.16kN/m
Volumetric void ratio	95%
Average effective perforated surface area	52%
Other Properties	
Intrinsic permeability (k)	Minimum 1.0 x 10-5
Ancillary	Permavoid Permatie
	Permavoid Shear Connector
Material	Polypropylene (PP)

Hydraulic Performance						
3 units wide, 1 unit deep (1.06m x 0.15m)						
Free Discharge						
Gradient (%)	0	1	2	3	4	5
Flow rate (l/m/s)	8	13	15	17	19	21

Run-off from building roofs is collected into downpipes and flows into a back inlet gully incorporating an internal filter or catchpit inspection chambers. The back inlet gully or chamber discharges the filtered stormwater into the permeable sub-base via Permavoid Rainwater Diffuser Unit encapsulated in a 2mm mesh fabric. The run-off will then diffuse out of the Permavoid Rainwater Diffuser Unit and into the modified granular sub-base layer. The Permavoid unit is a 150mm deep modular interlocking plastic unit storage system designed for use as a combined drainage component and sub-base replacement system, ideal for shallow infiltration/attenuation.

Permavoid Rainwater Diffuser unit - Configuration options

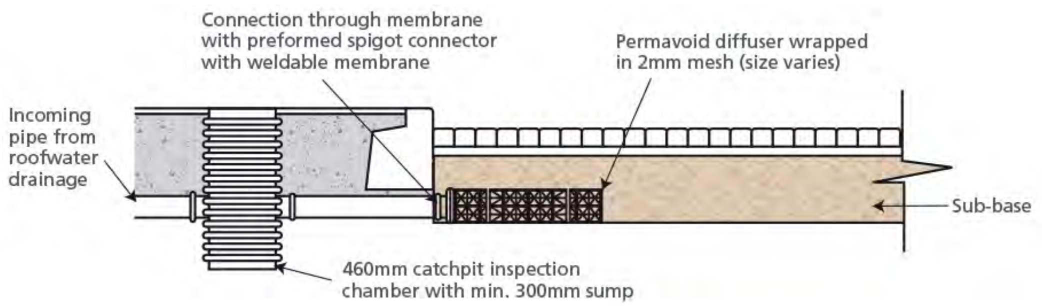
Width

Length	354mm	708mm	1062mm	1416mm	2124mm
708mm	✓	✓	✓	✓	✓
1062mm	✓	✓	✗	✓	✓
1416mm	✓	✓	✓	✓	✓
2124mm	✓	✓	✓	✓	✓

Depths available are either 150mm or 300mm. Connections available are either Ø110mm or Ø160mm.

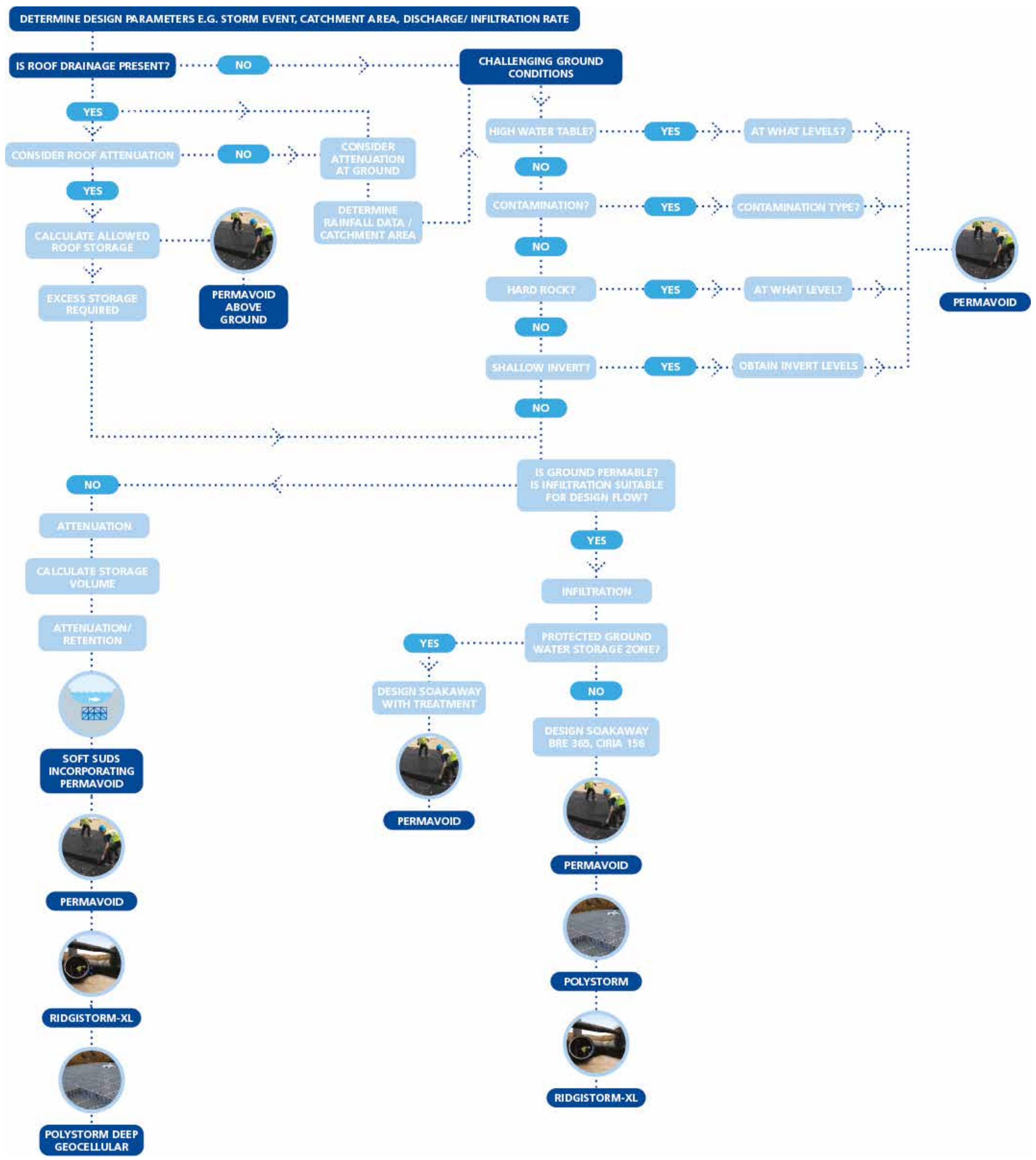
Catchpit: 460mm diameter catchpit with 160mm inlet - PSMT 160
460mm diameter catchpit with 110mm inlet - PSMT 110

Figure 3.1.1: Typical layout - Rainwater downpipe drainage into sub-base reservoir



Sustainable drainage systems - selection & design

It is important to consider as many factors as possible when selecting the most appropriate sustainable drainage system. The process below is a guide to the most efficient design.



Hydraulic design - attenuation

Hydraulic design calculations provide the storage volume required on any particular site that is needed to reduce the speed, frequency and volume of rainfall run-off into rivers or sewers. The required volume depends on the site location, the size of the area being drained, the soil infiltration rate (for soakaways) or allowable discharge rate (for attenuations systems).

The design of SuDS should follow the requirements in the CIRIA Report C 753 The SuDS Manual. This identifies three types of storage that are required:

Interception storage

The aim is to reduce the frequency of run-off and **prevent run-off from sites for rainfall events up to 5mm** in order to simulate the behaviour of greenfield catchments more closely. This is achieved using infiltration or source control methods where evapotranspiration can reduce the volume of run-off. Typically this is achieved using soft SuDS solutions. Increased capacity of soft SuDS solutions can be achieved utilising Permavoid beneath them.

Attenuation storage

Reduces the peak discharge rate from a site (i.e. how fast water flows off the site) and is used to store excess water where the rate of discharge is limited to greenfield run-off rates or stormwater sewer rates. It is designed to operate for a range of annual probabilities in accordance with the Environment Agency and/or local water company requirements.

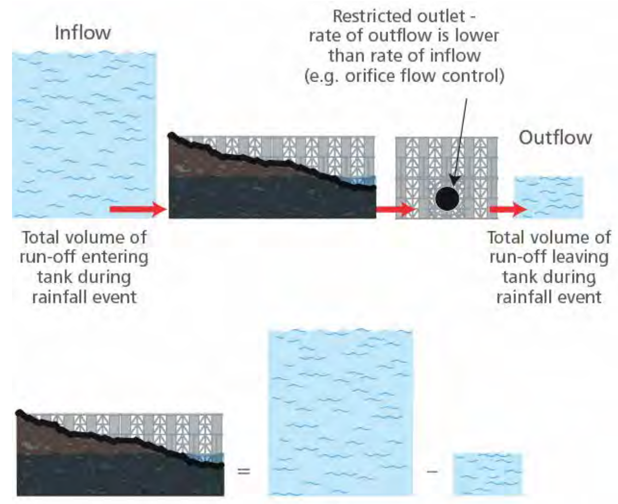
Long term storage

Used to reduce the additional volume of run-off caused by developments. Stores excess water that is the difference in total volume of run-off between the developed and greenfield site for a 1 in 100 year, 6 hour rainfall event. Outflow from the long term storage should be to either infiltration or to a water course or sewer.

Design of attenuation storage

The volume of Permavoid required for attenuation storage is typically calculated using drainage software based on the Wallingford Procedure. The volume of temporary run-off storage required is shown below and is simply the difference between the volume of run-off that enters the tank during a design storm and the volume of water that is allowed to flow out in the same period (which is governed by the discharge rate allowed by the regulators). In this way, Permavoid can be used to limit the peak rate of run-off from a site (usually to the greenfield run-off rate). The calculations are completed for a range of return periods and durations.

Attenuation storage volume



Total storage volume = Inflow – Outflow

Attenuation

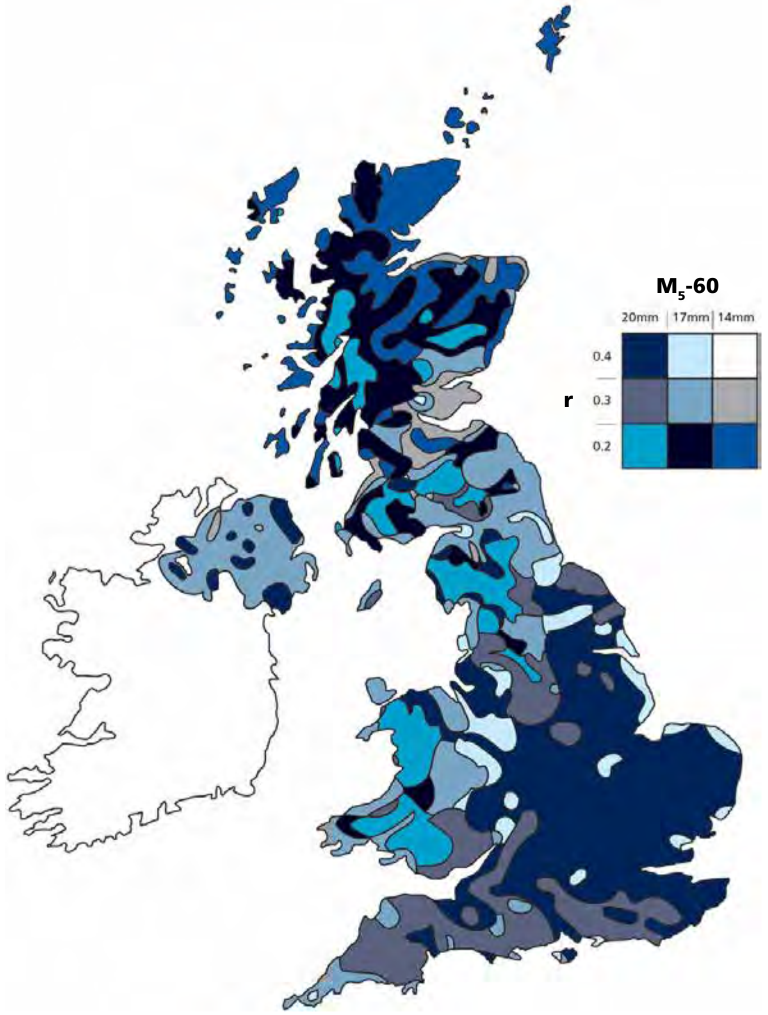
Hydrological rainfall zones for the UK

The table below can be used to size a Permavoid tank. The tables are based on the hydrological rainfall regions shown on the map.

The tables are based on the following assumptions:

- Storage is provided for development design events of 1 in 30 years, 1 in 100 years and 1 in 100 years plus 20% increase for climate change but the greenfield run-off rate is always considered to be 5 l/s/ha
- Time of entry and time of concentration within the drainage system is not considered
- 100% run-off is assumed

Note: HR Wallingford, use of SuDS in high density developments, defining hydraulic performance criteria, Report SR 640, December 2003.



Note:

Volumes include allowance for 95% void ratio of Permavoid.

Permavoid has a void ratio of 95% (i.e. for every 1m³ there is 0.95m³ of space available for water storage).

The volume of Permavoid required is therefore calculated by dividing the required storage volume by 0.95.

This factor is allowed for in the design table.

M_5-60 Rainfall depth (mm)
The rainfall depth for the 60 minutes, 5 years return period event

'r' Ratio M_5-60 / M_5-2 day:
Variable 'r' represents the ratio of the rainfall depth of the 60 minute to the 2 day, 5 year rainfall event.

Required attenuation storage (m³ of storage per Ha of impermeable area)

	r	1 in 30 year design event	1 in 100 year event	1 in 100 year event plus 20% climate change
M_5-60 = 20mm	0.4	357	510	643
	0.3	413	582	749
	0.2	556	770	968
M_5-60 = 17mm	0.4	293	419	545
	0.3	335	483	631
	0.2	444	637	822
M_5-60 = 14mm	0.3	258	383	511
	0.2	335	500	665

Example of Permavoid sizing for attenuation storage

A site in London has impermeable area as follows:

1200m² roof area

1475m² car park and other areas

Therefore the total impermeable area = **2675m²**

Assume the required return period for the drainage design is 1 in 100 years as agreed with the Environment Agency

From the table on page 40, London is in the region where M_5-60=20mm and r=0.4

Therefore from the table the volume of the Permavoid tank required is 510m³/ha

Required attenuation storage on this site =
510 x 2675/10000 = 136.4m³

Hydraulic design - infiltration

Design of infiltration storage

Where ground infiltration is suitable for design flows, there are three approaches for hydraulic sizing:

1. BS EN 752:2008 'Drain and Sewer Systems Outside Buildings'
2. Soakaway Design BRE Digest 365
3. CIRIA Report 156 'Infiltration Drainage - Manual of Good Practice'

A simplified approximate approach can be used on a very small site (i.e. a single house development) where detailed site infiltration rate information may not be required nor available. Approved document H3 allows a storage volume equal to the area to be drained multiplied by 10mm for areas up to $25m^2$. Beyond this size, designs should be carried out in accordance with BS EN 752-4:2008 or BRE Digest 365.

Percolation test for designing a shallow infiltration system

The depth of the trial pit should reflect the (expected) proposed depth of installation and water depth likely to occur in the completed structure.

Step 1 - Trial hole excavation

- Where the infiltration test is to be conducted in a 'kept turfed' area; first carefully cut and remove the turf in location of the excavation and put to one side
- Excavate a shallow rectangular pit either by hand or by machine (suggested minimum 2000mm x 1000mm x 500mm depth, subject to ground conditions), attempting to get the base as flat and the sides as vertical as possible (subject to ground conditions). Aiming to get close to the proposed depth of installation of the infiltrated device(s)
- Measure and record the dimensions of the pit
- Record the soil type(s) excavated and general ground conditions, the apparent moisture content of the soil(s) and any visual or olfactory (odour) evidence of possible contamination
- Place length of level timber or similar across pit with a mark near the centre (but within easy reach) as a measure datum
- If there are any inflows of groundwater into the pit; record the apparent inflow rate (slow flow etc.) and delay the start of the test to see if the groundwater flows away or rises to a constant level. If standing groundwater is present measure from the datum the level of any standing water in the base of the pit

Infiltration

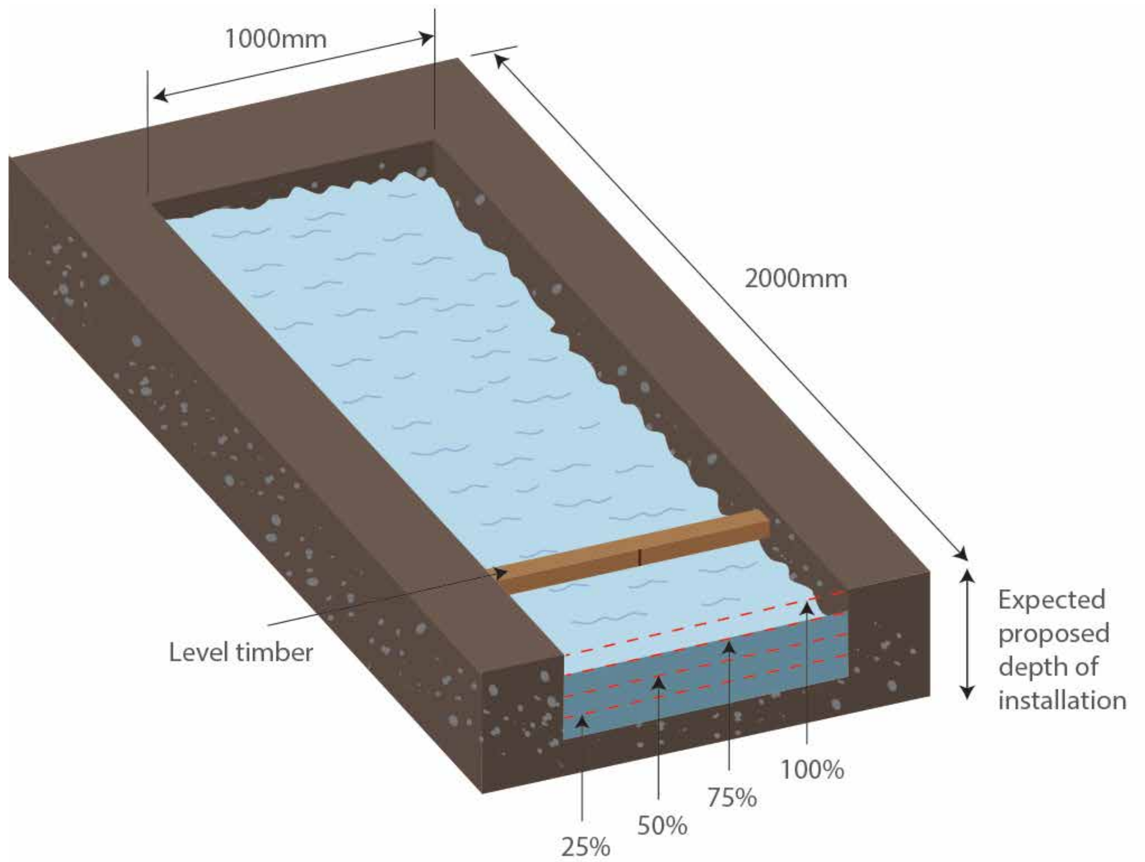
Step 2 - Fill trial hole with water

- Fill the pit as quickly as possible with water to at least 75% of the pit depth or the top level of the proposed soakaway to mimic a real storm event
- Measuring from the marked point on the datum rod, record depth to water at start of test
- Then record depth to water at typically:
  - 20 second intervals up to 2 minutes, then at
  - 30 second intervals up to 5 minutes, then at
  - 1 min. intervals up to 10 minutes, then at
  - 5 min. intervals up to 30 minutes, then at
  - 15 min. intervals up to 2 hours then,
  - Hourly thereafter to the end of day if water has not soaked away

Until the water level drops below 25% of the initial recorded water depth within the trial pit.

- Refill and retest the test pit twice more (where time permits) allowing the trial hole to drain between tests
- Record the weather conditions before and during the tests, particularly any rainfall (duration and relative intensity)
- Unless instructed otherwise, place the excavated material back in the exaction and compact as best as possible
- If turf was kept, place back over the filled exaction as best as possible

Step 1 and 2 - Illustrated example



Infiltration

Step 3 - The results - soil infiltration rate

Calculation principles

Adopting the approach given in Construction Industry Research and Information Association (CIRIA) Report 156 Infiltration Drainage - Manual of Good Practice.

$$\text{Soil infiltration co-efficient, } f = \frac{V_{p75-25}}{a_{p50} \times t_{p75-25}}$$

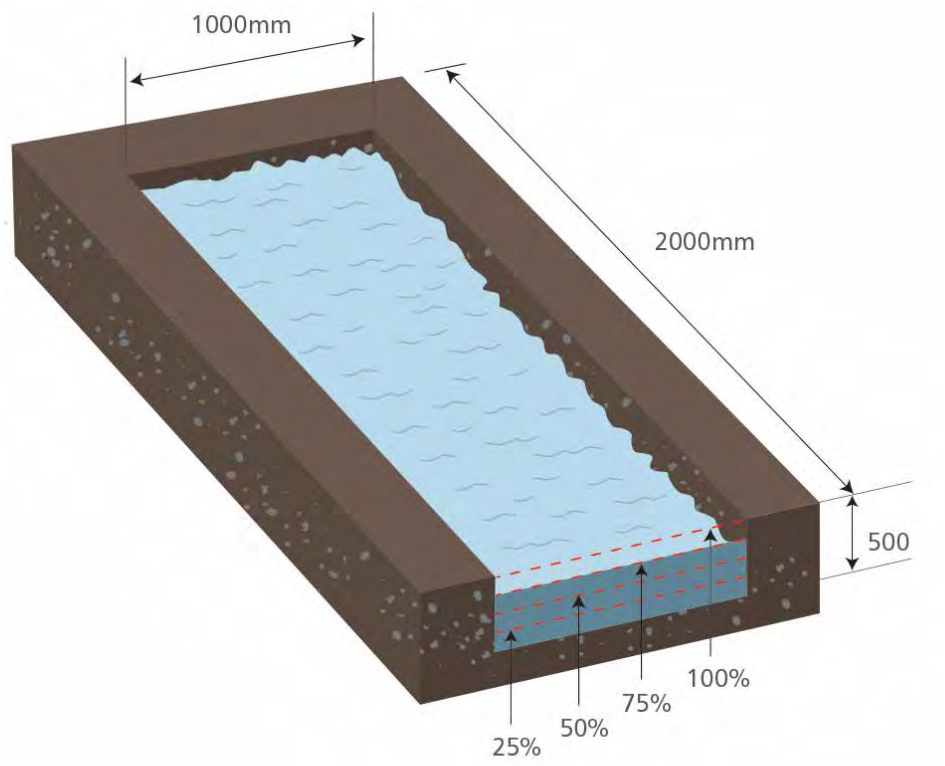
Where:

V_{p75-25} = Volume of the hole from 75% and 25% depth (m^3)

a_{p50} = Internal surface area of test hole at 50% depth (including base) (m^2)

t_{p75-25} = Time taken for the hole to drain from 75% to 25% depth (sec)

Continuing with the example given:



$V_{(p75-25)} = 1.000 \times 2.000 \times (0.375 - 0.125) = 0.5m^3$ — Test hole depth at 75% and 25%

$a_{(p50)} = 0.250 \times [2 \times (1.000 + 2.000)] + (1.000 \times 2.000) = 0.250 \times (6.000) + 2.000 = 3.500m^2$

From the completed tests, the longest duration test took 11 and 80 minutes to drain to 75 & 25% trail hole depths respectively.

$t_{(p75-25)} = 80 - 11$
$= 69$ minutes

Therefore:

$$\text{Soil Infiltration rate, } f = \frac{0.500}{3.500 \times (69 \times 60)} = \mathbf{3.45 \times 10^{-5}\ m/sec}$$

The soil infiltration rate can be used in volume calculations. If you require assistance, please call our Technical Team on +44 (0) 1509 615100.

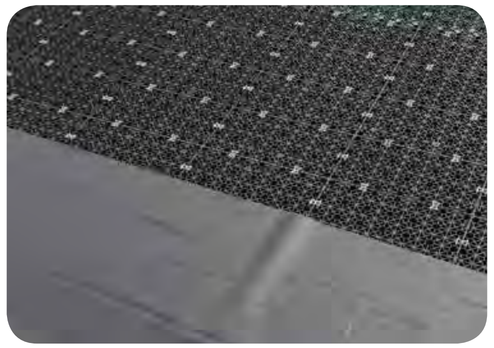
Geotextiles and Geomembranes

The use of geosynthetics is an integral component of a geocellular structure. They are wrapped around the geocellular units to create attenuation or infiltration tanks. The function of the geotextiles and geomembranes are to prevent:

- Silt that may be contained in the surface water run-off from contaminating the surrounding soil (infiltration)
- Surrounding soil from entering the units (infiltration)
- The release of surface water into the surrounding ground (attenuation)
- Inflow of groundwater that may overload downstream systems and contain pollutants on contaminated sites (attenuation)

Therefore any damage of the geosynthetic wrap, may lead to a decreased performance of the tank.

The design of the surrounding medium and choice of geosynthetic is an important consideration. The designer/installer should confirm with the geosynthetic manufacturer that the specification of the proposed material is suitable for the application and site conditions. The designer should determine and define the following:



- The application requirements - retention, attenuation and infiltration
- Boundary conditions – site investigation to establish in-situ soil parameters, enabling lateral earth pressures and water flow conditions to be calculated
- Soil retention requirements – using the in-situ soil parameters, determine if additional bed and surround measures should be specified
- Geosynthetic permeability requirements – the breakthrough head should be considered in addition to water flow rates
- Anti-clogging requirements (infiltration only) – ensure that the porosity of the geotextile in conjunction with the specified bed and surround is sufficient to prevent the geotextile from prematurely clogging
- Resistance to mechanical damage requirements – the geosynthetic should be sufficiently robust to survive installation activities
- Durability requirements – consideration should be given as to whether the geosynthetic will be subjected to a significant chemical exposure, either present in the ground or rainwater run-off

SECTION 1 LEGISLATION AND REGULATIONS
SECTION 2 PERMAVOID SYSTEM OVERVIEW AND APPLICATIONS
SECTION 3 PERMAVOID SYSTEM COMPONENTS
SECTION 4 HYDRAULIC DESIGN
SECTION 5 STRUCTURAL DESIGN
SECTION 6 SURFACE WATER TREATMENT
SECTION 7 DELIVERY, INSTALLATION & MAINTENANCE
SECTION 8 STANDARD DETAILS
SECTION 9 CASE STUDIES
SECTION 10 SUMMARY

Structural design

When designing Permavoid geocellular structures for attenuation or infiltration, care has to be taken to ensure the finished system is safe to carry the loads they will be subjected to. A brief summary of the points which should be considered for a typical installation are given below:

Applied loads

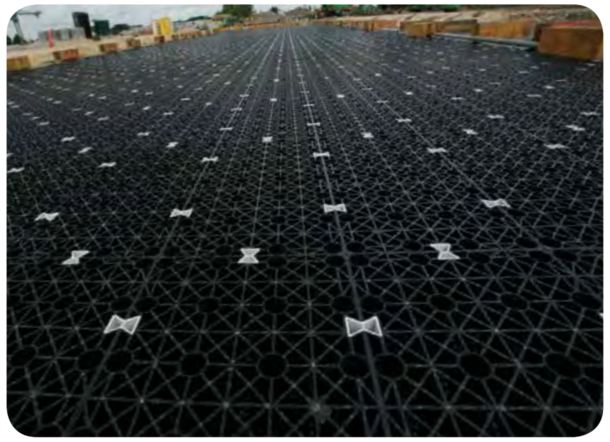
- Uniformly distributed
- Concentrated
- Backfill
- Stockpiles
- Traffic
  - Construction
  - In service
- Earth pressure
- Hydrostatic pressure (groundwater)
- Uplift

Partial factors of safety

- On material properties
- On loads

Unit characteristics

- Compressive strength at yield
- Deflection
- Creep



The main design considerations to ensure system integrity are:

- Structure failure or collapse – where the structure cannot support the applied loads
- Excessive deflection or movement of the structure when vehicles pass over the tank; that compromises the structural integrity of a surface pavement (i.e. crack)

Limit state design

Current structural design philosophy is based on limit state criteria, where a number of limit states are considered. The methodology applies partial factors of safety to the various design parameters, the magnitude of which is dependent on the potential variability of that parameter and the consequences of the limit state being exceeded.

In the case of the Permavoid system, the two limit states typically considered are:

Ultimate Limit State (ULS)

Considers if the strength of the geocellular unit is exceeded by the applied loads and cause the structure or structural element to fail.

This is obviously serious, therefore the partial factors of safety used in this assessment are chosen to ensure the installation remains serviceable. In the case of Permavoid this would typically mean that deflections are not excessive and do not cause damage to overlying surfaces (such as asphalt pavements) or cause a significant reduction in the storage volume of the structure.

Serviceability Limit State (SLS)

Considers the operational behaviour of a geocellular structure to ensure that the installation remains serviceable. In the case of Permavoid this would typically mean that deflections are not excessive and do not cause damage to overlying surfaces (such as asphalt pavements) or cause a significant reduction in the storage volume of the structure.

Applied loads and load factors

Loads that may be imposed on a cellular storage structure such as Permavoid can be broken down into the following types.

Partial material factors of safety: Permavoid	
Limit state	fm
Ultimate limit state	2.75
Serviceability limit state	1.50

Industry guidance

A generic design method has been developed that can be applied to most types of cells, using basic structural design theory and relevant British Standards. Imposed loading on geocellular plastic tanks may be considered to be similar to other buried structures. Loads and partial factors of safety applied to loads and materials detailed in this section have been based on latest CIRIA Guidance.

CIRIA Guidance

Currently the only guidance to the structural design of geocellular structures is published by CIRIA.

Factors of safety

To minimise the risk of exceeding the limit states, factors of safety are applied to the geocellular units characteristic compressive strengths and to any applied loads.

Material factors

The strength characteristics of the Permavoid cells have been obtained from laboratory testing. A design strength is derived by dividing the cell's characteristics strength by a material partial factor of safety (fm), appropriate to the material and limit state. This takes into consideration variations due to manufacturing processes, variability and uncertainties in material strength, damage during installation and environmental effects.

Structural design life

The design life is based on the scale and frequency of loadings and extrapolation of creep test data. The lighter and less frequent the load, the longer the design life. Large permanent loads (e.g. from a significant depth of fill on top of a tank) will give shorter design life compared to light permanent loads. Areas where heavy vehicles are standing for prolonged periods will give a shorter design life than where vehicles are mainly transient.

For lightly loaded areas such as car parks a design life of 50 years is achievable. For areas with prolonged HGV loading a typical design life may only be 25 years, depending on the design of the pavement surfacing and structural layers over the tank. Maintenance of the pavement will be required after the design life has exceeded. It is recommended structural calculations are always carried out in accordance with the latest CIRIA Guidance.

Chemical resistance

Permavoid is resistant to automotive products such as motor oil, petrol, diesel, brake fluid, antifreeze, grease and washer fluid at the concentrations and temperatures likely to be encountered within a typical surface water drainage application.

Permanent (dead) loads

Permanent loads applied to the Permavoid cells, including the weight of backfill material placed over the top and lateral (horizontal) earth and water pressure loads acting on the side of the system.

Transient (live) loads

Loads due to pedestrian, vehicle and construction traffic that are temporary. Traffic wheel loads are normally given as static loads, with a factor applied to allow for dynamic effects (a moving wheel will impose more force on the ground than a static one).

Design loads

A design load is obtained by applying a partial factor of safety to the estimated characteristic load. This allows for unforeseen variations of loading and also the severity of the consequences of the limit state occurring. The loads detailed within CIRIA Guidance have been based on loads applied in the design of structures using rigid materials such as concrete and therefore the partial safety factors for loads that are appropriate to the design of plastic storage systems are taken from British Standard BS 8110.

Partial material factors of safety			
Limit state	Imposed vertical dead load fm	Imposed earth pressure dead load fm	Imposed live load fm
Ultimate limit state	1.4	1.4	1.6
Serviceability limit state	1.0	1.0	1.0

Additional dynamic amplification factors may be applied where structures are expected to be heavily trafficked by HGV's.

If you require assistance, please call our Technical Team on +44 (0) 1509 615100.

Structural design

Pavement applications

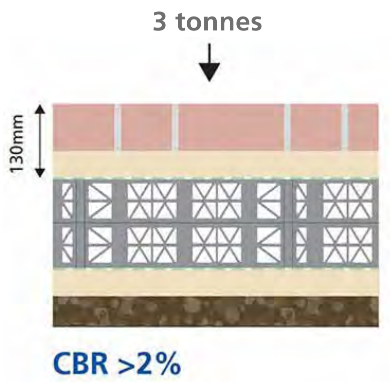
The Permavoid system has undergone numerous laboratory tests and instrumented site trials to validate use in pavement constructions. Permavoid exceeds the minimum unit performance recommended in industry guidance for geocellular units installed within a pavement structure.

Many factors should be considered when designing Permavoid below pavements, including:

- Vehicle types
- Frequency of loading
- Load duration
- Speed
- Pavement construction

Pavement construction examples

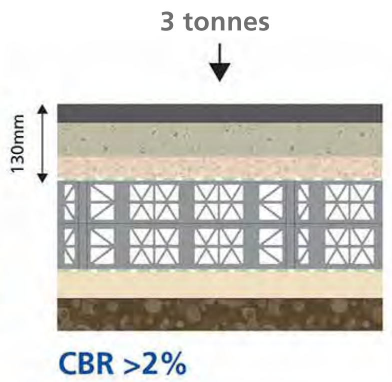
Typical minimum recommended pavement construction details, for a number of loading situations, are reproduced below; amended to illustrate how Permavoid would typically be installed within these pavement structures.



80mm block
+ 50mm sand bed
= 130mm

Applications:

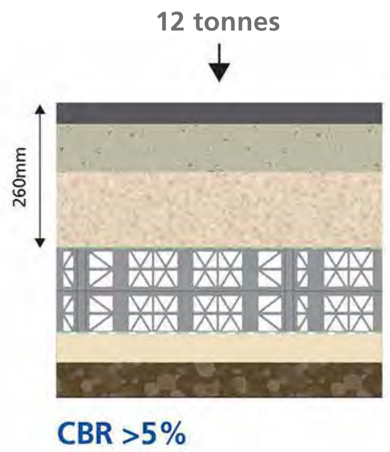
- Private drives
- Car parks with height restrictions



30mm asphalt surface
+ 60mm asphalt base
+ 40mm Type 1 sub-base
= 130mm

Applications:

- Private drives
- Car parks with height restrictions
- Includes for occasional/ accidental HGV overrun



30mm asphalt surface
+ 90mm asphalt base
+ 140mm Type 1 sub-base
= 260mm

Applications:

- Car parks without height restrictions
- Includes for occasional/ accidental HGV overrun
- Suitable for access roads

Industry guidance

The following guidance documents provide minimum pavement construction details for a range of typical installations; the construction detail varying according to the expected level of vehicle traffic and ground conditions.

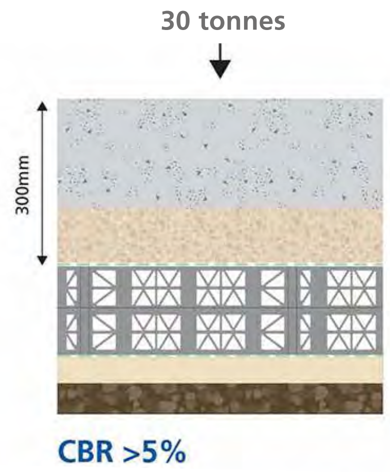
The Permavoid system complies with the requirements of BS 7533-13:2009 and incorporates a high vertical compressive strength of 715kN/m² and lateral compressive strength of 156kN/m².

British Standard

BS 7533-13:2009, Pavements Constructed with Clay, Natural Stone or Concrete Pavers – Part 13: Guide for the Design of Permeable Pavements Constructed with Concrete Paving Blocks and Flags, Natural Stone Slabs and Setts and Clay Pavers.

Interpave

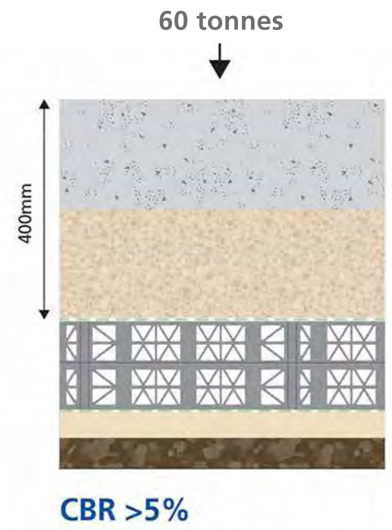
Interpave (2010); Permeable Pavements. Guide to the Design, Construction and Maintenance of Concrete Block Permeable Pavements; 6th Edition; British Precast Concrete Federation Ltd.



200mm concrete slab
+ 100mm Type 1 sub-base
= 300mm

Applications:

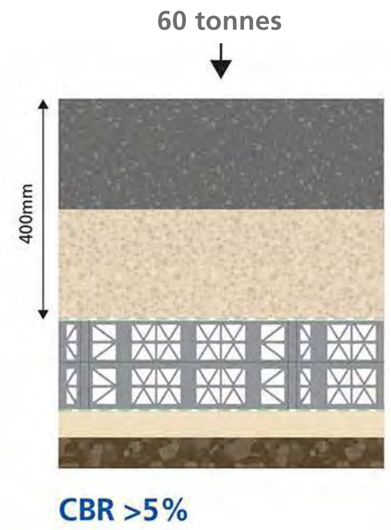
- Car parks and access roads
- Includes for occasional/ accidental HGV overrun



200mm concrete slab
+ 200mm Type 1 sub-base
= 400mm

Applications:

- HGV park access and small estate roads (<15mph)



200mm reinforced concrete slab
+ 200mm Type 1 sub-base
= 400mm

Applications:

- Main roads
- Frequent HGV's

Note: Site ground investigations are recommended in accordance with BS 7533-19:2009.
If CBR is below 5% an additional capping layer or geo-grid ground reinforcement is required.

Pollution control - Permachannel

The SuDS Management Train refers to source control and emphasises 'run-off should be managed as close to the source as possible'. Using Permavoid it is possible to collect and treat rainwater adjacent to where it falls. Silt, debris and hydrocarbons can be managed at the head of the system using system components preventing pollution migration into the rest of the stormwater drainage system and reducing lifetime maintenance.

Permachannel

Permachannel is a versatile linear treatment system that can provide source control and pollution treatment in a wide variety of locations and applications.

Can reduce hydrocarbon pollution loading below 5mg/l

Performance

Permachannel is not used to convey water like conventional channel drainage, instead it is used to trap silts and oils. The outlet incorporated in the channel is a weir and baffle system that captures any silt or free floating hydrocarbons and retains them in the channel. The performance of the Permachannel system has been assessed by laboratory testing of full-scale prototypes. The results show that the Permachannel alone will outperform conventional Class 2 oil separators and so will meet the design requirements of the Environment Agency's Pollution Prevention Guideline PPG3. The performance can be improved by providing a geotextile filter as a further stage of treatment after the Permachannel, which will ensure the whole treatment train meets the requirements of a Class 1 oil separator. Permachannel performs several key functions in relation to controlling pollution in run-off, including stilling the sheet flow to encourage controlled deposition of silt and effluent, interception and separation at source.

Water treatment design

The design of the Permachannel system should ensure sufficient pollution removal and storage capacity. A maximum catchment area of 30m² should drain to each 1m length of Permachannel. The volume of the silt trap within the channel or kerb is required to provide sufficient silt and floating oil storage capacity. The spacing of the Permachannel outlets also ensures that flow velocities are not excessive.

Catchment area 30m²

Example silt and oil loading calculation

Calculate required silt and oil storage volumes in accordance with the Environment Agency's Pollution Prevention Guideline 3.

Silt trap capacity

Volume of silt trap in Permachannel = 0.0045m³/m

Sediment load in catchment = 865kg/ha/y

Catchment area = 6800m²

Total sediment load from catchment = 588kg/ha/yr

Assume density of unconsolidated sediment in base of silt trap is 1200kg/m³ (typical value for dock silt) then volume of sediment per year from whole car park = 0.5m³

Channel length is 700m

Volume of silt trap in channel in total for the site = 3.15m³

So, time to fill this with silt is approximately 6.3 years (assuming no maintenance is undertaken) (3.15÷0.5)

Oil trap capacity

The amount of oil that can be retained is the difference in height between the weir and baffle in the separator

Height difference = 40mm

So, volume that can be accommodated = 0.003m³/m

Total volume for site = 2.1m³

Required capacity from PPG 3

Nominal size of separator = NSB = site area x 0.0018

NSB = 0.0018 x 6800 = 12.2 litres

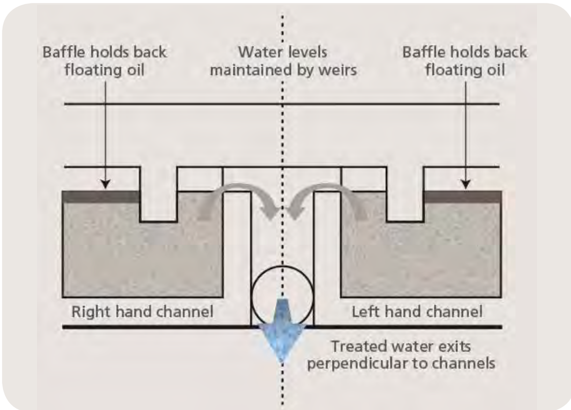
Required silt storage = NSB x 100 = 1220 litres = 1.2m³

Actual storage = 3.15m³ which is acceptable

Oil storage required

= NSB x 15 = 183 litres = 0.18mm³

Actual is 2.2m³ which is acceptable

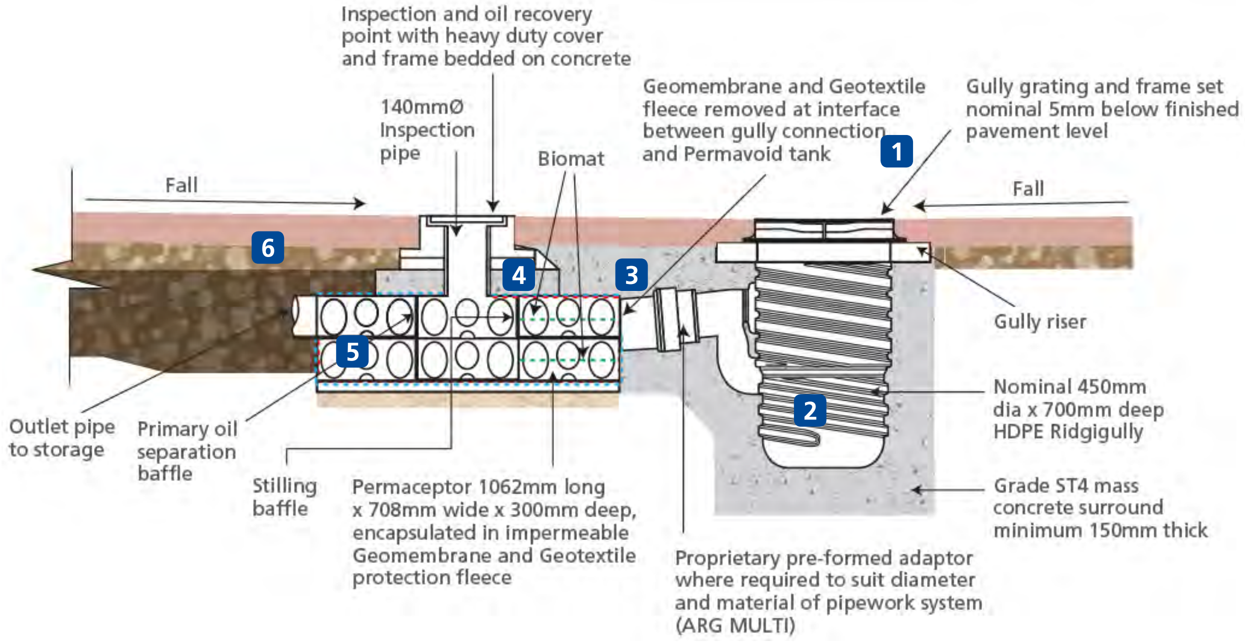


Pollution control - Permaceptor

Permaceptor

Permaceptor is a versatile, efficient and effective source control volume and treatment system for use with conventional road and yard gullies.

Figure 6.1.1: Performance



One Permaceptor can treat a catchment area of 150m²

Stormwater from impervious surfaces (1) enters the road/yard gully (2). The gully will slow down the inflow and silts/debris are separated out. The gullies incorporate a basic baffle arrangement and some hydrocarbons are retained or slowed down within the flow process. Stormwater passes from the gully into the Permaceptor unit via a raised inlet (3) and flows through to be 'stilled' by a baffle (4) allowing the water to pass through the biomat(s) where hydrocarbons are separated. As the water passes through the chamber a primary baffle (5) also retains hydrocarbons allowing clean water to discharge into the drainage system via a raised outlet (6). The raised outlets create a permanent pool of water. The chamber incorporates an inspection and oil recovery heavy duty cover. The biomats encourage natural biodegrading of free oil products, acting as an additional stilling element and prevention of entrainment of oil into drainage system due to poor maintenance.

All dimensions in millimeters, unless otherwise stated. All dimensions are nominal and may vary within manufacturing tolerances. All site temporary and enabling works by others. Ridgistorm-XL units to be installed in accordance with Polypipe Civils recommendations (refer to Polypipe technical guidance for further information); giving due consideration to the requirements of the organisation who will be taking ultimate ownership of the installation. These drawings are intended for guidance only. Confirmation of the information contained within this document should be sought from the consulting Engineers before final design or construction activities commence.

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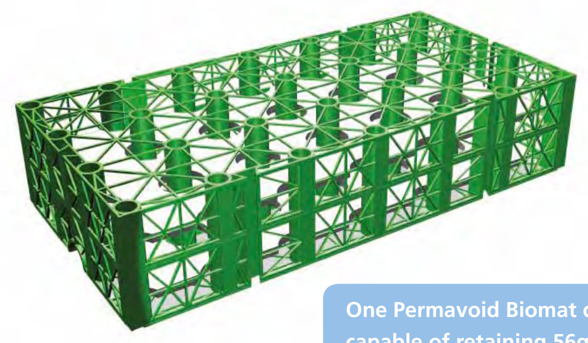
Pollution control - Permavoid Biomat

Permavoid Biomat

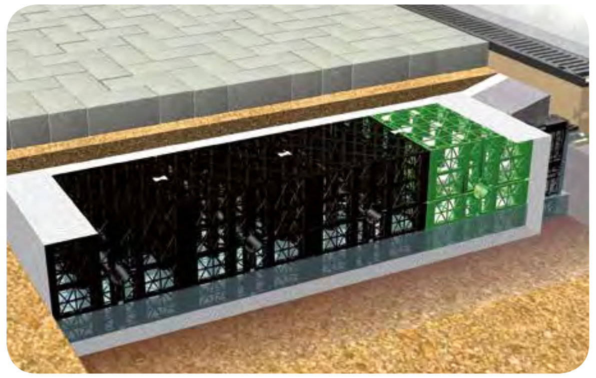
Permavoid Biomat has been specifically designed to remove hydrocarbon pollutants from surface water run-off. It comprises of a buoyant geocomposite located inside the Permavoid unit.

The composite interacts with oil deposits, allowing formation of a 'biofilm' on its solid surface and providing the opportunity for nutrient recycling which would allow active biofilm development. The system provides an environment which encourages the growth of oil-degrading microorganisms as moisture, oil and oxygen from the atmosphere are all present supplied with a large surface area for oil absorption and biofilm attachment.

Permavoid Biomat has been extensively researched in partnership with Coventry University. The experiments included studies of the oil retention, the biofilm formation and the mineralisation of the entrapped hydrocarbons. Model systems were used for the study, comprising of a full pavement cross-section.



One Permavoid Biomat cell is capable of retaining 56g of oil



Performance

Research has demonstrated that the system is capable of retaining and biodegrading the hydrocarbon pollutants from the surface water. The system is capable of retaining **56g of oil per m².** The entrapped hydrocarbons become part of a complex biofilm, which utilises the oil pollutants as a nutrient source (mineralisation). The system also demonstrates other beneficial results, such as that both unused and used lubricating oil can be degraded.

Permavoid Medium Duty with Biomat

Permavoid Medium Duty with Biomat is designed for use with Polystorm attenuation and infiltration systems. The use of Permavoid Medium Duty with Biomat provides additional oil retention and water treatment capability to deeper underground water storage systems. The size of this unit is 1m x 0.5m x 0.4m.

Pollution control - Permafilter Geotextile

Permafilter Geotextile

Permafilter Geotextile has been specially designed to retain hydrocarbon pollutants. Permafilter Geotextile comprises of a non-woven, needle punched geotextile made from a proprietary blend of modified polyester fibres. The entrapped pollutants are either removed or reduced to levels suitable for discharge into controlled waters.

Working principle

The proprietary blend of fibres in Permafilter Geotextile exhibit specific hydrophilic and hydrophobic properties and these, combined with the dimpled structure, work together to form multiple layers with inherent oil retention properties. The hydrophobic (repelling) material receives and retains the hydrocarbon pollutants, whilst the hydrophilic (water-attracting) elements simultaneously facilitate water retention resulting in a long-term stable biofilm, which subsequently degrades the entrapped pollutants.

Applications

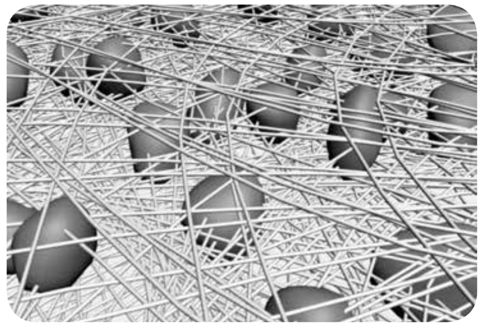
The range of applications for the Permafilter Geotextile is virtually unlimited in traditional geotextile applications, where enhanced hydrocarbon treatment can be achieved. Furthermore, it is applicable in many retrofit applications where the superior hydrocarbon retention is an indispensable requirement.

Performance

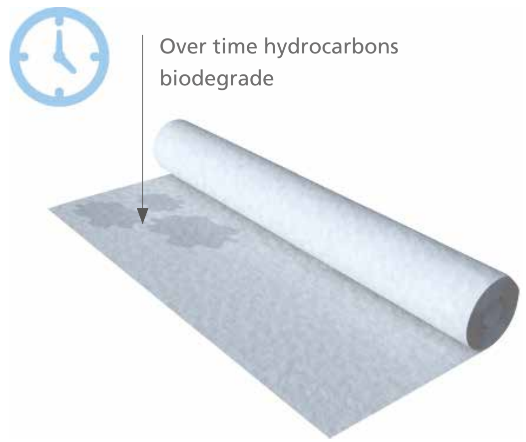
Permafilter Geotextile demonstrates retention of up to 6 litres of oil per 10m². The maximum discharge of effluent is typically 4.5ppm* during the first flush and during consecutive rain events only an average concentration of 1.5ppm.

*ppm = parts per million

6 litres of oil retained per 10m²



Microscopic view of self-maintaining eco-system



Delivery and storage

Permavoid

- Permavoid is delivered to site on pallets. Palletised load measurements are approx. 1.2m x 1.1m x 2.3m high and each pallet will contain 72 Permavoid units
- Pallet weight is circa 220kg
- Deliveries shall be unloaded using mechanical handling equipment

Permachannel

- Permachannel is delivered to site on pallets. Palletised load measurements are approx. 1.0m x 0.8m x 1.0m high and each pallet will contain 20 Permachannel units
- Pallet weight is circa 850kg
- Permachannel is delivered with gratings in position
- Deflection plates are supplied within the channel and need to be positioned during installation
- Deliveries shall be unloaded using mechanical handling equipment

Storage

- Position pallets on stable, level ground
- Stacking of pallets is not recommended
- Store away from direct sources of heat or ignition
- Transit banding should not be removed until installation

Geotextile and Geomembrane

- Deliveries shall be unloaded using mechanical handling equipment

Geosynthetic	Permafilter	Permatex 300	Wicking Geotextile	Geomembrane
Material	Polyester blend	Modified polyester	Polyester blend	Polypropylene
Roll size	2.4m x 100m	5.25m x 65m	2m x 25m	Variable
Weight	300g/m²	300g/m²	500g/m²	900g/m²
Delivery	Single rolls	Single rolls	Single rolls	Single rolls

Installation

Excavation and preparation

Excavation

- Ensure that the ground-bearing capacity at formation level is adequate for the design loads.
- The excavation is dug to the required plan, dimensions and level, ensuring that the excavation will allow installation of connecting pipework. Slopes must be cut to a safe angle or adequately supported and safe access must be provided to allow personnel to enter the excavation. Excavation should be carried out in accordance with BS 6031:2009, with particular attention paid to safety procedures.
- It is recommended that the excavation provides a minimum of 500mm clear zone on all sides of the plan dimensions of the tank to allow working space for the installation. If required, suitable protection and earthwork support must be provided beyond the clear zone to all excavated faces.

Base

To be trimmed smooth and free from sharp objects and projections to provide an even formation that shall be free from undulations. Any present must be excavated and replaced with compacted granular fill material.

Tolerance

The formation shall be graded to achieve a maximum deviation of 5mm in 3m in any direction to prevent formation of voids below installation which will cause Permavoid units to ‘rock’. A blinding layer may be used to achieve required tolerances.

Blinding

A 50mm thick blinding layer of 20/6 clean crushed stone or sand to BS EN13242:2002 shall be used to achieve a suitable bedding surface.

Laying

Ensure membrane is clean and free from debris before laying Permavoid. Check installation plan/details to confirm Permavoid orientation. Commence laying in corner of installation area and work forwards in a diagonal line to the opposite corner until layer is complete. Repeat for further layers.

Permatie

Adjacent Permavoid units are connected using Permatie interlocking pins, which have integral creep resistance. Permaties must be inserted into all available slots where units butt together up to a maximum of 5 Permaties per Permavoid unit. The Permatie provides rigidity and minimises deflections.

Shear Connectors

Multi-layered Permavoid tank configurations shall be fixed with proprietary Shear Connectors between each layer interface to maintain rigidity and minimise lateral displacement. A minimum of four Shear Connectors per square meter at layer interface is recommended.

Drainage connections

Proprietary drainage connections are available where a drainage connection is required to the Permavoid installation. There are several different options available subject to type of tank encapsulation and whether the connection is at invert or centrally located.

Installation

Attenuation applications

Where required, all penetrations through an impermeable encapsulation shall be sealed. Create an impermeable seal using a preformed spigot connector with a weldable membrane.

The adaptors comprise a rigid body and spigot with a flexible outer membrane manufactured from compatible material to the geomembrane encapsulating the tank. Adaptors are available as invert or standard type and come in a range of diameters. The adaptors are fully welded to the main tank encapsulation.

All joints should be sealed, using proprietary techniques recommended by the manufacturer. Advice on seam testing procedures is given in CIRIA Report SP124.

Protection

Permatex protection geotextile should be installed to the outside face of the base, top and sides of the installation as protection layer to geomembrane.

Installation

Adjacent sheets to be lap jointed with a minimum lap of 300mm or heat sealed. Corners to be formed in folded welts and heat sealed if required. Ensure geotextile is clean and free from debris. Trafficking over placed material to be avoided.

Geotextile for infiltration

Permafilter Geotextile should be used for infiltrations applications. The geotextile should be laid with minimum of 300mm overlap or to lap marker and to be applied to all external surfaces of Permavoid units.

Installation

Corners to be formed into folded welts and heat sealed if required. Ensure geotextile is clean and free from debris before installing Permavoid. Trafficking over laid material to be kept to a minimum.

It is recommended that site vehicle traffic is prevented from trafficking the Permavoid tanks until the installation is complete.

Backfilling

The Permavoid tanks shall be backfilled with an initial layer minimum 50mm thick of 20/6 clean crushed stone or sand to BS EN 13242:2002. The preferred method of aggregate placement is for the plant to be situated on top of a minimum of 300mm thick aggregate layer. Recommended plant to be used for placement of the aggregate to be a tracked machine with a maximum operating bearing pressure of 200kN/m². Wheeled machines to have low bearing pressure tyres (maximum permitted pressure 30psi), maximum tread/cleat projection 15mm. **Under no circumstances should plant operate in direct contact with Permavoid units.**

Permachannel excavation and bedding preparation

Base

To be trimmed smooth and free from sharp objects and projections. For optimum capacity the Permachannel should be installed with zero gradient but it can be installed to shallow gradients should the drainage design require. The Permachannel should be laid on a 200mm deep concrete bed with a minimum 150mm thick haunch to both sides. A 30N/mm² concrete mix is recommended.

Tolerance

Local subgrade below concrete bed tolerance of ±5mm within any 3m direction. The commensurate level for the Permachannel installation should allow for the height of the Permachannel and the depth of the concrete bedding, plus a further 3-5mm below the finished level to protect the Permachannel and prevent ponding. Ensure the membrane encapsulation from the Permavoid tanks (if required) spans below the Permachannel installation with sufficient length to return up the rear of the Permachannel run.

Manual handling

It is recommended to remove the gratings and stainless steel diverter plate prior to installation to reduce the handling weight from 42kg to 29kg. Consult your employer for specific manual handling advice.

Installation of Permachannel

Check installation plan/details to confirm Permachannel orientation in relation to Permavoid tank(s). Align using a builder's line or suitable laser alignment equipment. When positioning the Permachannel, insertion of the stainless diverter plate will assist alignment. The diverter plate should be positioned so that it spans from the ends of adjacent Permachannel units to divert rainwater run-off into the central Permachannel unit. Install the Permachannel connection units along the length of the Permachannel run, 1 connection unit required per linear metre of Permachannel, installed where adjacent Permachannel units butt against each other to form a 40mm diameter outlet. Install the connection unit by firstly removing the fresh concrete bed (before hardening) in immediate area and inserting 'o' ring (supplied with connection unit) into the rebate of the 40mm diameter outlet from the Permachannel and then insert 40mm diameter spigot into the Permachannel aperture.

Ensure connection unit is seated in a vertical position if installing Permachannel ahead of the Permavoid tank, or is butted against the Permavoid tank if installing the Permachannel after the Permavoid tanks. Redundant Permachannel outlet, if not used must be blanked prior to placing concrete haunch. 40mm blanking plugs are available. Place the concrete haunch to the front and rear of the Permachannel. The channel elements must be kept clean during installation. Trafficking over laid material is to be kept to a minimum.

Surface finish options

It is recommended the grating is installed within the Permachannel prior to construction of the pavement.

Concrete

Between the minimum 150mm concrete surround and the concrete slab, an expansion joint must be inserted, as structural engineer's specification.

Bituminous bound

To avoid damaging the channels during compaction of the surfacing, the concrete surround must be haunched as high as possible (45° back to the Permachannel). The bituminous bound surfacing can be installed against the side of the channel. The finished level following compacting has to be 3-5mm above the height of the grating.

Maintenance

Like any conventional drainage system, sustainable drainage systems (SuDS) should be inspected regularly and correctly maintained to ensure optimum performance.

Maintenance plan

This should be initiated by the drafting of routine maintenance plans to suit the site installation. A pre-handover inspection should be carried out and the Permavoid system cleaned prior to final handover.

Routine inspection and maintenance should include:

- Inspection of systems
- Removal of silts
- Decanting of oils and hydrocarbons
- Channel jetting
- Water sampling and testing at point of discharge (if required)

Excess silt/debris held within Permachannel and gullies should be cleared manually or with a vacuum tank. We do not recommend pressure led cleaning.

Routine maintenance

Permachannel

For Permachannel the following routine maintenance procedures are required:

- 3 monthly inspections of channels for signs of blockage and oil spillage
- Remove litter and blockages as required
- Every 12 months inspect all chambers for silt and oil build up
- Every 12 months sweep external surfaces
- Remove silt as required but at least every year
- Records of inspections and maintenance undertaken should be kept by the client

Permaceptor

For Permaceptors the following routine maintenance procedures are required:

- 3 monthly inspections of road/yard gullies for signs of blockage and oil spillage
- Remove litter and blockages as required
- Every 6 months inspect all Permaceptors for silt and oil build up
- Every 12 months sweep external surfaces
- Records of inspections and maintenance undertaken should be kept by the client

Accidental spillages

If accidental spillages occur of oil or other substances that can cause water pollution, they must be dealt with immediately. An example of this is if a car sump fails and there is large spillage of oil on the car park or road surfaces. A spillage kit appropriate to the size of the car park should be kept by the site caretaker. This should include absorbent pads, socks and rain seals.

As soon as a spillage is identified, the drain inlets in that area should be covered to prevent pollution entering the system. The pollution should then be cleared from the road or car park surface. The local channel system and/or Permaceptor receiving the spillage should be emptied of all pollution that has entered.

The Permachannels and Permaceptors should prevent any significant pollution entering the rest of the drainage system. The Environment Agency should be informed of the spillage and the appropriate actions should be taken.

General design details

The Permavoid range of products can be used individually or linked together to provide unique and flexible water management solutions.

The following typical design details highlight a range of solutions available. These drawings are available on the Polypipe website at www.polypipe.com/toolbox. Individual projects may require tailored solutions that are not detailed. For more information please contact our Technical Team on +44 (0) 1509 615100.

Typical permeable pavements

Figure 8.1.1: Sub-base infiltration detail (drawing no. PV_SD_IN_PP_001)

(For illustration purposes, we have shown a permeable block paving system. For Permeable asphalt a 40mm surface course and 80mm binder course are recommended)

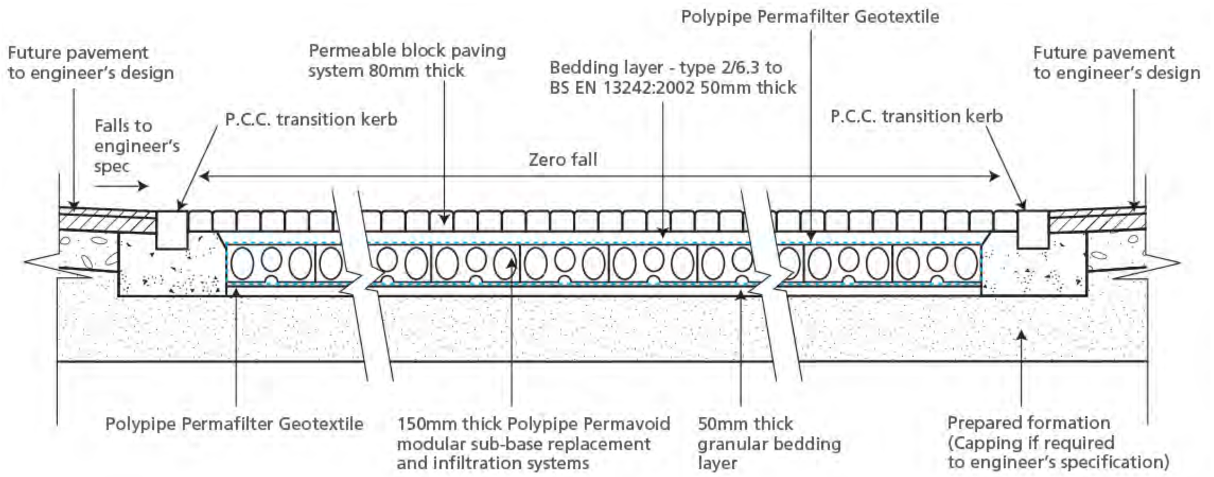
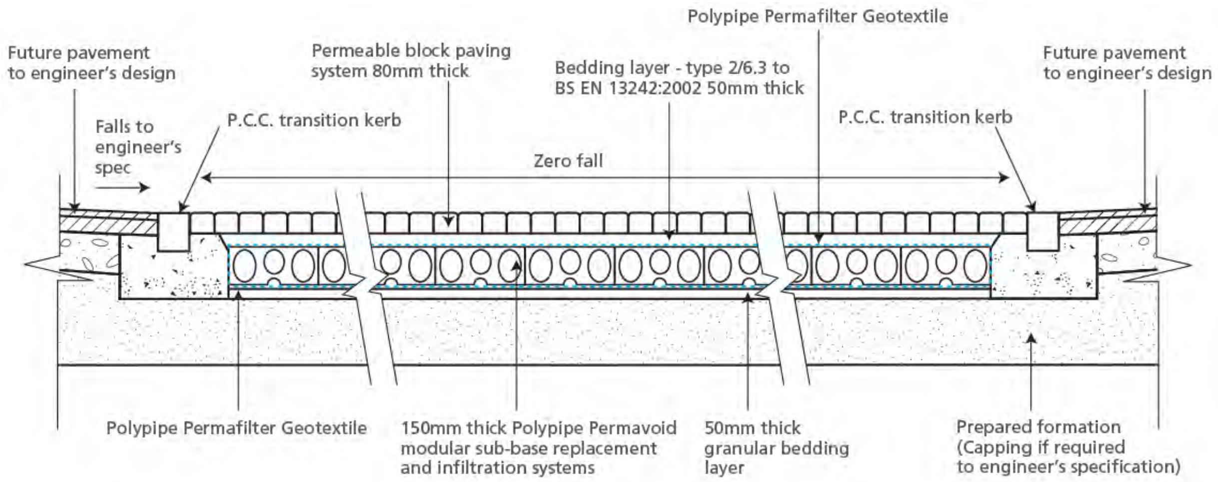


Figure 8.1.2: Permavoid permeable pavement sub-base attenuation detail (drawing no. PV_SD_AT_PP_001)

(For illustration purposes, we have shown a permeable block paving system. For Permeable asphalt a 40mm surface course and 80mm binder course are recommended)



40mm Permeable asphalt

CAD drawings are also available on the website toolbox

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General design details

Typical permeable pavements - attenuation

Figure 8.2.1: Permavoid with Permachannel shallow cellular attenuation detail
(drawing no. PV_SD_AT_PC_001)

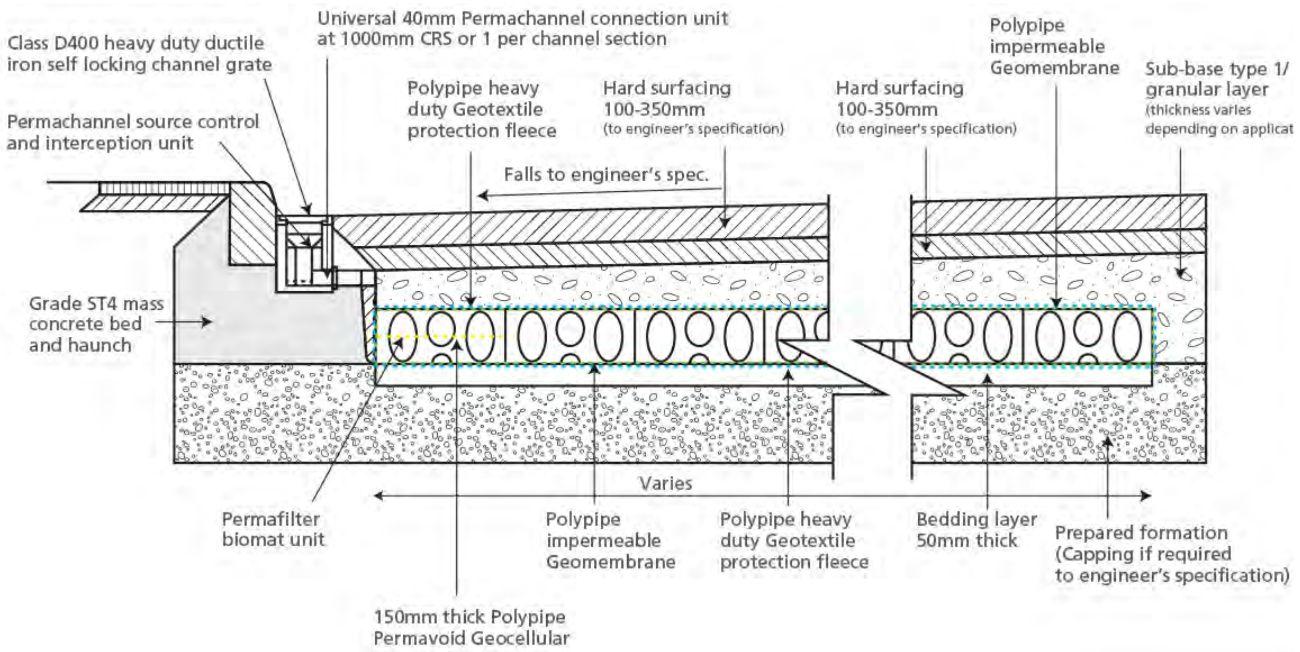


Figure 8.2.2: Permavoid with Permachannel SuDSAGG attenuation detail
(drawing no. PV_SD_AT_PC_002)

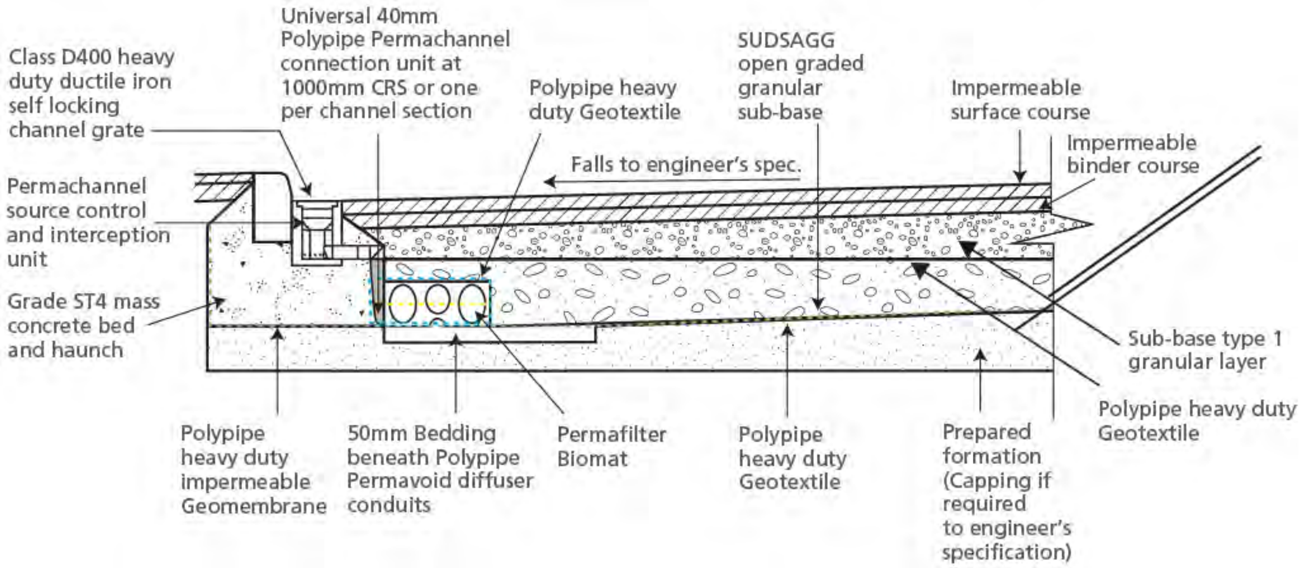


Figure 8.3.1: Permavoid with Permachannel deep cellular attenuation detail with Medium Duty Biomat
(drawing no. PV_SD_AT_PC_003)

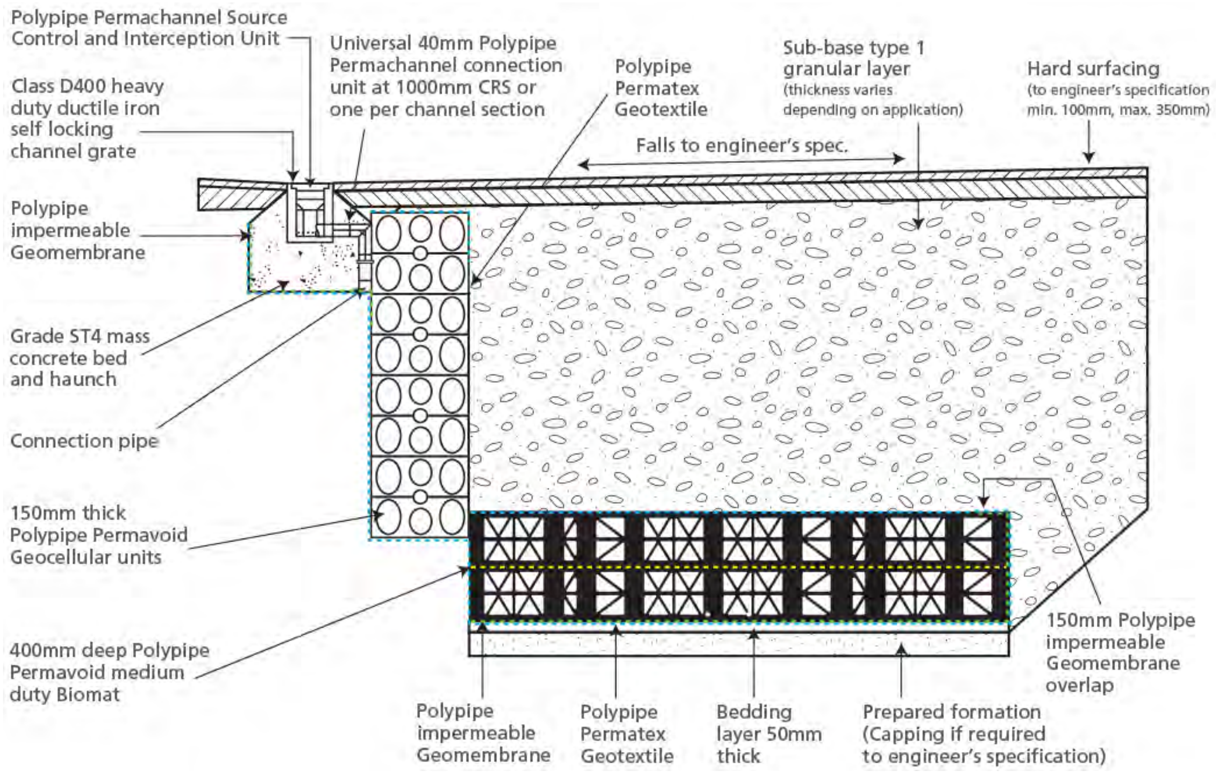
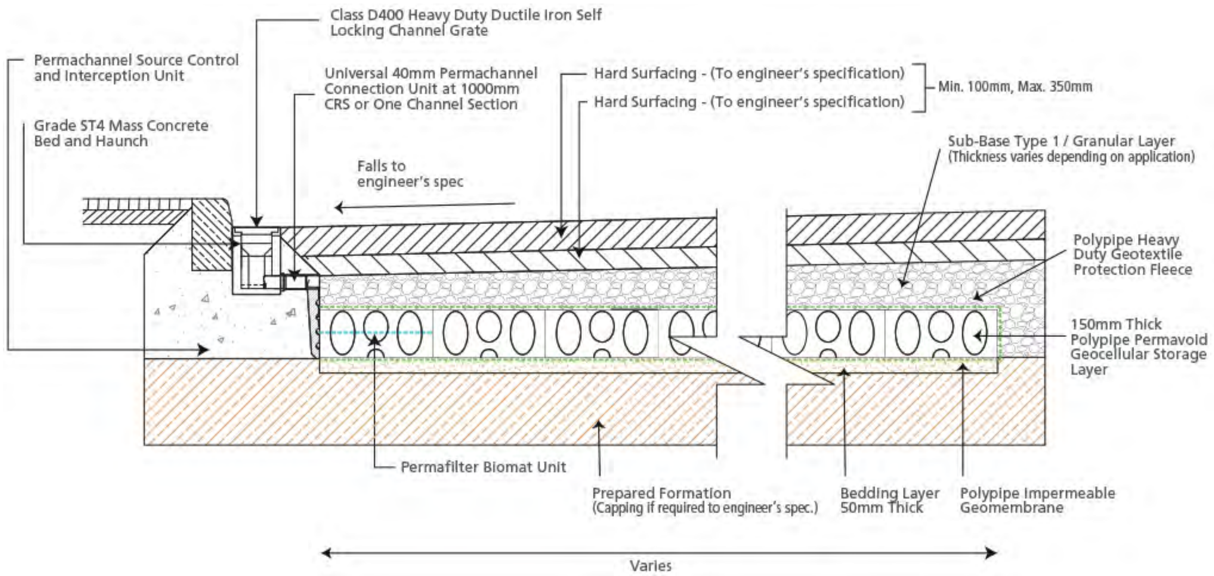


Figure 8.3.2: Permavoid with Permachannel shallow cellular infiltration detail
(drawing no. PV_SD_IN_PC_001)



CAD drawings are also available on the website toolbox.

CAD drawings are also available on the website toolbox.

General design details

Figure 8.4.1: Permavoid with Permachannel SuDSAGG infiltration detail
(drawing no. PV_SD_IN_PC_002)

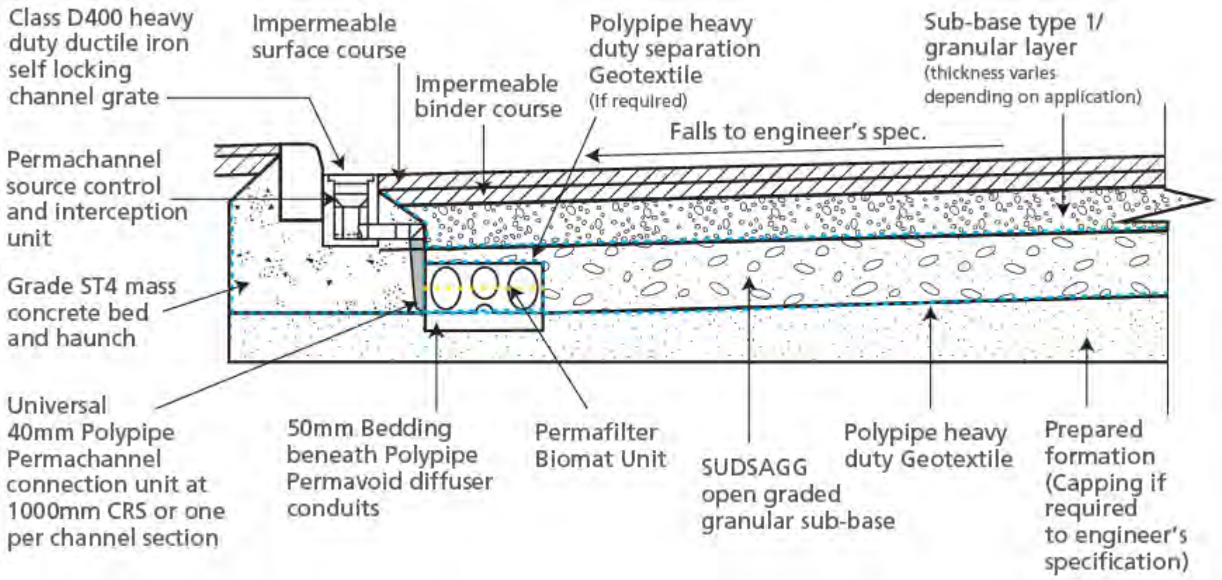


Figure 8.4.2: Permavoid with Permachannel deep cellular infiltration detail
(drawing no. PV_SD_IN_PC_003)

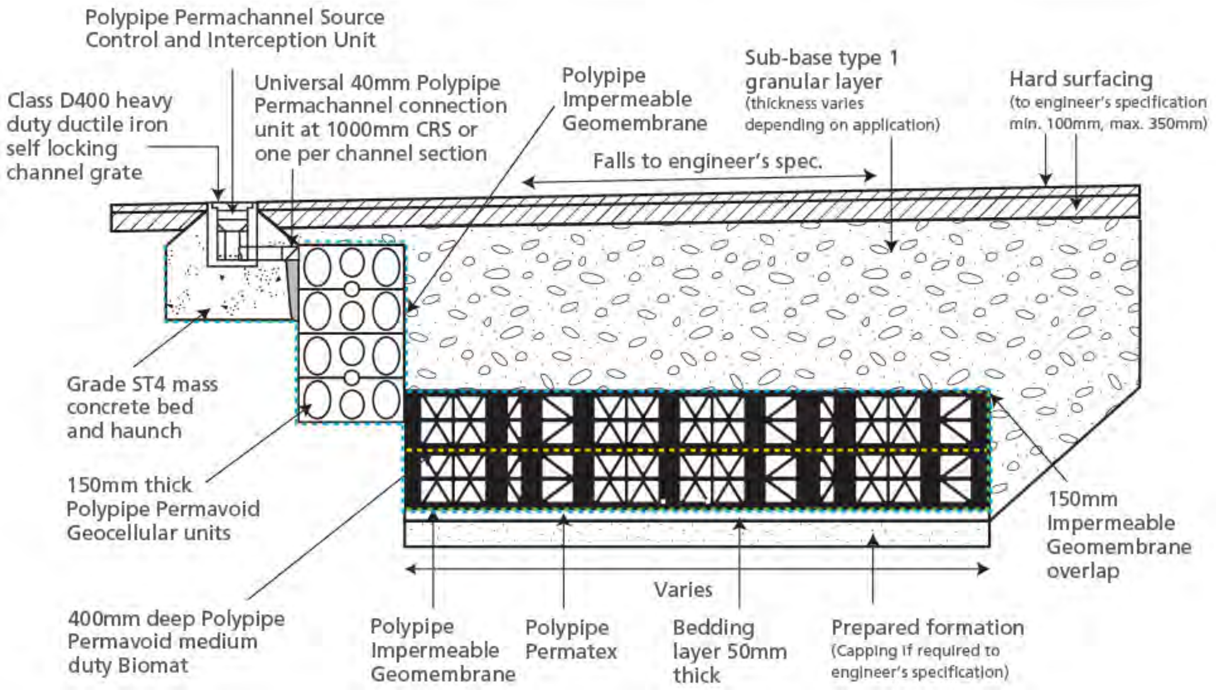


Figure 8.5.1: Permavoid with Gullyceptor detail
(drawing no. PV_SD_ID_GC_001)

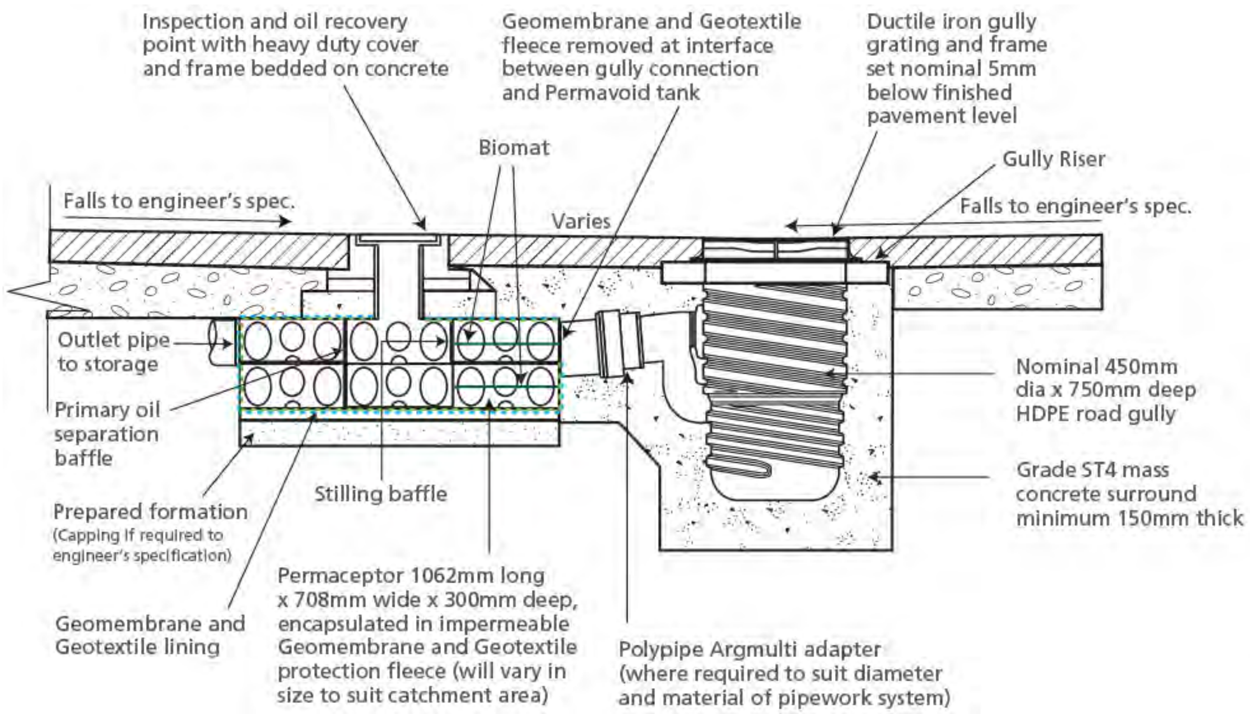
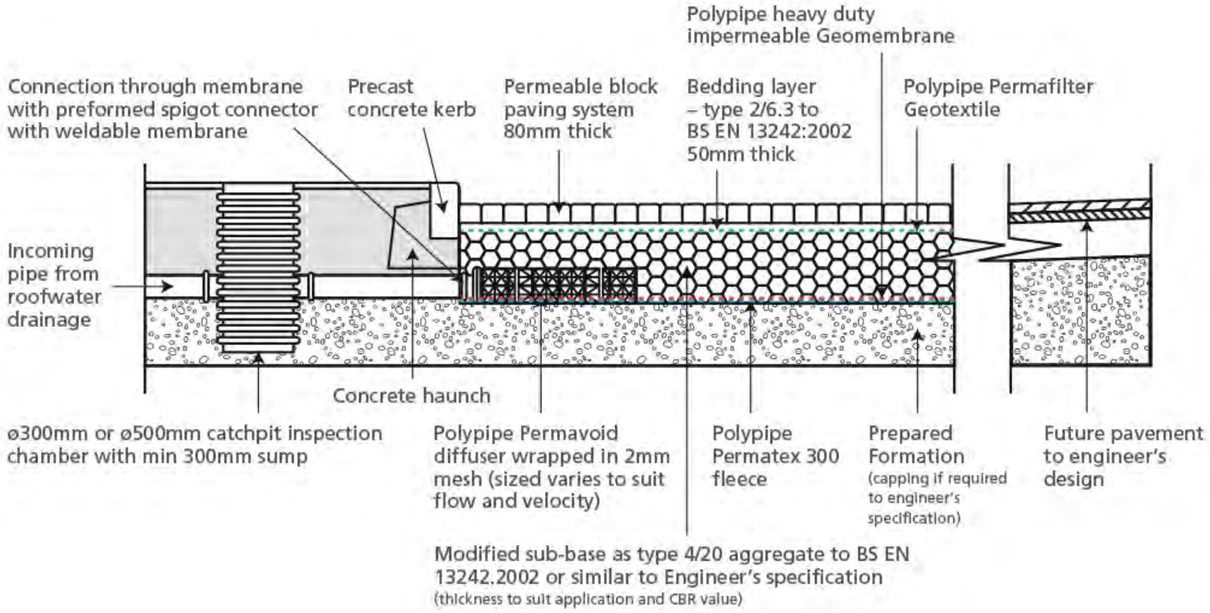


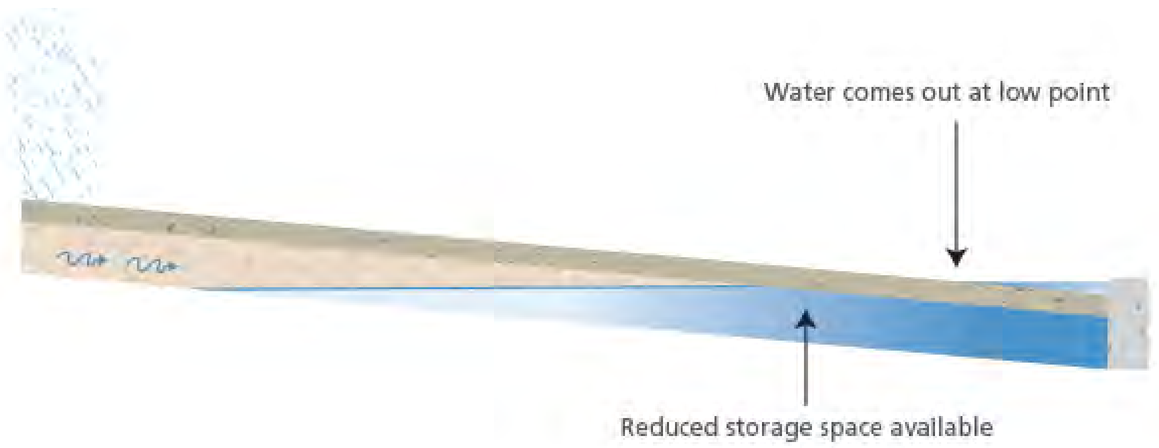
Figure 8.5.2: Permavoid rainwater pipe connection detail
(drawing no. PV_SD_AT_MC_001)



General design details

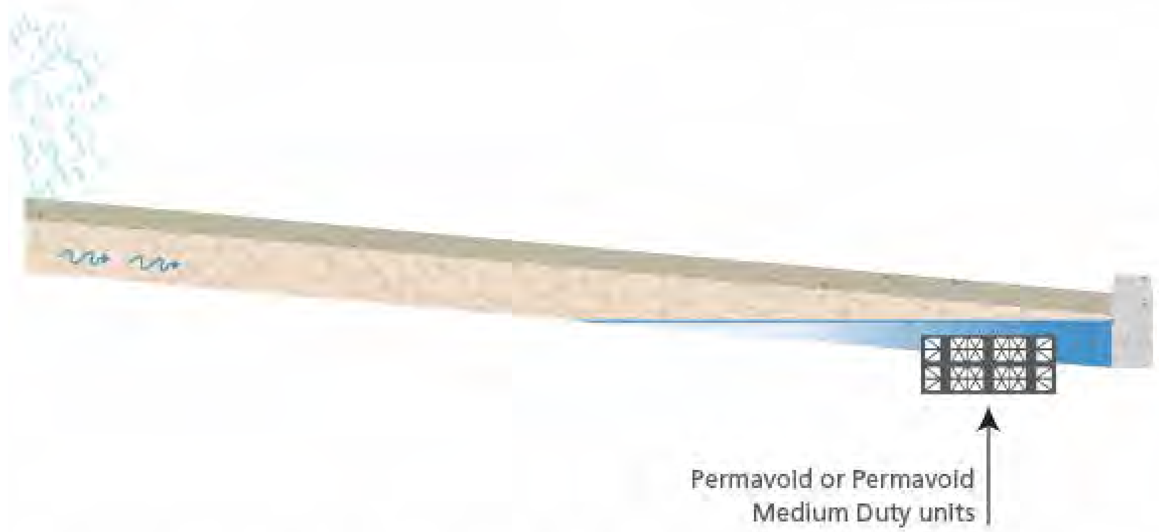
Managing permeable pavements on sloping sites:

THE PROBLEM



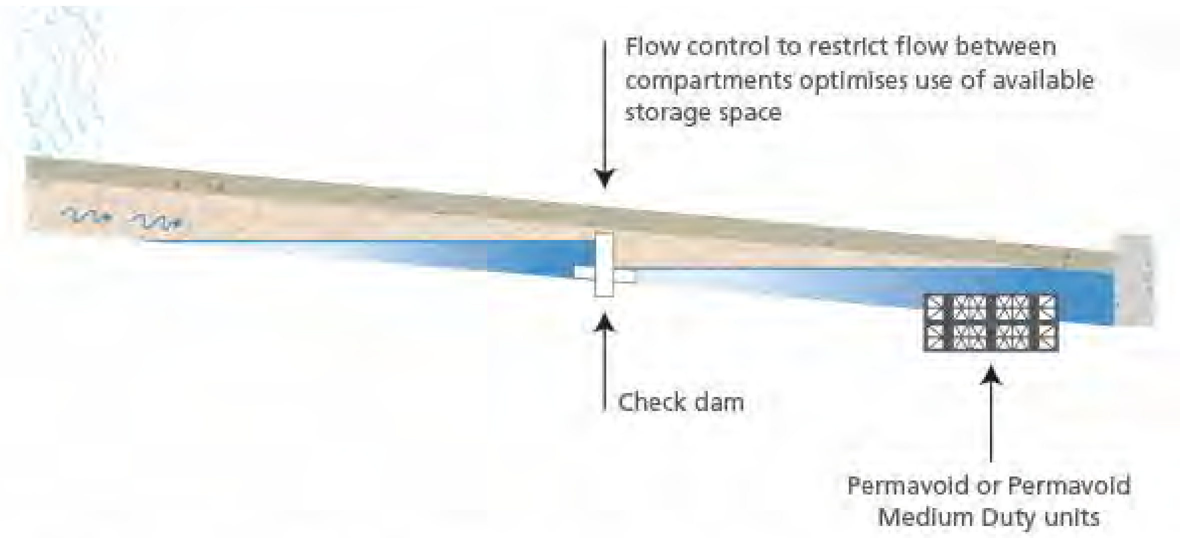
If a pervious pavement is built on a sloping site, it must be designed to prevent all the water in the sub-base running to the bottom of the slope and exiting the surface. The slope also reduces the available storage in the sub-base. The Permavoid system can be incorporated to create effective sub-catchments to control the quantity and quality of the water using various components and techniques.

SOLUTION 1



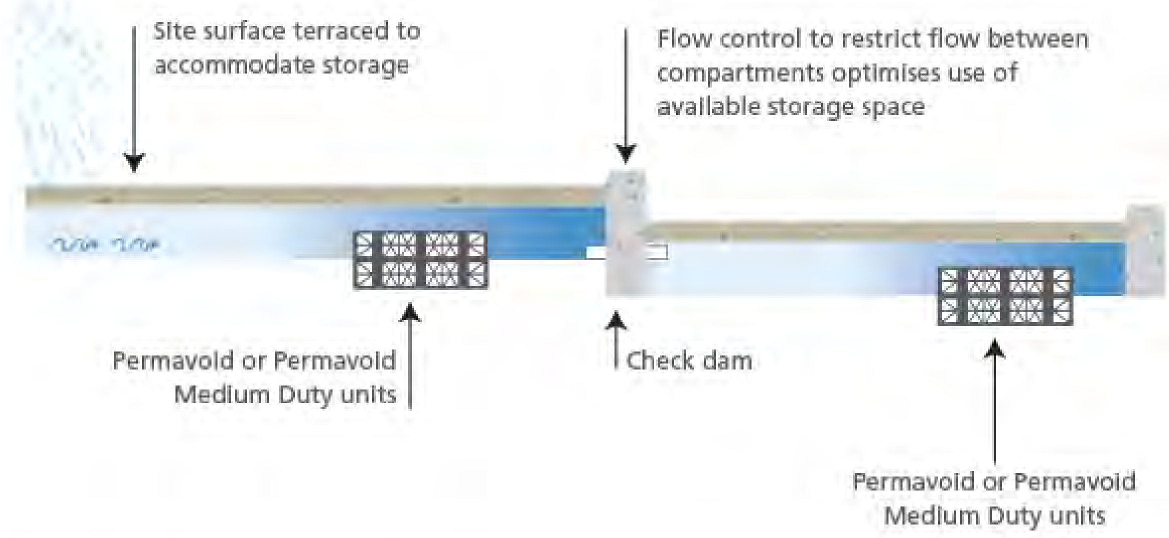
The use of Permavoid and/or Permavoid Medium Duty units at the lower end of the site to increase total storage capacity.

SOLUTION 2



Install dams as required within the sub-base with flow controls to reduce the flow down the slope. Flow control can be achieved in a number of ways including incorporating Permafoam units within the check dam.

SOLUTION 3



If practicable, terrace the site to give level areas of permeable paving separated by check dams to create manageable sub-base storage areas.

Case study - Walthamstow

Polypipe was called upon to provide a stormwater management system for the redevelopment of Walthamstow Stadium.

Working closely with main contractor Quadrant Construction and consultant engineers MLM, our Permavoid geocellular stormwater attenuation system was specified due to its ability to work perfectly as a sub-base replacement system, avoiding deep excavation at the site which contained contaminated ground and a high water table.

Located on the site of the former greyhound stadium and adjacent to the River Ching, the Walthamstow Stadium development boasts 294 new homes that incorporate sustainable drainage features, including brown roofs and permeable paving.

Utilising the high strength Permavoid system, we designed and supplied the system beneath 4,500m² of permeable paving to provide 1,500m³ of stormwater attenuation to meet the requirements of the Environment Agency.

The design featured 150mm deep Permavoid cells, with Permafilter geotextile laid on top between the cells and the permeable paving. The Permafilter acts as a barrier to capture and treat surface water run-off at source from the permeable paving above, before entering the tank. The sides and the bottom of the tank were wrapped in a geomembrane to allow for stormwater to be attenuated, before discharging at a rate set by the Environment Agency into the river with the use of flow control devices. In areas of hard standing, without permeable paving, Permachannel and Permavoid Biomat were installed to capture, treat and attenuate surface water run-off.

The Permavoid system is capable of handling rainfall in the event of a '1 in 100' year storm, and reduces urban stormwater run-off from the site by 80%.

Despite being so lightweight, the strength of the Permavoid cells allows them to support structural loads across heavily trafficked areas, making them suitable to withstand the compressive and dynamic loads produced by vehicles at the site.

Case study - Coronation Street

A shallow stormwater management system using Permavoid was specified for use as part of the construction of the new Coronation Street set.

Working closely with the construction company, The Carey Group Plc and international consultancy and construction company Mace, our supply and install partner, SEL, undertook an evaluation of the site and its ground conditions. They recommended a Permavoid system to provide a shallow solution, due to the site being on brownfield land, having a high water table and a shallow outfall.

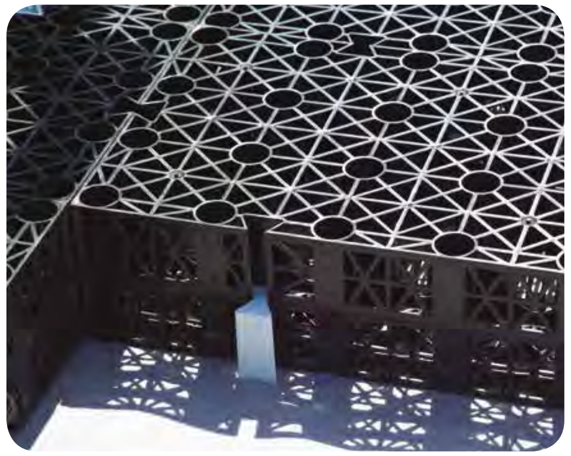
The shallow depth of the solution not only negated the need for pumping stations, it also reduced the need for temporary works, which in turn reduced installation and labour costs as well as Health and Safety risks.

The project saw 28 separate Permavoid attenuation tanks installed throughout the site, providing a combined storage capability of 420,000 litres.

High strength Permavoid cells were combined with strategically located Permachannel and Permavoid Biomat cells for the capture, treatment, storage and controlled discharge of rainwater at source.

Permachannel acts as both a surface water collection point and a treatment system that intercepts silt and oil with a zero gradient at pavement level. Water is then discharged from the side of each Permachannel into the Permavoid cells, complete with Permavoid Biomat and Permafilter for further treatment and storage, allowing only treated water to be discharged into the local watercourse.

The system incorporates a unique jointing mechanism that forms an interlocking 'raft' that will support structural loads across the most heavily trafficked areas, such as those found at the Coronation Street set.



Product summary

Product Summary	WATER CAPTURE	TREATMENT	INFILTRATION	ATTENUATION	RETENTION (RE-USE)	
PERMAVOID 85mm & 150mm	✓		✔	✔	✔	Geocellular storage unit used to capture water for retention, attenuation or infiltration.
PERMACHANNEL	✔	✔	✓	✓	✓	A combined run-off collection, silt/oil interceptor and treatment system.
PERMACEPTOR	✔	✔	✓	✓	✓	A combined run-off collection, silt/oil interceptor and treatment system.
PERMAVOID BIOMAT		✔	✓	✓	✓	Used with Permavoid, Permachannel and Permaceptor to provide additional water treatment and storage.
PERMAVOID MEDIUM DUTY WITH BIOMAT		✔	✓	✓	✓	Geocellular storage unit for use with Permavoid, Permachannel, Permaceptor and Polystorm to provide additional water treatment and storage.
PERMAFILTER		✔	✔	✓	✓	Specifically designed for hydrocarbon treatment.
GEOMEMBRANE				✔	✔	Impermeable membrane used for retention and attenuation.
PERMATEX 300			✔	✓	✓	A geotextile designed to protect and separate Permavoid geocellular layers.
PERMAVOID WICKING	✓				✔	Formulated to provide passive irrigation to soft and landscaped areas.
PERMAFOAM	✓			✓	✔	Phenolic foam filled Permavoid geocellular unit used for irrigation and flow regulation.

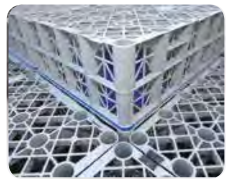
✔ Key Primary Application

✓ Additional Application

Associated products

Permavoid

A sub-base replacement geocellular water management system for use at shallower depths.



Polystorm

A geocellular system used for retention, attenuation and infiltration at deeper depths.

Ridgistorm-XL

An engineered, large diameter pipe solution for surface water, foul water and combined sewer applications.

Rainstream

Rainwater re-use systems for both commercial and residential applications.

Ridgidrain

A high strength HDPE surface water drainage piping system, used for surface and sub-surface drainage applications.

Polysewer

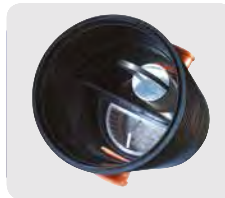
A PVCu sewer pipe system available in sizes 150mm-300 mm.

Ridgisewer

A highly durable and versatile polypropylene sewer pipe system, available in sizes 400mm-600mm.

RIDGISTORMCheck

Flow control chambers available with pre-fabricated vortex flow controllers and orifice plates.

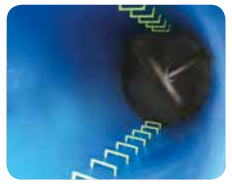


RIDGISTORMSeparate

A range of upstream catchpits and silt traps to separate slit and other particles before entering a drainage system or the environment.

RIDGISTORMControl

A range of pre-fabricated chambers with flow control components such as Gate Valves, Flap Valves and Penstocks.



RIDGISTORMAccess Manholes

Pre-fabricated manholes to provide easy access into a pipeline.

RIDGISTORM-X4

Advanced 4 stage water treatment system.

Landcoil

A land drainage system for the management of excess land water.

Cable protection

Protects cables and conduits carrying power, motorway communications, lighting and utilities in almost every application.

Enabling sustainable building technology

At Polypipe, we provide plastic piping systems that enable the effective installation and performance of sustainable building technology, helping meet the twin global challenges of carbon reduction and water management.

Water management solutions

Roof to River

Offering a comprehensive range of standalone and modular SuDS products, rainwater harvesting and surface water treatment solutions plus legislative and technical support services, our Water Management Solutions Team address the requirements of every construction and civil engineering project.

Carbon efficient solutions

Sustainable indoor environments

Ever stricter building regulations and ever more environmentally conscious customers are driving the demand for greener building products and technologies. We fulfil that demand with a full range of systems that enable collection, transmission, emission and control in heating, ventilation and cooling systems.

Sector focus

Our product systems respond directly to sector-specific requirements thanks to focused Technical and Development Teams with hands on expertise in the following areas:

Civils and infrastructure

Delivering performance and sustainability, our surface water drainage and cable management systems, supported by our in-house Fabrications Team, offer civils and infrastructure project planners a complete suite of solutions.

Residential

We offer the broadest range of residential product and service solutions for both new build and RMI applications, as well as innovative solutions in response to legislative and industry targets for more sustainable housing.

Commercial

Major commercial projects from car parks and high rise office blocks to hospitals, educational premises and shopping centres have all benefited from our range of value engineered products and comprehensive service support.

Literature and website

Literature

All of our literature is available at www.polypipe.com/toolbox

Product literature


Civils & Infrastructure Product Guide


Civils & Infrastructure Pocket Guide


Ridgistorm-XL Technical Manual


Polystorm Technical Guide

Solutions literature


WMS Sector Brochure


Rail Solutions Brochure

Market sector literature

Additional market sector literature is available, please visit www.polypipe.com or contact the telephone numbers appearing under each brochure.

All of our literature is available at www.polypipe.com/toolbox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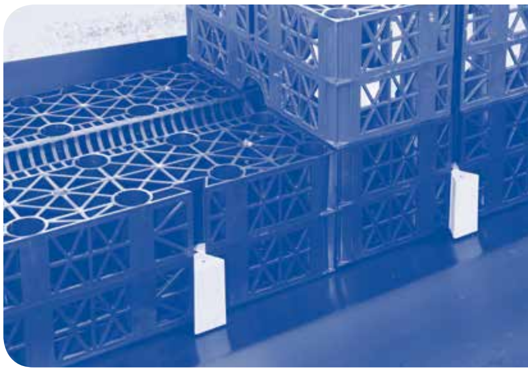
Permavoid System
Technical Manual



Civils & Infrastructure

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Permavoid Modular Cell 150

Product code: PVPP150

Permavoid is a geocellular interlocking system designed for shallow ground water storage or infiltration, to be used in place of traditional aggregate sub-base, or to provide source control above ground at both roof and podium level, removing the need for heavier and less efficient systems. The system has an exceptionally high compressive and tensile strength and bending resistance with a proprietary jointing system to create a horizontal structural 'raft' within the pavement that is ideal for the shallow attenuation of surface water. The system can also be combined in layers using interlocking shear connectors to increase depth in 85mm and 150mm increments. This is particularly useful in designing infiltration systems, allowing flexibility in balancing the soil permeability/ infiltration area of the Permavoid storage units and residual temporary attenuation.

Applications

The Permavoid units are suitable for use as a stormwater attenuation and/or infiltration. The system comprises of single, interconnected cells which can be installed in the ground as part of sub-base formation, or above ground as part of roof or podium attenuation systems for source control. Permavoid is suitable for use in a range of applications including residential, industrial estates, car parks, sports pitches, roofs, basements, pedestrian areas and rainwater harvesting.

Key Benefits

- High strength, high capacity, shallow, sub-base replacement system
- Stormwater attenuation and/or infiltration system
- Used as part of a sustainable drainage system (SuDS) scheme to offer stormwater storage at shallow construction depths
- 100% recyclable
- Units are manufactured from 100% recycled polypropylene (PP)

Performance

The structural load bearing capacity of the Permavoid units have been tested in accordance with the following European Standard: BS 7533-13:2009. The system's structural design life expectancy, based upon creep test data (tested in accordance with CIRIA guidelines) is as follows; for lightly loaded areas such as car parks a design life of 50 years is achievable. For areas with prolonged HGV loading a typical design life may only be 25 years, depending on the design of the pavement surfacing and structural layers over the tank.

Installation

All calculations for Permavoid units are based upon site-specific load cases, pavement construction types and thicknesses, soil cover and ground conditions and the suitability must therefore be approved for each project.

Technical Support

Detailed guidance and assistance is available.
For further information, please contact our Technical Team on +44 (0) 1509 615 100 or email civils@polypipe.com or visit www.polypipe.com/civils-technical-hub

ELEMENT	VALUE
PHYSICAL PROPERTIES	
Weight per unit	3kg
Weight per square metre	12kg
Length	708mm
Width	354mm
Depth	150mm
SHORT TERM COMPRESSIVE STRENGTH	
Vertical	715kN/m^2
Lateral	156kN/m^2
SHORT TERM DEFLECTION	
Vertical	1mm per 126kN/m^2
Lateral	1mm per 15kN/m^2
TENSILE STRENGTH	
Of a single joint	42.4kN/m^2
Of a single joint at (1% secant modulus)	18.8kN/m^2
Bending resistance of unit	0.71kN/m
Bending resistance of single joint	0.16kN/m
OTHER PROPERTIES	
Volumetric void ratio	95%
Average effective perforated surface area	52%
Intrinsic permeability (k)	Minimum 1.0 x 10^{-5}
Ancillary	Permavoid Permatie Permavoid Shear Connector
Material	Polypropylene (PP)

HYDRAULIC PERFORMANCE						
3 units wide, 1 unit deep (1.06m x 0.15m)						
FREE DISCHARGE						
Gradient (%)	0	1	2	3	4	5
Flow Rate (l/m/s)	8	13	15	17	19	21

Polypipe Civils,
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Tel: +44 (0) 1509 615100 Fax: +44 (0) 1509 610215 Email: civils@polypipe.com
www.polypipe.com/wms

Permavoid Modular Cell 150 can be utilised in these SuDS techniques

TECHNIQUES													
Blue-Green roofs	Podium Decks	Trees	Sports Pitches	Cycle Paths	Permeable Paving (sub base & podium)	Bioretention & Rain Gardens	Attenuation Storage Tanks	Infiltration	Swales	Filter Drains	Detention Basins	Ponds & Wetlands	Filter Strips
	✓		✓	✓	✓	✓	✓	✓	✓	✓			

Visit www.polypipe.com/greeninfrastructure

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General Notes

KEY:

- Application Site Boundary
- Surface Water Drain
- Foul Water Drain
- Linear Drainage
- Pipe Protection
- SW Rising Main
- FW Rising Main
- French Drain/Perforated Pipe
- Surface Catch Pit/Manhole
- Foul Water Manhole
- Surface Water Soakaway
- Gully & Lead
- Waste Water Package Treatment Plant
- 1.2m Retaining Wall
- +153.100 Spot Levels
- Direction of Flow
- Embankment
- Brick Headwall
- ACO Linear Drain
- Catchment Area 601m2
- Catchment Area 1254m2

FOR PLANNING

No.	Revision/Issue	Date
Rev A	Re-route gully into S5 to ensure site discharges to Qbar rates	31/05/23

RSPD
Roads & Sewers for Planning & Design Ltd
www.roadsandsewers.co.uk 07876 573377

Project Name and Address
154 STATION ROAD,
HAILSHAM,
BN27 2SB

Description
DRAINAGE STRATEGY

Project 5678
Date 20/02/2023
Scale 1:250 @ A1
Sheet 01

Design Settings

Rainfall Methodology	FEH-13	Maximum Time of Concentration (mins)	30.00	Preferred Cover Depth (m)	0.450
Return Period (years)	2	Maximum Rainfall (mm/hr)	50.0	Include Intermediate Ground	✓
Additional Flow (%)	0	Minimum Velocity (m/s)	0.75	Enforce best practice design rules	✓
CV	0.750	Connection Type	Level Soffits		
Time of Entry (mins)	30.00	Minimum Backdrop Height (m)	0.200		

Adoptable Manhole Type

Max Width (mm)	Diameter (mm)	Max Width (mm)	Diameter (mm)	Max Width (mm)	Diameter (mm)	Max Width (mm)	Diameter (mm)
374	1200	499	1350	749	1500	900	1800

>900 Link+900 mm

Max Depth (m)	Diameter (mm)	Max Depth (m)	Diameter (mm)
1.500	1050	99.999	1200

Circular Link Type

Shape	Circular	Barrels	1	Auto Increment (mm)	75	Follow Ground	x

Available Diameters (mm)

100	150

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
S1			9.250	1200	559495.320	108606.130	0.934
S2	0.050	30.00	8.545	1200	559516.440	108593.100	1.839
S3	0.033	30.00	8.500	1200	559535.300	108581.440	1.869
S4			7.650	1200	559546.310	108574.640	1.063
S5	0.027	30.00	7.650	1500	559563.620	108577.870	1.445
S6			7.000	1200	559570.110	108579.070	0.818
OUTFALL			6.115	450	559577.570	108568.620	0.675

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
FC1	0.012	30.00	9.350	450	559485.500	108608.130	0.650
FC2	0.011	30.00	9.850	450	559503.070	108619.740	0.850
FC3	0.011	30.00	8.995	450	559503.330	108599.060	1.845
FC4	0.011	30.00	8.550	450	559515.360	108599.360	1.400
FC5	0.011	30.00	8.550	450	559529.910	108587.840	0.650
FC6	0.010	30.00	8.750	450	559524.890	108584.310	1.400
FC7	0.010	30.00	7.835	450	559553.290	108581.480	1.400
STORAGE 1		30.00	8.545	1200	559515.230	108592.370	1.700
STORAGE 2		30.00	8.500	1200	559537.050	108584.020	1.300
STORAGE 3		30.00	9.850	1200	559494.170	108614.840	1.400

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)
1.001	S1	S2	24.816	0.600	8.316	7.945	0.371	66.9	150	30.00	20.4
1.002	S2	S3	22.173	0.600	6.706	6.631	0.075	295.6	225	30.00	20.4
1.003	S3	S4	12.941	0.600	6.631	6.587	0.044	294.1	225	30.00	20.4
1.004	S4	S5	17.609	0.600	6.587	6.528	0.059	298.5	225	30.00	20.4
1.005	S5	S6	6.600	0.600	6.205	6.182	0.023	287.0	225	30.00	20.4
1.006	S6	OUTFALL	12.840	0.600	6.182	5.440	0.742	17.3	225	30.00	20.4

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)
1.001	1.231	21.8	1.3	0.784	0.450	0.023	0.0	24	0.667
1.002	0.755	30.0	5.3	1.614	1.644	0.095	0.0	64	0.571
1.003	0.757	30.1	8.2	1.644	0.838	0.149	0.0	80	0.648
1.004	0.751	29.9	8.2	0.838	0.897	0.149	0.0	80	0.643
1.005	0.767	30.5	10.3	1.220	0.593	0.186	0.0	90	0.694
1.006	3.160	125.7	10.3	0.593	0.450	0.186	0.0	44	1.930

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)
2.000	FC1	S1	10.022	0.600	8.700	8.604	0.096	104.4	100	30.00	20.4
1.000	FC2	S1	15.662	0.600	9.000	8.700	0.300	52.2	100	30.00	20.4
4.000	FC3	S2	14.401	0.600	7.150	6.831	0.319	45.1	100	30.00	20.4
5.000	FC4	S2	6.352	0.600	7.150	7.089	0.061	104.1	100	30.00	20.4
8.000	FC5	S3	8.367	0.600	7.900	7.820	0.080	104.6	100	30.00	20.4
7.000	FC6	S3	10.798	0.600	7.350	7.247	0.103	104.8	100	30.00	20.4
10.000	FC7	S5	10.943	0.600	6.435	6.330	0.105	104.2	100	30.00	20.4
6.000	STORAGE 1	S2	1.413	0.600	6.845	6.831	0.014	100.9	100	30.00	20.4
9.000	STORAGE 2	S3	3.118	0.600	7.200	7.170	0.030	103.9	100	30.00	20.4

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)
2.000	0.752	5.9	0.7	0.550	0.546	0.012	0.0	23	0.500
1.000	1.069	8.4	0.6	0.750	0.450	0.011	0.0	18	0.619
4.000	1.150	9.0	0.6	1.745	1.614	0.011	0.0	18	0.649
5.000	0.753	5.9	0.6	1.300	1.356	0.011	0.0	21	0.480
8.000	0.751	5.9	0.6	0.550	0.580	0.011	0.0	21	0.479
7.000	0.750	5.9	0.6	1.300	1.153	0.010	0.0	21	0.467
10.000	0.753	5.9	0.6	1.300	1.220	0.010	0.0	21	0.469
6.000	0.765	6.0	0.0	1.600	1.614	0.000	0.0	0	0.000
9.000	0.754	5.9	0.0	1.200	1.230	0.000	0.0	0	0.000

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)
3.000	STORAGE 3	S1	8.786	0.600	8.450	8.366	0.084	104.6	100	30.00	20.4

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)
3.000	0.751	5.9	0.0	1.300	0.784	0.000	0.0	0	0.000

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.001	24.816	66.9	150	Circular	9.250	8.316	0.784	8.545	7.945	0.450
1.002	22.173	295.6	225	Circular	8.545	6.706	1.614	8.500	6.631	1.644
1.003	12.941	294.1	225	Circular	8.500	6.631	1.644	7.650	6.587	0.838
1.004	17.609	298.5	225	Circular	7.650	6.587	0.838	7.650	6.528	0.897
1.005	6.600	287.0	225	Circular	7.650	6.205	1.220	7.000	6.182	0.593
1.006	12.840	17.3	225	Circular	7.000	6.182	0.593	6.115	5.440	0.450
2.000	10.022	104.4	100	Circular	9.350	8.700	0.550	9.250	8.604	0.546
1.000	15.662	52.2	100	Circular	9.850	9.000	0.750	9.250	8.700	0.450

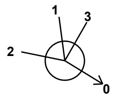
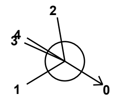
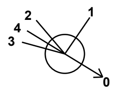
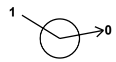
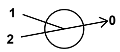
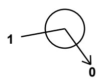
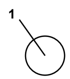
Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.001	S1	1200	Manhole	Adoptable	S2	1200	Manhole	Adoptable
1.002	S2	1200	Manhole	Adoptable	S3	1200	Manhole	Adoptable
1.003	S3	1200	Manhole	Adoptable	S4	1200	Manhole	Adoptable
1.004	S4	1200	Manhole	Adoptable	S5	1500	Manhole	Adoptable
1.005	S5	1500	Manhole	Adoptable	S6	1200	Manhole	Adoptable
1.006	S6	1200	Manhole	Adoptable	OUTFALL	450	Manhole	Adoptable
2.000	FC1	450	Manhole	Adoptable	S1	1200	Manhole	Adoptable
1.000	FC2	450	Manhole	Adoptable	S1	1200	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)
4.000	14.401	45.1	100	Circular	8.995	7.150	1.745	8.545	6.831	1.614
5.000	6.352	104.1	100	Circular	8.550	7.150	1.300	8.545	7.089	1.356
8.000	8.367	104.6	100	Circular	8.550	7.900	0.550	8.500	7.820	0.580
7.000	10.798	104.8	100	Circular	8.750	7.350	1.300	8.500	7.247	1.153
10.000	10.943	104.2	100	Circular	7.835	6.435	1.300	7.650	6.330	1.220
6.000	1.413	100.9	100	Circular	8.545	6.845	1.600	8.545	6.831	1.614
9.000	3.118	103.9	100	Circular	8.500	7.200	1.200	8.500	7.170	1.230
3.000	8.786	104.6	100	Circular	9.850	8.450	1.300	9.250	8.366	0.784

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
4.000	FC3	450	Manhole	Adoptable	S2	1200	Manhole	Adoptable
5.000	FC4	450	Manhole	Adoptable	S2	1200	Manhole	Adoptable
8.000	FC5	450	Manhole	Adoptable	S3	1200	Manhole	Adoptable
7.000	FC6	450	Manhole	Adoptable	S3	1200	Manhole	Adoptable
10.000	FC7	450	Manhole	Adoptable	S5	1500	Manhole	Adoptable
6.000	STORAGE 1	1200	Manhole	Adoptable	S2	1200	Manhole	Adoptable
9.000	STORAGE 2	1200	Manhole	Adoptable	S3	1200	Manhole	Adoptable
3.000	STORAGE 3	1200	Manhole	Adoptable	S1	1200	Manhole	Adoptable

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections		Link	IL (m)	Dia (mm)
S1	559495.320	108606.130	9.250	0.934	1200		1	3.000	8.366	100
							2	2.000	8.604	100
							3	1.000	8.700	100
							0	1.001	8.316	150
S2	559516.440	108593.100	8.545	1.839	1200		1	6.000	6.831	100
							2	5.000	7.089	100
							3	4.000	6.831	100
							4	1.001	7.945	150
							0	1.002	6.706	225
S3	559535.300	108581.440	8.500	1.869	1200		1	9.000	7.170	100
							2	8.000	7.820	100
							3	7.000	7.247	100
							4	1.002	6.631	225
							0	1.003	6.631	225
S4	559546.310	108574.640	7.650	1.063	1200		1	1.003	6.587	225
							0	1.004	6.587	225
S5	559563.620	108577.870	7.650	1.445	1500		1	10.000	6.330	100
							2	1.004	6.528	225
							0	1.005	6.205	225
S6	559570.110	108579.070	7.000	0.818	1200		1	1.005	6.182	225
							0	1.006	6.182	225
OUTFALL	559577.570	108568.620	6.115	0.675	450		1	1.006	5.440	225

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
FC1	559485.500	108608.130	9.350	0.650	450	0	2.000	8.700	100
FC2	559503.070	108619.740	9.850	0.850	450	0	1.000	9.000	100
FC3	559503.330	108599.060	8.995	1.845	450	0	4.000	7.150	100
FC4	559515.360	108599.360	8.550	1.400	450	0	5.000	7.150	100
FC5	559529.910	108587.840	8.550	0.650	450	0	8.000	7.900	100
FC6	559524.890	108584.310	8.750	1.400	450	0	7.000	7.350	100
FC7	559553.290	108581.480	7.835	1.400	450	0	10.000	6.435	100
STORAGE 1	559515.230	108592.370	8.545	1.700	1200	0	6.000	6.845	100

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
STORAGE 2	559537.050	108584.020	8.500	1.300	1200	0	9.000	7.200	100
STORAGE 3	559494.170	108614.840	9.850	1.400	1200	0	3.000	8.450	100

Simulation Settings

Rainfall Methodology	FEH-13	Analysis Speed	Normal	Additional Storage (m^3/ha)	20.0
Summer CV	0.750	Skip Steady State	x	Check Discharge Rate(s)	x
Winter CV	0.840	Drain Down Time (mins)	240	Check Discharge Volume	x

Storm Durations

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

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)	Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0	100	20	0	0
30	0	0	0	100	40	10	0
100	0	0	0				

Node FC1 Online Orifice Control

Flap Valve	x	Invert Level (m)	8.700	Design Flow (l/s)	2.0	Discharge Coefficient	0.600
Replaces Downstream Link	✓	Design Depth (m)	0.550	Diameter (m)	0.036		

Node FC2 Online Orifice Control

Flap Valve	x	Invert Level (m)	9.000	Design Flow (l/s)	1.5	Discharge Coefficient	0.600
Replaces Downstream Link	✓	Design Depth (m)	0.750	Diameter (m)	0.028		

Node FC3 Online Orifice Control

Flap Valve	x	Invert Level (m)	7.150	Design Flow (l/s)	0.5	Discharge Coefficient	0.600
Replaces Downstream Link	✓	Design Depth (m)	0.550	Diameter (m)	0.018		

Node FC4 Online Orifice Control

Flap Valve	x	Invert Level (m)	7.150	Design Flow (l/s)	0.5	Discharge Coefficient	0.600
Replaces Downstream Link	✓	Design Depth (m)	0.550	Diameter (m)	0.018		

Node FC5 Online Orifice Control

Flap Valve	x	Invert Level (m)	7.900	Design Flow (l/s)	1.5	Discharge Coefficient	0.600
Replaces Downstream Link	✓	Design Depth (m)	0.550	Diameter (m)	0.031		

Node FC6 Online Orifice Control

Flap Valve	x	Invert Level (m)	7.350	Design Flow (l/s)	0.5	Discharge Coefficient	0.600
Replaces Downstream Link	✓	Design Depth (m)	0.550	Diameter (m)	0.018		

Node S1 Online Orifice Control

Flap Valve	x	Invert Level (m)	8.316	Design Flow (l/s)	2.0	Discharge Coefficient	0.600
Replaces Downstream Link	✓	Design Depth (m)	0.784	Diameter (m)	0.033		

Node S2 Online Orifice Control

Flap Valve	x	Invert Level (m)	6.706	Design Flow (l/s)	2.5	Discharge Coefficient	0.600
Replaces Downstream Link	✓	Design Depth (m)	1.214	Diameter (m)	0.072		

Node S3 Online Orifice Control

Flap Valve	x	Invert Level (m)	6.631	Design Flow (l/s)	2.5	Discharge Coefficient	0.600
Replaces Downstream Link	✓	Design Depth (m)	1.431	Diameter (m)	0.031		

Node S5 Online ACO Q-Brake Control

Flap Valve	x	Invert Level (m)	6.205	Design Flow (l/s)	2.0	Min Node Diameter (mm)	1050
Replaces Downstream Link	✓	Design Depth (m)	1.000	Min Outlet Diameter (m)	0.095	Orifice Diameter (mm)	0.065

Node FC1 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	8.700
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	71

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	25.0	0.0	0.150	25.0	0.0	0.151	0.0	0.0

Node FC2 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	9.000
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	88

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	25.0	0.0	0.150	25.0	0.0	0.151	0.0	0.0

Node FC3 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	7.150
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	25.0	0.0	0.800	25.0	0.0	0.801	0.0	0.0

Node FC4 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	7.150
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	25.0	0.0	0.800	25.0	0.0	0.801	0.0	0.0

Node FC5 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	7.900
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	73

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	25.0	0.0	0.150	25.0	0.0	0.151	0.0	0.0

Node FC6 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	7.350
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	25.0	0.0	0.800	25.0	0.0	0.801	0.0	0.0

Node FC7 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	6.435
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	20.0	0.0	0.800	20.0	0.0	0.801	0.0	0.0

Node STORAGE 1 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	6.845
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	18.0	0.0	0.800	18.0	0.0	0.801	0.0	0.0

Node STORAGE 2 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	7.200
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	37.5	0.0	0.800	37.5	0.0	0.801	0.0	0.0

Node STORAGE 3 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	8.450
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	0

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	2.0	0.0	0.800	2.0	0.0	0.801	0.0	0.0

Approval Settings

Node Size	✓	Maximum Cover Depth (m)	3.000	Surcharged Depth	✓
Node Losses	✓	Backdrops	✓	Return Period (years)	
Link Size	✓	Minimum Backdrop Height (m)		Maximum Surcharged Depth (m)	0.100
Minimum Diameter (mm)	150	Maximum Backdrop Height (m)	1.500	Flooding	✓
Link Length	✓	Full Bore Velocity	✓	Return Period (years)	30
Maximum Length (m)	100.000	Minimum Full Bore Velocity (m/s)		Time to Half Empty	x
Coordinates	✓	Maximum Full Bore Velocity (m/s)	3.000	Discharge Rates	✓
Accuracy (m)	1.000	Proportional Velocity	✓	Discharge Volume	✓
Crossings	✓	Return Period (years)		100 year 360 minute (m³)	
Cover Depth	✓	Minimum Proportional Velocity (m/s)	0.750		
Minimum Cover Depth (m)		Maximum Proportional Velocity (m/s)	3.000		

Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
2 year 15 minute summer	109.864	31.088	30 year 180 minute summer	57.005	14.669
2 year 15 minute winter	77.097	31.088	30 year 180 minute winter	37.055	14.669
2 year 30 minute summer	72.094	20.400	30 year 240 minute summer	44.577	11.780
2 year 30 minute winter	50.592	20.400	30 year 240 minute winter	29.616	11.780
2 year 60 minute summer	48.519	12.822	30 year 360 minute summer	33.519	8.626
2 year 60 minute winter	32.235	12.822	30 year 360 minute winter	21.788	8.626
2 year 120 minute summer	33.311	8.803	30 year 480 minute summer	26.056	6.886
2 year 120 minute winter	22.131	8.803	30 year 480 minute winter	17.311	6.886
2 year 180 minute summer	26.825	6.903	30 year 600 minute summer	21.121	5.777
2 year 180 minute winter	17.437	6.903	30 year 600 minute winter	14.431	5.777
2 year 240 minute summer	21.827	5.768	30 year 720 minute summer	18.673	5.005
2 year 240 minute winter	14.501	5.768	30 year 720 minute winter	12.550	5.005
2 year 360 minute summer	17.275	4.445	30 year 960 minute summer	15.178	3.997
2 year 360 minute winter	11.229	4.445	30 year 960 minute winter	10.054	3.997
2 year 480 minute summer	13.799	3.647	30 year 1440 minute summer	10.892	2.919
2 year 480 minute winter	9.168	3.647	30 year 1440 minute winter	7.320	2.919
2 year 600 minute summer	11.379	3.112	100 year 15 minute summer	356.941	101.002
2 year 600 minute winter	7.775	3.112	100 year 15 minute winter	250.485	101.002
2 year 720 minute summer	10.180	2.728	100 year 30 minute summer	238.393	67.457
2 year 720 minute winter	6.841	2.728	100 year 30 minute winter	167.293	67.457
2 year 960 minute summer	8.392	2.210	100 year 60 minute summer	162.146	42.851
2 year 960 minute winter	5.559	2.210	100 year 60 minute winter	107.726	42.851
2 year 1440 minute summer	6.151	1.648	100 year 120 minute summer	95.106	25.134
2 year 1440 minute winter	4.134	1.648	100 year 120 minute winter	63.186	25.134
30 year 15 minute summer	281.841	79.751	100 year 180 minute summer	71.366	18.365
30 year 15 minute winter	197.783	79.751	100 year 180 minute winter	46.390	18.365
30 year 30 minute summer	185.960	52.620	100 year 240 minute summer	55.594	14.692
30 year 30 minute winter	130.498	52.620	100 year 240 minute winter	36.935	14.692
30 year 60 minute summer	126.005	33.299	100 year 360 minute summer	41.664	10.721
30 year 60 minute winter	83.715	33.299	100 year 360 minute winter	27.082	10.721
30 year 120 minute summer	75.392	19.924	100 year 480 minute summer	32.424	8.569
30 year 120 minute winter	50.089	19.924	100 year 480 minute winter	21.542	8.569

Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
100 year 600 minute summer	26.329	7.202	100 year +20% CC 960 minute summer	22.784	5.999
100 year 600 minute winter	17.990	7.202	100 year +20% CC 960 minute winter	15.092	5.999
100 year 720 minute summer	23.317	6.249	100 year +20% CC 1440 minute summer	16.376	4.389
100 year 720 minute winter	15.670	6.249	100 year +20% CC 1440 minute winter	11.005	4.389
100 year 960 minute summer	18.986	5.000	100 year +40% CC +10% A 15 minute summer	499.718	141.403
100 year 960 minute winter	12.577	5.000	100 year +40% CC +10% A 15 minute winter	350.679	141.403
100 year 1440 minute summer	13.646	3.657	100 year +40% CC +10% A 30 minute summer	333.750	94.440
100 year 1440 minute winter	9.171	3.657	100 year +40% CC +10% A 30 minute winter	234.210	94.440
100 year +20% CC 15 minute summer	428.330	121.203	100 year +40% CC +10% A 60 minute summer	227.005	59.991
100 year +20% CC 15 minute winter	300.582	121.203	100 year +40% CC +10% A 60 minute winter	150.817	59.991
100 year +20% CC 30 minute summer	286.071	80.948	100 year +40% CC +10% A 120 minute summer	133.149	35.187
100 year +20% CC 30 minute winter	200.752	80.948	100 year +40% CC +10% A 120 minute winter	88.461	35.187
100 year +20% CC 60 minute summer	194.576	51.421	100 year +40% CC +10% A 180 minute summer	99.912	25.711
100 year +20% CC 60 minute winter	129.271	51.421	100 year +40% CC +10% A 180 minute winter	64.946	25.711
100 year +20% CC 120 minute summer	114.127	30.160	100 year +40% CC +10% A 240 minute summer	77.831	20.569
100 year +20% CC 120 minute winter	75.823	30.160	100 year +40% CC +10% A 240 minute winter	51.709	20.569
100 year +20% CC 180 minute summer	85.639	22.038	100 year +40% CC +10% A 360 minute summer	58.329	15.010
100 year +20% CC 180 minute winter	55.668	22.038	100 year +40% CC +10% A 360 minute winter	37.915	15.010
100 year +20% CC 240 minute summer	66.713	17.630	100 year +40% CC +10% A 480 minute summer	45.394	11.996
100 year +20% CC 240 minute winter	44.322	17.630	100 year +40% CC +10% A 480 minute winter	30.159	11.996
100 year +20% CC 360 minute summer	49.996	12.866	100 year +40% CC +10% A 600 minute summer	36.861	10.082
100 year +20% CC 360 minute winter	32.499	12.866	100 year +40% CC +10% A 600 minute winter	25.186	10.082
100 year +20% CC 480 minute summer	38.909	10.282	100 year +40% CC +10% A 720 minute summer	32.644	8.749
100 year +20% CC 480 minute winter	25.850	10.282	100 year +40% CC +10% A 720 minute winter	21.939	8.749
100 year +20% CC 600 minute summer	31.595	8.642	100 year +40% CC +10% A 960 minute summer	26.581	6.999
100 year +20% CC 600 minute winter	21.588	8.642	100 year +40% CC +10% A 960 minute winter	17.608	6.999
100 year +20% CC 720 minute summer	27.980	7.499	100 year +40% CC +10% A 1440 minute summer	19.105	5.120
100 year +20% CC 720 minute winter	18.805	7.499	100 year +40% CC +10% A 1440 minute winter	12.840	5.120

Results for 2 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
120 minute winter	S1	100	8.396	0.080	0.6	0.0908	0.0000	OK
180 minute winter	S2	148	7.227	0.521	2.5	0.8729	0.0000	SURCHARGED
180 minute winter	S3	144	7.220	0.589	1.8	0.8736	0.0000	SURCHARGED
180 minute winter	S4	144	6.622	0.035	1.5	0.0401	0.0000	OK
180 minute winter	S5	148	6.509	0.304	2.5	0.6504	0.0000	SURCHARGED
15 minute winter	S6	33	6.202	0.020	2.0	0.0228	0.0000	OK
15 minute winter	OUTFALL	33	5.460	0.020	2.0	0.0000	0.0000	OK
120 minute winter	FC1	94	8.734	0.034	0.5	0.8361	0.0000	OK
180 minute winter	FC2	132	9.037	0.037	0.4	0.9027	0.0000	OK
360 minute winter	FC3	304	7.225	0.075	0.3	1.7935	0.0000	OK
360 minute winter	FC4	304	7.225	0.075	0.3	1.7954	0.0000	OK
180 minute winter	FC5	132	7.935	0.035	0.4	0.8407	0.0000	OK
240 minute winter	FC6	180	7.395	0.045	0.3	1.0893	0.0000	OK
180 minute winter	FC7	148	6.509	0.074	0.6	1.4260	0.0000	OK
180 minute winter	STORAGE 1	148	7.227	0.382	2.3	6.9665	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m^3)	Discharge Vol (m^3)
120 minute winter	S1	Orifice	S2	0.6				
180 minute winter	S2	Orifice	S3	1.2				
180 minute winter	S3	Orifice	S4	1.5				
180 minute winter	S4	1.004	S5	1.5	0.418	0.051	0.0641	
180 minute winter	S5	ACO Q-Brake	S6	2.0				
15 minute winter	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	11.4
120 minute winter	FC1	Orifice	S1	0.3				
180 minute winter	FC2	Orifice	S1	0.3				
360 minute winter	FC3	Orifice	S2	0.2				
360 minute winter	FC4	Orifice	S2	0.2				
180 minute winter	FC5	Orifice	S3	0.3				
240 minute winter	FC6	Orifice	S3	0.1				
180 minute winter	FC7	10.000	S5	0.5	0.334	0.085	0.0767	
180 minute winter	STORAGE 1	6.000	S2	-2.3	-0.549	-0.386	0.0111	

Results for 2 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute winter	STORAGE 2	272	7.211	0.011	0.3	0.4164	0.0000	OK
15 minute summer	STORAGE 3	1	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute winter	STORAGE 2	9.000	S3	-0.3	0.189	-0.044	0.0059	
15 minute summer	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0000	

Results for 30 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute winter	S1	120	8.524	0.208	1.1	0.2355	0.0000	SURCHARGED
180 minute winter	S2	184	7.477	0.771	4.8	1.2918	0.0000	SURCHARGED
180 minute winter	S3	188	7.470	0.839	5.7	1.2453	0.0000	SURCHARGED
360 minute winter	S4	360	6.900	0.313	1.6	0.3544	0.0000	SURCHARGED
360 minute winter	S5	360	6.900	0.695	2.9	1.4883	0.0000	SURCHARGED
240 minute winter	S6	104	6.202	0.020	2.0	0.0228	0.0000	OK
240 minute winter	OUTFALL	104	5.460	0.020	2.0	0.0000	0.0000	OK
60 minute winter	FC1	63	8.782	0.082	1.5	1.9795	0.0000	OK
60 minute winter	FC2	67	9.087	0.087	1.4	2.1054	0.0000	OK
480 minute winter	FC3	472	7.415	0.265	0.6	6.3619	0.0000	SURCHARGED
480 minute winter	FC4	472	7.415	0.265	0.6	6.3690	0.0000	SURCHARGED
60 minute winter	FC5	65	7.982	0.082	1.4	1.9833	0.0000	OK
180 minute winter	FC6	196	7.472	0.122	0.8	2.9285	0.0000	SURCHARGED
360 minute winter	FC7	360	6.900	0.465	1.6	8.9781	0.0000	SURCHARGED
180 minute winter	STORAGE 1	184	7.477	0.632	4.4	11.5262	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)
120 minute winter	S1	Orifice	S2	1.0				
180 minute winter	S2	Orifice	S3	2.6				
180 minute winter	S3	Orifice	S4	1.6				
360 minute winter	S4	1.004	S5	1.6	0.422	0.053	0.7003	
360 minute winter	S5	ACO Q-Brake	S6	2.0				
240 minute winter	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	43.0
60 minute winter	FC1	Orifice	S1	0.7				
60 minute winter	FC2	Orifice	S1	0.4				
480 minute winter	FC3	Orifice	S2	0.2				
480 minute winter	FC4	Orifice	S2	0.2				
60 minute winter	FC5	Orifice	S3	0.5				
180 minute winter	FC6	Orifice	S3	0.2				
360 minute winter	FC7	10.000	S5	-1.1	0.326	-0.179	0.0856	
180 minute winter	STORAGE 1	6.000	S2	-4.4	-0.567	-0.738	0.0111	

Results for 30 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute winter	STORAGE 2	188	7.470	0.270	4.0	9.9296	0.0000	SURCHARGED
120 minute winter	STORAGE 3	120	8.524	0.074	0.1	0.2249	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute winter	STORAGE 2	9.000	S3	-4.0	-0.606	-0.668	0.0244	
120 minute winter	STORAGE 3	3.000	S1	0.2	0.043	0.029	0.0617	

Results for 100 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute winter	S1	126	8.590	0.274	1.3	0.3100	0.0000	SURCHARGED
240 minute winter	S2	240	7.607	0.901	4.9	1.5097	0.0000	SURCHARGED
240 minute winter	S3	244	7.599	0.968	5.8	1.4368	0.0000	SURCHARGED
240 minute winter	S4	252	7.023	0.436	1.6	0.4935	0.0000	SURCHARGED
240 minute winter	S5	252	7.023	0.818	3.7	1.7517	0.0000	SURCHARGED
480 minute summer	S6	216	6.202	0.020	2.0	0.0228	0.0000	OK
480 minute summer	OUTFALL	216	5.460	0.020	2.0	0.0000	0.0000	OK
60 minute winter	FC1	64	8.808	0.108	1.9	2.6101	0.0000	SURCHARGED
60 minute winter	FC2	67	9.115	0.115	1.8	2.7675	0.0000	SURCHARGED
480 minute winter	FC3	488	7.515	0.365	0.7	8.7820	0.0000	SURCHARGED
480 minute winter	FC4	488	7.515	0.365	0.7	8.7903	0.0000	SURCHARGED
60 minute winter	FC5	66	8.008	0.108	1.8	2.6116	0.0000	SURCHARGED
360 minute winter	FC6	360	7.568	0.218	0.6	5.2391	0.0000	SURCHARGED
240 minute winter	FC7	252	7.023	0.588	2.4	11.3539	0.0000	SURCHARGED
240 minute winter	STORAGE 1	240	7.607	0.762	3.8	13.8976	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)
120 minute winter	S1	Orifice	S2	1.2				
240 minute winter	S2	Orifice	S3	2.5				
240 minute winter	S3	Orifice	S4	1.6				
240 minute winter	S4	1.004	S5	1.6	0.422	0.054	0.7003	
240 minute winter	S5	ACO Q-Brake	S6	2.0				
480 minute summer	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	64.1
60 minute winter	FC1	Orifice	S1	0.8				
60 minute winter	FC2	Orifice	S1	0.5				
480 minute winter	FC3	Orifice	S2	0.2				
480 minute winter	FC4	Orifice	S2	0.2				
60 minute winter	FC5	Orifice	S3	0.6				
360 minute winter	FC6	Orifice	S3	0.2				
240 minute winter	FC7	10.000	S5	-1.6	0.338	-0.270	0.0856	
240 minute winter	STORAGE 1	6.000	S2	-3.8	-0.486	-0.633	0.0111	

Results for 100 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute winter	STORAGE 2	244	7.599	0.399	4.1	14.6739	0.0000	SURCHARGED
120 minute winter	STORAGE 3	126	8.590	0.140	0.2	0.4246	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)
240 minute winter	STORAGE 2	9.000	S3	-4.1	-0.573	-0.684	0.0244	
120 minute winter	STORAGE 3	3.000	S1	-0.2	0.043	-0.036	0.0687	

Results for 100 year +20% CC Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute winter	S1	130	8.652	0.336	1.4	0.3804	0.0000	SURCHARGED
240 minute winter	S2	236	7.772	1.066	5.8	1.7862	0.0000	SURCHARGED
240 minute winter	S3	244	7.763	1.132	6.4	1.6796	0.0000	SURCHARGED
240 minute winter	S4	244	7.147	0.560	1.6	0.6335	0.0000	SURCHARGED
240 minute winter	S5	244	7.147	0.942	4.0	2.0165	0.0000	SURCHARGED
120 minute summer	S6	50	6.202	0.020	2.0	0.0228	0.0000	OK
120 minute summer	OUTFALL	50	5.460	0.020	2.0	0.0000	0.0000	OK
60 minute winter	FC1	65	8.833	0.133	2.3	3.2234	0.0000	SURCHARGED
60 minute winter	FC2	68	9.140	0.140	2.1	3.3740	0.0000	SURCHARGED
600 minute winter	FC3	585	7.622	0.472	0.8	11.3523	0.0000	SURCHARGED
600 minute winter	FC4	585	7.622	0.472	0.8	11.3638	0.0000	SURCHARGED
60 minute winter	FC5	66	8.032	0.132	2.1	3.1889	0.0000	SURCHARGED
360 minute winter	FC6	392	7.667	0.317	0.8	7.6275	0.0000	SURCHARGED
240 minute winter	FC7	244	7.147	0.712	3.0	13.7416	0.0000	SURCHARGED
240 minute winter	STORAGE 1	236	7.772	0.927	3.7	14.7374	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)
120 minute winter	S1	Orifice	S2	1.3				
240 minute winter	S2	Orifice	S3	3.0				
240 minute winter	S3	Orifice	S4	1.6				
240 minute winter	S4	1.004	S5	1.6	0.421	0.054	0.7003	
240 minute winter	S5	ACO Q-Brake	S6	2.0				
120 minute summer	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	35.5
60 minute winter	FC1	Orifice	S1	0.9				
60 minute winter	FC2	Orifice	S1	0.6				
600 minute winter	FC3	Orifice	S2	0.2				
600 minute winter	FC4	Orifice	S2	0.2				
60 minute winter	FC5	Orifice	S3	0.7				
360 minute winter	FC6	Orifice	S3	0.2				
240 minute winter	FC7	10.000	S5	-2.1	0.338	-0.355	0.0856	
240 minute winter	STORAGE 1	6.000	S2	-3.7	-0.471	-0.613	0.0111	

Results for 100 year +20% CC Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute winter	STORAGE 2	244	7.763	0.563	4.7	20.6878	0.0000	SURCHARGED
120 minute winter	STORAGE 3	130	8.652	0.202	0.3	0.6133	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)
240 minute winter	STORAGE 2	9.000	S3	-4.7	-0.598	-0.787	0.0244	
120 minute winter	STORAGE 3	3.000	S1	-0.3	0.045	-0.045	0.0687	

Results for 100 year +40% CC +10% A Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute winter	S1	74	8.848	0.532	3.0	0.6016	0.0000	SURCHARGED
60 minute winter	S2	59	8.367	1.661	13.2	2.8711	0.0000	FLOOD RISK
240 minute winter	S3	236	8.296	1.665	9.7	2.5284	0.0000	FLOOD RISK
240 minute winter	S4	232	7.641	1.054	1.7	1.1916	0.0000	FLOOD RISK
240 minute winter	S5	232	7.640	1.435	4.8	3.1262	0.0000	FLOOD RISK
240 minute winter	S6	232	6.204	0.022	2.4	0.0248	0.0000	OK
240 minute winter	OUTFALL	232	5.462	0.022	2.4	0.0000	0.0000	OK
60 minute winter	FC1	61	9.129	0.429	2.9	3.8167	0.0000	FLOOD RISK
60 minute winter	FC2	63	9.635	0.635	2.7	3.8564	0.0000	FLOOD RISK
600 minute winter	FC3	630	7.833	0.683	1.0	16.4260	0.0000	SURCHARGED
600 minute winter	FC4	630	7.833	0.683	1.0	16.4414	0.0000	SURCHARGED
60 minute winter	FC5	62	8.376	0.476	2.7	3.8273	0.0000	FLOOD RISK
480 minute winter	FC6	528	7.872	0.522	1.0	12.5742	0.0000	SURCHARGED
240 minute winter	FC7	232	7.641	1.206	3.9	15.5904	0.0000	FLOOD RISK
60 minute winter	STORAGE 1	59	8.367	1.522	10.9	15.4095	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)
60 minute winter	S1	Orifice	S2	1.6				
60 minute winter	S2	Orifice	S3	8.0				
240 minute winter	S3	Orifice	S4	1.7				
240 minute winter	S4	1.004	S5	1.8	0.423	0.060	0.7003	
240 minute winter	S5	ACO Q-Brake	S6	2.4				
240 minute winter	S6	1.006	OUTFALL	2.4	1.227	0.019	0.0250	54.0
60 minute winter	FC1	Orifice	S1	1.7				
60 minute winter	FC2	Orifice	S1	1.3				
600 minute winter	FC3	Orifice	S2	0.2				
600 minute winter	FC4	Orifice	S2	0.2				
60 minute winter	FC5	Orifice	S3	1.4				
480 minute winter	FC6	Orifice	S3	0.3				
240 minute winter	FC7	10.000	S5	-2.7	-0.343	-0.454	0.0856	
60 minute winter	STORAGE 1	6.000	S2	-10.9	-1.398	-1.820	0.0111	

Results for 100 year +40% CC +10% A Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
240 minute winter	STORAGE 2	236	8.296	1.096	7.5	29.7568	0.0000	FLOOD RISK
60 minute winter	STORAGE 3	74	8.848	0.398	1.3	1.2065	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m^3)	Discharge Vol (m^3)
240 minute winter	STORAGE 2	9.000	S3	-7.5	-0.964	-1.273	0.0244	
60 minute winter	STORAGE 3	3.000	S1	-1.3	-0.162	-0.214	0.0687	

Results for 2 year 15 minute summer. 255 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1	40	8.350	0.034	0.3	0.0383	0.0000	OK
15 minute summer	S2	40	6.979	0.273	2.1	0.4578	0.0000	SURCHARGED
15 minute summer	S3	38	6.976	0.345	1.6	0.5118	0.0000	SURCHARGED
15 minute summer	S4	39	6.618	0.031	1.2	0.0351	0.0000	OK
15 minute summer	S5	37	6.431	0.226	2.2	0.4837	0.0000	SURCHARGED
15 minute summer	S6	37	6.202	0.020	2.0	0.0227	0.0000	OK
15 minute summer	OUTFALL	37	5.460	0.020	2.0	0.0000	0.0000	OK
15 minute summer	FC1	37	8.722	0.022	0.4	0.5289	0.0000	OK
15 minute summer	FC2	38	9.022	0.022	0.4	0.5281	0.0000	OK
15 minute summer	FC3	40	7.174	0.024	0.4	0.5712	0.0000	OK
15 minute summer	FC4	40	7.174	0.024	0.4	0.5713	0.0000	OK
15 minute summer	FC5	38	7.921	0.021	0.4	0.5184	0.0000	OK
15 minute summer	FC6	39	7.370	0.020	0.3	0.4735	0.0000	OK
15 minute summer	FC7	35	6.449	0.014	0.3	0.2762	0.0000	OK
15 minute summer	STORAGE 1	40	6.979	0.134	2.5	2.4492	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S1	Orifice	S2	0.3				
15 minute summer	S2	Orifice	S3	0.9				
15 minute summer	S3	Orifice	S4	1.2				
15 minute summer	S4	1.004	S5	1.2	0.388	0.039	0.0524	
15 minute summer	S5	ACO Q-Brake	S6	2.0				
15 minute summer	S6	1.006	OUTFALL	2.0	1.164	0.016	0.0219	10.1
15 minute summer	FC1	Orifice	S1	0.2				
15 minute summer	FC2	Orifice	S1	0.1				
15 minute summer	FC3	Orifice	S2	0.1				
15 minute summer	FC4	Orifice	S2	0.1				
15 minute summer	FC5	Orifice	S3	0.1				
15 minute summer	FC6	Orifice	S3	0.1				
15 minute summer	FC7	10.000	S5	0.3	0.300	0.044	0.0465	
15 minute summer	STORAGE 1	6.000	S2	-2.5	-0.720	-0.422	0.0111	

Results for 2 year 15 minute summer. 255 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	STORAGE 2	1	7.200	0.000	0.0	0.0000	0.0000	OK
15 minute summer	STORAGE 3	1	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	STORAGE 2	9.000	S3	0.0	0.000	0.000	0.0000	
15 minute summer	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0000	

Results for 2 year 15 minute winter. 255 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S1	40	8.353	0.037	0.3	0.0424	0.0000	OK
15 minute winter	S2	40	7.007	0.301	2.5	0.5034	0.0000	SURCHARGED
15 minute winter	S3	38	7.003	0.372	1.7	0.5514	0.0000	SURCHARGED
15 minute winter	S4	39	6.619	0.032	1.2	0.0358	0.0000	OK
15 minute winter	S5	37	6.458	0.253	2.4	0.5415	0.0000	SURCHARGED
15 minute winter	S6	33	6.202	0.020	2.0	0.0228	0.0000	OK
15 minute winter	OUTFALL	33	5.460	0.020	2.0	0.0000	0.0000	OK
15 minute winter	FC1	38	8.723	0.023	0.4	0.5600	0.0000	OK
15 minute winter	FC2	38	9.024	0.024	0.4	0.5710	0.0000	OK
15 minute winter	FC3	40	7.176	0.026	0.4	0.6232	0.0000	OK
15 minute winter	FC4	40	7.176	0.026	0.4	0.6233	0.0000	OK
15 minute winter	FC5	38	7.923	0.023	0.4	0.5602	0.0000	OK
15 minute winter	FC6	40	7.375	0.025	0.4	0.5921	0.0000	OK
15 minute winter	FC7	37	6.458	0.023	0.5	0.4447	0.0000	OK
15 minute winter	STORAGE 1	40	7.007	0.162	2.9	2.9466	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	S1	Orifice	S2	0.3				
15 minute winter	S2	Orifice	S3	0.9				
15 minute winter	S3	Orifice	S4	1.2				
15 minute winter	S4	1.004	S5	1.2	0.392	0.040	0.0539	
15 minute winter	S5	ACO Q-Brake	S6	2.0				
15 minute winter	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	11.4
15 minute winter	FC1	Orifice	S1	0.2				
15 minute winter	FC2	Orifice	S1	0.2				
15 minute winter	FC3	Orifice	S2	0.1				
15 minute winter	FC4	Orifice	S2	0.1				
15 minute winter	FC5	Orifice	S3	0.2				
15 minute winter	FC6	Orifice	S3	0.1				
15 minute winter	FC7	10.000	S5	0.5	0.312	0.088	0.0503	
15 minute winter	STORAGE 1	6.000	S2	-2.9	-0.763	-0.489	0.0111	

Results for 2 year 15 minute winter. 255 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	STORAGE 2	1	7.200	0.000	0.0	0.0000	0.0000	OK
15 minute winter	STORAGE 3	1	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	STORAGE 2	9.000	S3	0.0	0.000	0.000	0.0000	
15 minute winter	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0000	

Results for 2 year 30 minute summer. 270 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute summer	S1	49	8.363	0.047	0.4	0.0533	0.0000	OK
30 minute summer	S2	52	7.041	0.335	2.7	0.5612	0.0000	SURCHARGED
30 minute summer	S3	49	7.036	0.405	1.7	0.6007	0.0000	SURCHARGED
30 minute summer	S4	50	6.619	0.032	1.3	0.0365	0.0000	OK
30 minute summer	S5	44	6.466	0.261	2.5	0.5578	0.0000	SURCHARGED
30 minute summer	S6	34	6.202	0.020	2.0	0.0228	0.0000	OK
30 minute summer	OUTFALL	34	5.460	0.020	2.0	0.0000	0.0000	OK
30 minute summer	FC1	46	8.727	0.027	0.5	0.6517	0.0000	OK
30 minute summer	FC2	46	9.026	0.026	0.5	0.6281	0.0000	OK
30 minute summer	FC3	52	7.179	0.029	0.5	0.6970	0.0000	OK
30 minute summer	FC4	52	7.179	0.029	0.5	0.6972	0.0000	OK
30 minute summer	FC5	46	7.925	0.025	0.5	0.6149	0.0000	OK
30 minute summer	FC6	51	7.376	0.026	0.4	0.6362	0.0000	OK
30 minute summer	FC7	45	6.466	0.031	0.7	0.5972	0.0000	OK
30 minute summer	STORAGE 1	52	7.041	0.196	3.0	3.5740	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute summer	S1	Orifice	S2	0.4				
30 minute summer	S2	Orifice	S3	1.0				
30 minute summer	S3	Orifice	S4	1.3				
30 minute summer	S4	1.004	S5	1.3	0.396	0.042	0.0558	
30 minute summer	S5	ACO Q-Brake	S6	2.0				
30 minute summer	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	13.4
30 minute summer	FC1	Orifice	S1	0.2				
30 minute summer	FC2	Orifice	S1	0.2				
30 minute summer	FC3	Orifice	S2	0.1				
30 minute summer	FC4	Orifice	S2	0.1				
30 minute summer	FC5	Orifice	S3	0.2				
30 minute summer	FC6	Orifice	S3	0.1				
30 minute summer	FC7	10.000	S5	0.6	0.302	0.103	0.0541	
30 minute summer	STORAGE 1	6.000	S2	-3.0	-0.770	-0.498	0.0111	

Results for 2 year 30 minute summer. 270 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute summer	STORAGE 2	1	7.200	0.000	0.0	0.0000	0.0000	OK
30 minute summer	STORAGE 3	1	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute summer	STORAGE 2	9.000	S3	0.0	0.000	0.000	0.0000	
30 minute summer	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0000	

Results for 2 year 30 minute winter. 270 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute winter	S1	49	8.371	0.055	0.5	0.0624	0.0000	OK
30 minute winter	S2	53	7.078	0.372	3.2	0.6227	0.0000	SURCHARGED
30 minute winter	S3	50	7.072	0.441	1.8	0.6544	0.0000	SURCHARGED
30 minute winter	S4	51	6.620	0.033	1.3	0.0373	0.0000	OK
30 minute winter	S5	46	6.478	0.273	2.7	0.5855	0.0000	SURCHARGED
30 minute winter	S6	32	6.202	0.020	2.0	0.0228	0.0000	OK
30 minute winter	OUTFALL	32	5.460	0.020	2.0	0.0000	0.0000	OK
30 minute winter	FC1	45	8.729	0.029	0.6	0.6992	0.0000	OK
30 minute winter	FC2	47	9.029	0.029	0.5	0.6916	0.0000	OK
30 minute winter	FC3	48	7.182	0.032	0.5	0.7801	0.0000	OK
30 minute winter	FC4	48	7.182	0.032	0.5	0.7803	0.0000	OK
30 minute winter	FC5	46	7.928	0.028	0.5	0.6760	0.0000	OK
30 minute winter	FC6	52	7.379	0.029	0.5	0.7075	0.0000	OK
30 minute winter	FC7	46	6.479	0.044	1.0	0.8452	0.0000	OK
30 minute winter	STORAGE 1	53	7.078	0.233	3.4	4.2449	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute winter	S1	Orifice	S2	0.4				
30 minute winter	S2	Orifice	S3	1.0				
30 minute winter	S3	Orifice	S4	1.3				
30 minute winter	S4	1.004	S5	1.3	0.400	0.044	0.0577	
30 minute winter	S5	ACO Q-Brake	S6	2.0				
30 minute winter	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	15.0
30 minute winter	FC1	Orifice	S1	0.3				
30 minute winter	FC2	Orifice	S1	0.2				
30 minute winter	FC3	Orifice	S2	0.1				
30 minute winter	FC4	Orifice	S2	0.1				
30 minute winter	FC5	Orifice	S3	0.2				
30 minute winter	FC6	Orifice	S3	0.1				
30 minute winter	FC7	10.000	S5	0.6	0.302	0.108	0.0608	
30 minute winter	STORAGE 1	6.000	S2	-3.4	-0.813	-0.566	0.0111	

Results for 2 year 30 minute winter. 270 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute winter	STORAGE 2	1	7.200	0.000	0.0	0.0000	0.0000	OK
30 minute winter	STORAGE 3	1	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute winter	STORAGE 2	9.000	S3	0.0	0.000	0.000	0.0000	
30 minute winter	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0007	

Results for 2 year 60 minute summer. 300 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute summer	S1	66	8.374	0.058	0.5	0.0661	0.0000	OK
60 minute summer	S2	76	7.094	0.388	2.9	0.6498	0.0000	SURCHARGED
60 minute summer	S3	76	7.088	0.457	1.7	0.6781	0.0000	SURCHARGED
60 minute summer	S4	76	6.620	0.033	1.3	0.0376	0.0000	OK
60 minute summer	S5	62	6.477	0.272	2.6	0.5826	0.0000	SURCHARGED
60 minute summer	S6	46	6.202	0.020	2.0	0.0228	0.0000	OK
60 minute summer	OUTFALL	83	5.460	0.020	2.0	0.0000	0.0000	OK
60 minute summer	FC1	61	8.729	0.029	0.5	0.7137	0.0000	OK
60 minute summer	FC2	62	9.030	0.030	0.5	0.7295	0.0000	OK
60 minute summer	FC3	66	7.185	0.035	0.5	0.8496	0.0000	OK
60 minute summer	FC4	66	7.185	0.035	0.5	0.8498	0.0000	OK
60 minute summer	FC5	62	7.929	0.029	0.5	0.7094	0.0000	OK
60 minute summer	FC6	75	7.380	0.030	0.4	0.7268	0.0000	OK
60 minute summer	FC7	63	6.477	0.042	0.9	0.8095	0.0000	OK
60 minute summer	STORAGE 1	76	7.094	0.249	3.0	4.5394	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute summer	S1	Orifice	S2	0.5				
60 minute summer	S2	Orifice	S3	1.0				
60 minute summer	S3	Orifice	S4	1.3				
60 minute summer	S4	1.004	S5	1.3	0.402	0.045	0.0585	
60 minute summer	S5	ACO Q-Brake	S6	2.0				
60 minute summer	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	17.0
60 minute summer	FC1	Orifice	S1	0.3				
60 minute summer	FC2	Orifice	S1	0.2				
60 minute summer	FC3	Orifice	S2	0.1				
60 minute summer	FC4	Orifice	S2	0.1				
60 minute summer	FC5	Orifice	S3	0.2				
60 minute summer	FC6	Orifice	S3	0.1				
60 minute summer	FC7	10.000	S5	0.5	0.294	0.089	0.0598	
60 minute summer	STORAGE 1	6.000	S2	-3.0	-0.770	-0.498	0.0111	

Results for 2 year 60 minute summer. 300 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute summer	STORAGE 2	1	7.200	0.000	0.0	0.0000	0.0000	OK
60 minute summer	STORAGE 3	1	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute summer	STORAGE 2	9.000	S3	0.0	0.000	0.000	0.0000	
60 minute summer	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0014	

Results for 2 year 60 minute winter. 300 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute winter	S1	67	8.383	0.067	0.5	0.0758	0.0000	OK
60 minute winter	S2	77	7.138	0.432	3.3	0.7233	0.0000	SURCHARGED
60 minute winter	S3	77	7.131	0.500	1.8	0.7422	0.0000	SURCHARGED
60 minute winter	S4	77	6.621	0.034	1.4	0.0385	0.0000	OK
60 minute winter	S5	66	6.494	0.289	2.7	0.6180	0.0000	SURCHARGED
60 minute winter	S6	97	6.202	0.020	2.0	0.0228	0.0000	OK
60 minute winter	OUTFALL	97	5.460	0.020	2.0	0.0000	0.0000	OK
60 minute winter	FC1	61	8.732	0.032	0.6	0.7762	0.0000	OK
60 minute winter	FC2	63	9.032	0.032	0.5	0.7732	0.0000	OK
60 minute winter	FC3	68	7.188	0.038	0.5	0.9145	0.0000	OK
60 minute winter	FC4	68	7.188	0.038	0.5	0.9147	0.0000	OK
60 minute winter	FC5	63	7.931	0.031	0.5	0.7471	0.0000	OK
60 minute winter	FC6	67	7.384	0.034	0.5	0.8284	0.0000	OK
60 minute winter	FC7	66	6.494	0.059	0.9	1.1319	0.0000	OK
60 minute winter	STORAGE 1	77	7.138	0.293	3.0	5.3385	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute winter	S1	Orifice	S2	0.5				
60 minute winter	S2	Orifice	S3	1.1				
60 minute winter	S3	Orifice	S4	1.4				
60 minute winter	S4	1.004	S5	1.4	0.407	0.047	0.0605	
60 minute winter	S5	ACO Q-Brake	S6	2.0				
60 minute winter	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	19.0
60 minute winter	FC1	Orifice	S1	0.3				
60 minute winter	FC2	Orifice	S1	0.2				
60 minute winter	FC3	Orifice	S2	0.1				
60 minute winter	FC4	Orifice	S2	0.1				
60 minute winter	FC5	Orifice	S3	0.2				
60 minute winter	FC6	Orifice	S3	0.1				
60 minute winter	FC7	10.000	S5	0.6	0.289	0.096	0.0689	
60 minute winter	STORAGE 1	6.000	S2	-3.0	-0.746	-0.500	0.0111	

Results for 2 year 60 minute winter. 300 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute winter	STORAGE 2	1	7.200	0.000	0.0	0.0000	0.0000	OK
60 minute winter	STORAGE 3	1	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute winter	STORAGE 2	9.000	S3	0.0	0.000	0.000	0.0000	
60 minute winter	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0039	

Results for 2 year 120 minute summer. 360 minute analysis at 2 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute summer	S1	98	8.387	0.071	0.5	0.0804	0.0000	OK
120 minute summer	S2	122	7.173	0.467	3.1	0.7827	0.0000	SURCHARGED
120 minute summer	S3	118	7.166	0.535	1.8	0.7944	0.0000	SURCHARGED
120 minute summer	S4	120	6.622	0.035	1.4	0.0391	0.0000	OK
120 minute summer	S5	98	6.493	0.288	2.6	0.6156	0.0000	SURCHARGED
120 minute summer	S6	74	6.202	0.020	2.0	0.0228	0.0000	OK
120 minute summer	OUTFALL	74	5.460	0.020	2.0	0.0000	0.0000	OK
120 minute summer	FC1	92	8.732	0.032	0.5	0.7874	0.0000	OK
120 minute summer	FC2	94	9.034	0.034	0.5	0.8221	0.0000	OK
120 minute summer	FC3	102	7.192	0.042	0.5	1.0124	0.0000	OK
120 minute summer	FC4	102	7.192	0.042	0.5	1.0127	0.0000	OK
120 minute summer	FC5	92	7.932	0.032	0.5	0.7864	0.0000	OK
120 minute summer	FC6	100	7.387	0.037	0.4	0.8838	0.0000	OK
120 minute summer	FC7	98	6.493	0.058	0.8	1.1135	0.0000	OK
120 minute summer	STORAGE 1	122	7.173	0.328	2.8	5.9845	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute summer	S1	Orifice	S2	0.5				
120 minute summer	S2	Orifice	S3	1.1				
120 minute summer	S3	Orifice	S4	1.4				
120 minute summer	S4	1.004	S5	1.4	0.411	0.048	0.0619	
120 minute summer	S5	ACO Q-Brake	S6	2.0				
120 minute summer	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	23.5
120 minute summer	FC1	Orifice	S1	0.3				
120 minute summer	FC2	Orifice	S1	0.2				
120 minute summer	FC3	Orifice	S2	0.1				
120 minute summer	FC4	Orifice	S2	0.1				
120 minute summer	FC5	Orifice	S3	0.3				
120 minute summer	FC6	Orifice	S3	0.1				
120 minute summer	FC7	10.000	S5	0.5	0.312	0.087	0.0684	
120 minute summer	STORAGE 1	6.000	S2	-2.8	-0.660	-0.472	0.0111	

Results for 2 year 120 minute summer. 360 minute analysis at 2 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute summer	STORAGE 2	2	7.200	0.000	0.0	0.0000	0.0000	OK
120 minute summer	STORAGE 3	2	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute summer	STORAGE 2	9.000	S3	0.0	0.000	0.000	0.0000	
120 minute summer	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0053	

Results for 2 year 120 minute winter. 360 minute analysis at 2 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute winter	S1	100	8.396	0.080	0.6	0.0908	0.0000	OK
120 minute winter	S2	116	7.211	0.505	3.0	0.8464	0.0000	SURCHARGED
120 minute winter	S3	114	7.205	0.574	1.7	0.8525	0.0000	SURCHARGED
120 minute winter	S4	114	6.622	0.035	1.5	0.0398	0.0000	OK
120 minute winter	S5	108	6.509	0.304	2.5	0.6500	0.0000	SURCHARGED
120 minute winter	S6	72	6.202	0.020	2.0	0.0228	0.0000	OK
120 minute winter	OUTFALL	72	5.460	0.020	2.0	0.0000	0.0000	OK
120 minute winter	FC1	94	8.734	0.034	0.5	0.8361	0.0000	OK
120 minute winter	FC2	98	9.037	0.037	0.5	0.8844	0.0000	OK
120 minute winter	FC3	132	7.208	0.058	0.5	1.3973	0.0000	OK
120 minute winter	FC4	132	7.208	0.058	0.5	1.3983	0.0000	OK
120 minute winter	FC5	96	7.935	0.035	0.5	0.8368	0.0000	OK
120 minute winter	FC6	106	7.391	0.041	0.4	0.9846	0.0000	OK
120 minute winter	FC7	108	6.509	0.074	0.8	1.4214	0.0000	OK
120 minute winter	STORAGE 1	116	7.211	0.366	2.8	6.6789	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute winter	S1	Orifice	S2	0.6				
120 minute winter	S2	Orifice	S3	1.2				
120 minute winter	S3	Orifice	S4	1.5				
120 minute winter	S4	1.004	S5	1.5	0.416	0.050	0.0635	
120 minute winter	S5	ACO Q-Brake	S6	2.0				
120 minute winter	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	26.1
120 minute winter	FC1	Orifice	S1	0.3				
120 minute winter	FC2	Orifice	S1	0.2				
120 minute winter	FC3	Orifice	S2	0.1				
120 minute winter	FC4	Orifice	S2	0.1				
120 minute winter	FC5	Orifice	S3	0.3				
120 minute winter	FC6	Orifice	S3	0.1				
120 minute winter	FC7	10.000	S5	0.5	0.323	0.089	0.0766	
120 minute winter	STORAGE 1	6.000	S2	-2.8	-0.592	-0.464	0.0111	

Results for 2 year 120 minute winter. 360 minute analysis at 2 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute winter	STORAGE 2	124	7.201	0.001	0.1	0.0544	0.0000	OK
120 minute winter	STORAGE 3	2	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute winter	STORAGE 2	9.000	S3	-0.1	-0.092	-0.014	0.0039	
120 minute winter	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0088	

Results for 2 year 180 minute summer. 420 minute analysis at 4 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute summer	S1	132	8.389	0.073	0.5	0.0830	0.0000	OK
180 minute summer	S2	152	7.195	0.489	2.8	0.8183	0.0000	SURCHARGED
180 minute summer	S3	152	7.188	0.557	1.6	0.8268	0.0000	SURCHARGED
180 minute summer	S4	152	6.622	0.035	1.5	0.0395	0.0000	OK
180 minute summer	S5	136	6.496	0.291	2.4	0.6234	0.0000	SURCHARGED
180 minute summer	S6	104	6.202	0.020	2.0	0.0228	0.0000	OK
180 minute summer	OUTFALL	192	5.460	0.020	2.0	0.0000	0.0000	OK
180 minute summer	FC1	124	8.733	0.033	0.5	0.8103	0.0000	OK
180 minute summer	FC2	128	9.033	0.033	0.4	0.8027	0.0000	OK
180 minute summer	FC3	180	7.199	0.049	0.4	1.1835	0.0000	OK
180 minute summer	FC4	180	7.199	0.049	0.4	1.1844	0.0000	OK
180 minute summer	FC5	124	7.931	0.031	0.4	0.7604	0.0000	OK
180 minute summer	FC6	136	7.392	0.042	0.4	1.0144	0.0000	OK
180 minute summer	FC7	136	6.496	0.061	0.6	1.1826	0.0000	OK
180 minute summer	STORAGE 1	152	7.195	0.350	2.5	6.3725	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute summer	S1	Orifice	S2	0.5				
180 minute summer	S2	Orifice	S3	1.2				
180 minute summer	S3	Orifice	S4	1.5				
180 minute summer	S4	1.004	S5	1.5	0.414	0.049	0.0628	
180 minute summer	S5	ACO Q-Brake	S6	2.0				
180 minute summer	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	28.2
180 minute summer	FC1	Orifice	S1	0.3				
180 minute summer	FC2	Orifice	S1	0.2				
180 minute summer	FC3	Orifice	S2	0.1				
180 minute summer	FC4	Orifice	S2	0.1				
180 minute summer	FC5	Orifice	S3	0.3				
180 minute summer	FC6	Orifice	S3	0.1				
180 minute summer	FC7	10.000	S5	0.4	0.326	0.070	0.0703	
180 minute summer	STORAGE 1	6.000	S2	-2.5	-0.573	-0.420	0.0111	

Results for 2 year 180 minute summer. 420 minute analysis at 4 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute summer	STORAGE 2	4	7.200	0.000	0.0	0.0000	0.0000	OK
180 minute summer	STORAGE 3	4	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute summer	STORAGE 2	9.000	S3	0.0	0.000	0.000	0.0015	
180 minute summer	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0061	

Results for 2 year 180 minute winter. 420 minute analysis at 4 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute winter	S1	136	8.391	0.075	0.6	0.0849	0.0000	OK
180 minute winter	S2	148	7.227	0.521	2.5	0.8729	0.0000	SURCHARGED
180 minute winter	S3	144	7.220	0.589	1.8	0.8736	0.0000	SURCHARGED
180 minute winter	S4	144	6.622	0.035	1.5	0.0401	0.0000	OK
180 minute winter	S5	148	6.509	0.304	2.5	0.6504	0.0000	SURCHARGED
180 minute winter	S6	104	6.202	0.020	2.0	0.0228	0.0000	OK
180 minute winter	OUTFALL	104	5.460	0.020	2.0	0.0000	0.0000	OK
180 minute winter	FC1	124	8.732	0.032	0.4	0.7791	0.0000	OK
180 minute winter	FC2	132	9.037	0.037	0.4	0.9027	0.0000	OK
180 minute winter	FC3	184	7.221	0.071	0.4	1.7058	0.0000	OK
180 minute winter	FC4	184	7.221	0.071	0.4	1.7074	0.0000	OK
180 minute winter	FC5	132	7.935	0.035	0.4	0.8407	0.0000	OK
180 minute winter	FC6	144	7.395	0.045	0.4	1.0786	0.0000	OK
180 minute winter	FC7	148	6.509	0.074	0.6	1.4260	0.0000	OK
180 minute winter	STORAGE 1	148	7.227	0.382	2.3	6.9665	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute winter	S1	Orifice	S2	0.6				
180 minute winter	S2	Orifice	S3	1.2				
180 minute winter	S3	Orifice	S4	1.5				
180 minute winter	S4	1.004	S5	1.5	0.418	0.051	0.0641	
180 minute winter	S5	ACO Q-Brake	S6	2.0				
180 minute winter	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	31.3
180 minute winter	FC1	Orifice	S1	0.3				
180 minute winter	FC2	Orifice	S1	0.3				
180 minute winter	FC3	Orifice	S2	0.2				
180 minute winter	FC4	Orifice	S2	0.2				
180 minute winter	FC5	Orifice	S3	0.3				
180 minute winter	FC6	Orifice	S3	0.1				
180 minute winter	FC7	10.000	S5	0.5	0.334	0.085	0.0767	
180 minute winter	STORAGE 1	6.000	S2	-2.3	-0.549	-0.386	0.0111	

Results for 2 year 180 minute winter. 420 minute analysis at 4 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute winter	STORAGE 2	168	7.210	0.010	0.3	0.3799	0.0000	OK
180 minute winter	STORAGE 3	4	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute winter	STORAGE 2	9.000	S3	-0.3	0.217	-0.048	0.0062	
180 minute winter	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0067	

Results for 2 year 240 minute summer. 480 minute analysis at 4 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
240 minute summer	S1	160	8.387	0.071	0.5	0.0800	0.0000	OK
240 minute summer	S2	184	7.202	0.496	2.6	0.8311	0.0000	SURCHARGED
240 minute summer	S3	184	7.196	0.565	1.6	0.8382	0.0000	SURCHARGED
240 minute summer	S4	184	6.622	0.035	1.5	0.0396	0.0000	OK
240 minute summer	S5	168	6.490	0.285	2.4	0.6107	0.0000	SURCHARGED
240 minute summer	S6	136	6.202	0.020	2.0	0.0228	0.0000	OK
240 minute summer	OUTFALL	136	5.460	0.020	2.0	0.0000	0.0000	OK
240 minute summer	FC1	156	8.731	0.031	0.4	0.7626	0.0000	OK
240 minute summer	FC2	160	9.035	0.035	0.4	0.8579	0.0000	OK
240 minute summer	FC3	220	7.206	0.056	0.4	1.3441	0.0000	OK
240 minute summer	FC4	220	7.206	0.056	0.4	1.3457	0.0000	OK
240 minute summer	FC5	156	7.933	0.033	0.4	0.8066	0.0000	OK
240 minute summer	FC6	168	7.390	0.040	0.4	0.9665	0.0000	OK
240 minute summer	FC7	168	6.490	0.055	0.6	1.0675	0.0000	OK
240 minute summer	STORAGE 1	184	7.202	0.357	2.4	6.5115	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m^3)	Discharge Vol (m^3)
240 minute summer	S1	Orifice	S2	0.5				
240 minute summer	S2	Orifice	S3	1.2				
240 minute summer	S3	Orifice	S4	1.5				
240 minute summer	S4	1.004	S5	1.5	0.415	0.050	0.0632	
240 minute summer	S5	ACO Q-Brake	S6	2.0				
240 minute summer	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	31.4
240 minute summer	FC1	Orifice	S1	0.3				
240 minute summer	FC2	Orifice	S1	0.2				
240 minute summer	FC3	Orifice	S2	0.1				
240 minute summer	FC4	Orifice	S2	0.1				
240 minute summer	FC5	Orifice	S3	0.3				
240 minute summer	FC6	Orifice	S3	0.1				
240 minute summer	FC7	10.000	S5	0.4	0.318	0.067	0.0671	
240 minute summer	STORAGE 1	6.000	S2	-2.4	0.397	-0.394	0.0111	

Results for 2 year 240 minute summer. 480 minute analysis at 4 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute summer	STORAGE 2	4	7.200	0.000	0.0	0.0000	0.0000	OK
240 minute summer	STORAGE 3	4	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute summer	STORAGE 2	9.000	S3	0.0	0.000	0.000	0.0025	
240 minute summer	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0051	

Results for 2 year 240 minute winter. 480 minute analysis at 4 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute winter	S1	164	8.388	0.072	0.5	0.0811	0.0000	OK
240 minute winter	S2	184	7.226	0.520	2.3	0.8707	0.0000	SURCHARGED
240 minute winter	S3	180	7.218	0.587	1.8	0.8718	0.0000	SURCHARGED
240 minute winter	S4	180	6.622	0.035	1.5	0.0400	0.0000	OK
240 minute winter	S5	180	6.498	0.293	2.2	0.6266	0.0000	SURCHARGED
240 minute winter	S6	136	6.202	0.020	2.0	0.0228	0.0000	OK
240 minute winter	OUTFALL	136	5.460	0.020	2.0	0.0000	0.0000	OK
240 minute winter	FC1	152	8.732	0.032	0.4	0.7877	0.0000	OK
240 minute winter	FC2	164	9.034	0.034	0.4	0.8150	0.0000	OK
240 minute winter	FC3	236	7.221	0.071	0.4	1.6994	0.0000	OK
240 minute winter	FC4	236	7.221	0.071	0.4	1.7011	0.0000	OK
240 minute winter	FC5	160	7.931	0.031	0.4	0.7602	0.0000	OK
240 minute winter	FC6	180	7.395	0.045	0.3	1.0893	0.0000	OK
240 minute winter	FC7	180	6.498	0.063	0.5	1.2101	0.0000	OK
240 minute winter	STORAGE 1	184	7.226	0.381	2.0	6.9434	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute winter	S1	Orifice	S2	0.5				
240 minute winter	S2	Orifice	S3	1.2				
240 minute winter	S3	Orifice	S4	1.5				
240 minute winter	S4	1.004	S5	1.5	0.418	0.051	0.0641	
240 minute winter	S5	ACO Q-Brake	S6	2.0				
240 minute winter	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	34.9
240 minute winter	FC1	Orifice	S1	0.3				
240 minute winter	FC2	Orifice	S1	0.2				
240 minute winter	FC3	Orifice	S2	0.2				
240 minute winter	FC4	Orifice	S2	0.2				
240 minute winter	FC5	Orifice	S3	0.3				
240 minute winter	FC6	Orifice	S3	0.1				
240 minute winter	FC7	10.000	S5	0.4	0.329	0.067	0.0711	
240 minute winter	STORAGE 1	6.000	S2	-2.0	0.370	-0.333	0.0111	

Results for 2 year 240 minute winter. 480 minute analysis at 4 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute winter	STORAGE 2	200	7.210	0.010	0.3	0.3767	0.0000	OK
240 minute winter	STORAGE 3	4	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute winter	STORAGE 2	9.000	S3	-0.3	0.196	-0.045	0.0060	
240 minute winter	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0055	

Results for 2 year 360 minute summer. 600 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute summer	S1	224	8.379	0.063	0.5	0.0715	0.0000	OK
360 minute summer	S2	256	7.197	0.491	2.1	0.8229	0.0000	SURCHARGED
360 minute summer	S3	248	7.191	0.560	1.5	0.8305	0.0000	SURCHARGED
360 minute summer	S4	256	6.622	0.035	1.5	0.0396	0.0000	OK
360 minute summer	S5	232	6.472	0.267	2.2	0.5723	0.0000	SURCHARGED
360 minute summer	S6	272	6.202	0.020	2.0	0.0228	0.0000	OK
360 minute summer	OUTFALL	272	5.460	0.020	2.0	0.0000	0.0000	OK
360 minute summer	FC1	216	8.730	0.030	0.4	0.7305	0.0000	OK
360 minute summer	FC2	224	9.032	0.032	0.3	0.7702	0.0000	OK
360 minute summer	FC3	288	7.202	0.052	0.3	1.2378	0.0000	OK
360 minute summer	FC4	288	7.201	0.051	0.3	1.2390	0.0000	OK
360 minute summer	FC5	224	7.930	0.030	0.3	0.7256	0.0000	OK
360 minute summer	FC6	240	7.391	0.041	0.3	0.9824	0.0000	OK
360 minute summer	FC7	232	6.472	0.037	0.3	0.7207	0.0000	OK
360 minute summer	STORAGE 1	256	7.197	0.352	1.8	6.4223	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute summer	S1	Orifice	S2	0.5				
360 minute summer	S2	Orifice	S3	1.1				
360 minute summer	S3	Orifice	S4	1.5				
360 minute summer	S4	1.004	S5	1.5	0.414	0.050	0.0630	
360 minute summer	S5	ACO Q-Brake	S6	2.0				
360 minute summer	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	34.5
360 minute summer	FC1	Orifice	S1	0.3				
360 minute summer	FC2	Orifice	S1	0.2				
360 minute summer	FC3	Orifice	S2	0.1				
360 minute summer	FC4	Orifice	S2	0.1				
360 minute summer	FC5	Orifice	S3	0.2				
360 minute summer	FC6	Orifice	S3	0.1				
360 minute summer	FC7	10.000	S5	0.3	0.336	0.052	0.0574	
360 minute summer	STORAGE 1	6.000	S2	-1.8	0.381	-0.306	0.0111	

Results for 2 year 360 minute summer. 600 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute summer	STORAGE 2	8	7.200	0.000	0.0	0.0000	0.0000	OK
360 minute summer	STORAGE 3	8	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute summer	STORAGE 2	9.000	S3	0.0	0.000	0.000	0.0018	
360 minute summer	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0027	

Results for 2 year 360 minute winter. 600 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute winter	S1	232	8.381	0.065	0.5	0.0736	0.0000	OK
360 minute winter	S2	248	7.225	0.519	2.0	0.8692	0.0000	SURCHARGED
360 minute winter	S3	248	7.218	0.587	1.8	0.8705	0.0000	SURCHARGED
360 minute winter	S4	248	6.622	0.035	1.5	0.0400	0.0000	OK
360 minute winter	S5	248	6.480	0.275	2.2	0.5879	0.0000	SURCHARGED
360 minute winter	S6	304	6.202	0.020	2.0	0.0228	0.0000	OK
360 minute winter	OUTFALL	304	5.460	0.020	2.0	0.0000	0.0000	OK
360 minute winter	FC1	224	8.730	0.030	0.3	0.7269	0.0000	OK
360 minute winter	FC2	224	9.034	0.034	0.3	0.8163	0.0000	OK
360 minute winter	FC3	304	7.225	0.075	0.3	1.7935	0.0000	OK
360 minute winter	FC4	304	7.225	0.075	0.3	1.7954	0.0000	OK
360 minute winter	FC5	216	7.931	0.031	0.3	0.7554	0.0000	OK
360 minute winter	FC6	248	7.392	0.042	0.3	1.0188	0.0000	OK
360 minute winter	FC7	248	6.480	0.045	0.3	0.8645	0.0000	OK
360 minute winter	STORAGE 1	248	7.225	0.380	1.5	6.9261	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute winter	S1	Orifice	S2	0.5				
360 minute winter	S2	Orifice	S3	1.2				
360 minute winter	S3	Orifice	S4	1.5				
360 minute winter	S4	1.004	S5	1.5	0.417	0.051	0.0640	
360 minute winter	S5	ACO Q-Brake	S6	2.0				
360 minute winter	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	40.6
360 minute winter	FC1	Orifice	S1	0.3				
360 minute winter	FC2	Orifice	S1	0.2				
360 minute winter	FC3	Orifice	S2	0.2				
360 minute winter	FC4	Orifice	S2	0.2				
360 minute winter	FC5	Orifice	S3	0.3				
360 minute winter	FC6	Orifice	S3	0.1				
360 minute winter	FC7	10.000	S5	0.4	0.325	0.064	0.0614	
360 minute winter	STORAGE 1	6.000	S2	-1.5	0.365	-0.254	0.0111	

Results for 2 year 360 minute winter. 600 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute winter	STORAGE 2	272	7.211	0.011	0.3	0.4164	0.0000	OK
360 minute winter	STORAGE 3	8	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute winter	STORAGE 2	9.000	S3	-0.3	0.189	-0.044	0.0059	
360 minute winter	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0032	

Results for 2 year 480 minute summer. 720 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute summer	S1	280	8.373	0.057	0.5	0.0644	0.0000	OK
480 minute summer	S2	320	7.192	0.486	1.9	0.8140	0.0000	SURCHARGED
480 minute summer	S3	320	7.185	0.554	1.5	0.8226	0.0000	SURCHARGED
480 minute summer	S4	320	6.622	0.035	1.5	0.0395	0.0000	OK
480 minute summer	S5	296	6.459	0.254	2.2	0.5448	0.0000	SURCHARGED
480 minute summer	S6	312	6.202	0.020	2.0	0.0228	0.0000	OK
480 minute summer	OUTFALL	312	5.460	0.020	2.0	0.0000	0.0000	OK
480 minute summer	FC1	280	8.728	0.028	0.3	0.6682	0.0000	OK
480 minute summer	FC2	280	9.031	0.031	0.3	0.7582	0.0000	OK
480 minute summer	FC3	344	7.200	0.050	0.3	1.1983	0.0000	OK
480 minute summer	FC4	344	7.200	0.050	0.3	1.1993	0.0000	OK
480 minute summer	FC5	280	7.930	0.030	0.3	0.7164	0.0000	OK
480 minute summer	FC6	296	7.389	0.039	0.3	0.9380	0.0000	OK
480 minute summer	FC7	296	6.460	0.025	0.3	0.4749	0.0000	OK
480 minute summer	STORAGE 1	320	7.192	0.347	1.6	6.3262	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute summer	S1	Orifice	S2	0.5				
480 minute summer	S2	Orifice	S3	1.1				
480 minute summer	S3	Orifice	S4	1.5				
480 minute summer	S4	1.004	S5	1.5	0.414	0.049	0.0627	
480 minute summer	S5	ACO Q-Brake	S6	2.0				
480 minute summer	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	37.5
480 minute summer	FC1	Orifice	S1	0.2				
480 minute summer	FC2	Orifice	S1	0.2				
480 minute summer	FC3	Orifice	S2	0.1				
480 minute summer	FC4	Orifice	S2	0.1				
480 minute summer	FC5	Orifice	S3	0.2				
480 minute summer	FC6	Orifice	S3	0.1				
480 minute summer	FC7	10.000	S5	0.3	0.325	0.051	0.0510	
480 minute summer	STORAGE 1	6.000	S2	-1.6	0.367	-0.265	0.0111	

Results for 2 year 480 minute summer. 720 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute summer	STORAGE 2	8	7.200	0.000	0.0	0.0000	0.0000	OK
480 minute summer	STORAGE 3	8	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute summer	STORAGE 2	9.000	S3	0.0	0.000	0.000	0.0012	
480 minute summer	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0010	

Results for 2 year 480 minute winter. 720 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
480 minute winter	S1	272	8.364	0.048	0.4	0.0547	0.0000	OK
480 minute winter	S2	328	7.205	0.499	1.7	0.8363	0.0000	SURCHARGED
480 minute winter	S3	328	7.200	0.569	1.5	0.8439	0.0000	SURCHARGED
480 minute winter	S4	328	6.622	0.035	1.5	0.0397	0.0000	OK
480 minute winter	S5	312	6.454	0.249	2.1	0.5340	0.0000	SURCHARGED
480 minute winter	S6	312	6.202	0.020	2.0	0.0228	0.0000	OK
480 minute winter	OUTFALL	312	5.460	0.020	2.0	0.0000	0.0000	OK
480 minute winter	FC1	272	8.727	0.027	0.3	0.6514	0.0000	OK
480 minute winter	FC2	312	9.028	0.028	0.2	0.6697	0.0000	OK
480 minute winter	FC3	368	7.209	0.059	0.2	1.4091	0.0000	OK
480 minute winter	FC4	368	7.209	0.059	0.2	1.4107	0.0000	OK
480 minute winter	FC5	312	7.926	0.026	0.2	0.6321	0.0000	OK
480 minute winter	FC6	312	7.391	0.041	0.2	0.9967	0.0000	OK
480 minute winter	FC7	312	6.454	0.019	0.2	0.3755	0.0000	OK
480 minute winter	STORAGE 1	328	7.205	0.360	1.2	6.5685	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m^3)	Discharge Vol (m^3)
480 minute winter	S1	Orifice	S2	0.4				
480 minute winter	S2	Orifice	S3	1.1				
480 minute winter	S3	Orifice	S4	1.5				
480 minute winter	S4	1.004	S5	1.5	0.415	0.050	0.0633	
480 minute winter	S5	ACO Q-Brake	S6	2.0				
480 minute winter	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	42.1
480 minute winter	FC1	Orifice	S1	0.2				
480 minute winter	FC2	Orifice	S1	0.2				
480 minute winter	FC3	Orifice	S2	0.1				
480 minute winter	FC4	Orifice	S2	0.1				
480 minute winter	FC5	Orifice	S3	0.2				
480 minute winter	FC6	Orifice	S3	0.1				
480 minute winter	FC7	10.000	S5	0.2	0.338	0.034	0.0487	
480 minute winter	STORAGE 1	6.000	S2	-1.2	0.337	-0.196	0.0111	

Results for 2 year 480 minute winter. 720 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute winter	STORAGE 2	8	7.200	0.000	0.0	0.0000	0.0000	OK
480 minute winter	STORAGE 3	8	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute winter	STORAGE 2	9.000	S3	0.0	0.000	0.000	0.0030	
480 minute winter	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0000	

Results for 2 year 600 minute summer. 840 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute summer	S1	345	8.369	0.053	0.4	0.0604	0.0000	OK
600 minute summer	S2	390	7.170	0.464	1.7	0.7775	0.0000	SURCHARGED
600 minute summer	S3	390	7.163	0.532	1.5	0.7900	0.0000	SURCHARGED
600 minute summer	S4	390	6.622	0.035	1.4	0.0391	0.0000	OK
600 minute summer	S5	360	6.447	0.242	2.1	0.5178	0.0000	SURCHARGED
600 minute summer	S6	360	6.202	0.020	2.0	0.0228	0.0000	OK
600 minute summer	OUTFALL	360	5.460	0.020	2.0	0.0000	0.0000	OK
600 minute summer	FC1	330	8.728	0.028	0.3	0.6787	0.0000	OK
600 minute summer	FC2	345	9.027	0.027	0.3	0.6613	0.0000	OK
600 minute summer	FC3	405	7.189	0.039	0.3	0.9278	0.0000	OK
600 minute summer	FC4	405	7.189	0.039	0.3	0.9285	0.0000	OK
600 minute summer	FC5	345	7.926	0.026	0.3	0.6299	0.0000	OK
600 minute summer	FC6	360	7.386	0.036	0.2	0.8575	0.0000	OK
600 minute summer	FC7	345	6.448	0.013	0.2	0.2435	0.0000	OK
600 minute summer	STORAGE 1	390	7.170	0.325	1.4	5.9289	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute summer	S1	Orifice	S2	0.4				
600 minute summer	S2	Orifice	S3	1.1				
600 minute summer	S3	Orifice	S4	1.4				
600 minute summer	S4	1.004	S5	1.4	0.411	0.048	0.0618	
600 minute summer	S5	ACO Q-Brake	S6	2.0				
600 minute summer	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	39.5
600 minute summer	FC1	Orifice	S1	0.2				
600 minute summer	FC2	Orifice	S1	0.2				
600 minute summer	FC3	Orifice	S2	0.1				
600 minute summer	FC4	Orifice	S2	0.1				
600 minute summer	FC5	Orifice	S3	0.2				
600 minute summer	FC6	Orifice	S3	0.1				
600 minute summer	FC7	10.000	S5	0.2	0.312	0.034	0.0459	
600 minute summer	STORAGE 1	6.000	S2	-1.4	-0.304	-0.227	0.0111	

Results for 2 year 600 minute summer. 840 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute summer	STORAGE 2	15	7.200	0.000	0.0	0.0000	0.0000	OK
600 minute summer	STORAGE 3	15	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute summer	STORAGE 2	9.000	S3	0.0	0.000	0.000	0.0000	
600 minute summer	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0003	

Results for 2 year 600 minute winter. 840 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute winter	S1	360	8.361	0.045	0.4	0.0505	0.0000	OK
600 minute winter	S2	405	7.190	0.484	1.5	0.8104	0.0000	SURCHARGED
600 minute winter	S3	405	7.183	0.552	1.5	0.8186	0.0000	SURCHARGED
600 minute winter	S4	405	6.622	0.035	1.5	0.0394	0.0000	OK
600 minute winter	S5	360	6.405	0.200	2.0	0.4281	0.0000	OK
600 minute winter	S6	360	6.202	0.020	2.0	0.0225	0.0000	OK
600 minute winter	OUTFALL	360	5.460	0.020	2.0	0.0000	0.0000	OK
600 minute winter	FC1	375	8.724	0.024	0.2	0.5811	0.0000	OK
600 minute winter	FC2	360	9.027	0.027	0.2	0.6626	0.0000	OK
600 minute winter	FC3	435	7.198	0.048	0.2	1.1514	0.0000	OK
600 minute winter	FC4	435	7.198	0.048	0.2	1.1525	0.0000	OK
600 minute winter	FC5	360	7.926	0.026	0.2	0.6260	0.0000	OK
600 minute winter	FC6	360	7.388	0.038	0.2	0.9035	0.0000	OK
600 minute winter	FC7	345	6.448	0.013	0.2	0.2435	0.0000	OK
600 minute winter	STORAGE 1	405	7.190	0.345	0.9	6.2869	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute winter	S1	Orifice	S2	0.4				
600 minute winter	S2	Orifice	S3	1.1				
600 minute winter	S3	Orifice	S4	1.5				
600 minute winter	S4	1.004	S5	1.5	0.413	0.049	0.0626	
600 minute winter	S5	ACO Q-Brake	S6	2.0				
600 minute winter	S6	1.006	OUTFALL	2.0	1.159	0.016	0.0217	45.4
600 minute winter	FC1	Orifice	S1	0.2				
600 minute winter	FC2	Orifice	S1	0.2				
600 minute winter	FC3	Orifice	S2	0.1				
600 minute winter	FC4	Orifice	S2	0.1				
600 minute winter	FC5	Orifice	S3	0.2				
600 minute winter	FC6	Orifice	S3	0.1				
600 minute winter	FC7	10.000	S5	0.2	0.313	0.034	0.0370	
600 minute winter	STORAGE 1	6.000	S2	-0.9	0.416	-0.154	0.0111	

Results for 2 year 600 minute winter. 840 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute winter	STORAGE 2	15	7.200	0.000	0.0	0.0000	0.0000	OK
600 minute winter	STORAGE 3	15	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute winter	STORAGE 2	9.000	S3	0.0	0.000	0.000	0.0009	
600 minute winter	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0000	

Results for 2 year 720 minute summer. 960 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute summer	S1	405	8.360	0.044	0.4	0.0495	0.0000	OK
720 minute summer	S2	450	7.140	0.434	1.6	0.7267	0.0000	SURCHARGED
720 minute summer	S3	450	7.134	0.503	1.4	0.7457	0.0000	SURCHARGED
720 minute summer	S4	450	6.621	0.034	1.4	0.0385	0.0000	OK
720 minute summer	S5	405	6.390	0.185	2.0	0.3955	0.0000	OK
720 minute summer	S6	405	6.202	0.020	1.9	0.0224	0.0000	OK
720 minute summer	OUTFALL	405	5.460	0.020	1.9	0.0000	0.0000	OK
720 minute summer	FC1	390	8.725	0.025	0.3	0.6034	0.0000	OK
720 minute summer	FC2	405	9.026	0.026	0.2	0.6243	0.0000	OK
720 minute summer	FC3	420	7.187	0.037	0.2	0.8818	0.0000	OK
720 minute summer	FC4	420	7.187	0.037	0.2	0.8824	0.0000	OK
720 minute summer	FC5	405	7.924	0.024	0.2	0.5939	0.0000	OK
720 minute summer	FC6	420	7.386	0.036	0.2	0.8575	0.0000	OK
720 minute summer	FC7	405	6.448	0.013	0.2	0.2435	0.0000	OK
720 minute summer	STORAGE 1	450	7.140	0.295	1.2	5.3754	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute summer	S1	Orifice	S2	0.4				
720 minute summer	S2	Orifice	S3	1.0				
720 minute summer	S3	Orifice	S4	1.4				
720 minute summer	S4	1.004	S5	1.4	0.407	0.047	0.0606	
720 minute summer	S5	ACO Q-Brake	S6	1.9				
720 minute summer	S6	1.006	OUTFALL	1.9	1.153	0.015	0.0215	41.4
720 minute summer	FC1	Orifice	S1	0.2				
720 minute summer	FC2	Orifice	S1	0.2				
720 minute summer	FC3	Orifice	S2	0.1				
720 minute summer	FC4	Orifice	S2	0.1				
720 minute summer	FC5	Orifice	S3	0.2				
720 minute summer	FC6	Orifice	S3	0.1				
720 minute summer	FC7	10.000	S5	0.2	0.340	0.034	0.0298	
720 minute summer	STORAGE 1	6.000	S2	-1.2	0.297	-0.195	0.0111	

Results for 2 year 720 minute summer. 960 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute summer	STORAGE 2	15	7.200	0.000	0.0	0.0000	0.0000	OK
720 minute summer	STORAGE 3	15	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute summer	STORAGE 2	9.000	S3	0.0	0.000	0.000	0.0000	
720 minute summer	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0000	

Results for 2 year 720 minute winter. 960 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute winter	S1	420	8.361	0.045	0.4	0.0507	0.0000	OK
720 minute winter	S2	465	7.174	0.468	1.4	0.7831	0.0000	SURCHARGED
720 minute winter	S3	465	7.166	0.535	1.5	0.7946	0.0000	SURCHARGED
720 minute winter	S4	480	6.622	0.035	1.4	0.0391	0.0000	OK
720 minute winter	S5	420	6.372	0.167	1.9	0.3570	0.0000	OK
720 minute winter	S6	420	6.202	0.020	1.9	0.0221	0.0000	OK
720 minute winter	OUTFALL	420	5.459	0.019	1.9	0.0000	0.0000	OK
720 minute winter	FC1	435	8.724	0.024	0.2	0.5816	0.0000	OK
720 minute winter	FC2	420	9.027	0.027	0.2	0.6643	0.0000	OK
720 minute winter	FC3	435	7.194	0.044	0.2	1.0569	0.0000	OK
720 minute winter	FC4	435	7.194	0.044	0.2	1.0577	0.0000	OK
720 minute winter	FC5	420	7.926	0.026	0.2	0.6273	0.0000	OK
720 minute winter	FC6	405	7.383	0.033	0.2	0.7849	0.0000	OK
720 minute winter	FC7	390	6.448	0.013	0.2	0.2419	0.0000	OK
720 minute winter	STORAGE 1	465	7.174	0.329	0.8	5.9891	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute winter	S1	Orifice	S2	0.4				
720 minute winter	S2	Orifice	S3	1.1				
720 minute winter	S3	Orifice	S4	1.4				
720 minute winter	S4	1.004	S5	1.4	0.411	0.048	0.0620	
720 minute winter	S5	ACO Q-Brake	S6	1.9				
720 minute winter	S6	1.006	OUTFALL	1.9	1.144	0.015	0.0211	47.8
720 minute winter	FC1	Orifice	S1	0.2				
720 minute winter	FC2	Orifice	S1	0.2				
720 minute winter	FC3	Orifice	S2	0.1				
720 minute winter	FC4	Orifice	S2	0.1				
720 minute winter	FC5	Orifice	S3	0.2				
720 minute winter	FC6	Orifice	S3	0.1				
720 minute winter	FC7	10.000	S5	0.2	0.313	0.033	0.0191	
720 minute winter	STORAGE 1	6.000	S2	-0.8	0.354	-0.128	0.0111	

Results for 2 year 720 minute winter. 960 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
720 minute winter	STORAGE 2	15	7.200	0.000	0.0	0.0000	0.0000	OK
720 minute winter	STORAGE 3	15	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m^3)	Discharge Vol (m^3)
720 minute winter	STORAGE 2	9.000	S3	0.0	0.000	0.000	0.0000	
720 minute winter	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0000	

Results for 2 year 960 minute summer. 1200 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute summer	S1	525	8.357	0.041	0.4	0.0458	0.0000	OK
960 minute summer	S2	585	7.107	0.401	1.4	0.6716	0.0000	SURCHARGED
960 minute summer	S3	585	7.101	0.470	1.4	0.6975	0.0000	SURCHARGED
960 minute summer	S4	585	6.620	0.033	1.4	0.0379	0.0000	OK
960 minute summer	S5	525	6.359	0.154	1.8	0.3303	0.0000	OK
960 minute summer	S6	525	6.201	0.019	1.8	0.0217	0.0000	OK
960 minute summer	OUTFALL	525	5.459	0.019	1.8	0.0000	0.0000	OK
960 minute summer	FC1	525	8.723	0.023	0.2	0.5512	0.0000	OK
960 minute summer	FC2	525	9.026	0.026	0.2	0.6293	0.0000	OK
960 minute summer	FC3	540	7.188	0.038	0.2	0.9031	0.0000	OK
960 minute summer	FC4	540	7.188	0.038	0.2	0.9037	0.0000	OK
960 minute summer	FC5	525	7.925	0.025	0.2	0.5978	0.0000	OK
960 minute summer	FC6	525	7.381	0.031	0.2	0.7442	0.0000	OK
960 minute summer	FC7	510	6.448	0.013	0.2	0.2420	0.0000	OK
960 minute summer	STORAGE 1	585	7.107	0.262	0.9	4.7753	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute summer	S1	Orifice	S2	0.4				
960 minute summer	S2	Orifice	S3	1.0				
960 minute summer	S3	Orifice	S4	1.4				
960 minute summer	S4	1.004	S5	1.4	0.403	0.045	0.0591	
960 minute summer	S5	ACO Q-Brake	S6	1.8				
960 minute summer	S6	1.006	OUTFALL	1.8	1.131	0.014	0.0206	44.0
960 minute summer	FC1	Orifice	S1	0.2				
960 minute summer	FC2	Orifice	S1	0.2				
960 minute summer	FC3	Orifice	S2	0.1				
960 minute summer	FC4	Orifice	S2	0.1				
960 minute summer	FC5	Orifice	S3	0.2				
960 minute summer	FC6	Orifice	S3	0.1				
960 minute summer	FC7	10.000	S5	0.2	0.313	0.033	0.0130	
960 minute summer	STORAGE 1	6.000	S2	-0.9	0.307	-0.154	0.0111	

Results for 2 year 960 minute summer. 1200 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute summer	STORAGE 2	15	7.200	0.000	0.0	0.0000	0.0000	OK
960 minute summer	STORAGE 3	15	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute summer	STORAGE 2	9.000	S3	0.0	0.000	0.000	0.0000	
960 minute summer	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0000	

Results for 2 year 960 minute winter. 1200 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute winter	S1	510	8.346	0.030	0.3	0.0344	0.0000	OK
960 minute winter	S2	615	7.055	0.349	1.0	0.5844	0.0000	SURCHARGED
960 minute winter	S3	615	7.050	0.419	1.3	0.6213	0.0000	SURCHARGED
960 minute winter	S4	615	6.620	0.033	1.3	0.0368	0.0000	OK
960 minute winter	S5	585	6.335	0.130	1.7	0.2787	0.0000	OK
960 minute winter	S6	585	6.200	0.018	1.7	0.0209	0.0000	OK
960 minute winter	OUTFALL	585	5.458	0.018	1.7	0.0000	0.0000	OK
960 minute winter	FC1	510	8.721	0.021	0.2	0.5109	0.0000	OK
960 minute winter	FC2	690	9.018	0.018	0.1	0.4354	0.0000	OK
960 minute winter	FC3	690	7.179	0.029	0.1	0.6906	0.0000	OK
960 minute winter	FC4	690	7.179	0.029	0.1	0.6915	0.0000	OK
960 minute winter	FC5	690	7.917	0.017	0.1	0.4082	0.0000	OK
960 minute winter	FC6	675	7.378	0.028	0.1	0.6814	0.0000	OK
960 minute winter	FC7	555	6.444	0.009	0.1	0.1766	0.0000	OK
960 minute winter	STORAGE 1	615	7.055	0.210	0.4	3.8269	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute winter	S1	Orifice	S2	0.3				
960 minute winter	S2	Orifice	S3	0.9				
960 minute winter	S3	Orifice	S4	1.3				
960 minute winter	S4	1.004	S5	1.3	0.398	0.043	0.0565	
960 minute winter	S5	ACO Q-Brake	S6	1.7				
960 minute winter	S6	1.006	OUTFALL	1.7	1.101	0.013	0.0194	49.6
960 minute winter	FC1	Orifice	S1	0.2				
960 minute winter	FC2	Orifice	S1	0.1				
960 minute winter	FC3	Orifice	S2	0.1				
960 minute winter	FC4	Orifice	S2	0.1				
960 minute winter	FC5	Orifice	S3	0.1				
960 minute winter	FC6	Orifice	S3	0.1				
960 minute winter	FC7	10.000	S5	0.1	0.284	0.017	0.0039	
960 minute winter	STORAGE 1	6.000	S2	0.5	0.339	0.086	0.0111	

Results for 2 year 960 minute winter. 1200 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute winter	STORAGE 2	15	7.200	0.000	0.0	0.0000	0.0000	OK
960 minute winter	STORAGE 3	15	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute winter	STORAGE 2	9.000	S3	0.0	0.000	0.000	0.0000	
960 minute winter	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0000	

Results for 2 year 1440 minute summer. 1680 minute analysis at 30 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute summer	S1	750	8.347	0.031	0.3	0.0348	0.0000	OK
1440 minute summer	S2	840	7.011	0.305	1.0	0.5114	0.0000	SURCHARGED
1440 minute summer	S3	840	7.006	0.375	1.2	0.5561	0.0000	SURCHARGED
1440 minute summer	S4	840	6.619	0.032	1.2	0.0358	0.0000	OK
1440 minute summer	S5	780	6.320	0.115	1.6	0.2456	0.0000	OK
1440 minute summer	S6	780	6.200	0.018	1.6	0.0202	0.0000	OK
1440 minute summer	OUTFALL	780	5.458	0.018	1.6	0.0000	0.0000	OK
1440 minute summer	FC1	750	8.722	0.022	0.2	0.5228	0.0000	OK
1440 minute summer	FC2	900	9.018	0.018	0.1	0.4350	0.0000	OK
1440 minute summer	FC3	900	7.178	0.028	0.1	0.6722	0.0000	OK
1440 minute summer	FC4	900	7.178	0.028	0.1	0.6731	0.0000	OK
1440 minute summer	FC5	900	7.917	0.017	0.1	0.4080	0.0000	OK
1440 minute summer	FC6	870	7.377	0.027	0.1	0.6430	0.0000	OK
1440 minute summer	FC7	840	6.444	0.009	0.1	0.1766	0.0000	OK
1440 minute summer	STORAGE 1	840	7.011	0.166	0.4	3.0325	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute summer	S1	Orifice	S2	0.3				
1440 minute summer	S2	Orifice	S3	0.9				
1440 minute summer	S3	Orifice	S4	1.2				
1440 minute summer	S4	1.004	S5	1.2	0.393	0.040	0.0541	
1440 minute summer	S5	ACO Q-Brake	S6	1.6				
1440 minute summer	S6	1.006	OUTFALL	1.6	1.079	0.012	0.0186	46.5
1440 minute summer	FC1	Orifice	S1	0.2				
1440 minute summer	FC2	Orifice	S1	0.1				
1440 minute summer	FC3	Orifice	S2	0.1				
1440 minute summer	FC4	Orifice	S2	0.1				
1440 minute summer	FC5	Orifice	S3	0.1				
1440 minute summer	FC6	Orifice	S3	0.1				
1440 minute summer	FC7	10.000	S5	0.1	0.284	0.017	0.0039	
1440 minute summer	STORAGE 1	6.000	S2	0.5	0.292	0.081	0.0111	

Results for 2 year 1440 minute summer. 1680 minute analysis at 30 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute summer	STORAGE 2	30	7.200	0.000	0.0	0.0000	0.0000	OK
1440 minute summer	STORAGE 3	30	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute summer	STORAGE 2	9.000	S3	0.0	0.000	0.000	0.0000	
1440 minute summer	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0000	

Results for 2 year 1440 minute winter. 1680 minute analysis at 30 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute winter	S1	960	8.342	0.026	0.2	0.0290	0.0000	OK
1440 minute winter	S2	870	7.000	0.294	0.9	0.4930	0.0000	SURCHARGED
1440 minute winter	S3	870	6.995	0.364	1.2	0.5401	0.0000	SURCHARGED
1440 minute winter	S4	870	6.618	0.031	1.2	0.0356	0.0000	OK
1440 minute winter	S5	780	6.315	0.110	1.5	0.2365	0.0000	OK
1440 minute winter	S6	780	6.200	0.018	1.5	0.0201	0.0000	OK
1440 minute winter	OUTFALL	780	5.458	0.018	1.5	0.0000	0.0000	OK
1440 minute winter	FC1	990	8.715	0.015	0.1	0.3700	0.0000	OK
1440 minute winter	FC2	960	9.018	0.018	0.1	0.4355	0.0000	OK
1440 minute winter	FC3	960	7.179	0.029	0.1	0.7071	0.0000	OK
1440 minute winter	FC4	960	7.179	0.029	0.1	0.7081	0.0000	OK
1440 minute winter	FC5	960	7.917	0.017	0.1	0.4083	0.0000	OK
1440 minute winter	FC6	930	7.379	0.029	0.1	0.6934	0.0000	OK
1440 minute winter	FC7	780	6.444	0.009	0.1	0.1766	0.0000	OK
1440 minute winter	STORAGE 1	870	7.000	0.155	0.3	2.8313	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute winter	S1	Orifice	S2	0.2				
1440 minute winter	S2	Orifice	S3	0.8				
1440 minute winter	S3	Orifice	S4	1.2				
1440 minute winter	S4	1.004	S5	1.2	0.391	0.040	0.0535	
1440 minute winter	S5	ACO Q-Brake	S6	1.5				
1440 minute winter	S6	1.006	OUTFALL	1.5	1.073	0.012	0.0184	56.7
1440 minute winter	FC1	Orifice	S1	0.1				
1440 minute winter	FC2	Orifice	S1	0.1				
1440 minute winter	FC3	Orifice	S2	0.1				
1440 minute winter	FC4	Orifice	S2	0.1				
1440 minute winter	FC5	Orifice	S3	0.1				
1440 minute winter	FC6	Orifice	S3	0.1				
1440 minute winter	FC7	10.000	S5	0.1	0.284	0.017	0.0039	
1440 minute winter	STORAGE 1	6.000	S2	0.4	0.324	0.064	0.0111	

Results for 2 year 1440 minute winter. 1680 minute analysis at 30 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute winter	STORAGE 2	30	7.200	0.000	0.0	0.0000	0.0000	OK
1440 minute winter	STORAGE 3	30	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute winter	STORAGE 2	9.000	S3	0.0	0.000	0.000	0.0000	
1440 minute winter	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0000	

Results for 30 year 15 minute summer. 255 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1	44	8.443	0.127	0.8	0.1434	0.0000	OK
15 minute summer	S2	38	7.289	0.583	6.1	0.9760	0.0000	SURCHARGED
15 minute summer	S3	35	7.274	0.643	3.8	0.9546	0.0000	SURCHARGED
15 minute summer	S4	106	6.623	0.036	1.6	0.0403	0.0000	OK
15 minute summer	S5	107	6.620	0.415	3.8	0.8895	0.0000	SURCHARGED
15 minute summer	S6	240	6.202	0.020	2.0	0.0228	0.0000	OK
15 minute summer	OUTFALL	240	5.460	0.020	2.0	0.0000	0.0000	OK
15 minute summer	FC1	38	8.751	0.051	1.0	1.2274	0.0000	OK
15 minute summer	FC2	38	9.052	0.052	0.9	1.2447	0.0000	OK
15 minute summer	FC3	75	7.227	0.077	1.0	1.8403	0.0000	OK
15 minute summer	FC4	75	7.227	0.077	1.0	1.8413	0.0000	OK
15 minute summer	FC5	38	7.949	0.049	0.9	1.1954	0.0000	OK
15 minute summer	FC6	40	7.403	0.053	0.8	1.2647	0.0000	OK
15 minute summer	FC7	107	6.620	0.185	2.4	3.5796	0.0000	SURCHARGED
15 minute summer	STORAGE 1	38	7.289	0.444	6.8	8.0960	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S1	Orifice	S2	0.8				
15 minute summer	S2	Orifice	S3	2.0				
15 minute summer	S3	Orifice	S4	1.6				
15 minute summer	S4	1.004	S5	1.6	0.416	0.053	0.1705	
15 minute summer	S5	ACO Q-Brake	S6	2.0				
15 minute summer	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	24.4
15 minute summer	FC1	Orifice	S1	0.5				
15 minute summer	FC2	Orifice	S1	0.3				
15 minute summer	FC3	Orifice	S2	0.2				
15 minute summer	FC4	Orifice	S2	0.2				
15 minute summer	FC5	Orifice	S3	0.4				
15 minute summer	FC6	Orifice	S3	0.1				
15 minute summer	FC7	10.000	S5	-1.6	0.351	-0.270	0.0856	
15 minute summer	STORAGE 1	6.000	S2	-6.8	-1.150	-1.129	0.0111	

Results for 30 year 15 minute summer. 255 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	STORAGE 2	52	7.238	0.038	2.3	1.3788	0.0000	OK
15 minute summer	STORAGE 3	1	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	STORAGE 2	9.000	S3	-2.3	-0.498	-0.385	0.0133	
15 minute summer	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0283	

Results for 30 year 15 minute winter. 255 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S1	46	8.455	0.139	0.9	0.1569	0.0000	OK
15 minute winter	S2	38	7.317	0.611	6.9	1.0228	0.0000	SURCHARGED
15 minute winter	S3	32	7.284	0.653	4.9	0.9697	0.0000	SURCHARGED
15 minute winter	S4	141	6.681	0.094	1.6	0.1061	0.0000	OK
15 minute winter	S5	141	6.681	0.476	4.1	1.0181	0.0000	SURCHARGED
15 minute winter	S6	13	6.202	0.020	2.0	0.0227	0.0000	OK
15 minute winter	OUTFALL	13	5.460	0.020	2.0	0.0000	0.0000	OK
15 minute winter	FC1	38	8.756	0.056	1.1	1.3681	0.0000	OK
15 minute winter	FC2	39	9.057	0.057	1.0	1.3776	0.0000	OK
15 minute winter	FC3	87	7.241	0.091	1.2	2.1808	0.0000	OK
15 minute winter	FC4	87	7.241	0.091	1.2	2.1820	0.0000	OK
15 minute winter	FC5	38	7.954	0.054	1.0	1.3205	0.0000	OK
15 minute winter	FC6	40	7.410	0.060	0.9	1.4480	0.0000	OK
15 minute winter	FC7	141	6.681	0.246	2.8	4.7395	0.0000	SURCHARGED
15 minute winter	STORAGE 1	38	7.317	0.472	7.4	8.6031	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	S1	Orifice	S2	0.8				
15 minute winter	S2	Orifice	S3	2.4				
15 minute winter	S3	Orifice	S4	1.6				
15 minute winter	S4	1.004	S5	1.6	0.414	0.054	0.3900	
15 minute winter	S5	ACO Q-Brake	S6	2.0				
15 minute winter	S6	1.006	OUTFALL	2.0	1.165	0.016	0.0220	21.0
15 minute winter	FC1	Orifice	S1	0.5				
15 minute winter	FC2	Orifice	S1	0.3				
15 minute winter	FC3	Orifice	S2	0.2				
15 minute winter	FC4	Orifice	S2	0.2				
15 minute winter	FC5	Orifice	S3	0.4				
15 minute winter	FC6	Orifice	S3	0.2				
15 minute winter	FC7	10.000	S5	-1.9	-0.259	-0.324	0.0856	
15 minute winter	STORAGE 1	6.000	S2	-7.4	-1.161	-1.226	0.0111	

Results for 30 year 15 minute winter. 255 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	STORAGE 2	52	7.263	0.063	3.4	2.3085	0.0000	OK
15 minute winter	STORAGE 3	46	8.455	0.005	0.1	0.0144	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	STORAGE 2	9.000	S3	-3.4	-0.621	-0.570	0.0199	
15 minute winter	STORAGE 3	3.000	S1	-0.1	-0.028	-0.015	0.0328	

Results for 30 year 30 minute summer. 270 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute summer	S1	59	8.472	0.156	1.0	0.1761	0.0000	SURCHARGED
30 minute summer	S2	46	7.347	0.641	7.9	1.0731	0.0000	SURCHARGED
30 minute summer	S3	61	7.302	0.671	5.7	0.9959	0.0000	SURCHARGED
30 minute summer	S4	155	6.717	0.130	1.6	0.1466	0.0000	OK
30 minute summer	S5	155	6.716	0.511	4.5	1.0950	0.0000	SURCHARGED
30 minute summer	S6	20	6.202	0.020	2.0	0.0227	0.0000	OK
30 minute summer	OUTFALL	20	5.460	0.020	2.0	0.0000	0.0000	OK
30 minute summer	FC1	46	8.764	0.064	1.3	1.5524	0.0000	OK
30 minute summer	FC2	47	9.067	0.067	1.2	1.6180	0.0000	OK
30 minute summer	FC3	113	7.267	0.117	1.3	2.8042	0.0000	SURCHARGED
30 minute summer	FC4	113	7.267	0.117	1.3	2.8057	0.0000	SURCHARGED
30 minute summer	FC5	47	7.964	0.064	1.2	1.5425	0.0000	OK
30 minute summer	FC6	50	7.420	0.070	1.1	1.6900	0.0000	OK
30 minute summer	FC7	155	6.716	0.281	3.3	5.4323	0.0000	SURCHARGED
30 minute summer	STORAGE 1	46	7.347	0.502	7.3	9.1493	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute summer	S1	Orifice	S2	0.8				
30 minute summer	S2	Orifice	S3	2.6				
30 minute summer	S3	Orifice	S4	1.6				
30 minute summer	S4	1.004	S5	1.6	0.415	0.054	0.5211	
30 minute summer	S5	ACO Q-Brake	S6	2.0				
30 minute summer	S6	1.006	OUTFALL	2.0	1.165	0.016	0.0220	22.6
30 minute summer	FC1	Orifice	S1	0.6				
30 minute summer	FC2	Orifice	S1	0.4				
30 minute summer	FC3	Orifice	S2	0.2				
30 minute summer	FC4	Orifice	S2	0.2				
30 minute summer	FC5	Orifice	S3	0.4				
30 minute summer	FC6	Orifice	S3	0.2				
30 minute summer	FC7	10.000	S5	-2.2	-0.283	-0.374	0.0856	
30 minute summer	STORAGE 1	6.000	S2	-7.3	-1.095	-1.208	0.0111	

Results for 30 year 30 minute summer. 270 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute summer	STORAGE 2	61	7.302	0.102	4.1	3.7551	0.0000	SURCHARGED
30 minute summer	STORAGE 3	59	8.472	0.022	0.1	0.0658	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute summer	STORAGE 2	9.000	S3	-4.1	-0.706	-0.686	0.0244	
30 minute summer	STORAGE 3	3.000	S1	-0.1	-0.035	-0.021	0.0399	

Results for 30 year 30 minute winter. 270 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute winter	S1	62	8.488	0.172	1.0	0.1947	0.0000	SURCHARGED
30 minute winter	S2	46	7.379	0.673	8.8	1.1275	0.0000	SURCHARGED
30 minute winter	S3	62	7.337	0.706	6.4	1.0470	0.0000	SURCHARGED
30 minute winter	S4	132	6.745	0.158	1.6	0.1785	0.0000	OK
30 minute winter	S5	132	6.745	0.540	4.9	1.1554	0.0000	SURCHARGED
30 minute winter	S6	19	6.202	0.020	2.0	0.0228	0.0000	OK
30 minute winter	OUTFALL	19	5.460	0.020	2.0	0.0000	0.0000	OK
30 minute winter	FC1	46	8.771	0.071	1.5	1.7350	0.0000	OK
30 minute winter	FC2	48	9.075	0.075	1.4	1.8191	0.0000	OK
30 minute winter	FC3	128	7.288	0.138	1.5	3.3156	0.0000	SURCHARGED
30 minute winter	FC4	128	7.288	0.138	1.5	3.3175	0.0000	SURCHARGED
30 minute winter	FC5	47	7.971	0.071	1.4	1.7313	0.0000	OK
30 minute winter	FC6	51	7.429	0.079	1.2	1.9000	0.0000	OK
30 minute winter	FC7	132	6.745	0.310	3.7	5.9773	0.0000	SURCHARGED
30 minute winter	STORAGE 1	47	7.379	0.534	8.0	9.7399	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute winter	S1	Orifice	S2	0.9				
30 minute winter	S2	Orifice	S3	2.8				
30 minute winter	S3	Orifice	S4	1.6				
30 minute winter	S4	1.004	S5	1.6	0.412	0.054	0.6077	
30 minute winter	S5	ACO Q-Brake	S6	2.0				
30 minute winter	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	23.2
30 minute winter	FC1	Orifice	S1	0.6				
30 minute winter	FC2	Orifice	S1	0.4				
30 minute winter	FC3	Orifice	S2	0.2				
30 minute winter	FC4	Orifice	S2	0.2				
30 minute winter	FC5	Orifice	S3	0.5				
30 minute winter	FC6	Orifice	S3	0.2				
30 minute winter	FC7	10.000	S5	-2.5	-0.326	-0.431	0.0856	
30 minute winter	STORAGE 1	6.000	S2	-8.0	-1.030	-1.330	0.0111	

Results for 30 year 30 minute winter. 270 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute winter	STORAGE 2	62	7.337	0.137	4.8	5.0200	0.0000	SURCHARGED
30 minute winter	STORAGE 3	62	8.488	0.038	0.2	0.1157	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute winter	STORAGE 2	9.000	S3	-4.8	-0.802	-0.804	0.0244	
30 minute winter	STORAGE 3	3.000	S1	-0.2	0.046	-0.026	0.0464	

Results for 30 year 60 minute summer. 300 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute summer	S1	81	8.497	0.181	1.0	0.2046	0.0000	SURCHARGED
60 minute summer	S2	63	7.391	0.685	8.1	1.1480	0.0000	SURCHARGED
60 minute summer	S3	86	7.365	0.734	6.5	1.0898	0.0000	SURCHARGED
60 minute summer	S4	133	6.771	0.184	1.6	0.2084	0.0000	OK
60 minute summer	S5	133	6.771	0.566	4.6	1.2121	0.0000	SURCHARGED
60 minute summer	S6	32	6.202	0.020	2.0	0.0228	0.0000	OK
60 minute summer	OUTFALL	32	5.460	0.020	2.0	0.0000	0.0000	OK
60 minute summer	FC1	62	8.772	0.072	1.3	1.7582	0.0000	OK
60 minute summer	FC2	64	9.078	0.078	1.2	1.8767	0.0000	OK
60 minute summer	FC3	157	7.309	0.159	1.4	3.8124	0.0000	SURCHARGED
60 minute summer	FC4	157	7.309	0.159	1.4	3.8147	0.0000	SURCHARGED
60 minute summer	FC5	63	7.973	0.073	1.2	1.7766	0.0000	OK
60 minute summer	FC6	74	7.435	0.085	1.1	2.0335	0.0000	OK
60 minute summer	FC7	132	6.771	0.336	3.5	6.4878	0.0000	SURCHARGED
60 minute summer	STORAGE 1	63	7.391	0.546	7.4	9.9624	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute summer	S1	Orifice	S2	0.9				
60 minute summer	S2	Orifice	S3	2.8				
60 minute summer	S3	Orifice	S4	1.6				
60 minute summer	S4	1.004	S5	1.6	0.416	0.054	0.6567	
60 minute summer	S5	ACO Q-Brake	S6	2.0				
60 minute summer	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	25.9
60 minute summer	FC1	Orifice	S1	0.6				
60 minute summer	FC2	Orifice	S1	0.4				
60 minute summer	FC3	Orifice	S2	0.2				
60 minute summer	FC4	Orifice	S2	0.2				
60 minute summer	FC5	Orifice	S3	0.5				
60 minute summer	FC6	Orifice	S3	0.2				
60 minute summer	FC7	10.000	S5	-2.4	-0.304	-0.402	0.0856	
60 minute summer	STORAGE 1	6.000	S2	-7.4	-0.946	-1.231	0.0111	

Results for 30 year 60 minute summer. 300 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute summer	STORAGE 2	85	7.365	0.165	4.8	6.0801	0.0000	SURCHARGED
60 minute summer	STORAGE 3	81	8.497	0.047	0.1	0.1423	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute summer	STORAGE 2	9.000	S3	-4.8	-0.793	-0.814	0.0244	
60 minute summer	STORAGE 3	3.000	S1	0.1	0.056	0.025	0.0502	

Results for 30 year 60 minute winter. 300 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute winter	S1	84	8.520	0.204	1.1	0.2304	0.0000	SURCHARGED
60 minute winter	S2	66	7.434	0.728	8.5	1.2199	0.0000	SURCHARGED
60 minute winter	S3	86	7.408	0.777	7.0	1.1535	0.0000	SURCHARGED
60 minute winter	S4	88	6.811	0.224	1.6	0.2535	0.0000	OK
60 minute winter	S5	88	6.811	0.606	4.9	1.2974	0.0000	SURCHARGED
60 minute winter	S6	30	6.202	0.020	2.0	0.0228	0.0000	OK
60 minute winter	OUTFALL	30	5.460	0.020	2.0	0.0000	0.0000	OK
60 minute winter	FC1	63	8.782	0.082	1.5	1.9795	0.0000	OK
60 minute winter	FC2	67	9.087	0.087	1.4	2.1054	0.0000	OK
60 minute winter	FC3	173	7.335	0.185	1.6	4.4551	0.0000	SURCHARGED
60 minute winter	FC4	173	7.335	0.185	1.6	4.4580	0.0000	SURCHARGED
60 minute winter	FC5	65	7.982	0.082	1.4	1.9833	0.0000	OK
60 minute winter	FC6	76	7.445	0.095	1.2	2.2953	0.0000	OK
60 minute winter	FC7	87	6.811	0.376	3.8	7.2549	0.0000	SURCHARGED
60 minute winter	STORAGE 1	66	7.434	0.589	7.8	10.7446	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute winter	S1	Orifice	S2	1.0				
60 minute winter	S2	Orifice	S3	2.9				
60 minute winter	S3	Orifice	S4	1.6				
60 minute winter	S4	1.004	S5	1.6	0.417	0.054	0.6999	
60 minute winter	S5	ACO Q-Brake	S6	2.0				
60 minute winter	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	26.6
60 minute winter	FC1	Orifice	S1	0.7				
60 minute winter	FC2	Orifice	S1	0.4				
60 minute winter	FC3	Orifice	S2	0.2				
60 minute winter	FC4	Orifice	S2	0.2				
60 minute winter	FC5	Orifice	S3	0.5				
60 minute winter	FC6	Orifice	S3	0.2				
60 minute winter	FC7	10.000	S5	-2.6	-0.330	-0.436	0.0856	
60 minute winter	STORAGE 1	6.000	S2	-7.8	-0.991	-1.290	0.0111	

Results for 30 year 60 minute winter. 300 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute winter	STORAGE 2	86	7.408	0.208	5.4	7.6571	0.0000	SURCHARGED
60 minute winter	STORAGE 3	84	8.520	0.070	0.2	0.2114	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute winter	STORAGE 2	9.000	S3	-5.4	-0.849	-0.905	0.0244	
60 minute winter	STORAGE 3	3.000	S1	0.2	0.053	0.029	0.0600	

Results for 30 year 120 minute summer. 360 minute analysis at 2 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
120 minute summer	S1	116	8.503	0.187	1.0	0.2118	0.0000	SURCHARGED
120 minute summer	S2	130	7.412	0.706	6.9	1.1829	0.0000	SURCHARGED
120 minute summer	S3	136	7.406	0.775	6.2	1.1497	0.0000	SURCHARGED
120 minute summer	S4	146	6.811	0.224	1.6	0.2538	0.0000	OK
120 minute summer	S5	146	6.811	0.606	4.3	1.2979	0.0000	SURCHARGED
120 minute summer	S6	58	6.202	0.020	2.0	0.0228	0.0000	OK
120 minute summer	OUTFALL	58	5.460	0.020	2.0	0.0000	0.0000	OK
120 minute summer	FC1	94	8.772	0.072	1.2	1.7444	0.0000	OK
120 minute summer	FC2	98	9.078	0.078	1.1	1.8816	0.0000	OK
120 minute summer	FC3	208	7.342	0.192	1.3	4.6066	0.0000	SURCHARGED
120 minute summer	FC4	208	7.342	0.192	1.3	4.6095	0.0000	SURCHARGED
120 minute summer	FC5	96	7.972	0.072	1.1	1.7529	0.0000	OK
120 minute summer	FC6	124	7.443	0.093	1.0	2.2379	0.0000	OK
120 minute summer	FC7	146	6.811	0.376	3.1	7.2621	0.0000	SURCHARGED
120 minute summer	STORAGE 1	130	7.412	0.567	6.3	10.3405	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m^3)	Discharge Vol (m^3)
120 minute summer	S1	Orifice	S2	0.9				
120 minute summer	S2	Orifice	S3	2.7				
120 minute summer	S3	Orifice	S4	1.6				
120 minute summer	S4	1.004	S5	1.6	0.416	0.054	0.7000	
120 minute summer	S5	ACO Q-Brake	S6	2.0				
120 minute summer	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	31.5
120 minute summer	FC1	Orifice	S1	0.6				
120 minute summer	FC2	Orifice	S1	0.4				
120 minute summer	FC3	Orifice	S2	0.2				
120 minute summer	FC4	Orifice	S2	0.2				
120 minute summer	FC5	Orifice	S3	0.5				
120 minute summer	FC6	Orifice	S3	0.2				
120 minute summer	FC7	10.000	S5	-2.1	0.322	-0.363	0.0856	
120 minute summer	STORAGE 1	6.000	S2	-6.3	-0.802	-1.044	0.0111	

Results for 30 year 120 minute summer. 360 minute analysis at 2 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute summer	STORAGE 2	136	7.406	0.206	4.5	7.5640	0.0000	SURCHARGED
120 minute summer	STORAGE 3	116	8.503	0.053	0.1	0.1614	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute summer	STORAGE 2	9.000	S3	-4.5	-0.725	-0.758	0.0244	
120 minute summer	STORAGE 3	3.000	S1	0.1	0.049	0.024	0.0530	

Results for 30 year 120 minute winter. 360 minute analysis at 2 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute winter	S1	120	8.524	0.208	1.1	0.2355	0.0000	SURCHARGED
120 minute winter	S2	132	7.464	0.758	6.5	1.2694	0.0000	SURCHARGED
120 minute winter	S3	138	7.456	0.825	6.4	1.2250	0.0000	SURCHARGED
120 minute winter	S4	142	6.865	0.278	1.6	0.3139	0.0000	SURCHARGED
120 minute winter	S5	142	6.864	0.659	4.3	1.4116	0.0000	SURCHARGED
120 minute winter	S6	52	6.202	0.020	2.0	0.0228	0.0000	OK
120 minute winter	OUTFALL	54	5.460	0.020	2.0	0.0000	0.0000	OK
120 minute winter	FC1	96	8.777	0.077	1.2	1.8735	0.0000	OK
120 minute winter	FC2	104	9.087	0.087	1.1	2.0962	0.0000	OK
120 minute winter	FC3	224	7.374	0.224	1.3	5.3762	0.0000	SURCHARGED
120 minute winter	FC4	224	7.374	0.224	1.3	5.3799	0.0000	SURCHARGED
120 minute winter	FC5	100	7.980	0.080	1.1	1.9314	0.0000	OK
120 minute winter	FC6	140	7.461	0.111	1.0	2.6760	0.0000	SURCHARGED
120 minute winter	FC7	142	6.864	0.429	3.1	8.2872	0.0000	SURCHARGED
120 minute winter	STORAGE 1	132	7.464	0.619	5.8	11.2821	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute winter	S1	Orifice	S2	1.0				
120 minute winter	S2	Orifice	S3	2.8				
120 minute winter	S3	Orifice	S4	1.6				
120 minute winter	S4	1.004	S5	1.6	0.419	0.054	0.7003	
120 minute winter	S5	ACO Q-Brake	S6	2.0				
120 minute winter	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	32.5
120 minute winter	FC1	Orifice	S1	0.7				
120 minute winter	FC2	Orifice	S1	0.4				
120 minute winter	FC3	Orifice	S2	0.2				
120 minute winter	FC4	Orifice	S2	0.2				
120 minute winter	FC5	Orifice	S3	0.5				
120 minute winter	FC6	Orifice	S3	0.2				
120 minute winter	FC7	10.000	S5	-2.1	0.314	-0.356	0.0856	
120 minute winter	STORAGE 1	6.000	S2	-5.8	-0.743	-0.968	0.0111	

Results for 30 year 120 minute winter. 360 minute analysis at 2 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
120 minute winter	STORAGE 2	136	7.457	0.257	4.8	9.4293	0.0000	SURCHARGED
120 minute winter	STORAGE 3	120	8.524	0.074	0.1	0.2249	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m^3)	Discharge Vol (m^3)
120 minute winter	STORAGE 2	9.000	S3	-4.8	-0.758	-0.803	0.0244	
120 minute winter	STORAGE 3	3.000	S1	0.2	0.043	0.029	0.0617	

Results for 30 year 180 minute summer. 420 minute analysis at 4 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute summer	S1	148	8.494	0.178	1.0	0.2012	0.0000	SURCHARGED
180 minute summer	S2	184	7.420	0.714	5.6	1.1953	0.0000	SURCHARGED
180 minute summer	S3	188	7.413	0.782	5.7	1.1608	0.0000	SURCHARGED
180 minute summer	S4	204	6.834	0.247	1.6	0.2797	0.0000	SURCHARGED
180 minute summer	S5	204	6.834	0.629	3.9	1.3469	0.0000	SURCHARGED
180 minute summer	S6	88	6.202	0.020	2.0	0.0228	0.0000	OK
180 minute summer	OUTFALL	88	5.460	0.020	2.0	0.0000	0.0000	OK
180 minute summer	FC1	128	8.766	0.066	1.0	1.6136	0.0000	OK
180 minute summer	FC2	132	9.073	0.073	0.9	1.7760	0.0000	OK
180 minute summer	FC3	252	7.355	0.205	1.1	4.9256	0.0000	SURCHARGED
180 minute summer	FC4	252	7.355	0.205	1.1	4.9291	0.0000	SURCHARGED
180 minute summer	FC5	128	7.967	0.067	0.9	1.6319	0.0000	OK
180 minute summer	FC6	160	7.445	0.095	0.9	2.2745	0.0000	OK
180 minute summer	FC7	204	6.834	0.399	2.6	7.7031	0.0000	SURCHARGED
180 minute summer	STORAGE 1	184	7.420	0.575	5.1	10.4754	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute summer	S1	Orifice	S2	0.9				
180 minute summer	S2	Orifice	S3	2.6				
180 minute summer	S3	Orifice	S4	1.6				
180 minute summer	S4	1.004	S5	1.6	0.417	0.054	0.7003	
180 minute summer	S5	ACO Q-Brake	S6	2.0				
180 minute summer	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	36.6
180 minute summer	FC1	Orifice	S1	0.6				
180 minute summer	FC2	Orifice	S1	0.4				
180 minute summer	FC3	Orifice	S2	0.2				
180 minute summer	FC4	Orifice	S2	0.2				
180 minute summer	FC5	Orifice	S3	0.5				
180 minute summer	FC6	Orifice	S3	0.2				
180 minute summer	FC7	10.000	S5	-1.7	0.324	-0.295	0.0856	
180 minute summer	STORAGE 1	6.000	S2	-5.1	-0.649	-0.845	0.0111	

Results for 30 year 180 minute summer. 420 minute analysis at 4 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute summer	STORAGE 2	188	7.413	0.213	4.0	7.8376	0.0000	SURCHARGED
180 minute summer	STORAGE 3	148	8.494	0.044	0.1	0.1330	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute summer	STORAGE 2	9.000	S3	-4.0	-0.653	-0.680	0.0244	
180 minute summer	STORAGE 3	3.000	S1	0.1	0.026	0.018	0.0489	

Results for 30 year 180 minute winter. 420 minute analysis at 4 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute winter	S1	156	8.508	0.192	1.0	0.2171	0.0000	SURCHARGED
180 minute winter	S2	184	7.477	0.771	4.8	1.2918	0.0000	SURCHARGED
180 minute winter	S3	188	7.470	0.839	5.7	1.2453	0.0000	SURCHARGED
180 minute winter	S4	196	6.888	0.301	1.6	0.3404	0.0000	SURCHARGED
180 minute winter	S5	196	6.888	0.683	3.7	1.4619	0.0000	SURCHARGED
180 minute winter	S6	80	6.202	0.020	2.0	0.0228	0.0000	OK
180 minute winter	OUTFALL	80	5.460	0.020	2.0	0.0000	0.0000	OK
180 minute winter	FC1	132	8.768	0.068	0.9	1.6530	0.0000	OK
180 minute winter	FC2	140	9.081	0.081	0.9	1.9519	0.0000	OK
180 minute winter	FC3	264	7.394	0.244	1.1	5.8642	0.0000	SURCHARGED
180 minute winter	FC4	264	7.394	0.244	1.1	5.8678	0.0000	SURCHARGED
180 minute winter	FC5	136	7.973	0.073	0.9	1.7629	0.0000	OK
180 minute winter	FC6	196	7.472	0.122	0.8	2.9285	0.0000	SURCHARGED
180 minute winter	FC7	196	6.888	0.453	2.4	8.7406	0.0000	SURCHARGED
180 minute winter	STORAGE 1	184	7.477	0.632	4.4	11.5262	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute winter	S1	Orifice	S2	1.0				
180 minute winter	S2	Orifice	S3	2.6				
180 minute winter	S3	Orifice	S4	1.6				
180 minute winter	S4	1.004	S5	1.6	0.419	0.054	0.7003	
180 minute winter	S5	ACO Q-Brake	S6	2.0				
180 minute winter	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	37.9
180 minute winter	FC1	Orifice	S1	0.6				
180 minute winter	FC2	Orifice	S1	0.4				
180 minute winter	FC3	Orifice	S2	0.2				
180 minute winter	FC4	Orifice	S2	0.2				
180 minute winter	FC5	Orifice	S3	0.5				
180 minute winter	FC6	Orifice	S3	0.2				
180 minute winter	FC7	10.000	S5	-1.6	0.329	-0.269	0.0856	
180 minute winter	STORAGE 1	6.000	S2	-4.4	-0.567	-0.738	0.0111	

Results for 30 year 180 minute winter. 420 minute analysis at 4 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute winter	STORAGE 2	188	7.470	0.270	4.0	9.9296	0.0000	SURCHARGED
180 minute winter	STORAGE 3	156	8.508	0.058	0.1	0.1757	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute winter	STORAGE 2	9.000	S3	-4.0	-0.606	-0.668	0.0244	
180 minute winter	STORAGE 3	3.000	S1	0.1	0.027	0.021	0.0550	

Results for 30 year 240 minute summer. 480 minute analysis at 4 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute summer	S1	176	8.487	0.171	1.0	0.1940	0.0000	SURCHARGED
240 minute summer	S2	212	7.418	0.712	4.9	1.1921	0.0000	SURCHARGED
240 minute summer	S3	216	7.412	0.781	5.4	1.1585	0.0000	SURCHARGED
240 minute summer	S4	256	6.844	0.257	1.6	0.2904	0.0000	SURCHARGED
240 minute summer	S5	256	6.844	0.639	3.6	1.3672	0.0000	SURCHARGED
240 minute summer	S6	116	6.202	0.020	2.0	0.0228	0.0000	OK
240 minute summer	OUTFALL	116	5.460	0.020	2.0	0.0000	0.0000	OK
240 minute summer	FC1	156	8.763	0.063	0.9	1.5349	0.0000	OK
240 minute summer	FC2	164	9.071	0.071	0.8	1.7048	0.0000	OK
240 minute summer	FC3	288	7.365	0.215	1.0	5.1708	0.0000	SURCHARGED
240 minute summer	FC4	288	7.365	0.215	1.0	5.1741	0.0000	SURCHARGED
240 minute summer	FC5	164	7.964	0.064	0.8	1.5509	0.0000	OK
240 minute summer	FC6	192	7.444	0.094	0.8	2.2581	0.0000	OK
240 minute summer	FC7	256	6.844	0.409	2.2	7.8871	0.0000	SURCHARGED
240 minute summer	STORAGE 1	212	7.418	0.573	4.4	10.4407	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute summer	S1	Orifice	S2	0.9				
240 minute summer	S2	Orifice	S3	2.5				
240 minute summer	S3	Orifice	S4	1.6				
240 minute summer	S4	1.004	S5	1.6	0.422	0.053	0.7003	
240 minute summer	S5	ACO Q-Brake	S6	2.0				
240 minute summer	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	41.5
240 minute summer	FC1	Orifice	S1	0.6				
240 minute summer	FC2	Orifice	S1	0.4				
240 minute summer	FC3	Orifice	S2	0.2				
240 minute summer	FC4	Orifice	S2	0.2				
240 minute summer	FC5	Orifice	S3	0.4				
240 minute summer	FC6	Orifice	S3	0.2				
240 minute summer	FC7	10.000	S5	-1.5	0.330	-0.261	0.0856	
240 minute summer	STORAGE 1	6.000	S2	-4.4	-0.567	-0.738	0.0111	

Results for 30 year 240 minute summer. 480 minute analysis at 4 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute summer	STORAGE 2	216	7.412	0.212	3.7	7.7817	0.0000	SURCHARGED
240 minute summer	STORAGE 3	176	8.487	0.037	0.1	0.1137	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute summer	STORAGE 2	9.000	S3	-3.7	-0.574	-0.628	0.0244	
240 minute summer	STORAGE 3	3.000	S1	0.1	-0.024	0.016	0.0461	

Results for 30 year 240 minute winter. 480 minute analysis at 4 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute winter	S1	184	8.493	0.177	1.0	0.2003	0.0000	SURCHARGED
240 minute winter	S2	228	7.474	0.768	4.1	1.2867	0.0000	SURCHARGED
240 minute winter	S3	232	7.468	0.837	5.0	1.2419	0.0000	SURCHARGED
240 minute winter	S4	252	6.894	0.307	1.6	0.3477	0.0000	SURCHARGED
240 minute winter	S5	252	6.894	0.689	3.4	1.4756	0.0000	SURCHARGED
240 minute winter	S6	104	6.202	0.020	2.0	0.0228	0.0000	OK
240 minute winter	OUTFALL	104	5.460	0.020	2.0	0.0000	0.0000	OK
240 minute winter	FC1	160	8.761	0.061	0.8	1.4882	0.0000	OK
240 minute winter	FC2	172	9.075	0.075	0.7	1.8089	0.0000	OK
240 minute winter	FC3	304	7.404	0.254	0.9	6.1104	0.0000	SURCHARGED
240 minute winter	FC4	304	7.404	0.254	0.9	6.1149	0.0000	SURCHARGED
240 minute winter	FC5	168	7.966	0.066	0.7	1.6097	0.0000	OK
240 minute winter	FC6	248	7.471	0.121	0.7	2.9156	0.0000	SURCHARGED
240 minute winter	FC7	252	6.894	0.459	2.1	8.8639	0.0000	SURCHARGED
240 minute winter	STORAGE 1	228	7.474	0.629	3.6	11.4708	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute winter	S1	Orifice	S2	0.9				
240 minute winter	S2	Orifice	S3	2.4				
240 minute winter	S3	Orifice	S4	1.6				
240 minute winter	S4	1.004	S5	1.6	0.423	0.053	0.7003	
240 minute winter	S5	ACO Q-Brake	S6	2.0				
240 minute winter	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	43.0
240 minute winter	FC1	Orifice	S1	0.6				
240 minute winter	FC2	Orifice	S1	0.4				
240 minute winter	FC3	Orifice	S2	0.2				
240 minute winter	FC4	Orifice	S2	0.2				
240 minute winter	FC5	Orifice	S3	0.5				
240 minute winter	FC6	Orifice	S3	0.2				
240 minute winter	FC7	10.000	S5	-1.4	0.333	-0.234	0.0856	
240 minute winter	STORAGE 1	6.000	S2	-3.6	-0.459	-0.598	0.0111	

Results for 30 year 240 minute winter. 480 minute analysis at 4 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute winter	STORAGE 2	232	7.468	0.268	3.3	9.8466	0.0000	SURCHARGED
240 minute winter	STORAGE 3	184	8.493	0.043	0.1	0.1307	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute winter	STORAGE 2	9.000	S3	-3.3	-0.540	-0.565	0.0244	
240 minute winter	STORAGE 3	3.000	S1	0.1	0.022	0.016	0.0486	

Results for 30 year 360 minute summer. 600 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute summer	S1	240	8.469	0.153	0.9	0.1728	0.0000	SURCHARGED
360 minute summer	S2	272	7.411	0.705	3.8	1.1806	0.0000	SURCHARGED
360 minute summer	S3	280	7.405	0.774	4.6	1.1486	0.0000	SURCHARGED
360 minute summer	S4	368	6.855	0.268	1.6	0.3034	0.0000	SURCHARGED
360 minute summer	S5	368	6.855	0.650	3.2	1.3918	0.0000	SURCHARGED
360 minute summer	S6	168	6.202	0.020	2.0	0.0228	0.0000	OK
360 minute summer	OUTFALL	168	5.460	0.020	2.0	0.0000	0.0000	OK
360 minute summer	FC1	216	8.754	0.054	0.7	1.3029	0.0000	OK
360 minute summer	FC2	224	9.065	0.065	0.7	1.5829	0.0000	OK
360 minute summer	FC3	368	7.379	0.229	0.9	5.4988	0.0000	SURCHARGED
360 minute summer	FC4	368	7.379	0.229	0.9	5.5041	0.0000	SURCHARGED
360 minute summer	FC5	224	7.959	0.059	0.7	1.4262	0.0000	OK
360 minute summer	FC6	264	7.444	0.094	0.6	2.2527	0.0000	OK
360 minute summer	FC7	368	6.855	0.420	1.7	8.1090	0.0000	SURCHARGED
360 minute summer	STORAGE 1	272	7.411	0.566	3.5	10.3155	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute summer	S1	Orifice	S2	0.8				
360 minute summer	S2	Orifice	S3	2.3				
360 minute summer	S3	Orifice	S4	1.6				
360 minute summer	S4	1.004	S5	1.6	0.423	0.053	0.7003	
360 minute summer	S5	ACO Q-Brake	S6	2.0				
360 minute summer	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	50.8
360 minute summer	FC1	Orifice	S1	0.5				
360 minute summer	FC2	Orifice	S1	0.4				
360 minute summer	FC3	Orifice	S2	0.2				
360 minute summer	FC4	Orifice	S2	0.2				
360 minute summer	FC5	Orifice	S3	0.4				
360 minute summer	FC6	Orifice	S3	0.2				
360 minute summer	FC7	10.000	S5	-1.1	0.327	-0.194	0.0856	
360 minute summer	STORAGE 1	6.000	S2	-3.5	-0.447	-0.583	0.0111	

Results for 30 year 360 minute summer. 600 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute summer	STORAGE 2	280	7.405	0.205	3.0	7.5340	0.0000	SURCHARGED
360 minute summer	STORAGE 3	240	8.469	0.019	0.0	0.0570	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute summer	STORAGE 2	9.000	S3	-3.0	-0.491	-0.504	0.0244	
360 minute summer	STORAGE 3	3.000	S1	0.0	-0.012	0.008	0.0388	

Results for 30 year 360 minute winter. 600 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute winter	S1	248	8.462	0.146	0.8	0.1654	0.0000	OK
360 minute winter	S2	288	7.456	0.750	3.2	1.2557	0.0000	SURCHARGED
360 minute winter	S3	296	7.450	0.819	4.2	1.2153	0.0000	SURCHARGED
360 minute winter	S4	360	6.900	0.313	1.6	0.3544	0.0000	SURCHARGED
360 minute winter	S5	360	6.900	0.695	2.9	1.4883	0.0000	SURCHARGED
360 minute winter	S6	152	6.202	0.020	2.0	0.0228	0.0000	OK
360 minute winter	OUTFALL	152	5.460	0.020	2.0	0.0000	0.0000	OK
360 minute winter	FC1	224	8.750	0.050	0.6	1.2225	0.0000	OK
360 minute winter	FC2	240	9.062	0.062	0.5	1.5029	0.0000	OK
360 minute winter	FC3	376	7.414	0.264	0.7	6.3492	0.0000	SURCHARGED
360 minute winter	FC4	376	7.414	0.264	0.7	6.3537	0.0000	SURCHARGED
360 minute winter	FC5	240	7.954	0.054	0.5	1.3020	0.0000	OK
360 minute winter	FC6	336	7.459	0.109	0.5	2.6135	0.0000	SURCHARGED
360 minute winter	FC7	360	6.900	0.465	1.6	8.9781	0.0000	SURCHARGED
360 minute winter	STORAGE 1	288	7.456	0.611	2.6	11.1334	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute winter	S1	Orifice	S2	0.8				
360 minute winter	S2	Orifice	S3	2.1				
360 minute winter	S3	Orifice	S4	1.6				
360 minute winter	S4	1.004	S5	1.6	0.422	0.053	0.7003	
360 minute winter	S5	ACO Q-Brake	S6	2.0				
360 minute winter	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	52.9
360 minute winter	FC1	Orifice	S1	0.5				
360 minute winter	FC2	Orifice	S1	0.4				
360 minute winter	FC3	Orifice	S2	0.2				
360 minute winter	FC4	Orifice	S2	0.2				
360 minute winter	FC5	Orifice	S3	0.4				
360 minute winter	FC6	Orifice	S3	0.2				
360 minute winter	FC7	10.000	S5	-1.1	0.326	-0.179	0.0856	
360 minute winter	STORAGE 1	6.000	S2	-2.6	-0.329	-0.429	0.0111	

Results for 30 year 360 minute winter. 600 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute winter	STORAGE 2	296	7.450	0.250	2.5	9.1870	0.0000	SURCHARGED
360 minute winter	STORAGE 3	248	8.462	0.012	0.0	0.0370	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute winter	STORAGE 2	9.000	S3	-2.5	-0.422	-0.422	0.0244	
360 minute winter	STORAGE 3	3.000	S1	0.0	0.010	0.006	0.0363	

Results for 30 year 480 minute summer. 720 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute summer	S1	296	8.455	0.139	0.8	0.1567	0.0000	OK
480 minute summer	S2	336	7.398	0.692	3.2	1.1593	0.0000	SURCHARGED
480 minute summer	S3	344	7.393	0.762	4.2	1.1305	0.0000	SURCHARGED
480 minute summer	S4	464	6.846	0.259	1.6	0.2933	0.0000	SURCHARGED
480 minute summer	S5	464	6.846	0.641	3.0	1.3728	0.0000	SURCHARGED
480 minute summer	S6	232	6.202	0.020	2.0	0.0228	0.0000	OK
480 minute summer	OUTFALL	232	5.460	0.020	2.0	0.0000	0.0000	OK
480 minute summer	FC1	280	8.748	0.048	0.6	1.1576	0.0000	OK
480 minute summer	FC2	296	9.059	0.059	0.6	1.4234	0.0000	OK
480 minute summer	FC3	472	7.376	0.226	0.8	5.4360	0.0000	SURCHARGED
480 minute summer	FC4	472	7.376	0.226	0.8	5.4422	0.0000	SURCHARGED
480 minute summer	FC5	288	7.952	0.052	0.6	1.2603	0.0000	OK
480 minute summer	FC6	328	7.434	0.084	0.5	2.0178	0.0000	OK
480 minute summer	FC7	464	6.846	0.411	1.5	7.9371	0.0000	SURCHARGED
480 minute summer	STORAGE 1	336	7.398	0.553	2.8	10.0835	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute summer	S1	Orifice	S2	0.8				
480 minute summer	S2	Orifice	S3	2.1				
480 minute summer	S3	Orifice	S4	1.6				
480 minute summer	S4	1.004	S5	1.6	0.423	0.054	0.7003	
480 minute summer	S5	ACO Q-Brake	S6	2.0				
480 minute summer	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	60.0
480 minute summer	FC1	Orifice	S1	0.5				
480 minute summer	FC2	Orifice	S1	0.3				
480 minute summer	FC3	Orifice	S2	0.2				
480 minute summer	FC4	Orifice	S2	0.2				
480 minute summer	FC5	Orifice	S3	0.4				
480 minute summer	FC6	Orifice	S3	0.2				
480 minute summer	FC7	10.000	S5	-1.0	0.327	-0.175	0.0856	
480 minute summer	STORAGE 1	6.000	S2	-2.8	-0.357	-0.465	0.0111	

Results for 30 year 480 minute summer. 720 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute summer	STORAGE 2	344	7.393	0.193	2.6	7.0863	0.0000	SURCHARGED
480 minute summer	STORAGE 3	296	8.455	0.005	0.0	0.0137	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute summer	STORAGE 2	9.000	S3	-2.6	-0.469	-0.434	0.0244	
480 minute summer	STORAGE 3	3.000	S1	0.0	0.006	-0.003	0.0327	

Results for 30 year 480 minute winter. 720 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute winter	S1	304	8.442	0.126	0.8	0.1429	0.0000	OK
480 minute winter	S2	368	7.439	0.733	2.7	1.2276	0.0000	SURCHARGED
480 minute winter	S3	368	7.433	0.802	3.6	1.1905	0.0000	SURCHARGED
480 minute winter	S4	472	6.895	0.308	1.6	0.3478	0.0000	SURCHARGED
480 minute winter	S5	472	6.894	0.689	2.7	1.4759	0.0000	SURCHARGED
480 minute winter	S6	208	6.202	0.020	2.0	0.0228	0.0000	OK
480 minute winter	OUTFALL	208	5.460	0.020	2.0	0.0000	0.0000	OK
480 minute winter	FC1	280	8.744	0.044	0.5	1.0676	0.0000	OK
480 minute winter	FC2	304	9.055	0.055	0.4	1.3252	0.0000	OK
480 minute winter	FC3	472	7.415	0.265	0.6	6.3619	0.0000	SURCHARGED
480 minute winter	FC4	472	7.415	0.265	0.6	6.3690	0.0000	SURCHARGED
480 minute winter	FC5	296	7.947	0.047	0.4	1.1404	0.0000	OK
480 minute winter	FC6	392	7.448	0.098	0.4	2.3614	0.0000	OK
480 minute winter	FC7	472	6.894	0.459	1.2	8.8678	0.0000	SURCHARGED
480 minute winter	STORAGE 1	368	7.439	0.594	2.0	10.8272	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute winter	S1	Orifice	S2	0.8				
480 minute winter	S2	Orifice	S3	1.8				
480 minute winter	S3	Orifice	S4	1.6				
480 minute winter	S4	1.004	S5	1.6	0.422	0.054	0.7003	
480 minute winter	S5	ACO Q-Brake	S6	2.0				
480 minute winter	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	62.4
480 minute winter	FC1	Orifice	S1	0.4				
480 minute winter	FC2	Orifice	S1	0.3				
480 minute winter	FC3	Orifice	S2	0.2				
480 minute winter	FC4	Orifice	S2	0.2				
480 minute winter	FC5	Orifice	S3	0.4				
480 minute winter	FC6	Orifice	S3	0.2				
480 minute winter	FC7	10.000	S5	-0.8	0.327	-0.144	0.0856	
480 minute winter	STORAGE 1	6.000	S2	-2.0	-0.259	-0.337	0.0111	

Results for 30 year 480 minute winter. 720 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute winter	STORAGE 2	368	7.433	0.233	1.9	8.5735	0.0000	SURCHARGED
480 minute winter	STORAGE 3	8	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute winter	STORAGE 2	9.000	S3	-1.9	-0.382	-0.326	0.0244	
480 minute winter	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0282	

Results for 30 year 600 minute summer. 840 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute summer	S1	345	8.436	0.120	0.7	0.1357	0.0000	OK
600 minute summer	S2	405	7.375	0.669	2.8	1.1211	0.0000	SURCHARGED
600 minute summer	S3	405	7.370	0.739	3.6	1.0965	0.0000	SURCHARGED
600 minute summer	S4	510	6.832	0.245	1.6	0.2776	0.0000	SURCHARGED
600 minute summer	S5	510	6.832	0.627	2.8	1.3430	0.0000	SURCHARGED
600 minute summer	S6	285	6.202	0.020	2.0	0.0228	0.0000	OK
600 minute summer	OUTFALL	285	5.460	0.020	2.0	0.0000	0.0000	OK
600 minute summer	FC1	345	8.743	0.043	0.5	1.0460	0.0000	OK
600 minute summer	FC2	345	9.049	0.049	0.5	1.1959	0.0000	OK
600 minute summer	FC3	525	7.359	0.209	0.7	5.0329	0.0000	SURCHARGED
600 minute summer	FC4	525	7.359	0.209	0.7	5.0387	0.0000	SURCHARGED
600 minute summer	FC5	345	7.944	0.044	0.5	1.0609	0.0000	OK
600 minute summer	FC6	375	7.428	0.078	0.4	1.8861	0.0000	OK
600 minute summer	FC7	510	6.832	0.397	1.2	7.6688	0.0000	SURCHARGED
600 minute summer	STORAGE 1	405	7.375	0.530	2.3	9.6686	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute summer	S1	Orifice	S2	0.7				
600 minute summer	S2	Orifice	S3	1.8				
600 minute summer	S3	Orifice	S4	1.6				
600 minute summer	S4	1.004	S5	1.6	0.422	0.053	0.7003	
600 minute summer	S5	ACO Q-Brake	S6	2.0				
600 minute summer	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	66.7
600 minute summer	FC1	Orifice	S1	0.4				
600 minute summer	FC2	Orifice	S1	0.3				
600 minute summer	FC3	Orifice	S2	0.2				
600 minute summer	FC4	Orifice	S2	0.2				
600 minute summer	FC5	Orifice	S3	0.3				
600 minute summer	FC6	Orifice	S3	0.2				
600 minute summer	FC7	10.000	S5	-0.8	0.313	-0.137	0.0856	
600 minute summer	STORAGE 1	6.000	S2	-2.3	-0.290	-0.377	0.0111	

Results for 30 year 600 minute summer. 840 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute summer	STORAGE 2	405	7.370	0.170	2.0	6.2431	0.0000	SURCHARGED
600 minute summer	STORAGE 3	15	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute summer	STORAGE 2	9.000	S3	-2.0	-0.432	-0.333	0.0244	
600 minute summer	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0257	

Results for 30 year 600 minute winter. 840 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute winter	S1	360	8.423	0.107	0.7	0.1205	0.0000	OK
600 minute winter	S2	435	7.412	0.706	2.3	1.1832	0.0000	SURCHARGED
600 minute winter	S3	435	7.407	0.776	3.1	1.1511	0.0000	SURCHARGED
600 minute winter	S4	570	6.882	0.295	1.6	0.3332	0.0000	SURCHARGED
600 minute winter	S5	570	6.881	0.676	2.5	1.4482	0.0000	SURCHARGED
600 minute winter	S6	270	6.202	0.020	2.0	0.0228	0.0000	OK
600 minute winter	OUTFALL	270	5.460	0.020	2.0	0.0000	0.0000	OK
600 minute winter	FC1	345	8.738	0.038	0.4	0.9224	0.0000	OK
600 minute winter	FC2	345	9.049	0.049	0.4	1.1777	0.0000	OK
600 minute winter	FC3	555	7.400	0.250	0.5	5.9981	0.0000	SURCHARGED
600 minute winter	FC4	555	7.400	0.250	0.5	6.0052	0.0000	SURCHARGED
600 minute winter	FC5	345	7.942	0.042	0.4	1.0297	0.0000	OK
600 minute winter	FC6	435	7.435	0.085	0.3	2.0492	0.0000	OK
600 minute winter	FC7	570	6.882	0.447	1.1	8.6183	0.0000	SURCHARGED
600 minute winter	STORAGE 1	435	7.412	0.567	1.7	10.3441	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute winter	S1	Orifice	S2	0.7				
600 minute winter	S2	Orifice	S3	1.6				
600 minute winter	S3	Orifice	S4	1.6				
600 minute winter	S4	1.004	S5	1.6	0.422	0.054	0.7003	
600 minute winter	S5	ACO Q-Brake	S6	2.0				
600 minute winter	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	71.5
600 minute winter	FC1	Orifice	S1	0.4				
600 minute winter	FC2	Orifice	S1	0.3				
600 minute winter	FC3	Orifice	S2	0.2				
600 minute winter	FC4	Orifice	S2	0.2				
600 minute winter	FC5	Orifice	S3	0.3				
600 minute winter	FC6	Orifice	S3	0.2				
600 minute winter	FC7	10.000	S5	-0.8	0.340	-0.128	0.0856	
600 minute winter	STORAGE 1	6.000	S2	-1.7	-0.211	-0.275	0.0111	

Results for 30 year 600 minute winter. 840 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute winter	STORAGE 2	435	7.407	0.207	1.5	7.5987	0.0000	SURCHARGED
600 minute winter	STORAGE 3	15	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute winter	STORAGE 2	9.000	S3	-1.5	-0.348	-0.256	0.0244	
600 minute winter	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0201	

Results for 30 year 720 minute summer. 960 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute summer	S1	405	8.424	0.108	0.7	0.1218	0.0000	OK
720 minute summer	S2	465	7.358	0.652	2.5	1.0926	0.0000	SURCHARGED
720 minute summer	S3	465	7.352	0.721	3.4	1.0706	0.0000	SURCHARGED
720 minute summer	S4	585	6.816	0.229	1.6	0.2587	0.0000	SURCHARGED
720 minute summer	S5	585	6.816	0.611	2.7	1.3073	0.0000	SURCHARGED
720 minute summer	S6	345	6.202	0.020	2.0	0.0228	0.0000	OK
720 minute summer	OUTFALL	345	5.460	0.020	2.0	0.0000	0.0000	OK
720 minute summer	FC1	405	8.739	0.039	0.5	0.9547	0.0000	OK
720 minute summer	FC2	420	9.047	0.047	0.4	1.1348	0.0000	OK
720 minute summer	FC3	585	7.347	0.197	0.6	4.7371	0.0000	SURCHARGED
720 minute summer	FC4	585	7.347	0.197	0.6	4.7426	0.0000	SURCHARGED
720 minute summer	FC5	405	7.941	0.041	0.4	1.0042	0.0000	OK
720 minute summer	FC6	450	7.425	0.075	0.4	1.8132	0.0000	OK
720 minute summer	FC7	585	6.816	0.381	1.0	7.3465	0.0000	SURCHARGED
720 minute summer	STORAGE 1	465	7.358	0.513	2.1	9.3579	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute summer	S1	Orifice	S2	0.7				
720 minute summer	S2	Orifice	S3	1.7				
720 minute summer	S3	Orifice	S4	1.6				
720 minute summer	S4	1.004	S5	1.6	0.421	0.054	0.7003	
720 minute summer	S5	ACO Q-Brake	S6	2.0				
720 minute summer	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	73.0
720 minute summer	FC1	Orifice	S1	0.4				
720 minute summer	FC2	Orifice	S1	0.3				
720 minute summer	FC3	Orifice	S2	0.2				
720 minute summer	FC4	Orifice	S2	0.2				
720 minute summer	FC5	Orifice	S3	0.3				
720 minute summer	FC6	Orifice	S3	0.2				
720 minute summer	FC7	10.000	S5	-0.7	0.337	-0.125	0.0856	
720 minute summer	STORAGE 1	6.000	S2	-2.1	0.318	-0.350	0.0111	

Results for 30 year 720 minute summer. 960 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute summer	STORAGE 2	465	7.352	0.152	1.8	5.6036	0.0000	SURCHARGED
720 minute summer	STORAGE 3	15	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute summer	STORAGE 2	9.000	S3	-1.8	-0.391	-0.299	0.0244	
720 minute summer	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0205	

Results for 30 year 720 minute winter. 960 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute winter	S1	405	8.399	0.083	0.6	0.0940	0.0000	OK
720 minute winter	S2	510	7.392	0.686	2.1	1.1493	0.0000	SURCHARGED
720 minute winter	S3	510	7.386	0.755	2.8	1.1211	0.0000	SURCHARGED
720 minute winter	S4	600	6.862	0.275	1.6	0.3115	0.0000	SURCHARGED
720 minute winter	S5	600	6.862	0.657	2.4	1.4071	0.0000	SURCHARGED
720 minute winter	S6	330	6.202	0.020	2.0	0.0228	0.0000	OK
720 minute winter	OUTFALL	330	5.460	0.020	2.0	0.0000	0.0000	OK
720 minute winter	FC1	390	8.734	0.034	0.4	0.8152	0.0000	OK
720 minute winter	FC2	435	9.043	0.043	0.3	1.0404	0.0000	OK
720 minute winter	FC3	615	7.390	0.240	0.4	5.7638	0.0000	SURCHARGED
720 minute winter	FC4	615	7.390	0.240	0.4	5.7711	0.0000	SURCHARGED
720 minute winter	FC5	435	7.937	0.037	0.3	0.8862	0.0000	OK
720 minute winter	FC6	480	7.431	0.081	0.3	1.9492	0.0000	OK
720 minute winter	FC7	600	6.862	0.427	1.0	8.2471	0.0000	SURCHARGED
720 minute winter	STORAGE 1	510	7.392	0.547	1.4	9.9751	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute winter	S1	Orifice	S2	0.6				
720 minute winter	S2	Orifice	S3	1.4				
720 minute winter	S3	Orifice	S4	1.6				
720 minute winter	S4	1.004	S5	1.6	0.422	0.054	0.7003	
720 minute winter	S5	ACO Q-Brake	S6	2.0				
720 minute winter	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	80.1
720 minute winter	FC1	Orifice	S1	0.3				
720 minute winter	FC2	Orifice	S1	0.3				
720 minute winter	FC3	Orifice	S2	0.2				
720 minute winter	FC4	Orifice	S2	0.2				
720 minute winter	FC5	Orifice	S3	0.3				
720 minute winter	FC6	Orifice	S3	0.2				
720 minute winter	FC7	10.000	S5	-0.7	0.313	-0.111	0.0856	
720 minute winter	STORAGE 1	6.000	S2	-1.4	-0.184	-0.237	0.0111	

Results for 30 year 720 minute winter. 960 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute winter	STORAGE 2	510	7.386	0.186	1.2	6.8529	0.0000	SURCHARGED
720 minute winter	STORAGE 3	15	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute winter	STORAGE 2	9.000	S3	-1.2	-0.300	-0.205	0.0244	
720 minute winter	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0099	

Results for 30 year 960 minute summer. 1200 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
960 minute summer	S1	525	8.405	0.089	0.6	0.1002	0.0000	OK
960 minute summer	S2	600	7.322	0.616	2.1	1.0316	0.0000	SURCHARGED
960 minute summer	S3	600	7.316	0.685	2.9	1.0162	0.0000	SURCHARGED
960 minute summer	S4	735	6.781	0.194	1.6	0.2190	0.0000	OK
960 minute summer	S5	735	6.780	0.575	2.4	1.2321	0.0000	SURCHARGED
960 minute summer	S6	465	6.202	0.020	2.0	0.0228	0.0000	OK
960 minute summer	OUTFALL	465	5.460	0.020	2.0	0.0000	0.0000	OK
960 minute summer	FC1	510	8.736	0.036	0.4	0.8691	0.0000	OK
960 minute summer	FC2	525	9.038	0.038	0.3	0.9269	0.0000	OK
960 minute summer	FC3	690	7.321	0.171	0.4	4.1087	0.0000	SURCHARGED
960 minute summer	FC4	690	7.321	0.171	0.4	4.1136	0.0000	SURCHARGED
960 minute summer	FC5	525	7.934	0.034	0.3	0.8289	0.0000	OK
960 minute summer	FC6	570	7.417	0.067	0.3	1.6070	0.0000	OK
960 minute summer	FC7	735	6.780	0.345	0.7	6.6688	0.0000	SURCHARGED
960 minute summer	STORAGE 1	600	7.322	0.477	1.7	8.6943	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m^3)	Discharge Vol (m^3)
960 minute summer	S1	Orifice	S2	0.6				
960 minute summer	S2	Orifice	S3	1.5				
960 minute summer	S3	Orifice	S4	1.6				
960 minute summer	S4	1.004	S5	1.6	0.423	0.054	0.6703	
960 minute summer	S5	ACO Q-Brake	S6	2.0				
960 minute summer	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	82.1
960 minute summer	FC1	Orifice	S1	0.4				
960 minute summer	FC2	Orifice	S1	0.3				
960 minute summer	FC3	Orifice	S2	0.2				
960 minute summer	FC4	Orifice	S2	0.2				
960 minute summer	FC5	Orifice	S3	0.3				
960 minute summer	FC6	Orifice	S3	0.2				
960 minute summer	FC7	10.000	S5	1.6	0.313	0.265	0.0856	
960 minute summer	STORAGE 1	6.000	S2	-1.7	0.391	-0.282	0.0111	

Results for 30 year 960 minute summer. 1200 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute summer	STORAGE 2	600	7.316	0.116	1.4	4.2567	0.0000	SURCHARGED
960 minute summer	STORAGE 3	15	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute summer	STORAGE 2	9.000	S3	-1.4	-0.294	-0.232	0.0244	
960 minute summer	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0122	

Results for 30 year 960 minute winter. 1200 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
960 minute winter	S1	525	8.387	0.071	0.5	0.0809	0.0000	OK
960 minute winter	S2	660	7.333	0.627	1.7	1.0501	0.0000	SURCHARGED
960 minute winter	S3	660	7.326	0.695	2.4	1.0319	0.0000	SURCHARGED
960 minute winter	S4	765	6.801	0.214	1.6	0.2419	0.0000	OK
960 minute winter	S5	765	6.801	0.596	2.2	1.2755	0.0000	SURCHARGED
960 minute winter	S6	465	6.202	0.020	2.0	0.0228	0.0000	OK
960 minute winter	OUTFALL	465	5.460	0.020	2.0	0.0000	0.0000	OK
960 minute winter	FC1	540	8.731	0.031	0.3	0.7627	0.0000	OK
960 minute winter	FC2	525	9.036	0.036	0.3	0.8610	0.0000	OK
960 minute winter	FC3	735	7.341	0.191	0.4	4.5866	0.0000	SURCHARGED
960 minute winter	FC4	735	7.341	0.191	0.4	4.5930	0.0000	SURCHARGED
960 minute winter	FC5	510	7.932	0.032	0.3	0.7815	0.0000	OK
960 minute winter	FC6	600	7.411	0.061	0.2	1.4786	0.0000	OK
960 minute winter	FC7	765	6.801	0.366	0.7	7.0596	0.0000	SURCHARGED
960 minute winter	STORAGE 1	660	7.333	0.488	1.1	8.8958	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m^3)	Discharge Vol (m^3)
960 minute winter	S1	Orifice	S2	0.5				
960 minute winter	S2	Orifice	S3	1.3				
960 minute winter	S3	Orifice	S4	1.6				
960 minute winter	S4	1.004	S5	1.6	0.424	0.055	0.6937	
960 minute winter	S5	ACO Q-Brake	S6	2.0				
960 minute winter	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	92.3
960 minute winter	FC1	Orifice	S1	0.3				
960 minute winter	FC2	Orifice	S1	0.2				
960 minute winter	FC3	Orifice	S2	0.2				
960 minute winter	FC4	Orifice	S2	0.2				
960 minute winter	FC5	Orifice	S3	0.3				
960 minute winter	FC6	Orifice	S3	0.2				
960 minute winter	FC7	10.000	S5	1.5	0.410	0.261	0.0856	
960 minute winter	STORAGE 1	6.000	S2	-1.1	0.350	-0.185	0.0111	

Results for 30 year 960 minute winter. 1200 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute winter	STORAGE 2	660	7.326	0.126	0.9	4.6430	0.0000	SURCHARGED
960 minute winter	STORAGE 3	15	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute winter	STORAGE 2	9.000	S3	-0.9	-0.255	-0.149	0.0244	
960 minute winter	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0054	

Results for 30 year 1440 minute summer. 1680 minute analysis at 30 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute summer	S1	750	8.374	0.058	0.5	0.0651	0.0000	OK
1440 minute summer	S2	870	7.263	0.557	1.7	0.9338	0.0000	SURCHARGED
1440 minute summer	S3	870	7.256	0.625	2.0	0.9275	0.0000	SURCHARGED
1440 minute summer	S4	870	6.623	0.036	1.6	0.0407	0.0000	OK
1440 minute summer	S5	900	6.534	0.329	2.1	0.7040	0.0000	SURCHARGED
1440 minute summer	S6	720	6.202	0.020	2.0	0.0228	0.0000	OK
1440 minute summer	OUTFALL	720	5.460	0.020	2.0	0.0000	0.0000	OK
1440 minute summer	FC1	750	8.730	0.030	0.3	0.7249	0.0000	OK
1440 minute summer	FC2	810	9.029	0.029	0.2	0.6892	0.0000	OK
1440 minute summer	FC3	930	7.272	0.122	0.3	2.9250	0.0000	SURCHARGED
1440 minute summer	FC4	930	7.272	0.122	0.3	2.9291	0.0000	SURCHARGED
1440 minute summer	FC5	810	7.927	0.027	0.2	0.6452	0.0000	OK
1440 minute summer	FC6	840	7.405	0.055	0.2	1.3280	0.0000	OK
1440 minute summer	FC7	900	6.534	0.099	0.3	1.9083	0.0000	OK
1440 minute summer	STORAGE 1	870	7.263	0.418	1.1	7.6291	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute summer	S1	Orifice	S2	0.5				
1440 minute summer	S2	Orifice	S3	1.1				
1440 minute summer	S3	Orifice	S4	1.6				
1440 minute summer	S4	1.004	S5	1.6	0.422	0.052	0.0655	
1440 minute summer	S5	ACO Q-Brake	S6	2.0				
1440 minute summer	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	87.5
1440 minute summer	FC1	Orifice	S1	0.3				
1440 minute summer	FC2	Orifice	S1	0.2				
1440 minute summer	FC3	Orifice	S2	0.2				
1440 minute summer	FC4	Orifice	S2	0.2				
1440 minute summer	FC5	Orifice	S3	0.2				
1440 minute summer	FC6	Orifice	S3	0.1				
1440 minute summer	FC7	10.000	S5	0.4	0.328	0.062	0.0855	
1440 minute summer	STORAGE 1	6.000	S2	-1.1	0.252	-0.189	0.0111	

Results for 30 year 1440 minute summer. 1680 minute analysis at 30 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute summer	STORAGE 2	870	7.256	0.056	0.5	2.0578	0.0000	OK
1440 minute summer	STORAGE 3	30	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute summer	STORAGE 2	9.000	S3	-0.5	0.217	-0.085	0.0182	
1440 minute summer	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0012	

Results for 30 year 1440 minute winter. 1680 minute analysis at 30 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute winter	S1	840	8.363	0.047	0.4	0.0535	0.0000	OK
1440 minute winter	S2	900	7.282	0.576	1.4	0.9644	0.0000	SURCHARGED
1440 minute winter	S3	900	7.274	0.643	2.0	0.9539	0.0000	SURCHARGED
1440 minute winter	S4	900	6.623	0.036	1.6	0.0409	0.0000	OK
1440 minute winter	S5	960	6.530	0.325	2.0	0.6966	0.0000	SURCHARGED
1440 minute winter	S6	1110	6.202	0.020	2.0	0.0228	0.0000	OK
1440 minute winter	OUTFALL	1110	5.460	0.020	2.0	0.0000	0.0000	OK
1440 minute winter	FC1	870	8.724	0.024	0.2	0.5873	0.0000	OK
1440 minute winter	FC2	840	9.029	0.029	0.2	0.6956	0.0000	OK
1440 minute winter	FC3	990	7.291	0.141	0.3	3.3781	0.0000	SURCHARGED
1440 minute winter	FC4	990	7.291	0.141	0.3	3.3831	0.0000	SURCHARGED
1440 minute winter	FC5	840	7.927	0.027	0.2	0.6476	0.0000	OK
1440 minute winter	FC6	840	7.407	0.057	0.2	1.3678	0.0000	OK
1440 minute winter	FC7	960	6.530	0.095	0.2	1.8417	0.0000	OK
1440 minute winter	STORAGE 1	900	7.282	0.437	0.7	7.9626	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute winter	S1	Orifice	S2	0.4				
1440 minute winter	S2	Orifice	S3	1.1				
1440 minute winter	S3	Orifice	S4	1.6				
1440 minute winter	S4	1.004	S5	1.6	0.424	0.053	0.0662	
1440 minute winter	S5	ACO Q-Brake	S6	2.0				
1440 minute winter	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	104.0
1440 minute winter	FC1	Orifice	S1	0.2				
1440 minute winter	FC2	Orifice	S1	0.2				
1440 minute winter	FC3	Orifice	S2	0.2				
1440 minute winter	FC4	Orifice	S2	0.2				
1440 minute winter	FC5	Orifice	S3	0.2				
1440 minute winter	FC6	Orifice	S3	0.1				
1440 minute winter	FC7	10.000	S5	0.4	0.284	0.060	0.0849	
1440 minute winter	STORAGE 1	6.000	S2	-0.7	0.229	-0.118	0.0111	

Results for 30 year 1440 minute winter. 1680 minute analysis at 30 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute winter	STORAGE 2	900	7.274	0.074	0.4	2.7125	0.0000	OK
1440 minute winter	STORAGE 3	30	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute winter	STORAGE 2	9.000	S3	-0.4	0.236	-0.074	0.0219	
1440 minute winter	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0000	

Results for 100 year 15 minute summer. 255 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1	50	8.472	0.156	1.0	0.1760	0.0000	SURCHARGED
15 minute summer	S2	38	7.351	0.645	7.8	1.0807	0.0000	SURCHARGED
15 minute summer	S3	52	7.296	0.665	6.0	0.9863	0.0000	SURCHARGED
15 minute summer	S4	149	6.711	0.124	1.6	0.1400	0.0000	OK
15 minute summer	S5	149	6.711	0.506	4.4	1.0826	0.0000	SURCHARGED
15 minute summer	S6	13	6.202	0.020	2.0	0.0227	0.0000	OK
15 minute summer	OUTFALL	13	5.460	0.020	2.0	0.0000	0.0000	OK
15 minute summer	FC1	38	8.766	0.066	1.3	1.5985	0.0000	OK
15 minute summer	FC2	38	9.068	0.068	1.2	1.6408	0.0000	OK
15 minute summer	FC3	102	7.263	0.113	1.4	2.7071	0.0000	SURCHARGED
15 minute summer	FC4	102	7.263	0.113	1.4	2.7086	0.0000	SURCHARGED
15 minute summer	FC5	38	7.965	0.065	1.2	1.5720	0.0000	OK
15 minute summer	FC6	40	7.420	0.070	1.1	1.6921	0.0000	OK
15 minute summer	FC7	149	6.711	0.276	3.3	5.3203	0.0000	SURCHARGED
15 minute summer	STORAGE 1	38	7.352	0.507	8.1	9.2363	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S1	Orifice	S2	0.8				
15 minute summer	S2	Orifice	S3	2.7				
15 minute summer	S3	Orifice	S4	1.6				
15 minute summer	S4	1.004	S5	1.6	0.413	0.054	0.5010	
15 minute summer	S5	ACO Q-Brake	S6	2.0				
15 minute summer	S6	1.006	OUTFALL	2.0	1.165	0.016	0.0220	21.5
15 minute summer	FC1	Orifice	S1	0.6				
15 minute summer	FC2	Orifice	S1	0.4				
15 minute summer	FC3	Orifice	S2	0.2				
15 minute summer	FC4	Orifice	S2	0.2				
15 minute summer	FC5	Orifice	S3	0.4				
15 minute summer	FC6	Orifice	S3	0.2				
15 minute summer	FC7	10.000	S5	-2.2	-0.308	-0.372	0.0856	
15 minute summer	STORAGE 1	6.000	S2	-8.1	-1.352	-1.351	0.0111	

Results for 100 year 15 minute summer. 255 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
15 minute summer	STORAGE 2	52	7.296	0.096	4.3	3.5180	0.0000	OK
15 minute summer	STORAGE 3	50	8.472	0.022	0.1	0.0656	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m^3)	Discharge Vol (m^3)
15 minute summer	STORAGE 2	9.000	S3	-4.3	-0.769	-0.727	0.0242	
15 minute summer	STORAGE 3	3.000	S1	-0.1	0.042	-0.023	0.0398	

Results for 100 year 15 minute winter. 255 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S1	52	8.484	0.168	1.0	0.1905	0.0000	SURCHARGED
15 minute winter	S2	38	7.383	0.677	8.7	1.1348	0.0000	SURCHARGED
15 minute winter	S3	53	7.327	0.696	6.7	1.0326	0.0000	SURCHARGED
15 minute winter	S4	126	6.738	0.151	1.6	0.1713	0.0000	OK
15 minute winter	S5	126	6.738	0.533	4.8	1.1418	0.0000	SURCHARGED
15 minute winter	S6	12	6.202	0.020	2.0	0.0228	0.0000	OK
15 minute winter	OUTFALL	12	5.460	0.020	2.0	0.0000	0.0000	OK
15 minute winter	FC1	38	8.772	0.072	1.4	1.7553	0.0000	OK
15 minute winter	FC2	39	9.075	0.075	1.3	1.8064	0.0000	OK
15 minute winter	FC3	116	7.281	0.131	1.5	3.1428	0.0000	SURCHARGED
15 minute winter	FC4	116	7.281	0.131	1.5	3.1445	0.0000	SURCHARGED
15 minute winter	FC5	38	7.971	0.071	1.3	1.7278	0.0000	OK
15 minute winter	FC6	40	7.429	0.079	1.2	1.8969	0.0000	OK
15 minute winter	FC7	126	6.738	0.303	3.7	5.8541	0.0000	SURCHARGED
15 minute winter	STORAGE 1	38	7.384	0.539	8.7	9.8221	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	S1	Orifice	S2	0.9				
15 minute winter	S2	Orifice	S3	2.9				
15 minute winter	S3	Orifice	S4	1.6				
15 minute winter	S4	1.004	S5	1.6	0.413	0.053	0.5903	
15 minute winter	S5	ACO Q-Brake	S6	2.0				
15 minute winter	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	22.0
15 minute winter	FC1	Orifice	S1	0.6				
15 minute winter	FC2	Orifice	S1	0.4				
15 minute winter	FC3	Orifice	S2	0.2				
15 minute winter	FC4	Orifice	S2	0.2				
15 minute winter	FC5	Orifice	S3	0.5				
15 minute winter	FC6	Orifice	S3	0.2				
15 minute winter	FC7	10.000	S5	-2.5	-0.353	-0.424	0.0856	
15 minute winter	STORAGE 1	6.000	S2	-8.7	-1.398	-1.454	0.0111	

Results for 100 year 15 minute winter. 255 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	STORAGE 2	53	7.327	0.127	5.0	4.6635	0.0000	SURCHARGED
15 minute winter	STORAGE 3	52	8.484	0.034	0.2	0.1045	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	STORAGE 2	9.000	S3	-5.0	-0.824	-0.852	0.0244	
15 minute winter	STORAGE 3	3.000	S1	-0.2	-0.043	-0.026	0.0449	

Results for 100 year 30 minute summer. 270 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute summer	S1	64	8.512	0.196	1.1	0.2216	0.0000	SURCHARGED
30 minute summer	S2	46	7.431	0.725	9.6	1.2148	0.0000	SURCHARGED
30 minute summer	S3	63	7.381	0.750	7.4	1.1131	0.0000	SURCHARGED
30 minute summer	S4	100	6.787	0.200	1.6	0.2257	0.0000	OK
30 minute summer	S5	93	6.786	0.581	5.4	1.2449	0.0000	SURCHARGED
30 minute summer	S6	18	6.202	0.020	2.0	0.0228	0.0000	OK
30 minute summer	OUTFALL	18	5.460	0.020	2.0	0.0000	0.0000	OK
30 minute summer	FC1	46	8.783	0.083	1.7	2.0165	0.0000	OK
30 minute summer	FC2	48	9.087	0.087	1.5	2.1097	0.0000	OK
30 minute summer	FC3	146	7.317	0.167	1.7	4.0056	0.0000	SURCHARGED
30 minute summer	FC4	147	7.317	0.167	1.7	4.0079	0.0000	SURCHARGED
30 minute summer	FC5	47	7.983	0.083	1.5	2.0117	0.0000	OK
30 minute summer	FC6	52	7.441	0.091	1.4	2.1954	0.0000	OK
30 minute summer	FC7	99	6.786	0.351	4.3	6.7824	0.0000	SURCHARGED
30 minute summer	STORAGE 1	46	7.431	0.586	8.8	10.6916	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute summer	S1	Orifice	S2	1.0				
30 minute summer	S2	Orifice	S3	2.9				
30 minute summer	S3	Orifice	S4	1.6				
30 minute summer	S4	1.004	S5	1.6	0.413	0.054	0.6782	
30 minute summer	S5	ACO Q-Brake	S6	2.0				
30 minute summer	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	23.8
30 minute summer	FC1	Orifice	S1	0.7				
30 minute summer	FC2	Orifice	S1	0.4				
30 minute summer	FC3	Orifice	S2	0.2				
30 minute summer	FC4	Orifice	S2	0.2				
30 minute summer	FC5	Orifice	S3	0.5				
30 minute summer	FC6	Orifice	S3	0.2				
30 minute summer	FC7	10.000	S5	-2.9	-0.373	-0.494	0.0856	
30 minute summer	STORAGE 1	6.000	S2	-8.8	-1.179	-1.463	0.0111	

Results for 100 year 30 minute summer. 270 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
30 minute summer	STORAGE 2	63	7.381	0.181	5.7	6.6582	0.0000	SURCHARGED
30 minute summer	STORAGE 3	64	8.512	0.062	0.2	0.1877	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m^3)	Discharge Vol (m^3)
30 minute summer	STORAGE 2	9.000	S3	-5.7	-0.884	-0.962	0.0244	
30 minute summer	STORAGE 3	3.000	S1	-0.2	-0.049	-0.032	0.0567	

Results for 100 year 30 minute winter. 270 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute winter	S1	67	8.535	0.219	1.2	0.2477	0.0000	SURCHARGED
30 minute winter	S2	47	7.479	0.773	10.4	1.2942	0.0000	SURCHARGED
30 minute winter	S3	65	7.423	0.792	8.2	1.1755	0.0000	SURCHARGED
30 minute winter	S4	60	6.832	0.245	1.6	0.2771	0.0000	SURCHARGED
30 minute winter	S5	60	6.832	0.627	5.8	1.3420	0.0000	SURCHARGED
30 minute winter	S6	17	6.202	0.020	2.0	0.0228	0.0000	OK
30 minute winter	OUTFALL	17	5.460	0.020	2.0	0.0000	0.0000	OK
30 minute winter	FC1	46	8.793	0.093	1.9	2.2676	0.0000	OK
30 minute winter	FC2	48	9.098	0.098	1.7	2.3633	0.0000	OK
30 minute winter	FC3	162	7.343	0.193	1.9	4.6485	0.0000	SURCHARGED
30 minute winter	FC4	162	7.343	0.193	1.9	4.6515	0.0000	SURCHARGED
30 minute winter	FC5	47	7.993	0.093	1.7	2.2508	0.0000	OK
30 minute winter	FC6	53	7.453	0.103	1.6	2.4828	0.0000	SURCHARGED
30 minute winter	FC7	59	6.832	0.397	4.7	7.6561	0.0000	SURCHARGED
30 minute winter	STORAGE 1	47	7.479	0.634	9.5	11.5551	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute winter	S1	Orifice	S2	1.0				
30 minute winter	S2	Orifice	S3	3.1				
30 minute winter	S3	Orifice	S4	1.6				
30 minute winter	S4	1.004	S5	1.6	0.416	0.054	0.7003	
30 minute winter	S5	ACO Q-Brake	S6	2.0				
30 minute winter	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	24.5
30 minute winter	FC1	Orifice	S1	0.7				
30 minute winter	FC2	Orifice	S1	0.5				
30 minute winter	FC3	Orifice	S2	0.2				
30 minute winter	FC4	Orifice	S2	0.2				
30 minute winter	FC5	Orifice	S3	0.6				
30 minute winter	FC6	Orifice	S3	0.2				
30 minute winter	FC7	10.000	S5	-3.2	-0.407	-0.538	0.0856	
30 minute winter	STORAGE 1	6.000	S2	-9.5	-1.216	-1.584	0.0111	

Results for 100 year 30 minute winter. 270 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute winter	STORAGE 2	64	7.423	0.223	6.4	8.2021	0.0000	SURCHARGED
30 minute winter	STORAGE 3	67	8.535	0.085	0.2	0.2576	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute winter	STORAGE 2	9.000	S3	-6.4	-0.964	-1.084	0.0244	
30 minute winter	STORAGE 3	3.000	S1	-0.2	-0.054	-0.038	0.0655	

Results for 100 year 60 minute summer. 300 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute summer	S1	86	8.554	0.238	1.2	0.2694	0.0000	SURCHARGED
60 minute summer	S2	64	7.500	0.794	9.6	1.3307	0.0000	SURCHARGED
60 minute summer	S3	88	7.466	0.835	8.1	1.2385	0.0000	SURCHARGED
60 minute summer	S4	86	6.875	0.288	1.6	0.3257	0.0000	SURCHARGED
60 minute summer	S5	86	6.875	0.670	5.4	1.4339	0.0000	SURCHARGED
60 minute summer	S6	30	6.202	0.020	2.0	0.0227	0.0000	OK
60 minute summer	OUTFALL	30	5.460	0.020	2.0	0.0000	0.0000	OK
60 minute summer	FC1	62	8.796	0.096	1.7	2.3344	0.0000	OK
60 minute summer	FC2	66	9.103	0.103	1.6	2.4958	0.0000	SURCHARGED
60 minute summer	FC3	191	7.373	0.223	1.9	5.3697	0.0000	SURCHARGED
60 minute summer	FC4	192	7.373	0.223	1.9	5.3730	0.0000	SURCHARGED
60 minute summer	FC5	64	7.997	0.097	1.6	2.3605	0.0000	OK
60 minute summer	FC6	86	7.467	0.117	1.4	2.8187	0.0000	SURCHARGED
60 minute summer	FC7	87	6.875	0.440	4.4	8.4841	0.0000	SURCHARGED
60 minute summer	STORAGE 1	64	7.501	0.656	8.8	11.9506	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute summer	S1	Orifice	S2	1.1				
60 minute summer	S2	Orifice	S3	3.1				
60 minute summer	S3	Orifice	S4	1.6				
60 minute summer	S4	1.004	S5	1.6	0.414	0.054	0.7003	
60 minute summer	S5	ACO Q-Brake	S6	2.0				
60 minute summer	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	27.6
60 minute summer	FC1	Orifice	S1	0.8				
60 minute summer	FC2	Orifice	S1	0.5				
60 minute summer	FC3	Orifice	S2	0.2				
60 minute summer	FC4	Orifice	S2	0.2				
60 minute summer	FC5	Orifice	S3	0.6				
60 minute summer	FC6	Orifice	S3	0.2				
60 minute summer	FC7	10.000	S5	-3.0	-0.378	-0.500	0.0856	
60 minute summer	STORAGE 1	6.000	S2	-8.8	-1.128	-1.468	0.0111	

Results for 100 year 60 minute summer. 300 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
60 minute summer	STORAGE 2	88	7.466	0.266	6.3	9.7610	0.0000	SURCHARGED
60 minute summer	STORAGE 3	86	8.554	0.104	0.2	0.3159	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m^3)	Discharge Vol (m^3)
60 minute summer	STORAGE 2	9.000	S3	-6.3	-0.918	-1.063	0.0244	
60 minute summer	STORAGE 3	3.000	S1	-0.2	0.068	-0.038	0.0687	

Results for 100 year 60 minute winter. 300 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute winter	S1	89	8.584	0.268	1.3	0.3028	0.0000	SURCHARGED
60 minute winter	S2	66	7.560	0.854	10.0	1.4298	0.0000	SURCHARGED
60 minute winter	S3	87	7.516	0.885	8.8	1.3140	0.0000	SURCHARGED
60 minute winter	S4	83	6.933	0.346	1.6	0.3918	0.0000	SURCHARGED
60 minute winter	S5	83	6.933	0.728	5.7	1.5589	0.0000	SURCHARGED
60 minute winter	S6	28	6.202	0.020	2.0	0.0228	0.0000	OK
60 minute winter	OUTFALL	28	5.460	0.020	2.0	0.0000	0.0000	OK
60 minute winter	FC1	64	8.808	0.108	1.9	2.6101	0.0000	SURCHARGED
60 minute winter	FC2	67	9.115	0.115	1.8	2.7675	0.0000	SURCHARGED
60 minute winter	FC3	207	7.405	0.255	2.1	6.1313	0.0000	SURCHARGED
60 minute winter	FC4	207	7.405	0.255	2.1	6.1355	0.0000	SURCHARGED
60 minute winter	FC5	66	8.008	0.108	1.8	2.6116	0.0000	SURCHARGED
60 minute winter	FC6	120	7.498	0.148	1.6	3.5640	0.0000	SURCHARGED
60 minute winter	FC7	85	6.933	0.498	4.7	9.6155	0.0000	SURCHARGED
60 minute winter	STORAGE 1	66	7.560	0.715	8.9	13.0297	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute winter	S1	Orifice	S2	1.1				
60 minute winter	S2	Orifice	S3	3.3				
60 minute winter	S3	Orifice	S4	1.6				
60 minute winter	S4	1.004	S5	1.6	0.416	0.054	0.7003	
60 minute winter	S5	ACO Q-Brake	S6	2.0				
60 minute winter	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	28.4
60 minute winter	FC1	Orifice	S1	0.8				
60 minute winter	FC2	Orifice	S1	0.5				
60 minute winter	FC3	Orifice	S2	0.2				
60 minute winter	FC4	Orifice	S2	0.2				
60 minute winter	FC5	Orifice	S3	0.6				
60 minute winter	FC6	Orifice	S3	0.2				
60 minute winter	FC7	10.000	S5	-3.2	-0.403	-0.533	0.0856	
60 minute winter	STORAGE 1	6.000	S2	-8.9	-1.140	-1.484	0.0111	

Results for 100 year 60 minute winter. 300 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute winter	STORAGE 2	87	7.516	0.316	6.9	11.6326	0.0000	SURCHARGED
60 minute winter	STORAGE 3	89	8.584	0.134	0.3	0.4055	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute winter	STORAGE 2	9.000	S3	-6.9	-0.988	-1.169	0.0244	
60 minute winter	STORAGE 3	3.000	S1	-0.3	0.058	-0.043	0.0687	

Results for 100 year 120 minute summer. 360 minute analysis at 2 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute summer	S1	122	8.561	0.245	1.2	0.2767	0.0000	SURCHARGED
120 minute summer	S2	134	7.520	0.814	7.8	1.3636	0.0000	SURCHARGED
120 minute summer	S3	138	7.511	0.880	7.7	1.3066	0.0000	SURCHARGED
120 minute summer	S4	142	6.920	0.333	1.6	0.3768	0.0000	SURCHARGED
120 minute summer	S5	142	6.920	0.715	4.9	1.5307	0.0000	SURCHARGED
120 minute summer	S6	54	6.202	0.020	2.0	0.0228	0.0000	OK
120 minute summer	OUTFALL	54	5.460	0.020	2.0	0.0000	0.0000	OK
120 minute summer	FC1	96	8.793	0.093	1.5	2.2458	0.0000	OK
120 minute summer	FC2	100	9.102	0.102	1.4	2.4627	0.0000	SURCHARGED
120 minute summer	FC3	240	7.411	0.261	1.7	6.2758	0.0000	SURCHARGED
120 minute summer	FC4	240	7.411	0.261	1.7	6.2801	0.0000	SURCHARGED
120 minute summer	FC5	96	7.995	0.095	1.4	2.2949	0.0000	OK
120 minute summer	FC6	164	7.498	0.148	1.3	3.5487	0.0000	SURCHARGED
120 minute summer	FC7	142	6.920	0.485	3.9	9.3616	0.0000	SURCHARGED
120 minute summer	STORAGE 1	134	7.520	0.675	6.9	12.3076	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute summer	S1	Orifice	S2	1.1				
120 minute summer	S2	Orifice	S3	3.0				
120 minute summer	S3	Orifice	S4	1.6				
120 minute summer	S4	1.004	S5	1.6	0.419	0.054	0.7003	
120 minute summer	S5	ACO Q-Brake	S6	2.0				
120 minute summer	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	33.6
120 minute summer	FC1	Orifice	S1	0.7				
120 minute summer	FC2	Orifice	S1	0.5				
120 minute summer	FC3	Orifice	S2	0.2				
120 minute summer	FC4	Orifice	S2	0.2				
120 minute summer	FC5	Orifice	S3	0.6				
120 minute summer	FC6	Orifice	S3	0.2				
120 minute summer	FC7	10.000	S5	-2.6	-0.338	-0.447	0.0856	
120 minute summer	STORAGE 1	6.000	S2	-6.9	-0.876	-1.141	0.0111	

Results for 100 year 120 minute summer. 360 minute analysis at 2 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
120 minute summer	STORAGE 2	138	7.512	0.312	5.9	11.4500	0.0000	SURCHARGED
120 minute summer	STORAGE 3	122	8.561	0.111	0.2	0.3353	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m^3)	Discharge Vol (m^3)
120 minute summer	STORAGE 2	9.000	S3	-5.9	-0.876	-0.998	0.0244	
120 minute summer	STORAGE 3	3.000	S1	-0.2	0.049	-0.034	0.0687	

Results for 100 year 120 minute winter. 360 minute analysis at 2 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute winter	S1	126	8.590	0.274	1.3	0.3100	0.0000	SURCHARGED
120 minute winter	S2	132	7.584	0.878	7.1	1.4703	0.0000	SURCHARGED
120 minute winter	S3	140	7.574	0.943	7.7	1.3999	0.0000	SURCHARGED
120 minute winter	S4	140	6.989	0.402	1.6	0.4544	0.0000	SURCHARGED
120 minute winter	S5	140	6.989	0.784	4.8	1.6776	0.0000	SURCHARGED
120 minute winter	S6	48	6.202	0.020	2.0	0.0228	0.0000	OK
120 minute winter	OUTFALL	48	5.460	0.020	2.0	0.0000	0.0000	OK
120 minute winter	FC1	98	8.800	0.100	1.5	2.4307	0.0000	SURCHARGED
120 minute winter	FC2	104	9.112	0.112	1.4	2.7108	0.0000	SURCHARGED
120 minute winter	FC3	256	7.451	0.301	1.7	7.2205	0.0000	SURCHARGED
120 minute winter	FC4	256	7.450	0.300	1.7	7.2254	0.0000	SURCHARGED
120 minute winter	FC5	102	8.003	0.103	1.4	2.5000	0.0000	SURCHARGED
120 minute winter	FC6	188	7.537	0.187	1.3	4.4909	0.0000	SURCHARGED
120 minute winter	FC7	140	6.989	0.554	3.7	10.6876	0.0000	SURCHARGED
120 minute winter	STORAGE 1	132	7.584	0.739	6.2	13.4693	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute winter	S1	Orifice	S2	1.2				
120 minute winter	S2	Orifice	S3	3.0				
120 minute winter	S3	Orifice	S4	1.6				
120 minute winter	S4	1.004	S5	1.6	0.418	0.054	0.7003	
120 minute winter	S5	ACO Q-Brake	S6	2.0				
120 minute winter	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	34.7
120 minute winter	FC1	Orifice	S1	0.8				
120 minute winter	FC2	Orifice	S1	0.5				
120 minute winter	FC3	Orifice	S2	0.2				
120 minute winter	FC4	Orifice	S2	0.2				
120 minute winter	FC5	Orifice	S3	0.6				
120 minute winter	FC6	Orifice	S3	0.2				
120 minute winter	FC7	10.000	S5	-2.5	-0.317	-0.419	0.0856	
120 minute winter	STORAGE 1	6.000	S2	-6.2	-0.795	-1.035	0.0111	

Results for 100 year 120 minute winter. 360 minute analysis at 2 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute winter	STORAGE 2	138	7.574	0.374	5.9	13.7591	0.0000	SURCHARGED
120 minute winter	STORAGE 3	126	8.590	0.140	0.2	0.4246	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute winter	STORAGE 2	9.000	S3	-5.9	-0.859	-0.994	0.0244	
120 minute winter	STORAGE 3	3.000	S1	-0.2	0.043	-0.036	0.0687	

Results for 100 year 180 minute summer. 420 minute analysis at 4 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute summer	S1	152	8.547	0.231	1.2	0.2611	0.0000	SURCHARGED
180 minute summer	S2	188	7.535	0.829	6.2	1.3886	0.0000	SURCHARGED
180 minute summer	S3	192	7.527	0.896	6.9	1.3298	0.0000	SURCHARGED
180 minute summer	S4	200	6.943	0.356	1.6	0.4022	0.0000	SURCHARGED
180 minute summer	S5	200	6.942	0.737	4.4	1.5788	0.0000	SURCHARGED
180 minute summer	S6	80	6.202	0.020	2.0	0.0228	0.0000	OK
180 minute summer	OUTFALL	80	5.460	0.020	2.0	0.0000	0.0000	OK
180 minute summer	FC1	128	8.784	0.084	1.3	2.0401	0.0000	OK
180 minute summer	FC2	132	9.098	0.098	1.2	2.3702	0.0000	OK
180 minute summer	FC3	280	7.434	0.284	1.5	6.8276	0.0000	SURCHARGED
180 minute summer	FC4	280	7.434	0.284	1.5	6.8319	0.0000	SURCHARGED
180 minute summer	FC5	132	7.990	0.090	1.2	2.1780	0.0000	OK
180 minute summer	FC6	212	7.515	0.165	1.1	3.9742	0.0000	SURCHARGED
180 minute summer	FC7	200	6.942	0.507	3.2	9.7951	0.0000	SURCHARGED
180 minute summer	STORAGE 1	188	7.535	0.690	5.5	12.5799	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute summer	S1	Orifice	S2	1.1				
180 minute summer	S2	Orifice	S3	2.8				
180 minute summer	S3	Orifice	S4	1.6				
180 minute summer	S4	1.004	S5	1.6	0.422	0.054	0.7003	
180 minute summer	S5	ACO Q-Brake	S6	2.0				
180 minute summer	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	39.1
180 minute summer	FC1	Orifice	S1	0.7				
180 minute summer	FC2	Orifice	S1	0.5				
180 minute summer	FC3	Orifice	S2	0.2				
180 minute summer	FC4	Orifice	S2	0.2				
180 minute summer	FC5	Orifice	S3	0.5				
180 minute summer	FC6	Orifice	S3	0.2				
180 minute summer	FC7	10.000	S5	-2.1	0.332	-0.353	0.0856	
180 minute summer	STORAGE 1	6.000	S2	-5.5	-0.699	-0.910	0.0111	

Results for 100 year 180 minute summer. 420 minute analysis at 4 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute summer	STORAGE 2	192	7.527	0.327	5.2	12.0239	0.0000	SURCHARGED
180 minute summer	STORAGE 3	152	8.547	0.097	0.2	0.2936	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute summer	STORAGE 2	9.000	S3	-5.2	-0.766	-0.875	0.0244	
180 minute summer	STORAGE 3	3.000	S1	-0.2	0.044	-0.028	0.0684	

Results for 100 year 180 minute winter. 420 minute analysis at 4 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute winter	S1	160	8.570	0.254	1.2	0.2874	0.0000	SURCHARGED
180 minute winter	S2	188	7.605	0.899	5.7	1.5065	0.0000	SURCHARGED
180 minute winter	S3	192	7.597	0.966	6.6	1.4335	0.0000	SURCHARGED
180 minute winter	S4	196	7.013	0.426	1.6	0.4820	0.0000	SURCHARGED
180 minute winter	S5	196	7.013	0.808	4.1	1.7299	0.0000	SURCHARGED
180 minute winter	S6	72	6.202	0.020	2.0	0.0228	0.0000	OK
180 minute winter	OUTFALL	72	5.460	0.020	2.0	0.0000	0.0000	OK
180 minute winter	FC1	132	8.787	0.087	1.2	2.1135	0.0000	OK
180 minute winter	FC2	140	9.108	0.108	1.1	2.6034	0.0000	SURCHARGED
180 minute winter	FC3	296	7.478	0.328	1.4	7.8791	0.0000	SURCHARGED
180 minute winter	FC4	296	7.478	0.328	1.4	7.8841	0.0000	SURCHARGED
180 minute winter	FC5	136	7.997	0.097	1.1	2.3578	0.0000	OK
180 minute winter	FC6	236	7.558	0.208	1.0	4.9953	0.0000	SURCHARGED
180 minute winter	FC7	196	7.013	0.578	2.9	11.1567	0.0000	SURCHARGED
180 minute winter	STORAGE 1	188	7.605	0.760	4.6	13.8627	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute winter	S1	Orifice	S2	1.1				
180 minute winter	S2	Orifice	S3	2.7				
180 minute winter	S3	Orifice	S4	1.6				
180 minute winter	S4	1.004	S5	1.6	0.418	0.055	0.7003	
180 minute winter	S5	ACO Q-Brake	S6	2.0				
180 minute winter	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	40.5
180 minute winter	FC1	Orifice	S1	0.7				
180 minute winter	FC2	Orifice	S1	0.5				
180 minute winter	FC3	Orifice	S2	0.2				
180 minute winter	FC4	Orifice	S2	0.2				
180 minute winter	FC5	Orifice	S3	0.6				
180 minute winter	FC6	Orifice	S3	0.2				
180 minute winter	FC7	10.000	S5	-1.9	0.325	-0.321	0.0856	
180 minute winter	STORAGE 1	6.000	S2	-4.6	-0.592	-0.771	0.0111	

Results for 100 year 180 minute winter. 420 minute analysis at 4 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute winter	STORAGE 2	192	7.597	0.397	4.8	14.5927	0.0000	SURCHARGED
180 minute winter	STORAGE 3	160	8.570	0.120	0.2	0.3640	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute winter	STORAGE 2	9.000	S3	-4.8	-0.682	-0.814	0.0244	
180 minute winter	STORAGE 3	3.000	S1	0.2	0.044	0.032	0.0687	

Results for 100 year 240 minute summer. 480 minute analysis at 4 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute summer	S1	184	8.538	0.222	1.1	0.2513	0.0000	SURCHARGED
240 minute summer	S2	236	7.529	0.823	5.5	1.3793	0.0000	SURCHARGED
240 minute summer	S3	240	7.522	0.891	6.5	1.3226	0.0000	SURCHARGED
240 minute summer	S4	256	6.946	0.359	1.6	0.4060	0.0000	SURCHARGED
240 minute summer	S5	256	6.946	0.741	4.1	1.5860	0.0000	SURCHARGED
240 minute summer	S6	108	6.202	0.020	2.0	0.0228	0.0000	OK
240 minute summer	OUTFALL	108	5.460	0.020	2.0	0.0000	0.0000	OK
240 minute summer	FC1	156	8.780	0.080	1.1	1.9310	0.0000	OK
240 minute summer	FC2	164	9.093	0.093	1.0	2.2501	0.0000	OK
240 minute summer	FC3	320	7.443	0.293	1.3	7.0427	0.0000	SURCHARGED
240 minute summer	FC4	320	7.443	0.293	1.3	7.0480	0.0000	SURCHARGED
240 minute summer	FC5	164	7.984	0.084	1.0	2.0481	0.0000	OK
240 minute summer	FC6	260	7.516	0.166	0.9	4.0026	0.0000	SURCHARGED
240 minute summer	FC7	256	6.946	0.511	2.8	9.8608	0.0000	SURCHARGED
240 minute summer	STORAGE 1	236	7.529	0.684	4.6	12.4788	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute summer	S1	Orifice	S2	1.0				
240 minute summer	S2	Orifice	S3	2.7				
240 minute summer	S3	Orifice	S4	1.6				
240 minute summer	S4	1.004	S5	1.6	0.421	0.054	0.7003	
240 minute summer	S5	ACO Q-Brake	S6	2.0				
240 minute summer	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	44.4
240 minute summer	FC1	Orifice	S1	0.7				
240 minute summer	FC2	Orifice	S1	0.5				
240 minute summer	FC3	Orifice	S2	0.2				
240 minute summer	FC4	Orifice	S2	0.2				
240 minute summer	FC5	Orifice	S3	0.5				
240 minute summer	FC6	Orifice	S3	0.2				
240 minute summer	FC7	10.000	S5	-1.9	0.335	-0.326	0.0856	
240 minute summer	STORAGE 1	6.000	S2	-4.6	-0.588	-0.765	0.0111	

Results for 100 year 240 minute summer. 480 minute analysis at 4 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute summer	STORAGE 2	240	7.522	0.322	4.7	11.8435	0.0000	SURCHARGED
240 minute summer	STORAGE 3	184	8.538	0.088	0.1	0.2674	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute summer	STORAGE 2	9.000	S3	-4.7	-0.669	-0.789	0.0244	
240 minute summer	STORAGE 3	3.000	S1	-0.1	0.032	-0.025	0.0665	

Results for 100 year 240 minute winter. 480 minute analysis at 4 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
240 minute winter	S1	192	8.552	0.236	1.1	0.2668	0.0000	SURCHARGED
240 minute winter	S2	240	7.607	0.901	4.9	1.5097	0.0000	SURCHARGED
240 minute winter	S3	244	7.599	0.968	5.8	1.4368	0.0000	SURCHARGED
240 minute winter	S4	252	7.023	0.436	1.6	0.4935	0.0000	SURCHARGED
240 minute winter	S5	252	7.023	0.818	3.7	1.7517	0.0000	SURCHARGED
240 minute winter	S6	96	6.202	0.020	2.0	0.0228	0.0000	OK
240 minute winter	OUTFALL	96	5.460	0.020	2.0	0.0000	0.0000	OK
240 minute winter	FC1	164	8.779	0.079	1.0	1.9163	0.0000	OK
240 minute winter	FC2	176	9.098	0.098	0.9	2.3734	0.0000	OK
240 minute winter	FC3	336	7.495	0.345	1.2	8.2880	0.0000	SURCHARGED
240 minute winter	FC4	336	7.495	0.345	1.2	8.2941	0.0000	SURCHARGED
240 minute winter	FC5	172	7.987	0.087	0.9	2.1071	0.0000	OK
240 minute winter	FC6	280	7.567	0.217	0.8	5.2272	0.0000	SURCHARGED
240 minute winter	FC7	252	7.023	0.588	2.4	11.3539	0.0000	SURCHARGED
240 minute winter	STORAGE 1	240	7.607	0.762	3.8	13.8976	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m^3)	Discharge Vol (m^3)
240 minute winter	S1	Orifice	S2	1.1				
240 minute winter	S2	Orifice	S3	2.5				
240 minute winter	S3	Orifice	S4	1.6				
240 minute winter	S4	1.004	S5	1.6	0.422	0.054	0.7003	
240 minute winter	S5	ACO Q-Brake	S6	2.0				
240 minute winter	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	46.1
240 minute winter	FC1	Orifice	S1	0.7				
240 minute winter	FC2	Orifice	S1	0.5				
240 minute winter	FC3	Orifice	S2	0.2				
240 minute winter	FC4	Orifice	S2	0.2				
240 minute winter	FC5	Orifice	S3	0.5				
240 minute winter	FC6	Orifice	S3	0.2				
240 minute winter	FC7	10.000	S5	-1.6	0.338	-0.270	0.0856	
240 minute winter	STORAGE 1	6.000	S2	-3.8	-0.486	-0.633	0.0111	

Results for 100 year 240 minute winter. 480 minute analysis at 4 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute winter	STORAGE 2	244	7.599	0.399	4.1	14.6739	0.0000	SURCHARGED
240 minute winter	STORAGE 3	192	8.552	0.102	0.1	0.3089	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute winter	STORAGE 2	9.000	S3	-4.1	-0.573	-0.684	0.0244	
240 minute winter	STORAGE 3	3.000	S1	0.1	0.039	0.023	0.0687	

Results for 100 year 360 minute summer. 600 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute summer	S1	248	8.515	0.199	1.0	0.2250	0.0000	SURCHARGED
360 minute summer	S2	288	7.518	0.812	4.5	1.3599	0.0000	SURCHARGED
360 minute summer	S3	296	7.511	0.880	5.5	1.3057	0.0000	SURCHARGED
360 minute summer	S4	368	6.946	0.359	1.6	0.4058	0.0000	SURCHARGED
360 minute summer	S5	368	6.946	0.741	3.6	1.5857	0.0000	SURCHARGED
360 minute summer	S6	160	6.202	0.020	2.0	0.0228	0.0000	OK
360 minute summer	OUTFALL	160	5.460	0.020	2.0	0.0000	0.0000	OK
360 minute summer	FC1	224	8.769	0.069	0.9	1.6753	0.0000	OK
360 minute summer	FC2	232	9.083	0.083	0.8	2.0028	0.0000	OK
360 minute summer	FC3	392	7.459	0.309	1.0	7.4192	0.0000	SURCHARGED
360 minute summer	FC4	392	7.458	0.308	1.0	7.4243	0.0000	SURCHARGED
360 minute summer	FC5	224	7.974	0.074	0.8	1.7928	0.0000	OK
360 minute summer	FC6	352	7.512	0.162	0.7	3.8912	0.0000	SURCHARGED
360 minute summer	FC7	368	6.946	0.511	2.2	9.8562	0.0000	SURCHARGED
360 minute summer	STORAGE 1	288	7.518	0.673	3.3	12.2675	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute summer	S1	Orifice	S2	1.0				
360 minute summer	S2	Orifice	S3	2.4				
360 minute summer	S3	Orifice	S4	1.6				
360 minute summer	S4	1.004	S5	1.6	0.424	0.054	0.7003	
360 minute summer	S5	ACO Q-Brake	S6	2.0				
360 minute summer	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	54.3
360 minute summer	FC1	Orifice	S1	0.6				
360 minute summer	FC2	Orifice	S1	0.4				
360 minute summer	FC3	Orifice	S2	0.2				
360 minute summer	FC4	Orifice	S2	0.2				
360 minute summer	FC5	Orifice	S3	0.5				
360 minute summer	FC6	Orifice	S3	0.2				
360 minute summer	FC7	10.000	S5	-1.5	0.327	-0.260	0.0856	
360 minute summer	STORAGE 1	6.000	S2	-3.3	-0.417	-0.543	0.0111	

Results for 100 year 360 minute summer. 600 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute summer	STORAGE 2	296	7.511	0.311	3.7	11.4253	0.0000	SURCHARGED
360 minute summer	STORAGE 3	248	8.515	0.065	0.1	0.1969	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute summer	STORAGE 2	9.000	S3	-3.7	-0.531	-0.630	0.0244	
360 minute summer	STORAGE 3	3.000	S1	0.1	0.022	0.019	0.0580	

Results for 100 year 360 minute winter. 600 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute winter	S1	256	8.513	0.197	1.0	0.2230	0.0000	SURCHARGED
360 minute winter	S2	304	7.588	0.882	3.9	1.4776	0.0000	SURCHARGED
360 minute winter	S3	312	7.581	0.950	4.7	1.4095	0.0000	SURCHARGED
360 minute winter	S4	352	7.019	0.432	1.6	0.4888	0.0000	SURCHARGED
360 minute winter	S5	352	7.019	0.814	3.2	1.7428	0.0000	SURCHARGED
360 minute winter	S6	144	6.202	0.020	2.0	0.0228	0.0000	OK
360 minute winter	OUTFALL	144	5.460	0.020	2.0	0.0000	0.0000	OK
360 minute winter	FC1	224	8.764	0.064	0.7	1.5460	0.0000	OK
360 minute winter	FC2	240	9.086	0.086	0.7	2.0679	0.0000	OK
360 minute winter	FC3	408	7.509	0.359	0.9	8.6347	0.0000	SURCHARGED
360 minute winter	FC4	408	7.509	0.359	0.9	8.6407	0.0000	SURCHARGED
360 minute winter	FC5	232	7.975	0.075	0.7	1.8116	0.0000	OK
360 minute winter	FC6	360	7.568	0.218	0.6	5.2391	0.0000	SURCHARGED
360 minute winter	FC7	352	7.019	0.584	1.9	11.2735	0.0000	SURCHARGED
360 minute winter	STORAGE 1	304	7.588	0.743	2.7	13.5488	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute winter	S1	Orifice	S2	1.0				
360 minute winter	S2	Orifice	S3	2.2				
360 minute winter	S3	Orifice	S4	1.6				
360 minute winter	S4	1.004	S5	1.6	0.422	0.054	0.7003	
360 minute winter	S5	ACO Q-Brake	S6	2.0				
360 minute winter	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	56.4
360 minute winter	FC1	Orifice	S1	0.6				
360 minute winter	FC2	Orifice	S1	0.4				
360 minute winter	FC3	Orifice	S2	0.2				
360 minute winter	FC4	Orifice	S2	0.2				
360 minute winter	FC5	Orifice	S3	0.5				
360 minute winter	FC6	Orifice	S3	0.2				
360 minute winter	FC7	10.000	S5	-1.3	0.326	-0.212	0.0856	
360 minute winter	STORAGE 1	6.000	S2	-2.7	-0.347	-0.451	0.0111	

Results for 100 year 360 minute winter. 600 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute winter	STORAGE 2	312	7.581	0.381	3.0	13.9966	0.0000	SURCHARGED
360 minute winter	STORAGE 3	256	8.513	0.063	0.1	0.1915	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute winter	STORAGE 2	9.000	S3	-3.0	-0.474	-0.513	0.0244	
360 minute winter	STORAGE 3	3.000	S1	0.1	0.023	0.018	0.0573	

Results for 100 year 480 minute summer. 720 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute summer	S1	304	8.494	0.178	1.0	0.2019	0.0000	SURCHARGED
480 minute summer	S2	352	7.508	0.802	4.0	1.3434	0.0000	SURCHARGED
480 minute summer	S3	352	7.501	0.870	4.9	1.2905	0.0000	SURCHARGED
480 minute summer	S4	480	6.945	0.358	1.6	0.4053	0.0000	SURCHARGED
480 minute summer	S5	480	6.945	0.740	3.3	1.5847	0.0000	SURCHARGED
480 minute summer	S6	216	6.202	0.020	2.0	0.0228	0.0000	OK
480 minute summer	OUTFALL	216	5.460	0.020	2.0	0.0000	0.0000	OK
480 minute summer	FC1	280	8.761	0.061	0.8	1.4914	0.0000	OK
480 minute summer	FC2	288	9.074	0.074	0.7	1.7855	0.0000	OK
480 minute summer	FC3	480	7.462	0.312	0.9	7.4954	0.0000	SURCHARGED
480 minute summer	FC4	480	7.462	0.312	0.9	7.5033	0.0000	SURCHARGED
480 minute summer	FC5	288	7.965	0.065	0.7	1.5817	0.0000	OK
480 minute summer	FC6	408	7.503	0.153	0.6	3.6687	0.0000	SURCHARGED
480 minute summer	FC7	480	6.945	0.510	1.9	9.8477	0.0000	SURCHARGED
480 minute summer	STORAGE 1	352	7.508	0.663	2.5	12.0878	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute summer	S1	Orifice	S2	0.9				
480 minute summer	S2	Orifice	S3	2.3				
480 minute summer	S3	Orifice	S4	1.6				
480 minute summer	S4	1.004	S5	1.6	0.423	0.053	0.7003	
480 minute summer	S5	ACO Q-Brake	S6	2.0				
480 minute summer	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	64.1
480 minute summer	FC1	Orifice	S1	0.6				
480 minute summer	FC2	Orifice	S1	0.4				
480 minute summer	FC3	Orifice	S2	0.2				
480 minute summer	FC4	Orifice	S2	0.2				
480 minute summer	FC5	Orifice	S3	0.4				
480 minute summer	FC6	Orifice	S3	0.2				
480 minute summer	FC7	10.000	S5	-1.3	0.327	-0.227	0.0856	
480 minute summer	STORAGE 1	6.000	S2	-2.5	-0.325	-0.423	0.0111	

Results for 100 year 480 minute summer. 720 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute summer	STORAGE 2	352	7.501	0.301	3.2	11.0503	0.0000	SURCHARGED
480 minute summer	STORAGE 3	304	8.494	0.044	0.1	0.1349	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute summer	STORAGE 2	9.000	S3	-3.2	-0.470	-0.539	0.0244	
480 minute summer	STORAGE 3	3.000	S1	0.1	0.019	0.014	0.0492	

Results for 100 year 480 minute winter. 720 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute winter	S1	312	8.479	0.163	0.9	0.1839	0.0000	SURCHARGED
480 minute winter	S2	368	7.564	0.858	3.3	1.4374	0.0000	SURCHARGED
480 minute winter	S3	376	7.557	0.926	4.0	1.3745	0.0000	SURCHARGED
480 minute winter	S4	416	7.006	0.419	1.6	0.4738	0.0000	SURCHARGED
480 minute winter	S5	416	7.006	0.801	2.9	1.7144	0.0000	SURCHARGED
480 minute winter	S6	192	6.202	0.020	2.0	0.0228	0.0000	OK
480 minute winter	OUTFALL	192	5.460	0.020	2.0	0.0000	0.0000	OK
480 minute winter	FC1	280	8.754	0.054	0.6	1.3028	0.0000	OK
480 minute winter	FC2	312	9.070	0.070	0.5	1.6894	0.0000	OK
480 minute winter	FC3	488	7.515	0.365	0.7	8.7820	0.0000	SURCHARGED
480 minute winter	FC4	488	7.515	0.365	0.7	8.7903	0.0000	SURCHARGED
480 minute winter	FC5	296	7.959	0.059	0.5	1.4408	0.0000	OK
480 minute winter	FC6	448	7.550	0.200	0.5	4.8192	0.0000	SURCHARGED
480 minute winter	FC7	416	7.006	0.571	1.5	11.0181	0.0000	SURCHARGED
480 minute winter	STORAGE 1	368	7.564	0.719	2.2	13.1104	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute winter	S1	Orifice	S2	0.9				
480 minute winter	S2	Orifice	S3	1.9				
480 minute winter	S3	Orifice	S4	1.6				
480 minute winter	S4	1.004	S5	1.6	0.423	0.053	0.7003	
480 minute winter	S5	ACO Q-Brake	S6	2.0				
480 minute winter	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	66.4
480 minute winter	FC1	Orifice	S1	0.5				
480 minute winter	FC2	Orifice	S1	0.4				
480 minute winter	FC3	Orifice	S2	0.2				
480 minute winter	FC4	Orifice	S2	0.2				
480 minute winter	FC5	Orifice	S3	0.4				
480 minute winter	FC6	Orifice	S3	0.2				
480 minute winter	FC7	10.000	S5	-1.0	0.327	-0.173	0.0856	
480 minute winter	STORAGE 1	6.000	S2	-2.2	-0.279	-0.363	0.0111	

Results for 100 year 480 minute winter. 720 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute winter	STORAGE 2	376	7.557	0.357	2.4	13.1314	0.0000	SURCHARGED
480 minute winter	STORAGE 3	312	8.479	0.029	0.0	0.0868	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute winter	STORAGE 2	9.000	S3	-2.4	-0.413	-0.397	0.0244	
480 minute winter	STORAGE 3	3.000	S1	0.1	0.013	0.009	0.0425	

Results for 100 year 600 minute summer. 840 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute summer	S1	360	8.473	0.157	0.9	0.1779	0.0000	SURCHARGED
600 minute summer	S2	405	7.486	0.780	3.4	1.3073	0.0000	SURCHARGED
600 minute summer	S3	420	7.480	0.849	4.3	1.2605	0.0000	SURCHARGED
600 minute summer	S4	540	6.930	0.343	1.6	0.3880	0.0000	SURCHARGED
600 minute summer	S5	540	6.930	0.725	3.1	1.5519	0.0000	SURCHARGED
600 minute summer	S6	270	6.202	0.020	2.0	0.0228	0.0000	OK
600 minute summer	OUTFALL	270	5.460	0.020	2.0	0.0000	0.0000	OK
600 minute summer	FC1	345	8.755	0.055	0.7	1.3389	0.0000	OK
600 minute summer	FC2	345	9.063	0.063	0.6	1.5219	0.0000	OK
600 minute summer	FC3	570	7.450	0.300	0.8	7.2085	0.0000	SURCHARGED
600 minute summer	FC4	570	7.450	0.300	0.8	7.2169	0.0000	SURCHARGED
600 minute summer	FC5	345	7.955	0.055	0.6	1.3404	0.0000	OK
600 minute summer	FC6	465	7.484	0.134	0.5	3.2299	0.0000	SURCHARGED
600 minute summer	FC7	540	6.930	0.495	1.7	9.5522	0.0000	SURCHARGED
600 minute summer	STORAGE 1	405	7.486	0.641	2.1	11.6950	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute summer	S1	Orifice	S2	0.9				
600 minute summer	S2	Orifice	S3	2.0				
600 minute summer	S3	Orifice	S4	1.6				
600 minute summer	S4	1.004	S5	1.6	0.422	0.054	0.7003	
600 minute summer	S5	ACO Q-Brake	S6	2.0				
600 minute summer	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	73.6
600 minute summer	FC1	Orifice	S1	0.5				
600 minute summer	FC2	Orifice	S1	0.4				
600 minute summer	FC3	Orifice	S2	0.2				
600 minute summer	FC4	Orifice	S2	0.2				
600 minute summer	FC5	Orifice	S3	0.4				
600 minute summer	FC6	Orifice	S3	0.2				
600 minute summer	FC7	10.000	S5	-1.2	0.313	-0.203	0.0856	
600 minute summer	STORAGE 1	6.000	S2	-2.1	-0.263	-0.343	0.0111	

Results for 100 year 600 minute summer. 840 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
600 minute summer	STORAGE 2	420	7.480	0.280	2.6	10.3058	0.0000	SURCHARGED
600 minute summer	STORAGE 3	360	8.473	0.023	0.0	0.0705	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m^3)	Discharge Vol (m^3)
600 minute summer	STORAGE 2	9.000	S3	-2.6	-0.447	-0.440	0.0244	
600 minute summer	STORAGE 3	3.000	S1	0.1	0.012	0.009	0.0404	

Results for 100 year 600 minute winter. 840 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
600 minute winter	S1	375	8.461	0.145	0.8	0.1644	0.0000	OK
600 minute winter	S2	435	7.536	0.830	2.8	1.3900	0.0000	SURCHARGED
600 minute winter	S3	450	7.529	0.898	3.5	1.3332	0.0000	SURCHARGED
600 minute winter	S4	495	6.983	0.396	1.7	0.4483	0.0000	SURCHARGED
600 minute winter	S5	495	6.983	0.778	2.7	1.6661	0.0000	SURCHARGED
600 minute winter	S6	255	6.202	0.020	2.0	0.0228	0.0000	OK
600 minute winter	OUTFALL	255	5.460	0.020	2.0	0.0000	0.0000	OK
600 minute winter	FC1	345	8.748	0.048	0.5	1.1544	0.0000	OK
600 minute winter	FC2	360	9.065	0.065	0.5	1.5629	0.0000	OK
600 minute winter	FC3	585	7.507	0.357	0.7	8.5781	0.0000	SURCHARGED
600 minute winter	FC4	585	7.507	0.357	0.7	8.5883	0.0000	SURCHARGED
600 minute winter	FC5	360	7.955	0.055	0.5	1.3312	0.0000	OK
600 minute winter	FC6	510	7.531	0.181	0.4	4.3492	0.0000	SURCHARGED
600 minute winter	FC7	495	6.983	0.548	1.4	10.5815	0.0000	SURCHARGED
600 minute winter	STORAGE 1	435	7.536	0.691	1.8	12.5953	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m^3)	Discharge Vol (m^3)
600 minute winter	S1	Orifice	S2	0.8				
600 minute winter	S2	Orifice	S3	1.6				
600 minute winter	S3	Orifice	S4	1.7				
600 minute winter	S4	1.004	S5	1.6	0.422	0.054	0.7003	
600 minute winter	S5	ACO Q-Brake	S6	2.0				
600 minute winter	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	76.3
600 minute winter	FC1	Orifice	S1	0.5				
600 minute winter	FC2	Orifice	S1	0.4				
600 minute winter	FC3	Orifice	S2	0.2				
600 minute winter	FC4	Orifice	S2	0.2				
600 minute winter	FC5	Orifice	S3	0.4				
600 minute winter	FC6	Orifice	S3	0.2				
600 minute winter	FC7	10.000	S5	-1.0	0.313	-0.162	0.0856	
600 minute winter	STORAGE 1	6.000	S2	-1.8	-0.228	-0.297	0.0111	

Results for 100 year 600 minute winter. 840 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
600 minute winter	STORAGE 2	450	7.529	0.329	1.8	12.1076	0.0000	SURCHARGED
600 minute winter	STORAGE 3	375	8.461	0.011	0.0	0.0345	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m^3)	Discharge Vol (m^3)
600 minute winter	STORAGE 2	9.000	S3	-1.8	-0.351	-0.308	0.0244	
600 minute winter	STORAGE 3	3.000	S1	0.0	-0.006	-0.004	0.0360	

Results for 100 year 720 minute summer. 960 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute summer	S1	420	8.454	0.138	0.8	0.1563	0.0000	OK
720 minute summer	S2	480	7.473	0.767	3.1	1.2844	0.0000	SURCHARGED
720 minute summer	S3	480	7.466	0.835	3.9	1.2398	0.0000	SURCHARGED
720 minute summer	S4	600	6.926	0.339	1.6	0.3835	0.0000	SURCHARGED
720 minute summer	S5	600	6.926	0.721	2.9	1.5435	0.0000	SURCHARGED
720 minute summer	S6	330	6.202	0.020	2.0	0.0228	0.0000	OK
720 minute summer	OUTFALL	330	5.460	0.020	2.0	0.0000	0.0000	OK
720 minute summer	FC1	390	8.746	0.046	0.6	1.1266	0.0000	OK
720 minute summer	FC2	405	9.060	0.060	0.5	1.4553	0.0000	OK
720 minute summer	FC3	630	7.443	0.293	0.7	7.0295	0.0000	SURCHARGED
720 minute summer	FC4	630	7.442	0.292	0.7	7.0378	0.0000	SURCHARGED
720 minute summer	FC5	405	7.953	0.053	0.5	1.2799	0.0000	OK
720 minute summer	FC6	540	7.474	0.124	0.5	2.9873	0.0000	SURCHARGED
720 minute summer	FC7	600	6.926	0.491	1.5	9.4761	0.0000	SURCHARGED
720 minute summer	STORAGE 1	480	7.473	0.628	1.8	11.4457	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute summer	S1	Orifice	S2	0.8				
720 minute summer	S2	Orifice	S3	1.8				
720 minute summer	S3	Orifice	S4	1.6				
720 minute summer	S4	1.004	S5	1.6	0.422	0.054	0.7003	
720 minute summer	S5	ACO Q-Brake	S6	2.0				
720 minute summer	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	81.6
720 minute summer	FC1	Orifice	S1	0.5				
720 minute summer	FC2	Orifice	S1	0.4				
720 minute summer	FC3	Orifice	S2	0.3				
720 minute summer	FC4	Orifice	S2	0.3				
720 minute summer	FC5	Orifice	S3	0.4				
720 minute summer	FC6	Orifice	S3	0.2				
720 minute summer	FC7	10.000	S5	-1.0	0.313	-0.168	0.0856	
720 minute summer	STORAGE 1	6.000	S2	-1.8	-0.232	-0.302	0.0111	

Results for 100 year 720 minute summer. 960 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute summer	STORAGE 2	480	7.466	0.266	2.2	9.7927	0.0000	SURCHARGED
720 minute summer	STORAGE 3	420	8.454	0.004	0.0	0.0128	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute summer	STORAGE 2	9.000	S3	-2.2	-0.410	-0.380	0.0244	
720 minute summer	STORAGE 3	3.000	S1	0.0	-0.003	-0.002	0.0326	

Results for 100 year 720 minute winter. 960 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute winter	S1	420	8.433	0.117	0.7	0.1326	0.0000	OK
720 minute winter	S2	510	7.517	0.811	2.5	1.3585	0.0000	SURCHARGED
720 minute winter	S3	525	7.511	0.880	3.1	1.3059	0.0000	SURCHARGED
720 minute winter	S4	555	6.980	0.393	1.7	0.4447	0.0000	SURCHARGED
720 minute winter	S5	555	6.980	0.775	2.6	1.6592	0.0000	SURCHARGED
720 minute winter	S6	300	6.202	0.020	2.0	0.0228	0.0000	OK
720 minute winter	OUTFALL	300	5.460	0.020	2.0	0.0000	0.0000	OK
720 minute winter	FC1	420	8.739	0.039	0.4	0.9458	0.0000	OK
720 minute winter	FC2	420	9.055	0.055	0.4	1.3338	0.0000	OK
720 minute winter	FC3	645	7.499	0.349	0.6	8.3768	0.0000	SURCHARGED
720 minute winter	FC4	645	7.498	0.348	0.6	8.3868	0.0000	SURCHARGED
720 minute winter	FC5	405	7.947	0.047	0.4	1.1317	0.0000	OK
720 minute winter	FC6	585	7.516	0.166	0.4	3.9831	0.0000	SURCHARGED
720 minute winter	FC7	555	6.980	0.545	1.3	10.5201	0.0000	SURCHARGED
720 minute winter	STORAGE 1	510	7.517	0.672	1.5	12.2520	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute winter	S1	Orifice	S2	0.7				
720 minute winter	S2	Orifice	S3	1.5				
720 minute winter	S3	Orifice	S4	1.7				
720 minute winter	S4	1.004	S5	1.6	0.422	0.054	0.7003	
720 minute winter	S5	ACO Q-Brake	S6	2.0				
720 minute winter	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	85.8
720 minute winter	FC1	Orifice	S1	0.4				
720 minute winter	FC2	Orifice	S1	0.3				
720 minute winter	FC3	Orifice	S2	0.2				
720 minute winter	FC4	Orifice	S2	0.2				
720 minute winter	FC5	Orifice	S3	0.4				
720 minute winter	FC6	Orifice	S3	0.2				
720 minute winter	FC7	10.000	S5	-0.9	0.313	-0.149	0.0856	
720 minute winter	STORAGE 1	6.000	S2	-1.5	-0.199	-0.257	0.0111	

Results for 100 year 720 minute winter. 960 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute winter	STORAGE 2	525	7.511	0.311	1.5	11.4308	0.0000	SURCHARGED
720 minute winter	STORAGE 3	15	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute winter	STORAGE 2	9.000	S3	-1.5	-0.331	-0.248	0.0244	
720 minute winter	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0246	

Results for 100 year 960 minute summer. 1200 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute summer	S1	540	8.432	0.116	0.7	0.1310	0.0000	OK
960 minute summer	S2	615	7.444	0.738	2.6	1.2362	0.0000	SURCHARGED
960 minute summer	S3	615	7.438	0.807	3.4	1.1983	0.0000	SURCHARGED
960 minute summer	S4	720	6.910	0.323	1.6	0.3655	0.0000	SURCHARGED
960 minute summer	S5	720	6.910	0.705	2.7	1.5094	0.0000	SURCHARGED
960 minute summer	S6	450	6.202	0.020	2.0	0.0228	0.0000	OK
960 minute summer	OUTFALL	450	5.460	0.020	2.0	0.0000	0.0000	OK
960 minute summer	FC1	510	8.740	0.040	0.5	0.9684	0.0000	OK
960 minute summer	FC2	540	9.053	0.053	0.4	1.2893	0.0000	OK
960 minute summer	FC3	750	7.428	0.278	0.6	6.6711	0.0000	SURCHARGED
960 minute summer	FC4	750	7.428	0.278	0.6	6.6791	0.0000	SURCHARGED
960 minute summer	FC5	540	7.946	0.046	0.4	1.1060	0.0000	OK
960 minute summer	FC6	660	7.453	0.103	0.4	2.4845	0.0000	SURCHARGED
960 minute summer	FC7	720	6.910	0.475	1.3	9.1689	0.0000	SURCHARGED
960 minute summer	STORAGE 1	615	7.444	0.599	1.6	10.9214	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute summer	S1	Orifice	S2	0.7				
960 minute summer	S2	Orifice	S3	1.6				
960 minute summer	S3	Orifice	S4	1.6				
960 minute summer	S4	1.004	S5	1.6	0.421	0.053	0.7003	
960 minute summer	S5	ACO Q-Brake	S6	2.0				
960 minute summer	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	94.9
960 minute summer	FC1	Orifice	S1	0.4				
960 minute summer	FC2	Orifice	S1	0.3				
960 minute summer	FC3	Orifice	S2	0.3				
960 minute summer	FC4	Orifice	S2	0.3				
960 minute summer	FC5	Orifice	S3	0.3				
960 minute summer	FC6	Orifice	S3	0.2				
960 minute summer	FC7	10.000	S5	-0.9	0.313	-0.147	0.0856	
960 minute summer	STORAGE 1	6.000	S2	-1.6	-0.207	-0.269	0.0111	

Results for 100 year 960 minute summer. 1200 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute summer	STORAGE 2	615	7.439	0.239	1.8	8.7664	0.0000	SURCHARGED
960 minute summer	STORAGE 3	15	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute summer	STORAGE 2	9.000	S3	-1.8	-0.350	-0.299	0.0244	
960 minute summer	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0240	

Results for 100 year 960 minute winter. 1200 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute winter	S1	510	8.402	0.086	0.6	0.0968	0.0000	OK
960 minute winter	S2	660	7.470	0.764	2.1	1.2803	0.0000	SURCHARGED
960 minute winter	S3	675	7.465	0.834	2.7	1.2369	0.0000	SURCHARGED
960 minute winter	S4	720	6.955	0.368	1.7	0.4163	0.0000	SURCHARGED
960 minute winter	S5	720	6.955	0.750	2.4	1.6056	0.0000	SURCHARGED
960 minute winter	S6	420	6.202	0.020	2.0	0.0228	0.0000	OK
960 minute winter	OUTFALL	420	5.460	0.020	2.0	0.0000	0.0000	OK
960 minute winter	FC1	510	8.734	0.034	0.4	0.8195	0.0000	OK
960 minute winter	FC2	570	9.044	0.044	0.3	1.0749	0.0000	OK
960 minute winter	FC3	780	7.468	0.318	0.5	7.6437	0.0000	SURCHARGED
960 minute winter	FC4	780	7.468	0.318	0.5	7.6536	0.0000	SURCHARGED
960 minute winter	FC5	570	7.937	0.037	0.3	0.8996	0.0000	OK
960 minute winter	FC6	735	7.473	0.123	0.3	2.9696	0.0000	SURCHARGED
960 minute winter	FC7	720	6.955	0.520	1.0	10.0367	0.0000	SURCHARGED
960 minute winter	STORAGE 1	660	7.470	0.625	1.1	11.4008	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute winter	S1	Orifice	S2	0.6				
960 minute winter	S2	Orifice	S3	1.3				
960 minute winter	S3	Orifice	S4	1.7				
960 minute winter	S4	1.004	S5	1.6	0.424	0.054	0.7003	
960 minute winter	S5	ACO Q-Brake	S6	2.0				
960 minute winter	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	103.9
960 minute winter	FC1	Orifice	S1	0.3				
960 minute winter	FC2	Orifice	S1	0.3				
960 minute winter	FC3	Orifice	S2	0.3				
960 minute winter	FC4	Orifice	S2	0.3				
960 minute winter	FC5	Orifice	S3	0.3				
960 minute winter	FC6	Orifice	S3	0.2				
960 minute winter	FC7	10.000	S5	-0.7	0.284	-0.127	0.0856	
960 minute winter	STORAGE 1	6.000	S2	-1.1	-0.143	-0.186	0.0111	

Results for 100 year 960 minute winter. 1200 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
960 minute winter	STORAGE 2	675	7.465	0.265	1.1	9.7221	0.0000	SURCHARGED
960 minute winter	STORAGE 3	15	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m^3)	Discharge Vol (m^3)
960 minute winter	STORAGE 2	9.000	S3	-1.1	0.289	-0.178	0.0244	
960 minute winter	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0110	

Results for 100 year 1440 minute summer. 1680 minute analysis at 30 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute summer	S1	780	8.395	0.079	0.6	0.0888	0.0000	OK
1440 minute summer	S2	870	7.375	0.669	1.9	1.1207	0.0000	SURCHARGED
1440 minute summer	S3	900	7.369	0.738	2.6	1.0949	0.0000	SURCHARGED
1440 minute summer	S4	1020	6.863	0.276	1.6	0.3125	0.0000	SURCHARGED
1440 minute summer	S5	1020	6.863	0.658	2.4	1.4092	0.0000	SURCHARGED
1440 minute summer	S6	690	6.202	0.020	2.0	0.0228	0.0000	OK
1440 minute summer	OUTFALL	690	5.460	0.020	2.0	0.0000	0.0000	OK
1440 minute summer	FC1	780	8.731	0.031	0.3	0.7642	0.0000	OK
1440 minute summer	FC2	780	9.042	0.042	0.3	1.0071	0.0000	OK
1440 minute summer	FC3	990	7.380	0.230	0.4	5.5241	0.0000	SURCHARGED
1440 minute summer	FC4	990	7.380	0.230	0.4	5.5315	0.0000	SURCHARGED
1440 minute summer	FC5	780	7.936	0.036	0.3	0.8711	0.0000	OK
1440 minute summer	FC6	840	7.423	0.073	0.3	1.7573	0.0000	OK
1440 minute summer	FC7	1020	6.863	0.428	0.8	8.2660	0.0000	SURCHARGED
1440 minute summer	STORAGE 1	870	7.375	0.530	1.3	9.6634	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute summer	S1	Orifice	S2	0.6				
1440 minute summer	S2	Orifice	S3	1.3				
1440 minute summer	S3	Orifice	S4	1.6				
1440 minute summer	S4	1.004	S5	1.6	0.424	0.053	0.7003	
1440 minute summer	S5	ACO Q-Brake	S6	2.0				
1440 minute summer	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	113.5
1440 minute summer	FC1	Orifice	S1	0.3				
1440 minute summer	FC2	Orifice	S1	0.3				
1440 minute summer	FC3	Orifice	S2	0.2				
1440 minute summer	FC4	Orifice	S2	0.2				
1440 minute summer	FC5	Orifice	S3	0.3				
1440 minute summer	FC6	Orifice	S3	0.2				
1440 minute summer	FC7	10.000	S5	1.4	0.328	0.230	0.0856	
1440 minute summer	STORAGE 1	6.000	S2	-1.3	0.297	-0.209	0.0111	

Results for 100 year 1440 minute summer. 1680 minute analysis at 30 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute summer	STORAGE 2	900	7.369	0.169	1.0	6.2044	0.0000	SURCHARGED
1440 minute summer	STORAGE 3	30	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute summer	STORAGE 2	9.000	S3	-1.0	-0.297	-0.175	0.0244	
1440 minute summer	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0081	

Results for 100 year 1440 minute winter. 1680 minute analysis at 30 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute winter	S1	750	8.375	0.059	0.5	0.0671	0.0000	OK
1440 minute winter	S2	990	7.386	0.680	1.6	1.1386	0.0000	SURCHARGED
1440 minute winter	S3	990	7.379	0.748	2.1	1.1107	0.0000	SURCHARGED
1440 minute winter	S4	1080	6.894	0.307	1.6	0.3471	0.0000	SURCHARGED
1440 minute winter	S5	1080	6.894	0.689	2.2	1.4746	0.0000	SURCHARGED
1440 minute winter	S6	660	6.202	0.020	2.0	0.0228	0.0000	OK
1440 minute winter	OUTFALL	660	5.460	0.020	2.0	0.0000	0.0000	OK
1440 minute winter	FC1	750	8.730	0.030	0.3	0.7284	0.0000	OK
1440 minute winter	FC2	900	9.029	0.029	0.2	0.6987	0.0000	OK
1440 minute winter	FC3	1050	7.396	0.246	0.3	5.9038	0.0000	SURCHARGED
1440 minute winter	FC4	1050	7.396	0.246	0.3	5.9128	0.0000	SURCHARGED
1440 minute winter	FC5	900	7.927	0.027	0.2	0.6481	0.0000	OK
1440 minute winter	FC6	870	7.419	0.069	0.2	1.6612	0.0000	OK
1440 minute winter	FC7	1080	6.894	0.459	0.7	8.8551	0.0000	SURCHARGED
1440 minute winter	STORAGE 1	990	7.386	0.541	0.9	9.8587	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute winter	S1	Orifice	S2	0.5				
1440 minute winter	S2	Orifice	S3	1.1				
1440 minute winter	S3	Orifice	S4	1.6				
1440 minute winter	S4	1.004	S5	1.6	0.423	0.054	0.7003	
1440 minute winter	S5	ACO Q-Brake	S6	2.0				
1440 minute winter	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	126.7
1440 minute winter	FC1	Orifice	S1	0.3				
1440 minute winter	FC2	Orifice	S1	0.2				
1440 minute winter	FC3	Orifice	S2	0.2				
1440 minute winter	FC4	Orifice	S2	0.2				
1440 minute winter	FC5	Orifice	S3	0.2				
1440 minute winter	FC6	Orifice	S3	0.2				
1440 minute winter	FC7	10.000	S5	1.5	0.284	0.260	0.0856	
1440 minute winter	STORAGE 1	6.000	S2	-0.9	0.245	-0.144	0.0111	

Results for 100 year 1440 minute winter. 1680 minute analysis at 30 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute winter	STORAGE 2	990	7.379	0.179	0.6	6.5968	0.0000	SURCHARGED
1440 minute winter	STORAGE 3	30	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute winter	STORAGE 2	9.000	S3	-0.6	0.214	-0.097	0.0244	
1440 minute winter	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0016	

Results for 100 year +20% CC 15 minute summer. 255 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1	54	8.495	0.179	1.1	0.2025	0.0000	SURCHARGED
15 minute summer	S2	38	7.409	0.703	9.3	1.1778	0.0000	SURCHARGED
15 minute summer	S3	53	7.349	0.718	7.2	1.0656	0.0000	SURCHARGED
15 minute summer	S4	112	6.758	0.171	1.6	0.1934	0.0000	OK
15 minute summer	S5	112	6.758	0.553	5.0	1.1836	0.0000	SURCHARGED
15 minute summer	S6	12	6.202	0.020	2.0	0.0227	0.0000	OK
15 minute summer	OUTFALL	12	5.460	0.020	2.0	0.0000	0.0000	OK
15 minute summer	FC1	38	8.777	0.077	1.5	1.8809	0.0000	OK
15 minute summer	FC2	38	9.081	0.081	1.4	1.9668	0.0000	OK
15 minute summer	FC3	125	7.295	0.145	1.6	3.4929	0.0000	SURCHARGED
15 minute summer	FC4	126	7.295	0.145	1.6	3.4949	0.0000	SURCHARGED
15 minute summer	FC5	38	7.978	0.078	1.4	1.8846	0.0000	OK
15 minute summer	FC6	40	7.435	0.085	1.3	2.0532	0.0000	OK
15 minute summer	FC7	113	6.758	0.323	3.9	6.2314	0.0000	SURCHARGED
15 minute summer	STORAGE 1	38	7.410	0.565	9.6	10.2933	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S1	Orifice	S2	0.9				
15 minute summer	S2	Orifice	S3	2.9				
15 minute summer	S3	Orifice	S4	1.6				
15 minute summer	S4	1.004	S5	1.6	0.415	0.054	0.6352	
15 minute summer	S5	ACO Q-Brake	S6	2.0				
15 minute summer	S6	1.006	OUTFALL	2.0	1.165	0.016	0.0220	22.3
15 minute summer	FC1	Orifice	S1	0.7				
15 minute summer	FC2	Orifice	S1	0.4				
15 minute summer	FC3	Orifice	S2	0.2				
15 minute summer	FC4	Orifice	S2	0.2				
15 minute summer	FC5	Orifice	S3	0.5				
15 minute summer	FC6	Orifice	S3	0.2				
15 minute summer	FC7	10.000	S5	-2.6	-0.381	-0.444	0.0856	
15 minute summer	STORAGE 1	6.000	S2	-9.6	-1.473	-1.591	0.0111	

Results for 100 year +20% CC 15 minute summer. 255 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	STORAGE 2	53	7.349	0.149	5.5	5.4809	0.0000	SURCHARGED
15 minute summer	STORAGE 3	54	8.495	0.045	0.2	0.1366	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	STORAGE 2	9.000	S3	-5.5	-0.854	-0.935	0.0244	
15 minute summer	STORAGE 3	3.000	S1	-0.2	-0.048	-0.029	0.0494	

Results for 100 year +20% CC 15 minute winter. 255 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S1	56	8.517	0.201	1.2	0.2274	0.0000	SURCHARGED
15 minute winter	S2	38	7.453	0.747	10.4	1.2520	0.0000	SURCHARGED
15 minute winter	S3	55	7.387	0.756	8.0	1.1225	0.0000	SURCHARGED
15 minute winter	S4	81	6.793	0.206	1.6	0.2327	0.0000	OK
15 minute winter	S5	81	6.793	0.588	5.4	1.2579	0.0000	SURCHARGED
15 minute winter	S6	11	6.202	0.020	2.0	0.0228	0.0000	OK
15 minute winter	OUTFALL	11	5.460	0.020	2.0	0.0000	0.0000	OK
15 minute winter	FC1	38	8.788	0.088	1.7	2.1398	0.0000	OK
15 minute winter	FC2	39	9.092	0.092	1.6	2.2230	0.0000	OK
15 minute winter	FC3	141	7.320	0.170	1.9	4.0956	0.0000	SURCHARGED
15 minute winter	FC4	141	7.320	0.170	1.9	4.0981	0.0000	SURCHARGED
15 minute winter	FC5	38	7.988	0.088	1.6	2.1283	0.0000	OK
15 minute winter	FC6	41	7.444	0.094	1.4	2.2669	0.0000	OK
15 minute winter	FC7	82	6.792	0.357	4.5	6.8994	0.0000	SURCHARGED
15 minute winter	STORAGE 1	38	7.454	0.609	10.1	11.0979	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	S1	Orifice	S2	1.0				
15 minute winter	S2	Orifice	S3	3.1				
15 minute winter	S3	Orifice	S4	1.6				
15 minute winter	S4	1.004	S5	1.6	0.414	0.054	0.6855	
15 minute winter	S5	ACO Q-Brake	S6	2.0				
15 minute winter	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	22.9
15 minute winter	FC1	Orifice	S1	0.7				
15 minute winter	FC2	Orifice	S1	0.5				
15 minute winter	FC3	Orifice	S2	0.2				
15 minute winter	FC4	Orifice	S2	0.2				
15 minute winter	FC5	Orifice	S3	0.5				
15 minute winter	FC6	Orifice	S3	0.2				
15 minute winter	FC7	10.000	S5	-3.1	-0.438	-0.523	0.0856	
15 minute winter	STORAGE 1	6.000	S2	-10.1	-1.482	-1.673	0.0111	

Results for 100 year +20% CC 15 minute winter. 255 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	STORAGE 2	55	7.387	0.187	6.2	6.8906	0.0000	SURCHARGED
15 minute winter	STORAGE 3	56	8.517	0.067	0.2	0.2033	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	STORAGE 2	9.000	S3	-6.2	-0.900	-1.055	0.0244	
15 minute winter	STORAGE 3	3.000	S1	-0.2	-0.050	-0.036	0.0589	

Results for 100 year +20% CC 30 minute summer. 270 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
30 minute summer	S1	68	8.552	0.236	1.3	0.2667	0.0000	SURCHARGED
30 minute summer	S2	46	7.514	0.808	11.0	1.3532	0.0000	SURCHARGED
30 minute summer	S3	65	7.450	0.819	8.7	1.2150	0.0000	SURCHARGED
30 minute summer	S4	57	6.864	0.277	1.6	0.3135	0.0000	SURCHARGED
30 minute summer	S5	57	6.864	0.659	6.0	1.4108	0.0000	SURCHARGED
30 minute summer	S6	17	6.202	0.020	2.0	0.0228	0.0000	OK
30 minute summer	OUTFALL	17	5.460	0.020	2.0	0.0000	0.0000	OK
30 minute summer	FC1	46	8.802	0.102	2.0	2.4747	0.0000	SURCHARGED
30 minute summer	FC2	47	9.105	0.105	1.9	2.5301	0.0000	SURCHARGED
30 minute summer	FC3	171	7.360	0.210	2.1	5.0436	0.0000	SURCHARGED
30 minute summer	FC4	171	7.360	0.210	2.1	5.0468	0.0000	SURCHARGED
30 minute summer	FC5	47	8.000	0.100	1.9	2.4164	0.0000	OK
30 minute summer	FC6	57	7.463	0.113	1.7	2.7167	0.0000	SURCHARGED
30 minute summer	FC7	58	6.864	0.429	4.9	8.2808	0.0000	SURCHARGED
30 minute summer	STORAGE 1	46	7.514	0.669	10.0	12.1984	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m^3)	Discharge Vol (m^3)
30 minute summer	S1	Orifice	S2	1.1				
30 minute summer	S2	Orifice	S3	3.3				
30 minute summer	S3	Orifice	S4	1.6				
30 minute summer	S4	1.004	S5	1.6	0.415	0.054	0.7003	
30 minute summer	S5	ACO Q-Brake	S6	2.0				
30 minute summer	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	24.9
30 minute summer	FC1	Orifice	S1	0.8				
30 minute summer	FC2	Orifice	S1	0.5				
30 minute summer	FC3	Orifice	S2	0.2				
30 minute summer	FC4	Orifice	S2	0.2				
30 minute summer	FC5	Orifice	S3	0.6				
30 minute summer	FC6	Orifice	S3	0.2				
30 minute summer	FC7	10.000	S5	-3.3	-0.451	-0.565	0.0856	
30 minute summer	STORAGE 1	6.000	S2	-10.0	-1.282	-1.669	0.0111	

Results for 100 year +20% CC 30 minute summer. 270 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute summer	STORAGE 2	65	7.450	0.250	6.8	9.1813	0.0000	SURCHARGED
30 minute summer	STORAGE 3	68	8.552	0.102	0.3	0.3087	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute summer	STORAGE 2	9.000	S3	-6.8	-1.004	-1.152	0.0244	
30 minute summer	STORAGE 3	3.000	S1	-0.3	-0.059	-0.043	0.0687	

Results for 100 year +20% CC 30 minute winter. 270 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute winter	S1	70	8.582	0.266	1.4	0.3011	0.0000	SURCHARGED
30 minute winter	S2	47	7.575	0.869	11.9	1.4552	0.0000	SURCHARGED
30 minute winter	S3	66	7.499	0.868	9.5	1.2885	0.0000	SURCHARGED
30 minute winter	S4	57	6.920	0.333	1.6	0.3767	0.0000	SURCHARGED
30 minute winter	S5	57	6.920	0.715	6.4	1.5305	0.0000	SURCHARGED
30 minute winter	S6	16	6.202	0.020	2.0	0.0227	0.0000	OK
30 minute winter	OUTFALL	16	5.460	0.020	2.0	0.0000	0.0000	OK
30 minute winter	FC1	47	8.814	0.114	2.3	2.7681	0.0000	SURCHARGED
30 minute winter	FC2	49	9.119	0.119	2.1	2.8734	0.0000	SURCHARGED
30 minute winter	FC3	186	7.393	0.243	2.4	5.8464	0.0000	SURCHARGED
30 minute winter	FC4	186	7.393	0.243	2.4	5.8502	0.0000	SURCHARGED
30 minute winter	FC5	48	8.013	0.113	2.1	2.7398	0.0000	SURCHARGED
30 minute winter	FC6	90	7.488	0.138	1.9	3.3247	0.0000	SURCHARGED
30 minute winter	FC7	58	6.920	0.485	5.4	9.3583	0.0000	SURCHARGED
30 minute winter	STORAGE 1	47	7.575	0.730	10.7	13.3076	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute winter	S1	Orifice	S2	1.1				
30 minute winter	S2	Orifice	S3	3.5				
30 minute winter	S3	Orifice	S4	1.6				
30 minute winter	S4	1.004	S5	1.6	0.411	0.055	0.7003	
30 minute winter	S5	ACO Q-Brake	S6	2.0				
30 minute winter	S6	1.006	OUTFALL	2.0	1.165	0.016	0.0220	25.7
30 minute winter	FC1	Orifice	S1	0.8				
30 minute winter	FC2	Orifice	S1	0.5				
30 minute winter	FC3	Orifice	S2	0.2				
30 minute winter	FC4	Orifice	S2	0.2				
30 minute winter	FC5	Orifice	S3	0.6				
30 minute winter	FC6	Orifice	S3	0.2				
30 minute winter	FC7	10.000	S5	-3.6	-0.476	-0.613	0.0856	
30 minute winter	STORAGE 1	6.000	S2	-10.7	-1.366	-1.779	0.0111	

Results for 100 year +20% CC 30 minute winter. 270 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute winter	STORAGE 2	66	7.499	0.299	7.7	11.0009	0.0000	SURCHARGED
30 minute winter	STORAGE 3	70	8.582	0.132	0.3	0.4008	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute winter	STORAGE 2	9.000	S3	-7.7	-1.072	-1.293	0.0244	
30 minute winter	STORAGE 3	3.000	S1	-0.3	-0.067	-0.049	0.0687	

Results for 100 year +20% CC 60 minute summer. 300 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute summer	S1	90	8.608	0.292	1.4	0.3299	0.0000	SURCHARGED
60 minute summer	S2	64	7.603	0.897	11.0	1.5028	0.0000	SURCHARGED
60 minute summer	S3	88	7.551	0.920	9.3	1.3652	0.0000	SURCHARGED
60 minute summer	S4	84	6.970	0.383	1.6	0.4330	0.0000	SURCHARGED
60 minute summer	S5	84	6.970	0.765	6.0	1.6369	0.0000	SURCHARGED
60 minute summer	S6	28	6.202	0.020	2.0	0.0228	0.0000	OK
60 minute summer	OUTFALL	28	5.460	0.020	2.0	0.0000	0.0000	OK
60 minute summer	FC1	63	8.818	0.118	2.1	2.8740	0.0000	SURCHARGED
60 minute summer	FC2	66	9.125	0.125	1.9	3.0182	0.0000	SURCHARGED
60 minute summer	FC3	216	7.429	0.279	2.2	6.6958	0.0000	SURCHARGED
60 minute summer	FC4	217	7.428	0.278	2.2	6.7001	0.0000	SURCHARGED
60 minute summer	FC5	65	8.018	0.118	1.9	2.8594	0.0000	SURCHARGED
60 minute summer	FC6	137	7.521	0.171	1.7	4.1083	0.0000	SURCHARGED
60 minute summer	FC7	85	6.969	0.534	5.1	10.3149	0.0000	SURCHARGED
60 minute summer	STORAGE 1	64	7.603	0.758	9.8	13.8242	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute summer	S1	Orifice	S2	1.2				
60 minute summer	S2	Orifice	S3	3.5				
60 minute summer	S3	Orifice	S4	1.6				
60 minute summer	S4	1.004	S5	1.6	0.416	0.054	0.7003	
60 minute summer	S5	ACO Q-Brake	S6	2.0				
60 minute summer	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	29.0
60 minute summer	FC1	Orifice	S1	0.9				
60 minute summer	FC2	Orifice	S1	0.5				
60 minute summer	FC3	Orifice	S2	0.2				
60 minute summer	FC4	Orifice	S2	0.2				
60 minute summer	FC5	Orifice	S3	0.6				
60 minute summer	FC6	Orifice	S3	0.2				
60 minute summer	FC7	10.000	S5	-3.5	-0.448	-0.593	0.0856	
60 minute summer	STORAGE 1	6.000	S2	-9.8	-1.253	-1.631	0.0111	

Results for 100 year +20% CC 60 minute summer. 300 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute summer	STORAGE 2	89	7.551	0.351	7.5	12.9013	0.0000	SURCHARGED
60 minute summer	STORAGE 3	90	8.608	0.158	0.3	0.4781	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute summer	STORAGE 2	9.000	S3	-7.5	-1.026	-1.259	0.0244	
60 minute summer	STORAGE 3	3.000	S1	-0.3	-0.059	-0.049	0.0687	

Results for 100 year +20% CC 60 minute winter. 300 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute winter	S1	92	8.644	0.328	1.5	0.3714	0.0000	SURCHARGED
60 minute winter	S2	63	7.758	1.052	11.0	1.7614	0.0000	SURCHARGED
60 minute winter	S3	88	7.614	0.983	10.1	1.4594	0.0000	SURCHARGED
60 minute winter	S4	84	7.040	0.453	1.7	0.5124	0.0000	SURCHARGED
60 minute winter	S5	82	7.040	0.835	6.2	1.7872	0.0000	SURCHARGED
60 minute winter	S6	26	6.202	0.020	2.0	0.0228	0.0000	OK
60 minute winter	OUTFALL	26	5.460	0.020	2.0	0.0000	0.0000	OK
60 minute winter	FC1	65	8.833	0.133	2.3	3.2234	0.0000	SURCHARGED
60 minute winter	FC2	68	9.140	0.140	2.1	3.3740	0.0000	SURCHARGED
60 minute winter	FC3	233	7.469	0.319	2.4	7.6650	0.0000	SURCHARGED
60 minute winter	FC4	233	7.469	0.319	2.4	7.6702	0.0000	SURCHARGED
60 minute winter	FC5	66	8.032	0.132	2.1	3.1889	0.0000	SURCHARGED
60 minute winter	FC6	162	7.560	0.210	1.9	5.0623	0.0000	SURCHARGED
60 minute winter	FC7	83	7.039	0.604	5.9	11.6675	0.0000	SURCHARGED
60 minute winter	STORAGE 1	63	7.758	0.913	9.8	14.7207	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute winter	S1	Orifice	S2	1.3				
60 minute winter	S2	Orifice	S3	4.7				
60 minute winter	S3	Orifice	S4	1.7				
60 minute winter	S4	1.004	S5	1.6	0.413	0.055	0.7003	
60 minute winter	S5	ACO Q-Brake	S6	2.0				
60 minute winter	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	30.0
60 minute winter	FC1	Orifice	S1	0.9				
60 minute winter	FC2	Orifice	S1	0.6				
60 minute winter	FC3	Orifice	S2	0.1				
60 minute winter	FC4	Orifice	S2	0.1				
60 minute winter	FC5	Orifice	S3	0.7				
60 minute winter	FC6	Orifice	S3	0.2				
60 minute winter	FC7	10.000	S5	-4.0	-0.506	-0.670	0.0856	
60 minute winter	STORAGE 1	6.000	S2	-9.8	-1.249	-1.627	0.0111	

Results for 100 year +20% CC 60 minute winter. 300 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute winter	STORAGE 2	88	7.615	0.415	8.2	15.2359	0.0000	SURCHARGED
60 minute winter	STORAGE 3	92	8.644	0.194	0.3	0.5893	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute winter	STORAGE 2	9.000	S3	-8.2	-1.102	-1.377	0.0244	
60 minute winter	STORAGE 3	3.000	S1	-0.3	-0.066	-0.055	0.0687	

Results for 100 year +20% CC 120 minute summer. 360 minute analysis at 2 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute summer	S1	126	8.618	0.302	1.4	0.3414	0.0000	SURCHARGED
120 minute summer	S2	134	7.625	0.919	8.5	1.5389	0.0000	SURCHARGED
120 minute summer	S3	142	7.615	0.984	8.8	1.4605	0.0000	SURCHARGED
120 minute summer	S4	142	7.025	0.438	1.6	0.4957	0.0000	SURCHARGED
120 minute summer	S5	142	7.025	0.820	5.2	1.7557	0.0000	SURCHARGED
120 minute summer	S6	50	6.202	0.020	2.0	0.0228	0.0000	OK
120 minute summer	OUTFALL	50	5.460	0.020	2.0	0.0000	0.0000	OK
120 minute summer	FC1	96	8.813	0.113	1.8	2.7406	0.0000	SURCHARGED
120 minute summer	FC2	102	9.126	0.126	1.7	3.0379	0.0000	SURCHARGED
120 minute summer	FC3	266	7.478	0.328	2.0	7.8842	0.0000	SURCHARGED
120 minute summer	FC4	266	7.478	0.328	2.0	7.8893	0.0000	SURCHARGED
120 minute summer	FC5	98	8.017	0.117	1.7	2.8323	0.0000	SURCHARGED
120 minute summer	FC6	200	7.565	0.215	1.5	5.1647	0.0000	SURCHARGED
120 minute summer	FC7	142	7.025	0.590	4.5	11.3901	0.0000	SURCHARGED
120 minute summer	STORAGE 1	134	7.625	0.780	7.3	14.2154	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute summer	S1	Orifice	S2	1.2				
120 minute summer	S2	Orifice	S3	3.4				
120 minute summer	S3	Orifice	S4	1.6				
120 minute summer	S4	1.004	S5	1.6	0.417	0.054	0.7003	
120 minute summer	S5	ACO Q-Brake	S6	2.0				
120 minute summer	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	35.5
120 minute summer	FC1	Orifice	S1	0.8				
120 minute summer	FC2	Orifice	S1	0.5				
120 minute summer	FC3	Orifice	S2	0.2				
120 minute summer	FC4	Orifice	S2	0.2				
120 minute summer	FC5	Orifice	S3	0.6				
120 minute summer	FC6	Orifice	S3	0.2				
120 minute summer	FC7	10.000	S5	-3.1	-0.393	-0.520	0.0856	
120 minute summer	STORAGE 1	6.000	S2	-7.3	-0.936	-1.218	0.0111	

Results for 100 year +20% CC 120 minute summer. 360 minute analysis at 2 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute summer	STORAGE 2	142	7.615	0.415	6.9	15.2600	0.0000	SURCHARGED
120 minute summer	STORAGE 3	126	8.618	0.168	0.3	0.5088	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute summer	STORAGE 2	9.000	S3	-6.9	-0.972	-1.171	0.0244	
120 minute summer	STORAGE 3	3.000	S1	-0.3	0.070	-0.044	0.0687	

Results for 100 year +20% CC 120 minute winter. 360 minute analysis at 2 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute winter	S1	130	8.652	0.336	1.4	0.3804	0.0000	SURCHARGED
120 minute winter	S2	98	7.753	1.047	8.4	1.7543	0.0000	SURCHARGED
120 minute winter	S3	138	7.709	1.078	8.8	1.5996	0.0000	SURCHARGED
120 minute winter	S4	136	7.110	0.523	1.6	0.5913	0.0000	SURCHARGED
120 minute winter	S5	136	7.110	0.905	5.3	1.9367	0.0000	SURCHARGED
120 minute winter	S6	44	6.202	0.020	2.0	0.0228	0.0000	OK
120 minute winter	OUTFALL	44	5.460	0.020	2.0	0.0000	0.0000	OK
120 minute winter	FC1	98	8.822	0.122	1.8	2.9536	0.0000	SURCHARGED
120 minute winter	FC2	106	9.137	0.137	1.7	3.3184	0.0000	SURCHARGED
120 minute winter	FC3	282	7.525	0.375	2.0	9.0195	0.0000	SURCHARGED
120 minute winter	FC4	282	7.525	0.375	2.0	9.0255	0.0000	SURCHARGED
120 minute winter	FC5	102	8.026	0.126	1.7	3.0641	0.0000	SURCHARGED
120 minute winter	FC6	220	7.610	0.260	1.5	6.2576	0.0000	SURCHARGED
120 minute winter	FC7	138	7.110	0.675	4.6	13.0223	0.0000	SURCHARGED
120 minute winter	STORAGE 1	98	7.753	0.908	6.5	14.7159	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute winter	S1	Orifice	S2	1.3				
120 minute winter	S2	Orifice	S3	4.2				
120 minute winter	S3	Orifice	S4	1.6				
120 minute winter	S4	1.004	S5	1.6	0.417	0.054	0.7003	
120 minute winter	S5	ACO Q-Brake	S6	2.0				
120 minute winter	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	36.7
120 minute winter	FC1	Orifice	S1	0.9				
120 minute winter	FC2	Orifice	S1	0.6				
120 minute winter	FC3	Orifice	S2	0.2				
120 minute winter	FC4	Orifice	S2	0.2				
120 minute winter	FC5	Orifice	S3	0.7				
120 minute winter	FC6	Orifice	S3	0.2				
120 minute winter	FC7	10.000	S5	-3.1	-0.402	-0.533	0.0856	
120 minute winter	STORAGE 1	6.000	S2	-6.5	-0.836	-1.088	0.0111	

Results for 100 year +20% CC 120 minute winter. 360 minute analysis at 2 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute winter	STORAGE 2	138	7.709	0.509	6.9	18.7061	0.0000	SURCHARGED
120 minute winter	STORAGE 3	130	8.652	0.202	0.3	0.6133	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute winter	STORAGE 2	9.000	S3	-6.9	-0.922	-1.169	0.0244	
120 minute winter	STORAGE 3	3.000	S1	-0.3	0.045	-0.045	0.0687	

Results for 100 year +20% CC 180 minute summer. 420 minute analysis at 4 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute summer	S1	160	8.606	0.290	1.3	0.3276	0.0000	SURCHARGED
180 minute summer	S2	188	7.646	0.940	7.3	1.5752	0.0000	SURCHARGED
180 minute summer	S3	196	7.637	1.006	8.0	1.4930	0.0000	SURCHARGED
180 minute summer	S4	200	7.044	0.457	1.6	0.5165	0.0000	SURCHARGED
180 minute summer	S5	200	7.044	0.839	4.7	1.7953	0.0000	SURCHARGED
180 minute summer	S6	76	6.202	0.020	2.0	0.0228	0.0000	OK
180 minute summer	OUTFALL	76	5.460	0.020	2.0	0.0000	0.0000	OK
180 minute summer	FC1	128	8.805	0.105	1.5	2.5422	0.0000	SURCHARGED
180 minute summer	FC2	136	9.120	0.120	1.4	2.8973	0.0000	SURCHARGED
180 minute summer	FC3	308	7.505	0.355	1.7	8.5230	0.0000	SURCHARGED
180 minute summer	FC4	308	7.504	0.354	1.7	8.5288	0.0000	SURCHARGED
180 minute summer	FC5	132	8.010	0.110	1.4	2.6648	0.0000	SURCHARGED
180 minute summer	FC6	248	7.584	0.234	1.3	5.6201	0.0000	SURCHARGED
180 minute summer	FC7	200	7.044	0.609	3.7	11.7464	0.0000	SURCHARGED
180 minute summer	STORAGE 1	188	7.646	0.801	5.4	14.5950	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute summer	S1	Orifice	S2	1.2				
180 minute summer	S2	Orifice	S3	3.1				
180 minute summer	S3	Orifice	S4	1.6				
180 minute summer	S4	1.004	S5	1.6	0.423	0.054	0.7003	
180 minute summer	S5	ACO Q-Brake	S6	2.0				
180 minute summer	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	41.4
180 minute summer	FC1	Orifice	S1	0.8				
180 minute summer	FC2	Orifice	S1	0.5				
180 minute summer	FC3	Orifice	S2	0.2				
180 minute summer	FC4	Orifice	S2	0.2				
180 minute summer	FC5	Orifice	S3	0.6				
180 minute summer	FC6	Orifice	S3	0.2				
180 minute summer	FC7	10.000	S5	-2.5	0.329	-0.429	0.0856	
180 minute summer	STORAGE 1	6.000	S2	-5.4	-0.692	-0.901	0.0111	

Results for 100 year +20% CC 180 minute summer. 420 minute analysis at 4 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute summer	STORAGE 2	192	7.637	0.437	6.1	16.0667	0.0000	SURCHARGED
180 minute summer	STORAGE 3	160	8.606	0.156	0.2	0.4718	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute summer	STORAGE 2	9.000	S3	-6.1	-0.832	-1.029	0.0244	
180 minute summer	STORAGE 3	3.000	S1	-0.2	0.044	-0.038	0.0687	

Results for 100 year +20% CC 180 minute winter. 420 minute analysis at 4 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute winter	S1	164	8.638	0.322	1.4	0.3645	0.0000	SURCHARGED
180 minute winter	S2	184	7.760	1.054	6.8	1.7662	0.0000	SURCHARGED
180 minute winter	S3	192	7.749	1.118	7.5	1.6586	0.0000	SURCHARGED
180 minute winter	S4	192	7.133	0.546	1.6	0.6170	0.0000	SURCHARGED
180 minute winter	S5	192	7.132	0.927	4.5	1.9854	0.0000	SURCHARGED
180 minute winter	S6	68	6.202	0.020	2.0	0.0228	0.0000	OK
180 minute winter	OUTFALL	68	5.460	0.020	2.0	0.0000	0.0000	OK
180 minute winter	FC1	136	8.811	0.111	1.4	2.6908	0.0000	SURCHARGED
180 minute winter	FC2	140	9.130	0.130	1.3	3.1304	0.0000	SURCHARGED
180 minute winter	FC3	324	7.558	0.408	1.6	9.8040	0.0000	SURCHARGED
180 minute winter	FC4	324	7.558	0.408	1.6	9.8113	0.0000	SURCHARGED
180 minute winter	FC5	140	8.017	0.117	1.3	2.8370	0.0000	SURCHARGED
180 minute winter	FC6	268	7.634	0.284	1.2	6.8311	0.0000	SURCHARGED
180 minute winter	FC7	192	7.132	0.697	3.6	13.4601	0.0000	SURCHARGED
180 minute winter	STORAGE 1	184	7.760	0.915	4.8	14.7239	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute winter	S1	Orifice	S2	1.3				
180 minute winter	S2	Orifice	S3	3.5				
180 minute winter	S3	Orifice	S4	1.6				
180 minute winter	S4	1.004	S5	1.6	0.420	0.054	0.7003	
180 minute winter	S5	ACO Q-Brake	S6	2.0				
180 minute winter	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	42.8
180 minute winter	FC1	Orifice	S1	0.8				
180 minute winter	FC2	Orifice	S1	0.6				
180 minute winter	FC3	Orifice	S2	0.2				
180 minute winter	FC4	Orifice	S2	0.2				
180 minute winter	FC5	Orifice	S3	0.6				
180 minute winter	FC6	Orifice	S3	0.2				
180 minute winter	FC7	10.000	S5	-2.5	-0.321	-0.425	0.0856	
180 minute winter	STORAGE 1	6.000	S2	-4.8	-0.613	-0.798	0.0111	

Results for 100 year +20% CC 180 minute winter. 420 minute analysis at 4 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute winter	STORAGE 2	192	7.749	0.549	5.6	20.1688	0.0000	SURCHARGED
180 minute winter	STORAGE 3	164	8.638	0.188	0.2	0.5706	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute winter	STORAGE 2	9.000	S3	-5.6	-0.719	-0.950	0.0244	
180 minute winter	STORAGE 3	3.000	S1	0.2	0.046	0.037	0.0687	

Results for 100 year +20% CC 240 minute summer. 480 minute analysis at 4 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute summer	S1	188	8.595	0.279	1.3	0.3154	0.0000	SURCHARGED
240 minute summer	S2	236	7.658	0.952	6.5	1.5938	0.0000	SURCHARGED
240 minute summer	S3	244	7.649	1.018	7.2	1.5100	0.0000	SURCHARGED
240 minute summer	S4	252	7.057	0.470	1.6	0.5316	0.0000	SURCHARGED
240 minute summer	S5	252	7.057	0.852	4.3	1.8237	0.0000	SURCHARGED
240 minute summer	S6	100	6.202	0.020	2.0	0.0228	0.0000	OK
240 minute summer	OUTFALL	100	5.460	0.020	2.0	0.0000	0.0000	OK
240 minute summer	FC1	160	8.798	0.098	1.4	2.3822	0.0000	OK
240 minute summer	FC2	168	9.115	0.115	1.2	2.7839	0.0000	SURCHARGED
240 minute summer	FC3	348	7.527	0.377	1.5	9.0514	0.0000	SURCHARGED
240 minute summer	FC4	348	7.526	0.376	1.5	9.0581	0.0000	SURCHARGED
240 minute summer	FC5	164	8.004	0.104	1.2	2.5308	0.0000	SURCHARGED
240 minute summer	FC6	292	7.600	0.250	1.1	6.0024	0.0000	SURCHARGED
240 minute summer	FC7	252	7.057	0.622	3.4	12.0036	0.0000	SURCHARGED
240 minute summer	STORAGE 1	236	7.658	0.813	4.2	14.6075	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute summer	S1	Orifice	S2	1.2				
240 minute summer	S2	Orifice	S3	2.9				
240 minute summer	S3	Orifice	S4	1.6				
240 minute summer	S4	1.004	S5	1.6	0.424	0.054	0.7003	
240 minute summer	S5	ACO Q-Brake	S6	2.0				
240 minute summer	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	47.2
240 minute summer	FC1	Orifice	S1	0.8				
240 minute summer	FC2	Orifice	S1	0.5				
240 minute summer	FC3	Orifice	S2	0.2				
240 minute summer	FC4	Orifice	S2	0.2				
240 minute summer	FC5	Orifice	S3	0.6				
240 minute summer	FC6	Orifice	S3	0.2				
240 minute summer	FC7	10.000	S5	-2.3	0.340	-0.383	0.0856	
240 minute summer	STORAGE 1	6.000	S2	-4.2	-0.539	-0.702	0.0111	

Results for 100 year +20% CC 240 minute summer. 480 minute analysis at 4 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute summer	STORAGE 2	244	7.649	0.449	5.4	16.4866	0.0000	SURCHARGED
240 minute summer	STORAGE 3	188	8.595	0.145	0.2	0.4391	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute summer	STORAGE 2	9.000	S3	-5.4	-0.704	-0.910	0.0244	
240 minute summer	STORAGE 3	3.000	S1	-0.2	0.043	-0.033	0.0687	

Results for 100 year +20% CC 240 minute winter. 480 minute analysis at 4 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute winter	S1	196	8.615	0.299	1.3	0.3382	0.0000	SURCHARGED
240 minute winter	S2	236	7.772	1.066	5.8	1.7862	0.0000	SURCHARGED
240 minute winter	S3	244	7.763	1.132	6.4	1.6796	0.0000	SURCHARGED
240 minute winter	S4	244	7.147	0.560	1.6	0.6335	0.0000	SURCHARGED
240 minute winter	S5	244	7.147	0.942	4.0	2.0165	0.0000	SURCHARGED
240 minute winter	S6	88	6.202	0.020	2.0	0.0228	0.0000	OK
240 minute winter	OUTFALL	88	5.460	0.020	2.0	0.0000	0.0000	OK
240 minute winter	FC1	164	8.799	0.099	1.2	2.3931	0.0000	OK
240 minute winter	FC2	176	9.122	0.122	1.1	2.9525	0.0000	SURCHARGED
240 minute winter	FC3	360	7.582	0.432	1.4	10.3861	0.0000	SURCHARGED
240 minute winter	FC4	360	7.582	0.432	1.4	10.3936	0.0000	SURCHARGED
240 minute winter	FC5	172	8.009	0.109	1.1	2.6398	0.0000	SURCHARGED
240 minute winter	FC6	308	7.653	0.303	1.0	7.2921	0.0000	SURCHARGED
240 minute winter	FC7	244	7.147	0.712	3.0	13.7416	0.0000	SURCHARGED
240 minute winter	STORAGE 1	236	7.772	0.927	3.7	14.7374	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute winter	S1	Orifice	S2	1.2				
240 minute winter	S2	Orifice	S3	3.0				
240 minute winter	S3	Orifice	S4	1.6				
240 minute winter	S4	1.004	S5	1.6	0.421	0.054	0.7003	
240 minute winter	S5	ACO Q-Brake	S6	2.0				
240 minute winter	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	48.8
240 minute winter	FC1	Orifice	S1	0.8				
240 minute winter	FC2	Orifice	S1	0.5				
240 minute winter	FC3	Orifice	S2	0.2				
240 minute winter	FC4	Orifice	S2	0.2				
240 minute winter	FC5	Orifice	S3	0.6				
240 minute winter	FC6	Orifice	S3	0.2				
240 minute winter	FC7	10.000	S5	-2.1	0.338	-0.355	0.0856	
240 minute winter	STORAGE 1	6.000	S2	-3.7	-0.471	-0.613	0.0111	

Results for 100 year +20% CC 240 minute winter. 480 minute analysis at 4 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute winter	STORAGE 2	244	7.763	0.563	4.7	20.6878	0.0000	SURCHARGED
240 minute winter	STORAGE 3	196	8.615	0.165	0.2	0.5001	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute winter	STORAGE 2	9.000	S3	-4.7	-0.598	-0.787	0.0244	
240 minute winter	STORAGE 3	3.000	S1	0.2	0.055	0.032	0.0687	

Results for 100 year +20% CC 360 minute summer. 600 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute summer	S1	248	8.568	0.252	1.2	0.2847	0.0000	SURCHARGED
360 minute summer	S2	304	7.641	0.935	5.4	1.5669	0.0000	SURCHARGED
360 minute summer	S3	312	7.634	1.003	6.1	1.4878	0.0000	SURCHARGED
360 minute summer	S4	360	7.056	0.469	1.6	0.5306	0.0000	SURCHARGED
360 minute summer	S5	360	7.056	0.851	3.8	1.8220	0.0000	SURCHARGED
360 minute summer	S6	152	6.202	0.020	2.0	0.0228	0.0000	OK
360 minute summer	OUTFALL	152	5.460	0.020	2.0	0.0000	0.0000	OK
360 minute summer	FC1	224	8.785	0.085	1.1	2.0640	0.0000	OK
360 minute summer	FC2	232	9.105	0.105	1.0	2.5371	0.0000	SURCHARGED
360 minute summer	FC3	424	7.545	0.395	1.3	9.4915	0.0000	SURCHARGED
360 minute summer	FC4	424	7.545	0.395	1.3	9.4991	0.0000	SURCHARGED
360 minute summer	FC5	224	7.993	0.093	1.0	2.2611	0.0000	OK
360 minute summer	FC6	376	7.608	0.258	0.9	6.2154	0.0000	SURCHARGED
360 minute summer	FC7	360	7.056	0.621	2.6	11.9883	0.0000	SURCHARGED
360 minute summer	STORAGE 1	304	7.641	0.796	3.0	14.5206	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute summer	S1	Orifice	S2	1.1				
360 minute summer	S2	Orifice	S3	2.5				
360 minute summer	S3	Orifice	S4	1.6				
360 minute summer	S4	1.004	S5	1.6	0.424	0.054	0.7003	
360 minute summer	S5	ACO Q-Brake	S6	2.0				
360 minute summer	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	57.8
360 minute summer	FC1	Orifice	S1	0.7				
360 minute summer	FC2	Orifice	S1	0.5				
360 minute summer	FC3	Orifice	S2	0.2				
360 minute summer	FC4	Orifice	S2	0.2				
360 minute summer	FC5	Orifice	S3	0.6				
360 minute summer	FC6	Orifice	S3	0.2				
360 minute summer	FC7	10.000	S5	-1.8	0.326	-0.301	0.0856	
360 minute summer	STORAGE 1	6.000	S2	-3.0	-0.379	-0.493	0.0111	

Results for 100 year +20% CC 360 minute summer. 600 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute summer	STORAGE 2	312	7.634	0.434	4.3	15.9354	0.0000	SURCHARGED
360 minute summer	STORAGE 3	248	8.568	0.118	0.2	0.3567	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute summer	STORAGE 2	9.000	S3	-4.3	-0.553	-0.731	0.0244	
360 minute summer	STORAGE 3	3.000	S1	-0.2	0.028	-0.026	0.0687	

Results for 100 year +20% CC 360 minute winter. 600 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute winter	S1	264	8.573	0.257	1.2	0.2909	0.0000	SURCHARGED
360 minute winter	S2	320	7.748	1.042	4.6	1.7459	0.0000	SURCHARGED
360 minute winter	S3	320	7.740	1.109	5.1	1.6457	0.0000	SURCHARGED
360 minute winter	S4	344	7.147	0.560	1.6	0.6331	0.0000	SURCHARGED
360 minute winter	S5	344	7.147	0.942	3.4	2.0159	0.0000	SURCHARGED
360 minute winter	S6	136	6.202	0.020	2.0	0.0228	0.0000	OK
360 minute winter	OUTFALL	136	5.460	0.020	2.0	0.0000	0.0000	OK
360 minute winter	FC1	232	8.782	0.082	0.9	1.9852	0.0000	OK
360 minute winter	FC2	248	9.104	0.104	0.8	2.5223	0.0000	SURCHARGED
360 minute winter	FC3	432	7.606	0.456	1.1	10.9681	0.0000	SURCHARGED
360 minute winter	FC4	432	7.606	0.456	1.1	10.9755	0.0000	SURCHARGED
360 minute winter	FC5	240	7.990	0.090	0.8	2.1863	0.0000	OK
360 minute winter	FC6	392	7.667	0.317	0.8	7.6275	0.0000	SURCHARGED
360 minute winter	FC7	344	7.147	0.712	2.3	13.7362	0.0000	SURCHARGED
360 minute winter	STORAGE 1	320	7.748	0.903	2.7	14.7102	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute winter	S1	Orifice	S2	1.1				
360 minute winter	S2	Orifice	S3	2.4				
360 minute winter	S3	Orifice	S4	1.6				
360 minute winter	S4	1.004	S5	1.6	0.423	0.053	0.7003	
360 minute winter	S5	ACO Q-Brake	S6	2.0				
360 minute winter	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	60.0
360 minute winter	FC1	Orifice	S1	0.7				
360 minute winter	FC2	Orifice	S1	0.5				
360 minute winter	FC3	Orifice	S2	0.2				
360 minute winter	FC4	Orifice	S2	0.2				
360 minute winter	FC5	Orifice	S3	0.5				
360 minute winter	FC6	Orifice	S3	0.2				
360 minute winter	FC7	10.000	S5	-1.6	0.326	-0.268	0.0856	
360 minute winter	STORAGE 1	6.000	S2	-2.7	-0.348	-0.453	0.0111	

Results for 100 year +20% CC 360 minute winter. 600 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute winter	STORAGE 2	320	7.740	0.540	3.4	19.8487	0.0000	SURCHARGED
360 minute winter	STORAGE 3	264	8.573	0.123	0.1	0.3734	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute winter	STORAGE 2	9.000	S3	-3.4	-0.460	-0.575	0.0244	
360 minute winter	STORAGE 3	3.000	S1	0.1	0.022	0.021	0.0687	

Results for 100 year +20% CC 480 minute summer. 720 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute summer	S1	312	8.539	0.223	1.1	0.2523	0.0000	SURCHARGED
480 minute summer	S2	360	7.624	0.918	4.6	1.5377	0.0000	SURCHARGED
480 minute summer	S3	368	7.616	0.985	5.3	1.4620	0.0000	SURCHARGED
480 minute summer	S4	416	7.045	0.458	1.6	0.5175	0.0000	SURCHARGED
480 minute summer	S5	416	7.044	0.839	3.4	1.7970	0.0000	SURCHARGED
480 minute summer	S6	208	6.202	0.020	2.0	0.0228	0.0000	OK
480 minute summer	OUTFALL	208	5.460	0.020	2.0	0.0000	0.0000	OK
480 minute summer	FC1	288	8.775	0.075	0.9	1.8200	0.0000	OK
480 minute summer	FC2	296	9.091	0.091	0.8	2.1884	0.0000	OK
480 minute summer	FC3	496	7.554	0.404	1.1	9.6975	0.0000	SURCHARGED
480 minute summer	FC4	496	7.553	0.403	1.1	9.7052	0.0000	SURCHARGED
480 minute summer	FC5	288	7.979	0.079	0.8	1.9153	0.0000	OK
480 minute summer	FC6	456	7.597	0.247	0.8	5.9453	0.0000	SURCHARGED
480 minute summer	FC7	416	7.044	0.609	2.2	11.7630	0.0000	SURCHARGED
480 minute summer	STORAGE 1	360	7.624	0.779	2.6	14.2021	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute summer	S1	Orifice	S2	1.0				
480 minute summer	S2	Orifice	S3	2.3				
480 minute summer	S3	Orifice	S4	1.6				
480 minute summer	S4	1.004	S5	1.6	0.423	0.054	0.7003	
480 minute summer	S5	ACO Q-Brake	S6	2.0				
480 minute summer	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	68.1
480 minute summer	FC1	Orifice	S1	0.6				
480 minute summer	FC2	Orifice	S1	0.5				
480 minute summer	FC3	Orifice	S2	0.2				
480 minute summer	FC4	Orifice	S2	0.2				
480 minute summer	FC5	Orifice	S3	0.5				
480 minute summer	FC6	Orifice	S3	0.2				
480 minute summer	FC7	10.000	S5	-1.5	0.327	-0.252	0.0856	
480 minute summer	STORAGE 1	6.000	S2	-2.6	-0.336	-0.438	0.0111	

Results for 100 year +20% CC 480 minute summer. 720 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute summer	STORAGE 2	368	7.616	0.416	3.5	15.2960	0.0000	SURCHARGED
480 minute summer	STORAGE 3	312	8.539	0.089	0.1	0.2700	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute summer	STORAGE 2	9.000	S3	-3.5	-0.496	-0.599	0.0244	
480 minute summer	STORAGE 3	3.000	S1	0.1	0.024	0.021	0.0667	

Results for 100 year +20% CC 480 minute winter. 720 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute winter	S1	320	8.529	0.213	1.0	0.2414	0.0000	SURCHARGED
480 minute winter	S2	376	7.724	1.018	3.8	1.7052	0.0000	SURCHARGED
480 minute winter	S3	384	7.716	1.085	4.4	1.6100	0.0000	SURCHARGED
480 minute winter	S4	392	7.139	0.552	1.6	0.6239	0.0000	SURCHARGED
480 minute winter	S5	392	7.138	0.933	3.1	1.9985	0.0000	SURCHARGED
480 minute winter	S6	184	6.202	0.020	2.0	0.0228	0.0000	OK
480 minute winter	OUTFALL	184	5.460	0.020	2.0	0.0000	0.0000	OK
480 minute winter	FC1	288	8.767	0.067	0.7	1.6355	0.0000	OK
480 minute winter	FC2	304	9.089	0.089	0.7	2.1616	0.0000	OK
480 minute winter	FC3	512	7.619	0.469	0.9	11.2786	0.0000	SURCHARGED
480 minute winter	FC4	512	7.619	0.469	0.9	11.2882	0.0000	SURCHARGED
480 minute winter	FC5	304	7.976	0.076	0.7	1.8399	0.0000	OK
480 minute winter	FC6	480	7.666	0.316	0.7	7.6104	0.0000	SURCHARGED
480 minute winter	FC7	392	7.138	0.703	1.9	13.5787	0.0000	SURCHARGED
480 minute winter	STORAGE 1	376	7.724	0.879	2.2	14.6827	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute winter	S1	Orifice	S2	1.0				
480 minute winter	S2	Orifice	S3	2.0				
480 minute winter	S3	Orifice	S4	1.6				
480 minute winter	S4	1.004	S5	1.6	0.423	0.053	0.7003	
480 minute winter	S5	ACO Q-Brake	S6	2.0				
480 minute winter	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	70.8
480 minute winter	FC1	Orifice	S1	0.6				
480 minute winter	FC2	Orifice	S1	0.4				
480 minute winter	FC3	Orifice	S2	0.2				
480 minute winter	FC4	Orifice	S2	0.2				
480 minute winter	FC5	Orifice	S3	0.5				
480 minute winter	FC6	Orifice	S3	0.2				
480 minute winter	FC7	10.000	S5	-1.3	0.327	-0.219	0.0856	
480 minute winter	STORAGE 1	6.000	S2	-2.2	-0.288	-0.374	0.0111	

Results for 100 year +20% CC 480 minute winter. 720 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute winter	STORAGE 2	384	7.716	0.516	2.7	18.9638	0.0000	SURCHARGED
480 minute winter	STORAGE 3	320	8.529	0.079	0.1	0.2409	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute winter	STORAGE 2	9.000	S3	-2.7	-0.422	-0.455	0.0244	
480 minute winter	STORAGE 3	3.000	S1	0.1	0.022	0.017	0.0637	

Results for 100 year +20% CC 600 minute summer. 840 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute summer	S1	375	8.519	0.203	1.0	0.2298	0.0000	SURCHARGED
600 minute summer	S2	435	7.612	0.906	4.1	1.5181	0.0000	SURCHARGED
600 minute summer	S3	435	7.605	0.974	4.8	1.4460	0.0000	SURCHARGED
600 minute summer	S4	480	7.039	0.452	1.6	0.5114	0.0000	SURCHARGED
600 minute summer	S5	480	7.039	0.834	3.2	1.7855	0.0000	SURCHARGED
600 minute summer	S6	255	6.202	0.020	2.0	0.0228	0.0000	OK
600 minute summer	OUTFALL	255	5.460	0.020	2.0	0.0000	0.0000	OK
600 minute summer	FC1	345	8.767	0.067	0.8	1.6153	0.0000	OK
600 minute summer	FC2	360	9.084	0.084	0.7	2.0259	0.0000	OK
600 minute summer	FC3	600	7.552	0.402	1.0	9.6706	0.0000	SURCHARGED
600 minute summer	FC4	600	7.552	0.402	1.0	9.6816	0.0000	SURCHARGED
600 minute summer	FC5	345	7.973	0.073	0.7	1.7762	0.0000	OK
600 minute summer	FC6	510	7.589	0.239	0.7	5.7379	0.0000	SURCHARGED
600 minute summer	FC7	480	7.039	0.604	2.0	11.6591	0.0000	SURCHARGED
600 minute summer	STORAGE 1	435	7.612	0.767	2.1	13.9895	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute summer	S1	Orifice	S2	1.0				
600 minute summer	S2	Orifice	S3	2.1				
600 minute summer	S3	Orifice	S4	1.6				
600 minute summer	S4	1.004	S5	1.6	0.422	0.054	0.7003	
600 minute summer	S5	ACO Q-Brake	S6	2.0				
600 minute summer	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	78.3
600 minute summer	FC1	Orifice	S1	0.6				
600 minute summer	FC2	Orifice	S1	0.4				
600 minute summer	FC3	Orifice	S2	0.2				
600 minute summer	FC4	Orifice	S2	0.2				
600 minute summer	FC5	Orifice	S3	0.5				
600 minute summer	FC6	Orifice	S3	0.2				
600 minute summer	FC7	10.000	S5	-1.3	0.313	-0.221	0.0856	
600 minute summer	STORAGE 1	6.000	S2	-2.1	-0.274	-0.356	0.0111	

Results for 100 year +20% CC 600 minute summer. 840 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute summer	STORAGE 2	435	7.605	0.405	3.0	14.9019	0.0000	SURCHARGED
600 minute summer	STORAGE 3	375	8.519	0.069	0.1	0.2097	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute summer	STORAGE 2	9.000	S3	-3.0	-0.446	-0.509	0.0244	
600 minute summer	STORAGE 3	3.000	S1	0.1	-0.017	0.016	0.0598	

Results for 100 year +20% CC 600 minute winter. 840 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute winter	S1	375	8.500	0.184	1.0	0.2086	0.0000	SURCHARGED
600 minute winter	S2	450	7.693	0.987	3.4	1.6532	0.0000	SURCHARGED
600 minute winter	S3	450	7.685	1.054	3.9	1.5638	0.0000	SURCHARGED
600 minute winter	S4	465	7.121	0.534	1.6	0.6034	0.0000	SURCHARGED
600 minute winter	S5	465	7.120	0.915	2.8	1.9597	0.0000	SURCHARGED
600 minute winter	S6	240	6.202	0.020	2.0	0.0228	0.0000	OK
600 minute winter	OUTFALL	240	5.460	0.020	2.0	0.0000	0.0000	OK
600 minute winter	FC1	360	8.758	0.058	0.6	1.4166	0.0000	OK
600 minute winter	FC2	375	9.080	0.080	0.6	1.9328	0.0000	OK
600 minute winter	FC3	585	7.622	0.472	0.8	11.3523	0.0000	SURCHARGED
600 minute winter	FC4	585	7.622	0.472	0.8	11.3638	0.0000	SURCHARGED
600 minute winter	FC5	360	7.966	0.066	0.6	1.6102	0.0000	OK
600 minute winter	FC6	555	7.650	0.300	0.6	7.2235	0.0000	SURCHARGED
600 minute winter	FC7	465	7.120	0.685	1.6	13.2292	0.0000	SURCHARGED
600 minute winter	STORAGE 1	450	7.693	0.848	1.9	14.6476	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute winter	S1	Orifice	S2	0.9				
600 minute winter	S2	Orifice	S3	1.7				
600 minute winter	S3	Orifice	S4	1.6				
600 minute winter	S4	1.004	S5	1.6	0.422	0.054	0.7003	
600 minute winter	S5	ACO Q-Brake	S6	2.0				
600 minute winter	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	80.8
600 minute winter	FC1	Orifice	S1	0.5				
600 minute winter	FC2	Orifice	S1	0.4				
600 minute winter	FC3	Orifice	S2	0.2				
600 minute winter	FC4	Orifice	S2	0.2				
600 minute winter	FC5	Orifice	S3	0.5				
600 minute winter	FC6	Orifice	S3	0.2				
600 minute winter	FC7	10.000	S5	-1.1	0.313	-0.181	0.0856	
600 minute winter	STORAGE 1	6.000	S2	-1.9	-0.247	-0.322	0.0111	

Results for 100 year +20% CC 600 minute winter. 840 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute winter	STORAGE 2	450	7.685	0.485	2.2	17.8170	0.0000	SURCHARGED
600 minute winter	STORAGE 3	375	8.500	0.050	0.0	0.1529	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute winter	STORAGE 2	9.000	S3	-2.2	-0.348	-0.373	0.0244	
600 minute winter	STORAGE 3	3.000	S1	0.1	0.015	0.012	0.0518	

Results for 100 year +20% CC 720 minute summer. 960 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute summer	S1	435	8.489	0.173	0.9	0.1952	0.0000	SURCHARGED
720 minute summer	S2	495	7.589	0.883	3.7	1.4788	0.0000	SURCHARGED
720 minute summer	S3	495	7.582	0.951	4.3	1.4109	0.0000	SURCHARGED
720 minute summer	S4	540	7.024	0.437	1.7	0.4947	0.0000	SURCHARGED
720 minute summer	S5	540	7.024	0.819	3.0	1.7540	0.0000	SURCHARGED
720 minute summer	S6	315	6.202	0.020	2.0	0.0228	0.0000	OK
720 minute summer	OUTFALL	315	5.460	0.020	2.0	0.0000	0.0000	OK
720 minute summer	FC1	405	8.756	0.056	0.7	1.3597	0.0000	OK
720 minute summer	FC2	420	9.077	0.077	0.6	1.8611	0.0000	OK
720 minute summer	FC3	660	7.541	0.391	0.8	9.3905	0.0000	SURCHARGED
720 minute summer	FC4	660	7.541	0.391	0.8	9.4015	0.0000	SURCHARGED
720 minute summer	FC5	405	7.966	0.066	0.6	1.5971	0.0000	OK
720 minute summer	FC6	570	7.571	0.221	0.6	5.3252	0.0000	SURCHARGED
720 minute summer	FC7	540	7.024	0.589	1.8	11.3749	0.0000	SURCHARGED
720 minute summer	STORAGE 1	495	7.589	0.744	1.8	13.5613	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute summer	S1	Orifice	S2	0.9				
720 minute summer	S2	Orifice	S3	1.9				
720 minute summer	S3	Orifice	S4	1.7				
720 minute summer	S4	1.004	S5	1.6	0.422	0.054	0.7003	
720 minute summer	S5	ACO Q-Brake	S6	2.0				
720 minute summer	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	88.4
720 minute summer	FC1	Orifice	S1	0.5				
720 minute summer	FC2	Orifice	S1	0.4				
720 minute summer	FC3	Orifice	S2	0.2				
720 minute summer	FC4	Orifice	S2	0.2				
720 minute summer	FC5	Orifice	S3	0.5				
720 minute summer	FC6	Orifice	S3	0.2				
720 minute summer	FC7	10.000	S5	-1.2	0.313	-0.203	0.0856	
720 minute summer	STORAGE 1	6.000	S2	-1.8	-0.230	-0.299	0.0111	

Results for 100 year +20% CC 720 minute summer. 960 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute summer	STORAGE 2	495	7.582	0.382	2.5	14.0328	0.0000	SURCHARGED
720 minute summer	STORAGE 3	435	8.489	0.039	0.1	0.1169	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute summer	STORAGE 2	9.000	S3	-2.5	-0.399	-0.431	0.0244	
720 minute summer	STORAGE 3	3.000	S1	0.1	-0.013	0.010	0.0466	

Results for 100 year +20% CC 720 minute winter. 960 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute winter	S1	435	8.471	0.155	0.9	0.1749	0.0000	SURCHARGED
720 minute winter	S2	525	7.648	0.942	3.0	1.5775	0.0000	SURCHARGED
720 minute winter	S3	525	7.640	1.009	3.5	1.4977	0.0000	SURCHARGED
720 minute winter	S4	540	7.100	0.513	1.7	0.5804	0.0000	SURCHARGED
720 minute winter	S5	540	7.100	0.895	2.7	1.9163	0.0000	SURCHARGED
720 minute winter	S6	285	6.202	0.020	2.0	0.0228	0.0000	OK
720 minute winter	OUTFALL	285	5.460	0.020	2.0	0.0000	0.0000	OK
720 minute winter	FC1	420	8.750	0.050	0.5	1.2026	0.0000	OK
720 minute winter	FC2	435	9.068	0.068	0.5	1.6521	0.0000	OK
720 minute winter	FC3	705	7.609	0.459	0.7	11.0308	0.0000	SURCHARGED
720 minute winter	FC4	705	7.609	0.459	0.7	11.0448	0.0000	SURCHARGED
720 minute winter	FC5	405	7.957	0.057	0.5	1.3763	0.0000	OK
720 minute winter	FC6	615	7.626	0.276	0.5	6.6306	0.0000	SURCHARGED
720 minute winter	FC7	540	7.100	0.665	1.4	12.8377	0.0000	SURCHARGED
720 minute winter	STORAGE 1	525	7.648	0.803	1.6	14.5966	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute winter	S1	Orifice	S2	0.8				
720 minute winter	S2	Orifice	S3	1.6				
720 minute winter	S3	Orifice	S4	1.7				
720 minute winter	S4	1.004	S5	1.6	0.423	0.055	0.7003	
720 minute winter	S5	ACO Q-Brake	S6	2.0				
720 minute winter	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	91.3
720 minute winter	FC1	Orifice	S1	0.5				
720 minute winter	FC2	Orifice	S1	0.4				
720 minute winter	FC3	Orifice	S2	0.2				
720 minute winter	FC4	Orifice	S2	0.2				
720 minute winter	FC5	Orifice	S3	0.4				
720 minute winter	FC6	Orifice	S3	0.2				
720 minute winter	FC7	10.000	S5	-1.0	0.313	-0.168	0.0856	
720 minute winter	STORAGE 1	6.000	S2	-1.6	-0.202	-0.263	0.0111	

Results for 100 year +20% CC 720 minute winter. 960 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute winter	STORAGE 2	525	7.640	0.440	1.8	16.1818	0.0000	SURCHARGED
720 minute winter	STORAGE 3	435	8.471	0.021	0.0	0.0626	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute winter	STORAGE 2	9.000	S3	-1.8	-0.332	-0.302	0.0244	
720 minute winter	STORAGE 3	3.000	S1	0.0	0.010	0.006	0.0395	

Results for 100 year +20% CC 960 minute summer. 1200 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute summer	S1	555	8.465	0.149	0.8	0.1688	0.0000	OK
960 minute summer	S2	630	7.556	0.850	3.1	1.4244	0.0000	SURCHARGED
960 minute summer	S3	630	7.550	0.919	3.7	1.3635	0.0000	SURCHARGED
960 minute summer	S4	675	7.011	0.424	1.7	0.4799	0.0000	SURCHARGED
960 minute summer	S5	675	7.011	0.806	2.8	1.7260	0.0000	SURCHARGED
960 minute summer	S6	420	6.202	0.020	2.0	0.0228	0.0000	OK
960 minute summer	OUTFALL	420	5.460	0.020	2.0	0.0000	0.0000	OK
960 minute summer	FC1	525	8.750	0.050	0.6	1.2050	0.0000	OK
960 minute summer	FC2	540	9.065	0.065	0.5	1.5647	0.0000	OK
960 minute summer	FC3	780	7.524	0.374	0.7	8.9764	0.0000	SURCHARGED
960 minute summer	FC4	780	7.523	0.373	0.7	8.9871	0.0000	SURCHARGED
960 minute summer	FC5	540	7.955	0.055	0.5	1.3319	0.0000	OK
960 minute summer	FC6	690	7.549	0.199	0.5	4.7950	0.0000	SURCHARGED
960 minute summer	FC7	675	7.011	0.576	1.5	11.1224	0.0000	SURCHARGED
960 minute summer	STORAGE 1	630	7.556	0.711	1.5	12.9690	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute summer	S1	Orifice	S2	0.8				
960 minute summer	S2	Orifice	S3	1.7				
960 minute summer	S3	Orifice	S4	1.7				
960 minute summer	S4	1.004	S5	1.6	0.422	0.054	0.7003	
960 minute summer	S5	ACO Q-Brake	S6	2.0				
960 minute summer	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	104.1
960 minute summer	FC1	Orifice	S1	0.5				
960 minute summer	FC2	Orifice	S1	0.4				
960 minute summer	FC3	Orifice	S2	0.2				
960 minute summer	FC4	Orifice	S2	0.2				
960 minute summer	FC5	Orifice	S3	0.4				
960 minute summer	FC6	Orifice	S3	0.2				
960 minute summer	FC7	10.000	S5	-1.0	0.313	-0.174	0.0856	
960 minute summer	STORAGE 1	6.000	S2	-1.5	-0.193	-0.251	0.0111	

Results for 100 year +20% CC 960 minute summer. 1200 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute summer	STORAGE 2	630	7.550	0.350	2.0	12.8581	0.0000	SURCHARGED
960 minute summer	STORAGE 3	555	8.465	0.015	0.0	0.0463	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute summer	STORAGE 2	9.000	S3	-2.0	-0.335	-0.340	0.0244	
960 minute summer	STORAGE 3	3.000	S1	0.0	-0.008	-0.004	0.0376	

Results for 100 year +20% CC 960 minute winter. 1200 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
960 minute winter	S1	555	8.440	0.124	0.7	0.1399	0.0000	OK
960 minute winter	S2	675	7.599	0.893	2.5	1.4953	0.0000	SURCHARGED
960 minute winter	S3	675	7.592	0.961	3.1	1.4268	0.0000	SURCHARGED
960 minute winter	S4	690	7.072	0.485	1.6	0.5488	0.0000	SURCHARGED
960 minute winter	S5	690	7.072	0.867	2.5	1.8564	0.0000	SURCHARGED
960 minute winter	S6	390	6.202	0.020	2.0	0.0228	0.0000	OK
960 minute winter	OUTFALL	390	5.460	0.020	2.0	0.0000	0.0000	OK
960 minute winter	FC1	555	8.739	0.039	0.4	0.9573	0.0000	OK
960 minute winter	FC2	555	9.059	0.059	0.4	1.4344	0.0000	OK
960 minute winter	FC3	810	7.587	0.437	0.6	10.5099	0.0000	SURCHARGED
960 minute winter	FC4	810	7.587	0.437	0.6	10.5233	0.0000	SURCHARGED
960 minute winter	FC5	540	7.950	0.050	0.4	1.2016	0.0000	OK
960 minute winter	FC6	765	7.594	0.244	0.4	5.8673	0.0000	SURCHARGED
960 minute winter	FC7	690	7.072	0.637	1.2	12.2983	0.0000	SURCHARGED
960 minute winter	STORAGE 1	675	7.599	0.754	1.1	13.7415	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m^3)	Discharge Vol (m^3)
960 minute winter	S1	Orifice	S2	0.7				
960 minute winter	S2	Orifice	S3	1.4				
960 minute winter	S3	Orifice	S4	1.6				
960 minute winter	S4	1.004	S5	1.6	0.422	0.055	0.7003	
960 minute winter	S5	ACO Q-Brake	S6	2.0				
960 minute winter	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	111.1
960 minute winter	FC1	Orifice	S1	0.4				
960 minute winter	FC2	Orifice	S1	0.3				
960 minute winter	FC3	Orifice	S2	0.2				
960 minute winter	FC4	Orifice	S2	0.2				
960 minute winter	FC5	Orifice	S3	0.4				
960 minute winter	FC6	Orifice	S3	0.2				
960 minute winter	FC7	10.000	S5	-0.8	0.313	-0.139	0.0856	
960 minute winter	STORAGE 1	6.000	S2	-1.1	-0.146	-0.190	0.0111	

Results for 100 year +20% CC 960 minute winter. 1200 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute winter	STORAGE 2	675	7.592	0.392	1.4	14.4248	0.0000	SURCHARGED
960 minute winter	STORAGE 3	15	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute winter	STORAGE 2	9.000	S3	-1.4	-0.284	-0.234	0.0244	
960 minute winter	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0272	

Results for 100 year +20% CC 1440 minute summer. 1680 minute analysis at 30 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute summer	S1	780	8.423	0.107	0.7	0.1215	0.0000	OK
1440 minute summer	S2	900	7.487	0.781	2.4	1.3089	0.0000	SURCHARGED
1440 minute summer	S3	900	7.482	0.851	3.0	1.2623	0.0000	SURCHARGED
1440 minute summer	S4	960	6.958	0.371	1.7	0.4202	0.0000	SURCHARGED
1440 minute summer	S5	960	6.958	0.753	2.5	1.6129	0.0000	SURCHARGED
1440 minute summer	S6	660	6.202	0.020	2.0	0.0228	0.0000	OK
1440 minute summer	OUTFALL	660	5.460	0.020	2.0	0.0000	0.0000	OK
1440 minute summer	FC1	750	8.737	0.037	0.4	0.8979	0.0000	OK
1440 minute summer	FC2	780	9.053	0.053	0.4	1.2700	0.0000	OK
1440 minute summer	FC3	1020	7.485	0.335	0.6	8.0376	0.0000	SURCHARGED
1440 minute summer	FC4	1020	7.484	0.334	0.6	8.0481	0.0000	SURCHARGED
1440 minute summer	FC5	780	7.944	0.044	0.4	1.0735	0.0000	OK
1440 minute summer	FC6	960	7.490	0.140	0.3	3.3781	0.0000	SURCHARGED
1440 minute summer	FC7	960	6.958	0.523	1.1	10.1020	0.0000	SURCHARGED
1440 minute summer	STORAGE 1	900	7.487	0.642	1.2	11.7122	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute summer	S1	Orifice	S2	0.7				
1440 minute summer	S2	Orifice	S3	1.4				
1440 minute summer	S3	Orifice	S4	1.7				
1440 minute summer	S4	1.004	S5	1.6	0.424	0.054	0.7003	
1440 minute summer	S5	ACO Q-Brake	S6	2.0				
1440 minute summer	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	129.8
1440 minute summer	FC1	Orifice	S1	0.4				
1440 minute summer	FC2	Orifice	S1	0.3				
1440 minute summer	FC3	Orifice	S2	0.2				
1440 minute summer	FC4	Orifice	S2	0.2				
1440 minute summer	FC5	Orifice	S3	0.3				
1440 minute summer	FC6	Orifice	S3	0.2				
1440 minute summer	FC7	10.000	S5	-0.8	0.328	-0.138	0.0856	
1440 minute summer	STORAGE 1	6.000	S2	-1.2	0.200	-0.205	0.0111	

Results for 100 year +20% CC 1440 minute summer. 1680 minute analysis at 30 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute summer	STORAGE 2	900	7.482	0.282	1.3	10.3505	0.0000	SURCHARGED
1440 minute summer	STORAGE 3	30	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute summer	STORAGE 2	9.000	S3	-1.3	-0.294	-0.213	0.0244	
1440 minute summer	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0204	

Results for 100 year +20% CC 1440 minute winter. 1680 minute analysis at 30 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
1440 minute winter	S1	810	8.399	0.083	0.6	0.0939	0.0000	OK
1440 minute winter	S2	990	7.527	0.821	1.9	1.3756	0.0000	SURCHARGED
1440 minute winter	S3	990	7.521	0.890	2.5	1.3202	0.0000	SURCHARGED
1440 minute winter	S4	1020	7.022	0.435	1.6	0.4919	0.0000	SURCHARGED
1440 minute winter	S5	1020	7.022	0.817	2.3	1.7486	0.0000	SURCHARGED
1440 minute winter	S6	600	6.202	0.020	2.0	0.0228	0.0000	OK
1440 minute winter	OUTFALL	600	5.460	0.020	2.0	0.0000	0.0000	OK
1440 minute winter	FC1	840	8.732	0.032	0.3	0.7696	0.0000	OK
1440 minute winter	FC2	810	9.045	0.045	0.3	1.0839	0.0000	OK
1440 minute winter	FC3	1080	7.536	0.386	0.4	9.2808	0.0000	SURCHARGED
1440 minute winter	FC4	1080	7.536	0.386	0.4	9.2943	0.0000	SURCHARGED
1440 minute winter	FC5	810	7.937	0.037	0.3	0.9025	0.0000	OK
1440 minute winter	FC6	1080	7.531	0.181	0.3	4.3588	0.0000	SURCHARGED
1440 minute winter	FC7	1020	7.022	0.587	0.9	11.3255	0.0000	SURCHARGED
1440 minute winter	STORAGE 1	990	7.527	0.682	0.9	12.4383	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m^3)	Discharge Vol (m^3)
1440 minute winter	S1	Orifice	S2	0.6				
1440 minute winter	S2	Orifice	S3	1.2				
1440 minute winter	S3	Orifice	S4	1.6				
1440 minute winter	S4	1.004	S5	1.6	0.424	0.055	0.7003	
1440 minute winter	S5	ACO Q-Brake	S6	2.0				
1440 minute winter	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	143.3
1440 minute winter	FC1	Orifice	S1	0.3				
1440 minute winter	FC2	Orifice	S1	0.3				
1440 minute winter	FC3	Orifice	S2	0.3				
1440 minute winter	FC4	Orifice	S2	0.3				
1440 minute winter	FC5	Orifice	S3	0.3				
1440 minute winter	FC6	Orifice	S3	0.2				
1440 minute winter	FC7	10.000	S5	-0.6	0.284	-0.109	0.0856	
1440 minute winter	STORAGE 1	6.000	S2	-0.9	-0.116	-0.141	0.0111	

Results for 100 year +20% CC 1440 minute winter. 1680 minute analysis at 30 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute winter	STORAGE 2	990	7.521	0.321	0.8	11.7850	0.0000	SURCHARGED
1440 minute winter	STORAGE 3	30	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute winter	STORAGE 2	9.000	S3	-0.8	0.279	-0.135	0.0244	
1440 minute winter	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0099	

Results for 100 year +40% CC +10% A 15 minute summer. 255 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1	59	8.543	0.227	1.3	0.2562	0.0000	SURCHARGED
15 minute summer	S2	38	7.515	0.809	11.7	1.3988	0.0000	SURCHARGED
15 minute summer	S3	56	7.436	0.805	8.8	1.2229	0.0000	SURCHARGED
15 minute summer	S4	45	6.852	0.265	1.6	0.2995	0.0000	SURCHARGED
15 minute summer	S5	45	6.852	0.647	6.0	1.4083	0.0000	SURCHARGED
15 minute summer	S6	10	6.202	0.020	2.0	0.0227	0.0000	OK
15 minute summer	OUTFALL	10	5.460	0.020	2.0	0.0000	0.0000	OK
15 minute summer	FC1	38	8.800	0.100	1.9	2.4410	0.0000	SURCHARGED
15 minute summer	FC2	39	9.106	0.106	1.8	2.5542	0.0000	SURCHARGED
15 minute summer	FC3	158	7.352	0.202	2.1	4.8469	0.0000	SURCHARGED
15 minute summer	FC4	158	7.351	0.201	2.1	4.8501	0.0000	SURCHARGED
15 minute summer	FC5	38	8.001	0.101	1.8	2.4477	0.0000	SURCHARGED
15 minute summer	FC6	42	7.459	0.109	1.6	2.6219	0.0000	SURCHARGED
15 minute summer	FC7	44	6.852	0.417	5.3	8.0508	0.0000	SURCHARGED
15 minute summer	STORAGE 1	38	7.516	0.671	11.4	12.2270	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S1	Orifice	S2	1.0				
15 minute summer	S2	Orifice	S3	3.3				
15 minute summer	S3	Orifice	S4	1.6				
15 minute summer	S4	1.004	S5	1.6	0.414	0.054	0.7003	
15 minute summer	S5	ACO Q-Brake	S6	2.0				
15 minute summer	S6	1.006	OUTFALL	2.0	1.163	0.016	0.0219	23.6
15 minute summer	FC1	Orifice	S1	0.8				
15 minute summer	FC2	Orifice	S1	0.5				
15 minute summer	FC3	Orifice	S2	0.2				
15 minute summer	FC4	Orifice	S2	0.2				
15 minute summer	FC5	Orifice	S3	0.6				
15 minute summer	FC6	Orifice	S3	0.2				
15 minute summer	FC7	10.000	S5	-3.7	-0.508	-0.630	0.0856	
15 minute summer	STORAGE 1	6.000	S2	-11.4	-1.709	-1.903	0.0111	

Results for 100 year +40% CC +10% A 15 minute summer. 255 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	STORAGE 2	56	7.436	0.236	7.0	8.6782	0.0000	SURCHARGED
15 minute summer	STORAGE 3	59	8.543	0.093	0.3	0.2805	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	STORAGE 2	9.000	S3	-7.0	-0.953	-1.174	0.0244	
15 minute summer	STORAGE 3	3.000	S1	-0.3	-0.056	-0.043	0.0676	

Results for 100 year +40% CC +10% A 15 minute winter. 255 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S1	61	8.575	0.259	1.4	0.2924	0.0000	SURCHARGED
15 minute winter	S2	38	7.576	0.870	12.7	1.5041	0.0000	SURCHARGED
15 minute winter	S3	57	7.484	0.853	9.6	1.2951	0.0000	SURCHARGED
15 minute winter	S4	44	6.907	0.320	1.6	0.3621	0.0000	SURCHARGED
15 minute winter	S5	44	6.907	0.702	6.5	1.5288	0.0000	SURCHARGED
15 minute winter	S6	10	6.202	0.020	2.0	0.0228	0.0000	OK
15 minute winter	OUTFALL	10	5.460	0.020	2.0	0.0000	0.0000	OK
15 minute winter	FC1	38	8.816	0.116	2.2	2.8173	0.0000	SURCHARGED
15 minute winter	FC2	39	9.118	0.118	2.0	2.8550	0.0000	SURCHARGED
15 minute winter	FC3	174	7.382	0.232	2.3	5.5721	0.0000	SURCHARGED
15 minute winter	FC4	174	7.382	0.232	2.3	5.5759	0.0000	SURCHARGED
15 minute winter	FC5	39	8.013	0.113	2.0	2.7361	0.0000	SURCHARGED
15 minute winter	FC6	70	7.479	0.129	1.8	3.1038	0.0000	SURCHARGED
15 minute winter	FC7	44	6.907	0.472	5.9	9.1152	0.0000	SURCHARGED
15 minute winter	STORAGE 1	38	7.576	0.731	11.6	13.3302	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	S1	Orifice	S2	1.1				
15 minute winter	S2	Orifice	S3	3.6				
15 minute winter	S3	Orifice	S4	1.6				
15 minute winter	S4	1.004	S5	1.6	0.412	0.054	0.7003	
15 minute winter	S5	ACO Q-Brake	S6	2.0				
15 minute winter	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	24.3
15 minute winter	FC1	Orifice	S1	0.8				
15 minute winter	FC2	Orifice	S1	0.5				
15 minute winter	FC3	Orifice	S2	0.2				
15 minute winter	FC4	Orifice	S2	0.2				
15 minute winter	FC5	Orifice	S3	0.6				
15 minute winter	FC6	Orifice	S3	0.2				
15 minute winter	FC7	10.000	S5	-4.1	-0.564	-0.695	0.0856	
15 minute winter	STORAGE 1	6.000	S2	-11.6	-1.737	-1.924	0.0111	

Results for 100 year +40% CC +10% A 15 minute winter. 255 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	STORAGE 2	57	7.484	0.284	7.8	10.4270	0.0000	SURCHARGED
15 minute winter	STORAGE 3	61	8.575	0.125	0.3	0.3775	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	STORAGE 2	9.000	S3	-7.8	-1.011	-1.311	0.0244	
15 minute winter	STORAGE 3	3.000	S1	-0.3	0.073	-0.051	0.0687	

Results for 100 year +40% CC +10% A 30 minute summer. 270 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute summer	S1	73	8.624	0.308	1.5	0.3480	0.0000	SURCHARGED
30 minute summer	S2	46	7.726	1.020	13.1	1.7629	0.0000	SURCHARGED
30 minute summer	S3	68	7.563	0.932	10.5	1.4164	0.0000	SURCHARGED
30 minute summer	S4	57	6.994	0.407	1.7	0.4605	0.0000	SURCHARGED
30 minute summer	S5	57	6.994	0.789	6.9	1.7183	0.0000	SURCHARGED
30 minute summer	S6	16	6.202	0.020	2.0	0.0228	0.0000	OK
30 minute summer	OUTFALL	16	5.460	0.020	2.0	0.0000	0.0000	OK
30 minute summer	FC1	46	8.834	0.134	2.6	3.2465	0.0000	SURCHARGED
30 minute summer	FC2	48	9.138	0.138	2.4	3.3360	0.0000	SURCHARGED
30 minute summer	FC3	204	7.436	0.286	2.7	6.8703	0.0000	SURCHARGED
30 minute summer	FC4	205	7.435	0.285	2.7	6.8753	0.0000	SURCHARGED
30 minute summer	FC5	47	8.032	0.132	2.4	3.1933	0.0000	SURCHARGED
30 minute summer	FC6	124	7.530	0.180	2.2	4.3284	0.0000	SURCHARGED
30 minute summer	FC7	57	6.994	0.559	6.4	10.7962	0.0000	SURCHARGED
30 minute summer	STORAGE 1	46	7.726	0.881	11.7	14.6847	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute summer	S1	Orifice	S2	1.2				
30 minute summer	S2	Orifice	S3	4.6				
30 minute summer	S3	Orifice	S4	1.7				
30 minute summer	S4	1.004	S5	1.6	0.406	0.055	0.7003	
30 minute summer	S5	ACO Q-Brake	S6	2.0				
30 minute summer	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	26.7
30 minute summer	FC1	Orifice	S1	0.9				
30 minute summer	FC2	Orifice	S1	0.6				
30 minute summer	FC3	Orifice	S2	0.1				
30 minute summer	FC4	Orifice	S2	0.1				
30 minute summer	FC5	Orifice	S3	0.7				
30 minute summer	FC6	Orifice	S3	0.2				
30 minute summer	FC7	10.000	S5	-4.4	-0.559	-0.739	0.0856	
30 minute summer	STORAGE 1	6.000	S2	-11.7	-1.500	-1.953	0.0111	

Results for 100 year +40% CC +10% A 30 minute summer. 270 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
30 minute summer	STORAGE 2	68	7.564	0.364	8.6	13.3609	0.0000	SURCHARGED
30 minute summer	STORAGE 3	73	8.624	0.174	0.3	0.5266	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m^3)	Discharge Vol (m^3)
30 minute summer	STORAGE 2	9.000	S3	-8.6	-1.145	-1.447	0.0244	
30 minute summer	STORAGE 3	3.000	S1	-0.3	-0.075	-0.059	0.0687	

Results for 100 year +40% CC +10% A 30 minute winter. 270 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute winter	S1	74	8.668	0.352	1.8	0.3979	0.0000	SURCHARGED
30 minute winter	S2	44	8.023	1.317	14.0	2.2772	0.0000	SURCHARGED
30 minute winter	S3	45	7.659	1.028	12.7	1.5610	0.0000	SURCHARGED
30 minute winter	S4	57	7.066	0.479	1.7	0.5421	0.0000	SURCHARGED
30 minute winter	S5	57	7.066	0.861	7.6	1.8754	0.0000	SURCHARGED
30 minute winter	S6	15	6.202	0.020	2.0	0.0228	0.0000	OK
30 minute winter	OUTFALL	15	5.460	0.020	2.0	0.0000	0.0000	OK
30 minute winter	FC1	47	8.850	0.150	2.9	3.6556	0.0000	SURCHARGED
30 minute winter	FC2	48	9.243	0.243	2.7	3.6822	0.0000	SURCHARGED
30 minute winter	FC3	220	7.479	0.329	3.0	7.8999	0.0000	SURCHARGED
30 minute winter	FC4	220	7.478	0.328	3.0	7.9056	0.0000	SURCHARGED
30 minute winter	FC5	48	8.048	0.148	2.7	3.6023	0.0000	SURCHARGED
30 minute winter	FC6	149	7.571	0.221	2.5	5.3189	0.0000	SURCHARGED
30 minute winter	FC7	56	7.066	0.631	7.4	12.1934	0.0000	SURCHARGED
30 minute winter	STORAGE 1	44	8.023	1.178	12.5	15.0211	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute winter	S1	Orifice	S2	1.3				
30 minute winter	S2	Orifice	S3	6.5				
30 minute winter	S3	Orifice	S4	1.7				
30 minute winter	S4	1.004	S5	1.7	0.404	0.056	0.7003	
30 minute winter	S5	ACO Q-Brake	S6	2.0				
30 minute winter	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	27.6
30 minute winter	FC1	Orifice	S1	1.0				
30 minute winter	FC2	Orifice	S1	0.8				
30 minute winter	FC3	Orifice	S2	0.1				
30 minute winter	FC4	Orifice	S2	0.1				
30 minute winter	FC5	Orifice	S3	0.7				
30 minute winter	FC6	Orifice	S3	0.2				
30 minute winter	FC7	10.000	S5	-5.0	-0.637	-0.843	0.0856	
30 minute winter	STORAGE 1	6.000	S2	-12.5	-1.595	-2.077	0.0111	

Results for 100 year +40% CC +10% A 30 minute winter. 270 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute winter	STORAGE 2	61	7.630	0.430	10.4	15.8142	0.0000	SURCHARGED
30 minute winter	STORAGE 3	74	8.668	0.218	0.5	0.6601	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute winter	STORAGE 2	9.000	S3	-10.4	-1.328	-1.755	0.0244	
30 minute winter	STORAGE 3	3.000	S1	-0.5	-0.079	-0.081	0.0687	

Results for 100 year +40% CC +10% A 60 minute summer. 300 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute summer	S1	87	8.723	0.407	2.2	0.4603	0.0000	SURCHARGED
60 minute summer	S2	60	8.122	1.416	12.7	2.4482	0.0000	SURCHARGED
60 minute summer	S3	87	7.726	1.095	13.3	1.6629	0.0000	SURCHARGED
60 minute summer	S4	83	7.133	0.546	1.7	0.6172	0.0000	SURCHARGED
60 minute summer	S5	83	7.132	0.927	7.1	2.0200	0.0000	SURCHARGED
60 minute summer	S6	26	6.202	0.020	2.0	0.0228	0.0000	OK
60 minute summer	OUTFALL	26	5.460	0.020	2.0	0.0000	0.0000	OK
60 minute summer	FC1	62	8.918	0.218	2.6	3.6976	0.0000	SURCHARGED
60 minute summer	FC2	63	9.367	0.367	2.4	3.7375	0.0000	SURCHARGED
60 minute summer	FC3	250	7.529	0.379	2.8	9.1073	0.0000	SURCHARGED
60 minute summer	FC4	250	7.528	0.378	2.8	9.1139	0.0000	SURCHARGED
60 minute summer	FC5	64	8.135	0.235	2.4	3.6991	0.0000	SURCHARGED
60 minute summer	FC6	185	7.618	0.268	2.3	6.4540	0.0000	SURCHARGED
60 minute summer	FC7	84	7.132	0.697	6.8	13.4695	0.0000	SURCHARGED
60 minute summer	STORAGE 1	60	8.122	1.277	11.2	15.1329	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute summer	S1	Orifice	S2	1.4				
60 minute summer	S2	Orifice	S3	7.0				
60 minute summer	S3	Orifice	S4	1.7				
60 minute summer	S4	1.004	S5	1.7	0.413	0.056	0.7003	
60 minute summer	S5	ACO Q-Brake	S6	2.0				
60 minute summer	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	31.4
60 minute summer	FC1	Orifice	S1	1.2				
60 minute summer	FC2	Orifice	S1	1.0				
60 minute summer	FC3	Orifice	S2	0.1				
60 minute summer	FC4	Orifice	S2	0.1				
60 minute summer	FC5	Orifice	S3	0.9				
60 minute summer	FC6	Orifice	S3	0.2				
60 minute summer	FC7	10.000	S5	-4.6	-0.592	-0.783	0.0856	
60 minute summer	STORAGE 1	6.000	S2	-11.2	-1.435	-1.868	0.0111	

Results for 100 year +40% CC +10% A 60 minute summer. 300 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute summer	STORAGE 2	87	7.726	0.526	11.0	19.3261	0.0000	SURCHARGED
60 minute summer	STORAGE 3	87	8.723	0.273	0.7	0.8274	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute summer	STORAGE 2	9.000	S3	-11.0	-1.404	-1.855	0.0244	
60 minute summer	STORAGE 3	3.000	S1	-0.7	-0.093	-0.123	0.0687	

Results for 100 year +40% CC +10% A 60 minute winter. 300 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute winter	S1	74	8.848	0.532	3.0	0.6016	0.0000	SURCHARGED
60 minute winter	S2	59	8.367	1.661	13.2	2.8711	0.0000	FLOOD RISK
60 minute winter	S3	86	7.848	1.217	15.3	1.8492	0.0000	SURCHARGED
60 minute winter	S4	82	7.228	0.641	1.7	0.7248	0.0000	SURCHARGED
60 minute winter	S5	82	7.228	1.023	7.7	2.2273	0.0000	SURCHARGED
60 minute winter	S6	82	6.202	0.020	2.0	0.0229	0.0000	OK
60 minute winter	OUTFALL	82	5.460	0.020	2.0	0.0000	0.0000	OK
60 minute winter	FC1	61	9.129	0.429	2.9	3.8167	0.0000	FLOOD RISK
60 minute winter	FC2	63	9.635	0.635	2.7	3.8564	0.0000	FLOOD RISK
60 minute winter	FC3	261	7.585	0.435	3.1	10.4608	0.0000	SURCHARGED
60 minute winter	FC4	262	7.585	0.435	3.1	10.4687	0.0000	SURCHARGED
60 minute winter	FC5	62	8.376	0.476	2.7	3.8273	0.0000	FLOOD RISK
60 minute winter	FC6	203	7.675	0.325	2.6	7.8155	0.0000	SURCHARGED
60 minute winter	FC7	83	7.228	0.793	7.6	15.3116	0.0000	SURCHARGED
60 minute winter	STORAGE 1	59	8.367	1.522	10.9	15.4095	0.0000	FLOOD RISK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute winter	S1	Orifice	S2	1.6				
60 minute winter	S2	Orifice	S3	8.0				
60 minute winter	S3	Orifice	S4	1.7				
60 minute winter	S4	1.004	S5	1.6	0.410	0.055	0.7003	
60 minute winter	S5	ACO Q-Brake	S6	2.0				
60 minute winter	S6	1.006	OUTFALL	2.0	1.169	0.016	0.0222	32.7
60 minute winter	FC1	Orifice	S1	1.7				
60 minute winter	FC2	Orifice	S1	1.3				
60 minute winter	FC3	Orifice	S2	0.1				
60 minute winter	FC4	Orifice	S2	0.1				
60 minute winter	FC5	Orifice	S3	1.4				
60 minute winter	FC6	Orifice	S3	0.2				
60 minute winter	FC7	10.000	S5	-5.1	-0.658	-0.870	0.0856	
60 minute winter	STORAGE 1	6.000	S2	-10.9	-1.398	-1.820	0.0111	

Results for 100 year +40% CC +10% A 60 minute winter. 300 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
60 minute winter	STORAGE 2	86	7.849	0.649	12.8	23.8363	0.0000	SURCHARGED
60 minute winter	STORAGE 3	74	8.848	0.398	1.3	1.2065	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m^3)	Discharge Vol (m^3)
60 minute winter	STORAGE 2	9.000	S3	-12.8	-1.635	-2.160	0.0244	
60 minute winter	STORAGE 3	3.000	S1	-1.3	-0.162	-0.214	0.0687	

Results for 100 year +40% CC +10% A 120 minute summer. 360 minute analysis at 2 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute summer	S1	122	8.733	0.417	2.0	0.4714	0.0000	SURCHARGED
120 minute summer	S2	90	8.077	1.371	10.7	2.3712	0.0000	SURCHARGED
120 minute summer	S3	142	7.845	1.214	12.4	1.8438	0.0000	SURCHARGED
120 minute summer	S4	138	7.207	0.620	1.7	0.7014	0.0000	SURCHARGED
120 minute summer	S5	138	7.207	1.002	6.5	2.1822	0.0000	SURCHARGED
120 minute summer	S6	138	6.202	0.020	2.0	0.0228	0.0000	OK
120 minute summer	OUTFALL	138	5.460	0.020	2.0	0.0000	0.0000	OK
120 minute summer	FC1	96	8.861	0.161	2.4	3.6655	0.0000	SURCHARGED
120 minute summer	FC2	96	9.341	0.341	2.2	3.7256	0.0000	SURCHARGED
120 minute summer	FC3	298	7.596	0.446	2.6	10.7332	0.0000	SURCHARGED
120 minute summer	FC4	298	7.596	0.446	2.6	10.7416	0.0000	SURCHARGED
120 minute summer	FC5	98	8.092	0.192	2.2	3.6765	0.0000	SURCHARGED
120 minute summer	FC6	242	7.682	0.332	2.1	7.9817	0.0000	SURCHARGED
120 minute summer	FC7	138	7.207	0.772	6.2	14.9127	0.0000	SURCHARGED
120 minute summer	STORAGE 1	90	8.077	1.232	7.3	15.0825	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute summer	S1	Orifice	S2	1.4				
120 minute summer	S2	Orifice	S3	6.6				
120 minute summer	S3	Orifice	S4	1.7				
120 minute summer	S4	1.004	S5	1.6	0.418	0.055	0.7003	
120 minute summer	S5	ACO Q-Brake	S6	2.0				
120 minute summer	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	38.6
120 minute summer	FC1	Orifice	S1	1.0				
120 minute summer	FC2	Orifice	S1	0.9				
120 minute summer	FC3	Orifice	S2	0.1				
120 minute summer	FC4	Orifice	S2	0.1				
120 minute summer	FC5	Orifice	S3	0.8				
120 minute summer	FC6	Orifice	S3	0.2				
120 minute summer	FC7	10.000	S5	-4.2	-0.533	-0.705	0.0856	
120 minute summer	STORAGE 1	6.000	S2	-7.3	-0.936	-1.218	0.0111	

Results for 100 year +40% CC +10% A 120 minute summer. 360 minute analysis at 2 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute summer	STORAGE 2	142	7.845	0.645	10.1	23.7031	0.0000	SURCHARGED
120 minute summer	STORAGE 3	120	8.733	0.283	0.5	0.8571	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute summer	STORAGE 2	9.000	S3	-10.1	-1.295	-1.711	0.0244	
120 minute summer	STORAGE 3	3.000	S1	-0.5	0.081	-0.087	0.0687	

Results for 100 year +40% CC +10% A 120 minute winter. 360 minute analysis at 2 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute winter	S1	112	8.847	0.531	2.6	0.6004	0.0000	SURCHARGED
120 minute winter	S2	92	8.223	1.517	10.7	2.6229	0.0000	SURCHARGED
120 minute winter	S3	140	7.994	1.363	13.2	2.0710	0.0000	SURCHARGED
120 minute winter	S4	126	7.547	0.960	1.7	1.0854	0.0000	FLOOD RISK
120 minute winter	S5	126	7.547	1.342	6.4	2.9218	0.0000	FLOOD RISK
120 minute winter	S6	126	6.204	0.022	2.3	0.0244	0.0000	OK
120 minute winter	OUTFALL	126	5.461	0.021	2.3	0.0000	0.0000	OK
120 minute winter	FC1	94	9.000	0.300	2.3	3.7441	0.0000	SURCHARGED
120 minute winter	FC2	96	9.534	0.534	2.1	3.8116	0.0000	SURCHARGED
120 minute winter	FC3	308	7.668	0.518	2.6	12.4625	0.0000	SURCHARGED
120 minute winter	FC4	308	7.668	0.518	2.6	12.4705	0.0000	SURCHARGED
120 minute winter	FC5	96	8.270	0.370	2.1	3.7709	0.0000	FLOOD RISK
120 minute winter	FC6	268	7.751	0.401	2.1	9.6463	0.0000	SURCHARGED
120 minute winter	FC7	126	7.547	1.112	6.0	15.5609	0.0000	FLOOD RISK
120 minute winter	STORAGE 1	92	8.223	1.378	6.6	15.2471	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute winter	S1	Orifice	S2	1.6				
120 minute winter	S2	Orifice	S3	7.1				
120 minute winter	S3	Orifice	S4	1.7				
120 minute winter	S4	1.004	S5	1.8	0.414	0.060	0.7003	
120 minute winter	S5	ACO Q-Brake	S6	2.3				
120 minute winter	S6	1.006	OUTFALL	2.3	1.215	0.018	0.0245	40.3
120 minute winter	FC1	Orifice	S1	1.4				
120 minute winter	FC2	Orifice	S1	1.2				
120 minute winter	FC3	Orifice	S2	0.1				
120 minute winter	FC4	Orifice	S2	0.1				
120 minute winter	FC5	Orifice	S3	1.2				
120 minute winter	FC6	Orifice	S3	0.2				
120 minute winter	FC7	10.000	S5	-4.1	-0.522	-0.690	0.0856	
120 minute winter	STORAGE 1	6.000	S2	-6.6	-0.847	-1.103	0.0111	

Results for 100 year +40% CC +10% A 120 minute winter. 360 minute analysis at 2 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute winter	STORAGE 2	140	7.995	0.795	10.8	29.2026	0.0000	SURCHARGED
120 minute winter	STORAGE 3	112	8.847	0.397	0.9	1.2030	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute winter	STORAGE 2	9.000	S3	-10.8	-1.386	-1.832	0.0244	
120 minute winter	STORAGE 3	3.000	S1	-0.9	-0.116	-0.154	0.0687	

Results for 100 year +40% CC +10% A 180 minute summer. 420 minute analysis at 4 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute summer	S1	160	8.718	0.402	1.8	0.4550	0.0000	SURCHARGED
180 minute summer	S2	124	7.995	1.289	9.2	2.2291	0.0000	SURCHARGED
180 minute summer	S3	196	7.899	1.268	11.0	1.9256	0.0000	SURCHARGED
180 minute summer	S4	192	7.267	0.680	1.6	0.7694	0.0000	SURCHARGED
180 minute summer	S5	192	7.267	1.062	5.8	2.3130	0.0000	SURCHARGED
180 minute summer	S6	192	6.202	0.020	2.1	0.0231	0.0000	OK
180 minute summer	OUTFALL	192	5.460	0.020	2.1	0.0000	0.0000	OK
180 minute summer	FC1	128	8.840	0.140	2.0	3.4060	0.0000	SURCHARGED
180 minute summer	FC2	132	9.259	0.259	1.8	3.6892	0.0000	SURCHARGED
180 minute summer	FC3	336	7.638	0.488	2.2	11.7309	0.0000	SURCHARGED
180 minute summer	FC4	336	7.637	0.487	2.2	11.7390	0.0000	SURCHARGED
180 minute summer	FC5	132	8.046	0.146	1.8	3.5385	0.0000	SURCHARGED
180 minute summer	FC6	292	7.721	0.371	1.8	8.9250	0.0000	SURCHARGED
180 minute summer	FC7	192	7.267	0.832	5.3	15.4724	0.0000	SURCHARGED
180 minute summer	STORAGE 1	124	7.995	1.150	4.9	14.9895	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute summer	S1	Orifice	S2	1.4				
180 minute summer	S2	Orifice	S3	5.9				
180 minute summer	S3	Orifice	S4	1.6				
180 minute summer	S4	1.004	S5	1.7	0.420	0.057	0.7003	
180 minute summer	S5	ACO Q-Brake	S6	2.1				
180 minute summer	S6	1.006	OUTFALL	2.1	1.176	0.016	0.0225	45.2
180 minute summer	FC1	Orifice	S1	0.9				
180 minute summer	FC2	Orifice	S1	0.8				
180 minute summer	FC3	Orifice	S2	0.2				
180 minute summer	FC4	Orifice	S2	0.2				
180 minute summer	FC5	Orifice	S3	0.7				
180 minute summer	FC6	Orifice	S3	0.2				
180 minute summer	FC7	10.000	S5	-3.6	-0.455	-0.602	0.0856	
180 minute summer	STORAGE 1	6.000	S2	-4.9	-0.627	-0.816	0.0111	

Results for 100 year +40% CC +10% A 180 minute summer. 420 minute analysis at 4 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute summer	STORAGE 2	196	7.899	0.699	8.8	25.6814	0.0000	SURCHARGED
180 minute summer	STORAGE 3	160	8.718	0.268	0.4	0.8132	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute summer	STORAGE 2	9.000	S3	-8.8	-1.119	-1.479	0.0244	
180 minute summer	STORAGE 3	3.000	S1	-0.4	-0.048	-0.064	0.0687	

Results for 100 year +40% CC +10% A 180 minute winter. 420 minute analysis at 4 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute winter	S1	152	8.772	0.456	2.0	0.5156	0.0000	SURCHARGED
180 minute winter	S2	184	8.231	1.525	8.6	2.6375	0.0000	SURCHARGED
180 minute winter	S3	184	8.218	1.587	11.1	2.4106	0.0000	FLOOD RISK
180 minute winter	S4	180	7.617	1.030	1.7	1.1646	0.0000	FLOOD RISK
180 minute winter	S5	180	7.616	1.411	5.4	3.0742	0.0000	FLOOD RISK
180 minute winter	S6	180	6.204	0.022	2.4	0.0247	0.0000	OK
180 minute winter	OUTFALL	180	5.461	0.021	2.4	0.0000	0.0000	OK
180 minute winter	FC1	140	8.849	0.149	1.8	3.6321	0.0000	SURCHARGED
180 minute winter	FC2	132	9.395	0.395	1.7	3.7496	0.0000	SURCHARGED
180 minute winter	FC3	352	7.718	0.568	2.1	13.6565	0.0000	SURCHARGED
180 minute winter	FC4	356	7.717	0.567	2.1	13.6653	0.0000	SURCHARGED
180 minute winter	FC5	188	8.228	0.328	1.7	3.7487	0.0000	SURCHARGED
180 minute winter	FC6	316	7.793	0.443	1.7	10.6525	0.0000	SURCHARGED
180 minute winter	FC7	180	7.617	1.182	4.7	15.5829	0.0000	FLOOD RISK
180 minute winter	STORAGE 1	184	8.231	1.386	4.7	15.2566	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute winter	S1	Orifice	S2	1.5				
180 minute winter	S2	Orifice	S3	6.0				
180 minute winter	S3	Orifice	S4	1.7				
180 minute winter	S4	1.004	S5	1.8	0.419	0.060	0.7003	
180 minute winter	S5	ACO Q-Brake	S6	2.4				
180 minute winter	S6	1.006	OUTFALL	2.4	1.224	0.019	0.0249	47.2
180 minute winter	FC1	Orifice	S1	1.0				
180 minute winter	FC2	Orifice	S1	1.0				
180 minute winter	FC3	Orifice	S2	0.2				
180 minute winter	FC4	Orifice	S2	0.2				
180 minute winter	FC5	Orifice	S3	0.9				
180 minute winter	FC6	Orifice	S3	0.2				
180 minute winter	FC7	10.000	S5	-3.2	-0.411	-0.544	0.0856	
180 minute winter	STORAGE 1	6.000	S2	-4.7	-0.606	-0.789	0.0111	

Results for 100 year +40% CC +10% A 180 minute winter. 420 minute analysis at 4 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute winter	STORAGE 2	184	8.218	1.018	8.9	29.6692	0.0000	FLOOD RISK
180 minute winter	STORAGE 3	152	8.772	0.322	0.5	0.9757	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute winter	STORAGE 2	9.000	S3	-8.9	-1.132	-1.496	0.0244	
180 minute winter	STORAGE 3	3.000	S1	-0.5	-0.061	-0.081	0.0687	

Results for 100 year +40% CC +10% A 240 minute summer. 480 minute analysis at 4 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute summer	S1	196	8.689	0.373	1.6	0.4218	0.0000	SURCHARGED
240 minute summer	S2	156	7.926	1.220	8.2	2.1101	0.0000	SURCHARGED
240 minute summer	S3	248	7.911	1.280	9.9	1.9448	0.0000	SURCHARGED
240 minute summer	S4	244	7.299	0.712	1.6	0.8054	0.0000	SURCHARGED
240 minute summer	S5	244	7.299	1.094	5.2	2.3825	0.0000	SURCHARGED
240 minute summer	S6	244	6.203	0.021	2.1	0.0232	0.0000	OK
240 minute summer	OUTFALL	244	5.460	0.020	2.1	0.0000	0.0000	OK
240 minute summer	FC1	164	8.828	0.128	1.7	3.1224	0.0000	SURCHARGED
240 minute summer	FC2	168	9.176	0.176	1.6	3.6523	0.0000	SURCHARGED
240 minute summer	FC3	372	7.664	0.514	2.0	12.3461	0.0000	SURCHARGED
240 minute summer	FC4	376	7.663	0.513	2.0	12.3543	0.0000	SURCHARGED
240 minute summer	FC5	164	8.038	0.138	1.6	3.3482	0.0000	SURCHARGED
240 minute summer	FC6	336	7.740	0.390	1.6	9.3930	0.0000	SURCHARGED
240 minute summer	FC7	244	7.299	0.864	4.6	15.4825	0.0000	SURCHARGED
240 minute summer	STORAGE 1	156	7.926	1.081	4.0	14.9117	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute summer	S1	Orifice	S2	1.4				
240 minute summer	S2	Orifice	S3	5.3				
240 minute summer	S3	Orifice	S4	1.6				
240 minute summer	S4	1.004	S5	1.7	0.424	0.057	0.7003	
240 minute summer	S5	ACO Q-Brake	S6	2.1				
240 minute summer	S6	1.006	OUTFALL	2.1	1.180	0.017	0.0227	51.6
240 minute summer	FC1	Orifice	S1	0.9				
240 minute summer	FC2	Orifice	S1	0.7				
240 minute summer	FC3	Orifice	S2	0.2				
240 minute summer	FC4	Orifice	S2	0.2				
240 minute summer	FC5	Orifice	S3	0.7				
240 minute summer	FC6	Orifice	S3	0.2				
240 minute summer	FC7	10.000	S5	-3.1	-0.399	-0.528	0.0856	
240 minute summer	STORAGE 1	6.000	S2	-4.0	-0.515	-0.670	0.0111	

Results for 100 year +40% CC +10% A 240 minute summer. 480 minute analysis at 4 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
240 minute summer	STORAGE 2	248	7.911	0.711	7.7	26.1476	0.0000	SURCHARGED
240 minute summer	STORAGE 3	196	8.689	0.239	0.3	0.7242	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m^3)	Discharge Vol (m^3)
240 minute summer	STORAGE 2	9.000	S3	-7.7	-0.987	-1.304	0.0244	
240 minute summer	STORAGE 3	3.000	S1	-0.3	0.042	-0.045	0.0687	

Results for 100 year +40% CC +10% A 240 minute winter. 480 minute analysis at 4 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute winter	S1	188	8.747	0.431	1.8	0.4880	0.0000	SURCHARGED
240 minute winter	S2	236	8.309	1.603	7.3	2.7713	0.0000	FLOOD RISK
240 minute winter	S3	236	8.296	1.665	9.7	2.5284	0.0000	FLOOD RISK
240 minute winter	S4	232	7.641	1.054	1.7	1.1916	0.0000	FLOOD RISK
240 minute winter	S5	232	7.640	1.435	4.8	3.1262	0.0000	FLOOD RISK
240 minute winter	S6	232	6.204	0.022	2.4	0.0248	0.0000	OK
240 minute winter	OUTFALL	232	5.462	0.022	2.4	0.0000	0.0000	OK
240 minute winter	FC1	172	8.836	0.136	1.5	3.3067	0.0000	SURCHARGED
240 minute winter	FC2	168	9.303	0.303	1.4	3.7090	0.0000	SURCHARGED
240 minute winter	FC3	392	7.757	0.607	1.8	14.6016	0.0000	SURCHARGED
240 minute winter	FC4	392	7.757	0.607	1.8	14.6115	0.0000	SURCHARGED
240 minute winter	FC5	236	8.305	0.405	1.4	3.7893	0.0000	FLOOD RISK
240 minute winter	FC6	356	7.823	0.473	1.5	11.3725	0.0000	SURCHARGED
240 minute winter	FC7	232	7.641	1.206	3.9	15.5904	0.0000	FLOOD RISK
240 minute winter	STORAGE 1	236	8.309	1.464	3.7	15.3441	0.0000	FLOOD RISK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute winter	S1	Orifice	S2	1.5				
240 minute winter	S2	Orifice	S3	5.2				
240 minute winter	S3	Orifice	S4	1.7				
240 minute winter	S4	1.004	S5	1.8	0.423	0.060	0.7003	
240 minute winter	S5	ACO Q-Brake	S6	2.4				
240 minute winter	S6	1.006	OUTFALL	2.4	1.227	0.019	0.0250	54.0
240 minute winter	FC1	Orifice	S1	0.9				
240 minute winter	FC2	Orifice	S1	0.9				
240 minute winter	FC3	Orifice	S2	0.2				
240 minute winter	FC4	Orifice	S2	0.2				
240 minute winter	FC5	Orifice	S3	0.7				
240 minute winter	FC6	Orifice	S3	0.2				
240 minute winter	FC7	10.000	S5	-2.7	-0.343	-0.454	0.0856	
240 minute winter	STORAGE 1	6.000	S2	-3.7	-0.559	-0.613	0.0111	

Results for 100 year +40% CC +10% A 240 minute winter. 480 minute analysis at 4 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute winter	STORAGE 2	236	8.296	1.096	7.5	29.7568	0.0000	FLOOD RISK
240 minute winter	STORAGE 3	188	8.747	0.297	0.3	0.9014	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute winter	STORAGE 2	9.000	S3	-7.5	-0.964	-1.273	0.0244	
240 minute winter	STORAGE 3	3.000	S1	-0.3	0.052	-0.058	0.0687	

Results for 100 year +40% CC +10% A 360 minute summer. 600 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute summer	S1	256	8.667	0.351	1.4	0.3967	0.0000	SURCHARGED
360 minute summer	S2	320	7.914	1.208	6.7	2.0892	0.0000	SURCHARGED
360 minute summer	S3	320	7.906	1.275	7.9	1.9364	0.0000	SURCHARGED
360 minute summer	S4	312	7.290	0.703	1.6	0.7952	0.0000	SURCHARGED
360 minute summer	S5	312	7.290	1.085	4.5	2.3629	0.0000	SURCHARGED
360 minute summer	S6	312	6.203	0.021	2.1	0.0232	0.0000	OK
360 minute summer	OUTFALL	312	5.460	0.020	2.1	0.0000	0.0000	OK
360 minute summer	FC1	224	8.817	0.117	1.4	2.8517	0.0000	SURCHARGED
360 minute summer	FC2	232	9.142	0.142	1.3	3.4268	0.0000	SURCHARGED
360 minute summer	FC3	456	7.703	0.553	1.6	13.2974	0.0000	SURCHARGED
360 minute summer	FC4	456	7.703	0.553	1.6	13.3084	0.0000	SURCHARGED
360 minute summer	FC5	232	8.026	0.126	1.3	3.0673	0.0000	SURCHARGED
360 minute summer	FC6	416	7.771	0.421	1.3	10.1234	0.0000	SURCHARGED
360 minute summer	FC7	312	7.290	0.855	3.6	15.4797	0.0000	SURCHARGED
360 minute summer	STORAGE 1	320	7.914	1.069	3.0	14.8980	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute summer	S1	Orifice	S2	1.3				
360 minute summer	S2	Orifice	S3	4.4				
360 minute summer	S3	Orifice	S4	1.6				
360 minute summer	S4	1.004	S5	1.6	0.422	0.055	0.7003	
360 minute summer	S5	ACO Q-Brake	S6	2.1				
360 minute summer	S6	1.006	OUTFALL	2.1	1.179	0.017	0.0227	63.5
360 minute summer	FC1	Orifice	S1	0.9				
360 minute summer	FC2	Orifice	S1	0.6				
360 minute summer	FC3	Orifice	S2	0.2				
360 minute summer	FC4	Orifice	S2	0.2				
360 minute summer	FC5	Orifice	S3	0.7				
360 minute summer	FC6	Orifice	S3	0.2				
360 minute summer	FC7	10.000	S5	-2.5	0.336	-0.416	0.0856	
360 minute summer	STORAGE 1	6.000	S2	-3.0	-0.388	-0.505	0.0111	

Results for 100 year +40% CC +10% A 360 minute summer. 600 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute summer	STORAGE 2	320	7.906	0.706	5.8	25.9428	0.0000	SURCHARGED
360 minute summer	STORAGE 3	256	8.667	0.217	0.2	0.6569	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute summer	STORAGE 2	9.000	S3	-5.8	-0.748	-0.988	0.0244	
360 minute summer	STORAGE 3	3.000	S1	-0.2	0.030	-0.037	0.0687	

Results for 100 year +40% CC +10% A 360 minute winter. 600 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m^3)	Flood (m^3)	Status
360 minute winter	S1	272	8.665	0.349	1.4	0.3948	0.0000	SURCHARGED
360 minute winter	S2	304	8.207	1.501	5.7	2.5956	0.0000	SURCHARGED
360 minute winter	S3	304	8.195	1.564	7.6	2.3751	0.0000	SURCHARGED
360 minute winter	S4	280	7.621	1.034	1.7	1.1699	0.0000	FLOOD RISK
360 minute winter	S5	280	7.621	1.416	3.9	3.0845	0.0000	FLOOD RISK
360 minute winter	S6	280	6.204	0.022	2.4	0.0247	0.0000	OK
360 minute winter	OUTFALL	280	5.462	0.022	2.4	0.0000	0.0000	OK
360 minute winter	FC1	232	8.806	0.106	1.1	2.5860	0.0000	SURCHARGED
360 minute winter	FC2	248	9.144	0.144	1.0	3.4798	0.0000	SURCHARGED
360 minute winter	FC3	472	7.803	0.653	1.4	15.7049	0.0000	SURCHARGED
360 minute winter	FC4	472	7.803	0.653	1.4	15.7175	0.0000	SURCHARGED
360 minute winter	FC5	304	8.204	0.304	1.0	3.7357	0.0000	SURCHARGED
360 minute winter	FC6	440	7.858	0.508	1.2	12.2341	0.0000	SURCHARGED
360 minute winter	FC7	280	7.621	1.186	2.9	15.5844	0.0000	FLOOD RISK
360 minute winter	STORAGE 1	304	8.207	1.362	2.5	15.2292	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m^3)	Discharge Vol (m^3)
360 minute winter	S1	Orifice	S2	1.3				
360 minute winter	S2	Orifice	S3	4.2				
360 minute winter	S3	Orifice	S4	1.7				
360 minute winter	S4	1.004	S5	1.8	0.423	0.059	0.7003	
360 minute winter	S5	ACO Q-Brake	S6	2.4				
360 minute winter	S6	1.006	OUTFALL	2.4	1.225	0.019	0.0249	66.7
360 minute winter	FC1	Orifice	S1	0.8				
360 minute winter	FC2	Orifice	S1	0.6				
360 minute winter	FC3	Orifice	S2	0.2				
360 minute winter	FC4	Orifice	S2	0.2				
360 minute winter	FC5	Orifice	S3	0.7				
360 minute winter	FC6	Orifice	S3	0.3				
360 minute winter	FC7	10.000	S5	-2.0	0.344	-0.339	0.0856	
360 minute winter	STORAGE 1	6.000	S2	-2.5	-0.322	-0.419	0.0111	

Results for 100 year +40% CC +10% A 360 minute winter. 600 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute winter	STORAGE 2	304	8.195	0.995	5.5	29.6427	0.0000	SURCHARGED
360 minute winter	STORAGE 3	272	8.665	0.215	0.2	0.6518	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute winter	STORAGE 2	9.000	S3	-5.5	-0.705	-0.932	0.0244	
360 minute winter	STORAGE 3	3.000	S1	-0.2	0.030	-0.027	0.0687	

Results for 100 year +40% CC +10% A 480 minute summer. 720 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute summer	S1	320	8.625	0.309	1.3	0.3492	0.0000	SURCHARGED
480 minute summer	S2	368	7.883	1.177	5.8	2.0349	0.0000	SURCHARGED
480 minute summer	S3	376	7.873	1.242	6.6	1.8872	0.0000	SURCHARGED
480 minute summer	S4	400	7.234	0.647	1.7	0.7313	0.0000	SURCHARGED
480 minute summer	S5	400	7.233	1.028	4.0	2.2399	0.0000	SURCHARGED
480 minute summer	S6	400	6.202	0.020	2.0	0.0229	0.0000	OK
480 minute summer	OUTFALL	400	5.460	0.020	2.0	0.0000	0.0000	OK
480 minute summer	FC1	288	8.800	0.100	1.2	2.4293	0.0000	OK
480 minute summer	FC2	304	9.125	0.125	1.1	3.0128	0.0000	SURCHARGED
480 minute summer	FC3	528	7.712	0.562	1.4	13.5218	0.0000	SURCHARGED
480 minute summer	FC4	528	7.712	0.562	1.4	13.5333	0.0000	SURCHARGED
480 minute summer	FC5	296	8.009	0.109	1.1	2.6463	0.0000	SURCHARGED
480 minute summer	FC6	496	7.766	0.416	1.1	10.0147	0.0000	SURCHARGED
480 minute summer	FC7	400	7.233	0.798	3.1	15.4235	0.0000	SURCHARGED
480 minute summer	STORAGE 1	368	7.883	1.038	2.5	14.8624	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute summer	S1	Orifice	S2	1.2				
480 minute summer	S2	Orifice	S3	3.6				
480 minute summer	S3	Orifice	S4	1.7				
480 minute summer	S4	1.004	S5	1.6	0.423	0.054	0.7003	
480 minute summer	S5	ACO Q-Brake	S6	2.0				
480 minute summer	S6	1.006	OUTFALL	2.0	1.170	0.016	0.0222	74.4
480 minute summer	FC1	Orifice	S1	0.8				
480 minute summer	FC2	Orifice	S1	0.5				
480 minute summer	FC3	Orifice	S2	0.2				
480 minute summer	FC4	Orifice	S2	0.2				
480 minute summer	FC5	Orifice	S3	0.6				
480 minute summer	FC6	Orifice	S3	0.2				
480 minute summer	FC7	10.000	S5	-2.1	0.327	-0.357	0.0856	
480 minute summer	STORAGE 1	6.000	S2	-2.5	-0.315	-0.411	0.0111	

Results for 100 year +40% CC +10% A 480 minute summer. 720 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute summer	STORAGE 2	376	7.873	0.673	4.6	24.7524	0.0000	SURCHARGED
480 minute summer	STORAGE 3	320	8.625	0.175	0.2	0.5296	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute summer	STORAGE 2	9.000	S3	-4.6	-0.587	-0.775	0.0244	
480 minute summer	STORAGE 3	3.000	S1	-0.2	0.031	-0.028	0.0687	

Results for 100 year +40% CC +10% A 480 minute winter. 720 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute winter	S1	336	8.621	0.305	1.3	0.3445	0.0000	SURCHARGED
480 minute winter	S2	368	8.090	1.384	4.8	2.3925	0.0000	SURCHARGED
480 minute winter	S3	384	8.073	1.442	6.4	2.1908	0.0000	SURCHARGED
480 minute winter	S4	360	7.593	1.006	1.7	1.1383	0.0000	FLOOD RISK
480 minute winter	S5	360	7.593	1.388	3.5	3.0238	0.0000	FLOOD RISK
480 minute winter	S6	360	6.204	0.022	2.4	0.0246	0.0000	OK
480 minute winter	OUTFALL	360	5.461	0.021	2.4	0.0000	0.0000	OK
480 minute winter	FC1	296	8.790	0.090	0.9	2.1939	0.0000	OK
480 minute winter	FC2	320	9.125	0.125	0.8	3.0290	0.0000	SURCHARGED
480 minute winter	FC3	552	7.829	0.679	1.2	16.3158	0.0000	SURCHARGED
480 minute winter	FC4	552	7.828	0.678	1.2	16.3283	0.0000	SURCHARGED
480 minute winter	FC5	384	8.082	0.182	0.8	3.6708	0.0000	SURCHARGED
480 minute winter	FC6	528	7.872	0.522	1.0	12.5742	0.0000	SURCHARGED
480 minute winter	FC7	360	7.594	1.159	2.4	15.5756	0.0000	FLOOD RISK
480 minute winter	STORAGE 1	368	8.090	1.245	2.0	15.0964	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute winter	S1	Orifice	S2	1.2				
480 minute winter	S2	Orifice	S3	3.5				
480 minute winter	S3	Orifice	S4	1.7				
480 minute winter	S4	1.004	S5	1.7	0.422	0.058	0.7003	
480 minute winter	S5	ACO Q-Brake	S6	2.4				
480 minute winter	S6	1.006	OUTFALL	2.4	1.221	0.019	0.0247	78.1
480 minute winter	FC1	Orifice	S1	0.7				
480 minute winter	FC2	Orifice	S1	0.5				
480 minute winter	FC3	Orifice	S2	0.2				
480 minute winter	FC4	Orifice	S2	0.2				
480 minute winter	FC5	Orifice	S3	0.6				
480 minute winter	FC6	Orifice	S3	0.3				
480 minute winter	FC7	10.000	S5	-1.6	0.326	-0.274	0.0856	
480 minute winter	STORAGE 1	6.000	S2	-2.0	-0.271	-0.329	0.0111	

Results for 100 year +40% CC +10% A 480 minute winter. 720 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute winter	STORAGE 2	384	8.073	0.873	4.4	29.5055	0.0000	SURCHARGED
480 minute winter	STORAGE 3	336	8.621	0.171	0.1	0.5171	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute winter	STORAGE 2	9.000	S3	-4.4	-0.562	-0.743	0.0244	
480 minute winter	STORAGE 3	3.000	S1	0.1	0.023	0.021	0.0687	

Results for 100 year +40% CC +10% A 600 minute summer. 840 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute summer	S1	375	8.587	0.271	1.2	0.3060	0.0000	SURCHARGED
600 minute summer	S2	435	7.849	1.143	5.1	1.9768	0.0000	SURCHARGED
600 minute summer	S3	435	7.840	1.209	5.6	1.8364	0.0000	SURCHARGED
600 minute summer	S4	450	7.226	0.639	1.6	0.7227	0.0000	SURCHARGED
600 minute summer	S5	450	7.226	1.021	3.7	2.2232	0.0000	SURCHARGED
600 minute summer	S6	450	6.202	0.020	2.0	0.0229	0.0000	OK
600 minute summer	OUTFALL	450	5.460	0.020	2.0	0.0000	0.0000	OK
600 minute summer	FC1	345	8.786	0.086	1.0	2.0809	0.0000	OK
600 minute summer	FC2	360	9.111	0.111	0.9	2.6906	0.0000	SURCHARGED
600 minute summer	FC3	615	7.709	0.559	1.2	13.4412	0.0000	SURCHARGED
600 minute summer	FC4	615	7.709	0.559	1.2	13.4562	0.0000	SURCHARGED
600 minute summer	FC5	360	7.996	0.096	0.9	2.3310	0.0000	OK
600 minute summer	FC6	570	7.753	0.403	1.0	9.6961	0.0000	SURCHARGED
600 minute summer	FC7	450	7.226	0.791	2.7	15.2747	0.0000	SURCHARGED
600 minute summer	STORAGE 1	435	7.849	1.004	2.1	14.8246	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute summer	S1	Orifice	S2	1.1				
600 minute summer	S2	Orifice	S3	3.0				
600 minute summer	S3	Orifice	S4	1.6				
600 minute summer	S4	1.004	S5	1.6	0.422	0.054	0.7003	
600 minute summer	S5	ACO Q-Brake	S6	2.0				
600 minute summer	S6	1.006	OUTFALL	2.0	1.169	0.016	0.0222	85.2
600 minute summer	FC1	Orifice	S1	0.7				
600 minute summer	FC2	Orifice	S1	0.5				
600 minute summer	FC3	Orifice	S2	0.2				
600 minute summer	FC4	Orifice	S2	0.2				
600 minute summer	FC5	Orifice	S3	0.6				
600 minute summer	FC6	Orifice	S3	0.2				
600 minute summer	FC7	10.000	S5	-1.9	0.313	-0.317	0.0856	
600 minute summer	STORAGE 1	6.000	S2	-2.1	-0.266	-0.346	0.0111	

Results for 100 year +40% CC +10% A 600 minute summer. 840 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute summer	STORAGE 2	435	7.840	0.640	3.8	23.5223	0.0000	SURCHARGED
600 minute summer	STORAGE 3	375	8.587	0.137	0.1	0.4139	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute summer	STORAGE 2	9.000	S3	-3.8	-0.483	-0.638	0.0244	
600 minute summer	STORAGE 3	3.000	S1	-0.1	0.021	-0.022	0.0687	

Results for 100 year +40% CC +10% A 600 minute winter. 840 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute winter	S1	390	8.580	0.264	1.2	0.2982	0.0000	SURCHARGED
600 minute winter	S2	450	8.004	1.298	4.2	2.2451	0.0000	SURCHARGED
600 minute winter	S3	450	7.992	1.361	5.4	2.0671	0.0000	SURCHARGED
600 minute winter	S4	435	7.503	0.916	1.7	1.0361	0.0000	FLOOD RISK
600 minute winter	S5	435	7.503	1.298	3.2	2.8269	0.0000	FLOOD RISK
600 minute winter	S6	435	6.203	0.021	2.3	0.0242	0.0000	OK
600 minute winter	OUTFALL	435	5.461	0.021	2.3	0.0000	0.0000	OK
600 minute winter	FC1	345	8.779	0.079	0.8	1.9161	0.0000	OK
600 minute winter	FC2	375	9.108	0.108	0.7	2.6189	0.0000	SURCHARGED
600 minute winter	FC3	630	7.833	0.683	1.0	16.4260	0.0000	SURCHARGED
600 minute winter	FC4	630	7.833	0.683	1.0	16.4414	0.0000	SURCHARGED
600 minute winter	FC5	480	7.998	0.098	0.7	2.3687	0.0000	OK
600 minute winter	FC6	600	7.861	0.511	0.9	12.3011	0.0000	SURCHARGED
600 minute winter	FC7	435	7.503	1.068	2.0	15.5470	0.0000	SURCHARGED
600 minute winter	STORAGE 1	450	8.005	1.160	1.7	15.0000	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute winter	S1	Orifice	S2	1.1				
600 minute winter	S2	Orifice	S3	3.0				
600 minute winter	S3	Orifice	S4	1.7				
600 minute winter	S4	1.004	S5	1.6	0.422	0.055	0.7003	
600 minute winter	S5	ACO Q-Brake	S6	2.3				
600 minute winter	S6	1.006	OUTFALL	2.3	1.210	0.018	0.0242	88.7
600 minute winter	FC1	Orifice	S1	0.7				
600 minute winter	FC2	Orifice	S1	0.5				
600 minute winter	FC3	Orifice	S2	0.2				
600 minute winter	FC4	Orifice	S2	0.2				
600 minute winter	FC5	Orifice	S3	0.5				
600 minute winter	FC6	Orifice	S3	0.3				
600 minute winter	FC7	10.000	S5	-1.4	0.313	-0.237	0.0856	
600 minute winter	STORAGE 1	6.000	S2	-1.7	-0.217	-0.283	0.0111	

Results for 100 year +40% CC +10% A 600 minute winter. 840 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute winter	STORAGE 2	450	7.992	0.792	3.5	29.1051	0.0000	SURCHARGED
600 minute winter	STORAGE 3	390	8.580	0.130	0.1	0.3930	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute winter	STORAGE 2	9.000	S3	-3.5	-0.441	-0.583	0.0244	
600 minute winter	STORAGE 3	3.000	S1	0.1	0.023	0.019	0.0687	

Results for 100 year +40% CC +10% A 720 minute summer. 960 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute summer	S1	435	8.570	0.254	1.2	0.2877	0.0000	SURCHARGED
720 minute summer	S2	495	7.843	1.137	4.6	1.9664	0.0000	SURCHARGED
720 minute summer	S3	510	7.835	1.204	5.1	1.8291	0.0000	SURCHARGED
720 minute summer	S4	525	7.214	0.627	1.7	0.7087	0.0000	SURCHARGED
720 minute summer	S5	525	7.213	1.008	3.5	2.1962	0.0000	SURCHARGED
720 minute summer	S6	525	6.202	0.020	2.0	0.0228	0.0000	OK
720 minute summer	OUTFALL	525	5.460	0.020	2.0	0.0000	0.0000	OK
720 minute summer	FC1	405	8.779	0.079	0.9	1.9279	0.0000	OK
720 minute summer	FC2	420	9.104	0.104	0.8	2.5214	0.0000	SURCHARGED
720 minute summer	FC3	705	7.717	0.567	1.1	13.6192	0.0000	SURCHARGED
720 minute summer	FC4	705	7.716	0.566	1.1	13.6363	0.0000	SURCHARGED
720 minute summer	FC5	420	7.989	0.089	0.8	2.1670	0.0000	OK
720 minute summer	FC6	630	7.749	0.399	0.9	9.5967	0.0000	SURCHARGED
720 minute summer	FC7	525	7.213	0.778	2.3	15.0364	0.0000	SURCHARGED
720 minute summer	STORAGE 1	495	7.843	0.998	1.8	14.8176	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute summer	S1	Orifice	S2	1.1				
720 minute summer	S2	Orifice	S3	2.6				
720 minute summer	S3	Orifice	S4	1.7				
720 minute summer	S4	1.004	S5	1.6	0.423	0.053	0.7003	
720 minute summer	S5	ACO Q-Brake	S6	2.0				
720 minute summer	S6	1.006	OUTFALL	2.0	1.167	0.016	0.0221	95.9
720 minute summer	FC1	Orifice	S1	0.7				
720 minute summer	FC2	Orifice	S1	0.5				
720 minute summer	FC3	Orifice	S2	0.2				
720 minute summer	FC4	Orifice	S2	0.2				
720 minute summer	FC5	Orifice	S3	0.5				
720 minute summer	FC6	Orifice	S3	0.2				
720 minute summer	FC7	10.000	S5	-1.6	0.284	-0.278	0.0856	
720 minute summer	STORAGE 1	6.000	S2	-1.8	-0.227	-0.295	0.0111	

Results for 100 year +40% CC +10% A 720 minute summer. 960 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute summer	STORAGE 2	510	7.835	0.635	3.3	23.3464	0.0000	SURCHARGED
720 minute summer	STORAGE 3	435	8.570	0.120	0.1	0.3650	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute summer	STORAGE 2	9.000	S3	-3.3	-0.415	-0.549	0.0244	
720 minute summer	STORAGE 3	3.000	S1	0.1	0.019	0.020	0.0687	

Results for 100 year +40% CC +10% A 720 minute winter. 960 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute winter	S1	450	8.542	0.226	1.1	0.2553	0.0000	SURCHARGED
720 minute winter	S2	525	7.970	1.264	3.7	2.1847	0.0000	SURCHARGED
720 minute winter	S3	540	7.959	1.328	4.8	2.0166	0.0000	SURCHARGED
720 minute winter	S4	510	7.471	0.884	1.6	0.9996	0.0000	FLOOD RISK
720 minute winter	S5	510	7.471	1.266	3.0	2.7566	0.0000	FLOOD RISK
720 minute winter	S6	510	6.203	0.021	2.2	0.0241	0.0000	OK
720 minute winter	OUTFALL	510	5.461	0.021	2.2	0.0000	0.0000	OK
720 minute winter	FC1	405	8.768	0.068	0.7	1.6492	0.0000	OK
720 minute winter	FC2	435	9.095	0.095	0.6	2.3090	0.0000	OK
720 minute winter	FC3	705	7.829	0.679	0.9	16.3228	0.0000	SURCHARGED
720 minute winter	FC4	705	7.829	0.679	0.9	16.3407	0.0000	SURCHARGED
720 minute winter	FC5	420	7.978	0.078	0.6	1.9054	0.0000	OK
720 minute winter	FC6	690	7.852	0.502	0.8	12.0880	0.0000	SURCHARGED
720 minute winter	FC7	510	7.471	1.036	1.8	15.5368	0.0000	SURCHARGED
720 minute winter	STORAGE 1	525	7.970	1.125	1.5	14.9604	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute winter	S1	Orifice	S2	1.0				
720 minute winter	S2	Orifice	S3	2.6				
720 minute winter	S3	Orifice	S4	1.6				
720 minute winter	S4	1.004	S5	1.6	0.423	0.055	0.7003	
720 minute winter	S5	ACO Q-Brake	S6	2.2				
720 minute winter	S6	1.006	OUTFALL	2.2	1.205	0.018	0.0240	99.9
720 minute winter	FC1	Orifice	S1	0.6				
720 minute winter	FC2	Orifice	S1	0.5				
720 minute winter	FC3	Orifice	S2	0.3				
720 minute winter	FC4	Orifice	S2	0.3				
720 minute winter	FC5	Orifice	S3	0.5				
720 minute winter	FC6	Orifice	S3	0.3				
720 minute winter	FC7	10.000	S5	-1.2	0.313	-0.203	0.0856	
720 minute winter	STORAGE 1	6.000	S2	-1.5	-0.197	-0.257	0.0111	

Results for 100 year +40% CC +10% A 720 minute winter. 960 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute winter	STORAGE 2	540	7.959	0.759	2.9	27.8828	0.0000	SURCHARGED
720 minute winter	STORAGE 3	450	8.542	0.092	0.1	0.2780	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute winter	STORAGE 2	9.000	S3	-2.9	-0.375	-0.495	0.0244	
720 minute winter	STORAGE 3	3.000	S1	0.1	0.022	0.016	0.0674	

Results for 100 year +40% CC +10% A 960 minute summer. 1200 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute summer	S1	555	8.524	0.208	1.0	0.2354	0.0000	SURCHARGED
960 minute summer	S2	630	7.797	1.091	3.8	1.8871	0.0000	SURCHARGED
960 minute summer	S3	645	7.789	1.158	4.3	1.7591	0.0000	SURCHARGED
960 minute summer	S4	660	7.190	0.603	1.7	0.6818	0.0000	SURCHARGED
960 minute summer	S5	660	7.190	0.985	3.1	2.1446	0.0000	SURCHARGED
960 minute summer	S6	405	6.202	0.020	2.0	0.0228	0.0000	OK
960 minute summer	OUTFALL	405	5.460	0.020	2.0	0.0000	0.0000	OK
960 minute summer	FC1	525	8.766	0.066	0.7	1.5978	0.0000	OK
960 minute summer	FC2	555	9.088	0.088	0.7	2.1234	0.0000	OK
960 minute summer	FC3	810	7.700	0.550	1.0	13.2328	0.0000	SURCHARGED
960 minute summer	FC4	810	7.700	0.550	1.0	13.2496	0.0000	SURCHARGED
960 minute summer	FC5	540	7.974	0.074	0.7	1.7897	0.0000	OK
960 minute summer	FC6	750	7.724	0.374	0.7	9.0001	0.0000	SURCHARGED
960 minute summer	FC7	660	7.190	0.755	1.9	14.5784	0.0000	SURCHARGED
960 minute summer	STORAGE 1	630	7.797	0.952	1.3	14.7658	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute summer	S1	Orifice	S2	1.0				
960 minute summer	S2	Orifice	S3	2.1				
960 minute summer	S3	Orifice	S4	1.7				
960 minute summer	S4	1.004	S5	1.6	0.422	0.054	0.7003	
960 minute summer	S5	ACO Q-Brake	S6	2.0				
960 minute summer	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	117.2
960 minute summer	FC1	Orifice	S1	0.6				
960 minute summer	FC2	Orifice	S1	0.4				
960 minute summer	FC3	Orifice	S2	0.2				
960 minute summer	FC4	Orifice	S2	0.2				
960 minute summer	FC5	Orifice	S3	0.5				
960 minute summer	FC6	Orifice	S3	0.2				
960 minute summer	FC7	10.000	S5	-1.3	0.284	-0.221	0.0856	
960 minute summer	STORAGE 1	6.000	S2	-1.3	-0.171	-0.223	0.0111	

Results for 100 year +40% CC +10% A 960 minute summer. 1200 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute summer	STORAGE 2	645	7.789	0.589	2.6	21.6519	0.0000	SURCHARGED
960 minute summer	STORAGE 3	555	8.524	0.074	0.1	0.2247	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute summer	STORAGE 2	9.000	S3	-2.6	-0.329	-0.435	0.0244	
960 minute summer	STORAGE 3	3.000	S1	0.1	0.021	0.016	0.0617	

Results for 100 year +40% CC +10% A 960 minute winter. 1200 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute winter	S1	570	8.489	0.173	0.9	0.1955	0.0000	SURCHARGED
960 minute winter	S2	675	7.904	1.198	3.1	2.0719	0.0000	SURCHARGED
960 minute winter	S3	690	7.897	1.266	4.0	1.9237	0.0000	SURCHARGED
960 minute winter	S4	660	7.393	0.806	1.7	0.9114	0.0000	FLOOD RISK
960 minute winter	S5	660	7.393	1.188	2.7	2.5867	0.0000	FLOOD RISK
960 minute winter	S6	660	6.203	0.021	2.2	0.0237	0.0000	OK
960 minute winter	OUTFALL	660	5.461	0.021	2.2	0.0000	0.0000	OK
960 minute winter	FC1	555	8.751	0.051	0.5	1.2346	0.0000	OK
960 minute winter	FC2	555	9.081	0.081	0.5	1.9624	0.0000	OK
960 minute winter	FC3	855	7.813	0.663	0.8	15.9500	0.0000	SURCHARGED
960 minute winter	FC4	855	7.813	0.663	0.8	15.9708	0.0000	SURCHARGED
960 minute winter	FC5	540	7.966	0.066	0.5	1.6024	0.0000	OK
960 minute winter	FC6	810	7.823	0.473	0.7	11.3849	0.0000	SURCHARGED
960 minute winter	FC7	660	7.393	0.958	1.4	15.5122	0.0000	SURCHARGED
960 minute winter	STORAGE 1	675	7.904	1.059	1.3	14.8867	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute winter	S1	Orifice	S2	0.9				
960 minute winter	S2	Orifice	S3	2.2				
960 minute winter	S3	Orifice	S4	1.7				
960 minute winter	S4	1.004	S5	1.6	0.423	0.054	0.7003	
960 minute winter	S5	ACO Q-Brake	S6	2.2				
960 minute winter	S6	1.006	OUTFALL	2.2	1.194	0.017	0.0234	121.3
960 minute winter	FC1	Orifice	S1	0.5				
960 minute winter	FC2	Orifice	S1	0.4				
960 minute winter	FC3	Orifice	S2	0.3				
960 minute winter	FC4	Orifice	S2	0.3				
960 minute winter	FC5	Orifice	S3	0.5				
960 minute winter	FC6	Orifice	S3	0.3				
960 minute winter	FC7	10.000	S5	-1.0	0.313	-0.164	0.0856	
960 minute winter	STORAGE 1	6.000	S2	-1.3	-0.166	-0.216	0.0111	

Results for 100 year +40% CC +10% A 960 minute winter. 1200 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute winter	STORAGE 2	690	7.897	0.697	2.2	25.6356	0.0000	SURCHARGED
960 minute winter	STORAGE 3	570	8.489	0.039	0.0	0.1178	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute winter	STORAGE 2	9.000	S3	-2.2	-0.293	-0.370	0.0244	
960 minute winter	STORAGE 3	3.000	S1	0.0	0.009	0.007	0.0467	

Results for 100 year +40% CC +10% A 1440 minute summer. 1680 minute analysis at 30 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute summer	S1	780	8.464	0.148	0.8	0.1670	0.0000	OK
1440 minute summer	S2	900	7.683	0.977	3.0	1.6891	0.0000	SURCHARGED
1440 minute summer	S3	900	7.676	1.045	3.4	1.5872	0.0000	SURCHARGED
1440 minute summer	S4	930	7.133	0.546	1.6	0.6176	0.0000	SURCHARGED
1440 minute summer	S5	930	7.133	0.928	2.7	2.0209	0.0000	SURCHARGED
1440 minute summer	S6	630	6.202	0.020	2.0	0.0228	0.0000	OK
1440 minute summer	OUTFALL	630	5.460	0.020	2.0	0.0000	0.0000	OK
1440 minute summer	FC1	750	8.746	0.046	0.5	1.1188	0.0000	OK
1440 minute summer	FC2	780	9.070	0.070	0.5	1.6937	0.0000	OK
1440 minute summer	FC3	1080	7.648	0.498	0.7	11.9661	0.0000	SURCHARGED
1440 minute summer	FC4	1080	7.648	0.498	0.7	11.9834	0.0000	SURCHARGED
1440 minute summer	FC5	780	7.959	0.059	0.5	1.4205	0.0000	OK
1440 minute summer	FC6	1020	7.658	0.308	0.5	7.4240	0.0000	SURCHARGED
1440 minute summer	FC7	930	7.133	0.698	1.4	13.4818	0.0000	SURCHARGED
1440 minute summer	STORAGE 1	900	7.683	0.838	1.0	14.6362	0.0000	SURCHARGED

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute summer	S1	Orifice	S2	0.8				
1440 minute summer	S2	Orifice	S3	1.6				
1440 minute summer	S3	Orifice	S4	1.6				
1440 minute summer	S4	1.004	S5	1.6	0.421	0.054	0.7003	
1440 minute summer	S5	ACO Q-Brake	S6	2.0				
1440 minute summer	S6	1.006	OUTFALL	2.0	1.166	0.016	0.0220	148.1
1440 minute summer	FC1	Orifice	S1	0.5				
1440 minute summer	FC2	Orifice	S1	0.4				
1440 minute summer	FC3	Orifice	S2	0.2				
1440 minute summer	FC4	Orifice	S2	0.2				
1440 minute summer	FC5	Orifice	S3	0.4				
1440 minute summer	FC6	Orifice	S3	0.2				
1440 minute summer	FC7	10.000	S5	-1.0	0.284	-0.163	0.0856	
1440 minute summer	STORAGE 1	6.000	S2	-1.0	-0.130	-0.169	0.0111	

Results for 100 year +40% CC +10% A 1440 minute summer. 1680 minute analysis at 30 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute summer	STORAGE 2	900	7.676	0.476	1.7	17.4925	0.0000	SURCHARGED
1440 minute summer	STORAGE 3	780	8.464	0.014	0.0	0.0413	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute summer	STORAGE 2	9.000	S3	-1.7	-0.265	-0.291	0.0244	
1440 minute summer	STORAGE 3	3.000	S1	0.0	-0.006	-0.004	0.0370	

Results for 100 year +40% CC +10% A 1440 minute winter. 1680 minute analysis at 30 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute winter	S1	780	8.435	0.119	0.7	0.1347	0.0000	OK
1440 minute winter	S2	990	7.744	1.038	2.3	1.7944	0.0000	SURCHARGED
1440 minute winter	S3	990	7.738	1.107	2.8	1.6809	0.0000	SURCHARGED
1440 minute winter	S4	990	7.209	0.622	1.7	0.7037	0.0000	SURCHARGED
1440 minute winter	S5	990	7.209	1.004	2.4	2.1866	0.0000	SURCHARGED
1440 minute winter	S6	990	6.202	0.020	2.0	0.0228	0.0000	OK
1440 minute winter	OUTFALL	990	5.460	0.020	2.0	0.0000	0.0000	OK
1440 minute winter	FC1	810	8.740	0.040	0.4	0.9648	0.0000	OK
1440 minute winter	FC2	780	9.055	0.055	0.4	1.3299	0.0000	OK
1440 minute winter	FC3	1110	7.735	0.585	0.6	14.0666	0.0000	SURCHARGED
1440 minute winter	FC4	1110	7.735	0.585	0.6	14.0871	0.0000	SURCHARGED
1440 minute winter	FC5	780	7.945	0.045	0.4	1.0967	0.0000	OK
1440 minute winter	FC6	1110	7.732	0.382	0.5	9.2020	0.0000	SURCHARGED
1440 minute winter	FC7	990	7.209	0.774	1.0	14.9515	0.0000	SURCHARGED
1440 minute winter	STORAGE 1	990	7.744	0.899	0.9	14.7052	0.0000	SURCHARGED

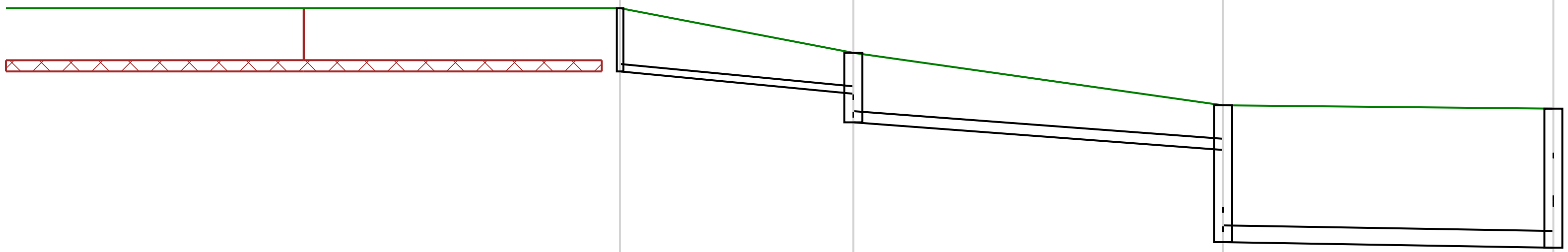
Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute winter	S1	Orifice	S2	0.7				
1440 minute winter	S2	Orifice	S3	1.3				
1440 minute winter	S3	Orifice	S4	1.7				
1440 minute winter	S4	1.004	S5	1.6	0.424	0.053	0.7003	
1440 minute winter	S5	ACO Q-Brake	S6	2.0				
1440 minute winter	S6	1.006	OUTFALL	2.0	1.167	0.016	0.0221	161.5
1440 minute winter	FC1	Orifice	S1	0.4				
1440 minute winter	FC2	Orifice	S1	0.3				
1440 minute winter	FC3	Orifice	S2	0.2				
1440 minute winter	FC4	Orifice	S2	0.2				
1440 minute winter	FC5	Orifice	S3	0.3				
1440 minute winter	FC6	Orifice	S3	0.2				
1440 minute winter	FC7	10.000	S5	-0.7	0.284	-0.122	0.0856	
1440 minute winter	STORAGE 1	6.000	S2	-0.9	-0.115	-0.149	0.0111	

Results for 100 year +40% CC +10% A 1440 minute winter. 1680 minute analysis at 30 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute winter	STORAGE 2	990	7.738	0.538	1.1	19.7608	0.0000	SURCHARGED
1440 minute winter	STORAGE 3	30	8.450	0.000	0.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute winter	STORAGE 2	9.000	S3	-1.1	-0.198	-0.194	0.0244	
1440 minute winter	STORAGE 3	3.000	S1	0.0	0.000	0.000	0.0253	

RSPD	Roads & Sewers For Planning & Design Ltd	File: 5678 JF REV A.pfd Network: Storm Network Jamie Finch 31/05/2023	Page 1



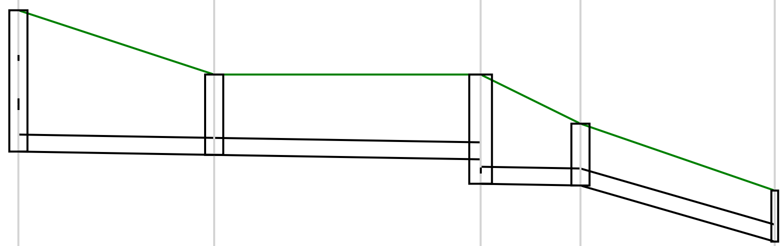
A4 drawing

Hor Scale 500
Ver Scale 100

Datum (m) 2.000

Node Name	FC2		S1		S2		S3
Link Name		1.000		1.001		1.002	
Section Type		100mm		150mm		225mm	
Slope (1:X)		52.2		66.9		295.6	
Cover Level (m)	9.850		9.250		8.545		8.500
Invert Level (m)	9.000	8.700	8.316	7.945	6.706		6.631
Length (m)		15.662		24.816		22.173	

RSPD	Roads & Sewers For Planning & Design Ltd	File: 5678 JF REV A.pfd Network: Storm Network Jamie Finch 31/05/2023	Page 2



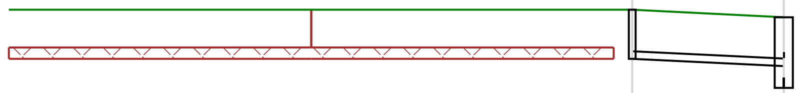
A4 drawing

Hor Scale 500
Ver Scale 100

Datum (m) 1.000

Node Name	S3		S4		S5		S6		OUTFALL
Link Name		1.003		1.004		1.005		1.006	
Section Type		225mm		225mm		225mm		225mm	
Slope (1:X)		294.1		298.5		287.0		17.3	
Cover Level (m)	8.500		7.650		7.650		7.000		6.115
Invert Level (m)	6.631		6.587 6.587		6.528 6.205		6.182 6.182		5.440
Length (m)		12.941		17.609		6.600		12.840	

Node Name		FC1	S1



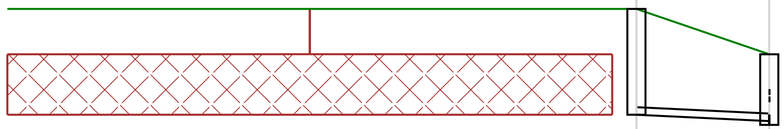
A4 drawing

Hor Scale 500
Ver Scale 100

Datum (m) 3.000

Link Name	2.000	
Section Type	100mm	
Slope (1:X)	104.4	
Cover Level (m)	9.350	9.250
Invert Level (m)	8.700	8.604
Length (m)	10.022	

Node Name	STORAGE 3		S1



A4 drawing

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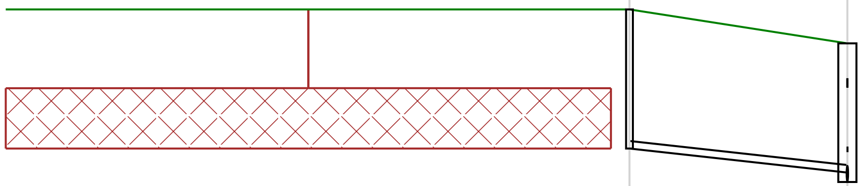
Ver Scale 100

Datum (m) 3.000

Link Name		3.000	
Section Type		100mm	
Slope (1:X)		104.6	
Cover Level (m)	9.850		9.250
Invert Level (m)	8.450		8.366
Length (m)		8.786	

Node Name		FC3	S2



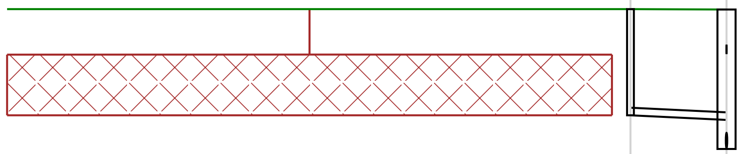
A4 drawing

Hor Scale 500
Ver Scale 100

Datum (m) 2.000

Link Name		4.000	
Section Type		100mm	
Slope (1:X)		45.1	
Cover Level (m)		8.995	8.545
Invert Level (m)		7.150	6.831
Length (m)		14.401	

Node Name	FC4	S2



A4 drawing

Hor Scale 500
Ver Scale 100

Datum (m) 2.000

Link Name	5.000	
Section Type	100mm	
Slope (1:X)	104.1	
Cover Level (m)	8.550	8.545
Invert Level (m)	7.150	7.089
Length (m)	6.352	

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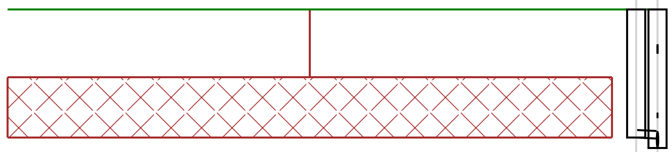
Node Name		STORAGE 1	S2



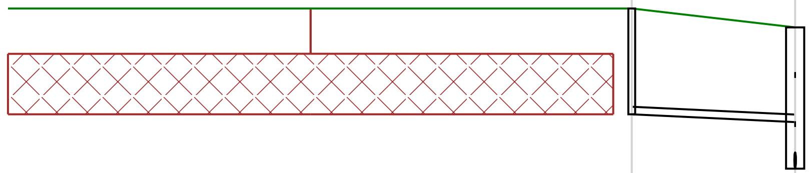
A4 drawing

Hor Scale 500
Ver Scale 100

Datum (m) 2.000

Link Name	6.	
Section Type	10	
Slope (1:X)	10	
Cover Level (m)	8.545	8.545
Invert Level (m)	6.831	6.845
Length (m)	1.	

Node Name	FC6	S3



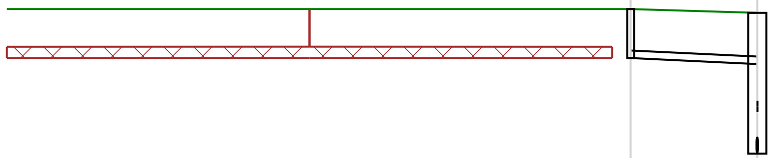
A4 drawing

Hor Scale 500
Ver Scale 100

Datum (m) 2.000

Link Name	7.000	
Section Type	100mm	
Slope (1:X)	104.8	
Cover Level (m)	8.750	8.500
Invert Level (m)	7.350	7.247
Length (m)	10.798	

Node Name	FC5	S3



A4 drawing

Hor Scale 500
Ver Scale 100

Datum (m) 2.000

Link Name	8.000	
Section Type	100mm	
Slope (1:X)	104.6	
Cover Level (m)	8.550	8.500
Invert Level (m)	7.900	7.820
Length (m)	8.367	

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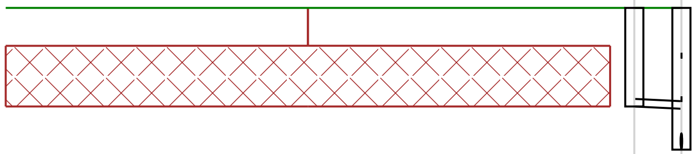
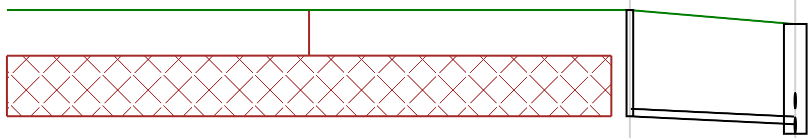
Node Name		STORAGE 2	S3
A4 drawing Hor Scale 500 Ver Scale 100 Datum (m) 2.000			
Link Name		9.00	
Section Type		100r	
Slope (1:X)		103.	
Cover Level (m)		8.500	8.500
Invert Level (m)		7.208 7.178	
Length (m)		3.11	

Node Name		FC7	S5

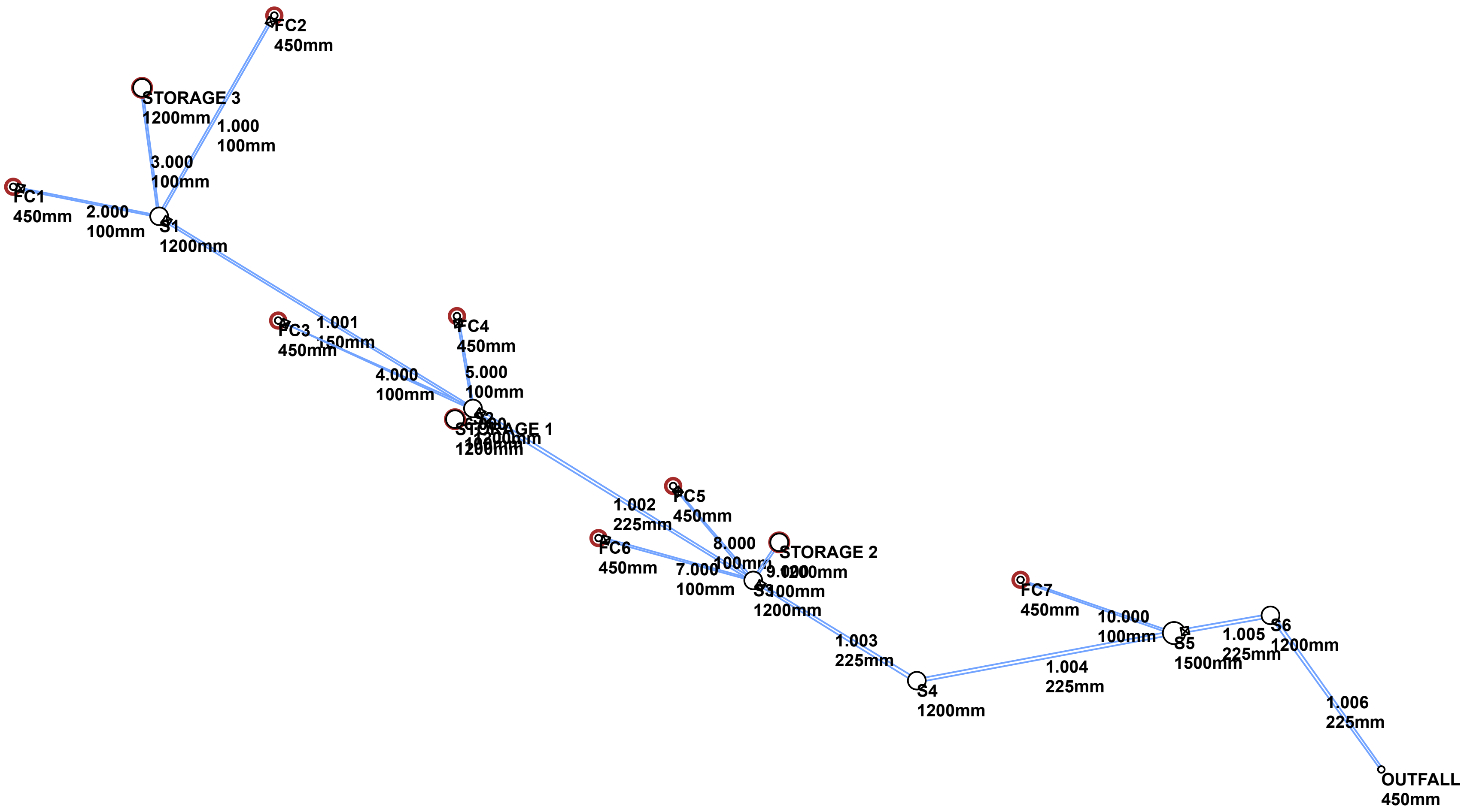


A4 drawing

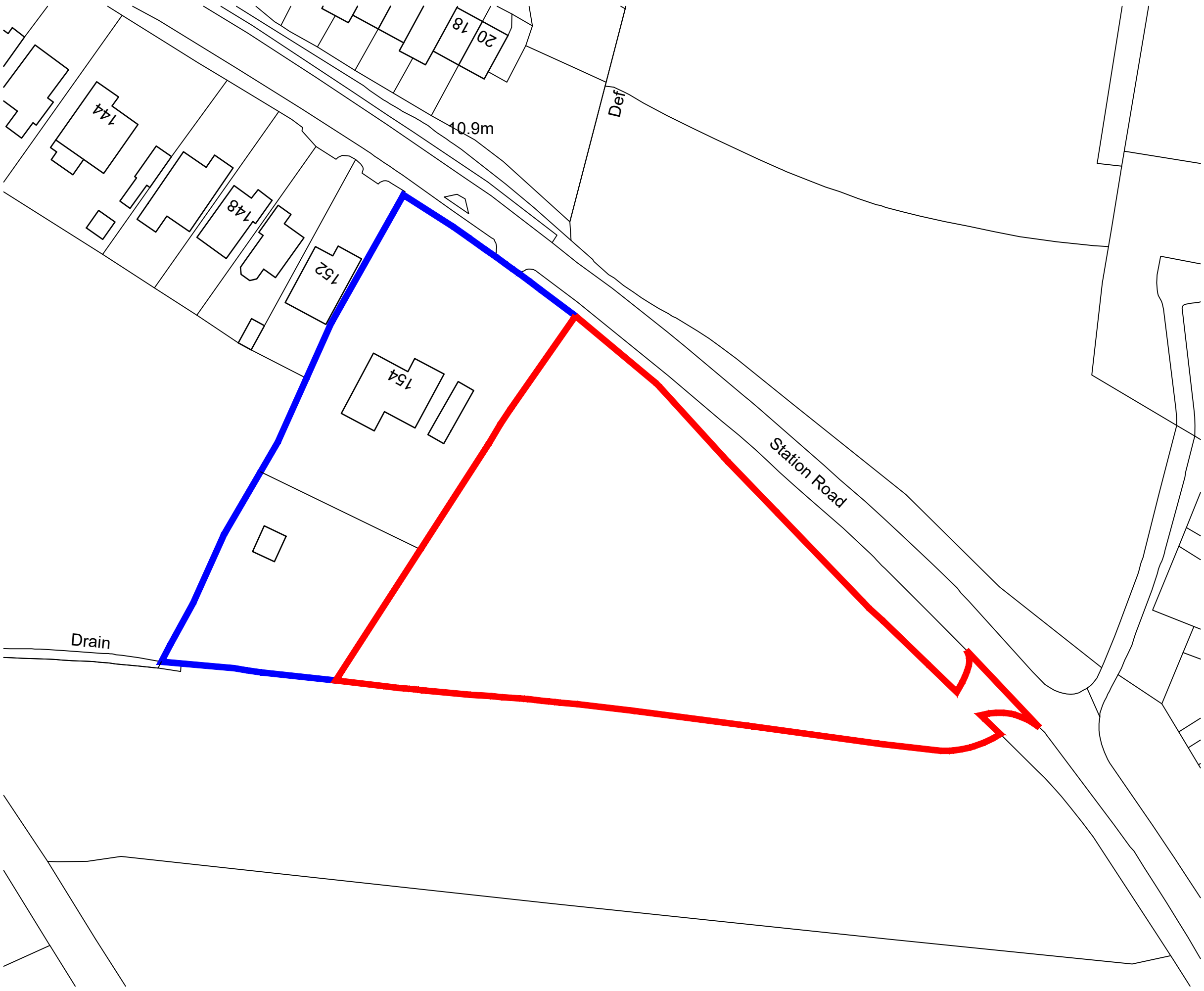
Hor Scale 500
Ver Scale 100

Datum (m) 1.000

Link Name		10.000	
Section Type		100mm	
Slope (1:X)		104.2	
Cover Level (m)		7.835	7.650
Invert Level (m)		6.435	6.330
Length (m)		10.943	



FC2
450mm
STORAGE 3
1200mm
1.000
100mm
3.000
100mm
FC1
450mm
2.000
100mm
S1
1200mm
FC3
450mm
1.001
150mm
FC4
450mm
4.000
100mm
5.000
100mm
STORAGE 1
1200mm
1.002
225mm
FC5
450mm
8.000
100mm
STORAGE 2
1200mm
FC6
450mm
7.000
100mm
S3
1200mm
1.003
225mm
FC7
450mm
10.000
100mm
S5
1500mm
1.005
225mm
S6
1200mm
S4
1200mm
1.004
225mm
1.006
225mm
OUTFALL
450mm



1:1250

0 25m 50m 75m 100m 125m

2950.dwg

Notes:

Key:

Planning Boundary (3834.52 m^2)

Ownership Boundary

bloomfields

01892 831 600
www.bloomfieldsltd.co.uk
drawing@bloomfieldsltd.co.uk

Client: Mr I Martin

Site Address:
Land at 154 Station Road
Hailsham
BN27 2SB

Issued for Review and Comment

Revision:	Rev By:	Checked By:
A. 14.12.2022	RB	DP

Scale:	Drawn By:	Checked By:
1:1250 @ A4	RB	DP

Project: Proposed Development

Date: 14.12.2022

Drawing Title: Site Location Plan

St:	Job No:	Drawing No:	Rev:

/ .2950.010.A

General Notes

KEY:

- Application Site Boundary
- Surface Water Drain
- Foul Water Drain
- Linear Drainage
- Pipe Protection
- SW Rising Main
- FW Rising Main
- French Drain/Perforated Pipe
- Surface Catch Pit/Manhole
- Foul Water Manhole
- Surface Water Soakaway
- Gully & Lead
- Waste Water Package Treatment Plant
- Retaining Wall
- +153.100 Spot Levels
- Direction of Flow
- Embankment
- Brick Headwall
- ACO Linear Drain
- Catchment Area 601m2
- Catchment Area 1254m2

FOR PLANNING

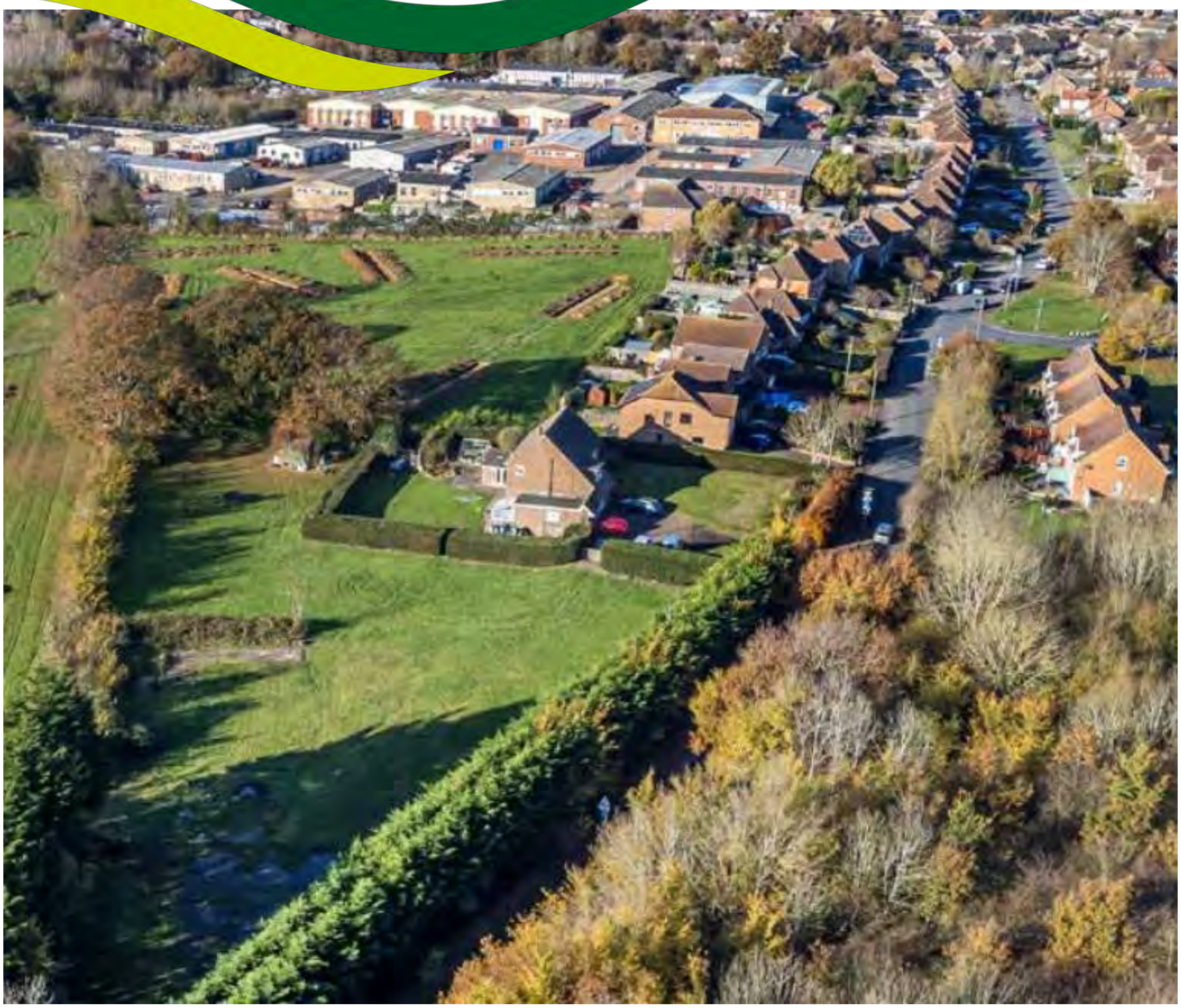
No.	Revision/Issue	Date

RSPD
Roads & Sewers for Planning & Design Ltd
www.roadsandsewers.co.uk 07876 573377

Project Name and Address
154 STATION ROAD,
HAILSHAM,
BN27 2SB

Description
DRAINAGE STRATEGY

Project 5678	Sheet 01
Date 20/02/2023	
Scale 1:250 @ A1	



SUPPORTING PLANNING STATEMENT

Land adj. to 154 Station Road, Hailsham

March 2023

SUPPORTING PLANNING STATEMENT

In support of an outline planning application for the

Erection of up to 9 no dwelling houses, including access with all other matters reserved, to include a change of use of land to residential.

at

Land at adj. to 154 Station Road,

Hailsham, East Sussex, BN27 2SB

On behalf of

Mr I Martin

ISSUE DATE / REVISION	COPY REVIEWED BY	DATE COPY HAS BEEN REVIEWED
Supporting Statement	DDP	17/02/2023

Bloomfields is the trading name of Lambert & Foster (Bloomfields) Ltd (company no. 08278915) an owned subsidiary of Lambert & Foster Ltd a Limited Company registered in England and Wales, No 10574225. Registered office 77 Commercial Road, Paddock Wood, Kent TN12 6DS.

CONTENTS

1. Introduction

1.1. This Planning Statement has been prepared by Bloomfields on behalf of our client Mr I Martin in support of an outline planning application for the erection of up to 9 no dwelling houses, including access, at land adjacent to 154 Station Road, Hailsham. All other matters will be reserved.

1.2. This statement considers the proposed development in relation to the context of the site, relevant local and national planning policies and all other material planning considerations. The proposals for the site have been informed by the National Planning Policy Framework (2021), the Wealden Core Strategy (2013), saved policies within the Wealden Local Plan (1998), and the Hailsham Neighbourhood Plan (2021).

1.3. The application is accompanied by plans indicating the site and showing the proposed development.

- Drawings comprise the following -
    - 2950.010.A – Site Location plan
    - 2950.020.A – Existing Block Plan
    - 2950.030.A – Proposed Block Plan (illustrative) showing potential tracking for fire tender/refuse collections
    - 2950.080.A – Visibility Splays
- Preliminary Ecological Appraisal – prepared by KB Ecology Consultants, February 2023
- Transport Report prepared by Crosby Transport, January 2023
- SUDs and Drainage Strategy prepared by RSPD February 2023
- Archaeology Assessment prepared by Archaeology Services Lewes, January 2023 Rev D

1.4. The developer's contact address is c/o Danielle Dunn MRTPI, Bloomfields Chartered Town Planners, Hillhurst Farm, Stone Street, Westenhanger, CT21 4HU.

1.5. This Statement has been drafted to demonstrate that the proposed development would constitute a sustainable form of development and is consistent with the objectives of the Local Development Plan, and there are no adverse impacts which would significantly and demonstrably outweigh the benefits in accordance with the National Planning Policy Framework (NPPF, 2021), National Planning Practice Guidance (NPPG) and local development plan policies.

Application Site

1.6. The application site is a triangular plot of land formerly comprising a commercial unit and related buildings which included an office, warehouse and related buildings for the storage, assembly and distribution of fishing tackle supplies. Aside from some evidence of hard standing, and the foundations of a demolished building, no structures remain on the site.

1.7. The Ordnance Survey Plan (below) indicates the location of the site in relation to existing built development.

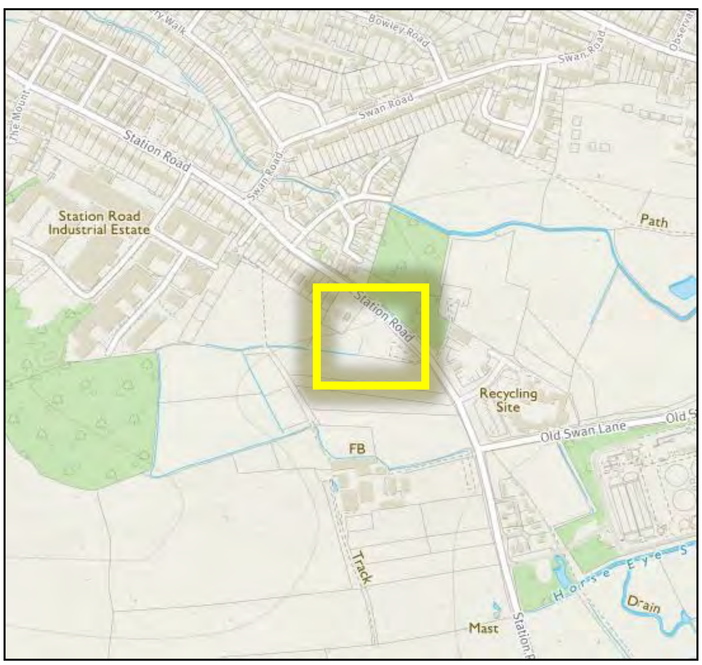


Figure 1 – OS Map of site

1.8. The site is located on the south-western side of Station Road, adjacent to the existing built development of Hailsham. It is bounded by agricultural fields to the south and west and the highway of Station Road to the east. The site benefits from its own access, which is located at its eastern corner, and being enclosed and screened on the road boundary by a tall

Leylandii hedge.

Figure 2 - GE imagery of the site

2. Proposal

2.1. Outline planning permission is sought for the redevelopment of the site to provide up to 9 no dwellings. With the exception of site access, other matters including appearance, landscaping, layout and scale, are reserved.

2.2. This outline application proposal has been designed to take full account of local and national policy, physical constraints, the planning history of the site and other similar decisions within the remit of Wealden District Council.

2.3. Included within the submission is a proposed general layout, this is for illustrative purposes only, and demonstrates how a residential development could come forward using the established design principles of the Local Plan and the Neighbourhood Plan for the area.

2.4. This layout shows an arrangement of semi-detached and detached houses, 4 x 3-bedroom houses and 5 x 4-bedroom houses, of different types and styles. The layout also shows the associated access and potential parking, along with the ability to show where service vehicles (fire engines, refuse collection etc.) could turn within the site.

2.5. The specific open market housing mix is not fixed at this stage due to the Outline nature of the application. But, it is expected that the final dwelling mix will respond to design and market considerations at any subsequent Reserved Matters stage. It should be noted that the site is a minor application, so it falls below the 10 unit threshold for affordable housing provision as set out in the PPG guidance, the detailed policy context of which is set out in paragraph 5.15.

2.6. Figure 3 below demonstrates how the resultant buildings would remain positioned within the site and the dwellings and associated amenity area could be satisfactorily accommodated.

Figure 3 – Proposed indicative block plans

2.7. The site layout has been designed to ensure protection of existing trees and boundary planting and also highlights the possible options for further landscaping along the boundaries.

2.8. The layout confirms that sufficient space exists on site to ensure that any dwellings would provide for a good standard of living space and accommodation, and also, includes sufficient space for refuse and recycling storage, all of which could be provided within the respective curtilages. An area could provide for communal cycle parking, although the residential curtilages provide enough space that these could also be provided individually.

2.9. Although scale and appearance remain a reserved matter the proposed dwellings will be commensurate in scale to the surrounding buildings and the prevailing character of the neighboring built form, including taking into consideration the new units which benefit from extant planning permission to the south and west of the site (discussed further in paragraphs 3.7-3.16).

2.10. It is intended that the proposal will use similar materials to reflect the existing style of the properties to the north, and have a design quality in accordance with the guidance and policies within the Neighbourhood Plan.

3. Planning History

3.1. The following represents the relevant planning history.

3.2. Planning Permission was recently granted (06.12.2022) under **WD/2020/1596/MAO** for outline planning permission for the erection of up to 12 no. dwellings, including access with all other matters reserved, which included a change of use of land to residential. This indicative design of this scheme included a higher density of development with terraced properties also being identified on the indicative site layout.

3.3. Unfortunately, the prevailing market conditions have meant that the site with the extant scheme is unviable. The site has been marketed for nearly 12 months, including whilst the application was under consideration, but has failed to attract much interest or achieve a sale from potential buyers or developers[1]. To date there have been two successive below valuation price offers accepted, but both withdrawn by the purchasers before exchange of contracts. There has been some interest from potential buyers keen to deliver only 9 units.

3.4. Further to this, the current private owners do not have the resources to make a reserved matters application and finance the development themselves, therefore the site will be undeliverable if another party cannot be attracted to buy it.

3.5. On the basis of the above, the site is being reimagined for an improved scheme for up to 9 units, which is more deliverable and desirable in the current market conditions.

3.6. The **WD/2020/1596/MAP** application is subject to a planning obligation by deed of agreement pursuant to Section 106 of the Town and Country Planning Act 1990 as amended. This deed of agreement required 35% of the total number of dwellings in the

[1] Sales Particulars (published in May 2022) are attached separately as a supporting document in Appendix 5.

development to be for the use of affordable housing, even if the overall number of units approved by Reserved Matters were less than 12.

3.7. An application was previously submitted under **WD/2009/0109/MAO** for the demolition of the adjoining dwelling and the then existing disused factory buildings and redevelopment with mixed affordable housing units and associated parking. The application was considered and refused on the relevant policy emphasis at that time.

3.8. The reasons for refusal referred to the lack of justification for the loss of the commercial facilities at the site combined with design and impact concerns. The policy emphasis applied in the earlier refusal has since been substituted by successive national and local policy and so the earlier reasons for refusal at this site have significantly reduced weight despite the application of saved policies contained within the 1998 Local Plan.

Other relevant planning applications

3.9. The site is located adjoining an area which was been identified in the previously emerging Local Plan as forming part of the South Wealden Growth Area (SWGA), known as Hailsham South. This was for a mixed use urban extension comprising housing (up to 400 dwellings) education facilities and associated infrastructure under Policy SWGA 25. This strategic site allocation now benefits from outline planning permission, with some of the reserved matters approved. On this basis, the site subject to this planning application, will become entirely surrounded by development in the coming years.

3.10. The most relevant of these applications are:

3.11. The approved scheme **WD/2018/0475/MAO** is located to the south and west of the application site and sought to confirm the principle of development in this area. The application was for outline planning permission for the development of up to 400 dwellings on land off Ersham Road and Station Road, with all matters reserved except for access. Land to the west of Cuckoo Trail is referred to in the submission as ‘Ersham Park’ and is proposed for development of up to 135 dwellings, with land to the east of Cuckoo Trail and south of the application site referred to as ‘Cuckoo Fields’ accommodating 265 dwellings (a total of 400 dwellings).

3.12. Since its determination, the outline planning permission has progressed through Reserved Matters (RM) applications across some parcels, and in addition, several condition discharge applications have been submitted. The following list identifies the status of the RM applications which have been submitted on the site.

3.13. WD/2021/2265/MRM - Cuckoo Fields and Ersham Park

Reserved matters (phase 2) pursuant to outline permission WD/2018/0475/MAO (the erection of up to 400 residential dwellings including affordable housing

Decision: Awaiting Decision

3.14. WD/2021/1485/MRM - Cuckoo Fields and Ersham park

Reserved matters submission for 128 dwellings pursuant to outline planning permission WD/2018/0475/MAO.

Decision: Approved 01/04/2022

3.15. WD/2021/1286/F - Cuckoo Fields and Ersham Park:

The construction of a new access onto Ersham Road to serve residential development approved under planning permission WD/2018/0475/MAO (the erection of up to 400 residential dwellings including affordable housing. Provision of new vehicular access from Ersham Road and upgrading of existing vehicular access from station road. Provision of new pedestrian and cycle access and the provision of open spaces, sustainable urban drainage systems, associated landscaping, infrastructure and earthworks).

Decision: Approved 28/09/2021

3.16. WD/2021/1287/F - Cuckoo Fields and Ersham Park:

The upgrading of the existing access onto Station Road to serve residential development approved under planning permission WD/2018/0475/MAO (the erection of up to 400 residential dwellings including affordable housing. Provision of new vehicular access from Ersham Road and upgrading of existing vehicular access from Station Road. Provision of new pedestrian and cycle access and the provision of open spaces, sustainable urban drainage systems, associated landscaping, infrastructure and earthworks).

Decision: Approved 28/09/2021

3.17. WD/2019/1864/MAO - Land adjacent to Cuckoo Trail, Cuckoo Fields

The erection of up to 100 residential dwellings including affordable housing with the provision of vehicular, pedestrian and cycle access from Station Road, incorporating open spaces, sustainable urban drainage systems, associated landscaping, infrastructure and earthworks.

Decision: Approved 23/10/2020

3.18. As illustrated above, the development of the adjoining strategic allocated site is now at an advanced stage. On this basis, the site subject to this application, will be surrounded by development imminently and will subsequently be within the built-up and sustainable developed area of Hailsham. This will be discussed further below.

4. Design and Access Statement

Surrounding context and development

4.1. As a settlement Hailsham has a predominantly historic character as a market town with a range of property types and designs forming an archetypal 'Sussex' vernacular which has evolved over a number of centuries.

4.2. The dwellings which make up the town comprise a number of forms ranging in age and style. A wide range of materials can also be identified, so it could be identified that there is no overriding architectural style that is favoured. This is a view and observation also acknowledged in the Neighbourhood Plan section 4.1.

4.3. The immediate area is fairly-typical of the more modern wider settlement character. The adjoining dwellings range from bungalows to the more common two-storey buildings. Most of the buildings are detached, although there is an element of terraced and semi-detached properties.

4.4. As outlined in section 2 of this statement, the following matters are reserved, layout, scale, appearance and landscaping. Reserved Matters may be described as:

- Appearance: Aspects of a building or place which affect the way it looks, including the exterior of the development;
- Scale: Includes information on the size of the development, including the height, width and length of each proposed building
- Landscape: The improvement or protection of the amenities of the Site and the surrounding area, this could include planting trees or hedges as a screen; and
- Layout: Includes buildings, routes, parking and open spaces within the development and the way they are laid out in relation to buildings and the spaces outside the development.

4.5. Following the above points and guidance, this statement is structured below and takes account of the reserved matters.

Use

4.6. The proposal is for the construction of market family dwellings on land which has historically been used as commercial land. The proposed use would be in keeping with the existing and proposed residential uses adjacent to the site.

4.7. The site sits comfortably within a surrounding built up area and in view of the anomalous size of the existing curtilage is an obvious location for development.

Amount

4.8. The application is in outline form and the layout plan demonstrates how a residential development could provide up to 9 no dwellings at this site in a manner which reflects the character and density of dwellings within the vicinity. The layout outlined, and the proposed mix, is considered to constitute an appropriately-scaled residential growth within the area, which complements the new development of 400 units on the adjoining site and the existing built-form of Hailsham.

Layout

4.9. The indicative layout has evolved following the findings and feedback received on the current extant planning permission for the site.

4.10. The indicative plan details a viable potential layout for the site. The layout plan demonstrates that up to 9 dwellings can be accommodated without any unacceptable impacts on neighbouring properties, tree boundaries and landscaping, or the wider area. It also identifies that, vehicles, including service vehicles, would be able to maneuver through the site adequately and safely, and facilitates the sympathetic placement of underground drainage infrastructure to ensure long term maintainability with minimal disruption to residents.

Scale

4.11. Although a reserved matter, the indicative plans show that two rows of properties could be accommodated on the site, with two-storey dwellings being the chosen massing and scale. These could be accommodated due to the separation distance between dwellings surrounding the site and the prevailing character of the wider area.

4.12. The height, bulk and mass, together with the use of similar materials, all ensure the proposals would not appear visually harmful to the street scene or character of the area.

Landscaping

4.13. Detailed considerations for landscaping remain to be determined as part of a subsequent reserved matters planning application. However, the following features are suggested by the indicative layout:

- Retention and enhancement of vegetation along the boundaries of the site;
- Retention of existing mature trees along the boundaries;
- Areas of open and garden space; and
- Permeable areas for incorporation into Sustainable Urban Drainage Systems (SUDs).

4.14. New planting and landscaping would provide an opportunity to enhance the sylvan character of the area.

Appearance

4.15. Although, also a reserved matter, the principle to be adopted in regard to appearance aims to ensure the development will form an identifiable neighbourhood with the arrangement and design of the buildings being sympathetic to the predominant styles and character of the area.

Access

4.16. It is proposed to use the existing access from Station Road to serve the proposed dwellings. It is anticipated that the highway department will accept the proposal based upon the conclusions reached within the accompany transport statement and those approved on the current extant planning permission afforded to the site.

4.17. The illustrative layout has been prepared to demonstrate a proposal can come forward for the site within the parameters proposed. The illustrative layout demonstrates parking provision in line with existing East Sussex County Council Guidance for Parking at New Residential Development (October 2017) including:

- Driveway parking spaces provided at 2.5m x 5m
- Garages to be provided at 7m x 3m (to include cycle storage), and only to count for 1/3rd of a space; and
- Tandem (three-in-a-row) parking spaces to be avoided.

4.18. The proposed development will fully comply with current adopted policy in respect of both car and cycle parking provision. This includes the expectations of policy Hail D5 of the Hailsham Neighbourhood Plan.

5. Planning Policy

5.1. Under Section 38(6) of the Planning and Compulsory Purchase Act 2004 applications for planning permission are required to be determined in accordance with the provisions of the development plan in force unless material considerations indicate otherwise.

Presumption in Favour of Local Plan

5.2. Section 38(6) of the Planning and Compulsory Purchase Act 2004 (PCPA 2004) states *'If regard is to be had to the development plan for the purpose of any determination to be made under the planning Acts the determination must be made in accordance with the plan unless material considerations indicate otherwise'.* This therefore provides a presumption in favour of the development plan.

5.3. Section 70(2) of the Town and Country Planning Act states *'In dealing with such an application the authority shall have regard to the provisions of the development plan, so far as material to the application, and to any other material considerations'*

5.4. Development should therefore be determined in accordance with the Local Plan unless material considerations indicate otherwise.

5.5. Currently for the purposes of Section 38(6) of the PCPA 2004, the current development plan for the area in which the application site is located comprises the Policies of the Wealden Core Strategy (Incorporating Part of the South Downs National Park) Local Plan 1998 which were saved in 2007 and the Core Strategy Local Plan which was formally adopted on 19 February 2013. In addition, the Hailsham Neighbourhood Plan, after a successful referendum in 2021, now forms part of the local development plan.

WDC Core Strategy Local Plan 2013

5.6. The adoption of the CSLP by the District Council took full legal effect on 19th February 2013 with the District Council having previously resolved to adopt the Local Plan on 28th November 2012. The following policies are relevant to this application:

- Spatial Objective SPO1
- Spatial Objective SPO2
- Spatial Objective SPO7
- Spatial Objective SPO8
- Spatial Objective SPO10
- Spatial Objective SPO13
- Policy WCS1 – Provision of Homes and Jobs
- Policy WSC2 – Distribution of Housing Growth
- Policy WCS4 – Development Areas
- Policy WCS12 - Biodiversity
- Policy WCS14 - Presumption in Favour of Sustainable Development.

5.7. Policy WCS1 is particularly relevant as it states that land will be identified in subsequent Development Plan Documents (DPDs) for the provision of some 4,525 new additional dwellings to provide a total of 9,440 dwellings over the Plan period (2006 – 2027) i.e. 450 dwellings per annum (dpa). In addition, Policy WCS2 conforms that land will be allocated to meet the provision for housing.

5.8. Policy WCS4 then refers to Strategic Development Areas (SDAs) and allocations are shown as insets on the Key Diagram. At Hailsham, this includes provision of around 600 dwellings at 'Land at East Hailsham' (SD2) and around 700 dwellings at 'Land at North Hailsham' (SD3). The SDAs, as indicated above, were intended to be progressed through detailed allocations and policies for specific sites provided in a subsequent Strategic Sites DPD, as referred to at WSC4.

5.9. Policy WCS14 of the Core Strategy reiterates the presumption in favour of sustainable development that runs as a golden thread through the NPPF. The Core Strategy advises that:

> *"When considering development proposals the Council will take a positive approach that reflects the presumption in favour of sustainable development contained in the National Planning Policy Framework."*

5.10. It restates policy contained within the NPPF which confirms that planning permission will be granted unless material considerations indicate otherwise – taking into account whether any adverse impacts of granting permission would significantly and demonstrably outweigh the benefits, when assessed against the policies in the National Planning Policy Framework taken as a whole; or specific policies in that Framework indicate that development should be restricted.

5.11. In essence, it brings the presumption in favour of sustainable development found within the NPPF into the Development Plan.

Saved Policies of the Wealden Local Plan 1998

5.12. The Local Plan (1998) was adopted prior to the publication of the NPPF and is therefore increasingly out-of-date. Consideration should therefore be given to the relevant policies' degree of consistency with the NPPF. However, the following saved policies remain relevant -

- Policy GD2 – Development Boundaries
- Policy EN1 – Sustainable Development
- Policy EN8 – Low Weald
- Policy EN7 – Ashdown Forest
- Policy EN12 – Trees Woodland and Landscaping
- Policy EN15 – Nature Conservation
- Policy EN27 – Design
- Policy EN29 – Light Pollution
- Policy DC17 – New Dwellings in the Countryside
- Policy HG5 – Housing Mix
- Policy TR3 – Traffic Impact of New Development
- Policy TR16 – Car Parking Standards
- Policy CS2 – Drainage
- Policy HA1 – Development in Hailsham

Hailsham Neighbourhood Plan 2021

5.13. The Hailsham Neighbourhood Plan (NP) successfully passed a referendum held on 6 May 2021 and now forms part of the Wealden District Council's Development Plan.

5.14. In accordance with the NP the following policies would relevant to the scheme subject to this planning application.

- Hail D1: High Quality Design
- Hail D2: Small scale residential development and householder
- Hail D5: Residential Car Parking Design

5.15. Other relevant policies, that will need to be considered, include Policy AFH1 of the adopted

Affordable Housing delivery Local Plan (2016). However, it should be noted, this isn't the most up-to-date position regarding the provision of affordable housing nationally. On 19 May 2016 (and further updated on the 01 September 2019) the National Planning Practice Guidance was updated regarding affordable housing thresholds[2]. Until the new Wealden Local Plan is produced, it will be necessary to take into account the Planning Practice Guidance as a material consideration. The current PPG guidance sets out that:

> *"Planning obligations for affordable housing should only be sought for residential developments that are major developments. Once set, the Community Infrastructure Levy can be collected from any size of development across the area. Therefore, the levy is the most appropriate mechanism for capturing developer contributions from small developments.*
>
> *For residential development, major development is defined in the National Planning Policy Framework as development where 10 or more homes will be provided, or the site has an area of 0.5 hectares or more. For non-residential development it means additional floorspace of 1,000 square metres or more, or a site of 1 hectare or more, or as otherwise provided in the Town and Country Planning (Development Management Procedure) (England) Order 2015."*
>
> *Revision date: 01 09 2019 Paragraph: 023 Reference ID: 23b-023-20190901*

5.16. The Wealden Design Guide 2008 (adopted Supplementary Planning Document) Chapters 2, 3, 5 and 11, and the emerging Wealden Local Plan 2019 will also need to be considered, although the latter was formally withdrawn in 2020 on the recommendation of the Planning Inspector following the first stage of its examination.

6. National Planning Policy Framework 2021

6.1. In all respects, the NPPF seeks to maximise opportunities for the supply of housing in appropriate locations, that can contribute towards housing supply, along with maintaining and enhancing the vitality of existing communities. The key objective of sustainable development is expressed within paragraph 7 to be "*meeting the needs of the present without compromising the ability of future generations to meet their own needs".*

6.2. Paragraph 8 refers to the three overarching objectives to sustainable development;

[2] A Court of Appeal judgement was made on an earlier Ministerial Statement (dated 28 November 2014).

namely economic, social and environment, which give rise to the need for the planning system to perform a number of roles:

- An economic objective - to help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure

- A social objective - to support strong, vibrant and healthy communities, by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations; and by fostering well-designed, beautiful and safe places, with accessible services and open spaces that reflect current and future needs and support communities' health, social and cultural well-being;

- An environmental objective - to protect and enhance our natural, built and historic environment; including making effective use of land, improving biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.

6.3. Paragraph 10 details that "*at the heart of the Framework is a presumption in favour of sustainable development"*, with Paragraph 11 setting out how this can be delivered through both plan-making and decision-taking.

6.4. Specifically, Paragraph 11 (d) sets out that permission should be granted: *"where there are no relevant development plan policies, or the policies which are most important for determining the application are out-of-date[8], unless:*

i. *the application of policies in this Framework that protect areas or assets of particular importance provides a clear reason for refusing the development proposed[7]; or*

ii. *any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole".*

6.5. Footnote 8 clarifies that, *"for applications involving the provision of housing, situations where the local planning authority cannot demonstrate a five year supply of deliverable housing sites (with the appropriate buffer, as set out in paragraph 74); or where the Housing Delivery Test indicates that the delivery of housing was substantially below (less* *than 75% of) the housing requirement over the previous three years".*

6.6. Firstly, it should be noted that the policies in place for the Wealden District are out of date, as the strategic plan for the area is over 5 years old. On this basis, adopted polices DC8, DC17 and WCS6 would, for the purposes of the NPPF, be considered out of date for decision making purposes. This significantly limits the weight that can be afforded to them.

6.7. The five-year housing land supply of Wealden, as at the 1st April 2022, published in December 2022[3]. This confirms that Wealden does not have a five year supply, identifying just 3.92 years. Paragraph 2.40 of the statement, concludes *"that there is currently an insufficient supply of 'deliverable' housing sites to meet the Council's five-year housing land supply requirement in accordance with paragraph 74 of the NPPF (July, 2021)".*

6.8. Furthermore, the Council fails to meet the Housing Delivery Test. The HDT measurement in 2021 for Wealden District Council was published on 14 January 2022, resulting in a measurement of 82% delivery against its housing requirement. This has resulted in a 20% buffer being applied to Wealden District Council's five-year housing land supply requirement. Given the HDT result was below 95%, a Housing Action Plan was also required to be published. This document is intended to identify the reasons for under-delivery, explore ways to reduce the risk of future under delivery and sets out measures the local authority intends to take to improve levels of housing delivery. The latest Housing Action Plan for Wealden was published in June 2022.

6.9. As the Council cannot demonstrate a five-year supply and the housing delivery test, this application should be considered in the context of the presumption in favour of sustainable development. The case officer in his report for approved application **WD/2020/1596/MAO**, *"the shortfall in the supply of housing land is a material consideration that weighs heavily in favour of allowing proposed development".*

6.10. Paragraph 20 of the NPPF requires strategic policies to set out an overall strategy for the pattern, scale and quality of development and make sufficient provision of housing (amongst others). Footnote 12 clarifies this to be "*in line with the presumption in favour of sustainable development".*

6.11. In this regard Paragraph 119 refers specifically to making effective use of land in meeting the need for homes and other uses, with Paragraph 120(d) stating that planning policies

[3] https://www.wealden.gov.uk/UploadedFiles/Five-Year-Housing-Land-Supply-Statement-2022-V5.pdf

and decisions should "*promote and support the development of under-utilised land and buildings, especially if this would help to meet identified needs for housing where land supply is constrained…"*

6.12. Paragraph 79 of the NPPF requires Local Planning Authorities to promote sustainable development in rural areas, with housing located where it will enhance or maintain the vitality of rural communities. It notes that *"planning policies should identify opportunities for villages to grow and thrive, especially where this will support local services".*

6.13. The National Planning Policy Framework confirms at paragraph 80 that planning policies and decisions should avoid the development of isolated homes in the countryside unless one or more of the following circumstances apply:

a. "there is an essential need for a rural worker, including those taking majority control of a farm business, to live permanently at or near their place of work in the countryside;

b. the development would represent the optimal viable use of a heritage asset or would be appropriate enabling development to secure the future of heritage assets;

c. the development would re-use redundant or disused buildings and enhance its immediate setting;

d. the development would involve the subdivision of an existing residential building; or

e. the design is of exceptional quality, in that it: - is truly outstanding, reflecting the highest standards in architecture, and would help to raise standards of design more generally in rural areas; and - would significantly enhance its immediate setting, and be sensitive to the defining characteristics of the local area".

6.14. As discussed previously the sites location is no longer considered isolated or in the context of current policy defined as in the countryside in the truest sense of the word.

6.15. Paragraph 122 requires decisions to reflect changes in the demand for land. They should be "*informed by regular reviews of both the land allocated for development in plans, and of land availability*". The proposal site forms part of an allocation for 400 units which has already been granted approval. The provision of an additional 9 units would serve to further maximize development potential for the Council.

6.16. Paragraph 124 states that *"planning policies and decisions should support development that makes efficient use of land, taking into account:*

a) "the identified need for different types of housing and other forms of development, *and the availability of land suitable for accommodating it;*

b) local market conditions and viability;

c) the availability and capacity of infrastructure and services – both existing and proposed – as well as their potential for further improvement and the scope to promote sustainable travel modes that limit future car use;

d) the desirability of maintaining an area's prevailing character and setting (including residential gardens), or of promoting regeneration and change; and

e) the importance of securing well-designed, attractive and healthy places".

6.17. In respect of design, the NPPF identifies that good design is a key aspect to sustainable development (paragraph 126). As this scheme is for outline planning permission only the final design of the scheme is subject to change. However, the indicative layout, provided as part of this application, demonstrates that a positive scheme and design can be achieved that meets the aspiration of local design codes and principles as expected by Paragraph 130 of the NPPF, in this case in the Hailsham Neighbourhood Plan.

6.18. Paragraph 55 of the NPPF advises that planning conditions should be kept to a minimum and only imposed where they are necessary, relevant to planning and to the development to be permitted, enforceable, precise and reasonable in all other respects.

7. Analysis

7.1. This Planning Statement sets out a comprehensively considered justification for the development of the Site, taking account of all relevant planning and material considerations. As the site has extant planning permission for 12 units, the principle of development has already been agreed and confirmed.

7.2. The benefit of redesigning the scheme for a reduced number of up to 9 units, is that it available and deliverable immediately. As set out in paragraph 3.3 and 3.4 of this report, the extant scheme has been considered unviable by most investors and developers due to the S106 obligation relating to affordable housing. Despite ongoing marketing for 12 months the site has failed to attract a buyer. Reducing the number of dwellings on site, would improve the marketable of the site, and in turn, would enhance its deliverability in accordance with the intensions of sustainable development and the aspirations of the Housing Land Supply.

7.3. The issues to be determined in this application are whether the principle of reducing the numbers on the site is acceptable and whether the proposed access arrangement, which is the only matter for full determination sought by the Outline application, is adequate and would not prejudice highway safety. The site layout plan and elevations that have been submitted are for illustrative purposes only.

7.4. The relevant planning considerations may be summarised as follows:

- Principle of Housing Development;
- Housing Mix
- Landscape and Visual Impact;
- Residential Impact
- Living conditions for future occupiers
- Transport and Highways;
- Heritage Impacts
- Flood Risk and Drainage
- Ecology and Biodiversity
- Odour
- Impact on Trees
- Bin storage
- Contamination

Principle of Development

7.5. Housing is a priority use for all Local Planning Authorities. The adopted Core Strategy Local Plan 2013 accepts that the development boundaries contained within the 1998 Local Plan will have to be breached to deliver the level of housing required.

7.6. Core Strategy Policy Objective SP03 supports making effective use of land within or close to the main built-up confines of towns and villages, especially previously developed land, consistent with maintaining their character. Policy Objective SPO8 seeks to ensure that the Council will maintain and where appropriate enhance through the encouragement of growth, the effective network of villages that will continue to support the day to day needs of our rural communities, and which will accommodate some additional growth where this would be sustainable.

7.7. National policy generally encourages the provision of redevelopment in previously developed areas provided that it is designed to complement the character of surrounding developments, the design and layout make suitable residential accommodation, and it provides for garden and amenity space. The NPPF is clear that in paragraph 60 that it is the Government's objective to *'significantly boosting the supply of homes'* considering that it is important that a *'sufficient amount and variety of land can come forward where it is needed, that the needs of groups with specific housing requirements are addressed and that land with planning permission is developed without delay'.*

7.8. In respect of the current adopted Local Plan the proposal site is considered to have a countryside location. However, this countryside location is now questionable due to the new development surrounding the site and because the Council acknowledges that it does not have a five-year supply of deliverable housing sites at the present time. This means that policy restrictions on development in the countryside must be viewed as being 'out-of-date' (footnote 7 of Paragraph 11 of the NPPF) and that, as a consequence, planning applications fall to be considered in the context of Paragraph 11 of the NPPF.

7.9. In such cases housing applications are expected by Paragraph 11 of the NPPF to be considered in the context of the presumption in favour of sustainable development unless the harms would outweigh the benefits or a more restrictive approach to development is in force, as is the case in the Ashdown Forest SAC or the AONB; the protection of which is afforded great weight.

7.10. As the Council are unable to demonstrate a five-year housing supply, the balance should tilt in favour of the policies supporting sustainable development within the NPPF. Following the removal of the more restrictive approach forwarded in the previously emerging Plan the location of the site means it remains accessible to local amenities, public transport and services and is a sustainable location for new housing. This has been accepted in recent approvals close to the site as discussed earlier in this report.

7.11. The proposal would provide for a residential development through the reuse of former commercial land where the principle is considered to be acceptable. Accordingly, the principle of the proposed development is considered to align with the Districts overarching spatial strategy.

7.12. The site is located on Station Road which is a classified road running due south and east from the centre of Hailsham. Hailsham Town Centre is located 1km north of the site, providing access to a range of shopping and leisure facilities including public houses, restaurants, library, community facilities and retail shops.

7.13. The 0.38ha site is relatively flat and is well screened from external views into the site by trees and shrubs along the northern and western boundaries, particularly the frontage onto Station Road, with shrubs and sporadic tree planting making up the southern boundary.

Figure 4 – Site frontage (looking north)

Figure 5 – Site frontage (looking south)

7.14. The site is currently outside of but adjacent to the development boundary for Hailsham as defined in the Wealden Local Plan 1998.

7.15. There are no Scheduled Monuments or listed buildings within the site.

7.16. The Pevensey Levels Ramsar site, Site of Special Scientific Interest and Special Area of Conservation is located to the east of the site. The wetland is internationally recognised as an important habitat for wildlife.

Locational Sustainability

7.17. Hailsham Town Centre is located 1km north of the Site and is easily accessible on foot or by other means of transport. Within the adopted 2013 Core Strategy Hailsham is categorised as a District Centre which are described within the document as *'An accessible settlement by road or public transport containing a range of shops, employment opportunities and facilities including secondary school. Not reliant upon other centres within the District to meet day to day needs, but requires support from other secondary or primary centres to meet needs of the residents*.'

7.18. The Town is predominantly residential in character and there are a number of large retail outlets, services and employment opportunities provided in the town centre serving the local community. This includes a community hall, leisure facilities, churches, numerous shops and services. A number of educational facilities are available in the vicinity consisting of Burfield Academy, Meadow Nursery School, Phoenix Academy, White House Academy and Hailsham Community College.

7.19. Despite not having its own Train station Hailsham is only 3km from Polegate train station to the south and is served by a regular bus service providing access to Eastbourne, Tunbridge Wells, Heathfield and Crowborough.

Housing Mix

7.20. The application is made in outline and hence the housing mix will be fixed through the Reserved Matters stage. However, the objective is to create a balanced and mixed addition to the community and to ensure adequate ranges of types and tenures. It will provide for a suitable mix with the aim of creating a mixed and balance community, in line with the requirements of the NPPF.

7.21. Additionally all dwellings will comply with the minimum national space standards and will have the required amount of amenity space.

7.22. In these terms, the proposal is acceptable in terms of housing mix, size and affordable provision as required by paragraph 62 of the NPPF and overall supports the social objective of achieving sustainable development.

Design

7.23. The application is in Outline and as such not all of the detailed design elements are for determination at this time. However, the proposed development takes into account the NPPF which places great importance on the design of the built environment, conserving and enhancing the natural environment and conserving and enhancing the historic environment.

7.24. Section 12 of the NPPF identifies that the Government attaches great importance to the design of the built environment and that new development should contribute positively to making places better for people. Paragraph 126 of the NPPF confirms that good design is a key aspect of sustainable development.

7.25. Conversely, where the design of a development accords with clear expectations in plan policies, design should not be used by the decision-maker as a valid reason to object to development. Local planning authorities should also seek to ensure that the quality of approved development is not materially diminished between permission and completion, as a result of changes being made to the permitted scheme (for example through changes to approved details such as the materials used).

7.26. At the local level saved policies EN1 and EN27 are concerned with design and protecting the landscape characteristics. Furthermore, Policy Hail D1 from the Hailsham Neighbourhood Plan promotes high-quality design. Although at reserved matters stage it is intended that any proposal follow a two-storey design which would bring about an increased level of built form but these would remain entirely consistent with other built form both existing and proposed and will have no significantly greater impact on the surrounding visual amenity and character of the area than that of the existing buildings currently in situ.

7.27. With regards to visual impact, Policy EN27 of the Wealden Local Plan 1998 says proposals for development will be permitted when a number of layout and design criteria are satisfied. Whilst design is a reserved matter the proposal indicated would result in a layout of development which would replicate the existing spatial qualities and character and appearance of the nearby street scene and the wider landscape setting.

7.28. The proposed dwellings would comprise traditional designs which would appear in keeping with the urban character of the area, in turn promoting local distinctiveness. Therefore there would be no visual impact from long views within the surrounding countryside thereby conserving the landscape character in this regard.

7.29. It is clear from the assessment above that the proposed development would result in an acceptable low density form of development. The proposal would cause no harm to the character of the landscape in compliance with Policy WCS14 of the Core Strategy and EN1 and EN27 of the saved Local Plan 1998. In addition, it would meet the aspirations of the Hailsham Neighbourhood Plan, specifically policies Hail D1, Hail D2, and Hail D5.

Impact on residential amenity

7.30. This application deals with the principle of development on the site with design and appearance reserved. Nonetheless, it is inevitable that with any form of development on this site that there will be a change in perception and character. The layout has been carefully designed to ensure that buildings are located and orientated to avoid direct overlooking and achieve good levels of privacy between dwellings and adjoining neighbours.

7.31. Saved Policy EN27 (2) of the Local Plan considers the impacts of development on adjoining residences. The proposed dwellings would be sited within the boundaries of the existing curtilage and due to the design and orientation of the dwellings within the site and separation distance there is ample space to the nearest neighbouring dwelling and the proposal would not cause any loss of privacy or overlooking issues here.

<u>The quality of living for future occupiers</u>

7.32. The National Planning Policy Guidance states that *'good design should enhance the quality of buildings and spaces, by considering amongst other things form and function; efficiency and effectiveness and their impact on well-being'*. Further to this the core principles of the NPPF as set out within paragraph 130 requires the planning system to always seek to secure high quality design and a good standard of amenity for all existing and future occupants of land and buildings. In terms of future occupants, the proposed dwellings would incorporate the provision of spacious living areas with sufficient external amenity spaces. There is ample available space to fulfil the amenity requirements of a mix of housing needs into the future.

7.33. In terms of future occupants, the proposed dwellings would incorporate the provision of a spacious living areas with sufficient amenity space available within the site. There is ample available space to fulfil the amenity requirements of the applicants long into the future. The curtilage proposed would remain comparable with other residential curtilages within the vicinity and those being proposed as part of the adjoining development.

7.34. In light of the above, it is clear that there is not any amenity matter that would constitute an adverse impact that would indicate that the proposal should not be considered in accordance with the development plan.

Highways and Parking

7.35. The accompanying Transport Assessment (prepared by Crosby Transport Planning, January 2023) details the proposals in terms of the proposed layout and access, accessibility, as well as existing and proposed traffic conditions. (See **Appendix 1**)

7.36. Site vehicular access is proposed to be from Station Road by the existing access arrangement. The Transport Assessment includes a thorough assessment of existing non-car transport connections in the local area.

7.37. The site will be well served by existing and proposed bus services, providing regular services to Hailsham and Polegate (providing rail connections). Bus service improvements are proposed as part of the Cuckoo Fields and Ersham Park applications, including additional stops along Station Road. The Transport assessment considers the siting of the bus stop located opposite the site entrance.

7.38. The provision of additional dwellings at the site would generate acceptable traffic numbers and would not significantly affect the local highway network. The development does include a parking area within the layout that would ensure that vehicles can enter and exit the site in a forward gear.

7.39. In terms of parking, as can be seen on the proposed layout plans, there is ample space at the plot to provide adequate space for the parking of vehicles. It meets the aspirations of the residential car parking design standards advocated by the Neighbourhood Plan through policy Hail D5.

7.40. The proposal would not result in any unacceptable changes to traffic volumes entering and exiting the site to and from the highway. To ensure that the proposal minimises disruption to the existing highway and neighbouring properties a code of construction practice condition can be imposed if considered reasonable.

7.41. The Transport Report concludes that *"the proposed development would not have a material impact upon the safety and operation of the adjoining highway network. Consequently it is concluded that the development would not give rise to any adverse transport impacts and is considered an entirely appropriate form of development in transport and highways terms".*

Ecology and Biodiversity

7.42. Section 15 of the NPPF seeks to encourage Conserving and enhancing the natural environment the incorporation of biodiversity in and around developments. Paragraph 179b of the Framework identifies that, where possible, developments should '*promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.'* Due to the topography of the locality and the presence of boundary planting which is to be retained, the proposal is not considered to have any significant impact upon the overall character of the area and it would not result in the loss of any biodiversity features.

7.43. The scheme is supported by a Preliminary Ecological Appraisal, (**Appendix 2**).

7.44. The study confirms that no additional surveys are currently required at the site with suggestions confirming a number of opportunities and enhancements for biodiversity and preservation of protected species for any future development. These include, but are not limited to, the potential to provide hedgehog, bat and bird boxes and improvements to fencing to improve transitory routes for species. As this application is only in outline form, it is expected that the final details relating to biodiversity improvements and enhancements will be confirmed at RM stage. Nonetheless, it is the applicant's intention to ensure the provision of substantial additional planting and the creation of wildflower meadows to help integrate the development within the landscape and improve biodiversity at the site**.**

7.45. We are also aware of the requirements of the Environment Bill which refers to Biodiversity Net Gain. In this instance it is considered that the quantum of green landscaping proposed which would replace existing yard areas and hardstanding would ensure compliance with the 10% requirement. The applicant is also content to provide some indigenous hedging around the property and buildings should this be required and would accept the imposition of a condition to confirm this.

7.46. Policy WCS12 of the Core Strategy seeks that biodiversity will be conserved and opportunities sought for enhancement to ensure no net loss of biodiversity. Landscaping associated with the site would utilise native species and seek to increase the potential for additional biodiversity and habitats.

Odour

7.47. In order to protect and promote the residential amenity of future occupiers, it is important to consider the impacts of any potential smells and odour that could influence the site.

7.48. In this regard, there are no immediate 'bad-neighbour' developments which would cause subsequent harm to future residents. However, comments made by Southern Water on the extant scheme for up to 12 units on the site should be considered at this early stage. Southern Water stated:

> *"Due to the potential odour nuisance from a Wastewater Treatment Works, no sensitive development should be located within the 1.5 OdU odour contour of the WWTW. An Odour Assessment will need to be carried out by a specialist consultant employed by the developer to a specification that will need to be agreed in advance with Southern Water to identify and agree the 1.5 OdU contour."*

7.49. Southern Water subsequently accepted the findings of the Odour Assessment undertaken for the Cuckoo Fields development which demonstrated that the site, subject to this application, was comfortably outside the relevant odour contour, and in their final response of 21 July 2021 they removed the previous requirement above and said:

> *"Southern Water does not place a specific objection to the development on the grounds of odour from Southern Water operated assets."*

7.50. The application site is located further from the waste water treatment works than the Cuckoo Fields strategic development site, and thus the same conclusion should be reached that the site is located outside the odour contour.

Flood Risk and Drainage

7.51. Paragraph 159 of the NPPF advises that inappropriate development in areas at risk from flooding should be avoided by directing development away from areas at high risk. The site is located in flood zone 1 and is at low risk from surface water flooding. The proposed development will have no detrimental effect on offsite flood risk.

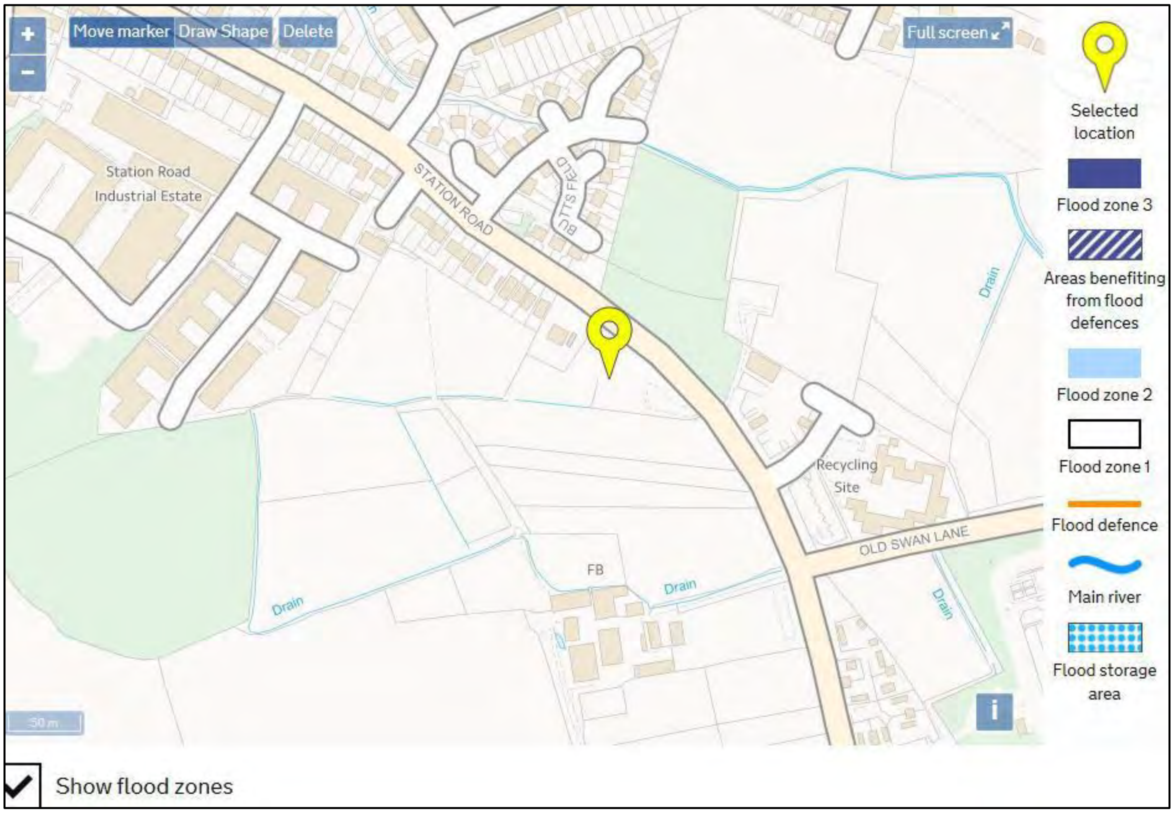


Figure 8 – EA Flood maps

7.52. As the site is a residential development its use is defined as 'more vulnerable' and as it lies within Flood Zone 1, this is identified as being compatible development therefore; there is no need for a Sequential Test, or an Exception Test.

7.53. As the site is in Flood Zone 1 there is no need for any fluvial/tidal based flood mitigation measures. Ground water, sewer and infrastructure courses of flooding are also considered to be low risk.

7.54. A drainage strategy has been commissioned and prepared by RSPD and dated February 2023 (See **Appendix 3**). This sets out the following position in relation to the site:

7.55. *"the local geology may be not suitable for infiltration to ground, and the LLFA had discouraged the use of permeable paving at this scheme in prior consultation responses in a previous application.*

7.56. *Therefore, the strategy will focus on utilising geocellular storage to retain surface water in the climate change adjusted critical storm before being allowed to discharge via a Orifice Plate to the ordinary watercourse at the South.*

7.57. *"The Drainage Strategy drawing shows the indicative surface water network for the development, directing the development water through a series of trapped gullies, Linear drainage, geocellular storage tanks and Orifice Plates, before discharging the water to the ordinary watercourse. This drainage system has been designed on the basis of 100% of the water being attenuated and discharged at the controlled rate of 2.02 litres per second and will fully accommodate the storage required for the 1 in 100 year 40% climate change adjusted critical storm scenario".*

7.58. It should be noted that this is a significant re-design of the surface water drainage system previously approved under application **WD/2020/1596/MAO**. The original design was based on three large storage sumps under the main carriageway area, which over time could be at risk of damage from repeated visits by heavy vehicles such as refuse trucks and had the potential to cause significant disruption of access during maintenance or more substantial repairs. The new design takes advantage of the reduction of housing density to re-imagine a distributed system of 10 smaller storage sumps under the re-positioned parking spaces, which can now be maintained without disruption of the main carriageway in the development. This is therefore a more sustainable and cost-effective approach that will have long term benefits for the residents.

Arboricultural Considerations

7.59. The Site does not lie within a Conservation Area and there are no trees subject to a Preservation order within the Site. Nonetheless, the building operations associated with this proposal would have the potential to be reasonably substantial and could impact on existing boundary vegetation.

7.60. Nevertheless it will be important to ensure that the features on the boundaries of the site remain protected from the development as it continues and therefore, any tree work should be carried out by a competent tree surgeon to comply with BS3998:2010 "Tree Work - Recommendations".

7.61. The areas to be protected by fencing or ground protection shall be referred to as the construction exclusion zones. The following actions shall be prohibited within the construction exclusion zones:

- Vehicular access.
- Regular pedestrian access unless on suitable ground protection.
- Storage of construction materials.

- Storage or handling of harmful chemicals.
- Any change in ground level unless otherwise stated in this report or under supervision of an arboriculturalist.
- Construction activities including hard surfacing.

7.62. The positioning of the dwelling will not negatively affect any of the protected trees found on or in the vicinity of the site. Overall, subject to appropriate conditions, development can be implemented without undue impact on trees and hedgerows.

Heritage considerations

7.63. There are no heritage assets within the site or the associated vicinity which would be affected by the proposal.

7.64. It is predicted that the proposed development will not have a negative impact and the proposal would provide for an element of needed housing within a sustainable location.

7.65. An archaeology appraisal (**Appendix 4**) has been produced for the site.

Refuse and bin Storage

7.66. Although details for refuse can be conditioned it can be established from the indicative site plan that space can adequately be provided within this scheme to offer suitable provision for the storage of rubbish and recycling.

7.67. The access can provide for the Council's large refuse / recycling vehicles as it has been tracked accordingly. House designs include storage for waste to be recycled.

Ashdown Forest Impacts - Screening of Application under Habitat Regulations 2010

7.68. Under the Habitat Regulations 2010, the Council is the competent authority, with duty under regulation 61 to ensure that the development would have no likely significant effect upon the designated areas.

7.69. The SAC is sensitive to the effects of pollution associated with vehicle movements, in particular atmospheric pollution leading to a deterioration of the heathland) and the SPA is affected by recreational pressures. If required, a section 106 agreement can be prepared to secure mitigation to ensure no adverse impact on the integrity of the Ashdown Forest SAC/SPA.

Contamination

7.70. The Government's website clarifies that 'contaminated land' is used in general terms to describe land polluted by heavy metals, oils and tars, chemical substances, gases, asbestos or radioactive substances. It also clarifies that the legal definition of contaminated land includes substances that could cause significant harm to people or protected species, and/or significant pollution of surface waters or groundwater. Paragraph 002 of the 'land affected by contamination' section of the National Planning Policy Guidance identifies that Part 2A of the Environmental Protection Act 1990 provides a risk based approach to the identification and remediation of land where contamination poses an unacceptable risk to human health or the environment.

7.71. The site was not used for any heavy industrial processes, and the only chemicals that would have come into contact with the ground were not restricted at the time, e.g. domestic cleaning agents consistent with day to day hygiene measures and contamination is unlikely to be an issue. Furthermore, all construction materials from the previous buildings were removed several years ago by a licensed contractor.

7.72. It is submitted that there would not be any unacceptable risks from pollution and the development would be appropriate to its location, in accordance with Paragraph 180 of the National Planning Policy Framework. This issue should not therefore constitute a valid reason for refusal.

7.73. In the event that the Council considered that there was likely to be land contamination issues, then conditions could be imposed to ensure that adequate soil tests were carried out prior to the first use of the site for residential purposes. The proposals therefore accord with the NPPF and Development Plan requirements in regard to contamination and creation of a safe living environment for future occupiers.

8. Conclusion

8.1. The application seeks Outline consent for the redevelopment of the site for up to 9 no dwellings and will deliver a wide range of important planning benefits relative to the three (economic, social and environmental) objectives of sustainable development, as set out in paragraph 8 of the NPPF (2021).

Economic Benefits

8.2. The proposed development would provide economic benefits by supporting local businesses in terms of the needs of the occupiers. There would be an investment in local trades and suppliers. Even a purely residential, small-scale project, is able to make a contribution to the economic aspect of sustainability.

8.3. The project would provide employment opportunities for trades-people and a need for building materials, with a number of economic benefits from the construction process likely to be felt at the local level. The increased population will help ensure that the future viability of community facilities, post office and schools, is supported in the long term.

8.4. Therefore, with regards to the economic dimension of the sustainability agenda, the proposal would provide benefits by supporting local businesses in the short term, and would act to enhance the economic vitality and viability of the area in the mid to long terms. As such there are no known economic disadvantages which would be comparable to the positive impacts of the proposed development.

Social benefits

8.5. With regard to the social dimension, the proposal would provide benefits in the form of up to 9 no new dwellings, which would make a valuable contribution to local housing supply, without detriment to neighbouring residential amenities.

8.6. As to whether the site represents a sustainable location for housing, paragraph 78 of the National Planning Policy Framework says, “to promote sustainable development in rural areas, housing should be located where it will enhance or maintain the vitality of rural communities”.

8.7. The site is located within the town of Hailsham and abuts residential development on the north and in due course the west and south. Due to its location amongst existing built development, the site benefits from local bus routes and local facilities.

8.8. The site’s position adjacent to the existing residential area makes it a legitimate and logical infill plot, which could readily accommodate up to 9 no new dwellings without compromising the quality or character of the area.

Environmental benefits

8.9. This proposal is for the redevelopment of an existing former commercial site, which adjoins existing residential dwellings to the north.

8.10. The indicative layouts of the site and the dwellings have been carefully considered. The submitted drawings illustrate how this quantum residential redevelopment could provide a layout and design consistent with the character of the surrounding area which contains a low-density mix of house types and styles. It is therefore submitted that the proposed development could be carried out in a manner which integrates successfully into this location, retaining the character of the area.

8.11. Enhancements to the site will also be carried out through landscaping improvements, including the retention of existing trees and the planting of new shrubs and hedging. The proposals do not result in the loss of important habitat but rather offer an opportunity to improve the existing situation. Thus the measures put in place make a significant contribution to protecting and enhancing the natural environment.

8.12. Given the sustainability of the location and as the proposal can be designed in a way which ensures there would not be any significant visual impact, there is not known to be any environmental disadvantages which would significantly and demonstrably outweigh the overall benefits.

Summary

8.13. Wealden District Council currently cannot demonstrate a 5-year housing land supply, identifying only a 3.92 year supply against the adopted Housing Requirement. There is therefore, in principle, a clear and compelling need for housing delivery across the District, including a need for affordable housing.

8.14. Despite being located outside of the development boundary given the relevant policy considerations and the inherent sustainability of the location the proposal should be considered favorably. Although a reserved matter the proposal offers the potential to be designed in a way which ensures there would not be any significant visual impact, there is not known to be any environmental disadvantages which would significantly and demonstrably outweigh the overall benefits.

8.15. It is considered that the proposed development would represent sustainable development for which there is a presumption in favour, as set out in the National Planning Policy Framework. The principle of development is accepted by Paragraph 79 of the NPPF 2021 and the proposal is an opportunity to provide an enhancement to the site.

8.16. The submission demonstrates that the site could accommodate up to 9 no dwelling houses and that it would not have a greater impact on the amenities of neighbouring residents or be detrimental to the character of the area.

8.17. It is suggested that any reasonable concerns can be overcome via the imposition of appropriate conditions having regard to the NPPF and the PPG.

8.18. As such, we trust that this outline application for the creation of up to 9 additional dwellings can be considered favourably.

9. Appendices

Appendix 1 - Traffic Report prepared by Crosby Transport dated January 2023

Appendix 2 - Preliminary Ecological Appraisal – prepared by KB Ecology Consultants and dated February 2023.

Appendix 3 - SUDs and Drainage Strategy prepared by RSPD dated February 2023

Appendix 4 - Archaeology Appraisal prepared by ASL dated January 2023 Rev D

Appendix 5 – Sales Particulars May 2022