

Mowbray, North Horsham, West Sussex (Phase 2)

Technical Note

RMA3

1.0 Introduction

- 1.1 This Technical Note has been prepared by Glanville Consultants on behalf of Legal & General (Strategic Land North Horsham) Limited to support an application for the approval of reserved matters for a proposed section of primary road through the area known as Sub-Phase 2C within the Mowbray development, North Horsham, West Sussex.
- 1.3 WSCC in its role as Lead Local Flood Authority responded to the reserved matters application on 25 June 2026. The full response is included in Appendix A. This note considers and addresses each of the points made in WSCC LLFA response.
- 1.4 This note should be read in conjunction with, and should be considered as an addendum to, the Drainage Statement submitted in support of the reserved matters application (document reference 267_8220585_CS_Drainage_Statement_RMA3, Issue 2 dated 8 April 2026).
- 1.5 This report also includes updates to reflect the upcoming Reserved Matters application for the adjoining ball court and play area, which drains into Catchment 10. However, it should be noted that these amendments do not affect the principles of the drainage strategy, only resulting in minor updates to impermeable areas and discharge rates in-line with the agreed principles.

2.0 Response to LLFA Comments

- 2.1 Table 1 details each comment made by WSCC in their role as LLFA (see Appendix A), alongside a response and details of any amendments to the scheme that have been made in response to these comments.
- 2.2 Appendix B includes the following updated drawings which should be read in conjunction with Table 1.

MOW-GLA-RMA3-PH2-1201/1202– Drainage Layout Sheets 1 and 2
- 2.3 As noted in Section 1, impermeable areas and discharge rates have been updated to reflect the detailed proposals for the adjoining ball court and play area (which will be subject to a future Reserved Matters application). Updated areas and rates are included in Tables 2 and 3, and hydraulic calculations are included in Appendix C.
- 2.4 The amended design proposals do not involve any changes to the highway design and therefore no concerns are anticipated to be raised by the Local Highway Authority in response to this design update.

Table 1: Response to WSCC LLFA comments

Ref.	WSCC LLFA Comment	Glanville Response
1	Urban creep – As mentioned for several other applications, the Policy for the Management of Surface Water has been superceded by the National Standards for SuDS, therefore 10% urban creep is required.	As agreed in all Reserved Matters applications for infrastructure on the wider development to-date, the urban creep allowance has been based on development density in each parcel and was calculated in-line with Table 5.2 of WSCC's LLFA Policy for the Management of Surface Water, i.e. with a maximum urban creep allowance of 10% for development densities of 25 dwellings per hectare or less, and a minimum of 2% for development densities of 50 dwellings per hectare or more. This was calculated at 7.8% for Catchment 9 and 8.8% for Catchment 10, with no urban creep allowance for the road infrastructure. Nevertheless, in-line with updated policy requirements, the urban creep allowance has been updated to 10%. Updated areas are included in Table 2 and calculations Appendix C.
2	Long Term Storage – we have some concerns that Table 8 does not correspond with the InfoDrainage outputs. For example, for catchment 9, Table 8 states that 2,976 m ³ of storage volume is provided below the first flow control. However, in the InfoDrainage outputs, the volume at 1.10m depth (relevant flow control level), the volume is 1,732.6 m ³ . We therefore request that long term storage calculations are reviewed by the applicant and additional information provided to demonstrate it is sufficient for all catchments. This will ensure that flood risk is not increased elsewhere	The wrong column from InfoDrainage results was used to transpose numbers into the report. This has now been corrected and the long-term storage volumes from the updated hydraulic calculations in Appendix C are provided in Table 4:
3	There are some clashes between the landscaping plans and basins, which could affect maintenance	No trees are located within the footprint of the basins. Some trees are located within the 3m maintenance margins, however these only represent a localised narrowing of the margin. All trees have now been moved to be at the edges of the maintenance margins, thereby providing a minimum clear width of 2m, which would allow ride-on lawn mowers / utility vehicles to pass easily around the trees in order to maintain the basins and surrounding open green space.
4	The easement for culvert 2 needs to be added, to ensure there is maintenance access	Both Culvert 1 and Culvert 2 will be adopted by WSCC Highways under a S.38 Agreement. The detailed design of the culverts will be dictated by the Highway Agreements Officer in WSCC Development Control and the WSCC Highway Structures team, which will ensure access for maintenance is provided to WSCC Highways.

Table 2: Parcel Impermeable Areas

Catchment	Contributing Parcels	Total Catchment Area (ha)	Impermeable Area (ha)	Impermeable Area incl. Urban Creep (ha)
9	Road	0.414	0.414	0.414
	16	3.330	2.165	2.381
	17			
	18	4.304	2.798	3.078
	Total	8.048	5.377	5.872
10	Road	0.363	0.363	0.363
	15a	0.625	0.406	0.447
	15b	3.221	2.094	2.303
	Ball court / play area	0.157	0.157	0.157
	Total	4.366	3.020	3.270

Table 3: Greenfield Run-Off Rates

Catchment	Pond Ref.	Greenfield Run-Off Rate (l/s)		
		1:2 Year	1:30 Year	1:100 Year +20% CC
9	9a	10.8	63.4	88.7
10	10a, 10b	6.0	35.6	49.8

Table 4: Long Term Storage Volume and Storage Provided within Basin

Catchment	Pond Ref.	Greenfield run-off volume (100 year 6 hour event) (m ³)	Actual Post- Development Discharge Volume (100 year +CC 6 hour event) (m ³)	Long Term Storage Volume Required (m ³)	Storage Volume Provided Below First Flow Control (m ³)
9	9a	1417	2216	799	1960
10	10a	789	1066	277	443

3.0 Conclusions

- 3.1 This Technical Note has been prepared in response to each of the points made by West Sussex County Council's (WSCC) statutory consultee comments in their role as Lead Local Flood Authority (LLFA) in relation to the reserved matters application for a proposed section of primary road through the area known as Sub-Phase 2C within the Mowbray development, North Horsham, West Sussex.
- 3.2 It is concluded that the information submitted in support of the planning application is sufficient to address WSCC's comments. Accordingly, WSCC should be able to confirm they have no objection to the application on these grounds.



Appendix A
WSCC LLFA
Consultation Response

Ground Floor
Northleigh
County Hall
Chichester
West Sussex
PO19 1RH



Lead Local Flood Authority

Jason Hawkes
Development Control
Albery House
Springfield Road
Horsham
RH12 2GB

Date 25th June 2026

Dear Jason,

RE: DC/26/0731- The Mowbray Development Site Horsham West Sussex

Thank you for your consultation on the above site, received on 21st May 2026. We have reviewed the application as submitted and wish to make the following comments.

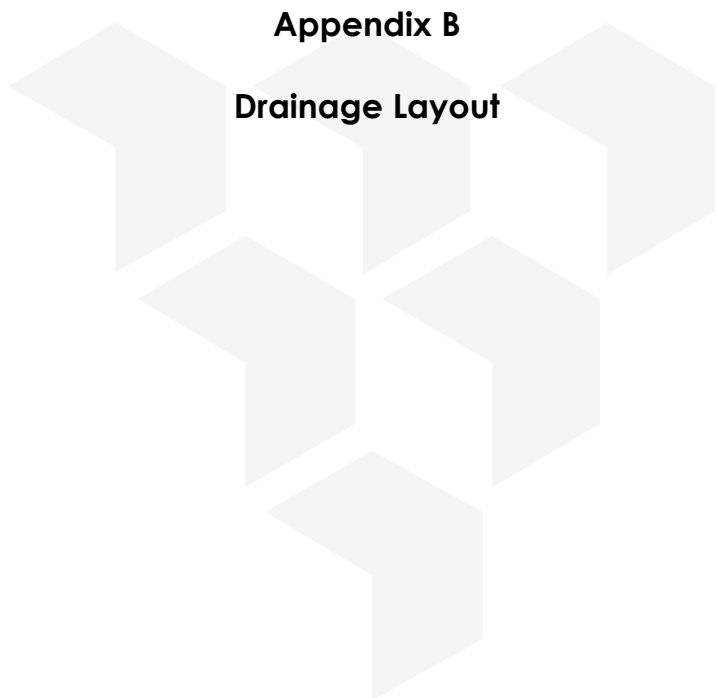
This is an application for approval of Reserved Matters pursuant to Condition 5 of Outline Planning Permission reference DC/16/1677 for the construction of a primary road through Sub Phase 2C, footpaths and cycleways, foul and surface water drainage including SuDS basins, landscaping, and associated infrastructure.

Following a review of the documents submitted, we require further information on:

- **Urban creep** – As mentioned for several other applications, the Policy for the Management of Surface Water has been superseded by the National Standards for SuDS, therefore 10% urban creep is required.
- **Long Term Storage** – we have some concerns that Table 8 does not correspond with the InfoDrainage outputs. For example, for catchment 9, Table 8 states that 2,976 m³ of storage volume is provided below the first flow control. However, in the InfoDrainage outputs, the volume at 1.10m depth (relevant flow control level), the volume is 1,732.6 m³. We therefore request that long term storage calculations are reviewed by the applicant and additional information provided to demonstrate it is sufficient for all catchments. This will ensure that flood risk is not increased elsewhere.
- There are some clashes between the landscaping plans and basins, which could affect maintenance.
- The easement for culvert 2 needs to be added, to ensure there is maintenance access.

Yours sincerely,

Eleanor Read
Flood Risk Management Team
FRM@westsussex.gov.uk

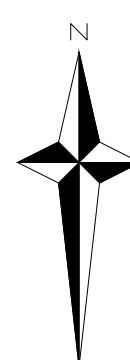


Appendix B

Drainage Layout

- NOTES
1. This drawing is to be read in conjunction with all relevant documents and specifications.
 2. Scaleable for planning purposes only.
 3. This drawing has been prepared for information purposes only and must not be used for tender of construction purposes.
 4. Number of road gullies to be confirmed following detailed design.
 5. Number of headwalls and final location to be confirmed following detailed design.
 6. Cover levels are for reference only, refer to the detailed levels drawing for levels.

- KEY
- Application boundary.
 - Proposed surface water sewer.
 - Proposed / existing foul water sewer.
 - Proposed foul / surface water manhole.
 - Proposed flow control chamber with restricted discharge rate.
 - Proposed road gully.
 - Proposed headwall. To be fully dressed in Horsham stone with post and rail cleft fencing surrounding.



P3	Updated tree locations and landscaping.	06/08/2026	SLS	CS
P2	Updated to client comment.	08/04/2026	SLS	CS
P1	First Issue	25/03/2026	SLS	CS
Rev.	Description	Date	By	Chkd

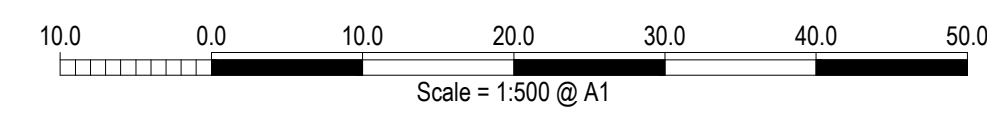
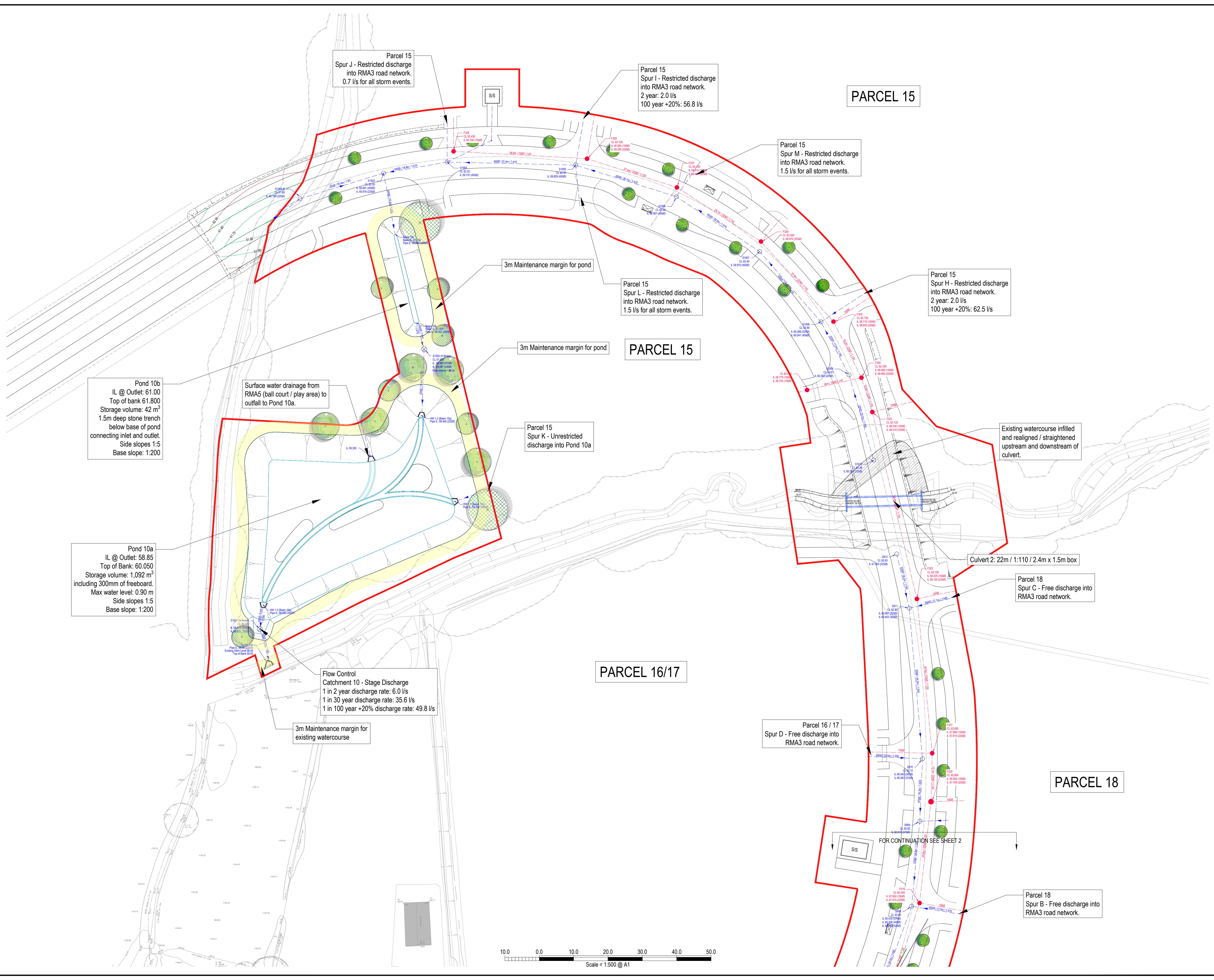
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Survey > Plan > Engineer

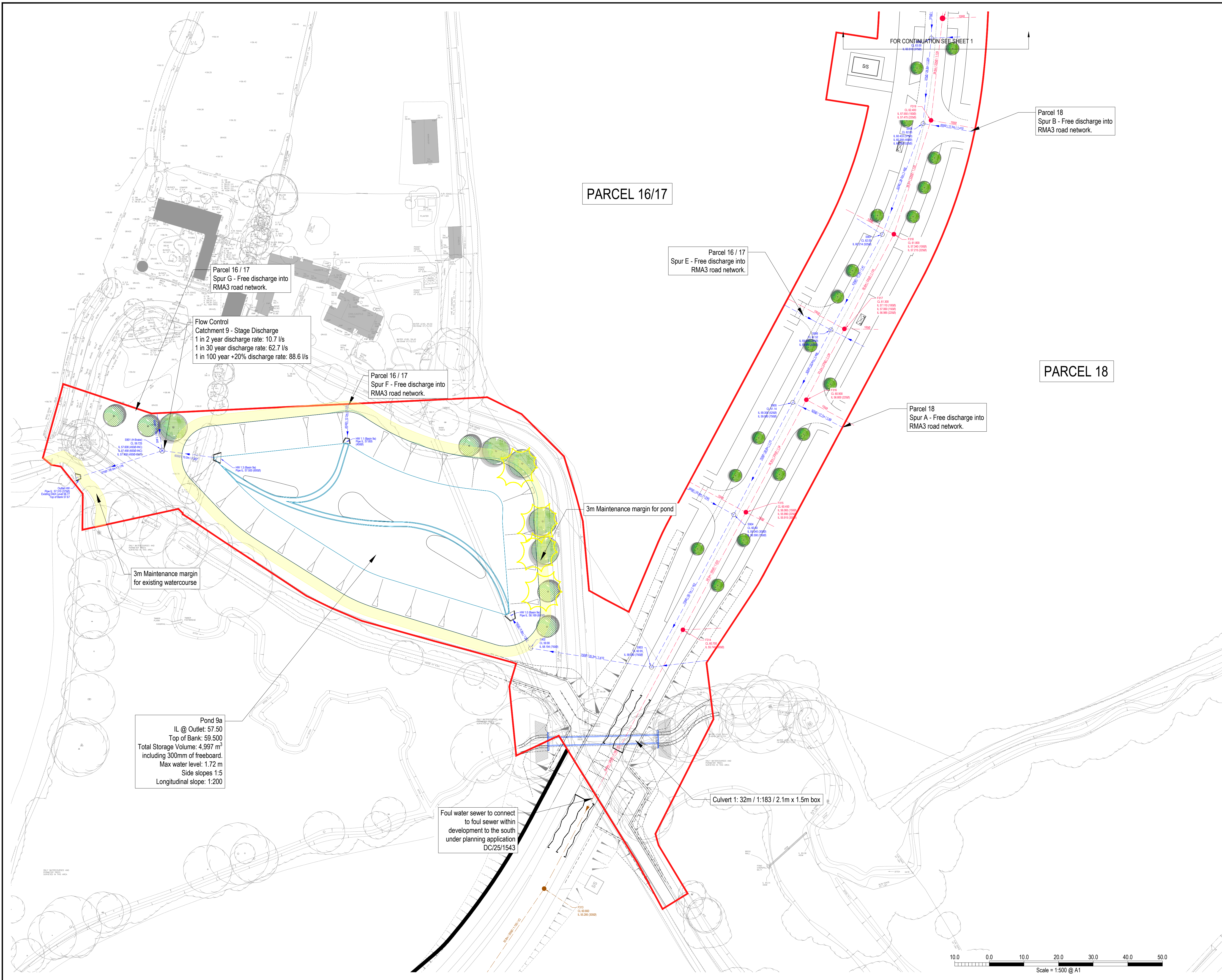
Civil Engineering
Structural Engineering
Transport Planning

Highways Engineering
Building Surveying
Geomatics

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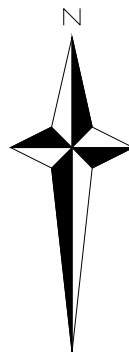
Client:	Legal & General (Strategic Land North Horsham) Ltd		
Project:	Mowbray (Land North of Horsham)		
Title:	RMA3 / Sub-Phase 2C Primary Road Drainage Layout - Sheet 1 of 2		
Engineer: C. Salt	Date:	January 2026	
Director: J. Birch	Scale:	1:500 @ A1	
Status:	PLANNING		
Drawing No.	MOW-GLA-RMA3-PH2-1201		Rev P3





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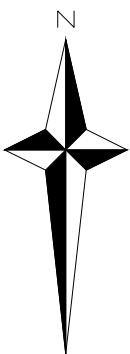
Client :		Legal & General (Strategic Land North Horsham) Ltd	
Project :		Mowbray (Land North of Horsham)	
Title :		RMA3 / Sub-Phase 2C Primary Road Drainage Layout - Sheet 2 of 2	
Engineer : C. Salt		Date : January 2026	
Director : J. Birch		Scale : 1:500 @ A1	
Status :		PLANNING	
Drawing No. MOW-GLA-RMA3-PH2-1202		Rev	P3

NOTES

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Rev.	Description	Date	By	Chkd



- Civil Engineering
- Structural Engineering
- Transport Planning
- Highways Engineering
- Building Surveying
- Geomatics

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Client: Legal & General
(Strategic Land North Horsham) Ltd

Project: Mowbray (Land North of Horsham)

Title: RMA3 / Sub-Phase 2C Primary Road
Exceedance Flow Plan - Sheet 1 of 2

Engineer: C. Salt Date: January 2026

Director: J. Birch Scale: 1:500 @ A1

Status: PLANNING

Drawing No. MOW-GLA-RMA3-PH2-1204 Rev P3

Exceedance flow from the proposed manholes in RMA3 road will be directed into future road continuation.

Exceedance flow from future development will flow into RMA3 road.

PARCEL 15

Exceedance flow from future development will flow into RMA3 road.

Exceedance events will first fill the freeboard of the attenuation basin. In the unlikely event that the basin capacity is then exceeded, flows will overtop the basin and flow overland into downstream basin and ultimately the ditch.

PARCEL 15

Exceedance flow from future development will flow into RMA3 road.

Exceedance flow from future development will flow into Pond 10a.

Flow to low point in road, surface water will first pond in road, then overtop the kerb and flow overland to the existing watercourse.

Exceedance events will first fill the freeboard of the attenuation basin. In the unlikely event that the basin capacity is then exceeded, flows will overtop the basin and flow overland into the ditch.

Exceedance flow from manhole will flow into ditch.

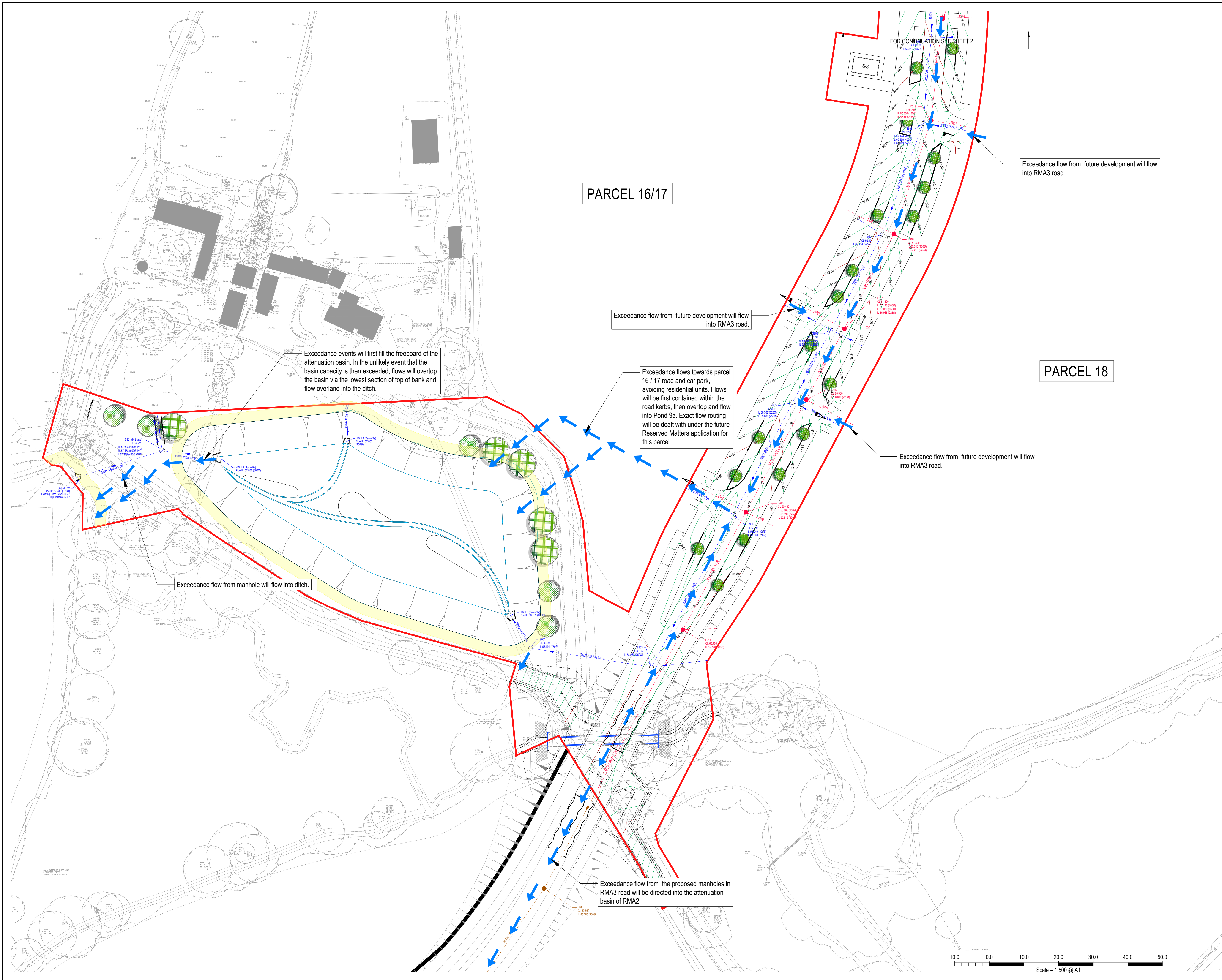
PARCEL 16/17

Exceedance flow from future development will flow into RMA3 road.

PARCEL 18

Exceedance flow from future development will flow into RMA3 road.

PARCEL 16/17



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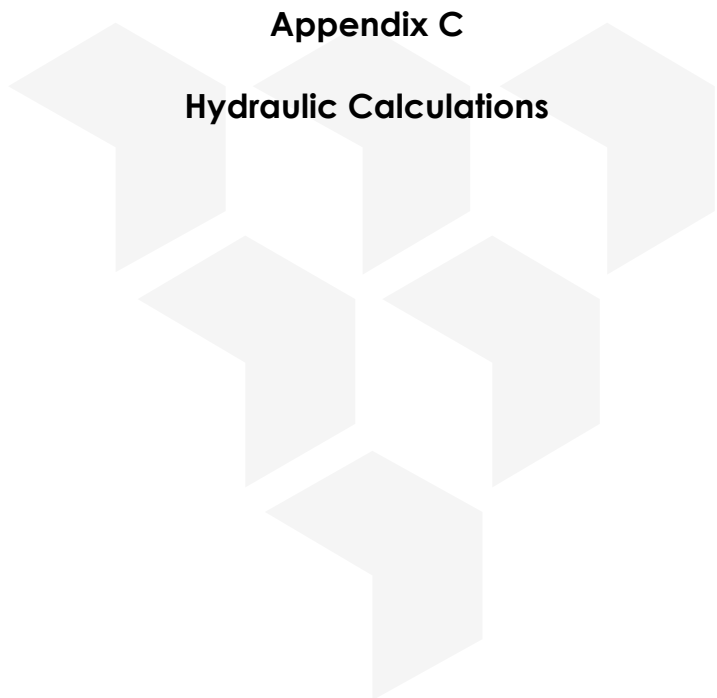
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Hertfordshire | Oxfordshire | Cambridgeshire | Bristol

Client : Legal & General (Strategic Land North Horsham) Ltd	
Project : Mowbray (Land North of Horsham)	
Title : RMA3 / Sub-Phase 2C Primary Road Exceedance Flow Plan - Sheet 2 of 2	
Engineer : C. Salt	Date : January 2026
Director : J. Birch	Scale : 1:500 @ A1
Status : PLANNING	
Drawing No. MOW-GLA-RMA3-PH2-1205	Rev P3



Appendix C

Hydraulic Calculations

Project: Catchment 9 2yr, 30yr, 100yr +20%CC	Date: 31/07/2026			
	Designed by: CSalt	Checked by:	Approved By:	
Report Details: Type: Inflows Storm Phase: Phase	Company: Glanville Consultants			



Spur S910-A

Type : Catchment Area

Area (ha)	0.504
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Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	71.5



Spur S904-A

Type : Catchment Area

Area (ha)	0.305
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Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	71.5



Spur S914

Type : Catchment Area

Area (ha)	2.149
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Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	14
Percentage Impervious (%)	71.5



Spur S906-A

Type : Catchment Area

Area (ha)	0.372
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Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	71.5

Project: Catchment 9 2yr, 30yr, 100yr +20%CC	Date: 31/07/2026			
	Designed by: CSalt	Checked by:	Approved By:	
Report Details: Type: Inflows Storm Phase: Phase	Company: Glanville Consultants			



Spur S912-A

Type : Catchment Area

Area (ha)	0.215
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Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	71.5



Spur S908-A

Type : Catchment Area

Area (ha)	2.076
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Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	14
Percentage Impervious (%)	71.5



Spur S905-A

Type : Catchment Area

Area (ha)	2.013
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Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	14
Percentage Impervious (%)	71.5



Catchment Area 1

Type : Catchment Area

Area (ha)	0.014
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Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Project: Catchment 9 2yr, 30yr, 100yr +20%CC	Date: 31/07/2026			
	Designed by: CSalt	Checked by:	Approved By:	
Report Details: Type: Inflows Storm Phase: Phase	Company: Glanville Consultants			



Catchment Area 2

Type : Catchment Area

Area (ha)	0.02
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Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100



Catchment Area 3

Type : Catchment Area

Area (ha)	0.023
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Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100



Catchment Area 4

Type : Catchment Area

Area (ha)	0.03
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Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100



Catchment Area 5

Type : Catchment Area

Area (ha)	0.026
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Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Project: Catchment 9 2yr, 30yr, 100yr +20%CC	Date: 31/07/2026			
	Designed by: CSalt	Checked by:	Approved By:	
Report Details: Type: Inflows Storm Phase: Phase	Company: Glanville Consultants			



Catchment Area 6

Type : Catchment Area

Area (ha)	0.036
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Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100



Catchment Area 7

Type : Catchment Area

Area (ha)	0.047
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Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100



Catchment Area 8

Type : Catchment Area

Area (ha)	0.043
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Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100



Catchment Area 9

Type : Catchment Area

Area (ha)	0.031
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Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Project: Catchment 9 2yr, 30yr, 100yr +20%CC	Date: 31/07/2026			
	Designed by: CSalt	Checked by:	Approved By:	
Report Details: Type: Inflows Storm Phase: Phase	Company: Glanville Consultants			



Catchment Area 10

Type : Catchment Area

Area (ha)	0.054
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Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100



Catchment Area 11

Type : Catchment Area

Area (ha)	0.09
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Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Project: Catchment 9 2yr, 30yr, 100yr +20%CC	Date: 31/07/2026		
	Designed by: CSalt	Checked by:	Approved By:
Report Details: Type: Junctions Storm Phase: Phase	Company: Glanville Consultants		



Name	Junction Type	Easting (m)	Northing (m)	Cover Level (m)	Depth (m)	Invert Level (m)	Chamber Shape	Diameter (m)
S913	Manhole	520232.298	133812.090	62.650	1.645	61.005	Circular	1.200
S912	Manhole	520235.951	133796.296	62.900	2.078	60.822	Circular	1.200
S910	Manhole	520239.786	133752.470	63.150	2.583	60.567	Circular	1.200
S909	Manhole	520239.004	133734.235	63.000	2.490	60.510	Circular	1.200
S908	Manhole	520236.648	133709.524	62.650	2.367	60.283	Circular	1.200
S907	Manhole	520224.880	133677.519	62.050	1.836	60.214	Circular	1.200
S906	Manhole	520210.029	133649.951	61.520	2.075	59.445	Circular	1.200
S905	Manhole	520199.017	133629.005	61.140	2.060	59.080	Circular	1.200
S904	Manhole	520181.977	133596.580	60.600	2.010	58.590	Circular	1.200
S903	Manhole	520158.235	133552.519	60.950	2.670	58.280	Circular	1.200
S901	Manhole	520016.954	133615.050	59.500	2.042	57.458	Circular	1.500
S914	Manhole	520070.789	133630.872	60.000	2.100	57.900	Circular	1.200
S902	Manhole	520123.323	133558.006	59.900	1.706	58.194	Circular	1.200
Outfall	Manhole	519993.300	133607.753	59.000	1.690	57.310	Circular	1.200
S905-A	Manhole	520215.066	133620.996	61.400	1.963	59.437	Circular	1.200
S908-A	Manhole	520254.006	133706.694	63.000	2.500	60.500	Circular	1.200
S912-A	Manhole	520260.595	133801.739	63.400	2.400	61.000	Circular	1.200
S910-A	Manhole	520217.430	133753.179	62.500	1.700	60.800	Circular	1.200
S906-A	Manhole	520195.296	133658.852	61.500	1.810	59.690	Circular	1.200
S904-A	Manhole	520164.443	133606.280	60.600	1.400	59.200	Circular	1.200

Name	Lock
S913	None
S912	None
S910	None
S909	None
S908	None
S907	None
S906	None
S905	None
S904	None
S903	None
S901	None
S914	None
S902	None
Outfall	None
S905-A	None
S908-A	None
S912-A	None
S910-A	None
S906-A	None
S904-A	None

Project: Catchment 9 2yr, 30yr, 100yr +20%CC	Date: 31/07/2026			
	Designed by: CSalt	Checked by:	Approved By:	
Report Details: Type: Junctions Storm Phase: Phase	Company: Glanville Consultants			

Inlets

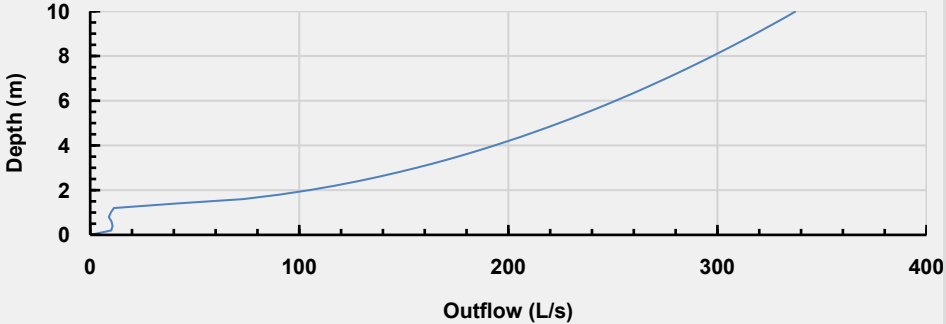
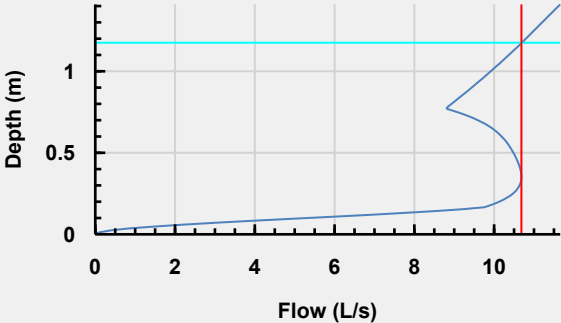
Junction	Inlet Name	Incoming Item(s)	Bypass Destination	Capacity Type
S913	Inlet	Catchment Area 1	(None)	No Restriction
S912	Inlet	1 Catchment Area 2	(None)	No Restriction
S910	Inlet	Catchment Area 3	(None)	No Restriction
	Inlet (1)	18	(None)	No Restriction
	Inlet (2)	Catchment Area 4	(None)	No Restriction
	Inlet (3)	2	(None)	No Restriction
S909	Inlet	3 Catchment Area 5	(None)	No Restriction
S908	Inlet	4 Catchment Area 6	(None)	No Restriction
	Inlet (1)	16	(None)	No Restriction
S907	Inlet	5 Catchment Area 7	(None)	No Restriction
S906	Inlet	6 Catchment Area 8	(None)	No Restriction
S905	Inlet	7 15	(None)	No Restriction
	Inlet (1)	Catchment Area 9	(None)	No Restriction
S904	Inlet	8 Catchment Area 10	(None)	No Restriction
	Inlet (1)	20	(None)	No Restriction
S903	Inlet	9	(None)	No Restriction
	Inlet (1)	Catchment Area 11	(None)	No Restriction
S901	Inlet	12	(None)	No Restriction
S914	Inlet	Spur S914	(None)	No Restriction
S902	Inlet	10	(None)	No Restriction
Outfall	Inlet	13	(None)	No Restriction
S905-A	Inlet	Spur S905-A	(None)	No Restriction
S908-A	Inlet	Spur S908-A	(None)	No Restriction
S912-A	Inlet	Spur S912-A	(None)	No Restriction
S910-A	Inlet	Spur S910-A	(None)	No Restriction
S906-A	Inlet	Spur S906-A	(None)	No Restriction
S904-A	Inlet	Spur S904-A	(None)	No Restriction

Outlets

Junction	Outlet Name	Outgoing Connection	Outlet Type
S913	Outlet	1	Free Discharge
S912	Outlet	2	Free Discharge
S910	Outlet	3	Free Discharge
S909	Outlet	4	Free Discharge
S908	Outlet	5	Free Discharge
S907	Outlet	6	Free Discharge
S906	Outlet	7	Free Discharge
S905	Outlet	8	Free Discharge
S904	Outlet	9	Free Discharge
S903	Outlet	10	Free Discharge
	Outlet	13	Multiple

Project: Catchment 9 2yr, 30yr, 100yr +20%CC	Date: 31/07/2026		
	Designed by: CSalt	Checked by:	Approved By:
Report Details: Type: Junctions Storm Phase: Phase	Company: Glanville Consultants		



Junction	Outlet Name	Outgoing Connection	Outlet Type
	Invert Level (m)	57.458	
S901	Combined Outflow		
			
	Hydro-Brake®		
	Depth Above Invert (m)	0.000	
	Design Depth (m)	1.175	
	Design Flow (L/s)	10.7	
	Objective	Minimise Upstream Storage Requirements	
	Application	Surface Water Only	
	Sump Available	☒	
	Unit Reference	SHE-0148-1070-1175-1070	
			
	Orifice		
	Diameter (m)	0.230	
	Coefficient of Discharge	0.600	
	Depth Above Invert (m)	1.175	
S914	Outlet	14	Free Discharge
S902	Outlet	11	Free Discharge
Outfall	Outlet	(None)	Flap Valve
	Diameter (m)	0.375	
	Coefficient of Discharge	0.600	
	Invert Level (m)	57.310	
S905-A	Outlet	15	Free Discharge
S908-A	Outlet	16	Free Discharge
S912-A	Outlet	17	Free Discharge
S910-A	Outlet	18	Free Discharge
S906-A	Outlet	19	Free Discharge
S904-A	Outlet	20	Free Discharge

Project: Catchment 9 2yr, 30yr, 100yr +20%CC	Date: 31/07/2026		
	Designed by: CSalt	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company: Glanville Consultants		





Pond

Type : Pond

Dimensions

Exceedance Level (m)	59.520
Depth (m)	2.020
Base Level (m)	57.500
Freeboard (mm)	300
Initial Depth (m)	0.000
Porosity (%)	100
Average Slope (1:X)	16.745
Total Volume (m³)	3813.818

Depth (m)	Area (m²)	Volume (m³)
0.000	23.00	0.000
0.100	23.00	2.300
0.200	89.00	7.541
0.300	368.00	28.807
0.400	895.00	90.037
0.500	1549.00	210.752
0.600	2238.00	399.048
0.700	2510.00	636.318
0.800	2624.00	892.997
0.900	2740.00	1161.176
1.000	2857.00	1441.006
1.100	2976.00	1732.636
1.200	3096.00	2036.216
1.300	3218.00	2351.896
1.400	3342.00	2679.877
1.500	3467.00	3020.308
1.600	3594.00	3373.339
1.700	3722.00	3739.120
1.800	3852.00	4117.801
1.900	3983.00	4509.533
2.000	4116.00	4914.465

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	11
Bypass Destination	(None)
Capacity Type	No Restriction

Inlet (1)

Inlet Type	Point Inflow
Incoming Item(s)	14
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	12
Outlet Type	Free Discharge

Project: Catchment 9 2yr, 30yr, 100yr +20%CC	Date: 31/07/2026			
	Designed by: CSalt	Checked by:	Approved By:	
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company: Glanville Consultants			

Advanced

Perimeter	Circular
Length (m)	114.373
Friction Scheme	Manning's n
n	0.03

Project: Catchment 9 2yr, 30yr, 100yr +20%CC		Date: 31/07/2026			
		Designed by: CSalt	Checked by:		Approved By:
Report Details: Type: Inflow Summary Storm Phase: Phase		Company: Glanville Consultants			

Inflow Label	Connected To	Flow (L/s)	Runoff Method	Area (ha)	Percentage Impervious (%)	Urban Creep (%)	Adjusted Percentage Impervious (%)	Area Analysed (ha)
Catchment Area 1	S913		Time of Concentration	0.014	100.0	0	100.0	0.014
Catchment Area 2	S912		Time of Concentration	0.020	100.0	0	100.0	0.020
Catchment Area 3	S910		Time of Concentration	0.023	100.0	0	100.0	0.023
Catchment Area 4	S910		Time of Concentration	0.030	100.0	0	100.0	0.030
Catchment Area 5	S909		Time of Concentration	0.026	100.0	0	100.0	0.026
Catchment Area 6	S908		Time of Concentration	0.036	100.0	0	100.0	0.036
Catchment Area 7	S907		Time of Concentration	0.047	100.0	0	100.0	0.047
Catchment Area 8	S906		Time of Concentration	0.043	100.0	0	100.0	0.043
Catchment Area 9	S905		Time of Concentration	0.031	100.0	0	100.0	0.031
Catchment Area 10	S904		Time of Concentration	0.054	100.0	0	100.0	0.054
Catchment Area 11	S903		Time of Concentration	0.090	100.0	0	100.0	0.090
Spur S904-A	S904-A		Time of Concentration	0.305	71.5	0	71.5	0.218
Spur S905-A	S905-A		Time of Concentration	2.013	71.5	0	71.5	1.439
Spur S906-A	S906-A		Time of Concentration	0.372	71.5	0	71.5	0.266
Spur S908-A	S908-A		Time of Concentration	2.076	71.5	0	71.5	1.484
Spur S910-A	S910-A		Time of Concentration	0.504	71.5	0	71.5	0.360
Spur S912-A	S912-A		Time of Concentration	0.215	71.5	0	71.5	0.154
Spur S914	S914		Time of Concentration	2.149	71.5	0	71.5	1.537
TOTAL		0.0		8.048				5.873

Project: Catchment 9 2yr, 30yr, 100yr +20%CC	Date: 31/07/2026			
	Designed by: CSalt	Checked by:	Approved By:	
Report Details: Type: Network Design Criteria Storm Phase: Phase	Company: Glanville Consultants			

Flow Options

Peak Flow Calculation	(UK) Modified Rational Method
Min. Time of Entry (mins)	5
Max. Travel Time (mins)	30

Pipe Options

Lock Slope Options	None
Design Options	Minimise Excavation
Design Level	Level Soffits
Min. Cover Depth (m)	1.200
Min. Slope (1:X)	500.00
Max. Slope (1:X)	40.00
Min. Velocity (m/s)	1.0
Max. Velocity (m/s)	3.0
Use Flow Restriction	☐
Reduce Channel Depths	☐

Pipe Size Library

Default

Add. Increment (mm)	75
Max. Diameter (mm)	0

Diameter (mm)	Min. Slope (1:X)	Max. Slope (1:X)
100	0.00	0.00
150	0.00	0.00

Project: Catchment 9 2yr, 30yr, 100yr +20%CC	Date: 31/07/2026		
	Designed by: CSalt	Checked by:	Approved By:
Report Details: Type: Network Design Criteria Storm Phase: Phase	Company: Glanville Consultants		



Manhole Options

Apply Offset ☐

Manhole Size Library

Default

Diameter / Width

Connection (mm)	Diameter / Length (m)	Width (m)
0	1.200	0.000
375	1.350	0.000
500	1.500	0.000
750	1.800	0.000

Additional Sizing

Connection (mm)	900
Diameter / Length (m)	0.900
Width (m)	0.000

Depth

Depth (m)	Diameter / Length (m)	Width (m)
0.000	1.050	0.000
1.500	1.200	0.000

Access

Depth (m)	Ladder Protrusion (mm)
0.000	130
3.000	230

Benching Requirements

Landing Width (mm)	500
Benching Width (mm)	225

Project: Catchment 9 2yr, 30yr, 100yr +20%CC	Date: 31/07/2026			
	Designed by: CSalt	Checked by:	Approved By:	
Report Details: Type: Outfall Details Storm Phase: Phase	Company: Glanville Consultants			

Outfalls

Outfall	Outfall Type	Gated	Fixed Surcharged Level (m)	Level Curve
Outfall	Free Discharge			

Project: Catchment 9 2yr, 30yr, 100yr +20%CC	Date: 31/07/2026			
	Designed by: CSalt	Checked by:	Approved By:	
Report Title: Rainfall Analysis Criteria	Company: Glanville Consultants			

Runoff Type	Dynamic
Output Interval (mins)	5
Time Step	Reduced
Urban Creep	Apply Global Value
Urban Creep Global Value (%)	0
Junction Flood Risk Margin (mm)	300
Perform No Discharge Analysis	☐

Rainfall		
FEH		Type: FEH
Site Location	GB 519000 133350 TQ 19000 33350	
Rainfall Version	2022	
Summer	☒	
Winter	☒	

Return Period

Return Period (years)	Increase Rainfall (%)
2.0	0.000
30.0	0.000
100.0	20.000

Storm Durations

Duration (mins)	Run Time (mins)
120	240
180	360
240	480
360	720
480	960
600	1200
720	1440
960	1920
1440	2880
2160	4320
2880	5760

Project: Catchment 9 2yr, 30yr, 100yr +20%CC	Date: 31/07/2026		
	Designed by: CSalt	Checked by:	Approved By:
Report Details: Type: Inflows Summary Storm Phase: Phase	Company: Glanville Consultants		



FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Spur S910-A	FEH: 2 years: +0 %: 120 mins: Summer	0.50	34.0	71.620
Spur S904-A	FEH: 2 years: +0 %: 120 mins: Summer	0.30	20.6	43.350
Spur S914	FEH: 2 years: +0 %: 120 mins: Summer	2.15	129.9	305.704
Spur S906-A	FEH: 2 years: +0 %: 120 mins: Summer	0.37	25.1	52.893
Spur S912-A	FEH: 2 years: +0 %: 120 mins: Summer	0.21	14.5	30.555
Spur S908-A	FEH: 2 years: +0 %: 120 mins: Summer	2.08	125.5	295.326
Spur S905-A	FEH: 2 years: +0 %: 120 mins: Summer	2.01	121.7	286.357
Catchment Area 1	FEH: 2 years: +0 %: 120 mins: Summer	0.01	1.4	2.885
Catchment Area 2	FEH: 2 years: +0 %: 120 mins: Summer	0.02	1.8	3.881
Catchment Area 3	FEH: 2 years: +0 %: 120 mins: Summer	0.02	2.1	4.487
Catchment Area 4	FEH: 2 years: +0 %: 120 mins: Summer	0.03	2.9	6.046
Catchment Area 5	FEH: 2 years: +0 %: 120 mins: Summer	0.03	2.5	5.201
Catchment Area 6	FEH: 2 years: +0 %: 120 mins: Summer	0.04	3.4	7.228
Catchment Area 7	FEH: 2 years: +0 %: 120 mins: Summer	0.05	4.5	9.399
Catchment Area 8	FEH: 2 years: +0 %: 120 mins: Summer	0.04	4.0	8.506
Catchment Area 9	FEH: 2 years: +0 %: 120 mins: Summer	0.03	3.0	6.214
Catchment Area 10	FEH: 2 years: +0 %: 120 mins: Summer	0.05	5.1	10.785
Catchment Area 11	FEH: 2 years: +0 %: 120 mins: Summer	0.09	8.5	17.947

Project: Catchment 9 2yr, 30yr, 100yr +20%CC	Date: 31/07/2026			
	Designed by:	Checked by:	Approved By:	
	CSalt			
Report Details: Type: Inflows Summary Storm Phase: Phase			Company: Glanville Consultants	



FEH: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Spur S910-A	FEH: 30 years: +0 %: 120 mins: Summer	0.50	68.7	144.815
Spur S904-A	FEH: 30 years: +0 %: 120 mins: Summer	0.30	41.6	87.674
Spur S914	FEH: 30 years: +0 %: 120 mins: Summer	2.15	262.6	618.208
Spur S906-A	FEH: 30 years: +0 %: 120 mins: Summer	0.37	50.8	106.951
Spur S912-A	FEH: 30 years: +0 %: 120 mins: Summer	0.21	29.3	61.791
Spur S908-A	FEH: 30 years: +0 %: 120 mins: Summer	2.08	253.7	597.216
Spur S905-A	FEH: 30 years: +0 %: 120 mins: Summer	2.01	246.0	579.086
Catchment Area 1	FEH: 30 years: +0 %: 120 mins: Summer	0.01	2.8	5.820
Catchment Area 2	FEH: 30 years: +0 %: 120 mins: Summer	0.02	3.7	7.848
Catchment Area 3	FEH: 30 years: +0 %: 120 mins: Summer	0.02	4.3	9.060
Catchment Area 4	FEH: 30 years: +0 %: 120 mins: Summer	0.03	5.8	12.233
Catchment Area 5	FEH: 30 years: +0 %: 120 mins: Summer	0.03	5.0	10.500
Catchment Area 6	FEH: 30 years: +0 %: 120 mins: Summer	0.04	6.9	14.633
Catchment Area 7	FEH: 30 years: +0 %: 120 mins: Summer	0.05	9.0	19.007
Catchment Area 8	FEH: 30 years: +0 %: 120 mins: Summer	0.04	8.2	17.201

Project: Catchment 9 2yr, 30yr, 100yr +20%CC		Date: 31/07/2026			
		Designed by: CSalt	Checked by:		Approved By:
Report Details: Type: Inflows Summary Storm Phase: Phase		Company: Glanville Consultants			

Catchment Area 9	FEH: 30 years: +0 %: 120 mins: Summer	0.03	6.0	12.557
Catchment Area 10	FEH: 30 years: +0 %: 120 mins: Summer	0.05	10.3	21.785
Catchment Area 11	FEH: 30 years: +0 %: 120 mins: Summer	0.09	17.2	36.298

Project: Catchment 9 2yr, 30yr, 100yr +20%CC	Date: 31/07/2026		
	Designed by: CSalt	Checked by:	Approved By:
Report Details: Type: Inflows Summary Storm Phase: Phase	Company: Glanville Consultants		



FEH: 100 years: Increase Rainfall (%): +20: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Spur S910-A	FEH: 100 years: +20 %: 120 mins: Summer	0.50	103.5	218.261
Spur S904-A	FEH: 100 years: +20 %: 120 mins: Summer	0.30	62.7	132.124
Spur S914	FEH: 100 years: +20 %: 120 mins: Summer	2.15	395.7	931.576
Spur S906-A	FEH: 100 years: +20 %: 120 mins: Summer	0.37	76.5	161.187
Spur S912-A	FEH: 100 years: +20 %: 120 mins: Summer	0.21	44.2	93.115
Spur S908-A	FEH: 100 years: +20 %: 120 mins: Summer	2.08	382.2	899.935
Spur S905-A	FEH: 100 years: +20 %: 120 mins: Summer	2.01	370.6	872.622
Catchment Area 1	FEH: 100 years: +20 %: 120 mins: Summer	0.01	4.2	8.781
Catchment Area 2	FEH: 100 years: +20 %: 120 mins: Summer	0.02	5.6	11.831
Catchment Area 3	FEH: 100 years: +20 %: 120 mins: Summer	0.02	6.5	13.667
Catchment Area 4	FEH: 100 years: +20 %: 120 mins: Summer	0.03	8.8	18.445
Catchment Area 5	FEH: 100 years: +20 %: 120 mins: Summer	0.03	7.5	15.828
Catchment Area 6	FEH: 100 years: +20 %: 120 mins: Summer	0.04	10.5	22.059
Catchment Area 7	FEH: 100 years: +20 %: 120 mins: Summer	0.05	13.6	28.631
Catchment Area 8	FEH: 100 years: +20 %: 120 mins: Summer	0.04	12.3	25.924

Project: Catchment 9 2yr, 30yr, 100yr +20%CC		Date: 31/07/2026			
		Designed by: CSalt	Checked by:		Approved By:
Report Details: Type: Inflows Summary Storm Phase: Phase		Company: Glanville Consultants			

Catchment Area 9	FEH: 100 years: +20 %: 120 mins: Summer	0.03	9.0	18.925
Catchment Area 10	FEH: 100 years: +20 %: 120 mins: Summer	0.05	15.6	32.851
Catchment Area 11	FEH: 100 years: +20 %: 120 mins: Summer	0.09	25.9	54.711

Project: Catchment 9 2yr, 30yr, 100yr +20%CC	Date: 31/07/2026		
	Designed by: CSalt	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Phase	Company: Glanville Consultants		





FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Outflow

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
S913	FEH: 2 years: +0 %: 120 mins: Summer	62.65 0	61.00 5	61.027	0.022	1.4	0.024	0.000	1.4	2.886	OK
S912	FEH: 2 years: +0 %: 120 mins: Summer	62.90 0	60.82 2	60.914	0.092	17.7	0.104	0.000	17.7	37.319	OK
S910	FEH: 2 years: +0 %: 120 mins: Summer	63.15 0	60.56 7	60.752	0.185	56.7	0.209	0.000	56.7	119.471	OK
S909	FEH: 2 years: +0 %: 120 mins: Summer	63.00 0	60.51 0	60.651	0.141	59.2	0.160	0.000	59.2	124.682	OK
S908	FEH: 2 years: +0 %: 120 mins: Summer	62.65 0	60.28 3	60.579	0.296	187.5	0.335	0.000	186.0	427.219	OK
S907	FEH: 2 years: +0 %: 120 mins: Summer	62.05 0	60.21 4	60.391	0.177	190.5	0.200	0.000	189.6	436.609	OK
S906	FEH: 2 years: +0 %: 120 mins: Summer	61.52 0	59.44 5	59.678	0.233	218.7	0.264	0.000	217.5	498.001	OK
S905	FEH: 2 years: +0 %: 120 mins: Summer	61.14 0	59.08 0	59.356	0.276	341.6	0.312	0.000	339.3	790.582	OK
S904	FEH: 2 years: +0 %: 120 mins: Summer	60.60 0	58.59 0	58.944	0.354	365.0	0.401	0.000	361.2	844.795	OK
S903	FEH: 2 years: +0 %: 120 mins: Summer	60.95 0	58.28 0	58.664	0.384	369.7	0.434	0.000	385.1	861.252	OK
S901	FEH: 2 years: +0 %: 120 mins: Summer	59.50 0	57.45 8	58.373	0.915	12.1	1.616	0.000	10.7	128.683	Surcharged
S914	FEH: 2 years: +0 %: 120 mins: Summer	60.00 0	57.90 0	58.373	0.473	129.9	0.535	0.000	129.4	304.314	Surcharged
S902	FEH: 2 years: +0 %: 120 mins: Summer	59.90 0	58.19 4	58.373	0.179	385.1	0.203	0.000	368.9	860.011	OK
Outfall	FEH: 2 years: +0 %: 120 mins: Summer	59.00 0	57.31 0	57.384	0.074	10.7	0.084	0.000	10.7	128.292	OK
S905-A	FEH: 2 years: +0 %: 120 mins: Summer	61.40 0	59.43 7	59.599	0.162	121.7	0.183	0.000	121.7	286.374	OK
S908-A	FEH: 2 years: +0 %: 120 mins: Summer	63.00 0	60.50 0	60.705	0.205	125.5	0.231	0.000	125.5	295.346	OK
S912-A	FEH: 2 years: +0 %: 120 mins: Summer	63.40 0	61.00 0	61.082	0.082	14.5	0.093	0.000	14.5	30.562	OK
S910-A	FEH: 2 years: +0 %: 120 mins: Summer	62.50 0	60.80 0	60.896	0.096	34.0	0.109	0.000	34.0	71.638	OK
S906-A	FEH: 2 years: +0 %: 120 mins: Summer	61.50 0	59.69 0	59.769	0.079	25.1	0.090	0.000	25.1	52.912	OK
S904-A	FEH: 2 years: +0 %: 120 mins: Summer	60.60 0	59.20 0	59.255	0.055	20.6	0.062	0.000	20.6	43.373	OK

Project: Catchment 9 2yr, 30yr, 100yr +20%CC	Date: 31/07/2026			
	Designed by:	Checked by:	Approved By:	
	CSalt			
Report Details: Type: Junctions Summary Storm Phase: Phase	Company: Glanville Consultants			



FEH: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Outflow

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
S913	FEH: 30 years: +0 %: 120 mins: Summer	62.65 0	61.00 5	61.035	0.030	2.8	0.034	0.000	2.8	5.821	OK
S912	FEH: 30 years: +0 %: 120 mins: Summer	62.90 0	60.82 2	60.957	0.135	35.8	0.153	0.000	34.2	75.447	OK
S910	FEH: 30 years: +0 %: 120 mins: Summer	63.15 0	60.56 7	60.913	0.346	112.5	0.392	0.000	112.1	241.549	OK
S909	FEH: 30 years: +0 %: 120 mins: Summer	63.00 0	60.51 0	60.826	0.316	117.1	0.357	0.000	115.9	252.034	OK
S908	FEH: 30 years: +0 %: 120 mins: Summer	62.65 0	60.28 3	60.725	0.442	375.5	0.499	0.000	373.1	863.879	OK
S907	FEH: 30 years: +0 %: 120 mins: Summer	62.05 0	60.21 4	60.487	0.273	382.1	0.309	0.000	380.6	882.847	OK
S906	FEH: 30 years: +0 %: 120 mins: Summer	61.52 0	59.44 5	59.829	0.384	438.7	0.434	0.000	437.0	1006.990	OK
S905	FEH: 30 years: +0 %: 120 mins: Summer	61.14 0	59.08 0	59.533	0.453	688.0	0.513	0.000	683.7	1598.734	OK
S904	FEH: 30 years: +0 %: 120 mins: Summer	60.60 0	58.59 0	59.162	0.572	735.6	0.647	0.000	728.9	1705.661	OK
S903	FEH: 30 years: +0 %: 120 mins: Summer	60.95 0	58.28 0	58.845	0.565	746.1	0.639	0.000	741.2	1730.169	OK
S901	FEH: 30 years: +0 %: 720 mins: Winter	59.50 0	57.45 8	58.884	1.426	51.8	2.520	0.000	51.8	1864.238	Surcharged
S914	FEH: 30 years: +0 %: 120 mins: Summer	60.00 0	57.90 0	58.760	0.860	262.6	0.973	0.000	262.2	616.528	Surcharged
S902	FEH: 30 years: +0 %: 120 mins: Summer	59.90 0	58.19 4	58.760	0.566	741.2	0.641	0.000	739.5	1722.354	OK
Outfall	FEH: 30 years: +0 %: 720 mins: Winter	59.00 0	57.31 0	57.527	0.217	51.8	0.245	0.000	51.8	1863.807	OK
S905-A	FEH: 30 years: +0 %: 120 mins: Summer	61.40 0	59.43 7	59.686	0.249	246.0	0.281	0.000	245.8	579.083	OK
S908-A	FEH: 30 years: +0 %: 120 mins: Summer	63.00 0	60.50 0	60.834	0.334	253.7	0.378	0.000	253.8	597.227	OK
S912-A	FEH: 30 years: +0 %: 120 mins: Summer	63.40 0	61.00 0	61.122	0.122	29.3	0.138	0.000	29.3	61.798	OK
S910-A	FEH: 30 years: +0 %: 120 mins: Summer	62.50 0	60.80 0	60.936	0.136	68.7	0.154	0.000	68.4	144.833	OK
S906-A	FEH: 30 years: +0 %: 120 mins: Summer	61.50 0	59.69 0	59.846	0.156	50.8	0.177	0.000	50.4	106.985	OK
S904-A	FEH: 30 years: +0 %: 120 mins: Summer	60.60 0	59.20 0	59.277	0.077	41.6	0.088	0.000	41.6	87.704	OK

Project: Catchment 9 2yr, 30yr, 100yr +20%CC	Date: 31/07/2026			
	Designed by:	Checked by:	Approved By:	
	CSalt			
Report Details: Type: Junctions Summary Storm Phase: Phase	Company: Glanville Consultants			



FEH: 100 years: Increase Rainfall (%): +20: Critical Storm Per Item: Rank By: Max. Outflow

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
S913	FEH: 100 years: +20 %: 120 mins: Summer	62.650	61.005	61.477	0.472	5.0	0.534	0.000	4.7	8.866	Surcharged
S912	FEH: 100 years: +20 %: 120 mins: Summer	62.900	60.822	61.477	0.655	53.5	0.741	0.000	53.2	113.817	Surcharged
S910	FEH: 100 years: +20 %: 120 mins: Summer	63.150	60.567	61.367	0.800	171.4	0.905	0.000	170.9	364.072	Surcharged
S909	FEH: 100 years: +20 %: 120 mins: Summer	63.000	60.510	61.178	0.668	178.4	0.756	0.000	177.7	379.875	Surcharged
S908	FEH: 100 years: +20 %: 120 mins: Summer	62.650	60.283	60.944	0.661	568.5	0.747	0.000	562.3	1301.931	Surcharged
S907	FEH: 100 years: +20 %: 120 mins: Summer	62.050	60.214	60.592	0.378	575.9	0.427	0.000	564.8	1330.338	OK
S906	FEH: 100 years: +20 %: 120 mins: Summer	61.520	59.445	60.389	0.944	653.2	1.067	0.000	650.6	1517.475	Surcharged
S905	FEH: 100 years: +20 %: 120 mins: Summer	61.140	59.080	60.097	1.017	1029.4	1.151	0.000	1028.2	2409.071	Surcharged
S904	FEH: 100 years: +20 %: 120 mins: Summer	60.600	58.590	59.757	1.167	1106.6	1.319	0.000	1106.8	2563.073	Surcharged
S903	FEH: 100 years: +20 %: 120 mins: Summer	60.950	58.280	59.287	1.007	1132.8	1.138	0.000	1130.6	2599.297	Surcharged
S901	FEH: 100 years: +20 %: 960 mins: Summer	59.500	57.458	59.221	1.763	87.6	3.116	0.000	87.6	4141.479	Flood Risk
S914	FEH: 100 years: +20 %: 120 mins: Summer	60.000	57.900	59.064	1.164	395.7	1.316	0.000	395.1	929.595	Surcharged
S902	FEH: 100 years: +20 %: 120 mins: Summer	59.900	58.194	59.063	0.869	1130.6	0.983	0.000	1133.0	2590.146	Surcharged
Outfall	FEH: 100 years: +20 %: 960 mins: Summer	59.000	57.310	57.615	0.305	87.6	0.345	0.000	87.6	4141.048	OK
S905-A	FEH: 100 years: +20 %: 120 mins: Summer	61.400	59.437	60.189	0.752	370.6	0.850	0.000	371.0	872.551	Surcharged
S908-A	FEH: 100 years: +20 %: 120 mins: Summer	63.000	60.500	61.123	0.623	382.2	0.705	0.000	383.1	899.931	Surcharged
S912-A	FEH: 100 years: +20 %: 120 mins: Summer	63.400	61.000	61.526	0.526	44.2	0.595	0.000	43.9	93.115	Surcharged
S910-A	FEH: 100 years: +20 %: 120 mins: Summer	62.500	60.800	61.400	0.600	103.5	0.678	0.000	103.0	218.287	Surcharged
S906-A	FEH: 100 years: +20 %: 120 mins: Summer	61.500	59.690	60.406	0.716	76.5	0.809	0.000	76.1	161.205	Surcharged
S904-A	FEH: 100 years: +20 %: 120 mins: Summer	60.600	59.200	59.761	0.561	62.7	0.635	0.000	62.9	132.152	Surcharged

Project: Catchment 9 2yr, 30yr, 100yr +20%CC		Date: 31/07/2026			
		Designed by: CSalt	Checked by:		Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase		Company: Glanville Consultants			



FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Resident Volume

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
Pond	FEH: 2 years: +0 %: 960 mins: Winter	58.576	58.576	1.076	1.076	100.2	1661.679	0.000	0.000	10.8	1118.823	56.430	OK

Project: Catchment 9 2yr, 30yr, 100yr +20%CC		Date: 31/07/2026			
		Designed by: CSalt	Checked by:		Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase		Company: Glanville Consultants			



FEH: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Resident Volume

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
Pond	FEH: 30 years: +0 %: 720 mins: Winter	58.886	58.886	1.386	1.386	209.6	2632.572	0.000	0.000	51.8	1868.549	30.973	OK

Project: Catchment 9 2yr, 30yr, 100yr +20%CC		Date: 31/07/2026			
		Designed by: CSalt	Checked by:		Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase		Company: Glanville Consultants			



**FEH: 100 years: Increase Rainfall (%): +20: Critical Storm Per Item: Rank By:
Max. Resident Volume**

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
Pond	FEH: 100 years: +20 %: 960 mins: Summer	59.226	59.226	1.726	1.726	392.1	3836.576	0.000	0.000	87.6	4145.785	-0.597	Flood Risk

Project: Catchment 9 2yr, 30yr, 100yr +20%CC		Date: 31/07/2026			
Report Details: Type: Connections Summary Storm Phase: Phase		Designed by: CSalt	Checked by:		Approved By:
		Company: Glanville Consultants			



FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
1	FEH: 2 years: +0 %: 120 mins: Summer	Pipe	S913	S912	62.650	61.027	0.057	2.886	0.1	0.01	1.4	OK
2	FEH: 2 years: +0 %: 120 mins: Summer	Pipe	S912	S910	62.900	60.914	0.138	37.319	0.6	0.21	17.7	OK
3	FEH: 2 years: +0 %: 120 mins: Summer	Pipe	S910	S909	63.150	60.752	0.163	119.471	1.2	0.51	56.7	OK
4	FEH: 2 years: +0 %: 120 mins: Summer	Pipe	S909	S908	63.000	60.651	0.219	124.682	0.9	0.31	59.2	OK
5	FEH: 2 years: +0 %: 120 mins: Summer	Pipe	S908	S907	62.650	60.579	0.237	427.219	1.8	0.6	186.0	OK
6	FEH: 2 years: +0 %: 120 mins: Summer	Pipe	S907	S906	62.050	60.391	0.205	436.609	2.2	0.18	189.6	OK
7	FEH: 2 years: +0 %: 120 mins: Summer	Pipe	S906	S905	61.520	59.678	0.255	498.001	1.9	0.25	217.5	OK
8	FEH: 2 years: +0 %: 120 mins: Summer	Pipe	S905	S904	61.140	59.356	0.315	790.582	1.9	0.24	339.3	OK
9	FEH: 2 years: +0 %: 120 mins: Summer	Pipe	S904	S903	60.600	58.944	0.369	844.795	1.7	0.37	361.2	OK
10	FEH: 2 years: +0 %: 120 mins: Summer	Pipe	S903	S902	60.950	58.664	0.282	861.252	2.5	0.63	385.1	OK
11	FEH: 2 years: +0 %: 120 mins: Summer	Pipe	S902	Pond	59.900	58.373	0.526	860.011	1.5	0.11	368.9	OK
12	FEH: 2 years: +0 %: 120 mins: Winter	Pipe	Pond	S901	59.500	58.374	0.600	131.460	0.2	0.03	12.7	Surcharged
13	FEH: 2 years: +0 %: 120 mins: Summer	Pipe	S901	Outfall	59.500	58.373	0.071	128.534	0.7	0.07	10.7	Surcharged
14	FEH: 2 years: +0 %: 120 mins: Summer	Pipe	S914	Pond	60.000	58.373	0.450	304.314	0.8	0.22	129.4	Surcharged
15	FEH: 2 years: +0 %: 120 mins: Summer	Pipe	S905-A	S905	61.400	59.599	0.219	286.374	1.3	0.13	121.7	OK
16	FEH: 2 years: +0 %: 120 mins: Summer	Pipe	S908-A	S908	63.000	60.705	0.250	295.346	1.3	0.23	125.5	OK
17	FEH: 2 years: +0 %: 120 mins: Summer	Pipe	S912-A	S912	63.400	61.082	0.087	30.562	0.9	0.16	14.5	OK
18	FEH: 2 years: +0 %: 120 mins: Summer	Pipe	S910-A	S910	62.500	60.896	0.141	71.638	0.8	0.1	34.0	OK
19	FEH: 2 years: +0 %: 120 mins: Summer	Pipe	S906-A	S906	61.500	59.769	0.156	52.912	0.6	0.11	25.1	OK

Project: Catchment 9 2yr, 30yr, 100yr +20%CC				Date: 31/07/2026				I DRN				
												Designed by:
Report Details: Type: Connections Summary Storm Phase: Phase				Company: Glanville Consultants								
20	FEH: 2 years: +0 %: 120 mins: Summer	Pipe	S904-A	S904	60.600	59.255	0.205	43.373	0.4	0.04	20.6	OK

Project: Catchment 9 2yr, 30yr, 100yr +20%CC	Date: 31/07/2026			
	Designed by:	Checked by:	Approved By:	
	CSalt			
Report Details: Type: Connections Summary Storm Phase: Phase	Company: Glanville Consultants			



FEH: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
1	FEH: 30 years: +0 %: 120 mins: Summer	Pipe	S913	S912	62.650	61.035	0.083	5.821	0.2	0.02	2.8	OK
2	FEH: 30 years: +0 %: 120 mins: Summer	Pipe	S912	S910	62.900	60.957	0.241	75.447	0.6	0.41	34.2	OK
3	FEH: 30 years: +0 %: 120 mins: Summer	Pipe	S910	S909	63.150	60.913	0.331	241.549	1.3	1.01	112.1	OK
4	FEH: 30 years: +0 %: 120 mins: Summer	Pipe	S909	S908	63.000	60.826	0.375	252.034	1.1	0.61	115.9	OK
5	FEH: 30 years: +0 %: 120 mins: Summer	Pipe	S908	S907	62.650	60.725	0.357	863.879	2.1	1.21	373.1	OK
6	FEH: 30 years: +0 %: 120 mins: Summer	Pipe	S907	S906	62.050	60.487	0.329	882.847	2.4	0.35	380.6	OK
7	FEH: 30 years: +0 %: 120 mins: Summer	Pipe	S906	S905	61.520	59.829	0.419	1006.990	2.1	0.51	437.0	OK
8	FEH: 30 years: +0 %: 120 mins: Summer	Pipe	S905	S904	61.140	59.533	0.513	1598.734	2.1	0.48	683.7	OK
9	FEH: 30 years: +0 %: 120 mins: Summer	Pipe	S904	S903	60.600	59.162	0.569	1705.661	2.0	0.75	728.9	OK
10	FEH: 30 years: +0 %: 120 mins: Summer	Pipe	S903	S902	60.950	58.845	0.523	1730.169	2.7	1.22	741.2	OK
11	FEH: 30 years: +0 %: 120 mins: Summer	Pipe	S902	Pond	59.900	58.760	0.750	1722.354	2.0	0.22	739.5	OK
12	FEH: 30 years: +0 %: 720 mins: Winter	Pipe	Pond	S901	59.500	58.886	0.600	1868.549	0.3	0.14	51.8	Surcharged
13	FEH: 30 years: +0 %: 720 mins: Winter	Pipe	S901	Outfall	59.500	58.884	0.189	1864.073	0.9	0.34	51.8	Surcharged
14	FEH: 30 years: +0 %: 120 mins: Summer	Pipe	S914	Pond	60.000	58.760	0.450	616.526	1.6	0.44	262.2	Surcharged

Project: Catchment 9 2yr, 30yr, 100yr +20%CC				Date: 31/07/2026									
				Designed by: CSalt		Checked by:						Approved By:	
Report Details: Type: Connections Summary Storm Phase: Phase				Company: Glanville Consultants									

15	FEH: 30 years: +0 %: 120 mins: Summer	Pipe	S905-A	S905	61.400	59.686	0.349	579.083	1.5	0.25	245.8	OK
16	FEH: 30 years: +0 %: 120 mins: Summer	Pipe	S908-A	S908	63.000	60.834	0.388	597.227	1.5	0.47	253.8	OK
17	FEH: 30 years: +0 %: 120 mins: Summer	Pipe	S912-A	S912	63.400	61.122	0.129	61.798	1.0	0.31	29.3	OK
18	FEH: 30 years: +0 %: 120 mins: Summer	Pipe	S910-A	S910	62.500	60.936	0.241	144.833	0.9	0.21	68.4	OK
19	FEH: 30 years: +0 %: 120 mins: Summer	Pipe	S906-A	S906	61.500	59.846	0.270	106.985	0.7	0.21	50.4	OK
20	FEH: 30 years: +0 %: 120 mins: Summer	Pipe	S904-A	S904	60.600	59.277	0.325	87.704	0.4	0.07	41.6	OK

Project: Catchment 9 2yr, 30yr, 100yr +20%CC	Date: 31/07/2026			
	Designed by:	Checked by:	Approved By:	
	CSalt			
Report Details: Type: Connections Summary Storm Phase: Phase	Company: Glanville Consultants			



FEH: 100 years: Increase Rainfall (%): +20: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
1	FEH: 100 years: +20 %: 120 mins: Summer	Pipe	S913	S912	62.650	61.477	0.300	8.787	0.2	0.04	4.7	Surcharged
2	FEH: 100 years: +20 %: 120 mins: Summer	Pipe	S912	S910	62.900	61.477	0.300	113.737	0.8	0.63	53.2	Surcharged
3	FEH: 100 years: +20 %: 120 mins: Summer	Pipe	S910	S909	63.150	61.367	0.375	364.072	1.5	1.54	170.9	Surcharged
4	FEH: 100 years: +20 %: 120 mins: Summer	Pipe	S909	S908	63.000	61.178	0.375	379.875	1.6	0.93	177.7	Surcharged
5	FEH: 100 years: +20 %: 120 mins: Summer	Pipe	S908	S907	62.650	60.944	0.519	1301.931	2.3	1.83	562.3	Surcharged
6	FEH: 100 years: +20 %: 120 mins: Summer	Pipe	S907	S906	62.050	60.592	0.600	1330.338	2.4	0.52	564.8	OK
7	FEH: 100 years: +20 %: 120 mins: Summer	Pipe	S906	S905	61.520	60.389	0.600	1517.475	2.3	0.76	650.6	Surcharged
8	FEH: 100 years: +20 %: 120 mins: Summer	Pipe	S905	S904	61.140	60.097	0.750	2409.071	2.3	0.72	1028.2	Surcharged
9	FEH: 100 years: +20 %: 120 mins: Summer	Pipe	S904	S903	60.600	59.757	0.750	2563.073	2.5	1.14	1106.8	Surcharged
10	FEH: 100 years: +20 %: 120 mins: Summer	Pipe	S903	S902	60.950	59.287	0.750	2599.297	2.8	1.86	1130.6	Surcharged
11	FEH: 100 years: +20 %: 120 mins: Summer	Pipe	S902	Pond	59.900	59.063	0.750	2590.146	2.6	0.34	1133.0	Surcharged
12	FEH: 100 years: +20 %: 960 mins: Summer	Pipe	Pond	S901	59.500	59.226	0.600	4145.785	0.3	0.24	87.6	Flood Risk
13	FEH: 100 years: +20 %: 960 mins: Summer	Pipe	S901	Outfall	59.500	59.221	0.271	4141.316	1.0	0.57	87.6	Flood Risk
14	FEH: 100 years: +20 %: 120 mins: Summer	Pipe	S914	Pond	60.000	59.064	0.450	929.595	2.5	0.66	395.1	Surcharged

Project: Catchment 9 2yr, 30yr, 100yr +20%CC				Date: 31/07/2026									
				Designed by: CSalt		Checked by:						Approved By:	
Report Details: Type: Connections Summary Storm Phase: Phase				Company: Glanville Consultants									

15	FEH: 100 years: +20 %: 120 mins: Summer	Pipe	S905-A	S905	61.400	60.189	0.600	872.551	1.5	0.38	371.0	Surcharged
16	FEH: 100 years: +20 %: 120 mins: Summer	Pipe	S908-A	S908	63.000	61.123	0.525	899.931	1.8	0.71	383.1	Surcharged
17	FEH: 100 years: +20 %: 120 mins: Summer	Pipe	S912-A	S912	63.400	61.526	0.300	93.115	1.0	0.47	43.9	Surcharged
18	FEH: 100 years: +20 %: 120 mins: Summer	Pipe	S910-A	S910	62.500	61.400	0.450	218.287	0.9	0.31	103.0	Surcharged
19	FEH: 100 years: +20 %: 120 mins: Summer	Pipe	S906-A	S906	61.500	60.406	0.375	161.205	0.7	0.32	76.1	Surcharged
20	FEH: 100 years: +20 %: 120 mins: Summer	Pipe	S904-A	S904	60.600	59.761	0.450	132.152	0.4	0.11	62.9	Surcharged

Project: Catchment 9 100yr +20%CC Surcharged	Date: 31/07/2026			
	Designed by: CSalt	Checked by:	Approved By:	
Report Details: Type: Outfall Details Storm Phase: Phase	Company: Glanville Consultants			

Outfalls

Outfall	Outfall Type	Gated	Fixed Surcharged Level (m)	Level Curve
Outfall	Fixed Surcharged Level	☐	58.119	
FEH (100YR20CC ONLY) : 100 years: +20 %: 120 mins: Summer			58.119	
FEH (100YR20CC ONLY) : 100 years: +20 %: 120 mins: Winter			58.119	
FEH (100YR20CC ONLY) : 100 years: +20 %: 180 mins: Summer			58.119	
FEH (100YR20CC ONLY) : 100 years: +20 %: 180 mins: Winter			58.119	
FEH (100YR20CC ONLY) : 100 years: +20 %: 240 mins: Summer			58.119	
FEH (100YR20CC ONLY) : 100 years: +20 %: 240 mins: Winter			58.119	
FEH (100YR20CC ONLY) : 100 years: +20 %: 360 mins: Summer			58.119	
FEH (100YR20CC ONLY) : 100 years: +20 %: 360 mins: Winter			58.119	
FEH (100YR20CC ONLY) : 100 years: +20 %: 480 mins: Summer			58.119	
FEH (100YR20CC ONLY) : 100 years: +20 %: 480 mins: Winter			58.119	
FEH (100YR20CC ONLY) : 100 years: +20 %: 600 mins: Summer			58.119	
FEH (100YR20CC ONLY) : 100 years: +20 %: 600 mins: Winter			58.119	
FEH (100YR20CC ONLY) : 100 years: +20 %: 720 mins: Summer			58.119	
FEH (100YR20CC ONLY) : 100 years: +20 %: 720 mins: Winter			58.119	
FEH (100YR20CC ONLY) : 100 years: +20 %: 960 mins: Summer			58.119	
FEH (100YR20CC ONLY) : 100 years: +20 %: 960 mins: Winter			58.119	
FEH (100YR20CC ONLY) : 100 years: +20 %: 1440 mins: Summer			58.119	
FEH (100YR20CC ONLY) : 100 years: +20 %: 1440 mins: Winter			58.119	
FEH (100YR20CC ONLY) : 100 years: +20 %: 2160 mins: Summer			58.119	
FEH (100YR20CC ONLY) : 100 years: +20 %: 2160 mins: Winter			58.119	
FEH (100YR20CC ONLY) : 100 years: +20 %: 2880 mins: Summer			58.119	
FEH (100YR20CC ONLY) : 100 years: +20 %: 2880 mins: Winter			58.119	

Project: Catchment 9 100yr +20%CC Surcharged	Date: 31/07/2026			
	Designed by: CSalt	Checked by:	Approved By:	
Report Title: Rainfall Analysis Criteria	Company: Glanville Consultants			

Runoff Type	Dynamic
Output Interval (mins)	5
Time Step	Reduced
Urban Creep	Apply Global Value
Urban Creep Global Value (%)	0
Junction Flood Risk Margin (mm)	300
Perform No Discharge Analysis	☐

Rainfall

FEH (100YR20CC ONLY)		Type: FEH
Site Location	GB 519000 133350 TQ 19000 33350	
Rainfall Version	2022	
Summer	☒	
Winter	☒	

Return Period

Return Period (years)	Increase Rainfall (%)
100.0	20.000

Storm Durations

Duration (mins)	Run Time (mins)
120	240
180	360
240	480
360	720
480	960
600	1200
720	1440
960	1920
1440	2880
2160	4320
2880	5760

Project: Catchment 9 100yr +20%CC Surcharged	Date: 31/07/2026		
	Designed by: CSalt	Checked by:	Approved By:
Report Details: Type: Inflows Summary Storm Phase: Phase	Company: Glanville Consultants		





FEH (100YR20CC ONLY): 100 years: Increase Rainfall (%): +20: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Spur S910-A	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	0.50	103.5	218.265
Spur S904-A	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	0.30	62.7	132.126
Spur S914	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	2.15	395.7	931.582
Spur S906-A	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	0.37	76.5	161.190
Spur S912-A	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	0.21	44.2	93.116
Spur S908-A	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	2.08	382.2	899.941
Spur S905-A	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	2.01	370.6	872.628
Catchment Area 1	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	0.01	4.2	8.782
Catchment Area 2	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	0.02	5.6	11.831
Catchment Area 3	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	0.02	6.5	13.668

Project: Catchment 9 100yr +20%CC Surcharged		Date: 31/07/2026			
		Designed by: CSalt	Checked by:		Approved By:
Report Details: Type: Inflows Summary Storm Phase: Phase		Company: Glanville Consultants			

Catchment Area 4	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	0.03	8.8	18.446
Catchment Area 5	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	0.03	7.5	15.829
Catchment Area 6	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	0.04	10.5	22.059
Catchment Area 7	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	0.05	13.6	28.632
Catchment Area 8	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	0.04	12.3	25.925
Catchment Area 9	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	0.03	9.0	18.926
Catchment Area 10	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	0.05	15.6	32.851
Catchment Area 11	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	0.09	25.9	54.712

Project: Catchment 9 100yr +20%CC Surcharged	Date: 31/07/2026			
	Designed by:	Checked by:	Approved By:	
	CSalt			
Report Details: Type: Junctions Summary Storm Phase: Phase			Company: Glanville Consultants	



FEH (100YR20CC ONLY): 100 years: Increase Rainfall (%): +20: Critical Storm Per Item: Rank By: Max. Outflow

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
S913	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	62.650	61.005	61.477	0.472	5.0	0.534	0.000	4.7	8.865	Surcharged
S912	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	62.900	60.822	61.477	0.655	53.5	0.741	0.000	53.2	113.822	Surcharged
S910	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	63.150	60.567	61.367	0.800	171.5	0.905	0.000	171.0	364.089	Surcharged
S909	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	63.000	60.510	61.178	0.668	178.5	0.755	0.000	177.8	379.896	Surcharged
S908	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	62.650	60.283	60.957	0.674	568.8	0.762	0.000	563.3	1301.972	Surcharged
S907	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	62.050	60.214	60.603	0.389	576.9	0.440	0.000	566.2	1330.379	OK
S906	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	61.520	59.445	60.396	0.951	654.3	1.075	0.000	651.7	1517.519	Surcharged
S905	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	61.140	59.080	60.103	1.023	1030.1	1.157	0.000	1028.5	2409.123	Surcharged
S904	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	60.600	58.590	59.762	1.172	1106.6	1.325	0.000	1106.3	2562.775	Surcharged
S903	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	60.950	58.280	59.290	1.010	1132.2	1.143	0.000	1130.5	2598.665	Surcharged
S901	FEH (100YR20CC ONLY): 100 years: +20 %: 1440 mins: Summer	59.500	57.458	59.260	1.802	88.9	3.184	0.000	88.9	5144.515	Flood Risk
S914	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	60.000	57.900	59.071	1.171	395.7	1.324	0.000	395.1	929.602	Surcharged
S902	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	59.900	58.194	59.070	0.876	1130.5	0.991	0.000	1135.6	2589.590	Surcharged
Outfall	FEH (100YR20CC ONLY): 100 years: +20 %: 1440 mins: Summer	59.000	57.310	58.212	0.902	88.9	1.020	0.000	88.9	5140.871	OK
S905-A	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	61.400	59.437	60.195	0.758	370.6	0.857	0.000	371.0	872.555	Surcharged

Project: Catchment 9 100yr +20%CC Surcharged		Date: 31/07/2026			
		Designed by: CSalt	Checked by:	Approved By:	
Report Details: Type: Junctions Summary Storm Phase: Phase		Company: Glanville Consultants			

S908-A	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	63.00 0	60.50 0	61.136	0.636	382.2	0.719	0.000	383.2	899.941	Surcharged
S912-A	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	63.40 0	61.00 0	61.526	0.526	44.2	0.595	0.000	44.0	93.118	Surcharged
S910-A	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	62.50 0	60.80 0	61.400	0.600	103.5	0.678	0.000	103.0	218.291	Surcharged
S906-A	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	61.50 0	59.69 0	60.413	0.723	76.5	0.818	0.000	75.9	161.212	Surcharged
S904-A	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	60.60 0	59.20 0	59.766	0.566	62.7	0.641	0.000	62.6	132.154	Surcharged

Project: Catchment 9 100yr +20%CC Surcharged		Date: 31/07/2026			
		Designed by: CSalt	Checked by:		Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase		Company: Glanville Consultants			



FEH (100YR20CC ONLY): 100 years: Increase Rainfall (%): +20: Critical Storm Per Item: Rank By: Max. Resident Volume

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
Pond	FEH (100YR20CC ONLY): 100 years: +20 %: 1440 mins: Summer	59.265	59.265	1.765	1.765	292.4	3983.005	0.000	0.000	88.9	5148.603	-4.436	Flood Risk

Project: Catchment 9 100yr +20%CC Surcharged	Date: 31/07/2026			
	Designed by:	Checked by:	Approved By:	
	CSalt			
Report Details: Type: Connections Summary Storm Phase: Phase	Company: Glanville Consultants			



FEH (100YR20CC ONLY): 100 years: Increase Rainfall (%): +20: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
1	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	Pipe	S913	S912	62.650	61.477	0.300	8.788	0.2	0.04	4.7	Surcharged
2	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	Pipe	S912	S910	62.900	61.477	0.300	113.745	0.8	0.63	53.2	Surcharged
3	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	Pipe	S910	S909	63.150	61.367	0.375	364.089	1.5	1.54	171.0	Surcharged
4	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	Pipe	S909	S908	63.000	61.178	0.375	379.896	1.6	0.93	177.8	Surcharged
5	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	Pipe	S908	S907	62.650	60.957	0.531	1301.972	2.3	1.83	563.3	Surcharged
6	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	Pipe	S907	S906	62.050	60.603	0.600	1330.379	2.4	0.52	566.2	OK
7	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	Pipe	S906	S905	61.520	60.396	0.600	1517.519	2.3	0.76	651.7	Surcharged
8	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	Pipe	S905	S904	61.140	60.103	0.750	2409.123	2.3	0.72	1028.5	Surcharged
9	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	Pipe	S904	S903	60.600	59.762	0.750	2562.775	2.5	1.14	1106.3	Surcharged

Project: Catchment 9 100yr +20%CC Surcharged				Date: 31/07/2026								
				Designed by:	Checked by:	Approved By:						
Report Details: Type: Connections Summary Storm Phase: Phase				CSalt								
				Company: Glanville Consultants								

10	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	Pipe	S903	S902	60.950	59.290	0.750	2598.665	2.8	1.86	1130.5	Surcharged
11	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	Pipe	S902	Pond	59.900	59.070	0.750	2589.589	2.6	0.34	1135.6	Surcharged
12	FEH (100YR20CC ONLY): 100 years: +20 %: 1440 mins: Summer	Pipe	Pond	S901	59.500	59.265	0.600	5148.603	0.3	0.24	88.9	Flood Risk
13	FEH (100YR20CC ONLY): 100 years: +20 %: 1440 mins: Summer	Pipe	S901	Outfall	59.500	59.260	0.375	5143.209	0.8	0.58	88.9	Flood Risk
14	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	Pipe	S914	Pond	60.000	59.071	0.450	929.602	2.5	0.66	395.1	Surcharged
15	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	Pipe	S905-A	S905	61.400	60.195	0.600	872.555	1.5	0.38	371.0	Surcharged
16	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	Pipe	S908-A	S908	63.000	61.136	0.525	899.941	1.8	0.71	383.2	Surcharged
17	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	Pipe	S912-A	S912	63.400	61.526	0.300	93.118	1.0	0.47	44.0	Surcharged
18	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	Pipe	S910-A	S910	62.500	61.400	0.450	218.291	0.9	0.31	103.0	Surcharged
19	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	Pipe	S906-A	S906	61.500	60.413	0.375	161.212	0.7	0.32	75.9	Surcharged
20	FEH (100YR20CC ONLY): 100 years: +20 %: 120 mins: Summer	Pipe	S904-A	S904	60.600	59.766	0.450	132.154	0.4	0.11	62.6	Surcharged

Project: Catchment 9 100yr +40%CC	Date: 31/07/2026			
	Designed by: CSalt	Checked by:	Approved By:	
Report Title: Rainfall Analysis Criteria	Company: Glanville Consultants			

Runoff Type	Dynamic
Output Interval (mins)	5
Time Step	Reduced
Urban Creep	Apply Global Value
Urban Creep Global Value (%)	0
Junction Flood Risk Margin (mm)	300
Perform No Discharge Analysis	☐

Rainfall

FEH 100 year + 40%	Type: FEH
Site Location	GB 519000 133350 TQ 19000 33350
Rainfall Version	2022
Summer	☒
Winter	☒

Return Period

Return Period (years)	Increase Rainfall (%)
100.0	40.000

Storm Durations

Duration (mins)	Run Time (mins)
120	240
180	360
240	480
360	720
480	960
600	1200
720	1440
960	1920
1440	2880
2160	4320

Project: Catchment 9 100yr +40%CC	Date: 31/07/2026		
	Designed by: CSalt	Checked by:	Approved By:
Report Details: Type: Inflows Summary Storm Phase: Phase	Company: Glanville Consultants		



FEH 100 year + 40%: 100 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Spur S910-A	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	0.50	120.8	254.684
Spur S904-A	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	0.30	73.1	154.178
Spur S914	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	2.15	461.6	1086.831
Spur S906-A	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	0.37	89.2	188.098
Spur S912-A	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	0.21	51.5	108.671
Spur S908-A	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	2.08	445.9	1049.905
Spur S905-A	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	2.01	432.4	1018.063
Catchment Area 1	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	0.01	4.9	10.242
Catchment Area 2	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	0.02	6.5	13.790
Catchment Area 3	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	0.02	7.6	15.940
Catchment Area 4	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	0.03	10.2	21.517
Catchment Area 5	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	0.03	8.8	18.467

Project: Catchment 9 100yr +40%CC		Date: 31/07/2026			
		Designed by: CSalt	Checked by:		Approved By:
Report Details: Type: Inflows Summary Storm Phase: Phase		Company: Glanville Consultants			

Catchment Area 6	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	0.04	12.2	25.725
Catchment Area 7	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	0.05	15.9	33.422
Catchment Area 8	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	0.04	14.3	30.264
Catchment Area 9	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	0.03	10.5	22.093
Catchment Area 10	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	0.05	18.2	38.315
Catchment Area 11	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	0.09	30.3	63.848

Project: Catchment 9 100yr +40%CC	Date: 31/07/2026			
	Designed by:	Checked by:	Approved By:	
Report Details: Type: Junctions Summary Storm Phase: Phase	CSalt			
	Company: Glanville Consultants			



FEH 100 year + 40%: 100 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Outflow

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
S913	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	62.650	61.005	62.541	1.536	4.9	1.737	0.000	7.3	10.497	Flood Risk
S912	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	62.900	60.822	62.541	1.719	55.6	1.944	0.000	55.7	133.040	Surcharged
S910	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	63.150	60.567	62.444	1.877	185.4	2.122	0.000	180.9	424.834	Surcharged
S909	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	63.000	60.510	62.244	1.734	189.7	1.961	0.000	185.9	443.300	Surcharged
S908	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	62.650	60.283	61.980	1.697	638.3	1.919	0.000	634.1	1518.925	Surcharged
S907	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	62.050	60.214	61.572	1.358	650.0	1.536	0.000	646.4	1552.224	Surcharged
S906	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	61.520	59.445	61.173	1.728	747.2	1.954	0.000	744.1	1770.725	Surcharged
S905	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	61.140	59.080	60.737	1.657	1183.0	1.874	0.000	1180.3	2810.946	Surcharged
S904	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	60.600	58.590	60.249	1.659	1269.9	1.876	0.000	1267.6	2987.725	Surcharged
S903	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	60.950	58.280	59.587	1.307	1297.8	1.478	0.000	1295.9	3031.235	Surcharged
S901	FEH 100 year + 40%: 100 years: +40 %: 960 mins: Summer	59.500	57.458	59.386	1.928	99.9	3.407	0.000	99.9	5048.320	Flood Risk
S914	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	60.000	57.900	59.210	1.310	461.6	1.482	0.000	461.0	1084.619	Surcharged
S902	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	59.900	58.194	59.208	1.014	1295.9	1.147	0.000	1279.5	3019.915	Surcharged
Outfall	FEH 100 year + 40%: 100 years: +40 %: 960 mins: Summer	59.000	57.310	57.641	0.331	99.9	0.374	0.000	99.9	5047.886	OK
S905-A	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	61.400	59.437	60.862	1.425	432.4	1.612	0.000	433.6	1018.020	Surcharged

Project: Catchment 9 100yr +40%CC		Date: 31/07/2026				
Report Details: Type: Junctions Summary Storm Phase: Phase		Designed by: CSalt	Checked by:	Approved By:		
		Company: Glanville Consultants				

S908-A	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	63.00 0	60.50 0	62.219	1.719	445.9	1.944	0.000	447.9	1049.925	Surcharged
S912-A	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	63.40 0	61.00 0	62.594	1.594	51.5	1.803	0.000	48.0	108.691	Surcharged
S910-A	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	62.50 0	60.80 0	62.485	1.685	120.8	1.905	0.000	116.8	254.635	Flood Risk
S906-A	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	61.50 0	59.69 0	61.218	1.528	89.2	1.728	0.000	86.5	188.133	Flood Risk
S904-A	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	60.60 0	59.20 0	60.255	1.055	73.1	1.193	0.000	71.4	154.207	Surcharged

Project: Catchment 9 100yr +40%CC		Date: 31/07/2026			
		Designed by: CSalt	Checked by:		Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase		Company: Glanville Consultants			



FEH 100 year + 40%: 100 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Resident Volume

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
Pond	FEH 100 year + 40%: 100 years: +40 %: 960 mins: Summer	59.392	59.392	1.892	1.892	460.3	4479.483	0.000	0.000	99.9	5052.674	-17.454	Flood Risk

Project: Catchment 9 100yr +40%CC	Date: 31/07/2026			
	Designed by:	Checked by:	Approved By:	
	CSalt			
Report Details: Type: Connections Summary Storm Phase: Phase	Company: Glanville Consultants			

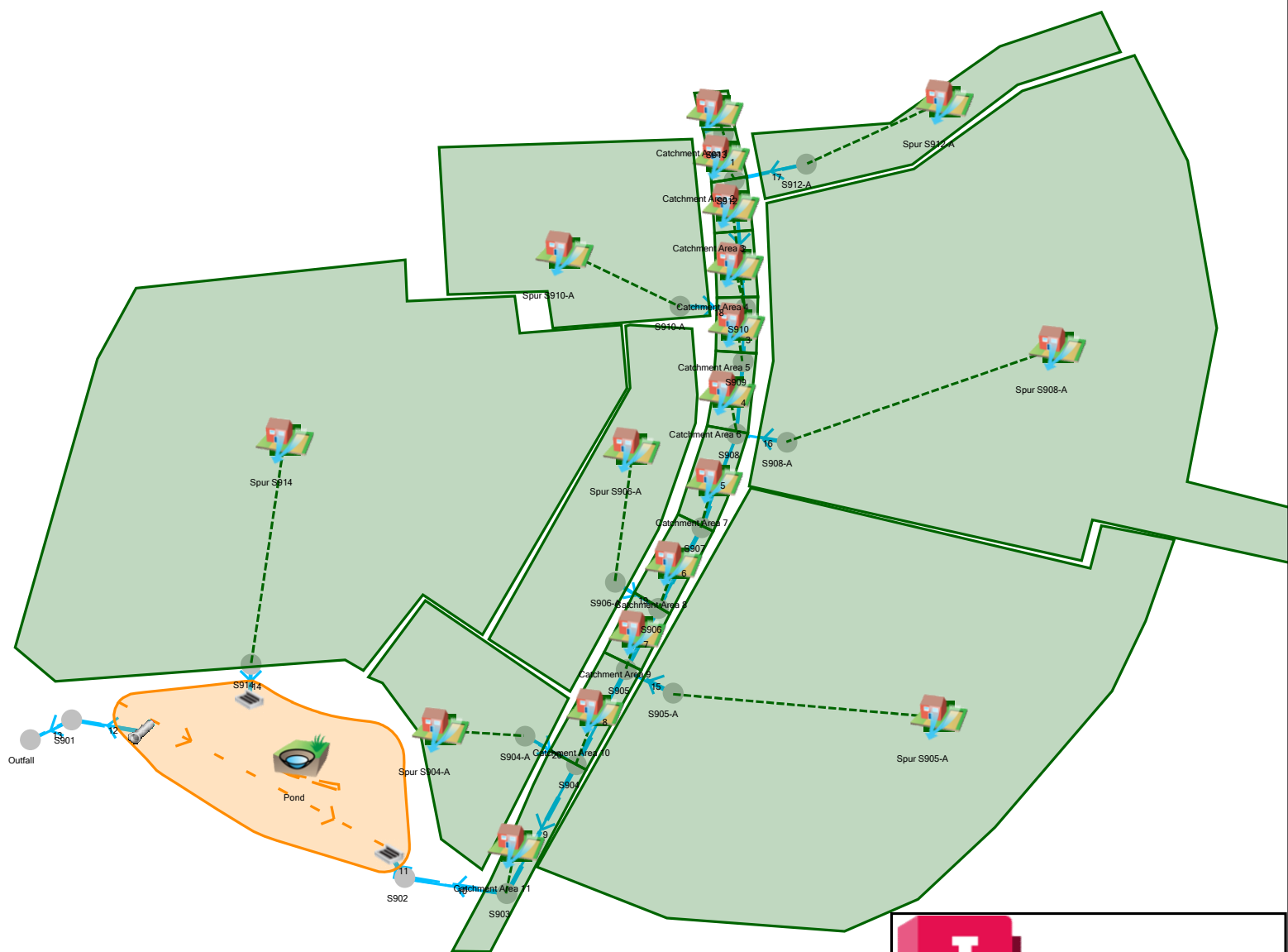


FEH 100 year + 40%: 100 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
1	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	Pipe	S913	S912	62.650	62.541	0.300	10.267	0.2	0.06	7.3	Flood Risk
2	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	Pipe	S912	S910	62.900	62.541	0.300	132.810	0.8	0.66	55.7	Surcharged
3	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	Pipe	S910	S909	63.150	62.444	0.375	424.834	1.6	1.63	180.9	Surcharged
4	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	Pipe	S909	S908	63.000	62.244	0.375	443.300	1.7	0.97	185.9	Surcharged
5	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	Pipe	S908	S907	62.650	61.980	0.600	1518.925	2.2	2.06	634.1	Surcharged
6	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	Pipe	S907	S906	62.050	61.572	0.600	1552.224	2.4	0.6	646.4	Surcharged
7	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	Pipe	S906	S905	61.520	61.173	0.600	1770.725	2.6	0.87	744.1	Surcharged
8	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	Pipe	S905	S904	61.140	60.737	0.750	2810.946	2.7	0.82	1180.3	Surcharged
9	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	Pipe	S904	S903	60.600	60.249	0.750	2987.718	2.9	1.3	1267.6	Surcharged
10	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	Pipe	S903	S902	60.950	59.587	0.750	3031.235	2.9	2.13	1295.9	Surcharged
11	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	Pipe	S902	Pond	59.900	59.208	0.750	3019.914	2.9	0.39	1279.5	Surcharged

Project: Catchment 9 100yr +40%CC			Date: 31/07/2026			
			Designed by:	Checked by:	Approved By:	
			CSalt			
Report Details: Type: Connections Summary Storm Phase: Phase			Company: Glanville Consultants			

12	FEH 100 year + 40%: 100 years: +40 %: 960 mins: Summer	Pipe	Pond	S901	59.500	59.392	0.600	5052.672	0.4	0.27	99.9	Flood Risk
13	FEH 100 year + 40%: 100 years: +40 %: 960 mins: Summer	Pipe	S901	Outfall	59.500	59.386	0.299	5048.155	1.1	0.65	99.9	Flood Risk
14	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	Pipe	S914	Pond	60.000	59.210	0.450	1084.619	2.9	0.78	461.0	Surch arged
15	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	Pipe	S905-A	S905	61.400	60.862	0.600	1018.020	1.5	0.45	433.6	Surch arged
16	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	Pipe	S908-A	S908	63.000	62.219	0.525	1049.925	2.1	0.83	447.9	Surch arged
17	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	Pipe	S912-A	S912	63.400	62.594	0.300	108.691	1.0	0.51	48.0	Surch arged
18	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	Pipe	S910-A	S910	62.500	62.485	0.450	254.635	0.9	0.35	116.8	Flood Risk
19	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	Pipe	S906-A	S906	61.500	61.218	0.375	188.133	0.8	0.36	86.5	Flood Risk
20	FEH 100 year + 40%: 100 years: +40 %: 120 mins: Summer	Pipe	S904-A	S904	60.600	60.255	0.450	154.200	0.5	0.13	71.4	Surch arged



I DRN
Date: 17/02/2026 11:27:06
Designed by:
Checked by:
File: Catchment 9 - Hydraulic Model V20
Plot Scale: 1:2137
Catchment 9
InfoDrainage 2026.1
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Project: Catchment 10 2yr, 30 yr, 100yr +20%CC	Date: 30/07/2026			
	Designed by: S.Smith	Checked by:	Approved By:	
Report Details: Type: Inflows Storm Phase: Phase	Glanville Consultants:			



Catchment Area 1

Type : Catchment Area

Area (ha)	0.015
-----------	-------

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100



Catchment Area 2

Type : Catchment Area

Area (ha)	0.038
-----------	-------

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100



Catchment Area 3

Type : Catchment Area

Area (ha)	0.032
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Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100



Catchment Area 4

Type : Catchment Area

Area (ha)	0.037
-----------	-------

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Project: Catchment 10 2yr, 30 yr, 100yr +20%CC	Date: 30/07/2026			
	Designed by: S.Smith	Checked by:	Approved By:	
Report Details: Type: Inflows Storm Phase: Phase	Glanville Consultants:			



Catchment Area 5

Type : Catchment Area

Area (ha)	0.04
-----------	------

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100



Catchment Area 6

Type : Catchment Area

Area (ha)	0.07
-----------	------

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100



Catchment Area 7

Type : Catchment Area

Area (ha)	0.067
-----------	-------

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100



Catchment Area 8

Type : Catchment Area

Area (ha)	0.064
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Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Project: Catchment 10 2yr, 30 yr, 100yr +20%CC	Date: 30/07/2026		
	Designed by: S.Smith	Checked by:	Approved By:
Report Details: Type: Inflows Storm Phase: Phase	Glanville Consultants:		





S1008-A Parcel 15b

Type : Catchment Area

Area (ha)	1.521
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Dynamic Sizing

Runoff Method	Time Area Diagram
Summer Volumetric Runoff Coefficient	1.000
Winter Volumetric Runoff Coefficient	1.000
Percentage Impervious (%)	71.5
Time (mins)	Area (ha)
1	0.500
4	0.500
8	0.521



S1005-A Parcel 15b

Type : Catchment Area

Area (ha)	1.428
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Dynamic Sizing

Runoff Method	Time Area Diagram
Summer Volumetric Runoff Coefficient	1.000
Winter Volumetric Runoff Coefficient	1.000
Percentage Impervious (%)	71.5
Time (mins)	Area (ha)
1	0.500
4	0.500
8	0.428
12	0.000



S1003-A Parcel 15b

Type : Catchment Area

Area (ha)	0.10
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Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	71.5

Project: Catchment 10 2yr, 30 yr, 100yr +20%CC	Date: 30/07/2026			
	Designed by: S.Smith	Checked by:	Approved By:	
Report Details: Type: Inflows Storm Phase: Phase	Glanville Consultants:			



Spur S1011

Type : Catchment Area

Area (ha)	0.45
-----------	------

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	71.5



RMA5 NEAP

Type : Catchment Area

Area (ha)	0.157
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Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100



Spur 1005-B

Type : Catchment Area

Area (ha)	0.175
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Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	71.5



Spur 1006-A

Type : Catchment Area

Area (ha)	0.172
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Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	71.5

Project: Catchment 10 2yr, 30 yr, 100yr +20%CC		Date: 30/07/2026			
		Designed by: S.Smith	Checked by:		Approved By:
Report Details: Type: Junctions Storm Phase: Phase		Glanville Consultants:			

Name	Junction Type	Easting (m)	Northing (m)	Cover Level (m)	Depth (m)	Invert Level (m)	Chamber Shape	Diameter (m)
S1010	Manhole	520225.597	133839.378	62.380	1.830	60.550	Circular	1.200
S1009	Manhole	520218.423	133864.189	62.610	2.227	60.383	Circular	1.200
S1008	Manhole	520210.242	133879.634	62.900	2.859	60.041	Circular	1.200
S1007	Manhole	520192.399	133900.105	63.400	3.425	59.975	Circular	1.200
S1006	Manhole	520169.521	133915.681	63.300	3.393	59.907	Circular	1.200
S1005	Manhole	520138.880	133925.260	63.000	3.171	59.829	Circular	1.200
S1004	Manhole	520097.077	133926.248	62.300	2.573	59.727	Circular	1.200
S1003	Manhole	520082.971	133922.910	62.030	2.339	59.691	Circular	1.200
S1002	Manhole	520094.773	133871.666	61.800	2.313	59.487	Circular	1.200
S1001	Manhole	520046.988	133790.180	60.050	1.225	58.825	Circular	1.200
S1011	Manhole	520117.079	133831.776	61.000	1.600	59.400	Circular	1.200
S1005-A	Manhole	520142.970	133947.336	63.500	3.600	59.900	Circular	1.200
S1003-A	Manhole	520079.478	133938.466	62.400	2.200	60.200	Circular	1.200
S1008-A	Manhole	520223.735	133888.412	63.400	3.100	60.300	Circular	1.200
Outfall	Manhole	520048.897	133783.636	59.600	1.000	58.600	Circular	1.200
S1005-B	Manhole	520142.172	133906.920	62.970	1.500	61.470	Circular	1.200
S1006-A	Manhole	520172.356	133924.921	63.300	2.893	60.407	Circular	1.200

Name	Lock
S1010	None
S1009	None
S1008	None
S1007	None
S1006	None
S1005	None
S1004	None
S1003	None
S1002	None
S1001	None
S1011	None
S1005-A	None
S1003-A	None
S1008-A	None
Outfall	None
S1005-B	None
S1006-A	None

Project: Catchment 10 2yr, 30 yr, 100yr +20%CC	Date: 30/07/2026		
	Designed by: S.Smith	Checked by:	Approved By:
Report Details: Type: Junctions Storm Phase: Phase	Glanville Consultants:		



Inlets

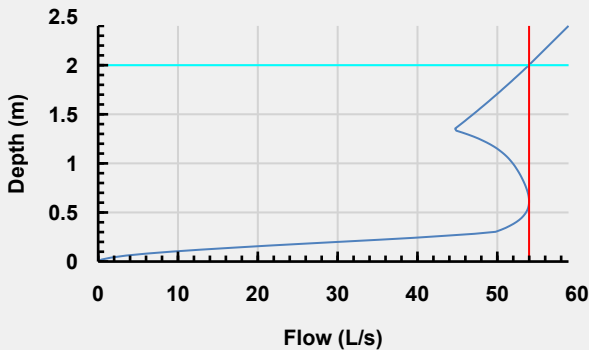
Junction	Inlet Name	Incoming Item(s)	Bypass Destination	Capacity Type
S1010	Inlet	Catchment Area 1	(None)	No Restriction
S1009	Inlet	1	(None)	No Restriction
	Inlet (1)	Catchment Area 2	(None)	No Restriction
S1008	Inlet	2 3	(None)	No Restriction
	Inlet (1)	Catchment Area 3	(None)	No Restriction
S1007	Inlet	4	(None)	No Restriction
	Inlet (1)	Catchment Area 4	(None)	No Restriction
S1006	Inlet	5	(None)	No Restriction
	Inlet (1)	Catchment Area 5 Pipe (2)	(None)	No Restriction
S1005	Inlet	6 Pipe (4)	(None)	No Restriction
	Inlet (1)	7	(None)	No Restriction
	Inlet (2)	Catchment Area 6	(None)	No Restriction
S1004	Inlet	8	(None)	No Restriction
	Inlet (1)	Catchment Area 7	(None)	No Restriction
S1003	Inlet	9	(None)	No Restriction
	Inlet (1)	Catchment Area 8	(None)	No Restriction
	Inlet (2)	16	(None)	No Restriction
S1002	Inlet	11	(None)	No Restriction
S1001	Inlet	14	(None)	No Restriction
S1011	Inlet	Spur S1011	(None)	No Restriction
S1005-A	Inlet	Pipe	(None)	No Restriction
S1003-A	Inlet	S1003-A Parcel 15b	(None)	No Restriction
	Inlet (1)	Pipe (3)	(None)	No Restriction
S1008-A	Inlet	Pipe (1)	(None)	No Restriction
Outfall	Inlet	15	(None)	No Restriction
S1005-B	Inlet	Spur 1005-B	(None)	No Restriction
	Inlet (1)	Pipe (5)	(None)	No Restriction
S1006-A	Inlet	Spur 1006-A Pipe (6)	(None)	No Restriction

Outlets

Junction	Outlet Name	Outgoing Connection	Outlet Type
S1010	Outlet	1	Free Discharge
S1009	Outlet	2	Free Discharge
S1008	Outlet	4	Free Discharge
S1007	Outlet	5	Free Discharge
S1006	Outlet	6	Free Discharge
S1005	Outlet	8	Free Discharge
S1004	Outlet	9	Free Discharge
S1003	Outlet	10	Free Discharge
	Outlet	12	Hydro-Brake®

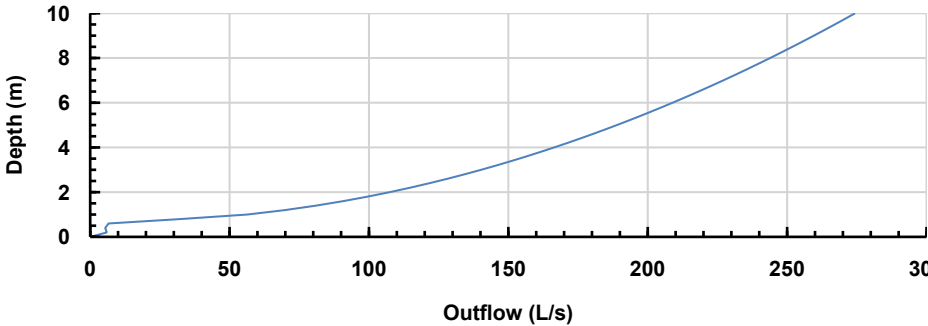
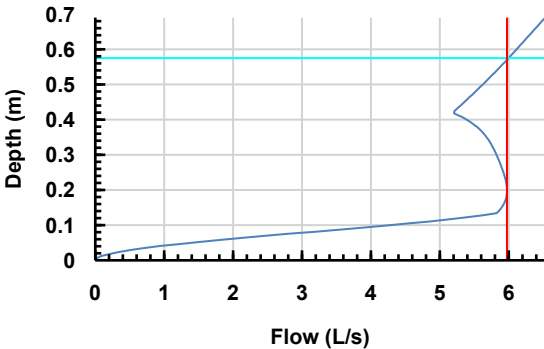
Project: Catchment 10 2yr, 30 yr, 100yr +20%CC	Date: 30/07/2026		
	Designed by: S.Smith	Checked by:	Approved By:
Report Details: Type: Junctions Storm Phase: Phase	Glanville Consultants:		



S1002	Junction	Outlet Name	Outgoing Connection	Outlet Type
	Invert Level (m)		59.487	
	Design Depth (m)		2.000	
	Design Flow (L/s)		54.0	
	Objective	Minimise Upstream Storage Requirements		
	Application	Surface Water Only		
	Sump Available	☒		
	Unit Reference	SHE-0291-5400-2000-5400		
				
	Outlet	15	Multiple	

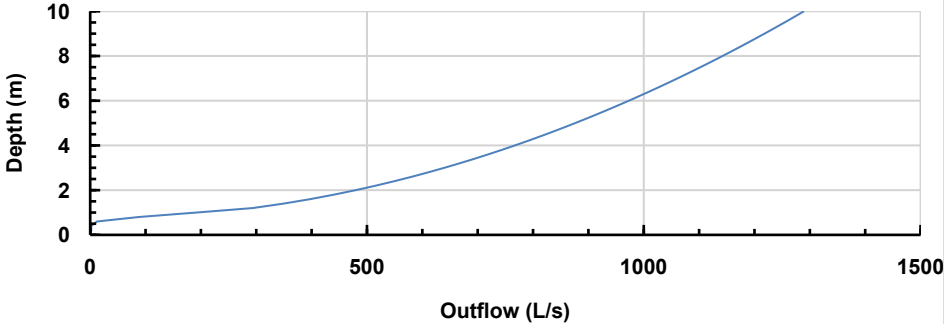
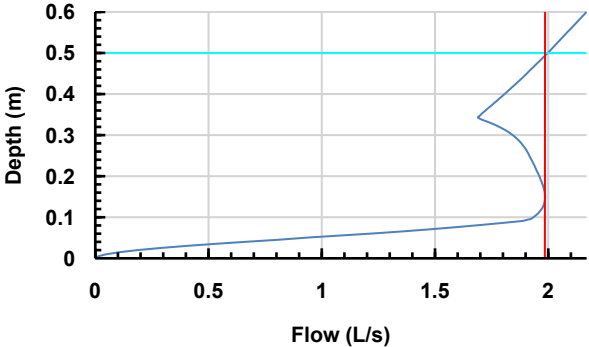
Project: Catchment 10 2yr, 30 yr, 100yr +20%CC	Date: 30/07/2026		
	Designed by: S.Smith	Checked by:	Approved By:
Report Details: Type: Junctions Storm Phase: Phase	Glanville Consultants:		



Junction	Outlet Name	Outgoing Connection	Outlet Type
	Invert Level (m)	58.825	
S1001	Combined Outflow		
			
	Hydro-Brake®		
	Depth Above Invert (m)	0.000	
	Design Depth (m)	0.575	
	Design Flow (L/s)	6.0	
	Objective	Minimise Upstream Storage Requirements	
	Application	Surface Water Only	
	Sump Available	☒	
	Unit Reference	SHE-0121-6000-0575-6000	
S1011			
	Orifice		
	Diameter (m)	0.205	
	Coefficient of Discharge	0.600	
	Depth Above Invert (m)	0.575	
S1011	Outlet	13	Free Discharge
	Outlet	7	Multiple

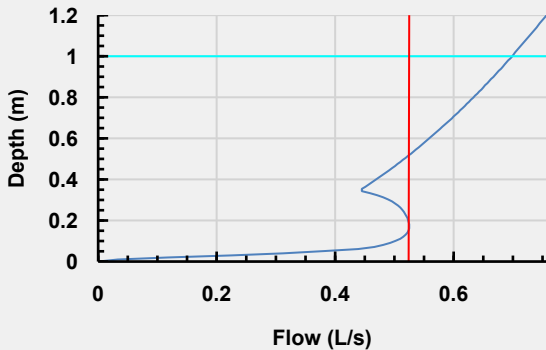
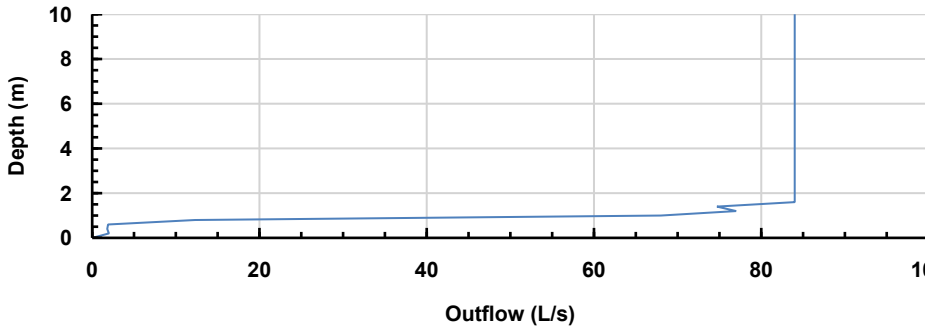
Project: Catchment 10 2yr, 30 yr, 100yr +20%CC	Date: 30/07/2026		
	Designed by: S.Smith	Checked by:	Approved By:
Report Details: Type: Junctions Storm Phase: Phase	Glanville Consultants:		



Junction	Outlet Name	Outgoing Connection	Outlet Type
S1005-A	Invert Level (m)	59.900	
	Combined Outflow		
			
	Hydro-Brake®		
	Depth Above Invert (m)	0.000	
	Design Depth (m)	0.500	
	Design Flow (L/s)	2.0	
	Objective	Minimise Upstream Storage Requirements	
	Application	Surface Water Only	
	Sump Available	☒	
Unit Reference	SHE-0074-2000-0500-2000		
			
Orifice			
Diameter (m)	0.450		
Coefficient of Discharge	0.600		
Depth Above Invert (m)	0.500		
Outlet	16	Hydro-Brake®	

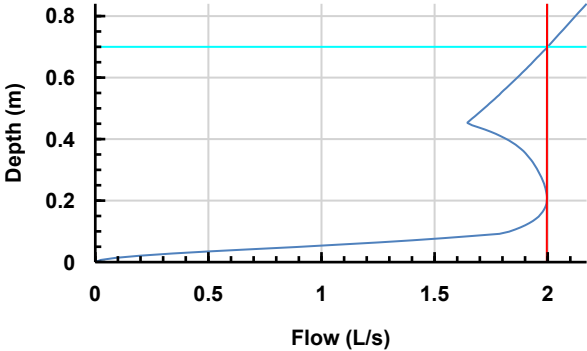
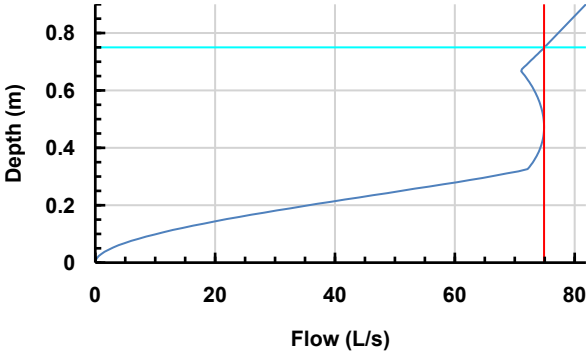
Project: Catchment 10 2yr, 30 yr, 100yr +20%CC	Date: 30/07/2026		
	Designed by: S.Smith	Checked by:	Approved By:
Report Details: Type: Junctions Storm Phase: Phase	Glanville Consultants:		



S1003-A	Junction	Outlet Name	Outgoing Connection	Outlet Type
		Invert Level (m)	60.200	
		Design Depth (m)	1.000	
		Design Flow (L/s)	0.7	
		Objective	Minimise Upstream Storage Requirements	
		Application	Surface Water Only	
		Sump Available	☒	
		Unit Reference	SHE-0039-7000-1000-7000	
				
S1008-A	Outlet	3	Multiple	
	Invert Level (m)	60.300		
	Combined Outflow			
				
	Hydro-Brake®			

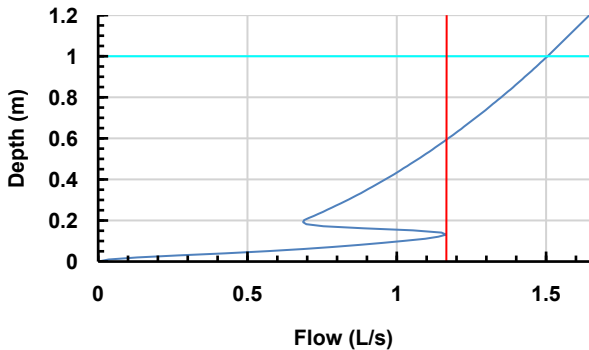
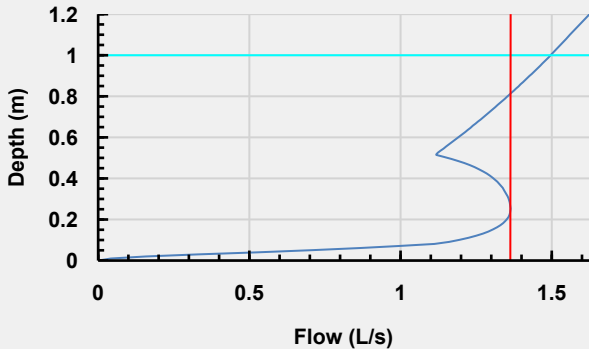
Project: Catchment 10 2yr, 30 yr, 100yr +20%CC	Date: 30/07/2026		
	Designed by: S.Smith	Checked by:	Approved By:
Report Details: Type: Junctions Storm Phase: Phase	Glanville Consultants:		



Junction	Outlet Name	Outgoing Connection	Outlet Type
	Depth Above Invert (m) Design Depth (m) Design Flow (L/s) Objective Application Sump Available	0.000 0.700 2.0 Minimise Upstream Storage Requirements Surface Water Only ☒	
	Unit Reference	SHE-0071-2000-0700-2000	
			
	Hydro-Brake®		
	Depth Above Invert (m) Design Depth (m) Design Flow (L/s) Objective Application Sump Available	0.700 0.750 75.0 Minimise Upstream Storage Requirements Surface Water Only ☒	
	Unit Reference	SHE-0353-7500-0750-7500	
			
Outfall	Outlet Diameter (m) Coefficient of Discharge Invert Level (m)	(None) 0.225 0.600 58.600	Flap Valve
	Outlet	Pipe (4)	Hydro-Brake®

Project: Catchment 10 2yr, 30 yr, 100yr +20%CC	Date: 30/07/2026		
	Designed by: S.Smith	Checked by:	Approved By:
Report Details: Type: Junctions Storm Phase: Phase	Glanville Consultants:		



S1005-B	Junction	Outlet Name	Outgoing Connection	Outlet Type
	Invert Level (m)		61.470	
	Design Depth (m)		1.000	
	Design Flow (L/s)		1.5	
	Objective	Minimise Upstream Storage Requirements		
	Application	Surface Water Only		
	Sump Available	☐		
	Unit Reference	CHE-0056-1500-1000-1500		
				
S1006-A	Outlet	Pipe (2)	Hydro-Brake®	
	Invert Level (m)		60.407	
	Design Depth (m)		1.000	
	Design Flow (L/s)		1.5	
	Objective	Minimise Upstream Storage Requirements		
	Application	Surface Water Only		
	Sump Available	☒		
	Unit Reference	SHE-0058-1500-1000-1500		
				

Project: Catchment 10 2yr, 30 yr, 100yr +20%CC	Date: 30/07/2026		
	Designed by: S.Smith	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: Phase	Glanville Consultants:		





Basin 10b

Type : Pond

Dimensions

Exceedance Level (m)	61.800
Depth (m)	2.293
Base Level (m)	59.507
Freeboard (mm)	0
Initial Depth (m)	0.000
Porosity (%)	100
Average Slope (1:X)	3.106
Total Volume (m³)	121.784

Depth (m)	Area (m²)	Volume (m³)
0.000	13.00	0.000
0.100	13.00	1.300
0.200	13.00	2.600
0.300	13.00	3.900
0.400	13.00	5.200
0.500	13.00	6.500
0.600	13.00	7.800
0.700	13.00	9.100
0.800	13.00	10.400
0.900	13.00	11.700
1.000	13.00	13.000
1.100	13.00	14.300
1.200	13.00	15.600
1.300	13.00	16.900
1.400	13.00	18.200
1.500	13.00	19.500
1.600	39.00	21.984
2.200	247.00	98.813

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	10
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	11
Outlet Type	Free Discharge

Advanced

Perimeter	Circular
Length (m)	33.883
Friction Scheme	Manning's n
n	0.03



Basin 10a

Type : Pond

Project: Catchment 10 2yr, 30 yr, 100yr +20%CC	Date: 30/07/2026		
	Designed by: S.Smith	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: Phase	Glanville Consultants:		



Dimensions

Exceedance Level (m)	60.050
Depth (m)	1.200
Base Level (m)	58.850
Freeboard (mm)	300
Initial Depth (m)	0.000
Porosity (%)	100
Average Slope (1:X)	21.486
Total Volume (m³)	1092.009

Depth (m)	Area (m²)	Volume (m³)
0.000	12.00	0.000
0.100	40.00	2.464
0.200	134.00	10.704
0.300	677.00	47.777
0.400	1386.00	148.833
0.500	1771.00	306.290
0.600	1867.00	488.169
0.700	1964.00	679.699
0.800	2061.00	880.929
0.900	2161.00	1092.009
1.000	2262.00	1313.140
1.100	2364.00	1544.421
1.200	2417.00	1783.466

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	12
Bypass Destination	(None)
Capacity Type	No Restriction

Inlet (1)

Inlet Type	Point Inflow
Incoming Item(s)	13
Bypass Destination	(None)
Capacity Type	No Restriction

Inlet (2)

Inlet Type	Point Inflow
Incoming Item(s)	RMA5 NEAP
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	14
Outlet Type	Free Discharge

Advanced

Perimeter	Circular
Length (m)	79.246
Friction Scheme	Manning's n
n	0.03

Project: Catchment 10 2yr, 30 yr, 100yr +20%CC	Date: 30/07/2026			
	Designed by: S.Smith	Checked by:	Approved By:	
Report Details: Type: Stormwater Controls Storm Phase: Phase	Glanville Consultants:			



Tank 2

Type : Tank

Dimensions

Exceedance Level (m)	61.150
Depth (m)	1.200
Base Level (m)	59.950
Freeboard (mm)	0
Initial Depth (m)	0.000
Porosity (%)	100
Average Slope (1:X)	0.00
Total Volume (m³)	900.000

Depth (m)	Area (m²)	Volume (m³)
0.000	750.00	0.000
1.200	750.00	900.000

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	S1005-A Parcel 15b
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	Pipe
Outlet Type	Orifice
Diameter (m)	0.450
Coefficient of Discharge	0.600
Invert Level (m)	59.950

Advanced

Perimeter	Circular
Length (m)	33.133

Project: Catchment 10 2yr, 30 yr, 100yr +20%CC	Date: 30/07/2026			
	Designed by: S.Smith	Checked by:	Approved By:	
Report Details: Type: Stormwater Controls Storm Phase: Phase	Glanville Consultants:			



Tank 3

Type : Tank

Dimensions

Exceedance Level (m)	61.350
Depth (m)	1.000
Base Level (m)	60.350
Freeboard (mm)	0
Initial Depth (m)	0.000
Porosity (%)	100
Average Slope (1:X)	0.00
Total Volume (m³)	550.000

Depth (m)	Area (m²)	Volume (m³)
0.000	550.00	0.000
1.000	550.00	550.000

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	S1008-A Parcel 15b
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	Pipe (1)
Outlet Type	Orifice
Diameter (m)	0.450
Coefficient of Discharge	0.600
Invert Level (m)	60.350

Advanced

Perimeter	Circular
Length (m)	20.495

Project: Catchment 10 2yr, 30 yr, 100yr +20%CC	Date: 30/07/2026			
	Designed by: S.Smith	Checked by:	Approved By:	
Report Details: Type: Stormwater Controls Storm Phase: Phase	Glanville Consultants:			



Tank 1

Type : Tank

Dimensions

Exceedance Level (m)	61.200
Depth (m)	1.000
Base Level (m)	60.200
Freeboard (mm)	0
Initial Depth (m)	0.000
Porosity (%)	100
Average Slope (1:X)	0.00
Total Volume (m³)	75.000

Depth (m)	Area (m²)	Volume (m³)
0.000	75.00	0.000
1.000	75.00	75.000

Inlets

Outlets

Outlet

Outgoing Connection	Pipe (3)
Outlet Type	Free Discharge

Advanced

Perimeter	Circular
Length (m)	14.095

Project: Catchment 10 2yr, 30 yr, 100yr +20%CC	Date: 30/07/2026			
	Designed by: S.Smith	Checked by:	Approved By:	
Report Details: Type: Stormwater Controls Storm Phase: Phase	Glanville Consultants:			



Tank 5

Type : Tank

Dimensions

Exceedance Level (m)	62.470
Depth (m)	1.000
Base Level (m)	61.470
Freeboard (mm)	0
Initial Depth (m)	0.000
Porosity (%)	100
Average Slope (1:X)	0.00
Total Volume (m³)	80.000

Depth (m)	Area (m²)	Volume (m³)
0.000	80.00	0.000
1.000	80.00	80.000

Inlets

Outlets

Outlet

Outgoing Connection	Pipe (5)
Outlet Type	Free Discharge

Advanced

Perimeter	Circular
Length (m)	10.944

Project: Catchment 10 2yr, 30 yr, 100yr +20%CC	Date: 30/07/2026			
	Designed by: S.Smith	Checked by:	Approved By:	
Report Details: Type: Stormwater Controls Storm Phase: Phase	Glanville Consultants:			



Tank 6

Type : Tank

Dimensions

Exceedance Level (m)	61.457
Depth (m)	1.000
Base Level (m)	60.457
Freeboard (mm)	0
Initial Depth (m)	0.000
Porosity (%)	100
Average Slope (1:X)	0.00
Total Volume (m³)	80.000

Depth (m)	Area (m²)	Volume (m³)
0.000	80.00	0.000
1.000	80.00	80.000

Inlets

Outlets

Outlet

Outgoing Connection	Pipe (6)
Outlet Type	Free Discharge

Advanced

Perimeter	Circular
Length (m)	5.952

Project: Catchment 10 2yr, 30 yr, 100yr +20%CC	Date: 30/07/2026		
	Designed by: S.Smith	Checked by:	Approved By:
Report Details: Type: Connections Storm Phase: Phase	Glanville Consultants:		



Name	Length (m)	Connection Type	Slope (1:X)	Manning's n	Colebrook-White Roughness (mm)	Diameter / Base Width (mm)	Upstream Cover Level (m)	Upstream Invert Level (m)
2	17.478	Pipe	51.105		0.6	225	62.610	60.383
1	25.827	Pipe	154.654		0.6	225	62.380	60.550
3	16.097	Pipe	62.152		0.6	450	63.400	60.300
4	27.156	Pipe	411.457		0.6	450	62.900	60.041
5	27.676	Pipe	407.004		0.6	450	63.400	59.975
6	32.104	Pipe	411.584		0.6	450	63.300	59.907
7	22.452	Pipe	316.227		0.6	450	63.500	59.900
8	41.815	Pipe	409.947		0.6	450	63.000	59.829
9	14.496	Pipe	402.665		0.6	450	62.300	59.727
10	31.872	Pipe	173.216		0.6	450	62.030	59.691
11	20.715	Pipe	1035.757		0.6	450	61.800	59.507
12	18.875	Pipe	29.631		0.6	225	61.800	59.487
13	14.045	Pipe	25.536		0.6	300	61.000	59.400
14	4.633	Pipe	185.312		0.6	450	60.050	58.850
15	6.817	Pipe	30.296		0.6	300	60.050	58.825
16	15.943	Pipe	31.323		0.6	300	62.400	60.200
Pipe (1)	19.787	Pipe	395.742		0.6	450	61.350	60.350
Pipe	10.404	Pipe	208.080		0.6	450	61.150	59.950
Pipe (2)	9.665	Pipe	19.330		0.6	225	63.300	60.407
Pipe (3)	10.407	Pipe	0.000		0.6	300	61.200	60.200
Pipe (4)	18.632	Pipe	11.354		0.6	300	62.970	61.470
Pipe (5)	12.967	Pipe	0.000		0.6	300	62.470	61.470
Pipe (6)	9.288	Pipe	185.761		0.6	225	61.457	60.457

Name	Downstream Cover Level (m)	Downstream Invert Level (m)	Part Family	Lock	Flow Restriction (L/s)	Culvert Type	Culvert Entrance
2	62.900	60.041		None		(None)	(None)
1	62.610	60.383		None		(None)	(None)
3	62.900	60.041		None	84.04	(None)	(None)
4	63.400	59.975		None		(None)	(None)
5	63.300	59.907		None		(None)	(None)
6	63.000	59.829		None		(None)	(None)
7	63.000	59.829		None	718.86	(None)	(None)
8	62.300	59.727		None		(None)	(None)
9	62.030	59.691		None		(None)	(None)
10	61.800	59.507		None		(None)	(None)
11	61.800	59.487		None		(None)	(None)
12	60.050	58.850		None	57.84	(None)	(None)
13	60.050	58.850		None		(None)	(None)
14	60.050	58.825		None		(None)	(None)
15	59.600	58.600		None	71.44	(None)	(None)
16	62.030	59.691		None	0.76	(None)	(None)
Pipe (1)	63.400	60.300		None	372.11	(None)	(None)
Pipe	63.500	59.900		None	417.37	(None)	(None)
Pipe (2)	63.300	59.907		None	1.62	(None)	(None)
Pipe (3)	62.400	60.200		None		(None)	(None)
Pipe (4)	63.000	59.829		None	1.65	(None)	(None)
Pipe (5)	62.970	61.470		None		(None)	(None)
Pipe (6)	63.300	60.407		None		(None)	(None)

Project: Catchment 10 2yr, 30 yr, 100yr +20%CC	Date: 30/07/2026			
	Designed by: S.Smith	Checked by:	Approved By:	
Report Details: Type: Manhole Schedule Storm Phase: Phase	Glanville Consultants:			

Name	Cover Level (m) Invert Level (m)		Connection Details				Type
Coordinates (m)	Depth (m)	Manhole Size (m)	Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
S1010	62.380 60.550	Diameter / Length: 1.200					Manhole
E:520225.597	1.830						
N:133839.378			{a} 1	Pipe	60.550	Diam/Width:225	Not Applicable
S1009	62.610 60.383	Diameter / Length: 1.200	{1} 1	Pipe	60.383	Diam/Width:225	Manhole
E:520218.423	2.227						
N:133864.189			{a} 2	Pipe	60.383	Diam/Width:225	Not Applicable
S1008	62.900 60.041	Diameter / Length: 1.200	{1} 2	Pipe	60.041	Diam/Width:225	Manhole
E:520210.242	2.859		{2} 3	Pipe	60.041	Diam/Width:450	
N:133879.634			{a} 4	Pipe	60.041	Diam/Width:450	Not Applicable
S1007	63.400 59.975	Diameter / Length: 1.200	{1} 4	Pipe	59.975	Diam/Width:450	Manhole
E:520192.399	3.425						
N:133900.105			{a} 5	Pipe	59.975	Diam/Width:450	Not Applicable
S1006	63.300 59.907	Diameter / Length: 1.200	{1} 5	Pipe	59.907	Diam/Width:450	Manhole
E:520169.521	3.393		{2} Pipe (2)	Pipe	59.907	Diam/Width:225	
N:133915.681			{a} 6	Pipe	59.907	Diam/Width:450	Not Applicable

Project: Catchment 10 2yr, 30 yr, 100yr +20%CC		Date: 30/07/2026			
		Designed by: S.Smith	Checked by:		Approved By:
Report Details: Type: Manhole Schedule Storm Phase: Phase		Glanville Consultants:			

Name	Cover Level (m) Invert Level (m)		Connection Details				Type
Coordinates (m)	Depth (m)	Manhole Size (m)	Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
S1005	63.000 59.829	Diameter / Length: 1.200	{1} 6	Pipe	59.829	Diam/Width:450	Manhole
E:520138.880	3.171		{2} Pipe (4)	Pipe	59.829	Diam/Width:300	
N:133925.260			{3} 7	Pipe	59.829	Diam/Width:450	
			{a} 8	Pipe	59.829	Diam/Width:450	Not Applicable
S1004	62.300 59.727	Diameter / Length: 1.200	{1} 8	Pipe	59.727	Diam/Width:450	Manhole
E:520097.077	2.573						
N:133926.248			{a} 9	Pipe	59.727	Diam/Width:450	Not Applicable
S1003	62.030 59.691	Diameter / Length: 1.200	{1} 9	Pipe	59.691	Diam/Width:450	Manhole
E:520082.971	2.339		{2} 16	Pipe	59.691	Diam/Width:300	
N:133922.910			{a} 10	Pipe	59.691	Diam/Width:450	Not Applicable
S1002	61.800 59.487	Diameter / Length: 1.200	{1} 11	Pipe	59.487	Diam/Width:450	Manhole
E:520094.773	2.313						
N:133871.666			{a} 12	Pipe	59.487	Diam/Width:225	Not Applicable

Project: Catchment 10 2yr, 30 yr, 100yr +20%CC		Date: 30/07/2026			
		Designed by: S.Smith	Checked by:		Approved By:
Report Details: Type: Manhole Schedule Storm Phase: Phase		Glanville Consultants:			

Name	Cover Level (m) Invert Level (m)	Manhole Size (m)	Connection Details				Type
Coordinates (m)	Depth (m)		Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
S1001	60.050 58.825	Diameter / Length: 1.200	{1} 14	Pipe	58.825	Diam/Width:450	Manhole
E:520046.988 N:133790.180	1.225		{a} 15	Pipe	58.825	Diam/Width:300	Not Applicable
S1011	61.000 59.400	Diameter / Length: 1.200					Manhole
E:520117.079 N:133831.776	1.600		{a} 13	Pipe	59.400	Diam/Width:300	Not Applicable
S1005-A	63.500 59.900	Diameter / Length: 1.200	{1} Pipe	Pipe	59.900	Diam/Width:450	Manhole
E:520142.970 N:133947.336	3.600		{a} 7	Pipe	59.900	Diam/Width:450	Not Applicable
S1003-A	62.400 60.200	Diameter / Length: 1.200	{1} Pipe (3)	Pipe	60.200	Diam/Width:300	Manhole
E:520079.478 N:133938.466	2.200		{a} 16	Pipe	60.200	Diam/Width:300	Not Applicable
S1008-A	63.400 60.300	Diameter / Length: 1.200	{1} Pipe (1)	Pipe	60.300	Diam/Width:450	Manhole
E:520223.735 N:133888.412	3.100		{a} 3	Pipe	60.300	Diam/Width:450	Not Applicable

Project: Catchment 10 2yr, 30 yr, 100yr +20%CC		Date: 30/07/2026			
		Designed by: S.Smith	Checked by:		Approved By:
Report Details: Type: Manhole Schedule Storm Phase: Phase		Glanville Consultants:			

Name	Cover Level (m) Invert Level (m)		Connection Details				Type
Coordinates (m)	Depth (m)	Manhole Size (m)	Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
Outfall	59.600 58.600	Diameter / Length: 1.200	{1} 15	Pipe	58.600	Diam/Width:300	Manhole
E:520048.897	1.000						
N:133783.636							Not Applicable
S1005-B	62.970 61.470	Diameter / Length: 1.200	{1} Pipe (5)	Pipe	61.470	Diam/Width:300	Manhole
E:520142.172	1.500						
N:133906.920			{a} Pipe (4)	Pipe	61.470	Diam/Width:300	Not Applicable
S1006-A	63.300 60.407	Diameter / Length: 1.200	{1} Pipe (6)	Pipe	60.407	Diam/Width:225	Manhole
E:520172.356	2.893						
N:133924.921			{a} Pipe (2)	Pipe	60.407	Diam/Width:225	Not Applicable

Project: Catchment 10 2yr, 30 yr, 100yr +20%CC		Date: 30/07/2026			
		Designed by: S.Smith	Checked by:		Approved By:
Report Details: Type: Inflow Summary Storm Phase: Phase		Glanville Consultants:			

Inflow Label	Connected To	Flow (L/s)	Runoff Method	Area (ha)	Percentage Impervious (%)	Urban Creep (%)	Adjusted Percentage Impervious (%)	Area Analysed (ha)
Catchment Area 1	S1010		Time of Concentration	0.015	100.0	0	100.0	0.015
Catchment Area 2	S1009		Time of Concentration	0.038	100.0	0	100.0	0.038
Catchment Area 3	S1008		Time of Concentration	0.032	100.0	0	100.0	0.032
Catchment Area 4	S1007		Time of Concentration	0.037	100.0	0	100.0	0.037
Catchment Area 5	S1006		Time of Concentration	0.040	100.0	0	100.0	0.040
Catchment Area 6	S1005		Time of Concentration	0.070	100.0	0	100.0	0.070
Catchment Area 7	S1004		Time of Concentration	0.067	100.0	0	100.0	0.067
Catchment Area 8	S1003		Time of Concentration	0.064	100.0	0	100.0	0.064
RMA5 NEAP	Basin 10a		Time of Concentration	0.157	100.0	0	100.0	0.157
S1003-A Parcel 15b	S1003-A		Time of Concentration	0.100	71.5	0	71.5	0.072
S1005-A Parcel 15b	Tank 2		Time Area Diagram	1.428	71.5	0	71.5	1.021
S1008-A Parcel 15b	Tank 3		Time Area Diagram	1.521	71.5	0	71.5	1.088
Spur 1005-B	S1005-B		Time of Concentration	0.175	71.5	0	71.5	0.125
Spur 1006-A	S1006-A		Time of Concentration	0.172	71.5	0	71.5	0.123
Spur S1011	S1011		Time of Concentration	0.450	71.5	0	71.5	0.322
TOTAL		0.0		4.365				3.269

Project: Catchment 10 2yr, 30 yr, 100yr +20%CC	Date: 30/07/2026			
	Designed by: S.Smith	Checked by:	Approved By:	
Report Details: Type: Network Design Criteria Storm Phase: Phase	Glanville Consultants:			

Flow Options

Peak Flow Calculation	(UK) Modified Rational Method
Min. Time of Entry (mins)	5
Max. Travel Time (mins)	30

Pipe Options

Lock Slope Options	None
Design Options	Minimise Excavation
Design Level	Level Soffits
Min. Cover Depth (m)	1.200
Min. Slope (1:X)	500.00
Max. Slope (1:X)	40.00
Min. Velocity (m/s)	1.0
Max. Velocity (m/s)	3.0
Use Flow Restriction	☐
Reduce Channel Depths	☐

Manhole Options

Apply Offset	☐
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Project: Catchment 10 2yr, 30 yr, 100yr +20%CC	Date: 30/07/2026			
	Designed by: S.Smith	Checked by:	Approved By:	
Report Details: Type: Outfall Details Storm Phase: Phase	Glanville Consultants:			

Outfalls

Outfall	Outfall Type	Gated	Fixed Surcharged Level (m)	Level Curve
Outfall	Free Discharge			

Project: Catchment 10 2yr, 30 yr, 100yr +20%CC	Date: 30/07/2026			
	Designed by: S.Smith	Checked by:	Approved By:	
Report Title: Rainfall Analysis Criteria	Glanville Consultants:			

Runoff Type	Dynamic
Output Interval (mins)	5
Time Step	Shortest
Urban Creep	Apply Global Value
Urban Creep Global Value (%)	0
Junction Flood Risk Margin (mm)	300
Perform No Discharge Analysis	☐

Rainfall		
FEH	Type: FEH	
Site Location	GB 519000 133350 TQ 19000 33350	
Rainfall Version	2022	
Summer	☒	
Winter	☒	

Return Period

Return Period (years)	Increase Rainfall (%)
2.0	0.000
30.0	0.000
100.0	20.000

Storm Durations

Duration (mins)	Run Time (mins)
60	120
120	240
180	360
240	480
360	720
480	960
600	1200
720	1440
960	1920
1440	2880
2160	4320
2880	5760
4320	8640

Project: Catchment 10 2yr, 30 yr, 100yr +20%CC	Date: 30/07/2026		
	Designed by: S.Smith	Checked by:	Approved By:
Report Details: Type: Inflows Summary Storm Phase: Phase	Glanville Consultants:		



FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Catchment Area 1	FEH: 2 years: +0 %: 60 mins: Summer	0.01	1.7	2.166
Catchment Area 2	FEH: 2 years: +0 %: 60 mins: Summer	0.04	4.5	5.640
Catchment Area 3	FEH: 2 years: +0 %: 60 mins: Summer	0.03	3.8	4.746
Catchment Area 4	FEH: 2 years: +0 %: 60 mins: Summer	0.04	4.3	5.400
Catchment Area 5	FEH: 2 years: +0 %: 60 mins: Summer	0.04	4.7	5.868
Catchment Area 6	FEH: 2 years: +0 %: 60 mins: Summer	0.07	8.3	10.314
Catchment Area 7	FEH: 2 years: +0 %: 60 mins: Summer	0.07	7.9	9.906
Catchment Area 8	FEH: 2 years: +0 %: 60 mins: Summer	0.06	7.5	9.390
S1008-A Parcel 15b	FEH: 2 years: +0 %: 60 mins: Summer	1.52	128.3	160.440
S1005-A Parcel 15b	FEH: 2 years: +0 %: 60 mins: Summer	1.43	120.5	150.630
S1003-A Parcel 15b	FEH: 2 years: +0 %: 60 mins: Summer	0.10	8.5	10.584
Spur S1011	FEH: 2 years: +0 %: 60 mins: Summer	0.45	38.0	47.460
RMA5 NEAP	FEH: 2 years: +0 %: 60 mins: Summer	0.16	18.5	23.160
Spur 1005-B	FEH: 2 years: +0 %: 60 mins: Summer	0.18	14.8	18.462
Spur 1006-A	FEH: 2 years: +0 %: 60 mins: Summer	0.17	14.5	18.144

Project: Catchment 10 2yr, 30 yr, 100yr +20%CC	Date: 30/07/2026		
	Designed by: S.Smith	Checked by:	Approved By:
Report Details: Type: Inflows Summary Storm Phase: Phase	Glanville Consultants:		



FEH: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Catchment Area 1	FEH: 30 years: +0 %: 60 mins: Summer	0.01	3.9	4.896
Catchment Area 2	FEH: 30 years: +0 %: 60 mins: Summer	0.04	10.2	12.750
Catchment Area 3	FEH: 30 years: +0 %: 60 mins: Summer	0.03	8.6	10.728
Catchment Area 4	FEH: 30 years: +0 %: 60 mins: Summer	0.04	9.8	12.210
Catchment Area 5	FEH: 30 years: +0 %: 60 mins: Summer	0.04	10.6	13.254
Catchment Area 6	FEH: 30 years: +0 %: 60 mins: Summer	0.07	18.7	23.310
Catchment Area 7	FEH: 30 years: +0 %: 60 mins: Summer	0.07	17.9	22.392
Catchment Area 8	FEH: 30 years: +0 %: 60 mins: Summer	0.06	17.0	21.216
S1008-A Parcel 15b	FEH: 30 years: +0 %: 60 mins: Summer	1.52	290.1	362.688
S1005-A Parcel 15b	FEH: 30 years: +0 %: 60 mins: Summer	1.43	272.4	340.515
S1003-A Parcel 15b	FEH: 30 years: +0 %: 60 mins: Summer	0.10	19.1	23.922
Spur S1011	FEH: 30 years: +0 %: 60 mins: Summer	0.45	85.9	107.310
RMA5 NEAP	FEH: 30 years: +0 %: 60 mins: Summer	0.16	41.9	52.362
Spur 1005-B	FEH: 30 years: +0 %: 60 mins: Summer	0.18	33.4	41.730
Spur 1006-A	FEH: 30 years: +0 %: 60 mins: Summer	0.17	32.8	41.010

Project: Catchment 10 2yr, 30 yr, 100yr +20%CC	Date: 30/07/2026		
	Designed by: S.Smith	Checked by:	Approved By:
Report Details: Type: Inflows Summary Storm Phase: Phase	Glanville Consultants:		



FEH: 100 years: Increase Rainfall (%): +20: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Catchment Area 1	FEH: 100 years: +20 %: 60 mins: Summer	0.01	6.0	7.548
Catchment Area 2	FEH: 100 years: +20 %: 60 mins: Summer	0.04	15.7	19.638
Catchment Area 3	FEH: 100 years: +20 %: 60 mins: Summer	0.03	13.2	16.518
Catchment Area 4	FEH: 100 years: +20 %: 60 mins: Summer	0.04	15.0	18.810
Catchment Area 5	FEH: 100 years: +20 %: 60 mins: Summer	0.04	16.3	20.418
Catchment Area 6	FEH: 100 years: +20 %: 60 mins: Summer	0.07	28.7	35.892
Catchment Area 7	FEH: 100 years: +20 %: 60 mins: Summer	0.07	27.6	34.494
Catchment Area 8	FEH: 100 years: +20 %: 60 mins: Summer	0.06	26.1	32.670
S1008-A Parcel 15b	FEH: 100 years: +20 %: 60 mins: Summer	1.52	446.7	558.541
S1005-A Parcel 15b	FEH: 100 years: +20 %: 60 mins: Summer	1.43	419.5	524.395
S1003-A Parcel 15b	FEH: 100 years: +20 %: 60 mins: Summer	0.10	29.5	36.840
Spur S1011	FEH: 100 years: +20 %: 60 mins: Summer	0.45	132.2	165.251
RMA5 NEAP	FEH: 100 years: +20 %: 60 mins: Summer	0.16	64.5	80.633
Spur 1005-B	FEH: 100 years: +20 %: 60 mins: Summer	0.18	51.4	64.272
Spur 1006-A	FEH: 100 years: +20 %: 60 mins: Summer	0.17	50.5	63.162

Project: Catchment 10 2yr, 30 yr, 100yr +20%CC	Date: 30/07/2026		
	Designed by: S.Smith	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Phase	Glanville Consultants:		





FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Outflow

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
S1010	FEH: 2 years: +0 %: 60 mins: Summer	62.38 0	60.55 0	60.581	0.031	1.7	0.035	0.000	1.7	2.165	OK
S1009	FEH: 2 years: +0 %: 60 mins: Summer	62.61 0	60.38 3	60.427	0.044	6.2	0.050	0.000	6.2	7.809	OK
S1008	FEH: 2 years: +0 %: 60 mins: Summer	62.90 0	60.04 1	60.125	0.084	12.0	0.095	0.000	12.0	24.022	OK
S1007	FEH: 2 years: +0 %: 60 mins: Summer	63.40 0	59.97 5	60.074	0.099	16.3	0.112	0.000	16.3	29.230	OK
S1006	FEH: 2 years: +0 %: 60 mins: Summer	63.30 0	59.90 7	60.024	0.117	22.4	0.132	0.000	22.3	43.801	OK
S1005	FEH: 2 years: +0 %: 60 mins: Summer	63.00 0	59.82 9	59.970	0.141	33.5	0.160	0.000	33.0	70.932	OK
S1004	FEH: 2 years: +0 %: 60 mins: Summer	62.30 0	59.72 7	59.928	0.201	40.9	0.227	0.000	38.8	80.401	OK
S1003	FEH: 2 years: +0 %: 60 mins: Summer	62.03 0	59.69 1	59.913	0.222	46.8	0.251	0.000	44.8	92.756	OK
S1002	FEH: 2 years: +0 %: 60 mins: Summer	61.80 0	59.48 7	59.843	0.356	42.5	0.403	0.000	41.6	90.647	Surcharged
S1001	FEH: 2 years: +0 %: 1440 mins: Summer	60.05 0	58.82 5	59.355	0.530	6.0	0.599	0.000	6.0	895.284	Surcharged
S1011	FEH: 2 years: +0 %: 60 mins: Summer	61.00 0	59.40 0	59.481	0.081	38.0	0.092	0.000	38.0	47.472	OK
S1005-A	FEH: 2 years: +0 %: 180 mins: Summer	63.50 0	59.90 0	60.238	0.338	2.3	0.382	0.000	2.0	35.134	OK
S1003-A	FEH: 2 years: +0 %: 480 mins: Summer	62.40 0	60.20 0	60.379	0.179	3.1	0.203	0.000	0.5	34.317	OK
S1008-A	FEH: 2 years: +0 %: 180 mins: Summer	63.40 0	60.30 0	60.767	0.467	2.8	0.529	0.000	2.0	34.047	Surcharged
Outfall	FEH: 2 years: +0 %: 4320 mins: Summer	59.60 0	58.60 0	58.672	0.072	6.0	0.081	0.000	6.0	2215.167	OK
S1005-B	FEH: 2 years: +0 %: 2160 mins: Summer	62.97 0	61.47 0	61.622	0.152	1.8	0.172	0.000	1.2	70.951	OK
S1006-A	FEH: 2 years: +0 %: 120 mins: Summer	63.30 0	60.40 7	60.654	0.247	11.6	0.280	0.000	1.4	33.447	Surcharged

Project: Catchment 10 2yr, 30 yr, 100yr +20%CC	Date: 30/07/2026		
	Designed by: S.Smith	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Phase	Glanville Consultants:		





FEH: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Outflow

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
S1010	FEH: 30 years: +0 %: 60 mins: Summer	62.380	60.550	60.596	0.046	3.9	0.052	0.000	3.9	4.895	OK
S1009	FEH: 30 years: +0 %: 60 mins: Summer	62.610	60.383	60.449	0.066	14.1	0.075	0.000	14.2	17.652	OK
S1008	FEH: 30 years: +0 %: 480 mins: Winter	62.900	60.041	60.162	0.121	23.0	0.137	0.000	23.0	326.100	OK
S1007	FEH: 30 years: +0 %: 60 mins: Summer	63.400	59.975	60.288	0.313	32.3	0.354	0.000	30.5	52.377	OK
S1006	FEH: 30 years: +0 %: 60 mins: Summer	63.300	59.907	60.286	0.379	42.5	0.428	0.000	35.6	74.197	OK
S1005	FEH: 30 years: +0 %: 480 mins: Winter	63.000	59.829	60.037	0.208	48.4	0.235	0.000	47.9	795.176	OK
S1004	FEH: 30 years: +0 %: 60 mins: Summer	62.300	59.727	60.275	0.548	61.3	0.620	0.000	52.5	135.920	Surcharged
S1003	FEH: 30 years: +0 %: 60 mins: Summer	62.030	59.691	60.271	0.580	69.9	0.656	0.000	62.6	160.351	Surcharged
S1002	FEH: 30 years: +0 %: 60 mins: Summer	61.800	59.487	60.239	0.752	54.6	0.850	0.000	54.0	158.273	Surcharged
S1001	FEH: 30 years: +0 %: 1440 mins: Winter	60.050	58.825	59.560	0.735	25.8	0.831	0.000	25.8	1633.758	Surcharged
S1011	FEH: 30 years: +0 %: 60 mins: Summer	61.000	59.400	59.529	0.129	85.9	0.146	0.000	85.9	107.301	OK
S1005-A	FEH: 30 years: +0 %: 480 mins: Winter	63.500	59.900	60.492	0.592	20.4	0.669	0.000	20.4	269.840	Surcharged
S1003-A	FEH: 30 years: +0 %: 2880 mins: Summer	62.400	60.200	60.465	0.265	1.4	0.300	0.000	0.5	81.098	OK
S1008-A	FEH: 30 years: +0 %: 480 mins: Winter	63.400	60.300	61.141	0.841	21.3	0.951	0.000	21.3	278.353	Surcharged
Outfall	FEH: 30 years: +0 %: 1440 mins: Winter	59.600	58.600	58.789	0.189	25.8	0.214	0.000	25.8	1633.600	OK
S1005-B	FEH: 30 years: +0 %: 2880 mins: Summer	62.970	61.470	61.866	0.396	2.4	0.448	0.000	1.2	138.514	Surcharged
S1006-A	FEH: 30 years: +0 %: 60 mins: Summer	63.300	60.407	60.900	0.493	32.8	0.558	0.000	1.4	44.409	Surcharged

Project: Catchment 10 2yr, 30 yr, 100yr +20%CC	Date: 30/07/2026			
	Designed by:	Checked by:	Approved By:	
	S.Smith			
Report Details: Type: Junctions Summary Storm Phase: Phase			Glanville Consultants:	



FEH: 100 years: Increase Rainfall (%): +20: Critical Storm Per Item: Rank By: Max. Outflow

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
S1010	FEH: 100 years: +20 %: 60 mins: Summer	62.380	60.550	60.708	0.158	6.0	0.178	0.000	5.8	7.591	OK
S1009	FEH: 100 years: +20 %: 60 mins: Summer	62.610	60.383	60.707	0.324	21.5	0.367	0.000	21.1	26.558	Surcharged
S1008	FEH: 100 years: +20 %: 360 mins: Summer	62.900	60.041	60.987	0.946	66.9	1.070	0.000	66.8	567.306	Surcharged
S1007	FEH: 100 years: +20 %: 360 mins: Summer	63.400	59.975	60.983	1.008	69.0	1.140	0.000	68.9	595.660	Surcharged
S1006	FEH: 100 years: +20 %: 360 mins: Summer	63.300	59.907	60.979	1.072	72.6	1.213	0.000	72.4	679.630	Surcharged
S1005	FEH: 100 years: +20 %: 240 mins: Winter	63.000	59.829	60.939	1.110	76.1	1.256	0.000	61.8	1079.275	Surcharged
S1004	FEH: 100 years: +20 %: 360 mins: Summer	62.300	59.727	60.963	1.236	68.8	1.397	0.000	67.7	1295.748	Surcharged
S1003	FEH: 100 years: +20 %: 60 mins: Summer	62.030	59.691	60.664	0.973	79.1	1.101	0.000	74.0	339.968	Surcharged
S1002	FEH: 100 years: +20 %: 120 mins: Winter	61.800	59.487	60.775	1.288	54.5	1.457	0.000	54.0	650.868	Surcharged
S1001	FEH: 100 years: +20 %: 1440 mins: Winter	60.050	58.825	59.744	0.919	49.7	1.040	0.000	49.7	2842.762	Surcharged
S1011	FEH: 100 years: +20 %: 60 mins: Summer	61.000	59.400	59.583	0.183	132.2	0.207	0.000	132.2	165.178	OK
S1005-A	FEH: 100 years: +20 %: 1440 mins: Summer	63.500	59.900	60.942	1.042	36.9	1.178	0.000	56.8	987.895	Surcharged
S1003-A	FEH: 100 years: +20 %: 960 mins: Summer	62.400	60.200	60.967	0.767	4.9	0.867	0.000	0.6	106.225	Surcharged
S1008-A	FEH: 100 years: +20 %: 360 mins: Summer	63.400	60.300	61.282	0.982	62.5	1.110	0.000	62.5	500.353	Surcharged
Outfall	FEH: 100 years: +20 %: 1440 mins: Winter	59.600	58.600	58.936	0.336	49.7	0.380	0.000	49.7	2842.607	OK
S1005-B	FEH: 100 years: +20 %: 480 mins: Winter	62.970	61.470	62.405	0.935	9.3	1.057	0.000	1.4	140.463	Surcharged
S1006-A	FEH: 100 years: +20 %: 60 mins: Summer	63.300	60.407	61.173	0.766	50.5	0.867	0.000	1.4	65.946	Surcharged

Project: Catchment 10 2yr, 30 yr, 100yr +20%CC		Date: 30/07/2026			
		Designed by: S.Smith	Checked by:		Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase		Glanville Consultants:			



FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Resident Volume

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Residual Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Half Drain Down Time (mins)	Percentage Available (%)
Basin 10b	FEH: 2 years: +0 %: 60 mins: Summer	59.897	59.850	0.390	0.343	44.8	4.771	0.000	0.000	42.5	91.171		96.083
Basin 10a	FEH: 2 years: +0 %: 1440 mins: Winter	59.358	59.358	0.508	0.508	17.0	320.550	0.000	0.000	6.0	896.207		70.646
Tank 2	FEH: 2 years: +0 %: 1440 mins: Winter	60.366	60.366	0.416	0.416	12.6	311.838	0.000	0.000	5.2	525.348		65.351
Tank 3	FEH: 2 years: +0 %: 1440 mins: Winter	60.949	60.949	0.599	0.599	19.8	329.547	0.000	0.000	11.1	263.356	635	40.082
Tank 1	FEH: 2 years: +0 %: 480 mins: Summer	60.379	60.379	0.179	0.179	2.5	13.433	0.000	0.000	0.5	11.661		82.089
Tank 5	FEH: 2 years: +0 %: 480 mins: Summer	61.759	61.759	0.289	0.289	4.3	23.138	0.000	0.000	1.1	20.838		71.077
Tank 6	FEH: 2 years: +0 %: 240 mins: Summer	60.671	60.671	0.214	0.214	6.7	17.151	0.000	0.000	1.3	16.345		78.561

Project: Catchment 10 2yr, 30 yr, 100yr +20%CC	Date: 30/07/2026			
	Designed by: S.Smith	Checked by:	Approved By:	
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Glanville Consultants:			

Status
OK
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Project: Catchment 10 2yr, 30 yr, 100yr +20%CC		Date: 30/07/2026			
		Designed by: S.Smith	Checked by:		Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase		Glanville Consultants:			



FEH: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Resident Volume

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Half Drain Down Time (mins)	Percentage Available (%)
Basin 10b	FEH: 30 years: +0 %: 60 mins: Summer	60.260	60.247	0.753	0.740	62.6	9.711	0.000	0.000	54.6	158.787		92.026
Basin 10a	FEH: 30 years: +0 %: 1440 mins: Winter	59.561	59.561	0.711	0.711	47.0	701.233	0.000	0.000	25.8	1634.742	455	35.785
Tank 2	FEH: 30 years: +0 %: 480 mins: Winter	60.495	60.495	0.545	0.545	51.1	408.670	0.000	0.000	20.4	253.472		54.592
Tank 3	FEH: 30 years: +0 %: 480 mins: Winter	61.145	61.145	0.795	0.795	57.7	437.094	0.000	0.000	28.2	297.568		20.528
Tank 1	FEH: 30 years: +0 %: 480 mins: Winter	60.583	60.583	0.383	0.383	2.9	28.717	0.000	0.000	0.5	14.040		61.710
Tank 5	FEH: 30 years: +0 %: 360 mins: Winter	62.057	62.057	0.587	0.587	6.7	46.951	0.000	0.000	1.1	21.576	120	41.311
Tank 6	FEH: 30 years: +0 %: 240 mins: Winter	60.984	60.984	0.527	0.527	8.8	42.156	0.000	0.000	1.3	17.572	35	47.305

Project: Catchment 10 2yr, 30 yr, 100yr +20%CC	Date: 30/07/2026			
	Designed by: S.Smith	Checked by:	Approved By:	
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Glanville Consultants:			

Status
OK
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Project: Catchment 10 2yr, 30 yr, 100yr +20%CC		Date: 30/07/2026			
		Designed by: S.Smith	Checked by:		Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase		Glanville Consultants:			



**FEH: 100 years: Increase Rainfall (%): +20: Critical Storm Per Item: Rank By:
Max. Resident Volume**

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Half Drain Down Time (mins)	Percentage Available (%)
Basin 10b	FEH: 100 years: +20 %: 720 mins: Summer	60.984	60.981	1.477	1.474	64.6	19.184	0.000	0.000	54.9	1927.310		84.248
Basin 10a	FEH: 100 years: +20 %: 1440 mins: Winter	59.748	59.748	0.898	0.898	69.4	1087.537	0.000	0.000	49.7	2843.782	595	0.410
Tank 2	FEH: 100 years: +20 %: 720 mins: Summer	61.020	61.020	1.070	1.070	91.0	802.358	0.000	0.000	39.2	709.873	255	10.849
Tank 3	FEH: 100 years: +20 %: 360 mins: Summer	61.315	61.315	0.965	0.965	151.4	530.838	0.000	0.000	62.5	517.828		3.484
Tank 1	FEH: 100 years: +20 %: 720 mins: Summer	60.967	60.967	0.767	0.767	5.5	57.542	0.000	0.000	0.6	23.296	610	23.278
Tank 5	FEH: 100 years: +20 %: 480 mins: Winter	62.405	62.405	0.935	0.935	8.1	74.801	0.000	0.000	1.4	36.104	485	6.499
Tank 6	FEH: 100 years: +20 %: 360 mins: Winter	61.331	61.331	0.874	0.874	10.0	69.886	0.000	0.000	1.3	26.844		12.642

Project: Catchment 10 2yr, 30 yr, 100yr +20%CC	Date: 30/07/2026			
	Designed by: S.Smith	Checked by:	Approved By:	
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Glanville Consultants:			

Status
OK
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Project: Catchment 10 2yr, 30 yr, 100yr +20%CC	Date: 30/07/2026		
	Designed by: S.Smith	Checked by:	Approved By:
Report Details: Type: Connections Summary Storm Phase: Phase	Glanville Consultants:		





FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
2	FEH: 2 years: +0 %: 60 mins: Summer	Pipe	S1009	S1008	62.610	60.427	0.064	7.809	0.7	0.09	6.2	OK
1	FEH: 2 years: +0 %: 60 mins: Summer	Pipe	S1010	S1009	62.380	60.581	0.038	2.165	0.4	0.04	1.7	OK
3	FEH: 2 years: +0 %: 360 mins: Summer	Pipe	S1008-A	S1008	63.400	60.861	0.041	69.814	0.4	0	2.0	Surcharged
4	FEH: 2 years: +0 %: 60 mins: Summer	Pipe	S1008	S1007	62.900	60.125	0.092	24.022	0.5	0.08	12.0	OK
5	FEH: 2 years: +0 %: 60 mins: Summer	Pipe	S1007	S1006	63.400	60.074	0.108	29.230	0.6	0.1	16.3	OK
6	FEH: 2 years: +0 %: 60 mins: Summer	Pipe	S1006	S1005	63.300	60.024	0.129	43.801	0.6	0.14	22.3	OK
7	FEH: 2 years: +0 %: 60 mins: Summer	Pipe	S1005-A	S1005	63.500	60.140	0.106	11.136	0.2	0.01	2.6	OK
8	FEH: 2 years: +0 %: 60 mins: Summer	Pipe	S1005	S1004	63.000	59.970	0.171	70.932	0.6	0.21	33.0	OK
9	FEH: 2 years: +0 %: 60 mins: Summer	Pipe	S1004	S1003	62.300	59.928	0.212	80.401	0.7	0.24	38.8	OK
10	FEH: 2 years: +0 %: 60 mins: Summer	Pipe	S1003	Basin 10b	62.030	59.913	0.306	92.756	0.4	0.18	44.8	OK
11	FEH: 2 years: +0 %: 60 mins: Summer	Pipe	Basin 10b	S1002	61.800	59.874	0.349	91.171	0.3	0.43	42.5	OK
12	FEH: 2 years: +0 %: 60 mins: Summer	Pipe	S1002	Basin 10a	61.800	59.843	0.223	90.554	1.1	0.43	41.6	Surcharged
13	FEH: 2 years: +0 %: 60 mins: Summer	Pipe	S1011	Basin 10a	61.000	59.481	0.201	47.472	0.8	0.17	38.0	OK
14	FEH: 2 years: +0 %: 60 mins: Winter	Pipe	Basin 10a	S1001	60.050	59.231	0.393	37.487	0.2	0.03	6.4	OK
15	FEH: 2 years: +0 %: 1440 mins: Summer	Pipe	S1001	Outfall	60.050	59.355	0.053	895.245	0.7	0.03	6.0	Surcharged
16	FEH: 2 years: +0 %: 480 mins: Summer	Pipe	S1003-A	S1003	62.400	60.379	0.054	20.877	0.2	0	0.5	OK
Pipe (1)	FEH: 2 years: +0 %: 2160 mins: Summer	Pipe	Tank 3	S1008-A	61.350	60.940	0.450	429.414	0.1	0.02	3.4	Surcharged
Pipe	FEH: 2 years: +0 %: 120 mins: Summer	Pipe	Tank 2	S1005-A	61.150	60.201	0.276	24.267	0.2	0.01	2.4	OK
Pipe (2)	FEH: 2 years: +0 %: 240 mins: Winter	Pipe	S1006-A	S1006	63.300	60.668	0.047	30.703	0.4	0.01	1.4	Surcharged

Project: Catchment 10 2yr, 30 yr, 100yr +20%CC				Date: 30/07/2026									
				Designed by: S.Smith		Checked by:						Approved By:	
Report Details: Type: Connections Summary Storm Phase: Phase				Glanville Consultants:									

Pipe (3)	FEH: 2 years: +0 %: 120 mins: Summer	Pipe	Tank 1	S1003-A	61.200	60.346	0.146	0.000	0.0	0.01	0.5	OK
Pipe (4)	FEH: 2 years: +0 %: 1440 mins: Winter	Pipe	S1005-B	S1005	62.970	61.616	0.042	52.370	0.2	0	1.2	OK
Pipe (5)	FEH: 2 years: +0 %: 360 mins: Summer	Pipe	Tank 5	S1005-B	62.470	61.758	0.288	0.000	0.1	0.02	1.1	OK
Pipe (6)	FEH: 2 years: +0 %: 180 mins: Summer	Pipe	Tank 6	S1006-A	61.457	60.667	0.225	0.000	0.1	0.04	1.3	OK

Project: Catchment 10 2yr, 30 yr, 100yr +20%CC	Date: 30/07/2026		
	Designed by: S.Smith	Checked by:	Approved By:
Report Details: Type: Connections Summary Storm Phase: Phase	Glanville Consultants:		





FEH: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
2	FEH: 30 years: +0 %: 60 mins: Summer	Pipe	S1009	S1008	62.610	60.449	0.146	17.652	0.9	0.19	14.2	OK
1	FEH: 30 years: +0 %: 60 mins: Summer	Pipe	S1010	S1009	62.380	60.596	0.056	4.895	0.5	0.09	3.9	OK
3	FEH: 30 years: +0 %: 480 mins: Winter	Pipe	S1008-A	S1008	63.400	61.141	0.095	278.322	0.9	0.05	21.3	Surcharged
4	FEH: 30 years: +0 %: 480 mins: Winter	Pipe	S1008	S1007	62.900	60.162	0.122	326.100	0.7	0.15	23.0	OK
5	FEH: 30 years: +0 %: 60 mins: Summer	Pipe	S1007	S1006	63.400	60.288	0.346	52.377	0.6	0.19	30.5	OK
6	FEH: 30 years: +0 %: 60 mins: Summer	Pipe	S1006	S1005	63.300	60.286	0.416	74.197	0.6	0.22	35.6	OK
7	FEH: 30 years: +0 %: 480 mins: Winter	Pipe	S1005-A	S1005	63.500	60.492	0.178	269.777	0.4	0.11	20.3	Surcharged
8	FEH: 30 years: +0 %: 480 mins: Winter	Pipe	S1005	S1004	63.000	60.037	0.239	795.176	0.7	0.3	47.9	OK
9	FEH: 30 years: +0 %: 60 mins: Summer	Pipe	S1004	S1003	62.300	60.275	0.450	135.920	0.7	0.33	52.5	Surcharged
10	FEH: 30 years: +0 %: 60 mins: Summer	Pipe	S1003	Basin 10b	62.030	60.271	0.450	160.343	0.4	0.26	62.6	Surcharged
11	FEH: 30 years: +0 %: 60 mins: Summer	Pipe	Basin 10b	S1002	61.800	60.254	0.450	158.787	0.3	0.55	54.6	Surcharged
12	FEH: 30 years: +0 %: 60 mins: Summer	Pipe	S1002	Basin 10a	61.800	60.239	0.225	158.167	1.4	0.56	54.0	Surcharged
13	FEH: 30 years: +0 %: 60 mins: Summer	Pipe	S1011	Basin 10a	61.000	59.529	0.260	107.301	1.4	0.39	85.9	OK
14	FEH: 30 years: +0 %: 1440 mins: Winter	Pipe	Basin 10a	S1001	60.050	59.561	0.450	1634.742	0.2	0.11	25.8	Surcharged

Project: Catchment 10 2yr, 30 yr, 100yr +20%CC		Date: 30/07/2026			
		Designed by: S.Smith	Checked by:		Approved By:
Report Details: Type: Connections Summary Storm Phase: Phase		Glanville Consultants:			

15	FEH: 30 years: +0 %: 1440 mins: Winter	Pipe	S1001	Outfall	60.050	59.560	0.130	1633.718	0.9	0.13	25.8	Surcharged
16	FEH: 30 years: +0 %: 60 mins: Summer	Pipe	S1003-A	S1003	62.400	60.485	0.300	3.535	0.2	0	0.6	OK
Pipe (1)	FEH: 30 years: +0 %: 480 mins: Winter	Pipe	Tank 3	S1008-A	61.350	61.145	0.450	280.549	0.2	0.13	21.3	Surcharged
Pipe	FEH: 30 years: +0 %: 480 mins: Winter	Pipe	Tank 2	S1005-A	61.150	60.495	0.450	270.761	0.2	0.09	20.4	Surcharged
Pipe (2)	FEH: 30 years: +0 %: 60 mins: Summer	Pipe	S1006-A	S1006	63.300	60.900	0.197	8.867	0.4	0.01	1.4	Surcharged
Pipe (3)	FEH: 30 years: +0 %: 1440 mins: Winter	Pipe	Tank 1	S1003-A	61.200	60.516	0.300	0.000	0.0	0.01	0.5	Surcharged
Pipe (4)	FEH: 30 years: +0 %: 2880 mins: Summer	Pipe	S1005-B	S1005	62.970	61.866	0.075	106.847	0.3	0	1.2	Surcharged
Pipe (5)	FEH: 30 years: +0 %: 1440 mins: Summer	Pipe	Tank 5	S1005-B	62.470	61.973	0.300	0.000	0.1	0.02	1.1	Surcharged
Pipe (6)	FEH: 30 years: +0 %: 360 mins: Winter	Pipe	Tank 6	S1006-A	61.457	60.972	0.225	0.000	0.0	0.04	1.3	Surcharged

Project: Catchment 10 2yr, 30 yr, 100yr +20%CC	Date: 30/07/2026		
	Designed by: S.Smith	Checked by:	Approved By:
Report Details: Type: Connections Summary Storm Phase: Phase	Glanville Consultants:		



FEH: 100 years: Increase Rainfall (%): +20: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
2	FEH: 100 years: +20 %: 60 mins: Summer	Pipe	S1009	S1008	62.610	60.707	0.225	26.501	0.9	0.29	21.1	Surcharged
1	FEH: 100 years: +20 %: 60 mins: Summer	Pipe	S1010	S1009	62.380	60.708	0.225	7.564	0.6	0.14	5.8	OK
3	FEH: 100 years: +20 %: 360 mins: Summer	Pipe	S1008-A	S1008	63.400	61.282	0.450	500.338	0.7	0.15	62.4	Surcharged
4	FEH: 100 years: +20 %: 360 mins: Summer	Pipe	S1008	S1007	62.900	60.987	0.450	567.059	0.6	0.42	66.8	Surcharged
5	FEH: 100 years: +20 %: 360 mins: Summer	Pipe	S1007	S1006	63.400	60.983	0.450	595.660	0.6	0.43	68.9	Surcharged
6	FEH: 100 years: +20 %: 360 mins: Summer	Pipe	S1006	S1005	63.300	60.979	0.450	679.587	0.6	0.46	72.4	Surcharged
7	FEH: 100 years: +20 %: 360 mins: Summer	Pipe	S1005-A	S1005	63.500	60.982	0.450	458.980	0.5	0.24	44.2	Surcharged
8	FEH: 100 years: +20 %: 240 mins: Winter	Pipe	S1005	S1004	63.000	60.939	0.450	1005.202	0.6	0.39	61.8	Surcharged
9	FEH: 100 years: +20 %: 360 mins: Summer	Pipe	S1004	S1003	62.300	60.963	0.450	1295.748	0.7	0.42	67.7	Surcharged
10	FEH: 100 years: +20 %: 60 mins: Summer	Pipe	S1003	Basin 10b	62.030	60.664	0.450	339.337	0.5	0.3	74.0	Surcharged
11	FEH: 100 years: +20 %: 60 mins: Summer	Pipe	Basin 10b	S1002	61.800	60.651	0.450	326.519	0.3	0.56	55.7	Surcharged
12	FEH: 100 years: +20 %: 360 mins: Winter	Pipe	S1002	Basin 10a	61.800	60.924	0.225	1356.653	1.4	0.56	54.0	Surcharged
13	FEH: 100 years: +20 %: 60 mins: Summer	Pipe	S1011	Basin 10a	61.000	59.583	0.300	165.177	1.9	0.6	132.2	OK
14	FEH: 100 years: +20 %: 1440 mins: Winter	Pipe	Basin 10a	S1001	60.050	59.748	0.450	2843.782	0.3	0.21	49.7	Surcharged

Project: Catchment 10 2yr, 30 yr, 100yr +20%CC				Date: 30/07/2026									
				Designed by: S.Smith		Checked by:						Approved By:	
Report Details: Type: Connections Summary Storm Phase: Phase				Glanville Consultants:									

15	FEH: 100 years: +20 %: 1440 mins: Winter	Pipe	S1001	Outfall	60.050	59.744	0.228	2842.721	0.9	0.25	49.7	Surcharged
16	FEH: 100 years: +20 %: 600 mins: Winter	Pipe	S1003-A	S1003	62.400	60.946	0.300	26.501	0.2	0.01	1.0	Surcharged
Pipe (1)	FEH: 100 years: +20 %: 360 mins: Summer	Pipe	Tank 3	S1008-A	61.350	61.315	0.450	502.652	0.4	0.39	62.5	Surcharged
Pipe	FEH: 100 years: +20 %: 360 mins: Summer	Pipe	Tank 2	S1005-A	61.150	60.983	0.450	460.180	0.3	0.19	43.0	Surcharged
Pipe (2)	FEH: 100 years: +20 %: 720 mins: Winter	Pipe	S1006-A	S1006	63.300	61.276	0.225	104.580	0.4	0.01	1.7	Surcharged
Pipe (3)	FEH: 100 years: +20 %: 960 mins: Summer	Pipe	Tank 1	S1003-A	61.200	60.967	0.300	0.000	0.0	0.01	0.6	Surcharged
Pipe (4)	FEH: 100 years: +20 %: 480 mins: Winter	Pipe	S1005-B	S1005	62.970	62.405	0.300	65.647	0.2	0	1.4	Surcharged
Pipe (5)	FEH: 100 years: +20 %: 360 mins: Winter	Pipe	Tank 5	S1005-B	62.470	62.404	0.300	0.000	0.0	0.03	1.4	Surcharged
Pipe (6)	FEH: 100 years: +20 %: 2160 mins: Summer	Pipe	Tank 6	S1006-A	61.457	61.103	0.225	0.000	0.1	0.04	1.3	Surcharged

Project: Catchment 10 100yr +40%CC	Date: 30/07/2026			
	Designed by: S.Smith	Checked by:	Approved By:	
Report Details: Type: Outfall Details Storm Phase: Phase	Glanville Consultants:			

Outfalls

Outfall	Outfall Type	Gated	Fixed Surcharged Level (m)	Level Curve
Outfall	Fixed Surcharged Level	☐	59.137	
FEH : 100 years: +20 %: 60 mins: Summer			59.137	
FEH : 100 years: +20 %: 60 mins: Winter			59.137	
FEH : 100 years: +20 %: 120 mins: Summer			59.137	
FEH : 100 years: +20 %: 120 mins: Winter			59.137	
FEH : 100 years: +20 %: 180 mins: Summer			59.137	
FEH : 100 years: +20 %: 180 mins: Winter			59.137	
FEH : 100 years: +20 %: 240 mins: Summer			59.137	
FEH : 100 years: +20 %: 240 mins: Winter			59.137	
FEH : 100 years: +20 %: 360 mins: Summer			59.137	
FEH : 100 years: +20 %: 360 mins: Winter			59.137	
FEH : 100 years: +20 %: 480 mins: Summer			59.137	
FEH : 100 years: +20 %: 480 mins: Winter			59.137	
FEH : 100 years: +20 %: 600 mins: Summer			59.137	
FEH : 100 years: +20 %: 600 mins: Winter			59.137	
FEH : 100 years: +20 %: 720 mins: Summer			59.137	
FEH : 100 years: +20 %: 720 mins: Winter			59.137	
FEH : 100 years: +20 %: 960 mins: Summer			59.137	
FEH : 100 years: +20 %: 960 mins: Winter			59.137	
FEH : 100 years: +20 %: 1440 mins: Summer			59.137	
FEH : 100 years: +20 %: 1440 mins: Winter			59.137	
FEH : 100 years: +20 %: 2160 mins: Summer			59.137	
FEH : 100 years: +20 %: 2160 mins: Winter			59.137	
FEH : 100 years: +20 %: 2880 mins: Summer			59.137	
FEH : 100 years: +20 %: 2880 mins: Winter			59.137	
FEH : 100 years: +20 %: 4320 mins: Summer			59.137	
FEH : 100 years: +20 %: 4320 mins: Winter			59.137	

Project: Catchment 10 100yr +40%CC	Date: 30/07/2026			
	Designed by: S.Smith	Checked by:	Approved By:	
Report Title: Rainfall Analysis Criteria	Glanville Consultants:			

Runoff Type	Dynamic
Output Interval (mins)	5
Time Step	Shortest
Urban Creep	Apply Global Value
Urban Creep Global Value (%)	0
Junction Flood Risk Margin (mm)	300
Perform No Discharge Analysis	☐

Rainfall		
FEH	Type: FEH	
Site Location	GB 519000 133350 TQ 19000 33350	
Rainfall Version	2022	
Summer	☒	
Winter	☒	

Return Period

Return Period (years)	Increase Rainfall (%)
100.0	20.000

Storm Durations

Duration (mins)	Run Time (mins)
60	120
120	240
180	360
240	480
360	720
480	960
600	1200
720	1440
960	1920
1440	2880
2160	4320
2880	5760
4320	8640

Project: Catchment 10 100yr +40%CC	Date: 30/07/2026		
	Designed by: S.Smith	Checked by:	Approved By:
Report Details: Type: Inflows Summary Storm Phase: Phase	Glanville Consultants:		



FEH: 100 years: Increase Rainfall (%): +20: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Catchment Area 1	FEH: 100 years: +20 %: 60 mins: Summer	0.01	6.0	7.548
Catchment Area 2	FEH: 100 years: +20 %: 60 mins: Summer	0.04	15.7	19.638
Catchment Area 3	FEH: 100 years: +20 %: 60 mins: Summer	0.03	13.2	16.518
Catchment Area 4	FEH: 100 years: +20 %: 60 mins: Summer	0.04	15.0	18.810
Catchment Area 5	FEH: 100 years: +20 %: 60 mins: Summer	0.04	16.3	20.418
Catchment Area 6	FEH: 100 years: +20 %: 60 mins: Summer	0.07	28.7	35.892
Catchment Area 7	FEH: 100 years: +20 %: 60 mins: Summer	0.07	27.6	34.494
Catchment Area 8	FEH: 100 years: +20 %: 60 mins: Summer	0.06	26.1	32.670
S1008-A Parcel 15b	FEH: 100 years: +20 %: 60 mins: Summer	1.52	446.7	558.541
S1005-A Parcel 15b	FEH: 100 years: +20 %: 60 mins: Summer	1.43	419.5	524.395
S1003-A Parcel 15b	FEH: 100 years: +20 %: 60 mins: Summer	0.10	29.5	36.840
Spur S1011	FEH: 100 years: +20 %: 60 mins: Summer	0.45	132.2	165.251
RMA5 NEAP	FEH: 100 years: +20 %: 60 mins: Summer	0.16	64.5	80.633
Spur 1005-B	FEH: 100 years: +20 %: 60 mins: Summer	0.18	51.4	64.272
Spur 1006-A	FEH: 100 years: +20 %: 60 mins: Summer	0.17	50.5	63.162

Project: Catchment 10 100yr +40%CC	Date: 30/07/2026		
	Designed by: S.Smith	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Phase	Glanville Consultants:		





FEH: 100 years: Increase Rainfall (%): +20: Critical Storm Per Item: Rank By: Max. Outflow

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
S1010	FEH: 100 years: +20 %: 60 mins: Summer	62.380	60.550	60.708	0.158	6.0	0.178	0.000	5.8	7.609	OK
S1009	FEH: 100 years: +20 %: 60 mins: Summer	62.610	60.383	60.708	0.325	21.5	0.367	0.000	21.1	26.587	Surcharged
S1008	FEH: 100 years: +20 %: 360 mins: Summer	62.900	60.041	60.986	0.945	67.0	1.068	0.000	66.8	567.326	Surcharged
S1007	FEH: 100 years: +20 %: 360 mins: Summer	63.400	59.975	60.981	1.006	69.0	1.138	0.000	68.9	595.679	Surcharged
S1006	FEH: 100 years: +20 %: 360 mins: Summer	63.300	59.907	60.977	1.070	72.6	1.210	0.000	72.5	679.641	Surcharged
S1005	FEH: 100 years: +20 %: 240 mins: Winter	63.000	59.829	60.938	1.109	76.1	1.254	0.000	61.8	1078.728	Surcharged
S1004	FEH: 100 years: +20 %: 360 mins: Summer	62.300	59.727	60.961	1.234	69.0	1.395	0.000	67.9	1295.952	Surcharged
S1003	FEH: 100 years: +20 %: 60 mins: Summer	62.030	59.691	60.664	0.973	79.0	1.100	0.000	74.0	340.050	Surcharged
S1002	FEH: 100 years: +20 %: 180 mins: Summer	61.800	59.487	60.869	1.382	54.8	1.563	0.000	54.0	920.568	Surcharged
S1001	FEH: 100 years: +20 %: 2160 mins: Summer	60.050	58.825	59.760	0.935	50.1	1.057	0.000	50.1	3511.810	Flood Risk
S1011	FEH: 100 years: +20 %: 60 mins: Summer	61.000	59.400	59.581	0.181	132.2	0.204	0.000	132.2	165.176	OK
S1005-A	FEH: 100 years: +20 %: 240 mins: Winter	63.500	59.900	60.944	1.044	42.4	1.181	0.000	43.7	507.683	Surcharged
S1003-A	FEH: 100 years: +20 %: 960 mins: Summer	62.400	60.200	60.965	0.765	4.9	0.865	0.000	0.6	106.140	Surcharged
S1008-A	FEH: 100 years: +20 %: 360 mins: Summer	63.400	60.300	61.282	0.982	62.6	1.111	0.000	62.6	500.372	Surcharged
Outfall	FEH: 100 years: +20 %: 2160 mins: Summer	59.600	58.600	59.364	0.764	50.1	0.864	0.000	50.1	3510.763	Flood Risk
S1005-B	FEH: 100 years: +20 %: 480 mins: Winter	62.970	61.470	62.405	0.935	9.3	1.057	0.000	1.4	140.463	Surcharged
S1006-A	FEH: 100 years: +20 %: 60 mins: Summer	63.300	60.407	61.173	0.766	50.5	0.867	0.000	1.4	65.944	Surcharged

Project: Catchment 10 100yr +40%CC		Date: 30/07/2026			
		Designed by: S.Smith	Checked by:		Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase		Glanville Consultants:			



**FEH: 100 years: Increase Rainfall (%): +20: Critical Storm Per Item: Rank By:
Max. Resident Volume**

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Half Drain Down Time (mins)	Percentage Available (%)
Basin 10b	FEH: 100 years: +20 %: 720 mins: Summer	60.981	60.978	1.474	1.471	64.6	19.144	0.000	0.000	54.8	1927.701		84.281
Basin 10a	FEH: 100 years: +20 %: 2160 mins: Summer	59.763	59.763	0.913	0.913	71.7	1120.931	0.000	0.000	50.1	3512.733	805	-2.649
Tank 2	FEH: 100 years: +20 %: 720 mins: Summer	61.017	61.017	1.067	1.067	90.2	800.495	0.000	0.000	39.0	706.989	260	11.056
Tank 3	FEH: 100 years: +20 %: 360 mins: Summer	61.315	61.315	0.965	0.965	151.4	530.880	0.000	0.000	62.6	518.206		3.476
Tank 1	FEH: 100 years: +20 %: 720 mins: Summer	60.966	60.966	0.766	0.766	5.5	57.420	0.000	0.000	0.6	23.284	605	23.440
Tank 5	FEH: 100 years: +20 %: 480 mins: Winter	62.405	62.405	0.935	0.935	8.1	74.801	0.000	0.000	1.4	36.104	485	6.499
Tank 6	FEH: 100 years: +20 %: 360 mins: Winter	61.331	61.331	0.874	0.874	10.0	69.893	0.000	0.000	1.3	26.843		12.634

Project: Catchment 10 100yr +40%CC	Date: 30/07/2026			
	Designed by: S.Smith	Checked by:	Approved By:	
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Glanville Consultants:			

Status
OK
Flood Risk
OK
OK
OK
OK
OK

Project: Catchment 10 100yr +40%CC	Date: 30/07/2026			
	Designed by: S.Smith	Checked by:	Approved By:	
Report Details: Type: Connections Summary Storm Phase: Phase	Glanville Consultants:			



FEH: 100 years: Increase Rainfall (%): +20: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
2	FEH: 100 years: +20 %: 60 mins: Summer	Pipe	S1009	S1008	62.610	60.708	0.225	26.500	0.9	0.29	21.1	Surcharged
1	FEH: 100 years: +20 %: 60 mins: Summer	Pipe	S1010	S1009	62.380	60.708	0.225	7.564	0.6	0.14	5.8	OK
3	FEH: 100 years: +20 %: 360 mins: Summer	Pipe	S1008-A	S1008	63.400	61.282	0.450	500.357	0.7	0.15	62.4	Surcharged
4	FEH: 100 years: +20 %: 360 mins: Summer	Pipe	S1008	S1007	62.900	60.986	0.450	567.078	0.6	0.42	66.8	Surcharged
5	FEH: 100 years: +20 %: 360 mins: Summer	Pipe	S1007	S1006	63.400	60.981	0.450	595.679	0.6	0.43	68.9	Surcharged
6	FEH: 100 years: +20 %: 360 mins: Summer	Pipe	S1006	S1005	63.300	60.977	0.450	679.598	0.6	0.46	72.5	Surcharged
7	FEH: 100 years: +20 %: 360 mins: Summer	Pipe	S1005-A	S1005	63.500	60.980	0.450	459.167	0.5	0.24	44.1	Surcharged
8	FEH: 100 years: +20 %: 240 mins: Winter	Pipe	S1005	S1004	63.000	60.938	0.450	1005.388	0.6	0.39	61.8	Surcharged
9	FEH: 100 years: +20 %: 360 mins: Summer	Pipe	S1004	S1003	62.300	60.961	0.450	1295.952	0.7	0.42	67.9	Surcharged
10	FEH: 100 years: +20 %: 60 mins: Summer	Pipe	S1003	Basin 10b	62.030	60.664	0.450	339.419	0.5	0.3	74.0	Surcharged
11	FEH: 100 years: +20 %: 60 mins: Summer	Pipe	Basin 10b	S1002	61.800	60.651	0.450	326.599	0.3	0.56	55.7	Surcharged
12	FEH: 100 years: +20 %: 600 mins: Winter	Pipe	S1002	Basin 10a	61.800	60.927	0.225	1756.824	1.4	0.56	54.0	Surcharged
13	FEH: 100 years: +20 %: 60 mins: Summer	Pipe	S1011	Basin 10a	61.000	59.581	0.300	165.175	1.9	0.6	132.2	OK
14	FEH: 100 years: +20 %: 2160 mins: Summer	Pipe	Basin 10a	S1001	60.050	59.763	0.450	3512.732	0.3	0.21	50.1	Flood Risk

Project: Catchment 10 100yr +40%CC				Date: 30/07/2026									
				Designed by: S.Smith		Checked by:						Approved By:	
Report Details: Type: Connections Summary Storm Phase: Phase				Glanville Consultants:									

15	FEH: 100 years: +20 %: 2160 mins: Summer	Pipe	S1001	Outfall	60.050	59.760	0.300	3511.437	0.7	0.25	50.1	Flood Risk
16	FEH: 100 years: +20 %: 720 mins: Summer	Pipe	S1003-A	S1003	62.400	60.966	0.300	31.746	0.2	0.01	1.1	Surcharged
Pipe (1)	FEH: 100 years: +20 %: 360 mins: Summer	Pipe	Tank 3	S1008-A	61.350	61.315	0.450	502.681	0.4	0.39	62.6	Surcharged
Pipe	FEH: 100 years: +20 %: 360 mins: Summer	Pipe	Tank 2	S1005-A	61.150	60.980	0.450	460.359	0.3	0.19	43.0	Surcharged
Pipe (2)	FEH: 100 years: +20 %: 60 mins: Summer	Pipe	S1006-A	S1006	63.300	61.173	0.225	8.429	0.4	0.01	1.7	Surcharged
Pipe (3)	FEH: 100 years: +20 %: 960 mins: Summer	Pipe	Tank 1	S1003-A	61.200	60.965	0.300	0.000	0.0	0.01	0.6	Surcharged
Pipe (4)	FEH: 100 years: +20 %: 480 mins: Winter	Pipe	S1005-B	S1005	62.970	62.405	0.300	65.647	0.2	0	1.4	Surcharged
Pipe (5)	FEH: 100 years: +20 %: 360 mins: Winter	Pipe	Tank 5	S1005-B	62.470	62.404	0.300	0.000	0.0	0.03	1.4	Surcharged
Pipe (6)	FEH: 100 years: +20 %: 2160 mins: Summer	Pipe	Tank 6	S1006-A	61.457	61.103	0.225	0.000	0.1	0.04	1.3	Surcharged

Project: Catchment 10 100yr +40%CC	Date: 30/07/2026			
	Designed by: S.Smith	Checked by:	Approved By:	
Report Title: Rainfall Analysis Criteria	Glanville Consultants:			

Runoff Type	Dynamic
Output Interval (mins)	5
Time Step	Shortest
Urban Creep	Apply Global Value
Urban Creep Global Value (%)	0
Junction Flood Risk Margin (mm)	300
Perform No Discharge Analysis	☐

Rainfall		
FEH (40cc)	Type: FEH	
Site Location	GB 519000 133350 TQ 19000 33350	
Rainfall Version	2022	
Summer	☒	
Winter	☒	

Return Period

Return Period (years)	Increase Rainfall (%)
100.0	40.000

Storm Durations

Duration (mins)	Run Time (mins)
60	120
120	240
180	360
240	480
360	720
480	960
600	1200
720	1440
960	1920
1440	2880
2160	4320
2880	5760
4320	8640

Project: Catchment 10 100yr +40%CC		Date: 30/07/2026			
Report Details: Type: Inflows Summary Storm Phase: Phase		Designed by: S.Smith	Checked by:		Approved By:
		Glanville Consultants:			



FEH (40cc): 100 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Catchment Area 1	FEH (40cc): 100 years: +40 %: 60 mins: Summer	0.01	7.0	8.796
Catchment Area 2	FEH (40cc): 100 years: +40 %: 60 mins: Summer	0.04	18.3	22.908
Catchment Area 3	FEH (40cc): 100 years: +40 %: 60 mins: Summer	0.03	15.4	19.266
Catchment Area 4	FEH (40cc): 100 years: +40 %: 60 mins: Summer	0.04	17.6	21.948
Catchment Area 5	FEH (40cc): 100 years: +40 %: 60 mins: Summer	0.04	19.1	23.814
Catchment Area 6	FEH (40cc): 100 years: +40 %: 60 mins: Summer	0.07	33.5	41.868
Catchment Area 7	FEH (40cc): 100 years: +40 %: 60 mins: Summer	0.07	32.2	40.242
Catchment Area 8	FEH (40cc): 100 years: +40 %: 60 mins: Summer	0.06	30.5	38.118
S1008-A Parcel 15b	FEH (40cc): 100 years: +40 %: 60 mins: Summer	1.52	521.2	651.634
S1005-A Parcel 15b	FEH (40cc): 100 years: +40 %: 60 mins: Summer	1.43	489.4	611.792
S1003-A Parcel 15b	FEH (40cc): 100 years: +40 %: 60 mins: Summer	0.10	34.4	42.984
Spur S1011	FEH (40cc): 100 years: +40 %: 60 mins: Summer	0.45	154.3	192.791
RMA5 NEAP	FEH (40cc): 100 years: +40 %: 60 mins: Summer	0.16	75.3	94.073
Spur 1005-B	FEH (40cc): 100 years: +40 %: 60 mins: Summer	0.18	60.0	74.982
Spur 1006-A	FEH (40cc): 100 years: +40 %: 60 mins: Summer	0.17	59.0	73.692

Project: Catchment 10 100yr +40%CC	Date: 30/07/2026		
	Designed by: S.Smith	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Phase	Glanville Consultants:		





FEH (40cc): 100 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Outflow

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
S1010	FEH (40cc): 100 years: +40 %: 60 mins: Summer	62.380	60.550	60.954	0.404	7.0	0.457	0.000	6.8	8.094	Surcharged
S1009	FEH (40cc): 100 years: +40 %: 60 mins: Summer	62.610	60.383	60.954	0.571	25.1	0.646	0.000	24.7	29.628	Surcharged
S1008	FEH (40cc): 100 years: +40 %: 180 mins: Summer	62.900	60.041	61.174	1.133	84.0	1.282	0.000	83.8	510.769	Surcharged
S1007	FEH (40cc): 100 years: +40 %: 180 mins: Summer	63.400	59.975	61.171	1.196	88.2	1.352	0.000	87.9	533.744	Surcharged
S1006	FEH (40cc): 100 years: +40 %: 180 mins: Summer	63.300	59.907	61.167	1.260	93.8	1.425	0.000	93.6	585.676	Surcharged
S1005	FEH (40cc): 100 years: +40 %: 960 mins: Summer	63.000	59.829	61.255	1.426	81.8	1.613	0.000	63.2	2569.928	Surcharged
S1004	FEH (40cc): 100 years: +40 %: 480 mins: Summer	62.300	59.727	61.229	1.502	70.2	1.699	0.000	68.0	1815.001	Surcharged
S1003	FEH (40cc): 100 years: +40 %: 60 mins: Summer	62.030	59.691	60.890	1.199	84.9	1.356	0.000	79.3	332.773	Surcharged
S1002	FEH (40cc): 100 years: +40 %: 240 mins: Summer	61.800	59.487	61.167	1.680	55.5	1.900	0.000	54.0	1203.488	Surcharged
S1001	FEH (40cc): 100 years: +40 %: 2160 mins: Winter	60.050	58.825	59.795	0.970	54.0	1.097	0.000	54.0	4151.113	Flood Risk
S1011	FEH (40cc): 100 years: +40 %: 60 mins: Summer	61.000	59.400	59.588	0.188	154.3	0.213	0.000	154.3	192.689	OK
S1005-A	FEH (40cc): 100 years: +40 %: 180 mins: Winter	63.500	59.900	61.159	1.259	59.4	1.424	0.000	49.8	471.265	Surcharged
S1003-A	FEH (40cc): 100 years: +40 %: 1440 mins: Summer	62.400	60.200	61.180	0.980	4.6	1.109	0.000	0.7	149.755	Surcharged
S1008-A	FEH (40cc): 100 years: +40 %: 240 mins: Summer	63.400	60.300	61.390	1.090	75.2	1.233	0.000	75.1	522.981	Surcharged
Outfall	FEH (40cc): 100 years: +40 %: 2160 mins: Winter	59.600	58.600	58.976	0.376	54.0	0.426	0.000	54.0	4150.951	OK
S1005-B	FEH (40cc): 100 years: +40 %: 480 mins: Winter	62.970	61.470	62.591	1.121	10.8	1.268	0.000	1.6	161.718	Surcharged
S1006-A	FEH (40cc): 100 years: +40 %: 960 mins: Winter	63.300	60.407	61.441	1.034	6.3	1.170	0.000	1.4	219.555	Surcharged

Project: Catchment 10 100yr +40%CC		Date: 30/07/2026			
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase		Designed by: S.Smith	Checked by:		Approved By:
		Glanville Consultants:			



FEH (40cc): 100 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank
By: Max. Resident Volume

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Half Drain Down Time (mins)	Percentage Available (%)
Basin 10b	FEH (40cc): 100 years: +40 %: 720 mins: Summer	61.233	61.232	1.726	1.725	67.2	28.625	0.000	0.000	54.7	2291.171		76.495
Basin 10a	FEH (40cc): 100 years: +40 %: 2160 mins: Winter	59.799	59.799	0.949	0.949	67.3	1199.449	0.000	0.000	54.0	4152.063	770	-9.839
Tank 2	FEH (40cc): 100 years: +40 %: 720 mins: Summer	61.265	61.265	1.315	1.315	131.4	986.033	86.033	0.000	43.4	920.151	400	-9.559
Tank 3	FEH (40cc): 100 years: +40 %: 240 mins: Summer	61.428	61.428	1.078	1.078	235.1	592.669	42.669	0.000	75.3	536.989		-7.758
Tank 1	FEH (40cc): 100 years: +40 %: 960 mins: Summer	61.196	61.196	0.996	0.996	5.9	74.714	0.000	0.000	0.7	33.705		0.382
Tank 5	FEH (40cc): 100 years: +40 %: 480 mins: Winter	62.591	62.591	1.121	1.121	9.5	89.667	9.667	0.000	1.5	39.939		-12.084
Tank 6	FEH (40cc): 100 years: +40 %: 360 mins: Winter	61.519	61.519	1.062	1.062	11.8	84.967	4.967	0.000	1.4	27.916		-6.209

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Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Glanville Consultants:			

Status
OK
Flood Risk
Flood
Flood
OK
Flood
Flood

Project: Catchment 10 100yr +40%CC	Date: 30/07/2026		
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Report Details: Type: Connections Summary Storm Phase: Phase	Glanville Consultants:		





FEH (40cc): 100 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
2	FEH (40cc): 100 years: +40 %: 60 mins: Summer	Pipe	S1009	S1008	62.610	60.954	0.225	29.510	0.8	0.34	24.7	Surcharged
1	FEH (40cc): 100 years: +40 %: 60 mins: Summer	Pipe	S1010	S1009	62.380	60.954	0.225	8.043	0.6	0.16	6.8	Surcharged
3	FEH (40cc): 100 years: +40 %: 180 mins: Summer	Pipe	S1008-A	S1008	63.400	61.375	0.450	451.342	0.5	0.18	74.9	Surcharged
4	FEH (40cc): 100 years: +40 %: 180 mins: Summer	Pipe	S1008	S1007	62.900	61.174	0.450	510.729	0.5	0.53	83.8	Surcharged
5	FEH (40cc): 100 years: +40 %: 180 mins: Summer	Pipe	S1007	S1006	63.400	61.171	0.450	533.744	0.6	0.55	87.9	Surcharged
6	FEH (40cc): 100 years: +40 %: 180 mins: Summer	Pipe	S1006	S1005	63.300	61.167	0.450	585.634	0.6	0.59	93.6	Surcharged
7	FEH (40cc): 100 years: +40 %: 240 mins: Summer	Pipe	S1005-A	S1005	63.500	61.206	0.450	357.073	0.3	0.25	44.7	Surcharged
8	FEH (40cc): 100 years: +40 %: 960 mins: Summer	Pipe	S1005	S1004	63.000	61.255	0.450	2446.434	0.7	0.4	63.2	Surcharged
9	FEH (40cc): 100 years: +40 %: 480 mins: Summer	Pipe	S1004	S1003	62.300	61.229	0.450	1815.001	0.7	0.42	68.0	Surcharged
10	FEH (40cc): 100 years: +40 %: 60 mins: Summer	Pipe	S1003	Basin 10b	62.030	60.890	0.450	329.579	0.5	0.32	79.3	Surcharged
11	FEH (40cc): 100 years: +40 %: 60 mins: Summer	Pipe	Basin 10b	S1002	61.800	60.880	0.450	312.680	0.4	0.57	56.1	Surcharged
12	FEH (40cc): 100 years: +40 %: 960 mins: Winter	Pipe	S1002	Basin 10a	61.800	61.138	0.225	2647.084	1.4	0.56	54.0	Surcharged
13	FEH (40cc): 100 years: +40 %: 60 mins: Summer	Pipe	S1011	Basin 10a	61.000	59.588	0.300	192.664	2.2	0.7	154.3	OK
14	FEH (40cc): 100 years: +40 %: 2160 mins: Winter	Pipe	Basin 10a	S1001	60.050	59.799	0.450	4152.063	0.3	0.23	54.0	Flood Risk

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		Designed by: S.Smith	Checked by:		Approved By:
Report Details: Type: Connections Summary Storm Phase: Phase		Glanville Consultants:			

15	FEH (40cc): 100 years: +40 %: 2160 mins: Winter	Pipe	S1001	Outfall	60.050	59.795	0.268	4151.053	0.9	0.27	54.0	Flood Risk
16	FEH (40cc): 100 years: +40 %: 720 mins: Summer	Pipe	S1003-A	S1003	62.400	61.192	0.300	27.474	0.2	0	0.9	Surcharged
Pipe (1)	FEH (40cc): 100 years: +40 %: 240 mins: Summer	Pipe	Tank 3	S1008-A	61.350	61.428	0.450	525.463	0.5	0.47	75.2	Flood
Pipe	FEH (40cc): 100 years: +40 %: 360 mins: Winter	Pipe	Tank 2	S1005-A	61.150	61.227	0.450	574.128	0.3	0.19	43.5	Flood
Pipe (2)	FEH (40cc): 100 years: +40 %: 120 mins: Summer	Pipe	S1006-A	S1006	63.300	61.408	0.225	18.161	0.4	0.01	1.7	Surcharged
Pipe (3)	FEH (40cc): 100 years: +40 %: 1440 mins: Summer	Pipe	Tank 1	S1003-A	61.200	61.180	0.300	0.000	0.0	0.01	0.7	Surcharged
Pipe (4)	FEH (40cc): 100 years: +40 %: 480 mins: Winter	Pipe	S1005-B	S1005	62.970	62.591	0.300	72.035	0.3	0	1.6	Surcharged
Pipe (5)	FEH (40cc): 100 years: +40 %: 480 mins: Winter	Pipe	Tank 5	S1005-B	62.470	62.591	0.300	0.000	0.0	0.03	1.5	Flood
Pipe (6)	FEH (40cc): 100 years: +40 %: 960 mins: Winter	Pipe	Tank 6	S1006-A	61.457	61.441	0.225	0.000	0.1	0.04	1.4	Surcharged

