
Project: **Barns Court, Copthorne**

Job No.: **10427658**

Subject: **Drainage Technical Note for Phase 1.**

Prepared by: **CP/SA**

Checked by: **WG**

Approved by: **WG**

Date: **10.10.25**

Introduction

The purpose of this Technical Note is to address the comments received by Mid Sussex District Council Flood Risk and Drainage Team related to the planning application DM/24/2622.

This report will address the following requirements from Mid Sussex District Council

Flood Risk and Built Footprint

- ***Overlay required:*** *The applicant must overlay the proposed built footprint onto the updated EA surface water flood risk mapping.*
- ***Demonstration needed:*** *Evidence that no increase in built footprint or land raising occurs within:*
 - *Flood Zone 3b (functional floodplain),*
 - *The 1:100 year + climate change extent.*
- ***Flow path preservation:*** *Evidence that:*
 - *The natural surface water flow routes across the site (especially east to west) are preserved, or*
 - *Suitable alternative routes are provided if blocked by the development.*
- ***Ditch connectivity:*** *Demonstrate the onward connectivity of the existing ditch on site and how flow will be managed if the ditch is removed.*

Surface Water Drainage

- ***Climate change consideration:*** *Confirm that the drainage system accounts for latest climate change allowances from EA (e.g., 1:100-year + latest CC).*
- ***Outfall/ponds:*** *Provide:*
 - *Plans showing wider connectivity of ponds (to show onward flow), or*
 - *Infiltration testing results demonstrating adequate pond half-drain times*
- ***Maintenance strategy***

The site is located west of Turners Hill Road and south of Copthorne Common Road. The site is part of a wider development and has now been split into different phases, Phase 1A, Phase 1B and Phase 2. This part of the site is called Phase 1A, formally known as Phase 1. This site comprised a mix of open grass covered field and existing farm buildings. Phase 1A of the scheme comprises of eleven small commercial units (referred to as units A-K), related car parking and an access road.

The proposed drainage strategy discharges surface water from the proposed commercial building and hardstanding area into a below ground Tubosider Twinstore Storage system wrapped in a non-woven geotextile membrane and then into an existing above ground attenuation basin deepened to an invert level of 91.650 with a 300mm freeboard to the northwest of the site at the controlled greenfield rate of 11.8 l/s, this can be found in Appendix A.

Flood Risk and Built Footprint

A natural surface water flow path runs from southeast to northwest across the site, as evidenced by the levels shown in the topographical survey in Appendix B. Outside of the areas directly around the proposed building footprint the levels are anticipated to remain largely as existing, therefore there is no change to the existing condition. The natural flow of the ponds located to the west of the site are shown in Appendix C. It is anticipated that the south north oriented ditch to the west of these ponds receive outflows from them and then are directed westwards via the regional ditch network towards Copthorne.

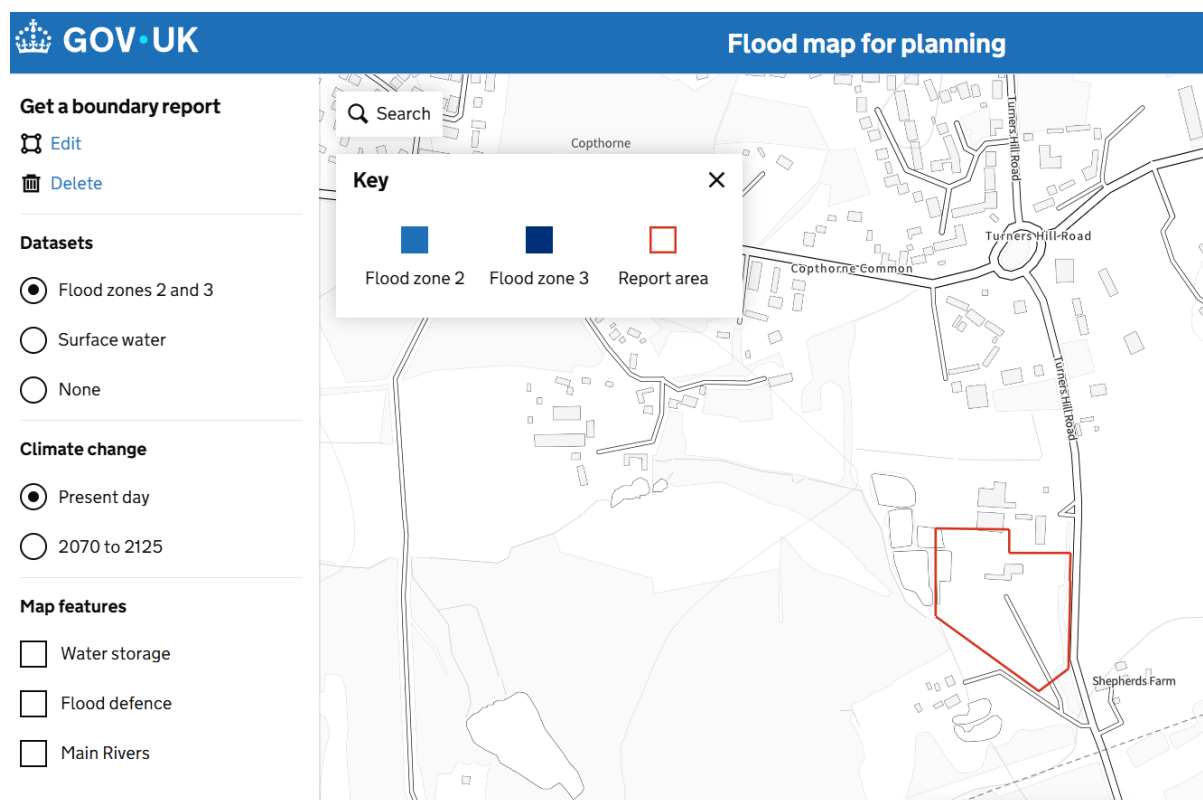


Figure 1 – Flood zone mapping

Figure 1 above shows that the site is not located in a flood zone 3 area and the latest Level 2 SFRA by Mid Sussex District Council does not indicate that the site is located within the functional floodplain. Class B1c (now Class E) is classified as less vulnerable, with flood resilience measure easily incorporated if required, although it appears on the latest maps this will not be required. This class of building is easily returned to a functional state following a flood event however as shown above this appears a very low risk.

The latest surface water and fluvial flood risk maps indicate the site as being at very low risk of both / either, the proposed building has been overlain onto these maps, this can be seen in Appendix D.

The Proposed site levels have been carefully designed to ensure that overland surface water flows are directed away from all building footprints. This is achieved through strategic grading of the finished ground levels incorporating falls to intercept and convey runoff. The design ensures that any exceedance flows during extreme rainfall events are routed safely through designed flow paths, avoiding ponding near structures. These measures are supported in Appendix E.

Surface Water Drainage

Phase 1A is being developed in accordance with an earlier approved strategy. The runoff generated by the development is attenuated on site in the tank and / or subbase of the permeable paving for storm events up to and including the 1:100 plus the 25% climate change event. It will then discharge to the ponds at Greenfield rate of 11.8 l/s which mimics the existing condition. The proposed development provides a betterment to the existing condition by controlling and improving surface water flows from this phase of the development. The drainage calculations show a runoff coefficient value of 1 being used for all catchment areas. Drainage calculation can be found in Appendix F.

The site is mapped to be underlain by solid geology of the Upper Tunbridge Wells Sand. This lithology is described as thinly bedded silty mudstones, siltstones, silty sandstones and fine-grained sandstones. These soils are anticipated to be of relatively low permeability with an insufficient infiltration coefficient, into which it will not be feasible to install functioning soakaways.

Maintenance Overview

To ensure the long-term functionality and performance of the proposed drainage infrastructure, a structured maintenance regime is essential. Regular inspections and remedial actions will help prevent blockages, maintain design storage capacity, and safeguard against structural deterioration. The following schedule outlines recommended maintenance activities for key drainage components, including frequency, routine tasks and remedial measures.

Drainage Feature	Regular Maintenance	Occasional/Remedial Maintenance	Monitoring
Drainage channels/Gullies	• Inspections will include gratings; covers including their locking bolts; sumps and sump buckets; exposed concrete surround and adjacent surfacing. • Check for accumulation of debris and silt and cleaned as necessary • Gratings, frames and all associated locking parts to be checked for damage. • Exposed concrete and adjacent surfacing to be checked for cracking and general damage. • Check condition of inlet and outlet pipes, flow controls, baffles and isolation structures	• Channel/Slot cleaning will be by flushing with water or high-pressure jetting (no boiling water or cleaning agent will be used). All silt buckets and sumps will be cleaned out replaced back into the units ensuring they are correctly fitted. • All channel surfaces and joints will be checked and repaired as necessary. • Repair/rehabilitation of inlets, outlet, as required.	• Inspect every 4 months or after large storm.
Manholes/Inspection Chambers	• Check for accumulation of debris and silt and clean as necessary. • Covers and frames to be checked for damage. • Exposed concrete and adjacent surfacing to be checked for cracking and general damage. • Check condition of inlet and outlet pipes, flap valves, baffles etc.	• Clean as necessary. • All manhole and inspection chamber covers and frames to be replaced as necessary. • Repair exposed concrete and surfacing as necessary • Repair/rehabilitation of inlets, outlet, overflows and vents, as required.	• Inspect every 6 months or after large storm.
Attenuation Tank	• Check for accumulation of debris and silt and clean as necessary. • Check condition of inlet and outlet pipes	• Clean as necessary. • Repair/rehabilitation of inlets and outlet, as required.	• Inspect every 6 months or after large storm.
Catchpit manholes	• Inspect/identify any damage or areas that are not operating correctly. • Remove silt, litter, leaves and other detritus. • Inspect once clean.	• Clean as necessary. • Repair/rehabilitation of inlets, outlet and vents, as required.	• Annually.

Hydro-brake	• Contact manufacturer for instruction on approved and safe inspection and maintenance practices.	• Inspect hydro-brake for and check functionality. Remove any detritus as required. Inspect once clean.	• Every three months for the first year, then annually after
Attenuation Pond	• Inspect pond for accumulation of debris, litter, and silt; remove as necessary. • Check inlet and outlet structures for blockages and clear if required • Inspect vegetation around the pond; cut back overgrowth. • Check embankments and side slopes for erosion or animal burrows; repair minor issues promptly.	• Repair / rehabilitate inlet and outlet structures if damaged. • Regrade eroded areas and reinstate vegetation cover. • Desilt pond if storage capacity is significantly reduced. • Replace damaged or missing safety fencing / signage.	• Inspect every 6 months and after major storm events. • Additional checks during prolonged wet periods.

Conclusion

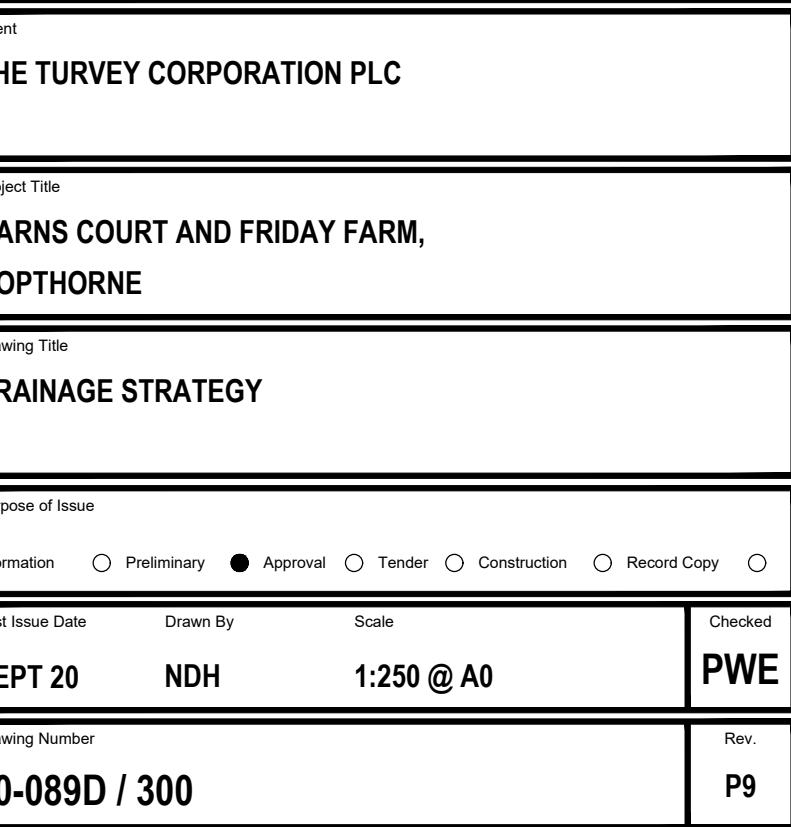
The proposed drainage strategy for Barns Court Phase 1A demonstrates compliance with local flood risk and drainage requirements. The site lies outside designated flood zone 3 retains its natural drainage characteristics, with the high point located in the southeast and the low point in the northwest, ensuring minimal impact on the natural surface water flow paths.

Surface water is attenuated on-site and discharged at a controlled greenfield rate of 11.8 l/s, with design provisions for 1:100-year + 25% climate change events. Infiltration is not viable due to low permeability soils. The proposed strategy provides a robust and sustainable solution and complies with local flood risk and climate resilience requirements.

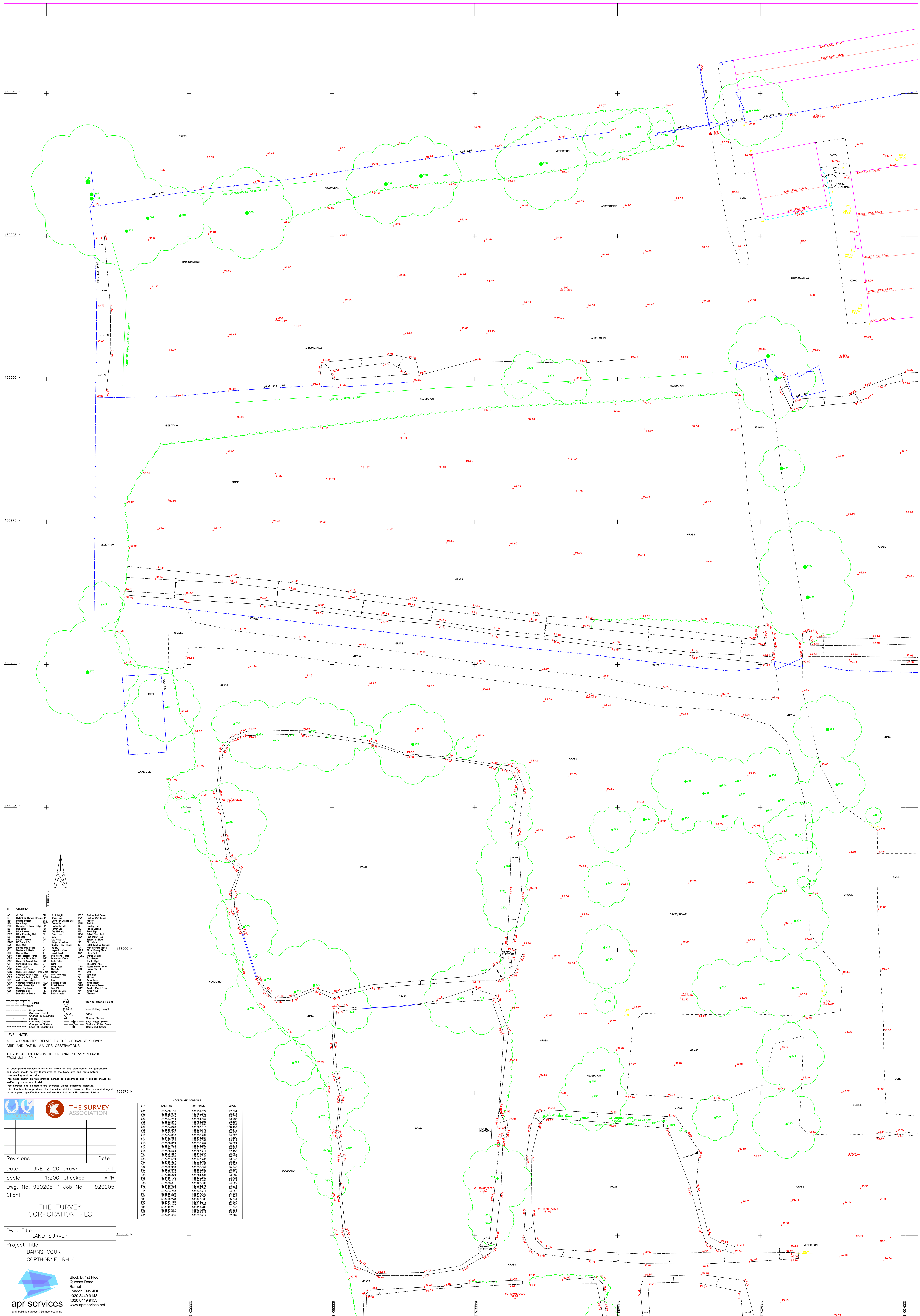
Supporting Appendices

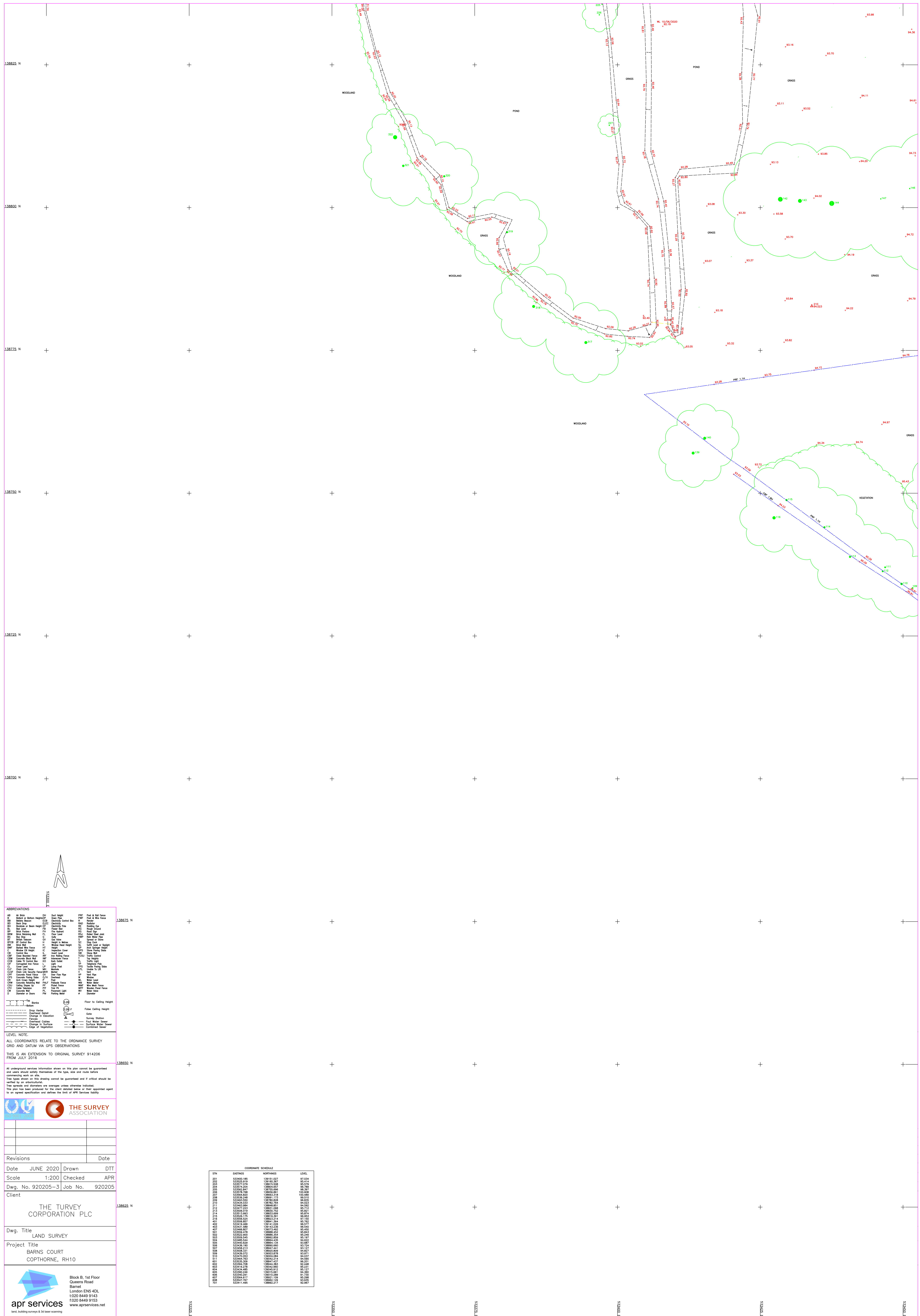
- A: Drainage Strategy
- B: Historical Topographical Survey
- C: Onward Flow Drawing
- D: Surface Water Flood Risk Mapping
- E: Flood Exceedance Plan
- F: Drainage Calculations

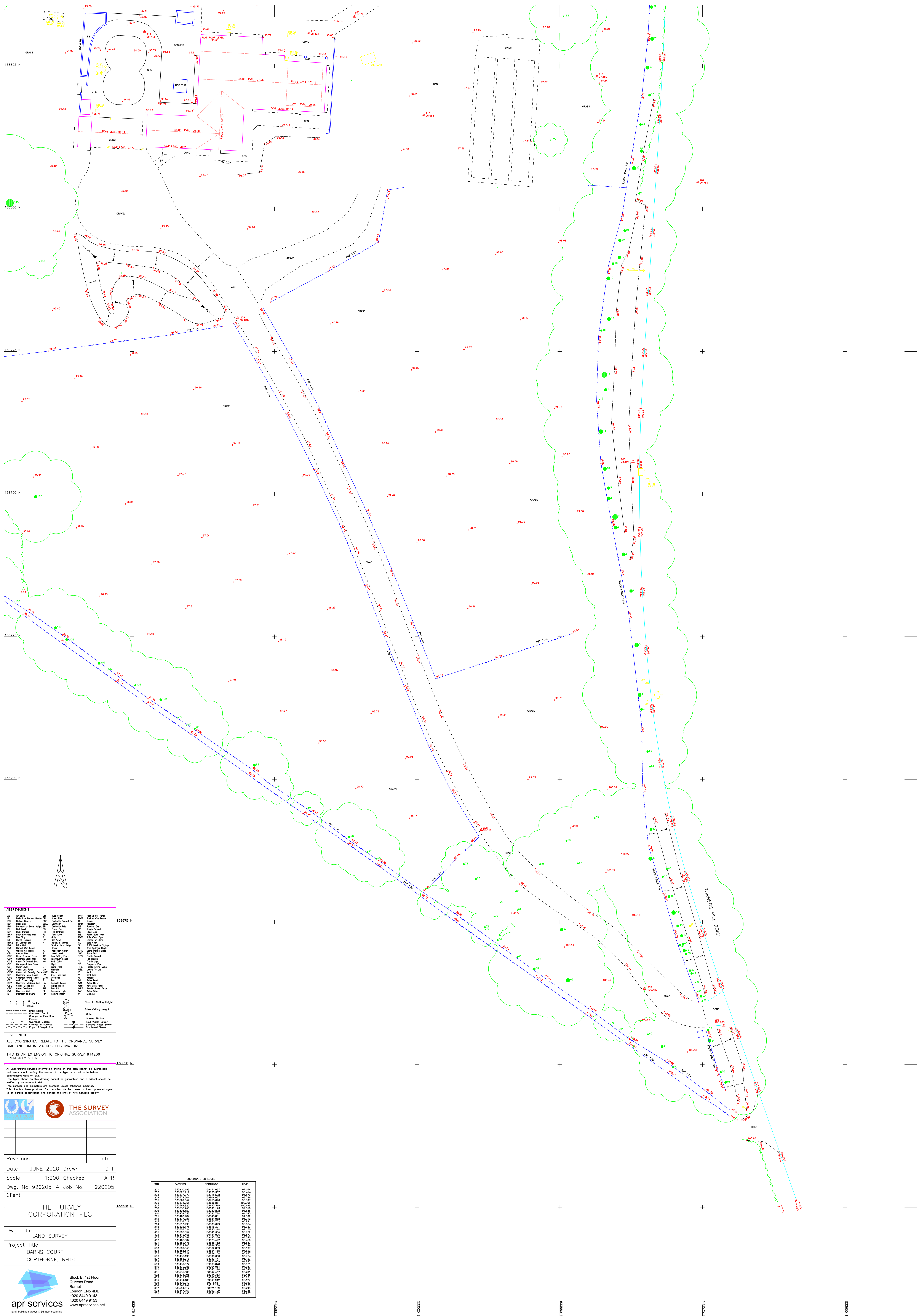
Appendix A – Drainage Strategy



Appendix B – Historical Topographical Survey

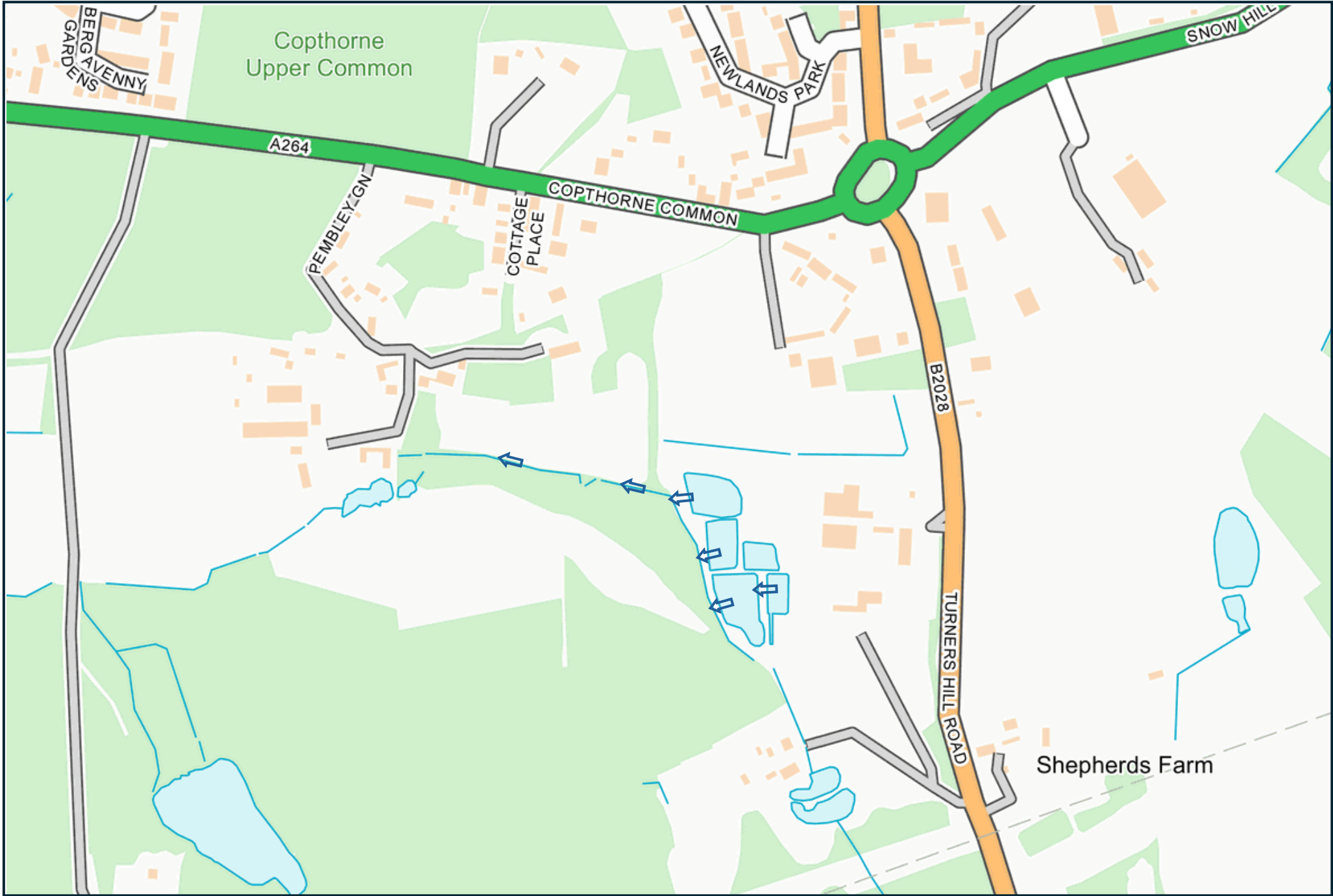






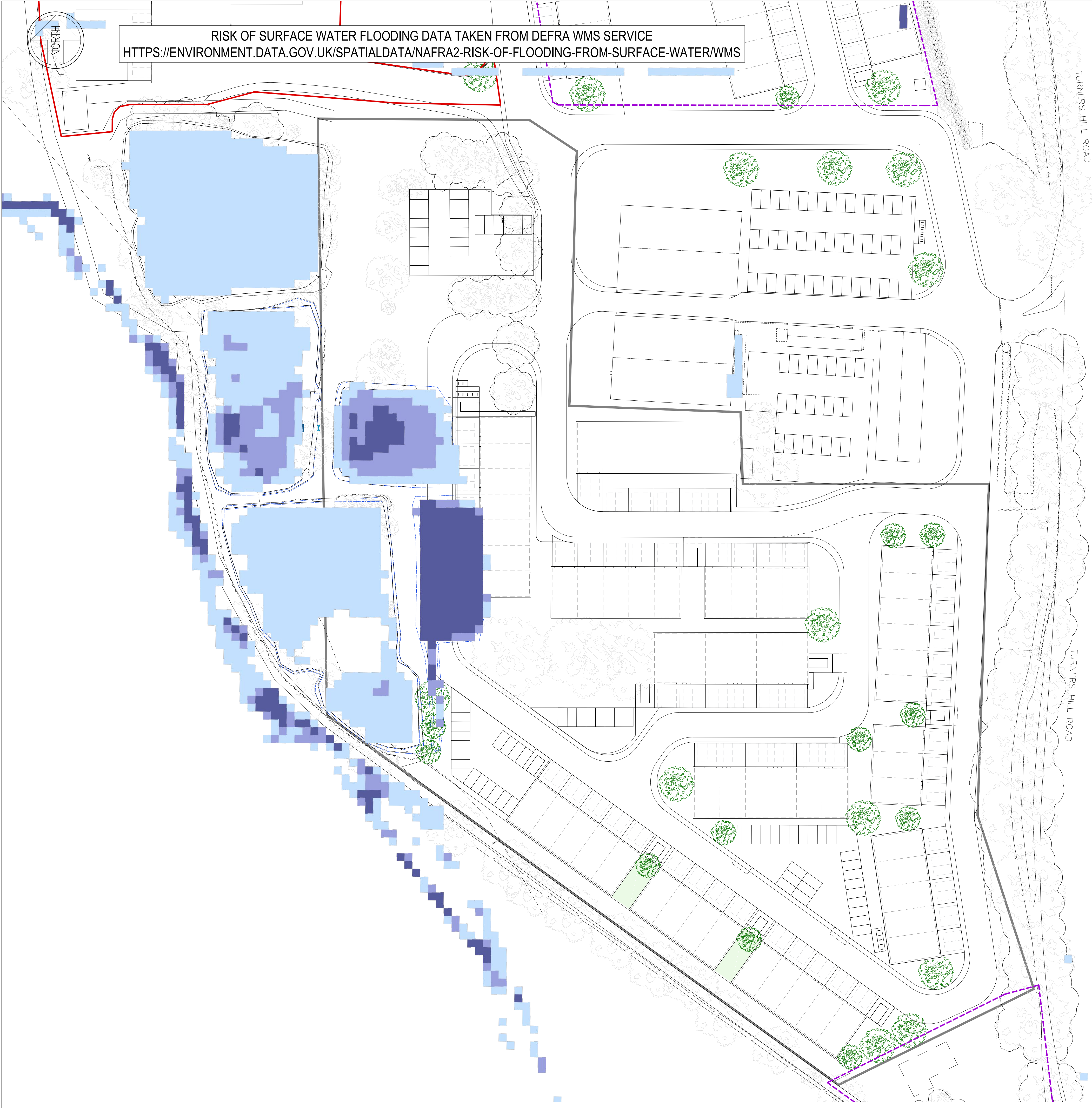
Appendix C – Onward Flow Drawing

10427658 BARNS COURT
ONWARD FLOW PATHS



LEGEND
← FLOW DIRECTION

Appendix D – Surface Water Flood Risk Mapping



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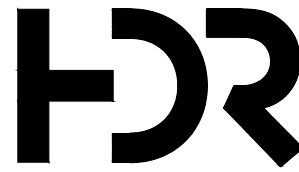
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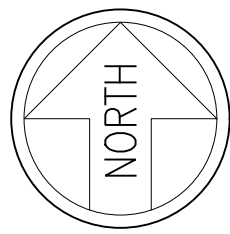


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Architect:			
DUNTHORNE PARKER ARCHITECTS			
Project:			
BARNES COURT AND FRIDAY FARM COPTHORNE			
Title:			
RISK OF SURFACE WATER FLOODING & PROPOSED PHASE 1A DEVELOPMENT			

HDR Project Number: 10427658			
Cad File Name: BRC-HDR-XX-XX-DR-C-000304.dwg			
Drawn: SA	Chkd/Appd: CP / WG	Date: 10.10.25	Scale @ A1: 1:500
Drawing Number: BRC-HDR-XX-XX-DR-C-000310			Revision: P01

Appendix E – Flood Exceedance Plan



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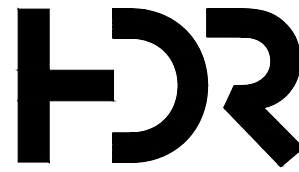
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Client:

THE TURVEY CORPORATION PLC

Architect:

DUNTHORNE PARKER ARCHITECTS

Project:

BARNS COURT AND FRIDAY FARM
COPTHORNE

Title:

FLOOD EXCEEDANCE PLAN
PHASE 1A

HDR Project Number: 10427658			
Cad File Name: BRC-HDR-XX-XX-DR-C-000311			
Drawn: SA	Chkd/Appd: CP / WG	Date: 10.10.25	Scale @ A1: 1:500
Drawing Number: BRC-HDR-XX-XX-DR-C-000311			Revision: P01

Appendix F – Drainage Calculations

Project: Barns Court Cophthorne	Date: 08/10/2025			
	Designed by: SA	Checked by:	Approved By:	
Report Details: Type: Inflows Storm Phase: Phase	Company Address: Bourne House Prince Edward Street, Berkhamsted HP4 3EZ			



Catchment Area

Type : Catchment Area

Area (ha)	0.027
-----------	-------

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 (1)

Type : Catchment Area

Area (ha)	0.052
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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: Barns Court Cophthorne	Date: 08/10/2025		
	Designed by: SA	Checked by:	
Report Details: Type: Inflows Storm Phase: Phase	Company Address: Bourne House Prince Edward Street, Berkhamsted HP4 3EZ		



Catchment Area (2)

Type : Catchment Area

Area (ha)	0.022
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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)	0.054
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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

Project: Barns Court Cophthorne	Date: 08/10/2025			
	Designed by: SA	Checked by:	Approved By:	
Report Details: Type: Inflows Storm Phase: Phase	Company Address: Bourne House Prince Edward Street, Berkhamsted HP4 3EZ			



Catchment Area (4)

Type : Catchment Area

Area (ha)	0.035
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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)	0.024
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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: Barns Court Cophthorne	Date: 08/10/2025			
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Report Details: Type: Inflows Storm Phase: Phase	Company Address: Bourne House Prince Edward Street, Berkhamsted HP4 3EZ			



Catchment Area (6)

Type : Catchment Area

Area (ha)	0.077
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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)	0.036
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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

Project: Barns Court Cophthorne	Date: 08/10/2025			
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Catchment Area (8)

Type : Catchment Area

Area (ha)	0.052
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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)	0.062
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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

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Catchment Area (10)

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



Catchment Area (11)

Type : Catchment Area

Area (ha)	0.033
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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: Barns Court Cophthorne	Date: 08/10/2025			
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Catchment Area (12)

Type : Catchment Area

Area (ha)	0.044
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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 (13)

Type : Catchment Area

Area (ha)	0.045
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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

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Catchment Area (14)

Type : Catchment Area

Area (ha)	0.033
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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 (15)

Type : Catchment Area

Area (ha)	0.044
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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: Barns Court Cophthorne	Date: 08/10/2025			
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Report Details: Type: Inflows Storm Phase: Phase	Company Address: Bourne House Prince Edward Street, Berkhamsted HP4 3EZ			



Catchment Area (16)

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 (17)

Type : Catchment Area

Area (ha)	0.096
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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: Barns Court Cophthorne	Date: 08/10/2025			
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Catchment Area (18)

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 (19)

Type : Catchment Area

Area (ha)	0.011
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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: Barns Court Cophthorne	Date: 08/10/2025			
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Report Details: Type: Inflows Storm Phase: Phase	Company Address: Bourne House Prince Edward Street, Berkhamsted HP4 3EZ			



Catchment Area (20)

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 (21)

Type : Catchment Area

Area (ha)	0.025
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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: Barns Court Cophthorne	Date: 08/10/2025			
	Designed by: SA	Checked by:	Approved By:	
Report Details: Type: Inflows Storm Phase: Phase	Company Address: Bourne House Prince Edward Street, Berkhamsted HP4 3EZ			



Catchment Area (22)

Type : Catchment Area

Area (ha)	0.019
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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 (23)

Type : Catchment Area

Area (ha)	0.011
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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: Barns Court Cophthorne	Date: 08/10/2025			
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Report Details: Type: Inflows Storm Phase: Phase	Company Address: Bourne House Prince Edward Street, Berkhamsted HP4 3EZ			



Catchment Area (24)

Type : Catchment Area

Area (ha)	0.017
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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 (25)

Type : Catchment Area

Area (ha)	0.052
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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

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Catchment Area (26)

Type : Catchment Area

Area (ha)	0.024
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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 (27)

Type : Catchment Area

Area (ha)	0.037
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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

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Catchment Area (28)

Type : Catchment Area

Area (ha)	0.034
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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 (29)

Type : Catchment Area

Area (ha)	0.027
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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: Barns Court Cophthorne	Date: 08/10/2025			
	Designed by: SA	Checked by:	Approved By:	
Report Details: Type: Inflows Storm Phase: Phase	Company Address: Bourne House Prince Edward Street, Berkhamsted HP4 3EZ			



Catchment Area (30)

Type : Catchment Area

Area (ha)	0.025
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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 (31)

Type : Catchment Area

Area (ha)	0.044
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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: Barns Court Cophthorne	Date: 08/10/2025			
	Designed by: SA	Checked by:	Approved By:	
Report Details: Type: Inflows Storm Phase: Phase	Company Address: Bourne House Prince Edward Street, Berkhamsted HP4 3EZ			



Catchment Area (32)

Type : Catchment Area

Area (ha)	0.022
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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 (33)

Type : Catchment Area

Area (ha)	0.04
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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: Barns Court Cophthorne	Date: 08/10/2025			
	Designed by: SA	Checked by:	Approved By:	
Report Details: Type: Inflows Storm Phase: Phase	Company Address: Bourne House Prince Edward Street, Berkhamsted HP4 3EZ			



Catchment Area (34)

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



Catchment Area (35)

Type : Catchment Area

Area (ha)	0.053
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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: Barns Court Cophthorne	Date: 08/10/2025		
	Designed by: SA	Checked by:	
Report Details: Type: Inflows Storm Phase: Phase	Company Address: Bourne House Prince Edward Street, Berkhamsted HP4 3EZ		



Catchment Area (36)

Type : Catchment Area

Area (ha)	0.027
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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 (37)

Type : Catchment Area

Area (ha)	0.024
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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: Barns Court Cophthorne	Date: 08/10/2025			
	Designed by: SA	Checked by:	Approved By:	
Report Details: Type: Inflows Storm Phase: Phase	Company Address:			
	Bourne House			
	Prince Edward Street, Berkhamsted HP4 3EZ			



Catchment Area (38)

Type : Catchment Area

Area (ha)	0.024
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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: Barns Court Cophthorne	Date: 08/10/2025			
	Designed by: SA	Checked by:	Approved By:	
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address: Bourne House Prince Edward Street, Berkhamsted HP4 3EZ			



Tubosider Twinstore Storage

Type : Tank

Dimensions

Exceedance Level (m)	93.645
Depth (m)	1.995
Base Level (m)	91.650
Freeboard (mm)	0
Initial Depth (m)	0.000
Porosity (%)	62.3
Average Slope (1:X)	0.00
Total Volume (m³)	484.991

Depth (m)	Area (m²)	Volume (m³)
0.000	675.756	0.000
1.150	675.756	484.145

Advanced

Perimeter	Circular
Length (m)	169.227
Friction Scheme	Manning's n
n	0.03

Project: Barns Court Cophthorne	Date: 08/10/2025			
	Designed by: SA	Checked by:	Approved By:	
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address: Bourne House Prince Edward Street, Berkhamsted HP4 3EZ			



Existing Above Ground Attenuation Basin Deepend

Type : Pond

Dimensions

Exceedance Level (m)	93.400
Depth (m)	1.750
Base Level (m)	91.650
Freeboard (mm)	300
Initial Depth (m)	0.000
Porosity (%)	100
Average Slope (1:X)	3.267
Total Volume (m³)	459.572

Depth (m)	Area (m²)	Volume (m³)
0.000	180.600	0.000
1.750	555.683	614.293

Advanced

Perimeter	Circular
Length (m)	32.498
Friction Scheme	Manning's n
n	0.03

Project: Barns Court Cophthorne	Date: 08/10/2025		
	Designed by: SA	Checked by:	
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address: Bourne House Prince Edward Street, Berkhamsted HP4 3EZ		



Porous Paving 2

Type : Porous Paving

Dimensions

Exceedance Level (m)	95.083
Depth (m)	0.430
Base Level (m)	94.653
Paving Layer Depth (mm)	80
Membrane Percolation (m/hr)	500.0
Porosity (%)	30
Length (m)	34.252
Long. Slope (1:X)	60.00
Width (m)	6.334
Total Volume (m³)	22.985

Under Drain

Height Above Base (m)	0.000
Diameter (mm)	150
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Advanced

Conductivity (m/hr)	500.0
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Project: Barns Court Cophthorne	Date: 08/10/2025			
	Designed by: SA	Checked by:	Approved By:	
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address: Bourne House Prince Edward Street, Berkhamsted HP4 3EZ			



Porous Paving 3

Type : Porous Paving

Dimensions

Exceedance Level (m)	95.610
Depth (m)	0.430
Base Level (m)	95.180
Paving Layer Depth (mm)	80
Membrane Percolation (m/hr)	500.0
Porosity (%)	30
Length (m)	44.210
Long. Slope (1:X)	40.00
Width (m)	4.875
Total Volume (m³)	22.765

Under Drain

Height Above Base (m)	0.000
Diameter (mm)	150
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Advanced

Conductivity (m/hr)	500.0
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Project: Barns Court Cophthorne	Date: 08/10/2025			
	Designed by: SA	Checked by:	Approved By:	
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address: Bourne House Prince Edward Street, Berkhamsted HP4 3EZ			



Porous Paving 7a

Type : Porous Paving

Dimensions

Exceedance Level (m)	96.700
Depth (m)	0.430
Base Level (m)	96.270
Paving Layer Depth (mm)	80
Membrane Percolation (m/hr)	500.0
Porosity (%)	30
Length (m)	6.000
Long. Slope (1:X)	60.00
Width (m)	45.681
Total Volume (m³)	28.855

Under Drain

Height Above Base (m)	0.000
Diameter (mm)	150
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Advanced

Conductivity (m/hr)	500.0
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Project: Barns Court Cophthorne	Date: 08/10/2025			
	Designed by: SA	Checked by:	Approved By:	
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address: Bourne House Prince Edward Street, Berkhamsted HP4 3EZ			

 **Porous Paving 7b**

Type : Porous Paving

Dimensions

Exceedance Level (m)	96.860
Depth (m)	0.430
Base Level (m)	96.430
Paving Layer Depth (mm)	80
Membrane Percolation (m/hr)	500.0
Porosity (%)	30
Length (m)	6.000
Long. Slope (1:X)	60.00
Width (m)	19.500
Total Volume (m³)	12.359

Under Drain

Height Above Base (m)	0.000
Diameter (mm)	150
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Advanced

Conductivity (m/hr)	500.0
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Project: Barns Court Cophthorne	Date: 08/10/2025		
	Designed by: SA	Checked by:	
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address: Bourne House Prince Edward Street, Berkhamsted HP4 3EZ		



Porous Paving 8

Type : Porous Paving

Dimensions

Exceedance Level (m)	96.934
Depth (m)	0.430
Base Level (m)	96.504
Paving Layer Depth (mm)	80
Membrane Percolation (m/hr)	500.0
Porosity (%)	30
Length (m)	6.000
Long. Slope (1:X)	60.00
Width (m)	32.500
Total Volume (m³)	20.550

Under Drain

Height Above Base (m)	0.000
Diameter (mm)	150
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Advanced

Conductivity (m/hr)	500.0
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Project: Barns Court Cophthorne	Date: 08/10/2025			
	Designed by: SA	Checked by:	Approved By:	
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address: Bourne House Prince Edward Street, Berkhamsted HP4 3EZ			



Porous Paving 6a

Type : Porous Paving

Dimensions

Exceedance Level (m)	97.074
Depth (m)	0.430
Base Level (m)	96.644
Paving Layer Depth (mm)	80
Membrane Percolation (m/hr)	500.0
Porosity (%)	30
Length (m)	55.672
Long. Slope (1:X)	60.00
Width (m)	4.989
Total Volume (m³)	29.368

Under Drain

Height Above Base (m)	0.000
Diameter (mm)	150
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Advanced

Conductivity (m/hr)	500.0
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Project: Barns Court Cophthorne	Date: 08/10/2025		
	Designed by: SA	Checked by:	
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address: Bourne House Prince Edward Street, Berkhamsted HP4 3EZ		

 **Porous Paving 6b**

Type : Porous Paving

Dimensions

Exceedance Level (m)	96.941
Depth (m)	0.430
Base Level (m)	96.511
Paving Layer Depth (mm)	80
Membrane Percolation (m/hr)	500.0
Porosity (%)	30
Length (m)	4.798
Long. Slope (1:X)	60.00
Width (m)	38.681
Total Volume (m³)	19.548

Under Drain

Height Above Base (m)	0.000
Diameter (mm)	150
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Advanced

Conductivity (m/hr)	500.0
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Project: Barns Court Cophthorne	Date: 08/10/2025		
	Designed by: SA	Checked by:	
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address: Bourne House Prince Edward Street, Berkhamsted HP4 3EZ		



Porous Paving 6c

Type : Porous Paving

Dimensions

Exceedance Level (m)	96.730
Depth (m)	0.430
Base Level (m)	96.300
Paving Layer Depth (mm)	80
Membrane Percolation (m/hr)	500.0
Porosity (%)	30
Length (m)	19.588
Long. Slope (1:X)	60.00
Width (m)	4.880
Total Volume (m³)	10.240

Under Drain

Height Above Base (m)	0.000
Diameter (mm)	150
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Advanced

Conductivity (m/hr)	500.0
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Project: Barns Court Cophthorne	Date: 08/10/2025			
	Designed by: SA	Checked by:	Approved By:	
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address: Bourne House Prince Edward Street, Berkhamsted HP4 3EZ			

 **Porous Paving 5**

Type : Porous Paving

Dimensions

Exceedance Level (m)	96.450
Depth (m)	0.430
Base Level (m)	96.020
Paving Layer Depth (mm)	80
Membrane Percolation (m/hr)	500.0
Porosity (%)	30
Length (m)	4.801
Long. Slope (1:X)	60.00
Width (m)	39.016
Total Volume (m³)	19.667

Advanced

Conductivity (m/hr)	500.0
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Project: Barns Court Cophthorne	Date: 08/10/2025			
	Designed by: SA	Checked by:	Approved By:	
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address: Bourne House Prince Edward Street, Berkhamsted HP4 3EZ			



Porous Paving 4

Type : Porous Paving

Dimensions

Exceedance Level (m)	96.375
Depth (m)	0.430
Base Level (m)	95.945
Paving Layer Depth (mm)	80
Membrane Percolation (m/hr)	500.0
Porosity (%)	30
Length (m)	37.779
Long. Slope (1:X)	60.00
Width (m)	4.906
Total Volume (m³)	19.858

Under Drain

Height Above Base (m)	0.000
Diameter (mm)	225
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Advanced

Conductivity (m/hr)	500.0
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Project: Barns Court Cophthorne	Date: 08/10/2025			
	Designed by: SA	Checked by:	Approved By:	
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address: Bourne House Prince Edward Street, Berkhamsted HP4 3EZ			



Porous Paving 1

Type : Porous Paving

Dimensions

Exceedance Level (m)	94.194
Depth (m)	0.430
Base Level (m)	93.764
Paving Layer Depth (mm)	80
Membrane Percolation (m/hr)	500.0
Porosity (%)	30
Length (m)	44.558
Long. Slope (1:X)	60.00
Width (m)	4.812
Total Volume (m³)	22.720

Under Drain

Height Above Base (m)	0.000
Diameter (mm)	150
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Advanced

Conductivity (m/hr)	500.0
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Project: Barns Court Cophthorne	Date: 08/10/2025		
	Designed by: SA	Checked by:	
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address:		
	Bourne House		
	Prince Edward Street, Berkhamsted HP4 3EZ		



Porous Paving_Car Park 1

Type : Porous Paving

Dimensions

Exceedance Level (m)	96.365
Depth (m)	0.430
Base Level (m)	95.935
Paving Layer Depth (mm)	80
Membrane Percolation (m/hr)	500.0
Porosity (%)	30
Length (m)	48.528
Long. Slope (1:X)	35.00
Width (m)	12.911
Total Volume (m³)	65.908

Under Drain

Height Above Base (m)	0.000
Diameter (mm)	150
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Advanced

Conductivity (m/hr)	500.0
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Project: Barns Court Cophthorne	Date: 08/10/2025		
	Designed by: SA	Checked by:	
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address: Bourne House Prince Edward Street, Berkhamsted HP4 3EZ		



Porous Paving_Car Park 2

Type : Porous Paving

Dimensions

Exceedance Level (m)	96.161
Depth (m)	0.430
Base Level (m)	95.731
Paving Layer Depth (mm)	80
Membrane Percolation (m/hr)	500.0
Porosity (%)	30
Length (m)	27.872
Long. Slope (1:X)	25.00
Width (m)	7.481
Total Volume (m³)	21.978

Under Drain

Height Above Base (m)	0.000
Diameter (mm)	150
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Advanced

Conductivity (m/hr)	500.0
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Project: Barns Court Cophthorne	Date: 08/10/2025		
	Designed by: SA	Checked by:	
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address:		
	Bourne House		
	Prince Edward Street, Berkhamsted HP4 3EZ		



Surface Water Attenuation Storage

Type : Cellular Storage

Dimensions

Exceedance Level (m)	93.450
Depth (m)	1.200
Base Level (m)	91.650
Number of Crates Long	57
Number of Crates Wide	6
Number of Crates High	1
Porosity (%)	95
Crate Length (m)	1
Crate Width (m)	1
Crate Height (m)	1.2
Total Volume (m³)	390.480

Project: Barns Court Cophorne	Date: 08/10/2025		
	Designed by: SA	Checked by:	
Report Title: Rainfall Analysis Criteria	Company Address: Bourne House Prince Edward Street, Berkhamsted HP4 3EZ		

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

Rainfall

FSR	Type: FSR
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Region	England And Wales
M5-60 (mm)	20.0
Ratio R	0.350
Summer	☒
Winter	☒

Return Period

Return Period (years)	Increase Rainfall (%)
1.0	0.000
30.0	20.000
100.0	25.000

Storm Durations

Duration (mins)	Run Time (mins)
15	30
30	60
60	120
120	240
240	480
360	720
480	960
960	1920
1440	2880

Project: Barns Court Cophthorne		Date: 08/10/2025			
		Designed by: SA	Checked by:		Approved By:
Report Details: Type: Inflows Summary Storm Phase: Phase		Company Address: Bourne House Prince Edward Street, Berkhamsted HP4 3EZ			



FSR: 1 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	FSR: 1 years: +0 %: 15 mins: Summer	0.03	4.5	1.965
Catchment Area (1)	FSR: 1 years: +0 %: 15 mins: Summer	0.05	9.0	3.887
Catchment Area (2)	FSR: 1 years: +0 %: 15 mins: Summer	0.02	3.7	1.605
Catchment Area (3)	FSR: 1 years: +0 %: 15 mins: Summer	0.05	9.2	3.968
Catchment Area (4)	FSR: 1 years: +0 %: 15 mins: Summer	0.04	6.1	2.631
Catchment Area (5)	FSR: 1 years: +0 %: 15 mins: Summer	0.02	4.1	1.782
Catchment Area (6)	FSR: 1 years: +0 %: 15 mins: Summer	0.08	13.1	5.681
Catchment Area (7)	FSR: 1 years: +0 %: 15 mins: Summer	0.04	6.2	2.688
Catchment Area (8)	FSR: 1 years: +0 %: 15 mins: Summer	0.05	9.0	3.884
Catchment Area (9)	FSR: 1 years: +0 %: 15 mins: Summer	0.06	10.5	4.562
Catchment Area (10)	FSR: 1 years: +0 %: 15 mins: Summer	0.03	4.5	1.938
Catchment Area (11)	FSR: 1 years: +0 %: 15 mins: Summer	0.03	5.7	2.478
Catchment Area (12)	FSR: 1 years: +0 %: 15 mins: Summer	0.04	7.5	3.254
Catchment Area (13)	FSR: 1 years: +0 %: 15 mins: Summer	0.04	7.6	3.299
Catchment Area (14)	FSR: 1 years: +0 %: 15 mins: Summer	0.03	5.6	2.445
Catchment Area (15)	FSR: 1 years: +0 %: 15 mins: Summer	0.04	7.5	3.245
Catchment Area (16)	FSR: 1 years: +0 %: 15 mins: Summer	0.02	3.9	1.680
Catchment Area (17)	FSR: 1 years: +0 %: 15 mins: Summer	0.10	16.4	7.121
Catchment Area (18)	FSR: 1 years: +0 %: 15 mins: Summer	0.04	6.1	2.634
Catchment Area (19)	FSR: 1 years: +0 %: 15 mins: Summer	0.01	1.8	0.795
Catchment Area (20)	FSR: 1 years: +0 %: 15 mins: Summer	0.02	4.0	1.719

Project: Barns Court Cophthorne	Date: 08/10/2025		
	Designed by: SA	Checked by:	Approved By:
Report Details: Type: Inflows Summary Storm Phase: Phase	Company Address: Bourne House Prince Edward Street, Berkhamsted HP4 3EZ		



Catchment Area (21)	FSR: 1 years: +0 %: 15 mins: Summer	0.02	4.3	1.854
Catchment Area (22)	FSR: 1 years: +0 %: 15 mins: Summer	0.02	3.3	1.440
Catchment Area (23)	FSR: 1 years: +0 %: 15 mins: Summer	0.01	1.9	0.834
Catchment Area (24)	FSR: 1 years: +0 %: 15 mins: Summer	0.02	2.9	1.272
Catchment Area (25)	FSR: 1 years: +0 %: 15 mins: Summer	0.05	9.0	3.884
Catchment Area (26)	FSR: 1 years: +0 %: 15 mins: Summer	0.02	4.0	1.752
Catchment Area (27)	FSR: 1 years: +0 %: 15 mins: Summer	0.04	6.4	2.775
Catchment Area (28)	FSR: 1 years: +0 %: 15 mins: Summer	0.03	5.8	2.502
Catchment Area (29)	FSR: 1 years: +0 %: 15 mins: Summer	0.03	4.5	1.971
Catchment Area (30)	FSR: 1 years: +0 %: 15 mins: Summer	0.02	4.2	1.833
Catchment Area (31)	FSR: 1 years: +0 %: 15 mins: Summer	0.04	7.5	3.233
Catchment Area (32)	FSR: 1 years: +0 %: 15 mins: Summer	0.02	3.8	1.659
Catchment Area (33)	FSR: 1 years: +0 %: 15 mins: Summer	0.04	6.8	2.934
Catchment Area (34)	FSR: 1 years: +0 %: 15 mins: Summer	0.01	2.4	1.053
Catchment Area (35)	FSR: 1 years: +0 %: 15 mins: Summer	0.05	9.0	3.905
Catchment Area (36)	FSR: 1 years: +0 %: 15 mins: Summer	0.03	4.6	1.992
Catchment Area (37)	FSR: 1 years: +0 %: 15 mins: Summer	0.02	4.1	1.764
Catchment Area (38)	FSR: 1 years: +0 %: 15 mins: Summer	0.02	4.1	1.761

Project: Barns Court Cophthorne	Date: 08/10/2025		
	Designed by: SA	Checked by:	Approved By:
Report Details: Type: Inflows Summary Storm Phase: Phase	Company Address: Bourne House Prince Edward Street, Berkhamsted HP4 3EZ		





FSR: 30 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	FSR: 30 years: +20 %: 15 mins: Summer	0.03	13.3	5.777
Catchment Area (1)	FSR: 30 years: +20 %: 15 mins: Summer	0.05	26.4	11.438
Catchment Area (2)	FSR: 30 years: +20 %: 15 mins: Summer	0.02	10.9	4.731
Catchment Area (3)	FSR: 30 years: +20 %: 15 mins: Summer	0.05	27.0	11.684
Catchment Area (4)	FSR: 30 years: +20 %: 15 mins: Summer	0.04	17.8	7.730
Catchment Area (5)	FSR: 30 years: +20 %: 15 mins: Summer	0.02	12.1	5.246
Catchment Area (6)	FSR: 30 years: +20 %: 15 mins: Summer	0.08	38.6	16.720
Catchment Area (7)	FSR: 30 years: +20 %: 15 mins: Summer	0.04	18.2	7.904
Catchment Area (8)	FSR: 30 years: +20 %: 15 mins: Summer	0.05	26.4	11.423
Catchment Area (9)	FSR: 30 years: +20 %: 15 mins: Summer	0.06	31.0	13.412
Catchment Area (10)	FSR: 30 years: +20 %: 15 mins: Summer	0.03	13.2	5.714
Catchment Area (11)	FSR: 30 years: +20 %: 15 mins: Summer	0.03	16.8	7.286
Catchment Area (12)	FSR: 30 years: +20 %: 15 mins: Summer	0.04	22.1	9.578
Catchment Area (13)	FSR: 30 years: +20 %: 15 mins: Summer	0.04	22.4	9.704
Catchment Area (14)	FSR: 30 years: +20 %: 15 mins: Summer	0.03	16.6	7.199
Catchment Area (15)	FSR: 30 years: +20 %: 15 mins: Summer	0.04	22.1	9.557
Catchment Area (16)	FSR: 30 years: +20 %: 15 mins: Summer	0.02	11.4	4.938
Catchment Area (17)	FSR: 30 years: +20 %: 15 mins: Summer	0.10	48.3	20.941
Catchment Area (18)	FSR: 30 years: +20 %: 15 mins: Summer	0.04	17.9	7.748
Catchment Area (19)	FSR: 30 years: +20 %: 15 mins: Summer	0.01	5.4	2.328
Catchment Area (20)	FSR: 30 years: +20 %: 15 mins: Summer	0.02	11.7	5.061

Project: Barns Court Cophthorne		Date: 08/10/2025			
		Designed by: SA	Checked by:		Approved By:
Report Details: Type: Inflows Summary Storm Phase: Phase		Company Address: Bourne House Prince Edward Street, Berkhamsted HP4 3EZ			

Catchment Area (21)	FSR: 30 years: +20 %: 15 mins: Summer	0.02	12.6	5.447
Catchment Area (22)	FSR: 30 years: +20 %: 15 mins: Summer	0.02	9.8	4.236
Catchment Area (23)	FSR: 30 years: +20 %: 15 mins: Summer	0.01	5.6	2.439
Catchment Area (24)	FSR: 30 years: +20 %: 15 mins: Summer	0.02	8.6	3.744
Catchment Area (25)	FSR: 30 years: +20 %: 15 mins: Summer	0.05	26.4	11.423
Catchment Area (26)	FSR: 30 years: +20 %: 15 mins: Summer	0.02	11.9	5.151
Catchment Area (27)	FSR: 30 years: +20 %: 15 mins: Summer	0.04	18.8	8.162
Catchment Area (28)	FSR: 30 years: +20 %: 15 mins: Summer	0.03	17.0	7.370
Catchment Area (29)	FSR: 30 years: +20 %: 15 mins: Summer	0.03	13.4	5.792
Catchment Area (30)	FSR: 30 years: +20 %: 15 mins: Summer	0.02	12.4	5.387
Catchment Area (31)	FSR: 30 years: +20 %: 15 mins: Summer	0.04	21.9	9.506
Catchment Area (32)	FSR: 30 years: +20 %: 15 mins: Summer	0.02	11.3	4.884
Catchment Area (33)	FSR: 30 years: +20 %: 15 mins: Summer	0.04	19.9	8.633
Catchment Area (34)	FSR: 30 years: +20 %: 15 mins: Summer	0.01	7.1	3.099
Catchment Area (35)	FSR: 30 years: +20 %: 15 mins: Summer	0.05	26.5	11.498
Catchment Area (36)	FSR: 30 years: +20 %: 15 mins: Summer	0.03	13.5	5.858
Catchment Area (37)	FSR: 30 years: +20 %: 15 mins: Summer	0.02	12.0	5.193
Catchment Area (38)	FSR: 30 years: +20 %: 15 mins: Summer	0.02	12.0	5.190

Project: Barns Court Cophthorne	Date: 08/10/2025		
	Designed by: SA	Checked by:	Approved By:
Report Details: Type: Inflows Summary Storm Phase: Phase	Company Address: Bourne House Prince Edward Street, Berkhamsted HP4 3EZ		





FSR: 100 years: Increase Rainfall (%): +25: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Catchment Area	FSR: 100 years: +25 %: 15 mins: Summer	0.03	18.0	7.802
Catchment Area (1)	FSR: 100 years: +25 %: 15 mins: Summer	0.05	35.6	15.440
Catchment Area (2)	FSR: 100 years: +25 %: 15 mins: Summer	0.02	14.7	6.386
Catchment Area (3)	FSR: 100 years: +25 %: 15 mins: Summer	0.05	36.4	15.770
Catchment Area (4)	FSR: 100 years: +25 %: 15 mins: Summer	0.04	24.1	10.439
Catchment Area (5)	FSR: 100 years: +25 %: 15 mins: Summer	0.02	16.3	7.082
Catchment Area (6)	FSR: 100 years: +25 %: 15 mins: Summer	0.08	52.1	22.564
Catchment Area (7)	FSR: 100 years: +25 %: 15 mins: Summer	0.04	24.6	10.670
Catchment Area (8)	FSR: 100 years: +25 %: 15 mins: Summer	0.05	35.6	15.422
Catchment Area (9)	FSR: 100 years: +25 %: 15 mins: Summer	0.06	41.8	18.106
Catchment Area (10)	FSR: 100 years: +25 %: 15 mins: Summer	0.03	17.8	7.709
Catchment Area (11)	FSR: 100 years: +25 %: 15 mins: Summer	0.03	22.7	9.836
Catchment Area (12)	FSR: 100 years: +25 %: 15 mins: Summer	0.04	29.8	12.923
Catchment Area (13)	FSR: 100 years: +25 %: 15 mins: Summer	0.04	30.2	13.100
Catchment Area (14)	FSR: 100 years: +25 %: 15 mins: Summer	0.03	22.4	9.716
Catchment Area (15)	FSR: 100 years: +25 %: 15 mins: Summer	0.04	29.8	12.899
Catchment Area (16)	FSR: 100 years: +25 %: 15 mins: Summer	0.02	15.4	6.662
Catchment Area (17)	FSR: 100 years: +25 %: 15 mins: Summer	0.10	65.2	28.267
Catchment Area (18)	FSR: 100 years: +25 %: 15 mins: Summer	0.04	24.1	10.460
Catchment Area (19)	FSR: 100 years: +25 %: 15 mins: Summer	0.01	7.3	3.144
Catchment Area (20)	FSR: 100 years: +25 %: 15 mins: Summer	0.02	15.8	6.833

Project: Barns Court Cophthorne		Date: 08/10/2025			
		Designed by: SA	Checked by:		Approved By:
Report Details: Type: Inflows Summary Storm Phase: Phase		Company Address: Bourne House Prince Edward Street, Berkhamsted HP4 3EZ			

Catchment Area (21)	FSR: 100 years: +25 %: 15 mins: Summer	0.02	17.0	7.355
Catchment Area (22)	FSR: 100 years: +25 %: 15 mins: Summer	0.02	13.2	5.717
Catchment Area (23)	FSR: 100 years: +25 %: 15 mins: Summer	0.01	7.6	3.294
Catchment Area (24)	FSR: 100 years: +25 %: 15 mins: Summer	0.02	11.7	5.055
Catchment Area (25)	FSR: 100 years: +25 %: 15 mins: Summer	0.05	35.6	15.422
Catchment Area (26)	FSR: 100 years: +25 %: 15 mins: Summer	0.02	16.0	6.950
Catchment Area (27)	FSR: 100 years: +25 %: 15 mins: Summer	0.04	25.4	11.024
Catchment Area (28)	FSR: 100 years: +25 %: 15 mins: Summer	0.03	23.0	9.950
Catchment Area (29)	FSR: 100 years: +25 %: 15 mins: Summer	0.03	18.0	7.820
Catchment Area (30)	FSR: 100 years: +25 %: 15 mins: Summer	0.02	16.8	7.274
Catchment Area (31)	FSR: 100 years: +25 %: 15 mins: Summer	0.04	29.6	12.827
Catchment Area (32)	FSR: 100 years: +25 %: 15 mins: Summer	0.02	15.2	6.593
Catchment Area (33)	FSR: 100 years: +25 %: 15 mins: Summer	0.04	26.9	11.654
Catchment Area (34)	FSR: 100 years: +25 %: 15 mins: Summer	0.01	9.6	4.179
Catchment Area (35)	FSR: 100 years: +25 %: 15 mins: Summer	0.05	35.8	15.518
Catchment Area (36)	FSR: 100 years: +25 %: 15 mins: Summer	0.03	18.3	7.907
Catchment Area (37)	FSR: 100 years: +25 %: 15 mins: Summer	0.02	16.2	7.010
Catchment Area (38)	FSR: 100 years: +25 %: 15 mins: Summer	0.02	16.2	7.007

Project:
Barns Court
Cophthorne

Report Details:
Type: Junctions Summary
Storm Phase: Phase

Date:
08/10/2025

Designed by:
SA

Checked by:

Approved By:

Company Address:
Bourne House
Prince Edward Street, Berkhamsted
HP4 3EZ





FSR: 1 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Flooded Volume

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
Headwall 4	FSR: 1 years: +0 %: 15 mins: Summer		91.530	91.575	0.045	5.3			5.3	1.521	OK
S108 (SW NETWORK)	FSR: 1 years: +0 %: 15 mins: Summer	97.087	96.105	96.125	0.020	4.7	0.023	0.000	4.7	4.055	OK
S111 (SW NETWORK)	FSR: 1 years: +0 %: 15 mins: Summer	97.087	96.000	96.015	0.015	6.1	0.017	0.000	6.1	4.914	OK
S107 (SW NETWORK)	FSR: 1 years: +0 %: 15 mins: Summer	97.038	94.970	95.066	0.096	19.5	0.170	0.000	19.2	15.881	OK
S110 (SW NETWORK)	FSR: 1 years: +0 %: 15 mins: Summer	97.016	94.590	94.624	0.034	25.6	0.060	0.000	25.6	22.431	OK
S106 (SW NETWORK)	FSR: 1 years: +0 %: 15 mins: Summer	96.984	95.080	95.180	0.100	19.5	0.176	0.000	19.5	16.416	OK
S104 (SW NETWORK)	FSR: 1 years: +0 %: 15 mins: Summer	96.942	95.960	95.987	0.027	6.3	0.031	0.000	6.3	5.130	OK
S105 (SW NETWORK)	FSR: 1 years: +0 %: 15 mins: Summer	96.928	95.140	95.243	0.103	19.2	0.182	0.000	19.5	16.600	OK
SP1 (SW NETWORK)	FSR: 1 years: +0 %: 15 mins: Summer	96.903	96.000	96.025	0.025	5.6	0.004	0.000	5.6	2.444	OK
S102 (SW NETWORK)	FSR: 1 years: +0 %: 15 mins: Summer	96.867	95.885	95.911	0.026	5.3	0.030	0.000	5.3	3.899	OK
SP2 (SW NETWORK)	FSR: 1 years: +0 %: 15 mins: Summer	96.831	95.800	95.811	0.011	2.9	0.002	0.000	2.9	1.271	OK
S103 (SW NETWORK)	FSR: 1 years: +0 %: 15 mins: Summer	96.826	95.395	95.467	0.072	11.6	0.127	0.000	11.6	9.280	OK
S112 (SW NETWORK)	FSR: 1 years: +0 %: 15 mins: Summer	96.750	95.755	95.765	0.010	2.9	0.012	0.000	2.9	2.010	OK
S115 (SW NETWORK)	FSR: 1 years: +0 %: 15 mins: Summer	96.708	95.000	95.039	0.039	20.8	0.069	0.000	21.0	14.945	OK
S100 (SW NETWORK)	FSR: 1 years: +0 %: 15 mins: Summer	96.706	95.725	95.789	0.064	6.5	0.072	0.000	6.5	5.781	OK
S101 (SW NETWORK)	FSR: 1 years: +0 %: 15 mins: Summer	96.667	95.705	95.764	0.059	6.5	0.067	0.000	6.3	5.579	OK
S113 (SW NETWORK)	FSR: 1 years: +0 %: 15 mins: Summer	96.458	95.475	95.515	0.040	5.7	0.045	0.000	5.3	4.310	OK
S109 (SW NETWORK)	FSR: 1 years: +0 %: 15 mins: Summer	96.365	95.300	95.326	0.026	2.6	0.046	0.000	2.7	2.537	OK
S114 (SW NETWORK)	FSR: 1 years: +0 %: 15 mins: Summer	96.345	95.295	95.358	0.063	12.7	0.112	0.000	13.3	8.582	OK
PPIC2 (SW NETWORK)	FSR: 1 years: +0 %: 15 mins: Summer	96.191	95.400	95.433	0.033	2.6	0.005	0.000	2.6	2.096	OK
SP7 (SW NETWORK)	FSR: 1 years: +0 %: 15 mins: Summer	95.631	94.655	94.710	0.055	10.4	0.009	0.000	10.3	4.519	OK

Project: Barns Court Cophthorne	Date: 08/10/2025			
	Designed by: SA	Checked by:	Approved By:	
Report Details: Type: Junctions Summary Storm Phase: Phase	Company Address: Bourne House Prince Edward Street, Berkhamsted HP4 3EZ			

S118 (SW NETWORK)	FSR: 1 years: +0 %: 15 mins: Summer	95.630	94.640	94.678	0.038	7.2	0.043	0.000	7.2	4.916	OK
S117 (SW NETWORK)	FSR: 1 years: +0 %: 15 mins: Summer	95.452	94.310	94.415	0.105	23.1	0.185	0.000	21.5	10.189	OK
S119 (SW NETWORK)	FSR: 1 years: +0 %: 15 mins: Summer	95.446	94.050	94.150	0.100	23.9	0.176	0.000	22.8	15.054	OK
SP6 (SW NETWORK)	FSR: 1 years: +0 %: 15 mins: Summer	95.411	94.435	94.527	0.092	13.1	0.015	0.000	12.9	5.679	OK
S121 (SW NETWORK)	FSR: 1 years: +0 %: 15 mins: Summer	95.283	93.895	94.002	0.107	25.9	0.190	0.000	26.4	21.083	OK
S120 (SW NETWORK)	FSR: 1 years: +0 %: 15 mins: Summer	95.152	94.110	94.173	0.063	9.1	0.071	0.000	9.1	6.219	OK
S122 (SW NETWORK)	FSR: 1 years: +0 %: 15 mins: Summer	94.729	93.725	93.783	0.058	26.4	0.102	0.000	26.7	21.011	OK
S116 (SW NETWORK)	FSR: 1 years: +0 %: 15 mins: Summer	94.217	93.225	93.252	0.027	6.8	0.031	0.000	6.8	4.825	OK
SP3 (SW NETWORK)	FSR: 1 years: +0 %: 15 mins: Summer	94.175	93.190	93.217	0.027	9.2	0.004	0.000	9.2	3.986	OK
SP5 (SW NETWORK)	FSR: 1 years: +0 %: 15 mins: Summer	93.540	92.640	92.704	0.064	6.1	0.010	0.000	5.9	2.629	OK
SP4 (SW NETWORK)	FSR: 1 years: +0 %: 15 mins: Summer	93.146	92.170	92.241	0.071	8.1	0.011	0.000	8.0	3.522	OK
S123 (SW NETWORK)	FSR: 1 years: +0 %: 15 mins: Summer	93.660	92.265	92.332	0.067	28.5	0.118	0.000	28.9	23.555	OK
S124 (SW NETWORK)	FSR: 1 years: +0 %: 15 mins: Summer	93.428	91.900	92.017	0.117	35.2	0.206	0.000	32.6	26.910	OK
S126 (SW NETWORK)	FSR: 1 years: +0 %: 15 mins: Summer	92.550	91.590	91.757	0.167	5.5	0.188	0.000	5.3	1.578	OK

Project:
Barns Court
Cophthorne

Report Details:
Type: Junctions Summary
Storm Phase: Phase

Date:
08/10/2025

Designed by:
SA

Checked by:

Approved By:

Company Address:
Bourne House
Prince Edward Street, Berkhamsted
HP4 3EZ





FSR: 30 years: Increase Rainfall (%): +20: Critical Storm Per Item: Rank By: Max. Flooded Volume

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
Headwall 4	FSR: 30 years: +20 %: 15 mins: Summer		91.530	91.595	0.065	11.2			11.2	8.568	OK
S108 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	97.087	96.105	96.145	0.040	17.6	0.045	0.000	17.6	14.701	OK
S111 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	97.087	96.000	96.026	0.026	17.4	0.029	0.000	17.4	15.834	OK
S107 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	97.038	94.970	95.158	0.188	58.8	0.332	0.000	60.3	52.719	OK
S110 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	97.016	94.590	94.659	0.068	90.8	0.121	0.000	90.9	80.580	OK
S106 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	96.984	95.080	95.276	0.196	58.2	0.346	0.000	58.8	53.739	OK
S104 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	96.942	95.960	96.004	0.044	18.1	0.049	0.000	18.1	16.692	OK
S105 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	96.928	95.140	95.347	0.207	56.8	0.367	0.000	58.2	54.076	OK
SP1 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	96.903	96.000	96.046	0.046	16.6	0.007	0.000	16.5	7.198	OK
S102 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	96.867	95.885	95.932	0.047	15.9	0.053	0.000	15.9	12.265	OK
SP2 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	96.831	95.800	95.819	0.019	8.6	0.003	0.000	8.6	3.743	OK
S103 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	96.826	95.395	95.524	0.129	34.7	0.227	0.000	34.9	30.676	OK
S112 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	96.750	95.755	95.773	0.018	8.5	0.020	0.000	8.5	6.361	OK
S115 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	96.708	95.000	95.072	0.072	67.6	0.128	0.000	68.0	48.052	OK
S100 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	96.706	95.725	95.844	0.119	18.8	0.135	0.000	18.8	19.178	OK
S101 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	96.667	95.705	95.814	0.109	18.8	0.123	0.000	18.8	18.763	OK
S113 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	96.458	95.475	95.553	0.078	19.5	0.088	0.000	18.7	14.150	OK
S109 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	96.365	95.300	95.360	0.060	14.3	0.106	0.000	14.4	13.232	OK
S114 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	96.345	95.295	95.409	0.114	40.5	0.202	0.000	41.2	26.661	OK
PPIC2 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	96.191	95.400	95.473	0.073	10.8	0.012	0.000	10.9	7.302	OK
SP7 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	95.631	94.655	94.757	0.102	30.7	0.016	0.000	30.5	13.278	OK

Project: Barns Court Cophthorne	Date: 08/10/2025			
	Designed by: SA	Checked by:	Approved By:	
Report Details: Type: Junctions Summary Storm Phase: Phase	Company Address: Bourne House Prince Edward Street, Berkhamsted HP4 3EZ			

S118 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	95.630	94.640	94.707	0.067	21.1	0.076	0.000	21.1	16.092	OK
S117 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	95.452	94.310	94.515	0.205	68.4	0.362	0.000	64.3	29.987	OK
S119 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	95.446	94.050	94.255	0.205	79.6	0.362	0.000	76.9	46.022	OK
SP6 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	95.411	94.435	94.624	0.189	38.6	0.030	0.000	37.9	16.718	OK
S121 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	95.283	93.895	94.114	0.219	93.2	0.387	0.000	87.6	65.833	OK
S120 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	95.152	94.110	94.212	0.102	21.0	0.115	0.000	21.0	20.104	OK
S122 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	94.729	93.725	93.828	0.103	87.6	0.182	0.000	86.1	65.726	OK
S116 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	94.217	93.225	93.272	0.047	19.2	0.053	0.000	19.2	16.036	OK
SP3 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	94.175	93.190	93.239	0.049	27.1	0.008	0.000	27.0	11.732	OK
SP5 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	93.540	92.640	92.780	0.140	17.8	0.022	0.000	17.2	7.728	OK
SP4 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	93.146	92.170	92.303	0.133	24.0	0.021	0.000	23.6	10.380	OK
S123 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	93.660	92.265	92.410	0.145	103.4	0.255	0.000	99.6	73.344	OK
S124 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	93.428	91.900	92.140	0.240	123.2	0.424	0.000	116.7	82.417	OK
S126 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	92.550	91.590	92.042	0.452	11.6	0.511	0.000	11.1	8.647	Surcharged

Project:
Barns Court
Cophthorne

Report Details:
Type: Junctions Summary
Storm Phase: Phase

Date:
08/10/2025

Designed by:
SA

Checked by:

Approved By:

Company Address:
Bourne House
Prince Edward Street, Berkhamsted
HP4 3EZ





FSR: 100 years: Increase Rainfall (%): +25: Critical Storm Per Item: Rank By: Max. Flooded Volume

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
Headwall 4	FSR: 100 years: +25 %: 15 mins: Summer		91.530	91.583	0.053	7.6			7.6	7.139	OK
S108 (SW NETWORK)	FSR: 100 years: +25 %: 15 mins: Summer	97.087	96.105	96.148	0.043	20.1	0.049	0.000	20.1	20.191	OK
S111 (SW NETWORK)	FSR: 100 years: +25 %: 15 mins: Summer	97.087	96.000	96.029	0.029	21.4	0.033	0.000	21.4	21.268	OK
S107 (SW NETWORK)	FSR: 100 years: +25 %: 15 mins: Summer	97.038	94.970	95.188	0.218	72.0	0.385	0.000	73.8	69.933	OK
S110 (SW NETWORK)	FSR: 100 years: +25 %: 15 mins: Summer	97.016	94.590	94.667	0.077	111.1	0.136	0.000	111.2	109.189	OK
S106 (SW NETWORK)	FSR: 100 years: +25 %: 15 mins: Summer	96.984	95.080	95.311	0.231	71.3	0.408	0.000	72.0	71.351	OK
S104 (SW NETWORK)	FSR: 100 years: +25 %: 15 mins: Summer	96.942	95.960	96.008	0.048	22.0	0.054	0.000	22.0	22.348	OK
S105 (SW NETWORK)	FSR: 100 years: +25 %: 15 mins: Summer	96.928	95.140	95.387	0.247	70.3	0.437	0.000	71.3	71.824	OK
SP1 (SW NETWORK)	FSR: 100 years: +25 %: 15 mins: Summer	96.903	96.000	96.053	0.053	22.4	0.008	0.000	22.4	9.715	OK
S102 (SW NETWORK)	FSR: 100 years: +25 %: 15 mins: Summer	96.867	95.885	95.938	0.053	19.7	0.059	0.000	19.7	16.629	OK
SP2 (SW NETWORK)	FSR: 100 years: +25 %: 15 mins: Summer	96.831	95.800	95.823	0.023	11.7	0.004	0.000	11.6	5.054	OK
S103 (SW NETWORK)	FSR: 100 years: +25 %: 15 mins: Summer	96.826	95.395	95.539	0.144	42.3	0.254	0.000	42.4	40.476	OK
S112 (SW NETWORK)	FSR: 100 years: +25 %: 15 mins: Summer	96.750	95.755	95.778	0.023	13.3	0.026	0.000	13.3	8.684	OK
S115 (SW NETWORK)	FSR: 100 years: +25 %: 15 mins: Summer	96.708	95.000	95.082	0.082	84.7	0.145	0.000	85.0	65.945	OK
S100 (SW NETWORK)	FSR: 100 years: +25 %: 15 mins: Summer	96.706	95.725	95.860	0.135	22.6	0.152	0.000	22.6	24.949	OK
S101 (SW NETWORK)	FSR: 100 years: +25 %: 15 mins: Summer	96.667	95.705	95.827	0.122	22.6	0.137	0.000	22.6	24.330	OK
S113 (SW NETWORK)	FSR: 100 years: +25 %: 15 mins: Summer	96.458	95.475	95.569	0.094	27.2	0.106	0.000	26.1	19.632	OK
S109 (SW NETWORK)	FSR: 100 years: +25 %: 15 mins: Summer	96.365	95.300	95.370	0.070	19.3	0.123	0.000	19.3	19.157	OK
S114 (SW NETWORK)	FSR: 100 years: +25 %: 15 mins: Summer	96.345	95.295	95.419	0.124	47.6	0.219	0.000	47.6	36.264	OK
PPIC2 (SW NETWORK)	FSR: 100 years: +25 %: 15 mins: Summer	96.191	95.400	95.490	0.090	15.2	0.014	0.000	15.3	10.115	OK
SP7 (SW NETWORK)	FSR: 100 years: +25 %: 15 mins: Summer	95.631	94.655	94.783	0.128	41.4	0.020	0.000	41.0	17.926	OK

Project: Barns Court Cophthorne	Date: 08/10/2025			
	Designed by: SA	Checked by:	Approved By:	
Report Details: Type: Junctions Summary Storm Phase: Phase	Company Address: Bourne House Prince Edward Street, Berkhamsted HP4 3EZ			

S118 (SW NETWORK)	FSR: 100 years: +25 %: 15 mins: Summer	95.630	94.640	94.712	0.072	24.0	0.081	0.000	24.0	21.990	OK
S117 (SW NETWORK)	FSR: 100 years: +25 %: 15 mins: Summer	95.452	94.310	94.573	0.263	91.4	0.464	0.000	85.2	40.497	OK
S119 (SW NETWORK)	FSR: 100 years: +25 %: 15 mins: Summer	95.446	94.050	94.298	0.248	104.1	0.438	0.000	101.3	62.413	OK
SP6 (SW NETWORK)	FSR: 100 years: +25 %: 15 mins: Summer	95.411	94.435	94.705	0.270	52.1	0.043	0.000	50.4	22.561	Surcharged
S121 (SW NETWORK)	FSR: 100 years: +25 %: 15 mins: Summer	95.283	93.895	94.157	0.262	120.3	0.463	0.000	114.9	88.652	OK
S120 (SW NETWORK)	FSR: 100 years: +25 %: 15 mins: Summer	95.152	94.110	94.220	0.110	24.1	0.125	0.000	24.1	26.721	OK
S122 (SW NETWORK)	FSR: 100 years: +25 %: 15 mins: Summer	94.729	93.725	93.844	0.119	114.9	0.210	0.000	113.6	88.482	OK
S116 (SW NETWORK)	FSR: 100 years: +25 %: 15 mins: Summer	94.217	93.225	93.276	0.051	21.9	0.057	0.000	21.9	21.819	OK
SP3 (SW NETWORK)	FSR: 100 years: +25 %: 15 mins: Summer	94.175	93.190	93.249	0.059	36.5	0.009	0.000	36.4	15.832	OK
SP5 (SW NETWORK)	FSR: 100 years: +25 %: 15 mins: Summer	93.540	92.640	92.875	0.235	24.1	0.037	0.000	23.1	10.437	Surcharged
SP4 (SW NETWORK)	FSR: 100 years: +25 %: 15 mins: Summer	93.146	92.170	92.334	0.164	32.4	0.026	0.000	31.9	14.015	OK
S123 (SW NETWORK)	FSR: 100 years: +25 %: 15 mins: Summer	93.660	92.265	92.442	0.177	136.7	0.313	0.000	132.7	98.735	OK
S124 (SW NETWORK)	FSR: 100 years: +25 %: 15 mins: Summer	93.428	91.900	92.190	0.290	164.6	0.513	0.000	158.0	110.225	OK
S126 (SW NETWORK)	FSR: 100 years: +25 %: 960 mins: Winter	92.550	91.590	92.593	1.003	16.4	44.328	43.242	11.8	890.438	Flood

Project:
Barns Court
Cophthorne

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

Date:
08/10/2025

Designed by:
SA

Checked by:

Approved By:

Company Address:
Bourne House
Prince Edward Street, Berkhamsted
HP4 3EZ





FSR: 1 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Flooded 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 (%)
Porous Paving 2	FSR: 1 years: +0 %: 15 mins: Summer	95.259	94.777	0.035	0.124	17.0	4.204	0.000	0.000	9.1	6.268	13	81.711
Porous Paving 3	FSR: 1 years: +0 %: 15 mins: Summer	96.313	95.286	0.028	0.106	13.5	3.407	0.000	0.000	7.2	4.953	13	85.034
Porous Paving 7a	FSR: 1 years: +0 %: 15 mins: Summer	96.416	96.369	0.046	0.099	19.5	5.960	0.000	0.000	6.5	5.854	26	79.344
Porous Paving 7b	FSR: 1 years: +0 %: 15 mins: Summer	96.569	96.517	0.039	0.088	10.2	2.159	0.000	0.000	5.3	3.925	11	82.527
Porous Paving 8	FSR: 1 years: +0 %: 15 mins: Summer	96.647	96.602	0.043	0.098	15.1	4.116	0.000	0.000	6.3	5.169	18	79.972
Porous Paving 6a	FSR: 1 years: +0 %: 15 mins: Summer	97.599	96.725	0.027	0.081	13.2	4.152	0.000	0.000	4.7	4.089	25	85.863
Porous Paving 6b	FSR: 1 years: +0 %: 15 mins: Summer	96.633	96.608	0.041	0.096	14.3	3.835	0.000	0.000	6.1	4.943	18	80.382
Porous Paving 6c	FSR: 1 years: +0 %: 15 mins: Summer	96.652	96.360	0.025	0.059	5.2	1.073	0.000	0.000	2.9	2.023	10	89.518
Porous Paving 5	FSR: 1 years: +0 %: 15 mins: Summer	96.167	96.050	0.068	0.030	13.0	2.629	0.000	0.000	5.7	4.353	12	86.635
Porous Paving 4	FSR: 1 years: +0 %: 15 mins: Summer	96.614	96.071	0.039	0.126	21.6	3.717	0.000	0.000	12.3	8.674	7	81.281
Porous Paving 1	FSR: 1 years: +0 %: 15 mins: Summer	94.537	93.867	0.030	0.103	13.6	3.611	0.000	0.000	6.8	4.855	15	84.108
Tubosider Twinstore Storage	FSR: 1 years: +0 %: 15 mins: Summer	91.800	91.795	0.150	0.145	97.7	62.050	0.000	0.000	41.4	23.159	42	87.206
Existing Above Ground Attenuation Basin Deepend	FSR: 1 years: +0 %: 15 mins: Summer	91.760	91.760	0.110	0.110	41.4	20.788	0.000	0.000	5.5	2.357	103	95.477
Surface Water Attenuation Storage	FSR: 1 years: +0 %: 15 mins: Summer	91.651	91.651	0.001	0.001	1.6	0.280	0.000	0.000	0.0	0.000		99.928
Porous Paving_Car Park 1	FSR: 1 years: +0 %: 15 mins: Summer	97.343	95.990	0.022	0.055	16.4	6.138	0.000	0.000	2.6	2.680	69	90.688
Porous Paving_Car Park 2	FSR: 1 years: +0 %: 15 mins: Summer	96.862	95.787	0.016	0.056	6.4	1.912	0.000	0.000	2.6	2.131	21	91.301

Project: Barns Court Cophthorne	Date: 08/10/2025			
	Designed by: SA	Checked by:	Approved By:	
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address: Bourne House Prince Edward Street, Berkhamsted HP4 3EZ			

Status
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Project:
Barns Court
Cophthorne

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

Date:
08/10/2025

Designed by:
SA

Checked by:

Approved By:

Company Address:
Bourne House
Prince Edward Street, Berkhamsted
HP4 3EZ





FSR: 30 years: Increase Rainfall (%): +20: Critical Storm Per Item: Rank By: Max. Flooded 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 (%)
Porous Paving 2	FSR: 30 years: +20 %: 15 mins: Summer	95.295	94.927	0.071	0.274	50.0	11.850	0.000	0.000	21.0	20.175	15	48.445
Porous Paving 3	FSR: 30 years: +20 %: 15 mins: Summer	96.341	95.455	0.056	0.276	39.7	8.219	0.000	0.000	21.0	16.133	10	63.898
Porous Paving 7a	FSR: 30 years: +20 %: 15 mins: Summer	96.525	96.504	0.155	0.234	57.3	16.014	0.000	0.000	18.8	19.309	24	44.501
Porous Paving 7b	FSR: 30 years: +20 %: 15 mins: Summer	96.634	96.618	0.105	0.189	30.0	5.147	0.000	0.000	15.8	12.304	8	58.357
Porous Paving 8	FSR: 30 years: +20 %: 15 mins: Summer	96.749	96.727	0.144	0.223	44.5	10.750	0.000	0.000	18.1	16.754	16	47.689
Porous Paving 6a	FSR: 30 years: +20 %: 15 mins: Summer	97.629	96.860	0.057	0.216	38.8	9.890	0.000	0.000	17.6	14.746	15	66.326
Porous Paving 6b	FSR: 30 years: +20 %: 15 mins: Summer	96.739	96.723	0.148	0.212	42.1	10.016	0.000	0.000	17.4	15.878	15	48.764
Porous Paving 6c	FSR: 30 years: +20 %: 15 mins: Summer	96.677	96.422	0.050	0.122	15.4	2.305	0.000	0.000	8.7	6.377	6	77.492
Porous Paving 5	FSR: 30 years: +20 %: 15 mins: Summer	96.274	96.080	0.174	0.060	38.3	6.304	0.000	0.000	19.5	14.223	7	67.948
Porous Paving 4	FSR: 30 years: +20 %: 15 mins: Summer	96.647	96.221	0.072	0.276	63.6	8.224	0.000	0.000	40.3	26.765	4	58.588
Porous Paving 1	FSR: 30 years: +20 %: 15 mins: Summer	94.569	94.006	0.062	0.242	40.1	8.979	0.000	0.000	19.2	16.075	12	60.481
Tubosider Twinstore Storage	FSR: 30 years: +20 %: 15 mins: Summer	92.044	92.045	0.394	0.395	297.7	166.087	0.000	0.000	204.2	98.629	20	65.755
Existing Above Ground Attenuation Basin Deepend	FSR: 30 years: +20 %: 15 mins: Summer	92.044	92.044	0.394	0.394	204.2	83.881	0.000	0.000	11.6	14.742	173	81.748
Surface Water Attenuation Storage	FSR: 30 years: +20 %: 15 mins: Summer	91.667	91.667	0.017	0.017	14.5	5.389	0.000	0.000	0.0	0.000		98.620
Porous Paving_Car Park 1	FSR: 30 years: +20 %: 15 mins: Summer	97.365	96.103	0.043	0.168	48.3	16.439	0.000	0.000	14.3	13.514	34	75.058
Porous Paving_Car Park 2	FSR: 30 years: +20 %: 15 mins: Summer	96.880	95.872	0.034	0.141	18.8	4.010	0.000	0.000	10.7	7.347	10	81.755

Project: Barns Court Cophthorne	Date: 08/10/2025			
	Designed by: SA	Checked by:	Approved By:	
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address: Bourne House Prince Edward Street, Berkhamsted HP4 3EZ			

Status
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Project:
Barns Court
Cophthorne

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

Date:
08/10/2025

Designed by:
SA

Checked by:

Approved By:

Company Address:
Bourne House
Prince Edward Street, Berkhamsted
HP4 3EZ





FSR: 100 years: Increase Rainfall (%): +25: Critical Storm Per Item: Rank By: Max. Flooded 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 (%)
Porous Paving 2	FSR: 100 years: +25 %: 30 mins: Summer	95.305	95.086	0.081	0.433	45.3	17.371	0.421	0.000	24.6	38.697	15	24.425
Porous Paving 3	FSR: 100 years: +25 %: 15 mins: Summer	96.352	95.515	0.067	0.335	53.6	12.034	0.000	0.000	24.0	22.029	13	47.136
Porous Paving 7a	FSR: 100 years: +25 %: 15 mins: Summer	96.603	96.576	0.233	0.306	77.4	22.173	0.000	0.000	22.6	25.131	27	23.155
Porous Paving 7b	FSR: 100 years: +25 %: 15 mins: Summer	96.707	96.679	0.177	0.250	40.5	7.493	0.000	0.000	19.6	16.674	9	39.369
Porous Paving 8	FSR: 100 years: +25 %: 15 mins: Summer	96.827	96.798	0.222	0.294	60.1	15.096	0.000	0.000	22.0	22.426	18	26.543
Porous Paving 6a	FSR: 100 years: +25 %: 15 mins: Summer	97.642	96.902	0.070	0.258	52.4	13.792	0.000	0.000	20.1	20.248	19	53.037
Porous Paving 6b	FSR: 100 years: +25 %: 15 mins: Summer	96.814	96.793	0.223	0.282	56.9	14.044	0.000	0.000	21.4	21.324	17	28.159
Porous Paving 6c	FSR: 100 years: +25 %: 15 mins: Summer	96.686	96.457	0.059	0.156	20.8	2.883	0.000	0.000	13.4	8.701	5	71.843
Porous Paving 5	FSR: 100 years: +25 %: 15 mins: Summer	96.319	96.095	0.219	0.075	51.6	7.926	0.000	0.000	27.2	19.713	6	59.699
Porous Paving 4	FSR: 100 years: +25 %: 15 mins: Summer	96.660	96.439	0.085	0.494	85.8	12.355	2.357	0.000	47.6	36.375	6	37.783
Porous Paving 1	FSR: 100 years: +25 %: 15 mins: Summer	94.582	94.055	0.075	0.291	54.1	12.947	0.000	0.000	21.8	21.870	16	43.017
Tubosider Twinstore Storage	FSR: 100 years: +25 %: 15 mins: Summer	92.178	92.179	0.528	0.529	400.3	222.603	0.000	0.000	290.4	135.369	18	54.102
Existing Above Ground Attenuation Basin Deepend	FSR: 100 years: +25 %: 15 mins: Summer	92.179	92.178	0.529	0.528	290.4	118.824	0.000	0.000	10.9	16.539	144	74.145
Surface Water Attenuation Storage	FSR: 100 years: +25 %: 15 mins: Summer	91.676	91.676	0.026	0.026	20.6	8.475	0.000	0.000	0.0	0.000		97.830
Porous Paving_Car Park 1	FSR: 100 years: +25 %: 15 mins: Summer	97.374	96.178	0.053	0.243	65.2	21.593	0.000	0.000	19.2	19.515	33	67.238
Porous Paving_Car Park 2	FSR: 100 years: +25 %: 15 mins: Summer	96.888	95.910	0.041	0.178	25.4	4.888	0.000	0.000	15.1	10.162	8	77.761

Project: Barns Court Cophthorne	Date: 08/10/2025			
	Designed by: SA	Checked by:	Approved By:	
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address: Bourne House Prince Edward Street, Berkhamsted HP4 3EZ			

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Project: Barns Court Cophthorne	Date: 08/10/2025			
	Designed by: SA	Checked by:	Approved By:	
Report Details: Type: Connections Summary Storm Phase: Phase	Company Address: Bourne House Prince Edward Street, Berkhamsted HP4 3EZ			



FSR: 1 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Velocity

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
3.000 (SW NETWORK)	FSR: 1 years: +0 %: 15 mins: Winter	Pipe	S104 (SW NETWORK)	S105 (SW NETWORK)	96.942	95.987	0.027	5.121	2.3	0.03	6.2	OK
1.003 (SW NETWORK)	FSR: 1 years: +0 %: 60 mins: Summer	Pipe	S105 (SW NETWORK)	S106 (SW NETWORK)	96.928	95.248	0.106	37.126	0.9	0.23	21.1	OK
1.004 (SW NETWORK)	FSR: 1 years: +0 %: 60 mins: Summer	Pipe	S106 (SW NETWORK)	S107 (SW NETWORK)	96.984	95.185	0.103	37.097	1.0	0.23	21.3	OK
1.005 (SW NETWORK)	FSR: 1 years: +0 %: 60 mins: Summer	Pipe	S107 (SW NETWORK)	S110 (SW NETWORK)	97.038	95.072	0.101	37.027	1.0	0.24	21.7	OK
4.000 (SW NETWORK)	FSR: 1 years: +0 %: 15 mins: Summer	Pipe	SP1 (SW NETWORK)	S105 (SW NETWORK)	96.903	96.025	0.023	2.444	3.3	0.05	5.6	OK
1.002 (SW NETWORK)	FSR: 1 years: +0 %: 30 mins: Summer	Pipe	S103 (SW NETWORK)	S105 (SW NETWORK)	96.826	95.470	0.091	15.681	0.7	0.14	12.4	OK
2.000 (SW NETWORK)	FSR: 1 years: +0 %: 30 mins: Summer	Pipe	S102 (SW NETWORK)	S103 (SW NETWORK)	96.867	95.912	0.026	5.719	2.2	0.03	5.4	OK
5.000 (SW NETWORK)	FSR: 1 years: +0 %: 60 mins: Summer	Pipe	S108 (SW NETWORK)	S110 (SW NETWORK)	97.087	96.128	0.022	9.514	2.9	0.02	6.0	OK
1.001 (SW NETWORK)	FSR: 1 years: +0 %: 60 mins: Summer	Pipe	S101 (SW NETWORK)	S103 (SW NETWORK)	96.667	95.772	0.066	14.227	0.8	0.18	7.8	OK
6.000 (SW NETWORK)	FSR: 1 years: +0 %: 120 mins: Summer	Pipe	S109 (SW NETWORK)	S110 (SW NETWORK)	96.365	95.335	0.034	15.327	1.0	0.03	4.7	OK
15.000 (SW NETWORK)	FSR: 1 years: +0 %: 15 mins: Summer	Pipe	SP6 (SW NETWORK)	S117 (SW NETWORK)	95.411	94.527	0.088	5.679	0.9	0.3	12.9	OK
14.001 (SW NETWORK)	FSR: 1 years: +0 %: 15 mins: Summer	Pipe	S117 (SW NETWORK)	S119 (SW NETWORK)	95.452	94.415	0.102	10.189	1.0	0.24	21.5	OK
14.002 (SW NETWORK)	FSR: 1 years: +0 %: 15 mins: Summer	Pipe	S119 (SW NETWORK)	S121 (SW NETWORK)	95.446	94.150	0.101	15.054	0.9	0.14	22.8	OK
14.003 (SW NETWORK)	FSR: 1 years: +0 %: 30 mins: Summer	Pipe	S121 (SW NETWORK)	S122 (SW NETWORK)	95.283	94.011	0.112	30.157	1.1	0.18	30.0	OK
14.005 (SW NETWORK)	FSR: 1 years: +0 %: 30 mins: Summer	Pipe	S123 (SW NETWORK)	S124 (SW NETWORK)	93.660	92.338	0.099	33.593	1.3	0.05	33.5	OK
14.004 (SW NETWORK)	FSR: 1 years: +0 %: 30 mins: Summer	Pipe	S122 (SW NETWORK)	S123 (SW NETWORK)	94.729	93.786	0.067	30.125	2.0	0.04	29.8	OK
14.000 (SW NETWORK)	FSR: 1 years: +0 %: 15 mins: Summer	Pipe	SP7 (SW NETWORK)	S117 (SW NETWORK)	95.631	94.710	0.054	4.519	1.4	0.12	10.3	OK
10.000 (SW NETWORK)	FSR: 1 years: +0 %: 15 mins: Summer	Pipe	S114 (SW NETWORK)	S115 (SW NETWORK)	96.345	95.358	0.051	8.582	1.7	0.08	13.3	OK
11.000 (SW NETWORK)	FSR: 1 years: +0 %: 60 mins: Summer	Pipe	PPIC2 (SW NETWORK)	S115 (SW NETWORK)	96.191	95.436	0.035	4.718	1.0	0.12	3.0	OK
9.000 (SW NETWORK)	FSR: 1 years: +0 %: 30 mins: Summer	Pipe	S113 (SW NETWORK)	S115 (SW NETWORK)	96.458	95.517	0.041	6.822	1.2	0.07	5.9	OK

Project: Barns Court Cophthorne				Date: 08/10/2025							
				Designed by: SA		Checked by:					
Report Details: Type: Connections Summary Storm Phase: Phase				Company Address: Bourne House Prince Edward Street, Berkhamsted HP4 3EZ							

16.000 (SW NETWORK)	FSR: 1 years: +0 %: 15 mins: Summer	Pipe	S118 (SW NETWORK)	S119 (SW NETWORK)	95.630	94.678	0.037	4.916	1.7	0.06	7.2	OK
17.000 (SW NETWORK)	FSR: 1 years: +0 %: 15 mins: Summer	Pipe	S120 (SW NETWORK)	S121 (SW NETWORK)	95.152	94.173	0.060	6.219	1.1	0.14	9.1	OK
1.008 (SW NETWORK)	FSR: 1 years: +0 %: 240 mins: Summer	Pipe	S126 (SW NETWORK)	Headwall 4	92.550	91.897	0.065	175.866	1.0	0.16	10.0	Surcharged
19.000 (SW NETWORK)	FSR: 1 years: +0 %: 15 mins: Summer	Pipe	SP4 (SW NETWORK)	S124 (SW NETWORK)	93.146	92.241	0.068	3.522	0.8	0.19	8.0	OK
18.000 (SW NETWORK)	FSR: 1 years: +0 %: 15 mins: Summer	Pipe	SP5 (SW NETWORK)	S123 (SW NETWORK)	93.540	92.704	0.062	2.629	0.9	0.33	5.9	OK
1.000 (SW NETWORK)	FSR: 1 years: +0 %: 60 mins: Summer	Pipe	S100 (SW NETWORK)	S101 (SW NETWORK)	96.706	95.796	0.069	14.256	0.8	0.16	7.8	OK
1.007	FSR: 1 years: +0 %: 60 mins: Summer	Pipe	Existing Above Ground Attenuation Basin Deepend	S126 (SW NETWORK)	93.400	91.869	0.225	37.866	0.5	0.15	9.1	OK
14.006 (SW NETWORK)	FSR: 1 years: +0 %: 30 mins: Summer	Pipe	S124 (SW NETWORK)	Tubosider Twinstore Storage	93.428	92.026	0.121	38.204	1.1	0.15	38.3	OK
20.000 (SW NETWORK)	FSR: 1 years: +0 %: 15 mins: Summer	Pipe	S116 (SW NETWORK)	Tubosider Twinstore Storage	94.217	93.252	0.026	4.825	2.6	0.03	6.8	OK
Pipe (2)	FSR: 1 years: +0 %: 60 mins: Summer	Pipe	Tubosider Twinstore Storage	Existing Above Ground Attenuation Basin Deepend	94.056	91.871	0.220	111.252	1.8	0.35	75.3	OK
13.000 (SW NETWORK)	FSR: 1 years: +0 %: 15 mins: Summer	Pipe	SP3 (SW NETWORK)	Tubosider Twinstore Storage	94.175	93.217	0.024	3.986	4.0	0.02	9.2	OK
12.000 (SW NETWORK)	FSR: 1 years: +0 %: 30 mins: Summer	Pipe	S112 (SW NETWORK)	Tubosider Twinstore Storage	96.750	95.766	0.010	2.899	4.4	0	2.9	OK
9.001 (SW NETWORK)	FSR: 1 years: +0 %: 30 mins: Summer	Pipe	S115 (SW NETWORK)	Tubosider Twinstore Storage	96.708	95.039	0.038	22.330	4.1	0.03	21.6	OK
8.000 (SW NETWORK)	FSR: 1 years: +0 %: 15 mins: Summer	Pipe	SP2 (SW NETWORK)	Tubosider Twinstore Storage	96.831	95.811	0.011	1.271	5.1	0.01	2.9	OK
7.000 (SW NETWORK)	FSR: 1 years: +0 %: 60 mins: Summer	Pipe	S111 (SW NETWORK)	Tubosider Twinstore Storage	97.087	96.015	0.015	10.572	5.6	0.01	6.3	OK
1.006 (SW NETWORK)	FSR: 1 years: +0 %: 60 mins: Summer	Pipe	S110 (SW NETWORK)	Tubosider Twinstore Storage	97.016	94.628	0.032	57.709	6.9	0.02	31.8	OK
Paving 3	FSR: 1 years: +0 %: 15 mins: Summer	Pipe	Porous Paving 3	S118 (SW NETWORK)	95.675	95.232	0.034	4.940	2.3	0.08	7.2	OK
Paving 2	FSR: 1 years: +0 %: 15 mins: Summer	Pipe	Porous Paving 2	S120 (SW NETWORK)	95.281	94.718	0.048	6.254	1.9	0.1	9.1	OK

Project: Barns Court Cophthorne				Date: 08/10/2025									
				Designed by: SA				Checked by:		Approved By:			
Report Details: Type: Connections Summary Storm Phase: Phase				Company Address: Bourne House Prince Edward Street, Berkhamsted HP4 3EZ									

Paving 6a	FSR: 1 years: +0 %: 60 mins: Summer	Pipe	Porous Paving 6a	S108 (SW NETWORK)	97.114	96.695	0.026	9.518	2.9	0.07	6.0	OK
Paving 1	FSR: 1 years: +0 %: 15 mins: Summer	Pipe	Porous Paving 1	S116 (SW NETWORK)	94.236	93.820	0.030	4.841	2.8	0.08	6.8	OK
Paving CP 2	FSR: 1 years: +0 %: 60 mins: Summer	Pipe	Porous Paving_Car Park 2	PPIC2 (SW NETWORK)	96.327	95.763	0.029	4.723	1.2	0.05	3.0	OK
Paving CP 1	FSR: 1 years: +0 %: 120 mins: Summer	Pipe	Porous Paving_Car Park 1	S109 (SW NETWORK)	96.455	95.976	0.030	15.344	1.9	0.06	4.8	OK
Paving 8	FSR: 1 years: +0 %: 60 mins: Summer	Pipe	Porous Paving 8	S104 (SW NETWORK)	96.970	96.576	0.030	11.162	2.7	0.08	6.6	OK
Paving 7b	FSR: 1 years: +0 %: 30 mins: Summer	Pipe	Porous Paving 7b	S102 (SW NETWORK)	96.903	96.495	0.029	5.725	2.3	0.08	5.4	OK
Paving 7a	FSR: 1 years: +0 %: 60 mins: Summer	Pipe	Porous Paving 7a	S100 (SW NETWORK)	96.734	96.348	0.051	14.267	1.5	0.09	7.8	OK
Paving 5	FSR: 1 years: +0 %: 15 mins: Summer	Pipe	Porous Paving 5	S113 (SW NETWORK)	96.481	96.067	0.035	4.353	1.8	0.08	5.7	OK
Paving 6b	FSR: 1 years: +0 %: 60 mins: Summer	Pipe	Porous Paving 6b	S111 (SW NETWORK)	97.119	96.581	0.024	10.574	3.4	0.08	6.3	OK
Paving 6c	FSR: 1 years: +0 %: 30 mins: Summer	Pipe	Porous Paving 6c	S112 (SW NETWORK)	96.907	96.341	0.017	2.901	2.7	0.04	3.0	OK
Pipe	FSR: 1 years: +0 %: 1440 mins: Winter	Pipe	Surface Water Attenuation Storage	Existing Above Ground Attenuation Basin Deepend	93.450	91.846	0.150	0.000	0.2	0.11	1.4	Surcharged
Paving 4	FSR: 1 years: +0 %: 30 mins: Summer	Pipe	Porous Paving 4	S114 (SW NETWORK)	96.376	96.016	0.067	12.127	1.4	0.2	13.7	OK

Project:
Barns Court
Cophthorne

Report Details:
Type: Connections Summary
Storm Phase: Phase

Date:
08/10/2025

Designed by:
SA

Checked by:

Approved By:

Company Address:
Bourne House
Prince Edward Street, Berkhamsted
HP4 3EZ





FSR: 30 years: Increase Rainfall (%): +20: Critical Storm Per Item: Rank By: Max. Velocity

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
3.000 (SW NETWORK)	FSR: 30 years: +20 %: 360 mins: Summer	Pipe	S104 (SW NETWORK)	S105 (SW NETWORK)	96.942	95.991	0.045	54.086	2.3	0.04	9.1	OK
1.003 (SW NETWORK)	FSR: 30 years: +20 %: 30 mins: Summer	Pipe	S105 (SW NETWORK)	S106 (SW NETWORK)	96.928	95.357	0.209	82.286	1.2	0.68	61.8	OK
1.004 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	Pipe	S106 (SW NETWORK)	S107 (SW NETWORK)	96.984	95.276	0.192	53.739	1.3	0.64	58.8	OK
1.005 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	Pipe	S107 (SW NETWORK)	S110 (SW NETWORK)	97.038	95.158	0.183	52.719	1.3	0.67	60.3	OK
4.000 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	Pipe	SP1 (SW NETWORK)	S105 (SW NETWORK)	96.903	96.046	0.041	7.198	4.2	0.14	16.5	OK
1.002 (SW NETWORK)	FSR: 30 years: +20 %: 30 mins: Summer	Pipe	S103 (SW NETWORK)	S105 (SW NETWORK)	96.826	95.522	0.171	47.942	0.9	0.38	34.4	OK
2.000 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	Pipe	S102 (SW NETWORK)	S103 (SW NETWORK)	96.867	95.932	0.050	12.265	2.8	0.07	15.9	OK
5.000 (SW NETWORK)	FSR: 30 years: +20 %: 30 mins: Summer	Pipe	S108 (SW NETWORK)	S110 (SW NETWORK)	97.087	96.146	0.039	21.497	3.9	0.06	18.1	OK
1.001 (SW NETWORK)	FSR: 30 years: +20 %: 30 mins: Summer	Pipe	S101 (SW NETWORK)	S103 (SW NETWORK)	96.667	95.816	0.109	30.987	1.0	0.46	19.6	OK
6.000 (SW NETWORK)	FSR: 30 years: +20 %: 60 mins: Summer	Pipe	S109 (SW NETWORK)	S110 (SW NETWORK)	96.365	95.366	0.066	34.201	1.5	0.1	17.4	OK
15.000 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	Pipe	SP6 (SW NETWORK)	S117 (SW NETWORK)	95.411	94.624	0.176	16.718	1.1	0.88	37.9	OK
14.001 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	Pipe	S117 (SW NETWORK)	S119 (SW NETWORK)	95.452	94.515	0.195	29.987	1.3	0.71	64.3	OK
14.002 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	Pipe	S119 (SW NETWORK)	S121 (SW NETWORK)	95.446	94.255	0.212	46.022	1.2	0.47	76.9	OK
14.003 (SW NETWORK)	FSR: 30 years: +20 %: 30 mins: Summer	Pipe	S121 (SW NETWORK)	S122 (SW NETWORK)	95.283	94.109	0.203	90.526	1.4	0.52	86.2	OK
14.005 (SW NETWORK)	FSR: 30 years: +20 %: 30 mins: Summer	Pipe	S123 (SW NETWORK)	S124 (SW NETWORK)	93.660	92.406	0.187	100.766	1.6	0.16	97.8	OK
14.004 (SW NETWORK)	FSR: 30 years: +20 %: 30 mins: Summer	Pipe	S122 (SW NETWORK)	S123 (SW NETWORK)	94.729	93.828	0.122	90.487	2.5	0.12	86.1	OK
14.000 (SW NETWORK)	FSR: 30 years: +20 %: 60 mins: Summer	Pipe	SP7 (SW NETWORK)	S117 (SW NETWORK)	95.631	94.730	0.075	22.535	1.6	0.21	18.0	OK
10.000 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	Pipe	S114 (SW NETWORK)	S115 (SW NETWORK)	96.345	95.409	0.093	26.661	2.2	0.26	41.2	OK
11.000 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	Pipe	PPIC2 (SW NETWORK)	S115 (SW NETWORK)	96.191	95.473	0.070	7.302	1.3	0.43	10.9	OK
9.000 (SW NETWORK)	FSR: 30 years: +20 %: 30 mins: Summer	Pipe	S113 (SW NETWORK)	S115 (SW NETWORK)	96.458	95.554	0.077	21.004	1.6	0.24	19.7	OK

Project: Barns Court Cophthorne				Date: 08/10/2025									
				Designed by: SA				Checked by:					
Report Details: Type: Connections Summary Storm Phase: Phase				Company Address: Bourne House Prince Edward Street, Berkhamsted HP4 3EZ									

16.000 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	Pipe	S118 (SW NETWORK)	S119 (SW NETWORK)	95.630	94.707	0.064	16.092	2.3	0.16	21.1	OK
17.000 (SW NETWORK)	FSR: 30 years: +20 %: 30 mins: Summer	Pipe	S120 (SW NETWORK)	S121 (SW NETWORK)	95.152	94.212	0.095	28.261	1.3	0.32	21.1	OK
1.008 (SW NETWORK)	FSR: 30 years: +20 %: 120 mins: Summer	Pipe	S126 (SW NETWORK)	Headwall 4	92.550	92.318	0.071	89.118	1.1	0.19	11.8	Flood Risk
19.000 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	Pipe	SP4 (SW NETWORK)	S124 (SW NETWORK)	93.146	92.303	0.125	10.380	1.0	0.55	23.6	OK
18.000 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Winter	Pipe	SP5 (SW NETWORK)	S123 (SW NETWORK)	93.540	92.769	0.121	7.731	1.1	0.92	16.3	OK
1.000 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	Pipe	S100 (SW NETWORK)	S101 (SW NETWORK)	96.706	95.844	0.114	19.178	1.0	0.39	18.8	OK
1.007	FSR: 30 years: +20 %: 15 mins: Summer	Pipe	Existing Above Ground Attenuation Basin Deepend	S126 (SW NETWORK)	93.400	92.044	0.225	9.266	1.0	0.19	11.6	Surcharged
14.006 (SW NETWORK)	FSR: 30 years: +20 %: 30 mins: Summer	Pipe	S124 (SW NETWORK)	Tubosider Twinstore Storage	93.428	92.173	0.323	112.405	1.5	0.44	113.4	OK
20.000 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	Pipe	S116 (SW NETWORK)	Tubosider Twinstore Storage	94.217	93.272	0.045	16.036	3.4	0.08	19.2	OK
Pipe (2)	FSR: 30 years: +20 %: 15 mins: Summer	Pipe	Tubosider Twinstore Storage	Existing Above Ground Attenuation Basin Deepend	94.056	92.045	0.394	98.629	2.6	0.96	204.2	OK
13.000 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	Pipe	SP3 (SW NETWORK)	Tubosider Twinstore Storage	94.175	93.239	0.043	11.732	5.1	0.06	27.0	OK
12.000 (SW NETWORK)	FSR: 30 years: +20 %: 30 mins: Summer	Pipe	S112 (SW NETWORK)	Tubosider Twinstore Storage	96.750	95.774	0.019	8.765	6.3	0.01	9.9	OK
9.001 (SW NETWORK)	FSR: 30 years: +20 %: 30 mins: Summer	Pipe	S115 (SW NETWORK)	Tubosider Twinstore Storage	96.708	95.074	0.070	67.812	5.6	0.11	70.2	OK
8.000 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	Pipe	SP2 (SW NETWORK)	Tubosider Twinstore Storage	96.831	95.819	0.018	3.743	6.9	0.03	8.6	OK
7.000 (SW NETWORK)	FSR: 30 years: +20 %: 15 mins: Summer	Pipe	S111 (SW NETWORK)	Tubosider Twinstore Storage	97.087	96.026	0.025	15.834	7.4	0.02	17.4	OK
1.006 (SW NETWORK)	FSR: 30 years: +20 %: 30 mins: Summer	Pipe	S110 (SW NETWORK)	Tubosider Twinstore Storage	97.016	94.660	0.056	127.746	9.0	0.05	93.6	OK
Paving 3	FSR: 30 years: +20 %: 15 mins: Summer	Pipe	Porous Paving 3	S118 (SW NETWORK)	95.675	95.307	0.063	16.117	3.0	0.24	21.1	OK
Paving 2	FSR: 30 years: +20 %: 30 mins: Summer	Pipe	Porous Paving 2	S120 (SW NETWORK)	95.281	94.826	0.079	28.279	2.2	0.23	21.1	Surcharged

Project: Barns Court Cophthorne	Date: 08/10/2025			
	Designed by: SA	Checked by:	Approved By:	
Report Details: Type: Connections Summary Storm Phase: Phase	Company Address: Bourne House Prince Edward Street, Berkhamsted HP4 3EZ			

Paving 6a	FSR: 30 years: +20 %: 30 mins: Summer	Pipe	Porous Paving 6a	S108 (SW NETWORK)	97.114	96.762	0.048	21.507	3.7	0.2	18.1	OK
Paving 1	FSR: 30 years: +20 %: 15 mins: Summer	Pipe	Porous Paving 1	S116 (SW NETWORK)	94.236	93.903	0.052	16.056	3.5	0.22	19.2	OK
Paving CP 2	FSR: 30 years: +20 %: 30 mins: Summer	Pipe	Porous Paving_Car Park 2	PPIC2 (SW NETWORK)	96.327	95.800	0.059	10.573	1.6	0.18	10.6	OK
Paving CP 1	FSR: 30 years: +20 %: 60 mins: Summer	Pipe	Porous Paving_Car Park 1	S109 (SW NETWORK)	96.455	96.032	0.060	34.245	2.6	0.23	17.5	OK
Paving 8	FSR: 30 years: +20 %: 15 mins: Summer	Pipe	Porous Paving 8	S104 (SW NETWORK)	96.970	96.688	0.050	16.726	3.5	0.22	18.1	Surcharged
Paving 7b	FSR: 30 years: +20 %: 30 mins: Summer	Pipe	Porous Paving 7b	S102 (SW NETWORK)	96.903	96.578	0.052	17.114	3.0	0.23	16.1	OK
Paving 7a	FSR: 30 years: +20 %: 60 mins: Summer	Pipe	Porous Paving 7a	S100 (SW NETWORK)	96.734	96.476	0.088	41.687	1.8	0.22	19.4	Surcharged
Paving 5	FSR: 30 years: +20 %: 15 mins: Summer	Pipe	Porous Paving 5	S113 (SW NETWORK)	96.481	96.132	0.069	14.223	2.5	0.28	19.5	OK
Paving 6b	FSR: 30 years: +20 %: 15 mins: Summer	Pipe	Porous Paving 6b	S111 (SW NETWORK)	97.119	96.691	0.042	15.849	4.2	0.22	17.4	Surcharged
Paving 6c	FSR: 30 years: +20 %: 30 mins: Summer	Pipe	Porous Paving 6c	S112 (SW NETWORK)	96.907	96.381	0.032	8.767	3.6	0.13	9.9	OK
Pipe	FSR: 30 years: +20 %: 960 mins: Summer	Pipe	Surface Water Attenuation Storage	Existing Above Ground Attenuation Basin Deepend	93.450	92.369	0.150	0.000	0.2	0.29	3.9	Surcharged
Paving 4	FSR: 30 years: +20 %: 15 mins: Summer	Pipe	Porous Paving 4	S114 (SW NETWORK)	96.376	96.093	0.123	26.740	1.8	0.59	40.5	OK

Project:
Barns Court
Cophthorne

Report Details:
Type: Connections Summary
Storm Phase: Phase

Date:
08/10/2025

Designed by:
SA

Checked by:

Approved By:

Company Address:
Bourne House
Prince Edward Street, Berkhamsted
HP4 3EZ





FSR: 100 years: Increase Rainfall (%): +25: Critical Storm Per Item: Rank By: Max. Velocity

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
3.000 (SW NETWORK)	FSR: 100 years: +25 %: 240 mins: Winter	Pipe	S104 (SW NETWORK)	S105 (SW NETWORK)	96.942	95.995	0.056	65.925	2.2	0.05	11.3	OK
1.003 (SW NETWORK)	FSR: 100 years: +25 %: 15 mins: Summer	Pipe	S105 (SW NETWORK)	S106 (SW NETWORK)	96.928	95.387	0.239	71.824	1.2	0.78	71.3	OK
1.004 (SW NETWORK)	FSR: 100 years: +25 %: 15 mins: Summer	Pipe	S106 (SW NETWORK)	S107 (SW NETWORK)	96.984	95.311	0.224	71.351	1.3	0.79	72.0	OK
1.005 (SW NETWORK)	FSR: 100 years: +25 %: 15 mins: Summer	Pipe	S107 (SW NETWORK)	S110 (SW NETWORK)	97.038	95.188	0.211	69.933	1.4	0.81	73.8	OK
4.000 (SW NETWORK)	FSR: 100 years: +25 %: 30 mins: Summer	Pipe	SP1 (SW NETWORK)	S105 (SW NETWORK)	96.903	96.043	0.075	13.055	3.8	0.13	15.1	OK
1.002 (SW NETWORK)	FSR: 100 years: +25 %: 15 mins: Summer	Pipe	S103 (SW NETWORK)	S105 (SW NETWORK)	96.826	95.539	0.195	40.476	0.9	0.47	42.4	OK
2.000 (SW NETWORK)	FSR: 100 years: +25 %: 15 mins: Summer	Pipe	S102 (SW NETWORK)	S103 (SW NETWORK)	96.867	95.938	0.061	16.629	2.9	0.09	19.7	OK
5.000 (SW NETWORK)	FSR: 100 years: +25 %: 30 mins: Summer	Pipe	S108 (SW NETWORK)	S110 (SW NETWORK)	97.087	96.149	0.042	29.575	4.1	0.07	20.9	OK
1.001 (SW NETWORK)	FSR: 100 years: +25 %: 30 mins: Summer	Pipe	S101 (SW NETWORK)	S103 (SW NETWORK)	96.667	95.831	0.123	42.186	1.1	0.56	24.0	OK
6.000 (SW NETWORK)	FSR: 100 years: +25 %: 60 mins: Summer	Pipe	S109 (SW NETWORK)	S110 (SW NETWORK)	96.365	95.374	0.073	47.265	1.6	0.13	21.7	OK
15.000 (SW NETWORK)	FSR: 100 years: +25 %: 15 mins: Summer	Pipe	SP6 (SW NETWORK)	S117 (SW NETWORK)	95.411	94.705	0.225	22.561	1.3	1.17	50.4	Surcharged
14.001 (SW NETWORK)	FSR: 100 years: +25 %: 15 mins: Summer	Pipe	S117 (SW NETWORK)	S119 (SW NETWORK)	95.452	94.573	0.245	40.497	1.4	0.94	85.2	OK
14.002 (SW NETWORK)	FSR: 100 years: +25 %: 15 mins: Summer	Pipe	S119 (SW NETWORK)	S121 (SW NETWORK)	95.446	94.298	0.255	62.413	1.3	0.62	101.3	OK
14.003 (SW NETWORK)	FSR: 100 years: +25 %: 15 mins: Summer	Pipe	S121 (SW NETWORK)	S122 (SW NETWORK)	95.283	94.157	0.246	88.652	1.5	0.7	114.9	OK
14.005 (SW NETWORK)	FSR: 100 years: +25 %: 30 mins: Summer	Pipe	S123 (SW NETWORK)	S124 (SW NETWORK)	93.660	92.432	0.267	137.425	1.6	0.2	125.0	OK
14.004 (SW NETWORK)	FSR: 100 years: +25 %: 120 mins: Summer	Pipe	S122 (SW NETWORK)	S123 (SW NETWORK)	94.729	93.825	0.165	197.388	2.7	0.11	81.7	OK
14.000 (SW NETWORK)	FSR: 100 years: +25 %: 120 mins: Summer	Pipe	SP7 (SW NETWORK)	S117 (SW NETWORK)	95.631	94.730	0.075	38.095	1.6	0.21	18.1	OK
10.000 (SW NETWORK)	FSR: 100 years: +25 %: 30 mins: Summer	Pipe	S114 (SW NETWORK)	S115 (SW NETWORK)	96.345	95.419	0.104	49.573	2.2	0.3	47.6	OK
11.000 (SW NETWORK)	FSR: 100 years: +25 %: 15 mins: Summer	Pipe	PPIC2 (SW NETWORK)	S115 (SW NETWORK)	96.191	95.490	0.087	10.115	1.5	0.6	15.3	OK
9.000 (SW NETWORK)	FSR: 100 years: +25 %: 30 mins: Summer	Pipe	S113 (SW NETWORK)	S115 (SW NETWORK)	96.458	95.572	0.094	28.917	1.8	0.34	28.0	OK

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16.000 (SW NETWORK)	FSR: 100 years: +25 %: 30 mins: Summer	Pipe	S118 (SW NETWORK)	S119 (SW NETWORK)	95.630	94.712	0.070	30.759	2.3	0.19	24.2	OK
17.000 (SW NETWORK)	FSR: 100 years: +25 %: 30 mins: Summer	Pipe	S120 (SW NETWORK)	S121 (SW NETWORK)	95.152	94.222	0.106	38.677	1.4	0.38	24.6	OK
1.008 (SW NETWORK)	FSR: 100 years: +25 %: 1440 mins: Winter	Pipe	S126 (SW NETWORK)	Headwall 4	92.550	92.576	0.071	1337.442	1.1	0.19	11.8	Flood
19.000 (SW NETWORK)	FSR: 100 years: +25 %: 15 mins: Summer	Pipe	SP4 (SW NETWORK)	S124 (SW NETWORK)	93.146	92.334	0.153	14.014	1.1	0.74	31.9	OK
18.000 (SW NETWORK)	FSR: 100 years: +25 %: 15 mins: Summer	Pipe	SP5 (SW NETWORK)	S123 (SW NETWORK)	93.540	92.875	0.150	10.437	1.3	1.3	23.1	Surcharged
1.000 (SW NETWORK)	FSR: 100 years: +25 %: 60 mins: Summer	Pipe	S100 (SW NETWORK)	S101 (SW NETWORK)	96.706	95.865	0.133	57.185	1.0	0.5	23.9	OK
1.007	FSR: 100 years: +25 %: 120 mins: Winter	Pipe	Existing Above Ground Attenuation Basin Deepend	S126 (SW NETWORK)	93.400	92.556	0.225	104.757	0.5	0.2	11.9	Surcharged
14.006 (SW NETWORK)	FSR: 100 years: +25 %: 15 mins: Summer	Pipe	S124 (SW NETWORK)	Tubosider Twinstore Storage	93.428	92.190	0.328	110.218	1.6	0.62	158.0	OK
20.000 (SW NETWORK)	FSR: 100 years: +25 %: 30 mins: Summer	Pipe	S116 (SW NETWORK)	Tubosider Twinstore Storage	94.217	93.276	0.048	30.916	3.6	0.09	22.2	OK
Pipe (2)	FSR: 100 years: +25 %: 15 mins: Winter	Pipe	Tubosider Twinstore Storage	Existing Above Ground Attenuation Basin Deepend	94.056	92.179	0.529	135.431	2.6	1.42	301.1	OK
13.000 (SW NETWORK)	FSR: 100 years: +25 %: 15 mins: Summer	Pipe	SP3 (SW NETWORK)	Tubosider Twinstore Storage	94.175	93.249	0.050	15.832	5.5	0.09	36.4	OK
12.000 (SW NETWORK)	FSR: 100 years: +25 %: 30 mins: Summer	Pipe	S112 (SW NETWORK)	Tubosider Twinstore Storage	96.750	95.778	0.064	11.965	6.9	0.02	13.7	OK
9.001 (SW NETWORK)	FSR: 100 years: +25 %: 30 mins: Summer	Pipe	S115 (SW NETWORK)	Tubosider Twinstore Storage	96.708	95.085	0.080	92.943	5.9	0.14	90.4	OK
8.000 (SW NETWORK)	FSR: 100 years: +25 %: 15 mins: Summer	Pipe	SP2 (SW NETWORK)	Tubosider Twinstore Storage	96.831	95.823	0.022	5.054	7.5	0.04	11.6	OK
7.000 (SW NETWORK)	FSR: 100 years: +25 %: 30 mins: Summer	Pipe	S111 (SW NETWORK)	Tubosider Twinstore Storage	97.087	96.029	0.027	32.267	7.8	0.03	21.7	OK
1.006 (SW NETWORK)	FSR: 100 years: +25 %: 30 mins: Summer	Pipe	S110 (SW NETWORK)	Tubosider Twinstore Storage	97.016	94.669	0.063	175.482	9.4	0.06	114.9	OK
Paving 3	FSR: 100 years: +25 %: 30 mins: Summer	Pipe	Porous Paving 3	S118 (SW NETWORK)	95.675	95.358	0.069	30.763	3.1	0.28	24.1	Surcharged
Paving 2	FSR: 100 years: +25 %: 30 mins: Summer	Pipe	Porous Paving 2	S120 (SW NETWORK)	95.281	95.085	0.088	38.689	2.3	0.27	24.6	Flood

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Paving 6a	FSR: 100 years: +25 %: 30 mins: Summer	Pipe	Porous Paving 6a	S108 (SW NETWORK)	97.114	96.810	0.052	29.586	3.8	0.24	20.9	Surcharged
Paving 1	FSR: 100 years: +25 %: 30 mins: Summer	Pipe	Porous Paving 1	S116 (SW NETWORK)	94.236	93.959	0.057	30.925	3.6	0.26	22.2	Surcharged
Paving CP 2	FSR: 100 years: +25 %: 30 mins: Summer	Pipe	Porous Paving_Car Park 2	PPIC2 (SW NETWORK)	96.327	95.816	0.073	14.497	1.7	0.25	14.9	OK
Paving CP 1	FSR: 100 years: +25 %: 60 mins: Summer	Pipe	Porous Paving_Car Park 1	S109 (SW NETWORK)	96.455	96.065	0.068	47.311	2.8	0.29	21.7	OK
Paving 8	FSR: 100 years: +25 %: 30 mins: Summer	Pipe	Porous Paving 8	S104 (SW NETWORK)	96.970	96.771	0.057	34.047	3.7	0.27	22.4	Surcharged
Paving 7b	FSR: 100 years: +25 %: 15 mins: Summer	Pipe	Porous Paving 7b	S102 (SW NETWORK)	96.903	96.643	0.058	16.655	3.1	0.29	19.7	Surcharged
Paving 7a	FSR: 100 years: +25 %: 60 mins: Summer	Pipe	Porous Paving 7a	S100 (SW NETWORK)	96.734	96.567	0.101	57.199	1.9	0.27	23.9	Surcharged
Paving 5	FSR: 100 years: +25 %: 30 mins: Summer	Pipe	Porous Paving 5	S113 (SW NETWORK)	96.481	96.172	0.087	28.956	2.7	0.4	28.2	Surcharged
Paving 6b	FSR: 100 years: +25 %: 30 mins: Summer	Pipe	Porous Paving 6b	S111 (SW NETWORK)	97.119	96.770	0.048	32.275	4.4	0.27	21.7	Surcharged
Paving 6c	FSR: 100 years: +25 %: 30 mins: Summer	Pipe	Porous Paving 6c	S112 (SW NETWORK)	96.907	96.397	0.038	11.967	3.9	0.18	13.7	OK
Pipe	FSR: 100 years: +25 %: 1440 mins: Winter	Pipe	Surface Water Attenuation Storage	Existing Above Ground Attenuation Basin Deepend	93.450	92.579	0.150	0.000	0.2	0.29	3.8	Surcharged
Paving 4	FSR: 100 years: +25 %: 30 mins: Summer	Pipe	Porous Paving 4	S114 (SW NETWORK)	96.376	96.377	0.135	49.605	1.9	0.69	47.6	Flood