



Drainage Addendum

Site: Land to the North of Arundel Road, Fontwell, West Sussex BN18 OSF

Client: Harlequin Developments

Prepared by: DHA Environment
Eclipse House
Eclipse Park
Sittingbourne Road
Maidstone ME14 3EN

Date: May 2026

1.1 Introduction

- 1.1.1 This Drainage Technical Note (TN) has been produced in response to the latest response from West Sussex County Council (LLFA) dated 8th May 2026 in relation to Planning Application Reference: WA/18/26/PL concerning a proposed residential development of up to 64 units on Land to the North of Arundel Road, Fontwell, West Sussex BN18 OSF.
- 1.1.2 The site has been allocated in the Walberton Neighbourhood Plan for up to approximately 40 units and a childcare facility.
- 1.1.3 This application follows a previous Outline Planning Application (WA/74/24/OUT) for 56 residential dwellings and a stand-alone community building. That application was recommended for approval by Officers and received a unanimous resolution to grant permission at the January 2025 Planning Committee. However, agreement could not be reached with Walberton Parish Council in relation to the Section 106 provisions concerning the transfer of land for the community building, and the application was therefore withdrawn at the end of 2025. Notwithstanding this, the principle of residential development and the key technical matters including drainage were accepted by the LPA and all statutory consultees.

1.2 Responses to WSCC comments

- 1.3 WSCC full response is contained in **Appendix A** and can be summarised with response to each point as follows: -

"From the documentation provided, we have a significant concern that, due to high groundwater levels, the current design will not be viable. Section 1.15 of the above NSfS states that a minimum of 1m clearance between the base of any infiltration feature and the highest level of groundwater. Please confirm that this standard can be met, with appropriate evidence. Alternatively, please provide a revised drainage strategy incorporating an alternative method of surface water

management. We understand this is likely to be utilisation of a WSCC Highway drain. If so evidence of approval for this should be appended (we note the current document states this is included at Appendix G, however we could not locate it. If it has already been provided, please confirm the page number).

We are of the understanding that the highest recorded winter groundwater level is 1.4 mbgl in WSO6 (although we do not appear to have the full winter results submitted under this application, we are relying on Table 2 in the FRA). For TP05, where the infiltration basin is proposed to be located, only 2 tests have been completed, which does not comply with BRE365 testing standards. The proposed base of the infiltration basin is 1.2 mbgl. This therefore means there is only 0.2m between the base of the infiltration basin and the highest groundwater level. This does not comply with the National Standards for SuDS, which state that a minimum of 1m clearance between the base of any infiltration feature and the highest level of groundwater. As this is a full planning application, this is not something we are able to condition, as the drainage strategy is likely to affect the layout of the site. As previously requested, we therefore need a revised drainage strategy with an alternative method of draining the site”.

- 1.3.1 The previous proposed drainage system for the site has been designed based on site specific infiltration and ground water testing during one of the wettest winters in recent memory. The design has utilised a shallow infiltration basin in the location where the groundwater was found to be the deepest which coincided with the best infiltration rates. This ground water testing showed that the highest groundwater level was 0.2m below the base of the basin. This strategy was approved by WSCC as part of planning application reference (WA/74/24/OUT). A reduced clearance to the highest ground water level was agreed with WSCC at the time.
- 1.3.2 Notwithstanding the above, a revised surface water drainage strategy for the site has been prepared based on the seven-core standards and 11 underpinning principles set out in the National standards for Sustainable Drainage Systems (SuDS) dated July 2025. Compliance to the seven standards can be summarised as follows.

STANDARD 1 : RUNOFF DESTINATIONS

- 1.3.3 These standard states, that runoff from the development should be discharged to the following final destinations, to the maximum extent practicable, in accordance with the following hierarchy:
- (1) Priority 1: collected for non-potable use.
 - (2) Priority 2: infiltrated to ground.
 - (3) Priority 3: discharged to an above ground surface water body.
 - (4) Priority 4: discharged to a surface water sewer, or another piped surface water drainage system.
 - (5) Priority 5: discharged to a combined sewer.

Priority 1

- 1.3.4 Water butts will be provided to store rainfall to be used for private irrigation. This has not been considered as part of the surface water calculations.
- 1.3.5 Based on the site topography and the high-water table, porous paving has been used to convey surface water to the point of discharge in the southeast corner of the site as a traditional piped system would drive levels too deep.
- 1.3.6 Due to the shallow drainage system, it is not possible to provide full rainwater harvesting on the site.

Priority 2

- 1.3.7 As set previously set out, extensive site investigation has been carried out including infiltration testing and groundwater monitoring over a full winter. This demonstrated the infiltration would be a feasible method for the disposal of surface water on the site. This was previously accepted however WSCC are now insisting that a 1m clearance is maintained to the highest recorded groundwater level and that infiltration is not a suitable method for the disposal of surface water on the site.

Priority 3

- 1.3.8 There are no watercourses in site vicinity, so this is not an option for the disposal of surface water on the site. The highway drain adjacent to the site does however connect to a watercourse approximately 300m to the south of the site off West Walberton Lane.

Priority 4

- 1.3.9 There are no surface water public sewers in the vicinity of the site however there is a highway drainage system that drains Arundel Road which discharge into a watercourse off West Walberton Lane.
- 1.3.10 There is no positive surface water outfall from the site so any rainfall will infiltrate to ground with any residual surface water flowing overland from the North to the South following the existing topography on to Arundel Road to the South.
- 1.3.11 Reference has been made to paragraph 3.19 of the National Standards for Sustainable Drainage Systems (SuDS) dated July 2025 which sets out the maximum allowable discharge rates from the site when runoff volumes are greater than the existing.
- 1.3.12 The guidance states that the peak allowable discharge rate from the development for the 1 in 100-year rainfall event shall be limited to the 1 in 2-year greenfield runoff rate or 3 l/s/ha, whichever is the greater. The 1 in 2-year greenfield runoff rate can be considered equivalent to the calculated QBAR (mean annual flood) for the site.
- 1.3.13 The existing green field (pre-development) peak discharge rate (Qbar) has been calculated by using the Flood Studies Report ICP (SuDS) method based on the total

developable area of 2.74 hectares to be 9.9 l/s. The calculations can be seen in **Appendix B**. This compares with a rate of 8.22 l/s based on a runoff rate of 3 l/s/ha

- 1.3.14 WSCC have confirmed that if infiltration is not considered an option that they would accept a limited discharge into their highway drainage at an attenuated rate given the site currently drains onto the highway. A record of the location of the highway drainage along with a detailed survey are contained in **Appendix C**. Correspondence with WSCC is also contained in **Appendix C**. A rate of 2 l/s/hectare equating to 5.5l/s which is less than the greenfield rate has been used in the design of the surface water drainage.
- 1.3.15 Based on the above, a mixture of priority 1 and 4 measures will be used to dispose of the surface water on the site and as such it is considered that this standard has been met as far that is achievable.
- 1.3.16 Based on above it can be seen that hierarchy of preference for different types of surface water drainage disposal systems as set out in Approved Document H of the Building Regulations and the SUDS manual produced by CIRIA has been followed in line with policy DM3 of the Arun Local Plan.

STANDARD 2: MANAGEMENT OF EVERYDAY RAINFALL (INTERCEPTION)

- 1.3.17 Standard 2 states that a 'SuDS approach' should be implement so that at least the first 5mm of rainfall for most rainfall events does not result in runoff from the site to surface waters or piped drainage systems.
- 1.3.18 Due to the high-water table over the locations of the site where porous pavement is to be utilized, it is proposed that they will be lined. All permeable surfaces, whether lined or not, shall be assumed to comply provided there is no additional area drained to the permeable pavement.
- 1.3.19 Of the total impermeable area of 9,520m², 4,571m² will comprise of lined porous paving leaving a further 4,949m² which will need to be intercepted downstream.
- 1.3.20 Any swales that are unlined and has a longitudinal fall less than 1:100 and an infiltration capability greater than 1x10⁻⁶ m/s shall be assumed to comply with interception for a contributing area up to 25 times the base area of the swale.
- 1.3.21 Given the proposed swale as a base area of 624m² and an infiltration rate greater than 1x10⁻⁶ m/s, the swale can accommodate an impermeable area of 15,600m². Given this is greater than the total impermeable area this standard can be considered to have been met in full.

STANDARD 3: MANAGEMENT OF EXTREME RAINFALL AND FLOODING

- 1.3.22 Standard 3 states that a 'SuDS approach' shall be adopted to address the management of development runoff during extreme rainfall, including allowances for climate change and urban creep to:
- Protect people and property on the development from flooding of the surface water drainage system

- Mitigate any increased flood risk to people and property adjacent to or downstream of the development
- Protect the receiving water body from morphological damage or minimise the impact on sewer capacity

1.3.23 The following standards will be adopted in the design of the surface water drainage to ensure compliance with the above.

- The proposed impermeable areas are shown on drawing 33186-D-01 contained in **Appendix D**. This shows that of the total site area of 2.74 hectares; the total impermeable area is 0.98 hectares. This area makes an 10% allowance for urban creep to the area of the impermeable area within the property curtilages (private areas).
- No flooding for the 1 in 30-year event.
- Flooding managed for events between 1 in 30 and the 1 in 100-year event + climate change. Reference has been made to the Environment Agency's online mapping guidance for peak rainfall allowance for climate change and shows the site to be located within the Arun and Western Streams Management Catchment. Given the proposed development is to have a design life beyond 2100, a 45% allowance for climate change needs to be considered in the design of the surface water drainage system. This is based on the upper end allowance for the 2070's epoch.
- A CV value of 1 has been applied to the drainage calculations.
- FEH 2022 rainfall parameters have been used in the design of the surface water drainage system
- Based on the above, the drainage system has been modelled using Windes to accommodate all return periods up to and including the 1 in 100 year + 45% climate change. Calculations are shown in **Appendix D**. Features have been designed based on the infiltration rate found in TP05 and half drains within 24 hours. This is a betterment to the requirements set out in policy DM3 of the Arun which requires the 1 in 100 year + 30% allowance for climate change.

1.3.24 Based on the above it has been demonstrated that this standard has been met in full.

STANDARD 4 : WATER QUALITY

1.3.25 Reference has been made to the SuDS manual (Cira document 753) to ensure water quality has been considered and suitable water management train provided for within the development that will control water quality to the required standard.

1.3.26 Table 26.2 from the SuDS shows residential roofs to have a very low pollution risk and residential roads and driveways to have a low risk and sets out pollution hazard indices for various pollution sources. An extract on the table has been shown in Figure 1 below.

TABLE 26.2 Pollution hazard indices for different land use classifications				
Land use	Pollution hazard level	Total suspended solids (TSS)	Metals	Hydrocarbons
Residential roofs	Very low	0.2	0.2	0.05
Other roofs (typically commercial/ industrial roofs)	Low	0.3	0.2 (up to 0.8 where there is potential for metals to leach from the roof)	0.05
Individual property driveways, residential car parks, low traffic roads (eg cul de sacs, homezones and general access roads) and non-residential car parking with infrequent change (eg schools, offices) ie < 300 traffic movements/day	Low	0.5	0.4	0.4
Commercial yard and delivery areas, non-residential car parking with frequent change (eg hospitals, retail), all roads except low traffic roads and trunk roads/motorways ¹	Medium	0.7	0.6	0.7
Sites with heavy pollution (eg haulage yards, lorry parks, highly frequented lorry approaches to industrial estates, waste sites), sites where chemicals and fuels (other than domestic fuel oil) are to be delivered, handled, stored, used or manufactured; industrial sites; trunk roads and motorways ¹	High	0.8 ²	0.8 ²	0.9 ²

Notes

FIGURE 1 – POLLUTION HAZARD INDICES

1.3.27 Table 26.3 from the SuDS manual show the mitigation that is provided from each pollution source by various drainage components when draining to surface water.

TABLE 26.3 Indicative SuDS mitigation indices for discharges to surface waters			
Type of SuDS component	Mitigation indices ¹		
	TSS	Metals	Hydrocarbons
Filter strip	0.4	0.4	0.5
Filter drain	0.4 ²	0.4	0.4
Swale	0.5	0.6	0.6
Bioretention system	0.8	0.8	0.8
Permeable pavement	0.7	0.6	0.7
Detention basin	0.5	0.5	0.6
Pond ⁴	0.7 ³	0.7	0.5
Wetland	0.8 ³	0.8	0.8
Proprietary treatment systems ^{5,6}	These must demonstrate that they can address each of the contaminant types to acceptable levels for frequent events up to approximately the 1 in 1 year return period event, for inflow concentrations relevant to the contributing drainage area.		

Notes

FIGURE 2 – MITIGATION INDICES

1.3.28 From the above the provision of permeable pavement for the drainage of the roofs and areas of hardstanding will adequately mitigate the pollution risks generated.

STANDARD 5: AMENITY

- 1.3.29 The standard sets out that a 'SuDS approach' shall be adopted that maximises benefits for amenity through the creation of multi-functional places and landscapes.
- 1.3.30 The design of the surface water drainage system has been integrated into the landscape and masterplan and contributes to placemaking and environmental enhancement by keeping surface water runoff at or close to the ground surface.
- 1.3.31 The adopted SuDS approach maximises benefits for amenity by incorporating into the masterplan via a network of footpath to create multi-functional places and landscapes.
- 1.3.32 Based on the above it has been demonstrated that this standard has been met in full.

STANDARD 6 : BIODIVERSITY

- 1.3.33 The scheme will be designed to comply with the BNG requirements. An unlined attenuation basin has been provided to comply with Standard 2 which with add to Biodiversity, however not possible to provide a permanently wet basin.

STANDARD 7: DESIGN OF DRAINAGE FOR CONSTRUCTION, OPERATION, MAINTENANCE, DECOMMISSIONING AND STRUCTURAL INTEGRITY

- 1.3.34 The SuDS proposed on this scheme comprise of porous pavement and a shallow infiltration basin.
- 1.3.35 These are considered standard features which can be easily and safely be constructed, operated and maintained. The works will be constructed as a single phase with the detention basin being constructed early in the programme to ensure runoff is controlled during construction.
- 1.3.36 The proposed foul water drainage will be designed and constructed in accordance with Sewers for Adoption 7th Edition and will be offered to Southern Water who will maintain them in perpetuity.

"Based on the outcome of Point 2, we may require updated water quality indices that comply with the requirements for discharge to a surface water sewer (as per Standard 4).

The applicant has stated: "The water quality will remain the same whether it drains via infiltration or to a sewer".

This statement is incorrect. In accordance with Standard 4 (Water Quality), the Ciria SuDS Manual Simple Index approach shall be used. The mitigation indices for discharges to groundwater (via an infiltration-based system) and discharges to surface water sewers are different. It is important that the correct mitigation indices are used"

- 1.3.37 The correct indices have been applied, see section 1.3.31.

We concur with the proposal to line some of the proposed permeable paving due to groundwater levels, however, should there be any areas within the site that have the opportunity to utilise unlined attenuation, this should be explored.

See point 2 – we are concerned that there is only 0.2m between the base of the infiltration basin and the highest groundwater level.

1.3.38 Due to the high-water table, all porous pavements will be lined.

1.4 Summary and Conclusions

1.4.1 As set out in this technical note it can be demonstrated that all issues raised by the LLFA have been addressed.

APPENDIX A



WSCC Response

Ground Floor
Northleigh
County Hall
Chichester
West Sussex
PO19 1RH



Lead Local Flood Authority

Mr S Davis
Planning and Building Control
Arun District Council
Arun Civic Centre
Maltravers Road
Littlehampton
West Sussex
BN17 5LF

Date 8th May 2026

Dear Mr Davis,

RE: WA/18/26/PL - Land off Arundel Road Fontwell

Thank you for your consultation on the above site, received on 24th April 2026. We have reviewed the application as submitted and wish to make the following comments.

This is a full application for the erection of 64 residential dwellings with access off Arundel Road, together with associated parking, open space, play space, landscaping, drainage and infrastructure.

The amended comments can be seen in [blue](#).

We [maintain our objection](#) to this application:

1. Evidence that each standard of the new National Standards for SuDS (NSfS) (July 2025) have been met, in particular regarding interception and source control. Since the previous outline application, the NSfS have updated, and it is important these are addressed at full application stage, as it may alter the layout of the site.

[We request that the Designer checklists | Arun District Council are used when addressing the comments below.](#)

2. From the documentation provided, we have a significant concern that, due to high groundwater levels, the current design will not be viable. Section 1.15 of the above NSfS states that a minimum of 1m clearance between the base of any infiltration feature and the highest level of groundwater. Please confirm that this standard can be met, with appropriate evidence. Alternatively, please provide a revised drainage strategy incorporating an alternative method of surface water management. We understand this is likely to be utilisation of a WSCC Highway drain. If so evidence of approval for this should be appended (we note the current

document states this is included at Appendix G, however we could not locate it. If it has already been provided, please confirm the page number).

We are of the understanding that the highest recorded winter groundwater level is 1.4 mbgl in WS06 (although we do not appear to have the full winter results submitted under this application, we are relying on Table 2 in the FRA). For TP05, where the infiltration basin is proposed to be located, only 2 tests have been completed, which does not comply with BRE365 testing standards. The proposed base of the infiltration basin is 1.2 mbgl. This therefore means there is only 0.2m between the base of the infiltration basin and the highest groundwater level. This does not comply with the National Standards for SuDS, which state that a minimum of 1m clearance between the base of any infiltration feature and the highest level of groundwater. As this is a full planning application, this is not something we are able to condition, as the drainage strategy is likely to affect the layout of the site.

As previously requested, we therefore need a revised drainage strategy with an alternative method of draining the site.

3. Based on the outcome of Point 2, we may require updated water quality indices that comply with the requirements for discharge to a surface water sewer (as per Standard 4)

The applicant has stated: *"The water quality will remain the same whether it drains via infiltration or to a sewer"*.

This statement is incorrect. In accordance with Standard 4 (Water Quality), the Ciria SuDS Manual Simple Index approach shall be used. The mitigation indices for discharges to groundwater (via an infiltration-based system) and discharges to surface water sewers are different. It is important that the correct mitigation indices are used.

4. We concur with the proposal to line some of the proposed permeable paving due to groundwater levels, however should there be any areas within the site that have the opportunity to utilise unlined attenuation, this should be explored.

See point 2 – we are concerned that there is only 0.2m between the base of the infiltration basin and the highest groundwater level.

- ~~5. We have noted that the strategy states at 5.3.19 that FEH 2022 has been employed (which is correct for our requirements), however the provided calculations state FEH 1999, please confirm which is correct/update calculations if necessary.~~

The applicant has stated that the latest FEH data has been manually entered, therefore this is adequately addressed.

~~6. We have some concerns that the calculations may not be site specific. Region 6 does not cover this area of West Sussex.~~

The correct region is now being used in calculations. This matter is adequately addressed.

We will review this objection when the issues highlighted above are adequately addressed and we are formally reconsulted. When preparing any further documents to address the above comments, we recommend clearly highlighting where amendments have been made.

Yours sincerely,

Eleanor Read
Flood Risk Management Team

[Redacted signature]

Arun District Council, Civic Centre, Maltravers Rd, Littlehampton, West Sussex, BN17 5LF
www.arun.gov.uk

To register to receive notification of planning applications in your area please go to
<https://www1.arun.gov.uk/planning-application-finder>



From: [REDACTED]
Sent: 08 May 2026 11:47
To: Planning.Responses <Planning.Responses@arun.gov.uk>
Subject: Response to WA/18/26/PL

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Please could the attached response be distributed to the relevant case officer.

Regards

Flood Risk Management

Please do not reply directly to this email.

Any formal reconsultation on the application should be directed to [REDACTED] but the responding officer can be contacted directly via email if there are any questions relating to this response.

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APPENDIX B



Greenfield Runoff Rates

DHA Transport Ltd		Page 1
Eclipse House Eclipse Park Sittingbourne Road Maidstone ME14 3EN	Arundel Road	
Date 15/05/2026 08:45 File	Designed by Chris Checked by	
Causeway		
Source Control 2019.1		
<div>ICP SUDS Mean Annual Flood</div> <div>Input</div> <div><div>Return Period (years) 100 Soil 0.400</div><div>Area (ha) 2.740 Urban 0.000</div><div>SAAR (mm) 734 Region Number Region 7</div></div> <div>Results 1/s</div> <div><div>QBAR Rural 9.9</div><div>QBAR Urban 9.9</div><div>Q100 years 31.4</div><div>Q1 year 8.4</div><div>Q30 years 22.3</div><div>Q100 years 31.4</div></div>		
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APPENDIX C



WSCC Highway correspondence and highway drainage records

From: [Kevin Macknay](#)
To: [Chris Smoker](#)
Cc: [Jack Karagoz](#); [Ed Burdell](#)
Subject: RE: Arundel Road Fontwell, West Sussex
Date: 07 January 2025 15:02:04
Attachments: [image004.png](#)
[image006.png](#)
[SDS 209526 Drainage Layout Drawing - Arundel Road - with WSCC notes.pdf](#)

[External email - This message originated from outside DHA – prior to opening any attachments or opening links, please ensure their authenticity with the sender]

Chris,

Hope you had a good Christmas and Happy New Year.

I have spoken to the LLFA and I understand that they are still awaiting further information about the proposed drainage strategy for the development in Arundel Road. I guess you will provide this once the groundwater monitoring / infiltration testing work is complete?

Your email below proposes to replace the existing poor condition 150mm pipe in Arundel Road with a new 225mm pipe. Attached is a plan showing the extent of this work, if I have understood your offer correctly.

Limiting the connection into existing manhole SDS15 would offer further protection to the downstream network. The line of this new 225mm pipe would need to be carefully considered given existing services etc. in the area. Any connection from the new development would be made into this new pipe.

As I understand it, you are currently working on two surface water drainage options for this development:

Option 1 – the site deals with its own surface water via. infiltration.

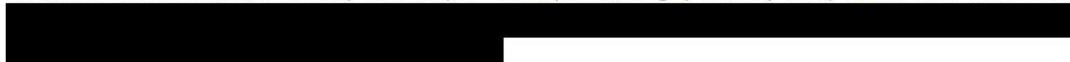
Option 2 – Infiltration does not wholly work and the site requires a limited discharge (max 2l/s/ha) into the existing highway drainage system.

If Option 2 is the only feasible option and given the proposed improvements to the existing highway infrastructure WSCC would accept in limited discharge into the existing highway drainage system. However, given that issues have been identified at the downstream outfall, further investigation, and any necessary remedial works should be carried out should Option 2 be taken forward.

Regards,

Kevin

Kevin Macknay
Drainage and Flooding Lead Professional
Highways, Transport and Planning
Place Services
West Sussex County Council



Certified Carbon Literate



[Report a problem with a road or pavement](#) or [raise a highways related enquiry](#)

Follow us at  [@WSHighways](#)

From: Chris Smoker 
Sent: Monday, December 9, 2024 4:06 PM
To: Kevin Macknay 
Cc: Jack Karagoz < > Burdell


Subject: FW: Arundel Road Fontwell, West Sussex

Afternoon Kevin

Our client has now completed the investigation of the highway drainage. We are waiting on the final report, but the initial findings are shown on the attached. This shows a 225mm highway drain running down West Alberton Lane before discharging into a ditch across private land. Whilst the pipe was in good condition the outfall is blocked as the ditch has not been maintained and water is backing up the pipe. I assume the landowner has an obligation to maintain the watercourse as not to prevent the flow of water. If

The branch along Arundel Road which takes several gullies is a 150mm pipe is in a poor state of repair.

In the event that infiltration on our site is not shown to be possible following winter ground water monitoring, we suggest that we replace the existing damaged 150mm diameter drain with a new 225mm diameter sewer. Given our site currently drains over land onto Arundel Road that a connection from the site is provided at an attenuation rate of 1 to 2l/s/ha which is less than the greenfield rate.

Would the above approach meet your approval?

Regards

Chris Smoker

Email: 

[Have a site to discuss? Give us a call or visit our interactive map to get started](#)



DHA Interactive Map



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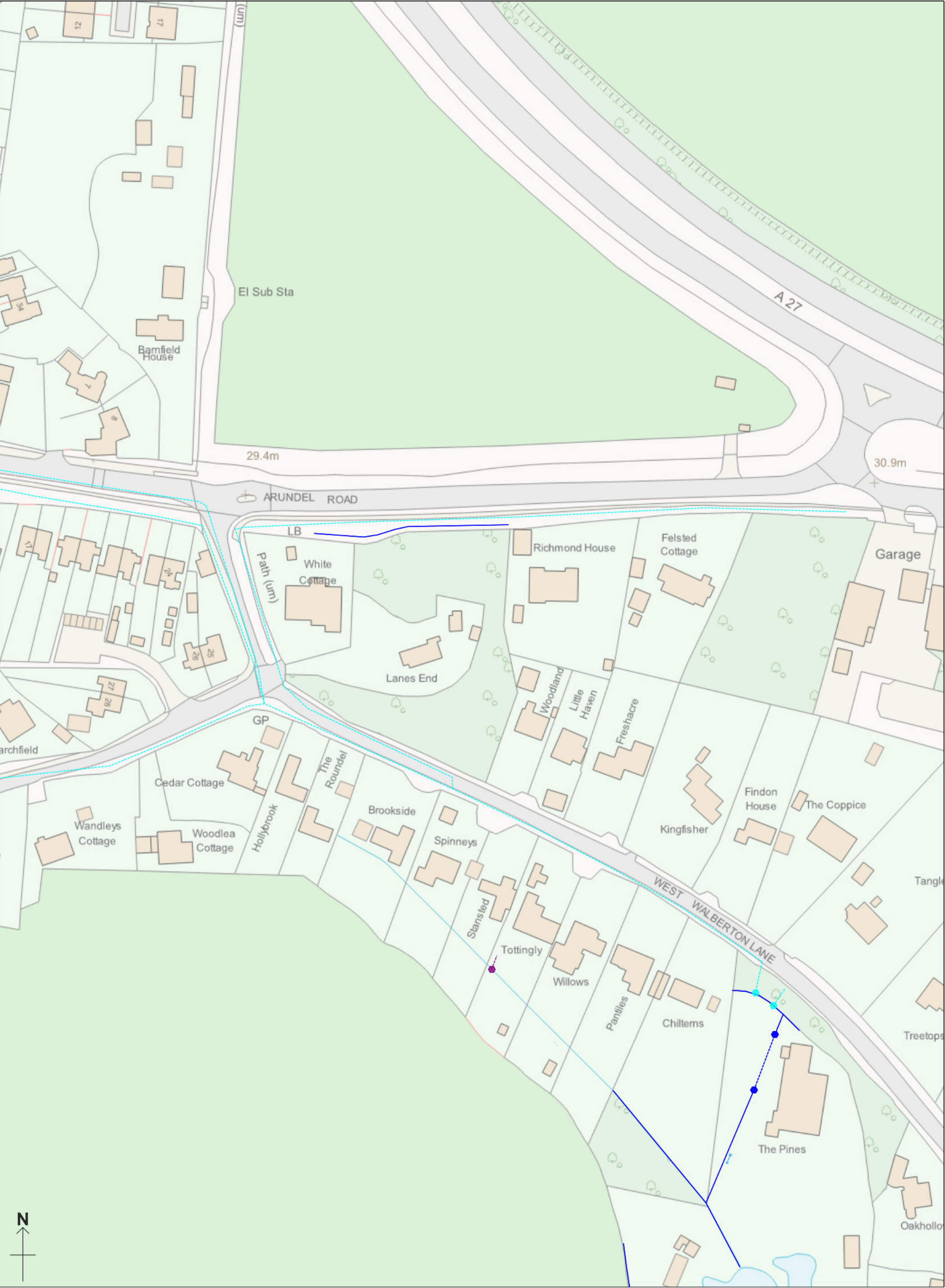
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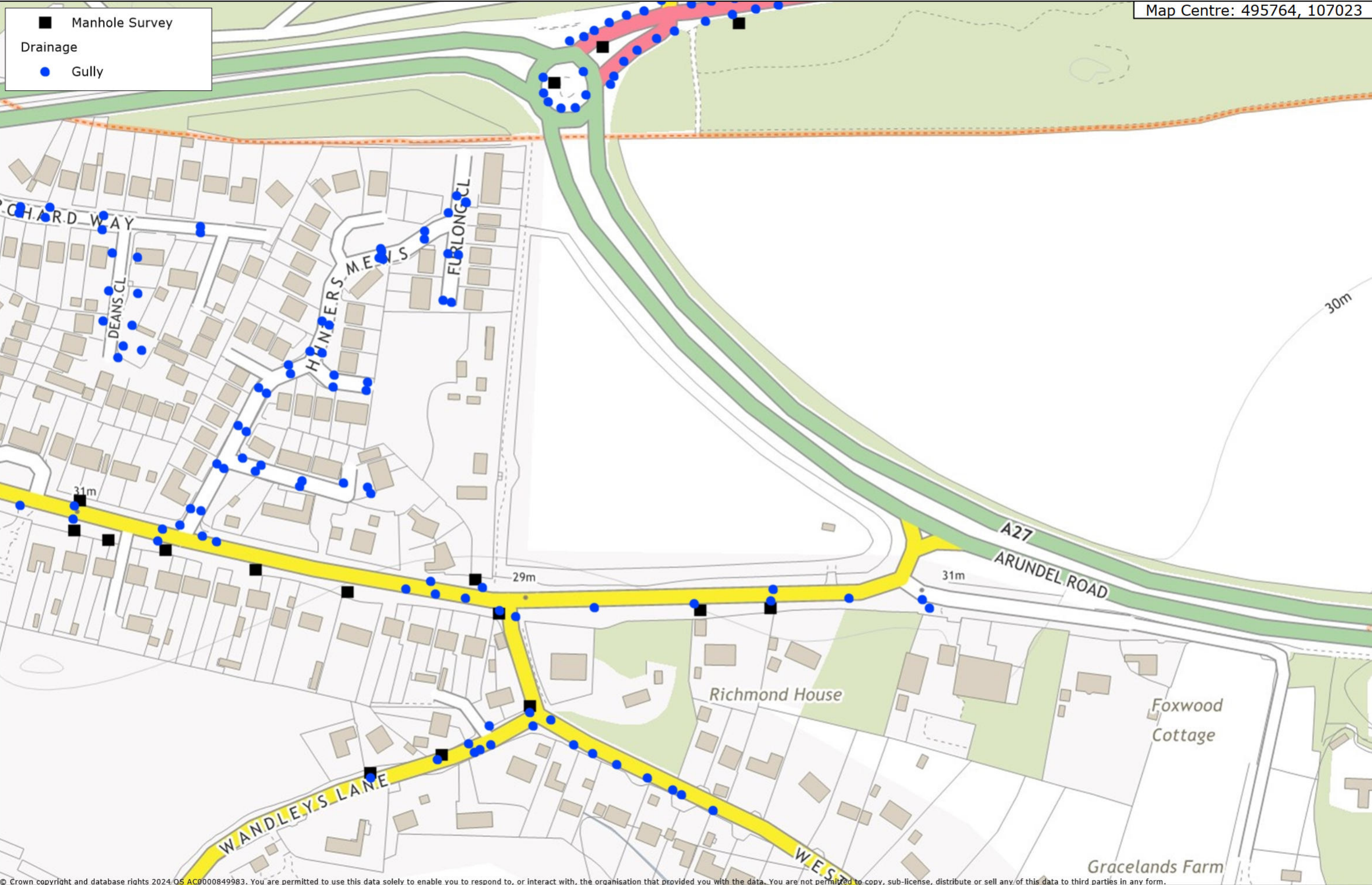
Arun District Council Maps



■ Manhole Survey

Drainage

● Gully



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UTILITY SURVEY LEGEND

LINE TYPES

FOUL WATER DRAIN	SLUDGE RETURN P MAIN	WATER MAIN
COMBINED WATER DRAIN	FERRIC DRAINING	WATER MAIN
SURFACE WATER DRAIN	PIPEWORK	WATER MAIN
WATER	PIPEWORK OVERHEAD	WATER MAIN
GAS	STORM WATER	WATER MAIN
OIL	STORM WATER OVERFLOW	WATER MAIN
ELECTRICITY	STORM RETURN P MAIN	WATER MAIN
ELECTRICITY OVERHEAD	MAIN FLOW	WATER MAIN
TELEPHONE OVERHEAD	WASH WATER	WATER MAIN
COMMS	RISING MAIN	WATER MAIN
CATV	RECIRCULATION LINE	WATER MAIN
FIBRE OPTIC	WORKS RETURN	WATER MAIN
TRAFFIC SIGNAL	UNDERGROUND CHAMBER	WATER MAIN
DUCT	GROUND PENETRATING RADAR (GPR)	WATER MAIN
UNKNOWN LINEAR FEATURE DETECTED BY GPR	ADVICE & WARNING SIGNS WITH TEXT EXPLANATION	WATER MAIN
UNKNOWN SERVICE DETECTED BY GPR	ANOMALY LINEAR FEATURE	WATER MAIN
DISBURSE P MAIN	ANOMALY FEATURE HEIGHTS	WATER MAIN
SLUDGE	ANOMALY FEATURE AREA WITH TEXT EXPLANATION	WATER MAIN

SERVICE ABBREVIATIONS

AC	ASSUMED CONNECTION	IL	INVERT LEVEL
AR	ASSUMED ROUTE	KG	KERB INLET GULLY
BD	BACK DROP	MH	MANHOLE
CC	CONFIRMED CONNECTION	OHL	OVER HEAD LINE
CD	CHAMBER DEPTH	PI	PETROL INTERCEPTOR
CW	CABLE ON WALL	RF	FROM RECORD DRAWINGS
CL	COVER LEVEL	RE	RODDING EYE
CP	CATCH PIT	SK	SOAKAWAY
CR	CABLE RISER	TPT	TRACED POINT
DTB	DEPTH TO BASE	UNK	UNKNOWN SERVICE
(D)	DEPTH	UTL	UNABLE TO LOCATE
(DS)	DISBURSE	UTR	UNABLE TO RAISE
EOT	END OF TRACE	UTT	UNABLE TO TRACE
GU	GULLY	UTS	UNABLE TO SURVEY

GENERAL ABBREVIATIONS

AV	AIR VALVE	MK	MARKER POST
BB	BOLISHA BEACON	MS	MILE STONE
Bdy	BOUNDARY	NB	NOTICE BOARD
BH	BOREHOLE	NP	NAME PLATE
BL	BED LEVEL	OSBM	ORDNANCE SURVEY BENCH MARK
BO	BOLLARD	OH	OVERHEAD
CC	CATTLE GRID	PE	PENSTOCK
CH	CHANNEL LEVEL	PO	POST
Conc	CONCRETE	RS	ROAD SIGN
CO	CORING LEVEL	RTW	RETAINING WALL
CPS	COND. PAVING SLABS	RWP	RAIN WATER PIPE
CR	CROWN LEVEL	SAP	SAPLING
CUL	CULVERT	SC	STOP COCK
DK	DROP KERB	SVP	SOIL VENT PIPE
DP	DOWN PIPE	SP	SIGN POST
EB	ELECTRICITY BOX	STN	SURVEY STATION
EMH	ELECTRICITY MANHOLE	SV	STOP VALVE
EP	ELECTRICITY POLE	TBM	TEMPORARY BENCH MARK
EPY	ELECTRICITY PYLON	TL	TRAFFIC LIGHT
ER	EARTHING ROD	TMH	TELEPHONE MANHOLE
FH	FIRE HYDRANT	TOW	TOP OF WALL
FLR	FLOOR LEVEL	TP	TELEGRAPH POLE
FM	FLOW METER	TS	TREE STUMP
GL	GROUND LEVEL	VA	VALVE
GP	GATE POST	VP	VENT PIPE
GV	GAS VALVE	WL	WATER LEVEL
IC	INSPECTION COVER	WM	WATER METER
JB	JUNCTION BOX	WO	WASH OUT
LP	LAMP POST	WV	WATER VALVE

CAUTIONARY NOTES

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CONFIDENCE RATING

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XXXXXXXX GPR

UTILITY DEPTH MEASUREMENT GUIDE

ELECTRO-MAGNETIC DETECTION (EMD)

GRAVITY DRAIN (VISUAL INSPECTION)

GROUND PENETRATING RADAR (GPR)

DRAINAGE NOTES

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Note: Pipe sizes in mm

TECHNICAL NOTES

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A SCALE FACTOR OF 1.000000 HAS BEEN APPLIED TO THIS DRAWING

Rev.	Date	Description	By
A	10.05.2028	Level adjustment	PV

Drawn by	Surveyed by	Checked by
F.D	LK	PD

Project title

ARUNDEL ROAD
BN18 0QP

Drawing title

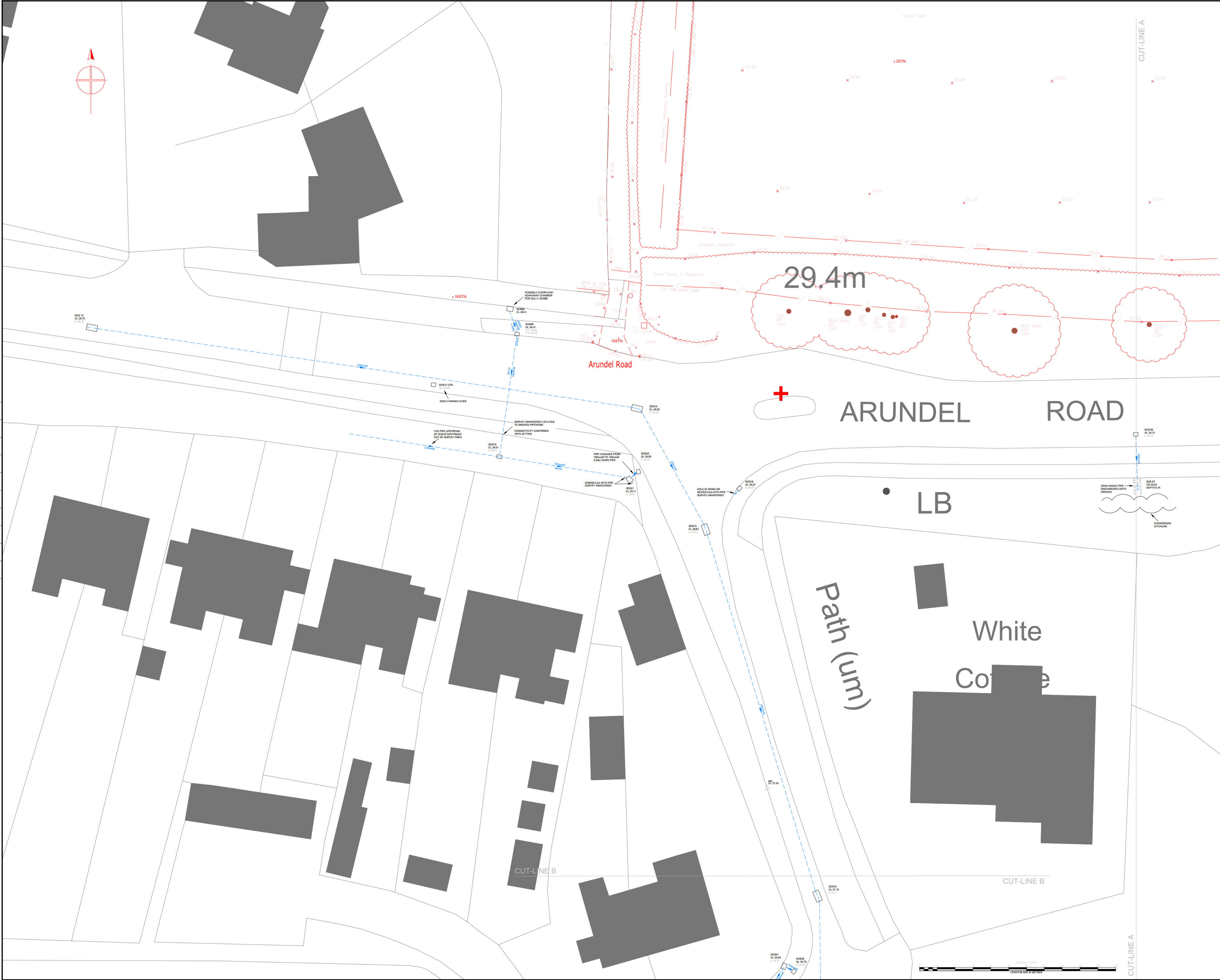
SHEETING
LAYOUT

Client

DHA Planning

Drawing No.	Revision
SDS209526.00	A

SCALE	Date	Sheet size
NTS	DEC 2024	A1



UTILITY SURVEY LEGEND

LINE TYPES

FOUL WATER DRAIN	SLUDGE RETURN P MAIN	UNDERGROUND CHAMBER
COMBINED WATER DRAIN	FERRIC DOSING	GROUND PENETRATING RADAR (GPR)
SURFACE WATER DRAIN	PIPEWORK	ADVICE & WARNING SIGNS WITH TEXT EXPLANATION
WATER	PIPEWORK OVERHEAD	ANOMALY LINEAR FEATURE DETECTED BY GPR
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ELECTRICITY	STORM RETURN P MAIN	
ELECTRICITY OVERHEAD	MAIN FLOW	
TELEPHONE	WASH WATER	
TELEPHONE OVERHEAD	RISING MAIN	
COMMS	RECIRCULATION LINE	
CATV	WORKS RETURN	
FIBRE OPTIC		
TRAFFIC SIGNAL		
DUCT		
UNKNOWN LINEAR FEATURE DETECTED BY GPR		
UNKNOWN SERVICE DETECTED BY GPR		
DES/SLUDGE P MAIN		
SLUDGE		

SERVICE ABBREVIATIONS

AC	ASSUMED CONNECTION	IL	INVERT LEVEL
AR	ASSUMED ROUTE	KIG	KERB INLET GULLY
BD	BACK DROP	MH	MANHOLE
CC	CONFIRMED CONNECTION	OHL	OVER HEAD LINE
CD	CHAMBER DEPTH	PI	PETROL INTERCEPTOR
CW	CABLE ON WALL	RC	FROM RECORD DRAWINGS
CL	COVER LEVEL	RE	RODDING EYE
CP	CATCH PIT	SK	SOAKAWAY
CB	CABLE RISER	TPT	TRACED POINT
DTB	DEPTH TO BASE	UNK	UNKNOWN SERVICE
DTL	DEPTH	UTL	UNABLE TO LOCATE
(DS)	DISUSED	UTR	UNABLE TO RAISE
EOT	END OF TRACE	UTT	UNABLE TO TRACE
GU	GULLY	UTS	UNABLE TO SURVEY

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GL	GROUND LEVEL	VP	VENT PIPE
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GV	GAS VALVE	WM	WATER METER
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XXXXXXXX RFP

UTILITY DEPTH MEASUREMENT GUIDE

ELECTRO-MAGNETIC DETECTION (EMD)	GRAVITY DRAIN (VISUAL INSPECTION)	GROUND PENETRATING RADAR (GPR)
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GPR IS BASED ON OS DATUM OBTAINED FROM ACTIVE GPR NETWORK. *OSGB36(157)

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Rev.	Date	Description	By
A	10.05.2028	Level adjustment	PV

Drawn by	Surveyed by	Checked by
F.D.	UK	PD

Project title

**ARUNDEL ROAD
BN18 0QP**

Drawing title

**CCTV & DRAINAGE
INVESTIGATIONS**

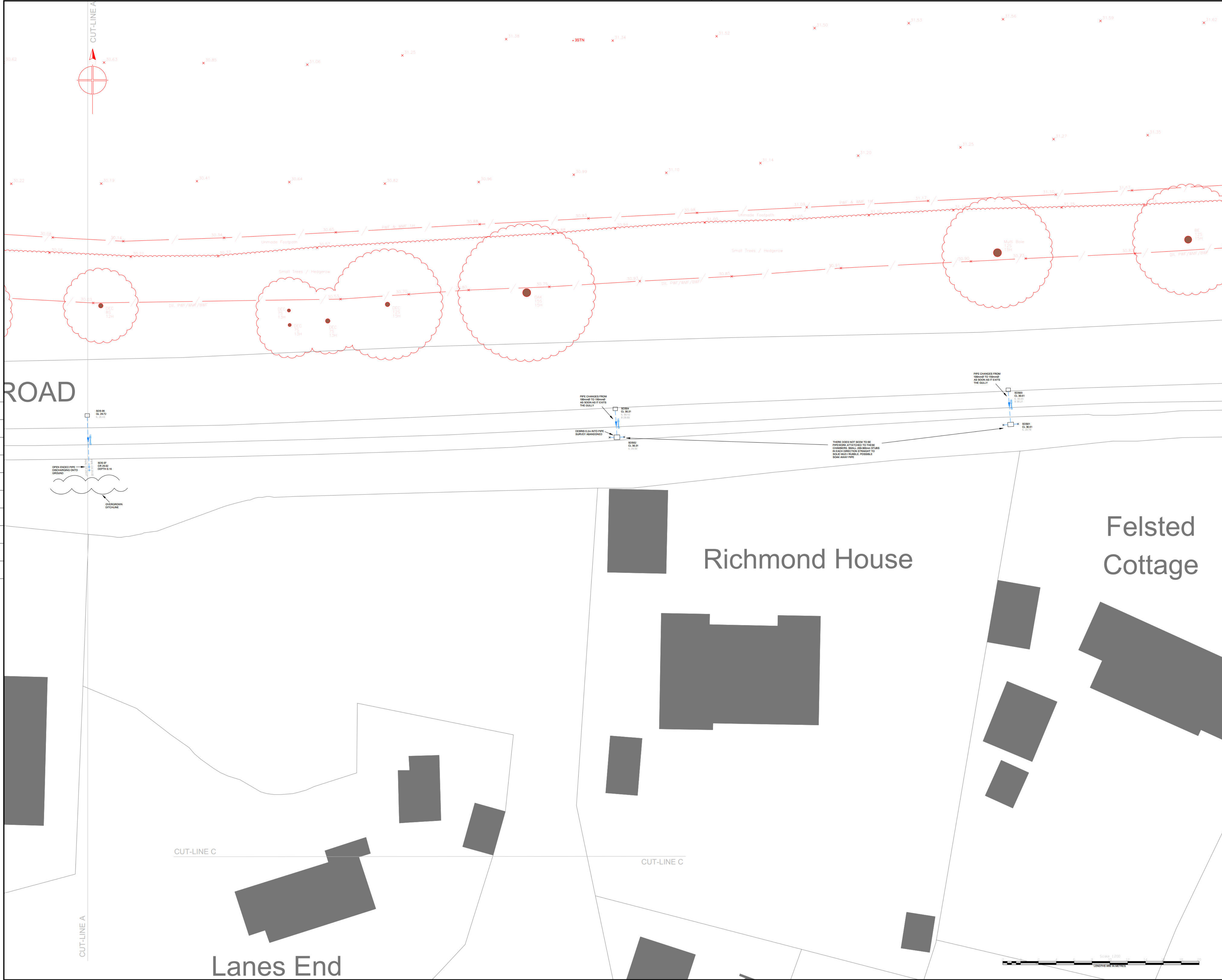
Client

DHA Planning

Drawing No.	Revision
SDS209526.01	A

SCALE	Date	Sheet size
1:200	DEC 2024	A1

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UTILITY SURVEY LEGEND

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CATV	WORKS RETURN	
FIBRE OPTIC		
TRAFFIC SIGNAL		
DUCT		
UNKNOWN LINEAR FEATURE DETECTED BY GPR		
UNKNOWN SERVICE DETECTED BY EML		
UNKNOWN SERVICE DETECTED BY GPR		
DES/SLUDGE P MAIN		
SLUDGE		

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XXXXXXXX RFP

UTILITY DEPTH MEASUREMENT GUIDE

ELECTRO-MAGNETIC DETECTION (EMD)	GRAVITY DRAIN (VISUAL INSPECTION)	GROUND PENETRATING RADAR (GPR)
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TECHNICAL NOTES

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GRD IS BASED ON OS DATUM OBTAINED FROM ACTIVE GPR NETWORK "OSGB361157"

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Rev.	Date	Description	By
A	10.05.2028	Level adjustment	PV

Drawn by	Surveyed by	Checked by
F.D.	UK	PD

SURVEY DESIGN SERVICES

Project title

**ARUNDEL ROAD
BN18 0QP**

Drawing title

**CCTV & DRAINAGE
INVESTIGATIONS**

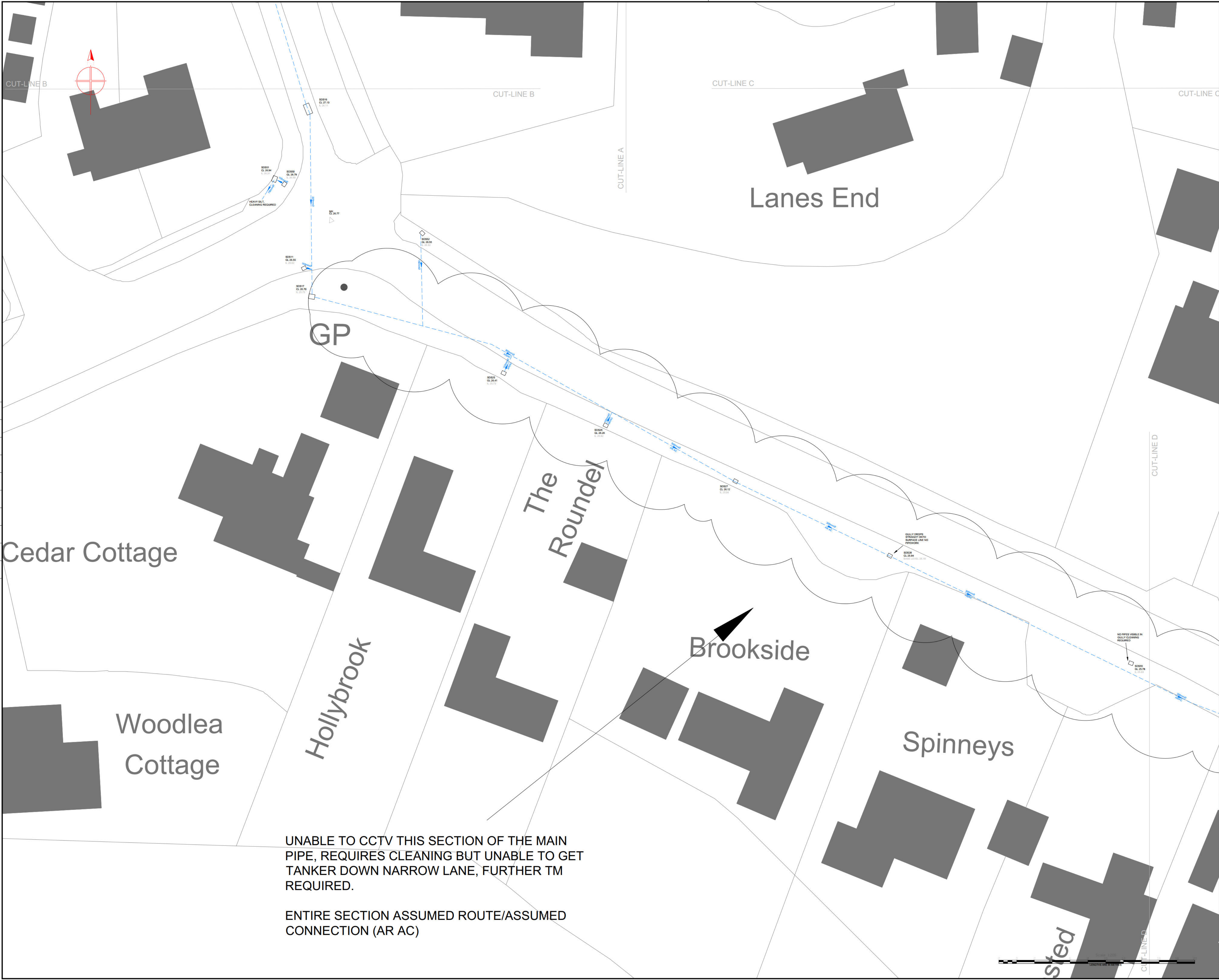
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DHA Planning

Drawing No.	Revision
SDS209526.02	A

SCALE	Date	Sheet size
1:200	DEC 2024	A1

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UTILITY SURVEY LEGEND

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COMMS	REGULATION LINE
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FIBRE OPTIC	UNDERGROUND CHAMBER
TRAFFIC SIGNAL	GROUND PENETRATING RADAR (GPR)
UNKNOWN LINEAR FEATURE DETECTED BY GPR	ADVICE & WARNING SIGNS WITH TEXT EXPLANATION
UNKNOWN SERVICE DETECTED BY GPR	ANOMALY LINEAR FEATURE
UNKNOWN SERVICE DETECTED BY GPR	ANOMALY FEATURE HEIGHTS
SLUDGE	ANOMALY FEATURE AREA WITH TEXT EXPLANATION

SERVICE ABBREVIATIONS

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BO BACK DROP	MH MANHOLE
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DTB DEPTH TO BASE	UNK UNKNOWN SERVICE
DL DEPTH	UTL UNABLE TO LOCATE
(da) DISUSED	UTR UNABLE TO RAISE
EOT END OF TRACE	UTT UNABLE TO TRACE
GU GULLY	UTS UNABLE TO SURVEY

GENERAL ABBREVIATIONS

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Rev.	Date	Description	By
A	10.05.2028	Level adjustment	PV

Drawn by	Surveyed by	Checked by
F.D	LK	PD

Project title	ARUNDEL ROAD BN18 0QP
Drawing title	CCTV & DRAINAGE INVESTIGATIONS
Client	DHA Planning
Drawing No.	SDS209526.03
Revision	A
SCALE	1:200
Date	DEC 2024
Sheet size	A1

UNABLE TO CCTV THIS SECTION OF THE MAIN PIPE, REQUIRES CLEANING BUT UNABLE TO GET TANKER DOWN NARROW LANE, FURTHER TM REQUIRED.

ENTIRE SECTION ASSUMED ROUTE/ASSUMED CONNECTION (AR AC)

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APPENDIX D



Revised drainage drawings and calculations



INDICATIVE ONLY

50510152025

Metres (1:500)

Proposed site area

-

2.74Ha

Proposed Porous pavement

-

4,571m²

Proposed roofs

-

3,072m²

Proposed hardstanding

-

1,877m²

Proposed impermeable area

-

9,520m²

10% allowance for urban creep

-

307m²

Total contributing area

-

9,827m²

P2	Layout amended	05.03.26	CS
P1	First issue	28.05.24	CS
REV	AMENDMENTS	DATE	CHK

Client

HARLEQUIN DEVELOPMENTS

Project

LAND NORTH OF ARUNDEL ROAD
FONTWELL

Title

CONTRIBUTING AREAS PLAN

Dwg	Rev	Scale	Date
33186-D-01	P2	1:500	28.05.24

Eclipse House, Eclipse Park, Sittingbourne Road
Maidstone, Kent, ME14 3EN
t: 01622 776226
e: info@dhaplanning.co.uk

f: 01622 776227
w: www.dhaplanning.co.uk

CAD Reference:

A1

DHA Transport Ltd		Page 1					
Eclipse House Eclipse Park Sittingbourne Road Maidstone ME14 3EN		Porous pavement 1					
Date 06/03/2026 11:01 File cas.CASX		Designed by Chris Checked by					
Causeway		Source Control 2019.1					
Cascade Summary of Results for pp1.SRCX							
Upstream Outflow To Overflow To Structures							
(None) pp2.SRCX (None)							
Half Drain Time : 198 minutes.							
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
15 min Summer	32.477	0.527	0.0	3.7	3.7	51.3	Flood Risk
30 min Summer	32.531	0.581	0.0	3.9	3.9	62.3	Flood Risk
60 min Summer	32.582	0.632	0.0	4.1	4.1	73.7	Flood Risk
120 min Summer	32.621	0.671	0.0	4.2	4.2	83.2	Flood Risk
180 min Summer	32.634	0.684	0.0	4.2	4.2	86.4	Flood Risk
240 min Summer	32.640	0.690	0.0	4.3	4.3	88.1	Flood Risk
360 min Summer	32.645	0.695	0.0	4.3	4.3	89.2	Flood Risk
480 min Summer	32.643	0.693	0.0	4.3	4.3	88.7	Flood Risk
600 min Summer	32.637	0.687	0.0	4.2	4.2	87.3	Flood Risk
720 min Summer	32.630	0.680	0.0	4.2	4.2	85.5	Flood Risk
960 min Summer	32.592	0.642	0.0	4.1	4.1	76.1	Flood Risk
1440 min Summer	32.525	0.575	0.0	3.9	3.9	61.1	Flood Risk
2160 min Summer	32.441	0.491	0.0	3.6	3.6	44.5	O K
2880 min Summer	32.372	0.422	0.0	3.3	3.3	32.9	O K
4320 min Summer	32.287	0.337	0.0	2.9	2.9	21.0	O K
5760 min Summer	32.225	0.275	0.0	2.6	2.6	14.0	O K
7200 min Summer	32.178	0.228	0.0	2.3	2.3	9.6	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)			
15 min Summer	167.069	0.0	53.8	18			
30 min Summer	102.772	0.0	67.3	33			
60 min Summer	63.219	0.0	83.8	62			
120 min Summer	38.889	0.0	104.0	120			
180 min Summer	29.268	0.0	118.0	162			
240 min Summer	23.922	0.0	128.9	194			
360 min Summer	18.004	0.0	145.9	258			
480 min Summer	14.716	0.0	159.3	328			
600 min Summer	12.585	0.0	170.4	398			
720 min Summer	11.075	0.0	180.1	468			
960 min Summer	8.655	0.0	187.4	604			
1440 min Summer	6.114	0.0	198.1	866			
2160 min Summer	4.320	0.0	208.9	1236			
2880 min Summer	3.376	0.0	216.7	1588			
4320 min Summer	2.505	0.0	239.6	2296			
5760 min Summer	2.027	0.0	256.7	3000			
7200 min Summer	1.720	0.0	270.5	3744			
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DHA Transport Ltd						Page 2	
Eclipse House Eclipse Park Sittingbourne Road Maidstone ME14 3EN				Porous pavement 1			
Date 06/03/2026 11:01				Designed by Chris			
File cas.CASX				Checked by			
Causeway				Source Control 2019.1			
<p style="text-align: center;"><u>Cascade Summary of Results for pp1.SRCX</u></p>							
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max E Outflow (l/s)	Max Volume (m³)	Status
8640 min Summer	32.143	0.193	0.0	2.1	2.1	6.9	O K
10080 min Summer	32.116	0.166	0.0	2.0	2.0	5.1	O K
15 min Winter	32.477	0.527	0.0	3.7	3.7	51.3	Flood Risk
30 min Winter	32.531	0.581	0.0	3.9	3.9	62.4	Flood Risk
60 min Winter	32.582	0.632	0.0	4.1	4.1	73.8	Flood Risk
120 min Winter	32.623	0.673	0.0	4.2	4.2	83.6	Flood Risk
180 min Winter	32.636	0.686	0.0	4.2	4.2	87.0	Flood Risk
240 min Winter	32.640	0.690	0.0	4.3	4.3	88.0	Flood Risk
360 min Winter	32.641	0.691	0.0	4.3	4.3	88.3	Flood Risk
480 min Winter	32.634	0.684	0.0	4.2	4.2	86.5	Flood Risk
600 min Winter	32.623	0.673	0.0	4.2	4.2	83.7	Flood Risk
720 min Winter	32.610	0.660	0.0	4.2	4.2	80.5	Flood Risk
960 min Winter	32.558	0.608	0.0	4.0	4.0	68.4	Flood Risk
1440 min Winter	32.467	0.517	0.0	3.7	3.7	49.4	Flood Risk
2160 min Winter	32.355	0.405	0.0	3.2	3.2	30.3	O K
2880 min Winter	32.269	0.319	0.0	2.8	2.8	18.8	O K
4320 min Winter	32.170	0.220	0.0	2.3	2.3	8.9	O K
5760 min Winter	32.111	0.161	0.0	1.9	1.9	4.8	O K
7200 min Winter	32.075	0.125	0.0	1.6	1.6	2.9	O K
8640 min Winter	32.052	0.102	0.0	1.4	1.4	1.9	O K
10080 min Winter	32.036	0.086	0.0	1.3	1.3	1.4	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)			
8640 min Summer	1.504	0.0	281.9	4416			
10080 min Summer	1.343	0.0	291.8	5144			
15 min Winter	167.069	0.0	53.8	18			
30 min Winter	102.772	0.0	67.3	32			
60 min Winter	63.219	0.0	83.8	60			
120 min Winter	38.889	0.0	104.0	118			
180 min Winter	29.268	0.0	118.0	172			
240 min Winter	23.922	0.0	128.9	198			
360 min Winter	18.004	0.0	145.9	274			
480 min Winter	14.716	0.0	159.3	350			
600 min Winter	12.585	0.0	170.4	426			
720 min Winter	11.075	0.0	180.1	500			
960 min Winter	8.655	0.0	187.4	642			
1440 min Winter	6.114	0.0	198.1	908			
2160 min Winter	4.320	0.0	208.9	1276			
2880 min Winter	3.376	0.0	216.7	1616			
4320 min Winter	2.505	0.0	239.6	2292			
5760 min Winter	2.027	0.0	256.8	3000			
7200 min Winter	1.720	0.0	270.6	3672			
8640 min Winter	1.504	0.0	282.1	4400			
10080 min Winter	1.343	0.0	291.9	5136			
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Eclipse House Sittingbourne Road Maidstone ME14 3EN	Porous pavement 1																																											
Date 06/03/2026 11:01	Designed by Chris																																											
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<p style="text-align: center;"><u>Cascade Rainfall Details for ppl.SRCX</u></p> <table> <tr> <td>Rainfall Model</td> <td>FEH</td> <td>D2 (1km)</td> <td>0.258</td> <td>Cv (Summer)</td> <td>1.000</td> </tr> <tr> <td>Return Period (years)</td> <td>100</td> <td>D3 (1km)</td> <td>0.379</td> <td>Cv (Winter)</td> <td>1.000</td> </tr> <tr> <td>FEH Rainfall Version</td> <td>1999</td> <td>E (1km)</td> <td>0.310</td> <td>Shortest Storm (mins)</td> <td>15</td> </tr> <tr> <td>Site Location</td> <td></td> <td>F (1km)</td> <td>2.349</td> <td>Longest Storm (mins)</td> <td>10080</td> </tr> <tr> <td>C (1km)</td> <td>-0.025</td> <td>Summer Storms</td> <td>Yes</td> <td>Climate Change %</td> <td>+45</td> </tr> <tr> <td>D1 (1km)</td> <td>0.414</td> <td>Winter Storms</td> <td>Yes</td> <td></td> <td></td> </tr> </table> <p style="text-align: center;"><u>Time Area Diagram</u></p> <p style="text-align: center;">Total Area (ha) 0.140</p> <table> <tr> <td>Time (mins)</td> <td>Area</td> </tr> <tr> <td>From:</td> <td>To: (ha)</td> </tr> <tr> <td>0</td> <td>4 0.140</td> </tr> </table>			Rainfall Model	FEH	D2 (1km)	0.258	Cv (Summer)	1.000	Return Period (years)	100	D3 (1km)	0.379	Cv (Winter)	1.000	FEH Rainfall Version	1999	E (1km)	0.310	Shortest Storm (mins)	15	Site Location		F (1km)	2.349	Longest Storm (mins)	10080	C (1km)	-0.025	Summer Storms	Yes	Climate Change %	+45	D1 (1km)	0.414	Winter Storms	Yes			Time (mins)	Area	From:	To: (ha)	0	4 0.140
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Eclipse House Sittingbourne Road Maidstone ME14 3EN	Porous pavement 1																									
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<p align="center"><u>Cascade Model Details for ppl.SRCX</u></p> <p align="center">Storage is Online Cover Level (m) 32.750</p> <p align="center"><u>Porous Car Park Structure</u></p> <table> <tr> <td>Infiltration Coefficient Base (m/hr)</td> <td>0.00000</td> <td>Width (m)</td> <td>8.8</td> </tr> <tr> <td>Membrane Percolation (mm/hr)</td> <td>1000</td> <td>Length (m)</td> <td>105.0</td> </tr> <tr> <td>Max Percolation (l/s)</td> <td>256.7</td> <td>Slope (1:X)</td> <td>140.0</td> </tr> <tr> <td>Safety Factor</td> <td>1.0</td> <td>Depression Storage (mm)</td> <td>5</td> </tr> <tr> <td>Porosity</td> <td>0.30</td> <td>Evaporation (mm/day)</td> <td>3</td> </tr> <tr> <td>Invert Level (m)</td> <td>31.950</td> <td>Membrane Depth (m)</td> <td>0</td> </tr> </table> <p align="center"><u>Orifice Outflow Control</u></p> <p align="center">Diameter (m) 0.050 Discharge Coefficient 0.600 Invert Level (m) 31.950</p>			Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	8.8	Membrane Percolation (mm/hr)	1000	Length (m)	105.0	Max Percolation (l/s)	256.7	Slope (1:X)	140.0	Safety Factor	1.0	Depression Storage (mm)	5	Porosity	0.30	Evaporation (mm/day)	3	Invert Level (m)	31.950	Membrane Depth (m)	0
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Summer</td><td>31.461</td><td>0.761</td><td>0.0</td><td>17.6</td><td>17.6</td><td>48.9</td><td>Flood Risk</td></tr><tr><td>240 min Summer</td><td>31.439</td><td>0.739</td><td>0.0</td><td>17.3</td><td>17.3</td><td>46.1</td><td>Flood Risk</td></tr><tr><td>360 min Summer</td><td>31.394</td><td>0.694</td><td>0.0</td><td>16.8</td><td>16.8</td><td>40.7</td><td>Flood Risk</td></tr><tr><td>480 min Summer</td><td>31.351</td><td>0.651</td><td>0.0</td><td>16.2</td><td>16.2</td><td>35.8</td><td>Flood Risk</td></tr><tr><td>600 min Summer</td><td>31.311</td><td>0.611</td><td>0.0</td><td>15.6</td><td>15.6</td><td>31.5</td><td>Flood Risk</td></tr><tr><td>720 min Summer</td><td>31.275</td><td>0.575</td><td>0.0</td><td>15.1</td><td>15.1</td><td>27.9</td><td>Flood Risk</td></tr><tr><td>960 min Summer</td><td>31.190</td><td>0.490</td><td>0.0</td><td>13.8</td><td>13.8</td><td>20.3</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>31.073</td><td>0.373</td><td>0.0</td><td>11.9</td><td>11.9</td><td>11.7</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>30.972</td><td>0.272</td><td>0.0</td><td>9.8</td><td>9.8</td><td>6.2</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>30.915</td><td>0.215</td><td>0.0</td><td>8.5</td><td>8.5</td><td>3.9</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>30.862</td><td>0.162</td><td>0.0</td><td>7.0</td><td>7.0</td><td>2.2</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>30.837</td><td>0.137</td><td>0.0</td><td>6.0</td><td>6.0</td><td>1.6</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>30.826</td><td>0.126</td><td>0.0</td><td>5.3</td><td>5.3</td><td>1.3</td><td>O K</td></tr></tbody></table> <table><thead><tr><th>Storm Event</th><th>Rain (mm/hr)</th><th>Flooded Volume (m³)</th><th>Discharge Volume (m³)</th><th>Time-Peak (mins)</th></tr></thead><tbody><tr><td>15 min Summer</td><td>167.069</td><td>0.0</td><td>119.0</td><td>17</td></tr><tr><td>30 min 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Summer</td><td>4.320</td><td>0.0</td><td>461.7</td><td>1108</td></tr><tr><td>2880 min Summer</td><td>3.376</td><td>0.0</td><td>479.0</td><td>1468</td></tr><tr><td>4320 min Summer</td><td>2.505</td><td>0.0</td><td>529.9</td><td>2204</td></tr><tr><td>5760 min Summer</td><td>2.027</td><td>0.0</td><td>568.5</td><td>2936</td></tr><tr><td>7200 min Summer</td><td>1.720</td><td>0.0</td><td>599.5</td><td>3672</td></tr></tbody></table>				Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status	15 min Summer	31.426	0.726	0.0	17.2	17.2	44.5	Flood Risk	30 min Summer	31.466	0.766	0.0	17.7	17.7	49.5	Flood Risk	60 min Summer	31.483	0.783	0.0	17.9	17.9	51.8	Flood Risk	120 min Summer	31.479	0.779	0.0	17.8	17.8	51.2	Flood Risk	180 min Summer	31.461	0.761	0.0	17.6	17.6	48.9	Flood Risk	240 min Summer	31.439	0.739	0.0	17.3	17.3	46.1	Flood Risk	360 min Summer	31.394	0.694	0.0	16.8	16.8	40.7	Flood Risk	480 min Summer	31.351	0.651	0.0	16.2	16.2	35.8	Flood Risk	600 min Summer	31.311	0.611	0.0	15.6	15.6	31.5	Flood Risk	720 min Summer	31.275	0.575	0.0	15.1	15.1	27.9	Flood Risk	960 min Summer	31.190	0.490	0.0	13.8	13.8	20.3	O K	1440 min Summer	31.073	0.373	0.0	11.9	11.9	11.7	O K	2160 min Summer	30.972	0.272	0.0	9.8	9.8	6.2	O K	2880 min Summer	30.915	0.215	0.0	8.5	8.5	3.9	O K	4320 min Summer	30.862	0.162	0.0	7.0	7.0	2.2	O K	5760 min Summer	30.837	0.137	0.0	6.0	6.0	1.6	O K	7200 min Summer	30.826	0.126	0.0	5.3	5.3	1.3	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)	15 min Summer	167.069	0.0	119.0	17	30 min Summer	102.772	0.0	148.6	30	60 min Summer	63.219	0.0	185.2	46	120 min Summer	38.889	0.0	229.8	80	180 min Summer	29.268	0.0	260.5	116	240 min Summer	23.922	0.0	284.5	150	360 min Summer	18.004	0.0	322.0	216	480 min Summer	14.716	0.0	351.5	278	600 min Summer	12.585	0.0	376.0	342	720 min Summer	11.075	0.0	397.2	404	960 min Summer	8.655	0.0	413.5	520	1440 min 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2160 min Summer	30.972	0.272	0.0	9.8	9.8	6.2	O K																																																																																																																																																																																																																																						
2880 min Summer	30.915	0.215	0.0	8.5	8.5	3.9	O K																																																																																																																																																																																																																																						
4320 min Summer	30.862	0.162	0.0	7.0	7.0	2.2	O K																																																																																																																																																																																																																																						
5760 min Summer	30.837	0.137	0.0	6.0	6.0	1.6	O K																																																																																																																																																																																																																																						
7200 min Summer	30.826	0.126	0.0	5.3	5.3	1.3	O K																																																																																																																																																																																																																																						
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)																																																																																																																																																																																																																																									
15 min Summer	167.069	0.0	119.0	17																																																																																																																																																																																																																																									
30 min Summer	102.772	0.0	148.6	30																																																																																																																																																																																																																																									
60 min Summer	63.219	0.0	185.2	46																																																																																																																																																																																																																																									
120 min Summer	38.889	0.0	229.8	80																																																																																																																																																																																																																																									
180 min Summer	29.268	0.0	260.5	116																																																																																																																																																																																																																																									
240 min Summer	23.922	0.0	284.5	150																																																																																																																																																																																																																																									
360 min Summer	18.004	0.0	322.0	216																																																																																																																																																																																																																																									
480 min Summer	14.716	0.0	351.5	278																																																																																																																																																																																																																																									
600 min Summer	12.585	0.0	376.0	342																																																																																																																																																																																																																																									
720 min Summer	11.075	0.0	397.2	404																																																																																																																																																																																																																																									
960 min Summer	8.655	0.0	413.5	520																																																																																																																																																																																																																																									
1440 min Summer	6.114	0.0	437.1	754																																																																																																																																																																																																																																									
2160 min Summer	4.320	0.0	461.7	1108																																																																																																																																																																																																																																									
2880 min Summer	3.376	0.0	479.0	1468																																																																																																																																																																																																																																									
4320 min Summer	2.505	0.0	529.9	2204																																																																																																																																																																																																																																									
5760 min Summer	2.027	0.0	568.5	2936																																																																																																																																																																																																																																									
7200 min Summer	1.720	0.0	599.5	3672																																																																																																																																																																																																																																									
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DHA Transport Ltd							Page 2
Eclipse House Eclipse Park Sittingbourne Road Maidstone ME14 3EN			Porous pavement 2				
Date 06/03/2026 11:16			Designed by Chris				
File cas.CASX			Checked by				
Causeway			Source Control 2019.1				
Cascade Summary of Results for pp2.SRCX							
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max E Outflow (l/s)	Max Volume (m³)	Status
8640 min Summer	30.817	0.117	0.0	4.8	4.8	1.1	O K
10080 min Summer	30.809	0.109	0.0	4.3	4.3	1.0	O K
15 min Winter	31.427	0.727	0.0	17.2	17.2	44.6	Flood Risk
30 min Winter	31.468	0.768	0.0	17.7	17.7	49.8	Flood Risk
60 min Winter	31.480	0.780	0.0	17.8	17.8	51.4	Flood Risk
120 min Winter	31.462	0.762	0.0	17.6	17.6	49.0	Flood Risk
180 min Winter	31.428	0.728	0.0	17.2	17.2	44.7	Flood Risk
240 min Winter	31.391	0.691	0.0	16.7	16.7	40.3	Flood Risk
360 min Winter	31.322	0.622	0.0	15.8	15.8	32.6	Flood Risk
480 min Winter	31.260	0.560	0.0	14.9	14.9	26.5	Flood Risk
600 min Winter	31.207	0.507	0.0	14.1	14.1	21.7	Flood Risk
720 min Winter	31.162	0.462	0.0	13.4	13.4	18.0	O K
960 min Winter	31.070	0.370	0.0	11.8	11.8	11.6	O K
1440 min Winter	30.962	0.262	0.0	9.6	9.6	5.8	O K
2160 min Winter	30.884	0.184	0.0	7.6	7.6	2.9	O K
2880 min Winter	30.844	0.144	0.0	6.4	6.4	1.8	O K
4320 min Winter	30.822	0.122	0.0	5.1	5.1	1.3	O K
5760 min Winter	30.808	0.108	0.0	4.2	4.2	1.0	O K
7200 min Winter	30.798	0.098	0.0	3.6	3.6	0.8	O K
8640 min Winter	30.791	0.091	0.0	3.2	3.2	0.7	O K
10080 min Winter	30.785	0.085	0.0	2.9	2.9	0.6	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)			
8640 min Summer	1.504	0.0	625.3	4400			
10080 min Summer	1.343	0.0	647.5	5120			
15 min Winter	167.069	0.0	119.0	17			
30 min Winter	102.772	0.0	148.6	30			
60 min Winter	63.219	0.0	185.2	48			
120 min Winter	38.889	0.0	229.8	86			
180 min Winter	29.268	0.0	260.5	124			
240 min Winter	23.922	0.0	284.5	158			
360 min Winter	18.004	0.0	322.0	226			
480 min Winter	14.716	0.0	351.5	290			
600 min Winter	12.585	0.0	376.0	354			
720 min Winter	11.075	0.0	397.2	414			
960 min Winter	8.655	0.0	413.5	532			
1440 min Winter	6.114	0.0	437.1	766			
2160 min Winter	4.320	0.0	461.7	1144			
2880 min Winter	3.376	0.0	479.1	1500			
4320 min Winter	2.505	0.0	529.9	2204			
5760 min Winter	2.027	0.0	568.6	2928			
7200 min Winter	1.720	0.0	599.6	3680			
8640 min Winter	1.504	0.0	625.5	4376			
10080 min Winter	1.343	0.0	647.8	5040			
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DHA Transport Ltd		Page 3																																										
Eclipse House Eclipse Park Sittingbourne Road Maidstone ME14 3EN	Porous pavement 2																																											
Date 06/03/2026 11:16	Designed by Chris																																											
File cas.CASX	Checked by																																											
Causeway		Source Control 2019.1																																										
<p style="text-align: center;"><u>Cascade Rainfall Details for pp2.SRCX</u></p> <table> <tr> <td>Rainfall Model</td> <td>FEH</td> <td>D2 (1km)</td> <td>0.258</td> <td>Cv (Summer)</td> <td>1.000</td> </tr> <tr> <td>Return Period (years)</td> <td>100</td> <td>D3 (1km)</td> <td>0.379</td> <td>Cv (Winter)</td> <td>1.000</td> </tr> <tr> <td>FEH Rainfall Version</td> <td>1999</td> <td>E (1km)</td> <td>0.310</td> <td>Shortest Storm (mins)</td> <td>15</td> </tr> <tr> <td>Site Location</td> <td></td> <td>F (1km)</td> <td>2.349</td> <td>Longest Storm (mins)</td> <td>10080</td> </tr> <tr> <td>C (1km)</td> <td>-0.025</td> <td>Summer Storms</td> <td>Yes</td> <td>Climate Change %</td> <td>+45</td> </tr> <tr> <td>D1 (1km)</td> <td>0.414</td> <td>Winter Storms</td> <td>Yes</td> <td></td> <td></td> </tr> </table> <p style="text-align: center;"><u>Time Area Diagram</u></p> <p style="text-align: center;">Total Area (ha) 0.134</p> <table> <tr> <td>Time (mins)</td> <td>Area</td> </tr> <tr> <td>From:</td> <td>To: (ha)</td> </tr> <tr> <td>0</td> <td>4 0.134</td> </tr> </table>			Rainfall Model	FEH	D2 (1km)	0.258	Cv (Summer)	1.000	Return Period (years)	100	D3 (1km)	0.379	Cv (Winter)	1.000	FEH Rainfall Version	1999	E (1km)	0.310	Shortest Storm (mins)	15	Site Location		F (1km)	2.349	Longest Storm (mins)	10080	C (1km)	-0.025	Summer Storms	Yes	Climate Change %	+45	D1 (1km)	0.414	Winter Storms	Yes			Time (mins)	Area	From:	To: (ha)	0	4 0.134
Rainfall Model	FEH	D2 (1km)	0.258	Cv (Summer)	1.000																																							
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©1982-2019 Innovyze																																												

DHA Transport Ltd		Page 4																								
Eclipse House Sittingbourne Road Maidstone ME14 3EN	Porous pavement 2																									
Date 06/03/2026 11:16 File cas.CASX	Designed by Chris Checked by																									
Causeway Source Control 2019.1																										
<p align="center"><u>Cascade Model Details for pp2.SRCX</u></p> <p align="center">Storage is Online Cover Level (m) 31.500</p> <p align="center"><u>Porous Car Park Structure</u></p> <table> <tr> <td>Infiltration Coefficient Base (m/hr)</td> <td>0.00000</td> <td>Width (m)</td> <td>7.5</td> </tr> <tr> <td>Membrane Percolation (mm/hr)</td> <td>1000</td> <td>Length (m)</td> <td>73.0</td> </tr> <tr> <td>Max Percolation (l/s)</td> <td>152.1</td> <td>Slope (1:X)</td> <td>75.0</td> </tr> <tr> <td>Safety Factor</td> <td>1.0</td> <td>Depression Storage (mm)</td> <td>5</td> </tr> <tr> <td>Porosity</td> <td>0.30</td> <td>Evaporation (mm/day)</td> <td>3</td> </tr> <tr> <td>Invert Level (m)</td> <td>30.700</td> <td>Membrane Depth (m)</td> <td>0</td> </tr> </table> <p align="center"><u>Orifice Outflow Control</u></p> <p align="center">Diameter (m) 0.100 Discharge Coefficient 0.600 Invert Level (m) 30.700</p>			Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	7.5	Membrane Percolation (mm/hr)	1000	Length (m)	73.0	Max Percolation (l/s)	152.1	Slope (1:X)	75.0	Safety Factor	1.0	Depression Storage (mm)	5	Porosity	0.30	Evaporation (mm/day)	3	Invert Level (m)	30.700	Membrane Depth (m)	0
Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	7.5																							
Membrane Percolation (mm/hr)	1000	Length (m)	73.0																							
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Invert Level (m)	30.700	Membrane Depth (m)	0																							
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DHA Transport Ltd							Page 1																																																																																																																																																																																																																																										
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<p style="text-align: center;"><u>Cascade Summary of Results for pp2a.SRCX</u></p> <p style="text-align: center;">Upstream Outflow To Overflow To Structures</p> <p style="text-align: center;">(None) pp2.SRCX (None)</p> <p style="text-align: center;">Half Drain Time : 282 minutes.</p> <table><tr><th>Storm Event</th><th>Max Level (m)</th><th>Max Depth (m)</th><th>Max Infiltration (1/s)</th><th>Max Control (1/s)</th><th>Max Σ Outflow (1/s)</th><th>Max Volume (m³)</th><th>Status</th></tr><tr><td>15 min Summer</td><td>31.622</td><td>0.122</td><td>0.0</td><td>0.6</td><td>0.6</td><td>12.2</td><td>O K</td></tr><tr><td>30 min Summer</td><td>31.651</td><td>0.151</td><td>0.0</td><td>0.7</td><td>0.7</td><td>15.1</td><td>O K</td></tr><tr><td>60 min Summer</td><td>31.683</td><td>0.183</td><td>0.0</td><td>0.8</td><td>0.8</td><td>18.3</td><td>O K</td></tr><tr><td>120 min Summer</td><td>31.713</td><td>0.213</td><td>0.0</td><td>0.8</td><td>0.8</td><td>21.4</td><td>Flood Risk</td></tr><tr><td>180 min Summer</td><td>31.728</td><td>0.228</td><td>0.0</td><td>0.9</td><td>0.9</td><td>22.8</td><td>Flood Risk</td></tr><tr><td>240 min Summer</td><td>31.736</td><td>0.236</td><td>0.0</td><td>0.9</td><td>0.9</td><td>23.6</td><td>Flood Risk</td></tr><tr><td>360 min Summer</td><td>31.746</td><td>0.246</td><td>0.0</td><td>0.9</td><td>0.9</td><td>24.6</td><td>Flood Risk</td></tr><tr><td>480 min Summer</td><td>31.752</td><td>0.252</td><td>0.0</td><td>0.9</td><td>0.9</td><td>25.2</td><td>Flood Risk</td></tr><tr><td>600 min Summer</td><td>31.755</td><td>0.255</td><td>0.0</td><td>0.9</td><td>0.9</td><td>25.5</td><td>Flood Risk</td></tr><tr><td>720 min Summer</td><td>31.755</td><td>0.255</td><td>0.0</td><td>0.9</td><td>0.9</td><td>25.5</td><td>Flood Risk</td></tr><tr><td>960 min Summer</td><td>31.740</td><td>0.240</td><td>0.0</td><td>0.9</td><td>0.9</td><td>24.0</td><td>Flood Risk</td></tr><tr><td>1440 min Summer</td><td>31.711</td><td>0.211</td><td>0.0</td><td>0.8</td><td>0.8</td><td>21.1</td><td>Flood Risk</td></tr><tr><td>2160 min Summer</td><td>31.676</td><td>0.176</td><td>0.0</td><td>0.8</td><td>0.8</td><td>17.6</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>31.650</td><td>0.150</td><td>0.0</td><td>0.7</td><td>0.7</td><td>15.0</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>31.621</td><td>0.121</td><td>0.0</td><td>0.6</td><td>0.6</td><td>12.1</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>31.601</td><td>0.101</td><td>0.0</td><td>0.6</td><td>0.6</td><td>10.1</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>31.586</td><td>0.086</td><td>0.0</td><td>0.5</td><td>0.5</td><td>8.6</td><td>O K</td></tr></table> <table><tr><th>Storm Event</th><th>Rain (mm/hr)</th><th>Flooded Volume (m³)</th><th>Discharge Volume (m³)</th><th>Time-Peak (mins)</th></tr><tr><td>15 min Summer</td><td>167.069</td><td>0.0</td><td>12.0</td><td>19</td></tr><tr><td>30 min Summer</td><td>102.772</td><td>0.0</td><td>15.2</td><td>33</td></tr><tr><td>60 min Summer</td><td>63.219</td><td>0.0</td><td>19.5</td><td>62</td></tr><tr><td>120 min Summer</td><td>38.889</td><td>0.0</td><td>24.4</td><td>122</td></tr><tr><td>180 min Summer</td><td>29.268</td><td>0.0</td><td>27.8</td><td>180</td></tr><tr><td>240 min Summer</td><td>23.922</td><td>0.0</td><td>30.4</td><td>208</td></tr><tr><td>360 min Summer</td><td>18.004</td><td>0.0</td><td>34.5</td><td>270</td></tr><tr><td>480 min Summer</td><td>14.716</td><td>0.0</td><td>37.7</td><td>338</td></tr><tr><td>600 min Summer</td><td>12.585</td><td>0.0</td><td>40.4</td><td>406</td></tr><tr><td>720 min Summer</td><td>11.075</td><td>0.0</td><td>42.7</td><td>476</td></tr><tr><td>960 min Summer</td><td>8.655</td><td>0.0</td><td>44.4</td><td>610</td></tr><tr><td>1440 min Summer</td><td>6.114</td><td>0.0</td><td>46.8</td><td>880</td></tr><tr><td>2160 min Summer</td><td>4.320</td><td>0.0</td><td>49.5</td><td>1272</td></tr><tr><td>2880 min Summer</td><td>3.376</td><td>0.0</td><td>51.2</td><td>1644</td></tr><tr><td>4320 min Summer</td><td>2.505</td><td>0.0</td><td>56.3</td><td>2376</td></tr><tr><td>5760 min Summer</td><td>2.027</td><td>0.0</td><td>60.4</td><td>3112</td></tr><tr><td>7200 min Summer</td><td>1.720</td><td>0.0</td><td>63.4</td><td>3816</td></tr></table>								Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (1/s)	Max Control (1/s)	Max Σ Outflow (1/s)	Max Volume (m³)	Status	15 min Summer	31.622	0.122	0.0	0.6	0.6	12.2	O K	30 min Summer	31.651	0.151	0.0	0.7	0.7	15.1	O K	60 min Summer	31.683	0.183	0.0	0.8	0.8	18.3	O K	120 min Summer	31.713	0.213	0.0	0.8	0.8	21.4	Flood Risk	180 min Summer	31.728	0.228	0.0	0.9	0.9	22.8	Flood Risk	240 min Summer	31.736	0.236	0.0	0.9	0.9	23.6	Flood Risk	360 min Summer	31.746	0.246	0.0	0.9	0.9	24.6	Flood Risk	480 min Summer	31.752	0.252	0.0	0.9	0.9	25.2	Flood Risk	600 min Summer	31.755	0.255	0.0	0.9	0.9	25.5	Flood Risk	720 min Summer	31.755	0.255	0.0	0.9	0.9	25.5	Flood Risk	960 min Summer	31.740	0.240	0.0	0.9	0.9	24.0	Flood Risk	1440 min Summer	31.711	0.211	0.0	0.8	0.8	21.1	Flood Risk	2160 min Summer	31.676	0.176	0.0	0.8	0.8	17.6	O K	2880 min Summer	31.650	0.150	0.0	0.7	0.7	15.0	O K	4320 min Summer	31.621	0.121	0.0	0.6	0.6	12.1	O K	5760 min Summer	31.601	0.101	0.0	0.6	0.6	10.1	O K	7200 min Summer	31.586	0.086	0.0	0.5	0.5	8.6	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)	15 min Summer	167.069	0.0	12.0	19	30 min Summer	102.772	0.0	15.2	33	60 min Summer	63.219	0.0	19.5	62	120 min Summer	38.889	0.0	24.4	122	180 min Summer	29.268	0.0	27.8	180	240 min Summer	23.922	0.0	30.4	208	360 min Summer	18.004	0.0	34.5	270	480 min Summer	14.716	0.0	37.7	338	600 min Summer	12.585	0.0	40.4	406	720 min Summer	11.075	0.0	42.7	476	960 min Summer	8.655	0.0	44.4	610	1440 min Summer	6.114	0.0	46.8	880	2160 min Summer	4.320	0.0	49.5	1272	2880 min Summer	3.376	0.0	51.2	1644	4320 min Summer	2.505	0.0	56.3	2376	5760 min Summer	2.027	0.0	60.4	3112	7200 min Summer	1.720	0.0	63.4	3816
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (1/s)	Max Control (1/s)	Max Σ Outflow (1/s)	Max Volume (m³)	Status																																																																																																																																																																																																																																										
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180 min Summer	31.728	0.228	0.0	0.9	0.9	22.8	Flood Risk																																																																																																																																																																																																																																										
240 min Summer	31.736	0.236	0.0	0.9	0.9	23.6	Flood Risk																																																																																																																																																																																																																																										
360 min Summer	31.746	0.246	0.0	0.9	0.9	24.6	Flood Risk																																																																																																																																																																																																																																										
480 min Summer	31.752	0.252	0.0	0.9	0.9	25.2	Flood Risk																																																																																																																																																																																																																																										
600 min Summer	31.755	0.255	0.0	0.9	0.9	25.5	Flood Risk																																																																																																																																																																																																																																										
720 min Summer	31.755	0.255	0.0	0.9	0.9	25.5	Flood Risk																																																																																																																																																																																																																																										
960 min Summer	31.740	0.240	0.0	0.9	0.9	24.0	Flood Risk																																																																																																																																																																																																																																										
1440 min Summer	31.711	0.211	0.0	0.8	0.8	21.1	Flood Risk																																																																																																																																																																																																																																										
2160 min Summer	31.676	0.176	0.0	0.8	0.8	17.6	O K																																																																																																																																																																																																																																										
2880 min Summer	31.650	0.150	0.0	0.7	0.7	15.0	O K																																																																																																																																																																																																																																										
4320 min Summer	31.621	0.121	0.0	0.6	0.6	12.1	O K																																																																																																																																																																																																																																										
5760 min Summer	31.601	0.101	0.0	0.6	0.6	10.1	O K																																																																																																																																																																																																																																										
7200 min Summer	31.586	0.086	0.0	0.5	0.5	8.6	O K																																																																																																																																																																																																																																										
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)																																																																																																																																																																																																																																													
15 min Summer	167.069	0.0	12.0	19																																																																																																																																																																																																																																													
30 min Summer	102.772	0.0	15.2	33																																																																																																																																																																																																																																													
60 min Summer	63.219	0.0	19.5	62																																																																																																																																																																																																																																													
120 min Summer	38.889	0.0	24.4	122																																																																																																																																																																																																																																													
180 min Summer	29.268	0.0	27.8	180																																																																																																																																																																																																																																													
240 min Summer	23.922	0.0	30.4	208																																																																																																																																																																																																																																													
360 min Summer	18.004	0.0	34.5	270																																																																																																																																																																																																																																													
480 min Summer	14.716	0.0	37.7	338																																																																																																																																																																																																																																													
600 min Summer	12.585	0.0	40.4	406																																																																																																																																																																																																																																													
720 min Summer	11.075	0.0	42.7	476																																																																																																																																																																																																																																													
960 min Summer	8.655	0.0	44.4	610																																																																																																																																																																																																																																													
1440 min Summer	6.114	0.0	46.8	880																																																																																																																																																																																																																																													
2160 min Summer	4.320	0.0	49.5	1272																																																																																																																																																																																																																																													
2880 min Summer	3.376	0.0	51.2	1644																																																																																																																																																																																																																																													
4320 min Summer	2.505	0.0	56.3	2376																																																																																																																																																																																																																																													
5760 min Summer	2.027	0.0	60.4	3112																																																																																																																																																																																																																																													
7200 min Summer	1.720	0.0	63.4	3816																																																																																																																																																																																																																																													
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<div>Cascade Summary of Results for pp2a.SRCX</div> <table><thead><tr><th>Storm Event</th><th>Max Level (m)</th><th>Max Depth (m)</th><th>Max Infiltration (l/s)</th><th>Max Control (l/s)</th><th>Max E Outflow (l/s)</th><th>Max Volume (m³)</th><th>Status</th></tr></thead><tbody><tr><td>8640 min Summer</td><td>31.574</td><td>0.074</td><td>0.0</td><td>0.5</td><td>0.5</td><td>7.4</td><td>O K</td></tr><tr><td>10080 min Summer</td><td>31.566</td><td>0.066</td><td>0.0</td><td>0.4</td><td>0.4</td><td>6.6</td><td>O K</td></tr><tr><td>15 min Winter</td><td>31.622</td><td>0.122</td><td>0.0</td><td>0.6</td><td>0.6</td><td>12.2</td><td>O K</td></tr><tr><td>30 min Winter</td><td>31.651</td><td>0.151</td><td>0.0</td><td>0.7</td><td>0.7</td><td>15.1</td><td>O K</td></tr><tr><td>60 min Winter</td><td>31.683</td><td>0.183</td><td>0.0</td><td>0.8</td><td>0.8</td><td>18.3</td><td>O K</td></tr><tr><td>120 min Winter</td><td>31.714</td><td>0.214</td><td>0.0</td><td>0.8</td><td>0.8</td><td>21.4</td><td>Flood Risk</td></tr><tr><td>180 min Winter</td><td>31.729</td><td>0.229</td><td>0.0</td><td>0.9</td><td>0.9</td><td>22.9</td><td>Flood Risk</td></tr><tr><td>240 min Winter</td><td>31.737</td><td>0.237</td><td>0.0</td><td>0.9</td><td>0.9</td><td>23.7</td><td>Flood Risk</td></tr><tr><td>360 min Winter</td><td>31.745</td><td>0.245</td><td>0.0</td><td>0.9</td><td>0.9</td><td>24.5</td><td>Flood Risk</td></tr><tr><td>480 min Winter</td><td>31.748</td><td>0.248</td><td>0.0</td><td>0.9</td><td>0.9</td><td>24.9</td><td>Flood Risk</td></tr><tr><td>600 min Winter</td><td>31.748</td><td>0.248</td><td>0.0</td><td>0.9</td><td>0.9</td><td>24.8</td><td>Flood Risk</td></tr><tr><td>720 min Winter</td><td>31.746</td><td>0.246</td><td>0.0</td><td>0.9</td><td>0.9</td><td>24.6</td><td>Flood Risk</td></tr><tr><td>960 min Winter</td><td>31.726</td><td>0.226</td><td>0.0</td><td>0.9</td><td>0.9</td><td>22.6</td><td>Flood Risk</td></tr><tr><td>1440 min Winter</td><td>31.689</td><td>0.189</td><td>0.0</td><td>0.8</td><td>0.8</td><td>18.9</td><td>O K</td></tr><tr><td>2160 min Winter</td><td>31.648</td><td>0.148</td><td>0.0</td><td>0.7</td><td>0.7</td><td>14.8</td><td>O K</td></tr><tr><td>2880 min Winter</td><td>31.618</td><td>0.118</td><td>0.0</td><td>0.6</td><td>0.6</td><td>11.8</td><td>O K</td></tr><tr><td>4320 min Winter</td><td>31.587</td><td>0.087</td><td>0.0</td><td>0.5</td><td>0.5</td><td>8.7</td><td>O K</td></tr><tr><td>5760 min Winter</td><td>31.568</td><td>0.068</td><td>0.0</td><td>0.4</td><td>0.4</td><td>6.8</td><td>O K</td></tr><tr><td>7200 min Winter</td><td>31.555</td><td>0.055</td><td>0.0</td><td>0.4</td><td>0.4</td><td>5.5</td><td>O K</td></tr><tr><td>8640 min Winter</td><td>31.547</td><td>0.047</td><td>0.0</td><td>0.3</td><td>0.3</td><td>4.7</td><td>O K</td></tr><tr><td>10080 min Winter</td><td>31.542</td><td>0.042</td><td>0.0</td><td>0.3</td><td>0.3</td><td>4.2</td><td>O K</td></tr></tbody></table> <div><table><thead><tr><th>Storm Event</th><th>Rain (mm/hr)</th><th>Flooded Volume (m³)</th><th>Discharge Volume (m³)</th><th>Time-Peak (mins)</th></tr></thead><tbody><tr><td>8640 min Summer</td><td>1.504</td><td>0.0</td><td>65.8</td><td>4504</td></tr><tr><td>10080 min Summer</td><td>1.343</td><td>0.0</td><td>67.7</td><td>5248</td></tr><tr><td>15 min Winter</td><td>167.069</td><td>0.0</td><td>12.0</td><td>18</td></tr><tr><td>30 min Winter</td><td>102.772</td><td>0.0</td><td>15.2</td><td>33</td></tr><tr><td>60 min Winter</td><td>63.219</td><td>0.0</td><td>19.5</td><td>62</td></tr><tr><td>120 min Winter</td><td>38.889</td><td>0.0</td><td>24.4</td><td>118</td></tr><tr><td>180 min Winter</td><td>29.268</td><td>0.0</td><td>27.8</td><td>174</td></tr><tr><td>240 min Winter</td><td>23.922</td><td>0.0</td><td>30.4</td><td>226</td></tr><tr><td>360 min Winter</td><td>18.004</td><td>0.0</td><td>34.5</td><td>280</td></tr><tr><td>480 min Winter</td><td>14.716</td><td>0.0</td><td>37.7</td><td>358</td></tr><tr><td>600 min Winter</td><td>12.585</td><td>0.0</td><td>40.4</td><td>434</td></tr><tr><td>720 min Winter</td><td>11.075</td><td>0.0</td><td>42.7</td><td>510</td></tr><tr><td>960 min Winter</td><td>8.655</td><td>0.0</td><td>44.4</td><td>654</td></tr><tr><td>1440 min Winter</td><td>6.114</td><td>0.0</td><td>46.8</td><td>936</td></tr><tr><td>2160 min Winter</td><td>4.320</td><td>0.0</td><td>49.6</td><td>1320</td></tr><tr><td>2880 min Winter</td><td>3.376</td><td>0.0</td><td>51.2</td><td>1700</td></tr><tr><td>4320 min Winter</td><td>2.505</td><td>0.0</td><td>56.3</td><td>2424</td></tr><tr><td>5760 min Winter</td><td>2.027</td><td>0.0</td><td>60.4</td><td>3168</td></tr><tr><td>7200 min Winter</td><td>1.720</td><td>0.0</td><td>63.4</td><td>3824</td></tr><tr><td>8640 min Winter</td><td>1.504</td><td>0.0</td><td>65.9</td><td>4504</td></tr><tr><td>10080 min Winter</td><td>1.343</td><td>0.0</td><td>67.8</td><td>5224</td></tr></tbody></table></div>								Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max E Outflow (l/s)	Max Volume (m³)	Status	8640 min Summer	31.574	0.074	0.0	0.5	0.5	7.4	O K	10080 min Summer	31.566	0.066	0.0	0.4	0.4	6.6	O K	15 min Winter	31.622	0.122	0.0	0.6	0.6	12.2	O K	30 min Winter	31.651	0.151	0.0	0.7	0.7	15.1	O K	60 min Winter	31.683	0.183	0.0	0.8	0.8	18.3	O K	120 min Winter	31.714	0.214	0.0	0.8	0.8	21.4	Flood Risk	180 min Winter	31.729	0.229	0.0	0.9	0.9	22.9	Flood Risk	240 min Winter	31.737	0.237	0.0	0.9	0.9	23.7	Flood Risk	360 min Winter	31.745	0.245	0.0	0.9	0.9	24.5	Flood Risk	480 min Winter	31.748	0.248	0.0	0.9	0.9	24.9	Flood Risk	600 min Winter	31.748	0.248	0.0	0.9	0.9	24.8	Flood Risk	720 min Winter	31.746	0.246	0.0	0.9	0.9	24.6	Flood Risk	960 min Winter	31.726	0.226	0.0	0.9	0.9	22.6	Flood Risk	1440 min Winter	31.689	0.189	0.0	0.8	0.8	18.9	O K	2160 min Winter	31.648	0.148	0.0	0.7	0.7	14.8	O K	2880 min Winter	31.618	0.118	0.0	0.6	0.6	11.8	O K	4320 min Winter	31.587	0.087	0.0	0.5	0.5	8.7	O K	5760 min Winter	31.568	0.068	0.0	0.4	0.4	6.8	O K	7200 min Winter	31.555	0.055	0.0	0.4	0.4	5.5	O K	8640 min Winter	31.547	0.047	0.0	0.3	0.3	4.7	O K	10080 min Winter	31.542	0.042	0.0	0.3	0.3	4.2	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)	8640 min Summer	1.504	0.0	65.8	4504	10080 min Summer	1.343	0.0	67.7	5248	15 min Winter	167.069	0.0	12.0	18	30 min Winter	102.772	0.0	15.2	33	60 min Winter	63.219	0.0	19.5	62	120 min Winter	38.889	0.0	24.4	118	180 min Winter	29.268	0.0	27.8	174	240 min Winter	23.922	0.0	30.4	226	360 min Winter	18.004	0.0	34.5	280	480 min Winter	14.716	0.0	37.7	358	600 min Winter	12.585	0.0	40.4	434	720 min Winter	11.075	0.0	42.7	510	960 min Winter	8.655	0.0	44.4	654	1440 min Winter	6.114	0.0	46.8	936	2160 min Winter	4.320	0.0	49.6	1320	2880 min Winter	3.376	0.0	51.2	1700	4320 min Winter	2.505	0.0	56.3	2424	5760 min Winter	2.027	0.0	60.4	3168	7200 min Winter	1.720	0.0	63.4	3824	8640 min Winter	1.504	0.0	65.9	4504	10080 min Winter	1.343	0.0	67.8	5224
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max E Outflow (l/s)	Max Volume (m³)	Status																																																																																																																																																																																																																																																																																														
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480 min Winter	31.748	0.248	0.0	0.9	0.9	24.9	Flood Risk																																																																																																																																																																																																																																																																																														
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10080 min Summer	1.343	0.0	67.7	5248																																																																																																																																																																																																																																																																																																	
15 min Winter	167.069	0.0	12.0	18																																																																																																																																																																																																																																																																																																	
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120 min Winter	38.889	0.0	24.4	118																																																																																																																																																																																																																																																																																																	
180 min Winter	29.268	0.0	27.8	174																																																																																																																																																																																																																																																																																																	
240 min Winter	23.922	0.0	30.4	226																																																																																																																																																																																																																																																																																																	
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960 min Winter	8.655	0.0	44.4	654																																																																																																																																																																																																																																																																																																	
1440 min Winter	6.114	0.0	46.8	936																																																																																																																																																																																																																																																																																																	
2160 min Winter	4.320	0.0	49.6	1320																																																																																																																																																																																																																																																																																																	
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Causeway		Source Control 2019.1																																										
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Date 06/03/2026 11:03 File cas.CASX	Designed by Chris Checked by																									
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Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	14.5																							
Membrane Percolation (mm/hr)	1000	Length (m)	23.0																							
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Eclipse House Eclipse Park Sittingbourne Road Maidstone ME14 3EN				Porous pavement 3			
Date 06/03/2026 11:03				Designed by Chris			
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Causeway				Source Control 2019.1			
Cascade Summary of Results for pp3.SRCX							
Upstream Outflow To Overflow To Structures							
(None) pp4 a.SRCX (None)							
Half Drain Time : 89 minutes.							
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
15 min Summer	31.853	0.653	0.0	5.9	5.9	41.3	Flood Risk
30 min Summer	31.909	0.709	0.0	6.2	6.2	48.6	Flood Risk
60 min Summer	31.949	0.749	0.0	6.4	6.4	54.3	Flood Risk
120 min Summer	31.967	0.767	0.0	6.5	6.5	57.0	Flood Risk
180 min Summer	31.969	0.769	0.0	6.5	6.5	57.2	Flood Risk
240 min Summer	31.964	0.764	0.0	6.4	6.4	56.4	Flood Risk
360 min Summer	31.944	0.744	0.0	6.4	6.4	53.6	Flood Risk
480 min Summer	31.922	0.722	0.0	6.2	6.2	50.4	Flood Risk
600 min Summer	31.898	0.698	0.0	6.1	6.1	47.2	Flood Risk
720 min Summer	31.875	0.675	0.0	6.0	6.0	44.1	Flood Risk
960 min Summer	31.804	0.604	0.0	5.7	5.7	35.3	Flood Risk
1440 min Summer	31.690	0.490	0.0	5.1	5.1	23.2	O K
2160 min Summer	31.566	0.366	0.0	4.4	4.4	12.9	O K
2880 min Summer	31.481	0.281	0.0	3.8	3.8	7.6	O K
4320 min Summer	31.394	0.194	0.0	3.0	3.0	3.6	O K
5760 min Summer	31.343	0.143	0.0	2.5	2.5	2.0	O K
7200 min Summer	31.312	0.112	0.0	2.1	2.1	1.2	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)			
15 min Summer	167.069	0.0	45.3	18			
30 min Summer	102.772	0.0	56.5	32			
60 min Summer	63.219	0.0	70.2	60			
120 min Summer	38.889	0.0	87.0	94			
180 min Summer	29.268	0.0	98.5	126			
240 min Summer	23.922	0.0	107.6	162			
360 min Summer	18.004	0.0	121.7	230			
480 min Summer	14.716	0.0	132.8	298			
600 min Summer	12.585	0.0	142.1	364			
720 min Summer	11.075	0.0	150.1	432			
960 min Summer	8.655	0.0	156.3	558			
1440 min Summer	6.114	0.0	165.3	794			
2160 min Summer	4.320	0.0	174.5	1148			
2880 min Summer	3.376	0.0	181.2	1500			
4320 min Summer	2.505	0.0	200.5	2204			
5760 min Summer	2.027	0.0	215.2	2936			
7200 min Summer	1.720	0.0	227.0	3672			
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Eclipse House Eclipse Park Sittingbourne Road Maidstone ME14 3EN			Porous pavement 3				
Date 06/03/2026 11:03			Designed by Chris				
File cas.CASX			Checked by				
Causeway			Source Control 2019.1				
Cascade Summary of Results for pp3.SRCX							
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max E Outflow (l/s)	Max Volume (m³)	Status
8640 min Summer	31.293	0.093	0.0	1.9	1.9	0.8	O K
10080 min Summer	31.282	0.082	0.0	1.7	1.7	0.7	O K
15 min Winter	31.853	0.653	0.0	5.9	5.9	41.3	Flood Risk
30 min Winter	31.910	0.710	0.0	6.2	6.2	48.8	Flood Risk
60 min Winter	31.951	0.751	0.0	6.4	6.4	54.6	Flood Risk
120 min Winter	31.966	0.766	0.0	6.4	6.4	56.8	Flood Risk
180 min Winter	31.962	0.762	0.0	6.4	6.4	56.2	Flood Risk
240 min Winter	31.950	0.750	0.0	6.4	6.4	54.4	Flood Risk
360 min Winter	31.915	0.715	0.0	6.2	6.2	49.5	Flood Risk
480 min Winter	31.877	0.677	0.0	6.0	6.0	44.4	Flood Risk
600 min Winter	31.839	0.639	0.0	5.9	5.9	39.5	Flood Risk
720 min Winter	31.802	0.602	0.0	5.7	5.7	35.1	Flood Risk
960 min Winter	31.708	0.508	0.0	5.2	5.2	25.0	Flood Risk
1440 min Winter	31.564	0.364	0.0	4.3	4.3	12.8	O K
2160 min Winter	31.431	0.231	0.0	3.4	3.4	5.1	O K
2880 min Winter	31.359	0.159	0.0	2.7	2.7	2.4	O K
4320 min Winter	31.302	0.102	0.0	2.0	2.0	1.0	O K
5760 min Winter	31.281	0.081	0.0	1.6	1.6	0.6	O K
7200 min Winter	31.272	0.072	0.0	1.4	1.4	0.5	O K
8640 min Winter	31.266	0.066	0.0	1.2	1.2	0.4	O K
10080 min Winter	31.261	0.061	0.0	1.1	1.1	0.4	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)			
8640 min Summer	1.504	0.0	237.0	4352			
10080 min Summer	1.343	0.0	245.6	5112			
15 min Winter	167.069	0.0	45.3	18			
30 min Winter	102.772	0.0	56.5	31			
60 min Winter	63.219	0.0	70.2	58			
120 min Winter	38.889	0.0	87.0	96			
180 min Winter	29.268	0.0	98.5	134			
240 min Winter	23.922	0.0	107.6	172			
360 min Winter	18.004	0.0	121.7	246			
480 min Winter	14.716	0.0	132.8	316			
600 min Winter	12.585	0.0	142.1	386			
720 min Winter	11.075	0.0	150.1	450			
960 min Winter	8.655	0.0	156.3	576			
1440 min Winter	6.114	0.0	165.3	808			
2160 min Winter	4.320	0.0	174.5	1144			
2880 min Winter	3.376	0.0	181.2	1472			
4320 min Winter	2.505	0.0	200.5	2176			
5760 min Winter	2.027	0.0	215.2	2912			
7200 min Winter	1.720	0.0	227.1	3648			
8640 min Winter	1.504	0.0	237.0	4264			
10080 min Winter	1.343	0.0	245.6	4952			
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<p style="text-align: center;"><u>Cascade Summary of Results for pp4 a.SRCX</u></p> <p style="text-align: center;">Upstream Outflow To Overflow To Structures</p> <p style="text-align: center;">pp3.SRCX pp4.SRCX (None)</p> <p style="text-align: center;">Half Drain Time : 44 minutes.</p> <table><tr><td>Storm Event</td><td>Max Level (m)</td><td>Max Depth (m)</td><td>Max Infiltration (l/s)</td><td>Max Control (l/s)</td><td>Max Σ Outflow (l/s)</td><td>Max Volume (m³)</td><td>Status</td></tr><tr><td>15 min Summer</td><td>31.456</td><td>0.256</td><td>0.0</td><td>5.5</td><td>5.5</td><td>17.6</td><td>O K</td></tr><tr><td>30 min Summer</td><td>31.515</td><td>0.315</td><td>0.0</td><td>6.2</td><td>6.2</td><td>21.6</td><td>O K</td></tr><tr><td>60 min Summer</td><td>31.588</td><td>0.388</td><td>0.0</td><td>7.0</td><td>7.0</td><td>26.6</td><td>O K</td></tr><tr><td>120 min Summer</td><td>31.651</td><td>0.451</td><td>0.0</td><td>7.5</td><td>7.5</td><td>31.0</td><td>O K</td></tr><tr><td>180 min Summer</td><td>31.670</td><td>0.470</td><td>0.0</td><td>7.7</td><td>7.7</td><td>32.3</td><td>O K</td></tr><tr><td>240 min Summer</td><td>31.679</td><td>0.479</td><td>0.0</td><td>7.8</td><td>7.8</td><td>32.9</td><td>O K</td></tr><tr><td>360 min Summer</td><td>31.682</td><td>0.482</td><td>0.0</td><td>7.8</td><td>7.8</td><td>33.1</td><td>O K</td></tr><tr><td>480 min Summer</td><td>31.676</td><td>0.476</td><td>0.0</td><td>7.8</td><td>7.8</td><td>32.7</td><td>O K</td></tr><tr><td>600 min Summer</td><td>31.667</td><td>0.467</td><td>0.0</td><td>7.7</td><td>7.7</td><td>32.1</td><td>O K</td></tr><tr><td>720 min Summer</td><td>31.656</td><td>0.456</td><td>0.0</td><td>7.6</td><td>7.6</td><td>31.3</td><td>O K</td></tr><tr><td>960 min Summer</td><td>31.614</td><td>0.414</td><td>0.0</td><td>7.2</td><td>7.2</td><td>28.4</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>31.543</td><td>0.343</td><td>0.0</td><td>6.5</td><td>6.5</td><td>23.5</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>31.464</td><td>0.264</td><td>0.0</td><td>5.6</td><td>5.6</td><td>18.1</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>31.409</td><td>0.209</td><td>0.0</td><td>4.9</td><td>4.9</td><td>14.3</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>31.351</td><td>0.151</td><td>0.0</td><td>4.0</td><td>4.0</td><td>10.4</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>31.319</td><td>0.119</td><td>0.0</td><td>3.3</td><td>3.3</td><td>8.2</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>31.302</td><td>0.102</td><td>0.0</td><td>2.9</td><td>2.9</td><td>7.0</td><td>O K</td></tr></table> <table><tr><td>Storm Event</td><td>Rain (mm/hr)</td><td>Flooded Volume (m³)</td><td>Discharge Volume (m³)</td><td>Time-Peak (mins)</td></tr><tr><td>15 min Summer</td><td>167.069</td><td>0.0</td><td>61.2</td><td>49</td></tr><tr><td>30 min Summer</td><td>102.772</td><td>0.0</td><td>76.2</td><td>34</td></tr><tr><td>60 min Summer</td><td>63.219</td><td>0.0</td><td>94.9</td><td>62</td></tr><tr><td>120 min Summer</td><td>38.889</td><td>0.0</td><td>117.6</td><td>120</td></tr><tr><td>180 min Summer</td><td>29.268</td><td>0.0</td><td>133.2</td><td>154</td></tr><tr><td>240 min Summer</td><td>23.922</td><td>0.0</td><td>145.5</td><td>182</td></tr><tr><td>360 min Summer</td><td>18.004</td><td>0.0</td><td>164.7</td><td>248</td></tr><tr><td>480 min Summer</td><td>14.716</td><td>0.0</td><td>179.7</td><td>314</td></tr><tr><td>600 min Summer</td><td>12.585</td><td>0.0</td><td>192.2</td><td>382</td></tr><tr><td>720 min Summer</td><td>11.075</td><td>0.0</td><td>203.1</td><td>450</td></tr><tr><td>960 min Summer</td><td>8.655</td><td>0.0</td><td>211.4</td><td>578</td></tr><tr><td>1440 min Summer</td><td>6.114</td><td>0.0</td><td>223.5</td><td>826</td></tr><tr><td>2160 min Summer</td><td>4.320</td><td>0.0</td><td>236.1</td><td>1188</td></tr><tr><td>2880 min Summer</td><td>3.376</td><td>0.0</td><td>245.0</td><td>1532</td></tr><tr><td>4320 min Summer</td><td>2.505</td><td>0.0</td><td>271.2</td><td>2244</td></tr><tr><td>5760 min Summer</td><td>2.027</td><td>0.0</td><td>291.0</td><td>2944</td></tr><tr><td>7200 min Summer</td><td>1.720</td><td>0.0</td><td>307.0</td><td>3672</td></tr></table>				Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status	15 min Summer	31.456	0.256	0.0	5.5	5.5	17.6	O K	30 min Summer	31.515	0.315	0.0	6.2	6.2	21.6	O K	60 min Summer	31.588	0.388	0.0	7.0	7.0	26.6	O K	120 min Summer	31.651	0.451	0.0	7.5	7.5	31.0	O K	180 min Summer	31.670	0.470	0.0	7.7	7.7	32.3	O K	240 min Summer	31.679	0.479	0.0	7.8	7.8	32.9	O K	360 min Summer	31.682	0.482	0.0	7.8	7.8	33.1	O K	480 min Summer	31.676	0.476	0.0	7.8	7.8	32.7	O K	600 min Summer	31.667	0.467	0.0	7.7	7.7	32.1	O K	720 min Summer	31.656	0.456	0.0	7.6	7.6	31.3	O K	960 min Summer	31.614	0.414	0.0	7.2	7.2	28.4	O K	1440 min Summer	31.543	0.343	0.0	6.5	6.5	23.5	O K	2160 min Summer	31.464	0.264	0.0	5.6	5.6	18.1	O K	2880 min Summer	31.409	0.209	0.0	4.9	4.9	14.3	O K	4320 min Summer	31.351	0.151	0.0	4.0	4.0	10.4	O K	5760 min Summer	31.319	0.119	0.0	3.3	3.3	8.2	O K	7200 min Summer	31.302	0.102	0.0	2.9	2.9	7.0	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)	15 min Summer	167.069	0.0	61.2	49	30 min Summer	102.772	0.0	76.2	34	60 min Summer	63.219	0.0	94.9	62	120 min Summer	38.889	0.0	117.6	120	180 min Summer	29.268	0.0	133.2	154	240 min Summer	23.922	0.0	145.5	182	360 min Summer	18.004	0.0	164.7	248	480 min Summer	14.716	0.0	179.7	314	600 min Summer	12.585	0.0	192.2	382	720 min Summer	11.075	0.0	203.1	450	960 min Summer	8.655	0.0	211.4	578	1440 min Summer	6.114	0.0	223.5	826	2160 min Summer	4.320	0.0	236.1	1188	2880 min Summer	3.376	0.0	245.0	1532	4320 min Summer	2.505	0.0	271.2	2244	5760 min Summer	2.027	0.0	291.0	2944	7200 min Summer	1.720	0.0	307.0	3672
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Eclipse House Eclipse Park Sittingbourne Road Maidstone ME14 3EN		Porous pavement 4A					
Date 06/03/2026 11:04 File cas.CASX		Designed by Chris Checked by					
Causeway		Source Control 2019.1					
Cascade Summary of Results for pp4 a.SRCX							
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
8640 min Summer	31.293	0.093	0.0	2.5	2.5	6.4	O K
10080 min Summer	31.286	0.086	0.0	2.3	2.3	5.9	O K
15 min Winter	31.456	0.256	0.0	5.5	5.5	17.6	O K
30 min Winter	31.514	0.314	0.0	6.2	6.2	21.6	O K
60 min Winter	31.588	0.388	0.0	7.0	7.0	26.6	O K
120 min Winter	31.653	0.453	0.0	7.6	7.6	31.1	O K
180 min Winter	31.672	0.472	0.0	7.7	7.7	32.4	O K
240 min Winter	31.680	0.480	0.0	7.8	7.8	32.9	O K
360 min Winter	31.677	0.477	0.0	7.8	7.8	32.7	O K
480 min Winter	31.662	0.462	0.0	7.6	7.6	31.7	O K
600 min Winter	31.643	0.443	0.0	7.5	7.5	30.4	O K
720 min Winter	31.623	0.423	0.0	7.3	7.3	29.0	O K
960 min Winter	31.563	0.363	0.0	6.7	6.7	24.9	O K
1440 min Winter	31.470	0.270	0.0	5.7	5.7	18.6	O K
2160 min Winter	31.381	0.181	0.0	4.5	4.5	12.4	O K
2880 min Winter	31.332	0.132	0.0	3.6	3.6	9.0	O K
4320 min Winter	31.298	0.098	0.0	2.7	2.7	6.7	O K
5760 min Winter	31.285	0.085	0.0	2.2	2.2	5.8	O K
7200 min Winter	31.276	0.076	0.0	1.9	1.9	5.2	O K
8640 min Winter	31.270	0.070	0.0	1.6	1.6	4.8	O K
10080 min Winter	31.265	0.065	0.0	1.5	1.5	4.5	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)			
8640 min Summer	1.504	0.0	320.5	4368			
10080 min Summer	1.343	0.0	332.0	5048			
15 min Winter	167.069	0.0	61.2	49			
30 min Winter	102.772	0.0	76.2	34			
60 min Winter	63.219	0.0	94.9	62			
120 min Winter	38.889	0.0	117.6	118			
180 min Winter	29.268	0.0	133.2	166			
240 min Winter	23.922	0.0	145.5	188			
360 min Winter	18.004	0.0	164.7	262			
480 min Winter	14.716	0.0	179.7	334			
600 min Winter	12.585	0.0	192.2	404			
720 min Winter	11.075	0.0	203.1	472			
960 min Winter	8.655	0.0	211.4	604			
1440 min Winter	6.114	0.0	223.5	842			
2160 min Winter	4.320	0.0	236.1	1188			
2880 min Winter	3.376	0.0	245.0	1524			
4320 min Winter	2.505	0.0	271.2	2204			
5760 min Winter	2.027	0.0	291.0	2912			
7200 min Winter	1.720	0.0	307.1	3632			
8640 min Winter	1.504	0.0	320.5	4376			
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<p align="center"><u>Cascade Rainfall Details for pp4 a.SRCX</u></p> <table> <tr> <td>Rainfall Model</td> <td>FEH</td> <td>D2 (1km)</td> <td>0.258</td> <td>Cv (Summer)</td> <td>1.000</td> </tr> <tr> <td>Return Period (years)</td> <td>100</td> <td>D3 (1km)</td> <td>0.379</td> <td>Cv (Winter)</td> <td>1.000</td> </tr> <tr> <td>FEH Rainfall Version</td> <td>1999</td> <td>E (1km)</td> <td>0.310</td> <td>Shortest Storm (mins)</td> <td>15</td> </tr> <tr> <td>Site Location</td> <td></td> <td>F (1km)</td> <td>2.349</td> <td>Longest Storm (mins)</td> <td>10080</td> </tr> <tr> <td>C (1km)</td> <td>-0.025</td> <td>Summer Storms</td> <td>Yes</td> <td>Climate Change %</td> <td>+45</td> </tr> <tr> <td>D1 (1km)</td> <td>0.414</td> <td>Winter Storms</td> <td>Yes</td> <td></td> <td></td> </tr> </table> <p align="center"><u>Time Area Diagram</u></p> <p align="center">Total Area (ha) 0.041</p> <table> <tr> <td>Time (mins)</td> <td>Area</td> </tr> <tr> <td>From:</td> <td>To: (ha)</td> </tr> <tr> <td>0</td> <td>4 0.041</td> </tr> </table>			Rainfall Model	FEH	D2 (1km)	0.258	Cv (Summer)	1.000	Return Period (years)	100	D3 (1km)	0.379	Cv (Winter)	1.000	FEH Rainfall Version	1999	E (1km)	0.310	Shortest Storm (mins)	15	Site Location		F (1km)	2.349	Longest Storm (mins)	10080	C (1km)	-0.025	Summer Storms	Yes	Climate Change %	+45	D1 (1km)	0.414	Winter Storms	Yes			Time (mins)	Area	From:	To: (ha)	0	4 0.041
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Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	5.2																							
Membrane Percolation (mm/hr)	1000	Length (m)	44.0																							
Max Percolation (l/s)	63.6	Slope (1:X)	0.0																							
Safety Factor	2.0	Depression Storage (mm)	5																							
Porosity	0.30	Evaporation (mm/day)	3																							
Invert Level (m)	31.200	Membrane Depth (m)	0																							
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Eclipse House Eclipse Park Sittingbourne Road Maidstone ME14 3EN		Porous pavement 4	
Date 06/03/2026 11:04 File cas.CASX		Designed by Chris Checked by	
Causeway		Source Control 2019.1	



Cascade Summary of Results for pp4.SRCX									
		Upstream Structures		Outflow To		Overflow To			
		pp4 a.SRCX pp3.SRCX		pp6.SRCX		(None)			
Half Drain Time : 5 minutes.									
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status		
15 min Summer	31.447	0.747	0.0	84.2	84.2	33.7	Flood Risk		
30 min Summer	31.409	0.709	0.0	81.6	81.6	30.4	Flood Risk		
60 min Summer	31.319	0.619	0.0	75.2	75.2	23.2	Flood Risk		
120 min Summer	31.182	0.482	0.0	64.2	64.2	14.0	O K		
180 min Summer	31.093	0.393	0.0	56.0	56.0	9.3	O K		
240 min Summer	31.036	0.336	0.0	49.9	49.9	6.8	O K		
360 min Summer	30.986	0.286	0.0	40.9	40.9	4.9	O K		
480 min Summer	30.957	0.257	0.0	34.9	34.9	4.0	O K		
600 min Summer	30.937	0.237	0.0	31.0	31.0	3.4	O K		
720 min Summer	30.923	0.223	0.0	28.0	28.0	3.0	O K		
960 min Summer	30.898	0.198	0.0	23.1	23.1	2.4	O K		
1440 min Summer	30.868	0.168	0.0	17.7	17.7	1.7	O K		
2160 min Summer	30.839	0.139	0.0	13.6	13.6	1.2	O K		
2880 min Summer	30.825	0.125	0.0	11.3	11.3	0.9	O K		
4320 min Summer	30.812	0.112	0.0	8.8	8.8	0.8	O K		
5760 min Summer	30.804	0.104	0.0	7.3	7.3	0.7	O K		
7200 min Summer	30.796	0.096	0.0	6.3	6.3	0.6	O K		

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
15 min Summer	167.069	0.0	133.8	12
30 min Summer	102.772	0.0	166.2	20
60 min Summer	63.219	0.0	206.1	36
120 min Summer	38.889	0.0	255.0	66
180 min Summer	29.268	0.0	288.6	96
240 min Summer	23.922	0.0	315.0	126
360 min Summer	18.004	0.0	356.2	184
480 min Summer	14.716	0.0	388.6	246
600 min Summer	12.585	0.0	415.6	306
720 min Summer	11.075	0.0	439.0	366
960 min Summer	8.655	0.0	457.1	488
1440 min Summer	6.114	0.0	483.6	734
2160 min Summer	4.320	0.0	511.2	1100
2880 min Summer	3.376	0.0	531.1	1464
4320 min Summer	2.505	0.0	588.7	2196
5760 min Summer	2.027	0.0	632.7	2904
7200 min Summer	1.720	0.0	668.4	3672

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Eclipse House Eclipse Park Sittingbourne Road Maidstone ME14 3EN			Porous pavement 4				
Date 06/03/2026 11:04			Designed by Chris				
File cas.CASX			Checked by				
Causeway			Source Control 2019.1				
Cascade Summary of Results for pp4.SRCX							
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max E Outflow (l/s)	Max Volume (m³)	Status
8640 min Summer	30.789	0.089	0.0	5.5	5.5	0.5	O K
10080 min Summer	30.783	0.083	0.0	4.9	4.9	0.4	O K
15 min Winter	31.432	0.732	0.0	83.2	83.2	32.3	Flood Risk
30 min Winter	31.361	0.661	0.0	78.2	78.2	26.4	Flood Risk
60 min Winter	31.221	0.521	0.0	67.5	67.5	16.4	Flood Risk
120 min Winter	31.055	0.355	0.0	52.1	52.1	7.6	O K
180 min Winter	30.993	0.293	0.0	42.5	42.5	5.2	O K
240 min Winter	30.963	0.263	0.0	36.2	36.2	4.2	O K
360 min Winter	30.928	0.228	0.0	29.0	29.0	3.1	O K
480 min Winter	30.907	0.207	0.0	24.9	24.9	2.6	O K
600 min Winter	30.894	0.194	0.0	22.2	22.2	2.3	O K
720 min Winter	30.883	0.183	0.0	20.2	20.2	2.0	O K
960 min Winter	30.862	0.162	0.0	16.9	16.9	1.6	O K
1440 min Winter	30.835	0.135	0.0	13.0	13.0	1.1	O K
2160 min Winter	30.817	0.117	0.0	9.8	9.8	0.8	O K
2880 min Winter	30.807	0.107	0.0	7.8	7.8	0.7	O K
4320 min Winter	30.792	0.092	0.0	5.9	5.9	0.5	O K
5760 min Winter	30.782	0.082	0.0	4.8	4.8	0.4	O K
7200 min Winter	30.776	0.076	0.0	4.1	4.1	0.4	O K
8640 min Winter	30.771	0.071	0.0	3.6	3.6	0.3	O K
10080 min Winter	30.767	0.067	0.0	3.2	3.2	0.3	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)			
8640 min Summer	1.504	0.0	698.6	4384			
10080 min Summer	1.343	0.0	724.8	5032			
15 min Winter	167.069	0.0	133.8	13			
30 min Winter	102.772	0.0	166.2	21			
60 min Winter	63.219	0.0	206.1	38			
120 min Winter	38.889	0.0	255.0	66			
180 min Winter	29.268	0.0	288.6	96			
240 min Winter	23.922	0.0	315.0	126			
360 min Winter	18.004	0.0	356.2	186			
480 min Winter	14.716	0.0	388.6	246			
600 min Winter	12.585	0.0	415.6	306			
720 min Winter	11.075	0.0	439.0	370			
960 min Winter	8.655	0.0	457.1	490			
1440 min Winter	6.114	0.0	483.6	746			
2160 min Winter	4.320	0.0	511.2	1096			
2880 min Winter	3.376	0.0	531.1	1464			
4320 min Winter	2.505	0.0	588.7	2192			
5760 min Winter	2.027	0.0	632.7	2880			
7200 min Winter	1.720	0.0	668.4	3624			
8640 min Winter	1.504	0.0	698.7	4272			
10080 min Winter	1.343	0.0	724.9	5008			
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Eclipse House Sittingbourne Road Maidstone ME14 3EN	Porous pavement 4																																											
Date 06/03/2026 11:04	Designed by Chris																																											
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<p align="center"><u>Cascade Rainfall Details for pp4.SRCX</u></p> <table> <tr> <td>Rainfall Model</td> <td>FEH</td> <td>D2 (1km)</td> <td>0.258</td> <td>Cv (Summer)</td> <td>1.000</td> </tr> <tr> <td>Return Period (years)</td> <td>100</td> <td>D3 (1km)</td> <td>0.379</td> <td>Cv (Winter)</td> <td>1.000</td> </tr> <tr> <td>FEH Rainfall Version</td> <td>1999</td> <td>E (1km)</td> <td>0.310</td> <td>Shortest Storm (mins)</td> <td>15</td> </tr> <tr> <td>Site Location</td> <td></td> <td>F (1km)</td> <td>2.349</td> <td>Longest Storm (mins)</td> <td>10080</td> </tr> <tr> <td>C (1km)</td> <td>-0.025</td> <td>Summer Storms</td> <td>Yes</td> <td>Climate Change %</td> <td>+45</td> </tr> <tr> <td>D1 (1km)</td> <td>0.414</td> <td>Winter Storms</td> <td>Yes</td> <td></td> <td></td> </tr> </table> <p align="center"><u>Time Area Diagram</u></p> <p align="center">Total Area (ha) 0.180</p> <table> <tr> <td>Time (mins)</td> <td>Area</td> </tr> <tr> <td>From:</td> <td>To: (ha)</td> </tr> <tr> <td>0</td> <td>4 0.180</td> </tr> </table>			Rainfall Model	FEH	D2 (1km)	0.258	Cv (Summer)	1.000	Return Period (years)	100	D3 (1km)	0.379	Cv (Winter)	1.000	FEH Rainfall Version	1999	E (1km)	0.310	Shortest Storm (mins)	15	Site Location		F (1km)	2.349	Longest Storm (mins)	10080	C (1km)	-0.025	Summer Storms	Yes	Climate Change %	+45	D1 (1km)	0.414	Winter Storms	Yes			Time (mins)	Area	From:	To: (ha)	0	4 0.180
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Eclipse House Sittingbourne Road Maidstone ME14 3EN	Porous pavement 4																									
Date 06/03/2026 11:04 File cas.CASX	Designed by Chris Checked by																									
Causeway Source Control 2019.1																										
<p align="center"><u>Cascade Model Details for pp4.SRCX</u></p> <p align="center">Storage is Online Cover Level (m) 31.500</p> <p align="center"><u>Porous Car Park Structure</u></p> <table> <tr> <td>Infiltration Coefficient Base (m/hr)</td> <td>0.00000</td> <td>Width (m)</td> <td>6.1</td> </tr> <tr> <td>Membrane Percolation (mm/hr)</td> <td>1000</td> <td>Length (m)</td> <td>83.0</td> </tr> <tr> <td>Max Percolation (l/s)</td> <td>140.6</td> <td>Slope (1:X)</td> <td>66.0</td> </tr> <tr> <td>Safety Factor</td> <td>2.0</td> <td>Depression Storage (mm)</td> <td>5</td> </tr> <tr> <td>Porosity</td> <td>0.30</td> <td>Evaporation (mm/day)</td> <td>3</td> </tr> <tr> <td>Invert Level (m)</td> <td>30.700</td> <td>Membrane Depth (m)</td> <td>0</td> </tr> </table> <p align="center"><u>Orifice Outflow Control</u></p> <p align="center">Diameter (m) 0.225 Discharge Coefficient 0.600 Invert Level (m) 30.700</p>			Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	6.1	Membrane Percolation (mm/hr)	1000	Length (m)	83.0	Max Percolation (l/s)	140.6	Slope (1:X)	66.0	Safety Factor	2.0	Depression Storage (mm)	5	Porosity	0.30	Evaporation (mm/day)	3	Invert Level (m)	30.700	Membrane Depth (m)	0
Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	6.1																							
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<p style="text-align: center;"><u>Cascade Summary of Results for pp5.SRCX</u></p> <p style="text-align: center;">Upstream Outflow To Overflow To Structures</p> <p style="text-align: center;">(None) pp6.SRCX (None)</p> <p style="text-align: center;">Half Drain Time : 13 minutes.</p> <table><tr><th>Storm Event</th><th>Max Level (m)</th><th>Max Depth (m)</th><th>Max Infiltration (l/s)</th><th>Max Control (l/s)</th><th>Max Σ Outflow (l/s)</th><th>Max Volume (m³)</th><th>Status</th></tr><tr><td>15 min Summer</td><td>31.191</td><td>0.491</td><td>0.0</td><td>13.9</td><td>13.9</td><td>16.4</td><td>O K</td></tr><tr><td>30 min Summer</td><td>31.199</td><td>0.499</td><td>0.0</td><td>14.0</td><td>14.0</td><td>17.0</td><td>O K</td></tr><tr><td>60 min Summer</td><td>31.181</td><td>0.481</td><td>0.0</td><td>13.7</td><td>13.7</td><td>15.8</td><td>O K</td></tr><tr><td>120 min Summer</td><td>31.130</td><td>0.430</td><td>0.0</td><td>12.9</td><td>12.9</td><td>12.6</td><td>O K</td></tr><tr><td>180 min Summer</td><td>31.082</td><td>0.382</td><td>0.0</td><td>12.0</td><td>12.0</td><td>9.9</td><td>O K</td></tr><tr><td>240 min Summer</td><td>31.041</td><td>0.341</td><td>0.0</td><td>11.3</td><td>11.3</td><td>7.9</td><td>O K</td></tr><tr><td>360 min Summer</td><td>30.976</td><td>0.276</td><td>0.0</td><td>9.9</td><td>9.9</td><td>5.2</td><td>O K</td></tr><tr><td>480 min Summer</td><td>30.930</td><td>0.230</td><td>0.0</td><td>8.8</td><td>8.8</td><td>3.6</td><td>O K</td></tr><tr><td>600 min Summer</td><td>30.896</td><td>0.196</td><td>0.0</td><td>8.0</td><td>8.0</td><td>2.6</td><td>O K</td></tr><tr><td>720 min Summer</td><td>30.871</td><td>0.171</td><td>0.0</td><td>7.3</td><td>7.3</td><td>2.0</td><td>O K</td></tr><tr><td>960 min Summer</td><td>30.835</td><td>0.135</td><td>0.0</td><td>5.9</td><td>5.9</td><td>1.2</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>30.807</td><td>0.107</td><td>0.0</td><td>4.2</td><td>4.2</td><td>0.8</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>30.787</td><td>0.087</td><td>0.0</td><td>3.0</td><td>3.0</td><td>0.5</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>30.774</td><td>0.074</td><td>0.0</td><td>2.3</td><td>2.3</td><td>0.4</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>30.760</td><td>0.060</td><td>0.0</td><td>1.7</td><td>1.7</td><td>0.2</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>30.754</td><td>0.054</td><td>0.0</td><td>1.4</td><td>1.4</td><td>0.2</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>30.750</td><td>0.050</td><td>0.0</td><td>1.2</td><td>1.2</td><td>0.2</td><td>O K</td></tr></table> <table><tr><th>Storm Event</th><th>Rain (mm/hr)</th><th>Flooded Volume (m³)</th><th>Discharge Volume (m³)</th><th>Time-Peak (mins)</th></tr><tr><td>15 min Summer</td><td>167.069</td><td>0.0</td><td>24.0</td><td>14</td></tr><tr><td>30 min Summer</td><td>102.772</td><td>0.0</td><td>30.1</td><td>23</td></tr><tr><td>60 min Summer</td><td>63.219</td><td>0.0</td><td>37.5</td><td>40</td></tr><tr><td>120 min Summer</td><td>38.889</td><td>0.0</td><td>46.6</td><td>72</td></tr><tr><td>180 min Summer</td><td>29.268</td><td>0.0</td><td>52.9</td><td>104</td></tr><tr><td>240 min Summer</td><td>23.922</td><td>0.0</td><td>57.8</td><td>134</td></tr><tr><td>360 min Summer</td><td>18.004</td><td>0.0</td><td>65.4</td><td>192</td></tr><tr><td>480 min Summer</td><td>14.716</td><td>0.0</td><td>71.4</td><td>252</td></tr><tr><td>600 min Summer</td><td>12.585</td><td>0.0</td><td>76.4</td><td>310</td></tr><tr><td>720 min Summer</td><td>11.075</td><td>0.0</td><td>80.8</td><td>370</td></tr><tr><td>960 min Summer</td><td>8.655</td><td>0.0</td><td>84.1</td><td>488</td></tr><tr><td>1440 min Summer</td><td>6.114</td><td>0.0</td><td>88.8</td><td>728</td></tr><tr><td>2160 min Summer</td><td>4.320</td><td>0.0</td><td>93.7</td><td>1076</td></tr><tr><td>2880 min Summer</td><td>3.376</td><td>0.0</td><td>97.1</td><td>1468</td></tr><tr><td>4320 min Summer</td><td>2.505</td><td>0.0</td><td>107.3</td><td>2156</td></tr><tr><td>5760 min Summer</td><td>2.027</td><td>0.0</td><td>114.9</td><td>2912</td></tr><tr><td>7200 min Summer</td><td>1.720</td><td>0.0</td><td>120.9</td><td>3544</td></tr></table>				Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status	15 min Summer	31.191	0.491	0.0	13.9	13.9	16.4	O K	30 min Summer	31.199	0.499	0.0	14.0	14.0	17.0	O K	60 min Summer	31.181	0.481	0.0	13.7	13.7	15.8	O K	120 min Summer	31.130	0.430	0.0	12.9	12.9	12.6	O K	180 min Summer	31.082	0.382	0.0	12.0	12.0	9.9	O K	240 min Summer	31.041	0.341	0.0	11.3	11.3	7.9	O K	360 min Summer	30.976	0.276	0.0	9.9	9.9	5.2	O K	480 min Summer	30.930	0.230	0.0	8.8	8.8	3.6	O K	600 min Summer	30.896	0.196	0.0	8.0	8.0	2.6	O K	720 min Summer	30.871	0.171	0.0	7.3	7.3	2.0	O K	960 min Summer	30.835	0.135	0.0	5.9	5.9	1.2	O K	1440 min Summer	30.807	0.107	0.0	4.2	4.2	0.8	O K	2160 min Summer	30.787	0.087	0.0	3.0	3.0	0.5	O K	2880 min Summer	30.774	0.074	0.0	2.3	2.3	0.4	O K	4320 min Summer	30.760	0.060	0.0	1.7	1.7	0.2	O K	5760 min Summer	30.754	0.054	0.0	1.4	1.4	0.2	O K	7200 min Summer	30.750	0.050	0.0	1.2	1.2	0.2	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)	15 min Summer	167.069	0.0	24.0	14	30 min Summer	102.772	0.0	30.1	23	60 min Summer	63.219	0.0	37.5	40	120 min Summer	38.889	0.0	46.6	72	180 min Summer	29.268	0.0	52.9	104	240 min Summer	23.922	0.0	57.8	134	360 min Summer	18.004	0.0	65.4	192	480 min Summer	14.716	0.0	71.4	252	600 min Summer	12.585	0.0	76.4	310	720 min Summer	11.075	0.0	80.8	370	960 min Summer	8.655	0.0	84.1	488	1440 min Summer	6.114	0.0	88.8	728	2160 min Summer	4.320	0.0	93.7	1076	2880 min Summer	3.376	0.0	97.1	1468	4320 min Summer	2.505	0.0	107.3	2156	5760 min Summer	2.027	0.0	114.9	2912	7200 min Summer	1.720	0.0	120.9	3544
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status																																																																																																																																																																																																																																						
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180 min Summer	31.082	0.382	0.0	12.0	12.0	9.9	O K																																																																																																																																																																																																																																						
240 min Summer	31.041	0.341	0.0	11.3	11.3	7.9	O K																																																																																																																																																																																																																																						
360 min Summer	30.976	0.276	0.0	9.9	9.9	5.2	O K																																																																																																																																																																																																																																						
480 min Summer	30.930	0.230	0.0	8.8	8.8	3.6	O K																																																																																																																																																																																																																																						
600 min Summer	30.896	0.196	0.0	8.0	8.0	2.6	O K																																																																																																																																																																																																																																						
720 min Summer	30.871	0.171	0.0	7.3	7.3	2.0	O K																																																																																																																																																																																																																																						
960 min Summer	30.835	0.135	0.0	5.9	5.9	1.2	O K																																																																																																																																																																																																																																						
1440 min Summer	30.807	0.107	0.0	4.2	4.2	0.8	O K																																																																																																																																																																																																																																						
2160 min Summer	30.787	0.087	0.0	3.0	3.0	0.5	O K																																																																																																																																																																																																																																						
2880 min Summer	30.774	0.074	0.0	2.3	2.3	0.4	O K																																																																																																																																																																																																																																						
4320 min Summer	30.760	0.060	0.0	1.7	1.7	0.2	O K																																																																																																																																																																																																																																						
5760 min Summer	30.754	0.054	0.0	1.4	1.4	0.2	O K																																																																																																																																																																																																																																						
7200 min Summer	30.750	0.050	0.0	1.2	1.2	0.2	O K																																																																																																																																																																																																																																						
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)																																																																																																																																																																																																																																									
15 min Summer	167.069	0.0	24.0	14																																																																																																																																																																																																																																									
30 min Summer	102.772	0.0	30.1	23																																																																																																																																																																																																																																									
60 min Summer	63.219	0.0	37.5	40																																																																																																																																																																																																																																									
120 min Summer	38.889	0.0	46.6	72																																																																																																																																																																																																																																									
180 min Summer	29.268	0.0	52.9	104																																																																																																																																																																																																																																									
240 min Summer	23.922	0.0	57.8	134																																																																																																																																																																																																																																									
360 min Summer	18.004	0.0	65.4	192																																																																																																																																																																																																																																									
480 min Summer	14.716	0.0	71.4	252																																																																																																																																																																																																																																									
600 min Summer	12.585	0.0	76.4	310																																																																																																																																																																																																																																									
720 min Summer	11.075	0.0	80.8	370																																																																																																																																																																																																																																									
960 min Summer	8.655	0.0	84.1	488																																																																																																																																																																																																																																									
1440 min Summer	6.114	0.0	88.8	728																																																																																																																																																																																																																																									
2160 min Summer	4.320	0.0	93.7	1076																																																																																																																																																																																																																																									
2880 min Summer	3.376	0.0	97.1	1468																																																																																																																																																																																																																																									
4320 min Summer	2.505	0.0	107.3	2156																																																																																																																																																																																																																																									
5760 min Summer	2.027	0.0	114.9	2912																																																																																																																																																																																																																																									
7200 min Summer	1.720	0.0	120.9	3544																																																																																																																																																																																																																																									
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DHA Transport Ltd							Page 2
Eclipse House Eclipse Park Sittingbourne Road Maidstone ME14 3EN			Porous pavement 5				
Date 06/03/2026 11:05			Designed by Chris				
File cas.CASX			Checked by				
Causeway			Source Control 2019.1				
Cascade Summary of Results for pp5.SRCX							
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
8640 min Summer	30.748	0.048	0.0	1.0	1.0	0.2	O K
10080 min Summer	30.745	0.045	0.0	0.9	0.9	0.1	O K
15 min Winter	31.189	0.489	0.0	13.8	13.8	16.3	O K
30 min Winter	31.191	0.491	0.0	13.9	13.9	16.5	O K
60 min Winter	31.157	0.457	0.0	13.3	13.3	14.3	O K
120 min Winter	31.075	0.375	0.0	11.9	11.9	9.6	O K
180 min Winter	31.007	0.307	0.0	10.6	10.6	6.4	O K
240 min Winter	30.954	0.254	0.0	9.4	9.4	4.4	O K
360 min Winter	30.884	0.184	0.0	7.6	7.6	2.3	O K
480 min Winter	30.845	0.145	0.0	6.4	6.4	1.4	O K
600 min Winter	30.829	0.129	0.0	5.5	5.5	1.1	O K
720 min Winter	30.819	0.119	0.0	4.9	4.9	1.0	O K
960 min Winter	30.801	0.101	0.0	3.8	3.8	0.7	O K
1440 min Winter	30.782	0.082	0.0	2.7	2.7	0.5	O K
2160 min Winter	30.764	0.064	0.0	1.9	1.9	0.3	O K
2880 min Winter	30.756	0.056	0.0	1.5	1.5	0.2	O K
4320 min Winter	30.749	0.049	0.0	1.1	1.1	0.2	O K
5760 min Winter	30.744	0.044	0.0	0.9	0.9	0.1	O K
7200 min Winter	30.740	0.040	0.0	0.8	0.8	0.1	O K
8640 min Winter	30.737	0.037	0.0	0.7	0.7	0.1	O K
10080 min Winter	30.735	0.035	0.0	0.6	0.6	0.1	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)			
8640 min Summer	1.504	0.0	126.0	4360			
10080 min Summer	1.343	0.0	130.3	4976			
15 min Winter	167.069	0.0	24.0	15			
30 min Winter	102.772	0.0	30.1	24			
60 min Winter	63.219	0.0	37.5	42			
120 min Winter	38.889	0.0	46.6	74			
180 min Winter	29.268	0.0	52.9	106			
240 min Winter	23.922	0.0	57.8	134			
360 min Winter	18.004	0.0	65.4	192			
480 min Winter	14.716	0.0	71.4	248			
600 min Winter	12.585	0.0	76.4	308			
720 min Winter	11.075	0.0	80.8	368			
960 min Winter	8.655	0.0	84.1	484			
1440 min Winter	6.114	0.0	88.8	728			
2160 min Winter	4.320	0.0	93.7	1100			
2880 min Winter	3.376	0.0	97.1	1460			
4320 min Winter	2.505	0.0	107.3	2152			
5760 min Winter	2.027	0.0	114.9	2864			
7200 min Winter	1.720	0.0	121.0	3536			
8640 min Winter	1.504	0.0	126.0	4256			
10080 min Winter	1.343	0.0	130.4	4904			
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Eclipse House Sittingbourne Road Maidstone ME14 3EN	Porous pavement 5																																											
Date 06/03/2026 11:05	Designed by Chris																																											
File cas.CASX	Checked by																																											
Causeway		Source Control 2019.1																																										
<p style="text-align: center;"><u>Cascade Rainfall Details for pp5.SRCX</u></p> <table> <tr> <td>Rainfall Model</td> <td>FEH</td> <td>D2 (1km)</td> <td>0.258</td> <td>Cv (Summer)</td> <td>1.000</td> </tr> <tr> <td>Return Period (years)</td> <td>100</td> <td>D3 (1km)</td> <td>0.379</td> <td>Cv (Winter)</td> <td>1.000</td> </tr> <tr> <td>FEH Rainfall Version</td> <td>1999</td> <td>E (1km)</td> <td>0.310</td> <td>Shortest Storm (mins)</td> <td>15</td> </tr> <tr> <td>Site Location</td> <td></td> <td>F (1km)</td> <td>2.349</td> <td>Longest Storm (mins)</td> <td>10080</td> </tr> <tr> <td>C (1km)</td> <td>-0.025</td> <td>Summer Storms</td> <td>Yes</td> <td>Climate Change %</td> <td>+45</td> </tr> <tr> <td>D1 (1km)</td> <td>0.414</td> <td>Winter Storms</td> <td>Yes</td> <td></td> <td></td> </tr> </table> <p style="text-align: center;"><u>Time Area Diagram</u></p> <p style="text-align: center;">Total Area (ha) 0.063</p> <table> <tr> <td>Time (mins)</td> <td>Area</td> </tr> <tr> <td>From: To:</td> <td>(ha)</td> </tr> <tr> <td>0</td> <td>4 0.063</td> </tr> </table>			Rainfall Model	FEH	D2 (1km)	0.258	Cv (Summer)	1.000	Return Period (years)	100	D3 (1km)	0.379	Cv (Winter)	1.000	FEH Rainfall Version	1999	E (1km)	0.310	Shortest Storm (mins)	15	Site Location		F (1km)	2.349	Longest Storm (mins)	10080	C (1km)	-0.025	Summer Storms	Yes	Climate Change %	+45	D1 (1km)	0.414	Winter Storms	Yes			Time (mins)	Area	From: To:	(ha)	0	4 0.063
Rainfall Model	FEH	D2 (1km)	0.258	Cv (Summer)	1.000																																							
Return Period (years)	100	D3 (1km)	0.379	Cv (Winter)	1.000																																							
FEH Rainfall Version	1999	E (1km)	0.310	Shortest Storm (mins)	15																																							
Site Location		F (1km)	2.349	Longest Storm (mins)	10080																																							
C (1km)	-0.025	Summer Storms	Yes	Climate Change %	+45																																							
D1 (1km)	0.414	Winter Storms	Yes																																									
Time (mins)	Area																																											
From: To:	(ha)																																											
0	4 0.063																																											
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DHA Transport Ltd		Page 4																								
Eclipse House Sittingbourne Road Maidstone ME14 3EN	Porous pavement 5																									
Date 06/03/2026 11:05 File cas.CASX	Designed by Chris Checked by																									
Causeway Source Control 2019.1																										
<p style="text-align: center;"><u>Cascade Model Details for pp5.SRCX</u></p> <p style="text-align: center;">Storage is Online Cover Level (m) 31.500</p> <p style="text-align: center;"><u>Porous Car Park Structure</u></p> <table> <tr> <td>Infiltration Coefficient Base (m/hr)</td> <td>0.00000</td> <td>Width (m)</td> <td>9.1</td> </tr> <tr> <td>Membrane Percolation (mm/hr)</td> <td>1000</td> <td>Length (m)</td> <td>50.0</td> </tr> <tr> <td>Max Percolation (l/s)</td> <td>126.4</td> <td>Slope (1:X)</td> <td>50.0</td> </tr> <tr> <td>Safety Factor</td> <td>2.0</td> <td>Depression Storage (mm)</td> <td>5</td> </tr> <tr> <td>Porosity</td> <td>0.30</td> <td>Evaporation (mm/day)</td> <td>3</td> </tr> <tr> <td>Invert Level (m)</td> <td>30.700</td> <td>Membrane Depth (m)</td> <td>0</td> </tr> </table> <p style="text-align: center;"><u>Orifice Outflow Control</u></p> <p style="text-align: center;">Diameter (m) 0.100 Discharge Coefficient 0.600 Invert Level (m) 30.700</p>			Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	9.1	Membrane Percolation (mm/hr)	1000	Length (m)	50.0	Max Percolation (l/s)	126.4	Slope (1:X)	50.0	Safety Factor	2.0	Depression Storage (mm)	5	Porosity	0.30	Evaporation (mm/day)	3	Invert Level (m)	30.700	Membrane Depth (m)	0
Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	9.1																							
Membrane Percolation (mm/hr)	1000	Length (m)	50.0																							
Max Percolation (l/s)	126.4	Slope (1:X)	50.0																							
Safety Factor	2.0	Depression Storage (mm)	5																							
Porosity	0.30	Evaporation (mm/day)	3																							
Invert Level (m)	30.700	Membrane Depth (m)	0																							
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Eclipse House Sittingbourne Road Maidstone ME14 3EN	Porous pavement 6	
Date 06/03/2026 11:17 File cas.CASX	Designed by Chris Checked by	

Causeway

Source Control 2019.1

Cascade Summary of Results for pp6.SRCX

Upstream Outflow To Overflow To Structures

pp5.SRCX basin.SRCX (None)
pp4.SRCX
pp4 a.SRCX
pp3.SRCX

Half Drain Time : 42 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max E Outflow (l/s)	Max Volume (m³)	Status
15 min Summer	31.206	0.506	0.0	41.3	41.3	145.7	Flood Risk
30 min Summer	31.317	0.617	0.0	46.5	46.5	177.8	Flood Risk
60 min Summer	31.394	0.694	0.0	49.8	49.8	199.8	Flood Risk
120 min Summer	31.438	0.738	0.0	51.6	51.6	212.6	Flood Risk
180 min Summer	31.442	0.742	0.0	51.7	51.7	213.8	Flood Risk
240 min Summer	31.429	0.729	0.0	51.2	51.2	209.9	Flood Risk
360 min Summer	31.382	0.682	0.0	49.3	49.3	196.5	Flood Risk
480 min Summer	31.330	0.630	0.0	47.1	47.1	181.5	Flood Risk
600 min Summer	31.282	0.582	0.0	45.0	45.0	167.7	Flood Risk
720 min Summer	31.240	0.540	0.0	43.0	43.0	155.6	Flood Risk
960 min Summer	31.147	0.447	0.0	38.3	38.3	128.8	O K
1440 min Summer	31.034	0.334	0.0	31.8	31.8	96.3	O K
2160 min Summer	30.951	0.251	0.0	25.8	25.8	72.2	O K
2880 min Summer	30.918	0.218	0.0	21.2	21.2	62.7	O K
4320 min Summer	30.884	0.184	0.0	16.5	16.5	53.0	O K
5760 min Summer	30.863	0.163	0.0	13.6	13.6	47.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
15 min Summer	167.069	0.0	247.4	24
30 min Summer	102.772	0.0	307.9	34
60 min Summer	63.219	0.0	383.4	54
120 min Summer	38.889	0.0	474.7	86
180 min Summer	29.268	0.0	537.5	120
240 min Summer	23.922	0.0	586.8	152
360 min Summer	18.004	0.0	663.8	218
480 min Summer	14.716	0.0	724.2	282
600 min Summer	12.585	0.0	774.6	344
720 min Summer	11.075	0.0	818.3	404
960 min Summer	8.655	0.0	851.9	526
1440 min Summer	6.114	0.0	900.8	766
2160 min Summer	4.320	0.0	953.1	1108
2880 min Summer	3.376	0.0	989.8	1472
4320 min Summer	2.505	0.0	1096.0	2204
5760 min Summer	2.027	0.0	1178.6	2936

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Eclipse House Eclipse Park Sittingbourne Road Maidstone ME14 3EN			Porous pavement 6				
Date 06/03/2026 11:17			Designed by Chris				
File cas.CASX			Checked by				
Causeway			Source Control 2019.1				
Cascade Summary of Results for pp6.SRCX							
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max E Outflow (l/s)	Max Volume (m³)	Status
7200 min Summer	30.849	0.149	0.0	11.7	11.7	42.9	O K
8640 min Summer	30.838	0.138	0.0	10.2	10.2	39.7	O K
10080 min Summer	30.827	0.127	0.0	9.1	9.1	36.5	O K
15 min Winter	31.206	0.506	0.0	41.4	41.4	145.8	Flood Risk
30 min Winter	31.317	0.617	0.0	46.5	46.5	177.7	Flood Risk
60 min Winter	31.393	0.693	0.0	49.7	49.7	199.5	Flood Risk
120 min Winter	31.421	0.721	0.0	50.9	50.9	207.6	Flood Risk
180 min Winter	31.405	0.705	0.0	50.2	50.2	202.9	Flood Risk
240 min Winter	31.372	0.672	0.0	48.9	48.9	193.4	Flood Risk
360 min Winter	31.295	0.595	0.0	45.6	45.6	171.4	Flood Risk
480 min Winter	31.226	0.526	0.0	42.3	42.3	151.4	Flood Risk
600 min Winter	31.169	0.469	0.0	39.5	39.5	135.0	O K
720 min Winter	31.122	0.422	0.0	37.0	37.0	121.5	O K
960 min Winter	31.033	0.333	0.0	31.7	31.7	96.0	O K
1440 min Winter	30.944	0.244	0.0	24.9	24.9	70.2	O K
2160 min Winter	30.898	0.198	0.0	18.4	18.4	56.9	O K
2880 min Winter	30.871	0.171	0.0	14.6	14.6	49.1	O K
4320 min Winter	30.844	0.144	0.0	10.9	10.9	41.4	O K
5760 min Winter	30.824	0.124	0.0	8.8	8.8	35.8	O K
7200 min Winter	30.811	0.111	0.0	7.5	7.5	31.9	O K
8640 min Winter	30.802	0.102	0.0	6.6	6.6	29.2	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)			
7200 min Summer	1.720	0.0	1244.6	3672			
8640 min Summer	1.504	0.0	1300.1	4400			
10080 min Summer	1.343	0.0	1347.6	5136			
15 min Winter	167.069	0.0	247.4	24			
30 min Winter	102.772	0.0	307.9	33			
60 min Winter	63.219	0.0	383.4	56			
120 min Winter	38.889	0.0	474.7	90			
180 min Winter	29.268	0.0	537.5	126			
240 min Winter	23.922	0.0	586.8	162			
360 min Winter	18.004	0.0	663.8	228			
480 min Winter	14.716	0.0	724.2	292			
600 min Winter	12.585	0.0	774.6	356			
720 min Winter	11.075	0.0	818.3	418			
960 min Winter	8.655	0.0	851.9	538			
1440 min Winter	6.114	0.0	900.8	764			
2160 min Winter	4.320	0.0	953.1	1124			
2880 min Winter	3.376	0.0	989.9	1496			
4320 min Winter	2.505	0.0	1096.0	2204			
5760 min Winter	2.027	0.0	1178.6	2944			
7200 min Winter	1.720	0.0	1244.8	3672			
8640 min Winter	1.504	0.0	1300.4	4384			
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Eclipse House Eclipse Park Sittingbourne Road Maidstone ME14 3EN																												
Date 06/03/2026 11:17 File cas.CASX																												
Porous pavement 6		Designed by Chris																										
Causeway		Checked by																										
		Source Control 2019.1																										
<p style="text-align: center;"><u>Cascade Summary of Results for pp6.SRCX</u></p> <table><tr><th>Storm Event</th><th>Max Level (m)</th><th>Max Depth (m)</th><th>Max Infiltration (l/s)</th><th>Max Control (l/s)</th><th>Max Σ Outflow (l/s)</th><th>Max Volume (m³)</th><th>Status</th></tr><tr><td>10080 min Winter</td><td>30.796</td><td>0.096</td><td>0.0</td><td>5.9</td><td>5.9</td><td>27.7</td><td>O K</td></tr></table> <table><tr><th>Storm Event</th><th>Rain (mm/hr)</th><th>Flooded Volume (m³)</th><th>Discharge Volume (m³)</th><th>Time-Peak (mins)</th></tr><tr><td>10080 min Winter</td><td>1.343</td><td>0.0</td><td>1348.1</td><td>5120</td></tr></table>			Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status	10080 min Winter	30.796	0.096	0.0	5.9	5.9	27.7	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)	10080 min Winter	1.343	0.0	1348.1	5120
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status																					
10080 min Winter	30.796	0.096	0.0	5.9	5.9	27.7	O K																					
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)																								
10080 min Winter	1.343	0.0	1348.1	5120																								
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DHA Transport Ltd		Page 5																								
Eclipse House Sittingbourne Road Maidstone ME14 3EN	Porous pavement 6																									
Date 06/03/2026 11:17	Designed by Chris																									
File cas.CASX	Checked by																									
Causeway		Source Control 2019.1																								
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Date 15/05/2026 09:53

File cas.CASX

basin 1

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Source Control 2019.1

Micro Drainage

Cascade Summary of Results for basin.SRCX

Upstream Outflow To Overflow To Structures

pp6.SRCX (None) (None)

pp5.SRCX

pp4.SRCX

pp4 a.SRCX

pp3.SRCX

pp2.SRCX

pp2a.SRCX

pp1.SRCX

Half Drain Time : 1625 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
15 min Summer	30.674	0.374	0.0	5.5	5.5	274.9	O K
30 min Summer	30.768	0.468	0.0	5.5	5.5	353.2	O K
60 min Summer	30.882	0.582	0.0	5.5	5.5	452.2	O K
120 min Summer	31.019	0.719	0.0	5.5	5.5	579.7	O K
180 min Summer	31.108	0.808	0.0	5.5	5.5	666.7	O K
240 min Summer	31.170	0.870	0.0	5.5	5.5	729.7	O K
360 min Summer	31.261	0.961	0.0	5.5	5.5	824.7	Flood Risk
480 min Summer	31.327	1.027	0.0	5.5	5.5	896.5	Flood Risk
600 min Summer	31.379	1.079	0.0	5.5	5.5	953.9	Flood Risk
720 min Summer	31.421	1.121	0.0	5.5	5.5	1001.2	Flood Risk
960 min Summer	31.437	1.137	0.0	5.5	5.5	1020.2	Flood Risk
1440 min Summer	31.431	1.131	0.0	5.5	5.5	1012.6	Flood Risk
2160 min Summer	31.373	1.073	0.0	5.5	5.5	947.2	Flood Risk
2880 min Summer	31.321	1.021	0.0	5.5	5.5	889.1	Flood Risk

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
15 min Summer	167.069	0.0	357.9	244
30 min Summer	102.772	0.0	429.9	289
60 min Summer	63.219	0.0	582.3	348
120 min Summer	38.889	0.0	716.9	446
180 min Summer	29.268	0.0	798.4	504
240 min Summer	23.922	0.0	836.3	548
360 min Summer	18.004	0.0	829.8	626
480 min Summer	14.716	0.0	818.0	700
600 min Summer	12.585	0.0	810.1	776
720 min Summer	11.075	0.0	805.4	856
960 min Summer	8.655	0.0	793.2	1034
1440 min Summer	6.114	0.0	773.1	1450
2160 min Summer	4.320	0.0	1456.6	1828
2880 min Summer	3.376	0.0	1497.6	2196

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Eclipse HouseEclipse ParkSittingbourne RoadMaidstone ME14 3EN

Date 15/05/2026 09:53File cas.CASX

basin 1

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Page 2



Causeway

Source Control 2019.1

Cascade Summary of Results for basin.SRCX

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
4320 min Summer	31.282	0.982	0.0	5.5	5.5	846.9	Flood Risk
5760 min Summer	31.238	0.938	0.0	5.5	5.5	799.7	Flood Risk
7200 min Summer	31.191	0.891	0.0	5.5	5.5	750.5	O K
8640 min Summer	31.141	0.841	0.0	5.5	5.5	700.0	O K
10080 min Summer	31.088	0.788	0.0	5.5	5.5	647.2	O K
15 min Winter	30.674	0.374	0.0	5.5	5.5	274.9	O K
30 min Winter	30.768	0.468	0.0	5.5	5.5	353.2	O K
60 min Winter	30.882	0.582	0.0	5.5	5.5	452.1	O K
120 min Winter	31.019	0.719	0.0	5.5	5.5	579.3	O K
180 min Winter	31.108	0.808	0.0	5.5	5.5	666.2	O K
240 min Winter	31.170	0.870	0.0	5.5	5.5	729.1	O K
360 min Winter	31.261	0.961	0.0	5.5	5.5	824.2	Flood Risk
480 min Winter	31.327	1.027	0.0	5.5	5.5	896.2	Flood Risk
600 min Winter	31.379	1.079	0.0	5.5	5.5	954.0	Flood Risk
720 min Winter	31.421	1.121	0.0	5.5	5.5	1001.8	Flood Risk
960 min Winter	31.439	1.139	0.0	5.5	5.5	1022.2	Flood Risk
1440 min Winter	31.435	1.135	0.0	5.5	5.5	1017.5	Flood Risk
2160 min Winter	31.372	1.072	0.0	5.5	5.5	946.0	Flood Risk
2880 min Winter	31.311	1.011	0.0	5.5	5.5	878.2	Flood Risk
4320 min Winter	31.248	0.948	0.0	5.5	5.5	810.4	Flood Risk
5760 min Winter	31.172	0.872	0.0	5.5	5.5	730.8	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
4320 min Summer	2.505	0.0	1413.4	3012
5760 min Summer	2.027	0.0	1818.0	3840
7200 min Summer	1.720	0.0	1918.6	4672
8640 min Summer	1.504	0.0	2002.5	5488
10080 min Summer	1.343	0.0	2072.1	6320
15 min Winter	167.069	0.0	357.9	244
30 min Winter	102.772	0.0	430.0	289
60 min Winter	63.219	0.0	582.3	348
120 min Winter	38.889	0.0	717.0	444
180 min Winter	29.268	0.0	798.6	504
240 min Winter	23.922	0.0	837.0	546
360 min Winter	18.004	0.0	830.9	624
480 min Winter	14.716	0.0	819.1	698
600 min Winter	12.585	0.0	811.0	772
720 min Winter	11.075	0.0	806.2	850
960 min Winter	8.655	0.0	793.9	1024
1440 min Winter	6.114	0.0	774.2	1430
2160 min Winter	4.320	0.0	1456.9	1972
2880 min Winter	3.376	0.0	1499.4	2280
4320 min Winter	2.505	0.0	1433.9	3200
5760 min Winter	2.027	0.0	1818.2	4112

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Eclipse House Sittingbourne Road Maidstone ME14 3EN	basin 1																																											
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Eclipse House Sittingbourne Road Maidstone ME14 3EN	basin 1	
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Causeway		Source Control 2019.1

Cascade Model Details for basin.SRCX

Storage is Online Cover Level (m) 31.500

Infiltration Basin Structure

Invert Level (m) 30.300 Safety Factor 1.5
 Infiltration Coefficient Base (m/hr) 0.00000 Porosity 1.00
 Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	664.0	1.200	1183.0

Hydro-Brake® Optimum Outflow Control

Unit Reference MD-SHE-0107-5500-1200-5500
 Design Head (m) 1.200
 Design Flow (l/s) 5.5
 Flush-Flo™ Calculated
 Objective Minimise upstream storage
 Application Surface
 Sump Available Yes
 Diameter (mm) 107
 Invert Level (m) 30.300
 Minimum Outlet Pipe Diameter (mm) 150
 Suggested Manhole Diameter (mm) 1200

Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.200	5.5
Flush-Flo™	0.350	5.5
Kick-Flo®	0.745	4.4
Mean Flow over Head Range	-	4.8

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	3.7	1.200	5.5	3.000	8.4	7.000	12.6
0.200	5.2	1.400	5.9	3.500	9.1	7.500	13.1
0.300	5.5	1.600	6.3	4.000	9.7	8.000	13.5
0.400	5.5	1.800	6.6	4.500	10.2	8.500	13.9
0.500	5.4	2.000	7.0	5.000	10.8	9.000	14.2
0.600	5.2	2.200	7.3	5.500	11.3	9.500	14.6
0.800	4.6	2.400	7.6	6.000	11.7		
1.000	5.1	2.600	7.9	6.500	12.2		

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