

**Land to the Rear of Oaklands
Keymer Road,
Burgess Hill,
West Sussex,
RH15 0AL**

Flood Risk Assessment Report

July 2026
Final

Issue No 2
R100/10

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Report Title: SuDs Drainage Report

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Client Contact Name:

Client Company Name: Unique Homes Limited

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West Sussex

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1. EXECUTIVE SUMMARY

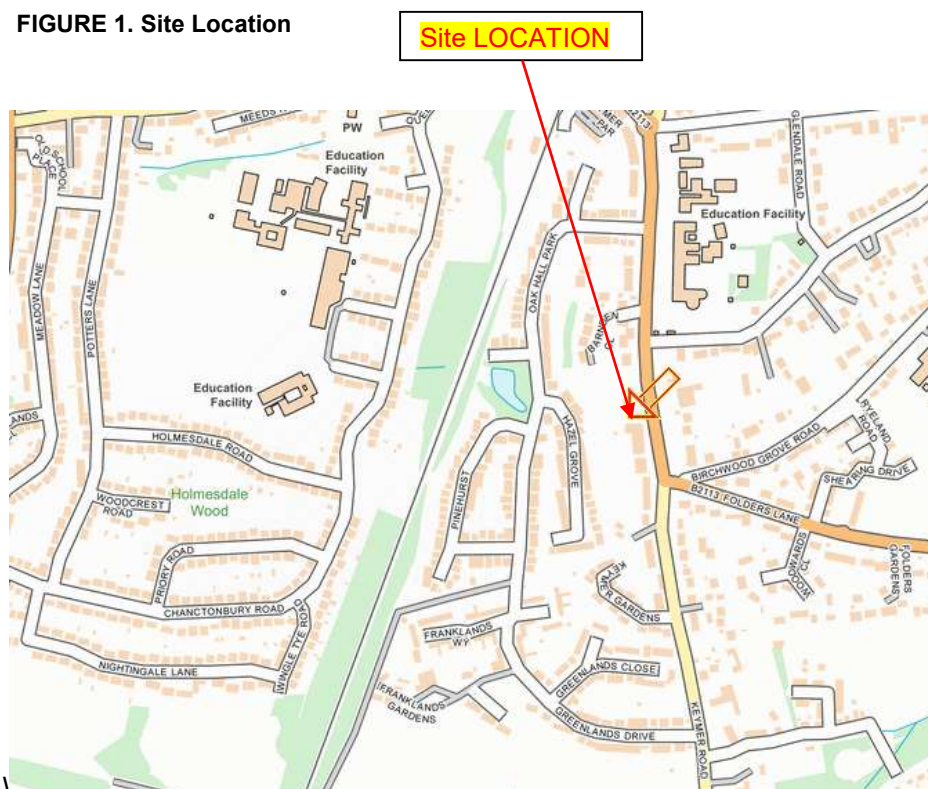
- 1.1 The proposed development will consist of the erection of new detached dwelling house Land to the rear of Oaklands Keymer Road, Burgess Hill, West Sussex, RH15 0AL
- 1.2 The British Geological Survey (BGS) indicated that the site is directly underlain by bedrock geology of the Weald Clay Formation (Mudstone).
- 1.3 In-situ site infiltration/soakaway testing undertaken in accordance with the methods described in BRE Digest 365(2007) by Earth Environmental & Geotechnical (Southern) Limited recorded results of the soakaway testing, infiltration rates between 1.47×10^{-5} and 1.97×10^{-5} were achieved and indicated the general geology at the site consisted of between 0.45m to 0.60m of Made Ground overlying sandy Clay proven to a maximum depth of 1.2mbgl overlying silty Clay to a maximum proven depth of 2.0mbgl.
- 1.4 It is therefore proposed that the surface water runoff from site is to be discharged to ground via infiltration. The front section of roof will be drained using permeable paving construction and the rear section of roof with drain to a trench soakaway designed for the 1 in 100- year +45% storm +10% urban creep. The access road and parking will be constructed of permeable paving are to freely drain to ground via infiltration.
- 1.5 The Foul water drainage will discharge to the public sewer in Keymer Road via a pumping station into an existing manhole at the main entrance into the site. The pumping station will be fitted with dual pumps (working & assist) and is sized to accommodate 24hour storage in the event of a pump failure.
- 1.6 Remedial earthworks will be required prior to construction.

2 INTRODUCTION

- 2.1 TPS Civils & Design Limited has been appointed to undertake a drainage strategy report for a proposed development at Oaklands, Keymer Road Burgess Hill.
- 2.2 The proposed development will consist of the erection of a detached dwellings with detached garages following the demolition of 2 No. residential structures. The proposed development is located as OS Grid Reference 531699, 118300 and has the post code RH15 0AL.
- 2.3 The purpose of this drainage scheme is to demonstrate how the proposed development can be satisfactorily drained without increasing flood risk onsite and where appropriate, providing betterment over the existing site to reduce flood risk in the region.
- 2.4 In addition to the above, it will also demonstrate that surface water drainage is designed to meet the latest national and local drainage policies to include:-
- The results of an assessment into the potential for disposing of surface water by means of Sustainable Drainage System(SuDS).
 - Details of foul water drainage and means of disposal.

- Details of a management and maintenance plan for the drainage scheme.
- The appropriate design standard for the surface water drainage scheme must be the 1 in 100-year return period with a 45% allowance for climate change + 10% Urban Creep.

FIGURE 1. Site Location

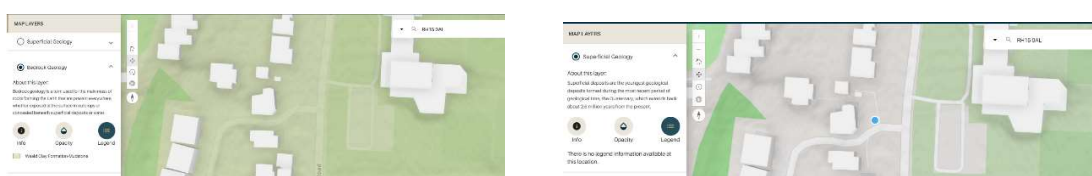


3 SITE GEOLOGY

3.1 British Geological Survey information

- 3.1.1 The British Geological Survey confirms the underlain bedrock geology to be made up of the Weald Clay Formation (Mudstone). At the time of writing the British Geological Survey website does not have any recorded information of the Superficial.

FIGURE 2. British Geological Survey



3.2 Infiltration Testing

- 3.2.1 Site Infiltration tests undertaken by Earth Environmental & Geotechnical (Southern) Limited d (Project ref: R2962 dated June 2023). During the investigation, 2 No. trial pits were excavated and soakaway testing in accordance with BRE Digest 365(2007) in was undertaken in one trial pit and the excavation of a second pit to determine deeper ground conditions and the absence of shallow groundwater.
- 3.2.2 Trial Pit TP01 was excavated to a depth of 2.0mbgl. TP01A was excavated to a depth of 1.0mbgl. No groundwater was observed during the excavation works.
- 3.2.3 In general, the geology at the site consisted of between 0.45m to 0.60m of Made Ground overlying sandy Clay proven to a maximum depth of 1.2mbgl overlying silty Clay to a maximum proven depth of 2.0mbgl.
- 3.2.4 The results of the soakaway testing, infiltration rates between $1.47 \times 10^{-5} \text{m/s}$ and $1.97 \times 10^{-5} \text{m/s}$ were achieved. A copy of the infiltration test results can be found in Appendix.

4 EXISTING DRAINAGE

- 4.1 The site is currently landscaped and permeable access road construction and surface water runoff, discharges naturally into the ground via infiltration.
- 4.2 The foul water drainage from the Oaklands property discharges into an existing public foul water sewer main which runs adjacent to Kymer Road to the east of the site.

5 PROPOSED DRAINAGE STRATEGY

5.1 SuDS Hierarchy

- 5.1.1 All options for the destination of run-off generated on site have been assessed in line with the SuDS hierarchy as set out in Building Regulations Part H document and DEFRA's Draft National Standards for SuDS

TABLE 5.1 SuDS Hierarchy

Discharge Hierarchy	
Rainwater Harvesting	Yes - rainwater harvesting using water butts is proposed to allow rainwater reuse on site.
Discharge to Ground Yes	Yes – Surface water runoff is to be discharged to ground via proposed ring soakaway
Discharge to Watercourse	N/A due to above
Discharge to Surface Water	N/A due to above
Discharge to Other Sewer	N/A due to above

5.2 PROPOSED HYDRAULIC CALCULATION SPECIFICATIONS

TABLE 2. SuDS Hierarchy

Design Rainfall Methodology	FEH-22
Volumetric Run-off Coefficient (Cv)	1
CV Winter and Summer	1
Additional Storage (m3 / ha)	0.0
Maximum Rainfall (mm/hr)	207.40
Trench Soakaway	Base Coefficient (m/hr): 0.035
	Side Coefficient (m/hr): 0.035
	Trench Width (m): 0.8
	Trench Length (m): 41.0
	Trench Depth (m): 1.5
	Factor of Safety: 2
	Porosity: 30%
	Storm Duration 240 Minute Winter
	Time to Half Empty (mins): 184
Permeable Paving Design Access Road & Carparking Areas P1 TO P7	Base Coefficient (m/hr): 0.035
	Side Coefficient (m/hr): 0.00
	Factor of Safety: 2
	Porosity: 30%
	Time to Half Empty (mins): Less than 24hours

5.3 SURFACE WATER DRAINAGE

- 5.3.1 Based upon the results of the infiltration test that was conducted on site, it is determined that the discharge of surface water runoff via infiltration is viable. The surface water runoff is to be captured into a positive drainage network prior to discharging to ground via the installation of a trench soakaway and permeable paving; the trench soakaways & permeable paving have been designed to the recorded infiltration rate of $1.476 \times 10^{-5} \text{m/s}$ and store and attenuate surface water runoff for the 1 in 100-year storm +45% + 10% urban creep. The proposed trench soakaways are to be located a minimum of 5m away from any structures in addition to 2.5m away from the site boundary.

- 5.3.2 Water Butts will be installed for rainwater harvesting which will allow the reuse of rainwater within the external landscaped areas of the site.
- 5.3.3 The access road is to be constructed from a permeable surface which has also been designed to the recorded infiltration rate and will allow all runoff to freely drain to ground via infiltration.
- 5.3.4 Hydraulic calculations have been carried out which can be found at Appendix. It should be noted that a 10% urban creep has been applied to the roof areas only. This is included within the hydraulic calculations as additional area which is highlighted within the impermeable areas plan in Appendix.

5.4 WATER QUALITY

- 5.4.1 A key requirement of any SuDS system is that it protects the receiving water body from the risk of pollution.
- 5.4.1 Frequent and short duration rainfall events are those that are most loaded with potential contaminants (silts, fines, heavy metals, and various organic and inorganic contaminants) therefore the first 5-10mm of rainfall should be adequately treated with SuDS.
- 5.4.2 The new SuDS Manual (Ciria C753, November 2015) introduces slightly different approach compared to the previous version for the water quality management of surface water. The Manual describes risks posed by the surface water runoff to the receiving environment as a function of:
- The pollution hazard at a particular site (i.e., the pollution source)
 - The effectiveness of SuDS treatment components in reducing levels of pollutants to environmentally acceptable levels
 - The sensitivity of the receiving environment
- 5.4.3 The recommended approaches for water quality risk management are given in the SuDS Manual Table 26.1.

TABLE 26.1 from SuDS manual. Approaches to Water Quality Risk Management

Approaches to Water Quality Risk Management			
Design method	Hazard Characterisation	Risk Reduction	
		For Surface Water	For Groundwater
Simple Index Approach	Simple pollution hazard indices	Simple SuDS hazard mitigation indices (Table 26.3)	Simple SuDS hazard mitigation indices (Table 26.4)
Risk Screening Factors characterising traffic	Factors characterising traffic density and extent of infiltration like to occur (Table 26.5)	N/A	Factors characterising unsaturated soil depth and type, and predominant flow type through the soils (Table 26.5)

Detailed Risk Assessment	Site specific information used to define likely pollutants and their significance	More detailed, component specific performance information used to demonstrate that the proposed SuDS components reduce the hazard to acceptable levels
Process-based Treatment modelling	Time series rainfall used with generic pollution characteristics to determine statistical distributions of likely concentrations and loadings in the runoff	Models that represent the treatment processes in the proposed SuDS components give estimates of reductions in even mean discharge concentrations and total annual load reductions delivered by the system

5.4.4 As per Table 26.1 Simple Index approach will be used as a design method for this site.

5.4.5 Table 26.2 will provide hazard classification of different land uses. The land uses for the surface water drainage for this site are.

- Residential Roofs
- The property driveways and car parking area

5.4.6 To deliver adequate treatment, the selected SuDS components should have a total pollution mitigation index for each contaminant type that equals or exceeds the pollution hazard index for each contaminant type. Therefore, the following must be achieved for the surface running off the site.

Total SuDS mitigation index $\geq$ pollution hazard index

5.4.7 Pollution Hazard Indices are given for different land uses in Table 26.2 of the SuDS manual;

TABLE 26.2 from SuDS manual. Pollution Hazard Indices for Different Land Use Classifications

Pollution Hazard Indices for Different Land Use Classifications				
Land Use	Pollution Hazard level	Total Suspended solids	Metals	Hydro-Carbon
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 (e.g., cul-de-sacs, homezones and general access roads) and non-residential car parking with infrequent change (e.g., schools, offices) i.e., < 300 traffic movements/day	Low	0.5	0.4	0.4
Commercial yard and delivery areas, nonresidential car parking with frequent change (e.g., hospitals, retail), all roads except low traffic roads and trunk roads/motorways	Medium	0.7	0.6	0.7

Sites with heavy pollution (e.g., 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	High	0.8	0.8	0.9
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5.4.8 From Table 26.2 the following information is tabulated in Table 1

Table 3: Pollution hazard index and destination of runoff for the proposed site

Pollution hazard index and destination of runoff for the proposed site					
Land Use	Destination of Runoff	Pollution Hazard Level	Total Suspended Solids Metals Hydrocarbons	Metals	Hydrocarbons
Residential Roof	Ground Water	Very Low	0.2	0.2	0.05
Individual driveways, residential car parks and low traffic roads	Ground Water	Low	0.5	0.4	0.4

5.4.9 The SuDS mitigation index will be obtained from Table 26.4 (for groundwater) of the SuDS manual.

Table 26.4 from SuDS manual. Indicative SuDS Mitigation Indices for discharges to ground waters.

5.4.10 SuDS mitigation index are tabulated in Table 5 as followed.

Indicative SuDS Mitigation Indices for discharges to ground waters			
Characteristics of the material overlying the proposed infiltration surface, through which the runoff percolates	TSS	Metals	Hydrocarbons
A layer of dense vegetation underlain by a soil with good containment attenuation potential of at least 300mm in depth	0.6	0.5	0.6
A soil with good contaminant attenuation potential of at least 300mm in depth	0.4	0.3	0.3
Constructed permeable pavement (where a suitable filtration layer is included that provides treatment, and including a geotextile at the base separating the foundation from the subgrade) underlain by a soil with good contaminant attenuation potential of at least 300mm in depth	0.7	0.6	0.6
Bioretention underlain by a soil with good contaminant attenuation potential of at least 300mm in depth	0.8	0.8	0.8
Proprietary treatment systems	These must demonstrate that they can address each of the contaminant types to acceptable levels for inflow		

	concentrations relevant to the contributing drainage area
--	---

Table 4: SuDS mitigation index

SuDS mitigation index						
Runoff Source	Destination of Runoff	Mitigation Index Source	Type of SuDS Component	Total Suspended Solids (TSS)	Metals	Hydrocarbons
Individual driveways, residential car parks and low traffic roads	Ground water	Table 26.4 (for ground waters)	Permeable Pavement	0.7	0.6	0.7
Residential Roofs	Ground water	Table 26.4 (for ground waters)	Permeable Pavement	0.7	0.6	0.6

- 5.4.11 The above analysis demonstrates that the SuDS devices within the design will mitigate any pollution present within the surface water system.

5.5 FOUL WATER DRAINAGE

- 5.5.1 The foul water will discharge via a private package pumping station fitted with dual pumps (working & standby) and will to the public sewer in Keymer Road via a new direct connection into an existing private chamber located on site. The pumping station is design to accommodate 24hour storage capacity in the event of the pump failure

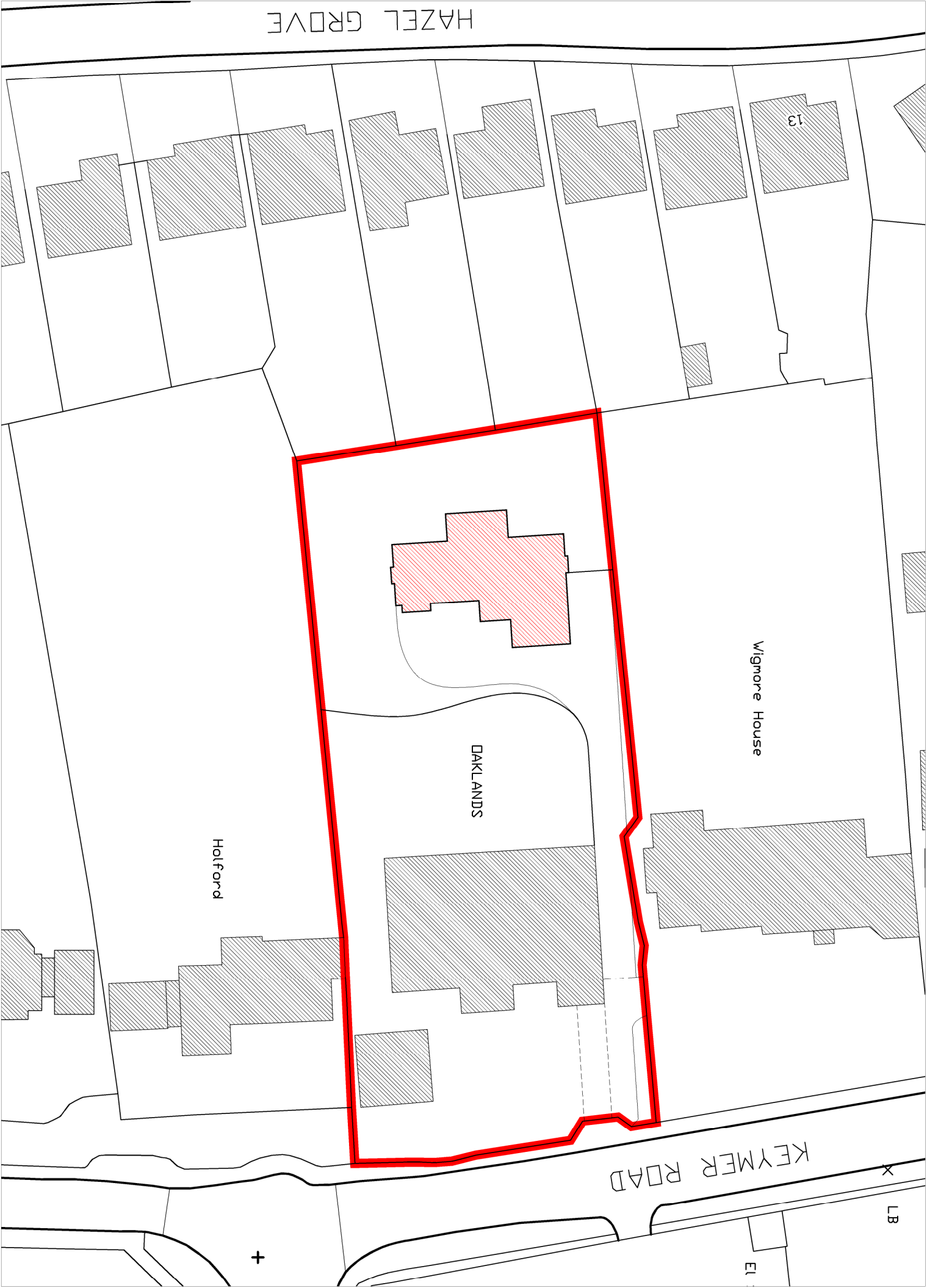
6 SUMMARY AND CONCLUSIONS

- 6.1 TPS Civils & Design Limited has been instructed to produce a Drainage statement under National Planning Policy Framework (NPPF) to support the Planning Application for the erection of a new detached dwelling at Land to the Rear of Oakland's.
- 6.2 The Surface Water will discharge to ground via infiltration. The front section of roof area , access road and parking will drain to permeable paving system. The rear section of roof area will drain to a trench soakaway design to cater, store/attenuation for the 1 in 100-year +45% storm +10% urban creep. Hard paved areas are to freely drain to ground via infiltration
- 6.3 The Foul water will discharge into the adjacent public foul sewer via a new connection into an existing manhole on site.
- 6.4 Remedial works will be required prior to construction.
- 6.5 The report has demonstrated that the proposed drainage measures ensure that suitable means of surface water and foul drainage can be achieved for the proposed development.
- 6.6 A maintenance schedule has been written up for the drainage network including the SuDS features and can be found within the Appendix.

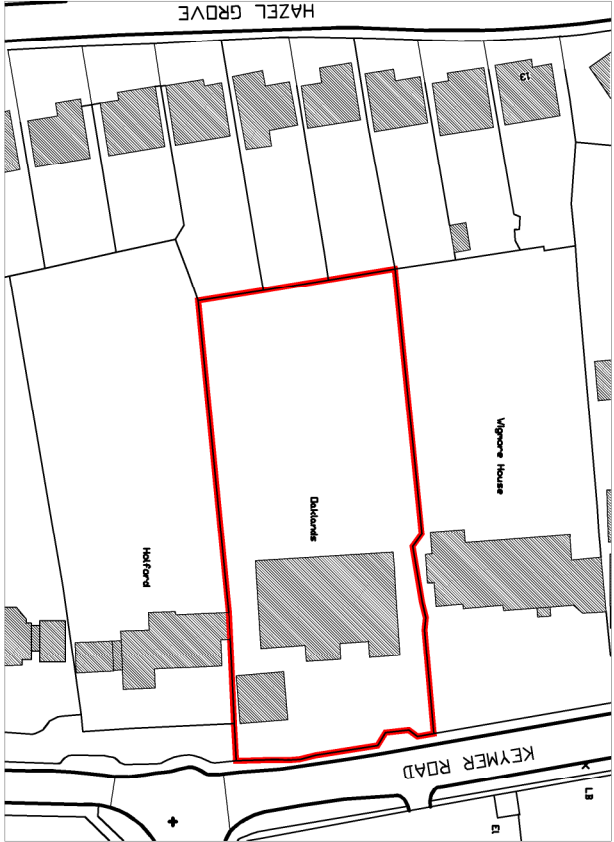
Appendices

Appendix A-

Site Proposal & Information



Proposed block plan Scale 1:500@A3



Existing site location plan Scale 1:1250@A3



Planning issue

rev.	date

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client Stratus UK Ltd

project Land at the rear of Oaklands
Keymer Road, Burgess Hill

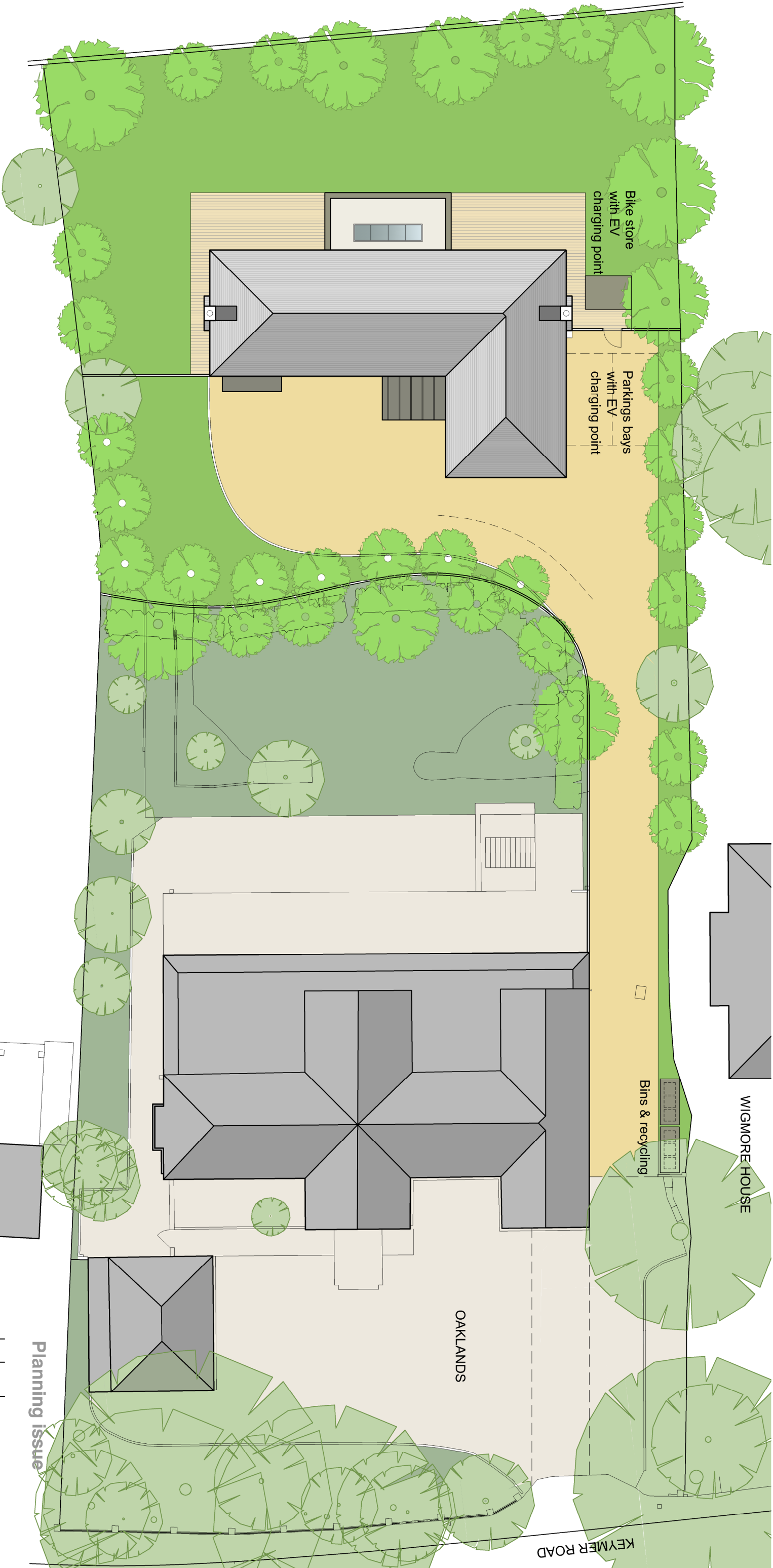
drawing Block & site location plans

scale	shown @ A3	date	drawn

24 St Johns Road tel: 01273 203230
Hove, East Sussex email: info@taarchitects.co.uk
BN3 2PB



Turner Associates
Architects and Planning Consultants



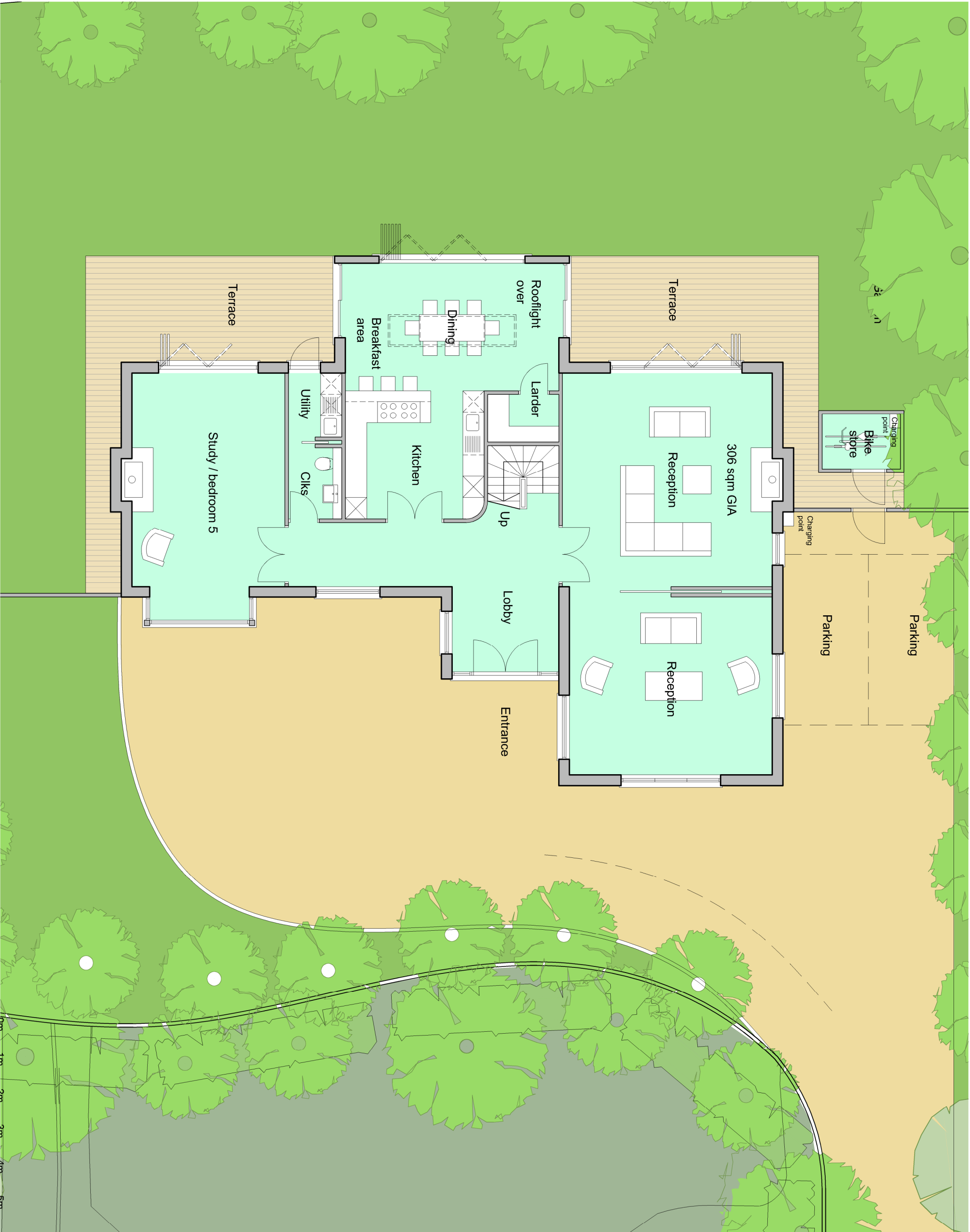
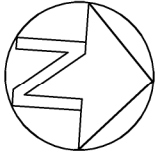
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client	Stratus UK Ltd

project	Land at the rear of Oaklands Keymer Road, Burgess Hill
drawing	Proposed site plan
scale	Shown @ A3 drawn

24 St Johns Road
Hove, East Sussex
BN3 2FB

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email: info@turnerhicks.co.uk

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Planning issue

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client
Stratus UK Ltd

project
Land at the rear of Oaklands
Keymer Road, Burgess Hill

drawing
Proposed ground floor plans

scale	Shown @ A3	date	drawn

24 St Johns Road
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tel: 01273 203230
email: info@taarchitects.co.uk

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Appendix B-

Drainage & Claculations

Dixon Hurst Kemp		Page 1
Victoria Court 22 St Pancras West Sussex PO1...	Oaklands, Keymer... Surface Water Dr... Greenfield Runof...	
Date May 2026 File TREANCH SOA...	Designed by TS Checked by	
Elstree Computin... Source Control w.12.6		

ICP SUDS Mean Annual Flood

Input

Return Period (years)	2	Soil	0.450
Area (ha)	0.100	Urban	0.000
SAAR (mm)	924	Region Number	Region 7

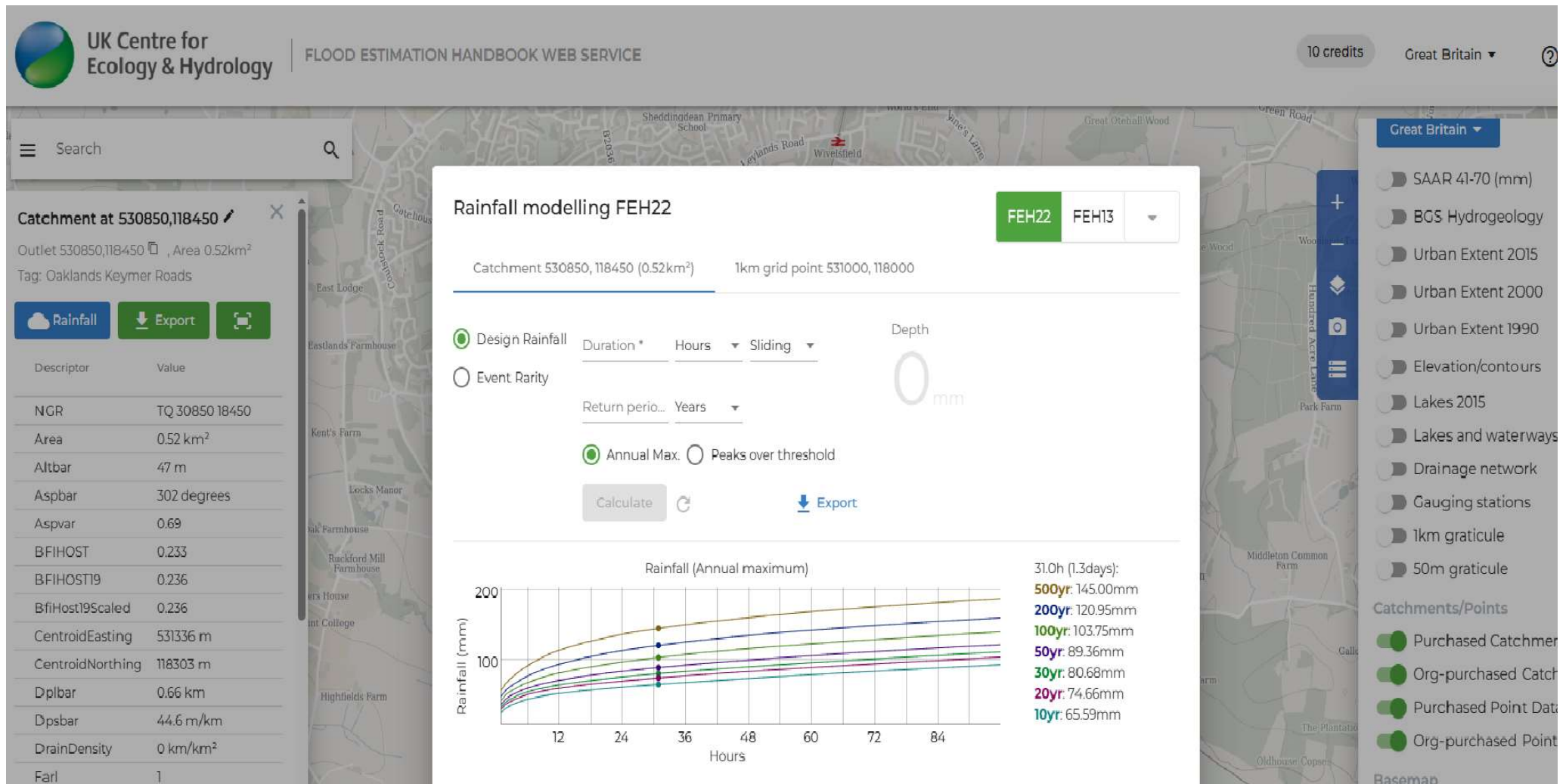
Results 1/s

QBAR Rural	0.6
QBAR Urban	0.6

Q2 years 0.5

Q1 year	0.5
Q30 years	1.4
Q100 years	1.9

FEH 22 – RAINFALL DATA



In addition to these notes, reference shall be made to the specification of works and the relevant Architect's and Specialist's drawings and specifications. The Contractor is responsible for verifying all site dimensions before commencing work.

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NOTES

1. THIS DRAWING IS BASED ON DRAWING NO.1A 1476-10 BY TURNER ARCHITECTS.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE FOLLOWING DRAWING:
100/11 DRAINAGE DETAILS SHEET 1 OF 2
100/12 DRAINAGE DETAILS SHEET 2 OF 2
100/13 CATCHMENT LAYOUT & OVERLAND FLOW PATH PLAN
3. CONTRACTOR IS TO TAKE NECESSARY PRECAUTIONS TO ENSURE THAT TRENCHES ARE KEPT CLEAR OF GROUND WATER DURING CONSTRUCTION.
4. ALL DRAINAGE WORKS TO BE CARRIED OUT IN ACCORDANCE WITH "SEWERS FOR ADOPTION" 7TH EDITION.
5. ALL ADOPTED PIPEWORK TO BE 1000 VITRIFIED CLAY UNLESS NOTED OTHERWISE.
6. ALL PIPEWORK THROUGH WALLS TO BE IN ACCORDANCE WITH THE BUILDING REGULATIONS.
7. ALL PIPEWORK UNDER ROADS WITH LESS THAN 900MM COVER TO HAVE 150MM CONCRETE SURROUND.
8. MINIMUM GRADIENT TO DRAINS TO BE 1:80 FOR 1100 OR 1100 FW AND 1:100 FOR 1100 SW.
9. POSITIONS OF MANHOLES SHOWN ON THIS DRAWING ARE INDICATIVE ONLY. ACTUAL LOCATIONS TO BE FINALIZED ON SITE.
10. PROVIDE CONCRETE UNTELS OVER OPENINGS WHERE PIPES PASS THROUGH WALLS. ALLOW FOR 150MM CLEARANCE ALL ROUND PIPE.

PRELIMINARY

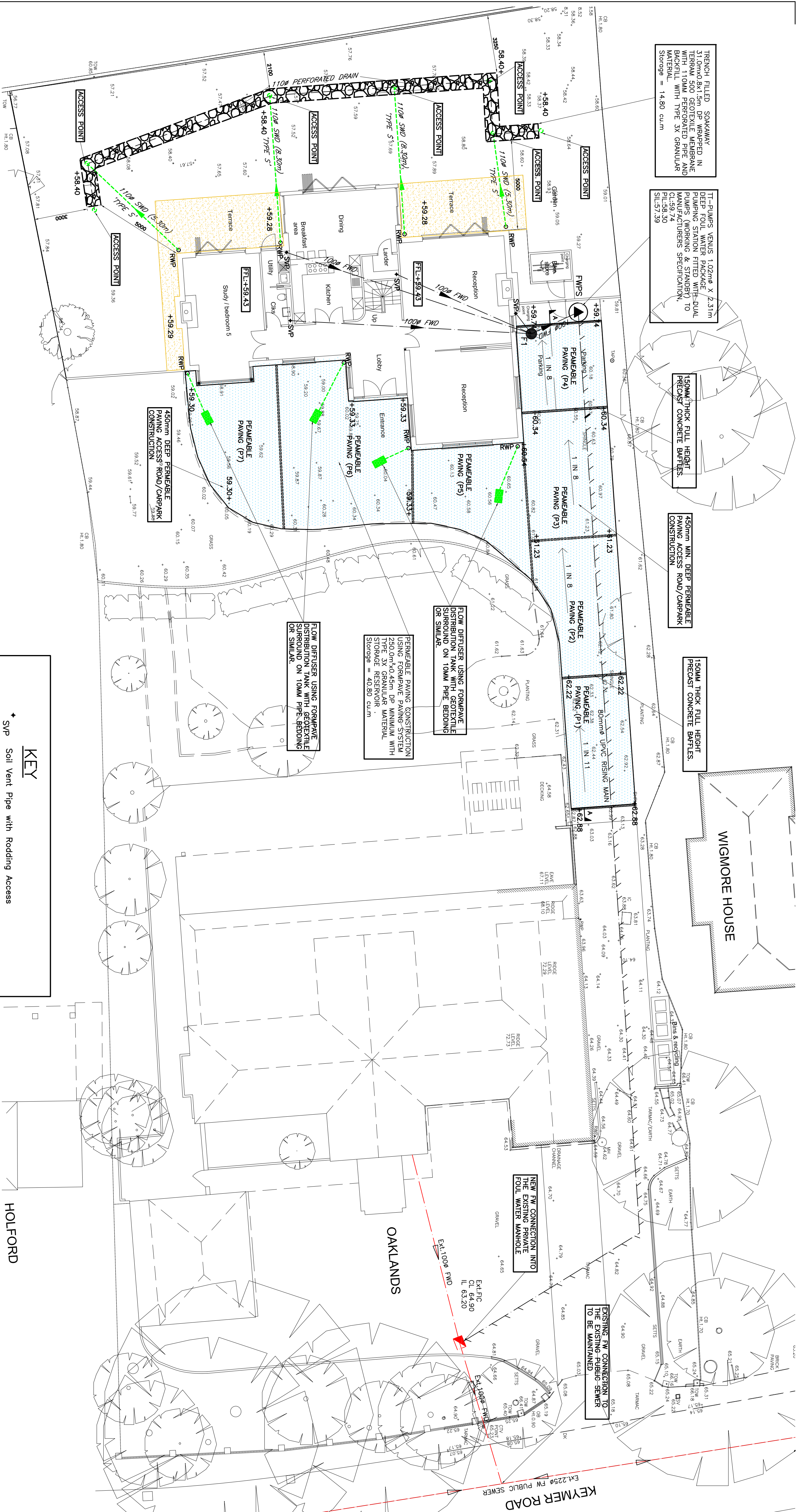
B	AMENDED SITE LAYOUT & NOTES	21/07/26JS	
A	AMENDED SITE LAYOUT	17/05/26JS	
O	ORIGINAL ISSUE	10/05/26JS	
REV	DESCRIPTION	DATE	BY

TPS
CIVIL DESIGN

CONTRACT	OAKLANDS KEYMER ROAD BURGESS HILL
DRAWING	DRAINAGE LAYOUT

DRAWING NO.	REV	B	CHECKED
100/10			JS
SCALE 1:1000@A1	DATE 18/5/26	DRAWN MMC	APPROVED MAY2026
AutoCAD Ref: 100/10			

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REF	PERM. PAVING AREA (ha)	ROOF AREA	DESIGN AREA	COMMENTS
P1	0.003	-	0.003	
P2	0.003	-	0.003	
P3	0.004	-	0.004	
P4	0.003	-	0.003	
P5	0.00325	0.00275	0.006	
P6	0.0065	0.0055	0.012	
P7	0.00325	0.00275	0.006	
TOTAL	0.0260	0.0110	0.0370	

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NOTES

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100/10 DRAINAGE LAYOUT
100/12 DRAINAGE LAYOUT SHEET 2 OF 2
100/13 CATCHMENT AREA & OVERLAND FLOW PATH PLAN

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4. ALL DRAINAGE WORKS TO BE CARRIED OUT IN ACCORDANCE WITH "SEWERS FOR ADOPTION" 7TH EDITION.

5. ALL ADOPTED PIPEWORK TO BE 100ø VITRIFIED CLAY UNLESS NOTED OTHERWISE.

6. ALL PIPEWORK THROUGH WALLS TO BE IN ACCORDANCE WITH THE BUILDING REGULATIONS.

7. ALL PIPEWORK UNDER ROADS WITH LESS THAN 900MM COVER TO HAVE 150MM CONCRETE SURROUND.

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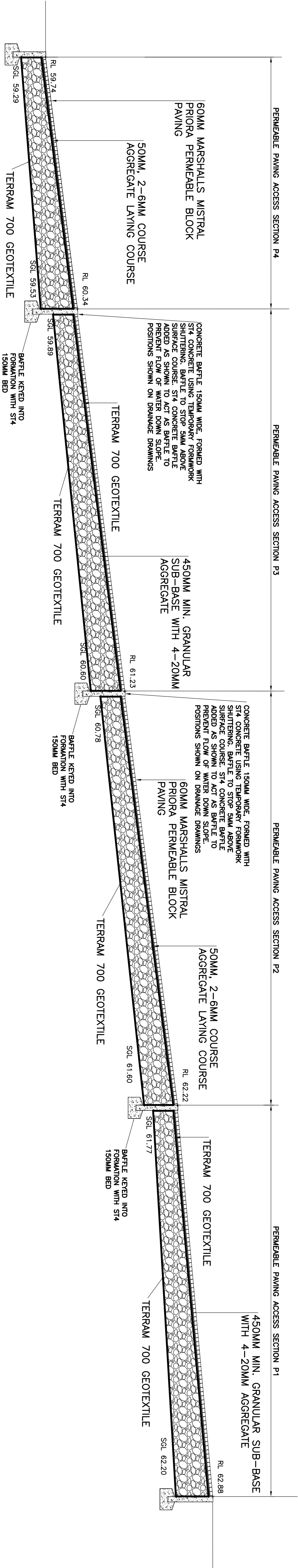
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REV	DESCRIPTION	DATE BY

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CIVIL DESIGN

CONTRACT	OAKLANDS KEYMER ROAD BURGESS HILL
DRAWING	DRAINAGE DETAILS SHEET 2 OF 2

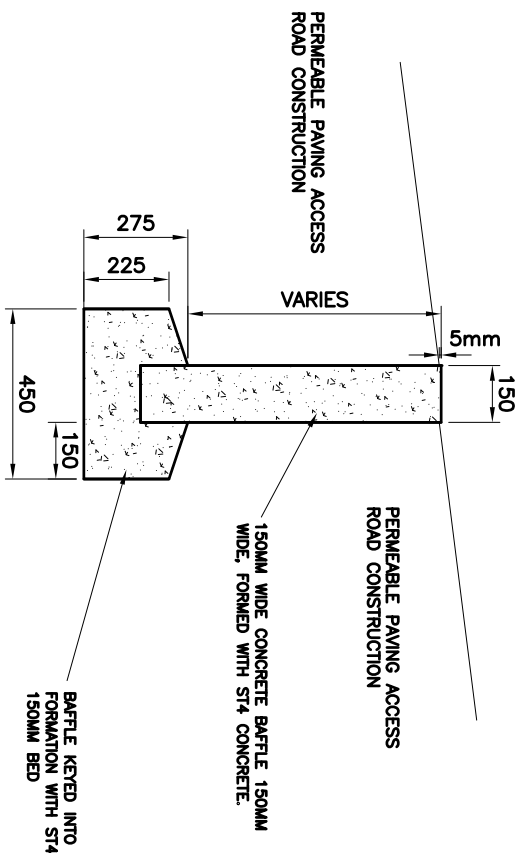
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AutoCAD Ref:	100/10			APPROVED	MAY2026

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SECTION A-A: PERMEABLE BLOCK PAVING
ACCESS ROAD CONSTRUCTION DETAIL

SCALE 1:50



CONCRETE BAFFLE (FULL HEIGHT)

SCALE 1:20

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6. ALL PIPEWORK THROUGH WALLS TO BE IN ACCORDANCE WITH THE BUILDING REGULATIONS.
7. ALL PIPEWORK UNDER ROADS WITH LESS THAN 900MM COVER TO HAVE 150MM CONCRETE SURROUND.
8. MINIMUM GRADIENT TO DRAINS TO BE 1:80 FOR 1100 OR 1100 FW AND 1:100 FOR 110P SW.
9. POSITIONS OF MANHOLES SHOWN ON THIS DRAWING ARE INDICATIVE ONLY. ACTUAL LOCATIONS TO BE FINALIZED ON SITE.
10. PROVIDE CONCRETE UNTELS OVER OPENINGS WHERE PIPES PASS THROUGH WALLS. ALLOW FOR 150MM CLEARANCE ALL ROUND PIPE.

PRELIMINARY

B	AMENDED DRAWING NO. & NOTES	21/07/26JS	
A	AMENDED NOTES	17/06/26JS	
O	ORIGINAL ISSUE	10/06/26JS	
REV	DESCRIPTION	DATE	BY

TPS
CIVIL DESIGN

OAKLANDS
KEYMER ROAD
BURGESS HILL

CATCHMENT AREAS &
OVERLAND FLOWPATH ROUTE
PLAN

DRAWING NO.	REV	CHECKED	
100/13	A	JS	
SCALE	DATE	DRAWN	APPROVED
1:100@A1	MAY26	MMC	MAY2026
AutoCAD Ref: 100/10			

This drawing is produced using AutoCAD. Only written dimensions are to be respected.

This drawing is produced using AutoCAD. Only written dimensions are to be respected

FREE DRAINING TERRACE TIMBER DECKING AREA :
TOTAL – 48m² OR 0.0048Hg
URBAN CREEP NOT APPLIED

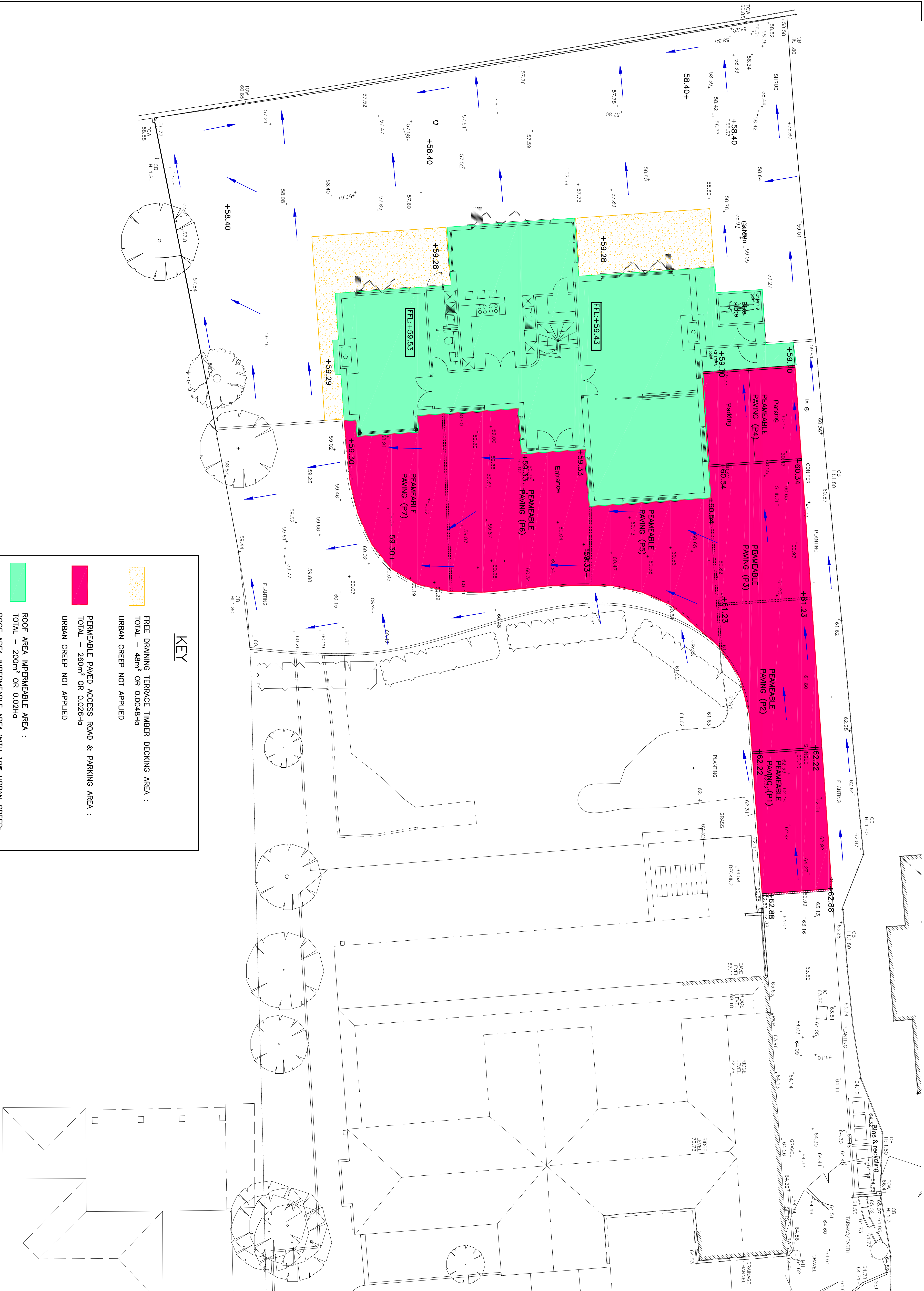
PERMEABLE PAVED ACCESS ROAD & PARKING AREA :
TOTAL – 260m² OR 0.026Hg
URBAN CREEP NOT APPLIED

ROOF AREA IMPERMEABLE AREA :
TOTAL – 200m² OR 0.02Hg
ROOF AREA IMPERMEABLE AREA WITH 10% URBAN CREEP:
TOTAL – 220m² OR 0.022Hg

EXCEEDANCE FLOW ROUTE

KEY

ALL DIMENSIONS AND LEVELS TO
BE CHECKED AND CONFIRMED BY
THE ARCHITECT & CONSTRUCTOR
PRIOR TO CONSTRUCTION.



Dixon Hurst Kemp		Page 1
Victoria Court	Oaklands, Keymer...	
22 St Pancras	Surface Water Da...	
West Sussex PO1...	Permeable Paving...	
Date July 26	Designed by JS	
File FEH RAINFAL...	Checked by	
Elstree Computin...		Source Control w.12.6

Summary of Results for 100 year Return Period (+45%)

Half Drain Time : 151 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	62.120	0.350	0.1	1.3	O K
30 min Summer	62.149	0.379	0.1	1.6	O K
60 min Summer	62.177	0.407	0.1	1.8	O K
120 min Summer	62.194	0.424	0.1	1.9	O K
180 min Summer	62.198	0.428	0.1	1.9	O K
240 min Summer	62.199	0.429	0.1	1.9	O K
360 min Summer	62.194	0.424	0.1	1.9	O K
480 min Summer	62.186	0.416	0.1	1.8	O K
600 min Summer	62.176	0.406	0.1	1.8	O K
720 min Summer	62.165	0.395	0.1	1.7	O K
960 min Summer	62.140	0.370	0.1	1.5	O K
1440 min Summer	62.102	0.332	0.1	1.2	O K
2160 min Summer	62.059	0.289	0.1	0.9	O K
2880 min Summer	62.026	0.256	0.1	0.7	O K
4320 min Summer	61.987	0.217	0.1	0.5	O K
5760 min Summer	61.959	0.189	0.1	0.4	O K
7200 min Summer	61.938	0.168	0.1	0.3	O K
8640 min Summer	61.922	0.152	0.1	0.2	O K
10080 min Summer	61.909	0.139	0.0	0.2	O K
15 min Winter	62.120	0.350	0.1	1.3	O K
30 min Winter	62.150	0.380	0.1	1.6	O K
60 min Winter	62.177	0.407	0.1	1.8	O K
120 min Winter	62.195	0.425	0.1	1.9	O K
180 min Winter	62.197	0.427	0.1	1.9	O K
240 min Winter	62.195	0.425	0.1	1.9	O K
360 min Winter	62.185	0.415	0.1	1.8	O K
480 min Winter	62.171	0.401	0.1	1.7	O K
600 min Winter	62.156	0.386	0.1	1.6	O K

Storm Event	Rain (mm/hr)	Time-Peak (mins)
15 min Summer	207.395	25
30 min Summer	123.608	38
60 min Summer	73.671	64
120 min Summer	43.908	118
180 min Summer	32.440	148
240 min Summer	26.170	180
360 min Summer	19.334	248
480 min Summer	15.597	316
600 min Summer	13.204	384
720 min Summer	11.523	450
960 min Summer	9.121	578
1440 min Summer	6.561	830
2160 min Summer	4.719	1196
2880 min Summer	3.735	1560
4320 min Summer	2.821	2288
5760 min Summer	2.311	3000
7200 min Summer	1.980	3688
8640 min Summer	1.745	4416
10080 min Summer	1.569	5144
15 min Winter	207.395	25
30 min Winter	123.608	38
60 min Winter	73.671	64
120 min Winter	43.908	118
180 min Winter	32.440	152
240 min Winter	26.170	188
360 min Winter	19.334	264
480 min Winter	15.597	338
600 min Winter	13.204	408

Dixon Hurst Kemp		Page 2
Victoria Court 22 St Pancras West Sussex PO1...	Oaklands, Keymer... Surface Water Da... Permeable Paving...	
Date July 26 File FEH RAINFAL...	Designed by JS Checked by	
Elstree Computin...	Source Control w.12.6	

Summary of Results for 100 year Return Period (+45%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
720 min winter	62.141	0.371	0.1	1.5	O K
960 min winter	62.111	0.341	0.1	1.3	O K
1440 min winter	62.063	0.293	0.1	0.9	O K
2160 min winter	62.010	0.240	0.1	0.6	O K
2880 min winter	61.972	0.202	0.1	0.4	O K
4320 min winter	61.930	0.160	0.1	0.3	O K
5760 min winter	61.904	0.134	0.0	0.2	O K
7200 min winter	61.885	0.115	0.0	0.1	O K
8640 min winter	61.872	0.102	0.0	0.1	O K
10080 min winter	61.862	0.092	0.0	0.1	O K
Storm Event			Rain (mm/hr)	Time-Peak (mins)	
720 min winter			11.523	474	
960 min winter			9.121	606	
1440 min winter			6.561	860	
2160 min winter			4.719	1228	
2880 min winter			3.735	1588	
4320 min winter			2.821	2296	
5760 min winter			2.311	3000	
7200 min winter			1.980	3688	
8640 min winter			1.745	4416	
10080 min winter			1.569	5136	

Dixon Hurst Kemp		Page 3
Victoria Court 22 St Pancras West Sussex PO1...	Oaklands, Keymer... Surface Water Da... Permeable Paving...	
Date July 26 File FEH RAINFAL...	Designed by JS Checked by	
Elstree Computin...	Source Control w.12.6	

Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
Site Location	GB 530850 118450 TQ 30850 18450
C (1km)	-0.026
D1 (1km)	0.373
D2 (1km)	0.307
D3 (1km)	0.427
E (1km)	0.315
F (1km)	2.479
Summer Storms	Yes
Winter Storms	Yes
CV (Summer)	1.000
CV (Winter)	1.000
Shortest Storm (mins)	15
Longest Storm (mins)	10080
Climate Change %	+45

Time / Area Diagram

Total Area (ha) 0.003

Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.001	4-8	0.001	8-12	0.001

Dixon Hurst Kemp		Page 4
Victoria Court 22 St Pancras West Sussex PO1...	Oaklands, Keymer... Surface Water Da... Permeable Paving...	
Date July 26 File FEH RAINFAL...	Designed by JS Checked by	
Elstree Computin...	Source Control w.12.6	

Model Details

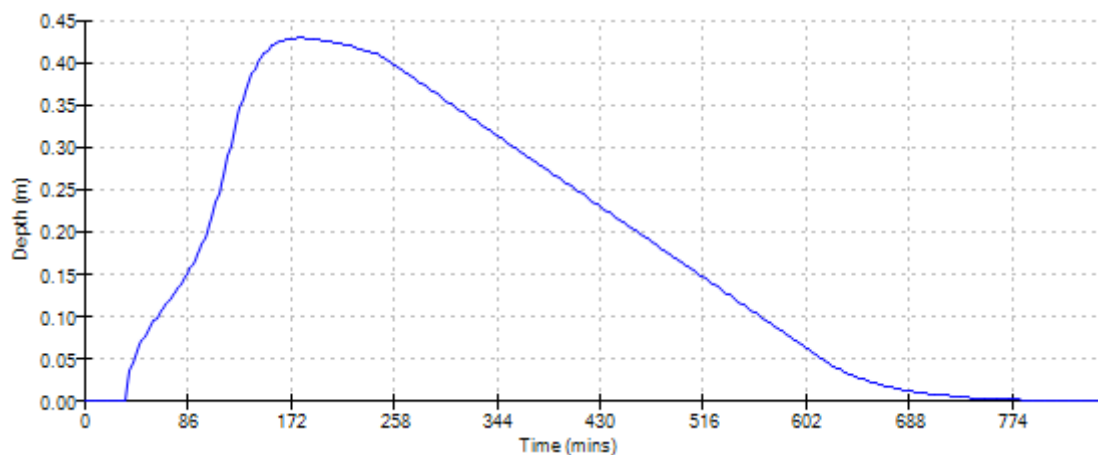
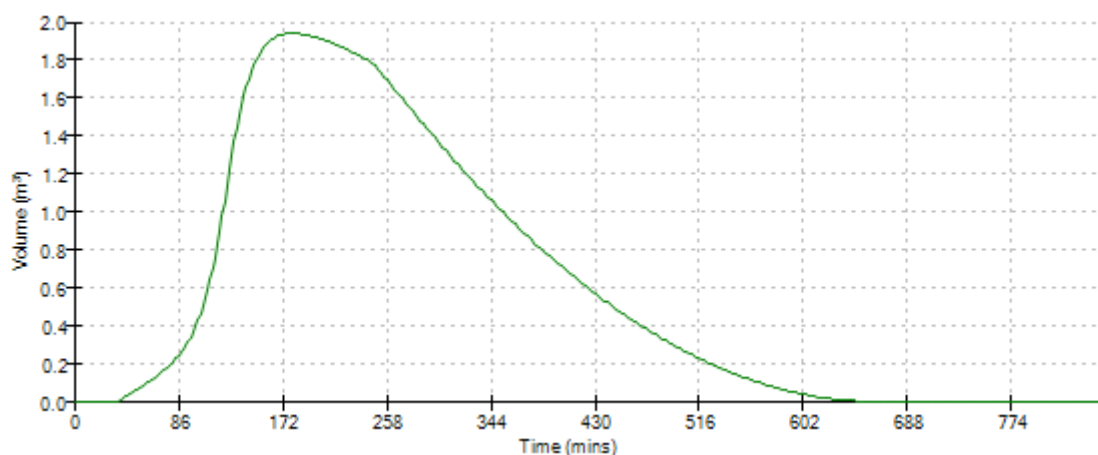
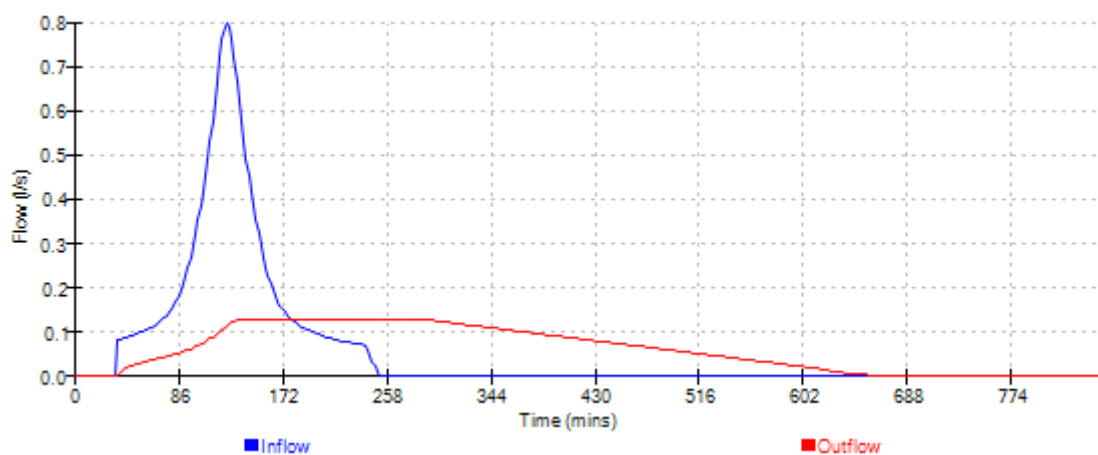
Storage is Online Cover Level (m) 62.880

Porous Car Park Structure

Infiltration Coefficient Base (m/hr)	0.03500
Membrane Percolation (mm/hr)	1000
Max Percolation (l/s)	7.3
Safety Factor	2.0
Porosity	0.30
Invert Level (m)	61.770
Width (m)	3.6
Length (m)	7.3
slope (1:X)	20.0
Depression Storage (mm)	5
Evaporation (mm/day)	3
Cap Volume Depth (m)	0.000

Dixon Hurst Kemp		Page 5
Victoria Court 22 St Pancras West Sussex PO1...	Oaklands, Keymer... Surface Water Da... Permeable Paving...	
Date July 26 File FEH RAINFAL...	Designed by JS Checked by	
Elstree Computin...	Source Control w.12.6	

Event: 240 min Summer



Dixon Hurst Kemp		Page 1
Victoria Court	Oaklands, Keymer...	
22 St Pancras	Surface Water Da...	
West Sussex PO1...	Permeable Paving...	
Date July 26	Designed by JS	
File FEH RAINFAL...	Checked by	
Elstree Computin...	Source Control w.12.6	

Summary of Results for 100 year Return Period (+45%)

Half Drain Time : 138 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	61.110	0.330	0.1	1.3	O K
30 min Summer	61.137	0.357	0.1	1.5	O K
60 min Summer	61.162	0.382	0.1	1.7	O K
120 min Summer	61.176	0.396	0.1	1.9	O K
180 min Summer	61.180	0.400	0.1	1.9	O K
240 min Summer	61.180	0.400	0.1	1.9	O K
360 min Summer	61.174	0.394	0.1	1.8	O K
480 min Summer	61.166	0.386	0.1	1.8	O K
600 min Summer	61.156	0.376	0.1	1.7	O K
720 min Summer	61.146	0.366	0.1	1.6	O K
960 min Summer	61.124	0.344	0.1	1.4	O K
1440 min Summer	61.088	0.308	0.1	1.1	O K
2160 min Summer	61.046	0.266	0.1	0.8	O K
2880 min Summer	61.015	0.235	0.1	0.7	O K
4320 min Summer	60.978	0.198	0.1	0.5	O K
5760 min Summer	60.952	0.172	0.1	0.4	O K
7200 min Summer	60.933	0.153	0.1	0.3	O K
8640 min Summer	60.918	0.138	0.1	0.2	O K
10080 min Summer	60.906	0.126	0.0	0.2	O K
15 min Winter	61.110	0.330	0.1	1.3	O K
30 min Winter	61.138	0.358	0.1	1.5	O K
60 min Winter	61.162	0.382	0.1	1.7	O K
120 min Winter	61.177	0.397	0.1	1.9	O K
180 min Winter	61.178	0.398	0.1	1.9	O K
240 min Winter	61.176	0.396	0.1	1.9	O K
360 min Winter	61.165	0.385	0.1	1.8	O K
480 min Winter	61.151	0.371	0.1	1.7	O K
600 min Winter	61.137	0.357	0.1	1.5	O K

Storm Event	Rain (mm/hr)	Time-Peak (mins)
15 min Summer	207.395	25
30 min Summer	123.608	37
60 min Summer	73.671	64
120 min Summer	43.908	112
180 min Summer	32.440	144
240 min Summer	26.170	176
360 min Summer	19.334	244
480 min Summer	15.597	312
600 min Summer	13.204	380
720 min Summer	11.523	444
960 min Summer	9.121	574
1440 min Summer	6.561	826
2160 min Summer	4.719	1192
2880 min Summer	3.735	1556
4320 min Summer	2.821	2256
5760 min Summer	2.311	3000
7200 min Summer	1.980	3680
8640 min Summer	1.745	4416
10080 min Summer	1.569	5144
15 min Winter	207.395	25
30 min Winter	123.608	37
60 min Winter	73.671	64
120 min Winter	43.908	118
180 min Winter	32.440	148
240 min Winter	26.170	186
360 min Winter	19.334	260
480 min Winter	15.597	332
600 min Winter	13.204	400

Dixon Hurst Kemp		Page 2
Victoria Court	Oaklands, Keymer...	
22 St Pancras	Surface Water Da...	
West Sussex PO1...	Permeable Paving...	
Date July 26	Designed by JS	
File FEH RAINFAL...	Checked by	
Elstree Computin...	Source Control w.12.6	

Summary of Results for 100 year Return Period (+45%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
720 min winter	61.124	0.344	0.1	1.4	O K
960 min winter	61.096	0.316	0.1	1.2	O K
1440 min winter	61.049	0.269	0.1	0.9	O K
2160 min winter	60.999	0.219	0.1	0.6	O K
2880 min winter	60.964	0.184	0.1	0.4	O K
4320 min winter	60.925	0.145	0.1	0.3	O K
5760 min winter	60.901	0.121	0.0	0.2	O K
7200 min winter	60.884	0.104	0.0	0.1	O K
8640 min winter	60.872	0.092	0.0	0.1	O K
10080 min winter	60.862	0.082	0.0	0.1	O K
Storm Event	Rain (mm/hr)		Time-Peak (mins)		
720 min winter	11.523		470		
960 min winter	9.121		602		
1440 min winter	6.561		854		
2160 min winter	4.719		1216		
2880 min winter	3.735		1568		
4320 min winter	2.821		2292		
5760 min winter	2.311		2992		
7200 min winter	1.980		3680		
8640 min winter	1.745		4408		
10080 min winter	1.569		5144		

Dixon Hurst Kemp		Page 3
Victoria Court 22 St Pancras West Sussex PO1...	Oaklands, Keymer... Surface Water Da... Permeable Paving...	
Date July 26 File FEH RAINFAL...	Designed by JS Checked by	
Elstree Computin...	Source Control w.12.6	

Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
Site Location	GB 530850 118450 TQ 30850 18450
C (1km)	-0.026
D1 (1km)	0.373
D2 (1km)	0.307
D3 (1km)	0.427
E (1km)	0.315
F (1km)	2.479
Summer Storms	Yes
Winter Storms	Yes
CV (Summer)	1.000
CV (Winter)	1.000
Shortest Storm (mins)	15
Longest Storm (mins)	10080
Climate Change %	+45

Time / Area Diagram

Total Area (ha) 0.003

Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.001	4-8	0.001	8-12	0.001

Dixon Hurst Kemp		Page 4
Victoria Court 22 St Pancras West Sussex PO1...	Oaklands, Keymer... Surface Water Da... Permeable Paving...	
Date July 26 File FEH RAINFAL...	Designed by JS Checked by	
Elstree Computin...	Source Control w.12.6	

Model Details

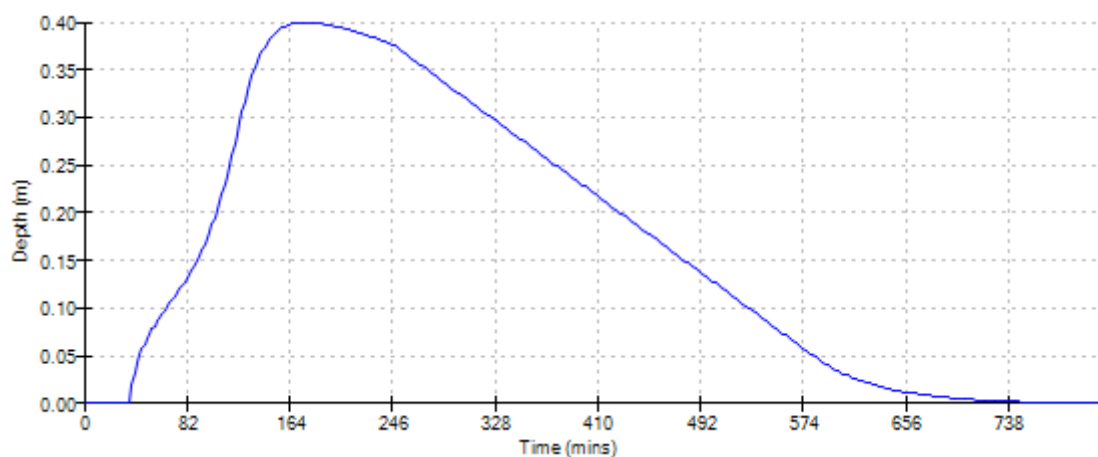
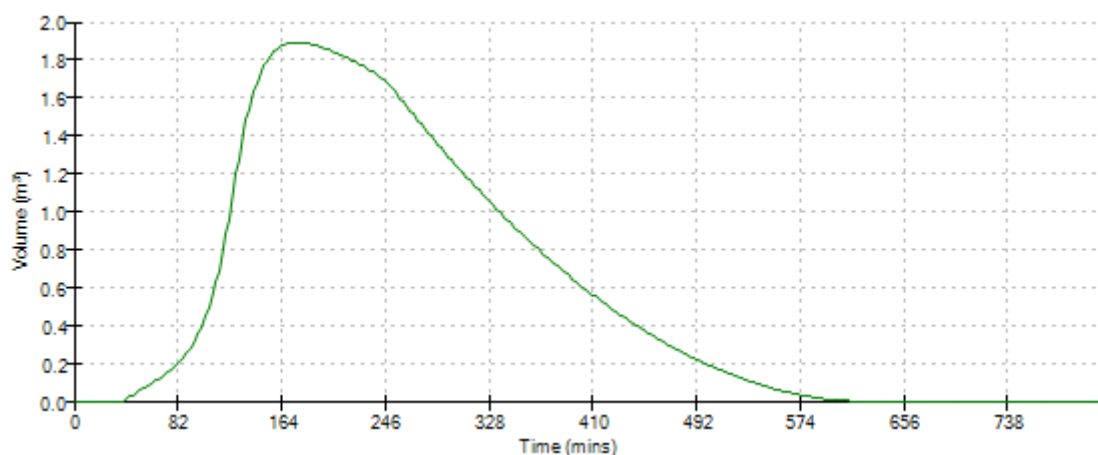
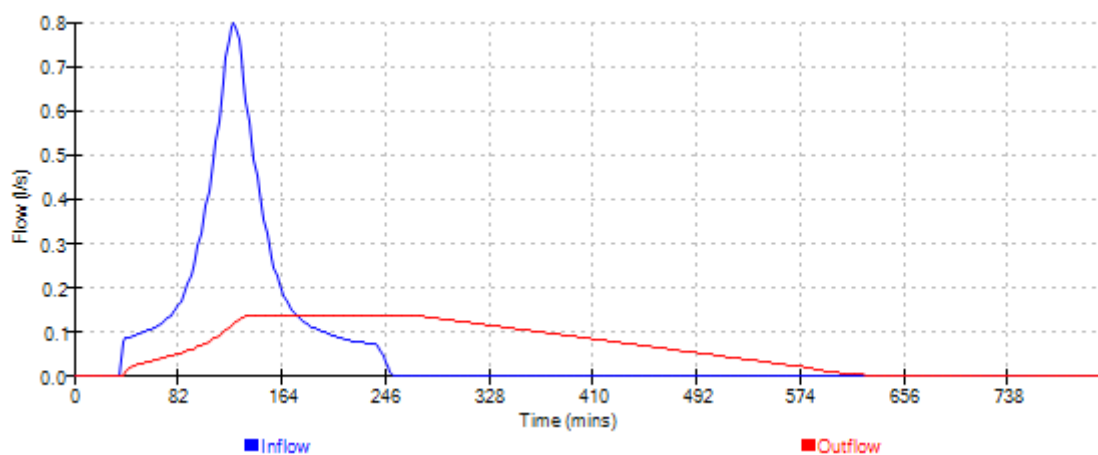
Storage is Online Cover Level (m) 62.220

Porous Car Park Structure

Infiltration Coefficient Base (m/hr)	0.03500
Membrane Percolation (mm/hr)	1000
Max Percolation (l/s)	7.9
Safety Factor	2.0
Porosity	0.30
Invert Level (m)	60.780
Width (m)	4.0
Length (m)	7.1
slope (1:X)	20.0
Depression Storage (mm)	5
Evaporation (mm/day)	3
Cap Volume Depth (m)	0.000

Dixon Hurst Kemp		Page 5
Victoria Court 22 St Pancras West Sussex PO1...	Oaklands, Keymer... Surface Water Da... Permeable Paving...	
Date July 26 File FEH RAINFAL...	Designed by JS Checked by	
Elstree Computin...	Source Control w.12.6	

Event: 240 min Summer



Dixon Hurst Kemp		Page 1
Victoria Court 22 St Pancras West Sussex PO1...	Oaklands, Keymer... Surface Water Da... Permeable Paving...	
Date July 26 File FEH RAINFAL...	Designed by JS Checked by	
Elstree Computin...	Source Control w.12.6	

Summary of Results for 100 year Return Period (+45%)

Half Drain Time : 150 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	60.241	0.351	0.2	1.8	O K
30 min Summer	60.272	0.382	0.2	2.1	O K
60 min Summer	60.300	0.410	0.2	2.4	O K
120 min Summer	60.320	0.430	0.2	2.6	O K
180 min Summer	60.323	0.433	0.2	2.6	O K
240 min Summer	60.324	0.434	0.2	2.6	O K
360 min Summer	60.319	0.429	0.2	2.6	O K
480 min Summer	60.311	0.421	0.2	2.5	O K
600 min Summer	60.300	0.410	0.2	2.4	O K
720 min Summer	60.289	0.399	0.2	2.3	O K
960 min Summer	60.262	0.372	0.2	2.0	O K
1440 min Summer	60.222	0.332	0.2	1.6	O K
2160 min Summer	60.179	0.289	0.1	1.2	O K
2880 min Summer	60.146	0.256	0.1	0.9	O K
4320 min Summer	60.107	0.217	0.1	0.7	O K
5760 min Summer	60.079	0.189	0.1	0.5	O K
7200 min Summer	60.058	0.168	0.1	0.4	O K
8640 min Summer	60.042	0.152	0.1	0.3	O K
10080 min Summer	60.029	0.139	0.1	0.3	O K
15 min Winter	60.241	0.351	0.2	1.8	O K
30 min Winter	60.272	0.382	0.2	2.1	O K
60 min Winter	60.301	0.411	0.2	2.4	O K
120 min Winter	60.320	0.430	0.2	2.6	O K
180 min Winter	60.322	0.432	0.2	2.6	O K
240 min Winter	60.321	0.431	0.2	2.6	O K
360 min Winter	60.311	0.421	0.2	2.5	O K
480 min Winter	60.296	0.406	0.2	2.3	O K
600 min Winter	60.280	0.390	0.2	2.2	O K

Storm Event	Rain (mm/hr)	Time-Peak (mins)
15 min Summer	207.395	25
30 min Summer	123.608	39
60 min Summer	73.671	66
120 min Summer	43.908	120
180 min Summer	32.440	152
240 min Summer	26.170	184
360 min Summer	19.334	252
480 min Summer	15.597	320
600 min Summer	13.204	388
720 min Summer	11.523	454
960 min Summer	9.121	582
1440 min Summer	6.561	830
2160 min Summer	4.719	1196
2880 min Summer	3.735	1560
4320 min Summer	2.821	2288
5760 min Summer	2.311	3000
7200 min Summer	1.980	3688
8640 min Summer	1.745	4416
10080 min Summer	1.569	5144
15 min Winter	207.395	25
30 min Winter	123.608	39
60 min Winter	73.671	66
120 min Winter	43.908	120
180 min Winter	32.440	156
240 min Winter	26.170	192
360 min Winter	19.334	268
480 min Winter	15.597	342
600 min Winter	13.204	412

Dixon Hurst Kemp		Page 2
Victoria Court 22 St Pancras West Sussex PO1...	Oaklands, Keymer... Surface Water Da... Permeable Paving...	
Date July 26 File FEH RAINFAL...	Designed by JS Checked by	
Elstree Computin... Source Control w.12.6		

Summary of Results for 100 year Return Period (+45%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
720 min winter	60.264	0.374	0.2	2.0	O K
960 min winter	60.231	0.341	0.2	1.7	O K
1440 min winter	60.183	0.293	0.1	1.2	O K
2160 min winter	60.130	0.240	0.1	0.8	O K
2880 min winter	60.092	0.202	0.1	0.6	O K
4320 min winter	60.050	0.160	0.1	0.4	O K
5760 min winter	60.024	0.134	0.1	0.3	O K
7200 min winter	60.005	0.115	0.1	0.2	O K
8640 min winter	59.992	0.102	0.0	0.1	O K
10080 min winter	59.982	0.092	0.0	0.1	O K
Storm Event	Rain (mm/hr)		Time-Peak (mins)		
720 min winter	11.523		478		
960 min winter	9.121		606		
1440 min winter	6.561		860		
2160 min winter	4.719		1228		
2880 min winter	3.735		1588		
4320 min winter	2.821		2296		
5760 min winter	2.311		3000		
7200 min winter	1.980		3688		
8640 min winter	1.745		4416		
10080 min winter	1.569		5144		

Dixon Hurst Kemp		Page 3
Victoria Court 22 St Pancras West Sussex PO1...	Oaklands, Keymer... Surface Water Da... Permeable Paving...	
Date July 26 File FEH RAINFAL...	Designed by JS Checked by	
Elstree Computin...	Source Control w.12.6	

Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
Site Location	GB 530850 118450 TQ 30850 18450
C (1km)	-0.026
D1 (1km)	0.373
D2 (1km)	0.307
D3 (1km)	0.427
E (1km)	0.315
F (1km)	2.479
Summer Storms	Yes
Winter Storms	Yes
CV (Summer)	1.000
CV (Winter)	1.000
Shortest Storm (mins)	15
Longest Storm (mins)	10080
Climate Change %	+45

Time / Area Diagram

Total Area (ha) 0.004

Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.001	4-8	0.001	8-12	0.002

Dixon Hurst Kemp		Page 4
Victoria Court 22 St Pancras West Sussex PO1...	Oaklands, Keymer... Surface Water Da... Permeable Paving...	
Date July 26 File FEH RAINFAL...	Designed by JS Checked by	
Elstree Computin...	Source Control w.12.6	

Model Details

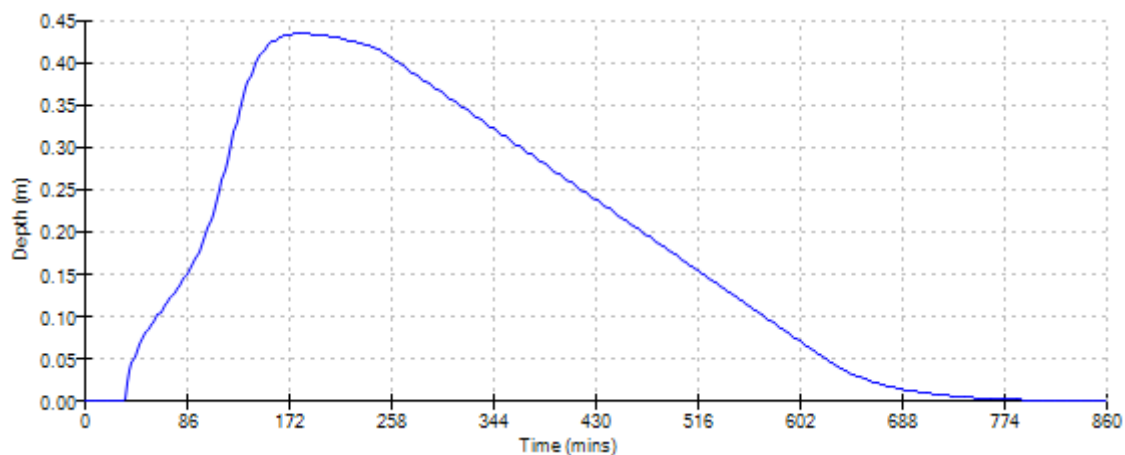
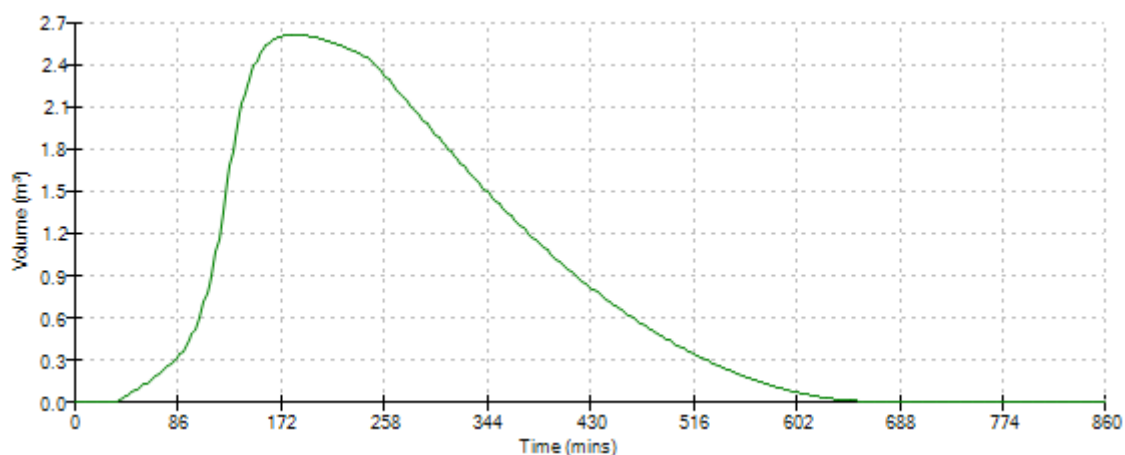
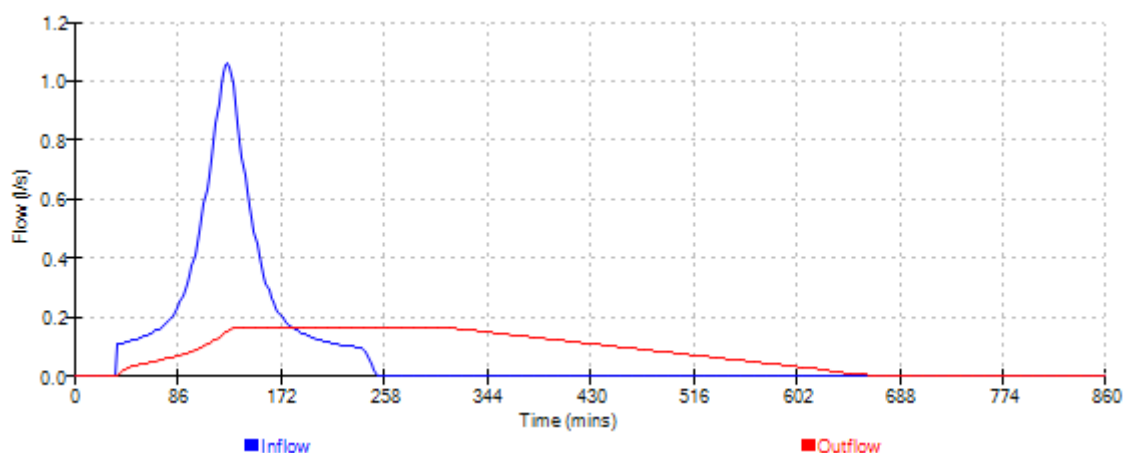
Storage is Online Cover Level (m) 61.230

Porous Car Park Structure

Infiltration Coefficient Base (m/hr)	0.03500
Membrane Percolation (mm/hr)	1000
Max Percolation (l/s)	9.3
Safety Factor	2.0
Porosity	0.30
Invert Level (m)	59.890
Width (m)	4.8
Length (m)	7.0
slope (1:X)	20.0
Depression Storage (mm)	5
Evaporation (mm/day)	3
Cap Volume Depth (m)	0.000

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Victoria Court 22 St Pancras West Sussex PO1...	Oaklands, Keymer... Surface Water Da... Permeable Paving...	
Date July 26 File FEH RAINFAL...	Designed by JS Checked by	
Elstree Computin...	Source Control w.12.6	

Event: 240 min Summer



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Victoria Court 22 St Pancras West Sussex PO1...	Oaklands, Keymer... Surface Water Da... Permeable Paving...	
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Summary of Results for 100 year Return Period (+45%)

Half Drain Time : 236 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	60.306	0.406	0.2	2.8	O K
30 min Summer	60.357	0.457	0.2	3.3	O K
60 min Summer	60.409	0.509	0.2	3.8	O K
120 min Summer	60.452	0.552	0.2	4.2	O K
180 min Summer	60.466	0.566	0.2	4.4	O K
240 min Summer	60.468	0.568	0.2	4.4	O K
360 min Summer	60.464	0.564	0.2	4.3	O K
480 min Summer	60.456	0.556	0.2	4.3	O K
600 min Summer	60.444	0.544	0.2	4.1	O K
720 min Summer	60.432	0.532	0.2	4.0	O K
960 min Summer	60.394	0.494	0.2	3.6	O K
1440 min Summer	60.326	0.426	0.2	3.0	O K
2160 min Summer	60.244	0.344	0.2	2.2	O K
2880 min Summer	60.185	0.285	0.2	1.6	O K
4320 min Summer	60.134	0.234	0.2	1.1	O K
5760 min Summer	60.104	0.204	0.1	0.8	O K
7200 min Summer	60.082	0.182	0.1	0.7	O K
8640 min Summer	60.065	0.165	0.1	0.5	O K
10080 min Summer	60.051	0.151	0.1	0.5	O K
15 min Winter	60.306	0.406	0.2	2.8	O K
30 min Winter	60.357	0.457	0.2	3.3	O K
60 min Winter	60.409	0.509	0.2	3.8	O K
120 min Winter	60.453	0.553	0.2	4.2	O K
180 min Winter	60.468	0.568	0.2	4.4	O K
240 min Winter	60.469	0.569	0.2	4.4	O K
360 min Winter	60.460	0.560	0.2	4.3	O K
480 min Winter	60.446	0.546	0.2	4.2	O K
600 min Winter	60.429	0.529	0.2	4.0	O K

Storm Event	Rain (mm/hr)	Time-Peak (mins)
15 min Summer	207.395	25
30 min Summer	123.608	39
60 min Summer	73.671	68
120 min Summer	43.908	124
180 min Summer	32.440	182
240 min Summer	26.170	222
360 min Summer	19.334	284
480 min Summer	15.597	348
600 min Summer	13.204	416
720 min Summer	11.523	486
960 min Summer	9.121	618
1440 min Summer	6.561	882
2160 min Summer	4.719	1256
2880 min Summer	3.735	1592
4320 min Summer	2.821	2292
5760 min Summer	2.311	3000
7200 min Summer	1.980	3688
8640 min Summer	1.745	4416
10080 min Summer	1.569	5144
15 min Winter	207.395	25
30 min Winter	123.608	39
60 min Winter	73.671	66
120 min Winter	43.908	122
180 min Winter	32.440	178
240 min Winter	26.170	232
360 min Winter	19.334	290
480 min Winter	15.597	366
600 min Winter	13.204	444

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Victoria Court 22 St Pancras West Sussex PO1...	Oaklands, Keymer... Surface Water Da... Permeable Paving...	
Date July 26 File FEH RAINFAL...	Designed by JS Checked by	
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Summary of Results for 100 year Return Period (+45%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
720 min winter	60.409	0.509	0.2	3.8	O K
960 min winter	60.355	0.455	0.2	3.3	O K
1440 min winter	60.261	0.361	0.2	2.3	O K
2160 min winter	60.162	0.262	0.2	1.4	O K
2880 min winter	60.119	0.219	0.1	1.0	O K
4320 min winter	60.074	0.174	0.1	0.6	O K
5760 min winter	60.046	0.146	0.1	0.4	O K
7200 min winter	60.026	0.126	0.1	0.3	O K
8640 min winter	60.012	0.112	0.1	0.2	O K
10080 min winter	60.001	0.101	0.1	0.2	O K
Storm Event	Rain (mm/hr)		Time-Peak (mins)		
720 min winter	11.523		518		
960 min winter	9.121		660		
1440 min winter	6.561		922		
2160 min winter	4.719		1256		
2880 min winter	3.735		1588		
4320 min winter	2.821		2296		
5760 min winter	2.311		3000		
7200 min winter	1.980		3688		
8640 min winter	1.745		4416		
10080 min winter	1.569		5136		

Dixon Hurst Kemp		Page 3
Victoria Court 22 St Pancras West Sussex PO1...	Oaklands, Keymer... Surface Water Da... Permeable Paving...	
Date July 26 File FEH RAINFAL...	Designed by JS Checked by	
Elstree Computin...	Source Control w.12.6	

Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
Site Location	GB 530850 118450 TQ 30850 18450
C (1km)	-0.026
D1 (1km)	0.373
D2 (1km)	0.307
D3 (1km)	0.427
E (1km)	0.315
F (1km)	2.479
Summer Storms	Yes
Winter Storms	Yes
CV (Summer)	1.000
CV (Winter)	1.000
Shortest Storm (mins)	15
Longest Storm (mins)	10080
Climate Change %	+45

Time / Area Diagram

Total Area (ha) 0.006

Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.002	4-8	0.002	8-12	0.002

Dixon Hurst Kemp		Page 4
Victoria Court 22 St Pancras West Sussex PO1...	Oaklands, Keymer... Surface Water Da... Permeable Paving...	
Date July 26 File FEH RAINFAL...	Designed by JS Checked by	
Elstree Computin...	Source Control w.12.6	

Model Details

Storage is Online Cover Level (m) 60.540

Porous Car Park Structure

Infiltration Coefficient Base (m/hr)	0.03500
Membrane Percolation (mm/hr)	1000
Max Percolation (l/s)	9.1
Safety Factor	2.0
Porosity	0.30
Invert Level (m)	59.900
Width (m)	5.3
Length (m)	6.2
slope (1:X)	25.0
Depression Storage (mm)	5
Evaporation (mm/day)	3
Cap Volume Depth (m)	0.000

Victoria Court
22 St Pancras
West Sussex PO1...

Oaklands, Keymer...
Surface Water Da...
Permeable Paving...

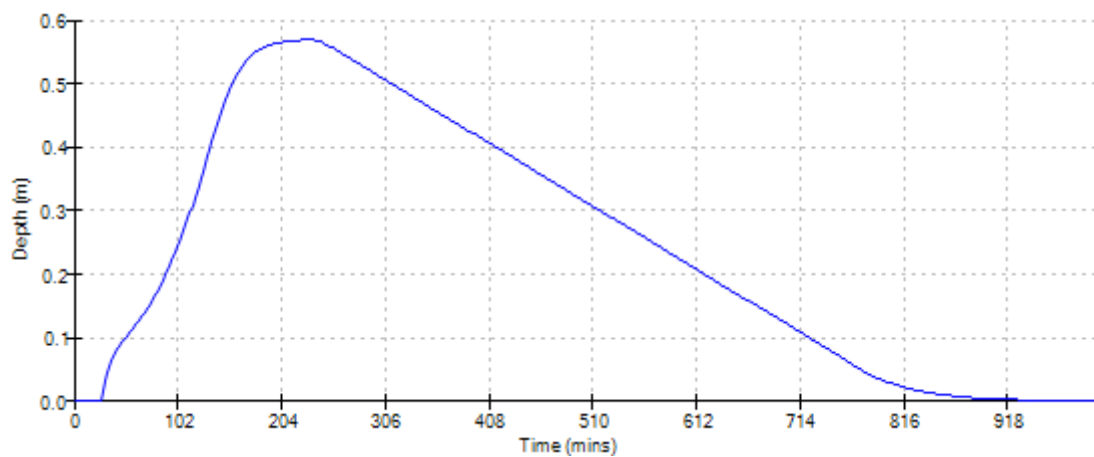
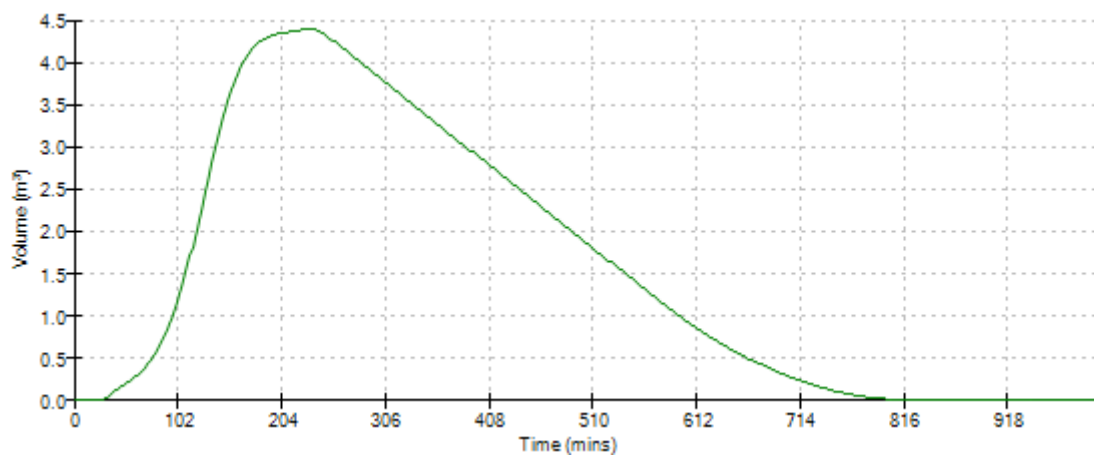
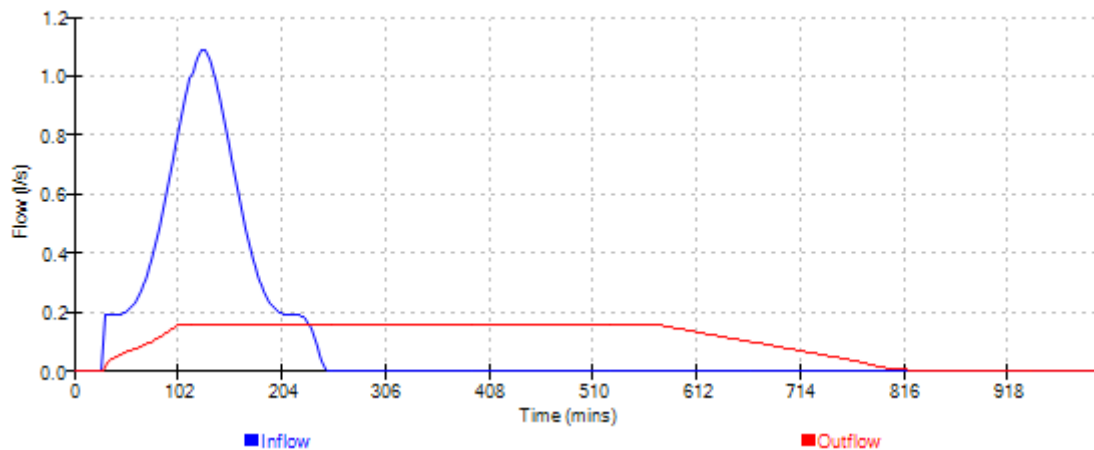
Date July 26
File FEH RAINFAL...

Designed by JS
Checked by



Elstree Computin... Source Control w.12.6

Event: 240 min winter



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Victoria Court 22 St Pancras West Sussex PO1...	Oaklands, Keymer... Surface Water Da... Permeable Paving...	
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Elstree Computin... Source Control w.12.6		

Summary of Results for 100 year Return Period (+45%)

Half Drain Time : 257 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	59.078	0.348	0.3	5.6	O K
30 min Summer	59.134	0.404	0.3	6.6	O K
60 min Summer	59.190	0.460	0.3	7.6	O K
120 min Summer	59.235	0.505	0.3	8.4	O K
180 min Summer	59.250	0.520	0.3	8.7	O K
240 min Summer	59.250	0.520	0.3	8.7	O K
360 min Summer	59.240	0.510	0.3	8.5	O K
480 min Summer	59.227	0.497	0.3	8.3	O K
600 min Summer	59.213	0.483	0.3	8.0	O K
720 min Summer	59.199	0.469	0.3	7.8	O K
960 min Summer	59.158	0.428	0.3	7.0	O K
1440 min Summer	59.084	0.354	0.3	5.7	O K
2160 min Summer	58.989	0.259	0.3	4.0	O K
2880 min Summer	58.914	0.184	0.3	2.7	O K
4320 min Summer	58.837	0.107	0.3	1.3	O K
5760 min Summer	58.802	0.072	0.3	0.6	O K
7200 min Summer	58.793	0.063	0.3	0.5	O K
8640 min Summer	58.786	0.056	0.2	0.4	O K
10080 min Summer	58.780	0.050	0.2	0.3	O K
15 min Winter	59.078	0.348	0.3	5.6	O K
30 min Winter	59.134	0.404	0.3	6.6	O K
60 min Winter	59.191	0.461	0.3	7.6	O K
120 min Winter	59.238	0.508	0.3	8.5	O K
180 min Winter	59.253	0.523	0.3	8.7	O K
240 min Winter	59.255	0.525	0.3	8.8	O K
360 min Winter	59.239	0.509	0.3	8.5	O K
480 min Winter	59.222	0.492	0.3	8.2	O K
600 min Winter	59.201	0.471	0.3	7.8	O K

Storm Event	Rain (mm/hr)	Time-Peak (mins)
15 min Summer	207.395	26
30 min Summer	123.608	40
60 min Summer	73.671	68
120 min Summer	43.908	124
180 min Summer	32.440	182
240 min Summer	26.170	238
360 min Summer	19.334	294
480 min Summer	15.597	358
600 min Summer	13.204	426
720 min Summer	11.523	494
960 min Summer	9.121	628
1440 min Summer	6.561	894
2160 min Summer	4.719	1276
2880 min Summer	3.735	1620
4320 min Summer	2.821	2296
5760 min Summer	2.311	2944
7200 min Summer	1.980	3672
8640 min Summer	1.745	4400
10080 min Summer	1.569	5136
15 min Winter	207.395	25
30 min Winter	123.608	39
60 min Winter	73.671	66
120 min Winter	43.908	122
180 min Winter	32.440	178
240 min Winter	26.170	234
360 min Winter	19.334	302
480 min Winter	15.597	374
600 min Winter	13.204	452

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Summary of Results for 100 year Return Period (+45%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
720 min winter	59.179	0.449	0.3	7.4	O K
960 min winter	59.120	0.390	0.3	6.3	O K
1440 min winter	59.013	0.283	0.3	4.4	O K
2160 min winter	58.886	0.156	0.3	2.1	O K
2880 min winter	58.810	0.080	0.3	0.8	O K
4320 min winter	58.788	0.058	0.2	0.4	O K
5760 min winter	58.779	0.049	0.2	0.3	O K
7200 min winter	58.775	0.045	0.2	0.3	O K
8640 min winter	58.773	0.043	0.1	0.2	O K
10080 min winter	58.770	0.040	0.1	0.2	O K
Storm Event	Rain (mm/hr)		Time-Peak (mins)		
720 min winter	11.523		528		
960 min winter	9.121		672		
1440 min winter	6.561		942		
2160 min winter	4.719		1300		
2880 min winter	3.735		1560		
4320 min winter	2.821		2208		
5760 min winter	2.311		2944		
7200 min winter	1.980		3600		
8640 min winter	1.745		4320		
10080 min winter	1.569		5008		

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Victoria Court 22 St Pancras West Sussex PO1...	Oaklands, Keymer... Surface Water Da... Permeable Paving...	
Date July 26 File FEH RAINFAL...	Designed by JS Checked by	
Elstree Computin...	Source Control w.12.6	

Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
Site Location	GB 530850 118450 TQ 30850 18450
C (1km)	-0.026
D1 (1km)	0.373
D2 (1km)	0.307
D3 (1km)	0.427
E (1km)	0.315
F (1km)	2.479
Summer Storms	Yes
Winter Storms	Yes
CV (Summer)	1.000
CV (Winter)	1.000
Shortest Storm (mins)	15
Longest Storm (mins)	10080
Climate Change %	+45

Time / Area Diagram

Total Area (ha) 0.012

Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.004	4-8	0.004	8-12	0.004

Dixon Hurst Kemp		Page 4
Victoria Court 22 St Pancras West Sussex PO1...	Oaklands, Keymer... Surface Water Da... Permeable Paving...	
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Elstree Computin...	Source Control w.12.6	

Model Details

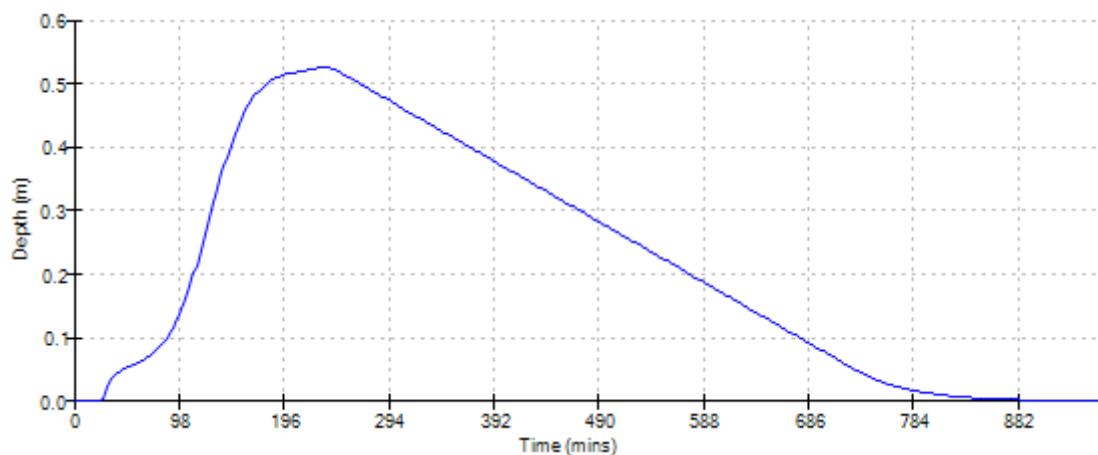
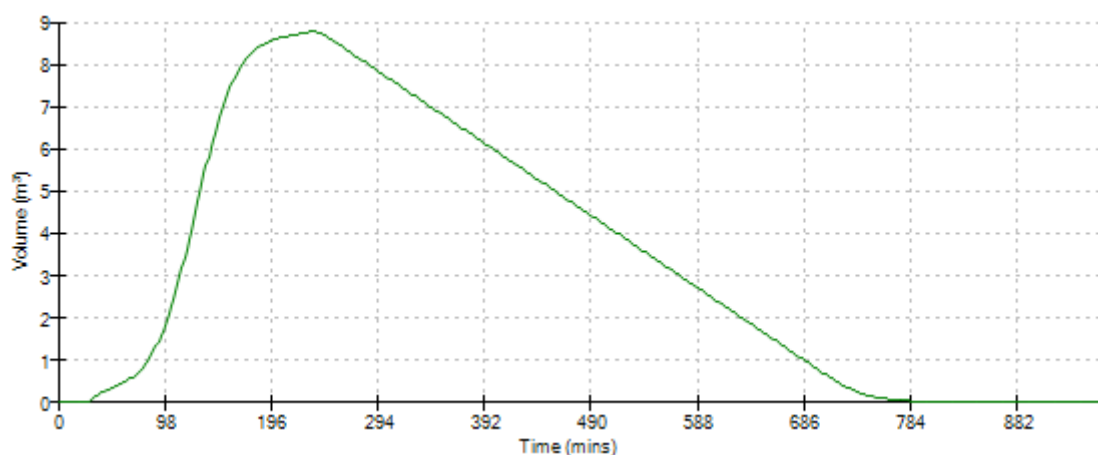
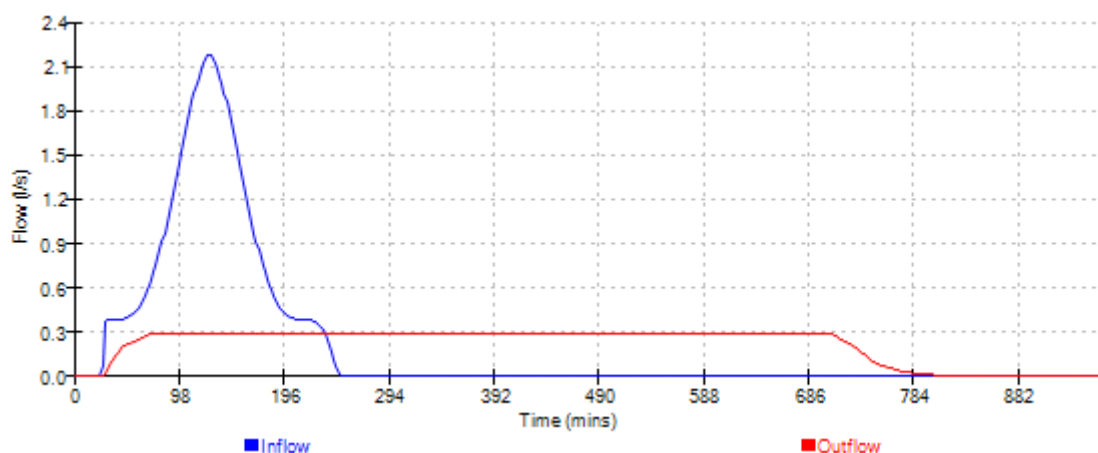
Storage is Online Cover Level (m) 59.330

Porous Car Park Structure

Infiltration Coefficient Base (m/hr)	0.03500
Membrane Percolation (mm/hr)	1000
Max Percolation (l/s)	16.6
Safety Factor	2.0
Porosity	0.30
Invert Level (m)	58.730
Width (m)	8.3
Length (m)	7.2
slope (1:X)	100.0
Depression Storage (mm)	5
Evaporation (mm/day)	3
Cap Volume Depth (m)	0.000

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Victoria Court 22 St Pancras West Sussex PO1...	Oaklands, Keymer... Surface Water Da... Permeable Paving...	
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Event: 240 min winter



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Victoria Court 22 St Pancras West Sussex PO1...	Oaklands, Keymer... Surface Water Da... Permeable Paving...	
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Elstree Computin...	Source Control w.12.6	

Summary of Results for 100 year Return Period (+45%)

Half Drain Time : 107 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	58.885	0.165	0.3	2.5	O K
30 min Summer	58.910	0.190	0.3	3.0	O K
60 min Summer	58.930	0.210	0.3	3.3	O K
120 min Summer	58.937	0.217	0.3	3.4	O K
180 min Summer	58.934	0.214	0.3	3.4	O K
240 min Summer	58.929	0.209	0.3	3.3	O K
360 min Summer	58.916	0.196	0.3	3.1	O K
480 min Summer	58.902	0.182	0.3	2.8	O K
600 min Summer	58.888	0.168	0.3	2.6	O K
720 min Summer	58.874	0.154	0.3	2.3	O K
960 min Summer	58.844	0.124	0.3	1.8	O K
1440 min Summer	58.800	0.080	0.3	1.0	O K
2160 min Summer	58.770	0.050	0.3	0.5	O K
2880 min Summer	58.765	0.045	0.2	0.4	O K
4320 min Summer	58.759	0.039	0.2	0.3	O K
5760 min Summer	58.756	0.036	0.2	0.2	O K
7200 min Summer	58.753	0.033	0.1	0.2	O K
8640 min Summer	58.751	0.031	0.1	0.2	O K
10080 min Summer	58.749	0.029	0.1	0.2	O K
15 min Winter	58.885	0.165	0.3	2.5	O K
30 min Winter	58.910	0.190	0.3	3.0	O K
60 min Winter	58.930	0.210	0.3	3.3	O K
120 min Winter	58.937	0.217	0.3	3.4	O K
180 min Winter	58.931	0.211	0.3	3.4	O K
240 min Winter	58.923	0.203	0.3	3.2	O K
360 min Winter	58.903	0.183	0.3	2.8	O K
480 min Winter	58.880	0.160	0.3	2.4	O K
600 min Winter	58.858	0.138	0.3	2.0	O K

Storm Event	Rain (mm/hr)	Time-Peak (mins)
15 min Summer	207.395	24
30 min Summer	123.608	37
60 min Summer	73.671	64
120 min Summer	43.908	110
180 min Summer	32.440	140
240 min Summer	26.170	174
360 min Summer	19.334	242
480 min Summer	15.597	310
600 min Summer	13.204	376
720 min Summer	11.523	442
960 min Summer	9.121	566
1440 min Summer	6.561	796
2160 min Summer	4.719	1108
2880 min Summer	3.735	1472
4320 min Summer	2.821	2180
5760 min Summer	2.311	2928
7200 min Summer	1.980	3672
8640 min Summer	1.745	4336
10080 min Summer	1.569	5016
15 min Winter	207.395	24
30 min Winter	123.608	37
60 min Winter	73.671	64
120 min Winter	43.908	116
180 min Winter	32.440	146
240 min Winter	26.170	184
360 min Winter	19.334	258
480 min Winter	15.597	330
600 min Winter	13.204	396

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Elstree Computin...	Source Control w.12.6	

Summary of Results for 100 year Return Period (+45%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
720 min winter	58.838	0.118	0.3	1.7	O K
960 min winter	58.800	0.080	0.3	1.0	O K
1440 min winter	58.768	0.048	0.3	0.4	O K
2160 min winter	58.761	0.041	0.2	0.3	O K
2880 min winter	58.756	0.036	0.2	0.2	O K
4320 min winter	58.751	0.031	0.1	0.2	O K
5760 min winter	58.748	0.028	0.1	0.1	O K
7200 min winter	58.746	0.026	0.1	0.1	O K
8640 min winter	58.745	0.025	0.1	0.1	O K
10080 min winter	58.743	0.023	0.1	0.1	O K
Storm Event			Rain (mm/hr)	Time-Peak (mins)	
720 min winter			11.523	460	
960 min winter			9.121	572	
1440 min winter			6.561	748	
2160 min winter			4.719	1092	
2880 min winter			3.735	1440	
4320 min winter			2.821	2212	
5760 min winter			2.311	2944	
7200 min winter			1.980	3608	
8640 min winter			1.745	4432	
10080 min winter			1.569	4952	

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Victoria Court 22 St Pancras West Sussex PO1...	Oaklands, Keymer... Surface Water Da... Permeable Paving...	
Date July 26 File FEH RAINFAL...	Designed by JS Checked by	
Elstree Computin...	Source Control w.12.6	

Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
Site Location	GB 530850 118450 TQ 30850 18450
C (1km)	-0.026
D1 (1km)	0.373
D2 (1km)	0.307
D3 (1km)	0.427
E (1km)	0.315
F (1km)	2.479
Summer Storms	Yes
Winter Storms	Yes
CV (Summer)	1.000
CV (Winter)	1.000
Shortest Storm (mins)	15
Longest Storm (mins)	10080
Climate Change %	+45

Time / Area Diagram

Total Area (ha) 0.006

Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.002	4-8	0.002	8-12	0.002

Dixon Hurst Kemp		Page 4
Victoria Court 22 St Pancras West Sussex PO1...	Oaklands, Keymer... Surface Water Da... Permeable Paving...	
Date July 26 File FEH RAINFAL...	Designed by JS Checked by	
Elstree Computin...	Source Control w.12.6	

Model Details

Storage is Online Cover Level (m) 59.320

Porous Car Park Structure

Infiltration Coefficient Base (m/hr)	0.03500
Membrane Percolation (mm/hr)	1000
Max Percolation (l/s)	16.6
Safety Factor	2.0
Porosity	0.30
Invert Level (m)	58.720
Width (m)	12.2
Length (m)	4.9
slope (1:X)	100.0
Depression Storage (mm)	5
Evaporation (mm/day)	3
Cap Volume Depth (m)	0.000

Victoria Court
22 St Pancras
West Sussex PO1...

Oaklands, Keymer...
Surface Water Da...
Permeable Paving...

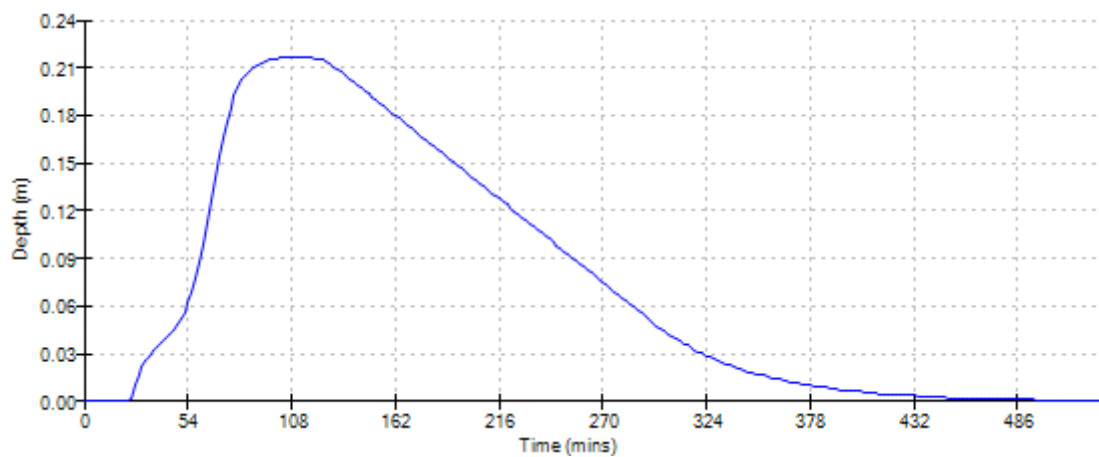
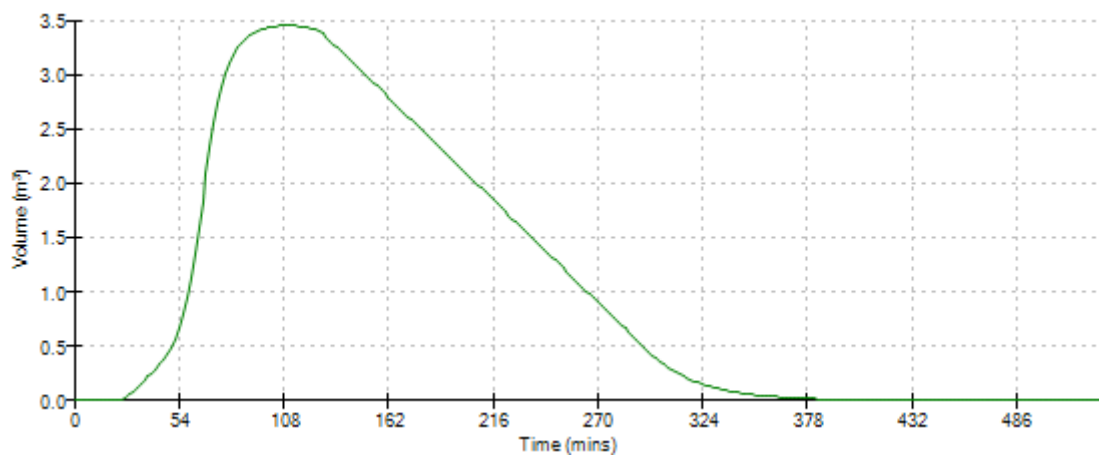
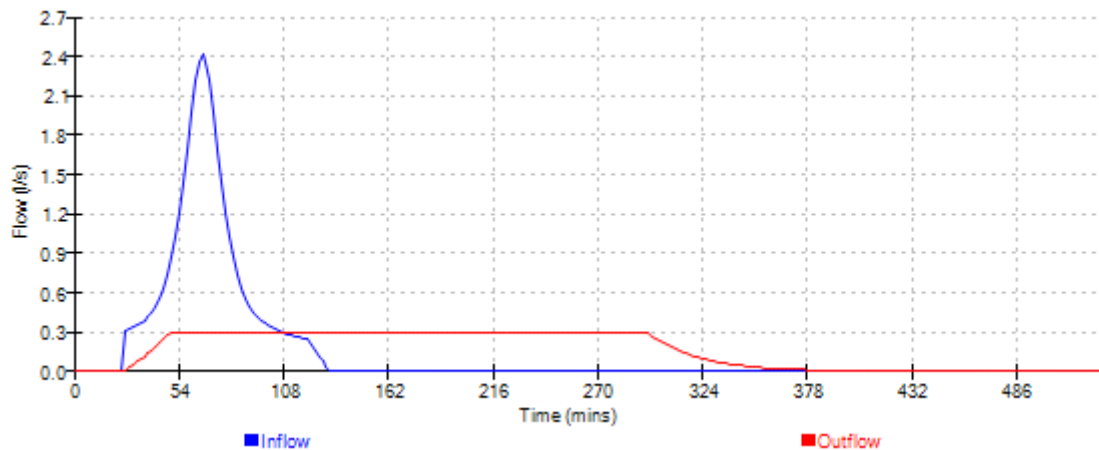
Date July 26
File FEH RAINFAL...

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Event: 120 min Summer



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Summary of Results for 1 year Return Period (+45%)

Half Drain Time : 62 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	56.938	0.138	0.2	1.0	O K
30 min Summer	56.960	0.160	0.2	1.2	O K
60 min Summer	56.978	0.178	0.2	1.4	O K
120 min Summer	56.990	0.190	0.2	1.5	O K
180 min Summer	56.993	0.193	0.2	1.5	O K
240 min Summer	56.993	0.193	0.2	1.5	O K
360 min Summer	56.988	0.188	0.2	1.4	O K
480 min Summer	56.980	0.180	0.2	1.4	O K
600 min Summer	56.972	0.172	0.2	1.3	O K
720 min Summer	56.964	0.164	0.2	1.2	O K
960 min Summer	56.944	0.144	0.2	1.0	O K
1440 min Summer	56.913	0.113	0.2	0.7	O K
2160 min Summer	56.885	0.085	0.2	0.4	O K
2880 min Summer	56.873	0.073	0.2	0.3	O K
4320 min Summer	56.861	0.061	0.1	0.2	O K
5760 min Summer	56.854	0.054	0.1	0.2	O K
7200 min Summer	56.849	0.049	0.1	0.1	O K
8640 min Summer	56.846	0.046	0.1	0.1	O K
10080 min Summer	56.845	0.045	0.1	0.1	O K
15 min Winter	56.937	0.137	0.2	0.9	O K
30 min Winter	56.960	0.160	0.2	1.2	O K
60 min Winter	56.978	0.178	0.2	1.4	O K
120 min Winter	56.988	0.188	0.2	1.4	O K
180 min Winter	56.988	0.188	0.2	1.4	O K
240 min Winter	56.983	0.183	0.2	1.4	O K
360 min Winter	56.971	0.171	0.2	1.3	O K
480 min Winter	56.956	0.156	0.2	1.1	O K
600 min Winter	56.943	0.143	0.2	1.0	O K

Storm Event	Rain (mm/hr)	Time-Peak (mins)
15 min Summer	41.255	22
30 min Summer	26.713	34
60 min Summer	17.298	58
120 min Summer	11.201	92
180 min Summer	8.686	126
240 min Summer	7.253	160
360 min Summer	5.624	230
480 min Summer	4.696	296
600 min Summer	4.083	362
720 min Summer	3.642	426
960 min Summer	2.984	552
1440 min Summer	2.253	792
2160 min Summer	1.701	1128
2880 min Summer	1.394	1480
4320 min Summer	1.105	2208
5760 min Summer	0.937	2936
7200 min Summer	0.824	3672
8640 min Summer	0.743	4400
10080 min Summer	0.680	5112
15 min Winter	41.255	22
30 min Winter	26.713	34
60 min Winter	17.298	58
120 min Winter	11.201	96
180 min Winter	8.686	134
240 min Winter	7.253	172
360 min Winter	5.624	244
480 min Winter	4.696	312
600 min Winter	4.083	378

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Summary of Results for 1 year Return Period (+45%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
720 min winter	56.930	0.130	0.2	0.9	O K
960 min winter	56.904	0.104	0.2	0.6	O K
1440 min winter	56.877	0.077	0.2	0.4	O K
2160 min winter	56.861	0.061	0.1	0.2	O K
2880 min winter	56.852	0.052	0.1	0.2	O K
4320 min winter	56.846	0.046	0.1	0.1	O K
5760 min winter	56.842	0.042	0.1	0.1	O K
7200 min winter	56.839	0.039	0.1	0.1	O K
8640 min winter	56.837	0.037	0.1	0.1	O K
10080 min winter	56.836	0.036	0.1	0.1	O K
Storm Event			Rain (mm/hr)	Time-Peak (mins)	
720 min winter			3.642	442	
960 min winter			2.984	562	
1440 min winter			2.253	772	
2160 min winter			1.701	1128	
2880 min winter			1.394	1476	
4320 min winter			1.105	2204	
5760 min winter			0.937	2936	
7200 min winter			0.824	3592	
8640 min winter			0.743	4384	
10080 min winter			0.680	5120	

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Rainfall Details

Rainfall Model	FEH
Return Period (years)	1
Site Location	GB 530850 118450 TQ 30850 18450
C (1km)	-0.026
D1 (1km)	0.373
D2 (1km)	0.307
D3 (1km)	0.427
E (1km)	0.315
F (1km)	2.479
Summer Storms	Yes
Winter Storms	Yes
CV (Summer)	1.000
CV (Winter)	1.000
Shortest Storm (mins)	15
Longest Storm (mins)	10080
Climate Change %	+45

Time / Area Diagram

Total Area (ha) 0.011

Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.004	4-8	0.004	8-12	0.003

Dixon Hurst Kemp		Page 4
Victoria Court 22 St Pancras West Sussex PO1...	Oaklands, Keymer... Surface Water Dr... Trench Soakaway ...	
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Elstree Computin...	Source Control w.12.6	

Model Details

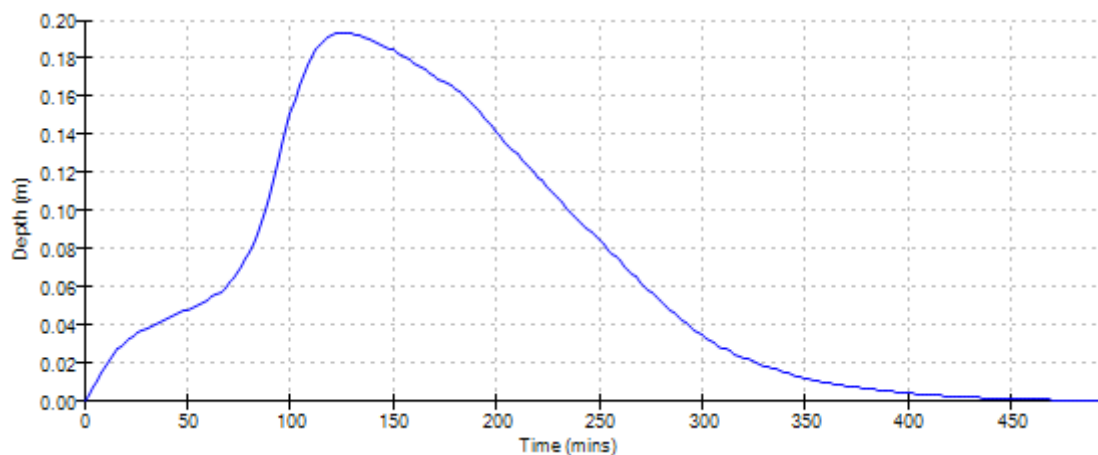
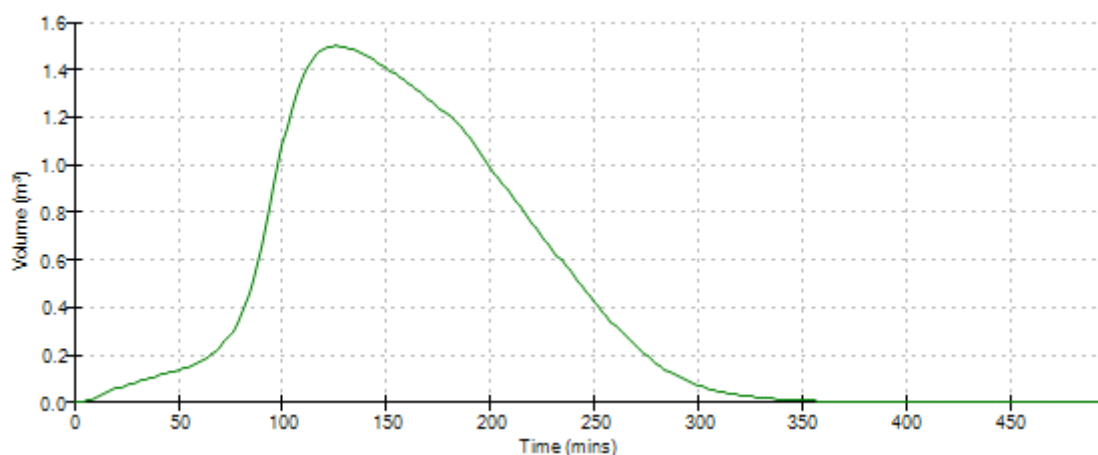
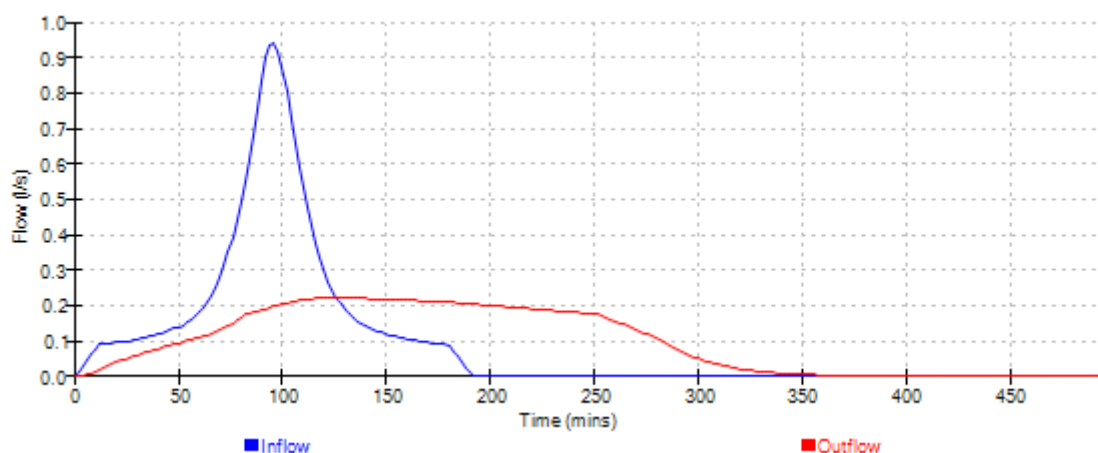
Storage is Online Cover Level (m) 58.000

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr)	0.03500
Infiltration Coefficient Side (m/hr)	0.03500
Safety Factor	2.0
Porosity	0.30
Invert Level (m)	56.800
Trench Width (m)	0.8
Trench Length (m)	41.0
Slope (1:X)	500.0
Cap Volume Depth (m)	0.000
Cap Infiltration Depth (m)	0.000

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Victoria Court 22 St Pancras West Sussex PO1...	Oaklands, Keymer... Surface Water Dr... Trench Soakaway ...	
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Event: 180 min Summer



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Elstree Computin...	Source Control w.12.6	

Summary of Results for 30 year Return Period (+45%)

Half Drain Time : 138 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	57.189	0.389	0.3	3.4	O K
30 min Summer	57.251	0.451	0.3	4.0	O K
60 min Summer	57.308	0.508	0.3	4.6	O K
120 min Summer	57.340	0.540	0.4	4.9	O K
180 min Summer	57.348	0.548	0.4	5.0	O K
240 min Summer	57.349	0.549	0.4	5.0	O K
360 min Summer	57.339	0.539	0.4	4.9	O K
480 min Summer	57.324	0.524	0.4	4.8	O K
600 min Summer	57.307	0.507	0.3	4.6	O K
720 min Summer	57.290	0.490	0.3	4.4	O K
960 min Summer	57.246	0.446	0.3	4.0	O K
1440 min Summer	57.173	0.373	0.3	3.3	O K
2160 min Summer	57.090	0.290	0.3	2.4	O K
2880 min Summer	57.028	0.228	0.2	1.8	O K
4320 min Summer	56.960	0.160	0.2	1.2	O K
5760 min Summer	56.916	0.116	0.2	0.7	O K
7200 min Summer	56.888	0.088	0.2	0.5	O K
8640 min Summer	56.877	0.077	0.2	0.4	O K
10080 min Summer	56.871	0.071	0.2	0.3	O K
15 min Winter	57.189	0.389	0.3	3.4	O K
30 min Winter	57.252	0.452	0.3	4.0	O K
60 min Winter	57.310	0.510	0.4	4.6	O K
120 min Winter	57.345	0.545	0.4	5.0	O K
180 min Winter	57.349	0.549	0.4	5.0	O K
240 min Winter	57.346	0.546	0.4	5.0	O K
360 min Winter	57.327	0.527	0.4	4.8	O K
480 min Winter	57.302	0.502	0.3	4.5	O K
600 min Winter	57.275	0.475	0.3	4.3	O K

Storm Event	Rain (mm/hr)	Time-Peak (mins)
15 min Summer	135.342	24
30 min Summer	82.452	37
60 min Summer	50.230	64
120 min Summer	30.601	110
180 min Summer	22.900	142
240 min Summer	18.642	176
360 min Summer	13.951	244
480 min Summer	11.357	314
600 min Summer	9.682	384
720 min Summer	8.499	450
960 min Summer	6.789	584
1440 min Summer	4.946	842
2160 min Summer	3.604	1216
2880 min Summer	2.878	1588
4320 min Summer	2.202	2296
5760 min Summer	1.820	3000
7200 min Summer	1.571	3680
8640 min Summer	1.392	4408
10080 min Summer	1.258	5136
15 min Winter	135.342	24
30 min Winter	82.452	37
60 min Winter	50.230	64
120 min Winter	30.601	116
180 min Winter	22.900	146
240 min Winter	18.642	186
360 min Winter	13.951	262
480 min Winter	11.357	336
600 min Winter	9.682	410

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Summary of Results for 30 year Return Period (+45%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
720 min winter	57.250	0.450	0.3	4.0	O K
960 min winter	57.191	0.391	0.3	3.4	O K
1440 min winter	57.097	0.297	0.3	2.5	O K
2160 min winter	56.998	0.198	0.2	1.5	O K
2880 min winter	56.931	0.131	0.2	0.9	O K
4320 min winter	56.879	0.079	0.2	0.4	O K
5760 min winter	56.866	0.066	0.1	0.3	O K
7200 min winter	56.858	0.058	0.1	0.2	O K
8640 min winter	56.852	0.052	0.1	0.2	O K
10080 min winter	56.849	0.049	0.1	0.1	O K
Storm Event	Rain (mm/hr)		Time-Peak (mins)		
720 min winter	8.499		480		
960 min winter	6.789		618		
1440 min winter	4.946		882		
2160 min winter	3.604		1256		
2880 min winter	2.878		1616		
4320 min winter	2.202		2212		
5760 min winter	1.820		2944		
7200 min winter	1.571		3656		
8640 min winter	1.392		4408		
10080 min winter	1.258		5008		

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Victoria Court 22 St Pancras West Sussex PO1...	Oaklands, Keymer... Surface Water Dr... Trench Soakaway ...	
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Rainfall Details

Rainfall Model	FEH
Return Period (years)	30
Site Location	GB 530850 118450 TQ 30850 18450
C (1km)	-0.026
D1 (1km)	0.373
D2 (1km)	0.307
D3 (1km)	0.427
E (1km)	0.315
F (1km)	2.479
Summer Storms	Yes
Winter Storms	Yes
CV (Summer)	1.000
CV (Winter)	1.000
Shortest Storm (mins)	15
Longest Storm (mins)	10080
Climate Change %	+45

Time / Area Diagram

Total Area (ha) 0.011

Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.004	4-8	0.004	8-12	0.003

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Victoria Court 22 St Pancras West Sussex PO1...	Oaklands, Keymer... Surface Water Dr... Trench Soakaway ...	
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Elstree Computin...	Source Control w.12.6	

Model Details

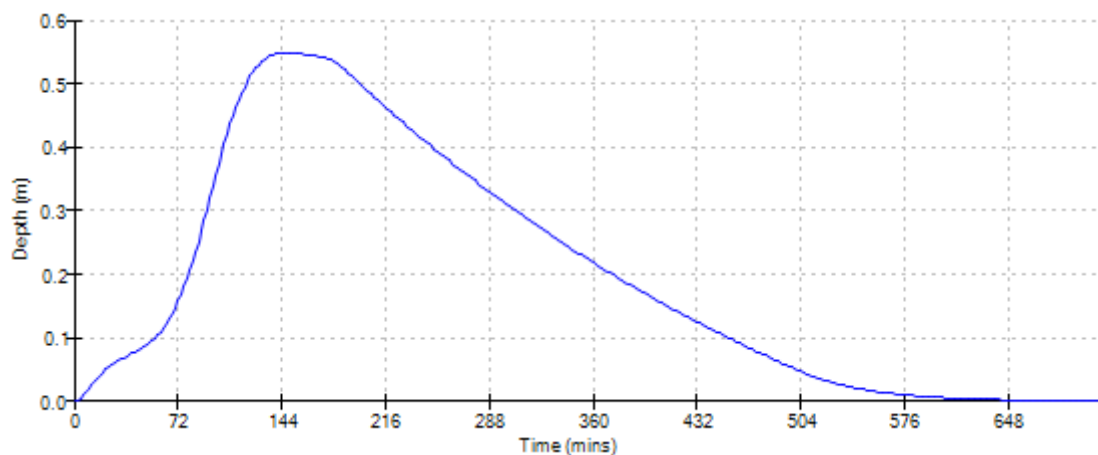
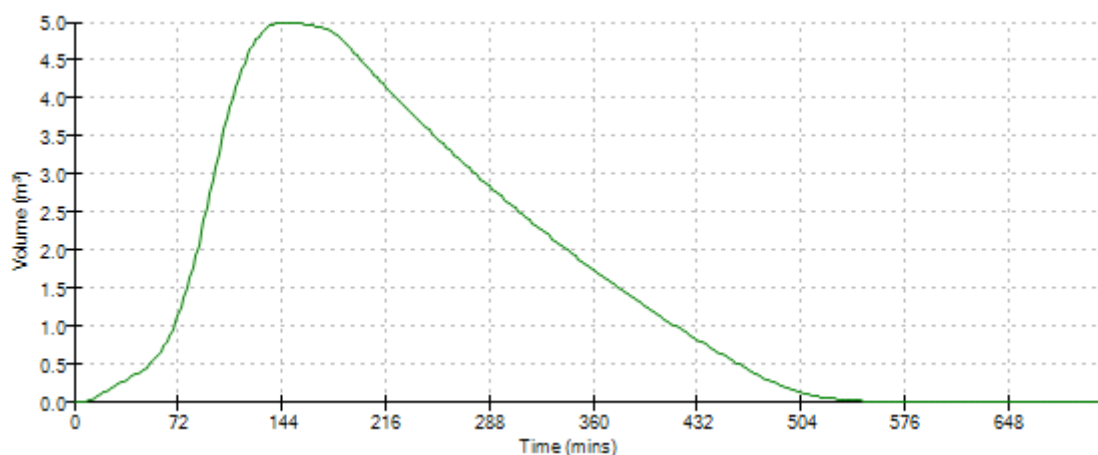
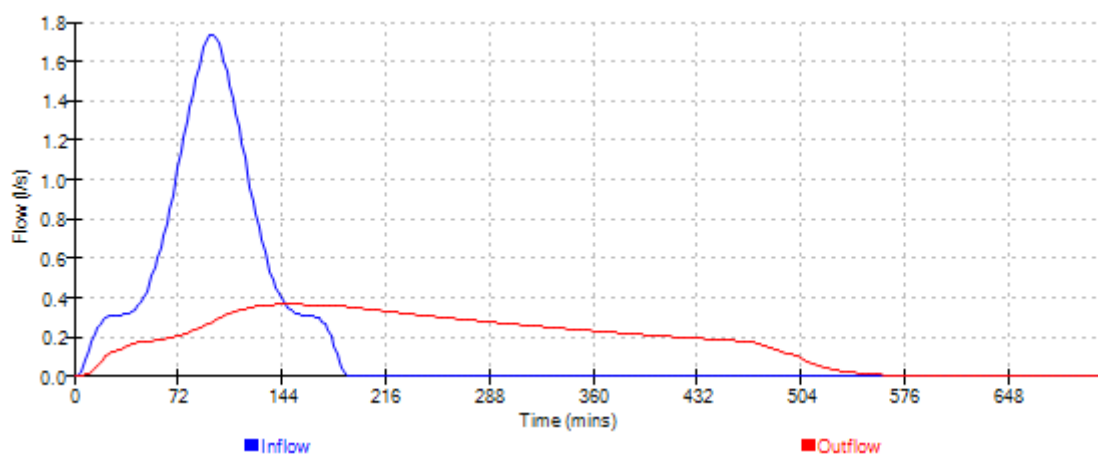
Storage is Online Cover Level (m) 58.000

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr)	0.03500
Infiltration Coefficient Side (m/hr)	0.03500
Safety Factor	2.0
Porosity	0.30
Invert Level (m)	56.800
Trench Width (m)	0.8
Trench Length (m)	41.0
Slope (1:X)	500.0
Cap Volume Depth (m)	0.000
Cap Infiltration Depth (m)	0.000

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Victoria Court 22 St Pancras West Sussex PO1...	Oaklands, Keymer... Surface Water Dr... Trench Soakaway ...	
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Event: 180 min Winter



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Elstree Computin...	Source Control w.12.6	

Summary of Results for 100 year Return Period (+45%)

Half Drain Time : 166 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	57.382	0.582	0.4	5.3	O K
30 min Summer	57.469	0.669	0.4	6.2	O K
60 min Summer	57.547	0.747	0.4	6.9	O K
120 min Summer	57.592	0.792	0.5	7.4	O K
180 min Summer	57.599	0.799	0.5	7.5	O K
240 min Summer	57.598	0.798	0.5	7.5	O K
360 min Summer	57.583	0.783	0.5	7.3	O K
480 min Summer	57.560	0.760	0.5	7.1	O K
600 min Summer	57.536	0.736	0.4	6.8	O K
720 min Summer	57.511	0.711	0.4	6.6	O K
960 min Summer	57.449	0.649	0.4	6.0	O K
1440 min Summer	57.350	0.550	0.4	5.0	O K
2160 min Summer	57.238	0.438	0.3	3.9	O K
2880 min Summer	57.154	0.354	0.3	3.1	O K
4320 min Summer	57.062	0.262	0.2	2.2	O K
5760 min Summer	56.997	0.197	0.2	1.5	O K
7200 min Summer	56.949	0.149	0.2	1.1	O K
8640 min Summer	56.914	0.114	0.2	0.7	O K
10080 min Summer	56.891	0.091	0.2	0.5	O K
15 min Winter	57.383	0.583	0.4	5.3	O K
30 min Winter	57.470	0.670	0.4	6.2	O K
60 min Winter	57.550	0.750	0.4	7.0	O K
120 min Winter	57.599	0.799	0.5	7.5	O K
180 min Winter	57.602	0.802	0.5	7.5	O K
240 min Winter	57.598	0.798	0.5	7.4	O K
360 min Winter	57.572	0.772	0.5	7.2	O K
480 min Winter	57.538	0.738	0.4	6.9	O K
600 min Winter	57.502	0.702	0.4	6.5	O K

Storm Event	Rain (mm/hr)	Time-Peak (mins)
15 min Summer	207.395	25
30 min Summer	123.608	38
60 min Summer	73.671	64
120 min Summer	43.908	120
180 min Summer	32.440	148
240 min Summer	26.170	180
360 min Summer	19.334	248
480 min Summer	15.597	318
600 min Summer	13.204	388
720 min Summer	11.523	456
960 min Summer	9.121	590
1440 min Summer	6.561	852
2160 min Summer	4.719	1236
2880 min Summer	3.735	1596
4320 min Summer	2.821	2336
5760 min Summer	2.311	3056
7200 min Summer	1.980	3752
8640 min Summer	1.745	4488
10080 min Summer	1.569	5144
15 min Winter	207.395	25
30 min Winter	123.608	37
60 min Winter	73.671	64
120 min Winter	43.908	118
180 min Winter	32.440	152
240 min Winter	26.170	188
360 min Winter	19.334	266
480 min Winter	15.597	342
600 min Winter	13.204	414

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File FEH TRENCH ...	Checked by	
Elstree Computin...		Source Control w.12.6

Summary of Results for 100 year Return Period (+45%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
720 min winter	57.466	0.666	0.4	6.2	O K
960 min winter	57.387	0.587	0.4	5.4	O K
1440 min winter	57.262	0.462	0.3	4.1	O K
2160 min winter	57.130	0.330	0.3	2.8	O K
2880 min winter	57.037	0.237	0.2	1.9	O K
4320 min winter	56.938	0.138	0.2	1.0	O K
5760 min winter	56.883	0.083	0.2	0.4	O K
7200 min winter	56.872	0.072	0.2	0.3	O K
8640 min winter	56.864	0.064	0.1	0.2	O K
10080 min winter	56.858	0.058	0.1	0.2	O K
Storm Event	Rain (mm/hr)		Time-Peak (mins)		
720 min winter	11.523		486		
960 min winter	9.121		626		
1440 min winter	6.561		896		
2160 min winter	4.719		1280		
2880 min winter	3.735		1648		
4320 min winter	2.821		2376		
5760 min winter	2.311		2952		
7200 min winter	1.980		3672		
8640 min winter	1.745		4384		
10080 min winter	1.569		5136		

Dixon Hurst Kemp		Page 3
Victoria Court 22 St Pancras West Sussex PO1...	Oaklands, Keymer... Surface Water Dr... Trench Soakaway ...	
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Elstree Computin...	Source Control w.12.6	

Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
Site Location	GB 530850 118450 TQ 30850 18450
C (1km)	-0.026
D1 (1km)	0.373
D2 (1km)	0.307
D3 (1km)	0.427
E (1km)	0.315
F (1km)	2.479
Summer Storms	Yes
Winter Storms	Yes
CV (Summer)	1.000
CV (Winter)	1.000
Shortest Storm (mins)	15
Longest Storm (mins)	10080
Climate Change %	+45

Time / Area Diagram

Total Area (ha) 0.011

Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.004	4-8	0.004	8-12	0.003

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Elstree Computin...	Source Control w.12.6	

Model Details

Storage is Online Cover Level (m) 58.000

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr)	0.03500
Infiltration Coefficient Side (m/hr)	0.03500
Safety Factor	2.0
Porosity	0.30
Invert Level (m)	56.800
Trench Width (m)	0.8
Trench Length (m)	41.0
Slope (1:X)	500.0
Cap Volume Depth (m)	0.000
Cap Infiltration Depth (m)	0.000

Victoria Court
22 St Pancras
West Sussex PO1...

Oaklands, Keymer...
Surface Water Dr...
Trench Soakaway ...

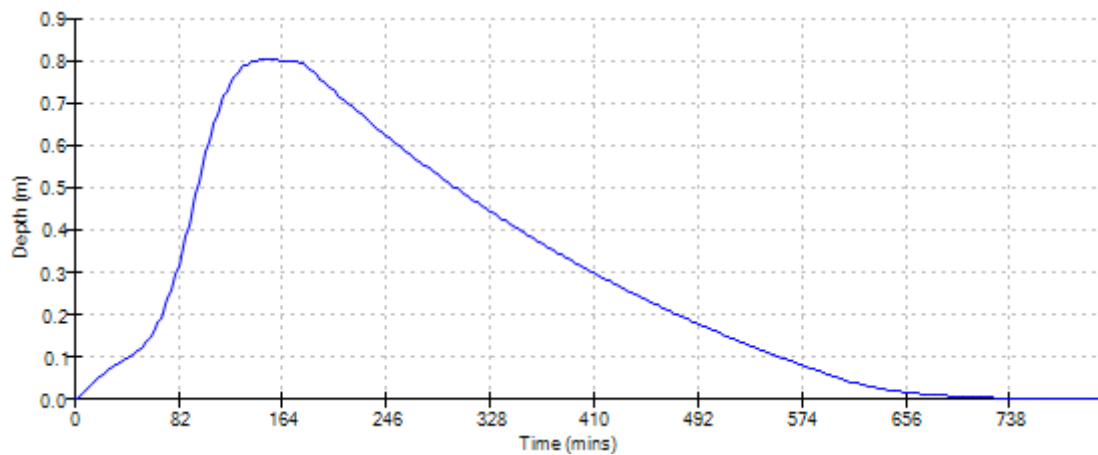
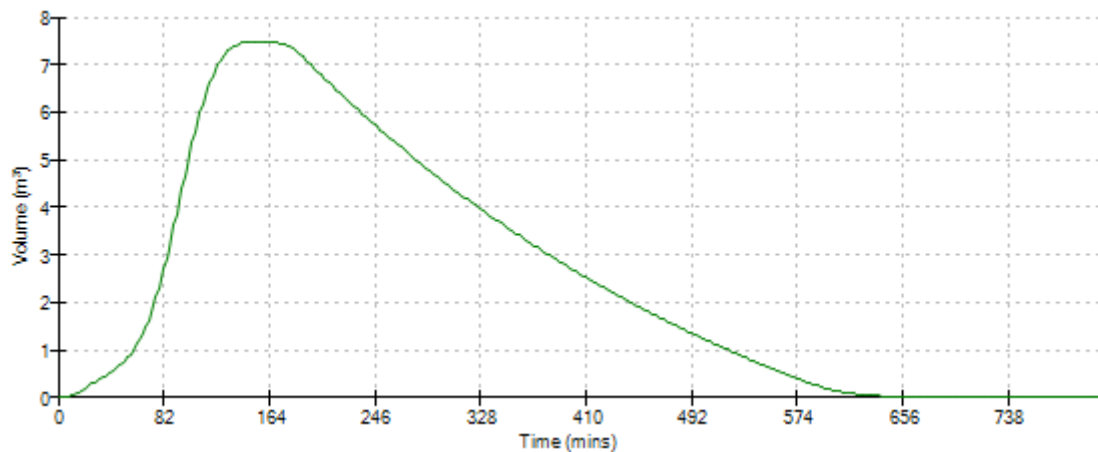
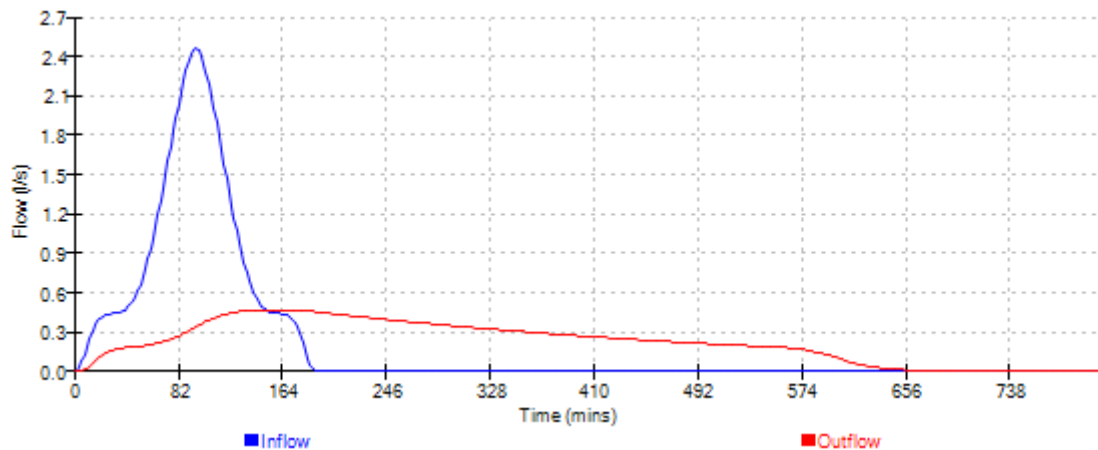
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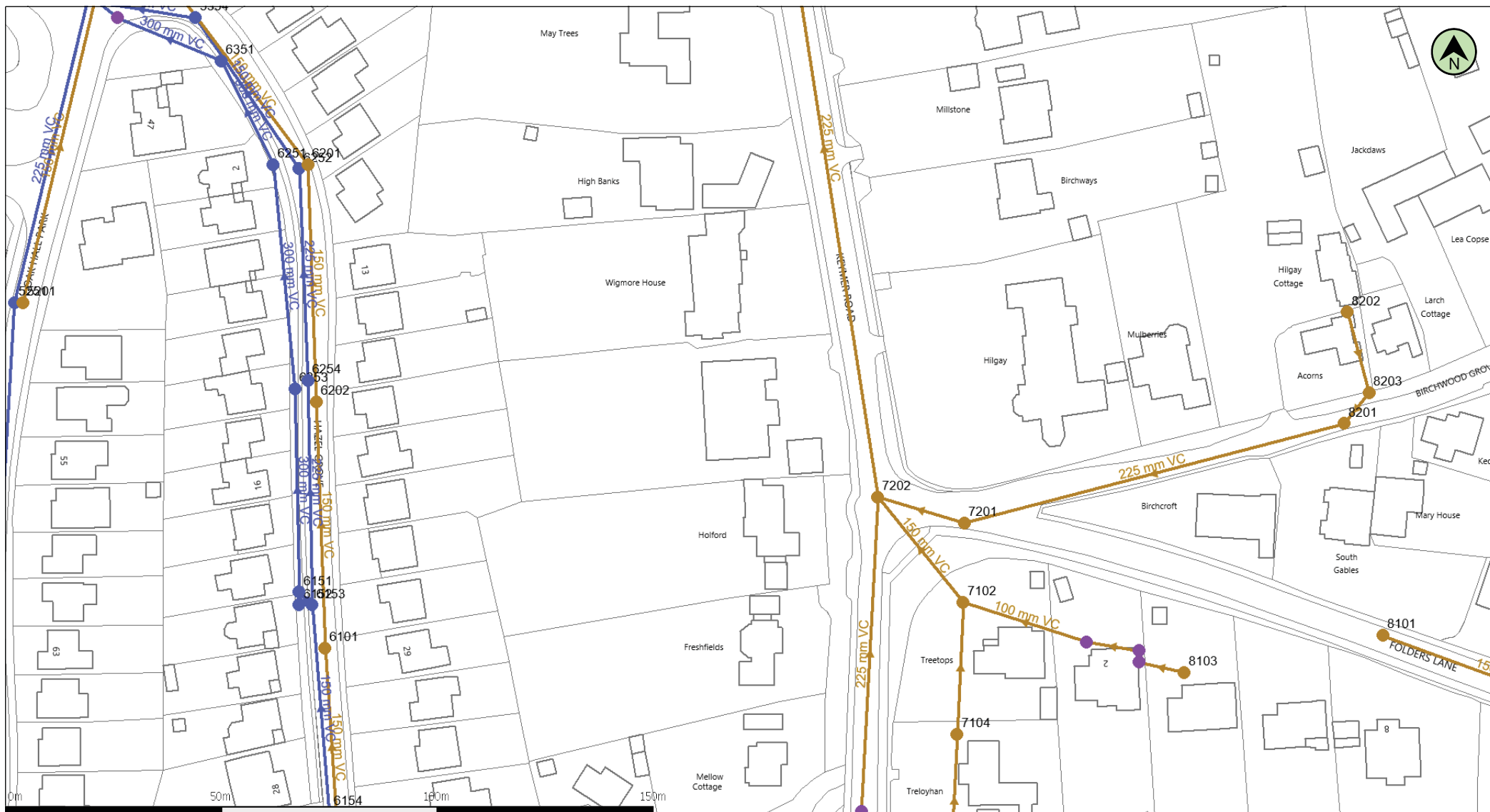
Designed by JS
Checked by



Elstree Computin... Source Control w.12.6

Event: 180 min winter





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Date: 02/08/22

Scale: 1:1250

Map Centre: 531724,118233

Data updated: 21/07/22

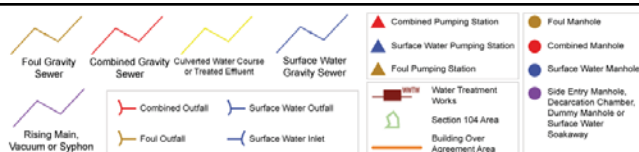
Our Ref: 915639 - 1

Wastewater Plan A4

The positions of pipes shown on this plan are believed to be correct, but Southern Water Services Ltd accept no responsibility in the event of inaccuracy. The actual positions should be determined on site. This plan is produced by Southern Water Services Ltd (c) Crown copyright and database rights 2022 Ordnance Survey 100031673. This map is to be used for the purposes of viewing the location of Southern Water plant only. Any other uses of the map data or further copies is not permitted.

WARNING: BAC pipes are constructed of Bonded Asbestos Cement.

WARNING: Unknown (UNK) materials may include Bonded Asbestos Cement.



mark@flo-consult.co.uk

Oaklands



[illegible]

Appendix C-

Infiltration Test Report

RESEARCH SECTION,
SOUTH SIDE OFFICES,
WATERLOO. EXT. 2786.

BRITISH RAILWAYS, SOUTHERN REGION,
CHIEF CIVIL ENGINEER'S DEPARTMENT,
WATERLOO STATION, S.E.1.

DATUM FOR LEVELS :- GROUND LEVEL

GROUND LEVEL - APPROX. R.L.

POSITION :- SEE SITE PLAN.

DATE :- 17.4.59

SITE PLAN
No.

STRATA	THICKNESS	DEPTH (ft.)	KEY	WATER LEVELS	SAMPLES	REMARKS
TOP SOIL, ASHES, TRACK BALLAST AND PIECES OF CHALK	1' - 0"	1' - 0"				
DARK SOIL WITH PEA BALLAST AND LARGE ROUND BALLAST	0' - 9"	1' - 9"				
VERY DARK SOIL WITH MIXTURE OF SMALL STONES AND BRICK.	0' - 6"	2' - 3"				
WEATHERED CHALK (SOME PIECES UPTO 4" DIA.) BECOMING SOFT TO VERY SOFT.						
VERY LIGHT ORANGE SILTY CLAY	0' - 6"	8' - 1"				
LIGHT BROWN SILTY CLAY WITH LARGE CLAYSTONES	0' - 9"	9' - 4"				
DARK GREY SILTY CLAY	0' - 11"	10' - 3"				
SOFT GREENISH SILTY CLAY	1' - 0"	11' - 3"				
FIRM LIGHT BROWN/GREY MOTTLED SILTY CLAY WITH SMALL ROOTS AND SOME SMALL CLAYSTONES						
LIGHT BROWN/GREY MOTTLED CLAY. (FIRM)	2' - 7"	13' - 10"				
LIGHT BROWN/GREY MOTTLED CLAY WITH 'PER' SANDSTONE & BALLAST.	1' - 0"	14' - 10"				
FIRM LIGHT BROWN / GREY MOTTLED FISSURED SILTY CLAY WITH SOME SMALL ROOTS	1' - 2"	16' - 0"				
VERY SOFT LIGHT BROWN/GREY MOTTLED SILTY CLAY	3' - 9"	20' - 9"				
STIFF LIGHT BROWN/GREY						

standard penetration test
N=7

standard penetration test
N=3

standard penetration test
N=3 for 18 ins.

W.L. 16'-8"

RESEARCH SECTION,
SOUTH SIDE OFFICES,
WATERLOO. EXT. 2786.

BRITISH RAILWAYS, SOUTHERN REGION,
CHIEF CIVIL ENGINEER'S DEPARTMENT,
WATERLOO STATION, S.E.1.

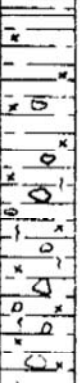
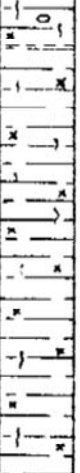
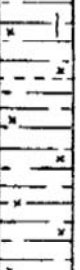
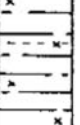
DATUM FOR LEVELS :- GROUND LEVEL

GROUND LEVEL :- APPROX. RAIL LEVEL

POSITION :- SEE SITE PLAN

DATE :- 23.4.59

SITE PLAN
No.

STRATA	THICKNESS	DEPTH (M)	KEY	WATER LEVELS	SAMPLES	REMARKS
GROUND MADE UP WITH DARK SOIL, PIECES OF WIRE, TINS & BALLAST	2'-3"	2'-3"			1'-0"	
LUMP CHALK IN 'PUG' (SHATTERED)		(0.69)			2'-6"	
" " " " "					3'-0"	T195
-----CHANGING TO-----	2'-10"	5'-1"			4'-6"	
SOFT, DARK BROWN LOAMY CLAY WITH LUMP CHALK, FLINTS AND ASHES.		(1.55)			6'-3"	
	2'-1"	7'-2"			7'-9"	T50
		(2.18)			9'-1"	T151
FIRM GREEN BROWN MOTTLED SILTY CLAY WITH FINE & MEDIUM FLINTS AND SMALL ROOTS - STRONG SMELL OF CREOSOTE - SMALL CLAYSTONES.					10'-7"	
	4'-1"	11'-3"			12'-2"	T70
		(3.43)			13'-10"	
FIRM LIGHT BROWN/GREY MOTTLED SILTY CLAY WITH SMALL ROOTS.					15'-6"	
	4'-11"	16'-2"			17'-0"	T69
		(4.93)			18'-4"	
FIRM LIGHT BROWN SILTY CLAY, SHATTERED.						T208
FIRM LIGHT BROWN/GREY MOTTLED SILTY CLAY, (WITH SMALL DECAYING ROOTS) BECOMING HARD						
	2'-5"	18'-7"				
		(5.66)				
AS ABOVE BUT CHANGING RAPIDLY TO STIFF.						



EARTH ENVIRONMENTAL
& GEOTECHNICAL

OUR REF: R2962

26th June 2023

Flo Consult Ltd
Chiltern View Studio
Buslins Lane
Chesham
Bucks
HP5 2XD

FAO Mark Symonds
By Email (mark@flo-consult.co.uk)

Dear Mark,

Land At Rear of Oaklands, Keymer Road, Burgess Hill, West Sussex, RH15
0AL- Soakaway Testing

Further to completion of the soakaway testing at the above site, our letter report is as follows:

Introduction

In-situ soakaway testing has been commissioned by Flo Consult Ltd (the client) to confirm if soakaway drainage will be suitable for a new drainage system located at Oaklands, Keymer Road, Burgess Hill.

Soakaway testing was completed over one day and in line with BRE 365 guidance. The site works were completed on the 23rd June 2023.

The Site

The assessment site comprises a large 3-storey residential building with a gravel driveway to the east of the main building and soft landscaping to the west. The site is bound by residential developments in all directions, with Keymer Road directly east of the site.

The soakaway testing was carried out in one location towards the southwest of the assessment site (TP01A). The location for the testing was determined by the client prior to site work. The test location takes into account the proposed soakaway location for the site.

From review of British Geological Survey (BGS) data it is suggested that the assessment site is directly underlain by bedrock geology of the Weald Clay Formation (Mudstone).

Soakaway Testing & Calculated Infiltration Rates

The site work was supervised by EEGSL and comprised of soakaway testing in one trial pit in accordance with the methods described in BRE Digest 365⁽²⁰⁰⁷⁾ and the excavation of a second pit to determine deeper ground conditions and the absence of shallow groundwater.

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Tel: 0131 5641789

Earth Environmental & Geotechnical
Ltd
Registered Office:
Mentor House, Ainsworth Street,
Blackburn, Lancashire, BB1 6AY
Registered in England.
No: 8436152

TP01 was excavated to a depth of 2.0mbgl. TP01A was excavated to a depth of 1.0mbgl.

No groundwater was observed during the excavation works.

A plan showing the location of the trial pits is appended to this report.

In general, the geology at the site consisted of between 0.45m to 0.60m of Made Ground overlying sandy Clay proven to a maximum depth of 1.2mbgl overlying silty Clay to a maximum proven depth of 2.0mbgl.

As can be seen from the results of the soakaway testing, infiltration rates between 1.47×10^{-5} and 1.97×10^{-5} were achieved.

Conclusions

1. Based on the near surface ground conditions and results of soakaway testing, soakaway drainage is considered likely to be suitable in the areas tested.
2. It is recommended that the base of the soakaway is placed at a maximum depth of 1.0mbgl.

- - - - - END OF LETTER REPORT - - - - -

If you have any queries, or require any further information, please do not hesitate to contact the undersigned.

Yours Sincerely,



John Grace

Director

For and on behalf of Earth Environmental & Geotechnical (Southern) Ltd

Encl. Trial Pit logs
Soakaway Test Results
Investigation Location Plan



ENCLOSURE 1

TRIAL PIT LOGS

Trial Pit Log

Project Name: Land To Rear Of Oaklands		Client: Flo Consult Ltd		Date: 23/06/2023	
Location: Keymer Road, Burgess Hill, West Sussex, RH15 0AH		Contractor: P R Nicholls Ltd			
Project No. : R2962		Crew Name: H		Equipment: Kubota U50-5	
Location Number TP01	Location Type TP	Level	Logged By CA	Scale 1:10	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.45			MADE GROUND: Black slightly clayey slightly gravelly fine to coarse SAND with fragments of red brick, plastic and glass. Gravel is subangular to rounded fine to coarse of flint.	
								Light brown sandy CLAY. Sand is fine to coarse.	
					1.20			Light brown mottled light grey slightly silty CLAY.	
					2.00			End of Borehole at 2.000m	2

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
1.25	0.60						

Remarks No groundwater was encountered.							 EARTH ENVIRONMENTAL & GEOTECHNICAL
---	--	--	--	--	--	--	---

Trial Pit Log

Project Name: Land To Rear Of Oaklands		Client: Flo Consult Ltd		Date: 23/06/2023	
Location: Keymer Road, Burgess Hill, West Sussex, RH15 0AH		Contractor: P R Nicholls Ltd			
Project No. : R2962		Crew Name: H		Equipment: Kubota U50-5	
Location Number TP01A	Location Type TP	Level	Logged By CA	Scale 1:10	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.60			MADE GROUND: Black slightly clayey slightly gravelly fine to coarse SAND with fragments of red brick, plastic and glass. Gravel is subangular to rounded fine to coarse of flint.	
					1.00			Light brown sandy CLAY. Sand is fine to coarse.	
								End of Borehole at 1.000m	1
									2

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
1.25	0.60						

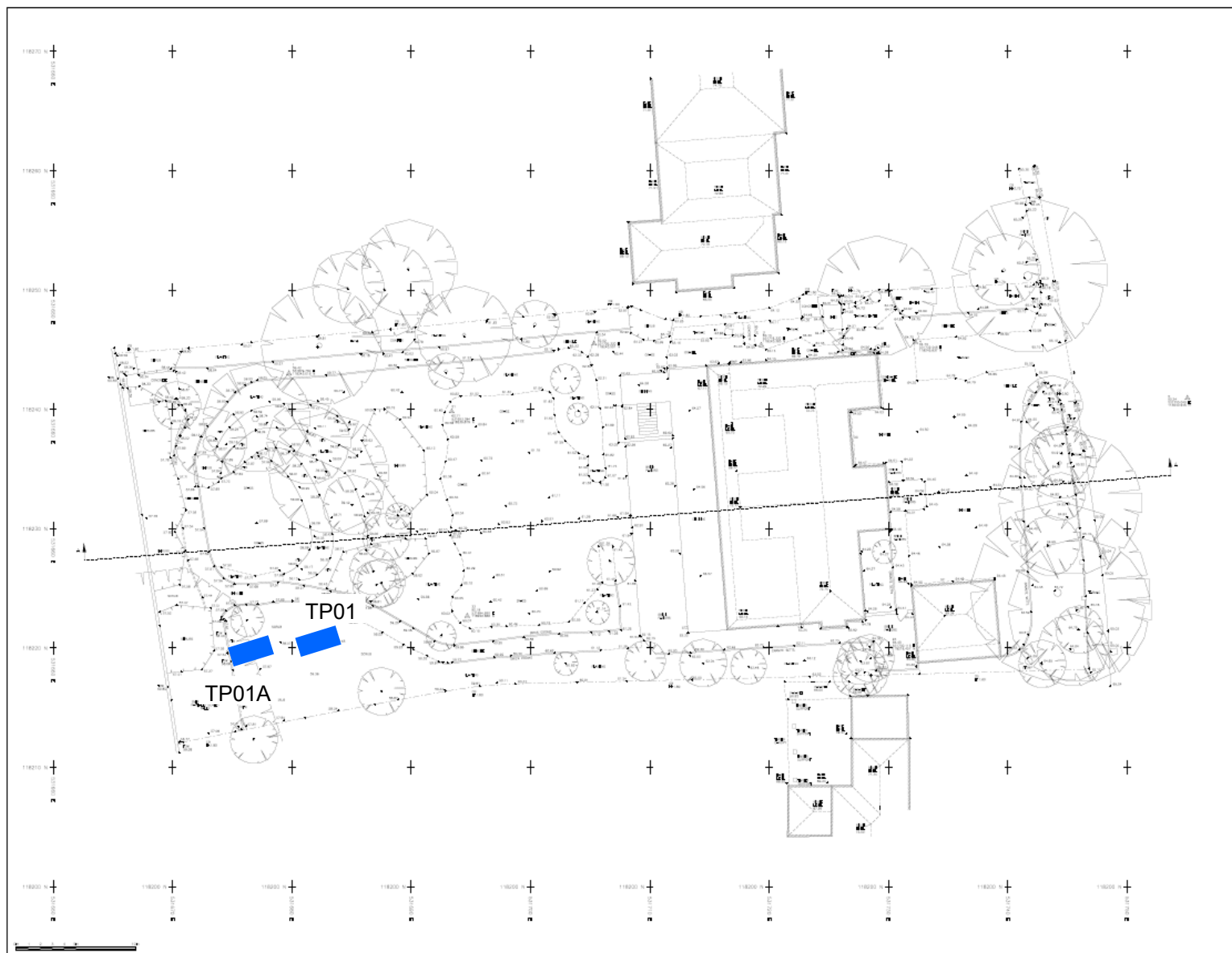
Remarks No groundwater was encountered.							 EARTH ENVIRONMENTAL & GEOTECHNICAL
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ENCLOSURE 2

SOAKAWAY TEST RESULT

ENCLOSURE 3

INVESTIGATION LOCATION PLAN



SITE: Land At Rear of Oaklands, Keymer Road, Burgess Hill

SCALE: NTS

Project NO: R2962

FIGURE TITLE: Test Location Plan

REV: 01

FIGURE NO: 01

