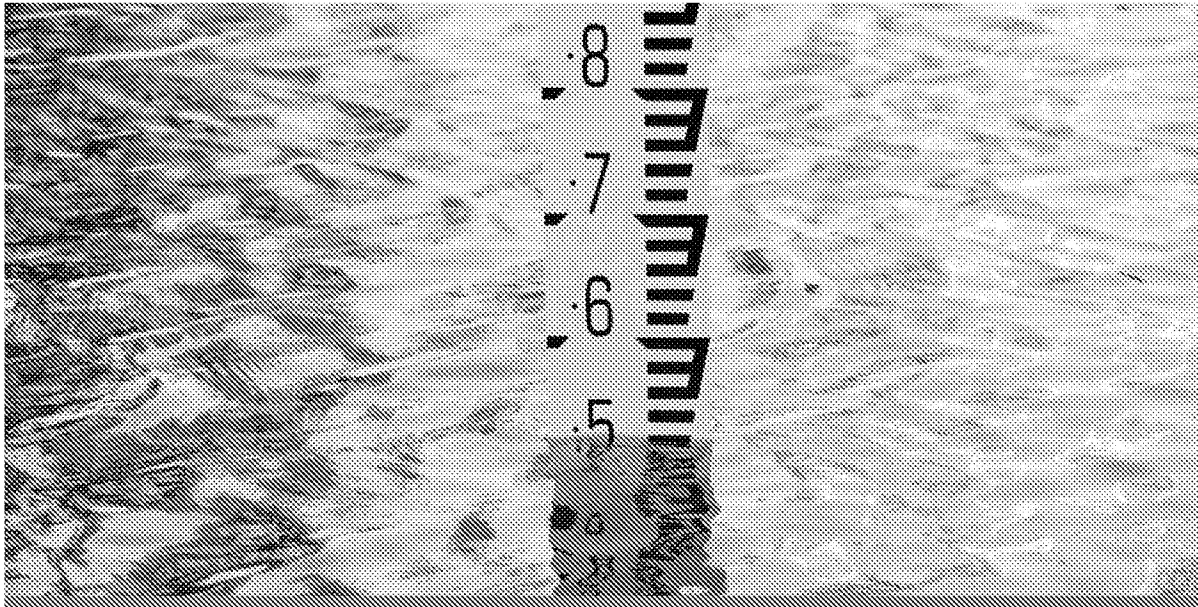




Flood Risk Assessment

Land South of Barnham Road, Eastergate, PO20 3RT

Client

Landacre (Eastergate) Ltd

Stockers Farm

Salthill Road,

Chichester

West Sussex, PO19 3PY

Ref: 10635

Date: November 2020

Consulting Engineers

GTA Civils & Transport Limited

Gloucester House

66a Church Walk

Burgess Hill

West Sussex, RH15 9AS

Contents

1	Introduction	2
2	Existing Site and Current Flood Conditions	3
3	Proposed Development & Drainage Strategy	5
4	Conclusions	8

Schedule of Appendices

A	Site Location Map & Aerial Photo
B	Topographic Survey and Sewer Records
C	Environment Agency & SFRA Flood and Groundwater Maps
D	Proposed Scheme Drawings
E	Micro Drainage Calculations
F	Winter Groundwater Monitoring & Soakage Test Results, Borehole Records

Issue	Issue date	Compiled	Checked
Preliminary Issue	16 November 2020	JP	MR
Second Issue	23 April 2021	JR	MR
Third Issue	11 June 2021	JR	MR
Fourth Issue	25 June 2021	JR	MR
Fifth Issue	14 July 2021	JR	MR

1 Introduction

- 1.1 This report has been prepared for Landacre (Eastergate) Ltd in relation to land south of Barnham Road, Eastergate, PO20 3RT. No responsibility is accepted to any third party for all or part of this study in connection with this or any other development.
- 1.2 GTA Civils & Transport Limited was appointed by the client to provide a Flood Risk Assessment (FRA) as requested by the Environment Agency (EA) and Arun District Council in order to achieve Planning Approval at said site.
- 1.3 This report has been prepared in accordance with the 2019 National Planning Policy Framework (NPPF) and the current Planning Practice Guidance (PPG).

2 Existing Site and Current Flood Conditions

- 2.1 This greenfield application site lies in the area administered by Arun District Council (ADC), with a site area of 3.78ha. It is centred at 494970E, 105100N. Site location maps and an aerial view are shown in Appendix A.
- 2.2 Hydrology: The nearest Main River is the Arun, which is approximately 6km to the east. This site is in the catchment of the Lidsey Rife. There are a number of drains to the west and south, with a ditch along the south boundary, linking to the closest marked drain on the OS explorer map - to the southwest.
- 2.3 A topographical survey is contained in Appendix B. The survey shows the land as having a gentle slope from north to south, with ground levels to AOD ranging from +10.36m to +11.82m. There is a ditch watercourse on the south boundary that flows to the SE and onwards to the English Channel via the Ryebank Rife to the south.
- 2.4 Geology: the BGS's online map indicates the solid geology is London Clay Formation (clay, silt and sand), with River Terrace Deposits (drift sand, silt and clay) overlying.
- 2.5 A series of 3 windowless soil samples was taken and winter groundwater monitoring undertaken between 25/11/19 and 03/03/20. The highest level recorded level was in WS1, namely 0.42m bgl. Otherwise the recorded levels were, in the main over 1m bgl – or significantly greater. When the highest recorded depths are subtracted from the ground level at each well location, the groundwater level to OD is quite consistent across the site at approximately +10.00m AOD. Refer to Appendix F for these graphs and borehole locations.
- 2.6 The EA's Online Flood Map for Planning (Rivers and Seas) (see Appendix C) shows the site lying in Flood Zone 1 (FZ1) – Low Risk. Inland sites in FZ1 have less than a 1 in 1000 annual probability (1 in 1000 years) of fluvial flooding. There is no risk of tidal/coastal flooding as the site is many kilometres from the coast.
- 2.7 Surface water flooding: The EA's online Surface Water Flood Depth Map for the 'Low Risk Scenario' (1 in 1000 years storm event) - in Appendix C - shows the site to be removed from this source of flooding.
- 2.8 Groundwater flooding: There are no records of groundwater flooding in this vicinity according to ADC's SFRA. Appendix C shows the SFRA's Indicative Risk of Groundwater Flooding Map (G1). The site is in the lowest risk area, namely 'Medium'.

- 2.9 Groundwater aquifers: The site overlies a Low Groundwater Vulnerability Zone and is removed from all Source Protection Zones – refer to the EA online map excerpts in Appendix C.
- 2.10 Artificial flooding: The site is outside of any risk area associated with reservoir failure flooding (see the EA's Online 'Risk of Flooding from Reservoirs' Map in Appendix C). There are no docks or canals in this area.
- 2.11 Historical flooding: This site is removed from the nearest historically affected area.
- 2.12 In conclusion, the site's flood risk profile is Low. It is removed from *all* known sources of flooding.

3 Proposed Development & Drainage Strategy

- 3.1 The proposal is to build 44 new dwelling houses. The proposed site layout is included in Appendix D.
- 3.2 Vulnerability: Table 2 of the PPG for 'Flood risk and coastal change' indicates dwelling units are classed as 'More vulnerable'.
- 3.3 As concluded in Section 2.11, the flood risk of this site is Low. No flood mitigation is necessary or proposed as More Vulnerable uses are appropriate development in FZ1.
- 3.4 SuDS Hierarchy: Soakage testing to BRE365 has been undertaken during the winter months above the highest groundwater level taken from winter groundwater monitoring – refer to Appendix F for this data. The results range from 9.92×10^{-6} m/s to 1.99×10^{-5} m/s based on the 3rd test carried out in each pit.
- 3.5 As the soakage test results are high enough to permit infiltration, development runoff will be disposed to ground using the following infiltration methods:
- Permeable paving to all shared surfaces and private driveways;
 - Properties to drain to adjacent areas of permeable paving and individual cellular soakaways located in each rear garden;
 - Main road to drain to infiltration blanket and basin.
- 3.6 A Site Drainage Strategy drawing showing these SuDS elements in plan is in Appendix D. All of the infiltration devices are set above the highest recorded winter groundwater level of approximately +10.000. To achieve this, the open space area adjacent to the southern boundary in which the infiltration blanket and pond are to be sited will require land raising of 250-500mm above existing ground levels. To allow sufficient fall to connect the road drainage into the infiltration blanket and basin, raising of land up to a potential maximum of 1m will be required in the southern third of the site, however, this land raising can be tapered to the boundaries so the adjacent land will not be affected.
- 3.7 The infiltration blanket, which is located within raised ground, will be lined to the sides to prevent unintended flow into the nearby watercourse by lateral infiltration. A thin 85mm layer of cellular storage (85mm Permavoid by Polypipe) will sit on top of the infiltration blanket to attain the required storage capacity for the 1 in 100 year event +40%. The base of the cellular layer will be porous (geotextile) to allow communication between the blanket and the cellular

layer. The sides will be lined as per the blanker to prevent lateral infiltration.

- 3.8 Micro Drainage output sheets included in Appendix E demonstrate that sufficient storage capacity is available within each of the infiltration devices (permeable pavings, cellular soakaways, infiltration blanket and basin) for all events up to the '1 in 100 annual probability' with 40% allowance included for climate change. FEH Rainfall data was used in this calculation. (note: as Micro Drainage software permits 100mm as the smallest increment for a cellular layer, the 85m Permavoid has been simulated using a 100mm depth of crate storage, with the void ratio lowered accordingly so that total volume is equal to the 85mm product).
- 3.9 Further design parameters: a safety factor of 6.5 has been used for all surface water drainage elements modelled using Micro Drainage software. Output sheets in Appendix E show that the incoming invert levels to all infiltration structures are set above the 1 in 10 year + 40% level. A freeboard of >300mm is attained between the bank level of the infiltration basin and the 1 in 100 year + 40% water level (+11.000 and +10.687, respectively). Soakaways on site are set at minimum 5m from buildings and 2.5m from property boundaries (dimensions respecting which are shown on the Site Drainage Strategy drawing in Appendix D).
- 3.10 Pollution control: runoff from the north-south stretch of the main site road will be intercepted by a filter drain which will provide water treatment via gravel strip/trench. All runoff from the main road is shown routed through the infiltration basin prior to discharging to the blanket. The basin will provide treatment by virtue of it being an open SuDS feature.
- 3.11 Exceedance event: the resulting flow would be south – southwest, into the ditch and onwards into the Rife.
- 3.12 Ownership and maintenance responsibilities for the proposed drainage system will remain with the applicant. A Management and Maintenance Plan will be drawn up at the next stage. Each SuDS component (feature) will be listed with inspection periods and maintenance regime, in line with industry standards – compliant with CIRIA guidelines as set out in the SuDS Manual (C753).
- 3.13 Lidsey Foul Water Environmental Assessment: the strategy layout in Appendix D illustrates the proposed foul layout with connection shown to the existing public sewer at MH ref 9202. This new connection will be subject to a Section 106 Agreement with Southern Water.
- 3.14 The Arun Strategic Surface Water Management Study (2015) states that there was insufficient capacity at Lidsey Wastewater Treatment Works (WWTW) at that time and it was not viable to

increase loads into the WWTW. Southern Water stated their determination to use their AMP 7 funding to increase this WWTW's capacity during 2020 and 2025. As there will be a lag between now and the development's completion, it would be unwise to propose installing a bespoke sewage treatment plant on this site, if additional capacity is only a few months away.

- 3.15 The fall back (alternative) option to routing the development's foul effluent to the WWTW, is to install an underground sewage treatment plant near to the south boundary. This will be subject to the EA's Standard Environmental Permit as the daily volume will exceed 5m³. Any STP will conform to BS/EN 12566 pt3 with the treated water routed into the watercourse. The outfall headwall will be subject to Ordinary Watercourse consent from the LLFA.

4 Conclusions

- 4.1 The application site lies within FZ1 and the site's overall flood risk profile is Low.
- 4.2 A SuDS strategy for the development has been prepared in which all surface water runoff is shown discharging to ground via permeable pavings, cellular soakaways and an infiltration blanket and basin. The infiltration storage has been sized for the the 1 in 100 annual probability events plus 40% with results winter soakage testing to BRE365. The highest winter groundwater level has been taken into account with all infiltration devices set above this.
- 4.3 The first option for the development's foul effluent is to route it to the local Lidsey Wastewater Treatment Works, whose capacity is due to be enlarged, certainly prior to 2015, according to the 2015 Arun Strategic Surface Water Management Study.
- 4.4 If this is not viable the alternative is to install an underground sewage treatment plant near to the south boundary.
- 4.5 The proposed development complies with the NPPF/PPG in terms of flood risk and drainage.

- End of Report -

Appendix A

Site Location Maps & Aerial Photo







Appendix B

Topographic Survey and Sewer Records

PCEs	Factor	Event	North		East		West		Depth
			1997	1998	1997	1998	1997	1998	
90-0001	1.00	800	5	5	5	5	5	15	
90-0002	1.00	800	5	5	5	5	5	15	
90-0003	1.00	1100	10	10	10	10	10	20	
90-0004	1.00	800	5	5	5	5	5	15	
90-0005	1.00	800	5	5	5	5	5	15	
90-0006	1.00	800	5	5	5	5	5	15	
90-0007	1.00	100	4	4	4	4	4	10	
90-0008	1.00	100	4	4	4	4	4	10	
90-0009	1.00	800	5	5	5	5	5	15	
90-0010	1.00	800	5	5	5	5	5	15	
90-0011	1.00	800	5	5	5	5	5	15	
90-0012	1.00	100	4	4	4	4	4	10	
90-0013	1.00	800	5	5	5	5	5	15	
90-0014	1.00	800	5	5	5	5	5	15	
90-0015	1.00	800	5	5	5	5	5	15	
90-0016	1.00	800	5	5	5	5	5	15	
90-0017	1.00	100	4	4	4	4	4	10	
90-0018	1.00	800	5	5	5	5	5	15	
90-0019	1.00	800	5	5	5	5	5	15	
90-0020	1.00	800	5	5	5	5	5	15	
90-0021	1.00	800	5	5	5	5	5	15	
90-0022	1.00	800	5	5	5	5	5	15	
90-0023	1.00	800	5	5	5	5	5	15	
90-0024	1.00	800	5	5	5	5	5	15	
90-0025	1.00	800	5	5	5	5	5	15	
90-0026	1.00	800	5	5	5	5	5	15	
90-0027	1.00	800	5	5	5	5	5	15	
90-0028	1.00	800	5	5	5	5	5	15	
90-0029	1.00	800	5	5	5	5	5	15	
90-0030	1.00	800	5	5	5	5	5	15	
90-0031	1.00	800	5	5	5	5	5	15	
90-0032	1.00	800	5	5	5	5	5	15	
90-0033	1.00	800	5	5	5	5	5	15	
90-0034	1.00	800	5	5	5	5	5	15	
90-0035	1.00	800	5	5	5	5	5	15	
90-0036	1.00	800	5	5	5	5	5	15	
90-0037	1.00	800	5	5	5	5	5	15	
90-0038	1.00	800	5	5	5	5	5	15	
90-0039	1.00	800	5	5	5	5	5	15	
90-0040	1.00	800	5	5	5	5	5	15	
90-0041	1.00	800	5	5	5	5	5	15	
90-0042	1.00	800	5	5	5	5	5	15	
90-0043	1.00	800	5	5	5	5	5	15	
90-0044	1.00	800	5	5	5	5	5	15	
90-0045	1.00	800	5	5	5	5	5	15	
90-0046	1.00	800	5	5	5	5	5	15	
90-0047	1.00	800	5	5	5	5	5	15	
90-0048	1.00	800	5	5	5	5	5	15	
90-0049	1.00	800	5	5	5	5	5	15	
90-0050	1.00	800	5	5	5	5	5	15	
90-0051	1.00	800	5	5	5	5	5	15	
90-0052	1.00	800	5	5	5	5	5	15	
90-0053	1.00	800	5	5	5	5	5	15	
90-0054	1.00	800	5	5	5	5	5	15	
90-0055	1.00	800	5	5	5	5			

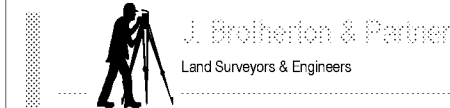
Year	Team	Points	Goals	Assists	Penalty Goals	Penalty Assists
2000	USA	100	10	10	0	0
2001	USA	100	10	10	0	0
2002	USA	100	10	10	0	0
2003	USA	100	10	10	0	0
2004	USA	100	10	10	0	0
2005	USA	100	10	10	0	0
2006	USA	100	10	10	0	0
2007	USA	100	10	10	0	0
2008	USA	100	10	10	0	0
2009	USA	100	10	10	0	0
2010	USA	100	10	10	0	0
2011	USA	100	10	10	0	0
2012	USA	100	10	10	0	0
2013	USA	100	10	10	0	0
2014	USA	100	10	10	0	0
2015	USA	100	10	10	0	0
2016	USA	100	10	10	0	0
2017	USA	100	10	10	0	0
2018	USA	100	10	10	0	0
2019	USA	100	10	10	0	0
2020	USA	100	10	10	0	0
2021	USA	100	10	10	0	0
2022	USA	100	10	10	0	0
2023	USA	100	10	10	0	0
2024	USA	100	10	10	0	0
2025	USA	100	10	10	0	0
2026	USA	100	10	10	0	0
2027	USA	100	10	10	0	0
2028	USA	100	10	10	0	0
2029	USA	100	10	10	0	0
2030	USA	100	10	10	0	0
2031	USA	100	10	10	0	0
2032	USA	100	10	10	0	0
2033	USA	100	10	10	0	0
2034	USA	100	10	10	0	0
2035	USA	100	10	10	0	0
2036	USA	100	10	10	0	0
2037	USA	100	10	10	0	0
2038	USA	100	10	10	0	0
2039	USA	100	10	10	0	0
2040	USA	100	10	10	0	0
2041	USA	100	10	10	0	0
2042	USA	100	10	10	0	0
2043	USA	100	10	10	0	0
2044	USA	100	10	10	0	0
2045	USA	100	10	10	0	0
2046	USA	100	10	10	0	0
2047	USA	100	10	10	0	0
2048	USA	100	10	10	0	0
2049	USA	100	10	10	0	0
2050	USA	100	10	10	0	0
2051	USA	100	10	10	0	0
2052	USA	100	10	10	0	0
2053	USA	100	10	10	0	0
2054	USA	100	10	10	0	0
2055	USA	100	10	10	0	0
2056	USA	100	10	10	0	0
2057	USA	100	10	10	0	0
2058	USA	100	10	10	0	0
2059	USA	100	10	10	0	0
2060	USA	100	10	10	0	0
2061	USA	100	10	10	0	0
2062	USA	100	10	10	0	0
2063	USA	100	10	10	0	0
2064	USA	100	10	10	0	0
2065	USA	100	10	10	0	0
2066	USA	100	10	10	0	0
2067	USA	100	10	10	0	0
2068	USA	100	10	10	0	0
2069	USA	100	10	10	0	0
2070	USA	100	10	10	0	0
2071	USA	100	10	10	0	0
2072	USA	100	10	10	0	0
2073	USA	100	10	10	0	0
2074	USA	100	10	10	0	0
2075	USA	100	10	10	0	0
2076	USA					

[illegible]

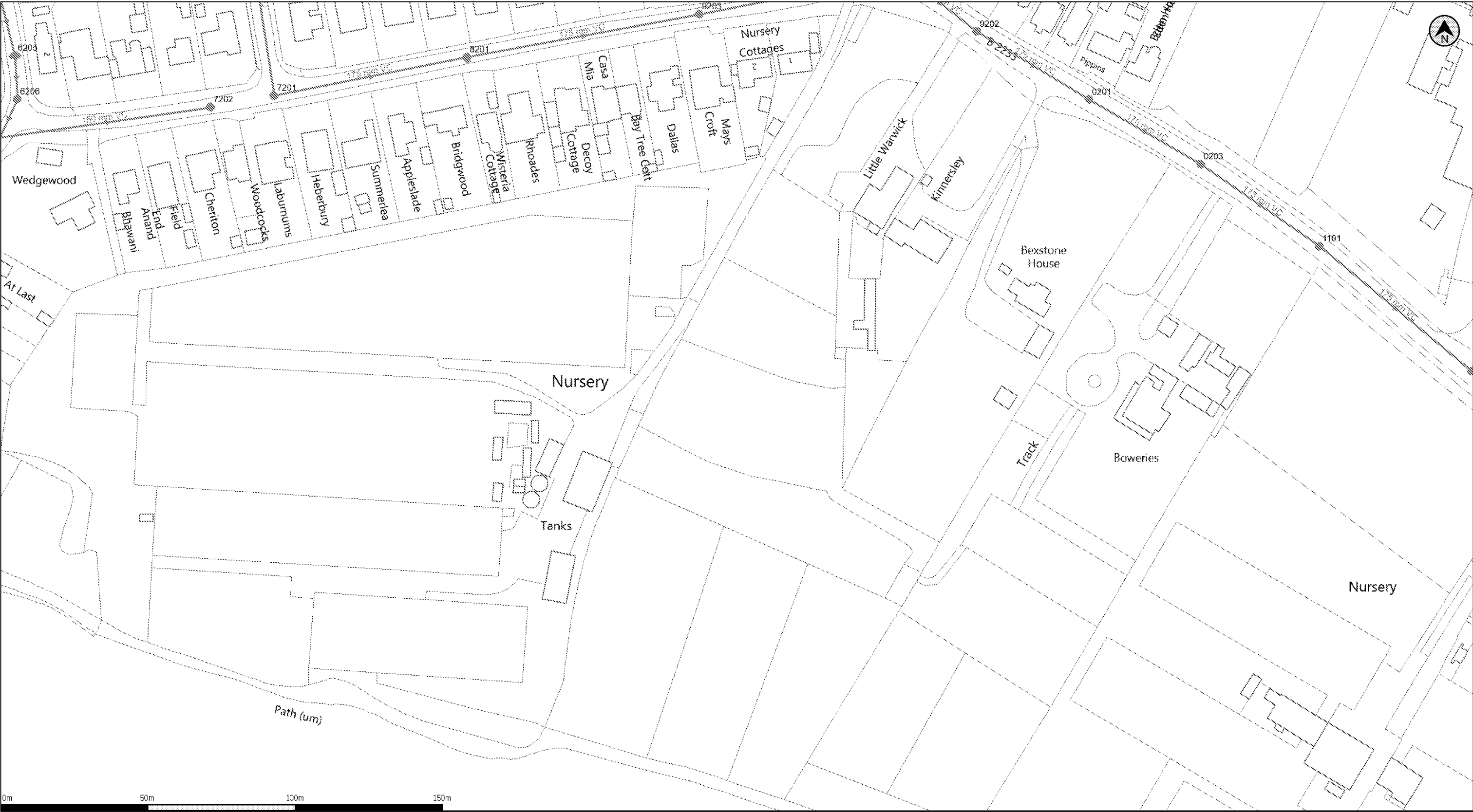
Fences
 Kerb
 Walls
 Stairs
 Change of Surface
 Footpath
 Bank Top
 Bank Bottom
 Building
 Building Overhead
 Roof Heights
 Flower Bed
 Overhead Cable
 Road Edge
 Hedge Row
 Canopy
 Edge of vegetation

Trunk position at ground level	No.38	Multi bole
Edge of canopy		Tree number

Tree species should be confirmed by a botanocultural consultant if critical
Trunk sizes are measured at 1.5m above ground level
Eaves heights (where shown) are taken at the end of the tile / top of guttering.
Ridge heights are taken at the top of the ridge tile.
Service covers indicated where visible at time of survey



	Tel: 03 929 39 179 Fax: 03 929 39 180
	Email: enquiries@ecampus.co.uk
	Website: www.ecampus.co.uk
Client:	Landscape (Eastergate) Ltd
Drawing Title:	Topographic Land Survey
Location:	Barmham Road, Garsington, Oxfordshire; West Sussex, PO20 9RT
The grid and datum for this survey is based on the Ordnance Survey grid OSGR66, site oriented on central GPS fix at station code of 1.00	
DESIGNED BY:	OUGRAVE
CHECKED BY:	OSGROVE
DRAWN BY:	SUNSHINE
DATE:	08/06/06
Drawn & C&E'd By:	20346
SCALE (when printed)	1:500 @ A1
Date	01th May 2020
REVISIONS	
Approval of all books are prepared as follows: This drawing has been inspected and is at a scale of 1:500 All critical dimensions, positions and levels to be checked on site	



(c) Crown copyright and database rights 2020 Ordnance Survey 100031673

Date: 04/05/20

Scale: 1:1250

Map Centre: 494917,105140

Data updated: 01/04/20

Our Ref: 386029 - 1

Wastewater Plan A3

The positions of pipes shown on this plan are believed to be correct, but Southern Water Services Ltd accept no responsibility in the event of inaccuracy. The actual positions should be determined on site. This plan is produced by Southern Water Services Ltd (c) Crown copyright and database rights 2020 Ordnance Survey 100031673. This map is to be used for the purposes of viewing the location of Southern Water plant only. Any other uses of the map data or further copies is not permitted.

WARNING: BAC pipes are constructed of Bonded Asbestos Cement.

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

duncan@cornerstoneprojects.co.uk

U06-20





(c) Crown copyright and database rights 2020 Ordnance Survey 100031673
Data updated: 15/06/20

Scale: 1:1250
Map Centre: 494930,105168

Date: 19/06/20
Our Ref: 408144 - 1

Wastewater Plan A3
Powered by digdat

duncan@cornerstoneprojects.co.uk
U206/20



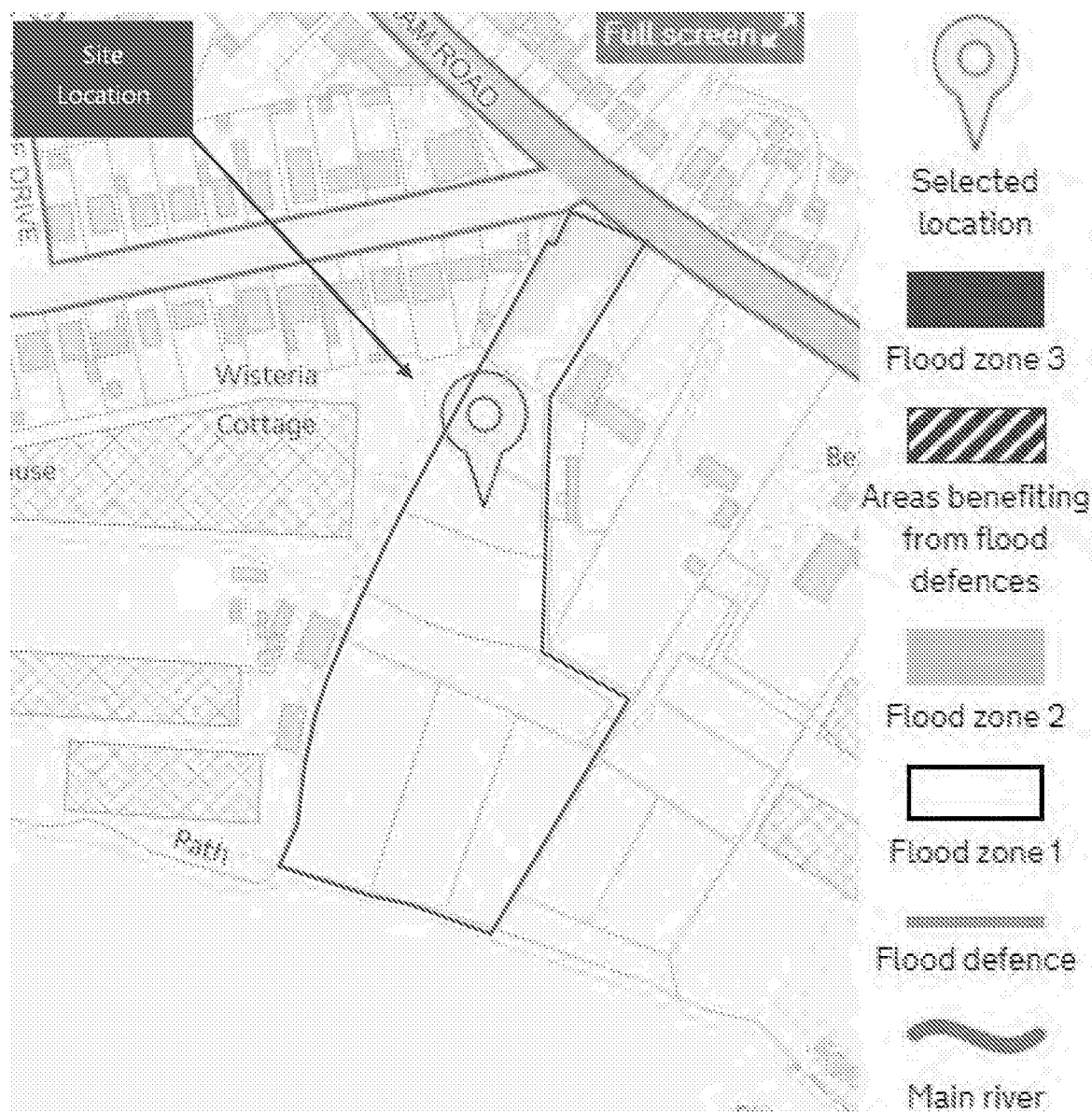
The positions of pipes shown on this plan are believed to be correct, but Southern Water Services Ltd accept no responsibility in the event of inaccuracy. The actual positions should be determined on site. This plan is produced by Southern Water Services Ltd (c) Crown copyright and database rights 2020 Ordnance Survey 100031673. This map is to be used for the purposes of viewing the location of Southern Water plant only. Any other uses of the map data or further copies is not permitted.

WARNING: BAC pipes are constructed of Bonded Asbestos Cement.

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

Appendix C

Environment Agency & SFRA Flood and Groundwater Maps

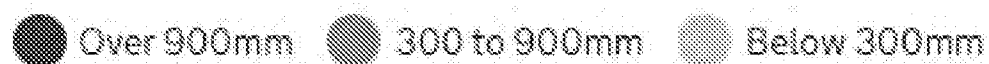


EA's Online Flood Map for Planning (Rivers and Seas)

The site falls within Flood Zone 1 (FZ1)



Surface water flood risk: water depth in a low risk scenario
Flood depth (millimetres)



EA's Online Surface Water Flood Depth Map in the 'Low Risk Scenario'
(1 in 1000 years storm event)

The site is removed from this source of flooding

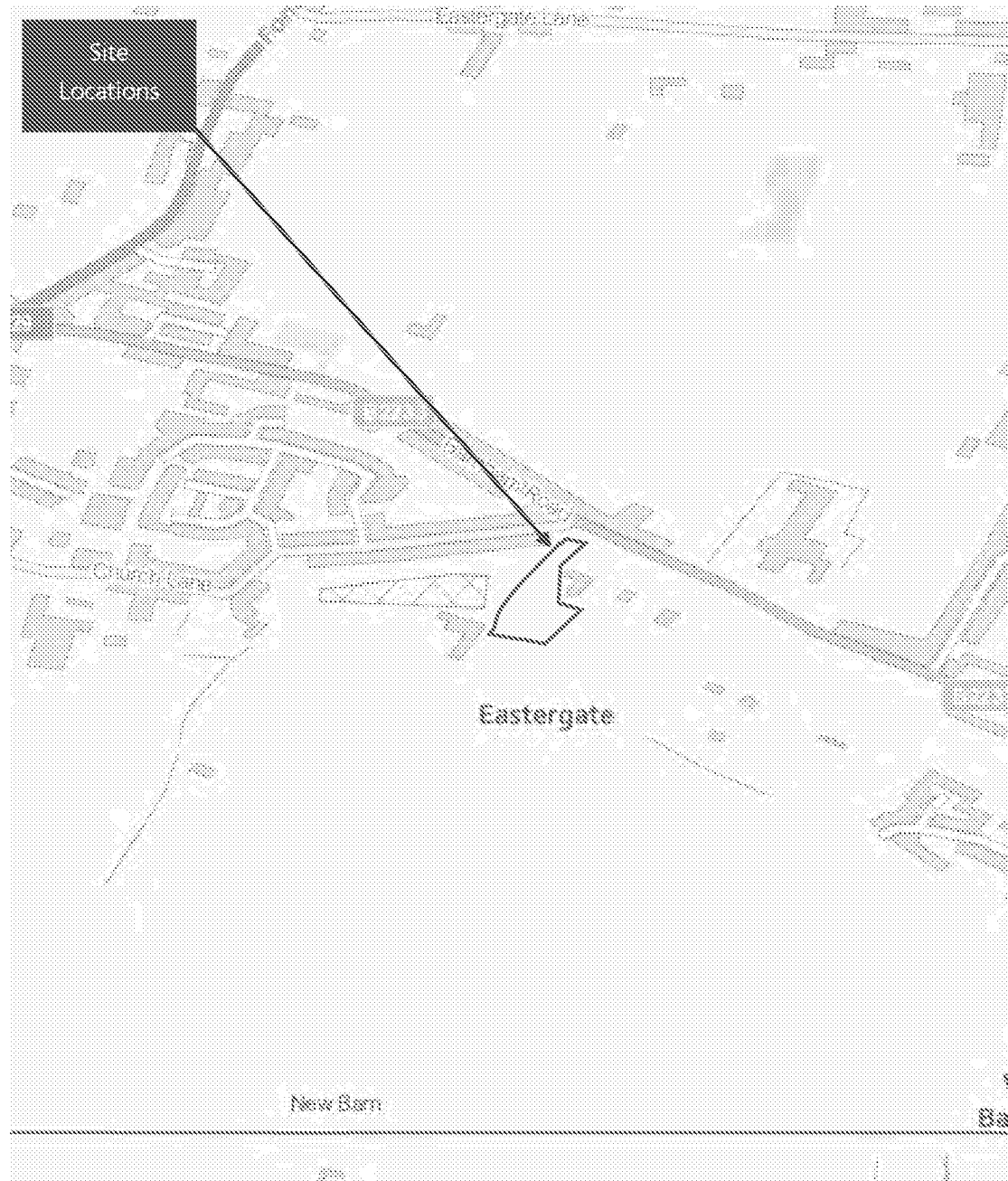


Reservoir flood risk: flood water depth



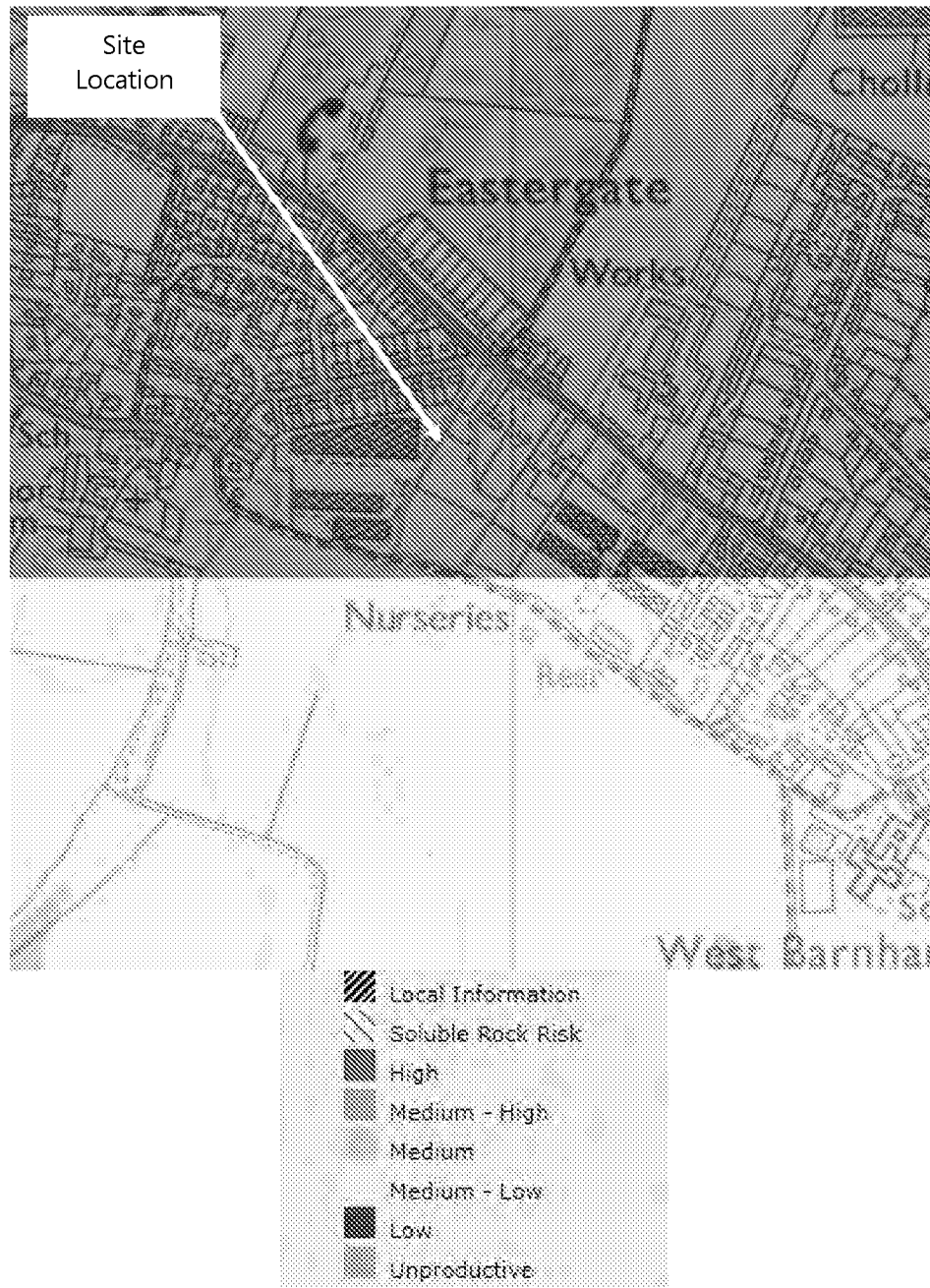
EA's Online 'Risk of Flooding from Reservoirs' Map

The site is removed from this source of flooding



EA's Historic Flood Map

This site is removed from the nearest affected area



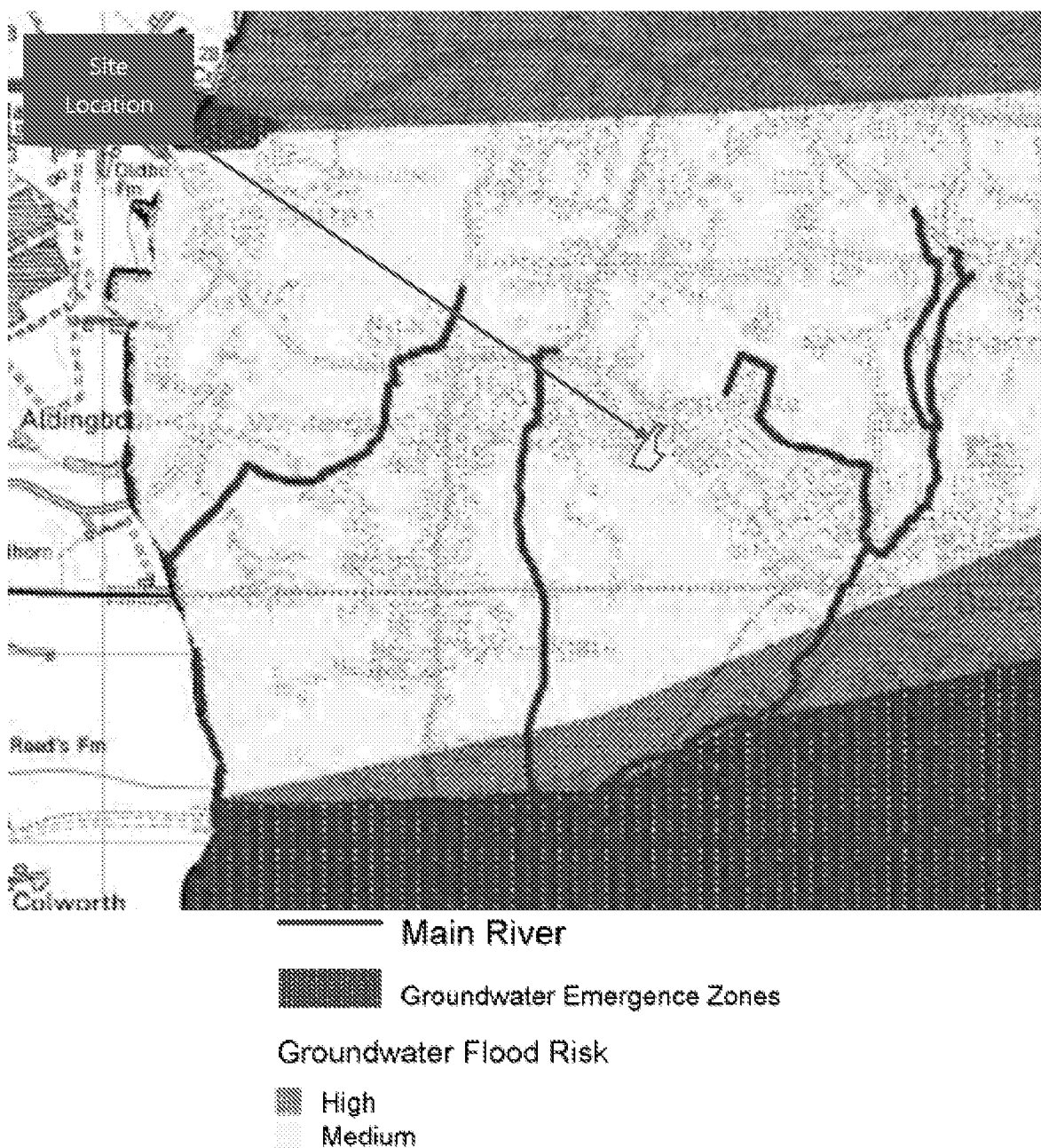
EA's Groundwater Vulnerability Map

This site overlies a "Low" GWV Zone



EA's Source Protection Zone Map

The site is removed from the nearest Source Protection Zone

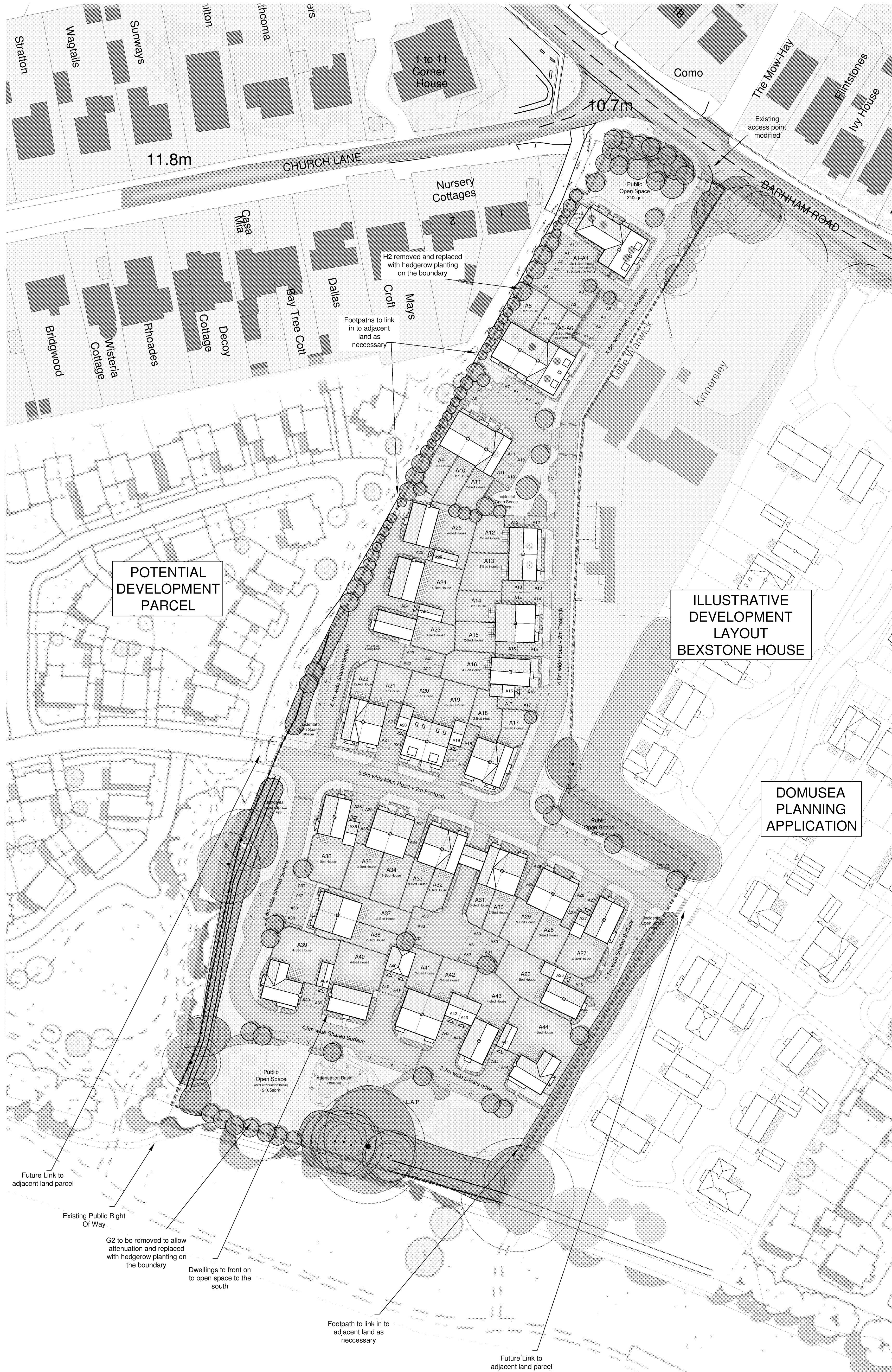


Excerpt from SFRA's "Map G1: Indicative Risk of Groundwater Flooding"

The site is in the Medium risk zone – the lowest risk area

Appendix D

Proposed Scheme Drawings



ACCOMMODATION SCHEDULE

<u>Affordable Provision</u>	13 Dwellings
------------------------------------	--------------

Affordable Rent

2no.	1-Bed Flats
2no.	2-Bed Flats
2no.	2-Bed Flats Part M4(3)
1no.	3-Bed Houses

Shared Ownership

3no.	2-Bed Houses	80sqm
3no.	3-Bed Houses	92sqm

Open Market Provision 31 Dwellings

6no.	2-Bed Houses
13no.	3-Bed Houses
2no.	3-Bed Townhouses
10no.	4-Bed Houses

Total;	44 Dwellings	[1.72 Ha - 25.6 Dw/Ha]
---------------	---------------------	-------------------------------

Car Parking;	2 spaces per 1, 2 & 3-Bed dwellings 2/3 spaces per 4 bed dwelling 15 visitor spaces within lay-bys (0.34 per dwelling)
--------------	--

Cycle Parking;	2 spaces per dwelling within garden sheds
Refuse Storage;	Within rear gardens to be brought to property fronts on collection days only

Public Open Space

Arun Requirement 44 dwellings = 3630sqm

Provision

Frontage Open Space	310sqm
Central / Incidental Open Spaces	1313sqm
Southern Open Space	2105sqm
Total	3728sqm Open Space
(includes existing ditch, hedges & trees, excludes attenuation basin)	

F	23.04.21	Amended To Comments	KE	AK
E	21.04.21	Highways & Drainage info updated	KE	AK
D	19.01.21	Tenure annotation updated	SLG	KE
C	11.12.20	POS figures updated	PB	SL
B	03.11.20	Drainage basin and swale updated	PB	KE
A	10.09.20	Amended To Comments	JW	SLG
Rev	Date	Revision Details	Dr	Ch



London: 76 Great Suffolk Street
London, SE1 0BL
T 0207 928 2773 E london@ecearchitecture.com

Sussex: Brooklyn Chambers, 11 Goring Road
Worthing, West Sussex, BN12 4AP
T 01903 248777 E sussex@ecearchitecture.com

Bristol: Westworks, St. Nicholas House
31-34 High Street, Bristol, BS1 2AW
T 0117 315 8557 E bristol@eceworks.com

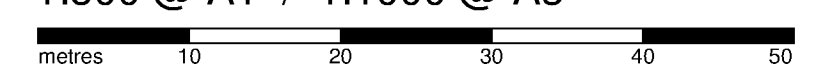
ECE Architecture
www.ecearchitecture.com

Client's Name
Landacre (Eastergate) Ltd.

Job Title
Warwick Nursery, Barnham Road,
Eastergate, PO20 3RT

Drawing Title
Proposed Site Layout

Scale
1:500 @ A1 / 1:1000 @ A3



Drawn	Checked	Date
AK	KE	28.08.20

Job No	Drawing No	Rev
6710	PL-005	F

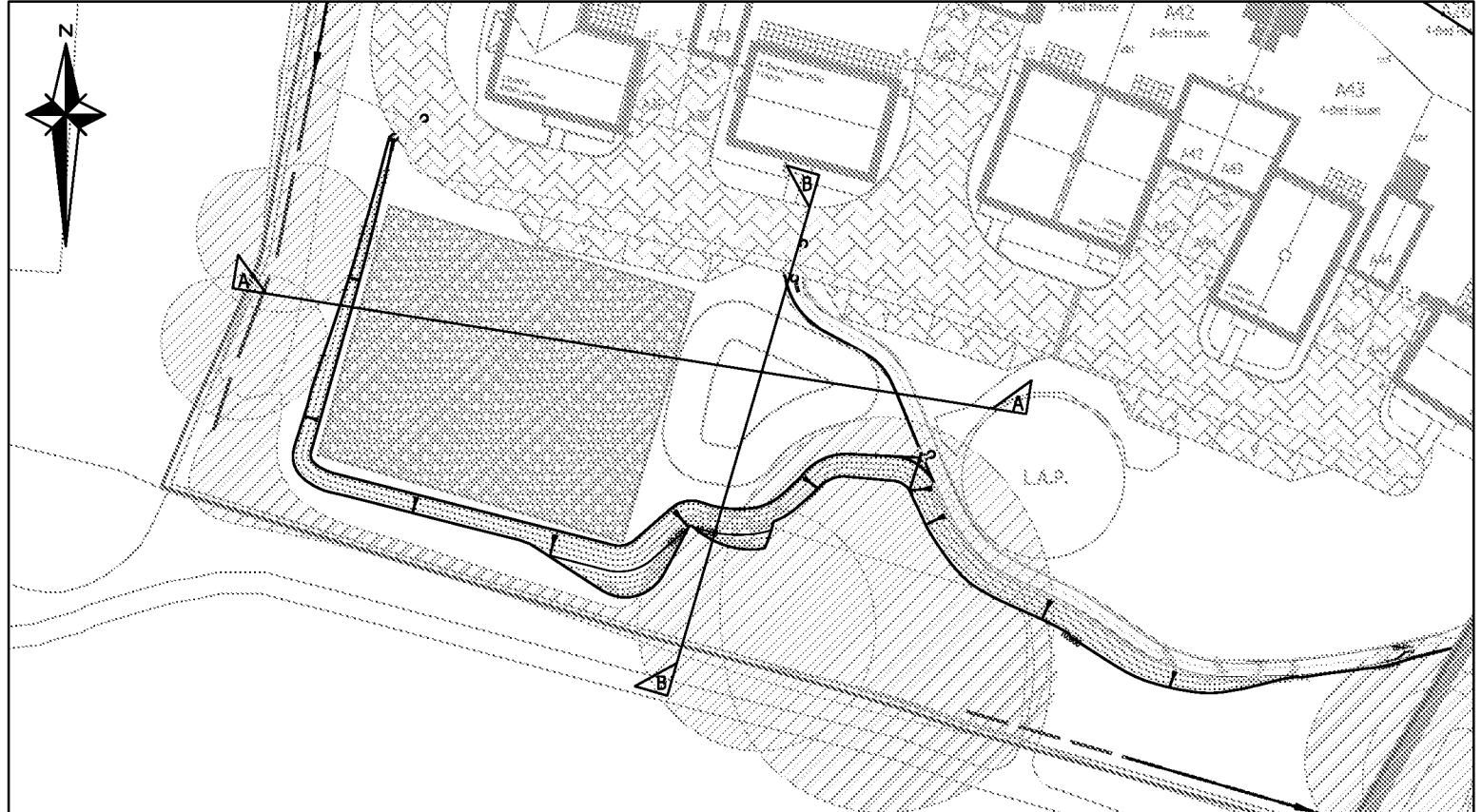
Status

APPROVAL

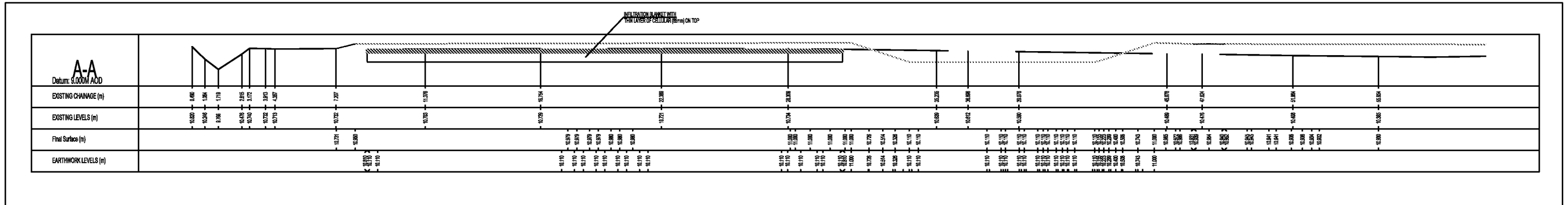
GENERAL NOTES

1. The location, size, depth and identification of existing services that may be shown or referred to on this drawing have been assessed from non intrusive observations , record drawings or the like. The contractor shall safely carry out intrusive investigations, trial holes or soundings prior to commencing work to satisfy himself that it is safe to proceed and that the assessments are accurate. any discrepancies shall be notified to gta prior to works commencing.
2. Tender or billing drawings shall not be used for construction or the ordering of materials.
3. Do not scale. All dimensions and levels to be site confirmed.
4. This drawing shall be read in conjunction with all relevant architects, consultants drawings and specifications, together with H&S plan requirements
5. Copyright : This drawing must not be copied, amended nor reproduced without the prior written agreement of gta.
6. All drawings specifications and recommendations made by gta are subject to Local Authority and other relevant Statutory Authorities approval. Any works or services made abortive due to the client proceeding prior to these approvals is considered wholly at the Clients risk. gta hold no responsibility for resulting abortive works or costs.

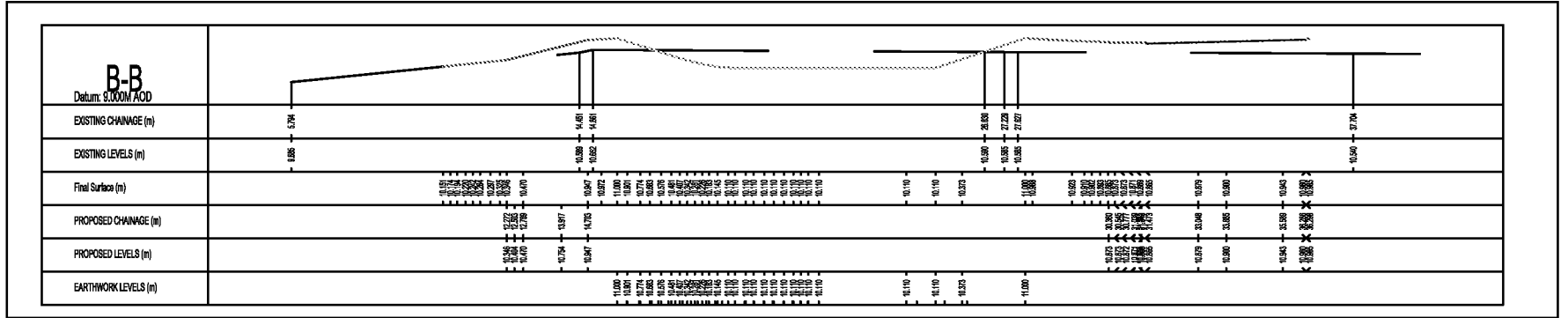
Rev	Amendments	Date	Dsn	Chk
P1	INITIAL ISSUE	07/04/21	JR	MR
P2	REVISED TO SHOW BANK LEVEL OF +11.000	10/06/21	JR	MR



PLAN OF INFILTRATION BLANKET AND BASIN - 1:500



SECTION A-A - 1:250



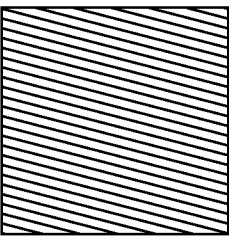
SECTION B-B - 1:250

 Gloucester House, 66a Church Walk, Burgess Hill, West Sussex, RH15 9AS Tel.01444 871444 Web: www.gtacivils.co.uk	Client LANDACRE (EASTERGATE) LTD	Architect ECE ARCHITECTURE	Project WARWICK NURSERY EASTERGATE	Title SECTIONS THROUGH INFILTRATION BLANKET AND BASIN	Status PLANNING	
					Date APRIL 2021	Scale @ A3 AS SHOWN
					Drawing Number 10635/0301	Rev. P2

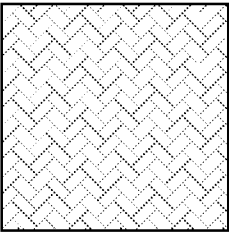


- GENERAL NOTES**
1. The location, size, depth and identification of existing services that may be shown or referred to on this drawing have been assessed from non intrusive observations, record drawings or the like. The contractor shall safely carry out intrusive investigations, trial holes or soundings prior to commencing work to satisfy himself that it is safe to proceed and that the assessments are accurate. any discrepancies shall be notified to gta prior to works commencing.
 2. Tender or billing drawings shall not be used for construction or the ordering of materials.
 3. Do not scale. All dimensions and levels to be site confirmed.
 4. This drawing shall be read in conjunction with all relevant architects, consultants drawings and specifications, together with H&S plan requirements
 5. Copyright : This drawing must not be copied, amended nor reproduced without the prior written agreement of gta.
 6. All drawings specifications and recommendations made by gta are subject to Local Authority and other relevant Statutory Authorities approval. Any works or services made abortive due to the client proceeding prior to these approvals is considered wholly at the Clients risk. gta hold no responsibility for resulting abortive works or costs.

KEY



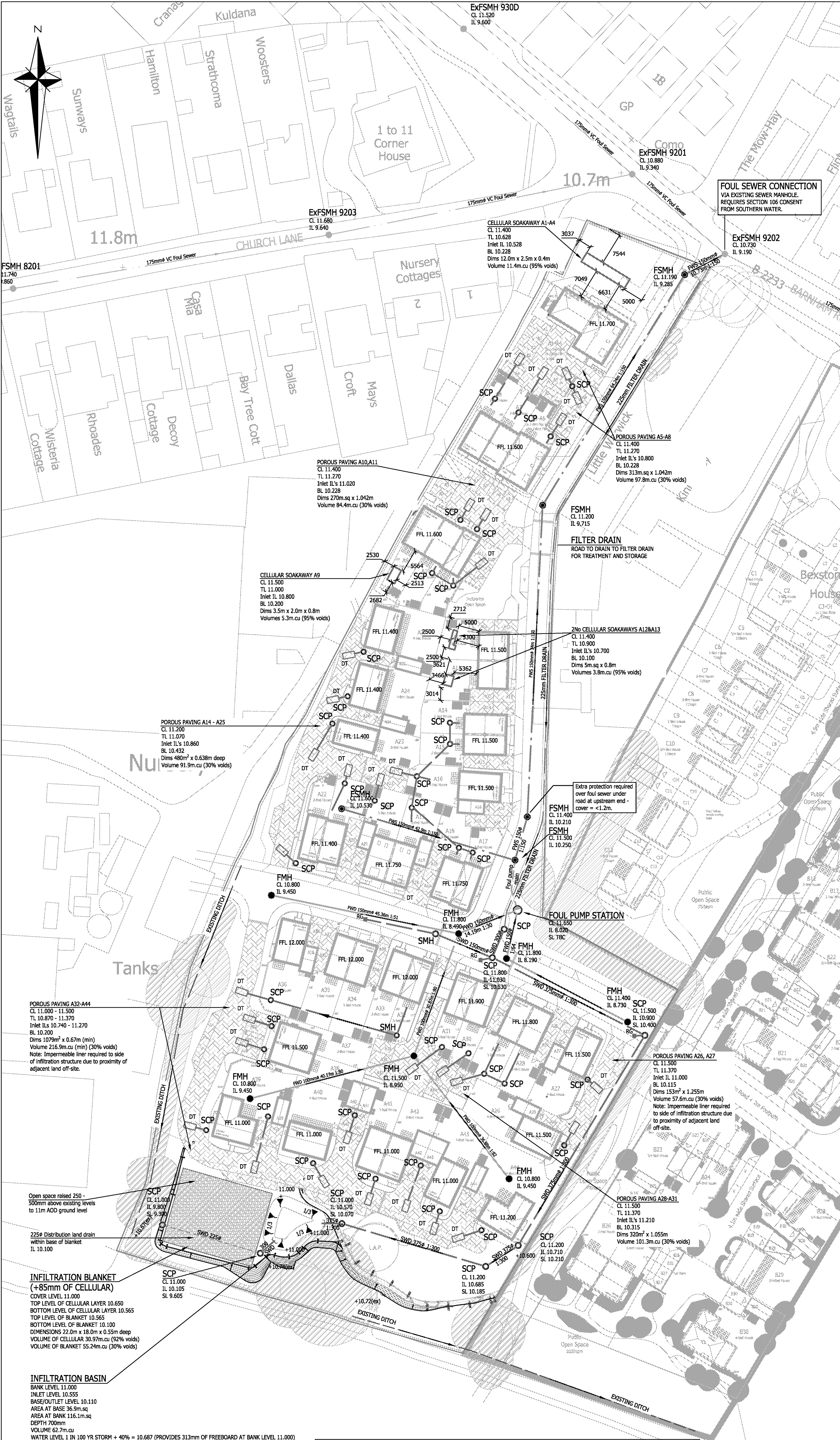
AREA TO WHICH URBAN CREEP OF 10% HAS BEEN APPLIED



PERMEABLE PAVING INFILTRATION TO GROUND

NOTE: ALL AREAS OF PERMEABLE PAVING NOT IDENTIFIED AS BEING PART OF A CATCHMENT DRAIN THEIR INCIDENT SURFACE TO GROUND ONLY WITH NO ADDITIONAL INPUT FROM OTHER HARD SURFACES

P2	URBAN CREEP APPLIED TO PLOTS 1-4	13/07/21	JR	MR
P1	INITIAL ISSUE	25/06/21	NG	JR
Rev	Amendments	Date	Dsn	Chk
Status				
PLANNING				
Client				
LANDACRE (EASTERGATE) LTD.				
Architect				
ECE ARCHITECTURE				
Project				
WARWICK NURSERY EASTERGATE				
Title				
IMPERMEABLE AREAS/ CATCHMENT PLAN				
Date		Scale @ A1	1:500	
Clients Ref.		Project Ref.	10635	
 gta Civils & Transport Gloucester House, 66a Church Walk, Burgess Hill, West Sussex, RH15 9AS Tel:01444 871444 Web: www.gtacivils.co.uk				
Drawing Number			Rev.	
10635/1102			P2	



- GENERAL NOTES**
- The location, size, depth and identification of existing services that may be shown or referred to on this drawing have been assessed from non intrusive observations, record drawings or the like. The contractor shall safely carry out intrusive investigations, trial holes or soundings prior to commencing work to satisfy himself that it is safe to proceed and that the assessments are accurate. any discrepancies shall be notified to gta prior to works commencing.
 - Tender or billing drawings shall not be used for construction or the ordering of materials.
 - Do not scale. All dimensions and levels to be site confirmed.
 - This drawing shall be read in conjunction with all relevant architects, consultants drawings and specifications, together with H&S plan requirements
 - Copyright : This drawing must not be copied, amended nor reproduced without the prior written agreement of gta.
 - All drawings specifications and recommendations made by gta are subject to Local Authority and other relevant Statutory Authorities approval. Any works or services made abortive due to the client proceeding prior to these approvals is considered wholly at the Clients risk. gta hold no responsibility for resulting abortive works or costs.

KEY

- Existing Foul Sewer
- Private surface water drain
- Private foul drain
- Private foul sewer
- Private foul pump main
- Private filter drain
- Existing ditch

EXFSMH

- Existing foul sewer manhole
- Proposed foul sewer manhole
- Proposed private foul manhole
- Proposed surface water manhole

RG

- Road gully

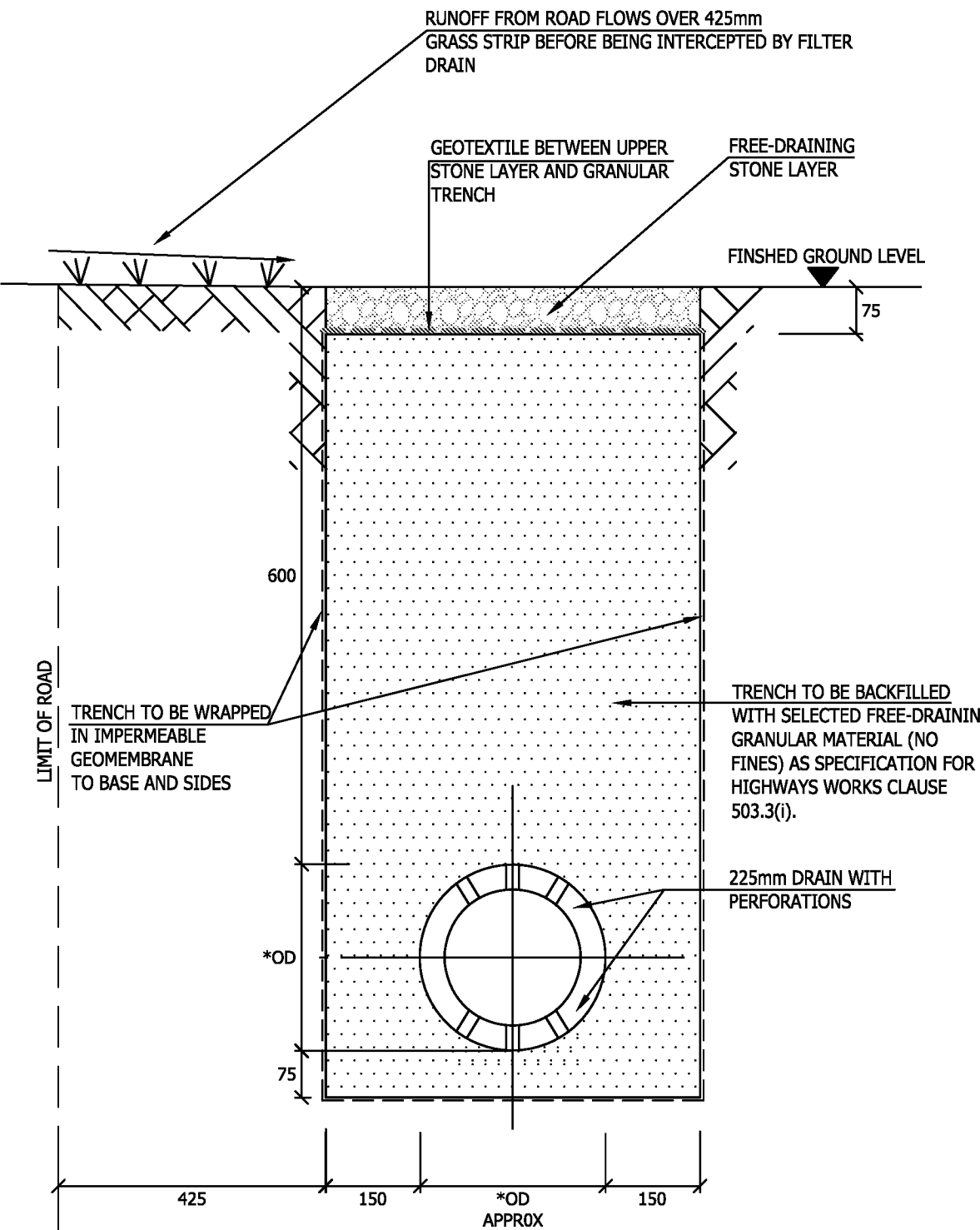
DT

- Distribution block

PERMEABLE PAVING
INFILTRATION TO GROUND

ABBREVIATIONS

- CL COVER LEVEL
- DT DISTRIBUTION BLOCK
- EXFSMH EXISTING FOUL SEWER MANHOLE
- FSMH FOUL SEWER MANHOLE
- FWD FOUL DRAIN
- FWS FOUL SEWER
- IL INVERT LEVEL
- PP PERMEABLE PAVING
- RG ROAD GULLY
- SL SUMP LEVEL
- SMH SURFACE WATER MANHOLE
- SWD SURFACE WATER DRAIN
- TL TOP OF STORAGE STRUCTURE LEVEL
- BL BASE OF STORAGE STRUCTURE LEVEL



FILTER DRAIN DETAIL

P12	REVISED TO COMMENTS FROM ADC.	14/07/2021	JR	MR
P11	REVISED TO COMMENTS FROM ADC.	25/06/2021	JR	MR
P10	REVISED TO COMMENTS FROM ADC.	11/06/2021	JR	MR
P9	SW DESIGN CHANGED TO INFILTRATION	21/04/2021	JR	MR
P8	PROPOSED TREE PLAN ADDED	11/11/2020	JR	MR
P7	REVISED TO CLIENT'S COMMENTS 28/10	02/11/2020	JR	MR
P6	SUDS AMENDED TO MISS EXISTING TREES	01/09/2020	JR	
P5	REVISED TO LATEST SITE LAYOUT	17/08/2020	JR	MR
P4	REVISED TO LATEST SITE LAYOUT. MORE DETAIL ADDED TO STORM SYSTEM INCLUDING STORAGE SIZING.	11/08/2020	JR	
P3	REVERSION BACK TO POND AND SWALE WITH PP SYSTEMS RETAINED	10/07/2020	JR	MR
P2	POND REPLACED BY TANK SWALE REPLACED BY TRENCH PP SYSTEMS SHOWN LINED	10/07/2020	JR	MR
P1	INITIAL ISSUE	09/07/2020	JR	MR
Rev	Amendments	Date	Dsn	Chk

PLANNING

Client
LANDACRE (EASTERGATE) LTD.

Architect
ECE ARCHITECTURE

Project
WARWICK NURSERY
EASTERGATE

Title
DRAINAGE STRATEGY

Date	JULY 2020	Scale @ A1	1 : 500
Clients Ref.		Project Ref.	10635

gta Civils & Transport

Gloucester House, 66a Church Walk,
Burgess Hill, West Sussex, RH15 9AS
Tel:01444 871444 Web: www.gtacivils.co.uk

Drawing Number	10635/1101	Rev.	P12
----------------	------------	------	-----

DESIGN SUMMARY

FOUL

FOUL DRAINAGE FROM DWELLINGS A1 - A25 TO GRAVITATE TO EXISTING PUBLIC SEWER ALONG BARNHAM ROAD.

FOUL DRAINAGE FROM DWELLINGS A26 - A44 TO PUMPING STATION WITH PUMPED CONNECTION TO GRAVITY SEWER SERVING DWELLINGS A1 - A26.

SURFACE WATER

ALL IMPERMEABLE SURFACES TO INFILTRATE TO GROUND: SHARED SURFACES AND DRIVEWAYS VIA POROUS PAVING, ROOFS TO CELLULAR SOAKAWAYS OR ADJACENT POROUS PAVINGS, MAIN ROAD TO INFILTRATION BLANKET.

MEASURED WINTER SOAKAGE RATES USED FOR THE DESIGN ARE TAKEN FROM ADDITIONAL INFILTRATION TESTING REPORT REF 21.1012 BY CONSTRUCTIVE EVALUATION. RATES RANGE FROM 9.92 X 10⁻⁶ m/s TO 1.57X10⁻⁵ m/s DEPENDING ON TEST LOCATION AND DEPTH.

THE HIGHEST RECORDED WINTER GROUNDWATER LEVEL IS APPROXIMATELY +10.00. ALL INFILTRATION DEVICES ARE SET ABOVE THIS LEVEL.

ALL INFILTRATION STORAGE IS SIZED FOR THE 1 IN 100 YEAR EVENT + 40% FOR CLIMATE CHANGE.

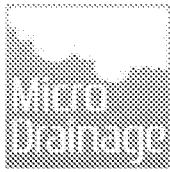
POLLUTION CONTROL PROVIDED BY FILTER DRAIN AND INFILTRATION BASIN.

Appendix E

Micro Drainage Calculations

GTA Civils Ltd				Page 1																																																																																																																																																																																																																			
66a Church Walk Burgess Hill West Sussex RH15 9AS		Warwick Nursery 1 in 10 year+40% Blanket, cellular, basin																																																																																																																																																																																																																					
Date 10/06/2021 File infiltration blanket		Designed by JR Checked by																																																																																																																																																																																																																					
Micro Drainage		Source Control 2020.1																																																																																																																																																																																																																					
<u>Summary of Results for 10 year Return Period (+40%)</u> Half Drain Time : 951 minutes. <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 Volume (m³)</th><th>Status</th></tr></thead><tbody><tr><td>15 min Summer</td><td>10.277</td><td>0.177</td><td>0.7</td><td>28.3</td><td>○ K</td></tr><tr><td>30 min Summer</td><td>10.327</td><td>0.227</td><td>0.7</td><td>36.8</td><td>○ K</td></tr><tr><td>60 min Summer</td><td>10.379</td><td>0.279</td><td>0.7</td><td>46.0</td><td>○ K</td></tr><tr><td>120 min Summer</td><td>10.436</td><td>0.336</td><td>0.7</td><td>56.3</td><td>○ K</td></tr><tr><td>180 min Summer</td><td>10.466</td><td>0.366</td><td>0.7</td><td>61.7</td><td>○ K</td></tr><tr><td>240 min Summer</td><td>10.483</td><td>0.383</td><td>0.7</td><td>65.0</td><td>○ K</td></tr><tr><td>360 min Summer</td><td>10.500</td><td>0.400</td><td>0.7</td><td>68.2</td><td>○ K</td></tr><tr><td>480 min Summer</td><td>10.504</td><td>0.404</td><td>0.7</td><td>69.0</td><td>○ K</td></tr><tr><td>600 min Summer</td><td>10.503</td><td>0.403</td><td>0.7</td><td>68.7</td><td>○ K</td></tr><tr><td>720 min Summer</td><td>10.497</td><td>0.397</td><td>0.7</td><td>67.7</td><td>○ K</td></tr><tr><td>960 min Summer</td><td>10.485</td><td>0.385</td><td>0.7</td><td>65.3</td><td>○ K</td></tr><tr><td>1440 min Summer</td><td>10.463</td><td>0.363</td><td>0.7</td><td>61.3</td><td>○ K</td></tr><tr><td>2160 min Summer</td><td>10.437</td><td>0.337</td><td>0.7</td><td>56.5</td><td>○ K</td></tr><tr><td>2880 min Summer</td><td>10.416</td><td>0.316</td><td>0.7</td><td>52.6</td><td>○ K</td></tr><tr><td>4320 min Summer</td><td>10.382</td><td>0.282</td><td>0.7</td><td>46.6</td><td>○ K</td></tr><tr><td>5760 min Summer</td><td>10.356</td><td>0.256</td><td>0.7</td><td>41.9</td><td>○ K</td></tr><tr><td>7200 min Summer</td><td>10.334</td><td>0.234</td><td>0.7</td><td>38.1</td><td>○ K</td></tr><tr><td>8640 min Summer</td><td>10.315</td><td>0.215</td><td>0.7</td><td>34.8</td><td>○ K</td></tr><tr><td>10080 min Summer</td><td>10.299</td><td>0.199</td><td>0.7</td><td>32.1</td><td>○ K</td></tr><tr><td>15 min Winter</td><td>10.297</td><td>0.197</td><td>0.7</td><td>31.7</td><td>○ K</td></tr></tbody></table> <table><thead><tr><th>Storm Event</th><th>Rain (mm/hr)</th><th>Flooded Volume (m³)</th><th>Time-Peak (mins)</th></tr></thead><tbody><tr><td>15 min Summer</td><td>86.846</td><td>0.0</td><td>19</td></tr><tr><td>30 min Summer</td><td>56.970</td><td>0.0</td><td>34</td></tr><tr><td>60 min Summer</td><td>36.174</td><td>0.0</td><td>64</td></tr><tr><td>120 min Summer</td><td>22.769</td><td>0.0</td><td>122</td></tr><tr><td>180 min Summer</td><td>17.094</td><td>0.0</td><td>182</td></tr><tr><td>240 min Summer</td><td>13.845</td><td>0.0</td><td>242</td></tr><tr><td>360 min Summer</td><td>10.168</td><td>0.0</td><td>362</td></tr><tr><td>480 min Summer</td><td>8.105</td><td>0.0</td><td>482</td></tr><tr><td>600 min Summer</td><td>6.777</td><td>0.0</td><td>600</td></tr><tr><td>720 min Summer</td><td>5.847</td><td>0.0</td><td>712</td></tr><tr><td>960 min Summer</td><td>4.621</td><td>0.0</td><td>808</td></tr><tr><td>1440 min Summer</td><td>3.324</td><td>0.0</td><td>1052</td></tr><tr><td>2160 min Summer</td><td>2.410</td><td>0.0</td><td>1452</td></tr><tr><td>2880 min Summer</td><td>1.934</td><td>0.0</td><td>1872</td></tr><tr><td>4320 min Summer</td><td>1.447</td><td>0.0</td><td>2680</td></tr><tr><td>5760 min Summer</td><td>1.196</td><td>0.0</td><td>3464</td></tr><tr><td>7200 min Summer</td><td>1.044</td><td>0.0</td><td>4256</td></tr><tr><td>8640 min Summer</td><td>0.940</td><td>0.0</td><td>5016</td></tr><tr><td>10080 min Summer</td><td>0.865</td><td>0.0</td><td>5752</td></tr><tr><td>15 min Winter</td><td>86.846</td><td>0.0</td><td>19</td></tr></tbody></table>						Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	15 min Summer	10.277	0.177	0.7	28.3	○ K	30 min Summer	10.327	0.227	0.7	36.8	○ K	60 min Summer	10.379	0.279	0.7	46.0	○ K	120 min Summer	10.436	0.336	0.7	56.3	○ K	180 min Summer	10.466	0.366	0.7	61.7	○ K	240 min Summer	10.483	0.383	0.7	65.0	○ K	360 min Summer	10.500	0.400	0.7	68.2	○ K	480 min Summer	10.504	0.404	0.7	69.0	○ K	600 min Summer	10.503	0.403	0.7	68.7	○ K	720 min Summer	10.497	0.397	0.7	67.7	○ K	960 min Summer	10.485	0.385	0.7	65.3	○ K	1440 min Summer	10.463	0.363	0.7	61.3	○ K	2160 min Summer	10.437	0.337	0.7	56.5	○ K	2880 min Summer	10.416	0.316	0.7	52.6	○ K	4320 min Summer	10.382	0.282	0.7	46.6	○ K	5760 min Summer	10.356	0.256	0.7	41.9	○ K	7200 min Summer	10.334	0.234	0.7	38.1	○ K	8640 min Summer	10.315	0.215	0.7	34.8	○ K	10080 min Summer	10.299	0.199	0.7	32.1	○ K	15 min Winter	10.297	0.197	0.7	31.7	○ K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	86.846	0.0	19	30 min Summer	56.970	0.0	34	60 min Summer	36.174	0.0	64	120 min Summer	22.769	0.0	122	180 min Summer	17.094	0.0	182	240 min Summer	13.845	0.0	242	360 min Summer	10.168	0.0	362	480 min Summer	8.105	0.0	482	600 min Summer	6.777	0.0	600	720 min Summer	5.847	0.0	712	960 min Summer	4.621	0.0	808	1440 min Summer	3.324	0.0	1052	2160 min Summer	2.410	0.0	1452	2880 min Summer	1.934	0.0	1872	4320 min Summer	1.447	0.0	2680	5760 min Summer	1.196	0.0	3464	7200 min Summer	1.044	0.0	4256	8640 min Summer	0.940	0.0	5016	10080 min Summer	0.865	0.0	5752	15 min Winter	86.846	0.0	19
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status																																																																																																																																																																																																																		
15 min Summer	10.277	0.177	0.7	28.3	○ K																																																																																																																																																																																																																		
30 min Summer	10.327	0.227	0.7	36.8	○ K																																																																																																																																																																																																																		
60 min Summer	10.379	0.279	0.7	46.0	○ K																																																																																																																																																																																																																		
120 min Summer	10.436	0.336	0.7	56.3	○ K																																																																																																																																																																																																																		
180 min Summer	10.466	0.366	0.7	61.7	○ K																																																																																																																																																																																																																		
240 min Summer	10.483	0.383	0.7	65.0	○ K																																																																																																																																																																																																																		
360 min Summer	10.500	0.400	0.7	68.2	○ K																																																																																																																																																																																																																		
480 min Summer	10.504	0.404	0.7	69.0	○ K																																																																																																																																																																																																																		
600 min Summer	10.503	0.403	0.7	68.7	○ K																																																																																																																																																																																																																		
720 min Summer	10.497	0.397	0.7	67.7	○ K																																																																																																																																																																																																																		
960 min Summer	10.485	0.385	0.7	65.3	○ K																																																																																																																																																																																																																		
1440 min Summer	10.463	0.363	0.7	61.3	○ K																																																																																																																																																																																																																		
2160 min Summer	10.437	0.337	0.7	56.5	○ K																																																																																																																																																																																																																		
2880 min Summer	10.416	0.316	0.7	52.6	○ K																																																																																																																																																																																																																		
4320 min Summer	10.382	0.282	0.7	46.6	○ K																																																																																																																																																																																																																		
5760 min Summer	10.356	0.256	0.7	41.9	○ K																																																																																																																																																																																																																		
7200 min Summer	10.334	0.234	0.7	38.1	○ K																																																																																																																																																																																																																		
8640 min Summer	10.315	0.215	0.7	34.8	○ K																																																																																																																																																																																																																		
10080 min Summer	10.299	0.199	0.7	32.1	○ K																																																																																																																																																																																																																		
15 min Winter	10.297	0.197	0.7	31.7	○ K																																																																																																																																																																																																																		
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)																																																																																																																																																																																																																				
15 min Summer	86.846	0.0	19																																																																																																																																																																																																																				
30 min Summer	56.970	0.0	34																																																																																																																																																																																																																				
60 min Summer	36.174	0.0	64																																																																																																																																																																																																																				
120 min Summer	22.769	0.0	122																																																																																																																																																																																																																				
180 min Summer	17.094	0.0	182																																																																																																																																																																																																																				
240 min Summer	13.845	0.0	242																																																																																																																																																																																																																				
360 min Summer	10.168	0.0	362																																																																																																																																																																																																																				
480 min Summer	8.105	0.0	482																																																																																																																																																																																																																				
600 min Summer	6.777	0.0	600																																																																																																																																																																																																																				
720 min Summer	5.847	0.0	712																																																																																																																																																																																																																				
960 min Summer	4.621	0.0	808																																																																																																																																																																																																																				
1440 min Summer	3.324	0.0	1052																																																																																																																																																																																																																				
2160 min Summer	2.410	0.0	1452																																																																																																																																																																																																																				
2880 min Summer	1.934	0.0	1872																																																																																																																																																																																																																				
4320 min Summer	1.447	0.0	2680																																																																																																																																																																																																																				
5760 min Summer	1.196	0.0	3464																																																																																																																																																																																																																				
7200 min Summer	1.044	0.0	4256																																																																																																																																																																																																																				
8640 min Summer	0.940	0.0	5016																																																																																																																																																																																																																				
10080 min Summer	0.865	0.0	5752																																																																																																																																																																																																																				
15 min Winter	86.846	0.0	19																																																																																																																																																																																																																				
©1982-2020 Innovye																																																																																																																																																																																																																							

GTA Civils Ltd				Page 2	
66a Church Walk Burgess Hill West Sussex RH15 9AS		Warwick Nursery 1 in 10 year+40% Blanket, cellular, basin			
Date 10/06/2021 File infiltration blanket		Designed by JR Checked by			
Micro Drainage		Source Control 2020.1			
<u>Summary of Results for 10 year Return Period (+40%)</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	10.353	0.253	0.7	41.3	○ K
60 min Winter	10.411	0.311	0.7	51.7	○ K
120 min Winter	10.475	0.375	0.7	63.5	○ K
180 min Winter	10.509	0.409	0.7	69.9	○ K
240 min Winter	10.530	0.430	0.7	73.8	○ K
360 min Winter	10.550	0.450	0.7	77.9	○ K
480 min Winter	10.554	0.454	0.7	79.3	○ K
600 min Winter	10.554	0.454	0.7	79.5	○ K
720 min Winter	10.553	0.453	0.7	78.9	○ K
960 min Winter	10.543	0.443	0.7	76.4	○ K
1440 min Winter	10.516	0.416	0.7	71.1	○ K
2160 min Winter	10.480	0.380	0.7	64.4	○ K
2880 min Winter	10.448	0.348	0.7	58.4	○ K
4320 min Winter	10.393	0.293	0.7	48.5	○ K
5760 min Winter	10.347	0.247	0.7	40.4	○ K
7200 min Winter	10.309	0.209	0.7	33.7	○ K
8640 min Winter	10.276	0.176	0.7	28.1	○ K
10080 min Winter	10.248	0.148	0.7	23.4	○ K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	56.970	0.0	33		
60 min Winter	36.174	0.0	62		
120 min Winter	22.769	0.0	122		
180 min Winter	17.094	0.0	180		
240 min Winter	13.845	0.0	238		
360 min Winter	10.168	0.0	354		
480 min Winter	8.105	0.0	470		
600 min Winter	6.777	0.0	582		
720 min Winter	5.847	0.0	694		
960 min Winter	4.621	0.0	904		
1440 min Winter	3.324	0.0	1126		
2160 min Winter	2.410	0.0	1580		
2880 min Winter	1.934	0.0	2020		
4320 min Winter	1.447	0.0	2896		
5760 min Winter	1.196	0.0	3696		
7200 min Winter	1.044	0.0	4472		
8640 min Winter	0.940	0.0	5272		
10080 min Winter	0.865	0.0	5960		
©1982-2020 Innovyze					

GTA Civils Ltd		Page 3
66a Church Walk Burgess Hill West Sussex RH15 9AS	Warwick Nursery 1 in 10 year+40% Blanket, cellular, basin	
Date 10/06/2021	Designed by JR	
File infiltration blanket	Checked by	
Micro Drainage		Source Control 2020.1

Rainfall Details

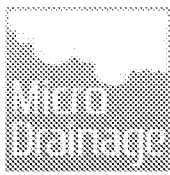
Rainfall Model	FEH
Return Period (years)	10
FEH Rainfall Version	2013
Site Location	GB 494911 105112 SU 94911 05112
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	10080
Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.177

	Time (mins)	Area
From:	To:	(ha)
	0	4 0.177

©1982-2020 Innovyze

GTA Civils Ltd		Page 4
66a Church Walk Burgess Hill West Sussex RH15 9AS	Warwick Nursery 1 in 10 year+40% Blanket, cellular, basin	
Date 10/06/2021	Designed by JR	
File infiltration blanket	Checked by	
Micro Drainage		Source Control 2020.1

Model Details

Storage is Online Cover Level (m) 11.000

Complex Structure

Infiltration Blanket

Infiltration Coefficient Base (m/hr) 0.03571 Diameter/Width (m) 18.0
 Safety Factor 6.5 Length (m) 22.0
 Porosity 0.30 Cap Volume Depth (m) 0.450
 Invert Level (m) 10.100

Infiltration Basin

Invert Level (m) 10.110 Safety Factor 6.5
 Infiltration Coefficient Base (m/hr) 0.03571 Porosity 1.00
 Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	36.9	0.700	104.6	1.400	0.0	2.100	0.0
0.100	44.8	0.800	116.1	1.500	0.0	2.200	0.0
0.200	53.1	0.900	0.0	1.600	0.0	2.300	0.0
0.300	61.9	1.000	0.0	1.700	0.0	2.400	0.0
0.400	71.1	1.100	0.0	1.800	0.0	2.500	0.0
0.500	82.8	1.200	0.0	1.900	0.0		
0.600	93.5	1.300	0.0	2.000	0.0		

Cellular Storage

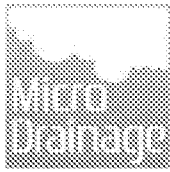
Invert Level (m) 10.550 Safety Factor 6.5
 Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.78
 Infiltration Coefficient Side (m/hr) 0.00000

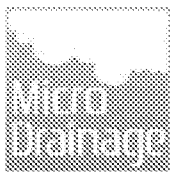
Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	396.0	396.0	1.300	0.0	499.5
0.100	396.0	404.0	1.400	0.0	507.4
0.200	0.0	411.9	1.500	0.0	515.4
0.300	0.0	419.9	1.600	0.0	523.4
0.400	0.0	427.8	1.700	0.0	531.3
0.500	0.0	435.8	1.800	0.0	539.3
0.600	0.0	443.8	1.900	0.0	547.2
0.700	0.0	451.7	2.000	0.0	555.2
0.800	0.0	459.7	2.100	0.0	563.2
0.900	0.0	467.6	2.200	0.0	571.1
1.000	0.0	475.6	2.300	0.0	579.1
1.100	0.0	483.6	2.400	0.0	587.0
1.200	0.0	491.5	2.500	0.0	595.0

©1982-2020 Innovyze

GTA Civils Ltd				Page 1	
66a Church Walk		Warwick Nursery			
Burgess Hill		1 in 100 year+40%			
West Sussex RH15 9AS		Blanket, cellular, basin			
Date 10/06/2021		Designed by JR			
File infiltration blanket		Checked by			
Micro Drainage		Source Control 2020.1			
<u>Summary of Results for 100 year Return Period (+40%)</u> Half Drain Time : 1472 minutes.					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	10.380	0.280	0.7	46.1	○ K
30 min Summer	10.465	0.365	0.7	61.6	○ K
60 min Summer	10.551	0.451	0.7	78.3	○ K
120 min Summer	10.585	0.485	0.7	91.4	○ K
180 min Summer	10.605	0.505	0.7	99.0	○ K
240 min Summer	10.617	0.517	0.7	103.7	○ K
360 min Summer	10.630	0.530	0.7	108.8	○ K
480 min Summer	10.635	0.535	0.7	110.9	○ K
600 min Summer	10.636	0.536	0.7	111.4	○ K
720 min Summer	10.635	0.535	0.7	111.0	○ K
960 min Summer	10.629	0.529	0.7	108.6	○ K
1440 min Summer	10.613	0.513	0.7	102.1	○ K
2160 min Summer	10.594	0.494	0.7	94.8	○ K
2880 min Summer	10.580	0.480	0.7	89.4	○ K
4320 min Summer	10.559	0.459	0.7	81.3	○ K
5760 min Summer	10.536	0.436	0.7	75.1	○ K
7200 min Summer	10.510	0.410	0.7	70.0	○ K
8640 min Summer	10.487	0.387	0.7	65.7	○ K
10080 min Summer	10.466	0.366	0.7	61.8	○ K
15 min Winter	10.411	0.311	0.7	51.7	○ K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
15 min Summer	140.714	0.0	19		
30 min Summer	94.437	0.0	34		
60 min Summer	60.674	0.0	64		
120 min Summer	36.152	0.0	124		
180 min Summer	26.572	0.0	184		
240 min Summer	21.265	0.0	242		
360 min Summer	15.394	0.0	362		
480 min Summer	12.172	0.0	482		
600 min Summer	10.122	0.0	602		
720 min Summer	8.696	0.0	722		
960 min Summer	6.832	0.0	960		
1440 min Summer	4.865	0.0	1224		
2160 min Summer	3.484	0.0	1580		
2880 min Summer	2.767	0.0	1988		
4320 min Summer	2.029	0.0	2808		
5760 min Summer	1.648	0.0	3632		
7200 min Summer	1.417	0.0	4400		
8640 min Summer	1.261	0.0	5192		
10080 min Summer	1.147	0.0	6048		
15 min Winter	140.714	0.0	19		
©1982-2020 Innovye					

GTA Civils Ltd				Page 2	
66a Church Walk Burgess Hill West Sussex RH15 9AS		Warwick Nursery 1 in 100 year+40% Blanket, cellular, basin			
Date 10/06/2021 File infiltration blanket		Designed by JR Checked by			
Micro Drainage		Source Control 2020.1			
<u>Summary of Results for 100 year Return Period (+40%)</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	10.505	0.405	0.7	69.1	○ K
60 min Winter	10.576	0.476	0.7	87.9	○ K
120 min Winter	10.615	0.515	0.7	103.0	○ K
180 min Winter	10.637	0.537	0.7	111.7	○ K
240 min Winter	10.651	0.551	0.7	117.4	○ K
360 min Winter	10.670	0.570	0.7	123.6	○ K
480 min Winter	10.681	0.581	0.7	126.5	○ K
600 min Winter	10.686	0.586	0.7	127.7	○ K
720 min Winter	10.687	0.587	0.7	127.8	○ K
960 min Winter	10.680	0.580	0.7	126.3	○ K
1440 min Winter	10.659	0.559	0.7	120.2	○ K
2160 min Winter	10.634	0.534	0.7	110.6	○ K
2880 min Winter	10.616	0.516	0.7	103.3	○ K
4320 min Winter	10.584	0.484	0.7	91.0	○ K
5760 min Winter	10.558	0.458	0.7	80.7	○ K
7200 min Winter	10.520	0.420	0.7	72.0	○ K
8640 min Winter	10.480	0.380	0.7	64.3	○ K
10080 min Winter	10.443	0.343	0.7	57.5	○ K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	94.437	0.0	33		
60 min Winter	60.674	0.0	64		
120 min Winter	36.152	0.0	122		
180 min Winter	26.572	0.0	180		
240 min Winter	21.265	0.0	240		
360 min Winter	15.394	0.0	358		
480 min Winter	12.172	0.0	474		
600 min Winter	10.122	0.0	590		
720 min Winter	8.636	0.0	704		
960 min Winter	6.832	0.0	932		
1440 min Winter	4.865	0.0	1358		
2160 min Winter	3.484	0.0	1692		
2880 min Winter	2.767	0.0	2160		
4320 min Winter	2.029	0.0	3068		
5760 min Winter	1.648	0.0	3920		
7200 min Winter	1.417	0.0	4760		
8640 min Winter	1.261	0.0	5616		
10080 min Winter	1.147	0.0	6360		
©1982-2020 Innovyze					

GTA Civils Ltd		Page 3																														
66a Church Walk Burgess Hill West Sussex RH15 9AS	Warwick Nursery 1 in 100 year+40% Blanket, cellular, basin																															
Date 10/06/2021	Designed by JR																															
File infiltration blanket	Checked by																															
Micro Drainage		Source Control 2020.1																														
<u>Rainfall Details</u> <table> <tr> <td>Rainfall Model</td> <td>FEH</td> </tr> <tr> <td>Return Period (years)</td> <td>100</td> </tr> <tr> <td>FEH Rainfall Version</td> <td>2013</td> </tr> <tr> <td>Site Location</td> <td>GB 494911 105112 SU 94911 05112</td> </tr> <tr> <td>Data Type</td> <td>Point</td> </tr> <tr> <td>Summer Storms</td> <td>Yes</td> </tr> <tr> <td>Winter Storms</td> <td>Yes</td> </tr> <tr> <td>Cv (Summer)</td> <td>0.750</td> </tr> <tr> <td>Cv (Winter)</td> <td>0.840</td> </tr> <tr> <td>Shortest Storm (mins)</td> <td>15</td> </tr> <tr> <td>Longest Storm (mins)</td> <td>10080</td> </tr> <tr> <td>Climate Change %</td> <td>+40</td> </tr> </table> <u>Time Area Diagram</u> Total Area (ha) 0.177 <table> <thead> <tr> <th>Time (mins)</th> <th>Area</th> </tr> <tr> <th>From:</th> <th>To: (ha)</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>4 0.177</td> </tr> </tbody> </table>			Rainfall Model	FEH	Return Period (years)	100	FEH Rainfall Version	2013	Site Location	GB 494911 105112 SU 94911 05112	Data Type	Point	Summer Storms	Yes	Winter Storms	Yes	Cv (Summer)	0.750	Cv (Winter)	0.840	Shortest Storm (mins)	15	Longest Storm (mins)	10080	Climate Change %	+40	Time (mins)	Area	From:	To: (ha)	0	4 0.177
Rainfall Model	FEH																															
Return Period (years)	100																															
FEH Rainfall Version	2013																															
Site Location	GB 494911 105112 SU 94911 05112																															
Data Type	Point																															
Summer Storms	Yes																															
Winter Storms	Yes																															
Cv (Summer)	0.750																															
Cv (Winter)	0.840																															
Shortest Storm (mins)	15																															
Longest Storm (mins)	10080																															
Climate Change %	+40																															
Time (mins)	Area																															
From:	To: (ha)																															
0	4 0.177																															
©1982-2020 Innovyze																																

GTA Civils Ltd		Page 4
66a Church Walk Burgess Hill West Sussex RH15 9AS	Warwick Nursery 1 in 100 year+40% Blanket, cellular, basin	
Date 10/06/2021	Designed by JR	
File infiltration blanket	Checked by	
Micro Drainage		Source Control 2020.1

Model Details

Storage is Online Cover Level (m) 10.810

Complex Structure

Infiltration Blanket

Infiltration Coefficient Base (m/hr) 0.03571 Diameter/Width (m) 18.0
 Safety Factor 6.5 Length (m) 22.0
 Porosity 0.30 Cap Volume Depth (m) 0.450
 Invert Level (m) 10.100

Infiltration Basin

Invert Level (m) 10.110 Safety Factor 6.5
 Infiltration Coefficient Base (m/hr) 0.03571 Porosity 1.00
 Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	36.9	0.700	104.6	1.400	0.0	2.100	0.0
0.100	44.8	0.800	116.1	1.500	0.0	2.200	0.0
0.200	53.1	0.900	0.0	1.600	0.0	2.300	0.0
0.300	61.9	1.000	0.0	1.700	0.0	2.400	0.0
0.400	71.1	1.100	0.0	1.800	0.0	2.500	0.0
0.500	82.8	1.200	0.0	1.900	0.0		
0.600	93.5	1.300	0.0	2.000	0.0		

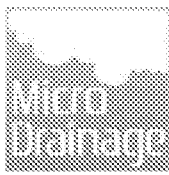
Cellular Storage

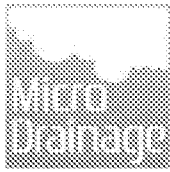
Invert Level (m) 10.550 Safety Factor 6.5
 Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.78
 Infiltration Coefficient Side (m/hr) 0.00000

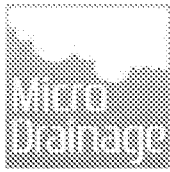
Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	396.0	396.0	1.300	0.0	499.5
0.100	396.0	404.0	1.400	0.0	507.4
0.200	0.0	411.9	1.500	0.0	515.4
0.300	0.0	419.9	1.600	0.0	523.4
0.400	0.0	427.8	1.700	0.0	531.3
0.500	0.0	435.8	1.800	0.0	539.3
0.600	0.0	443.8	1.900	0.0	547.2
0.700	0.0	451.7	2.000	0.0	555.2
0.800	0.0	459.7	2.100	0.0	563.2
0.900	0.0	467.6	2.200	0.0	571.1
1.000	0.0	475.6	2.300	0.0	579.1
1.100	0.0	483.6	2.400	0.0	587.0
1.200	0.0	491.5	2.500	0.0	595.0

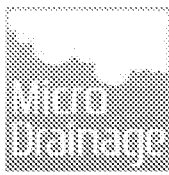
©1982-2020 Innovyze

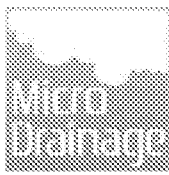
GTA Civils Ltd				Page 1																																																																																																																																																																																																																			
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB		Warwick Nursery Cellular soakaway A1-A4 1 in 10 year+40%																																																																																																																																																																																																																					
Date 13/07/2021 File A1-A4 soakaway.SRCX		Designed by JR Checked by																																																																																																																																																																																																																					
XP Solutions		Source Control 2020.1																																																																																																																																																																																																																					
<u>Summary of Results for 10 year Return Period (+40%)</u> Half Drain Time : 772 minutes. <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 Volume (m³)</th><th>Status</th></tr></thead><tbody><tr><td>15 min Summer</td><td>10.329</td><td>0.101</td><td>0.1</td><td>2.9</td><td>○ K</td></tr><tr><td>30 min Summer</td><td>10.359</td><td>0.131</td><td>0.1</td><td>3.7</td><td>○ K</td></tr><tr><td>60 min Summer</td><td>10.392</td><td>0.164</td><td>0.1</td><td>4.7</td><td>○ K</td></tr><tr><td>120 min Summer</td><td>10.428</td><td>0.200</td><td>0.1</td><td>5.7</td><td>○ K</td></tr><tr><td>180 min Summer</td><td>10.447</td><td>0.219</td><td>0.1</td><td>6.2</td><td>○ K</td></tr><tr><td>240 min Summer</td><td>10.458</td><td>0.230</td><td>0.1</td><td>6.6</td><td>○ K</td></tr><tr><td>360 min Summer</td><td>10.468</td><td>0.240</td><td>0.1</td><td>6.8</td><td>○ K</td></tr><tr><td>480 min Summer</td><td>10.469</td><td>0.241</td><td>0.1</td><td>6.9</td><td>○ K</td></tr><tr><td>600 min Summer</td><td>10.467</td><td>0.239</td><td>0.1</td><td>6.8</td><td>○ K</td></tr><tr><td>720 min Summer</td><td>10.464</td><td>0.236</td><td>0.1</td><td>6.7</td><td>○ K</td></tr><tr><td>960 min Summer</td><td>10.457</td><td>0.229</td><td>0.1</td><td>6.5</td><td>○ K</td></tr><tr><td>1440 min Summer</td><td>10.444</td><td>0.216</td><td>0.1</td><td>6.2</td><td>○ K</td></tr><tr><td>2160 min Summer</td><td>10.426</td><td>0.198</td><td>0.1</td><td>5.7</td><td>○ K</td></tr><tr><td>2880 min Summer</td><td>10.411</td><td>0.183</td><td>0.1</td><td>5.2</td><td>○ K</td></tr><tr><td>4320 min Summer</td><td>10.388</td><td>0.160</td><td>0.1</td><td>4.6</td><td>○ K</td></tr><tr><td>5760 min Summer</td><td>10.370</td><td>0.142</td><td>0.1</td><td>4.1</td><td>○ K</td></tr><tr><td>7200 min Summer</td><td>10.356</td><td>0.128</td><td>0.1</td><td>3.7</td><td>○ K</td></tr><tr><td>8640 min Summer</td><td>10.345</td><td>0.117</td><td>0.1</td><td>3.3</td><td>○ K</td></tr><tr><td>10080 min Summer</td><td>10.335</td><td>0.107</td><td>0.1</td><td>3.1</td><td>○ K</td></tr><tr><td>15 min Winter</td><td>10.341</td><td>0.113</td><td>0.1</td><td>3.2</td><td>○ K</td></tr></tbody></table> <table><thead><tr><th>Storm Event</th><th>Rain (mm/hr)</th><th>Flooded Volume (m³)</th><th>Time-Peak (mins)</th></tr></thead><tbody><tr><td>15 min Summer</td><td>86.846</td><td>0.0</td><td>19</td></tr><tr><td>30 min Summer</td><td>56.970</td><td>0.0</td><td>34</td></tr><tr><td>60 min Summer</td><td>36.174</td><td>0.0</td><td>64</td></tr><tr><td>120 min Summer</td><td>22.769</td><td>0.0</td><td>122</td></tr><tr><td>180 min Summer</td><td>17.094</td><td>0.0</td><td>182</td></tr><tr><td>240 min Summer</td><td>13.845</td><td>0.0</td><td>242</td></tr><tr><td>360 min Summer</td><td>10.168</td><td>0.0</td><td>362</td></tr><tr><td>480 min Summer</td><td>8.105</td><td>0.0</td><td>480</td></tr><tr><td>600 min Summer</td><td>6.777</td><td>0.0</td><td>562</td></tr><tr><td>720 min Summer</td><td>5.847</td><td>0.0</td><td>614</td></tr><tr><td>960 min Summer</td><td>4.621</td><td>0.0</td><td>734</td></tr><tr><td>1440 min Summer</td><td>3.324</td><td>0.0</td><td>996</td></tr><tr><td>2160 min Summer</td><td>2.410</td><td>0.0</td><td>1404</td></tr><tr><td>2880 min Summer</td><td>1.934</td><td>0.0</td><td>1816</td></tr><tr><td>4320 min Summer</td><td>1.447</td><td>0.0</td><td>2596</td></tr><tr><td>5760 min Summer</td><td>1.196</td><td>0.0</td><td>3400</td></tr><tr><td>7200 min Summer</td><td>1.044</td><td>0.0</td><td>4112</td></tr><tr><td>8640 min Summer</td><td>0.940</td><td>0.0</td><td>4848</td></tr><tr><td>10080 min Summer</td><td>0.865</td><td>0.0</td><td>5640</td></tr><tr><td>15 min Winter</td><td>86.846</td><td>0.0</td><td>19</td></tr></tbody></table>						Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	15 min Summer	10.329	0.101	0.1	2.9	○ K	30 min Summer	10.359	0.131	0.1	3.7	○ K	60 min Summer	10.392	0.164	0.1	4.7	○ K	120 min Summer	10.428	0.200	0.1	5.7	○ K	180 min Summer	10.447	0.219	0.1	6.2	○ K	240 min Summer	10.458	0.230	0.1	6.6	○ K	360 min Summer	10.468	0.240	0.1	6.8	○ K	480 min Summer	10.469	0.241	0.1	6.9	○ K	600 min Summer	10.467	0.239	0.1	6.8	○ K	720 min Summer	10.464	0.236	0.1	6.7	○ K	960 min Summer	10.457	0.229	0.1	6.5	○ K	1440 min Summer	10.444	0.216	0.1	6.2	○ K	2160 min Summer	10.426	0.198	0.1	5.7	○ K	2880 min Summer	10.411	0.183	0.1	5.2	○ K	4320 min Summer	10.388	0.160	0.1	4.6	○ K	5760 min Summer	10.370	0.142	0.1	4.1	○ K	7200 min Summer	10.356	0.128	0.1	3.7	○ K	8640 min Summer	10.345	0.117	0.1	3.3	○ K	10080 min Summer	10.335	0.107	0.1	3.1	○ K	15 min Winter	10.341	0.113	0.1	3.2	○ K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	86.846	0.0	19	30 min Summer	56.970	0.0	34	60 min Summer	36.174	0.0	64	120 min Summer	22.769	0.0	122	180 min Summer	17.094	0.0	182	240 min Summer	13.845	0.0	242	360 min Summer	10.168	0.0	362	480 min Summer	8.105	0.0	480	600 min Summer	6.777	0.0	562	720 min Summer	5.847	0.0	614	960 min Summer	4.621	0.0	734	1440 min Summer	3.324	0.0	996	2160 min Summer	2.410	0.0	1404	2880 min Summer	1.934	0.0	1816	4320 min Summer	1.447	0.0	2596	5760 min Summer	1.196	0.0	3400	7200 min Summer	1.044	0.0	4112	8640 min Summer	0.940	0.0	4848	10080 min Summer	0.865	0.0	5640	15 min Winter	86.846	0.0	19
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status																																																																																																																																																																																																																		
15 min Summer	10.329	0.101	0.1	2.9	○ K																																																																																																																																																																																																																		
30 min Summer	10.359	0.131	0.1	3.7	○ K																																																																																																																																																																																																																		
60 min Summer	10.392	0.164	0.1	4.7	○ K																																																																																																																																																																																																																		
120 min Summer	10.428	0.200	0.1	5.7	○ K																																																																																																																																																																																																																		
180 min Summer	10.447	0.219	0.1	6.2	○ K																																																																																																																																																																																																																		
240 min Summer	10.458	0.230	0.1	6.6	○ K																																																																																																																																																																																																																		
360 min Summer	10.468	0.240	0.1	6.8	○ K																																																																																																																																																																																																																		
480 min Summer	10.469	0.241	0.1	6.9	○ K																																																																																																																																																																																																																		
600 min Summer	10.467	0.239	0.1	6.8	○ K																																																																																																																																																																																																																		
720 min Summer	10.464	0.236	0.1	6.7	○ K																																																																																																																																																																																																																		
960 min Summer	10.457	0.229	0.1	6.5	○ K																																																																																																																																																																																																																		
1440 min Summer	10.444	0.216	0.1	6.2	○ K																																																																																																																																																																																																																		
2160 min Summer	10.426	0.198	0.1	5.7	○ K																																																																																																																																																																																																																		
2880 min Summer	10.411	0.183	0.1	5.2	○ K																																																																																																																																																																																																																		
4320 min Summer	10.388	0.160	0.1	4.6	○ K																																																																																																																																																																																																																		
5760 min Summer	10.370	0.142	0.1	4.1	○ K																																																																																																																																																																																																																		
7200 min Summer	10.356	0.128	0.1	3.7	○ K																																																																																																																																																																																																																		
8640 min Summer	10.345	0.117	0.1	3.3	○ K																																																																																																																																																																																																																		
10080 min Summer	10.335	0.107	0.1	3.1	○ K																																																																																																																																																																																																																		
15 min Winter	10.341	0.113	0.1	3.2	○ K																																																																																																																																																																																																																		
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)																																																																																																																																																																																																																				
15 min Summer	86.846	0.0	19																																																																																																																																																																																																																				
30 min Summer	56.970	0.0	34																																																																																																																																																																																																																				
60 min Summer	36.174	0.0	64																																																																																																																																																																																																																				
120 min Summer	22.769	0.0	122																																																																																																																																																																																																																				
180 min Summer	17.094	0.0	182																																																																																																																																																																																																																				
240 min Summer	13.845	0.0	242																																																																																																																																																																																																																				
360 min Summer	10.168	0.0	362																																																																																																																																																																																																																				
480 min Summer	8.105	0.0	480																																																																																																																																																																																																																				
600 min Summer	6.777	0.0	562																																																																																																																																																																																																																				
720 min Summer	5.847	0.0	614																																																																																																																																																																																																																				
960 min Summer	4.621	0.0	734																																																																																																																																																																																																																				
1440 min Summer	3.324	0.0	996																																																																																																																																																																																																																				
2160 min Summer	2.410	0.0	1404																																																																																																																																																																																																																				
2880 min Summer	1.934	0.0	1816																																																																																																																																																																																																																				
4320 min Summer	1.447	0.0	2596																																																																																																																																																																																																																				
5760 min Summer	1.196	0.0	3400																																																																																																																																																																																																																				
7200 min Summer	1.044	0.0	4112																																																																																																																																																																																																																				
8640 min Summer	0.940	0.0	4848																																																																																																																																																																																																																				
10080 min Summer	0.865	0.0	5640																																																																																																																																																																																																																				
15 min Winter	86.846	0.0	19																																																																																																																																																																																																																				
©1982-2020 Innovyze																																																																																																																																																																																																																							

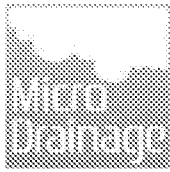
GTA Civils Ltd			Page 2		
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB		Warwick Nursery Cellular soakaway A1-A4 1 in 10 year+40%			
Date 13/07/2021 File A1-A4 soakaway.SRCX		Designed by JR Checked by			
XP Solutions		Source Control 2020.1			
<u>Summary of Results for 10 year Return Period (+40%)</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	10.375	0.147	0.1	4.2	○ K
60 min Winter	10.412	0.184	0.1	5.2	○ K
120 min Winter	10.453	0.225	0.1	6.4	○ K
180 min Winter	10.475	0.247	0.1	7.1	○ K
240 min Winter	10.489	0.261	0.1	7.4	○ K
360 min Winter	10.501	0.273	0.1	7.8	○ K
480 min Winter	10.505	0.277	0.1	7.9	○ K
600 min Winter	10.504	0.276	0.1	7.9	○ K
720 min Winter	10.500	0.272	0.1	7.8	○ K
960 min Winter	10.490	0.262	0.1	7.5	○ K
1440 min Winter	10.473	0.245	0.1	7.0	○ K
2160 min Winter	10.448	0.220	0.1	6.3	○ K
2880 min Winter	10.425	0.197	0.1	5.6	○ K
4320 min Winter	10.387	0.159	0.1	4.5	○ K
5760 min Winter	10.358	0.130	0.1	3.7	○ K
7200 min Winter	10.335	0.107	0.1	3.1	○ K
8640 min Winter	10.317	0.089	0.1	2.5	○ K
10080 min Winter	10.302	0.074	0.1	2.1	○ K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	56.970	0.0	33		
60 min Winter	36.174	0.0	62		
120 min Winter	22.769	0.0	120		
180 min Winter	17.094	0.0	180		
240 min Winter	13.845	0.0	238		
360 min Winter	10.168	0.0	352		
480 min Winter	8.105	0.0	466		
600 min Winter	6.777	0.0	576		
720 min Winter	5.847	0.0	680		
960 min Winter	4.621	0.0	778		
1440 min Winter	3.324	0.0	1080		
2160 min Winter	2.410	0.0	1532		
2880 min Winter	1.934	0.0	1960		
4320 min Winter	1.447	0.0	2808		
5760 min Winter	1.196	0.0	3576		
7200 min Winter	1.044	0.0	4328		
8640 min Winter	0.940	0.0	5024		
10080 min Winter	0.865	0.0	5744		
©1982-2020 Innovyze					

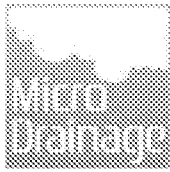
GTA Civils Ltd		Page 3																														
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB	Warwick Nursery Cellular soakaway A1-A4 1 in 10 year+40%																															
Date 13/07/2021	Designed by JR																															
File A1-A4 soakaway.SRCX	Checked by																															
XP Solutions		Source Control 2020.1																														
<u>Rainfall Details</u> <table> <tr> <td>Rainfall Model</td> <td>FEH</td> </tr> <tr> <td>Return Period (years)</td> <td>10</td> </tr> <tr> <td>FEH Rainfall Version</td> <td>2013</td> </tr> <tr> <td>Site Location</td> <td>GB 494911 105112 SU 94911 05112</td> </tr> <tr> <td>Data Type</td> <td>Point</td> </tr> <tr> <td>Summer Storms</td> <td>Yes</td> </tr> <tr> <td>Winter Storms</td> <td>Yes</td> </tr> <tr> <td>Cv (Summer)</td> <td>0.750</td> </tr> <tr> <td>Cv (Winter)</td> <td>0.840</td> </tr> <tr> <td>Shortest Storm (mins)</td> <td>15</td> </tr> <tr> <td>Longest Storm (mins)</td> <td>10080</td> </tr> <tr> <td>Climate Change %</td> <td>+40</td> </tr> </table> <u>Time Area Diagram</u> Total Area (ha) 0.018 <table> <thead> <tr> <th>Time (mins)</th> <th>Area</th> </tr> <tr> <th>From:</th> <th>To: (ha)</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>4 0.018</td> </tr> </tbody> </table>			Rainfall Model	FEH	Return Period (years)	10	FEH Rainfall Version	2013	Site Location	GB 494911 105112 SU 94911 05112	Data Type	Point	Summer Storms	Yes	Winter Storms	Yes	Cv (Summer)	0.750	Cv (Winter)	0.840	Shortest Storm (mins)	15	Longest Storm (mins)	10080	Climate Change %	+40	Time (mins)	Area	From:	To: (ha)	0	4 0.018
Rainfall Model	FEH																															
Return Period (years)	10																															
FEH Rainfall Version	2013																															
Site Location	GB 494911 105112 SU 94911 05112																															
Data Type	Point																															
Summer Storms	Yes																															
Winter Storms	Yes																															
Cv (Summer)	0.750																															
Cv (Winter)	0.840																															
Shortest Storm (mins)	15																															
Longest Storm (mins)	10080																															
Climate Change %	+40																															
Time (mins)	Area																															
From:	To: (ha)																															
0	4 0.018																															
©1982-2020 Innovyze																																

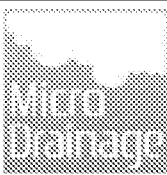
GTA Civils Ltd		Page 4																		
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB	Warwick Nursery Cellular soakaway A1-A4 1 in 10 year+40%																			
Date 13/07/2021	Designed by JR																			
File A1-A4 soakaway.SRCX	Checked by																			
XP Solutions		Source Control 2020.1																		
<u>Model Details</u> Storage is Online Cover Level (m) 11.400 <u>Cellular Storage Structure</u> Invert Level (m) 10.228 Safety Factor 6.5 Infiltration Coefficient Base (m/hr) 0.05652 Porosity 0.95 Infiltration Coefficient Side (m/hr) 0.05652 <table border="1"> <thead> <tr> <th>Depth (m)</th> <th>Area (m²)</th> <th>Inf. Area (m²)</th> <th>Depth (m)</th> <th>Area (m²)</th> <th>Inf. Area (m²)</th> </tr> </thead> <tbody> <tr> <td>0.000</td> <td>30.0</td> <td>30.0</td> <td>0.500</td> <td>0.0</td> <td>41.6</td> </tr> <tr> <td>0.400</td> <td>30.0</td> <td>41.6</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>			Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)	0.000	30.0	30.0	0.500	0.0	41.6	0.400	30.0	41.6			
Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)															
0.000	30.0	30.0	0.500	0.0	41.6															
0.400	30.0	41.6																		
©1982-2020 Innovyze																				

GTA Civils Ltd				Page 1																																																																																																																																																																																																																			
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB		Warwick Nursery Cellular soakaway A1-A4 1 in 100 year+40%																																																																																																																																																																																																																					
Date 13/07/2021 File A1-A4 soakaway.SRCX		Designed by JR Checked by																																																																																																																																																																																																																					
XP Solutions		Source Control 2020.1																																																																																																																																																																																																																					
<u>Summary of Results for 100 year Return Period (+40%)</u> Half Drain Time : 1134 minutes. <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 Volume (m³)</th><th>Status</th></tr></thead><tbody><tr><td>15 min Summer</td><td>10.392</td><td>0.164</td><td>0.1</td><td>4.7</td><td>○ K</td></tr><tr><td>30 min Summer</td><td>10.447</td><td>0.219</td><td>0.1</td><td>6.3</td><td>○ K</td></tr><tr><td>60 min Summer</td><td>10.507</td><td>0.279</td><td>0.1</td><td>7.9</td><td>○ K</td></tr><tr><td>120 min Summer</td><td>10.552</td><td>0.324</td><td>0.1</td><td>9.2</td><td>○ K</td></tr><tr><td>180 min Summer</td><td>10.578</td><td>0.350</td><td>0.1</td><td>10.0</td><td>○ K</td></tr><tr><td>240 min Summer</td><td>10.594</td><td>0.366</td><td>0.1</td><td>10.4</td><td>○ K</td></tr><tr><td>360 min Summer</td><td>10.609</td><td>0.381</td><td>0.1</td><td>10.9</td><td>○ K</td></tr><tr><td>480 min Summer</td><td>10.614</td><td>0.386</td><td>0.1</td><td>11.0</td><td>○ K</td></tr><tr><td>600 min Summer</td><td>10.613</td><td>0.385</td><td>0.1</td><td>11.0</td><td>○ K</td></tr><tr><td>720 min Summer</td><td>10.609</td><td>0.381</td><td>0.1</td><td>10.9</td><td>○ K</td></tr><tr><td>960 min Summer</td><td>10.597</td><td>0.369</td><td>0.1</td><td>10.5</td><td>○ K</td></tr><tr><td>1440 min Summer</td><td>10.578</td><td>0.350</td><td>0.1</td><td>10.0</td><td>○ K</td></tr><tr><td>2160 min Summer</td><td>10.553</td><td>0.325</td><td>0.1</td><td>9.3</td><td>○ K</td></tr><tr><td>2880 min Summer</td><td>10.533</td><td>0.305</td><td>0.1</td><td>8.7</td><td>○ K</td></tr><tr><td>4320 min Summer</td><td>10.501</td><td>0.273</td><td>0.1</td><td>7.8</td><td>○ K</td></tr><tr><td>5760 min Summer</td><td>10.475</td><td>0.247</td><td>0.1</td><td>7.1</td><td>○ K</td></tr><tr><td>7200 min Summer</td><td>10.455</td><td>0.227</td><td>0.1</td><td>6.5</td><td>○ K</td></tr><tr><td>8640 min Summer</td><td>10.438</td><td>0.210</td><td>0.1</td><td>6.0</td><td>○ K</td></tr><tr><td>10080 min Summer</td><td>10.424</td><td>0.196</td><td>0.1</td><td>5.6</td><td>○ K</td></tr><tr><td>15 min Winter</td><td>10.412</td><td>0.184</td><td>0.1</td><td>5.3</td><td>○ K</td></tr></tbody></table> <table><thead><tr><th>Storm Event</th><th>Rain (mm/hr)</th><th>Flooded Volume (m³)</th><th>Time-Peak (mins)</th></tr></thead><tbody><tr><td>15 min Summer</td><td>140.714</td><td>0.0</td><td>19</td></tr><tr><td>30 min Summer</td><td>94.437</td><td>0.0</td><td>34</td></tr><tr><td>60 min Summer</td><td>60.674</td><td>0.0</td><td>64</td></tr><tr><td>120 min Summer</td><td>36.152</td><td>0.0</td><td>124</td></tr><tr><td>180 min Summer</td><td>26.572</td><td>0.0</td><td>182</td></tr><tr><td>240 min Summer</td><td>21.265</td><td>0.0</td><td>242</td></tr><tr><td>360 min Summer</td><td>15.394</td><td>0.0</td><td>362</td></tr><tr><td>480 min Summer</td><td>12.172</td><td>0.0</td><td>482</td></tr><tr><td>600 min Summer</td><td>10.122</td><td>0.0</td><td>600</td></tr><tr><td>720 min Summer</td><td>8.696</td><td>0.0</td><td>720</td></tr><tr><td>960 min Summer</td><td>6.832</td><td>0.0</td><td>838</td></tr><tr><td>1440 min Summer</td><td>4.865</td><td>0.0</td><td>1082</td></tr><tr><td>2160 min Summer</td><td>3.484</td><td>0.0</td><td>1472</td></tr><tr><td>2880 min Summer</td><td>2.767</td><td>0.0</td><td>1900</td></tr><tr><td>4320 min Summer</td><td>2.029</td><td>0.0</td><td>2720</td></tr><tr><td>5760 min Summer</td><td>1.648</td><td>0.0</td><td>3520</td></tr><tr><td>7200 min Summer</td><td>1.417</td><td>0.0</td><td>4320</td></tr><tr><td>8640 min Summer</td><td>1.261</td><td>0.0</td><td>5096</td></tr><tr><td>10080 min Summer</td><td>1.147</td><td>0.0</td><td>5848</td></tr><tr><td>15 min Winter</td><td>140.714</td><td>0.0</td><td>19</td></tr></tbody></table>						Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	15 min Summer	10.392	0.164	0.1	4.7	○ K	30 min Summer	10.447	0.219	0.1	6.3	○ K	60 min Summer	10.507	0.279	0.1	7.9	○ K	120 min Summer	10.552	0.324	0.1	9.2	○ K	180 min Summer	10.578	0.350	0.1	10.0	○ K	240 min Summer	10.594	0.366	0.1	10.4	○ K	360 min Summer	10.609	0.381	0.1	10.9	○ K	480 min Summer	10.614	0.386	0.1	11.0	○ K	600 min Summer	10.613	0.385	0.1	11.0	○ K	720 min Summer	10.609	0.381	0.1	10.9	○ K	960 min Summer	10.597	0.369	0.1	10.5	○ K	1440 min Summer	10.578	0.350	0.1	10.0	○ K	2160 min Summer	10.553	0.325	0.1	9.3	○ K	2880 min Summer	10.533	0.305	0.1	8.7	○ K	4320 min Summer	10.501	0.273	0.1	7.8	○ K	5760 min Summer	10.475	0.247	0.1	7.1	○ K	7200 min Summer	10.455	0.227	0.1	6.5	○ K	8640 min Summer	10.438	0.210	0.1	6.0	○ K	10080 min Summer	10.424	0.196	0.1	5.6	○ K	15 min Winter	10.412	0.184	0.1	5.3	○ K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	140.714	0.0	19	30 min Summer	94.437	0.0	34	60 min Summer	60.674	0.0	64	120 min Summer	36.152	0.0	124	180 min Summer	26.572	0.0	182	240 min Summer	21.265	0.0	242	360 min Summer	15.394	0.0	362	480 min Summer	12.172	0.0	482	600 min Summer	10.122	0.0	600	720 min Summer	8.696	0.0	720	960 min Summer	6.832	0.0	838	1440 min Summer	4.865	0.0	1082	2160 min Summer	3.484	0.0	1472	2880 min Summer	2.767	0.0	1900	4320 min Summer	2.029	0.0	2720	5760 min Summer	1.648	0.0	3520	7200 min Summer	1.417	0.0	4320	8640 min Summer	1.261	0.0	5096	10080 min Summer	1.147	0.0	5848	15 min Winter	140.714	0.0	19
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status																																																																																																																																																																																																																		
15 min Summer	10.392	0.164	0.1	4.7	○ K																																																																																																																																																																																																																		
30 min Summer	10.447	0.219	0.1	6.3	○ K																																																																																																																																																																																																																		
60 min Summer	10.507	0.279	0.1	7.9	○ K																																																																																																																																																																																																																		
120 min Summer	10.552	0.324	0.1	9.2	○ K																																																																																																																																																																																																																		
180 min Summer	10.578	0.350	0.1	10.0	○ K																																																																																																																																																																																																																		
240 min Summer	10.594	0.366	0.1	10.4	○ K																																																																																																																																																																																																																		
360 min Summer	10.609	0.381	0.1	10.9	○ K																																																																																																																																																																																																																		
480 min Summer	10.614	0.386	0.1	11.0	○ K																																																																																																																																																																																																																		
600 min Summer	10.613	0.385	0.1	11.0	○ K																																																																																																																																																																																																																		
720 min Summer	10.609	0.381	0.1	10.9	○ K																																																																																																																																																																																																																		
960 min Summer	10.597	0.369	0.1	10.5	○ K																																																																																																																																																																																																																		
1440 min Summer	10.578	0.350	0.1	10.0	○ K																																																																																																																																																																																																																		
2160 min Summer	10.553	0.325	0.1	9.3	○ K																																																																																																																																																																																																																		
2880 min Summer	10.533	0.305	0.1	8.7	○ K																																																																																																																																																																																																																		
4320 min Summer	10.501	0.273	0.1	7.8	○ K																																																																																																																																																																																																																		
5760 min Summer	10.475	0.247	0.1	7.1	○ K																																																																																																																																																																																																																		
7200 min Summer	10.455	0.227	0.1	6.5	○ K																																																																																																																																																																																																																		
8640 min Summer	10.438	0.210	0.1	6.0	○ K																																																																																																																																																																																																																		
10080 min Summer	10.424	0.196	0.1	5.6	○ K																																																																																																																																																																																																																		
15 min Winter	10.412	0.184	0.1	5.3	○ K																																																																																																																																																																																																																		
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)																																																																																																																																																																																																																				
15 min Summer	140.714	0.0	19																																																																																																																																																																																																																				
30 min Summer	94.437	0.0	34																																																																																																																																																																																																																				
60 min Summer	60.674	0.0	64																																																																																																																																																																																																																				
120 min Summer	36.152	0.0	124																																																																																																																																																																																																																				
180 min Summer	26.572	0.0	182																																																																																																																																																																																																																				
240 min Summer	21.265	0.0	242																																																																																																																																																																																																																				
360 min Summer	15.394	0.0	362																																																																																																																																																																																																																				
480 min Summer	12.172	0.0	482																																																																																																																																																																																																																				
600 min Summer	10.122	0.0	600																																																																																																																																																																																																																				
720 min Summer	8.696	0.0	720																																																																																																																																																																																																																				
960 min Summer	6.832	0.0	838																																																																																																																																																																																																																				
1440 min Summer	4.865	0.0	1082																																																																																																																																																																																																																				
2160 min Summer	3.484	0.0	1472																																																																																																																																																																																																																				
2880 min Summer	2.767	0.0	1900																																																																																																																																																																																																																				
4320 min Summer	2.029	0.0	2720																																																																																																																																																																																																																				
5760 min Summer	1.648	0.0	3520																																																																																																																																																																																																																				
7200 min Summer	1.417	0.0	4320																																																																																																																																																																																																																				
8640 min Summer	1.261	0.0	5096																																																																																																																																																																																																																				
10080 min Summer	1.147	0.0	5848																																																																																																																																																																																																																				
15 min Winter	140.714	0.0	19																																																																																																																																																																																																																				
©1982-2020 Innovyze																																																																																																																																																																																																																							

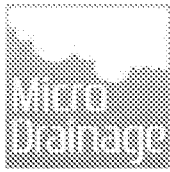
GTA Civils Ltd			Page 2		
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB		Warwick Nursery Cellular soakaway A1-A4 1 in 100 year+40%			
Date 13/07/2021 File A1-A4 soakaway.SRCX		Designed by JR Checked by			
XP Solutions		Source Control 2020.1			
Summary of Results for 100 year Return Period (+40%)					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	10.474	0.246	0.1	7.0	○ K
60 min Winter	10.541	0.313	0.1	8.9	○ K
120 min Winter	10.593	0.365	0.1	10.4	○ K
180 min Winter	10.623	0.395	0.1	11.3	○ K
240 min Winter	10.644	0.416	0.1	11.8	○ K
360 min Winter	10.702	0.474	0.1	12.3	○ K
480 min Winter	10.920	0.692	0.1	12.5	○ K
600 min Winter	10.959	0.731	0.1	12.6	○ K
720 min Winter	10.896	0.668	0.1	12.5	○ K
960 min Winter	10.677	0.449	0.1	12.2	○ K
1440 min Winter	10.630	0.402	0.1	11.5	○ K
2160 min Winter	10.599	0.371	0.1	10.6	○ K
2880 min Winter	10.569	0.341	0.1	9.7	○ K
4320 min Winter	10.521	0.293	0.1	8.3	○ K
5760 min Winter	10.480	0.252	0.1	7.2	○ K
7200 min Winter	10.448	0.220	0.1	6.3	○ K
8640 min Winter	10.420	0.192	0.1	5.5	○ K
10080 min Winter	10.396	0.168	0.1	4.8	○ K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	94.437	0.0	33		
60 min Winter	60.674	0.0	62		
120 min Winter	36.152	0.0	122		
180 min Winter	26.572	0.0	180		
240 min Winter	21.265	0.0	238		
360 min Winter	15.394	0.0	356		
480 min Winter	12.172	0.0	470		
600 min Winter	10.122	0.0	584		
720 min Winter	8.696	0.0	696		
960 min Winter	6.832	0.0	914		
1440 min Winter	4.865	0.0	1142		
2160 min Winter	3.484	0.0	1600		
2880 min Winter	2.767	0.0	2048		
4320 min Winter	2.029	0.0	2936		
5760 min Winter	1.648	0.0	3752		
7200 min Winter	1.417	0.0	4608		
8640 min Winter	1.261	0.0	5360		
10080 min Winter	1.147	0.0	6152		
©1982-2020 Innovyze					

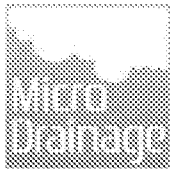
GTA Civils Ltd		Page 3																														
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB	Warwick Nursery Cellular soakaway A1-A4 1 in 100 year+40%																															
Date 13/07/2021	Designed by JR																															
File A1-A4 soakaway.SRCX	Checked by																															
XP Solutions		Source Control 2020.1																														
<u>Rainfall Details</u> <table> <tr> <td>Rainfall Model</td> <td>FEH</td> </tr> <tr> <td>Return Period (years)</td> <td>100</td> </tr> <tr> <td>FEH Rainfall Version</td> <td>2013</td> </tr> <tr> <td>Site Location</td> <td>GB 494911 105112 SU 94911 05112</td> </tr> <tr> <td>Data Type</td> <td>Point</td> </tr> <tr> <td>Summer Storms</td> <td>Yes</td> </tr> <tr> <td>Winter Storms</td> <td>Yes</td> </tr> <tr> <td>Cv (Summer)</td> <td>0.750</td> </tr> <tr> <td>Cv (Winter)</td> <td>0.840</td> </tr> <tr> <td>Shortest Storm (mins)</td> <td>15</td> </tr> <tr> <td>Longest Storm (mins)</td> <td>10080</td> </tr> <tr> <td>Climate Change %</td> <td>+40</td> </tr> </table> <u>Time Area Diagram</u> Total Area (ha) 0.018 <table> <thead> <tr> <th>Time (mins)</th> <th>Area</th> </tr> <tr> <th>From:</th> <th>To: (ha)</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>4 0.018</td> </tr> </tbody> </table>			Rainfall Model	FEH	Return Period (years)	100	FEH Rainfall Version	2013	Site Location	GB 494911 105112 SU 94911 05112	Data Type	Point	Summer Storms	Yes	Winter Storms	Yes	Cv (Summer)	0.750	Cv (Winter)	0.840	Shortest Storm (mins)	15	Longest Storm (mins)	10080	Climate Change %	+40	Time (mins)	Area	From:	To: (ha)	0	4 0.018
Rainfall Model	FEH																															
Return Period (years)	100																															
FEH Rainfall Version	2013																															
Site Location	GB 494911 105112 SU 94911 05112																															
Data Type	Point																															
Summer Storms	Yes																															
Winter Storms	Yes																															
Cv (Summer)	0.750																															
Cv (Winter)	0.840																															
Shortest Storm (mins)	15																															
Longest Storm (mins)	10080																															
Climate Change %	+40																															
Time (mins)	Area																															
From:	To: (ha)																															
0	4 0.018																															
©1982-2020 Innovyze																																

GTA Civils Ltd		Page 4																		
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB	Warwick Nursery Cellular soakaway A1-A4 1 in 100 year+40%																			
Date 13/07/2021	Designed by JR																			
File A1-A4 soakaway.SRCX	Checked by																			
XP Solutions		Source Control 2020.1																		
<u>Model Details</u> Storage is Online Cover Level (m) 11.400 <u>Cellular Storage Structure</u> Invert Level (m) 10.228 Safety Factor 6.5 Infiltration Coefficient Base (m/hr) 0.05652 Porosity 0.95 Infiltration Coefficient Side (m/hr) 0.05652 <table border="1"> <thead> <tr> <th>Depth (m)</th> <th>Area (m²)</th> <th>Inf. Area (m²)</th> <th>Depth (m)</th> <th>Area (m²)</th> <th>Inf. Area (m²)</th> </tr> </thead> <tbody> <tr> <td>0.000</td> <td>30.0</td> <td>30.0</td> <td>0.500</td> <td>0.0</td> <td>41.6</td> </tr> <tr> <td>0.400</td> <td>30.0</td> <td>41.6</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>			Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)	0.000	30.0	30.0	0.500	0.0	41.6	0.400	30.0	41.6			
Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)															
0.000	30.0	30.0	0.500	0.0	41.6															
0.400	30.0	41.6																		
©1982-2020 Innovyze																				

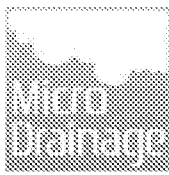
GTA Civils Ltd				Page 1																																																																																																																																																																																																																			
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB		Warwick Nursery Permeable paving A5 - A8 1 in 10 year + 40%																																																																																																																																																																																																																					
Date 13/07/2021 File A5-A8 PP.SRCX		Designed by JR Checked by																																																																																																																																																																																																																					
XP Solutions		Source Control 2020.1																																																																																																																																																																																																																					
<u>Summary of Results for 10 year Return Period (+40%)</u> Half Drain Time : 172 minutes. <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 Volume (m³)</th><th>Status</th></tr></thead><tbody><tr><td>15 min Summer</td><td>10.297</td><td>0.069</td><td>0.8</td><td>6.5</td><td>○ K</td></tr><tr><td>30 min Summer</td><td>10.321</td><td>0.093</td><td>0.8</td><td>8.7</td><td>○ K</td></tr><tr><td>60 min Summer</td><td>10.344</td><td>0.116</td><td>0.8</td><td>10.9</td><td>○ K</td></tr><tr><td>120 min Summer</td><td>10.364</td><td>0.136</td><td>0.8</td><td>12.8</td><td>○ K</td></tr><tr><td>180 min Summer</td><td>10.370</td><td>0.142</td><td>0.8</td><td>13.3</td><td>○ K</td></tr><tr><td>240 min Summer</td><td>10.372</td><td>0.144</td><td>0.8</td><td>13.5</td><td>○ K</td></tr><tr><td>360 min Summer</td><td>10.371</td><td>0.143</td><td>0.8</td><td>13.4</td><td>○ K</td></tr><tr><td>480 min Summer</td><td>10.365</td><td>0.137</td><td>0.8</td><td>12.8</td><td>○ K</td></tr><tr><td>600 min Summer</td><td>10.357</td><td>0.129</td><td>0.8</td><td>12.1</td><td>○ K</td></tr><tr><td>720 min Summer</td><td>10.350</td><td>0.122</td><td>0.8</td><td>11.4</td><td>○ K</td></tr><tr><td>960 min Summer</td><td>10.334</td><td>0.106</td><td>0.8</td><td>10.0</td><td>○ K</td></tr><tr><td>1440 min Summer</td><td>10.308</td><td>0.080</td><td>0.8</td><td>7.5</td><td>○ K</td></tr><tr><td>2160 min Summer</td><td>10.284</td><td>0.056</td><td>0.8</td><td>5.2</td><td>○ K</td></tr><tr><td>2880 min Summer</td><td>10.274</td><td>0.046</td><td>0.7</td><td>4.3</td><td>○ K</td></tr><tr><td>4320 min Summer</td><td>10.264</td><td>0.036</td><td>0.5</td><td>3.4</td><td>○ K</td></tr><tr><td>5760 min Summer</td><td>10.259</td><td>0.031</td><td>0.5</td><td>2.9</td><td>○ K</td></tr><tr><td>7200 min Summer</td><td>10.255</td><td>0.027</td><td>0.4</td><td>2.6</td><td>○ K</td></tr><tr><td>8640 min Summer</td><td>10.253</td><td>0.025</td><td>0.4</td><td>2.3</td><td>○ K</td></tr><tr><td>10080 min Summer</td><td>10.251</td><td>0.023</td><td>0.4</td><td>2.2</td><td>○ K</td></tr><tr><td>15 min Winter</td><td>10.308</td><td>0.080</td><td>0.8</td><td>7.5</td><td>○ K</td></tr></tbody></table> <table><thead><tr><th>Storm Event</th><th>Rain (mm/hr)</th><th>Flooded Volume (m³)</th><th>Time-Peak (mins)</th></tr></thead><tbody><tr><td>15 min Summer</td><td>86.846</td><td>0.0</td><td>18</td></tr><tr><td>30 min Summer</td><td>56.970</td><td>0.0</td><td>33</td></tr><tr><td>60 min Summer</td><td>36.174</td><td>0.0</td><td>62</td></tr><tr><td>120 min Summer</td><td>22.769</td><td>0.0</td><td>120</td></tr><tr><td>180 min Summer</td><td>17.094</td><td>0.0</td><td>154</td></tr><tr><td>240 min Summer</td><td>13.845</td><td>0.0</td><td>186</td></tr><tr><td>360 min Summer</td><td>10.168</td><td>0.0</td><td>250</td></tr><tr><td>480 min Summer</td><td>8.105</td><td>0.0</td><td>318</td></tr><tr><td>600 min Summer</td><td>6.777</td><td>0.0</td><td>386</td></tr><tr><td>720 min Summer</td><td>5.847</td><td>0.0</td><td>454</td></tr><tr><td>960 min Summer</td><td>4.621</td><td>0.0</td><td>580</td></tr><tr><td>1440 min Summer</td><td>3.324</td><td>0.0</td><td>824</td></tr><tr><td>2160 min Summer</td><td>2.410</td><td>0.0</td><td>1168</td></tr><tr><td>2880 min Summer</td><td>1.934</td><td>0.0</td><td>1500</td></tr><tr><td>4320 min Summer</td><td>1.447</td><td>0.0</td><td>2244</td></tr><tr><td>5760 min Summer</td><td>1.196</td><td>0.0</td><td>2944</td></tr><tr><td>7200 min Summer</td><td>1.044</td><td>0.0</td><td>3680</td></tr><tr><td>8640 min Summer</td><td>0.940</td><td>0.0</td><td>4408</td></tr><tr><td>10080 min Summer</td><td>0.865</td><td>0.0</td><td>5136</td></tr><tr><td>15 min Winter</td><td>86.846</td><td>0.0</td><td>18</td></tr></tbody></table>						Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	15 min Summer	10.297	0.069	0.8	6.5	○ K	30 min Summer	10.321	0.093	0.8	8.7	○ K	60 min Summer	10.344	0.116	0.8	10.9	○ K	120 min Summer	10.364	0.136	0.8	12.8	○ K	180 min Summer	10.370	0.142	0.8	13.3	○ K	240 min Summer	10.372	0.144	0.8	13.5	○ K	360 min Summer	10.371	0.143	0.8	13.4	○ K	480 min Summer	10.365	0.137	0.8	12.8	○ K	600 min Summer	10.357	0.129	0.8	12.1	○ K	720 min Summer	10.350	0.122	0.8	11.4	○ K	960 min Summer	10.334	0.106	0.8	10.0	○ K	1440 min Summer	10.308	0.080	0.8	7.5	○ K	2160 min Summer	10.284	0.056	0.8	5.2	○ K	2880 min Summer	10.274	0.046	0.7	4.3	○ K	4320 min Summer	10.264	0.036	0.5	3.4	○ K	5760 min Summer	10.259	0.031	0.5	2.9	○ K	7200 min Summer	10.255	0.027	0.4	2.6	○ K	8640 min Summer	10.253	0.025	0.4	2.3	○ K	10080 min Summer	10.251	0.023	0.4	2.2	○ K	15 min Winter	10.308	0.080	0.8	7.5	○ K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	86.846	0.0	18	30 min Summer	56.970	0.0	33	60 min Summer	36.174	0.0	62	120 min Summer	22.769	0.0	120	180 min Summer	17.094	0.0	154	240 min Summer	13.845	0.0	186	360 min Summer	10.168	0.0	250	480 min Summer	8.105	0.0	318	600 min Summer	6.777	0.0	386	720 min Summer	5.847	0.0	454	960 min Summer	4.621	0.0	580	1440 min Summer	3.324	0.0	824	2160 min Summer	2.410	0.0	1168	2880 min Summer	1.934	0.0	1500	4320 min Summer	1.447	0.0	2244	5760 min Summer	1.196	0.0	2944	7200 min Summer	1.044	0.0	3680	8640 min Summer	0.940	0.0	4408	10080 min Summer	0.865	0.0	5136	15 min Winter	86.846	0.0	18
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status																																																																																																																																																																																																																		
15 min Summer	10.297	0.069	0.8	6.5	○ K																																																																																																																																																																																																																		
30 min Summer	10.321	0.093	0.8	8.7	○ K																																																																																																																																																																																																																		
60 min Summer	10.344	0.116	0.8	10.9	○ K																																																																																																																																																																																																																		
120 min Summer	10.364	0.136	0.8	12.8	○ K																																																																																																																																																																																																																		
180 min Summer	10.370	0.142	0.8	13.3	○ K																																																																																																																																																																																																																		
240 min Summer	10.372	0.144	0.8	13.5	○ K																																																																																																																																																																																																																		
360 min Summer	10.371	0.143	0.8	13.4	○ K																																																																																																																																																																																																																		
480 min Summer	10.365	0.137	0.8	12.8	○ K																																																																																																																																																																																																																		
600 min Summer	10.357	0.129	0.8	12.1	○ K																																																																																																																																																																																																																		
720 min Summer	10.350	0.122	0.8	11.4	○ K																																																																																																																																																																																																																		
960 min Summer	10.334	0.106	0.8	10.0	○ K																																																																																																																																																																																																																		
1440 min Summer	10.308	0.080	0.8	7.5	○ K																																																																																																																																																																																																																		
2160 min Summer	10.284	0.056	0.8	5.2	○ K																																																																																																																																																																																																																		
2880 min Summer	10.274	0.046	0.7	4.3	○ K																																																																																																																																																																																																																		
4320 min Summer	10.264	0.036	0.5	3.4	○ K																																																																																																																																																																																																																		
5760 min Summer	10.259	0.031	0.5	2.9	○ K																																																																																																																																																																																																																		
7200 min Summer	10.255	0.027	0.4	2.6	○ K																																																																																																																																																																																																																		
8640 min Summer	10.253	0.025	0.4	2.3	○ K																																																																																																																																																																																																																		
10080 min Summer	10.251	0.023	0.4	2.2	○ K																																																																																																																																																																																																																		
15 min Winter	10.308	0.080	0.8	7.5	○ K																																																																																																																																																																																																																		
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)																																																																																																																																																																																																																				
15 min Summer	86.846	0.0	18																																																																																																																																																																																																																				
30 min Summer	56.970	0.0	33																																																																																																																																																																																																																				
60 min Summer	36.174	0.0	62																																																																																																																																																																																																																				
120 min Summer	22.769	0.0	120																																																																																																																																																																																																																				
180 min Summer	17.094	0.0	154																																																																																																																																																																																																																				
240 min Summer	13.845	0.0	186																																																																																																																																																																																																																				
360 min Summer	10.168	0.0	250																																																																																																																																																																																																																				
480 min Summer	8.105	0.0	318																																																																																																																																																																																																																				
600 min Summer	6.777	0.0	386																																																																																																																																																																																																																				
720 min Summer	5.847	0.0	454																																																																																																																																																																																																																				
960 min Summer	4.621	0.0	580																																																																																																																																																																																																																				
1440 min Summer	3.324	0.0	824																																																																																																																																																																																																																				
2160 min Summer	2.410	0.0	1168																																																																																																																																																																																																																				
2880 min Summer	1.934	0.0	1500																																																																																																																																																																																																																				
4320 min Summer	1.447	0.0	2244																																																																																																																																																																																																																				
5760 min Summer	1.196	0.0	2944																																																																																																																																																																																																																				
7200 min Summer	1.044	0.0	3680																																																																																																																																																																																																																				
8640 min Summer	0.940	0.0	4408																																																																																																																																																																																																																				
10080 min Summer	0.865	0.0	5136																																																																																																																																																																																																																				
15 min Winter	86.846	0.0	18																																																																																																																																																																																																																				
©1982-2020 Innovyze																																																																																																																																																																																																																							

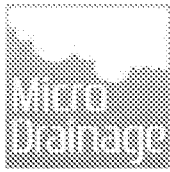
GTA Civils Ltd				Page 2	
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB		Warwick Nursery Permeable paving A5 - A8 1 in 10 year + 40%			
Date 13/07/2021		Designed by JR			
File A5-A8 PP.SRCX		Checked by			
XP Solutions		Source Control 2020.1			
<u>Summary of Results for 10 year Return Period (+40%)</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	10.335	0.107	0.8	10.0	○ K
60 min Winter	10.361	0.133	0.8	12.5	○ K
120 min Winter	10.386	0.158	0.8	14.8	○ K
180 min Winter	10.393	0.165	0.8	15.5	○ K
240 min Winter	10.394	0.166	0.8	15.5	○ K
360 min Winter	10.389	0.161	0.8	15.1	○ K
480 min Winter	10.380	0.152	0.8	14.2	○ K
600 min Winter	10.369	0.141	0.8	13.2	○ K
720 min Winter	10.357	0.129	0.8	12.1	○ K
960 min Winter	10.333	0.105	0.8	9.9	○ K
1440 min Winter	10.296	0.068	0.8	6.4	○ K
2160 min Winter	10.273	0.045	0.7	4.2	○ K
2880 min Winter	10.265	0.037	0.6	3.5	○ K
4320 min Winter	10.256	0.028	0.4	2.6	○ K
5760 min Winter	10.251	0.023	0.4	2.2	○ K
7200 min Winter	10.248	0.020	0.3	1.9	○ K
8640 min Winter	10.246	0.018	0.3	1.7	○ K
10080 min Winter	10.245	0.017	0.3	1.6	○ K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	56.970	0.0	32		
60 min Winter	36.174	0.0	60		
120 min Winter	22.769	0.0	118		
180 min Winter	17.094	0.0	172		
240 min Winter	13.845	0.0	198		
360 min Winter	10.168	0.0	272		
480 min Winter	8.105	0.0	348		
600 min Winter	6.777	0.0	422		
720 min Winter	5.847	0.0	492		
960 min Winter	4.621	0.0	624		
1440 min Winter	3.324	0.0	852		
2160 min Winter	2.410	0.0	1168		
2880 min Winter	1.934	0.0	1528		
4320 min Winter	1.447	0.0	2244		
5760 min Winter	1.196	0.0	2992		
7200 min Winter	1.044	0.0	3680		
8640 min Winter	0.940	0.0	4408		
10080 min Winter	0.865	0.0	5144		
©1982-2020 Innovyze					

GTA Civils Ltd		Page 3																														
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB	Warwick Nursery Permeable paving A5 - A8 1 in 10 year + 40%																															
Date 13/07/2021	Designed by JR																															
File A5-A8 PP.SRCX	Checked by																															
XP Solutions		Source Control 2020.1																														
<u>Rainfall Details</u> <table> <tr> <td>Rainfall Model</td> <td>FEH</td> </tr> <tr> <td>Return Period (years)</td> <td>10</td> </tr> <tr> <td>FEH Rainfall Version</td> <td>2013</td> </tr> <tr> <td>Site Location</td> <td>GB 494911 105112 SU 94911 05112</td> </tr> <tr> <td>Data Type</td> <td>Point</td> </tr> <tr> <td>Summer Storms</td> <td>Yes</td> </tr> <tr> <td>Winter Storms</td> <td>Yes</td> </tr> <tr> <td>Cv (Summer)</td> <td>0.750</td> </tr> <tr> <td>Cv (Winter)</td> <td>0.840</td> </tr> <tr> <td>Shortest Storm (mins)</td> <td>15</td> </tr> <tr> <td>Longest Storm (mins)</td> <td>10080</td> </tr> <tr> <td>Climate Change %</td> <td>+40</td> </tr> </table> <u>Time Area Diagram</u> Total Area (ha) 0.052 <table> <thead> <tr> <th>Time (mins)</th> <th>Area</th> </tr> <tr> <th>From:</th> <th>To: (ha)</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>4 0.052</td> </tr> </tbody> </table>			Rainfall Model	FEH	Return Period (years)	10	FEH Rainfall Version	2013	Site Location	GB 494911 105112 SU 94911 05112	Data Type	Point	Summer Storms	Yes	Winter Storms	Yes	Cv (Summer)	0.750	Cv (Winter)	0.840	Shortest Storm (mins)	15	Longest Storm (mins)	10080	Climate Change %	+40	Time (mins)	Area	From:	To: (ha)	0	4 0.052
Rainfall Model	FEH																															
Return Period (years)	10																															
FEH Rainfall Version	2013																															
Site Location	GB 494911 105112 SU 94911 05112																															
Data Type	Point																															
Summer Storms	Yes																															
Winter Storms	Yes																															
Cv (Summer)	0.750																															
Cv (Winter)	0.840																															
Shortest Storm (mins)	15																															
Longest Storm (mins)	10080																															
Climate Change %	+40																															
Time (mins)	Area																															
From:	To: (ha)																															
0	4 0.052																															
©1982-2020 Innovyze																																

GTA Civils Ltd		Page 4																								
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB	Warwick Nursery Permeable paving A5 - A8 1 in 10 year + 40%																									
Date 13/07/2021	Designed by JR																									
File A5-A8 PP.SRCX	Checked by																									
XP Solutions		Source Control 2020.1																								
<u>Model Details</u> Storage is Online Cover Level (m) 11.400 <u>Porous Car Park Structure</u> <table> <tr> <td>Infiltration Coefficient Base (m/hr)</td> <td>0.05652</td> <td>Width (m)</td> <td>11.7</td> </tr> <tr> <td>Membrane Percolation (mm/hr)</td> <td>1000</td> <td>Length (m)</td> <td>26.7</td> </tr> <tr> <td>Max Percolation (l/s)</td> <td>86.8</td> <td>Slope (1:X)</td> <td>0.0</td> </tr> <tr> <td>Safety Factor</td> <td>6.5</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>10.228</td> <td>Cap Volume Depth (m)</td> <td>1.042</td> </tr> </table>			Infiltration Coefficient Base (m/hr)	0.05652	Width (m)	11.7	Membrane Percolation (mm/hr)	1000	Length (m)	26.7	Max Percolation (l/s)	86.8	Slope (1:X)	0.0	Safety Factor	6.5	Depression Storage (mm)	5	Porosity	0.30	Evaporation (mm/day)	3	Invert Level (m)	10.228	Cap Volume Depth (m)	1.042
Infiltration Coefficient Base (m/hr)	0.05652	Width (m)	11.7																							
Membrane Percolation (mm/hr)	1000	Length (m)	26.7																							
Max Percolation (l/s)	86.8	Slope (1:X)	0.0																							
Safety Factor	6.5	Depression Storage (mm)	5																							
Porosity	0.30	Evaporation (mm/day)	3																							
Invert Level (m)	10.228	Cap Volume Depth (m)	1.042																							
©1982-2020 Innovyze																										

GTA Civils Ltd				Page 1																																																																																																																																																																																																																			
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB		Warwick Nursery Permeable paving A5 - A8 1 in 100 year + 40%																																																																																																																																																																																																																					
Date 13/07/2021 File A5-A8 PP.SRCX		Designed by JR Checked by																																																																																																																																																																																																																					
XP Solutions		Source Control 2020.1																																																																																																																																																																																																																					
Summary of Results for 100 year Return Period (+40%) Half Drain Time : 308 minutes. <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 Volume (m³)</th><th>Status</th></tr></thead><tbody><tr><td>15 min Summer</td><td>10.352</td><td>0.124</td><td>0.8</td><td>11.7</td><td>O K</td></tr><tr><td>30 min Summer</td><td>10.398</td><td>0.170</td><td>0.8</td><td>15.9</td><td>O K</td></tr><tr><td>60 min Summer</td><td>10.443</td><td>0.215</td><td>0.8</td><td>20.2</td><td>O K</td></tr><tr><td>120 min Summer</td><td>10.471</td><td>0.243</td><td>0.8</td><td>22.8</td><td>O K</td></tr><tr><td>180 min Summer</td><td>10.480</td><td>0.252</td><td>0.8</td><td>23.7</td><td>O K</td></tr><tr><td>240 min Summer</td><td>10.481</td><td>0.253</td><td>0.8</td><td>23.7</td><td>O K</td></tr><tr><td>360 min Summer</td><td>10.475</td><td>0.247</td><td>0.8</td><td>23.2</td><td>O K</td></tr><tr><td>480 min Summer</td><td>10.466</td><td>0.238</td><td>0.8</td><td>22.3</td><td>O K</td></tr><tr><td>600 min Summer</td><td>10.456</td><td>0.228</td><td>0.8</td><td>21.4</td><td>O K</td></tr><tr><td>720 min Summer</td><td>10.446</td><td>0.218</td><td>0.8</td><td>20.4</td><td>O K</td></tr><tr><td>960 min Summer</td><td>10.425</td><td>0.197</td><td>0.8</td><td>18.5</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>10.388</td><td>0.160</td><td>0.8</td><td>14.9</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>10.343</td><td>0.115</td><td>0.8</td><td>10.8</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>10.312</td><td>0.084</td><td>0.8</td><td>7.9</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>10.280</td><td>0.052</td><td>0.8</td><td>4.8</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>10.271</td><td>0.043</td><td>0.6</td><td>4.0</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>10.266</td><td>0.038</td><td>0.6</td><td>3.5</td><td>O K</td></tr><tr><td>8640 min Summer</td><td>10.262</td><td>0.034</td><td>0.5</td><td>3.2</td><td>O K</td></tr><tr><td>10080 min Summer</td><td>10.259</td><td>0.031</td><td>0.5</td><td>2.9</td><td>O K</td></tr><tr><td>15 min Winter</td><td>10.370</td><td>0.142</td><td>0.8</td><td>13.3</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>Time-Peak (mins)</th></tr></thead><tbody><tr><td>15 min Summer</td><td>140.714</td><td>0.0</td><td>18</td></tr><tr><td>30 min Summer</td><td>94.437</td><td>0.0</td><td>33</td></tr><tr><td>60 min Summer</td><td>60.674</td><td>0.0</td><td>62</td></tr><tr><td>120 min Summer</td><td>36.152</td><td>0.0</td><td>122</td></tr><tr><td>180 min Summer</td><td>26.572</td><td>0.0</td><td>180</td></tr><tr><td>240 min Summer</td><td>21.265</td><td>0.0</td><td>236</td></tr><tr><td>360 min Summer</td><td>15.394</td><td>0.0</td><td>288</td></tr><tr><td>480 min Summer</td><td>12.172</td><td>0.0</td><td>350</td></tr><tr><td>600 min Summer</td><td>10.122</td><td>0.0</td><td>416</td></tr><tr><td>720 min Summer</td><td>8.696</td><td>0.0</td><td>484</td></tr><tr><td>960 min Summer</td><td>6.832</td><td>0.0</td><td>616</td></tr><tr><td>1440 min Summer</td><td>4.865</td><td>0.0</td><td>880</td></tr><tr><td>2160 min Summer</td><td>3.484</td><td>0.0</td><td>1252</td></tr><tr><td>2880 min Summer</td><td>2.767</td><td>0.0</td><td>1588</td></tr><tr><td>4320 min Summer</td><td>2.029</td><td>0.0</td><td>2248</td></tr><tr><td>5760 min Summer</td><td>1.648</td><td>0.0</td><td>2944</td></tr><tr><td>7200 min Summer</td><td>1.417</td><td>0.0</td><td>3672</td></tr><tr><td>8640 min Summer</td><td>1.261</td><td>0.0</td><td>4408</td></tr><tr><td>10080 min Summer</td><td>1.147</td><td>0.0</td><td>5144</td></tr><tr><td>15 min Winter</td><td>140.714</td><td>0.0</td><td>18</td></tr></tbody></table>						Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	15 min Summer	10.352	0.124	0.8	11.7	O K	30 min Summer	10.398	0.170	0.8	15.9	O K	60 min Summer	10.443	0.215	0.8	20.2	O K	120 min Summer	10.471	0.243	0.8	22.8	O K	180 min Summer	10.480	0.252	0.8	23.7	O K	240 min Summer	10.481	0.253	0.8	23.7	O K	360 min Summer	10.475	0.247	0.8	23.2	O K	480 min Summer	10.466	0.238	0.8	22.3	O K	600 min Summer	10.456	0.228	0.8	21.4	O K	720 min Summer	10.446	0.218	0.8	20.4	O K	960 min Summer	10.425	0.197	0.8	18.5	O K	1440 min Summer	10.388	0.160	0.8	14.9	O K	2160 min Summer	10.343	0.115	0.8	10.8	O K	2880 min Summer	10.312	0.084	0.8	7.9	O K	4320 min Summer	10.280	0.052	0.8	4.8	O K	5760 min Summer	10.271	0.043	0.6	4.0	O K	7200 min Summer	10.266	0.038	0.6	3.5	O K	8640 min Summer	10.262	0.034	0.5	3.2	O K	10080 min Summer	10.259	0.031	0.5	2.9	O K	15 min Winter	10.370	0.142	0.8	13.3	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	140.714	0.0	18	30 min Summer	94.437	0.0	33	60 min Summer	60.674	0.0	62	120 min Summer	36.152	0.0	122	180 min Summer	26.572	0.0	180	240 min Summer	21.265	0.0	236	360 min Summer	15.394	0.0	288	480 min Summer	12.172	0.0	350	600 min Summer	10.122	0.0	416	720 min Summer	8.696	0.0	484	960 min Summer	6.832	0.0	616	1440 min Summer	4.865	0.0	880	2160 min Summer	3.484	0.0	1252	2880 min Summer	2.767	0.0	1588	4320 min Summer	2.029	0.0	2248	5760 min Summer	1.648	0.0	2944	7200 min Summer	1.417	0.0	3672	8640 min Summer	1.261	0.0	4408	10080 min Summer	1.147	0.0	5144	15 min Winter	140.714	0.0	18
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status																																																																																																																																																																																																																		
15 min Summer	10.352	0.124	0.8	11.7	O K																																																																																																																																																																																																																		
30 min Summer	10.398	0.170	0.8	15.9	O K																																																																																																																																																																																																																		
60 min Summer	10.443	0.215	0.8	20.2	O K																																																																																																																																																																																																																		
120 min Summer	10.471	0.243	0.8	22.8	O K																																																																																																																																																																																																																		
180 min Summer	10.480	0.252	0.8	23.7	O K																																																																																																																																																																																																																		
240 min Summer	10.481	0.253	0.8	23.7	O K																																																																																																																																																																																																																		
360 min Summer	10.475	0.247	0.8	23.2	O K																																																																																																																																																																																																																		
480 min Summer	10.466	0.238	0.8	22.3	O K																																																																																																																																																																																																																		
600 min Summer	10.456	0.228	0.8	21.4	O K																																																																																																																																																																																																																		
720 min Summer	10.446	0.218	0.8	20.4	O K																																																																																																																																																																																																																		
960 min Summer	10.425	0.197	0.8	18.5	O K																																																																																																																																																																																																																		
1440 min Summer	10.388	0.160	0.8	14.9	O K																																																																																																																																																																																																																		
2160 min Summer	10.343	0.115	0.8	10.8	O K																																																																																																																																																																																																																		
2880 min Summer	10.312	0.084	0.8	7.9	O K																																																																																																																																																																																																																		
4320 min Summer	10.280	0.052	0.8	4.8	O K																																																																																																																																																																																																																		
5760 min Summer	10.271	0.043	0.6	4.0	O K																																																																																																																																																																																																																		
7200 min Summer	10.266	0.038	0.6	3.5	O K																																																																																																																																																																																																																		
8640 min Summer	10.262	0.034	0.5	3.2	O K																																																																																																																																																																																																																		
10080 min Summer	10.259	0.031	0.5	2.9	O K																																																																																																																																																																																																																		
15 min Winter	10.370	0.142	0.8	13.3	O K																																																																																																																																																																																																																		
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)																																																																																																																																																																																																																				
15 min Summer	140.714	0.0	18																																																																																																																																																																																																																				
30 min Summer	94.437	0.0	33																																																																																																																																																																																																																				
60 min Summer	60.674	0.0	62																																																																																																																																																																																																																				
120 min Summer	36.152	0.0	122																																																																																																																																																																																																																				
180 min Summer	26.572	0.0	180																																																																																																																																																																																																																				
240 min Summer	21.265	0.0	236																																																																																																																																																																																																																				
360 min Summer	15.394	0.0	288																																																																																																																																																																																																																				
480 min Summer	12.172	0.0	350																																																																																																																																																																																																																				
600 min Summer	10.122	0.0	416																																																																																																																																																																																																																				
720 min Summer	8.696	0.0	484																																																																																																																																																																																																																				
960 min Summer	6.832	0.0	616																																																																																																																																																																																																																				
1440 min Summer	4.865	0.0	880																																																																																																																																																																																																																				
2160 min Summer	3.484	0.0	1252																																																																																																																																																																																																																				
2880 min Summer	2.767	0.0	1588																																																																																																																																																																																																																				
4320 min Summer	2.029	0.0	2248																																																																																																																																																																																																																				
5760 min Summer	1.648	0.0	2944																																																																																																																																																																																																																				
7200 min Summer	1.417	0.0	3672																																																																																																																																																																																																																				
8640 min Summer	1.261	0.0	4408																																																																																																																																																																																																																				
10080 min Summer	1.147	0.0	5144																																																																																																																																																																																																																				
15 min Winter	140.714	0.0	18																																																																																																																																																																																																																				
©1982-2020 Innovyeze																																																																																																																																																																																																																							

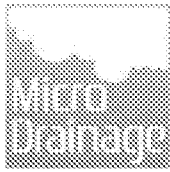
GTA Civils Ltd			Page 2		
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB		Warwick Nursery Permeable paving A5 - A8 1 in 100 year + 40%			
Date 13/07/2021		Designed by JR			
File A5-A8 PP.SRCX		Checked by			
XP Solutions		Source Control 2020.1			
<u>Summary of Results for 100 year Return Period (+40%)</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	10.421	0.193	0.8	18.1	○ K
60 min Winter	10.473	0.245	0.8	23.0	○ K
120 min Winter	10.506	0.278	0.8	26.0	○ K
180 min Winter	10.519	0.291	0.8	27.3	○ K
240 min Winter	10.522	0.294	0.8	27.6	○ K
360 min Winter	10.514	0.286	0.8	26.8	○ K
480 min Winter	10.502	0.274	0.8	25.7	○ K
600 min Winter	10.488	0.260	0.8	24.4	○ K
720 min Winter	10.474	0.246	0.8	23.0	○ K
960 min Winter	10.443	0.215	0.8	20.2	○ K
1440 min Winter	10.388	0.160	0.8	15.0	○ K
2160 min Winter	10.323	0.095	0.8	8.9	○ K
2880 min Winter	10.284	0.056	0.8	5.3	○ K
4320 min Winter	10.268	0.040	0.6	3.7	○ K
5760 min Winter	10.260	0.032	0.5	3.0	○ K
7200 min Winter	10.256	0.028	0.4	2.6	○ K
8640 min Winter	10.253	0.025	0.4	2.3	○ K
10080 min Winter	10.251	0.023	0.3	2.1	○ K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	94.437	0.0	33		
60 min Winter	60.674	0.0	62		
120 min Winter	36.152	0.0	120		
180 min Winter	26.572	0.0	176		
240 min Winter	21.265	0.0	222		
360 min Winter	15.394	0.0	336		
480 min Winter	12.172	0.0	378		
600 min Winter	10.122	0.0	452		
720 min Winter	8.696	0.0	528		
960 min Winter	6.832	0.0	674		
1440 min Winter	4.865	0.0	940		
2160 min Winter	3.484	0.0	1300		
2880 min Winter	2.767	0.0	1588		
4320 min Winter	2.029	0.0	2248		
5760 min Winter	1.648	0.0	2992		
7200 min Winter	1.417	0.0	3680		
8640 min Winter	1.261	0.0	4408		
10080 min Winter	1.147	0.0	5136		
©1982-2020 Innovyze					

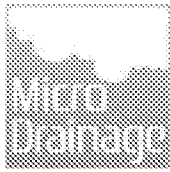
GTA Civils Ltd		Page 3																														
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB	Warwick Nursery Permeable paving A5 - A8 1 in 100 year + 40%																															
Date 13/07/2021	Designed by JR																															
File A5-A8 PP.SRCX	Checked by																															
XP Solutions		Source Control 2020.1																														
<u>Rainfall Details</u> <table> <tr> <td>Rainfall Model</td> <td>FEH</td> </tr> <tr> <td>Return Period (years)</td> <td>100</td> </tr> <tr> <td>FEH Rainfall Version</td> <td>2013</td> </tr> <tr> <td>Site Location</td> <td>GB 494911 105112 SU 94911 05112</td> </tr> <tr> <td>Data Type</td> <td>Point</td> </tr> <tr> <td>Summer Storms</td> <td>Yes</td> </tr> <tr> <td>Winter Storms</td> <td>Yes</td> </tr> <tr> <td>Cv (Summer)</td> <td>0.750</td> </tr> <tr> <td>Cv (Winter)</td> <td>0.840</td> </tr> <tr> <td>Shortest Storm (mins)</td> <td>15</td> </tr> <tr> <td>Longest Storm (mins)</td> <td>10080</td> </tr> <tr> <td>Climate Change %</td> <td>+40</td> </tr> </table> <u>Time Area Diagram</u> Total Area (ha) 0.052 <table> <thead> <tr> <th>Time (mins)</th> <th>Area</th> </tr> <tr> <th>From:</th> <th>To: (ha)</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>4 0.052</td> </tr> </tbody> </table>			Rainfall Model	FEH	Return Period (years)	100	FEH Rainfall Version	2013	Site Location	GB 494911 105112 SU 94911 05112	Data Type	Point	Summer Storms	Yes	Winter Storms	Yes	Cv (Summer)	0.750	Cv (Winter)	0.840	Shortest Storm (mins)	15	Longest Storm (mins)	10080	Climate Change %	+40	Time (mins)	Area	From:	To: (ha)	0	4 0.052
Rainfall Model	FEH																															
Return Period (years)	100																															
FEH Rainfall Version	2013																															
Site Location	GB 494911 105112 SU 94911 05112																															
Data Type	Point																															
Summer Storms	Yes																															
Winter Storms	Yes																															
Cv (Summer)	0.750																															
Cv (Winter)	0.840																															
Shortest Storm (mins)	15																															
Longest Storm (mins)	10080																															
Climate Change %	+40																															
Time (mins)	Area																															
From:	To: (ha)																															
0	4 0.052																															
©1982-2020 Innovyze																																

GTA Civils Ltd		Page 4																								
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB	Warwick Nursery Permeable paving A5 - A8 1 in 100 year + 40%																									
Date 13/07/2021	Designed by JR																									
File A5-A8 PP.SRCX	Checked by																									
XP Solutions		Source Control 2020.1																								
<u>Model Details</u> Storage is Online Cover Level (m) 11.400 <u>Porous Car Park Structure</u> <table> <tr> <td>Infiltration Coefficient Base (m/hr)</td> <td>0.05652</td> <td>Width (m)</td> <td>11.7</td> </tr> <tr> <td>Membrane Percolation (mm/hr)</td> <td>1000</td> <td>Length (m)</td> <td>26.7</td> </tr> <tr> <td>Max Percolation (l/s)</td> <td>86.8</td> <td>Slope (1:X)</td> <td>0.0</td> </tr> <tr> <td>Safety Factor</td> <td>6.5</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>10.228</td> <td>Cap Volume Depth (m)</td> <td>1.042</td> </tr> </table>			Infiltration Coefficient Base (m/hr)	0.05652	Width (m)	11.7	Membrane Percolation (mm/hr)	1000	Length (m)	26.7	Max Percolation (l/s)	86.8	Slope (1:X)	0.0	Safety Factor	6.5	Depression Storage (mm)	5	Porosity	0.30	Evaporation (mm/day)	3	Invert Level (m)	10.228	Cap Volume Depth (m)	1.042
Infiltration Coefficient Base (m/hr)	0.05652	Width (m)	11.7																							
Membrane Percolation (mm/hr)	1000	Length (m)	26.7																							
Max Percolation (l/s)	86.8	Slope (1:X)	0.0																							
Safety Factor	6.5	Depression Storage (mm)	5																							
Porosity	0.30	Evaporation (mm/day)	3																							
Invert Level (m)	10.228	Cap Volume Depth (m)	1.042																							
©1982-2020 Innovyze																										

GTA Civils Ltd				Page 1																																																																																																																																																																																																																			
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB		Warwick Nursery Cellular Soakaway A9 1 in 10 year + 40%																																																																																																																																																																																																																					
Date 24/06/2021 File A9 soakaway.SRCX		Designed by JR Checked by																																																																																																																																																																																																																					
XP Solutions		Source Control 2020.1																																																																																																																																																																																																																					
<u>Summary of Results for 10 year Return Period (+40%)</u> Half Drain Time : 1034 minutes. <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 Volume (m³)</th><th>Status</th></tr></thead><tbody><tr><td>15 min Summer</td><td>10.369</td><td>0.169</td><td>0.0</td><td>1.1</td><td>O K</td></tr><tr><td>30 min Summer</td><td>10.420</td><td>0.220</td><td>0.0</td><td>1.5</td><td>O K</td></tr><tr><td>60 min Summer</td><td>10.476</td><td>0.276</td><td>0.0</td><td>1.8</td><td>O K</td></tr><tr><td>120 min Summer</td><td>10.539</td><td>0.339</td><td>0.0</td><td>2.3</td><td>O K</td></tr><tr><td>180 min Summer</td><td>10.574</td><td>0.374</td><td>0.0</td><td>2.5</td><td>O K</td></tr><tr><td>240 min Summer</td><td>10.595</td><td>0.395</td><td>0.0</td><td>2.6</td><td>O K</td></tr><tr><td>360 min Summer</td><td>10.617</td><td>0.417</td><td>0.0</td><td>2.8</td><td>O K</td></tr><tr><td>480 min Summer</td><td>10.625</td><td>0.425</td><td>0.0</td><td>2.8</td><td>O K</td></tr><tr><td>600 min Summer</td><td>10.626</td><td>0.426</td><td>0.0</td><td>2.8</td><td>O K</td></tr><tr><td>720 min Summer</td><td>10.623</td><td>0.423</td><td>0.0</td><td>2.8</td><td>O K</td></tr><tr><td>960 min Summer</td><td>10.614</td><td>0.414</td><td>0.0</td><td>2.8</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>10.597</td><td>0.397</td><td>0.0</td><td>2.6</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>10.576</td><td>0.376</td><td>0.0</td><td>2.5</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>10.559</td><td>0.359</td><td>0.0</td><td>2.4</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>10.533</td><td>0.333</td><td>0.0</td><td>2.2</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>10.515</td><td>0.315</td><td>0.0</td><td>2.1</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>10.500</td><td>0.300</td><td>0.0</td><td>2.0</td><td>O K</td></tr><tr><td>8640 min Summer</td><td>10.488</td><td>0.288</td><td>0.0</td><td>1.9</td><td>O K</td></tr><tr><td>10080 min Summer</td><td>10.478</td><td>0.278</td><td>0.0</td><td>1.9</td><td>O K</td></tr><tr><td>15 min Winter</td><td>10.390</td><td>0.190</td><td>0.0</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>Time-Peak (mins)</th></tr></thead><tbody><tr><td>15 min Summer</td><td>86.846</td><td>0.0</td><td>19</td></tr><tr><td>30 min Summer</td><td>56.970</td><td>0.0</td><td>34</td></tr><tr><td>60 min Summer</td><td>36.174</td><td>0.0</td><td>64</td></tr><tr><td>120 min Summer</td><td>22.769</td><td>0.0</td><td>124</td></tr><tr><td>180 min Summer</td><td>17.094</td><td>0.0</td><td>182</td></tr><tr><td>240 min Summer</td><td>13.845</td><td>0.0</td><td>242</td></tr><tr><td>360 min Summer</td><td>10.168</td><td>0.0</td><td>362</td></tr><tr><td>480 min Summer</td><td>8.105</td><td>0.0</td><td>482</td></tr><tr><td>600 min Summer</td><td>6.777</td><td>0.0</td><td>600</td></tr><tr><td>720 min Summer</td><td>5.847</td><td>0.0</td><td>714</td></tr><tr><td>960 min Summer</td><td>4.621</td><td>0.0</td><td>816</td></tr><tr><td>1440 min Summer</td><td>3.324</td><td>0.0</td><td>1066</td></tr><tr><td>2160 min Summer</td><td>2.410</td><td>0.0</td><td>1472</td></tr><tr><td>2880 min Summer</td><td>1.934</td><td>0.0</td><td>1876</td></tr><tr><td>4320 min Summer</td><td>1.447</td><td>0.0</td><td>2720</td></tr><tr><td>5760 min Summer</td><td>1.196</td><td>0.0</td><td>3520</td></tr><tr><td>7200 min Summer</td><td>1.044</td><td>0.0</td><td>4320</td></tr><tr><td>8640 min Summer</td><td>0.940</td><td>0.0</td><td>5104</td></tr><tr><td>10080 min Summer</td><td>0.865</td><td>0.0</td><td>5856</td></tr><tr><td>15 min Winter</td><td>86.846</td><td>0.0</td><td>19</td></tr></tbody></table>						Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	15 min Summer	10.369	0.169	0.0	1.1	O K	30 min Summer	10.420	0.220	0.0	1.5	O K	60 min Summer	10.476	0.276	0.0	1.8	O K	120 min Summer	10.539	0.339	0.0	2.3	O K	180 min Summer	10.574	0.374	0.0	2.5	O K	240 min Summer	10.595	0.395	0.0	2.6	O K	360 min Summer	10.617	0.417	0.0	2.8	O K	480 min Summer	10.625	0.425	0.0	2.8	O K	600 min Summer	10.626	0.426	0.0	2.8	O K	720 min Summer	10.623	0.423	0.0	2.8	O K	960 min Summer	10.614	0.414	0.0	2.8	O K	1440 min Summer	10.597	0.397	0.0	2.6	O K	2160 min Summer	10.576	0.376	0.0	2.5	O K	2880 min Summer	10.559	0.359	0.0	2.4	O K	4320 min Summer	10.533	0.333	0.0	2.2	O K	5760 min Summer	10.515	0.315	0.0	2.1	O K	7200 min Summer	10.500	0.300	0.0	2.0	O K	8640 min Summer	10.488	0.288	0.0	1.9	O K	10080 min Summer	10.478	0.278	0.0	1.9	O K	15 min Winter	10.390	0.190	0.0	1.3	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	86.846	0.0	19	30 min Summer	56.970	0.0	34	60 min Summer	36.174	0.0	64	120 min Summer	22.769	0.0	124	180 min Summer	17.094	0.0	182	240 min Summer	13.845	0.0	242	360 min Summer	10.168	0.0	362	480 min Summer	8.105	0.0	482	600 min Summer	6.777	0.0	600	720 min Summer	5.847	0.0	714	960 min Summer	4.621	0.0	816	1440 min Summer	3.324	0.0	1066	2160 min Summer	2.410	0.0	1472	2880 min Summer	1.934	0.0	1876	4320 min Summer	1.447	0.0	2720	5760 min Summer	1.196	0.0	3520	7200 min Summer	1.044	0.0	4320	8640 min Summer	0.940	0.0	5104	10080 min Summer	0.865	0.0	5856	15 min Winter	86.846	0.0	19
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status																																																																																																																																																																																																																		
15 min Summer	10.369	0.169	0.0	1.1	O K																																																																																																																																																																																																																		
30 min Summer	10.420	0.220	0.0	1.5	O K																																																																																																																																																																																																																		
60 min Summer	10.476	0.276	0.0	1.8	O K																																																																																																																																																																																																																		
120 min Summer	10.539	0.339	0.0	2.3	O K																																																																																																																																																																																																																		
180 min Summer	10.574	0.374	0.0	2.5	O K																																																																																																																																																																																																																		
240 min Summer	10.595	0.395	0.0	2.6	O K																																																																																																																																																																																																																		
360 min Summer	10.617	0.417	0.0	2.8	O K																																																																																																																																																																																																																		
480 min Summer	10.625	0.425	0.0	2.8	O K																																																																																																																																																																																																																		
600 min Summer	10.626	0.426	0.0	2.8	O K																																																																																																																																																																																																																		
720 min Summer	10.623	0.423	0.0	2.8	O K																																																																																																																																																																																																																		
960 min Summer	10.614	0.414	0.0	2.8	O K																																																																																																																																																																																																																		
1440 min Summer	10.597	0.397	0.0	2.6	O K																																																																																																																																																																																																																		
2160 min Summer	10.576	0.376	0.0	2.5	O K																																																																																																																																																																																																																		
2880 min Summer	10.559	0.359	0.0	2.4	O K																																																																																																																																																																																																																		
4320 min Summer	10.533	0.333	0.0	2.2	O K																																																																																																																																																																																																																		
5760 min Summer	10.515	0.315	0.0	2.1	O K																																																																																																																																																																																																																		
7200 min Summer	10.500	0.300	0.0	2.0	O K																																																																																																																																																																																																																		
8640 min Summer	10.488	0.288	0.0	1.9	O K																																																																																																																																																																																																																		
10080 min Summer	10.478	0.278	0.0	1.9	O K																																																																																																																																																																																																																		
15 min Winter	10.390	0.190	0.0	1.3	O K																																																																																																																																																																																																																		
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)																																																																																																																																																																																																																				
15 min Summer	86.846	0.0	19																																																																																																																																																																																																																				
30 min Summer	56.970	0.0	34																																																																																																																																																																																																																				
60 min Summer	36.174	0.0	64																																																																																																																																																																																																																				
120 min Summer	22.769	0.0	124																																																																																																																																																																																																																				
180 min Summer	17.094	0.0	182																																																																																																																																																																																																																				
240 min Summer	13.845	0.0	242																																																																																																																																																																																																																				
360 min Summer	10.168	0.0	362																																																																																																																																																																																																																				
480 min Summer	8.105	0.0	482																																																																																																																																																																																																																				
600 min Summer	6.777	0.0	600																																																																																																																																																																																																																				
720 min Summer	5.847	0.0	714																																																																																																																																																																																																																				
960 min Summer	4.621	0.0	816																																																																																																																																																																																																																				
1440 min Summer	3.324	0.0	1066																																																																																																																																																																																																																				
2160 min Summer	2.410	0.0	1472																																																																																																																																																																																																																				
2880 min Summer	1.934	0.0	1876																																																																																																																																																																																																																				
4320 min Summer	1.447	0.0	2720																																																																																																																																																																																																																				
5760 min Summer	1.196	0.0	3520																																																																																																																																																																																																																				
7200 min Summer	1.044	0.0	4320																																																																																																																																																																																																																				
8640 min Summer	0.940	0.0	5104																																																																																																																																																																																																																				
10080 min Summer	0.865	0.0	5856																																																																																																																																																																																																																				
15 min Winter	86.846	0.0	19																																																																																																																																																																																																																				
©1982-2020 Innovyze																																																																																																																																																																																																																							

GTA Civils Ltd				Page 2	
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB		Warwick Nursery Cellular Soakaway A9 1 in 10 year + 40%			
Date 24/06/2021 File A9 soakaway.SRCX		Designed by JR Checked by			
XP Solutions		Source Control 2020.1			
<u>Summary of Results for 10 year Return Period (+40%)</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	10.447	0.247	0.0	1.6	○ K
60 min Winter	10.510	0.310	0.0	2.1	○ K
120 min Winter	10.582	0.382	0.0	2.5	○ K
180 min Winter	10.622	0.422	0.0	2.8	○ K
240 min Winter	10.646	0.446	0.0	3.0	○ K
360 min Winter	10.673	0.473	0.0	3.1	○ K
480 min Winter	10.684	0.484	0.0	3.2	○ K
600 min Winter	10.688	0.488	0.0	3.2	○ K
720 min Winter	10.687	0.487	0.0	3.2	○ K
960 min Winter	10.677	0.477	0.0	3.2	○ K
1440 min Winter	10.656	0.456	0.0	3.0	○ K
2160 min Winter	10.628	0.428	0.0	2.8	○ K
2880 min Winter	10.602	0.402	0.0	2.7	○ K
4320 min Winter	10.560	0.360	0.0	2.4	○ K
5760 min Winter	10.526	0.326	0.0	2.2	○ K
7200 min Winter	10.500	0.300	0.0	2.0	○ K
8640 min Winter	10.477	0.277	0.0	1.8	○ K
10080 min Winter	10.458	0.258	0.0	1.7	○ K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	56.970	0.0	33		
60 min Winter	36.174	0.0	62		
120 min Winter	22.769	0.0	122		
180 min Winter	17.094	0.0	180		
240 min Winter	13.845	0.0	238		
360 min Winter	10.168	0.0	354		
480 min Winter	8.105	0.0	468		
600 min Winter	6.777	0.0	582		
720 min Winter	5.847	0.0	692		
960 min Winter	4.621	0.0	904		
1440 min Winter	3.324	0.0	1124		
2160 min Winter	2.410	0.0	1580		
2880 min Winter	1.934	0.0	2044		
4320 min Winter	1.447	0.0	2936		
5760 min Winter	1.196	0.0	3752		
7200 min Winter	1.044	0.0	4608		
8640 min Winter	0.940	0.0	5440		
10080 min Winter	0.865	0.0	6248		
©1982-2020 Innovyze					

GTA Civils Ltd		Page 3																														
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB	Warwick Nursery Cellular Soakaway A9 1 in 10 year + 40%																															
Date 24/06/2021	Designed by JR																															
File A9 soakaway.SRCX	Checked by																															
XP Solutions		Source Control 2020.1																														
<u>Rainfall Details</u> <table> <tr> <td>Rainfall Model</td> <td>FEH</td> </tr> <tr> <td>Return Period (years)</td> <td>10</td> </tr> <tr> <td>FEH Rainfall Version</td> <td>2013</td> </tr> <tr> <td>Site Location</td> <td>GB 494911 105112 SU 94911 05112</td> </tr> <tr> <td>Data Type</td> <td>Point</td> </tr> <tr> <td>Summer Storms</td> <td>Yes</td> </tr> <tr> <td>Winter Storms</td> <td>Yes</td> </tr> <tr> <td>Cv (Summer)</td> <td>0.750</td> </tr> <tr> <td>Cv (Winter)</td> <td>0.840</td> </tr> <tr> <td>Shortest Storm (mins)</td> <td>15</td> </tr> <tr> <td>Longest Storm (mins)</td> <td>10080</td> </tr> <tr> <td>Climate Change %</td> <td>+40</td> </tr> </table> <u>Time Area Diagram</u> Total Area (ha) 0.007 <table> <thead> <tr> <th>Time (mins)</th> <th>Area</th> </tr> <tr> <th>From:</th> <th>To: (ha)</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>4 0.007</td> </tr> </tbody> </table>			Rainfall Model	FEH	Return Period (years)	10	FEH Rainfall Version	2013	Site Location	GB 494911 105112 SU 94911 05112	Data Type	Point	Summer Storms	Yes	Winter Storms	Yes	Cv (Summer)	0.750	Cv (Winter)	0.840	Shortest Storm (mins)	15	Longest Storm (mins)	10080	Climate Change %	+40	Time (mins)	Area	From:	To: (ha)	0	4 0.007
Rainfall Model	FEH																															
Return Period (years)	10																															
FEH Rainfall Version	2013																															
Site Location	GB 494911 105112 SU 94911 05112																															
Data Type	Point																															
Summer Storms	Yes																															
Winter Storms	Yes																															
Cv (Summer)	0.750																															
Cv (Winter)	0.840																															
Shortest Storm (mins)	15																															
Longest Storm (mins)	10080																															
Climate Change %	+40																															
Time (mins)	Area																															
From:	To: (ha)																															
0	4 0.007																															
©1982-2020 Innovyze																																

GTA Civils Ltd		Page 4
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB	Warwick Nursery Cellular Soakaway A9 1 in 10 year + 40%	
Date 24/06/2021	Designed by JR	
File A9 soakaway.SRCX	Checked by	
XP Solutions		Source Control 2020.1

Model Details

Storage is Online Cover Level (m) 11.500

Cellular Storage Structure

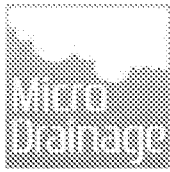
Invert Level (m) 10.200 Safety Factor 6.5
Infiltration Coefficient Base (m/hr) 0.05652 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.05652

Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	7.0	7.0	0.900	0.0	16.0
0.800	7.0	15.5			

©1982-2020 Innovyze

GTA Civils Ltd				Page 1																																																																																																																																																																																																																			
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB		Warwick Nursery Cellular Soakaway A9 1 in 100 year + 40%																																																																																																																																																																																																																					
Date 24/06/2021 File A9 soakaway.SRCX		Designed by JR Checked by																																																																																																																																																																																																																					
XP Solutions		Source Control 2020.1																																																																																																																																																																																																																					
<u>Summary of Results for 100 year Return Period (+40%)</u> Half Drain Time : 1351 minutes. <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 Volume (m³)</th><th>Status</th></tr></thead><tbody><tr><td>15 min Summer</td><td>10.475</td><td>0.275</td><td>0.0</td><td>1.8</td><td>O K</td></tr><tr><td>30 min Summer</td><td>10.567</td><td>0.367</td><td>0.0</td><td>2.4</td><td>O K</td></tr><tr><td>60 min Summer</td><td>10.667</td><td>0.467</td><td>0.0</td><td>3.1</td><td>O K</td></tr><tr><td>120 min Summer</td><td>10.747</td><td>0.547</td><td>0.0</td><td>3.6</td><td>O K</td></tr><tr><td>180 min Summer</td><td>10.792</td><td>0.592</td><td>0.0</td><td>3.9</td><td>O K</td></tr><tr><td>240 min Summer</td><td>10.821</td><td>0.621</td><td>0.0</td><td>4.1</td><td>O K</td></tr><tr><td>360 min Summer</td><td>10.852</td><td>0.652</td><td>0.0</td><td>4.3</td><td>O K</td></tr><tr><td>480 min Summer</td><td>10.865</td><td>0.665</td><td>0.0</td><td>4.4</td><td>O K</td></tr><tr><td>600 min Summer</td><td>10.868</td><td>0.668</td><td>0.0</td><td>4.4</td><td>O K</td></tr><tr><td>720 min Summer</td><td>10.867</td><td>0.667</td><td>0.0</td><td>4.4</td><td>O K</td></tr><tr><td>960 min Summer</td><td>10.854</td><td>0.654</td><td>0.0</td><td>4.3</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>10.828</td><td>0.628</td><td>0.0</td><td>4.2</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>10.796</td><td>0.596</td><td>0.0</td><td>4.0</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>10.769</td><td>0.569</td><td>0.0</td><td>3.8</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>10.730</td><td>0.530</td><td>0.0</td><td>3.5</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>10.701</td><td>0.501</td><td>0.0</td><td>3.3</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>10.679</td><td>0.479</td><td>0.0</td><td>3.2</td><td>O K</td></tr><tr><td>8640 min Summer</td><td>10.660</td><td>0.460</td><td>0.0</td><td>3.1</td><td>O K</td></tr><tr><td>10080 min Summer</td><td>10.645</td><td>0.445</td><td>0.0</td><td>3.0</td><td>O K</td></tr><tr><td>15 min Winter</td><td>10.508</td><td>0.308</td><td>0.0</td><td>2.0</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>Time-Peak (mins)</th></tr></thead><tbody><tr><td>15 min Summer</td><td>140.714</td><td>0.0</td><td>19</td></tr><tr><td>30 min Summer</td><td>94.437</td><td>0.0</td><td>34</td></tr><tr><td>60 min Summer</td><td>60.674</td><td>0.0</td><td>64</td></tr><tr><td>120 min Summer</td><td>36.152</td><td>0.0</td><td>124</td></tr><tr><td>180 min Summer</td><td>26.572</td><td>0.0</td><td>182</td></tr><tr><td>240 min Summer</td><td>21.265</td><td>0.0</td><td>242</td></tr><tr><td>360 min Summer</td><td>15.394</td><td>0.0</td><td>362</td></tr><tr><td>480 min Summer</td><td>12.172</td><td>0.0</td><td>482</td></tr><tr><td>600 min Summer</td><td>10.122</td><td>0.0</td><td>602</td></tr><tr><td>720 min Summer</td><td>8.696</td><td>0.0</td><td>720</td></tr><tr><td>960 min Summer</td><td>6.832</td><td>0.0</td><td>932</td></tr><tr><td>1440 min Summer</td><td>4.865</td><td>0.0</td><td>1140</td></tr><tr><td>2160 min Summer</td><td>3.484</td><td>0.0</td><td>1532</td></tr><tr><td>2880 min Summer</td><td>2.767</td><td>0.0</td><td>1956</td></tr><tr><td>4320 min Summer</td><td>2.029</td><td>0.0</td><td>2768</td></tr><tr><td>5760 min Summer</td><td>1.648</td><td>0.0</td><td>3584</td></tr><tr><td>7200 min Summer</td><td>1.417</td><td>0.0</td><td>4400</td></tr><tr><td>8640 min Summer</td><td>1.261</td><td>0.0</td><td>5192</td></tr><tr><td>10080 min Summer</td><td>1.147</td><td>0.0</td><td>6048</td></tr><tr><td>15 min Winter</td><td>140.714</td><td>0.0</td><td>19</td></tr></tbody></table>						Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	15 min Summer	10.475	0.275	0.0	1.8	O K	30 min Summer	10.567	0.367	0.0	2.4	O K	60 min Summer	10.667	0.467	0.0	3.1	O K	120 min Summer	10.747	0.547	0.0	3.6	O K	180 min Summer	10.792	0.592	0.0	3.9	O K	240 min Summer	10.821	0.621	0.0	4.1	O K	360 min Summer	10.852	0.652	0.0	4.3	O K	480 min Summer	10.865	0.665	0.0	4.4	O K	600 min Summer	10.868	0.668	0.0	4.4	O K	720 min Summer	10.867	0.667	0.0	4.4	O K	960 min Summer	10.854	0.654	0.0	4.3	O K	1440 min Summer	10.828	0.628	0.0	4.2	O K	2160 min Summer	10.796	0.596	0.0	4.0	O K	2880 min Summer	10.769	0.569	0.0	3.8	O K	4320 min Summer	10.730	0.530	0.0	3.5	O K	5760 min Summer	10.701	0.501	0.0	3.3	O K	7200 min Summer	10.679	0.479	0.0	3.2	O K	8640 min Summer	10.660	0.460	0.0	3.1	O K	10080 min Summer	10.645	0.445	0.0	3.0	O K	15 min Winter	10.508	0.308	0.0	2.0	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	140.714	0.0	19	30 min Summer	94.437	0.0	34	60 min Summer	60.674	0.0	64	120 min Summer	36.152	0.0	124	180 min Summer	26.572	0.0	182	240 min Summer	21.265	0.0	242	360 min Summer	15.394	0.0	362	480 min Summer	12.172	0.0	482	600 min Summer	10.122	0.0	602	720 min Summer	8.696	0.0	720	960 min Summer	6.832	0.0	932	1440 min Summer	4.865	0.0	1140	2160 min Summer	3.484	0.0	1532	2880 min Summer	2.767	0.0	1956	4320 min Summer	2.029	0.0	2768	5760 min Summer	1.648	0.0	3584	7200 min Summer	1.417	0.0	4400	8640 min Summer	1.261	0.0	5192	10080 min Summer	1.147	0.0	6048	15 min Winter	140.714	0.0	19
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status																																																																																																																																																																																																																		
15 min Summer	10.475	0.275	0.0	1.8	O K																																																																																																																																																																																																																		
30 min Summer	10.567	0.367	0.0	2.4	O K																																																																																																																																																																																																																		
60 min Summer	10.667	0.467	0.0	3.1	O K																																																																																																																																																																																																																		
120 min Summer	10.747	0.547	0.0	3.6	O K																																																																																																																																																																																																																		
180 min Summer	10.792	0.592	0.0	3.9	O K																																																																																																																																																																																																																		
240 min Summer	10.821	0.621	0.0	4.1	O K																																																																																																																																																																																																																		
360 min Summer	10.852	0.652	0.0	4.3	O K																																																																																																																																																																																																																		
480 min Summer	10.865	0.665	0.0	4.4	O K																																																																																																																																																																																																																		
600 min Summer	10.868	0.668	0.0	4.4	O K																																																																																																																																																																																																																		
720 min Summer	10.867	0.667	0.0	4.4	O K																																																																																																																																																																																																																		
960 min Summer	10.854	0.654	0.0	4.3	O K																																																																																																																																																																																																																		
1440 min Summer	10.828	0.628	0.0	4.2	O K																																																																																																																																																																																																																		
2160 min Summer	10.796	0.596	0.0	4.0	O K																																																																																																																																																																																																																		
2880 min Summer	10.769	0.569	0.0	3.8	O K																																																																																																																																																																																																																		
4320 min Summer	10.730	0.530	0.0	3.5	O K																																																																																																																																																																																																																		
5760 min Summer	10.701	0.501	0.0	3.3	O K																																																																																																																																																																																																																		
7200 min Summer	10.679	0.479	0.0	3.2	O K																																																																																																																																																																																																																		
8640 min Summer	10.660	0.460	0.0	3.1	O K																																																																																																																																																																																																																		
10080 min Summer	10.645	0.445	0.0	3.0	O K																																																																																																																																																																																																																		
15 min Winter	10.508	0.308	0.0	2.0	O K																																																																																																																																																																																																																		
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)																																																																																																																																																																																																																				
15 min Summer	140.714	0.0	19																																																																																																																																																																																																																				
30 min Summer	94.437	0.0	34																																																																																																																																																																																																																				
60 min Summer	60.674	0.0	64																																																																																																																																																																																																																				
120 min Summer	36.152	0.0	124																																																																																																																																																																																																																				
180 min Summer	26.572	0.0	182																																																																																																																																																																																																																				
240 min Summer	21.265	0.0	242																																																																																																																																																																																																																				
360 min Summer	15.394	0.0	362																																																																																																																																																																																																																				
480 min Summer	12.172	0.0	482																																																																																																																																																																																																																				
600 min Summer	10.122	0.0	602																																																																																																																																																																																																																				
720 min Summer	8.696	0.0	720																																																																																																																																																																																																																				
960 min Summer	6.832	0.0	932																																																																																																																																																																																																																				
1440 min Summer	4.865	0.0	1140																																																																																																																																																																																																																				
2160 min Summer	3.484	0.0	1532																																																																																																																																																																																																																				
2880 min Summer	2.767	0.0	1956																																																																																																																																																																																																																				
4320 min Summer	2.029	0.0	2768																																																																																																																																																																																																																				
5760 min Summer	1.648	0.0	3584																																																																																																																																																																																																																				
7200 min Summer	1.417	0.0	4400																																																																																																																																																																																																																				
8640 min Summer	1.261	0.0	5192																																																																																																																																																																																																																				
10080 min Summer	1.147	0.0	6048																																																																																																																																																																																																																				
15 min Winter	140.714	0.0	19																																																																																																																																																																																																																				
©1982-2020 Innovyze																																																																																																																																																																																																																							

GTA Civils Ltd				Page 2	
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB		Warwick Nursery Cellular Soakaway A9 1 in 100 year + 40%			
Date 24/06/2021 File A9 soakaway.SRCX		Designed by JR Checked by			
XP Solutions		Source Control 2020.1			
Summary of Results for 100 year Return Period (+40%)					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	10.612	0.412	0.0	2.7	○ K
60 min Winter	10.724	0.524	0.0	3.5	○ K
120 min Winter	10.814	0.614	0.0	4.1	○ K
180 min Winter	10.867	0.667	0.0	4.4	○ K
240 min Winter	10.900	0.700	0.0	4.7	○ K
360 min Winter	10.937	0.737	0.0	4.9	○ K
480 min Winter	10.954	0.754	0.0	5.0	○ K
600 min Winter	10.961	0.761	0.0	5.1	○ K
720 min Winter	10.961	0.761	0.0	5.1	○ K
960 min Winter	10.953	0.753	0.0	5.0	○ K
1440 min Winter	10.920	0.720	0.0	4.8	○ K
2160 min Winter	10.882	0.682	0.0	4.5	○ K
2880 min Winter	10.847	0.647	0.0	4.3	○ K
4320 min Winter	10.788	0.588	0.0	3.9	○ K
5760 min Winter	10.740	0.540	0.0	3.6	○ K
7200 min Winter	10.702	0.502	0.0	3.3	○ K
8640 min Winter	10.670	0.470	0.0	3.1	○ K
10080 min Winter	10.643	0.443	0.0	2.9	○ K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	94.437	0.0	33		
60 min Winter	60.674	0.0	64		
120 min Winter	36.152	0.0	122		
180 min Winter	26.572	0.0	180		
240 min Winter	21.265	0.0	240		
360 min Winter	15.394	0.0	356		
480 min Winter	12.172	0.0	472		
600 min Winter	10.122	0.0	586		
720 min Winter	8.636	0.0	700		
960 min Winter	6.832	0.0	916		
1440 min Winter	4.865	0.0	1284		
2160 min Winter	3.484	0.0	1640		
2880 min Winter	2.767	0.0	2104		
4320 min Winter	2.029	0.0	2984		
5760 min Winter	1.648	0.0	3864		
7200 min Winter	1.417	0.0	4752		
8640 min Winter	1.261	0.0	5536		
10080 min Winter	1.147	0.0	6360		
©1982-2020 Innovyze					

GTA Civils Ltd		Page 3
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB	Warwick Nursery Cellular Soakaway A9 1 in 100 year + 40%	
Date 24/06/2021	Designed by JR	
File A9 soakaway.SRCX	Checked by	
XP Solutions		Source Control 2020.1

Rainfall Details

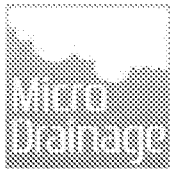
Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	2013
Site Location	GB 494911 105112 SU 94911 05112
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	10080
Climate Change %	+40

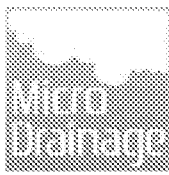
Time Area Diagram

Total Area (ha) 0.007

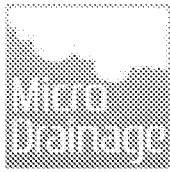
Time (mins)	Area
From:	To: (ha)
0	4 0.007

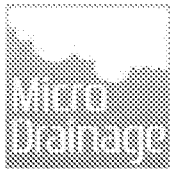
©1982-2020 Innovyze

GTA Civils Ltd		Page 4																		
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB	Warwick Nursery Cellular Soakaway A9 1 in 100 year + 40%																			
Date 24/06/2021	Designed by JR																			
File A9 soakaway.SRCX	Checked by																			
XP Solutions		Source Control 2020.1																		
<u>Model Details</u> Storage is Online Cover Level (m) 11.500 <u>Cellular Storage Structure</u> Invert Level (m) 10.200 Safety Factor 6.5 Infiltration Coefficient Base (m/hr) 0.05652 Porosity 0.95 Infiltration Coefficient Side (m/hr) 0.05652 <table border="1"> <thead> <tr> <th>Depth (m)</th> <th>Area (m²)</th> <th>Inf. Area (m²)</th> <th>Depth (m)</th> <th>Area (m²)</th> <th>Inf. Area (m²)</th> </tr> </thead> <tbody> <tr> <td>0.000</td> <td>7.0</td> <td>7.0</td> <td>0.900</td> <td>0.0</td> <td>16.0</td> </tr> <tr> <td>0.800</td> <td>7.0</td> <td>15.5</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>			Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)	0.000	7.0	7.0	0.900	0.0	16.0	0.800	7.0	15.5			
Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)															
0.000	7.0	7.0	0.900	0.0	16.0															
0.800	7.0	15.5																		
©1982-2020 Innovyze																				

GTA Civils Ltd				Page 1																																																																																																																																																																																																																			
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB		Warwick Nursery Permeable Paving A10, A11 1 in 10 year + 40%																																																																																																																																																																																																																					
Date 13/07/2021 File A10&A11 PP.SRCX		Designed by JR Checked by																																																																																																																																																																																																																					
XP Solutions		Source Control 2020.1																																																																																																																																																																																																																					
<u>Summary of Results for 10 year Return Period (+40%)</u> Half Drain Time : 147 minutes. <table><tr><th>Storm Event</th><th>Max Level (m)</th><th>Max Depth (m)</th><th>Max Infiltration (l/s)</th><th>Max Volume (m³)</th><th>Status</th></tr><tr><td>15 min Summer</td><td>10.285</td><td>0.057</td><td>0.7</td><td>4.7</td><td>○ K</td></tr><tr><td>30 min Summer</td><td>10.306</td><td>0.078</td><td>0.7</td><td>6.3</td><td>○ K</td></tr><tr><td>60 min Summer</td><td>10.325</td><td>0.097</td><td>0.7</td><td>7.8</td><td>○ K</td></tr><tr><td>120 min Summer</td><td>10.341</td><td>0.113</td><td>0.7</td><td>9.1</td><td>○ K</td></tr><tr><td>180 min Summer</td><td>10.346</td><td>0.118</td><td>0.7</td><td>9.6</td><td>○ K</td></tr><tr><td>240 min Summer</td><td>10.348</td><td>0.120</td><td>0.7</td><td>9.7</td><td>○ K</td></tr><tr><td>360 min Summer</td><td>10.346</td><td>0.118</td><td>0.7</td><td>9.5</td><td>○ K</td></tr><tr><td>480 min Summer</td><td>10.340</td><td>0.112</td><td>0.7</td><td>9.1</td><td>○ K</td></tr><tr><td>600 min Summer</td><td>10.333</td><td>0.105</td><td>0.7</td><td>8.5</td><td>○ K</td></tr><tr><td>720 min Summer</td><td>10.326</td><td>0.098</td><td>0.7</td><td>7.9</td><td>○ K</td></tr><tr><td>960 min Summer</td><td>10.312</td><td>0.084</td><td>0.7</td><td>6.8</td><td>○ K</td></tr><tr><td>1440 min Summer</td><td>10.291</td><td>0.063</td><td>0.7</td><td>5.1</td><td>○ K</td></tr><tr><td>2160 min Summer</td><td>10.275</td><td>0.047</td><td>0.6</td><td>3.8</td><td>○ K</td></tr><tr><td>2880 min Summer</td><td>10.268</td><td>0.040</td><td>0.5</td><td>3.2</td><td>○ K</td></tr><tr><td>4320 min Summer</td><td>10.259</td><td>0.031</td><td>0.4</td><td>2.5</td><td>○ K</td></tr><tr><td>5760 min Summer</td><td>10.255</td><td>0.027</td><td>0.3</td><td>2.2</td><td>○ K</td></tr><tr><td>7200 min Summer</td><td>10.252</td><td>0.024</td><td>0.3</td><td>1.9</td><td>○ K</td></tr><tr><td>8640 min Summer</td><td>10.250</td><td>0.022</td><td>0.3</td><td>1.7</td><td>○ K</td></tr><tr><td>10080 min Summer</td><td>10.248</td><td>0.020</td><td>0.3</td><td>1.6</td><td>○ K</td></tr><tr><td>15 min Winter</td><td>10.295</td><td>0.067</td><td>0.7</td><td>5.4</td><td>○ K</td></tr></table> <table><tr><th>Storm Event</th><th>Rain (mm/hr)</th><th>Flooded Volume (m³)</th><th>Time-Peak (mins)</th></tr><tr><td>15 min Summer</td><td>86.846</td><td>0.0</td><td>18</td></tr><tr><td>30 min Summer</td><td>56.970</td><td>0.0</td><td>32</td></tr><tr><td>60 min Summer</td><td>36.174</td><td>0.0</td><td>62</td></tr><tr><td>120 min Summer</td><td>22.769</td><td>0.0</td><td>114</td></tr><tr><td>180 min Summer</td><td>17.094</td><td>0.0</td><td>144</td></tr><tr><td>240 min Summer</td><td>13.845</td><td>0.0</td><td>176</td></tr><tr><td>360 min Summer</td><td>10.168</td><td>0.0</td><td>244</td></tr><tr><td>480 min Summer</td><td>8.105</td><td>0.0</td><td>312</td></tr><tr><td>600 min Summer</td><td>6.777</td><td>0.0</td><td>378</td></tr><tr><td>720 min Summer</td><td>5.847</td><td>0.0</td><td>442</td></tr><tr><td>960 min Summer</td><td>4.621</td><td>0.0</td><td>570</td></tr><tr><td>1440 min Summer</td><td>3.324</td><td>0.0</td><td>808</td></tr><tr><td>2160 min Summer</td><td>2.410</td><td>0.0</td><td>1148</td></tr><tr><td>2880 min Summer</td><td>1.934</td><td>0.0</td><td>1500</td></tr><tr><td>4320 min Summer</td><td>1.447</td><td>0.0</td><td>2244</td></tr><tr><td>5760 min Summer</td><td>1.196</td><td>0.0</td><td>2944</td></tr><tr><td>7200 min Summer</td><td>1.044</td><td>0.0</td><td>3672</td></tr><tr><td>8640 min Summer</td><td>0.940</td><td>0.0</td><td>4408</td></tr><tr><td>10080 min Summer</td><td>0.865</td><td>0.0</td><td>5144</td></tr><tr><td>15 min Winter</td><td>86.846</td><td>0.0</td><td>18</td></tr></table>						Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	15 min Summer	10.285	0.057	0.7	4.7	○ K	30 min Summer	10.306	0.078	0.7	6.3	○ K	60 min Summer	10.325	0.097	0.7	7.8	○ K	120 min Summer	10.341	0.113	0.7	9.1	○ K	180 min Summer	10.346	0.118	0.7	9.6	○ K	240 min Summer	10.348	0.120	0.7	9.7	○ K	360 min Summer	10.346	0.118	0.7	9.5	○ K	480 min Summer	10.340	0.112	0.7	9.1	○ K	600 min Summer	10.333	0.105	0.7	8.5	○ K	720 min Summer	10.326	0.098	0.7	7.9	○ K	960 min Summer	10.312	0.084	0.7	6.8	○ K	1440 min Summer	10.291	0.063	0.7	5.1	○ K	2160 min Summer	10.275	0.047	0.6	3.8	○ K	2880 min Summer	10.268	0.040	0.5	3.2	○ K	4320 min Summer	10.259	0.031	0.4	2.5	○ K	5760 min Summer	10.255	0.027	0.3	2.2	○ K	7200 min Summer	10.252	0.024	0.3	1.9	○ K	8640 min Summer	10.250	0.022	0.3	1.7	○ K	10080 min Summer	10.248	0.020	0.3	1.6	○ K	15 min Winter	10.295	0.067	0.7	5.4	○ K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	86.846	0.0	18	30 min Summer	56.970	0.0	32	60 min Summer	36.174	0.0	62	120 min Summer	22.769	0.0	114	180 min Summer	17.094	0.0	144	240 min Summer	13.845	0.0	176	360 min Summer	10.168	0.0	244	480 min Summer	8.105	0.0	312	600 min Summer	6.777	0.0	378	720 min Summer	5.847	0.0	442	960 min Summer	4.621	0.0	570	1440 min Summer	3.324	0.0	808	2160 min Summer	2.410	0.0	1148	2880 min Summer	1.934	0.0	1500	4320 min Summer	1.447	0.0	2244	5760 min Summer	1.196	0.0	2944	7200 min Summer	1.044	0.0	3672	8640 min Summer	0.940	0.0	4408	10080 min Summer	0.865	0.0	5144	15 min Winter	86.846	0.0	18
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status																																																																																																																																																																																																																		
15 min Summer	10.285	0.057	0.7	4.7	○ K																																																																																																																																																																																																																		
30 min Summer	10.306	0.078	0.7	6.3	○ K																																																																																																																																																																																																																		
60 min Summer	10.325	0.097	0.7	7.8	○ K																																																																																																																																																																																																																		
120 min Summer	10.341	0.113	0.7	9.1	○ K																																																																																																																																																																																																																		
180 min Summer	10.346	0.118	0.7	9.6	○ K																																																																																																																																																																																																																		
240 min Summer	10.348	0.120	0.7	9.7	○ K																																																																																																																																																																																																																		
360 min Summer	10.346	0.118	0.7	9.5	○ K																																																																																																																																																																																																																		
480 min Summer	10.340	0.112	0.7	9.1	○ K																																																																																																																																																																																																																		
600 min Summer	10.333	0.105	0.7	8.5	○ K																																																																																																																																																																																																																		
720 min Summer	10.326	0.098	0.7	7.9	○ K																																																																																																																																																																																																																		
960 min Summer	10.312	0.084	0.7	6.8	○ K																																																																																																																																																																																																																		
1440 min Summer	10.291	0.063	0.7	5.1	○ K																																																																																																																																																																																																																		
2160 min Summer	10.275	0.047	0.6	3.8	○ K																																																																																																																																																																																																																		
2880 min Summer	10.268	0.040	0.5	3.2	○ K																																																																																																																																																																																																																		
4320 min Summer	10.259	0.031	0.4	2.5	○ K																																																																																																																																																																																																																		
5760 min Summer	10.255	0.027	0.3	2.2	○ K																																																																																																																																																																																																																		
7200 min Summer	10.252	0.024	0.3	1.9	○ K																																																																																																																																																																																																																		
8640 min Summer	10.250	0.022	0.3	1.7	○ K																																																																																																																																																																																																																		
10080 min Summer	10.248	0.020	0.3	1.6	○ K																																																																																																																																																																																																																		
15 min Winter	10.295	0.067	0.7	5.4	○ K																																																																																																																																																																																																																		
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)																																																																																																																																																																																																																				
15 min Summer	86.846	0.0	18																																																																																																																																																																																																																				
30 min Summer	56.970	0.0	32																																																																																																																																																																																																																				
60 min Summer	36.174	0.0	62																																																																																																																																																																																																																				
120 min Summer	22.769	0.0	114																																																																																																																																																																																																																				
180 min Summer	17.094	0.0	144																																																																																																																																																																																																																				
240 min Summer	13.845	0.0	176																																																																																																																																																																																																																				
360 min Summer	10.168	0.0	244																																																																																																																																																																																																																				
480 min Summer	8.105	0.0	312																																																																																																																																																																																																																				
600 min Summer	6.777	0.0	378																																																																																																																																																																																																																				
720 min Summer	5.847	0.0	442																																																																																																																																																																																																																				
960 min Summer	4.621	0.0	570																																																																																																																																																																																																																				
1440 min Summer	3.324	0.0	808																																																																																																																																																																																																																				
2160 min Summer	2.410	0.0	1148																																																																																																																																																																																																																				
2880 min Summer	1.934	0.0	1500																																																																																																																																																																																																																				
4320 min Summer	1.447	0.0	2244																																																																																																																																																																																																																				
5760 min Summer	1.196	0.0	2944																																																																																																																																																																																																																				
7200 min Summer	1.044	0.0	3672																																																																																																																																																																																																																				
8640 min Summer	0.940	0.0	4408																																																																																																																																																																																																																				
10080 min Summer	0.865	0.0	5144																																																																																																																																																																																																																				
15 min Winter	86.846	0.0	18																																																																																																																																																																																																																				
©1982-2020 Innovyze																																																																																																																																																																																																																							

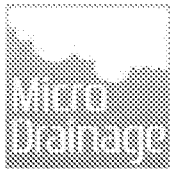
GTA Civils Ltd			Page 2		
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB		Warwick Nursery Permeable Paving A10, A11 1 in 10 year + 40%			
Date 13/07/2021 File A10&A11 PP.SRCX		Designed by JR Checked by			
XP Solutions		Source Control 2020.1			
<u>Summary of Results for 10 year Return Period (+40%)</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	10.318	0.090	0.7	7.3	○ K
60 min Winter	10.340	0.112	0.7	9.1	○ K
120 min Winter	10.359	0.131	0.7	10.6	○ K
180 min Winter	10.364	0.136	0.7	11.0	○ K
240 min Winter	10.365	0.137	0.7	11.1	○ K
360 min Winter	10.360	0.132	0.7	10.7	○ K
480 min Winter	10.350	0.122	0.7	9.9	○ K
600 min Winter	10.339	0.111	0.7	9.0	○ K
720 min Winter	10.328	0.100	0.7	8.1	○ K
960 min Winter	10.308	0.080	0.7	6.5	○ K
1440 min Winter	10.280	0.052	0.7	4.2	○ K
2160 min Winter	10.267	0.039	0.5	3.2	○ K
2880 min Winter	10.260	0.032	0.4	2.6	○ K
4320 min Winter	10.252	0.024	0.3	2.0	○ K
5760 min Winter	10.248	0.020	0.3	1.6	○ K
7200 min Winter	10.246	0.018	0.2	1.4	○ K
8640 min Winter	10.244	0.016	0.2	1.3	○ K
10080 min Winter	10.243	0.015	0.2	1.2	○ K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	56.970	0.0	32		
60 min Winter	36.174	0.0	60		
120 min Winter	22.769	0.0	116		
180 min Winter	17.094	0.0	166		
240 min Winter	13.845	0.0	199		
360 min Winter	10.168	0.0	266		
480 min Winter	8.105	0.0	340		
600 min Winter	6.777	0.0	410		
720 min Winter	5.847	0.0	478		
960 min Winter	4.621	0.0	604		
1440 min Winter	3.324	0.0	810		
2160 min Winter	2.410	0.0	1168		
2880 min Winter	1.934	0.0	1528		
4320 min Winter	1.447	0.0	2248		
5760 min Winter	1.196	0.0	2944		
7200 min Winter	1.044	0.0	3648		
8640 min Winter	0.940	0.0	4408		
10080 min Winter	0.865	0.0	5104		
©1982-2020 Innovyze					

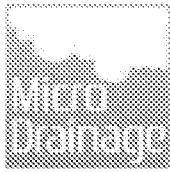
GTA Civils Ltd		Page 3																														
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB	Warwick Nursery Permeable Paving A10, A11 1 in 10 year + 40%																															
Date 13/07/2021	Designed by JR																															
File A10&A11 PP.SRCX	Checked by																															
XP Solutions		Source Control 2020.1																														
<u>Rainfall Details</u> <table> <tr> <td>Rainfall Model</td> <td>FEH</td> </tr> <tr> <td>Return Period (years)</td> <td>10</td> </tr> <tr> <td>FEH Rainfall Version</td> <td>2013</td> </tr> <tr> <td>Site Location</td> <td>GB 494911 105112 SU 94911 05112</td> </tr> <tr> <td>Data Type</td> <td>Point</td> </tr> <tr> <td>Summer Storms</td> <td>Yes</td> </tr> <tr> <td>Winter Storms</td> <td>Yes</td> </tr> <tr> <td>Cv (Summer)</td> <td>0.750</td> </tr> <tr> <td>Cv (Winter)</td> <td>0.840</td> </tr> <tr> <td>Shortest Storm (mins)</td> <td>15</td> </tr> <tr> <td>Longest Storm (mins)</td> <td>10080</td> </tr> <tr> <td>Climate Change %</td> <td>+40</td> </tr> </table> <u>Time Area Diagram</u> Total Area (ha) 0.039 <table> <thead> <tr> <th>Time (mins)</th> <th>Area</th> </tr> <tr> <th>From:</th> <th>To: (ha)</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>4 0.039</td> </tr> </tbody> </table>			Rainfall Model	FEH	Return Period (years)	10	FEH Rainfall Version	2013	Site Location	GB 494911 105112 SU 94911 05112	Data Type	Point	Summer Storms	Yes	Winter Storms	Yes	Cv (Summer)	0.750	Cv (Winter)	0.840	Shortest Storm (mins)	15	Longest Storm (mins)	10080	Climate Change %	+40	Time (mins)	Area	From:	To: (ha)	0	4 0.039
Rainfall Model	FEH																															
Return Period (years)	10																															
FEH Rainfall Version	2013																															
Site Location	GB 494911 105112 SU 94911 05112																															
Data Type	Point																															
Summer Storms	Yes																															
Winter Storms	Yes																															
Cv (Summer)	0.750																															
Cv (Winter)	0.840																															
Shortest Storm (mins)	15																															
Longest Storm (mins)	10080																															
Climate Change %	+40																															
Time (mins)	Area																															
From:	To: (ha)																															
0	4 0.039																															
©1982-2020 Innovyze																																

GTA Civils Ltd		Page 4																								
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB	Warwick Nursery Permeable Paving A10, A11 1 in 10 year + 40%																									
Date 13/07/2021 File A10&A11 PP.SRCX	Designed by JR Checked by																									
XP Solutions Source Control 2020.1																										
<u>Model Details</u> Storage is Online Cover Level (m) 11.400 <u>Porous Car Park Structure</u> <table style="width: 100%; border: none;"> <tr> <td style="width: 40%;">Infiltration Coefficient Base (m/hr)</td> <td style="width: 20%;">0.05652</td> <td style="width: 20%;">Width (m)</td> <td style="width: 20%;">10.0</td> </tr> <tr> <td>Membrane Percolation (mm/hr)</td> <td>1000</td> <td>Length (m)</td> <td>27.0</td> </tr> <tr> <td>Max Percolation (l/s)</td> <td>75.0</td> <td>Slope (1:X)</td> <td>0.0</td> </tr> <tr> <td>Safety Factor</td> <td>6.5</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>10.228</td> <td>Cap Volume Depth (m)</td> <td>1.042</td> </tr> </table>			Infiltration Coefficient Base (m/hr)	0.05652	Width (m)	10.0	Membrane Percolation (mm/hr)	1000	Length (m)	27.0	Max Percolation (l/s)	75.0	Slope (1:X)	0.0	Safety Factor	6.5	Depression Storage (mm)	5	Porosity	0.30	Evaporation (mm/day)	3	Invert Level (m)	10.228	Cap Volume Depth (m)	1.042
Infiltration Coefficient Base (m/hr)	0.05652	Width (m)	10.0																							
Membrane Percolation (mm/hr)	1000	Length (m)	27.0																							
Max Percolation (l/s)	75.0	Slope (1:X)	0.0																							
Safety Factor	6.5	Depression Storage (mm)	5																							
Porosity	0.30	Evaporation (mm/day)	3																							
Invert Level (m)	10.228	Cap Volume Depth (m)	1.042																							
©1982-2020 Innovyze																										

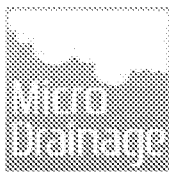
GTA Civils Ltd				Page 1																																																																																																																																																																																																																			
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB		Warwick Nursery Permeable Paving A10, A11 1 in 100 year + 40%																																																																																																																																																																																																																					
Date 13/07/2021 File A10&A11 PP.SRCX		Designed by JR Checked by																																																																																																																																																																																																																					
XP Solutions		Source Control 2020.1																																																																																																																																																																																																																					
<u>Summary of Results for 100 year Return Period (+40%)</u> Half Drain Time : 265 minutes. <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 Volume (m³)</th><th>Status</th></tr></thead><tbody><tr><td>15 min Summer</td><td>10.333</td><td>0.105</td><td>0.7</td><td>8.5</td><td>○ K</td></tr><tr><td>30 min Summer</td><td>10.372</td><td>0.144</td><td>0.7</td><td>11.7</td><td>○ K</td></tr><tr><td>60 min Summer</td><td>10.411</td><td>0.183</td><td>0.7</td><td>14.8</td><td>○ K</td></tr><tr><td>120 min Summer</td><td>10.433</td><td>0.205</td><td>0.7</td><td>16.6</td><td>○ K</td></tr><tr><td>180 min Summer</td><td>10.439</td><td>0.211</td><td>0.7</td><td>17.1</td><td>○ K</td></tr><tr><td>240 min Summer</td><td>10.439</td><td>0.211</td><td>0.7</td><td>17.1</td><td>○ K</td></tr><tr><td>360 min Summer</td><td>10.433</td><td>0.205</td><td>0.7</td><td>16.6</td><td>○ K</td></tr><tr><td>480 min Summer</td><td>10.425</td><td>0.197</td><td>0.7</td><td>16.0</td><td>○ K</td></tr><tr><td>600 min Summer</td><td>10.415</td><td>0.187</td><td>0.7</td><td>15.2</td><td>○ K</td></tr><tr><td>720 min Summer</td><td>10.406</td><td>0.178</td><td>0.7</td><td>14.4</td><td>○ K</td></tr><tr><td>960 min Summer</td><td>10.386</td><td>0.158</td><td>0.7</td><td>12.8</td><td>○ K</td></tr><tr><td>1440 min Summer</td><td>10.352</td><td>0.124</td><td>0.7</td><td>10.0</td><td>○ K</td></tr><tr><td>2160 min Summer</td><td>10.314</td><td>0.086</td><td>0.7</td><td>7.0</td><td>○ K</td></tr><tr><td>2880 min Summer</td><td>10.290</td><td>0.062</td><td>0.7</td><td>5.0</td><td>○ K</td></tr><tr><td>4320 min Summer</td><td>10.272</td><td>0.044</td><td>0.6</td><td>3.6</td><td>○ K</td></tr><tr><td>5760 min Summer</td><td>10.265</td><td>0.037</td><td>0.5</td><td>3.0</td><td>○ K</td></tr><tr><td>7200 min Summer</td><td>10.260</td><td>0.032</td><td>0.4</td><td>2.6</td><td>○ K</td></tr><tr><td>8640 min Summer</td><td>10.257</td><td>0.029</td><td>0.4</td><td>2.4</td><td>○ K</td></tr><tr><td>10080 min Summer</td><td>10.255</td><td>0.027</td><td>0.3</td><td>2.2</td><td>○ K</td></tr><tr><td>15 min Winter</td><td>10.348</td><td>0.120</td><td>0.7</td><td>9.7</td><td>○ K</td></tr></tbody></table> <table><thead><tr><th>Storm Event</th><th>Rain (mm/hr)</th><th>Flooded Volume (m³)</th><th>Time-Peak (mins)</th></tr></thead><tbody><tr><td>15 min Summer</td><td>140.714</td><td>0.0</td><td>18</td></tr><tr><td>30 min Summer</td><td>94.437</td><td>0.0</td><td>33</td></tr><tr><td>60 min Summer</td><td>60.674</td><td>0.0</td><td>62</td></tr><tr><td>120 min Summer</td><td>36.152</td><td>0.0</td><td>122</td></tr><tr><td>180 min Summer</td><td>26.572</td><td>0.0</td><td>180</td></tr><tr><td>240 min Summer</td><td>21.265</td><td>0.0</td><td>212</td></tr><tr><td>360 min Summer</td><td>15.394</td><td>0.0</td><td>272</td></tr><tr><td>480 min Summer</td><td>12.172</td><td>0.0</td><td>338</td></tr><tr><td>600 min Summer</td><td>10.122</td><td>0.0</td><td>404</td></tr><tr><td>720 min Summer</td><td>8.696</td><td>0.0</td><td>470</td></tr><tr><td>960 min Summer</td><td>6.832</td><td>0.0</td><td>606</td></tr><tr><td>1440 min Summer</td><td>4.865</td><td>0.0</td><td>864</td></tr><tr><td>2160 min Summer</td><td>3.484</td><td>0.0</td><td>1212</td></tr><tr><td>2880 min Summer</td><td>2.767</td><td>0.0</td><td>1556</td></tr><tr><td>4320 min Summer</td><td>2.029</td><td>0.0</td><td>2244</td></tr><tr><td>5760 min Summer</td><td>1.648</td><td>0.0</td><td>2944</td></tr><tr><td>7200 min Summer</td><td>1.417</td><td>0.0</td><td>3680</td></tr><tr><td>8640 min Summer</td><td>1.261</td><td>0.0</td><td>4408</td></tr><tr><td>10080 min Summer</td><td>1.147</td><td>0.0</td><td>5144</td></tr><tr><td>15 min Winter</td><td>140.714</td><td>0.0</td><td>18</td></tr></tbody></table>						Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	15 min Summer	10.333	0.105	0.7	8.5	○ K	30 min Summer	10.372	0.144	0.7	11.7	○ K	60 min Summer	10.411	0.183	0.7	14.8	○ K	120 min Summer	10.433	0.205	0.7	16.6	○ K	180 min Summer	10.439	0.211	0.7	17.1	○ K	240 min Summer	10.439	0.211	0.7	17.1	○ K	360 min Summer	10.433	0.205	0.7	16.6	○ K	480 min Summer	10.425	0.197	0.7	16.0	○ K	600 min Summer	10.415	0.187	0.7	15.2	○ K	720 min Summer	10.406	0.178	0.7	14.4	○ K	960 min Summer	10.386	0.158	0.7	12.8	○ K	1440 min Summer	10.352	0.124	0.7	10.0	○ K	2160 min Summer	10.314	0.086	0.7	7.0	○ K	2880 min Summer	10.290	0.062	0.7	5.0	○ K	4320 min Summer	10.272	0.044	0.6	3.6	○ K	5760 min Summer	10.265	0.037	0.5	3.0	○ K	7200 min Summer	10.260	0.032	0.4	2.6	○ K	8640 min Summer	10.257	0.029	0.4	2.4	○ K	10080 min Summer	10.255	0.027	0.3	2.2	○ K	15 min Winter	10.348	0.120	0.7	9.7	○ K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	140.714	0.0	18	30 min Summer	94.437	0.0	33	60 min Summer	60.674	0.0	62	120 min Summer	36.152	0.0	122	180 min Summer	26.572	0.0	180	240 min Summer	21.265	0.0	212	360 min Summer	15.394	0.0	272	480 min Summer	12.172	0.0	338	600 min Summer	10.122	0.0	404	720 min Summer	8.696	0.0	470	960 min Summer	6.832	0.0	606	1440 min Summer	4.865	0.0	864	2160 min Summer	3.484	0.0	1212	2880 min Summer	2.767	0.0	1556	4320 min Summer	2.029	0.0	2244	5760 min Summer	1.648	0.0	2944	7200 min Summer	1.417	0.0	3680	8640 min Summer	1.261	0.0	4408	10080 min Summer	1.147	0.0	5144	15 min Winter	140.714	0.0	18
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status																																																																																																																																																																																																																		
15 min Summer	10.333	0.105	0.7	8.5	○ K																																																																																																																																																																																																																		
30 min Summer	10.372	0.144	0.7	11.7	○ K																																																																																																																																																																																																																		
60 min Summer	10.411	0.183	0.7	14.8	○ K																																																																																																																																																																																																																		
120 min Summer	10.433	0.205	0.7	16.6	○ K																																																																																																																																																																																																																		
180 min Summer	10.439	0.211	0.7	17.1	○ K																																																																																																																																																																																																																		
240 min Summer	10.439	0.211	0.7	17.1	○ K																																																																																																																																																																																																																		
360 min Summer	10.433	0.205	0.7	16.6	○ K																																																																																																																																																																																																																		
480 min Summer	10.425	0.197	0.7	16.0	○ K																																																																																																																																																																																																																		
600 min Summer	10.415	0.187	0.7	15.2	○ K																																																																																																																																																																																																																		
720 min Summer	10.406	0.178	0.7	14.4	○ K																																																																																																																																																																																																																		
960 min Summer	10.386	0.158	0.7	12.8	○ K																																																																																																																																																																																																																		
1440 min Summer	10.352	0.124	0.7	10.0	○ K																																																																																																																																																																																																																		
2160 min Summer	10.314	0.086	0.7	7.0	○ K																																																																																																																																																																																																																		
2880 min Summer	10.290	0.062	0.7	5.0	○ K																																																																																																																																																																																																																		
4320 min Summer	10.272	0.044	0.6	3.6	○ K																																																																																																																																																																																																																		
5760 min Summer	10.265	0.037	0.5	3.0	○ K																																																																																																																																																																																																																		
7200 min Summer	10.260	0.032	0.4	2.6	○ K																																																																																																																																																																																																																		
8640 min Summer	10.257	0.029	0.4	2.4	○ K																																																																																																																																																																																																																		
10080 min Summer	10.255	0.027	0.3	2.2	○ K																																																																																																																																																																																																																		
15 min Winter	10.348	0.120	0.7	9.7	○ K																																																																																																																																																																																																																		
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)																																																																																																																																																																																																																				
15 min Summer	140.714	0.0	18																																																																																																																																																																																																																				
30 min Summer	94.437	0.0	33																																																																																																																																																																																																																				
60 min Summer	60.674	0.0	62																																																																																																																																																																																																																				
120 min Summer	36.152	0.0	122																																																																																																																																																																																																																				
180 min Summer	26.572	0.0	180																																																																																																																																																																																																																				
240 min Summer	21.265	0.0	212																																																																																																																																																																																																																				
360 min Summer	15.394	0.0	272																																																																																																																																																																																																																				
480 min Summer	12.172	0.0	338																																																																																																																																																																																																																				
600 min Summer	10.122	0.0	404																																																																																																																																																																																																																				
720 min Summer	8.696	0.0	470																																																																																																																																																																																																																				
960 min Summer	6.832	0.0	606																																																																																																																																																																																																																				
1440 min Summer	4.865	0.0	864																																																																																																																																																																																																																				
2160 min Summer	3.484	0.0	1212																																																																																																																																																																																																																				
2880 min Summer	2.767	0.0	1556																																																																																																																																																																																																																				
4320 min Summer	2.029	0.0	2244																																																																																																																																																																																																																				
5760 min Summer	1.648	0.0	2944																																																																																																																																																																																																																				
7200 min Summer	1.417	0.0	3680																																																																																																																																																																																																																				
8640 min Summer	1.261	0.0	4408																																																																																																																																																																																																																				
10080 min Summer	1.147	0.0	5144																																																																																																																																																																																																																				
15 min Winter	140.714	0.0	18																																																																																																																																																																																																																				
©1982-2020 Innovyeze																																																																																																																																																																																																																							

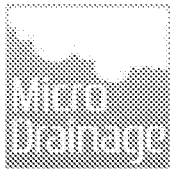
GTA Civils Ltd				Page 2	
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB		Warwick Nursery Permeable Paving A10, A11 1 in 100 year + 40%			
Date 13/07/2021 File A10&A11 PP.SRCX		Designed by JR Checked by			
XP Solutions		Source Control 2020.1			
<u>Summary of Results for 100 year Return Period (+40%)</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	10.392	0.164	0.7	13.3	○ K
60 min Winter	10.436	0.208	0.7	16.9	○ K
120 min Winter	10.463	0.235	0.7	19.0	○ K
180 min Winter	10.472	0.244	0.7	19.8	○ K
240 min Winter	10.473	0.245	0.7	19.9	○ K
360 min Winter	10.464	0.236	0.7	19.1	○ K
480 min Winter	10.452	0.224	0.7	18.2	○ K
600 min Winter	10.439	0.211	0.7	17.1	○ K
720 min Winter	10.425	0.197	0.7	15.9	○ K
960 min Winter	10.396	0.168	0.7	13.6	○ K
1440 min Winter	10.345	0.117	0.7	9.5	○ K
2160 min Winter	10.293	0.065	0.7	5.2	○ K
2880 min Winter	10.274	0.046	0.6	3.7	○ K
4320 min Winter	10.262	0.034	0.4	2.8	○ K
5760 min Winter	10.256	0.028	0.4	2.3	○ K
7200 min Winter	10.252	0.024	0.3	1.9	○ K
8640 min Winter	10.249	0.021	0.3	1.7	○ K
10080 min Winter	10.248	0.020	0.3	1.6	○ K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	94.437	0.0	32		
60 min Winter	60.674	0.0	62		
120 min Winter	36.152	0.0	118		
180 min Winter	26.572	0.0	176		
240 min Winter	21.265	0.0	230		
360 min Winter	15.394	0.0	292		
480 min Winter	12.172	0.0	366		
600 min Winter	10.122	0.0	440		
720 min Winter	8.696	0.0	514		
960 min Winter	6.832	0.0	656		
1440 min Winter	4.865	0.0	912		
2160 min Winter	3.484	0.0	1236		
2880 min Winter	2.767	0.0	1528		
4320 min Winter	2.029	0.0	2248		
5760 min Winter	1.648	0.0	2976		
7200 min Winter	1.417	0.0	3672		
8640 min Winter	1.261	0.0	4416		
10080 min Winter	1.147	0.0	5136		
©1982-2020 Innovyze					

GTA Civils Ltd		Page 3																														
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB	Warwick Nursery Permeable Paving A10, A11 1 in 100 year + 40%																															
Date 13/07/2021	Designed by JR																															
File A10&A11 PP.SRCX	Checked by																															
XP Solutions		Source Control 2020.1																														
<u>Rainfall Details</u> <table> <tr> <td>Rainfall Model</td> <td>FEH</td> </tr> <tr> <td>Return Period (years)</td> <td>100</td> </tr> <tr> <td>FEH Rainfall Version</td> <td>2013</td> </tr> <tr> <td>Site Location</td> <td>GB 494911 105112 SU 94911 05112</td> </tr> <tr> <td>Data Type</td> <td>Point</td> </tr> <tr> <td>Summer Storms</td> <td>Yes</td> </tr> <tr> <td>Winter Storms</td> <td>Yes</td> </tr> <tr> <td>Cv (Summer)</td> <td>0.750</td> </tr> <tr> <td>Cv (Winter)</td> <td>0.840</td> </tr> <tr> <td>Shortest Storm (mins)</td> <td>15</td> </tr> <tr> <td>Longest Storm (mins)</td> <td>10080</td> </tr> <tr> <td>Climate Change %</td> <td>+40</td> </tr> </table> <u>Time Area Diagram</u> Total Area (ha) 0.039 <table> <thead> <tr> <th>Time (mins)</th> <th>Area</th> </tr> <tr> <th>From:</th> <th>To: (ha)</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>4 0.039</td> </tr> </tbody> </table>			Rainfall Model	FEH	Return Period (years)	100	FEH Rainfall Version	2013	Site Location	GB 494911 105112 SU 94911 05112	Data Type	Point	Summer Storms	Yes	Winter Storms	Yes	Cv (Summer)	0.750	Cv (Winter)	0.840	Shortest Storm (mins)	15	Longest Storm (mins)	10080	Climate Change %	+40	Time (mins)	Area	From:	To: (ha)	0	4 0.039
Rainfall Model	FEH																															
Return Period (years)	100																															
FEH Rainfall Version	2013																															
Site Location	GB 494911 105112 SU 94911 05112																															
Data Type	Point																															
Summer Storms	Yes																															
Winter Storms	Yes																															
Cv (Summer)	0.750																															
Cv (Winter)	0.840																															
Shortest Storm (mins)	15																															
Longest Storm (mins)	10080																															
Climate Change %	+40																															
Time (mins)	Area																															
From:	To: (ha)																															
0	4 0.039																															
©1982-2020 Innovyze																																

GTA Civils Ltd		Page 4																								
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB	Warwick Nursery Permeable Paving A10, A11 1 in 100 year + 40%																									
Date 13/07/2021 File A10&A11 PP.SRCX	Designed by JR Checked by																									
XP Solutions Source Control 2020.1																										
<u>Model Details</u> Storage is Online Cover Level (m) 11.400 <u>Porous Car Park Structure</u> <table style="width: 100%; border: none;"> <tr> <td style="width: 40%;">Infiltration Coefficient Base (m/hr)</td> <td style="width: 20%;">0.05652</td> <td style="width: 20%;">Width (m)</td> <td style="width: 20%;">10.0</td> </tr> <tr> <td>Membrane Percolation (mm/hr)</td> <td>1000</td> <td>Length (m)</td> <td>27.0</td> </tr> <tr> <td>Max Percolation (l/s)</td> <td>75.0</td> <td>Slope (1:X)</td> <td>0.0</td> </tr> <tr> <td>Safety Factor</td> <td>6.5</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>10.228</td> <td>Cap Volume Depth (m)</td> <td>1.042</td> </tr> </table>			Infiltration Coefficient Base (m/hr)	0.05652	Width (m)	10.0	Membrane Percolation (mm/hr)	1000	Length (m)	27.0	Max Percolation (l/s)	75.0	Slope (1:X)	0.0	Safety Factor	6.5	Depression Storage (mm)	5	Porosity	0.30	Evaporation (mm/day)	3	Invert Level (m)	10.228	Cap Volume Depth (m)	1.042
Infiltration Coefficient Base (m/hr)	0.05652	Width (m)	10.0																							
Membrane Percolation (mm/hr)	1000	Length (m)	27.0																							
Max Percolation (l/s)	75.0	Slope (1:X)	0.0																							
Safety Factor	6.5	Depression Storage (mm)	5																							
Porosity	0.30	Evaporation (mm/day)	3																							
Invert Level (m)	10.228	Cap Volume Depth (m)	1.042																							
©1982-2020 Innovyze																										

GTA Civils Ltd				Page 1																																																																																																																																																																																																																			
66a Church Walk Burgess Hill West Sussex RH15 9AS		Warwick Nursery Cellular Soakaway A12,A13 1 in 10 year + 40%																																																																																																																																																																																																																					
Date 09/06/2021 File A12&A13 soakaway.SRCX		Designed by JR Checked by																																																																																																																																																																																																																					
Micro Drainage		Source Control 2020.1																																																																																																																																																																																																																					
<u>Summary of Results for 10 year Return Period (+40%)</u> Half Drain Time : 972 minutes. <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 Volume (m³)</th><th>Status</th></tr></thead><tbody><tr><td>15 min Summer</td><td>10.269</td><td>0.169</td><td>0.0</td><td>0.8</td><td>O K</td></tr><tr><td>30 min Summer</td><td>10.320</td><td>0.220</td><td>0.0</td><td>1.0</td><td>O K</td></tr><tr><td>60 min Summer</td><td>10.376</td><td>0.276</td><td>0.0</td><td>1.3</td><td>O K</td></tr><tr><td>120 min Summer</td><td>10.438</td><td>0.338</td><td>0.0</td><td>1.6</td><td>O K</td></tr><tr><td>180 min Summer</td><td>10.472</td><td>0.372</td><td>0.0</td><td>1.8</td><td>O K</td></tr><tr><td>240 min Summer</td><td>10.493</td><td>0.393</td><td>0.0</td><td>1.9</td><td>O K</td></tr><tr><td>360 min Summer</td><td>10.514</td><td>0.414</td><td>0.0</td><td>2.0</td><td>O K</td></tr><tr><td>480 min Summer</td><td>10.520</td><td>0.420</td><td>0.0</td><td>2.0</td><td>O K</td></tr><tr><td>600 min Summer</td><td>10.520</td><td>0.420</td><td>0.0</td><td>2.0</td><td>O K</td></tr><tr><td>720 min Summer</td><td>10.516</td><td>0.416</td><td>0.0</td><td>2.0</td><td>O K</td></tr><tr><td>960 min Summer</td><td>10.508</td><td>0.408</td><td>0.0</td><td>1.9</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>10.491</td><td>0.391</td><td>0.0</td><td>1.9</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>10.469</td><td>0.369</td><td>0.0</td><td>1.8</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>10.451</td><td>0.351</td><td>0.0</td><td>1.7</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>10.425</td><td>0.325</td><td>0.0</td><td>1.5</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>10.405</td><td>0.305</td><td>0.0</td><td>1.4</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>10.390</td><td>0.290</td><td>0.0</td><td>1.4</td><td>O K</td></tr><tr><td>8640 min Summer</td><td>10.378</td><td>0.278</td><td>0.0</td><td>1.3</td><td>O K</td></tr><tr><td>10080 min Summer</td><td>10.367</td><td>0.267</td><td>0.0</td><td>1.3</td><td>O K</td></tr><tr><td>15 min Winter</td><td>10.289</td><td>0.189</td><td>0.0</td><td>0.9</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>Time-Peak (mins)</th></tr></thead><tbody><tr><td>15 min Summer</td><td>86.846</td><td>0.0</td><td>19</td></tr><tr><td>30 min Summer</td><td>56.970</td><td>0.0</td><td>34</td></tr><tr><td>60 min Summer</td><td>36.174</td><td>0.0</td><td>64</td></tr><tr><td>120 min Summer</td><td>22.769</td><td>0.0</td><td>122</td></tr><tr><td>180 min Summer</td><td>17.094</td><td>0.0</td><td>182</td></tr><tr><td>240 min Summer</td><td>13.845</td><td>0.0</td><td>242</td></tr><tr><td>360 min Summer</td><td>10.168</td><td>0.0</td><td>362</td></tr><tr><td>480 min Summer</td><td>8.105</td><td>0.0</td><td>480</td></tr><tr><td>600 min Summer</td><td>6.777</td><td>0.0</td><td>600</td></tr><tr><td>720 min Summer</td><td>5.847</td><td>0.0</td><td>686</td></tr><tr><td>960 min Summer</td><td>4.621</td><td>0.0</td><td>790</td></tr><tr><td>1440 min Summer</td><td>3.324</td><td>0.0</td><td>1038</td></tr><tr><td>2160 min Summer</td><td>2.410</td><td>0.0</td><td>1452</td></tr><tr><td>2880 min Summer</td><td>1.934</td><td>0.0</td><td>1872</td></tr><tr><td>4320 min Summer</td><td>1.447</td><td>0.0</td><td>2680</td></tr><tr><td>5760 min Summer</td><td>1.196</td><td>0.0</td><td>3512</td></tr><tr><td>7200 min Summer</td><td>1.044</td><td>0.0</td><td>4320</td></tr><tr><td>8640 min Summer</td><td>0.940</td><td>0.0</td><td>5096</td></tr><tr><td>10080 min Summer</td><td>0.865</td><td>0.0</td><td>5848</td></tr><tr><td>15 min Winter</td><td>86.846</td><td>0.0</td><td>19</td></tr></tbody></table>						Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	15 min Summer	10.269	0.169	0.0	0.8	O K	30 min Summer	10.320	0.220	0.0	1.0	O K	60 min Summer	10.376	0.276	0.0	1.3	O K	120 min Summer	10.438	0.338	0.0	1.6	O K	180 min Summer	10.472	0.372	0.0	1.8	O K	240 min Summer	10.493	0.393	0.0	1.9	O K	360 min Summer	10.514	0.414	0.0	2.0	O K	480 min Summer	10.520	0.420	0.0	2.0	O K	600 min Summer	10.520	0.420	0.0	2.0	O K	720 min Summer	10.516	0.416	0.0	2.0	O K	960 min Summer	10.508	0.408	0.0	1.9	O K	1440 min Summer	10.491	0.391	0.0	1.9	O K	2160 min Summer	10.469	0.369	0.0	1.8	O K	2880 min Summer	10.451	0.351	0.0	1.7	O K	4320 min Summer	10.425	0.325	0.0	1.5	O K	5760 min Summer	10.405	0.305	0.0	1.4	O K	7200 min Summer	10.390	0.290	0.0	1.4	O K	8640 min Summer	10.378	0.278	0.0	1.3	O K	10080 min Summer	10.367	0.267	0.0	1.3	O K	15 min Winter	10.289	0.189	0.0	0.9	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	86.846	0.0	19	30 min Summer	56.970	0.0	34	60 min Summer	36.174	0.0	64	120 min Summer	22.769	0.0	122	180 min Summer	17.094	0.0	182	240 min Summer	13.845	0.0	242	360 min Summer	10.168	0.0	362	480 min Summer	8.105	0.0	480	600 min Summer	6.777	0.0	600	720 min Summer	5.847	0.0	686	960 min Summer	4.621	0.0	790	1440 min Summer	3.324	0.0	1038	2160 min Summer	2.410	0.0	1452	2880 min Summer	1.934	0.0	1872	4320 min Summer	1.447	0.0	2680	5760 min Summer	1.196	0.0	3512	7200 min Summer	1.044	0.0	4320	8640 min Summer	0.940	0.0	5096	10080 min Summer	0.865	0.0	5848	15 min Winter	86.846	0.0	19
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status																																																																																																																																																																																																																		
15 min Summer	10.269	0.169	0.0	0.8	O K																																																																																																																																																																																																																		
30 min Summer	10.320	0.220	0.0	1.0	O K																																																																																																																																																																																																																		
60 min Summer	10.376	0.276	0.0	1.3	O K																																																																																																																																																																																																																		
120 min Summer	10.438	0.338	0.0	1.6	O K																																																																																																																																																																																																																		
180 min Summer	10.472	0.372	0.0	1.8	O K																																																																																																																																																																																																																		
240 min Summer	10.493	0.393	0.0	1.9	O K																																																																																																																																																																																																																		
360 min Summer	10.514	0.414	0.0	2.0	O K																																																																																																																																																																																																																		
480 min Summer	10.520	0.420	0.0	2.0	O K																																																																																																																																																																																																																		
600 min Summer	10.520	0.420	0.0	2.0	O K																																																																																																																																																																																																																		
720 min Summer	10.516	0.416	0.0	2.0	O K																																																																																																																																																																																																																		
960 min Summer	10.508	0.408	0.0	1.9	O K																																																																																																																																																																																																																		
1440 min Summer	10.491	0.391	0.0	1.9	O K																																																																																																																																																																																																																		
2160 min Summer	10.469	0.369	0.0	1.8	O K																																																																																																																																																																																																																		
2880 min Summer	10.451	0.351	0.0	1.7	O K																																																																																																																																																																																																																		
4320 min Summer	10.425	0.325	0.0	1.5	O K																																																																																																																																																																																																																		
5760 min Summer	10.405	0.305	0.0	1.4	O K																																																																																																																																																																																																																		
7200 min Summer	10.390	0.290	0.0	1.4	O K																																																																																																																																																																																																																		
8640 min Summer	10.378	0.278	0.0	1.3	O K																																																																																																																																																																																																																		
10080 min Summer	10.367	0.267	0.0	1.3	O K																																																																																																																																																																																																																		
15 min Winter	10.289	0.189	0.0	0.9	O K																																																																																																																																																																																																																		
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)																																																																																																																																																																																																																				
15 min Summer	86.846	0.0	19																																																																																																																																																																																																																				
30 min Summer	56.970	0.0	34																																																																																																																																																																																																																				
60 min Summer	36.174	0.0	64																																																																																																																																																																																																																				
120 min Summer	22.769	0.0	122																																																																																																																																																																																																																				
180 min Summer	17.094	0.0	182																																																																																																																																																																																																																				
240 min Summer	13.845	0.0	242																																																																																																																																																																																																																				
360 min Summer	10.168	0.0	362																																																																																																																																																																																																																				
480 min Summer	8.105	0.0	480																																																																																																																																																																																																																				
600 min Summer	6.777	0.0	600																																																																																																																																																																																																																				
720 min Summer	5.847	0.0	686																																																																																																																																																																																																																				
960 min Summer	4.621	0.0	790																																																																																																																																																																																																																				
1440 min Summer	3.324	0.0	1038																																																																																																																																																																																																																				
2160 min Summer	2.410	0.0	1452																																																																																																																																																																																																																				
2880 min Summer	1.934	0.0	1872																																																																																																																																																																																																																				
4320 min Summer	1.447	0.0	2680																																																																																																																																																																																																																				
5760 min Summer	1.196	0.0	3512																																																																																																																																																																																																																				
7200 min Summer	1.044	0.0	4320																																																																																																																																																																																																																				
8640 min Summer	0.940	0.0	5096																																																																																																																																																																																																																				
10080 min Summer	0.865	0.0	5848																																																																																																																																																																																																																				
15 min Winter	86.846	0.0	19																																																																																																																																																																																																																				
©1982-2020 Innovyze																																																																																																																																																																																																																							

GTA Civils Ltd				Page 2	
66a Church Walk Burgess Hill West Sussex RH15 9AS		Warwick Nursery Cellular Soakaway A12,A13 1 in 10 year + 40%			
Date 09/06/2021 File A12&A13 soakaway.SRCX		Designed by JR Checked by			
Micro Drainage		Source Control 2020.1			
<u>Summary of Results for 10 year Return Period (+40%)</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	10.347	0.247	0.0	1.2	○ K
60 min Winter	10.410	0.310	0.0	1.5	○ K
120 min Winter	10.481	0.381	0.0	1.8	○ K
180 min Winter	10.520	0.420	0.0	2.0	○ K
240 min Winter	10.544	0.444	0.0	2.1	○ K
360 min Winter	10.570	0.470	0.0	2.2	○ K
480 min Winter	10.579	0.479	0.0	2.3	○ K
600 min Winter	10.582	0.482	0.0	2.3	○ K
720 min Winter	10.580	0.480	0.0	2.3	○ K
960 min Winter	10.568	0.468	0.0	2.2	○ K
1440 min Winter	10.547	0.447	0.0	2.1	○ K
2160 min Winter	10.518	0.418	0.0	2.0	○ K
2880 min Winter	10.490	0.390	0.0	1.9	○ K
4320 min Winter	10.447	0.347	0.0	1.6	○ K
5760 min Winter	10.413	0.313	0.0	1.5	○ K
7200 min Winter	10.386	0.286	0.0	1.4	○ K
8640 min Winter	10.363	0.263	0.0	1.3	○ K
10080 min Winter	10.344	0.244	0.0	1.2	○ K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	56.970	0.0	33		
60 min Winter	36.174	0.0	62		
120 min Winter	22.769	0.0	122		
180 min Winter	17.094	0.0	180		
240 min Winter	13.845	0.0	238		
360 min Winter	10.168	0.0	354		
480 min Winter	8.105	0.0	468		
600 min Winter	6.777	0.0	578		
720 min Winter	5.847	0.0	688		
960 min Winter	4.621	0.0	892		
1440 min Winter	3.324	0.0	1110		
2160 min Winter	2.410	0.0	1576		
2880 min Winter	1.934	0.0	2020		
4320 min Winter	1.447	0.0	2896		
5760 min Winter	1.196	0.0	3744		
7200 min Winter	1.044	0.0	4544		
8640 min Winter	0.940	0.0	5360		
10080 min Winter	0.865	0.0	6152		
©1982-2020 Innovyze					

GTA Civils Ltd		Page 3																														
66a Church Walk Burgess Hill West Sussex RH15 9AS	Warwick Nursery Cellular Soakaway A12,A13 1 in 10 year + 40%																															
Date 09/06/2021	Designed by JR																															
File A12&A13 soakaway.SRCX	Checked by																															
Micro Drainage		Source Control 2020.1																														
<u>Rainfall Details</u> <table> <tr> <td>Rainfall Model</td> <td>FEH</td> </tr> <tr> <td>Return Period (years)</td> <td>10</td> </tr> <tr> <td>FEH Rainfall Version</td> <td>2013</td> </tr> <tr> <td>Site Location</td> <td>GB 494911 105112 SU 94911 05112</td> </tr> <tr> <td>Data Type</td> <td>Point</td> </tr> <tr> <td>Summer Storms</td> <td>Yes</td> </tr> <tr> <td>Winter Storms</td> <td>Yes</td> </tr> <tr> <td>Cv (Summer)</td> <td>0.750</td> </tr> <tr> <td>Cv (Winter)</td> <td>0.840</td> </tr> <tr> <td>Shortest Storm (mins)</td> <td>15</td> </tr> <tr> <td>Longest Storm (mins)</td> <td>10080</td> </tr> <tr> <td>Climate Change %</td> <td>+40</td> </tr> </table> <u>Time Area Diagram</u> Total Area (ha) 0.005 <table> <thead> <tr> <th>Time (mins)</th> <th>Area</th> </tr> <tr> <th>From:</th> <th>To: (ha)</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>4 0.005</td> </tr> </tbody> </table>			Rainfall Model	FEH	Return Period (years)	10	FEH Rainfall Version	2013	Site Location	GB 494911 105112 SU 94911 05112	Data Type	Point	Summer Storms	Yes	Winter Storms	Yes	Cv (Summer)	0.750	Cv (Winter)	0.840	Shortest Storm (mins)	15	Longest Storm (mins)	10080	Climate Change %	+40	Time (mins)	Area	From:	To: (ha)	0	4 0.005
Rainfall Model	FEH																															
Return Period (years)	10																															
FEH Rainfall Version	2013																															
Site Location	GB 494911 105112 SU 94911 05112																															
Data Type	Point																															
Summer Storms	Yes																															
Winter Storms	Yes																															
Cv (Summer)	0.750																															
Cv (Winter)	0.840																															
Shortest Storm (mins)	15																															
Longest Storm (mins)	10080																															
Climate Change %	+40																															
Time (mins)	Area																															
From:	To: (ha)																															
0	4 0.005																															
©1982-2020 Innovyze																																

GTA Civils Ltd		Page 4
66a Church Walk Burgess Hill West Sussex RH15 9AS	Warwick Nursery Cellular Soakaway A12,A13 1 in 10 year + 40%	
Date 09/06/2021 File A12&A13 soakaway.SRCX	Designed by JR Checked by	
Micro Drainage Source Control 2020.1		

Model Details

Storage is Online Cover Level (m) 11.400

Cellular Storage Structure

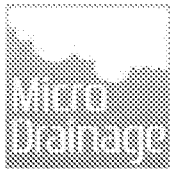
Invert Level (m) 10.100 Safety Factor 6.5
Infiltration Coefficient Base (m/hr) 0.05652 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.05652

Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	5.0	5.0	0.900	0.0	12.2
0.800	5.0	12.2			

©1982-2020 Innovyze

GTA Civils Ltd			Page 1																																																																																																																																																																																																																			
66a Church Walk Burgess Hill West Sussex RH15 9AS		Warwick Nursery Cellular Soakaway A12,A13 1 in 100 year + 40%																																																																																																																																																																																																																				
Date 09/06/2021 File A12&A13 soakaway.SRCX		Designed by JR Checked by																																																																																																																																																																																																																				
Micro Drainage		Source Control 2020.1																																																																																																																																																																																																																				
Summary of Results for 100 year Return Period (+40%) Half Drain Time : 1231 minutes. <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 Volume (m³)</th><th>Status</th></tr></thead><tbody><tr><td>15 min Summer</td><td>10.375</td><td>0.275</td><td>0.0</td><td>1.3</td><td>○ K</td></tr><tr><td>30 min Summer</td><td>10.467</td><td>0.367</td><td>0.0</td><td>1.7</td><td>○ K</td></tr><tr><td>60 min Summer</td><td>10.567</td><td>0.467</td><td>0.0</td><td>2.2</td><td>○ K</td></tr><tr><td>120 min Summer</td><td>10.645</td><td>0.545</td><td>0.0</td><td>2.6</td><td>○ K</td></tr><tr><td>180 min Summer</td><td>10.690</td><td>0.590</td><td>0.0</td><td>2.8</td><td>○ K</td></tr><tr><td>240 min Summer</td><td>10.718</td><td>0.618</td><td>0.0</td><td>2.9</td><td>○ K</td></tr><tr><td>360 min Summer</td><td>10.747</td><td>0.647</td><td>0.0</td><td>3.1</td><td>○ K</td></tr><tr><td>480 min Summer</td><td>10.758</td><td>0.658</td><td>0.0</td><td>3.1</td><td>○ K</td></tr><tr><td>600 min Summer</td><td>10.760</td><td>0.660</td><td>0.0</td><td>3.1</td><td>○ K</td></tr><tr><td>720 min Summer</td><td>10.756</td><td>0.656</td><td>0.0</td><td>3.1</td><td>○ K</td></tr><tr><td>960 min Summer</td><td>10.742</td><td>0.642</td><td>0.0</td><td>3.0</td><td>○ K</td></tr><tr><td>1440 min Summer</td><td>10.716</td><td>0.616</td><td>0.0</td><td>2.9</td><td>○ K</td></tr><tr><td>2160 min Summer</td><td>10.683</td><td>0.583</td><td>0.0</td><td>2.8</td><td>○ K</td></tr><tr><td>2880 min Summer</td><td>10.656</td><td>0.556</td><td>0.0</td><td>2.6</td><td>○ K</td></tr><tr><td>4320 min Summer</td><td>10.615</td><td>0.515</td><td>0.0</td><td>2.4</td><td>○ K</td></tr><tr><td>5760 min Summer</td><td>10.584</td><td>0.484</td><td>0.0</td><td>2.3</td><td>○ K</td></tr><tr><td>7200 min Summer</td><td>10.561</td><td>0.461</td><td>0.0</td><td>2.2</td><td>○ K</td></tr><tr><td>8640 min Summer</td><td>10.542</td><td>0.442</td><td>0.0</td><td>2.1</td><td>○ K</td></tr><tr><td>10080 min Summer</td><td>10.526</td><td>0.426</td><td>0.0</td><td>2.0</td><td>○ K</td></tr><tr><td>15 min Winter</td><td>10.408</td><td>0.308</td><td>0.0</td><td>1.5</td><td>○ K</td></tr></tbody></table> <table><thead><tr><th>Storm Event</th><th>Rain (mm/hr)</th><th>Flooded Volume (m³)</th><th>Time-Peak (mins)</th></tr></thead><tbody><tr><td>15 min Summer</td><td>140.714</td><td>0.0</td><td>19</td></tr><tr><td>30 min Summer</td><td>94.437</td><td>0.0</td><td>34</td></tr><tr><td>60 min Summer</td><td>60.674</td><td>0.0</td><td>64</td></tr><tr><td>120 min Summer</td><td>36.152</td><td>0.0</td><td>124</td></tr><tr><td>180 min Summer</td><td>26.572</td><td>0.0</td><td>182</td></tr><tr><td>240 min Summer</td><td>21.265</td><td>0.0</td><td>242</td></tr><tr><td>360 min Summer</td><td>15.394</td><td>0.0</td><td>362</td></tr><tr><td>480 min Summer</td><td>12.172</td><td>0.0</td><td>482</td></tr><tr><td>600 min Summer</td><td>10.122</td><td>0.0</td><td>600</td></tr><tr><td>720 min Summer</td><td>8.696</td><td>0.0</td><td>720</td></tr><tr><td>960 min Summer</td><td>6.832</td><td>0.0</td><td>876</td></tr><tr><td>1440 min Summer</td><td>4.865</td><td>0.0</td><td>1110</td></tr><tr><td>2160 min Summer</td><td>3.484</td><td>0.0</td><td>1496</td></tr><tr><td>2880 min Summer</td><td>2.767</td><td>0.0</td><td>1928</td></tr><tr><td>4320 min Summer</td><td>2.029</td><td>0.0</td><td>2728</td></tr><tr><td>5760 min Summer</td><td>1.648</td><td>0.0</td><td>3576</td></tr><tr><td>7200 min Summer</td><td>1.417</td><td>0.0</td><td>4392</td></tr><tr><td>8640 min Summer</td><td>1.261</td><td>0.0</td><td>5184</td></tr><tr><td>10080 min Summer</td><td>1.147</td><td>0.0</td><td>5952</td></tr><tr><td>15 min Winter</td><td>140.714</td><td>0.0</td><td>19</td></tr></tbody></table>					Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	15 min Summer	10.375	0.275	0.0	1.3	○ K	30 min Summer	10.467	0.367	0.0	1.7	○ K	60 min Summer	10.567	0.467	0.0	2.2	○ K	120 min Summer	10.645	0.545	0.0	2.6	○ K	180 min Summer	10.690	0.590	0.0	2.8	○ K	240 min Summer	10.718	0.618	0.0	2.9	○ K	360 min Summer	10.747	0.647	0.0	3.1	○ K	480 min Summer	10.758	0.658	0.0	3.1	○ K	600 min Summer	10.760	0.660	0.0	3.1	○ K	720 min Summer	10.756	0.656	0.0	3.1	○ K	960 min Summer	10.742	0.642	0.0	3.0	○ K	1440 min Summer	10.716	0.616	0.0	2.9	○ K	2160 min Summer	10.683	0.583	0.0	2.8	○ K	2880 min Summer	10.656	0.556	0.0	2.6	○ K	4320 min Summer	10.615	0.515	0.0	2.4	○ K	5760 min Summer	10.584	0.484	0.0	2.3	○ K	7200 min Summer	10.561	0.461	0.0	2.2	○ K	8640 min Summer	10.542	0.442	0.0	2.1	○ K	10080 min Summer	10.526	0.426	0.0	2.0	○ K	15 min Winter	10.408	0.308	0.0	1.5	○ K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	140.714	0.0	19	30 min Summer	94.437	0.0	34	60 min Summer	60.674	0.0	64	120 min Summer	36.152	0.0	124	180 min Summer	26.572	0.0	182	240 min Summer	21.265	0.0	242	360 min Summer	15.394	0.0	362	480 min Summer	12.172	0.0	482	600 min Summer	10.122	0.0	600	720 min Summer	8.696	0.0	720	960 min Summer	6.832	0.0	876	1440 min Summer	4.865	0.0	1110	2160 min Summer	3.484	0.0	1496	2880 min Summer	2.767	0.0	1928	4320 min Summer	2.029	0.0	2728	5760 min Summer	1.648	0.0	3576	7200 min Summer	1.417	0.0	4392	8640 min Summer	1.261	0.0	5184	10080 min Summer	1.147	0.0	5952	15 min Winter	140.714	0.0	19
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status																																																																																																																																																																																																																	
15 min Summer	10.375	0.275	0.0	1.3	○ K																																																																																																																																																																																																																	
30 min Summer	10.467	0.367	0.0	1.7	○ K																																																																																																																																																																																																																	
60 min Summer	10.567	0.467	0.0	2.2	○ K																																																																																																																																																																																																																	
120 min Summer	10.645	0.545	0.0	2.6	○ K																																																																																																																																																																																																																	
180 min Summer	10.690	0.590	0.0	2.8	○ K																																																																																																																																																																																																																	
240 min Summer	10.718	0.618	0.0	2.9	○ K																																																																																																																																																																																																																	
360 min Summer	10.747	0.647	0.0	3.1	○ K																																																																																																																																																																																																																	
480 min Summer	10.758	0.658	0.0	3.1	○ K																																																																																																																																																																																																																	
600 min Summer	10.760	0.660	0.0	3.1	○ K																																																																																																																																																																																																																	
720 min Summer	10.756	0.656	0.0	3.1	○ K																																																																																																																																																																																																																	
960 min Summer	10.742	0.642	0.0	3.0	○ K																																																																																																																																																																																																																	
1440 min Summer	10.716	0.616	0.0	2.9	○ K																																																																																																																																																																																																																	
2160 min Summer	10.683	0.583	0.0	2.8	○ K																																																																																																																																																																																																																	
2880 min Summer	10.656	0.556	0.0	2.6	○ K																																																																																																																																																																																																																	
4320 min Summer	10.615	0.515	0.0	2.4	○ K																																																																																																																																																																																																																	
5760 min Summer	10.584	0.484	0.0	2.3	○ K																																																																																																																																																																																																																	
7200 min Summer	10.561	0.461	0.0	2.2	○ K																																																																																																																																																																																																																	
8640 min Summer	10.542	0.442	0.0	2.1	○ K																																																																																																																																																																																																																	
10080 min Summer	10.526	0.426	0.0	2.0	○ K																																																																																																																																																																																																																	
15 min Winter	10.408	0.308	0.0	1.5	○ K																																																																																																																																																																																																																	
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)																																																																																																																																																																																																																			
15 min Summer	140.714	0.0	19																																																																																																																																																																																																																			
30 min Summer	94.437	0.0	34																																																																																																																																																																																																																			
60 min Summer	60.674	0.0	64																																																																																																																																																																																																																			
120 min Summer	36.152	0.0	124																																																																																																																																																																																																																			
180 min Summer	26.572	0.0	182																																																																																																																																																																																																																			
240 min Summer	21.265	0.0	242																																																																																																																																																																																																																			
360 min Summer	15.394	0.0	362																																																																																																																																																																																																																			
480 min Summer	12.172	0.0	482																																																																																																																																																																																																																			
600 min Summer	10.122	0.0	600																																																																																																																																																																																																																			
720 min Summer	8.696	0.0	720																																																																																																																																																																																																																			
960 min Summer	6.832	0.0	876																																																																																																																																																																																																																			
1440 min Summer	4.865	0.0	1110																																																																																																																																																																																																																			
2160 min Summer	3.484	0.0	1496																																																																																																																																																																																																																			
2880 min Summer	2.767	0.0	1928																																																																																																																																																																																																																			
4320 min Summer	2.029	0.0	2728																																																																																																																																																																																																																			
5760 min Summer	1.648	0.0	3576																																																																																																																																																																																																																			
7200 min Summer	1.417	0.0	4392																																																																																																																																																																																																																			
8640 min Summer	1.261	0.0	5184																																																																																																																																																																																																																			
10080 min Summer	1.147	0.0	5952																																																																																																																																																																																																																			
15 min Winter	140.714	0.0	19																																																																																																																																																																																																																			
©1982-2020 Innovyeze																																																																																																																																																																																																																						

GTA Civils Ltd				Page 2	
66a Church Walk Burgess Hill West Sussex RH15 9AS		Warwick Nursery Cellular Soakaway A12,A13 1 in 100 year + 40%			
Date 09/06/2021 File A12&A13 soakaway.SRCX		Designed by JR Checked by			
Micro Drainage		Source Control 2020.1			
<u>Summary of Results for 100 year Return Period (+40%)</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	10.511	0.411	0.0	2.0	○ K
60 min Winter	10.624	0.524	0.0	2.5	○ K
120 min Winter	10.713	0.613	0.0	2.9	○ K
180 min Winter	10.764	0.664	0.0	3.2	○ K
240 min Winter	10.796	0.696	0.0	3.3	○ K
360 min Winter	10.831	0.731	0.0	3.5	○ K
480 min Winter	10.846	0.746	0.0	3.5	○ K
600 min Winter	10.851	0.751	0.0	3.6	○ K
720 min Winter	10.850	0.750	0.0	3.6	○ K
960 min Winter	10.839	0.739	0.0	3.5	○ K
1440 min Winter	10.805	0.705	0.0	3.3	○ K
2160 min Winter	10.765	0.665	0.0	3.2	○ K
2880 min Winter	10.728	0.628	0.0	3.0	○ K
4320 min Winter	10.666	0.566	0.0	2.7	○ K
5760 min Winter	10.617	0.517	0.0	2.5	○ K
7200 min Winter	10.578	0.478	0.0	2.3	○ K
8640 min Winter	10.545	0.445	0.0	2.1	○ K
10080 min Winter	10.517	0.417	0.0	2.0	○ K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	94.437	0.0	33		
60 min Winter	60.674	0.0	64		
120 min Winter	36.152	0.0	122		
180 min Winter	26.572	0.0	180		
240 min Winter	21.265	0.0	238		
360 min Winter	15.394	0.0	356		
480 min Winter	12.172	0.0	470		
600 min Winter	10.122	0.0	584		
720 min Winter	8.696	0.0	694		
960 min Winter	6.832	0.0	912		
1440 min Winter	4.865	0.0	1154		
2160 min Winter	3.484	0.0	1604		
2880 min Winter	2.767	0.0	2072		
4320 min Winter	2.029	0.0	2980		
5760 min Winter	1.648	0.0	3808		
7200 min Winter	1.417	0.0	4680		
8640 min Winter	1.261	0.0	5528		
10080 min Winter	1.147	0.0	6344		
©1982-2020 Innovyze					

GTA Civils Ltd		Page 3
66a Church Walk Burgess Hill West Sussex RH15 9AS	Warwick Nursery Cellular Soakaway A12,A13 1 in 100 year + 40%	
Date 09/06/2021 File A12&A13 soakaway.SRCX	Designed by JR Checked by	
Micro Drainage Source Control 2020.1		

Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	2013
Site Location	GB 494911 105112 SU 94911 05112
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	10080
Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.005

Time (mins)	Area
From:	To: (ha)
0	4 0.005

©1982-2020 Innovyze

GTA Civils Ltd		Page 4
66a Church Walk Burgess Hill West Sussex RH15 9AS	Warwick Nursery Cellular Soakaway A12,A13 1 in 100 year + 40%	
Date 09/06/2021 File A12&A13 soakaway.SRCX	Designed by JR Checked by	
Micro Drainage Source Control 2020.1		

Model Details

Storage is Online Cover Level (m) 11.400

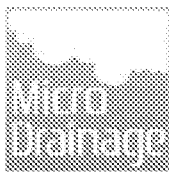
Cellular Storage Structure

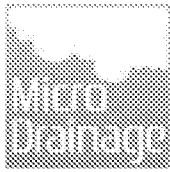
Invert Level (m) 10.100 Safety Factor 6.5
Infiltration Coefficient Base (m/hr) 0.05652 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.05652

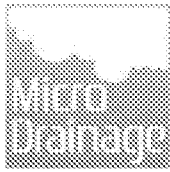
Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	5.0	5.0	0.900	0.0	12.2
0.800	5.0	12.2			

©1982-2020 Innovyze

GTA Civils Ltd				Page 1																																																																																																																																																																																																																			
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB		Warwick Nursery Permeable Paving A14-A25 1 in 10 year + 40%																																																																																																																																																																																																																					
Date 13/07/2021 File A14 - A25 PP.SRCX		Designed by JR Checked by																																																																																																																																																																																																																					
XP Solutions		Source Control 2020.1																																																																																																																																																																																																																					
<u>Summary of Results for 10 year Return Period (+40%)</u> Half Drain Time : 257 minutes. <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 Volume (m³)</th><th>Status</th></tr></thead><tbody><tr><td>15 min Summer</td><td>10.672</td><td>0.240</td><td>1.5</td><td>18.2</td><td>O K</td></tr><tr><td>30 min Summer</td><td>10.713</td><td>0.281</td><td>1.5</td><td>24.0</td><td>O K</td></tr><tr><td>60 min Summer</td><td>10.753</td><td>0.321</td><td>1.5</td><td>29.8</td><td>O K</td></tr><tr><td>120 min Summer</td><td>10.792</td><td>0.360</td><td>1.5</td><td>35.3</td><td>O K</td></tr><tr><td>180 min Summer</td><td>10.805</td><td>0.373</td><td>1.5</td><td>37.3</td><td>O K</td></tr><tr><td>240 min Summer</td><td>10.808</td><td>0.376</td><td>1.5</td><td>37.7</td><td>O K</td></tr><tr><td>360 min Summer</td><td>10.806</td><td>0.374</td><td>1.5</td><td>37.4</td><td>O K</td></tr><tr><td>480 min Summer</td><td>10.799</td><td>0.367</td><td>1.5</td><td>36.3</td><td>O K</td></tr><tr><td>600 min Summer</td><td>10.789</td><td>0.357</td><td>1.5</td><td>34.9</td><td>O K</td></tr><tr><td>720 min Summer</td><td>10.778</td><td>0.346</td><td>1.5</td><td>33.3</td><td>O K</td></tr><tr><td>960 min Summer</td><td>10.756</td><td>0.324</td><td>1.5</td><td>30.2</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>10.718</td><td>0.286</td><td>1.5</td><td>24.7</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>10.676</td><td>0.244</td><td>1.5</td><td>18.6</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>10.651</td><td>0.219</td><td>1.4</td><td>15.1</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>10.620</td><td>0.188</td><td>1.2</td><td>11.1</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>10.599</td><td>0.167</td><td>1.1</td><td>8.8</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>10.585</td><td>0.153</td><td>1.0</td><td>7.3</td><td>O K</td></tr><tr><td>8640 min Summer</td><td>10.573</td><td>0.141</td><td>0.9</td><td>6.3</td><td>O K</td></tr><tr><td>10080 min Summer</td><td>10.565</td><td>0.133</td><td>0.9</td><td>5.6</td><td>O K</td></tr><tr><td>15 min Winter</td><td>10.690</td><td>0.258</td><td>1.5</td><td>20.7</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>Time-Peak (mins)</th></tr></thead><tbody><tr><td>15 min Summer</td><td>86.846</td><td>0.0</td><td>18</td></tr><tr><td>30 min Summer</td><td>56.970</td><td>0.0</td><td>33</td></tr><tr><td>60 min Summer</td><td>36.174</td><td>0.0</td><td>62</td></tr><tr><td>120 min Summer</td><td>22.769</td><td>0.0</td><td>122</td></tr><tr><td>180 min Summer</td><td>17.094</td><td>0.0</td><td>180</td></tr><tr><td>240 min Summer</td><td>13.845</td><td>0.0</td><td>210</td></tr><tr><td>360 min Summer</td><td>10.168</td><td>0.0</td><td>272</td></tr><tr><td>480 min Summer</td><td>8.105</td><td>0.0</td><td>338</td></tr><tr><td>600 min Summer</td><td>6.777</td><td>0.0</td><td>404</td></tr><tr><td>720 min Summer</td><td>5.847</td><td>0.0</td><td>472</td></tr><tr><td>960 min Summer</td><td>4.621</td><td>0.0</td><td>606</td></tr><tr><td>1440 min Summer</td><td>3.324</td><td>0.0</td><td>866</td></tr><tr><td>2160 min Summer</td><td>2.410</td><td>0.0</td><td>1232</td></tr><tr><td>2880 min Summer</td><td>1.934</td><td>0.0</td><td>1584</td></tr><tr><td>4320 min Summer</td><td>1.447</td><td>0.0</td><td>2292</td></tr><tr><td>5760 min Summer</td><td>1.196</td><td>0.0</td><td>3008</td></tr><tr><td>7200 min Summer</td><td>1.044</td><td>0.0</td><td>3744</td></tr><tr><td>8640 min Summer</td><td>0.940</td><td>0.0</td><td>4488</td></tr><tr><td>10080 min Summer</td><td>0.865</td><td>0.0</td><td>5152</td></tr><tr><td>15 min Winter</td><td>86.846</td><td>0.0</td><td>18</td></tr></tbody></table>						Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	15 min Summer	10.672	0.240	1.5	18.2	O K	30 min Summer	10.713	0.281	1.5	24.0	O K	60 min Summer	10.753	0.321	1.5	29.8	O K	120 min Summer	10.792	0.360	1.5	35.3	O K	180 min Summer	10.805	0.373	1.5	37.3	O K	240 min Summer	10.808	0.376	1.5	37.7	O K	360 min Summer	10.806	0.374	1.5	37.4	O K	480 min Summer	10.799	0.367	1.5	36.3	O K	600 min Summer	10.789	0.357	1.5	34.9	O K	720 min Summer	10.778	0.346	1.5	33.3	O K	960 min Summer	10.756	0.324	1.5	30.2	O K	1440 min Summer	10.718	0.286	1.5	24.7	O K	2160 min Summer	10.676	0.244	1.5	18.6	O K	2880 min Summer	10.651	0.219	1.4	15.1	O K	4320 min Summer	10.620	0.188	1.2	11.1	O K	5760 min Summer	10.599	0.167	1.1	8.8	O K	7200 min Summer	10.585	0.153	1.0	7.3	O K	8640 min Summer	10.573	0.141	0.9	6.3	O K	10080 min Summer	10.565	0.133	0.9	5.6	O K	15 min Winter	10.690	0.258	1.5	20.7	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	86.846	0.0	18	30 min Summer	56.970	0.0	33	60 min Summer	36.174	0.0	62	120 min Summer	22.769	0.0	122	180 min Summer	17.094	0.0	180	240 min Summer	13.845	0.0	210	360 min Summer	10.168	0.0	272	480 min Summer	8.105	0.0	338	600 min Summer	6.777	0.0	404	720 min Summer	5.847	0.0	472	960 min Summer	4.621	0.0	606	1440 min Summer	3.324	0.0	866	2160 min Summer	2.410	0.0	1232	2880 min Summer	1.934	0.0	1584	4320 min Summer	1.447	0.0	2292	5760 min Summer	1.196	0.0	3008	7200 min Summer	1.044	0.0	3744	8640 min Summer	0.940	0.0	4488	10080 min Summer	0.865	0.0	5152	15 min Winter	86.846	0.0	18
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status																																																																																																																																																																																																																		
15 min Summer	10.672	0.240	1.5	18.2	O K																																																																																																																																																																																																																		
30 min Summer	10.713	0.281	1.5	24.0	O K																																																																																																																																																																																																																		
60 min Summer	10.753	0.321	1.5	29.8	O K																																																																																																																																																																																																																		
120 min Summer	10.792	0.360	1.5	35.3	O K																																																																																																																																																																																																																		
180 min Summer	10.805	0.373	1.5	37.3	O K																																																																																																																																																																																																																		
240 min Summer	10.808	0.376	1.5	37.7	O K																																																																																																																																																																																																																		
360 min Summer	10.806	0.374	1.5	37.4	O K																																																																																																																																																																																																																		
480 min Summer	10.799	0.367	1.5	36.3	O K																																																																																																																																																																																																																		
600 min Summer	10.789	0.357	1.5	34.9	O K																																																																																																																																																																																																																		
720 min Summer	10.778	0.346	1.5	33.3	O K																																																																																																																																																																																																																		
960 min Summer	10.756	0.324	1.5	30.2	O K																																																																																																																																																																																																																		
1440 min Summer	10.718	0.286	1.5	24.7	O K																																																																																																																																																																																																																		
2160 min Summer	10.676	0.244	1.5	18.6	O K																																																																																																																																																																																																																		
2880 min Summer	10.651	0.219	1.4	15.1	O K																																																																																																																																																																																																																		
4320 min Summer	10.620	0.188	1.2	11.1	O K																																																																																																																																																																																																																		
5760 min Summer	10.599	0.167	1.1	8.8	O K																																																																																																																																																																																																																		
7200 min Summer	10.585	0.153	1.0	7.3	O K																																																																																																																																																																																																																		
8640 min Summer	10.573	0.141	0.9	6.3	O K																																																																																																																																																																																																																		
10080 min Summer	10.565	0.133	0.9	5.6	O K																																																																																																																																																																																																																		
15 min Winter	10.690	0.258	1.5	20.7	O K																																																																																																																																																																																																																		
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)																																																																																																																																																																																																																				
15 min Summer	86.846	0.0	18																																																																																																																																																																																																																				
30 min Summer	56.970	0.0	33																																																																																																																																																																																																																				
60 min Summer	36.174	0.0	62																																																																																																																																																																																																																				
120 min Summer	22.769	0.0	122																																																																																																																																																																																																																				
180 min Summer	17.094	0.0	180																																																																																																																																																																																																																				
240 min Summer	13.845	0.0	210																																																																																																																																																																																																																				
360 min Summer	10.168	0.0	272																																																																																																																																																																																																																				
480 min Summer	8.105	0.0	338																																																																																																																																																																																																																				
600 min Summer	6.777	0.0	404																																																																																																																																																																																																																				
720 min Summer	5.847	0.0	472																																																																																																																																																																																																																				
960 min Summer	4.621	0.0	606																																																																																																																																																																																																																				
1440 min Summer	3.324	0.0	866																																																																																																																																																																																																																				
2160 min Summer	2.410	0.0	1232																																																																																																																																																																																																																				
2880 min Summer	1.934	0.0	1584																																																																																																																																																																																																																				
4320 min Summer	1.447	0.0	2292																																																																																																																																																																																																																				
5760 min Summer	1.196	0.0	3008																																																																																																																																																																																																																				
7200 min Summer	1.044	0.0	3744																																																																																																																																																																																																																				
8640 min Summer	0.940	0.0	4488																																																																																																																																																																																																																				
10080 min Summer	0.865	0.0	5152																																																																																																																																																																																																																				
15 min Winter	86.846	0.0	18																																																																																																																																																																																																																				
©1982-2020 Innovyze																																																																																																																																																																																																																							

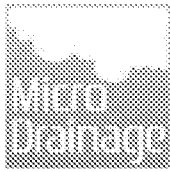
GTA Civils Ltd			Page 2		
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB		Warwick Nursery Permeable Paving A14-A25 1 in 10 year + 40%			
Date 13/07/2021 File A14 - A25 PP.SRCX		Designed by JR Checked by			
XP Solutions		Source Control 2020.1			
<u>Summary of Results for 10 year Return Period (+40%)</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	10.736	0.304	1.5	27.4	○ K
60 min Winter	10.783	0.351	1.5	34.0	○ K
120 min Winter	10.828	0.396	1.5	40.6	○ K
180 min Winter	10.846	0.414	1.5	43.1	○ K
240 min Winter	10.851	0.419	1.5	43.9	○ K
360 min Winter	10.845	0.413	1.5	43.1	○ K
480 min Winter	10.835	0.403	1.5	41.5	○ K
600 min Winter	10.820	0.388	1.5	39.5	○ K
720 min Winter	10.805	0.373	1.5	37.2	○ K
960 min Winter	10.772	0.340	1.5	32.6	○ K
1440 min Winter	10.715	0.283	1.5	24.4	○ K
2160 min Winter	10.659	0.227	1.5	16.2	○ K
2880 min Winter	10.630	0.198	1.3	12.3	○ K
4320 min Winter	10.592	0.160	1.0	8.1	○ K
5760 min Winter	10.568	0.136	0.9	5.9	○ K
7200 min Winter	10.553	0.121	0.8	4.6	○ K
8640 min Winter	10.542	0.110	0.7	3.8	○ K
10080 min Winter	10.533	0.101	0.7	3.2	○ K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	56.970	0.0	32		
60 min Winter	36.174	0.0	62		
120 min Winter	22.769	0.0	118		
180 min Winter	17.094	0.0	176		
240 min Winter	13.845	0.0	230		
360 min Winter	10.168	0.0	292		
480 min Winter	8.105	0.0	366		
600 min Winter	6.777	0.0	440		
720 min Winter	5.847	0.0	514		
960 min Winter	4.621	0.0	656		
1440 min Winter	3.324	0.0	922		
2160 min Winter	2.410	0.0	1256		
2880 min Winter	1.934	0.0	1620		
4320 min Winter	1.447	0.0	2336		
5760 min Winter	1.196	0.0	3056		
7200 min Winter	1.044	0.0	3752		
8640 min Winter	0.940	0.0	4488		
10080 min Winter	0.865	0.0	5152		
©1982-2020 Innovyze					

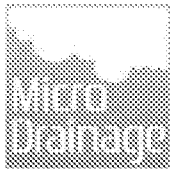
GTA Civils Ltd		Page 3																														
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB	Warwick Nursery Permeable Paving A14-A25 1 in 10 year + 40%																															
Date 13/07/2021	Designed by JR																															
File A14 - A25 PP.SRCX	Checked by																															
XP Solutions		Source Control 2020.1																														
<u>Rainfall Details</u> <table> <tr> <td>Rainfall Model</td> <td>FEH</td> </tr> <tr> <td>Return Period (years)</td> <td>10</td> </tr> <tr> <td>FEH Rainfall Version</td> <td>2013</td> </tr> <tr> <td>Site Location</td> <td>GB 494911 105112 SU 94911 05112</td> </tr> <tr> <td>Data Type</td> <td>Point</td> </tr> <tr> <td>Summer Storms</td> <td>Yes</td> </tr> <tr> <td>Winter Storms</td> <td>Yes</td> </tr> <tr> <td>Cv (Summer)</td> <td>0.750</td> </tr> <tr> <td>Cv (Winter)</td> <td>0.840</td> </tr> <tr> <td>Shortest Storm (mins)</td> <td>15</td> </tr> <tr> <td>Longest Storm (mins)</td> <td>10080</td> </tr> <tr> <td>Climate Change %</td> <td>+40</td> </tr> </table> <u>Time Area Diagram</u> Total Area (ha) 0.132 <table> <thead> <tr> <th>Time (mins)</th> <th>Area</th> </tr> <tr> <th>From:</th> <th>To: (ha)</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>4 0.132</td> </tr> </tbody> </table>			Rainfall Model	FEH	Return Period (years)	10	FEH Rainfall Version	2013	Site Location	GB 494911 105112 SU 94911 05112	Data Type	Point	Summer Storms	Yes	Winter Storms	Yes	Cv (Summer)	0.750	Cv (Winter)	0.840	Shortest Storm (mins)	15	Longest Storm (mins)	10080	Climate Change %	+40	Time (mins)	Area	From:	To: (ha)	0	4 0.132
Rainfall Model	FEH																															
Return Period (years)	10																															
FEH Rainfall Version	2013																															
Site Location	GB 494911 105112 SU 94911 05112																															
Data Type	Point																															
Summer Storms	Yes																															
Winter Storms	Yes																															
Cv (Summer)	0.750																															
Cv (Winter)	0.840																															
Shortest Storm (mins)	15																															
Longest Storm (mins)	10080																															
Climate Change %	+40																															
Time (mins)	Area																															
From:	To: (ha)																															
0	4 0.132																															
©1982-2020 Innovyze																																

GTA Civils Ltd		Page 4																								
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB	Warwick Nursery Permeable Paving A14-A25 1 in 10 year + 40%																									
Date 13/07/2021	Designed by JR																									
File A14 - A25 PP.SRCX	Checked by																									
XP Solutions		Source Control 2020.1																								
<u>Model Details</u> Storage is Online Cover Level (m) 11.200 <u>Porous Car Park Structure</u> <table> <tr> <td>Infiltration Coefficient Base (m/hr)</td> <td>0.07164</td> <td>Width (m)</td> <td>10.0</td> </tr> <tr> <td>Membrane Percolation (mm/hr)</td> <td>1000</td> <td>Length (m)</td> <td>48.0</td> </tr> <tr> <td>Max Percolation (l/s)</td> <td>133.3</td> <td>Slope (1:X)</td> <td>210.0</td> </tr> <tr> <td>Safety Factor</td> <td>6.5</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>10.432</td> <td>Cap Volume Depth (m)</td> <td>0.638</td> </tr> </table>			Infiltration Coefficient Base (m/hr)	0.07164	Width (m)	10.0	Membrane Percolation (mm/hr)	1000	Length (m)	48.0	Max Percolation (l/s)	133.3	Slope (1:X)	210.0	Safety Factor	6.5	Depression Storage (mm)	5	Porosity	0.30	Evaporation (mm/day)	3	Invert Level (m)	10.432	Cap Volume Depth (m)	0.638
Infiltration Coefficient Base (m/hr)	0.07164	Width (m)	10.0																							
Membrane Percolation (mm/hr)	1000	Length (m)	48.0																							
Max Percolation (l/s)	133.3	Slope (1:X)	210.0																							
Safety Factor	6.5	Depression Storage (mm)	5																							
Porosity	0.30	Evaporation (mm/day)	3																							
Invert Level (m)	10.432	Cap Volume Depth (m)	0.638																							
©1982-2020 Innovyze																										

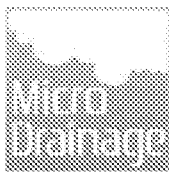
GTA Civils Ltd				Page 1																																																																																																																																																																																																																			
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB		Warwick Nursery Permeable Paving A14-A25 1 in 100 year + 40%																																																																																																																																																																																																																					
Date 13/07/2021 File A14 - A25 PP.SRCX		Designed by JR Checked by																																																																																																																																																																																																																					
XP Solutions		Source Control 2020.1																																																																																																																																																																																																																					
<u>Summary of Results for 100 year Return Period (+40%)</u> Half Drain Time : 437 minutes. <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 Volume (m³)</th><th>Status</th></tr></thead><tbody><tr><td>15 min Summer</td><td>10.764</td><td>0.332</td><td>1.5</td><td>31.4</td><td>O K</td></tr><tr><td>30 min Summer</td><td>10.840</td><td>0.408</td><td>1.5</td><td>42.3</td><td>O K</td></tr><tr><td>60 min Summer</td><td>10.918</td><td>0.486</td><td>1.5</td><td>53.6</td><td>O K</td></tr><tr><td>120 min Summer</td><td>10.970</td><td>0.538</td><td>1.5</td><td>61.1</td><td>O K</td></tr><tr><td>180 min Summer</td><td>10.993</td><td>0.561</td><td>1.5</td><td>64.3</td><td>O K</td></tr><tr><td>240 min Summer</td><td>11.001</td><td>0.569</td><td>1.5</td><td>65.4</td><td>O K</td></tr><tr><td>360 min Summer</td><td>10.995</td><td>0.563</td><td>1.5</td><td>64.6</td><td>O K</td></tr><tr><td>480 min Summer</td><td>10.981</td><td>0.549</td><td>1.5</td><td>62.7</td><td>O K</td></tr><tr><td>600 min Summer</td><td>10.967</td><td>0.535</td><td>1.5</td><td>60.6</td><td>O K</td></tr><tr><td>720 min Summer</td><td>10.952</td><td>0.520</td><td>1.5</td><td>58.5</td><td>O K</td></tr><tr><td>960 min Summer</td><td>10.923</td><td>0.491</td><td>1.5</td><td>54.3</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>10.870</td><td>0.438</td><td>1.5</td><td>46.6</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>10.805</td><td>0.373</td><td>1.5</td><td>37.3</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>10.755</td><td>0.323</td><td>1.5</td><td>30.1</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>10.687</td><td>0.255</td><td>1.5</td><td>20.2</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>10.652</td><td>0.220</td><td>1.4</td><td>15.2</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>10.632</td><td>0.200</td><td>1.3</td><td>12.6</td><td>O K</td></tr><tr><td>8640 min Summer</td><td>10.617</td><td>0.185</td><td>1.2</td><td>10.7</td><td>O K</td></tr><tr><td>10080 min Summer</td><td>10.604</td><td>0.172</td><td>1.1</td><td>9.3</td><td>O K</td></tr><tr><td>15 min Winter</td><td>10.793</td><td>0.361</td><td>1.5</td><td>35.5</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>Time-Peak (mins)</th></tr></thead><tbody><tr><td>15 min Summer</td><td>140.714</td><td>0.0</td><td>19</td></tr><tr><td>30 min Summer</td><td>94.437</td><td>0.0</td><td>33</td></tr><tr><td>60 min Summer</td><td>60.674</td><td>0.0</td><td>62</td></tr><tr><td>120 min Summer</td><td>36.152</td><td>0.0</td><td>122</td></tr><tr><td>180 min Summer</td><td>26.572</td><td>0.0</td><td>182</td></tr><tr><td>240 min Summer</td><td>21.265</td><td>0.0</td><td>240</td></tr><tr><td>360 min Summer</td><td>15.394</td><td>0.0</td><td>338</td></tr><tr><td>480 min Summer</td><td>12.172</td><td>0.0</td><td>392</td></tr><tr><td>600 min Summer</td><td>10.122</td><td>0.0</td><td>452</td></tr><tr><td>720 min Summer</td><td>8.696</td><td>0.0</td><td>514</td></tr><tr><td>960 min Summer</td><td>6.832</td><td>0.0</td><td>646</td></tr><tr><td>1440 min Summer</td><td>4.865</td><td>0.0</td><td>912</td></tr><tr><td>2160 min Summer</td><td>3.484</td><td>0.0</td><td>1300</td></tr><tr><td>2880 min Summer</td><td>2.767</td><td>0.0</td><td>1672</td></tr><tr><td>4320 min Summer</td><td>2.029</td><td>0.0</td><td>2376</td></tr><tr><td>5760 min Summer</td><td>1.648</td><td>0.0</td><td>3056</td></tr><tr><td>7200 min Summer</td><td>1.417</td><td>0.0</td><td>3752</td></tr><tr><td>8640 min Summer</td><td>1.261</td><td>0.0</td><td>4496</td></tr><tr><td>10080 min Summer</td><td>1.147</td><td>0.0</td><td>5240</td></tr><tr><td>15 min Winter</td><td>140.714</td><td>0.0</td><td>18</td></tr></tbody></table>						Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	15 min Summer	10.764	0.332	1.5	31.4	O K	30 min Summer	10.840	0.408	1.5	42.3	O K	60 min Summer	10.918	0.486	1.5	53.6	O K	120 min Summer	10.970	0.538	1.5	61.1	O K	180 min Summer	10.993	0.561	1.5	64.3	O K	240 min Summer	11.001	0.569	1.5	65.4	O K	360 min Summer	10.995	0.563	1.5	64.6	O K	480 min Summer	10.981	0.549	1.5	62.7	O K	600 min Summer	10.967	0.535	1.5	60.6	O K	720 min Summer	10.952	0.520	1.5	58.5	O K	960 min Summer	10.923	0.491	1.5	54.3	O K	1440 min Summer	10.870	0.438	1.5	46.6	O K	2160 min Summer	10.805	0.373	1.5	37.3	O K	2880 min Summer	10.755	0.323	1.5	30.1	O K	4320 min Summer	10.687	0.255	1.5	20.2	O K	5760 min Summer	10.652	0.220	1.4	15.2	O K	7200 min Summer	10.632	0.200	1.3	12.6	O K	8640 min Summer	10.617	0.185	1.2	10.7	O K	10080 min Summer	10.604	0.172	1.1	9.3	O K	15 min Winter	10.793	0.361	1.5	35.5	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	140.714	0.0	19	30 min Summer	94.437	0.0	33	60 min Summer	60.674	0.0	62	120 min Summer	36.152	0.0	122	180 min Summer	26.572	0.0	182	240 min Summer	21.265	0.0	240	360 min Summer	15.394	0.0	338	480 min Summer	12.172	0.0	392	600 min Summer	10.122	0.0	452	720 min Summer	8.696	0.0	514	960 min Summer	6.832	0.0	646	1440 min Summer	4.865	0.0	912	2160 min Summer	3.484	0.0	1300	2880 min Summer	2.767	0.0	1672	4320 min Summer	2.029	0.0	2376	5760 min Summer	1.648	0.0	3056	7200 min Summer	1.417	0.0	3752	8640 min Summer	1.261	0.0	4496	10080 min Summer	1.147	0.0	5240	15 min Winter	140.714	0.0	18
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status																																																																																																																																																																																																																		
15 min Summer	10.764	0.332	1.5	31.4	O K																																																																																																																																																																																																																		
30 min Summer	10.840	0.408	1.5	42.3	O K																																																																																																																																																																																																																		
60 min Summer	10.918	0.486	1.5	53.6	O K																																																																																																																																																																																																																		
120 min Summer	10.970	0.538	1.5	61.1	O K																																																																																																																																																																																																																		
180 min Summer	10.993	0.561	1.5	64.3	O K																																																																																																																																																																																																																		
240 min Summer	11.001	0.569	1.5	65.4	O K																																																																																																																																																																																																																		
360 min Summer	10.995	0.563	1.5	64.6	O K																																																																																																																																																																																																																		
480 min Summer	10.981	0.549	1.5	62.7	O K																																																																																																																																																																																																																		
600 min Summer	10.967	0.535	1.5	60.6	O K																																																																																																																																																																																																																		
720 min Summer	10.952	0.520	1.5	58.5	O K																																																																																																																																																																																																																		
960 min Summer	10.923	0.491	1.5	54.3	O K																																																																																																																																																																																																																		
1440 min Summer	10.870	0.438	1.5	46.6	O K																																																																																																																																																																																																																		
2160 min Summer	10.805	0.373	1.5	37.3	O K																																																																																																																																																																																																																		
2880 min Summer	10.755	0.323	1.5	30.1	O K																																																																																																																																																																																																																		
4320 min Summer	10.687	0.255	1.5	20.2	O K																																																																																																																																																																																																																		
5760 min Summer	10.652	0.220	1.4	15.2	O K																																																																																																																																																																																																																		
7200 min Summer	10.632	0.200	1.3	12.6	O K																																																																																																																																																																																																																		
8640 min Summer	10.617	0.185	1.2	10.7	O K																																																																																																																																																																																																																		
10080 min Summer	10.604	0.172	1.1	9.3	O K																																																																																																																																																																																																																		
15 min Winter	10.793	0.361	1.5	35.5	O K																																																																																																																																																																																																																		
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)																																																																																																																																																																																																																				
15 min Summer	140.714	0.0	19																																																																																																																																																																																																																				
30 min Summer	94.437	0.0	33																																																																																																																																																																																																																				
60 min Summer	60.674	0.0	62																																																																																																																																																																																																																				
120 min Summer	36.152	0.0	122																																																																																																																																																																																																																				
180 min Summer	26.572	0.0	182																																																																																																																																																																																																																				
240 min Summer	21.265	0.0	240																																																																																																																																																																																																																				
360 min Summer	15.394	0.0	338																																																																																																																																																																																																																				
480 min Summer	12.172	0.0	392																																																																																																																																																																																																																				
600 min Summer	10.122	0.0	452																																																																																																																																																																																																																				
720 min Summer	8.696	0.0	514																																																																																																																																																																																																																				
960 min Summer	6.832	0.0	646																																																																																																																																																																																																																				
1440 min Summer	4.865	0.0	912																																																																																																																																																																																																																				
2160 min Summer	3.484	0.0	1300																																																																																																																																																																																																																				
2880 min Summer	2.767	0.0	1672																																																																																																																																																																																																																				
4320 min Summer	2.029	0.0	2376																																																																																																																																																																																																																				
5760 min Summer	1.648	0.0	3056																																																																																																																																																																																																																				
7200 min Summer	1.417	0.0	3752																																																																																																																																																																																																																				
8640 min Summer	1.261	0.0	4496																																																																																																																																																																																																																				
10080 min Summer	1.147	0.0	5240																																																																																																																																																																																																																				
15 min Winter	140.714	0.0	18																																																																																																																																																																																																																				
©1982-2020 Innovyze																																																																																																																																																																																																																							

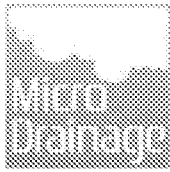
GTA Civils Ltd				Page 2	
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB		Warwick Nursery Permeable Paving A14-A25 1 in 100 year + 40%			
Date 13/07/2021 File A14 - A25 PP.SRCX		Designed by JR Checked by			
XP Solutions		Source Control 2020.1			
<u>Summary of Results for 100 year Return Period (+40%)</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	10.879	0.447	1.5	47.9	○ K
60 min Winter	10.968	0.536	1.5	60.8	○ K
120 min Winter	11.029	0.597	1.5	69.5	○ K
180 min Winter	11.057	0.625	1.5	73.6	○ K
240 min Winter	11.079	0.638	1.5	75.3	○ K
360 min Winter	11.069	0.637	1.5	75.3	○ K
480 min Winter	11.053	0.621	1.5	72.9	○ K
600 min Winter	11.033	0.601	1.5	70.1	○ K
720 min Winter	11.014	0.582	1.5	67.4	○ K
960 min Winter	10.975	0.543	1.5	61.7	○ K
1440 min Winter	10.898	0.466	1.5	50.7	○ K
2160 min Winter	10.802	0.370	1.5	36.8	○ K
2880 min Winter	10.728	0.296	1.5	26.2	○ K
4320 min Winter	10.650	0.218	1.4	14.9	○ K
5760 min Winter	10.617	0.185	1.2	10.8	○ K
7200 min Winter	10.594	0.162	1.0	8.3	○ K
8640 min Winter	10.578	0.146	0.9	6.7	○ K
10080 min Winter	10.566	0.134	0.9	5.7	○ K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	94.437	0.0	33		
60 min Winter	60.674	0.0	62		
120 min Winter	36.152	0.0	120		
180 min Winter	26.572	0.0	178		
240 min Winter	21.265	0.0	236		
360 min Winter	15.394	0.0	346		
480 min Winter	12.172	0.0	450		
600 min Winter	10.122	0.0	482		
720 min Winter	8.696	0.0	556		
960 min Winter	6.832	0.0	704		
1440 min Winter	4.865	0.0	996		
2160 min Winter	3.484	0.0	1404		
2880 min Winter	2.767	0.0	1756		
4320 min Winter	2.029	0.0	2380		
5760 min Winter	1.648	0.0	3112		
7200 min Winter	1.417	0.0	3816		
8640 min Winter	1.261	0.0	4496		
10080 min Winter	1.147	0.0	5240		
©1982-2020 Innovyze					

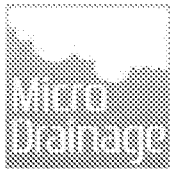
GTA Civils Ltd		Page 3																														
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB	Warwick Nursery Permeable Paving A14-A25 1 in 100 year + 40%																															
Date 13/07/2021	Designed by JR																															
File A14 - A25 PP.SRCX	Checked by																															
XP Solutions		Source Control 2020.1																														
<u>Rainfall Details</u> <table> <tr> <td>Rainfall Model</td> <td>FEH</td> </tr> <tr> <td>Return Period (years)</td> <td>100</td> </tr> <tr> <td>FEH Rainfall Version</td> <td>2013</td> </tr> <tr> <td>Site Location</td> <td>GB 494911 105112 SU 94911 05112</td> </tr> <tr> <td>Data Type</td> <td>Point</td> </tr> <tr> <td>Summer Storms</td> <td>Yes</td> </tr> <tr> <td>Winter Storms</td> <td>Yes</td> </tr> <tr> <td>Cv (Summer)</td> <td>0.750</td> </tr> <tr> <td>Cv (Winter)</td> <td>0.840</td> </tr> <tr> <td>Shortest Storm (mins)</td> <td>15</td> </tr> <tr> <td>Longest Storm (mins)</td> <td>10080</td> </tr> <tr> <td>Climate Change %</td> <td>+40</td> </tr> </table> <u>Time Area Diagram</u> Total Area (ha) 0.132 <table> <thead> <tr> <th>Time (mins)</th> <th>Area</th> </tr> <tr> <th>From:</th> <th>To: (ha)</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>4 0.132</td> </tr> </tbody> </table>			Rainfall Model	FEH	Return Period (years)	100	FEH Rainfall Version	2013	Site Location	GB 494911 105112 SU 94911 05112	Data Type	Point	Summer Storms	Yes	Winter Storms	Yes	Cv (Summer)	0.750	Cv (Winter)	0.840	Shortest Storm (mins)	15	Longest Storm (mins)	10080	Climate Change %	+40	Time (mins)	Area	From:	To: (ha)	0	4 0.132
Rainfall Model	FEH																															
Return Period (years)	100																															
FEH Rainfall Version	2013																															
Site Location	GB 494911 105112 SU 94911 05112																															
Data Type	Point																															
Summer Storms	Yes																															
Winter Storms	Yes																															
Cv (Summer)	0.750																															
Cv (Winter)	0.840																															
Shortest Storm (mins)	15																															
Longest Storm (mins)	10080																															
Climate Change %	+40																															
Time (mins)	Area																															
From:	To: (ha)																															
0	4 0.132																															
©1982-2020 Innovyze																																

GTA Civils Ltd		Page 4																								
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB	Warwick Nursery Permeable Paving A14-A25 1 in 100 year + 40%																									
Date 13/07/2021	Designed by JR																									
File A14 - A25 PP.SRCX	Checked by																									
XP Solutions		Source Control 2020.1																								
<u>Model Details</u> Storage is Online Cover Level (m) 11.200 <u>Porous Car Park Structure</u> <table> <tr> <td>Infiltration Coefficient Base (m/hr)</td> <td>0.07164</td> <td>Width (m)</td> <td>10.0</td> </tr> <tr> <td>Membrane Percolation (mm/hr)</td> <td>1000</td> <td>Length (m)</td> <td>48.0</td> </tr> <tr> <td>Max Percolation (l/s)</td> <td>133.3</td> <td>Slope (1:X)</td> <td>210.0</td> </tr> <tr> <td>Safety Factor</td> <td>6.5</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>10.432</td> <td>Cap Volume Depth (m)</td> <td>0.638</td> </tr> </table>			Infiltration Coefficient Base (m/hr)	0.07164	Width (m)	10.0	Membrane Percolation (mm/hr)	1000	Length (m)	48.0	Max Percolation (l/s)	133.3	Slope (1:X)	210.0	Safety Factor	6.5	Depression Storage (mm)	5	Porosity	0.30	Evaporation (mm/day)	3	Invert Level (m)	10.432	Cap Volume Depth (m)	0.638
Infiltration Coefficient Base (m/hr)	0.07164	Width (m)	10.0																							
Membrane Percolation (mm/hr)	1000	Length (m)	48.0																							
Max Percolation (l/s)	133.3	Slope (1:X)	210.0																							
Safety Factor	6.5	Depression Storage (mm)	5																							
Porosity	0.30	Evaporation (mm/day)	3																							
Invert Level (m)	10.432	Cap Volume Depth (m)	0.638																							
©1982-2020 Innovyze																										

GTA Civils Ltd				Page 1																																																																																																																																																																																																																			
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB		Warwick Nursery Porous paving A26,A27 1 in 10 year + 40%																																																																																																																																																																																																																					
Date 13/07/2021 File A26&A27 PP.SRCX		Designed by JR Checked by																																																																																																																																																																																																																					
XP Solutions		Source Control 2020.1																																																																																																																																																																																																																					
<u>Summary of Results for 10 year Return Period (+40%)</u> Half Drain Time : 483 minutes. <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 Volume (m³)</th><th>Status</th></tr></thead><tbody><tr><td>15 min Summer</td><td>10.217</td><td>0.102</td><td>0.2</td><td>4.6</td><td>O K</td></tr><tr><td>30 min Summer</td><td>10.252</td><td>0.137</td><td>0.2</td><td>6.2</td><td>O K</td></tr><tr><td>60 min Summer</td><td>10.289</td><td>0.174</td><td>0.2</td><td>7.9</td><td>O K</td></tr><tr><td>120 min Summer</td><td>10.329</td><td>0.214</td><td>0.2</td><td>9.7</td><td>O K</td></tr><tr><td>180 min Summer</td><td>10.348</td><td>0.233</td><td>0.2</td><td>10.5</td><td>O K</td></tr><tr><td>240 min Summer</td><td>10.357</td><td>0.242</td><td>0.2</td><td>11.0</td><td>O K</td></tr><tr><td>360 min Summer</td><td>10.361</td><td>0.246</td><td>0.2</td><td>11.2</td><td>O K</td></tr><tr><td>480 min Summer</td><td>10.359</td><td>0.244</td><td>0.2</td><td>11.1</td><td>O K</td></tr><tr><td>600 min Summer</td><td>10.354</td><td>0.239</td><td>0.2</td><td>10.9</td><td>O K</td></tr><tr><td>720 min Summer</td><td>10.349</td><td>0.234</td><td>0.2</td><td>10.6</td><td>O K</td></tr><tr><td>960 min Summer</td><td>10.337</td><td>0.222</td><td>0.2</td><td>10.1</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>10.313</td><td>0.198</td><td>0.2</td><td>9.0</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>10.282</td><td>0.167</td><td>0.2</td><td>7.6</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>10.256</td><td>0.141</td><td>0.2</td><td>6.4</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>10.218</td><td>0.103</td><td>0.2</td><td>4.7</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>10.193</td><td>0.078</td><td>0.2</td><td>3.5</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>10.177</td><td>0.062</td><td>0.2</td><td>2.8</td><td>O K</td></tr><tr><td>8640 min Summer</td><td>10.167</td><td>0.052</td><td>0.2</td><td>2.4</td><td>O K</td></tr><tr><td>10080 min Summer</td><td>10.163</td><td>0.048</td><td>0.2</td><td>2.2</td><td>O K</td></tr><tr><td>15 min Winter</td><td>10.232</td><td>0.117</td><td>0.2</td><td>5.3</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>Time-Peak (mins)</th></tr></thead><tbody><tr><td>15 min Summer</td><td>86.846</td><td>0.0</td><td>19</td></tr><tr><td>30 min Summer</td><td>56.970</td><td>0.0</td><td>33</td></tr><tr><td>60 min Summer</td><td>36.174</td><td>0.0</td><td>62</td></tr><tr><td>120 min Summer</td><td>22.769</td><td>0.0</td><td>122</td></tr><tr><td>180 min Summer</td><td>17.094</td><td>0.0</td><td>182</td></tr><tr><td>240 min Summer</td><td>13.845</td><td>0.0</td><td>242</td></tr><tr><td>360 min Summer</td><td>10.168</td><td>0.0</td><td>358</td></tr><tr><td>480 min Summer</td><td>8.105</td><td>0.0</td><td>408</td></tr><tr><td>600 min Summer</td><td>6.777</td><td>0.0</td><td>466</td></tr><tr><td>720 min Summer</td><td>5.847</td><td>0.0</td><td>528</td></tr><tr><td>960 min Summer</td><td>4.621</td><td>0.0</td><td>658</td></tr><tr><td>1440 min Summer</td><td>3.324</td><td>0.0</td><td>926</td></tr><tr><td>2160 min Summer</td><td>2.410</td><td>0.0</td><td>1324</td></tr><tr><td>2880 min Summer</td><td>1.934</td><td>0.0</td><td>1704</td></tr><tr><td>4320 min Summer</td><td>1.447</td><td>0.0</td><td>2424</td></tr><tr><td>5760 min Summer</td><td>1.196</td><td>0.0</td><td>3120</td></tr><tr><td>7200 min Summer</td><td>1.044</td><td>0.0</td><td>3816</td></tr><tr><td>8640 min Summer</td><td>0.940</td><td>0.0</td><td>4488</td></tr><tr><td>10080 min Summer</td><td>0.865</td><td>0.0</td><td>5144</td></tr><tr><td>15 min Winter</td><td>86.846</td><td>0.0</td><td>18</td></tr></tbody></table>						Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	15 min Summer	10.217	0.102	0.2	4.6	O K	30 min Summer	10.252	0.137	0.2	6.2	O K	60 min Summer	10.289	0.174	0.2	7.9	O K	120 min Summer	10.329	0.214	0.2	9.7	O K	180 min Summer	10.348	0.233	0.2	10.5	O K	240 min Summer	10.357	0.242	0.2	11.0	O K	360 min Summer	10.361	0.246	0.2	11.2	O K	480 min Summer	10.359	0.244	0.2	11.1	O K	600 min Summer	10.354	0.239	0.2	10.9	O K	720 min Summer	10.349	0.234	0.2	10.6	O K	960 min Summer	10.337	0.222	0.2	10.1	O K	1440 min Summer	10.313	0.198	0.2	9.0	O K	2160 min Summer	10.282	0.167	0.2	7.6	O K	2880 min Summer	10.256	0.141	0.2	6.4	O K	4320 min Summer	10.218	0.103	0.2	4.7	O K	5760 min Summer	10.193	0.078	0.2	3.5	O K	7200 min Summer	10.177	0.062	0.2	2.8	O K	8640 min Summer	10.167	0.052	0.2	2.4	O K	10080 min Summer	10.163	0.048	0.2	2.2	O K	15 min Winter	10.232	0.117	0.2	5.3	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	86.846	0.0	19	30 min Summer	56.970	0.0	33	60 min Summer	36.174	0.0	62	120 min Summer	22.769	0.0	122	180 min Summer	17.094	0.0	182	240 min Summer	13.845	0.0	242	360 min Summer	10.168	0.0	358	480 min Summer	8.105	0.0	408	600 min Summer	6.777	0.0	466	720 min Summer	5.847	0.0	528	960 min Summer	4.621	0.0	658	1440 min Summer	3.324	0.0	926	2160 min Summer	2.410	0.0	1324	2880 min Summer	1.934	0.0	1704	4320 min Summer	1.447	0.0	2424	5760 min Summer	1.196	0.0	3120	7200 min Summer	1.044	0.0	3816	8640 min Summer	0.940	0.0	4488	10080 min Summer	0.865	0.0	5144	15 min Winter	86.846	0.0	18
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status																																																																																																																																																																																																																		
15 min Summer	10.217	0.102	0.2	4.6	O K																																																																																																																																																																																																																		
30 min Summer	10.252	0.137	0.2	6.2	O K																																																																																																																																																																																																																		
60 min Summer	10.289	0.174	0.2	7.9	O K																																																																																																																																																																																																																		
120 min Summer	10.329	0.214	0.2	9.7	O K																																																																																																																																																																																																																		
180 min Summer	10.348	0.233	0.2	10.5	O K																																																																																																																																																																																																																		
240 min Summer	10.357	0.242	0.2	11.0	O K																																																																																																																																																																																																																		
360 min Summer	10.361	0.246	0.2	11.2	O K																																																																																																																																																																																																																		
480 min Summer	10.359	0.244	0.2	11.1	O K																																																																																																																																																																																																																		
600 min Summer	10.354	0.239	0.2	10.9	O K																																																																																																																																																																																																																		
720 min Summer	10.349	0.234	0.2	10.6	O K																																																																																																																																																																																																																		
960 min Summer	10.337	0.222	0.2	10.1	O K																																																																																																																																																																																																																		
1440 min Summer	10.313	0.198	0.2	9.0	O K																																																																																																																																																																																																																		
2160 min Summer	10.282	0.167	0.2	7.6	O K																																																																																																																																																																																																																		
2880 min Summer	10.256	0.141	0.2	6.4	O K																																																																																																																																																																																																																		
4320 min Summer	10.218	0.103	0.2	4.7	O K																																																																																																																																																																																																																		
5760 min Summer	10.193	0.078	0.2	3.5	O K																																																																																																																																																																																																																		
7200 min Summer	10.177	0.062	0.2	2.8	O K																																																																																																																																																																																																																		
8640 min Summer	10.167	0.052	0.2	2.4	O K																																																																																																																																																																																																																		
10080 min Summer	10.163	0.048	0.2	2.2	O K																																																																																																																																																																																																																		
15 min Winter	10.232	0.117	0.2	5.3	O K																																																																																																																																																																																																																		
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)																																																																																																																																																																																																																				
15 min Summer	86.846	0.0	19																																																																																																																																																																																																																				
30 min Summer	56.970	0.0	33																																																																																																																																																																																																																				
60 min Summer	36.174	0.0	62																																																																																																																																																																																																																				
120 min Summer	22.769	0.0	122																																																																																																																																																																																																																				
180 min Summer	17.094	0.0	182																																																																																																																																																																																																																				
240 min Summer	13.845	0.0	242																																																																																																																																																																																																																				
360 min Summer	10.168	0.0	358																																																																																																																																																																																																																				
480 min Summer	8.105	0.0	408																																																																																																																																																																																																																				
600 min Summer	6.777	0.0	466																																																																																																																																																																																																																				
720 min Summer	5.847	0.0	528																																																																																																																																																																																																																				
960 min Summer	4.621	0.0	658																																																																																																																																																																																																																				
1440 min Summer	3.324	0.0	926																																																																																																																																																																																																																				
2160 min Summer	2.410	0.0	1324																																																																																																																																																																																																																				
2880 min Summer	1.934	0.0	1704																																																																																																																																																																																																																				
4320 min Summer	1.447	0.0	2424																																																																																																																																																																																																																				
5760 min Summer	1.196	0.0	3120																																																																																																																																																																																																																				
7200 min Summer	1.044	0.0	3816																																																																																																																																																																																																																				
8640 min Summer	0.940	0.0	4488																																																																																																																																																																																																																				
10080 min Summer	0.865	0.0	5144																																																																																																																																																																																																																				
15 min Winter	86.846	0.0	18																																																																																																																																																																																																																				
©1982-2020 Innovyze																																																																																																																																																																																																																							

GTA Civils Ltd			Page 2		
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB		Warwick Nursery Porous paving A26,A27 1 in 10 year + 40%			
Date 13/07/2021 File A26&A27 PP.SRCX		Designed by JR Checked by			
XP Solutions		Source Control 2020.1			
<u>Summary of Results for 10 year Return Period (+40%)</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	10.271	0.156	0.2	7.1	○ K
60 min Winter	10.313	0.198	0.2	9.0	○ K
120 min Winter	10.359	0.244	0.2	11.1	○ K
180 min Winter	10.381	0.266	0.2	12.1	○ K
240 min Winter	10.393	0.278	0.2	12.6	○ K
360 min Winter	10.401	0.286	0.2	13.0	○ K
480 min Winter	10.398	0.283	0.2	12.8	○ K
600 min Winter	10.391	0.276	0.2	12.5	○ K
720 min Winter	10.384	0.269	0.2	12.2	○ K
960 min Winter	10.367	0.252	0.2	11.4	○ K
1440 min Winter	10.333	0.218	0.2	9.9	○ K
2160 min Winter	10.285	0.170	0.2	7.7	○ K
2880 min Winter	10.245	0.130	0.2	5.9	○ K
4320 min Winter	10.190	0.075	0.2	3.4	○ K
5760 min Winter	10.164	0.049	0.2	2.2	○ K
7200 min Winter	10.158	0.043	0.2	2.0	○ K
8640 min Winter	10.154	0.039	0.2	1.8	○ K
10080 min Winter	10.151	0.036	0.2	1.6	○ K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	56.970	0.0	33		
60 min Winter	36.174	0.0	62		
120 min Winter	22.769	0.0	120		
180 min Winter	17.094	0.0	178		
240 min Winter	13.845	0.0	236		
360 min Winter	10.168	0.0	348		
480 min Winter	8.105	0.0	456		
600 min Winter	6.777	0.0	544		
720 min Winter	5.847	0.0	568		
960 min Winter	4.621	0.0	720		
1440 min Winter	3.324	0.0	1012		
2160 min Winter	2.410	0.0	1428		
2880 min Winter	1.934	0.0	1816		
4320 min Winter	1.447	0.0	2504		
5760 min Winter	1.196	0.0	3008		
7200 min Winter	1.044	0.0	3744		
8640 min Winter	0.940	0.0	4416		
10080 min Winter	0.865	0.0	5144		
©1982-2020 Innovyze					

GTA Civils Ltd		Page 3																												
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB	Warwick Nursery Porous paving A26,A27 1 in 10 year + 40%																													
Date 13/07/2021	Designed by JR																													
File A26&A27 PP.SRCX	Checked by																													
XP Solutions		Source Control 2020.1																												
<u>Rainfall Details</u> <table> <tr> <td>Rainfall Model</td> <td>FEH</td> </tr> <tr> <td>Return Period (years)</td> <td>10</td> </tr> <tr> <td>FEH Rainfall Version</td> <td>2013</td> </tr> <tr> <td>Site Location</td> <td>GB 494911 105112 SU 94911 05112</td> </tr> <tr> <td>Data Type</td> <td>Point</td> </tr> <tr> <td>Summer Storms</td> <td>Yes</td> </tr> <tr> <td>Winter Storms</td> <td>Yes</td> </tr> <tr> <td>Cv (Summer)</td> <td>0.750</td> </tr> <tr> <td>Cv (Winter)</td> <td>0.840</td> </tr> <tr> <td>Shortest Storm (mins)</td> <td>15</td> </tr> <tr> <td>Longest Storm (mins)</td> <td>10080</td> </tr> <tr> <td>Climate Change %</td> <td>+40</td> </tr> </table> <u>Time Area Diagram</u> Total Area (ha) 0.034 <table> <thead> <tr> <th>Time (mins)</th> <th>Area (ha)</th> </tr> </thead> <tbody> <tr> <td>From: 0</td> <td>To: 4 0.034</td> </tr> </tbody> </table>			Rainfall Model	FEH	Return Period (years)	10	FEH Rainfall Version	2013	Site Location	GB 494911 105112 SU 94911 05112	Data Type	Point	Summer Storms	Yes	Winter Storms	Yes	Cv (Summer)	0.750	Cv (Winter)	0.840	Shortest Storm (mins)	15	Longest Storm (mins)	10080	Climate Change %	+40	Time (mins)	Area (ha)	From: 0	To: 4 0.034
Rainfall Model	FEH																													
Return Period (years)	10																													
FEH Rainfall Version	2013																													
Site Location	GB 494911 105112 SU 94911 05112																													
Data Type	Point																													
Summer Storms	Yes																													
Winter Storms	Yes																													
Cv (Summer)	0.750																													
Cv (Winter)	0.840																													
Shortest Storm (mins)	15																													
Longest Storm (mins)	10080																													
Climate Change %	+40																													
Time (mins)	Area (ha)																													
From: 0	To: 4 0.034																													
©1982-2020 Innovyze																														

GTA Civils Ltd		Page 4
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB	Warwick Nursery Porous paving A26,A27 1 in 10 year + 40%	
Date 13/07/2021 File A26&A27 PP.SRCX	Designed by JR Checked by	
XP Solutions Source Control 2020.1		

Model Details

Storage is Online Cover Level (m) 11.500

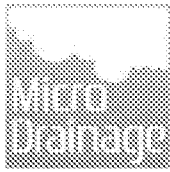
Porous Car Park Structure

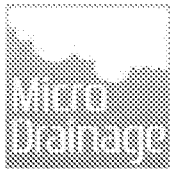
Infiltration Coefficient Base (m/hr)	0.03571	Width (m)	5.4
Membrane Percolation (mm/hr)	1000	Length (m)	28.0
Max Percolation (l/s)	42.0	Slope (1:X)	0.0
Safety Factor	6.5	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	10.115	Cap Volume Depth (m)	1.255

©1982-2020 Innovyze

GTA Civils Ltd				Page 1																																																																																																																																																																																																																			
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB		Warwick Nursery Porous paving A26,A27 1 in 100 year + 40%																																																																																																																																																																																																																					
Date 13/07/2021 File A26&A27 PP.SRCX		Designed by JR Checked by																																																																																																																																																																																																																					
XP Solutions		Source Control 2020.1																																																																																																																																																																																																																					
<u>Summary of Results for 100 year Return Period (+40%)</u> Half Drain Time : 785 minutes. <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 Volume (m³)</th><th>Status</th></tr></thead><tbody><tr><td>15 min Summer</td><td>10.292</td><td>0.177</td><td>0.2</td><td>8.0</td><td>O K</td></tr><tr><td>30 min Summer</td><td>10.357</td><td>0.242</td><td>0.2</td><td>11.0</td><td>O K</td></tr><tr><td>60 min Summer</td><td>10.425</td><td>0.310</td><td>0.2</td><td>14.1</td><td>O K</td></tr><tr><td>120 min Summer</td><td>10.476</td><td>0.361</td><td>0.2</td><td>16.4</td><td>O K</td></tr><tr><td>180 min Summer</td><td>10.503</td><td>0.388</td><td>0.2</td><td>17.6</td><td>O K</td></tr><tr><td>240 min Summer</td><td>10.518</td><td>0.403</td><td>0.2</td><td>18.3</td><td>O K</td></tr><tr><td>360 min Summer</td><td>10.529</td><td>0.414</td><td>0.2</td><td>18.8</td><td>O K</td></tr><tr><td>480 min Summer</td><td>10.528</td><td>0.413</td><td>0.2</td><td>18.7</td><td>O K</td></tr><tr><td>600 min Summer</td><td>10.520</td><td>0.405</td><td>0.2</td><td>18.4</td><td>O K</td></tr><tr><td>720 min Summer</td><td>10.511</td><td>0.396</td><td>0.2</td><td>18.0</td><td>O K</td></tr><tr><td>960 min Summer</td><td>10.493</td><td>0.378</td><td>0.2</td><td>17.2</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>10.461</td><td>0.346</td><td>0.2</td><td>15.7</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>10.420</td><td>0.305</td><td>0.2</td><td>13.8</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>10.385</td><td>0.270</td><td>0.2</td><td>12.3</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>10.330</td><td>0.215</td><td>0.2</td><td>9.8</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>10.287</td><td>0.172</td><td>0.2</td><td>7.8</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>10.254</td><td>0.139</td><td>0.2</td><td>6.3</td><td>O K</td></tr><tr><td>8640 min Summer</td><td>10.228</td><td>0.113</td><td>0.2</td><td>5.1</td><td>O K</td></tr><tr><td>10080 min Summer</td><td>10.208</td><td>0.093</td><td>0.2</td><td>4.2</td><td>O K</td></tr><tr><td>15 min Winter</td><td>10.316</td><td>0.201</td><td>0.2</td><td>9.1</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>Time-Peak (mins)</th></tr></thead><tbody><tr><td>15 min Summer</td><td>140.714</td><td>0.0</td><td>19</td></tr><tr><td>30 min Summer</td><td>94.437</td><td>0.0</td><td>34</td></tr><tr><td>60 min Summer</td><td>60.674</td><td>0.0</td><td>64</td></tr><tr><td>120 min Summer</td><td>36.152</td><td>0.0</td><td>122</td></tr><tr><td>180 min Summer</td><td>26.572</td><td>0.0</td><td>182</td></tr><tr><td>240 min Summer</td><td>21.265</td><td>0.0</td><td>242</td></tr><tr><td>360 min Summer</td><td>15.394</td><td>0.0</td><td>362</td></tr><tr><td>480 min Summer</td><td>12.172</td><td>0.0</td><td>480</td></tr><tr><td>600 min Summer</td><td>10.122</td><td>0.0</td><td>594</td></tr><tr><td>720 min Summer</td><td>8.696</td><td>0.0</td><td>630</td></tr><tr><td>960 min Summer</td><td>6.832</td><td>0.0</td><td>750</td></tr><tr><td>1440 min Summer</td><td>4.865</td><td>0.0</td><td>998</td></tr><tr><td>2160 min Summer</td><td>3.484</td><td>0.0</td><td>1404</td></tr><tr><td>2880 min Summer</td><td>2.767</td><td>0.0</td><td>1812</td></tr><tr><td>4320 min Summer</td><td>2.029</td><td>0.0</td><td>2592</td></tr><tr><td>5760 min Summer</td><td>1.648</td><td>0.0</td><td>3344</td></tr><tr><td>7200 min Summer</td><td>1.417</td><td>0.0</td><td>4040</td></tr><tr><td>8640 min Summer</td><td>1.261</td><td>0.0</td><td>4752</td></tr><tr><td>10080 min Summer</td><td>1.147</td><td>0.0</td><td>5448</td></tr><tr><td>15 min Winter</td><td>140.714</td><td>0.0</td><td>19</td></tr></tbody></table>						Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	15 min Summer	10.292	0.177	0.2	8.0	O K	30 min Summer	10.357	0.242	0.2	11.0	O K	60 min Summer	10.425	0.310	0.2	14.1	O K	120 min Summer	10.476	0.361	0.2	16.4	O K	180 min Summer	10.503	0.388	0.2	17.6	O K	240 min Summer	10.518	0.403	0.2	18.3	O K	360 min Summer	10.529	0.414	0.2	18.8	O K	480 min Summer	10.528	0.413	0.2	18.7	O K	600 min Summer	10.520	0.405	0.2	18.4	O K	720 min Summer	10.511	0.396	0.2	18.0	O K	960 min Summer	10.493	0.378	0.2	17.2	O K	1440 min Summer	10.461	0.346	0.2	15.7	O K	2160 min Summer	10.420	0.305	0.2	13.8	O K	2880 min Summer	10.385	0.270	0.2	12.3	O K	4320 min Summer	10.330	0.215	0.2	9.8	O K	5760 min Summer	10.287	0.172	0.2	7.8	O K	7200 min Summer	10.254	0.139	0.2	6.3	O K	8640 min Summer	10.228	0.113	0.2	5.1	O K	10080 min Summer	10.208	0.093	0.2	4.2	O K	15 min Winter	10.316	0.201	0.2	9.1	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	140.714	0.0	19	30 min Summer	94.437	0.0	34	60 min Summer	60.674	0.0	64	120 min Summer	36.152	0.0	122	180 min Summer	26.572	0.0	182	240 min Summer	21.265	0.0	242	360 min Summer	15.394	0.0	362	480 min Summer	12.172	0.0	480	600 min Summer	10.122	0.0	594	720 min Summer	8.696	0.0	630	960 min Summer	6.832	0.0	750	1440 min Summer	4.865	0.0	998	2160 min Summer	3.484	0.0	1404	2880 min Summer	2.767	0.0	1812	4320 min Summer	2.029	0.0	2592	5760 min Summer	1.648	0.0	3344	7200 min Summer	1.417	0.0	4040	8640 min Summer	1.261	0.0	4752	10080 min Summer	1.147	0.0	5448	15 min Winter	140.714	0.0	19
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status																																																																																																																																																																																																																		
15 min Summer	10.292	0.177	0.2	8.0	O K																																																																																																																																																																																																																		
30 min Summer	10.357	0.242	0.2	11.0	O K																																																																																																																																																																																																																		
60 min Summer	10.425	0.310	0.2	14.1	O K																																																																																																																																																																																																																		
120 min Summer	10.476	0.361	0.2	16.4	O K																																																																																																																																																																																																																		
180 min Summer	10.503	0.388	0.2	17.6	O K																																																																																																																																																																																																																		
240 min Summer	10.518	0.403	0.2	18.3	O K																																																																																																																																																																																																																		
360 min Summer	10.529	0.414	0.2	18.8	O K																																																																																																																																																																																																																		
480 min Summer	10.528	0.413	0.2	18.7	O K																																																																																																																																																																																																																		
600 min Summer	10.520	0.405	0.2	18.4	O K																																																																																																																																																																																																																		
720 min Summer	10.511	0.396	0.2	18.0	O K																																																																																																																																																																																																																		
960 min Summer	10.493	0.378	0.2	17.2	O K																																																																																																																																																																																																																		
1440 min Summer	10.461	0.346	0.2	15.7	O K																																																																																																																																																																																																																		
2160 min Summer	10.420	0.305	0.2	13.8	O K																																																																																																																																																																																																																		
2880 min Summer	10.385	0.270	0.2	12.3	O K																																																																																																																																																																																																																		
4320 min Summer	10.330	0.215	0.2	9.8	O K																																																																																																																																																																																																																		
5760 min Summer	10.287	0.172	0.2	7.8	O K																																																																																																																																																																																																																		
7200 min Summer	10.254	0.139	0.2	6.3	O K																																																																																																																																																																																																																		
8640 min Summer	10.228	0.113	0.2	5.1	O K																																																																																																																																																																																																																		
10080 min Summer	10.208	0.093	0.2	4.2	O K																																																																																																																																																																																																																		
15 min Winter	10.316	0.201	0.2	9.1	O K																																																																																																																																																																																																																		
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)																																																																																																																																																																																																																				
15 min Summer	140.714	0.0	19																																																																																																																																																																																																																				
30 min Summer	94.437	0.0	34																																																																																																																																																																																																																				
60 min Summer	60.674	0.0	64																																																																																																																																																																																																																				
120 min Summer	36.152	0.0	122																																																																																																																																																																																																																				
180 min Summer	26.572	0.0	182																																																																																																																																																																																																																				
240 min Summer	21.265	0.0	242																																																																																																																																																																																																																				
360 min Summer	15.394	0.0	362																																																																																																																																																																																																																				
480 min Summer	12.172	0.0	480																																																																																																																																																																																																																				
600 min Summer	10.122	0.0	594																																																																																																																																																																																																																				
720 min Summer	8.696	0.0	630																																																																																																																																																																																																																				
960 min Summer	6.832	0.0	750																																																																																																																																																																																																																				
1440 min Summer	4.865	0.0	998																																																																																																																																																																																																																				
2160 min Summer	3.484	0.0	1404																																																																																																																																																																																																																				
2880 min Summer	2.767	0.0	1812																																																																																																																																																																																																																				
4320 min Summer	2.029	0.0	2592																																																																																																																																																																																																																				
5760 min Summer	1.648	0.0	3344																																																																																																																																																																																																																				
7200 min Summer	1.417	0.0	4040																																																																																																																																																																																																																				
8640 min Summer	1.261	0.0	4752																																																																																																																																																																																																																				
10080 min Summer	1.147	0.0	5448																																																																																																																																																																																																																				
15 min Winter	140.714	0.0	19																																																																																																																																																																																																																				
©1982-2020 Innovyze																																																																																																																																																																																																																							

GTA Civils Ltd				Page 2	
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB		Warwick Nursery Porous paving A26,A27 1 in 100 year + 40%			
Date 13/07/2021 File A26&A27 PP.SRCX		Designed by JR Checked by			
XP Solutions		Source Control 2020.1			
<u>Summary of Results for 100 year Return Period (+40%)</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	10.388	0.273	0.2	12.4	O K
60 min Winter	10.466	0.351	0.2	15.9	O K
120 min Winter	10.524	0.409	0.2	18.6	O K
180 min Winter	10.556	0.441	0.2	20.0	O K
240 min Winter	10.575	0.460	0.2	20.9	O K
360 min Winter	10.591	0.476	0.2	21.6	O K
480 min Winter	10.593	0.478	0.2	21.7	O K
600 min Winter	10.588	0.473	0.2	21.4	O K
720 min Winter	10.579	0.464	0.2	21.0	O K
960 min Winter	10.555	0.440	0.2	19.9	O K
1440 min Winter	10.513	0.398	0.2	18.1	O K
2160 min Winter	10.454	0.339	0.2	15.4	O K
2880 min Winter	10.402	0.287	0.2	13.0	O K
4320 min Winter	10.316	0.201	0.2	9.1	O K
5760 min Winter	10.250	0.135	0.2	6.1	O K
7200 min Winter	10.203	0.088	0.2	4.0	O K
8640 min Winter	10.173	0.058	0.2	2.6	O K
10080 min Winter	10.163	0.048	0.2	2.2	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	94.437	0.0	33		
60 min Winter	60.674	0.0	62		
120 min Winter	36.152	0.0	122		
180 min Winter	26.572	0.0	180		
240 min Winter	21.265	0.0	238		
360 min Winter	15.394	0.0	354		
480 min Winter	12.192	0.0	468		
600 min Winter	10.122	0.0	578		
720 min Winter	8.696	0.0	686		
960 min Winter	6.832	0.0	874		
1440 min Winter	4.865	0.0	1084		
2160 min Winter	3.484	0.0	1536		
2880 min Winter	2.767	0.0	1960		
4320 min Winter	2.029	0.0	2764		
5760 min Winter	1.648	0.0	3464		
7200 min Winter	1.417	0.0	4112		
8640 min Winter	1.261	0.0	4672		
10080 min Winter	1.147	0.0	5152		
©1982-2020 Innovyze					

GTA Civils Ltd		Page 3																														
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB	Warwick Nursery Porous paving A26,A27 1 in 100 year + 40%																															
Date 13/07/2021	Designed by JR																															
File A26&A27 PP.SRCX	Checked by																															
XP Solutions		Source Control 2020.1																														
<u>Rainfall Details</u> <table> <tr> <td>Rainfall Model</td> <td>FEH</td> </tr> <tr> <td>Return Period (years)</td> <td>100</td> </tr> <tr> <td>FEH Rainfall Version</td> <td>2013</td> </tr> <tr> <td>Site Location</td> <td>GB 494911 105112 SU 94911 05112</td> </tr> <tr> <td>Data Type</td> <td>Point</td> </tr> <tr> <td>Summer Storms</td> <td>Yes</td> </tr> <tr> <td>Winter Storms</td> <td>Yes</td> </tr> <tr> <td>Cv (Summer)</td> <td>0.750</td> </tr> <tr> <td>Cv (Winter)</td> <td>0.840</td> </tr> <tr> <td>Shortest Storm (mins)</td> <td>15</td> </tr> <tr> <td>Longest Storm (mins)</td> <td>10080</td> </tr> <tr> <td>Climate Change %</td> <td>+40</td> </tr> </table> <u>Time Area Diagram</u> Total Area (ha) 0.034 <table> <thead> <tr> <th>Time (mins)</th> <th>Area</th> </tr> <tr> <th>From:</th> <th>To: (ha)</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>4 0.034</td> </tr> </tbody> </table>			Rainfall Model	FEH	Return Period (years)	100	FEH Rainfall Version	2013	Site Location	GB 494911 105112 SU 94911 05112	Data Type	Point	Summer Storms	Yes	Winter Storms	Yes	Cv (Summer)	0.750	Cv (Winter)	0.840	Shortest Storm (mins)	15	Longest Storm (mins)	10080	Climate Change %	+40	Time (mins)	Area	From:	To: (ha)	0	4 0.034
Rainfall Model	FEH																															
Return Period (years)	100																															
FEH Rainfall Version	2013																															
Site Location	GB 494911 105112 SU 94911 05112																															
Data Type	Point																															
Summer Storms	Yes																															
Winter Storms	Yes																															
Cv (Summer)	0.750																															
Cv (Winter)	0.840																															
Shortest Storm (mins)	15																															
Longest Storm (mins)	10080																															
Climate Change %	+40																															
Time (mins)	Area																															
From:	To: (ha)																															
0	4 0.034																															
©1982-2020 Innovyze																																

GTA Civils Ltd		Page 4
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB	Warwick Nursery Porous paving A26,A27 1 in 100 year + 40%	
Date 13/07/2021 File A26&A27 PP.SRCX	Designed by JR Checked by	
XP Solutions Source Control 2020.1		

Model Details

Storage is Online Cover Level (m) 11.500

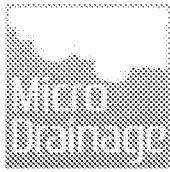
Porous Car Park Structure

Infiltration Coefficient Base (m/hr)	0.03571	Width (m)	5.4
Membrane Percolation (mm/hr)	1000	Length (m)	28.0
Max Percolation (l/s)	42.0	Slope (1:X)	0.0
Safety Factor	6.5	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	10.115	Cap Volume Depth (m)	1.255

©1982-2020 Innovyze

GTA Civils Ltd				Page 1																																																																																																																																																																																																																			
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB		Warwick Nursery Permeable paving A28-31 1 in 10 year + 40%																																																																																																																																																																																																																					
Date 24/06/2021 File A28-A31 PP.SRCX		Designed by JR Checked by																																																																																																																																																																																																																					
XP Solutions		Source Control 2020.1																																																																																																																																																																																																																					
<u>Summary of Results for 10 year Return Period (+40%)</u> Half Drain Time : 329 minutes. <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 Volume (m³)</th><th>Status</th></tr></thead><tbody><tr><td>15 min Summer</td><td>10.389</td><td>0.074</td><td>0.5</td><td>7.1</td><td>○ K</td></tr><tr><td>30 min Summer</td><td>10.415</td><td>0.100</td><td>0.5</td><td>9.6</td><td>○ K</td></tr><tr><td>60 min Summer</td><td>10.442</td><td>0.127</td><td>0.5</td><td>12.2</td><td>○ K</td></tr><tr><td>120 min Summer</td><td>10.470</td><td>0.155</td><td>0.5</td><td>14.9</td><td>○ K</td></tr><tr><td>180 min Summer</td><td>10.482</td><td>0.167</td><td>0.5</td><td>16.0</td><td>○ K</td></tr><tr><td>240 min Summer</td><td>10.487</td><td>0.172</td><td>0.5</td><td>16.5</td><td>○ K</td></tr><tr><td>360 min Summer</td><td>10.488</td><td>0.173</td><td>0.5</td><td>16.6</td><td>○ K</td></tr><tr><td>480 min Summer</td><td>10.486</td><td>0.171</td><td>0.5</td><td>16.4</td><td>○ K</td></tr><tr><td>600 min Summer</td><td>10.482</td><td>0.167</td><td>0.5</td><td>16.1</td><td>○ K</td></tr><tr><td>720 min Summer</td><td>10.478</td><td>0.163</td><td>0.5</td><td>15.6</td><td>○ K</td></tr><tr><td>960 min Summer</td><td>10.467</td><td>0.152</td><td>0.5</td><td>14.6</td><td>○ K</td></tr><tr><td>1440 min Summer</td><td>10.446</td><td>0.131</td><td>0.5</td><td>12.6</td><td>○ K</td></tr><tr><td>2160 min Summer</td><td>10.419</td><td>0.104</td><td>0.5</td><td>10.0</td><td>○ K</td></tr><tr><td>2880 min Summer</td><td>10.399</td><td>0.084</td><td>0.5</td><td>8.0</td><td>○ K</td></tr><tr><td>4320 min Summer</td><td>10.373</td><td>0.058</td><td>0.5</td><td>5.6</td><td>○ K</td></tr><tr><td>5760 min Summer</td><td>10.363</td><td>0.048</td><td>0.5</td><td>4.6</td><td>○ K</td></tr><tr><td>7200 min Summer</td><td>10.358</td><td>0.043</td><td>0.4</td><td>4.1</td><td>○ K</td></tr><tr><td>8640 min Summer</td><td>10.354</td><td>0.039</td><td>0.4</td><td>3.8</td><td>○ K</td></tr><tr><td>10080 min Summer</td><td>10.352</td><td>0.037</td><td>0.4</td><td>3.5</td><td>○ K</td></tr><tr><td>15 min Winter</td><td>10.400</td><td>0.085</td><td>0.5</td><td>8.1</td><td>○ K</td></tr></tbody></table> <table><thead><tr><th>Storm Event</th><th>Rain (mm/hr)</th><th>Flooded Volume (m³)</th><th>Time-Peak (mins)</th></tr></thead><tbody><tr><td>15 min Summer</td><td>86.846</td><td>0.0</td><td>18</td></tr><tr><td>30 min Summer</td><td>56.970</td><td>0.0</td><td>33</td></tr><tr><td>60 min Summer</td><td>36.174</td><td>0.0</td><td>62</td></tr><tr><td>120 min Summer</td><td>22.769</td><td>0.0</td><td>122</td></tr><tr><td>180 min Summer</td><td>17.094</td><td>0.0</td><td>180</td></tr><tr><td>240 min Summer</td><td>13.845</td><td>0.0</td><td>240</td></tr><tr><td>360 min Summer</td><td>10.168</td><td>0.0</td><td>300</td></tr><tr><td>480 min Summer</td><td>8.105</td><td>0.0</td><td>360</td></tr><tr><td>600 min Summer</td><td>6.777</td><td>0.0</td><td>424</td></tr><tr><td>720 min Summer</td><td>5.847</td><td>0.0</td><td>492</td></tr><tr><td>960 min Summer</td><td>4.621</td><td>0.0</td><td>626</td></tr><tr><td>1440 min Summer</td><td>3.324</td><td>0.0</td><td>894</td></tr><tr><td>2160 min Summer</td><td>2.410</td><td>0.0</td><td>1276</td></tr><tr><td>2880 min Summer</td><td>1.934</td><td>0.0</td><td>1640</td></tr><tr><td>4320 min Summer</td><td>1.447</td><td>0.0</td><td>2296</td></tr><tr><td>5760 min Summer</td><td>1.196</td><td>0.0</td><td>3000</td></tr><tr><td>7200 min Summer</td><td>1.044</td><td>0.0</td><td>3680</td></tr><tr><td>8640 min Summer</td><td>0.940</td><td>0.0</td><td>4416</td></tr><tr><td>10080 min Summer</td><td>0.865</td><td>0.0</td><td>5144</td></tr><tr><td>15 min Winter</td><td>86.846</td><td>0.0</td><td>18</td></tr></tbody></table>						Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	15 min Summer	10.389	0.074	0.5	7.1	○ K	30 min Summer	10.415	0.100	0.5	9.6	○ K	60 min Summer	10.442	0.127	0.5	12.2	○ K	120 min Summer	10.470	0.155	0.5	14.9	○ K	180 min Summer	10.482	0.167	0.5	16.0	○ K	240 min Summer	10.487	0.172	0.5	16.5	○ K	360 min Summer	10.488	0.173	0.5	16.6	○ K	480 min Summer	10.486	0.171	0.5	16.4	○ K	600 min Summer	10.482	0.167	0.5	16.1	○ K	720 min Summer	10.478	0.163	0.5	15.6	○ K	960 min Summer	10.467	0.152	0.5	14.6	○ K	1440 min Summer	10.446	0.131	0.5	12.6	○ K	2160 min Summer	10.419	0.104	0.5	10.0	○ K	2880 min Summer	10.399	0.084	0.5	8.0	○ K	4320 min Summer	10.373	0.058	0.5	5.6	○ K	5760 min Summer	10.363	0.048	0.5	4.6	○ K	7200 min Summer	10.358	0.043	0.4	4.1	○ K	8640 min Summer	10.354	0.039	0.4	3.8	○ K	10080 min Summer	10.352	0.037	0.4	3.5	○ K	15 min Winter	10.400	0.085	0.5	8.1	○ K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	86.846	0.0	18	30 min Summer	56.970	0.0	33	60 min Summer	36.174	0.0	62	120 min Summer	22.769	0.0	122	180 min Summer	17.094	0.0	180	240 min Summer	13.845	0.0	240	360 min Summer	10.168	0.0	300	480 min Summer	8.105	0.0	360	600 min Summer	6.777	0.0	424	720 min Summer	5.847	0.0	492	960 min Summer	4.621	0.0	626	1440 min Summer	3.324	0.0	894	2160 min Summer	2.410	0.0	1276	2880 min Summer	1.934	0.0	1640	4320 min Summer	1.447	0.0	2296	5760 min Summer	1.196	0.0	3000	7200 min Summer	1.044	0.0	3680	8640 min Summer	0.940	0.0	4416	10080 min Summer	0.865	0.0	5144	15 min Winter	86.846	0.0	18
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status																																																																																																																																																																																																																		
15 min Summer	10.389	0.074	0.5	7.1	○ K																																																																																																																																																																																																																		
30 min Summer	10.415	0.100	0.5	9.6	○ K																																																																																																																																																																																																																		
60 min Summer	10.442	0.127	0.5	12.2	○ K																																																																																																																																																																																																																		
120 min Summer	10.470	0.155	0.5	14.9	○ K																																																																																																																																																																																																																		
180 min Summer	10.482	0.167	0.5	16.0	○ K																																																																																																																																																																																																																		
240 min Summer	10.487	0.172	0.5	16.5	○ K																																																																																																																																																																																																																		
360 min Summer	10.488	0.173	0.5	16.6	○ K																																																																																																																																																																																																																		
480 min Summer	10.486	0.171	0.5	16.4	○ K																																																																																																																																																																																																																		
600 min Summer	10.482	0.167	0.5	16.1	○ K																																																																																																																																																																																																																		
720 min Summer	10.478	0.163	0.5	15.6	○ K																																																																																																																																																																																																																		
960 min Summer	10.467	0.152	0.5	14.6	○ K																																																																																																																																																																																																																		
1440 min Summer	10.446	0.131	0.5	12.6	○ K																																																																																																																																																																																																																		
2160 min Summer	10.419	0.104	0.5	10.0	○ K																																																																																																																																																																																																																		
2880 min Summer	10.399	0.084	0.5	8.0	○ K																																																																																																																																																																																																																		
4320 min Summer	10.373	0.058	0.5	5.6	○ K																																																																																																																																																																																																																		
5760 min Summer	10.363	0.048	0.5	4.6	○ K																																																																																																																																																																																																																		
7200 min Summer	10.358	0.043	0.4	4.1	○ K																																																																																																																																																																																																																		
8640 min Summer	10.354	0.039	0.4	3.8	○ K																																																																																																																																																																																																																		
10080 min Summer	10.352	0.037	0.4	3.5	○ K																																																																																																																																																																																																																		
15 min Winter	10.400	0.085	0.5	8.1	○ K																																																																																																																																																																																																																		
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)																																																																																																																																																																																																																				
15 min Summer	86.846	0.0	18																																																																																																																																																																																																																				
30 min Summer	56.970	0.0	33																																																																																																																																																																																																																				
60 min Summer	36.174	0.0	62																																																																																																																																																																																																																				
120 min Summer	22.769	0.0	122																																																																																																																																																																																																																				
180 min Summer	17.094	0.0	180																																																																																																																																																																																																																				
240 min Summer	13.845	0.0	240																																																																																																																																																																																																																				
360 min Summer	10.168	0.0	300																																																																																																																																																																																																																				
480 min Summer	8.105	0.0	360																																																																																																																																																																																																																				
600 min Summer	6.777	0.0	424																																																																																																																																																																																																																				
720 min Summer	5.847	0.0	492																																																																																																																																																																																																																				
960 min Summer	4.621	0.0	626																																																																																																																																																																																																																				
1440 min Summer	3.324	0.0	894																																																																																																																																																																																																																				
2160 min Summer	2.410	0.0	1276																																																																																																																																																																																																																				
2880 min Summer	1.934	0.0	1640																																																																																																																																																																																																																				
4320 min Summer	1.447	0.0	2296																																																																																																																																																																																																																				
5760 min Summer	1.196	0.0	3000																																																																																																																																																																																																																				
7200 min Summer	1.044	0.0	3680																																																																																																																																																																																																																				
8640 min Summer	0.940	0.0	4416																																																																																																																																																																																																																				
10080 min Summer	0.865	0.0	5144																																																																																																																																																																																																																				
15 min Winter	86.846	0.0	18																																																																																																																																																																																																																				
©1982-2020 Innovyze																																																																																																																																																																																																																							

GTA Civils Ltd				Page 2	
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB		Warwick Nursery Permeable paving A28-31 1 in 10 year + 40%			
Date 24/06/2021 File A28-A31 PP.SRCX		Designed by JR Checked by			
XP Solutions		Source Control 2020.1			
<u>Summary of Results for 10 year Return Period (+40%)</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	10.429	0.114	0.5	11.0	○ K
60 min Winter	10.460	0.145	0.5	13.9	○ K
120 min Winter	10.493	0.178	0.5	17.1	○ K
180 min Winter	10.507	0.192	0.5	18.5	○ K
240 min Winter	10.514	0.199	0.5	19.1	○ K
360 min Winter	10.516	0.201	0.5	19.3	○ K
480 min Winter	10.511	0.196	0.5	18.8	○ K
600 min Winter	10.505	0.190	0.5	18.3	○ K
720 min Winter	10.498	0.183	0.5	17.6	○ K
960 min Winter	10.482	0.167	0.5	16.1	○ K
1440 min Winter	10.451	0.136	0.5	13.0	○ K
2160 min Winter	10.410	0.095	0.5	9.1	○ K
2880 min Winter	10.381	0.066	0.5	6.4	○ K
4320 min Winter	10.360	0.045	0.4	4.3	○ K
5760 min Winter	10.352	0.037	0.4	3.6	○ K
7200 min Winter	10.348	0.033	0.3	3.1	○ K
8640 min Winter	10.345	0.030	0.3	2.8	○ K
10080 min Winter	10.342	0.027	0.3	2.6	○ K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	56.970	0.0	33		
60 min Winter	36.174	0.0	62		
120 min Winter	22.769	0.0	120		
180 min Winter	17.094	0.0	176		
240 min Winter	13.845	0.0	232		
360 min Winter	10.168	0.0	340		
480 min Winter	8.105	0.0	386		
600 min Winter	6.777	0.0	460		
720 min Winter	5.847	0.0	536		
960 min Winter	4.621	0.0	684		
1440 min Winter	3.324	0.0	966		
2160 min Winter	2.410	0.0	1344		
2880 min Winter	1.934	0.0	1672		
4320 min Winter	1.447	0.0	2292		
5760 min Winter	1.196	0.0	3048		
7200 min Winter	1.044	0.0	3744		
8640 min Winter	0.940	0.0	4416		
10080 min Winter	0.865	0.0	5152		
©1982-2020 Innovyze					

GTA Civils Ltd		Page 3
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB	Warwick Nursery Permeable paving A28-31 1 in 10 year + 40%	
Date 24/06/2021	Designed by JR	
File A28-A31 PP.SRCX	Checked by	
XP Solutions		Source Control 2020.1

Rainfall Details

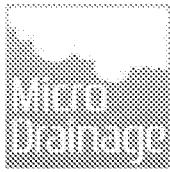
Rainfall Model	FEH
Return Period (years)	10
FEH Rainfall Version	2013
Site Location	GB 494911 105112 SU 94911 05112
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	10080
Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.055

Time (mins)	Area
From:	To: (ha)
0	4 0.055

©1982-2020 Innovyze

GTA Civils Ltd		Page 4
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB	Warwick Nursery Permeable paving A28-31 1 in 10 year + 40%	
Date 24/06/2021 File A28-A31 PP.SRCX	Designed by JR Checked by	
XP Solutions Source Control 2020.1		

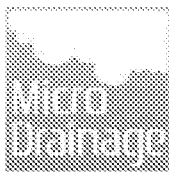
Model Details

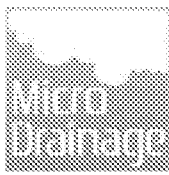
Storage is Online Cover Level (m) 11.500

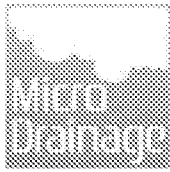
Porous Car Park Structure

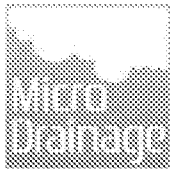
Infiltration Coefficient Base (m/hr)	0.03571	Width (m)	10.0
Membrane Percolation (mm/hr)	1000	Length (m)	32.0
Max Percolation (l/s)	88.9	Slope (1:X)	0.0
Safety Factor	6.5	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	10.315	Cap Volume Depth (m)	1.055

©1982-2020 Innovyze

GTA Civils Ltd				Page 1																																																																																																																																																																																																																			
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB		Warwick Nursery Permeable paving A28-31 1 in 100 year + 40%																																																																																																																																																																																																																					
Date 24/06/2021 File A28-A31 PP.SRCX		Designed by JR Checked by																																																																																																																																																																																																																					
XP Solutions		Source Control 2020.1																																																																																																																																																																																																																					
<u>Summary of Results for 100 year Return Period (+40%)</u> Half Drain Time : 568 minutes. <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 Volume (m³)</th><th>Status</th></tr></thead><tbody><tr><td>15 min Summer</td><td>10.446</td><td>0.131</td><td>0.5</td><td>12.6</td><td>○ K</td></tr><tr><td>30 min Summer</td><td>10.495</td><td>0.180</td><td>0.5</td><td>17.2</td><td>○ K</td></tr><tr><td>60 min Summer</td><td>10.546</td><td>0.231</td><td>0.5</td><td>22.1</td><td>○ K</td></tr><tr><td>120 min Summer</td><td>10.582</td><td>0.267</td><td>0.5</td><td>25.6</td><td>○ K</td></tr><tr><td>180 min Summer</td><td>10.600</td><td>0.285</td><td>0.5</td><td>27.4</td><td>○ K</td></tr><tr><td>240 min Summer</td><td>10.609</td><td>0.294</td><td>0.5</td><td>28.2</td><td>○ K</td></tr><tr><td>360 min Summer</td><td>10.612</td><td>0.297</td><td>0.5</td><td>28.6</td><td>○ K</td></tr><tr><td>480 min Summer</td><td>10.607</td><td>0.292</td><td>0.5</td><td>28.0</td><td>○ K</td></tr><tr><td>600 min Summer</td><td>10.600</td><td>0.285</td><td>0.5</td><td>27.3</td><td>○ K</td></tr><tr><td>720 min Summer</td><td>10.593</td><td>0.278</td><td>0.5</td><td>26.6</td><td>○ K</td></tr><tr><td>960 min Summer</td><td>10.578</td><td>0.263</td><td>0.5</td><td>25.2</td><td>○ K</td></tr><tr><td>1440 min Summer</td><td>10.550</td><td>0.235</td><td>0.5</td><td>22.5</td><td>○ K</td></tr><tr><td>2160 min Summer</td><td>10.513</td><td>0.198</td><td>0.5</td><td>19.0</td><td>○ K</td></tr><tr><td>2880 min Summer</td><td>10.482</td><td>0.167</td><td>0.5</td><td>16.1</td><td>○ K</td></tr><tr><td>4320 min Summer</td><td>10.436</td><td>0.121</td><td>0.5</td><td>11.6</td><td>○ K</td></tr><tr><td>5760 min Summer</td><td>10.404</td><td>0.089</td><td>0.5</td><td>8.5</td><td>○ K</td></tr><tr><td>7200 min Summer</td><td>10.383</td><td>0.068</td><td>0.5</td><td>6.5</td><td>○ K</td></tr><tr><td>8640 min Summer</td><td>10.370</td><td>0.055</td><td>0.5</td><td>5.3</td><td>○ K</td></tr><tr><td>10080 min Summer</td><td>10.364</td><td>0.049</td><td>0.5</td><td>4.7</td><td>○ K</td></tr><tr><td>15 min Winter</td><td>10.464</td><td>0.149</td><td>0.5</td><td>14.3</td><td>○ K</td></tr></tbody></table> <table><thead><tr><th>Storm Event</th><th>Rain (mm/hr)</th><th>Flooded Volume (m³)</th><th>Time-Peak (mins)</th></tr></thead><tbody><tr><td>15 min Summer</td><td>140.714</td><td>0.0</td><td>19</td></tr><tr><td>30 min Summer</td><td>94.437</td><td>0.0</td><td>33</td></tr><tr><td>60 min Summer</td><td>60.674</td><td>0.0</td><td>64</td></tr><tr><td>120 min Summer</td><td>36.152</td><td>0.0</td><td>122</td></tr><tr><td>180 min Summer</td><td>26.572</td><td>0.0</td><td>182</td></tr><tr><td>240 min Summer</td><td>21.265</td><td>0.0</td><td>242</td></tr><tr><td>360 min Summer</td><td>15.394</td><td>0.0</td><td>360</td></tr><tr><td>480 min Summer</td><td>12.172</td><td>0.0</td><td>446</td></tr><tr><td>600 min Summer</td><td>10.122</td><td>0.0</td><td>496</td></tr><tr><td>720 min Summer</td><td>8.696</td><td>0.0</td><td>556</td></tr><tr><td>960 min Summer</td><td>6.832</td><td>0.0</td><td>682</td></tr><tr><td>1440 min Summer</td><td>4.865</td><td>0.0</td><td>952</td></tr><tr><td>2160 min Summer</td><td>3.484</td><td>0.0</td><td>1344</td></tr><tr><td>2880 min Summer</td><td>2.767</td><td>0.0</td><td>1732</td></tr><tr><td>4320 min Summer</td><td>2.029</td><td>0.0</td><td>2464</td></tr><tr><td>5760 min Summer</td><td>1.648</td><td>0.0</td><td>3168</td></tr><tr><td>7200 min Summer</td><td>1.417</td><td>0.0</td><td>3824</td></tr><tr><td>8640 min Summer</td><td>1.261</td><td>0.0</td><td>4496</td></tr><tr><td>10080 min Summer</td><td>1.147</td><td>0.0</td><td>5144</td></tr><tr><td>15 min Winter</td><td>140.714</td><td>0.0</td><td>19</td></tr></tbody></table>						Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	15 min Summer	10.446	0.131	0.5	12.6	○ K	30 min Summer	10.495	0.180	0.5	17.2	○ K	60 min Summer	10.546	0.231	0.5	22.1	○ K	120 min Summer	10.582	0.267	0.5	25.6	○ K	180 min Summer	10.600	0.285	0.5	27.4	○ K	240 min Summer	10.609	0.294	0.5	28.2	○ K	360 min Summer	10.612	0.297	0.5	28.6	○ K	480 min Summer	10.607	0.292	0.5	28.0	○ K	600 min Summer	10.600	0.285	0.5	27.3	○ K	720 min Summer	10.593	0.278	0.5	26.6	○ K	960 min Summer	10.578	0.263	0.5	25.2	○ K	1440 min Summer	10.550	0.235	0.5	22.5	○ K	2160 min Summer	10.513	0.198	0.5	19.0	○ K	2880 min Summer	10.482	0.167	0.5	16.1	○ K	4320 min Summer	10.436	0.121	0.5	11.6	○ K	5760 min Summer	10.404	0.089	0.5	8.5	○ K	7200 min Summer	10.383	0.068	0.5	6.5	○ K	8640 min Summer	10.370	0.055	0.5	5.3	○ K	10080 min Summer	10.364	0.049	0.5	4.7	○ K	15 min Winter	10.464	0.149	0.5	14.3	○ K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	140.714	0.0	19	30 min Summer	94.437	0.0	33	60 min Summer	60.674	0.0	64	120 min Summer	36.152	0.0	122	180 min Summer	26.572	0.0	182	240 min Summer	21.265	0.0	242	360 min Summer	15.394	0.0	360	480 min Summer	12.172	0.0	446	600 min Summer	10.122	0.0	496	720 min Summer	8.696	0.0	556	960 min Summer	6.832	0.0	682	1440 min Summer	4.865	0.0	952	2160 min Summer	3.484	0.0	1344	2880 min Summer	2.767	0.0	1732	4320 min Summer	2.029	0.0	2464	5760 min Summer	1.648	0.0	3168	7200 min Summer	1.417	0.0	3824	8640 min Summer	1.261	0.0	4496	10080 min Summer	1.147	0.0	5144	15 min Winter	140.714	0.0	19
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status																																																																																																																																																																																																																		
15 min Summer	10.446	0.131	0.5	12.6	○ K																																																																																																																																																																																																																		
30 min Summer	10.495	0.180	0.5	17.2	○ K																																																																																																																																																																																																																		
60 min Summer	10.546	0.231	0.5	22.1	○ K																																																																																																																																																																																																																		
120 min Summer	10.582	0.267	0.5	25.6	○ K																																																																																																																																																																																																																		
180 min Summer	10.600	0.285	0.5	27.4	○ K																																																																																																																																																																																																																		
240 min Summer	10.609	0.294	0.5	28.2	○ K																																																																																																																																																																																																																		
360 min Summer	10.612	0.297	0.5	28.6	○ K																																																																																																																																																																																																																		
480 min Summer	10.607	0.292	0.5	28.0	○ K																																																																																																																																																																																																																		
600 min Summer	10.600	0.285	0.5	27.3	○ K																																																																																																																																																																																																																		
720 min Summer	10.593	0.278	0.5	26.6	○ K																																																																																																																																																																																																																		
960 min Summer	10.578	0.263	0.5	25.2	○ K																																																																																																																																																																																																																		
1440 min Summer	10.550	0.235	0.5	22.5	○ K																																																																																																																																																																																																																		
2160 min Summer	10.513	0.198	0.5	19.0	○ K																																																																																																																																																																																																																		
2880 min Summer	10.482	0.167	0.5	16.1	○ K																																																																																																																																																																																																																		
4320 min Summer	10.436	0.121	0.5	11.6	○ K																																																																																																																																																																																																																		
5760 min Summer	10.404	0.089	0.5	8.5	○ K																																																																																																																																																																																																																		
7200 min Summer	10.383	0.068	0.5	6.5	○ K																																																																																																																																																																																																																		
8640 min Summer	10.370	0.055	0.5	5.3	○ K																																																																																																																																																																																																																		
10080 min Summer	10.364	0.049	0.5	4.7	○ K																																																																																																																																																																																																																		
15 min Winter	10.464	0.149	0.5	14.3	○ K																																																																																																																																																																																																																		
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)																																																																																																																																																																																																																				
15 min Summer	140.714	0.0	19																																																																																																																																																																																																																				
30 min Summer	94.437	0.0	33																																																																																																																																																																																																																				
60 min Summer	60.674	0.0	64																																																																																																																																																																																																																				
120 min Summer	36.152	0.0	122																																																																																																																																																																																																																				
180 min Summer	26.572	0.0	182																																																																																																																																																																																																																				
240 min Summer	21.265	0.0	242																																																																																																																																																																																																																				
360 min Summer	15.394	0.0	360																																																																																																																																																																																																																				
480 min Summer	12.172	0.0	446																																																																																																																																																																																																																				
600 min Summer	10.122	0.0	496																																																																																																																																																																																																																				
720 min Summer	8.696	0.0	556																																																																																																																																																																																																																				
960 min Summer	6.832	0.0	682																																																																																																																																																																																																																				
1440 min Summer	4.865	0.0	952																																																																																																																																																																																																																				
2160 min Summer	3.484	0.0	1344																																																																																																																																																																																																																				
2880 min Summer	2.767	0.0	1732																																																																																																																																																																																																																				
4320 min Summer	2.029	0.0	2464																																																																																																																																																																																																																				
5760 min Summer	1.648	0.0	3168																																																																																																																																																																																																																				
7200 min Summer	1.417	0.0	3824																																																																																																																																																																																																																				
8640 min Summer	1.261	0.0	4496																																																																																																																																																																																																																				
10080 min Summer	1.147	0.0	5144																																																																																																																																																																																																																				
15 min Winter	140.714	0.0	19																																																																																																																																																																																																																				
©1982-2020 Innovyze																																																																																																																																																																																																																							

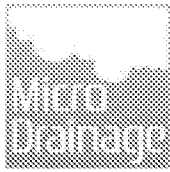
GTA Civils Ltd				Page 2	
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB		Warwick Nursery Permeable paving A28-31 1 in 100 year + 40%			
Date 24/06/2021 File A28-A31 PP.SRCX		Designed by JR Checked by			
XP Solutions		Source Control 2020.1			
<u>Summary of Results for 100 year Return Period (+40%)</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	10.519	0.204	0.5	19.6	○ K
60 min Winter	10.577	0.262	0.5	25.1	○ K
120 min Winter	10.619	0.304	0.5	29.2	○ K
180 min Winter	10.640	0.325	0.5	31.2	○ K
240 min Winter	10.652	0.337	0.5	32.3	○ K
360 min Winter	10.659	0.344	0.5	33.0	○ K
480 min Winter	10.655	0.340	0.5	32.6	○ K
600 min Winter	10.646	0.331	0.5	31.8	○ K
720 min Winter	10.635	0.320	0.5	30.8	○ K
960 min Winter	10.617	0.302	0.5	29.0	○ K
1440 min Winter	10.577	0.262	0.5	25.2	○ K
2160 min Winter	10.523	0.208	0.5	19.9	○ K
2880 min Winter	10.476	0.161	0.5	15.5	○ K
4320 min Winter	10.407	0.092	0.5	8.9	○ K
5760 min Winter	10.369	0.054	0.5	5.2	○ K
7200 min Winter	10.360	0.045	0.4	4.3	○ K
8640 min Winter	10.355	0.040	0.4	3.8	○ K
10080 min Winter	10.352	0.037	0.4	3.5	○ K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	94.437	0.0	33		
60 min Winter	60.674	0.0	62		
120 min Winter	36.152	0.0	120		
180 min Winter	26.572	0.0	178		
240 min Winter	21.265	0.0	236		
360 min Winter	15.398	0.0	350		
480 min Winter	12.172	0.0	460		
600 min Winter	10.122	0.0	566		
720 min Winter	8.696	0.0	602		
960 min Winter	6.832	0.0	734		
1440 min Winter	4.865	0.0	1038		
2160 min Winter	3.484	0.0	1452		
2880 min Winter	2.767	0.0	1848		
4320 min Winter	2.029	0.0	2552		
5760 min Winter	1.648	0.0	3112		
7200 min Winter	1.417	0.0	3744		
8640 min Winter	1.261	0.0	4416		
10080 min Winter	1.147	0.0	5144		
©1982-2020 Innovyze					

GTA Civils Ltd		Page 3																														
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB	Warwick Nursery Permeable paving A28-31 1 in 100 year + 40%																															
Date 24/06/2021	Designed by JR																															
File A28-A31 PP.SRCX	Checked by																															
XP Solutions		Source Control 2020.1																														
<u>Rainfall Details</u> <table> <tr> <td>Rainfall Model</td> <td>FEH</td> </tr> <tr> <td>Return Period (years)</td> <td>100</td> </tr> <tr> <td>FEH Rainfall Version</td> <td>2013</td> </tr> <tr> <td>Site Location</td> <td>GB 494911 105112 SU 94911 05112</td> </tr> <tr> <td>Data Type</td> <td>Point</td> </tr> <tr> <td>Summer Storms</td> <td>Yes</td> </tr> <tr> <td>Winter Storms</td> <td>Yes</td> </tr> <tr> <td>Cv (Summer)</td> <td>0.750</td> </tr> <tr> <td>Cv (Winter)</td> <td>0.840</td> </tr> <tr> <td>Shortest Storm (mins)</td> <td>15</td> </tr> <tr> <td>Longest Storm (mins)</td> <td>10080</td> </tr> <tr> <td>Climate Change %</td> <td>+40</td> </tr> </table> <u>Time Area Diagram</u> Total Area (ha) 0.055 <table> <thead> <tr> <th>Time (mins)</th> <th>Area</th> </tr> <tr> <th>From:</th> <th>To: (ha)</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>4 0.055</td> </tr> </tbody> </table>			Rainfall Model	FEH	Return Period (years)	100	FEH Rainfall Version	2013	Site Location	GB 494911 105112 SU 94911 05112	Data Type	Point	Summer Storms	Yes	Winter Storms	Yes	Cv (Summer)	0.750	Cv (Winter)	0.840	Shortest Storm (mins)	15	Longest Storm (mins)	10080	Climate Change %	+40	Time (mins)	Area	From:	To: (ha)	0	4 0.055
Rainfall Model	FEH																															
Return Period (years)	100																															
FEH Rainfall Version	2013																															
Site Location	GB 494911 105112 SU 94911 05112																															
Data Type	Point																															
Summer Storms	Yes																															
Winter Storms	Yes																															
Cv (Summer)	0.750																															
Cv (Winter)	0.840																															
Shortest Storm (mins)	15																															
Longest Storm (mins)	10080																															
Climate Change %	+40																															
Time (mins)	Area																															
From:	To: (ha)																															
0	4 0.055																															
©1982-2020 Innovyze																																

GTA Civils Ltd		Page 4																								
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB	Warwick Nursery Permeable paving A28-31 1 in 100 year + 40%																									
Date 24/06/2021 File A28-A31 PP.SRCX	Designed by JR Checked by																									
XP Solutions																										
Source Control 2020.1																										
<u>Model Details</u> Storage is Online Cover Level (m) 11.500 <u>Porous Car Park Structure</u> <table style="width: 100%; border: none;"> <tr> <td style="width: 40%;">Infiltration Coefficient Base (m/hr)</td> <td style="width: 20%;">0.03571</td> <td style="width: 20%;">Width (m)</td> <td style="width: 20%;">10.0</td> </tr> <tr> <td>Membrane Percolation (mm/hr)</td> <td>1000</td> <td>Length (m)</td> <td>32.0</td> </tr> <tr> <td>Max Percolation (l/s)</td> <td>88.9</td> <td>Slope (1:X)</td> <td>0.0</td> </tr> <tr> <td>Safety Factor</td> <td>6.5</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>10.315</td> <td>Cap Volume Depth (m)</td> <td>1.055</td> </tr> </table>			Infiltration Coefficient Base (m/hr)	0.03571	Width (m)	10.0	Membrane Percolation (mm/hr)	1000	Length (m)	32.0	Max Percolation (l/s)	88.9	Slope (1:X)	0.0	Safety Factor	6.5	Depression Storage (mm)	5	Porosity	0.30	Evaporation (mm/day)	3	Invert Level (m)	10.315	Cap Volume Depth (m)	1.055
Infiltration Coefficient Base (m/hr)	0.03571	Width (m)	10.0																							
Membrane Percolation (mm/hr)	1000	Length (m)	32.0																							
Max Percolation (l/s)	88.9	Slope (1:X)	0.0																							
Safety Factor	6.5	Depression Storage (mm)	5																							
Porosity	0.30	Evaporation (mm/day)	3																							
Invert Level (m)	10.315	Cap Volume Depth (m)	1.055																							
©1982-2020 Innovyze																										

GTA Civils Ltd				Page 1																																																																																																																																																																																																																			
66a Church Walk		Warwick Nursery																																																																																																																																																																																																																					
Burgess Hill		Permeable paving A32-A44																																																																																																																																																																																																																					
West Sussex RH15 9AS		1 in 10 year + 40%																																																																																																																																																																																																																					
Date 24/06/2021		Designed by JR																																																																																																																																																																																																																					
File A32-A44 PP.SRCX		Checked by																																																																																																																																																																																																																					
Micro Drainage		Source Control 2020.1																																																																																																																																																																																																																					
<u>Summary of Results for 10 year Return Period (+40%)</u> Half Drain Time : 501 minutes. <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 Volume (m³)</th><th>Status</th></tr></thead><tbody><tr><td>15 min Summer</td><td>10.498</td><td>0.298</td><td>1.0</td><td>28.7</td><td>O K</td></tr><tr><td>30 min Summer</td><td>10.546</td><td>0.346</td><td>1.1</td><td>38.8</td><td>O K</td></tr><tr><td>60 min Summer</td><td>10.591</td><td>0.391</td><td>1.3</td><td>49.5</td><td>O K</td></tr><tr><td>120 min Summer</td><td>10.634</td><td>0.434</td><td>1.4</td><td>61.1</td><td>O K</td></tr><tr><td>180 min Summer</td><td>10.654</td><td>0.454</td><td>1.5</td><td>66.7</td><td>O K</td></tr><tr><td>240 min Summer</td><td>10.663</td><td>0.463</td><td>1.5</td><td>69.5</td><td>O K</td></tr><tr><td>360 min Summer</td><td>10.669</td><td>0.469</td><td>1.5</td><td>71.2</td><td>O K</td></tr><tr><td>480 min Summer</td><td>10.669</td><td>0.469</td><td>1.5</td><td>71.3</td><td>O K</td></tr><tr><td>600 min Summer</td><td>10.668</td><td>0.468</td><td>1.5</td><td>70.8</td><td>O K</td></tr><tr><td>720 min Summer</td><td>10.665</td><td>0.465</td><td>1.5</td><td>70.1</td><td>O K</td></tr><tr><td>960 min Summer</td><td>10.659</td><td>0.459</td><td>1.5</td><td>68.2</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>10.644</td><td>0.444</td><td>1.5</td><td>63.9</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>10.623</td><td>0.423</td><td>1.4</td><td>58.0</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>10.605</td><td>0.405</td><td>1.3</td><td>53.1</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>10.577</td><td>0.377</td><td>1.2</td><td>46.1</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>10.556</td><td>0.356</td><td>1.2</td><td>41.1</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>10.540</td><td>0.340</td><td>1.1</td><td>37.5</td><td>O K</td></tr><tr><td>8640 min Summer</td><td>10.528</td><td>0.328</td><td>1.1</td><td>34.8</td><td>O K</td></tr><tr><td>10080 min Summer</td><td>10.517</td><td>0.317</td><td>1.0</td><td>32.6</td><td>O K</td></tr><tr><td>15 min Winter</td><td>10.518</td><td>0.318</td><td>1.0</td><td>32.8</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>Time-Peak (mins)</th></tr></thead><tbody><tr><td>15 min Summer</td><td>86.846</td><td>0.0</td><td>19</td></tr><tr><td>30 min Summer</td><td>56.970</td><td>0.0</td><td>33</td></tr><tr><td>60 min Summer</td><td>36.174</td><td>0.0</td><td>64</td></tr><tr><td>120 min Summer</td><td>22.769</td><td>0.0</td><td>122</td></tr><tr><td>180 min Summer</td><td>17.094</td><td>0.0</td><td>182</td></tr><tr><td>240 min Summer</td><td>13.845</td><td>0.0</td><td>240</td></tr><tr><td>360 min Summer</td><td>10.168</td><td>0.0</td><td>340</td></tr><tr><td>480 min Summer</td><td>8.105</td><td>0.0</td><td>394</td></tr><tr><td>600 min Summer</td><td>6.777</td><td>0.0</td><td>454</td></tr><tr><td>720 min Summer</td><td>5.847</td><td>0.0</td><td>518</td></tr><tr><td>960 min Summer</td><td>4.621</td><td>0.0</td><td>654</td></tr><tr><td>1440 min Summer</td><td>3.324</td><td>0.0</td><td>924</td></tr><tr><td>2160 min Summer</td><td>2.410</td><td>0.0</td><td>1340</td></tr><tr><td>2880 min Summer</td><td>1.934</td><td>0.0</td><td>1732</td></tr><tr><td>4320 min Summer</td><td>1.447</td><td>0.0</td><td>2508</td></tr><tr><td>5760 min Summer</td><td>1.196</td><td>0.0</td><td>3240</td></tr><tr><td>7200 min Summer</td><td>1.044</td><td>0.0</td><td>3968</td></tr><tr><td>8640 min Summer</td><td>0.940</td><td>0.0</td><td>4752</td></tr><tr><td>10080 min Summer</td><td>0.865</td><td>0.0</td><td>5448</td></tr><tr><td>15 min Winter</td><td>86.846</td><td>0.0</td><td>19</td></tr></tbody></table>						Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	15 min Summer	10.498	0.298	1.0	28.7	O K	30 min Summer	10.546	0.346	1.1	38.8	O K	60 min Summer	10.591	0.391	1.3	49.5	O K	120 min Summer	10.634	0.434	1.4	61.1	O K	180 min Summer	10.654	0.454	1.5	66.7	O K	240 min Summer	10.663	0.463	1.5	69.5	O K	360 min Summer	10.669	0.469	1.5	71.2	O K	480 min Summer	10.669	0.469	1.5	71.3	O K	600 min Summer	10.668	0.468	1.5	70.8	O K	720 min Summer	10.665	0.465	1.5	70.1	O K	960 min Summer	10.659	0.459	1.5	68.2	O K	1440 min Summer	10.644	0.444	1.5	63.9	O K	2160 min Summer	10.623	0.423	1.4	58.0	O K	2880 min Summer	10.605	0.405	1.3	53.1	O K	4320 min Summer	10.577	0.377	1.2	46.1	O K	5760 min Summer	10.556	0.356	1.2	41.1	O K	7200 min Summer	10.540	0.340	1.1	37.5	O K	8640 min Summer	10.528	0.328	1.1	34.8	O K	10080 min Summer	10.517	0.317	1.0	32.6	O K	15 min Winter	10.518	0.318	1.0	32.8	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	86.846	0.0	19	30 min Summer	56.970	0.0	33	60 min Summer	36.174	0.0	64	120 min Summer	22.769	0.0	122	180 min Summer	17.094	0.0	182	240 min Summer	13.845	0.0	240	360 min Summer	10.168	0.0	340	480 min Summer	8.105	0.0	394	600 min Summer	6.777	0.0	454	720 min Summer	5.847	0.0	518	960 min Summer	4.621	0.0	654	1440 min Summer	3.324	0.0	924	2160 min Summer	2.410	0.0	1340	2880 min Summer	1.934	0.0	1732	4320 min Summer	1.447	0.0	2508	5760 min Summer	1.196	0.0	3240	7200 min Summer	1.044	0.0	3968	8640 min Summer	0.940	0.0	4752	10080 min Summer	0.865	0.0	5448	15 min Winter	86.846	0.0	19
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status																																																																																																																																																																																																																		
15 min Summer	10.498	0.298	1.0	28.7	O K																																																																																																																																																																																																																		
30 min Summer	10.546	0.346	1.1	38.8	O K																																																																																																																																																																																																																		
60 min Summer	10.591	0.391	1.3	49.5	O K																																																																																																																																																																																																																		
120 min Summer	10.634	0.434	1.4	61.1	O K																																																																																																																																																																																																																		
180 min Summer	10.654	0.454	1.5	66.7	O K																																																																																																																																																																																																																		
240 min Summer	10.663	0.463	1.5	69.5	O K																																																																																																																																																																																																																		
360 min Summer	10.669	0.469	1.5	71.2	O K																																																																																																																																																																																																																		
480 min Summer	10.669	0.469	1.5	71.3	O K																																																																																																																																																																																																																		
600 min Summer	10.668	0.468	1.5	70.8	O K																																																																																																																																																																																																																		
720 min Summer	10.665	0.465	1.5	70.1	O K																																																																																																																																																																																																																		
960 min Summer	10.659	0.459	1.5	68.2	O K																																																																																																																																																																																																																		
1440 min Summer	10.644	0.444	1.5	63.9	O K																																																																																																																																																																																																																		
2160 min Summer	10.623	0.423	1.4	58.0	O K																																																																																																																																																																																																																		
2880 min Summer	10.605	0.405	1.3	53.1	O K																																																																																																																																																																																																																		
4320 min Summer	10.577	0.377	1.2	46.1	O K																																																																																																																																																																																																																		
5760 min Summer	10.556	0.356	1.2	41.1	O K																																																																																																																																																																																																																		
7200 min Summer	10.540	0.340	1.1	37.5	O K																																																																																																																																																																																																																		
8640 min Summer	10.528	0.328	1.1	34.8	O K																																																																																																																																																																																																																		
10080 min Summer	10.517	0.317	1.0	32.6	O K																																																																																																																																																																																																																		
15 min Winter	10.518	0.318	1.0	32.8	O K																																																																																																																																																																																																																		
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)																																																																																																																																																																																																																				
15 min Summer	86.846	0.0	19																																																																																																																																																																																																																				
30 min Summer	56.970	0.0	33																																																																																																																																																																																																																				
60 min Summer	36.174	0.0	64																																																																																																																																																																																																																				
120 min Summer	22.769	0.0	122																																																																																																																																																																																																																				
180 min Summer	17.094	0.0	182																																																																																																																																																																																																																				
240 min Summer	13.845	0.0	240																																																																																																																																																																																																																				
360 min Summer	10.168	0.0	340																																																																																																																																																																																																																				
480 min Summer	8.105	0.0	394																																																																																																																																																																																																																				
600 min Summer	6.777	0.0	454																																																																																																																																																																																																																				
720 min Summer	5.847	0.0	518																																																																																																																																																																																																																				
960 min Summer	4.621	0.0	654																																																																																																																																																																																																																				
1440 min Summer	3.324	0.0	924																																																																																																																																																																																																																				
2160 min Summer	2.410	0.0	1340																																																																																																																																																																																																																				
2880 min Summer	1.934	0.0	1732																																																																																																																																																																																																																				
4320 min Summer	1.447	0.0	2508																																																																																																																																																																																																																				
5760 min Summer	1.196	0.0	3240																																																																																																																																																																																																																				
7200 min Summer	1.044	0.0	3968																																																																																																																																																																																																																				
8640 min Summer	0.940	0.0	4752																																																																																																																																																																																																																				
10080 min Summer	0.865	0.0	5448																																																																																																																																																																																																																				
15 min Winter	86.846	0.0	19																																																																																																																																																																																																																				
©1982-2020 Innovyze																																																																																																																																																																																																																							

GTA Civils Ltd				Page 2	
66a Church Walk Burgess Hill West Sussex RH15 9AS		Warwick Nursery Permeable paving A32-A44 1 in 10 year + 40%			
Date 24/06/2021 File A32-A44 PP.SRCX		Designed by JR Checked by			
Micro Drainage		Source Control 2020.1			
<u>Summary of Results for 10 year Return Period (+40%)</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	10.569	0.369	1.2	44.2	○ K
60 min Winter	10.617	0.417	1.4	56.3	○ K
120 min Winter	10.663	0.463	1.5	69.5	○ K
180 min Winter	10.684	0.484	1.6	76.0	○ K
240 min Winter	10.695	0.495	1.6	79.5	○ K
360 min Winter	10.703	0.503	1.6	82.0	○ K
480 min Winter	10.702	0.502	1.6	81.6	○ K
600 min Winter	10.699	0.499	1.6	80.7	○ K
720 min Winter	10.696	0.496	1.6	79.6	○ K
960 min Winter	10.687	0.487	1.6	76.7	○ K
1440 min Winter	10.666	0.466	1.5	70.3	○ K
2160 min Winter	10.636	0.436	1.4	61.5	○ K
2880 min Winter	10.610	0.410	1.3	54.4	○ K
4320 min Winter	10.569	0.369	1.2	44.1	○ K
5760 min Winter	10.538	0.338	1.1	37.1	○ K
7200 min Winter	10.515	0.315	1.0	32.1	○ K
8640 min Winter	10.496	0.296	1.0	28.4	○ K
10080 min Winter	10.481	0.281	0.9	25.5	○ K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	56.970	0.0	33		
60 min Winter	36.174	0.0	62		
120 min Winter	22.769	0.0	120		
180 min Winter	17.094	0.0	178		
240 min Winter	13.845	0.0	234		
360 min Winter	10.168	0.0	344		
480 min Winter	8.105	0.0	444		
600 min Winter	6.777	0.0	476		
720 min Winter	5.847	0.0	550		
960 min Winter	4.621	0.0	704		
1440 min Winter	3.324	0.0	1008		
2160 min Winter	2.410	0.0	1428		
2880 min Winter	1.934	0.0	1844		
4320 min Winter	1.447	0.0	2636		
5760 min Winter	1.196	0.0	3400		
7200 min Winter	1.044	0.0	4112		
8640 min Winter	0.940	0.0	4848		
10080 min Winter	0.865	0.0	5640		
©1982-2020 Innovyze					

GTA Civils Ltd		Page 3
66a Church Walk Burgess Hill West Sussex RH15 9AS	Warwick Nursery Permeable paving A32-A44 1 in 10 year + 40%	
Date 24/06/2021 File A32-A44 PP.SRCX	Designed by JR Checked by	
Micro Drainage Source Control 2020.1		

Rainfall Details

Rainfall Model	FEH
Return Period (years)	10
FEH Rainfall Version	2013
Site Location	GB 494911 105112 SU 94911 05112
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	10080
Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.213

	Time (mins)	Area
From:	To:	(ha)
	0	4 0.213

©1982-2020 Innovyze

GTA Civils Ltd		Page 4																								
66a Church Walk Burgess Hill West Sussex RH15 9AS	Warwick Nursery Permeable paving A32-A44 1 in 10 year + 40%																									
Date 24/06/2021 File A32-A44 PP.SRCX	Designed by JR Checked by																									
Micro Drainage Source Control 2020.1																										
<u>Model Details</u> Storage is Online Cover Level (m) 11.000 <u>Porous Car Park Structure</u> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Infiltration Coefficient Base (m/hr)</td> <td style="width: 20%;">0.03571</td> <td style="width: 20%;">Width (m)</td> <td style="width: 10%;">8.3</td> </tr> <tr> <td>Membrane Percolation (mm/hr)</td> <td>1000</td> <td>Length (m)</td> <td>130.0</td> </tr> <tr> <td>Max Percolation (l/s)</td> <td>299.7</td> <td>Slope (1:X)</td> <td>260.0</td> </tr> <tr> <td>Safety Factor</td> <td>6.5</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>10.200</td> <td>Cap Volume Depth (m)</td> <td>0.670</td> </tr> </table>			Infiltration Coefficient Base (m/hr)	0.03571	Width (m)	8.3	Membrane Percolation (mm/hr)	1000	Length (m)	130.0	Max Percolation (l/s)	299.7	Slope (1:X)	260.0	Safety Factor	6.5	Depression Storage (mm)	5	Porosity	0.30	Evaporation (mm/day)	3	Invert Level (m)	10.200	Cap Volume Depth (m)	0.670
Infiltration Coefficient Base (m/hr)	0.03571	Width (m)	8.3																							
Membrane Percolation (mm/hr)	1000	Length (m)	130.0																							
Max Percolation (l/s)	299.7	Slope (1:X)	260.0																							
Safety Factor	6.5	Depression Storage (mm)	5																							
Porosity	0.30	Evaporation (mm/day)	3																							
Invert Level (m)	10.200	Cap Volume Depth (m)	0.670																							
©1982-2020 Innovyze																										

GTA Civils Ltd				Page 1																																																																																																																																																																																																																			
66a Church Walk		Warwick Nursery																																																																																																																																																																																																																					
Burgess Hill		Permeable paving A32-A44																																																																																																																																																																																																																					
West Sussex RH15 9AS		1 in 100 year + 40%																																																																																																																																																																																																																					
Date 24/06/2021		Designed by JR																																																																																																																																																																																																																					
File A32-A44 PP.SRCX		Checked by																																																																																																																																																																																																																					
Micro Drainage		Source Control 2020.1																																																																																																																																																																																																																					
Summary of Results for 100 year Return Period (+40%) Half Drain Time : 727 minutes. <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 Volume (m³)</th><th>Status</th></tr></thead><tbody><tr><td>15 min Summer</td><td>10.593</td><td>0.393</td><td>1.3</td><td>50.0</td><td>O K</td></tr><tr><td>30 min Summer</td><td>10.659</td><td>0.459</td><td>1.5</td><td>68.2</td><td>O K</td></tr><tr><td>60 min Summer</td><td>10.721</td><td>0.521</td><td>1.6</td><td>87.6</td><td>O K</td></tr><tr><td>120 min Summer</td><td>10.766</td><td>0.566</td><td>1.6</td><td>102.2</td><td>O K</td></tr><tr><td>180 min Summer</td><td>10.790</td><td>0.590</td><td>1.6</td><td>110.0</td><td>O K</td></tr><tr><td>240 min Summer</td><td>10.803</td><td>0.603</td><td>1.6</td><td>114.4</td><td>O K</td></tr><tr><td>360 min Summer</td><td>10.814</td><td>0.614</td><td>1.6</td><td>117.8</td><td>O K</td></tr><tr><td>480 min Summer</td><td>10.813</td><td>0.613</td><td>1.6</td><td>117.6</td><td>O K</td></tr><tr><td>600 min Summer</td><td>10.808</td><td>0.608</td><td>1.6</td><td>115.9</td><td>O K</td></tr><tr><td>720 min Summer</td><td>10.803</td><td>0.603</td><td>1.6</td><td>114.3</td><td>O K</td></tr><tr><td>960 min Summer</td><td>10.792</td><td>0.592</td><td>1.6</td><td>110.8</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>10.770</td><td>0.570</td><td>1.6</td><td>103.7</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>10.740</td><td>0.540</td><td>1.6</td><td>94.0</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>10.715</td><td>0.515</td><td>1.6</td><td>85.7</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>10.678</td><td>0.478</td><td>1.6</td><td>74.1</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>10.651</td><td>0.451</td><td>1.5</td><td>65.8</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>10.630</td><td>0.430</td><td>1.4</td><td>59.8</td><td>O K</td></tr><tr><td>8640 min Summer</td><td>10.612</td><td>0.412</td><td>1.4</td><td>55.0</td><td>O K</td></tr><tr><td>10080 min Summer</td><td>10.598</td><td>0.398</td><td>1.3</td><td>51.2</td><td>O K</td></tr><tr><td>15 min Winter</td><td>10.618</td><td>0.418</td><td>1.4</td><td>56.6</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>Time-Peak (mins)</th></tr></thead><tbody><tr><td>15 min Summer</td><td>140.714</td><td>0.0</td><td>19</td></tr><tr><td>30 min Summer</td><td>94.437</td><td>0.0</td><td>34</td></tr><tr><td>60 min Summer</td><td>60.674</td><td>0.0</td><td>64</td></tr><tr><td>120 min Summer</td><td>36.152</td><td>0.0</td><td>122</td></tr><tr><td>180 min Summer</td><td>26.572</td><td>0.0</td><td>182</td></tr><tr><td>240 min Summer</td><td>21.265</td><td>0.0</td><td>242</td></tr><tr><td>360 min Summer</td><td>15.394</td><td>0.0</td><td>360</td></tr><tr><td>480 min Summer</td><td>12.172</td><td>0.0</td><td>480</td></tr><tr><td>600 min Summer</td><td>10.122</td><td>0.0</td><td>536</td></tr><tr><td>720 min Summer</td><td>8.696</td><td>0.0</td><td>592</td></tr><tr><td>960 min Summer</td><td>6.832</td><td>0.0</td><td>712</td></tr><tr><td>1440 min Summer</td><td>4.865</td><td>0.0</td><td>970</td></tr><tr><td>2160 min Summer</td><td>3.484</td><td>0.0</td><td>1380</td></tr><tr><td>2880 min Summer</td><td>2.767</td><td>0.0</td><td>1764</td></tr><tr><td>4320 min Summer</td><td>2.029</td><td>0.0</td><td>2552</td></tr><tr><td>5760 min Summer</td><td>1.648</td><td>0.0</td><td>3296</td></tr><tr><td>7200 min Summer</td><td>1.417</td><td>0.0</td><td>4040</td></tr><tr><td>8640 min Summer</td><td>1.261</td><td>0.0</td><td>4832</td></tr><tr><td>10080 min Summer</td><td>1.147</td><td>0.0</td><td>5544</td></tr><tr><td>15 min Winter</td><td>140.714</td><td>0.0</td><td>19</td></tr></tbody></table>						Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	15 min Summer	10.593	0.393	1.3	50.0	O K	30 min Summer	10.659	0.459	1.5	68.2	O K	60 min Summer	10.721	0.521	1.6	87.6	O K	120 min Summer	10.766	0.566	1.6	102.2	O K	180 min Summer	10.790	0.590	1.6	110.0	O K	240 min Summer	10.803	0.603	1.6	114.4	O K	360 min Summer	10.814	0.614	1.6	117.8	O K	480 min Summer	10.813	0.613	1.6	117.6	O K	600 min Summer	10.808	0.608	1.6	115.9	O K	720 min Summer	10.803	0.603	1.6	114.3	O K	960 min Summer	10.792	0.592	1.6	110.8	O K	1440 min Summer	10.770	0.570	1.6	103.7	O K	2160 min Summer	10.740	0.540	1.6	94.0	O K	2880 min Summer	10.715	0.515	1.6	85.7	O K	4320 min Summer	10.678	0.478	1.6	74.1	O K	5760 min Summer	10.651	0.451	1.5	65.8	O K	7200 min Summer	10.630	0.430	1.4	59.8	O K	8640 min Summer	10.612	0.412	1.4	55.0	O K	10080 min Summer	10.598	0.398	1.3	51.2	O K	15 min Winter	10.618	0.418	1.4	56.6	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	140.714	0.0	19	30 min Summer	94.437	0.0	34	60 min Summer	60.674	0.0	64	120 min Summer	36.152	0.0	122	180 min Summer	26.572	0.0	182	240 min Summer	21.265	0.0	242	360 min Summer	15.394	0.0	360	480 min Summer	12.172	0.0	480	600 min Summer	10.122	0.0	536	720 min Summer	8.696	0.0	592	960 min Summer	6.832	0.0	712	1440 min Summer	4.865	0.0	970	2160 min Summer	3.484	0.0	1380	2880 min Summer	2.767	0.0	1764	4320 min Summer	2.029	0.0	2552	5760 min Summer	1.648	0.0	3296	7200 min Summer	1.417	0.0	4040	8640 min Summer	1.261	0.0	4832	10080 min Summer	1.147	0.0	5544	15 min Winter	140.714	0.0	19
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status																																																																																																																																																																																																																		
15 min Summer	10.593	0.393	1.3	50.0	O K																																																																																																																																																																																																																		
30 min Summer	10.659	0.459	1.5	68.2	O K																																																																																																																																																																																																																		
60 min Summer	10.721	0.521	1.6	87.6	O K																																																																																																																																																																																																																		
120 min Summer	10.766	0.566	1.6	102.2	O K																																																																																																																																																																																																																		
180 min Summer	10.790	0.590	1.6	110.0	O K																																																																																																																																																																																																																		
240 min Summer	10.803	0.603	1.6	114.4	O K																																																																																																																																																																																																																		
360 min Summer	10.814	0.614	1.6	117.8	O K																																																																																																																																																																																																																		
480 min Summer	10.813	0.613	1.6	117.6	O K																																																																																																																																																																																																																		
600 min Summer	10.808	0.608	1.6	115.9	O K																																																																																																																																																																																																																		
720 min Summer	10.803	0.603	1.6	114.3	O K																																																																																																																																																																																																																		
960 min Summer	10.792	0.592	1.6	110.8	O K																																																																																																																																																																																																																		
1440 min Summer	10.770	0.570	1.6	103.7	O K																																																																																																																																																																																																																		
2160 min Summer	10.740	0.540	1.6	94.0	O K																																																																																																																																																																																																																		
2880 min Summer	10.715	0.515	1.6	85.7	O K																																																																																																																																																																																																																		
4320 min Summer	10.678	0.478	1.6	74.1	O K																																																																																																																																																																																																																		
5760 min Summer	10.651	0.451	1.5	65.8	O K																																																																																																																																																																																																																		
7200 min Summer	10.630	0.430	1.4	59.8	O K																																																																																																																																																																																																																		
8640 min Summer	10.612	0.412	1.4	55.0	O K																																																																																																																																																																																																																		
10080 min Summer	10.598	0.398	1.3	51.2	O K																																																																																																																																																																																																																		
15 min Winter	10.618	0.418	1.4	56.6	O K																																																																																																																																																																																																																		
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)																																																																																																																																																																																																																				
15 min Summer	140.714	0.0	19																																																																																																																																																																																																																				
30 min Summer	94.437	0.0	34																																																																																																																																																																																																																				
60 min Summer	60.674	0.0	64																																																																																																																																																																																																																				
120 min Summer	36.152	0.0	122																																																																																																																																																																																																																				
180 min Summer	26.572	0.0	182																																																																																																																																																																																																																				
240 min Summer	21.265	0.0	242																																																																																																																																																																																																																				
360 min Summer	15.394	0.0	360																																																																																																																																																																																																																				
480 min Summer	12.172	0.0	480																																																																																																																																																																																																																				
600 min Summer	10.122	0.0	536																																																																																																																																																																																																																				
720 min Summer	8.696	0.0	592																																																																																																																																																																																																																				
960 min Summer	6.832	0.0	712																																																																																																																																																																																																																				
1440 min Summer	4.865	0.0	970																																																																																																																																																																																																																				
2160 min Summer	3.484	0.0	1380																																																																																																																																																																																																																				
2880 min Summer	2.767	0.0	1764																																																																																																																																																																																																																				
4320 min Summer	2.029	0.0	2552																																																																																																																																																																																																																				
5760 min Summer	1.648	0.0	3296																																																																																																																																																																																																																				
7200 min Summer	1.417	0.0	4040																																																																																																																																																																																																																				
8640 min Summer	1.261	0.0	4832																																																																																																																																																																																																																				
10080 min Summer	1.147	0.0	5544																																																																																																																																																																																																																				
15 min Winter	140.714	0.0	19																																																																																																																																																																																																																				
©1982-2020 Innovye																																																																																																																																																																																																																							

GTA Civils Ltd				Page 2	
66a Church Walk Burgess Hill West Sussex RH15 9AS		Warwick Nursery Permeable paving A32-A44 1 in 100 year + 40%			
Date 24/06/2021 File A32-A44 PP.SRCX		Designed by JR Checked by			
Micro Drainage		Source Control 2020.1			
Summary of Results for 100 year Return Period (+40%)					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	10.688	0.488	1.6	77.2	O K
60 min Winter	10.756	0.556	1.6	99.2	O K
120 min Winter	10.808	0.608	1.6	115.9	O K
180 min Winter	10.836	0.636	1.6	125.0	O K
240 min Winter	10.853	0.653	1.6	130.4	O K
360 min Winter	10.867	0.667	1.6	135.1	O K
480 min Winter	10.879	0.679	1.6	138.8	O K
600 min Winter	10.866	0.666	1.6	134.6	O K
720 min Winter	10.859	0.659	1.6	132.3	O K
960 min Winter	10.843	0.643	1.6	127.1	O K
1440 min Winter	10.813	0.613	1.6	117.5	O K
2160 min Winter	10.769	0.569	1.6	103.3	O K
2880 min Winter	10.731	0.531	1.6	90.9	O K
4320 min Winter	10.677	0.477	1.6	73.6	O K
5760 min Winter	10.638	0.438	1.4	62.0	O K
7200 min Winter	10.607	0.407	1.3	53.6	O K
8640 min Winter	10.582	0.382	1.3	47.1	O K
10080 min Winter	10.561	0.361	1.2	42.1	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	94.437	0.0	33		
60 min Winter	60.674	0.0	62		
120 min Winter	36.152	0.0	120		
180 min Winter	26.572	0.0	180		
240 min Winter	21.265	0.0	238		
360 min Winter	15.394	0.0	352		
480 min Winter	12.192	0.0	464		
600 min Winter	10.122	0.0	572		
720 min Winter	8.696	0.0	676		
960 min Winter	6.832	0.0	760		
1440 min Winter	4.865	0.0	1064		
2160 min Winter	3.484	0.0	1496		
2880 min Winter	2.767	0.0	1904		
4320 min Winter	2.029	0.0	2684		
5760 min Winter	1.648	0.0	3464		
7200 min Winter	1.417	0.0	4248		
8640 min Winter	1.261	0.0	5008		
10080 min Winter	1.147	0.0	5744		
©1982-2020 Innovyze					

GTA Civils Ltd		Page 3
66a Church Walk Burgess Hill West Sussex RH15 9AS	Warwick Nursery Permeable paving A32-A44 1 in 100 year + 40%	
Date 24/06/2021 File A32-A44 PP.SRCX	Designed by JR Checked by	
Micro Drainage Source Control 2020.1		

Rainfall Details

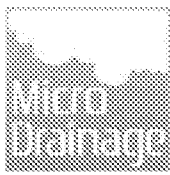
Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	2013
Site Location GB 494911 105112 SU 94911 05112	
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	10080
Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.213

	Time (mins)	Area
From:	To:	(ha)
	0	4 0.213

©1982-2020 Innovyze

GTA Civils Ltd		Page 4																								
66a Church Walk Burgess Hill West Sussex RH15 9AS	Warwick Nursery Permeable paving A32-A44 1 in 100 year + 40%																									
Date 24/06/2021 File A32-A44 PP.SRCX	Designed by JR Checked by																									
Micro Drainage Source Control 2020.1																										
<u>Model Details</u> Storage is Online Cover Level (m) 11.000 <u>Porous Car Park Structure</u> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Infiltration Coefficient Base (m/hr)</td> <td style="width: 20%;">0.03571</td> <td style="width: 20%;">Width (m)</td> <td style="width: 10%;">8.3</td> </tr> <tr> <td>Membrane Percolation (mm/hr)</td> <td>1000</td> <td>Length (m)</td> <td>130.0</td> </tr> <tr> <td>Max Percolation (l/s)</td> <td>299.7</td> <td>Slope (1:X)</td> <td>260.0</td> </tr> <tr> <td>Safety Factor</td> <td>6.5</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>10.200</td> <td>Cap Volume Depth (m)</td> <td>0.670</td> </tr> </table>			Infiltration Coefficient Base (m/hr)	0.03571	Width (m)	8.3	Membrane Percolation (mm/hr)	1000	Length (m)	130.0	Max Percolation (l/s)	299.7	Slope (1:X)	260.0	Safety Factor	6.5	Depression Storage (mm)	5	Porosity	0.30	Evaporation (mm/day)	3	Invert Level (m)	10.200	Cap Volume Depth (m)	0.670
Infiltration Coefficient Base (m/hr)	0.03571	Width (m)	8.3																							
Membrane Percolation (mm/hr)	1000	Length (m)	130.0																							
Max Percolation (l/s)	299.7	Slope (1:X)	260.0																							
Safety Factor	6.5	Depression Storage (mm)	5																							
Porosity	0.30	Evaporation (mm/day)	3																							
Invert Level (m)	10.200	Cap Volume Depth (m)	0.670																							
©1982-2020 Innovyze																										

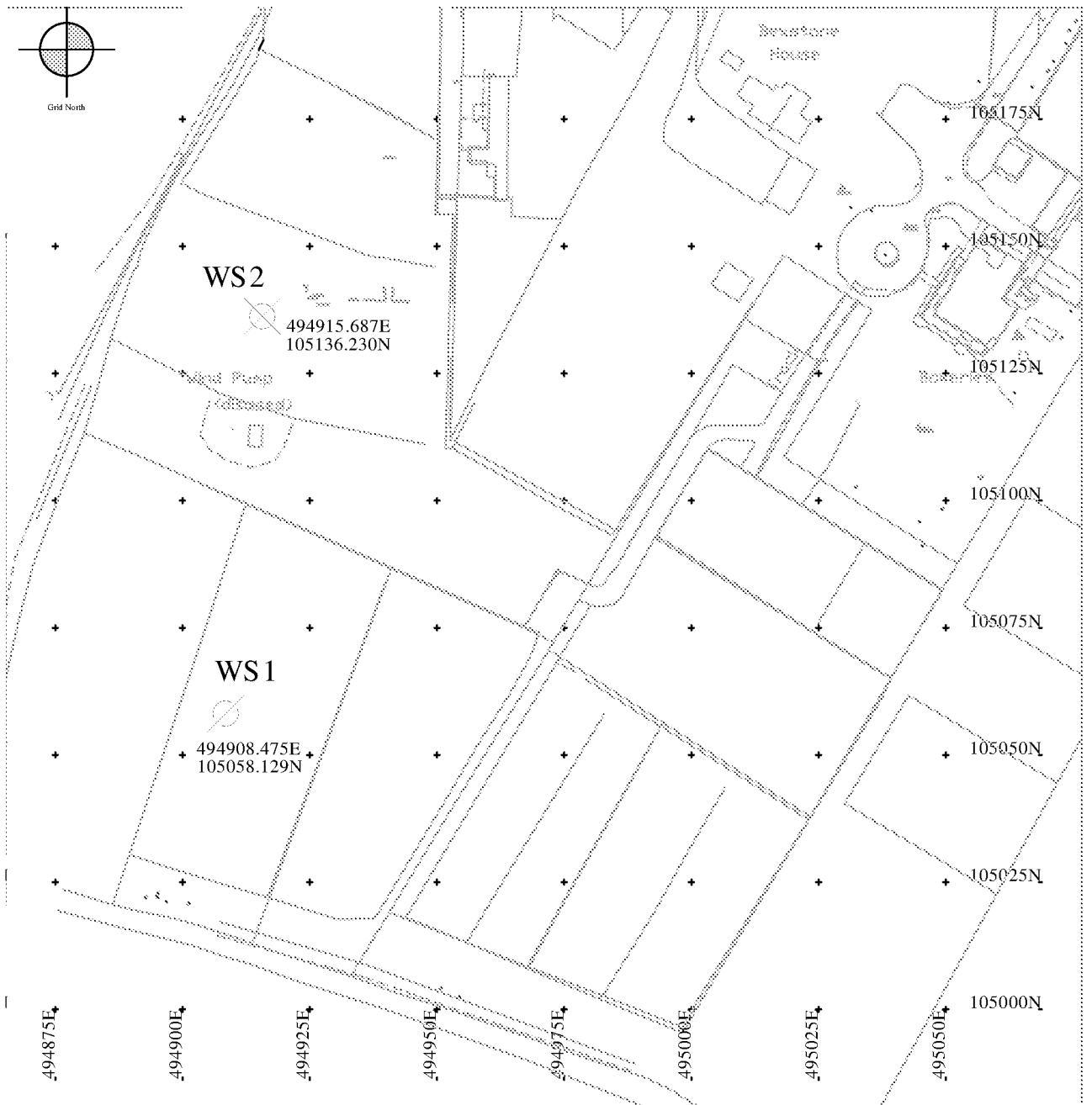
Appendix F

Winter Groundwater Monitoring & Soakage Test Results, Borehole Records

Warwick Nursery, Eastergate Water Monitoring - LandAcre

REFER TO SITE PLAN FOR WS LOCATIONS

	Drilling Date							
Visit	1	2	3	4	5	6	7	8
	25/11/2019	09/12/2019	23/12/2019	06/01/2020	20/01/2020	06/02/2020	20/02/2020	03/03/2020
WS1								
Water level (mbgl)	1.34	1.18	0.42	1.16	1.04	1.06	1.03	0.94
Depth (mbgl)	3.40	2.39	2.58	2.19	2.20	2.23	2.23	2.21
WS2								
Water level (mbgl)	2.80	2.56	2.03	1.97	1.90	No Access	1.88	1.70
Depth (mbgl)	4.00	3.44	3.40	3.34	3.35	No Access	3.36	3.29
WS3								
Water level (mbgl)	1.62	1.89	1.35	1.86	1.81	1.81	1.81	1.72
Depth (mbgl)	3.00	2.68	2.68	2.68	2.69	2.68	2.68	2.66





GROUNDWATER WELL LOCATIONS
AND DEPTHS TO OD
1:500

Mark Penfold
Landacre (Eastergate) Ltd
Stockers Farm
Salthill Road
Chichester
PO19 3PY

Units 15 & 16 • Ford Lane Business Park •
Ford • Arundel • West Sussex • BN18 0UZ

Date: 05/03/2021
Our Ref: 21.1012

Dear Mark,

RE: Warwick Nursery – Additional Infiltration Testing

We are writing following the completion of the additional infiltration testing undertaken on March 04th 2021 at Warwick Nursery, Barnham Road, Eastergate, PO20 3RT. This testing was undertaken in response to comments from Arun District Council regarding the initial infiltration testing undertaken in February 2021. This letter report should be read in conjunction with the findings of the previous site investigation¹. Infiltration testing was undertaken following overnight rain and ground conditions were saturated prior to the excavation of pits.

Summary of Ground Conditions

The soil sequence encountered during the intrusive works is as follows:

Average Depth (m below ground level)	Description
0 – 0.2	Dark brown sandy gravelly CLAY (Topsoil)
0.2 – 0.4	Brown sandy slightly gravelly CLAY (Head Deposits)
0.2 – 1.2	Dark to orangish brown sandy gravelly CLAY (River Terrace Deposits)

Full stratigraphic logs of the materials encountered can be found in the attached documents.

¹ 20.1012. Warwick Nursery. Factual Site Investigation Report. Constructive Evaluation. February 2021.

Date: 05/03/2021

Ref. No: 21.1012

Page 2 of 3

Infiltration Testing Results

Infiltration testing was undertaken within the manually excavated trial pits TP1, TP2 and TP3 in locations and to depths specified by the Clients Civil Engineer and was undertaken in general accordance with BRE 365.

The table below summarises the results.

Trial Pit ID	Test no.	Pit Depth (m)	Time at 75% (mins)	Time at 25% (mins)	Permeability Coefficient (m/s)	Drainage Conditions
TP1	1	1.2	14	75	2.16×10^{-5}	Moderate
	2	1.2	25	90	2.19×10^{-5}	Moderate
	3	1.2	17	105	1.57×10^{-5}	Moderate
TP2	1	0.6	9	39	4.10×10^{-5}	Moderate
	2	0.6	16	41	4.07×10^{-5}	Moderate
	3	0.6	33	86	1.99×10^{-5}	Moderate
TP3	1	0.4	15	90	1.19×10^{-5}	Moderate
	2	0.4	43	125	1.03×10^{-5}	Moderate
	3	0.4	30	120	9.92×10^{-6}	Moderate

Testing in all trial pits was successful and water drained at a 'Moderate'² rate in all tests.

Full infiltration testing results can be found in the appended documents.

We trust this information meets with your expectations and should you require any further information or assistance, please do not hesitate to contact us.

² Soil Mechanics in Engineering Practice. 3rd Edition. 1996. Terzaghi, K. Peck, R.B., Mesri, G.

Page 3 of 3

Kind Regards,



Michael Emery MSc BSc FGS IAEG
Senior Geo Environmental Consultant
Constructive Evaluation Limited

Attached: Site Location Plan, Site Investigation Plan, Site Investigation Photographs, Stratigraphic Logs, Infiltration Test Results





- Notes:
1. Do not scale from this drawing.
 2. All dimensions must be checked on site prior to commencement of work.
 3. Where applicable this drawing is to be read in conjunction with other consultants drawings.
 4. This drawing is the copyright of Constructive Evaluation Ltd.

KEY

Drawing Title:

Site Location Plan

Project Reference:

21.1012

Site Name:

Warwick Nurseries

Revision: 0

Drawn by: ME

Scale: Not to Scale

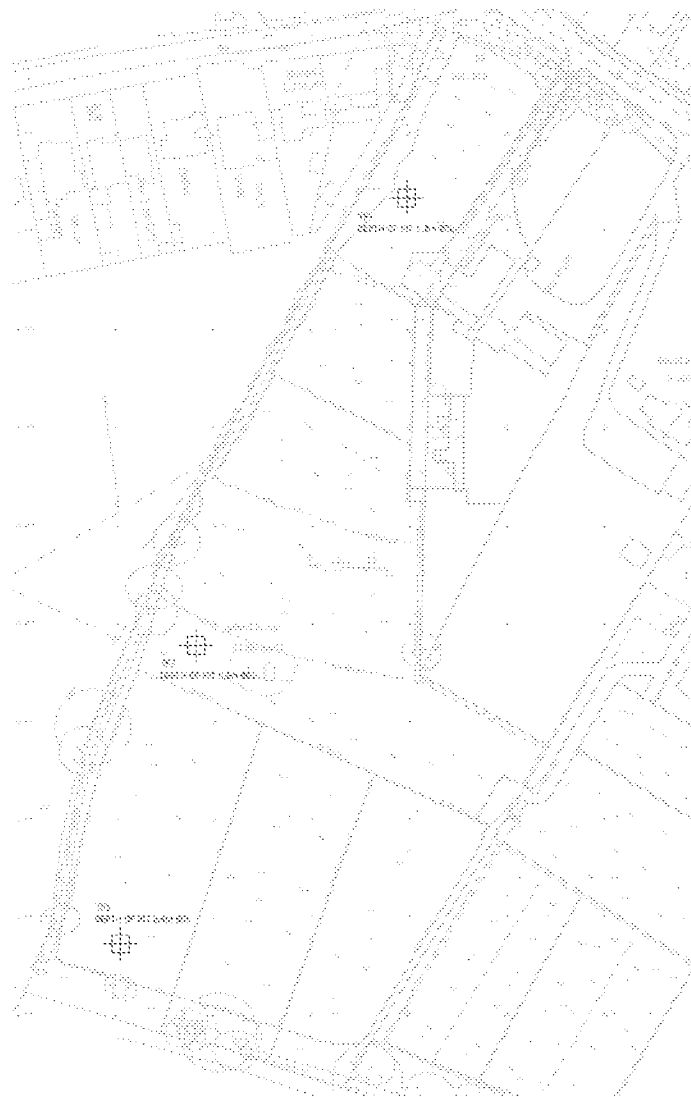


constructiveevaluation

CONSTRUCTIVE EVALUATION



Figure 1:



Notes:

1. Do not scale from this drawing.
2. All dimensions must be checked on site prior to commencement of work.
3. Where applicable this drawing is to be read in conjunction with other consultants drawings.
4. This drawing is the copyright of Constructive Evaluation Ltd.

KEY

Drawing Title:

**Additional Site
Investigation Plan**

Project Reference:

21.1012

Site Name:

Warwick Nurseries

Revision: 0

Drawn by: ME

Scale: Not to Scale

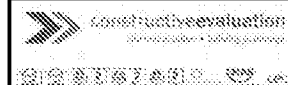


Figure 2:

Investigation Photographs

Project Ref: 21.1012

Site Name: Warwick Nurseries

1.



2.



3.



4.



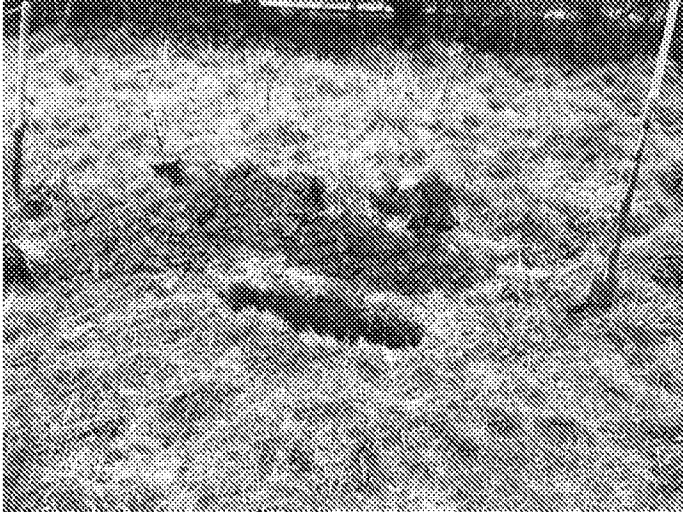
- 1) Site Overview
- 2) Site Overview
- 3) Site Overview
- 4) Site Overview

Investigation Photographs

Project Ref: 21.1012

Site Name: Warwick Nurseries

5.



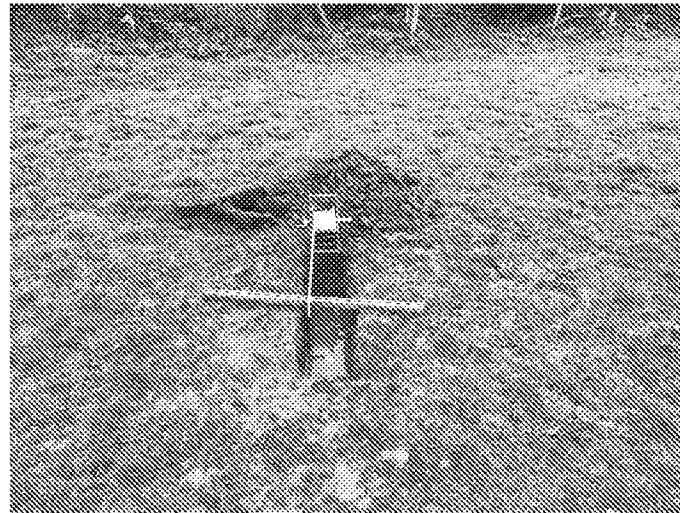
6.



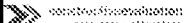
7.

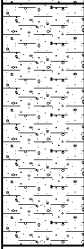


8.



- 5) TP1
- 6) TP2
- 7) TP3
- 8) TP2 Infiltration Testing

				Trial Pit Log			Trialpit No TP1 Sheet 1 of 1		
Project Name: Warwick Nurseries				Project No. 21.1012		Co-ords: 494938.65 - 105220.32 Level: 12.00		Date 04/03/2021	
Location: Warwick Nurseries, Barnham Road, PO20 3RT						Dimensions (m): 1 0.3 1		Scale 1:25	
Client: Landacre						Depth 1.20		Logged ME	

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.20	11.80		Soft dark brown sandy gravelly CLAY. Sand is fine to coarse. Gravel is sub-angular and sub-rounded fine and medium flint.
				0.40	11.60		(TOPSOIL) Firm dark brown sandy gravelly CLAY. Sand is fine to coarse. Gravel is sub-angular and sub-rounded fine and medium flint.
				1.20	10.80		(RIVER TERRACE DEPOSITS) Firm orangish brown sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is sub-angular and sub-rounded fine and medium flint.
End of pit at 1.20 m							

Remarks: 1) CAT & Genny scan prior to excavation.
2) Soakaway Test carried out.
3) No groundwater encountered.

Stability: **Stable**







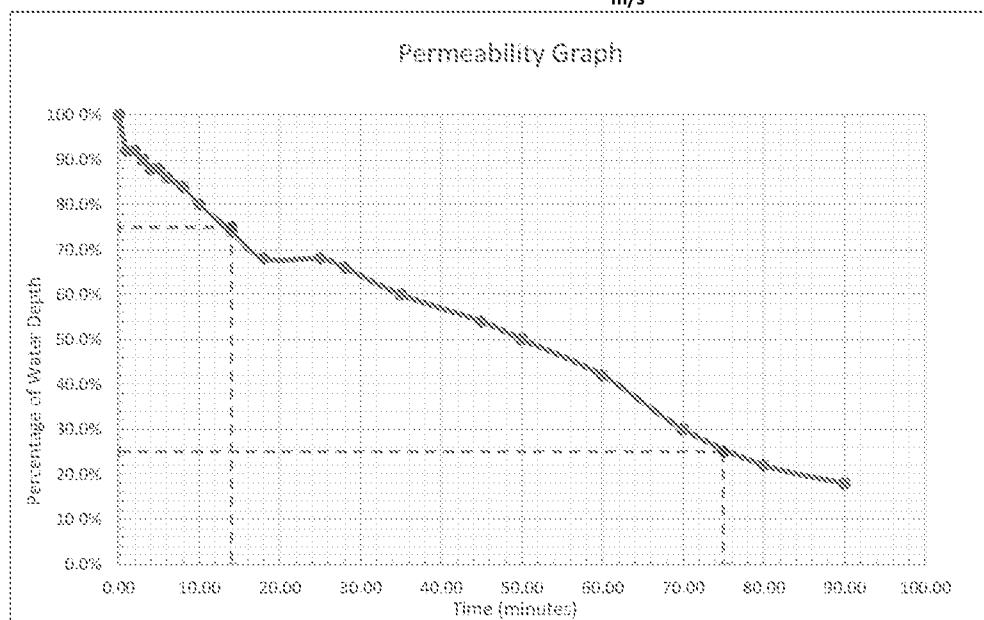
constructiveevaluation
site investigation & building pathology

Trial Hole: TP1

Test 1

INFILTRATION CALCULATED FROM 75%-25% WATER DEPTH RANGE

<u>Infiltration Rate</u>	<u>from 75%-25%</u>	2.15703E-05
		m/s



constructiveevaluation
site investigation • building pathology

Trial Hole: TP1

Test 2

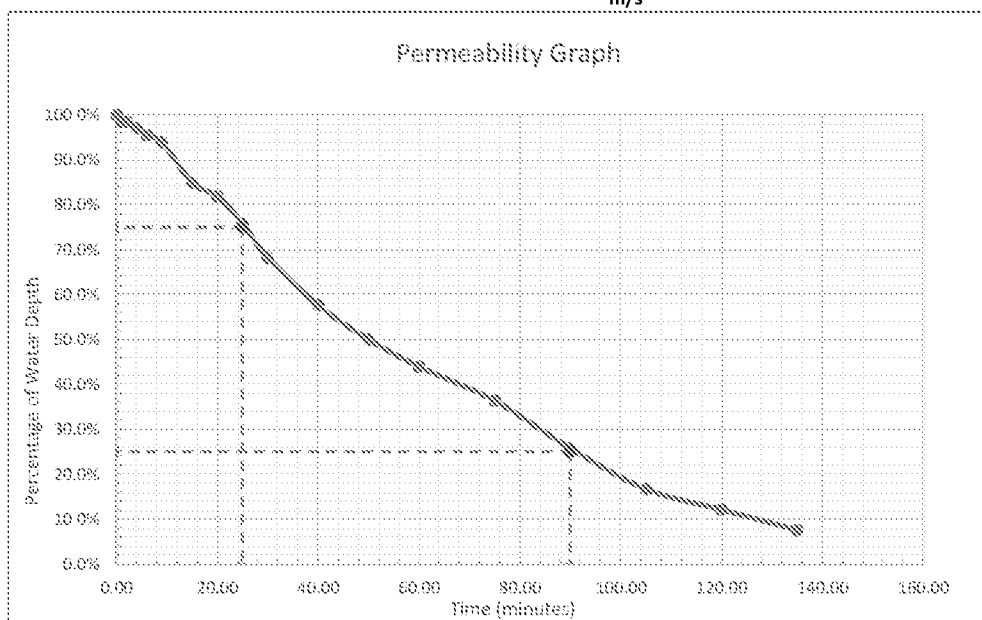
Ref: 21.1012

INFILTRATION CALCULATED FROM 75%-25% WATER DEPTH RANGE

Infiltration Rate from 75%-25%

2.19211E-05

m/s



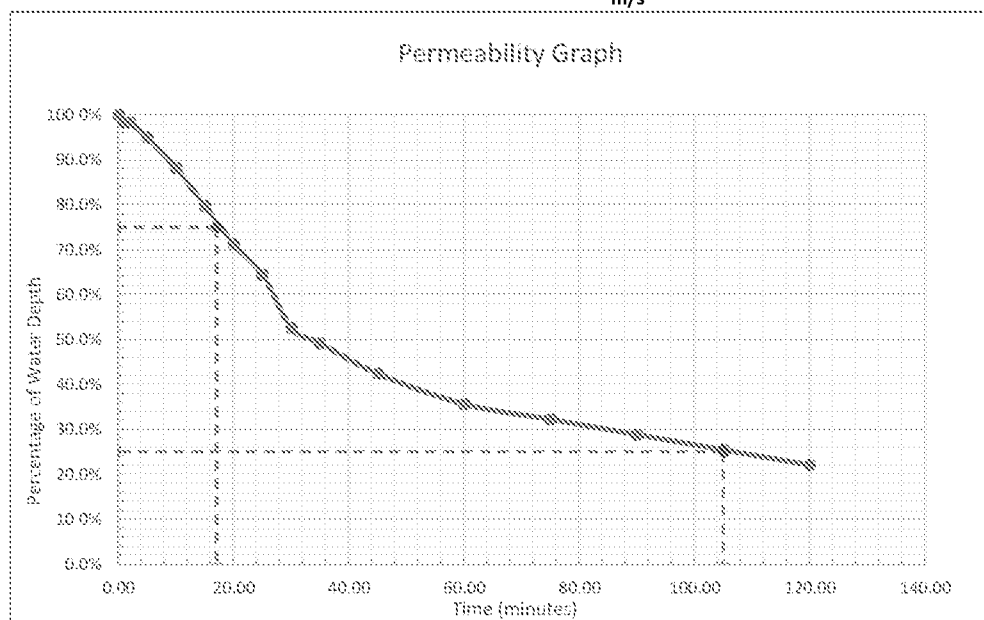
constructiveevaluation
site investigation • building pathology

Trial Hole: TP1

Test 3

INFILTRATION CALCULATED FROM 75%-25% WATER DEPTH RANGE

<u>Infiltration Rate</u>	<u>from 75%-25%</u>	1.57089E-05
		m/s



constructiveevaluation
site investigation • building pathology

Trial Hole: TP2

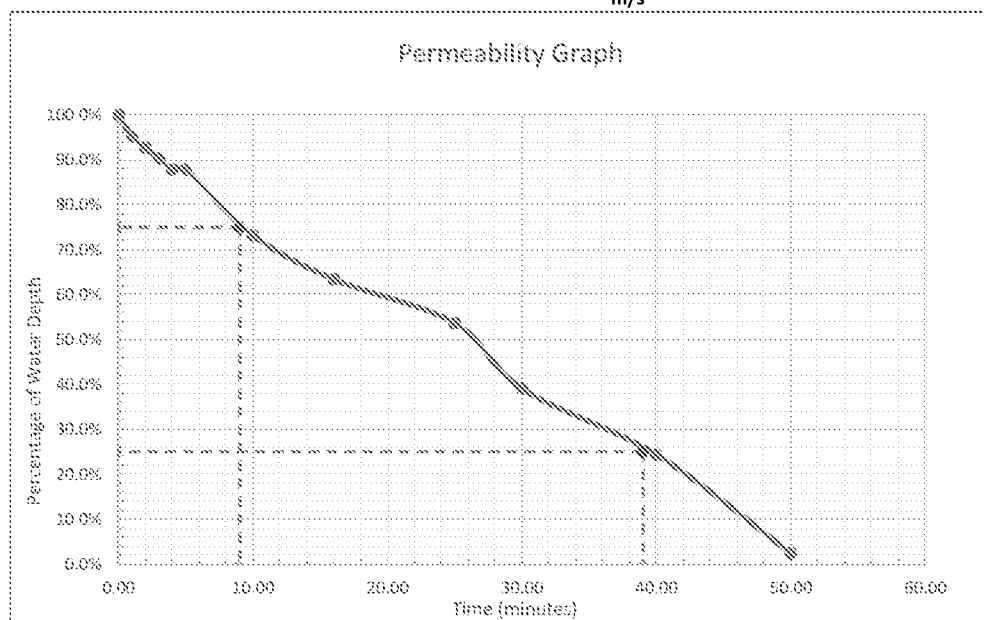
Test 1

[illegible]

Pit size		Time in mins
Length	1.00	9 75%
Width	0.30	39 25%
Depth	0.60	

4.10164E-05

m/s



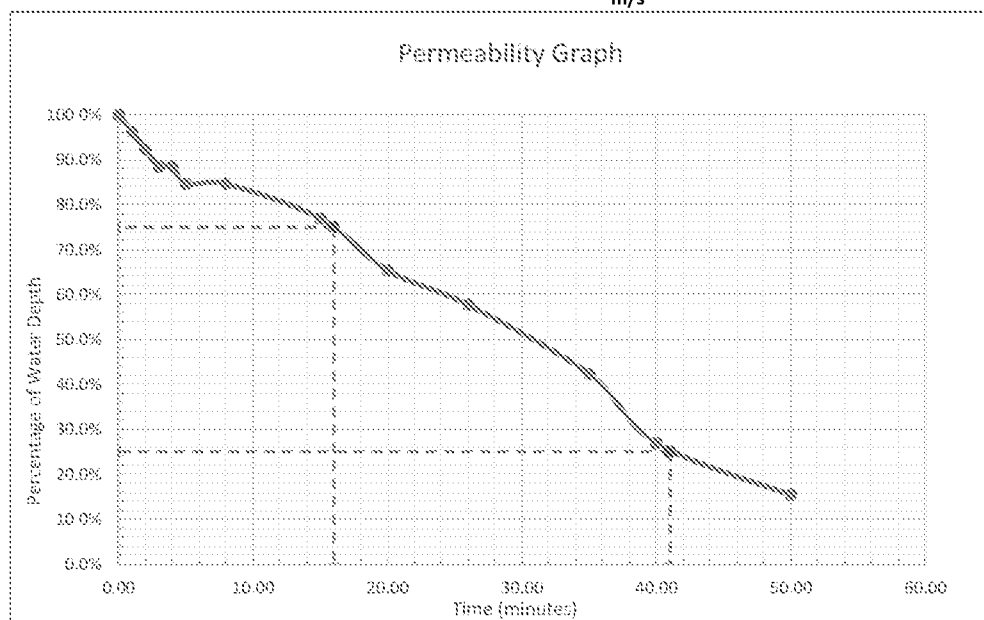
constructiveevaluation
site investigation • building pathology

Trial Hole: TP2

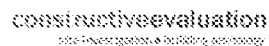
Test 2

INFILTRATION CALCULATED FROM 75%-25% WATER DEPTH RANGE

<u>Infiltration Rate</u>	<u>from 75%-25%</u>	4.07524E-05
		m/s



Ref: 21.1012



Trial Hole: TP2

Test 3

[illegible]

Pin Size	
Length	1.00
Width	0.30
Depth	0.60

Time in mins

33 75%

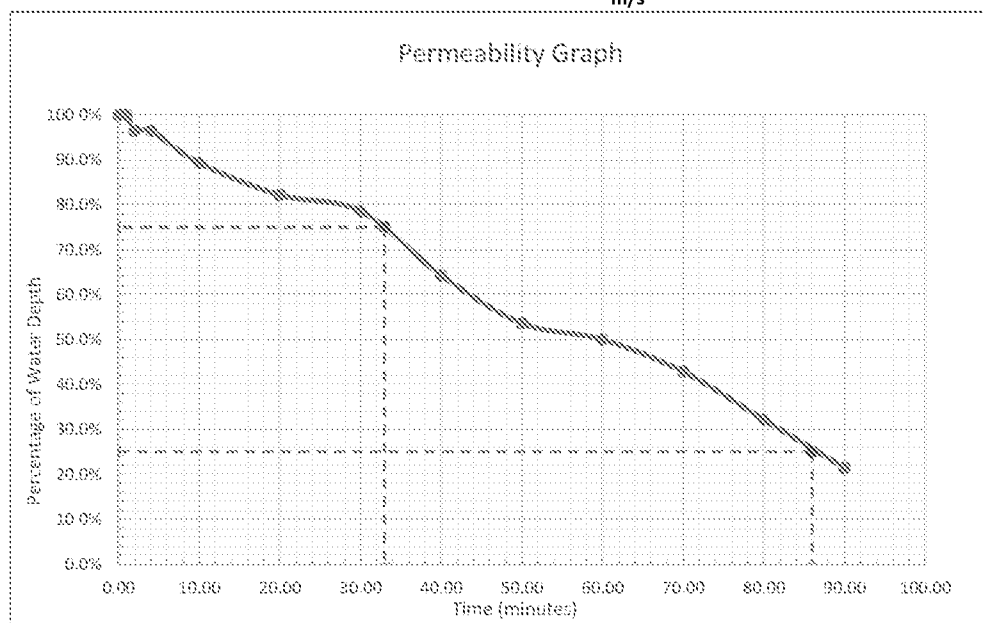
86 25%

Infiltration Rate

from 75%-25%

1.98909E-05

m/s



constructiveevaluation
site investigation • building pathology

Trial Hole: TP3

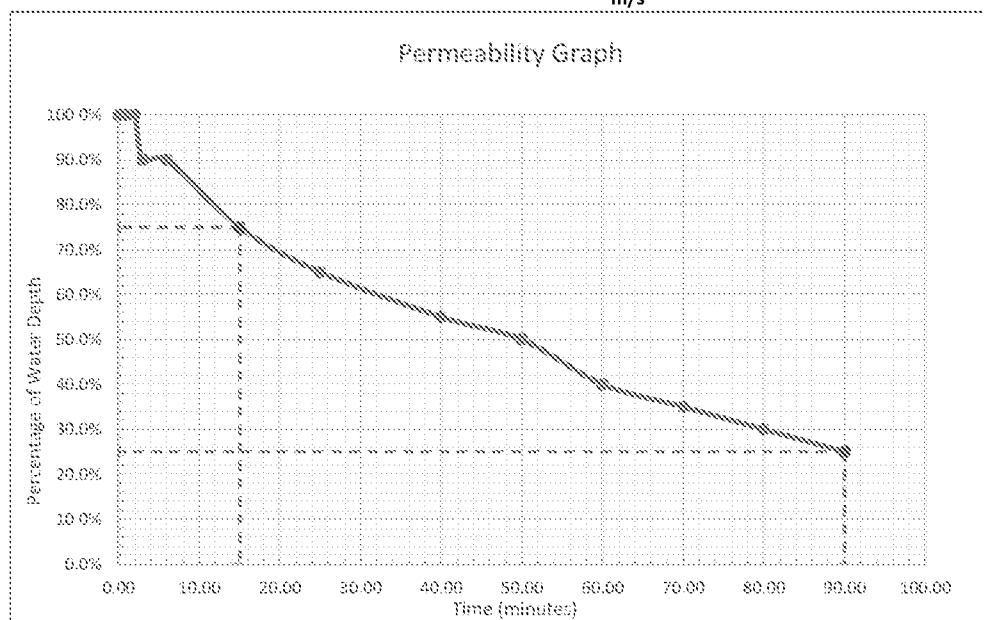
Test 1

INFILTRATION CALCULATED FROM 75%-25% WATER DEPTH RANGE

Infiltration Rate from 75%-25%

1.19048E-05

m/s



Ref: 21.1012



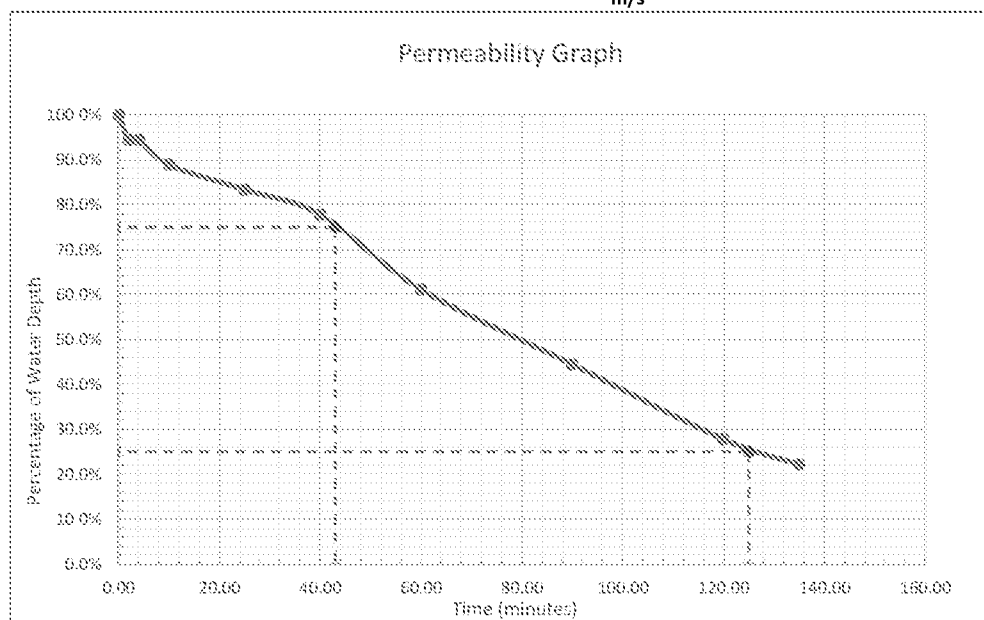
Test 2

INFILTRATION CALCULATED FROM 75%-25% WATER DEPTH RANGE

from 75%-25%

1.02768E-05

m/s



constructiveevaluation
site investigation • building pathology

Trial Hole: TP3

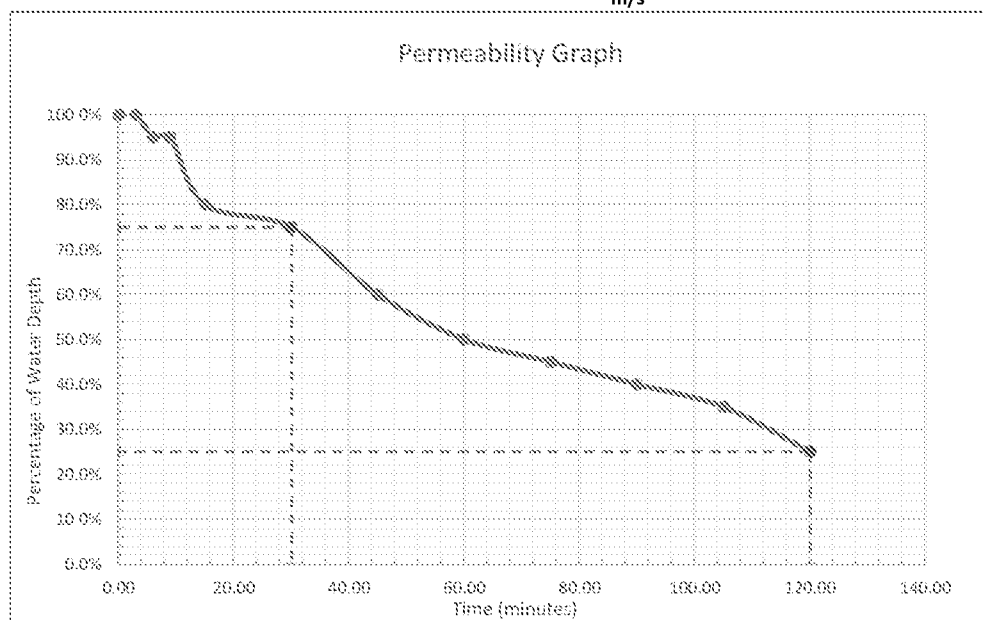
Test 3

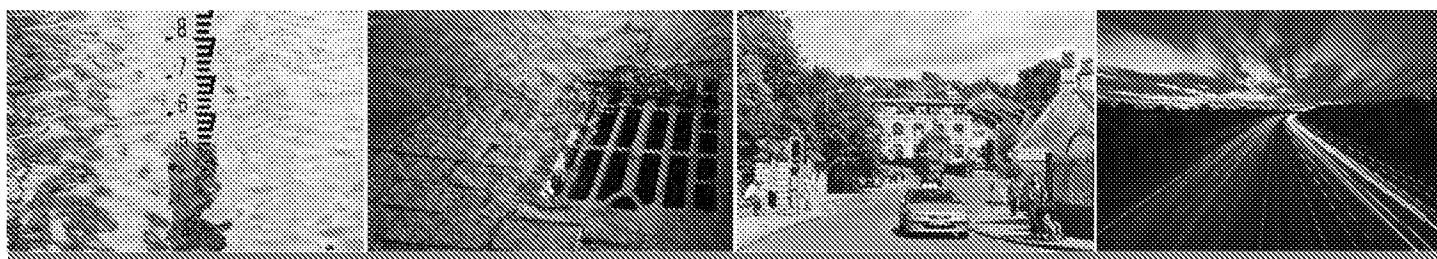
[illegible]

Pit size		Time in mins	
Length	1.00	30	75%
Width	0.30	120	25%
Depth	0.40		

9.92063E-06

m/s





Civil Engineering - Transport Planning - Flood Risk

GTA Civils & Transport, Gloucester House, 66a Church Walk, Burgess Hill, West Sussex, RH15 9AS

www.gtacivils.co.uk

GTA Civils & Transport Limited, Registered in England No. 11917461. VAT Registration No. 319 2609 02

