

Odyssey				Page 1																																																																																																																																																																																																																			
Tuscany House		Stakers Farm, Yapton - 19-156																																																																																																																																																																																																																					
White Hart Lane		Road 1_Rev_B																																																																																																																																																																																																																					
Baskingstoke RG21 4AF		Chainage 121-146.2																																																																																																																																																																																																																					
Date 10/12/2020 14:04		Designed by AK																																																																																																																																																																																																																					
File Road 1_Rev_B_chainage		Checked by																																																																																																																																																																																																																					
XP Solutions		Source Control 2020.1																																																																																																																																																																																																																					
<u>Summary of Results for 100 year Return Period (+40%)</u> Half Drain Time : 1067 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>0.220</td><td>0.220</td><td>0.1</td><td>4.9</td><td>Flood Risk</td></tr><tr><td>30 min Summer</td><td>0.270</td><td>0.270</td><td>0.1</td><td>6.7</td><td>Flood Risk</td></tr><tr><td>60 min Summer</td><td>0.325</td><td>0.325</td><td>0.1</td><td>8.7</td><td>Flood Risk</td></tr><tr><td>120 min Summer</td><td>0.366</td><td>0.366</td><td>0.1</td><td>10.2</td><td>Flood Risk</td></tr><tr><td>180 min Summer</td><td>0.389</td><td>0.389</td><td>0.1</td><td>11.0</td><td>Flood Risk</td></tr><tr><td>240 min Summer</td><td>0.403</td><td>0.403</td><td>0.1</td><td>11.5</td><td>Flood Risk</td></tr><tr><td>360 min Summer</td><td>0.415</td><td>0.415</td><td>0.1</td><td>11.9</td><td>Flood Risk</td></tr><tr><td>480 min Summer</td><td>0.419</td><td>0.419</td><td>0.1</td><td>12.1</td><td>Flood Risk</td></tr><tr><td>600 min Summer</td><td>0.419</td><td>0.419</td><td>0.1</td><td>12.1</td><td>Flood Risk</td></tr><tr><td>720 min Summer</td><td>0.415</td><td>0.415</td><td>0.1</td><td>12.0</td><td>Flood Risk</td></tr><tr><td>960 min Summer</td><td>0.405</td><td>0.405</td><td>0.1</td><td>11.6</td><td>Flood Risk</td></tr><tr><td>1440 min Summer</td><td>0.388</td><td>0.388</td><td>0.1</td><td>11.0</td><td>Flood Risk</td></tr><tr><td>2160 min Summer</td><td>0.365</td><td>0.365</td><td>0.1</td><td>10.1</td><td>Flood Risk</td></tr><tr><td>2880 min Summer</td><td>0.345</td><td>0.345</td><td>0.1</td><td>9.4</td><td>Flood Risk</td></tr><tr><td>4320 min Summer</td><td>0.313</td><td>0.313</td><td>0.1</td><td>8.2</td><td>Flood Risk</td></tr><tr><td>5760 min Summer</td><td>0.287</td><td>0.287</td><td>0.1</td><td>7.3</td><td>Flood Risk</td></tr><tr><td>7200 min Summer</td><td>0.266</td><td>0.266</td><td>0.1</td><td>6.6</td><td>Flood Risk</td></tr><tr><td>8640 min Summer</td><td>0.249</td><td>0.249</td><td>0.1</td><td>5.9</td><td>Flood Risk</td></tr><tr><td>10080 min Summer</td><td>0.235</td><td>0.235</td><td>0.1</td><td>5.4</td><td>Flood Risk</td></tr><tr><td>15 min Winter</td><td>0.238</td><td>0.238</td><td>0.1</td><td>5.5</td><td>Flood Risk</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>141.164</td><td>0.0</td><td>19</td></tr><tr><td>30 min Summer</td><td>94.700</td><td>0.0</td><td>34</td></tr><tr><td>60 min Summer</td><td>60.903</td><td>0.0</td><td>64</td></tr><tr><td>120 min Summer</td><td>36.128</td><td>0.0</td><td>124</td></tr><tr><td>180 min Summer</td><td>26.473</td><td>0.0</td><td>182</td></tr><tr><td>240 min Summer</td><td>21.126</td><td>0.0</td><td>242</td></tr><tr><td>360 min Summer</td><td>15.214</td><td>0.0</td><td>362</td></tr><tr><td>480 min Summer</td><td>12.016</td><td>0.0</td><td>482</td></tr><tr><td>600 min Summer</td><td>9.993</td><td>0.0</td><td>600</td></tr><tr><td>720 min Summer</td><td>8.590</td><td>0.0</td><td>720</td></tr><tr><td>960 min Summer</td><td>6.756</td><td>0.0</td><td>838</td></tr><tr><td>1440 min Summer</td><td>4.823</td><td>0.0</td><td>1080</td></tr><tr><td>2160 min Summer</td><td>3.462</td><td>0.0</td><td>1472</td></tr><tr><td>2880 min Summer</td><td>2.754</td><td>0.0</td><td>1876</td></tr><tr><td>4320 min Summer</td><td>2.025</td><td>0.0</td><td>2680</td></tr><tr><td>5760 min Summer</td><td>1.648</td><td>0.0</td><td>3464</td></tr><tr><td>7200 min Summer</td><td>1.419</td><td>0.0</td><td>4248</td></tr><tr><td>8640 min Summer</td><td>1.264</td><td>0.0</td><td>5008</td></tr><tr><td>10080 min Summer</td><td>1.153</td><td>0.0</td><td>5744</td></tr><tr><td>15 min Winter</td><td>141.164</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	0.220	0.220	0.1	4.9	Flood Risk	30 min Summer	0.270	0.270	0.1	6.7	Flood Risk	60 min Summer	0.325	0.325	0.1	8.7	Flood Risk	120 min Summer	0.366	0.366	0.1	10.2	Flood Risk	180 min Summer	0.389	0.389	0.1	11.0	Flood Risk	240 min Summer	0.403	0.403	0.1	11.5	Flood Risk	360 min Summer	0.415	0.415	0.1	11.9	Flood Risk	480 min Summer	0.419	0.419	0.1	12.1	Flood Risk	600 min Summer	0.419	0.419	0.1	12.1	Flood Risk	720 min Summer	0.415	0.415	0.1	12.0	Flood Risk	960 min Summer	0.405	0.405	0.1	11.6	Flood Risk	1440 min Summer	0.388	0.388	0.1	11.0	Flood Risk	2160 min Summer	0.365	0.365	0.1	10.1	Flood Risk	2880 min Summer	0.345	0.345	0.1	9.4	Flood Risk	4320 min Summer	0.313	0.313	0.1	8.2	Flood Risk	5760 min Summer	0.287	0.287	0.1	7.3	Flood Risk	7200 min Summer	0.266	0.266	0.1	6.6	Flood Risk	8640 min Summer	0.249	0.249	0.1	5.9	Flood Risk	10080 min Summer	0.235	0.235	0.1	5.4	Flood Risk	15 min Winter	0.238	0.238	0.1	5.5	Flood Risk	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	141.164	0.0	19	30 min Summer	94.700	0.0	34	60 min Summer	60.903	0.0	64	120 min Summer	36.128	0.0	124	180 min Summer	26.473	0.0	182	240 min Summer	21.126	0.0	242	360 min Summer	15.214	0.0	362	480 min Summer	12.016	0.0	482	600 min Summer	9.993	0.0	600	720 min Summer	8.590	0.0	720	960 min Summer	6.756	0.0	838	1440 min Summer	4.823	0.0	1080	2160 min Summer	3.462	0.0	1472	2880 min Summer	2.754	0.0	1876	4320 min Summer	2.025	0.0	2680	5760 min Summer	1.648	0.0	3464	7200 min Summer	1.419	0.0	4248	8640 min Summer	1.264	0.0	5008	10080 min Summer	1.153	0.0	5744	15 min Winter	141.164	0.0	19
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status																																																																																																																																																																																																																		
15 min Summer	0.220	0.220	0.1	4.9	Flood Risk																																																																																																																																																																																																																		
30 min Summer	0.270	0.270	0.1	6.7	Flood Risk																																																																																																																																																																																																																		
60 min Summer	0.325	0.325	0.1	8.7	Flood Risk																																																																																																																																																																																																																		
120 min Summer	0.366	0.366	0.1	10.2	Flood Risk																																																																																																																																																																																																																		
180 min Summer	0.389	0.389	0.1	11.0	Flood Risk																																																																																																																																																																																																																		
240 min Summer	0.403	0.403	0.1	11.5	Flood Risk																																																																																																																																																																																																																		
360 min Summer	0.415	0.415	0.1	11.9	Flood Risk																																																																																																																																																																																																																		
480 min Summer	0.419	0.419	0.1	12.1	Flood Risk																																																																																																																																																																																																																		
600 min Summer	0.419	0.419	0.1	12.1	Flood Risk																																																																																																																																																																																																																		
720 min Summer	0.415	0.415	0.1	12.0	Flood Risk																																																																																																																																																																																																																		
960 min Summer	0.405	0.405	0.1	11.6	Flood Risk																																																																																																																																																																																																																		
1440 min Summer	0.388	0.388	0.1	11.0	Flood Risk																																																																																																																																																																																																																		
2160 min Summer	0.365	0.365	0.1	10.1	Flood Risk																																																																																																																																																																																																																		
2880 min Summer	0.345	0.345	0.1	9.4	Flood Risk																																																																																																																																																																																																																		
4320 min Summer	0.313	0.313	0.1	8.2	Flood Risk																																																																																																																																																																																																																		
5760 min Summer	0.287	0.287	0.1	7.3	Flood Risk																																																																																																																																																																																																																		
7200 min Summer	0.266	0.266	0.1	6.6	Flood Risk																																																																																																																																																																																																																		
8640 min Summer	0.249	0.249	0.1	5.9	Flood Risk																																																																																																																																																																																																																		
10080 min Summer	0.235	0.235	0.1	5.4	Flood Risk																																																																																																																																																																																																																		
15 min Winter	0.238	0.238	0.1	5.5	Flood Risk																																																																																																																																																																																																																		
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)																																																																																																																																																																																																																				
15 min Summer	141.164	0.0	19																																																																																																																																																																																																																				
30 min Summer	94.700	0.0	34																																																																																																																																																																																																																				
60 min Summer	60.903	0.0	64																																																																																																																																																																																																																				
120 min Summer	36.128	0.0	124																																																																																																																																																																																																																				
180 min Summer	26.473	0.0	182																																																																																																																																																																																																																				
240 min Summer	21.126	0.0	242																																																																																																																																																																																																																				
360 min Summer	15.214	0.0	362																																																																																																																																																																																																																				
480 min Summer	12.016	0.0	482																																																																																																																																																																																																																				
600 min Summer	9.993	0.0	600																																																																																																																																																																																																																				
720 min Summer	8.590	0.0	720																																																																																																																																																																																																																				
960 min Summer	6.756	0.0	838																																																																																																																																																																																																																				
1440 min Summer	4.823	0.0	1080																																																																																																																																																																																																																				
2160 min Summer	3.462	0.0	1472																																																																																																																																																																																																																				
2880 min Summer	2.754	0.0	1876																																																																																																																																																																																																																				
4320 min Summer	2.025	0.0	2680																																																																																																																																																																																																																				
5760 min Summer	1.648	0.0	3464																																																																																																																																																																																																																				
7200 min Summer	1.419	0.0	4248																																																																																																																																																																																																																				
8640 min Summer	1.264	0.0	5008																																																																																																																																																																																																																				
10080 min Summer	1.153	0.0	5744																																																																																																																																																																																																																				
15 min Winter	141.164	0.0	19																																																																																																																																																																																																																				
©1982-2020 Innovyze																																																																																																																																																																																																																							

Odyssey				Page 2	
Tuscany House		Stakers Farm, Yapton - 19-156			
White Hart Lane		Road 1_Rev_B			
Baskingstoke RG21 4AF		Chainage 121-146.2			
Date 10/12/2020 14:04		Designed by AK			
File Road 1_Rev_B_chainage		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	0.295	0.295	0.1	7.6	Flood Risk
60 min Winter	0.357	0.357	0.1	9.8	Flood Risk
120 min Winter	0.404	0.404	0.1	11.5	Flood Risk
180 min Winter	0.430	0.430	0.1	12.5	Flood Risk
240 min Winter	0.446	0.446	0.1	13.1	Flood Risk
360 min Winter	0.462	0.462	0.1	13.6	Flood Risk
480 min Winter	0.468	0.468	0.1	13.9	Flood Risk
600 min Winter	0.469	0.469	0.1	13.9	Flood Risk
720 min Winter	0.468	0.468	0.1	13.9	Flood Risk
960 min Winter	0.459	0.459	0.1	13.5	Flood Risk
1440 min Winter	0.435	0.435	0.1	12.7	Flood Risk
2160 min Winter	0.404	0.404	0.1	11.6	Flood Risk
2880 min Winter	0.375	0.375	0.1	10.5	Flood Risk
4320 min Winter	0.325	0.325	0.1	8.7	Flood Risk
5760 min Winter	0.283	0.283	0.1	7.2	Flood Risk
7200 min Winter	0.249	0.249	0.1	5.9	Flood Risk
8640 min Winter	0.221	0.221	0.1	4.9	Flood Risk
10080 min Winter	0.200	0.200	0.1	4.1	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	94.700	0.0	33		
60 min Winter	60.903	0.0	62		
120 min Winter	36.128	0.0	122		
180 min Winter	26.473	0.0	180		
240 min Winter	21.126	0.0	238		
360 min Winter	15.214	0.0	356		
480 min Winter	12.016	0.0	470		
600 min Winter	9.993	0.0	584		
720 min Winter	8.590	0.0	698		
960 min Winter	6.756	0.0	914		
1440 min Winter	4.823	0.0	1154		
2160 min Winter	3.462	0.0	1600		
2880 min Winter	2.754	0.0	2048		
4320 min Winter	2.025	0.0	2900		
5760 min Winter	1.648	0.0	3696		
7200 min Winter	1.419	0.0	4472		
8640 min Winter	1.264	0.0	5192		
10080 min Winter	1.153	0.0	5856		
©1982-2020 Innovyze					

Odyssey		Page 3
Tuscany House White Hart Lane Baskingstoke RG21 4AF	Stakers Farm, Yapton - 19-156 Road 1_Rev_B Chainage 121-146.2	
Date 10/12/2020 14:04 File Road 1_Rev_B_chainage	Designed by AK Checked by	
XP Solutions Source Control 2020.1		

Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	2013
Site Location	GB 497682 103581 SU 97682 03581
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) 0.021

	Time (mins)	Area
From:	To:	(ha)
	0	4 0.021

©1982-2020 Innovyze

Odyssey		Page 4																								
Tuscany House White Hart Lane Basingstoke RG21 4AF	Stakers Farm, Yapton - 19-156 Road 1_Rev_B Chainage 121-146.2																									
Date 10/12/2020 14:04 File Road 1_Rev_B_chainage	Designed by AK Checked by																									
XP Solutions Source Control 2020.1																										
<u>Model Details</u> Storage is Online Cover Level (m) 0.510 <u>Complex Structure</u> <u>Porous Car Park</u> <table> <tr> <td>Infiltration Coefficient Base (m/hr)</td> <td>0.00648</td> <td>Width (m)</td> <td>4.8</td> </tr> <tr> <td>Membrane Percolation (mm/hr)</td> <td>1000</td> <td>Length (m)</td> <td>25.2</td> </tr> <tr> <td>Max Percolation (l/s)</td> <td>33.6</td> <td>Slope (1:X)</td> <td>147.0</td> </tr> <tr> <td>Safety Factor</td> <td>2.0</td> <td>Depression Storage (mm)</td> <td>5</td> </tr> <tr> <td>Porosity</td> <td>0.30</td> <td>Evaporation (mm/day)</td> <td>3</td> </tr> <tr> <td>Invert Level (m)</td> <td>0.000</td> <td>Membrane Depth (m)</td> <td>0</td> </tr> </table>			Infiltration Coefficient Base (m/hr)	0.00648	Width (m)	4.8	Membrane Percolation (mm/hr)	1000	Length (m)	25.2	Max Percolation (l/s)	33.6	Slope (1:X)	147.0	Safety Factor	2.0	Depression Storage (mm)	5	Porosity	0.30	Evaporation (mm/day)	3	Invert Level (m)	0.000	Membrane Depth (m)	0
Infiltration Coefficient Base (m/hr)	0.00648	Width (m)	4.8																							
Membrane Percolation (mm/hr)	1000	Length (m)	25.2																							
Max Percolation (l/s)	33.6	Slope (1:X)	147.0																							
Safety Factor	2.0	Depression Storage (mm)	5																							
Porosity	0.30	Evaporation (mm/day)	3																							
Invert Level (m)	0.000	Membrane Depth (m)	0																							
©1982-2020 Innovyze																										