

Company: Colin Toms & Partners Suffolk House, 154 High Street Sevenoaks, TN13 1XE	Date: 23/10/2023		
	Designed by: AR	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: Phase (1)	Project: Hemsleys Meadows and Finches Field Mid Sussex Parks		



Basin (2)

Type : Pond

Dimensions

Exceedance Level (m)	141.189
Depth (m)	0.400
Base Level (m)	140.789
Freeboard (mm)	0
Initial Depth (m)	0.000
Porosity (%)	100
Average Slope (1:X)	5.25
Total Volume (m³)	295.423

Depth (m)	Area (m²)	Volume (m³)
0.000	639.791392	0.000
0.400	841.942825	295.423

Advanced

Base Infiltration Rate (m/hr)	0.0018
Side Infiltration Rate (m/hr)	0.0018
Safety Factor	2.0
Perimeter	Circular
Length (m)	85.423
Friction Scheme	Manning's n
n	0.35



Basin (1)

Type : Pond

Dimensions

Exceedance Level (m)	141.245
Depth (m)	0.400
Base Level (m)	140.845
Freeboard (mm)	0
Initial Depth (m)	0.000
Porosity (%)	100
Average Slope (1:X)	5.25
Total Volume (m³)	160.829

Depth (m)	Area (m²)	Volume (m³)
0.000	329.85	0.000
0.400	478.91	160.829

Advanced

Base Infiltration Rate (m/hr)	0.0018
Side Infiltration Rate (m/hr)	0.0018
Safety Factor	2.0
Perimeter	Circular
Length (m)	39.532
Friction Scheme	Manning's n
n	0.35

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Swale (1)

Type : Swale

Swale

Exceedance Level (m)	140.904
Depth (m)	0.600
Base Level (m)	140.304
Top Width (m)	6.800
Side Slope (1:X)	4.00
Base Width (m)	2.000
Freeboard (mm)	0
Length (m)	152.299
Long. Slope (1:X)	500.00
Filtration Rate (m/hr)	36.0
Friction Scheme	Manning's n
n	0.04
Total Volume (m³)	402.069

Advanced

Safety Factor	2.0
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Swale

Base Infiltration Rate (m/hr)	0.0018
Side Infiltration Rate (m/hr)	0.0018
Porosity (%)	100

Company: Colin Toms & Partners Suffolk House, 154 High Street Sevenoaks, TN13 1XE		Date: 23/10/2023			
Report Details: Type: Inflow Summary Storm Phase: Phase (1)		Designed by: AR	Checked by:		Approved By:
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Inflow Label	Connected To	Flow (L/s)	Runoff Method	Area (ha)	Percentage Impervious (%)	Urban Creep (%)	Adjusted Percentage Impervious (%)	Area Analysed (ha)
Catchment Area A	Basin (1)		Time of Concentration	0.501	80	0	80	0.400
Catchment Area B	Basin (2)		Time of Concentration	0.293	80	0	80	0.235
TOTAL		0.0		0.794				0.635

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

Rainfall

FEH

Type: FEH

Site Location	GB 525799 132763 TQ 25799 32763
Rainfall Version	2013
Data Type	Point
Summer	☒
Winter	☒

Return Period

Return Period (years)	Increase Rainfall (%)
10.0	0.000
30.0	0.000
100.0	0.000
100.0	40.000

Storm Durations

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

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

Return Period	
Return Period (years)	Increase Rainfall (%)
1.0	0.000

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

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FEH: 10 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. US Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. Avg. Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Avg. Depth (m)	Max. Inflow (L/s)	Max. Residual Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Half Drain Down Time (mins)
Basin (2)	FEH: 10 years: +0 %: 60 mins: Summer	140.848	140.789	140.810	0.059	0.000	0.021	9.6	13.767	0.000	0.770	0.0	0.000	1411
Basin (1)	FEH: 10 years: +0 %: 30 mins: Summer	140.931	140.889	140.893	0.086	0.044	0.047	18.7	15.978	0.000	0.242	1.1	1.337	291
Swale (1)	FEH: 10 years: +0 %: 240 mins: Summer	140.621	140.419	140.337	0.013	0.115	0.033	1.2	11.998	0.000	1.544	0.0	0.000	1325

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Percentage Available (%)	Status
95.340	OK
90.065	OK
97.016	OK

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FEH: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. US Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. Avg. Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Avg. Depth (m)	Max. Inflow (L/s)	Max. Residual Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Half Drain Down Time (mins)
Basin (2)	FEH: 30 years: +0 %: 60 mins: Summer	140.861	140.795	140.820	0.072	0.006	0.030	12.8	19.755	0.000	0.833	0.0	0.037	1335
Basin (1)	FEH: 30 years: +0 %: 30 mins: Summer	140.947	140.903	140.907	0.101	0.057	0.062	24.7	20.999	0.000	0.247	2.0	2.972	219
Swale (1)	FEH: 30 years: +0 %: 120 mins: Summer	140.624	140.403	140.333	0.016	0.099	0.029	1.6	10.203	0.000	0.717	0.0	0.000	1169

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Percentage Available (%)	Status
93.313	OK
86.943	OK
97.462	OK

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FEH: 100 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. US Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. Avg. Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Avg. Depth (m)	Max. Inflow (L/s)	Max. Residual Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Half Drain Down Time (mins)
Basin (2)	FEH: 100 years: +0 %: 60 mins: Summer	140.874	140.814	140.831	0.085	0.025	0.042	16.5	27.189	0.000	0.872	0.1	0.139	1520
Basin (1)	FEH: 100 years: +0 %: 30 mins: Summer	140.963	140.919	140.923	0.117	0.073	0.077	31.8	26.526	0.000	0.252	3.4	5.318	171
Swale (1)	FEH: 100 years: +0 %: 60 mins: Winter	140.627	140.371	140.326	0.019	0.067	0.022	2.2	7.409	0.000	0.314	0.0	0.000	920

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Percentage Available (%)	Status
90.797	OK
83.507	OK
98.157	OK

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FEH: 100 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. US Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. Avg. Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Avg. Depth (m)	Max. Inflow (L/s)	Max. Residual Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Half Drain Down Time (mins)
Basin (2)	FEH: 100 years: +40 %: 60 mins: Summer	140.892	140.846	140.850	0.103	0.057	0.061	23.0	39.872	0.000	0.910	1.0	1.393	588
Basin (1)	FEH: 100 years: +40 %: 30 mins: Summer	140.988	140.947	140.950	0.143	0.102	0.105	44.9	36.363	0.000	0.257	5.9	10.034	133
Swale (1)	FEH: 100 years: +40 %: 1440 mins: Winter	140.696	140.695	140.543	0.088	0.392	0.240	3.2	115.140	0.000	11.628	0.0	0.000	12788

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Percentage Available (%)	Status
86.503	OK
77.391	OK
71.363	OK