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2 Central Mews Dinnington Rotherham S25 2QN	HANOVER DEVELOPMENTS RPYSTON PRELIMINARY ASSESSMENT	
Date 03/01/17 File STORAGE - DISCHARGE OF ...	Designed by M LONGDEN Checked by	
Micro Drainage	Source Control 2015.1	

Summary of Results for 30 year Return Period (+20%)

Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m <sup>3</sup> )	Status
15 min Summer	98.853	0.603	3.9	44.6	O K
30 min Summer	98.976	0.726	4.1	56.1	O K
60 min Summer	99.079	0.829	4.4	65.1	O K
120 min Summer	99.122	0.872	4.5	68.5	O K
180 min Summer	99.108	0.858	4.5	67.4	O K
240 min Summer	99.086	0.836	4.4	65.7	O K
360 min Summer	99.039	0.789	4.3	61.7	O K
480 min Summer	98.997	0.747	4.2	58.0	O K
600 min Summer	98.958	0.708	4.1	54.4	O K
15 min Winter	98.913	0.663	4.0	50.3	O K
30 min Winter	99.061	0.811	4.4	63.7	O K
60 min Winter	99.205	0.955	4.7	74.4	O K
120 min Winter	99.317	1.067	5.0	79.5	O K
180 min Winter	99.277	1.027	4.9	78.3	O K
240 min Winter	99.236	0.986	4.8	76.3	O K
360 min Winter	99.153	0.903	4.6	70.9	O K
480 min Winter	99.083	0.833	4.4	65.4	O K
600 min Winter	99.019	0.769	4.3	60.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Discharge Volume (m <sup>3</sup> )	Time-Peak (mins)
15 min Summer	86.417	0.0	48.6	21
30 min Summer	56.290	0.0	63.3	35
60 min Summer	35.085	0.0	78.9	64
120 min Summer	21.245	0.0	95.6	120
180 min Summer	15.684	0.0	105.9	148
240 min Summer	12.594	0.0	113.3	180
360 min Summer	9.199	0.0	124.2	248
480 min Summer	7.362	0.0	132.5	318
600 min Summer	6.190	0.0	139.3	386
15 min Winter	86.417	0.0	54.4	21
30 min Winter	56.290	0.0	70.9	35
60 min Winter	35.085	0.0	88.4	62
120 min Winter	21.245	0.0	107.1	118
180 min Winter	15.684	0.0	118.6	156
240 min Winter	12.594	0.0	126.9	190
360 min Winter	9.199	0.0	139.1	268
480 min Winter	7.362	0.0	148.4	344
600 min Winter	6.190	0.0	156.0	420

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Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	30	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.000	Shortest Storm (mins)	15
Ratio R	0.400	Longest Storm (mins)	600
Summer Storms	Yes	Climate Change %	+20

Time Area Diagram

Total Area (ha) 0.300

<b>Time (mins) Area</b>			<b>Time (mins) Area</b>		
<b>From:</b>	<b>To:</b>	<b>(ha)</b>	<b>From:</b>	<b>To:</b>	<b>(ha)</b>
0	4	0.150	4	8	0.150

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Model Details

Storage is Online Cover Level (m) 100.000

Pipe Structure

Diameter (m) 1.050      Length (m) 91.000  
Slope (1:X) 1500.000    Invert Level (m) 98.250

Hydro-Brake® Outflow Control

Design Head (m) 1.055    Hydro-Brake® Type Md6 SW Only    Invert Level (m) 98.250  
Design Flow (l/s) 5.0      Diameter (mm) 92

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	2.7	1.200	5.3	3.000	8.4	7.000	12.8
0.200	3.9	1.400	5.7	3.500	9.0	7.500	13.2
0.300	3.7	1.600	6.1	4.000	9.7	8.000	13.7
0.400	3.6	1.800	6.5	4.500	10.2	8.500	14.1
0.500	3.6	2.000	6.8	5.000	10.8	9.000	14.5
0.600	3.8	2.200	7.2	5.500	11.3	9.500	14.9
0.800	4.3	2.400	7.5	6.000	11.8		
1.000	4.8	2.600	7.8	6.500	12.3		