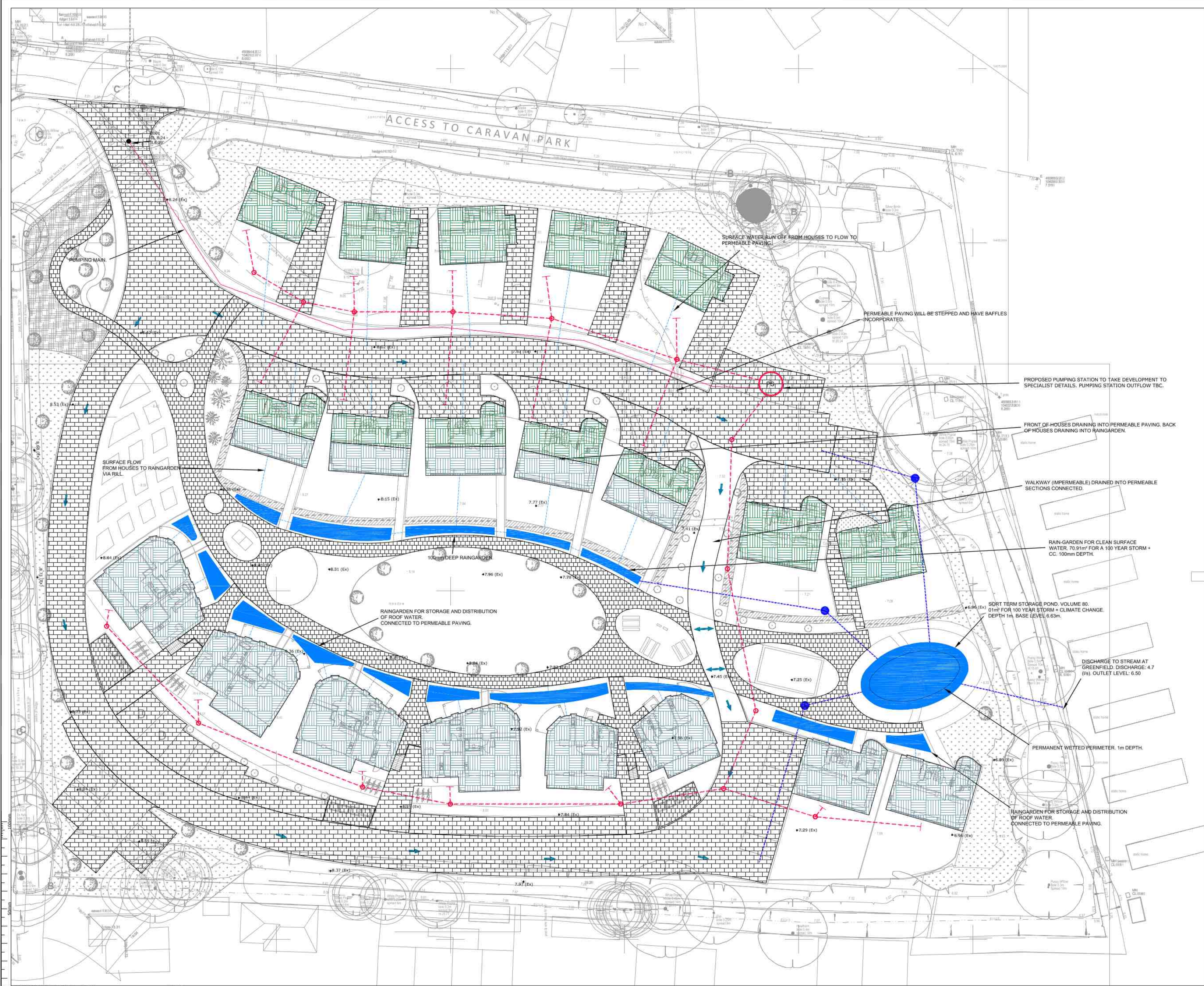




NOTES

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ENGINEERS, ARCHITECTS AND SPECIALISTS DRAWINGS AND THE SPECIFICATION.

2. DO NOT SCALE FROM THIS DRAWING MANUALLY OR ELECTRONICALLY. WRITTEN PERMISSION MUST BE OBTAINED FROM MLM PRIOR TO SCALING ELECTRONICALLY OR USING THIS ELECTRONIC FILE.

EXISTING FOUL WATER SEWER
WATER FLOW DIRECTION
FOUL WATER RISING MAIN
FOUL WATER PRIVATE DRAIN
SURFACE WATER DRAIN
RILL CHANNEL
SURFACE WATER SEWER

PS
PUMPING STATION FOR FOUL DRAINAGE.

LINED PERMEABLE PAVING FOR PATH/WALK WAY
LINED PERMEABLE PAVING FOR VEHICLE USE
SURFACE AREAS FLOWING INTO PAVED SECTIONS
SURFACE AREAS FLOWING INTO RAIN-GRADEN OR POND
XXXX (Ex) EXISTING LEVEL

CONSTRUCTION (DESIGN AND MANAGEMENT) REGULATIONS 2015

DESIGNERS HAZARD INFORMATION FOR CONSTRUCTION

1. IF YOU DO NOT FULLY UNDERSTAND THE RISKS INVOLVED DURING THE CONSTRUCTION OF THE ITEMS INDICATED ON THIS DRAWING ASK YOUR MANAGER, HEALTH & SAFETY ADVISOR OR A MEMBER OF THE DESIGN TEAM BEFORE PROCEEDING.

THE ABOVE NOTES REFER SPECIFICALLY TO THE INFORMATION SHOWN ON THIS DRAWING.
REFER TO THE HEALTH AND SAFETY PLAN FOR FURTHER INFORMATION.

P05	06.04.18	DRAINAGE STRATEGY UPDATED TO NEW ARCHPLAN	AHB	JEB	JEB
P04	26.02.18	RAINGARDENS ADDED TO SOUTH SIDE OF SITE.	AHB	JEB	JEB
P03	02.02.18	REVISED DRAINAGE STRATEGY DRAWN.	AHB	JEB	JEB
P02	18.01.18	UPDATED TO REVISED BASE PLAN.	AHB	JEB	JEB
P01	17.01.18	DRAINAGE STRATEGY MADE.	AHB	JEB	JEB
REV	DATE	REVISION	MADE	CHK	APP

DRAWING STATUS

PRELIMINARY

SUITABILITY DESCRIPTION

SUITABLE FOR INFORMATION

**MLM.**
Group

190 Eureka Park,
Upper Pemberton, Ashford,
Kent TN25 4AZ
Tel: 01233 610530
Website: www.mlmgroup.com

CLIENT

STILES HAROLD WILLIAMS

PROJECT

WOODGATE

DRAWING TITLE

DRAINAGE STRATEGY

DRAWN/DESIGN	AHB/AHB	MLM REF	STATUS	REVISION
SCALE	1:250 @A1	618719	S2	P04
PROJECT	ORIGINATOR	VOLUME/ LEVELS & LOCATIONS	TYPE	ROLE
618719- MLM - ZZ - XX - DR - C -0001				

MLM						Page 1	
North Kiln Felaw Maltings 46 Felaw Street Ipswich IP2 8PN			WOODGATE PERMEABLE PAVING 618719				
Date 11-01-18 File 619092-MLM-ZZ-XX-CA-000...			Designed by AHB Checked by JEB				
XP Solutions			Source Control 2016.1				
<u>Summary of Results for 100 year Return Period (+40%)</u>							
Half Drain Time : 843 minutes.							
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (1/s)	Max Control (1/s)	Max Σ Outflow (1/s)	Max Volume (m³)	Status
15 min Summer	7.077	0.107	0.0	2.4	2.4	143.0	O K
30 min Summer	7.118	0.148	0.0	3.0	3.0	198.5	O K
60 min Summer	7.162	0.192	0.0	3.5	3.5	257.6	O K
120 min Summer	7.206	0.236	0.0	4.0	4.0	316.3	Flood Risk
180 min Summer	7.229	0.259	0.0	4.2	4.2	347.4	Flood Risk
240 min Summer	7.243	0.273	0.0	4.3	4.3	365.8	Flood Risk
360 min Summer	7.261	0.291	0.0	4.5	4.5	389.9	Flood Risk
480 min Summer	7.270	0.300	0.0	4.6	4.6	402.4	Flood Risk
600 min Summer	7.275	0.305	0.0	4.6	4.6	408.4	Flood Risk
720 min Summer	7.277	0.307	0.0	4.6	4.6	411.6	Flood Risk
960 min Summer	7.280	0.310	0.0	4.6	4.6	416.1	Flood Risk
1440 min Summer	7.282	0.312	0.0	4.7	4.7	417.8	Flood Risk
2160 min Summer	7.276	0.306	0.0	4.6	4.6	410.3	Flood Risk
2880 min Summer	7.266	0.296	0.0	4.5	4.5	397.1	Flood Risk
4320 min Summer	7.243	0.273	0.0	4.3	4.3	365.8	Flood Risk
5760 min Summer	7.220	0.250	0.0	4.1	4.1	334.8	Flood Risk
7200 min Summer	7.199	0.229	0.0	3.9	3.9	307.2	O K
8640 min Summer	7.181	0.211	0.0	3.7	3.7	283.1	O K
10080 min Summer	7.165	0.195	0.0	3.6	3.6	262.0	O K
15 min Winter	7.092	0.122	0.0	2.6	2.6	162.9	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)			
15 min Summer	130.405	0.0	99.2	19			
30 min Summer	87.611	0.0	144.7	34			
60 min Summer	56.129	0.0	232.5	64			
120 min Summer	34.675	0.0	294.9	122			
180 min Summer	25.749	0.0	331.4	182			
240 min Summer	20.687	0.0	356.3	242			
360 min Summer	15.234	0.0	394.1	362			
480 min Summer	12.237	0.0	420.7	480			
600 min Summer	10.316	0.0	441.1	596			
720 min Summer	8.967	0.0	457.2	642			
960 min Summer	7.182	0.0	480.4	760			
1440 min Summer	5.242	0.0	500.9	1012			
2160 min Summer	3.818	0.0	634.1	1428			
2880 min Summer	3.045	0.0	667.1	1844			
4320 min Summer	2.209	0.0	702.9	2636			
5760 min Summer	1.757	0.0	775.1	3408			
7200 min Summer	1.472	0.0	799.8	4184			
8640 min Summer	1.274	0.0	817.6	4928			
10080 min Summer	1.128	0.0	827.8	5656			
15 min Winter	130.405	0.0	115.5	19			
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MLM		Page 2					
North Kiln Felaw Maltings 46 Felaw Street Ipswich IP2 8PN		WOODGATE PERMEABLE PAVING 618719					
Date 11-01-18 File 619092-MLM-ZZ-XX-CA-000...		Designed by AHB Checked by JEB					
XP Solutions		Source Control 2016.1					
Summary of Results for 100 year Return Period (+40%)							
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max E Outflow (l/s)	Max Volume (m³)	Status
30 min Winter	7.138	0.168	0.0	3.2	3.2	225.2	O K
60 min Winter	7.187	0.217	0.0	3.8	3.8	291.4	O K
120 min Winter	7.237	0.267	0.0	4.3	4.3	357.7	Flood Risk
180 min Winter	7.263	0.293	0.0	4.5	4.5	393.0	Flood Risk
240 min Winter	7.279	0.309	0.0	4.6	4.6	414.1	Flood Risk
360 min Winter	7.300	0.330	0.0	4.8	4.8	442.3	Flood Risk
480 min Winter	7.312	0.342	0.0	4.9	4.9	457.8	Flood Risk
600 min Winter	7.318	0.348	0.0	5.0	5.0	466.3	Flood Risk
720 min Winter	7.453	0.483	0.0	5.9	5.9	469.4	Flood Risk
960 min Winter	7.460	0.490	0.0	6.0	6.0	469.4	Flood Risk
1440 min Winter	7.320	0.350	0.0	5.0	5.0	469.0	Flood Risk
2160 min Winter	7.307	0.337	0.0	4.9	4.9	452.2	Flood Risk
2880 min Winter	7.290	0.320	0.0	4.7	4.7	429.1	Flood Risk
4320 min Winter	7.254	0.284	0.0	4.4	4.4	380.1	Flood Risk
5760 min Winter	7.220	0.250	0.0	4.1	4.1	335.5	Flood Risk
7200 min Winter	7.192	0.222	0.0	3.8	3.8	297.3	O K
8640 min Winter	7.168	0.198	0.0	3.6	3.6	265.4	O K
10080 min Winter	7.148	0.178	0.0	3.4	3.4	238.5	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)			
30 min Winter	87.611	0.0	165.6	33			
60 min Winter	56.129	0.0	264.8	62			
120 min Winter	34.675	0.0	334.5	122			
180 min Winter	25.749	0.0	375.2	180			
240 min Winter	20.687	0.0	402.7	238			
360 min Winter	15.234	0.0	444.1	354			
480 min Winter	12.237	0.0	473.4	466			
600 min Winter	10.316	0.0	495.7	576			
720 min Winter	8.967	0.0	513.4	664			
960 min Winter	7.182	0.0	537.6	748			
1440 min Winter	5.242	0.0	554.0	1084			
2160 min Winter	3.818	0.0	716.6	1540			
2880 min Winter	3.045	0.0	754.0	1988			
4320 min Winter	2.209	0.0	794.0	2812			
5760 min Winter	1.757	0.0	878.7	3632			
7200 min Winter	1.472	0.0	908.7	4400			
8640 min Winter	1.274	0.0	930.9	5184			
10080 min Winter	1.128	0.0	944.8	5944			
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MLM		Page 3
North Kiln Felaw Maltings 46 Felaw Street Ipswich IP2 8PN	WOODGATE PERMEABLE PAVING 618719	
Date 11-01-18 File 619092-MLM-ZZ-XX-CA-000...	Designed by AHB Checked by JEB	
XP Solutions Source Control 2016.1		

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.800	Shortest Storm (mins)	15
Ratio R	0.350	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.682

Time (mins)		Area
From:	To:	(ha)
0	4	0.682

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MLM		Page 4
North Kiln Felaw Maltings 46 Felaw Street Ipswich IP2 8PN	WOODGATE PERMEABLE PAVING 618719	
Date 11-01-18 File 619092-MLM-ZZ-XX-CA-000...	Designed by AHB Checked by JEB	
XP Solutions Source Control 2016.1		

Model Details

Storage is Online Cover Level (m) 7.500

Porous Car Park Structure

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	5.6
Membrane Percolation (mm/hr)	1000	Length (m)	798.0
Max Percolation (l/s)	1241.3	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	6.970	Cap Volume Depth (m)	0.350

Orifice Outflow Control

Diameter (m) 0.065 Discharge Coefficient 0.600 Invert Level (m) 6.970

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MLM				Page 1	
North Kiln Felaw Maltings 46 Felaw Street Ipswich IP2 8PN		WOODGATE RAIN GARDEN 618719			
Date 11-01-18 File 618719-MLM-ZZ-XX-CA-C-0...		Designed by AHB Checked by JEB			
XP Solutions		Source Control 2016.1			
Summary of Results for 100 year Return Period (+40%)					
Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m³)	Status
15 min Summer	7.261	0.051	0.7	3.6	Flood Risk
30 min Summer	7.273	0.063	0.9	4.4	Flood Risk
60 min Summer	7.281	0.071	1.1	5.0	Flood Risk
120 min Summer	7.285	0.075	1.2	5.3	Flood Risk
180 min Summer	7.285	0.075	1.2	5.3	Flood Risk
240 min Summer	7.282	0.072	1.1	5.1	Flood Risk
360 min Summer	7.278	0.068	1.0	4.8	Flood Risk
480 min Summer	7.274	0.064	1.0	4.5	Flood Risk
600 min Summer	7.270	0.060	0.9	4.3	Flood Risk
720 min Summer	7.267	0.057	0.8	4.0	Flood Risk
960 min Summer	7.262	0.052	0.7	3.7	Flood Risk
1440 min Summer	7.255	0.045	0.6	3.2	Flood Risk
2160 min Summer	7.248	0.038	0.4	2.7	Flood Risk
2880 min Summer	7.244	0.034	0.4	2.4	Flood Risk
4320 min Summer	7.239	0.029	0.3	2.0	Flood Risk
5760 min Summer	7.236	0.026	0.2	1.8	Flood Risk
7200 min Summer	7.234	0.024	0.2	1.7	Flood Risk
8640 min Summer	7.233	0.023	0.2	1.6	Flood Risk
10080 min Summer	7.231	0.021	0.1	1.5	Flood Risk
15 min Winter	7.267	0.057	0.8	4.0	Flood Risk
30 min Winter	7.280	0.070	1.1	5.0	Flood Risk
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)	
15 min Summer	130.405	0.0	3.8	17	
30 min Summer	87.611	0.0	5.1	30	
60 min Summer	56.129	0.0	6.7	46	
120 min Summer	34.675	0.0	8.2	80	
180 min Summer	25.749	0.0	9.2	112	
240 min Summer	20.687	0.0	9.8	146	
360 min Summer	15.234	0.0	10.9	210	
480 min Summer	12.237	0.0	11.7	272	
600 min Summer	10.316	0.0	12.3	332	
720 min Summer	8.967	0.0	12.8	396	
960 min Summer	7.182	0.0	13.7	520	
1440 min Summer	5.242	0.0	15.0	764	
2160 min Summer	3.818	0.0	16.4	1128	
2880 min Summer	3.045	0.0	17.5	1496	
4320 min Summer	2.209	0.0	19.0	2204	
5760 min Summer	1.757	0.0	20.2	2944	
7200 min Summer	1.472	0.0	21.2	3672	
8640 min Summer	1.274	0.0	22.0	4408	
10080 min Summer	1.128	0.0	22.6	5136	
15 min Winter	130.405	0.0	4.2	17	
30 min Winter	87.611	0.0	5.7	30	
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MLM		Page 2			
North Kiln Felaw Maltings 46 Felaw Street Ipswich IP2 8PN		WOODGATE RAIN GARDEN 618719			
Date 11-01-18 File 618719-MLM-ZZ-XX-CA-C-0...		Designed by AHB Checked by JEB			
XP Solutions		Source Control 2016.1			
Summary of Results for 100 year Return Period (+40%)					
Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m³)	Status
60 min Winter	7.289	0.079	1.2	5.6	Flood Risk
120 min Winter	7.291	0.081	1.2	5.8	Flood Risk
180 min Winter	7.288	0.078	1.2	5.6	Flood Risk
240 min Winter	7.284	0.074	1.2	5.2	Flood Risk
360 min Winter	7.277	0.067	1.0	4.7	Flood Risk
480 min Winter	7.271	0.061	0.9	4.3	Flood Risk
600 min Winter	7.267	0.057	0.8	4.0	Flood Risk
720 min Winter	7.263	0.053	0.7	3.8	Flood Risk
960 min Winter	7.257	0.047	0.6	3.4	Flood Risk
1440 min Winter	7.250	0.040	0.5	2.9	Flood Risk
2160 min Winter	7.243	0.033	0.3	2.3	Flood Risk
2880 min Winter	7.239	0.029	0.3	2.0	Flood Risk
4320 min Winter	7.235	0.025	0.2	1.8	Flood Risk
5760 min Winter	7.233	0.023	0.2	1.6	Flood Risk
7200 min Winter	7.231	0.021	0.1	1.5	Flood Risk
8640 min Winter	7.229	0.019	0.1	1.3	Flood Risk
10080 min Winter	7.228	0.018	0.1	1.3	Flood Risk
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)	
60 min Winter	56.129	0.0	7.5	48	
120 min Winter	34.675	0.0	9.2	86	
180 min Winter	25.749	0.0	10.3	120	
240 min Winter	20.687	0.0	11.0	154	
360 min Winter	15.234	0.0	12.2	218	
480 min Winter	12.237	0.0	13.1	282	
600 min Winter	10.316	0.0	13.8	344	
720 min Winter	8.967	0.0	14.4	406	
960 min Winter	7.182	0.0	15.3	532	
1440 min Winter	5.242	0.0	16.8	780	
2160 min Winter	3.818	0.0	18.4	1148	
2880 min Winter	3.045	0.0	19.6	1500	
4320 min Winter	2.209	0.0	21.3	2196	
5760 min Winter	1.757	0.0	22.6	2944	
7200 min Winter	1.472	0.0	23.7	3648	
8640 min Winter	1.274	0.0	24.6	4424	
10080 min Winter	1.128	0.0	25.4	5144	
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MLM		Page 3
North Kiln Felaw Maltings 46 Felaw Street Ipswich IP2 8PN	WOODGATE RAIN GARDEN 618719	
Date 11-01-18 File 618719-MLM-ZZ-XX-CA-C-0...	Designed by AHB Checked by JEB	
XP Solutions Source Control 2016.1		

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.800	Shortest Storm (mins)	15
Ratio R	0.350	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.016

Time (mins)	Area
From:	To: (ha)
0	4 0.016

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MLM		Page 4
North Kiln Felaw Maltings 46 Felaw Street Ipswich IP2 8PN	WOODGATE RAIN GARDEN 618719	
Date 11-01-18 File 618719-MLM-ZZ-XX-CA-C-0...	Designed by AHB Checked by JEB	
XP Solutions Source Control 2016.1		

Model Details

Storage is Online Cover Level (m) 7.310

Tank or Pond Structure

Invert Level (m) 7.210

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	71.0	1.400	0.0	2.800	0.0	4.200	0.0
0.100	71.0	1.600	0.0	3.000	0.0	4.400	0.0
0.101	0.0	1.800	0.0	3.200	0.0	4.600	0.0
0.201	0.0	2.000	0.0	3.400	0.0	4.800	0.0
0.800	0.0	2.200	0.0	3.600	0.0	5.000	0.0
1.000	0.0	2.400	0.0	3.800	0.0		
1.200	0.0	2.600	0.0	4.000	0.0		

Orifice Outflow Control

Diameter (m) 0.050 Discharge Coefficient 0.600 Invert Level (m) 7.210

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MLM		Page 1			
North Kiln Felaw Maltings 46 Felaw Street Ipswich IP2 8PN		WOODGATE POND 618719			
Date 11-01-18 File 618719-MLM-ZZ-XX-CA-C-0...		Designed by AHB Checked by JEB			
XP Solutions		Source Control 2016.1			
<u>Cascade Summary of Results for 618719-MLM-ZZ-XX-CA-C-0003-POND.srcx</u>					
Upstream Structures		Outflow To	Overflow To		
619092-MLM-ZZ-XX-CA-0002-PERMEABLEPAVING.srcx 618719-MLM-ZZ-XX-CA-C-0002-RAINGARDEN- REV-A.srcx		(None)	(None)		
Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m³)	Status
15 min Summer	6.772	0.142	2.1	10.2	O K
30 min Summer	6.835	0.205	2.7	14.9	O K
60 min Summer	6.902	0.272	3.1	20.1	O K
120 min Summer	6.973	0.343	3.5	25.7	O K
180 min Summer	7.014	0.384	3.8	29.1	O K
240 min Summer	7.042	0.412	3.9	31.4	O K
360 min Summer	7.084	0.454	4.1	34.9	O K
480 min Summer	7.113	0.483	4.3	37.4	O K
600 min Summer	7.135	0.505	4.4	39.3	O K
720 min Summer	7.151	0.521	4.4	40.7	O K
960 min Summer	7.172	0.542	4.5	42.5	O K
1440 min Summer	7.183	0.553	4.6	43.5	O K
2160 min Summer	7.178	0.548	4.6	43.0	O K
2880 min Summer	7.166	0.536	4.5	42.0	O K
4320 min Summer	7.133	0.503	4.4	39.1	O K
5760 min Summer	7.095	0.465	4.2	35.9	O K
7200 min Summer	7.059	0.429	4.0	32.8	O K
8640 min Summer	7.025	0.395	3.8	30.0	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)	
15 min Summer	130.405	0.0	103.0	190	
30 min Summer	87.611	0.0	150.0	262	
60 min Summer	56.129	0.0	242.0	322	
120 min Summer	34.675	0.0	306.8	394	
180 min Summer	25.749	0.0	344.8	450	
240 min Summer	20.687	0.0	370.6	498	
360 min Summer	15.234	0.0	409.6	590	
480 min Summer	12.237	0.0	437.2	676	
600 min Summer	10.316	0.0	458.3	762	
720 min Summer	8.967	0.0	475.0	850	
960 min Summer	7.182	0.0	499.0	1026	
1440 min Summer	5.242	0.0	516.2	1374	
2160 min Summer	3.818	0.0	660.4	1732	
2880 min Summer	3.045	0.0	694.8	2104	
4320 min Summer	2.209	0.0	732.1	2872	
5760 min Summer	1.757	0.0	808.5	3632	
7200 min Summer	1.472	0.0	834.8	4392	
8640 min Summer	1.274	0.0	853.7	5120	
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MLM			Page 2		
North Kiln Felaw Maltings 46 Felaw Street Ipswich IP2 8PN		WOODGATE POND 618719			
Date 11-01-18 File 618719-MLM-ZZ-XX-CA-C-0...		Designed by AHB Checked by JEB			
XP Solutions		Source Control 2016.1			
<u>Cascade Summary of Results for 618719-MLM-ZZ-XX-CA-C-0003-POND.srcx</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m³)	Status
10080 min Summer	6.995	0.365	3.7	27.5	O K
15 min Winter	6.794	0.164	2.3	11.8	O K
30 min Winter	6.864	0.234	2.9	17.1	O K
60 min Winter	6.939	0.309	3.3	23.0	O K
120 min Winter	7.018	0.388	3.8	29.4	O K
180 min Winter	7.063	0.433	4.0	33.2	O K
240 min Winter	7.094	0.464	4.2	35.8	O K
360 min Winter	7.141	0.511	4.4	39.8	O K
480 min Winter	7.173	0.543	4.5	42.6	O K
600 min Winter	7.197	0.567	4.6	44.8	O K
720 min Winter	7.222	0.592	4.7	46.9	O K
960 min Winter	7.247	0.617	4.8	49.2	O K
1440 min Winter	7.257	0.627	4.9	50.1	O K
2160 min Winter	7.243	0.613	4.8	48.8	O K
2880 min Winter	7.221	0.591	4.7	46.9	O K
4320 min Winter	7.164	0.534	4.5	41.9	O K
5760 min Winter	7.104	0.474	4.2	36.7	O K
7200 min Winter	7.050	0.420	4.0	32.1	O K
8640 min Winter	7.003	0.373	3.7	28.2	O K
10080 min Winter	6.962	0.332	3.5	24.9	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)	
10080 min Summer	1.128	0.0	864.6	5856	
15 min Winter	130.405	0.0	119.7	225	
30 min Winter	87.611	0.0	171.6	281	
60 min Winter	56.129	0.0	275.6	344	
120 min Winter	34.675	0.0	348.1	418	
180 min Winter	25.749	0.0	390.2	476	
240 min Winter	20.687	0.0	418.5	526	
360 min Winter	15.234	0.0	461.5	618	
480 min Winter	12.237	0.0	491.9	704	
600 min Winter	10.316	0.0	515.0	792	
720 min Winter	8.967	0.0	533.2	858	
960 min Winter	7.182	0.0	557.2	1030	
1440 min Winter	5.242	0.0	568.2	1416	
2160 min Winter	3.818	0.0	746.1	1824	
2880 min Winter	3.045	0.0	785.2	2224	
4320 min Winter	2.209	0.0	826.6	3040	
5760 min Winter	1.757	0.0	916.2	3832	
7200 min Winter	1.472	0.0	947.9	4608	
8640 min Winter	1.274	0.0	971.4	5336	
10080 min Winter	1.128	0.0	986.3	6088	
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MLM		Page 1
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ICP SUDS Mean Annual Flood

Input

Return Period (years)	100	SAAR (mm)	744	Urban	0.000
Area (ha)	1.532	Soil	0.150	Region Number	Region 7

Results 1/s

QBAR Rural	0.7
QBAR Urban	0.7
Q100 years	2.1
Q1 year	0.6
Q30 years	1.5
Q100 years	2.1

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