Cole Easdon												Pa	age 1
York House,	Edis	son Par	k		Pa	rcel KN	4G, Bi	cester				R	
Dorcan Way													Ly
Swindon, SN3	3 3RI	3			SW	Networ	ck						Mirro
Date 28.03.1	L 8				De	signed	by NP						Dcainage
File 6008-SW		_	018.m	dx	Ch	ecked k	by RB						brainatji
Elstree Comp	outir	ng Ltd			Ne	twork 2	2015.1						
		2	STORM	SEWER DE	SIGN by	the M	odifie	ed Rati	ional M	ethod	<u>l</u>		
				De	esign C	riteria	a for	<u>Storm</u>					
			Pij	pe Sizes	STANDA	RD Man	hole S	Sizes S	STANDAR	.D			
				FSR Rain	fall Mc	del -	Englar	nd and	Wales				
		Retu	rn Per	iod (yea	urs)	100	-	Add F	low / C	Clima	te Ch	ange	(%) 0
				M5-60 ((mm) 20	.000		Min	imum Ba	ackdr	ор Не	ight	(m) 0.200
					o R 0						-	-	(m) 1.500
								2	-	-			(m) 1.200
Maximum T	ıme					30			r Auto		-	-	
	÷.			uge (l/s/ unoff Coe			Mi	n Slop	e for (ptim	ısati	on (1:	:X) 500
	V	orumet:	LIC RU	morr COE	:11. 0	./50							
					signed	with T.e	vel 9	offite					
				Dei	91100		U	0					
				Netw	ork Des	sign Ta	ble fo	or Stor	<u>cm</u>				
T	PN	Tongth	F -11	Slope	T Amon	T.E.	ъ.	ase	k	HYD	DIA	Auto	_
F	-10	(m)	(m)	-	(ha)				(mm)			Desig	
		()	()	(2.25)	()	((_, 5)	()		(2001	
				46.0		5.00		0.0	0.600	0			
				31.1		0.00			0.600		225		
				46.0		0.00			0.600				
1.	003	8.438	0.030	281.3	0.046	0.00		0.0	0.600	0	750	0	
2	000	15.000	0.105	5 142.9	0.088	5.00		0 0	0.600	0	225	۹	
2.	000	10.000	0.10.	, 112.7	0.000	5.00		0.0	5.000	0	220	• 🔒	
1.	004	8.105	0.030	270.2	0.049	0.00		0.0	0.600	0	750		
1.	005	7.264	0.025	5 290.6	0.020	0.00		0.0	0.600	0	750		
												-	
3.	000	15.000	0.110	136.4	0.128	5.00		0.0	0.600	0	225	d	
1	006	30 110	0 100	301 1	0 000	0 00		0 0	0.600	0	750		
) 301.1 5 154.7		0.00			0.600	0			
1.	007	0.902	0.043	, דרהי (0.010	0.00		0.0	0.000	0	573	· 🙂	
					<u>Networ</u>	k Resul	lts Ta	ble					
PN	Ra	in T	.c.	US/IL Σ	I.Area		ase		Add Fl			-	Flow
	(mm/	'hr) (m	ins)	(m)	(ha)	Flow	(l/s)	(l/s)	(l/s)	ı) (ı	m/s)	(1/s)	(1/s)
1.000	50	.00	5 36 4	59.800	0.097		0.0	0.0	0	.0	1.49	26.3	13.1
1.000				59.800 59.025	0.097		0.0	0.0			2.36		
1.001				59.025 58.650	0.173		0.0	0.0				164.4	
1.002				57.700	0.235		0.0	0.0				735.0	31.8
1.000	00						0.0	5.5	0				01.0
2.000	50	.00	5.23	58.300	0.088		0.0	0.0	0	.0	1.09	43.4	11.9
	50			57.670	0.372		0.0	0.0				750.0	50.4
1.004	50	.00	5.83	57.640	0.392		0.0	0.0	0	.0	1.64	723.0	53.1
1.004 1.005	50				0.128		0.0	0.0	^	.0	1 1 0	44.4	17 3
1.005		0.0	5 22	20 0 L N			0.0	0.0	0	• U	1.16	44.4	17.3
		.00	5.22	58.250	0.120								
1.005 3.000	50			67.615	0.520		0.0	0.0				710.2	70.4
1.005	50 50	.00	6.14						0	.0	1.61	710.2 160.6	70.4 72.6

Cole Easdon Consultants York House, Edison Park	Parcol KMC Picostor	Page 2
-	Parcel KMG, Bicester	4
Dorcan Way	ON Notrees	1 m
Swindon, SN3 3RB	SW Network	Micro
Date 28.03.18	Designed by NP	Drainage
File 6008-SW NW_March2018.mdx	Checked by RB	
Elstree Computing Ltd	Network 2015.1	
Simula	tion Criteria for Storm	
Areal Reduction Factor Hot Start (mins) Hot Start Level (mm) Manhole Headloss Coeff (Global) Foul Sewage per hectare (1/s)	0 Flow per Person per Day (l/per/day 0.500 Run Time (mins 0.000 Output Interval (mins	e 2.000 t 0.800) 0.000) 60
Number of Online Con	graphs 0 Number of Storage Structures 2 strols 1 Number of Time/Area Diagrams 0 strols 0 Number of Real Time Controls 0	
Synth	netic Rainfall Details	
Rainfall Model	FSR Profile Type Summ	er
Return Period (years)	100 Cv (Summer) 0.7	50
Region Engl	and and Wales Cv (Winter) 0.8	40
M5-60 (mm)	20.000 Storm Duration (mins)	
Ratio R	0.409	

York House, Ec							Page 3			
Democra Maria	ulson Park		Parcel	KMG, Bices	ter		4			
Dorcan Way	200		OF Not				1 mm			
Swindon, SN3 3	JKB			SW Network Designed by NP						
File 6008-SW N		.max		Checked by RB						
Elstree Comput	ting Lta		Networ	Network 2015.1						
		<u>0</u> :	nline Contro	ols for Sto	rm					
	Comp	lex Manhol	e: 8, DS/PN	: 1.007, Vo	lume (m³):	19.6				
			<u>Hydro-Brak</u>	<u>e Optimum®</u>						
					-0099-5200-1					
			Design Head			1.350				
		Des	sign Flow (l Flush-F		C	5.2 alculated				
			Object			ire Proof				
			Diameter (rutt	99				
		Ir	nvert Level			67.515				
	Minimum C		e Diameter (. ,		150				
		-	e Diameter (1200				
Control	Points	Head (m)	Flow (l/s)	Cont	rol Points	Head	(m) Flow (l/s			
Design Point	(Calculated) Flush-Flo TM			Mean Flow	Kick- over Head R		772 4.			
invalidated										
Depth (m)	Flow (1/e)	Depth (m)		Depth (m)	Flow (1/e)	Depth (m)	Flow (1/s)			
	Flow (1/s)									
0.100	3.4	1.200	4.9	3.000	7.5	7.000	11.2			
0.100	3.4 4.9	1.200 1.400	4.9 5.2	3.000 3.500	7.5 8.0	7.000	11.2 11.5			
0.100 0.200 0.300	3.4 4.9 5.1	1.200 1.400 1.600	4.9 5.2 5.6	3.000 3.500 4.000	7.5 8.0 8.6	7.000 7.500 8.000	11.2 11.5 11.9			
0.100 0.200 0.300 0.400	3.4 4.9 5.1 5.1	1.200 1.400 1.600 1.800	4.9 5.2 5.6 5.9	3.000 3.500 4.000 4.500	7.5 8.0 8.6 9.0	7.000 7.500 8.000 8.500	11.2 11.5 11.9 12.2			
0.100 0.200 0.300	3.4 4.9 5.1	1.200 1.400 1.600	4.9 5.2 5.6 5.9 6.2	3.000 3.500 4.000 4.500	7.5 8.0 8.6	7.000 7.500 8.000	11.2 11.5 11.9			
0.100 0.200 0.300 0.400 0.500	3.4 4.9 5.1 5.1 5.0	1.200 1.400 1.600 1.800 2.000	4.9 5.2 5.6 5.9 6.2 6.5	3.000 3.500 4.000 4.500 5.000 5.500	7.5 8.0 8.6 9.0 9.5	7.000 7.500 8.000 8.500 9.000	11.2 11.5 11.9 12.2 12.6			
0.100 0.200 0.300 0.400 0.500 0.600	3.4 4.9 5.1 5.1 5.0 4.8	1.200 1.400 1.600 1.800 2.000 2.200	4.9 5.2 5.6 5.9 6.2 6.5	3.000 3.500 4.000 4.500 5.000 5.500 6.000	7.5 8.0 8.6 9.0 9.5 10.0	7.000 7.500 8.000 8.500 9.000	11.2 11.5 11.9 12.2 12.6			
0.100 0.200 0.300 0.400 0.500 0.600 0.800	3.4 4.9 5.1 5.1 5.0 4.8 4.0	1.200 1.400 1.600 1.800 2.000 2.200 2.400	4.9 5.2 5.6 5.9 6.2 6.5 6.7 7.0	3.000 3.500 4.000 4.500 5.000 5.500 6.000	7.5 8.0 8.6 9.0 9.5 10.0 10.4	7.000 7.500 8.000 8.500 9.000	11.2 11.5 11.9 12.2 12.6			
0.100 0.200 0.300 0.400 0.500 0.600 0.800	3.4 4.9 5.1 5.1 5.0 4.8 4.0 4.5	1.200 1.400 1.600 1.800 2.000 2.200 2.400 2.600	4.9 5.2 5.6 5.9 6.2 6.5 6.7 7.0	3.000 3.500 4.000 4.500 5.000 5.500 6.000 6.500	7.5 8.0 8.6 9.0 9.5 10.0 10.4 10.8	7.000 7.500 8.000 8.500 9.000 9.500	11.2 11.5 11.9 12.2 12.6			
0.100 0.200 0.300 0.400 0.500 0.600 0.800	3.4 4.9 5.1 5.1 5.0 4.8 4.0 4.5	1.200 1.400 1.600 1.800 2.000 2.200 2.400 2.600	4.9 5.2 5.6 5.9 6.2 6.5 6.7 7.0	3.000 3.500 4.000 4.500 5.000 5.500 6.000 6.500	7.5 8.0 8.6 9.0 9.5 10.0 10.4 10.8	7.000 7.500 8.000 8.500 9.000 9.500	11.2 11.5 11.9 12.2 12.6			
0.100 0.200 0.300 0.400 0.500 0.600 0.800	3.4 4.9 5.1 5.1 5.0 4.8 4.0 4.5	1.200 1.400 1.600 1.800 2.000 2.200 2.400 2.600	4.9 5.2 5.6 5.9 6.2 6.5 6.7 7.0	3.000 3.500 4.000 4.500 5.000 5.500 6.000 6.500	7.5 8.0 8.6 9.0 9.5 10.0 10.4 10.8	7.000 7.500 8.000 8.500 9.000 9.500	11.2 11.5 11.9 12.2 12.6			
0.100 0.200 0.300 0.400 0.500 0.600 0.800	3.4 4.9 5.1 5.1 5.0 4.8 4.0 4.5	1.200 1.400 1.600 1.800 2.000 2.200 2.400 2.600	4.9 5.2 5.6 5.9 6.2 6.5 6.7 7.0	3.000 3.500 4.000 4.500 5.000 5.500 6.000 6.500	7.5 8.0 8.6 9.0 9.5 10.0 10.4 10.8	7.000 7.500 8.000 8.500 9.000 9.500	11.2 11.5 11.9 12.2 12.6			
0.100 0.200 0.300 0.400 0.500 0.600 0.800	3.4 4.9 5.1 5.1 5.0 4.8 4.0 4.5	1.200 1.400 1.600 1.800 2.000 2.200 2.400 2.600	4.9 5.2 5.6 5.9 6.2 6.5 6.7 7.0	3.000 3.500 4.000 4.500 5.000 5.500 6.000 6.500	7.5 8.0 8.6 9.0 9.5 10.0 10.4 10.8	7.000 7.500 8.000 8.500 9.000 9.500	11.2 11.5 11.9 12.2 12.6			
0.100 0.200 0.300 0.400 0.500 0.600 0.800	3.4 4.9 5.1 5.1 5.0 4.8 4.0 4.5	1.200 1.400 1.600 1.800 2.000 2.200 2.400 2.600	4.9 5.2 5.6 5.9 6.2 6.5 6.7 7.0	3.000 3.500 4.000 4.500 5.000 5.500 6.000 6.500	7.5 8.0 8.6 9.0 9.5 10.0 10.4 10.8	7.000 7.500 8.000 8.500 9.000 9.500	11.2 11.5 11.9 12.2 12.6			
0.100 0.200 0.300 0.400 0.500 0.600 0.800	3.4 4.9 5.1 5.1 5.0 4.8 4.0 4.5	1.200 1.400 1.600 1.800 2.000 2.200 2.400 2.600	4.9 5.2 5.6 5.9 6.2 6.5 6.7 7.0	3.000 3.500 4.000 4.500 5.000 5.500 6.000 6.500	7.5 8.0 8.6 9.0 9.5 10.0 10.4 10.8	7.000 7.500 8.000 8.500 9.000 9.500	11.2 11.5 11.9 12.2 12.6			
0.100 0.200 0.300 0.400 0.500 0.600 0.800	3.4 4.9 5.1 5.1 5.0 4.8 4.0 4.5	1.200 1.400 1.600 1.800 2.000 2.200 2.400 2.600	4.9 5.2 5.6 5.9 6.2 6.5 6.7 7.0	3.000 3.500 4.000 4.500 5.000 5.500 6.000 6.500	7.5 8.0 8.6 9.0 9.5 10.0 10.4 10.8	7.000 7.500 8.000 8.500 9.000 9.500	11.2 11.5 11.9 12.2 12.6			
0.100 0.200 0.300 0.400 0.500 0.600 0.800	3.4 4.9 5.1 5.1 5.0 4.8 4.0 4.5	1.200 1.400 1.600 1.800 2.000 2.200 2.400 2.600	4.9 5.2 5.6 5.9 6.2 6.5 6.7 7.0	3.000 3.500 4.000 4.500 5.000 5.500 6.000 6.500	7.5 8.0 8.6 9.0 9.5 10.0 10.4 10.8	7.000 7.500 8.000 8.500 9.000 9.500	11.2 11.5 11.9 12.2 12.6			
0.100 0.200 0.300 0.400 0.500 0.600 0.800	3.4 4.9 5.1 5.1 5.0 4.8 4.0 4.5	1.200 1.400 1.600 1.800 2.000 2.200 2.400 2.600	4.9 5.2 5.6 5.9 6.2 6.5 6.7 7.0	3.000 3.500 4.000 4.500 5.000 5.500 6.000 6.500	7.5 8.0 8.6 9.0 9.5 10.0 10.4 10.8	7.000 7.500 8.000 8.500 9.000 9.500	11.2 11.5 11.9 12.2 12.6			
0.100 0.200 0.300 0.400 0.500 0.600 0.800	3.4 4.9 5.1 5.1 5.0 4.8 4.0 4.5	1.200 1.400 1.600 1.800 2.000 2.200 2.400 2.600	4.9 5.2 5.6 5.9 6.2 6.5 6.7 7.0	3.000 3.500 4.000 4.500 5.000 5.500 6.000 6.500	7.5 8.0 8.6 9.0 9.5 10.0 10.4 10.8	7.000 7.500 8.000 8.500 9.000 9.500	11.2 11.5 11.9 12.2 12.6			

Cole Easdon Consultants		Page 4
York House, Edison Park	Parcel KMG, Bicester	
Dorcan Way		4
Swindon, SN3 3RB	SW Network	Micco
Date 28.03.18	Designed by NP	Drainage
File 6008-SW NW_March2018.mdx	Checked by RB	Diamage
Elstree Computing Ltd	Network 2015.1	
Storage	e Structures for Storm	
<u>Cellular Storag</u>	e Manhole: Tank1, DS/PN: 2.000	
	rt Level (m) 68.300 Safety Factor 2.0 Base (m/hr) 0.00000 Porosity 0.95	
Infiltration Coefficient		
Depth (m) Area (m²) Inf. Are	ea (m²) Depth (m) Area (m²) Inf. Area (m	m²)
0.000 40.0	40.0 0.800 40.0 6	0.2
Cellular Storag	e Manhole: Tank2, DS/PN: 3.000	
	rt Level (m) 68.250 Safety Factor 2.0 Base (m/hr) 0.00000 Porosity 0.95 Side (m/hr) 0.00000	
Depth (m) Area (m²) Inf. Are	ea (m²) Depth (m) Area (m²) Inf. Area (m	m²)
0.000 60.0	60.0 0.800 60.0 8	4.8
	1	
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Cole H	Easdon Co	nourcance						Page	
York H	House, Ec	ison Park	:		Parcel KMG	, Bicester			
Dorcar	n Way							4	
Swindo	on, SN3 3	RB			SW Network	1		NA	icco
Date 2	28.03.18				Designed b	by NP			
File 0	6008-SW N	W_March20	18.mdx		Checked by	7 RB		DI	anaye
Elstre	ee Comput	ing Ltd			Network 20	15.1			
<u>10</u>	Manhole	Areal R H Hot S Headloss Sewage pe Number Number	eduction H ot Start (tart Level Coeff (G] r hectare of Input er of Onli	<u>Sin</u> Factor ((mins) (mm) .obal) ((1/s) (Hydrogr ne Cont	<u>mulation Cr</u> 1.000 Add 0 0.500 Flow 0.000 aphs 0 Numl rols 1 Numl	litional Flow - MADD Factor '	• % of Tota: 5 10m³/ha Sf ilet Coeffic 5 Day (l/pe: Structures ea Diagrams	l Flow 0. torage 2. ecient 0. r/day) 0.	000 000 800
	I		M5-60 (: c Flood Ri	del ion Eng mm) sk Warn alysis	20. ning (mm) Timestep 2		r) 0.840	300.0 nded) OFF	
		_		DV Inerti le(s)	'S Status 'D Status .a Status		ummer and W		
DN	US/MH	Return Per Clir	ation(s) (riod(s) (y mate Chang Return C I	DV Inerti le(s) mins) 1 ears) e (%) Limate	<pre>/D Status .a Status .5, 30, 60, First (X)</pre>	120, 240, 360 First (Y)	, 480, 960, 10, 30 0, First (ON 1440 0, 100 0, 30 Z) Overfl	
PN		Return Per	ation(s) (riod(s) (y nate Chang	DV Inerti le(s) mins) 1 ears) e (%) Limate	7D Status .a Status .5, 30, 60,	120, 240, 360 First (Y)	, 480, 960, 10, 30 0,	ON Jinter 1440 0, 100 0, 30 Z) Overfl	ow Level
1.000	US/MH Name	Return Per Clir Storm 15 Winter	ation(s) (riod(s) (y mate Chang Return Cl Period C 10	DV Inerti le(s) mins) 1 ears) e (%) Limate hange +0%	<pre>/D Status .a Status .5, 30, 60, First (X) Surcharge 30/15 Summ</pre>	120, 240, 360 First (Y) Flood Mer 100/15 Wint	, 480, 960, 10, 30 0, First (Overflo	ON 1440 0, 100 0, 30 Z) Overfl	.ow Level (m) 69.948
1.000 1.001	US/MH Name 1 2	Return Pes Clir Storm 15 Winter 15 Winter	ation(s) (riod(s) (y mate Chang Return Cl Period C 10 10	DV Inerti le(s) mins) 1 ears) e (%) Limate hange +0% +0%	<pre>/D Status .a Status .5, 30, 60,</pre>	120, 240, 360 First (Y) Flood Mer 100/15 Wint Mer	, 480, 960, 10, 30 0, First (Overflo	ON 1440 0, 100 0, 30 Z) Overfl	.ow Level (m) 69.948 69.153
1.000 1.001 1.002	US/MH Name 1 2 3 1	Return Pes Clir Storm 15 Winter 15 Winter 20 Winter	ation(s) (riod(s) (y mate Chang Return CI Period C 10 10 10	DV Inerti le(s) mins) 1 ears) e (%) Limate hange +0% +0%	<pre>/D Status .a Status .5, 30, 60,</pre>	120, 240, 360 First (Y) Flood Mer 100/15 Wint Mer Mer	, 480, 960, 10, 30 0, First (Overflo	ON 1440 0, 100 0, 30 Z) Overfl	.ow Level (m) 69.948 69.153 68.846
1.000 1.001 1.002 1.003	US/MH Name 1 2 3 1. 4 1.	Storm Clir Storm 15 Winter 15 Winter 20 Winter 20 Winter	ation(s) (riod(s) (y mate Chang Return Cl Period C 10 10 10 10	DV Inerti le(s) mins) 1 ears) e (%) Limate hange +0% +0% +0%	<pre>/D Status .a Status .5, 30, 60,</pre>	120, 240, 360 First (Y) Flood	, 480, 960, 10, 30 0, First (Overflo	ON 1440 0, 100 0, 30 Z) Overfl	.ow Level (m) 69.948 69.153 68.846 68.844
1.000 1.001 1.002 1.003 2.000	US/MH Name 1 2 3 1 4 1 Tank1	Return Pes Clir Storm 15 Winter 15 Winter 20 Winter	ation(s) (riod(s) (y mate Chang Return CI Period C 10 10 10 10 10	DV Inerti le(s) mins) 1 ears) e (%) Limate hange +0% +0% +0% +0%	<pre>/D Status .a Status .5, 30, 60,</pre>	120, 240, 360 First (Y) Flood Mer 100/15 Wint Mer Mer Mer	, 480, 960, 10, 30 0, First (Overflo	ON 1440 0, 100 0, 30 Z) Overfl	.ow Level (m) 69.948 69.153 68.846 68.844 68.845
1.000 1.001 1.002 1.003 2.000 1.004	US/MH Name 1 2 3 1 4 1 Tank1 1 5 1	Storm Clir Storm 15 Winter 15 Winter 20 Winter 20 Winter 20 Winter	ation(s) (riod(s) (y mate Chang Return Cl Period C 10 10 10 10	DV Inerti le(s) mins) 1 ears) e (%) Limate hange +0% +0% +0% +0% +0%	<pre>/D Status .a Status .5, 30, 60,</pre>	120, 240, 360 First (Y) Flood Mer 100/15 Wint Mer Mer Mer Mer Mer	, 480, 960, 10, 30 0, First (Overflo	ON 1440 0, 100 0, 30 Z) Overfl	.ow Level (m) 69.948 69.153 68.846 68.844 68.845 68.845
1.000 1.001 1.002 1.003 2.000 1.004 1.005	US/MH Name 1 2 3 1 4 1 Tank1 1 5 1 6 1	Storm Clir Storm 15 Winter 15 Winter 20 Winter 20 Winter 20 Winter 20 Winter	Return Cl Period C 10 10 10 10 10 10 10 10 10 10	DV Inerti le(s) mins) 1 ears) e (%) Limate hange +0% +0% +0% +0% +0% +0%	<pre>/D Status .a Status .5, 30, 60,</pre>	120, 240, 360 First (Y) Flood her 100/15 Wint her her her her her her	, 480, 960, 10, 30 0, First (Overflo	ON 1440 0, 100 0, 30 Z) Overfl	.ow Level (m) 69.948 69.153 68.846 68.844 68.845 68.843 68.843
1.000 1.001 1.002 1.003 2.000 1.004 1.005 3.000	US/MH Name 1 2 3 1 4 1 Tank1 1 5 1 6 1 Tank2	Storm Clir Storm 15 Winter 15 Winter 20 Winter 20 Winter 20 Winter 20 Winter 20 Winter	Return Cl Period C 10 10 10 10 10 10 10 10 10 10 10 10 10	DV Inerti le(s) mins) 1 ears) e (%) Limate hange +0% +0% +0% +0% +0% +0%	<pre>/D Status .a Status .5, 30, 60,</pre>	120, 240, 360 First (Y) Flood Mer 100/15 Wint Mer Mer Mer Mer Mer Mer Mer	, 480, 960, 10, 30 0, First (Overflo	ON 1440 0, 100 0, 30 Z) Overfl	.ow Level (m) 69.944 69.153 68.844 68.844 68.844 68.844 68.844 68.844 68.844 68.844 68.844
1.000 1.001 1.002 1.003 2.000 1.004 1.005 3.000 1.006	US/MH Name 1 2 3 1 4 1 1 Tank1 1 5 1 6 1 Tank2 1 7 1	Storm Clir Storm 15 Winter 15 Winter 20 Winter 20 Winter 20 Winter 20 Winter 20 Winter 20 Winter	Return CI Period C 10 10 10 10 10 10 10 10 10 10 10 10 10	DV Inerti le(s) mins) 1 ears) e (%) Limate hange +0% +0% +0% +0% +0% +0% +0%	<pre>/D Status .a Status .5, 30, 60,</pre>	120, 240, 360 First (Y) Flood her 100/15 Wint her her her her her her her her	, 480, 960, 10, 30 0, First (Overflo	ON 1440 0, 100 0, 30 Z) Overfl	.ow Leve: (m) 69.94 69.15 68.84 68.84 68.84 68.84 68.84 68.84 68.84 68.84 68.84
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1.000 1.001 1.002 1.003 2.000 1.004 1.005 3.000 1.006	US/MH Name 1 2 3 1. 4 1. Tank1 1. 5 1. 6 1. Tank2 1. 7 1. 8 1.	Storm Storm 15 Winter 15 Winter 20 Winter	Return CJ Period (s) (y nate Chang Period C 10 10 10 10 10 10 10 10 10 10 10 10 10	DV Inerti le(s) mins) 1 ears) e(%) Limate hange +0% +0% +0% +0% +0% +0% +0% +0% +0% +0%	<pre>/D Status .a Status .a Status .5, 30, 60,</pre>	120, 240, 360 First (Y) Flood Mer 100/15 Wint Mer Mer Mer Mer Mer Mer Mer Mer	<pre>, 480, 960, 10, 30 0, First (Overflo cer</pre>	ON Vinter 1440 0, 100 0, 30 Z) Overfl Dw Act.	Level (m) 69.948 69.153 68.844 68.844 68.845 68.843 68.843 68.843 68.843 68.843 68.843 68.843
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1.000 1.001 1.002 1.003 2.000 1.004 1.005 3.000 1.006	US/MH Name 1 2 3 1 4 1 1 1 1 1 1 1 1 1 1 1 1 1	Storm Storm L5 Winter L5 Winter 20 Winte	ation(s) (ciod(s) (y mate Change Period C 10 <	DV Inerti le(s) mins) 1 ears) e(%) Limate hange +0% +0% +0% +0% +0% +0% +0% +0% +0% +0%	<pre>/D Status /D S Summ /D /15 Su</pre>	120, 240, 360 First (Y) Flood Mer 100/15 Wint Mer Mer Mer Mer Mer Mer Mer Mer	, 480, 960, 10, 30 0, First (Overflo cer Status OK OK OK	ON Vinter 1440 0, 100 0, 30 Z) Overfl Dw Act.	Level (m) 69.948 69.153 68.844 68.844 68.845 68.843 68.843 68.843 68.843 68.843 68.843 68.843
1.000 1.001 1.002 1.003 2.000 1.004 1.005 3.000 1.006	US/MH Name 1 2 3 1 4 1 1 1 1 1 1 1 1 1 1 1 1 1	Storm Storm L5 Winter L5 Winter 20 Winte	ation(s) (ciod(s) (y mate Change Period C 10 <	DV Inerti le(s) mins) 1 ears) e(%) Limate hange +0% +0% +0% +0% +0% +0% +0% +0% +0% +0%	<pre>/D Status /D /15 Summ /D /15</pre>	<pre>120, 240, 360 First (Y) Flood arr 100/15 Wint arr arr arr arr arr arr arr arr arr ar</pre>	, 480, 960, 10, 30 0, First (Overflo cer Status OK OK SURCHARGED	ON Vinter 1440 0, 100 0, 30 Z) Overfl Dw Act.	Level (m) 69.948 69.153 68.844 68.844 68.845 68.843 68.843 68.843 68.843 68.843 68.843 68.843

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York House, Edison Park	Parcel KMG, Bicester	
Dorcan Way		L
Swindon, SN3 3RB	SW Network	Micro
Date 28.03.18	Designed by NP	Desinado
File 6008-SW NW_March2018.mdx	Checked by RB	Diamaye
Elstree Computing Ltd	Network 2015.1	

 $\underline{10}$ year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Surcharged Depth (m)		Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
1.005	6	0.453	0.000	0.06		21.7	SURCHARGED	
3.000	Tank2	0.370	0.000	0.19		7.6	SURCHARGED	
1.006	7	0.478	0.000	0.03		16.2	SURCHARGED	
1.007	8	0.952	0.000	0.05		5.1	SURCHARGED	

Cole E	lasdon	Consu	ltant	5							Page	
York H	Iouse	Ediso	n Parl	۲	Pa	Parcel KMF, Bicester						
Dorcan	n Way										4	A
Swindo	on SN3	3rb			SV	NW1					Mile	~~
Date N	Jov 201	8			De	esigned by	NP					iu
File 6	5008-SW	NW1.	mdx		Cł	Checked by RB						inagi
Elstre	e Comp	uting	Ltd		Ne	etwork 201	6.1					
		STOR	M SEWE	ER DESI	IGN by	the Modif	ied R	atior	nal M	ethod		
			De	sign C	riteri	a for 6008	3-SW 1	W1.S	WS			
			D.			DD Marchal	a:					
			Рıр	e Sizes	STANDA	RD Manhole	SIZES	STAND	AKD			
			F	'SR Rain	fall Mc	odel - Engla	nd and	Wales	3			
		Retu	rn Per:	iod (yea		100				ate Chan		
				M5-60 ((mm) 20	.000	Mir	nimum	Backd	rop Heig	ht (m) 0.900
	M5-60 (mm) 20.000 Minimum Backdrop Hei Ratio R 0.400 Maximum Backdrop Hei											
Massimu				all (mm/	/hr)	0 Min Des	sign De	epth f	or Op	timisati	on (m) 1.200
Maximu	M ım Time	of Con	centrat	all (mm/ zion (mi	/hr) ins)	0 Min Des 30 Min	sign De Vel fo	epth f or Aut	or Op o Des	timisati ign only	on (m (m/s) 1.200) 1.00
Maximu	ım Time	of Con Fou	centrat 1 Sewag	all (mm/ tion (mi ge (l/s/	/hr) ins) /ha) 0	0 Min Des 30 Min .000 M:	sign De Vel fo	epth f or Aut	or Op o Des	timisati	on (m (m/s) 1.200) 1.00
Maximu	ım Time	of Con Fou	centrat 1 Sewag	all (mm/ zion (mi	/hr) ins) /ha) 0	0 Min Des 30 Min	sign De Vel fo	epth f or Aut	or Op o Des	timisati ign only	on (m (m/s) 1.200) 1.00
Maximu	ım Time	of Con Fou	centrat 1 Sewag	all (mm/ zion (mi ge (l/s/ noff Coe	/hr) ins) /ha) 0 eff. 0	0 Min Des 30 Min .000 M: .750	sign De Vel fo in Slop	epth f or Aut oe for	or Op o Des	timisati ign only	on (m (m/s) 1.200) 1.00
Maximu	ım Time	of Con Fou	centrat 1 Sewag	all (mm/ zion (mi ge (l/s/ noff Coe	/hr) ins) /ha) 0 eff. 0	0 Min Des 30 Min .000 M:	sign De Vel fo in Slop	epth f or Aut oe for	or Op o Des	timisati ign only	on (m (m/s) 1.200) 1.00
Maximu	ım Time	of Con Fou	centrat l Sewag ric Run	all (mm/ zion (mi ge (l/s/ noff Coe Des	/hr) ins) /ha) 0 eff. 0 signed	0 Min Des 30 Min .000 M: .750 with Level S	sign De Vel fo in Slop Soffits	epth f or Aut oe for	or Op o Des Opti	timisati ign only misation	on (m (m/s) 1.200) 1.00
Maximu	ım Time	of Con Fou	centrat l Sewag ric Run	all (mm/ zion (mi ge (l/s/ noff Coe Des	/hr) ins) /ha) 0 eff. 0 signed	0 Min Des 30 Min .000 M: .750	sign De Vel fo in Slop Soffits	epth f or Aut oe for	or Op o Des Opti	timisati ign only misation	on (m (m/s) 1.200) 1.00
	um Time V	of Con Fou olumet	centrat 1 Sewag ric Run <u>Netwo</u>	all (mm/ zion (mi ge (l/s/ noff Coe Des <u></u> <u></u>	(hr) ins) (ha) 0 eff. 0 signed y sign Ta	0 Min Des 30 Min .000 M: .750 with Level S able for 6	sign De Vel fo in Slop Soffits 008-S	epth f pr Aut pe for s <u>W NW1</u>	or Op o Des Opti	timisati ign only misation	on (m (m/s (1:X) 1.200) 1.00) 500
Maximu PN	um Time V	of Con Fou olumet	centrat 1 Sewag ric Run <u>Netwo</u>	all (mm/ zion (mi ge (1/s/ noff Coe Des <u>Des</u> <u>Drk Des</u>	(hr) ins) (ha) 0 eff. 0 signed y sign Ta T.E.	0 Min Des 30 Min .000 M: .750 with Level S	vel fo Vel fo Soffits <u>008-S</u> k	epth f pr Aut pe for w NW1 HYD	or Op o Des Opti	timisati ign only misation	on (m (m/s (1:X) 1.200) 1.00
PN	um Time V Length (m)	of Con Fou olumet Fall (m)	centrat l Sewag ric Run <u>Netwo</u> slope (1:X)	all (mm/ zion (mi ge (1/s/ noff Coe Des <u>Des</u> <u>Des</u> <u>I.Area</u> (ha)	(hr) ins) (ha) 0 eff. 0 signed y sign Ta T.E. (mins)	0 Min Des 30 Min .000 M: .750 with Level S able for 6 Base Flow (1/s)	sign De Vel fo in Slop Soffits <u>008-S</u> k (mm)	epth f pr Aut pe for s <u>W NW1</u> SECT	or Op o Des Opti	timisati ign only misation Section	on (m/s (m/s (1:X) 1.20() 1.0() 50(Auto Design
PN 1.000	tm Time V Length (m) 55.887	of Con Fou olumet Fall (m) 0.725	centrat l Sewag ric Run <u>Netwo</u> slope (1:X) 77.1	all (mm/ zion (mi ge (1/s/ noff Coe Des <u>Des</u> <u>Des</u> <u>I.Area</u> (ha) 0.071	<pre>/hr) ins) /ha) 0 eff. 0 signed v sign Ta t.E. (mins) 5.00</pre>	0 Min Des 30 Min .000 M: .750 with Level S able for 6 Base Flow (1/s) 0.0	sign De Vel fo in Slop Soffits <u>008-S</u> k (mm) 0.600	epth f for Aut be for <u>W NW1</u> <u>HYD</u> SECT	or Op o Des Opti SWS DIA (mm) 150	timisati ign only misation Section Pipe/Con	on (m/s (m/s)(1:X) Type) 1.20() 1.0() 50(Auto Design
PN 1.000	um Time V Length (m)	of Con Fou olumet Fall (m) 0.725	centrat l Sewag ric Run <u>Netwo</u> slope (1:X) 77.1	all (mm/ zion (mi ge (1/s/ noff Coe Des <u>Des</u> <u>Des</u> <u>I.Area</u> (ha) 0.071	(hr) ins) (ha) 0 eff. 0 signed y sign Ta T.E. (mins)	0 Min Des 30 Min .000 M: .750 with Level S able for 6 Base Flow (1/s) 0.0	sign De Vel fo in Slop Soffits <u>008-S</u> k (mm)	epth f pr Aut pe for s <u>W NW1</u> SECT	or Op o Des Opti SWS DIA (mm) 150	timisati ign only misation Section	on (m/s (m/s)(1:X) Type) 1.20() 1.0() 50(
PN 1.000 1.001	tm Time V Length (m) 55.887	of Con Fou olumet Fall (m) 0.725 0.700	centrat l Sewag ric Run <u>Netwo</u> slope (1:x) 77.1 44.2	all (mm/ zion (mi ge (1/s/ noff Coe Des <u>Des</u> <u>Des</u> <u>I.Area</u> (ha) 0.071	<pre>/hr) ins) /ha) 0 eff. 0 signed v sign Ta t.E. (mins) 5.00</pre>	0 Min Des 30 Min .000 M: .750 with Level S able for 6 Base Flow (1/s) 0.0 0.0	sign De Vel fo in Slop Soffits <u>008-S</u> k (mm) 0.600	epth f for Aut be for <u>W NW1</u> <u>HYD</u> SECT	or Op o Des Opti SWS DIA (mm) 150 225	timisati ign only misation Section Pipe/Con	on (m/s (m/s (1:X Type) 1.20()) 1.0()) 50() Auto Design
PN 1.000 1.001 2.000	tength (m) 55.887 30.906	of Con Fou olumet Fall (m) 0.725 0.700 0.165	<pre>centrat l Sewag ric Run <u>Netwo</u> slope (1:x) 77.1 44.2 160.2</pre>	all (mm/ zion (mi ge (1/s/ noff Coe Des <u>Des</u> <u>Des</u> <u>I.Area</u> (ha) 0.071 0.047	<pre>/hr) ins) /ha) 0 eff. 0 signed v sign Ta T.E. (mins) 5.00 0.00</pre>	0 Min Des 30 Min .000 M: .750 with Level S able for 6 Base Flow (1/s) 0.0 0.0	sign De Vel fo in Slop Soffits 008-S k (mm) 0.600 0.600	epth f for Aut be for w NW1 HYD SECT o o	or Op o Des Opti SWS DIA (mm) 150 225 225	timisati ign only misation Section Pipe/Con Pipe/Con	on (m/s (m/s (1:X Type) 1.20() 1.0() 50(Auto Design
PN 1.000 1.001 2.000 2.001	Length (m) 55.887 30.906 26.435 5.905	of Con Fou olumet Fall (m) 0.725 0.700 0.165 0.060	centrat l Sewag ric Run Slope (1:X) 77.1 44.2 160.2 98.4	all (mm/ zion (mi ge (1/s/ noff Coe Des <u>Des</u> I.Area (ha) 0.071 0.047 0.120 0.000	<pre>/hr) ins) /ha) 0 eff. 0 signed v sign Ta t.E. (mins) 5.00 0.00 5.00 0.00</pre>	0 Min Des 30 Min .000 M: .750 with Level S able for 6 Base Flow (1/s) 0.0 0.0 0.0	sign De Vel fo in Slop Soffits 008-S k (mm) 0.600 0.600 0.600	epth f pr Aut pe for s <u>W NW1</u> HYD SECT 0 0 0	or Op o Des Opti SWS DIA (mm) 150 225 225 150	timisati ign only misation Section Pipe/Con Pipe/Con Pipe/Con Pipe/Con	on (m/s (m/s)(1:X) Type aduit aduit aduit) 1.20() 1.0() 50(Design
PN 1.000 1.001 2.000 2.001 1.002	Length (m) 55.887 30.906 26.435 5.905 31.337	of Con Fou olumet Fall (m) 0.725 0.700 0.165 0.060 0.200	centrat l Sewag ric Run <u>Netwo</u> slope (1:x) 77.1 44.2 160.2 98.4 156.7	all (mm/ zion (mi ge (1/s/ noff Coe Des <u>Des</u> I.Area (ha) 0.071 0.047 0.120 0.000 0.045	<pre>/hr) ins) /ha) 0 eff. 0 signed v signed v sign Ta T.E. (mins) 5.00 0.00 5.00 0.00 0.00</pre>	0 Min Des 30 Min .000 M: .750 with Level S able for 6 Base Flow (1/s) 0.0 0.0 0.0 0.0	sign De Vel fo in Slop Soffits 008-S k (mm) 0.600 0.600 0.600 0.600	epth f for Aut be for w NW1 HYD SECT 0 0 0 0	or Op o Des Opti SWS DIA (mm) 150 225 150 300	timisati ign only misation Section Pipe/Con Pipe/Con Pipe/Con Pipe/Con Pipe/Con	on (m/s (m/s)(1:X) Type nduit nduit nduit nduit) 1.20() 1.0() 50(Design
PN 1.000 1.001 2.000 2.001 1.002 1.003	Length (m) 55.887 30.906 26.435 5.905 31.337 25.552	of Con Fou olumet Fall (m) 0.725 0.700 0.165 0.060 0.200 0.225	centrat l Sewag ric Run Netwo slope (1: x) 77.1 44.2 160.2 98.4 156.7 113.6	all (mm/ zion (mi ge (1/s/ noff Coe Des <u>Des</u> I.Area (ha) 0.071 0.047 0.120 0.000 0.045 0.063	<pre>/hr) ins) /ha) 0 eff. 0 signed v signed v sign Ta T.E. (mins) 5.00 0.00 5.00 0.00 0.00 0.00</pre>	0 Min Des 30 Min .000 M: .750 with Level S able for 6 Base Flow (1/s) 0.0 0.0 0.0 0.0 0.0	sign De Vel fo in Slop Soffits 008-S k (mm) 0.600 0.600 0.600 0.600 0.600	epth f for Aut be for w NW1 HYD SECT 0 0 0 0 0 0	or Op o Des Opti SWS DIA (mm) 150 225 150 300 300	timisati ign only misation Section Pipe/Con Pipe/Con Pipe/Con Pipe/Con Pipe/Con Pipe/Con Pipe/Con	on (m/s (m/s)(1:X) Type nduit nduit nduit nduit) 1.20() 1.0() 50(Design
PN 1.000 1.001 2.000 2.001 1.002 1.003 1.004	Length (m) 55.887 30.906 26.435 5.905 31.337 25.552 10.449	of Con Fou olumet Fall (m) 0.725 0.700 0.165 0.060 0.200 0.225 0.150	centrat l Sewag ric Run slope (1:x) 77.1 44.2 160.2 98.4 156.7 113.6 69.7	all (mm/ zion (mi ge (1/s/ hoff Coe Des <u>Des</u> I.Area (ha) 0.071 0.047 0.120 0.000 0.045 0.063 0.019	<pre>/hr) ins) /ha) 0 eff. 0 signed v signed v sign Ta T.E. (mins) 5.00 0.00 5.00 0.00 0.00 0.00 0.00 0.0</pre>	0 Min Des 30 Min .000 M: .750 with Level S able for 6 Base Flow (1/s) 0.0 0.0 0.0 0.0 0.0 0.0 0.0	sign De Vel fo in Slop Soffits 008-S k (mm) 0.600 0.600 0.600 0.600 0.600 0.600	epth f for Aut be for w NW1 HYD SECT 0 0 0 0 0 0 0 0 0	or Op o Des Opti Opti SWS DIA (mm) 150 225 150 300 300 300 300	timisati ign only misation Section Pipe/Con Pipe/Con Pipe/Con Pipe/Con Pipe/Con Pipe/Con Pipe/Con Pipe/Con Pipe/Con	on (m/s (m/s)(1:X) Type aduit aduit aduit aduit aduit aduit) 1.20() 1.0() 50(Design
PN 1.000 1.001 2.000 2.001 1.002 1.003 1.004 1.005	Length (m) 55.887 30.906 26.435 5.905 31.337 25.552 10.449 30.364	of Con Fou olumet Fall (m) 0.725 0.700 0.165 0.060 0.200 0.225 0.150 0.100	Centrat l Sewag ric Run Slope (1:X) 77.1 44.2 160.2 98.4 156.7 113.6 69.7 303.6	all (mm/ zion (mi ge (1/s/ hoff Coe Des Drk Des I.Area (ha) 0.071 0.047 0.120 0.000 0.045 0.063 0.019 0.052	<pre>/hr) ins) /ha) 0 eff. 0 signed v signed v sign Ta T.E. (mins) 5.00 0.00 5.00 0.00 0.00 0.00 0.00 0.0</pre>	0 Min Des 30 Min .000 M: .750 with Level S able for 6 Base Flow (1/s) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	sign De Vel fo in Slop Soffits 008-S k (mm) 0.600 0.600 0.600 0.600 0.600 0.600 0.600	epth f for Aut be for w NW1 HYD SECT 0 0 0 0 0 0 0 0 0 0	or Op o Des Opti Opti SWS DIA (mm) 150 225 150 300 300 300 300 750	timisati ign only misation Section Pipe/Con Pipe/Con Pipe/Con Pipe/Con Pipe/Con Pipe/Con Pipe/Con Pipe/Con Pipe/Con Pipe/Con Pipe/Con	on (m/s (m/s)(1:X) Type aduit aduit aduit aduit aduit aduit aduit) 1.20() 1.0() 50(Design
PN 1.000 1.001 2.000 2.001 1.002 1.003 1.004 1.005 1.006	Length (m) 55.887 30.906 26.435 5.905 31.337 25.552 10.449	of Con Fou olumet Fall (m) 0.725 0.700 0.165 0.060 0.200 0.225 0.150 0.100 0.050	Centrat l Sewag ric Run Slope (1:X) 77.1 44.2 160.2 98.4 156.7 113.6 69.7 303.6 312.0	all (mm/ zion (mi ge (1/s/ hoff Coe Des <u>Des</u> I.Area (ha) 0.071 0.047 0.120 0.000 0.045 0.063 0.019	<pre>/hr) ins) /ha) 0 eff. 0 signed v signed v sign Ta T.E. (mins) 5.00 0.00 5.00 0.00 0.00 0.00 0.00 0.0</pre>	0 Min Des 30 Min .000 M: .750 with Level S able for 6 Base Flow (1/s) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	sign De Vel fo in Slop Soffits 008-S k (mm) 0.600 0.600 0.600 0.600 0.600 0.600	epth f for Aut be for w NW1 HYD SECT 0 0 0 0 0 0 0 0 0	or Op o Des Opti Opti SWS DIA (mm) 150 225 150 300 300 300 300 750 750	timisati ign only misation Section Pipe/Con Pipe/Con Pipe/Con Pipe/Con Pipe/Con Pipe/Con Pipe/Con Pipe/Con Pipe/Con	on (m/s (m/s)(1:X) Type aduit aduit aduit aduit aduit aduit aduit aduit) 1.20() 1.0() 50(Auto Design

<u>Network Results Table</u>

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (1/s)	Flow (l/s)
1.000	0.00	5.81	71.400	0.071	0.0	0.0	0.0	1.15	20.3	0.0
1.001	0.00	6.07	70.600	0.118	0.0	0.0	0.0	1.97	78.5	0.0
2.000	0.00	5.43	70.200	0.120	0.0	0.0	0.0	1.03	41.0	0.0
2.001	0.00	5.52	70.035	0.120	0.0	0.0	0.0	1.01	17.9	0.0
1.002	0.00	6.49	69.825	0.283	0.0	0.0	0.0	1.25	88.6	0.0
1.003	0.00	6.78	69.625	0.346	0.0	0.0	0.0	1.47	104.2	0.0
1.004	0.00	6.87	69.400	0.365	0.0	0.0	0.0	1.89	133.3	0.0
1.005	0.00	7.19	68.800	0.417	0.0	0.0	0.0	1.60	707.2	0.0
1.006	0.00	7.35	68.700	0.454	0.0	0.0	0.0	1.58	697.5	0.0
1.007	0.00	7.66	68.650	0.527	0.0	0.0	0.0	1.61	712.7	0.0
			(01982-202	L6 XP Solu	tions				

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York House Edison Park	Parcel KMF, Bicester	
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Elstree Computing Ltd	Network 2016.1	

Network Design Table for 6008-SW NW1.SWS

PN	Length (m)		-	I.Area (ha)							Section Type	Auto Design
1.008	7.436	0.329	22.6	0.000	0.00		0.0	0.600	0	300	Pipe/Conduit	0
				N	etwork	Resi	ults 1	<u>Table</u>				

PN	Rain				Σ Base				-	
	(mm/hr)	(mins)	(m)	(ha)	Flow (l/s)	(1/s)	(1/s)	(m/s)	(1/s)	(1/s)
1.008	0.00	7.70	68.550	0.527	0.0	0.0	0.0	3.32	234.8	0.0

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PIPELINE SCHEDULES for 6008-SW NW1.SWS

<u>Upstream Manhole</u>

Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
0	150	1	72.940	71.400	1.390	Open Manhole	1200
0	225	2	73.358	70.600	2.533	Open Manhole	1200
0	225	11	72.150	70.200	1.725	Open Manhole	1200
0	150	12	72.160	70.035	1.975	Open Manhole	1200
0	300	3	72.762	69.825	2.637	Open Manhole	1200
0	300	4	71.978	69.625	2.053	Open Manhole	1200
0	300	5	71.429	69.400	1.729	Open Manhole	1200
0	750	б	71.429	68.800	1.879	Open Manhole	1800
0	750	7	71.527	68.700	2.077	Open Manhole	1800
0	750	8	71.325	68.650	1.925	Open Manhole	1800
0	300	9	71.000	68.550	2.150	Open Manhole	1800
	Sect 0 0 0 0 0 0 0 0 0 0 0 0 0	 150 225 225 150 300 300 300 750 750 750 	Sect (mm) Name 0 150 1 0 225 2 0 225 11 0 150 12 0 300 3 0 300 4 0 300 5 0 750 6 0 750 8	Sect (mm) Name (m) 0 150 1 72.940 0 225 2 73.358 0 225 11 72.150 0 300 3 72.762 0 300 4 71.978 0 300 5 71.429 0 750 6 71.429 0 750 7 71.527 0 750 8 71.325	Sect (mm) Name (m) (m) 0 150 1 72.940 71.400 0 225 2 73.358 70.600 0 225 11 72.150 70.200 0 150 12 72.160 70.035 0 300 3 72.762 69.825 0 300 4 71.978 69.625 0 300 5 71.429 69.400 0 750 6 71.527 68.700 0 750 8 71.325 68.650	Sect (mm) Name (m) (m) (m) 0 150 1 72.940 71.400 1.390 0 225 2 73.358 70.600 2.533 0 225 11 72.150 70.200 1.725 0 300 3 72.762 69.825 2.637 0 300 4 71.978 69.625 2.053 0 300 5 71.429 69.400 1.729 0 750 6 71.429 68.800 1.879 0 750 8 71.527 68.700 2.077 0 750 8 71.325 68.650 1.925	Sect (mm) Name (m) (m) (m) (m) Connection 0 150 1 72.940 71.400 1.390 Open Manhole 0 225 2 73.358 70.600 2.533 Open Manhole 0 225 1 72.150 70.200 1.725 Open Manhole 0 150 12 72.160 70.035 1.975 Open Manhole 0 300 3 72.762 69.825 2.637 Open Manhole 0 300 4 71.978 69.625 2.053 Open Manhole 0 300 5 71.429 69.400 1.729 Open Manhole 0 750 6 71.429 68.800 1.879 Open Manhole 0 750 7 71.527 68.700 2.077 Open Manhole 0 750 8 71.325 68.650 1.925 Open Manhole

Downstream Manhole

PN	Length (m)	Slope (1:X)		C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.000	55.887	77.1	2	73.358	70.675	2.533	Open Manhole	1200
1.001	30.906	44.2	3	72.762	69.900	2.637	Open Manhole	1200
2.000	26.435	160.2	12	72.160	70.035	1.900	Open Manhole	1200
2.001	5.905	98.4	3	72.762	69.975	2.637	Open Manhole	1200
1 000		156 5		-1	60 60F	0 0 5 0		1000
1.002	31.337	156.7	4	71.978	69.625	2.053	Open Manhole	1200
1.003	25.552	113.6	5	71.429	69.400	1.729	Open Manhole	1200
1.004	10.449	69.7	б	71.429	69.250	1.879	Open Manhole	1800
1.005	30.364	303.6	7	71.527	68.700	2.077	Open Manhole	1800
1.006	15.602	312.0	8	71.325	68.650	1.925	Open Manhole	1800
1.007	29.901	299.0	9	71.000	68.550	1.700	Open Manhole	1800
1.008	7.436	22.6	10	70.883	68.221	2.362	Open Manhole	1500

Free Flowing Outfall Details for 6008-SW NW1.SWS

Outfall Pipe Number					•	
1.008	10	70.883	68.221	68.071	1500	0

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Simulation Criteria for 6008-SW NW1.SWS

Volumetric Runoff Coeff 0.750Additional Flow - % of Total Flow 0.000Areal Reduction Factor 1.000MADD Factor * 10m³/ha Storage 2.000Hot Start (mins)0Hot Start Level (mm)0 Flow per Person per Day (1/per/day)Manhole Headloss Coeff (Global)0.500Foul Sewage per hectare (1/s)0.000Output Interval (mins)1

Number of Input Hydrographs 0 Number of Storage Structures 1 Number of Online Controls 2 Number of Time/Area Diagrams 0 Number of Offline Controls 0 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model		FSR		Profile Type	Summer
Return Period (years)		100		Cv (Summer)	0.750
Region	England	and Wales		Cv (Winter)	0.840
M5-60 (mm)		20.000	Storm	Duration (mins)	30
Ratio R		0.400			

ole Easdon C	onsuita	nts					Page 5
ork House E	dison Pa	ark	Parce	l KMF, Bi	cester		
orcan Way							4
windon SN3 3	RB		SW NW	1			- A
ate Nov 2018				- ned by NP			MICLO
	T.T.1						Drainar
ile 6008-SW 1				ed by RB			J
lstree Compu	ting Lto	d	Netwo	rk 2016.1			
		<u>Online C</u>	ontrols fo	or 6008-SI	NW1.SWS		
<u>C</u>	rifice	<u>Manhole:</u>	12, DS/P	N: 2.001,	Volume (n	n ³): 3.4	
Diamet	er (m) 0	.025 Disch	arge Coeffi	cient 0.600) Invert Le	vel (m) 70	.035
<u>C</u>	omplex	Manhole:	9, DS/PN	: 1.008, 1	<i>I</i> olume (m³): <u>18.6</u>	
		<u> </u>	<u>lydro-Brak</u>	<u>e Optimum</u>	<u>®</u>		
			Unit Refere		-0157-1300-		
			esign Head ign Flow (l			1.500 13.0	
		Dea	Flush-F		C	alculated	
				ive Minim:			
			Applicat	ion		Surface	
			Sump Availa			Yes	
		-	Diameter (,		157	
N	inimum O		vert Level			68.550	
M		-	Diameter (Diameter (225 1500	
		Contro	l Points	Head (m) Flow (l/s	;)	
	De	esign Point	t (Calculate	ed) 1.50	0 13.	0	
			Flush-Fl	Lo™ 0.44	3 13.	0	
			Kick-Fl	Lo® 0.95	0 10.	5	
	Me	an Flow ov	ver Head Rar	nge	- 11.	3	
The hydrologic the Hydro-Bra than a Hydro-H invalidated	ke Optimu	um® as spe	cified. She	ould anothe	r type of c	ontrol dev	ice other
Depth (m) Flo	w (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	5.6	1.200	11.7	3.000	18.1	7.000	27.1
0.200	11.7	1.400	12.6	3.500	19.4	7.500	28.0
0.300	12.7	1.600	13.4	4.000	20.7	8.000	28.9
0.400	13.0	1.800	14.2	4.500	21.9	8.500	29.8
0.500	13.0	2.000	14.9	5.000	23.1	9.000	30.6
0.600	12.8	2.200	15.6	5.500	24.1	9.500	31.4
0.800 1.000	12.0 10.7	2.400 2.600	16.2 16.9	6.000 6.500	25.2 26.2		
1.000	-0./	2.000		I	20.2	l	
ח	ischarge	Coef 0.54	<u>We</u> 4 Width (m)	<u>ir</u> 1.500 Inve	ert Level (m) 70.050	
٢.	90				<u>-</u> 0,01 (1	,	

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Elstree Computing Ltd	Network 2016.1	

Storage Structures for 6008-SW NW1.SWS

Cellular Storage Manhole: 11, DS/PN: 2.000

Invert Level (m) 70.200 Safety Factor 2.0 Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95 Infiltration Coefficient Side (m/hr) 0.00000

Depth (m) Area (m²) Inf. Area (m²) Depth (m) Area (m²) Inf. Area (m²)

0.000	88.0	88.0	0.801	0.0	118.0
0.800	88.0	88.0 118.0			

ole Easo								P	age 9
ork Hous	se Ed	ison Pa	rk	Pa	rcel KM	IF, Bic	cester		
orcan Wa	ay								2.
windon S	3N3 3R	В		SW	NW1				June Co
ate Nov	2018			De	signed	by NP			VILLU
ile 6008	3-SW N	W1.mdx		Ch	lecked b	y RB			Jrainag
lstree (Comput	ing Ltd			twork 2				
0 year	Are	eal Reduc Hot S	tion Fa	for 60 Simula ctor 1.00 ins)	08-SW N ation Cri 00 Add: 0	<u>W1.SWS</u> iteria itional	Flow - % of actor * 10m³	Total Flow /ha Storage	7 0.000 2.000
	le Head l Sewag Num	dloss Coe ge per he mber of Number o	eff (Glod ectare (Input Hy f Online	l/s) 0.00 vdrograph e Control	00 Flow p 00 s 0 Numb s 2 Numb	er of S er of T	Inlet C son per Day torage Struc ime/Area Dia teal Time Con	ctures 1 agrams 0	
			2	Synthetic	Rainfal	<u>l Detai</u>	<u>ls</u>		
		Rainf	all Mode			FSR			
		м	Regic 5-60 (mm	-			(Summer) 0. (Winter) 0.		
		1.1	5 00 (1111	. /	20.	000 CV	(WINCE) 0.	010	
	Margi	n for Fl		Warning				300.0	
			Anal	-	estep 2. tatus	5 Secon	d Increment	(Extended) OFF	
					tatus			OFF	
			1	Inertia S	tatus			ON	
	Retur	n Period		ins) 15, ars)	30, 60,	120, 24	0, 360, 480 1, 1	and Winter , 960, 1440 10, 30, 100 0, 0, 0, 40	
ບຣ	S/MH		Return	Climate	First	(X)	First (Y)	First (Z)	Overflow
PN Na	ame	Storm	Period	Change	Surcha	rge	Flood	Overflow	Act.
1.000	1 1	5 Winter	10	+0%	30/15 S	ummer 1	100/15 Winte	r	
1.001		5 Winter	10		100/15 S		.,		
2.000		0 Winter	10	+0%	10/60 W				
2.001 1.002		0 Winter 5 Winter	10 10	+0% +0%	1/15 S 30/30 W				
1.002		5 Winter 0 Winter	10	+08 +08					
1.004		0 Winter	10	+0%					
1.005		0 Winter	10	+0%	10/30 W				
1.006 1.007		0 Winter 0 Winter	10 10	+0% +0%	10/15 W 10/15 W				
1.007		0 Winter 0 Winter	10	+08 +08	10/15 W 1/15 S				
	2 0		10		_, _5 6				
		Water §	urcharg	ed Floode		(a 5)	Pipe		
	TTC / 10		Denti	TT_ 7					T orre 1
PN	US/MH Name	Level	Depth (m)				low Flow s) (l/s)	Status F	Level xceeded
PN 1.000	Name		Depth (m) -0.0	(m³)	Cap.	(1/s		Status E	Level xceeded

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Elstree Computing Ltd	Network 2016.1	

<u>10 year Return Period Summary of Critical Results by Maximum Level (Rank 1)</u> <u>for 6008-SW NW1.SWS</u>

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)		Flow / Cap.	Overflow (1/s)	Pipe Flow (l/s)	Status	Level Exceeded
					-				
1.001	2	70.704	-0.121	0.000	0.42		30.8	OK	
2.000	11	70.485	0.060	0.000	0.07		2.8	SURCHARGED	
2.001	12	70.577	0.392	0.000	0.06		0.9	SURCHARGED	
1.002	3	69.985	-0.140	0.000	0.54		43.5	OK	
1.003	4	69.832	-0.093	0.000	0.34		31.5	OK	
1.004	5	69.824	0.124	0.000	0.35		34.1	SURCHARGED	
1.005	6	69.819	0.269	0.000	0.07		38.6	SURCHARGED	
1.006	7	69.818	0.368	0.000	0.06		26.2	SURCHARGED	
1.007	8	69.816	0.416	0.000	0.05		26.9	SURCHARGED	
1.008	9	69.815	0.965	0.000	0.09		12.7	SURCHARGED	

	lasdon	Consu	ltants	5							Page	e 1
York H	Iouse	Ediso	n Parł	۲.	Pa	rcel KMF	, Bices	ster				
Dorcan	n Way										4	A.
Swindc	on SN3	3rb			SW	NW2					Mir	Ju
Date N	Jov 201	.8			De	signed by	/ NP					
File 6	5008-SW	NW2.	mdx		Ch	ecked by	RB				Uld	linagi
Elstre	e Comp	outing	Ltd		Ne	twork 201	L6.1					
		STOR	M SEWE	ER DESI	IGN by	the Modi	fied R	atior	ual M	ethod		
			De	sign C	riteria	<u>a for 600</u>	8-SW 1	W2.S	WS			
			Din	o Ciroa		DD Manhala	Circa		מסא			
			ьтр	e Sizes	SIANDA	RD Manhole	SIZES	SIAND	AKD			
			F	'SR Rain	fall Mo	del - Engl	and and	Wales	5			
		Retu	rn Peri	iod (yea	ars)	100	Add I	Flow /	Clim	ate Chan	ge (%) 0
				M5-60 ((mm) 20.	000	Mir	nimum	Backd	rop Heig	ht (m) 0.900
				Rati	LOR 0.	400	Maz	cimum	Backd	rop Heig	ht (m) 1 500
											- (, 1.500
				all (mm/		0 Min De	esign De	epth f	or Op	timisati	on (m) 1.200
Maximu	M Im Time	of Con	centrat	ion (mi	ns)	30 Mir	esign De 1 Vel fo	epth f or Aut	or Op o Des	timisati ign only	on (m (m/s) 1.200) 1.00
Maximu	um Time	of Con Fou	centrat 1 Sewag	ion (mi ge (l/s/	lns) (ha) 0.	30 Mir .000 M	esign De 1 Vel fo	epth f or Aut	or Op o Des	timisati	on (m (m/s) 1.200) 1.00
Maximu	um Time	of Con Fou	centrat 1 Sewag	ion (mi	lns) (ha) 0.	30 Mir	esign De 1 Vel fo	epth f or Aut	or Op o Des	timisati ign only	on (m (m/s) 1.200) 1.00
Maximu	um Time	of Con Fou	centrat 1 Sewag	cion (mi ge (l/s/ noff Coe	ins) (ha) 0. eff. 0.	30 Mir 000 N 750	esign De Vel fo Min Slop	epth f or Aut pe for	or Op o Des	timisati ign only	on (m (m/s) 1.200) 1.00
Maximu	um Time	of Con Fou	centrat 1 Sewag	cion (mi ge (l/s/ noff Coe	ins) (ha) 0. eff. 0.	30 Mir .000 M	esign De Vel fo Min Slop	epth f or Aut pe for	or Op o Des	timisati ign only	on (m (m/s) 1.200) 1.00
Maximu	um Time	of Con Fou	centrat l Sewag ric Rur	zion (mi ge (l/s/ hoff Coe Des	ns) (ha) 0. eff. 0. signed w	30 Mir 000 M 750 with Level	esign De n Vel fo Min Slop Soffits	epth f or Aut oe for	or Op o Des Opti	timisati ign only misation	on (m (m/s) 1.200) 1.00
Maximu	um Time	of Con Fou	centrat l Sewag ric Rur	zion (mi ge (l/s/ hoff Coe Des	ns) (ha) 0. eff. 0. signed w	30 Mir 000 N 750	esign De n Vel fo Min Slop Soffits	epth f or Aut oe for	or Op o Des Opti	timisati ign only misation	on (m (m/s) 1.200) 1.00
Maximu	um Time V Length	of Con Fou folumet: Fall	centrat l Sewag ric Rur <u>Netwo</u> Slope	ion (mi ge (1/s/ hoff Coe Des ork Des I.Area	(ha) 0. (ha) 0. eff. 0. signed w sign Ta T.E.	30 Mir 000 M 750 with Level able for Base	esign De h Vel fo Min Slop Soffits 6008-S k	epth for Aut be for M NW2 HYD	or Op o Des Opti	timisati ign only misation	on (m (m/s (1:X) 1.200) 1.00) 500 Auto
	um Time V	of Con Fou folumet: Fall	centrat l Sewag ric Rur <u>Netwo</u> Slope	cion (mi ge (1/s/ hoff Coe Des <u>ork Des</u>	(ha) 0. (ha) 0. eff. 0. signed w sign Ta T.E.	30 Mir .000 M .750 with Level	esign De h Vel fo Min Slop Soffits 6008-S k	epth for Aut be for M NW2 HYD	or Op o Des Opti	timisati ign only misation	on (m (m/s (1:X) 1.200) 1.00) 500
PN	um Time V Length	of Con. Fou olumet Fall (m)	centrat l Sewag ric Rur <u>Netwo</u> slope (1:X)	ion (mi ge (1/s/ hoff Coe Des ork Des I.Area	(ha) 0. (ha) 0. eff. 0. signed w sign Ta T.E.	30 Mir 000 M 750 with Level able for Base Flow (1/s)	esign De h Vel fo Min Slop Soffits 6008-S k	epth f pr Aut pe for W NW2 HYD SECT	or Op o Des Opti 2.SWS DIA (mm)	timisati ign only misation	on (m (m/s (1:X) 1.200) 1.00) 500
PN 1.000	um Time V Length (m)	of Con. Fou olumet Fall (m) 1.125	centrat l Sewag ric Rur <u>Netwo</u> slope (1:X) 9.1	ion (mi ge (1/s/ hoff Coe Des <u>ork Des</u> I.Area (ha)	(ha) 0. eff. 0. signed w sign Ta T.E. (mins)	30 Mir 000 M 750 with Level able for Base Flow (1/s) 0.0	esign De h Vel fo Min Slop Soffits 6008-S k (mm)	epth f pr Aut pe for W NW2 HYD SECT	or Op o Des Opti 2.SWS DIA (mm) 150	timisati ign only misation Section	on (m (m/s (1:X Type nduit) 1.200) 1.00) 500 Auto Design
PN 1.000 2.000	um Time V Length (m) 10.207	of Con. Fou columet: Fall (m) 1.125 0.100	centrat l Sewag ric Rur <u>Netwo</u> slope (1:X) 9.1	ion (mi ge (1/s/ hoff Coe Des <u>ork Des</u> I.Area (ha) 0.028	(ha) 0. eff. 0. signed w sign Ta T.E. (mins) 5.00	30 Mir 000 M 750 with Level able for Base Flow (1/s) 0.0 0.0	ssign De Vel fo Min Slop Soffits <u>6008-S</u> k (mm) 0 0.600	epth f pr Aut pe for s <u>W NW2</u> HYD SECT o	or Op o Des Opti 2.SWS DIA (mm) 150 225	timisati ign only misation Section Pipe/Cor	on (m (m/s (1:X Type nduit) 1.200) 1.00) 500 Auto Design
PN 1.000 2.000 2.001	tength (m) 10.207 16.027	of Con. Fou columet: (m) 1.125 0.100 0.725	<pre>centrat l Sewag ric Rur <u>Netwc</u> slope (1:x) 9.1 160.3 5.3</pre>	ion (mi ge (1/s/ hoff Coe Des <u>Des</u> <u>I.Area</u> (ha) 0.028 0.092	<pre>(ha) 0. (ha) 0. eff. 0. signed w sign Ta T.E. (mins) 5.00 5.00</pre>	30 Mir .000 M .750 with Level able for Base Flow (1/s) 0.0 0.0	esign De Vel fo Min Slop Soffits <u>6008-S</u> k (mm) 0 0.600 0 0.600	epth f pr Aut pe for s <u>W NW2</u> <u>HYD</u> <u>SECT</u> o o	or Op o Des Opti 2.SWS DIA (mm) 150 225 150	timisati ign only misation Section Pipe/Cor Pipe/Cor Pipe/Cor	on (m (m/s (1:X Type nduit nduit) 1.200) 1.00) 500 Design
PN 1.000 2.000 2.001	Length (m) 10.207 16.027 3.824 26.574	of Con. Fou columet: Fall (m) 1.125 0.100 0.725 0.175	<pre>centrat l Sewag ric Rur <u>Netwc slope (1:x) 9.1 160.3 5.3 151.9</u></pre>	<pre>cion (mi ge (1/s/ hoff Coe Des <u>Des</u> I.Area (ha) 0.028 0.092 0.000</pre>	<pre>(ha) 0. (ha) 0. eff. 0. signed w sign Ta T.E. (mins) 5.00 5.00 0.00</pre>	30 Mir .000 M .750 with Level able for Base Flow (1/s) 0.0 0.0 0.0	esign De N Vel fo Min Slop Soffits 6008-S k (mm) 0 0.600 0 0.600	w NW2 HYD SECT 0 0	or Op o Des Opti 2.SWS DIA (mm) 150 225 150 225	timisati ign only misation Section Pipe/Cor Pipe/Cor	on (m (m/s (1:X Type nduit nduit nduit) 1.200) 1.00) 500 Auto Design

 1.003 26.822 0.090 298.0
 0.017
 0.00
 0.0 0.600
 0
 750 Pipe/Conduit

 3.000 15.549 0.090 172.8
 0.014
 5.00
 0.0 0.600
 0
 300 Pipe/Conduit

 1.004 11.997 0.040 299.9
 0.052
 0.00
 0.0 0.600
 0
 750 Pipe/Conduit

<u>Network Results Table</u>

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PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)		Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.000	0.00	5.05	71.500	0.028	0.0	0.0	0.0	3.37	59.5	0.0
2.000 2.001	0.00		71.200 71.100	0.092 0.092	0.0	0.0 0.0	0.0	1.03 4.42	41.0 78.1	0.0
1.001	0.00		70.300	0.209	0.0	0.0	0.0	1.06	42.1 81.0	0.0
1.003	0.00	6.11	69.550	0.280	0.0	0.0	0.0	1.62	713.8	0.0
3.000	0.00	5.22	70.000	0.014	0.0	0.0	0.0	1.19	84.3	0.0
1.004	0.00	6.23	69.460	0.346	0.0	0.0	0.0	1.61	711.6	0.0
			(01982-202	16 XP Solu	tions				

Cole E	lasc	lon	Consi	ıltan	ts							Pag	e 2
York H	Ious	se	Edisc	on Pa	rk	Pa	arcel KMF,	Bices	ster				
orcan	n Wa	ay										4	
Swindc	on S	SN3	3rb			SV	NW2						-U
Date N	Iov	201	8			De	esigned by	NP					rin
File 6	5008	8-SW	NW2.	mdx			necked by					Ur	ainac
Elstre	e (Comp	uting	g Ltd			etwork 201						
					_								
				<u>Net</u>	vork Dea	sign Ta	able for 6	008-S	W NW2	2.SWS			
PN	Ler	ngth	Fall	Slop	e I.Area	T.E.	Base	k	HYD	DIA	Secti	on Type	a Auto
	(m)	(m)	(1:X) (ha)	(mins)	Flow (l/s)	(mm)	SECT	(mm)			Desig
4.000	19.	. 693	1.090	18.	1 0.012	5.00	0.0	0.600	0	150	Pipe/	'Conduit	: 🔒
									-				
5.000								0.600	0		- · ·	Conduit	
5.001	5.	.231	0.055	95.	1 0.000	0.00	0.0	0.600	0	150	Pipe/	Conduit	- 1
4.001	13.	.996	0.140	100.	0.000	0.00	0.0	0.600	0		_	Conduit	
4.002						0.00	0.0	0.600	0			Conduit	· 🗗
4.003	36.	.737	0.505	72.	7 0.039	0.00	0.0	0.600	0	225	Pipe/	Conduit	6
1.005	25.	.912	0.086	300.	0.072	0.00	0.0	0.600	0	750	Pipe/	'Conduit	. B
1.006	18.	.682	0.064	291.	9 0.163	0.00	0.0	0.600	0	750	Pipe/	Conduit	
1.007	6.	.877	1.037	б.	5 0.000	0.00	0.0	0.600	0	300	Pipe/	Conduit	÷ 🔒
					N	letwork	Results '	<u> Table</u>					
Pl	N	Rai	in :	r.c.	US/IL Σ] I.Area	Σ Base	Foul	Add	Flow	Vel	Cap	Flow
		(mm /)	hr) (1	mins)	(m)	(ha)	Flow (l/s)	(l/s)	(1/	's)	(m/s)	(l/s)	(l/s)
4.0	000	0	.00	5.14	71.900	0.012	0.0	0.0		0.0	2.38	42.1	0.0
5.0			.00		71.000	0.064				0.0	1.00	17.7	0.0
5.0	01	0	.00	5.31	70.865	0.064	0.0	0.0		0.0	1.03	18.2	0.0
4.0	01	0	.00	5.54	70.810	0.076	0.0	0.0		0.0	1.00	17.8	0.0
4.0	02	0	.00	5.78	70.670	0.101	0.0	0.0		0.0	1.01	17.9	0.0
4.0	102	0	.00	6 18	70.450	0.140	0.0	0.0		0.0	1.54	61.0	0.0

1.0050.006.5069.4200.5580.00.00.01.61711.50.01.0060.006.6969.3340.7210.00.01.63721.30.01.0070.006.7169.2700.7210.00.00.06.14434.20.0

Cole Easdon Consultants		Page 3
York House Edison Park	Parcel KMF, Bicester	
Dorcan Way		L
Swindon SN3 3RB	SW NW2	Micco
Date Nov 2018	Designed by NP	
File 6008-SW NW2.mdx	Checked by RB	Dialiada
Elstree Computing Ltd	Network 2016.1	

PIPELINE SCHEDULES for 6008-SW NW2.SWS

<u>Upstream Manhole</u>

PN	-	Diam (mm)		C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.000	0	150	13	72.909	71.500	1.259	Open Manhole	e 1200
2.000	0	225	22	73.000	71.200	1.575	Open Manhole	e 1200
2.001	0	150	23	73.000	71.100	1.750	Open Manhole	e 1200
1.001	0	225	14	73.003	70.300	2.478	Open Manhole	e 1200
1.002	0	300	15	73.141	70.050	2.791	Open Manhole	e 1200
1.003	0	750	16	73.108	69.550	2.808	Open Manhole	e 1800
3.000	0	300	24	72.582	70.000	2.282	Open Manhole	e 1200
1.004	0	750	17	72.872	69.460	2.662	Open Manhole	e 1800
4.000	0	150	25	73.283	71.900	1.233	Open Manhole	e 1200
5.000	0	150	29	72.860	71.000	1.710	Open Manhole	e 1200
5.001	0	150	30	72.867	70.865	1.852	Open Manhole	e 1200
4.001	0	150	26	73.408	70.810	2.448	Open Manhole	e 1200
4.002	0	150	27	73.272	70.670	2.452	Open Manhole	e 1200

Downstream Manhole

PN	Length (m)	Slope (1:X)		C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.000	10.207	9.1	14	73.003	70.375	2.478	Open Manhole	1200
2.000	16.027	160.3	23	73.000	71.100	1.675	Open Manhole	1200
2.001	3.824	5.3	14	73.003	70.375	2.478	Open Manhole	1200
1.001	26.574	151.9	15	73.141	70.125	2.791	Open Manhole	1200
1.002	9.366	187.3	16	73.108	70.000	2.808	Open Manhole	1800
1.003	26.822	298.0	17	72.872	69.460	2.662	Open Manhole	1800
3.000	15.549	172.8	17	72.872	69.910	2.662	Open Manhole	1800
1.004	11.997	299.9	18	72.827	69.420	2.657	Open Manhole	1800
4.000	19.693	18.1	26	73.408	70.810	2.448	Open Manhole	1200
5.000	13.540	100.3	30	72.867	70.865	1.852	Open Manhole	1200
5.001	5.231	95.1	26	73.408	70.810	2.448	Open Manhole	1200
4.001	13.996	100.0	27	73.272	70.670	2.452	Open Manhole	1200
4.002	14.276	98.5	28	73.183	70.525	2.508	Open Manhole	1200
				- 1 0 0 0 0	016 115			

Cole Easdon Consultants		Page 4
York House Edison Park Dorcan Way	Parcel KMF, Bicester	
Swindon SN3 3RB	SW NW2	Micco
Date Nov 2018	Designed by NP	Desinado
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Elstree Computing Ltd	Network 2016.1	

PIPELINE SCHEDULES for 6008-SW NW2.SWS

Upstream Manhole

PN	-	Diam (mm)		C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
4.003	0	225	28	73.183	70.450	2.508	Open Manhole	1200
1.005 1.006 1.007	0 0 0	750 750 <mark>300</mark>	18 19 20	72.827 72.256 71.416	69.334	2.172	Open Manhole Open Manhole Open Manhole	1800 1800 1800

Downstream Manhole

PN	Length (m)	Slope (1:X)		C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
4.003	36.737	72.7	18	72.827	69.945	2.657	Open Manhole	1800
1.006	25.912 18.682 6.877		19 20 21		69.334 69.270 68.233	1.396	Open Manhole Open Manhole Open Manhole	1800 1800 1500

Free Flowing Outfall Details for 6008-SW NW2.SWS

Outfall Outfall C. Level I. Level Min D,L W Pipe Number Name (m) (m) I. Level (mm) (mm) (m)

1.007 21 71.336 68.233 68.008 1500 0

Simulation Criteria for 6008-SW NW2.SWS

Volumetric Runoff Coeff 0.750Additional Flow - % of Total Flow 0.000Areal Reduction Factor 1.000MADD Factor * 10m³/ha Storage 2.000Hot Start (mins)0Inlet Coefficient 0.800Hot Start Level (mm)0 Flow per Person per Day (1/per/day) 0.000Manhole Headloss Coeff (Global)0.500Foul Sewage per hectare (1/s)0.000Output Interval (mins)1

Number of Input Hydrographs 0 Number of Storage Structures 3 Number of Online Controls 3 Number of Time/Area Diagrams 0 Number of Offline Controls 0 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model	FSR	Profile Type	Summer
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	20.000	Storm Duration (mins)	30
Ratio R	0.400		

Cole Easdon Consulta					Pa	age 5
York House Edison P	ark	Parcel	KMF, Bices	ster		
Dorcan Way					C	1.
Swindon SN3 3RB		SW NW2			N	Alicco
Date Nov 2018		Designe	d by NP			
File 6008-SW NW2.mdx		Checked	by RB		L	Jrainagi
Elstree Computing Lt	d	Network				
	<u>Online Con</u>	<u>trols for</u>	<u>6008-SW N</u>	<u>W2.SWS</u>		
Orifice	Manhole: 2	3, DS/PN:	2.001, Vo	lume (m³)	: 2.7	
Diameter (m) 0	.035 Discharg	ge Coeffici	ent 0.600 I	nvert Level	(m) 71.10	00
<u>Orifice</u>	Manhole: 3	0, DS/PN:	5.001, Vo	lume (m³)	: 2.5	
Diameter (m) 0	.025 Discharg	ge Coeffici	ent 0.600 I	nvert Level	(m) 70.86	55
<u>Complex</u>	Manhole: 20), DS/PN:	1.007, Vol	Lume (m³):	: 12.9	
	Hvc	lro-Brake	Optimum®			
	-	it Referenc ign Head (m	e MD-SHE-01:	26-8300-150	0-8300 1.500	
		n Flow (l/s			8.3	
		Flush-Flo			ulated	
		-	e Minimise	-	-	
	Sur	Applicatio np Availabl		S	urface Yes	
		iameter (mm			126	
		ct Level (m	,		69.270	
Minimum C	utlet Pipe D:	iameter (mm)		150	
Suggest	ed Manhole D:	iameter (mm)		1200	
	Control H	Points	Head (m) F	low (l/s)		
De	esign Point (8.3		
		Flush-Flo		8.3		
Me	ean Flow over	Kick-Flo@ Head Range		6.6 7.2		
The hydrological calc the Hydro-Brake Optim than a Hydro-Brake Op invalidated	um® as specif	ied. Shoul	ld another t	ype of cont	rol device	e other
Depth (m) Flow (l/s)	Depth (m) Fl	ow (l/s) De	epth (m) Flo	w (l/s) De	pth (m) Fl	ow (1/s)
0.100 4.5	1.200	7.5	3.000	11.5	7.000	17.2
0.200 7.5	1.400	8.0	3.500	12.4	7.500	17.8
0.300 8.1 0.400 8.3	1.600 1.800	8.6 9.0	4.000 4.500	13.2 14.0	8.000 8.500	18.4 18.9
0.400 8.3	2.000	9.0	4.500	14.0	8.500 9.000	18.9
0.600 8.1	2.200	9.9	5.500	15.4	9.500	20.0
0.800 7.6	2.400	10.4	6.000	16.0		
1.000 6.9	2.600	10.8	6.500	16.6		

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York House Edison Park	Parcel KMF, Bicester	
Dorcan Way		L
Swindon SN3 3RB	SW NW2	Micco
Date Nov 2018	Designed by NP	
File 6008-SW NW2.mdx	Checked by RB	Dialiada
Elstree Computing Ltd	Network 2016.1	

Weir

Discharge Coef 0.544 Width (m) 1.500 Invert Level (m) 70.770

Cole Easdon Consultants		Page 7
York House Edison Park	Parcel KMF, Bicester	
Dorcan Way		4
Swindon SN3 3RB	SW NW2	1 mm
		Micro
Date Nov 2018	Designed by NP	Drainage
File 6008-SW NW2.mdx	Checked by RB	brainage
Elstree Computing Ltd	Network 2016.1	
<u>Cellular Storag</u> Inver Infiltration Coefficient Infiltration Coefficient	tures for 6008-SW NW2.SWS e Manhole: 22, DS/PN: 2.000 ct Level (m) 71.200 Safety Factor 2. Base (m/hr) 0.00000 Porosity 0.9 Side (m/hr) 0.00000 ea (m ²) Depth (m) Area (m ²) Inf. Area	5
0.000 45.0	45.0 0.801 0.0	66.5
0.800 45.0	66.5	
Inver	<u>e Manhole: 24, DS/PN: 3.000</u> t Level (m) 70.000 Safety Factor 2. Base (m/hr) 0.00000 Porosity 0.9 Side (m/hr) 0.00000	
Depth (m) Area (m ²) Inf. Are	ea (m ²) Depth (m) Area (m ²) Inf. Area	(m ²)
0.000 70.0 0.800 70.0	70.0 0.801 0.0 96.8	96.8
<u>Cellular Storag</u>	<u>e Manhole: 29, DS/PN: 5.000</u>	
Inver Infiltration Coefficient Infiltration Coefficient		
Depth (m) Area (m ²) Inf. Are	ea (m ²) Depth (m) Area (m ²) Inf. Area	(m²)
0.000 35.0 0.800 35.0	35.0 0.801 0.0 53.9	53.9
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Cole Easdon Consulta	ints					Page	10
York House Edison H	ark		Parcel KMF,	Bicester			
Dorcan Way			·····			4	
Swindon SN3 3RB							~ m
			SW NW2			— Mic	(O)
Date Nov 2018			Designed by	NP		Dca	inago
File 6008-SW NW2.md>	5		Checked by F	RB		DIG	niuge
Elstree Computing Lt	d		Network 2016	5.1			
<u>10 year Return Peri</u>	<u>od Summ</u>		<u>Critical Re</u> 5008-SW NW2.		<u>Maximum I</u>	<u>Level (R</u>	<u>ank 1)</u>
Hot Hot Sta Manhole Headloss C Foul Sewage per Number of Number	Start (rt Level oeff (Gl hectare E Input H of Onlin	actor 1. mins) (mm) obal) 0. (1/s) 0. Hydrograp	500 Flow per	nal Flow - D Factor * In] Person per of Storage of Time/Are	10m³/ha St .et Coeffic Day (1/per Structures a Diagrams	corage 2.0 ecient 0.8 c/day) 0.0 3 0	000 300
Rair	nfall Moo Reg: M5-60 (1	del ion Engl	ic Rainfall De FSR and and Wales 20.000	Ratio			
Margin for H	lood Ri	sk Warni	ng (mm)			300.0	
			imestep 2.5 Se	econd Incre			
		DTS	Status			OFF	
		DVD	Status			ON	
		Inertia	Status			ON	
	Profi	le(s)		Su	mmer and W	inter	
Durat	Lon(s) (mins) 15	, 30, 60, 120,	, 240, 360,	480, 960,	1440	
Return Perio					1, 10, 30		
Climat	ce Chang	e (%)			0, 0,	0, 40	
							Water
US/MH	Return	Climate	First (X)	First (Y)	First (Z)	Overflow	
PN Name Storm	Period	Change	Surcharge	Flood	Overflow	Act.	(m)
1.000 13 15 Winter	1.0	. ^ •	100/15 Winter				71 500
1.000 13 15 Winter 2.000 22 120 Winter	10 10	+0% +0%	100/15 Winter 10/30 Summer				71.538 71.512
2.000 22 120 Winter 2.001 23 120 Winter	10	+0%	1/15 Summer				71.512
1.001 14 120 Winter	10	+0%	10/30 Winter				70.619
1.002 15 120 Winter	10	+0%	10/15 Winter				70.612
1.003 16 120 Winter	10	+0%	10/15 Summer				70.609
3.000 24 120 Winter	10	+0%	10/30 Summer				70.609
1.004 17 120 Winter	10	+0%	10/15 Summer				70.609
4.000 25 15 Winter	10	+0%	10, 10 Dunmer				71.929
5.000 29 120 Winter	10	+0%	10/15 Summer				71.303
5.001 30 120 Winter	10	+0%	1/15 Summer				71.29
4.001 26 15 Winter	10		100/15 Summer				70.86
4.002 27 15 Winter	10		30/120 Winter				70.760
F.OOZ Z/ ID WINCEL	10	+0%	30/15 Winter				70.614
		+0%	10/15 Summer				70.609
	10						
4.003 28 120 Winter	10 10	+0%	10/15 Summer				70.608
4.003 28 120 Winter 1.005 18 120 Winter		+0% +0%	10/15 Summer 1/15 Summer				
4.003 28 120 Winter 1.005 18 120 Winter 1.006 19 120 Winter	10						70.608 70.607
4.003 28 120 Winter 1.005 18 120 Winter 1.006 19 120 Winter	10 10	+0%					

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Dorcan Way		L
Swindon SN3 3RB	SW NW2	Micco
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Elstree Computing Ltd	Network 2016.1	

<u>10 year Return Period Summary of Critical Results by Maximum Level (Rank 1)</u> <u>for 6008-SW NW2.SWS</u>

PN	US/MH Name	Surcharged Depth (m)		Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
1.000	13	-0.112	0.000	0.14		7.5	OK	
2.000	22	0.087	0.000	0.07		2.5	SURCHARGED	
2.001	23	0.342	0.000	0.03		1.6	SURCHARGED	
1.001	14	0.094	0.000	0.29		11.2	SURCHARGED	
1.002	15	0.262	0.000	0.26		15.8	SURCHARGED	
1.003	16	0.309	0.000	0.03		17.5	SURCHARGED	
3.000	24	0.309	0.000	0.06		4.1	SURCHARGED	
1.004	17	0.399	0.000	0.02		7.0	SURCHARGED	
4.000	25	-0.121	0.000	0.08		3.2	OK	
5.000	29	0.153	0.000	0.05		0.9	SURCHARGED	
5.001	30	0.284	0.000	0.06		0.8	SURCHARGED	
4.001	26	-0.100	0.000	0.23		3.8	OK	
4.002	27	-0.060	0.000	0.66		10.9	OK	
4.003	28	-0.061	0.000	0.12		7.1	OK	
1.005	18	0.439	0.000	0.02		12.8	SURCHARGED	
1.006	19	0.525	0.000	0.03		14.7	SURCHARGED	
1.007	20	1.037	0.000	0.03		8.3	SURCHARGED	

0010 1	Easdon	Consu	ltant	S							Pag	e 1
York H	Iouse	Ediso	n Par	k	Pa	rcel KMF,	Bices	ster				
Dorcar	n Way										4	~
Swindc	on SN3	3rb			SW	NW3					M	
Date Nov 2018 Designed by NP												
File 6	5008-S	w NW3.	mdx		Ch	ecked by I	RB				DI	ainag
Elstre	ee Com	puting	Ltd		Ne	twork 201	6.1				I	
		<u>STOR</u>	De	esign C	riteri	<u>the Modif</u> a for 6008 RD Manhole	8-SW N	<u>1W3.S</u>	WS	lethoo	<u>1</u>	
Maximu	um Time	Maximum of Con Fou	rn Per Rainf centra 1 Sewa	iod (yea M5-60 Rati all (mm, tion (mi ge (l/s, noff Coa	ars) (mm) 20. io R 0. /hr) ins) /ha) 0. eff. 0.	.400 75 Min Des 30 Min	Add H Mir Max sign De Vel fo in Slog	Flow / nimum cimum epth f or Aut oe for	Clim Backd Backd or Op o Des	lrop H lrop H otimis sign o:	eight (1	m) 0.900 m) 1.500 m) 1.200 s) 1.00
			Netw	ork Des	sign Ta	able for 6	008-S	W NW3	SWS.	5		
				« – In	dicates	pipe capac	ity <	flow				
PN	Length (m)	ı Fall (m)	Slope (1:X)	I.Area	T.E.	pipe capac Base Flow (l/s)	k	flow HYD SECT		Secti	ion Type	e Auto Design
		(m)	(1 : X)	I.Area (ha)	T.E.	Base Flow (l/s)	k	HYD SECT	(mm)			Design
1.000	(m)	(m) 0.120	(1:X) 98.4	I.Area (ha) 0.017	T.E. (mins)	Base Flow (1/s) 0.0	k (mm)	HYD SECT O	(mm) 150	Pipe/	ion Type /Conduit /Conduit	Design
1.000	(m) 11.809	(m) 0.120 0.175	(1:X) 98.4 98.4	I.Area (ha) 0.017 0.022	T.E. (mins) 5.00	Base Flow (1/s) 0.0 0.0	k (mm) 0.600	HYD SECT O	(mm) 150 150 225	Pipe/ Pipe/ Pipe/	/Conduit /Conduit /Conduit	Design
1.000 1.001 1.002 1.003	(m) 11.809 17.220 7.679 24.658	(m) 0.120 0.175 0.045 0.145	(1:X) 98.4 98.4 170.0 170.1	I.Area (ha) 0.017 0.022 0.038 0.026	T.E. (mins) 5.00 0.00 0.00 0.00	Base Flow (1/s) 0.0 0.0 0.0 0.0	k (mm) 0.600 0.600 0.600 0.600	HYD SECT 0 0 0	(mm) 150 225 225	Pipe/ Pipe/ Pipe/ Pipe/	/Conduit /Conduit /Conduit /Conduit	Design
1.000 1.001 1.002 1.003	(m) 11.809 17.220 7.679	(m) 0.120 0.175 0.045 0.145	(1:X) 98.4 98.4 170.0 170.1	I.Area (ha) 0.017 0.022 0.038	T.E. (mins) 5.00 0.00 0.00	Base Flow (1/s) 0.0 0.0 0.0 0.0	k (mm) 0.600 0.600 0.600	HYD SECT O O	(mm) 150 225 225	Pipe/ Pipe/ Pipe/ Pipe/	/Conduit /Conduit /Conduit	Design
1.000 1.001 1.002 1.003	(m) 11.809 17.220 7.679 24.658 25.889	(m) 0.120 0.175 0.045 0.145	(1:X) 98.4 98.4 170.0 170.1 304.6	I.Area (ha) 0.017 0.022 0.038 0.026	T.E. (mins) 5.00 0.00 0.00 0.00	Base Flow (1/s) 0.0 0.0 0.0 0.0 0.0	k (mm) 0.600 0.600 0.600 0.600	HYD SECT 0 0 0	(mm) 150 225 225 750	Pipe/ Pipe/ Pipe/ Pipe/ Pipe/	/Conduit /Conduit /Conduit /Conduit	Design
1.000 1.001 1.002 1.003 1.004 2.000 2.001	(m) 11.809 17.220 7.679 24.658 25.889 5.654 28.461	(m) 0.120 0.175 0.045 0.145 0.085 0.035 0.190	<pre>(1:X) 98.4 98.4 170.0 170.1 304.6 161.5 150.0</pre>	I.Area (ha) 0.017 0.022 0.038 0.026 0.067 0.087 0.000	T.E. (mins) 5.00 0.00 0.00 0.00 0.00 5.00 0.00	Base Flow (1/s) 0.0 0.0 0.0 0.0 0.0 0.0 0.0	k (mm) 0.600 0.600 0.600 0.600 0.600 0.600	HYD SECT 0 0 0 0 0 0	(mm) 150 225 225 750 225 225	Pipe/ Pipe/ Pipe/ Pipe/ Pipe/ Pipe/	/Conduit /Conduit /Conduit /Conduit /Conduit /Conduit	Design
1.000 1.001 1.002 1.003 1.004 2.000 2.001	(m) 11.809 17.220 7.679 24.658 25.889 5.654	(m) 0.120 0.175 0.045 0.145 0.085 0.035 0.190	<pre>(1:X) 98.4 98.4 170.0 170.1 304.6 161.5 150.0</pre>	I.Area (ha) 0.017 0.022 0.038 0.026 0.067 0.087	T.E. (mins) 5.00 0.00 0.00 0.00 0.00 5.00	Base Flow (1/s) 0.0 0.0 0.0 0.0 0.0 0.0 0.0	k (mm) 0.600 0.600 0.600 0.600 0.600	HYD SECT 0 0 0 0 0 0	(mm) 150 225 225 750 225 225	Pipe/ Pipe/ Pipe/ Pipe/ Pipe/ Pipe/	/Conduit /Conduit /Conduit /Conduit /Conduit	Design
1.000 1.001 1.002 1.003 1.004 2.000 2.001	(m) 11.809 17.220 7.679 24.658 25.889 5.654 28.461 31.015	(m) 0.120 0.175 0.045 0.145 0.085 0.035 0.190	(1:x) 98.4 98.4 170.0 170.1 304.6 161.5 150.0 295.4	<pre>I.Area (ha) 0.017 0.022 0.038 0.026 0.067 0.087 0.000</pre>	T.E. (mins) 5.00 0.00 0.00 0.00 0.00 5.00 0.00	Base Flow (1/s) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	k (mm) 0.600 0.600 0.600 0.600 0.600 0.600	HYD SECT 0 0 0 0 0 0	(mm) 150 225 225 750 225 225 225 750	Pipe/ Pipe/ Pipe/ Pipe/ Pipe/ Pipe/ Pipe/	/Conduit /Conduit /Conduit /Conduit /Conduit /Conduit	Design
1.000 1.001 1.002 1.003 1.004 2.000 2.001 2.002	(m) 11.809 17.220 7.679 24.658 25.889 5.654 28.461 31.015	(m) 0.120 0.175 0.045 0.145 0.085 0.085 0.035 0.190 0.105	(1:x) 98.4 98.4 170.0 170.1 304.6 161.5 150.0 295.4	<pre>I.Area (ha) 0.017 0.022 0.038 0.026 0.067 0.087 0.000 0.067 0.021</pre>	T.E. (mins) 5.00 0.00 0.00 0.00 5.00 0.00 0.00 0.0	Base Flow (1/s) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	k (mm) 0.600 0.600 0.600 0.600 0.600 0.600 0.600	HYD SECT 0 0 0 0 0 0 0 0 0 0	(mm) 150 225 225 750 225 225 225 750	Pipe/ Pipe/ Pipe/ Pipe/ Pipe/ Pipe/ Pipe/	/Conduit /Conduit /Conduit /Conduit /Conduit /Conduit /Conduit	Design
1.000 1.001 1.002 1.003 1.004 2.000 2.001 2.002	(m) 11.809 17.220 7.679 24.658 25.889 5.654 28.461 31.015 7.240	(m) 0.120 0.175 0.045 0.145 0.085 0.085 0.035 0.190 0.105 0.105	(1:x) 98.4 98.4 170.0 170.1 304.6 161.5 150.0 295.4 289.6	<pre>I.Area (ha) 0.017 0.022 0.038 0.026 0.067 0.087 0.000 0.067 0.021</pre>	T.E. (mins) 5.00 0.00 0.00 0.00 5.00 0.00 0.00 0.0	Base Flow (1/s) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	k (mm) 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600	HYD SECT 0 0 0 0 0 0 0 0 0 0	(mm) 150 225 225 750 225 750 750 750	Pipe/ Pipe/ Pipe/ Pipe/ Pipe/ Pipe/ Pipe/	/Conduit /Conduit /Conduit /Conduit /Conduit /Conduit /Conduit	Design
1.000 1.001 1.002 1.003 1.004 2.000 2.001 2.002 1.005	(m) 11.809 17.220 7.679 24.658 25.889 5.654 28.461 31.015 7.240 N Ra	(m) 0 0.120 0 0.175 0 0.045 0 0.145 0 0.085 0 0.035 0 0.105 0 0.105 0 0.025 Min 1	(1:x) 98.4 98.4 170.0 170.1 304.6 161.5 150.0 295.4 289.6	I.Area (ha) 0.017 0.022 0.038 0.026 0.067 0.087 0.000 0.067 0.021 <u>N</u>	T.E. (mins) 5.00 0.00 0.00 0.00 5.00 0.00 0.00 0.0	Base Flow (1/s) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	k (mm) 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 Foul	HYD SECT 0 0 0 0 0 0 0 0	(mm) 150 225 225 750 225 750 750 750	Pipe/ Pipe/ Pipe/ Pipe/ Pipe/ Pipe/ Pipe/ Vel	/Conduit /Conduit /Conduit /Conduit /Conduit /Conduit /Conduit	Design
1.000 1.001 1.002 1.003 1.004 2.000 2.001 2.002 1.005	(m) 11.809 17.220 7.679 24.658 25.889 5.654 28.461 31.015 7.240 N Ra (mm	(m) 0 0.120 0 0.175 0 0.045 0 0.145 0 0.085 0 0.035 0 0.105 0 0.105 0 0.025 min 1	(1:x) 98.4 98.4 170.0 170.1 304.6 161.5 150.0 295.4 289.6	<pre>I.Area (ha) 0.017 0.022 0.038 0.026 0.067 0.087 0.000 0.067 0.021 N US/IL E (m)</pre>	T.E. (mins) 5.00 0.00 0.00 0.00 5.00 0.00 0.00 0.0	Base Flow (1/s) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	k (mm) 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 Foul	HYD SECT 0 0 0 0 0 0 0 0 0 0 0	(mm) 150 225 225 750 225 750 750 750	Pipe/ Pipe/ Pipe/ Pipe/ Pipe/ Pipe/ Pipe/ Vel (m/s)	Conduit Conduit Conduit Conduit Conduit Conduit Conduit Conduit	Design
1.000 1.001 1.002 1.003 1.004 2.000 2.001 2.002 1.005	(m) 11.809 17.220 7.679 24.658 25.889 5.654 28.461 31.015 7.240 N Ra (mm	(m) 0 0.120 0 0.175 0 0.045 0 0.085 0 0.035 0 0.105 0 0.105 0 0.025 10 0.025 11 1 /hr) (n	(1:x) 98.4 98.4 170.0 170.1 304.6 161.5 150.0 295.4 289.6	I.Area (ha) 0.017 0.022 0.038 0.026 0.067 0.087 0.000 0.067 0.021 <u>N</u> US/IL E (m)	T.E. (mins) 5.00 0.00 0.00 0.00 5.00 0.00 0.00 0.0	Base Flow (1/s) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	k (mm) 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 Foul (1/s) 0.0	HYD SECT 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	(mm) 150 225 225 750 225 750 750 750 750	Pipe/ Pipe/ Pipe/ Pipe/ Pipe/ Pipe/ Pipe/ Vel	/Conduit /Conduit /Conduit /Conduit /Conduit /Conduit /Conduit /Conduit /Conduit	Design
1.000 1.001 1.002 1.003 1.004 2.000 2.001 2.002 1.005	(m) 11.809 17.220 7.679 24.658 25.889 5.654 28.461 31.015 7.240 N Ra (mm 000 7 001 7	(m) 0 0.120 0 0.175 0 0.045 0 0.085 0 0.035 0 0.105 0 0.105 0 0.025 1 0.025	(1:x) 98.4 98.4 170.0 170.1 304.6 161.5 150.0 295.4 289.6 c.c. mins) 5.19	I.Area (ha) 0.017 0.022 0.038 0.026 0.067 0.087 0.000 0.067 0.021 <u>N</u> US/IL E (m) 71.150 71.030	T.E. (mins) 5.00 0.00 0.00 0.00 5.00 0.00 0.00 0.0	Base Flow (1/s) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	k (mm) 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 Cable Foul (1/s) 0.0	HYD SECT 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	(mm) 150 225 225 750 225 750 750 750 Flow s) 0.0	Pipe/ Pipe/ Pipe/ Pipe/ Pipe/ Pipe/ Pipe/ Vel (m/s) 1.01	/Conduit /Conduit /Conduit /Conduit /Conduit /Conduit /Conduit /Conduit /Conduit /Conduit /Conduit /Conduit	Design
1.000 1.001 1.002 1.003 1.004 2.000 2.001 2.002 1.005 PP 1.00 1.00	(m) 11.809 17.220 7.679 24.658 25.889 5.654 28.461 31.015 7.240 N Ra (mm 000 7 001 7 002 7	(m) 0 0.120 0 0.175 0 0.045 0 0.085 0 0.035 0 0.105 0 0.105 0 0.025 hin 1 /hr) (n 5.00 5.00	(1:x) 98.4 98.4 170.0 170.1 304.6 161.5 150.0 295.4 289.6 c.c. mins) 5.19 5.48	I.Area (ha) 0.017 0.022 0.038 0.026 0.067 0.087 0.000 0.067 0.021 <u>N</u> US/IL E (m) 71.150 71.030 70.780	T.E. (mins) 5.00 0.00 0.00 0.00 5.00 0.00 0.00 0.0	Base Flow (1/s) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	k (mm) 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 Table Foul (1/s) 0.0 0.0	HYD SECT 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	(mm) 150 225 225 750 225 750 750 750 Flow s) 0.0 0.0 0.0	Pipe/ Pipe/ Pipe/ Pipe/ Pipe/ Pipe/ Pipe/ Vel (m/s) 1.01	/Conduit /Conduit /Conduit /Conduit /Conduit /Conduit /Conduit /Conduit /Conduit /Conduit /Conduit /Conduit /Conduit	Design
1.000 1.001 1.002 1.003 1.004 2.000 2.001 2.002 1.005 PP 1.00 1.00 1.00	(m) 11.809 17.220 7.679 24.658 25.889 5.654 28.461 31.015 7.240 N Ra (mm 000 7 001 7 002 7 003 7	(m) 0 0.120 0 0.175 0 0.045 0 0.085 0 0.035 0 0.105 0 0.105 0 0.025 hin 1 /hr) (n 5.00 5.00 5.00	(1:x) 98.4 98.4 170.0 170.1 304.6 161.5 150.0 295.4 289.6 c.c. mins) 5.19 5.48 5.61	I.Area (ha) 0.017 0.022 0.038 0.026 0.067 0.087 0.000 0.067 0.021 <u>N</u> US/IL <u>E</u> (m) 71.150 71.030 70.735	T.E. (mins) 5.00 0.00 0.00 0.00 5.00 0.00 0.00 0.0	Base Flow (1/s) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	k (mm) 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 Table Foul (1/s) 0.0 0.0	HYD SECT 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	(mm) 150 225 225 750 225 750 750 750 Flow s) 0.0 0.0 0.0 0.0	<pre>Pipe/ Pipe/ Pipe/ Pipe/ Pipe/ Pipe/ Pipe/ Vel (m/s) 1.01 1.01 1.00 1.00</pre>	/Conduit /Conduit /Conduit /Conduit /Conduit /Conduit /Conduit /Conduit /Conduit /Conduit /Conduit /Conduit /Conduit /Conduit /Conduit	Design
1.000 1.001 1.002 1.003 1.004 2.000 2.001 2.002 1.005 P 1.0 1.00 1.0 1.00 1.00 1.00 1.00	(m) 11.809 17.220 7.679 24.658 25.889 5.654 28.461 31.015 7.240 N Ra (mm 000 7 001 7 001 7 002 7 003 7 004 7	(m) 0 0.120 0 0.175 0 0.045 0 0.085 0 0.035 0 0.105 0 0.105 0 0.025 0 0.025 hin 1 /hr) (n 5.00 5.00 5.00 5.00 5.00	(1:x) 98.4 98.4 170.0 170.1 304.6 161.5 150.0 295.4 289.6 5.19 5.48 5.61 5.48 5.61 6.29 5	I.Area (ha) 0.017 0.022 0.038 0.026 0.067 0.087 0.000 0.067 0.021 <u>N</u> US/IL <u>E</u> (m) 71.150 71.030 70.735 70.065	T.E. (mins) 5.00 0.00 0.00 0.00 5.00 0.00 0.00 0.0	Base Flow (1/s) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	k (mm) 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.00 0.00 0.00 0.00 0.00	HYD SECT 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	(mm) 150 225 225 750 225 750 750 750 750 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	<pre>Pipe/ Pipe/ Pipe/ Pipe/ Pipe/ Pipe/ Pipe/ Vel (m/s) 1.01 1.01 1.00 1.00 1.60</pre>	/Conduit /Conduit /Conduit /Conduit /Conduit /Conduit /Conduit /Conduit /Conduit /Conduit /Conduit /Conduit /Conduit /Conduit /Conduit /Conduit /Conduit /Conduit	Design
1.000 1.001 1.002 1.003 1.004 2.000 2.001 2.002 1.005 P 1.005 1.005 1.005 1.005 1.005	(m) 11.809 17.220 7.679 24.658 25.889 5.654 28.461 31.015 7.240 N Ra (mm 000 7 001 7 002 7 001 7 002 7 003 7 004 7 004 7	(m) 0 0.120 0 0.175 0 0.045 0 0.085 0 0.035 0 0.105 0 0.105 0 0.025 0 0.025 hin 1 /hr) (n 5.00 5.00 5.00 5.00	(1:x) 98.4 98.4 170.0 170.1 304.6 161.5 150.0 295.4 289.6 c.c. ains) 5.19 5.48 5.61 5.61 5.02 5.09 5.09	I.Area (ha) 0.017 0.022 0.038 0.026 0.067 0.087 0.000 0.067 0.021 <u>N</u> US/IL <u>E</u> (m) 71.150 71.030 70.735 70.065	T.E. (mins) 5.00 0.00 0.00 0.00 5.00 0.00 0.00 0.0	Base Flow (1/s) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	k (mm) 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.00 0.00 0.00 0.00 0.00	HYD SECT 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	(mm) 150 225 225 750 225 750 750 750 750 8 750 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	Pipe/ Pipe/ Pipe/ Pipe/ Pipe/ Pipe/ Pipe/ Vel (m/s) 1.01 1.00 1.00 1.00 1.00	/Conduit /Conduit	Design
1.000 1.001 1.002 1.003 1.004 2.000 2.001 2.002 1.005 P 1.005 1.005 1.005 1.005 1.005 1.005	(m) 11.809 17.220 7.679 24.658 25.889 5.654 28.461 31.015 7.240 N Ra (mm 000 7 001 7 002 7 001 7 003 7 004 7 001 7	(m) 0 0.120 0 0.175 0 0.045 0 0.085 0 0.035 0 0.105 0 0.105 0 0.025 0 0.005 0 0.025 0 0.005 0 0.005	(1:x) 98.4 98.4 170.0 170.1 304.6 161.5 150.0 295.4 289.6 289.6 5.19 5.48 5.61 5.61 5.61 5.62 5.09 5.54	I.Area (ha) 0.017 0.022 0.038 0.026 0.067 0.087 0.000 0.067 0.021 <u>N</u> US/IL <u>E</u> (m) 71.150 71.030 70.735 70.065 70.835 70.835	T.E. (mins) 5.00 0.00 0.00 0.00 5.00 0.00 0.00 0.0	Base Flow (1/s) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	k (mm) 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.00 0.00 0.00 0.00 0.00 0.00	HYD SECT 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	(mm) 150 225 225 750 225 750 750 750 750 8 750 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	Pipe/ Pipe/ Pipe/ Pipe/ Pipe/ Pipe/ Pipe/ Vel (m/s) 1.01 1.00 1.00 1.00 1.03 1.07	/Conduit /Conduit	Design
1.000 1.001 1.002 1.003 1.004 2.000 2.001 2.002 1.005 P P 1.00 1.00 1.00 1.00 1.00 2.00 2.00	(m) 11.809 17.220 7.679 24.658 25.889 5.654 28.461 31.015 7.240 N Ra (mm 000 7 001 7 002 7 001 7 003 7 004 7 001 7	(m) 0 0.120 0 0.175 0 0.045 0 0.085 0 0.035 0 0.105 0 0.105 0 0.025 0 0.025 hin 1 /hr) (n 5.00 5.00 5.00 5.00 5.00	(1:x) 98.4 98.4 170.0 170.1 304.6 161.5 150.0 295.4 289.6 c.c. ains) 5.19 5.48 5.61 5.61 5.02 5.09 5.09	I.Area (ha) 0.017 0.022 0.038 0.026 0.067 0.087 0.000 0.067 0.021 <u>N</u> US/IL <u>E</u> (m) 71.150 71.030 70.735 70.065 70.835 70.835	T.E. (mins) 5.00 0.00 0.00 0.00 5.00 0.00 0.00 0.0	Base Flow (1/s) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	k (mm) 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.600 0.00 0.00 0.00 0.00 0.00	HYD SECT 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	(mm) 150 225 225 750 225 750 750 750 750 8 750 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	Pipe/ Pipe/ Pipe/ Pipe/ Pipe/ Pipe/ Pipe/ Vel (m/s) 1.01 1.00 1.00 1.00 1.03 1.07	/Conduit /Conduit	Design

			Consu									rag	e 2
ork H			Ediso	n Par	rk	Pa	arcel KMF,	Bices	ster				
orcan		-										2	M ~
windo			-				I NW3					Mi	cro
ate N			-	_			esigned by						ainag
ile 6							necked by H					DI	uniuy
lstre	e C	lomp	uting	Ltd		Ne	etwork 2016	5.1					
Network Design Table for 6008-SW NW3.SWS													
PN		ngth m)	Fall (m)	Slope (1:X)	e I.Area (ha)		Base Flow (l/s)	k (mm)	HYD SECT		Secti	lon Type	e Auto Design
3.000 3.001			0.044	100.6		5.00 0.00		0.600	0		-	'Conduit 'Conduit	
			0.145			0.00		0.600	0		-	Conduit	
4.000	4.	038	0.040	101.0	0.069	5.00	0.0	0.600	0		-	'Conduit	
4.001			0.061			0.00		0.600	0		-	(Conduit	ď
1.007	8.	029	0.033	240.0		0.00		0.600	0	300	Pipe/	Conduit	. 🔒
<u>Network Results Table</u>													
Pì	1	Rai (mm/)	.n 1 hr) (m	.C. ins)	US/IL Σ (m)	I.Area (ha)	Σ Base Flow (l/s)		Add F (1/s		Vel (m/s)	Cap (1/s)	Flow (l/s)
3.0 3.0			.00		<mark>71.600</mark> 71.556	0.068 0.068		0.0		0.0	1.00 1.01	17.7 17.8	13.8 13.8
1.0	06	75	.00	6.81	69.955	0.442	0.0	0.0		0.0	1.61	711.5	89.8
4.0 4.0			.00 .00		<mark>71.150</mark> 71.110	0.069 0.069		0.0		0.0 0.0	1.00 1.00		14.0 14.0
1.0	07	75	.00	6.94	69.810	0.519	0.0	0.0		0.0	1.01	71.4«	105.4

Cole Easdon Consultants		Page 3
York House Edison Park	Parcel KMF, Bicester	
Dorcan Way		L
Swindon SN3 3RB	SW NW3	Micco
Date Nov 2018	Designed by NP	
File 6008-SW NW3.mdx	Checked by RB	Dialiaye
Elstree Computing Ltd	Network 2016.1	

PIPELINE SCHEDULES for 6008-SW NW3.SWS

<u>Upstream Manhole</u>

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connectio	MH DIAM., L*W n (mm)
1.000	0	150	31	72.417	71.150	1.117	Open Manho	le 1200
1.001	0	150	32	72.279	71.030	1.099	Open Manho	le 1200
1.002	0	225	33	72.159	70.780	1.154	Open Manho	le 1200
1.003	0	225	34	72.190	70.735	1.230	Open Manho	le 1200
1.004	0	750	35	72.504	70.065	1.689	Open Manho	le 1800
2.000	0	225	40	72.734	70.835	1.674	Open Manho	le 1200
2.001	0	225	41	72.701	70.800	1.676	Open Manho	le 1200
2.002	0	750	42	72.880	70.085	2.045	Open Manho	le 1800
1.005	0	750	36	72.490	69.980	1.760	Open Manho	le 1800
3.000	0	150	43	72.300	71.600	0.550	Open Manho	le 1200
3.001	0	150	44	72.300	71.556	0.594	Open Manho	le 1200
1.006	0	750	37	72.400	69.955	1.695	Open Manho	le 1800
4.000 4.001	0	150 150	45 46	71.850 71.802	71.150 71.110		Open Manho Open Manho	
7.001	0	10	40	/1.002	/1.110	0.542	open Manno	16 1200

Downstream Manhole

PN	Length	-				D.Depth		MH DIAM., L*W
	(m)	(1:X)	Name	(m)	(m)	(m)	Connection	(mm)
1.000	11.809	98.4	32	72.279	71.030	1.099	Open Manhole	1200
1.001	17.220	98.4	33	72.159	70.855	1.154	Open Manhole	1200
1.002	7.679	170.0	34	72.190	70.735	1.230	Open Manhole	1200
1.003	24.658	170.1	35	72.504	70.590	1.689	Open Manhole	1800
1.004	25.889	304.6	36	72.490	69.980	1.760	Open Manhole	1800
2.000	5.654	161.5	41	72.701	70.800	1.676	Open Manhole	1200
2.001	28.461	150.0	42	72.880	70.610	2.045	Open Manhole	1800
2.002	31.015	295.4	36	72.490	69.980	1.760	Open Manhole	1800
1.005	7.240	289.6	37	72.400	69.955	1.695	Open Manhole	1800
3.000	4.426	100.6	44	72.300	71.556	0.594	Open Manhole	1200
3.001	3.681	99.5	37	72.400	71.519	0.731	Open Manhole	1800
1.006	43.415	300.0	38	71.833	69.810	1.273	Open Manhole	1800
4.000	4.038	101.0	46	71.802	71.110	0.542	Open Manhole	1200
4.001	6.095	100.0	38	71.833	71.049	0.634	Open Manhole	1800

Cole Easdon Consultants	Page 4
	Parcel KMF, Bicester
Dorcan Way	<u>``</u>
-	SW NW3
Date Nov 2018	Designed by NP MICCO
	Checked by RB
	Jetwork 2016.1
PIPELINE SCHEDU	JLES for 6008-SW NW3.SWS
Upst	tream Manhole
PN Hyd Diam MH C.Level I Sect (mm) Name (m)	.Level D.Depth MH MH DIAM., L*W (m) (m) Connection (mm)
1.007 o 300 38 71.833	69.810 1.723 Open Manhole 1800
Downs	stream Manhole
PN Length Slope MH C.Level (m) (1:X) Name (m)	I.Level D.Depth MH MH DIAM., L*W (m) (m) Connection (mm)
1.007 8.029 240.0 39 71.650	69.777 1.573 Open Manhole 1350
Free Flowing Outfall	l Details for 6008-SW NW3.SWS
	Level I. Level Min D,L W (m) (m) I. Level (mm) (mm) (m)
1.007 39 7	21.650 69.777 0.000 1350 0
Simulation Crit	eria for 6008-SW NW3.SWS
Volumetric Runoff Coeff 0. Areal Reduction Factor 1. Hot Start (mins) Hot Start Level (mm) Manhole Headloss Coeff (Global) 0. Foul Sewage per hectare (1/s) 0.	0 Inlet Coefficcient 0.800 0 Flow per Person per Day (l/per/day) 0.000 500 Run Time (mins) 60
Number of Online Contro	ohs 0 Number of Storage Structures 3 ols 3 Number of Time/Area Diagrams 0 ols 0 Number of Real Time Controls 0
Synthetic	<u>c Rainfall Details</u>
Rainfall Model Return Period (years) Region England M5-60 (mm) Ratio R	FSR Profile Type Summer 100 Cv (Summer) 0.750 and Wales Cv (Winter) 0.840 20.000 Storm Duration (mins) 30 0.400

Cole Easdon Co						Pag	ge 5
ork House Ed	lison Par	rk	Parcel K	MF, Bicest	cer		
orcan Way						4	~
Swindon SN3 3F	RB		SW NW3			NA	
ate Nov 2018			Designed	by NP			
File 6008-SW N	IW3.mdx		Checked	oy RB		U	ainag
Elstree Comput	ing Ltd		Network	2016.1			
	<u>O</u> 1	nline Cont	rols for (5008-SW NW	<u>13.SWS</u>		
<u>O:</u>	rifice Ma	anhole: 44	, DS/PN: 3	3.001, Vol	ume (m³):	0.9	
Diamete	er (m) 0.0	25 Discharg	e Coefficier	nt 0.600 In	vert Level	(m) 71.556	5
<u>O:</u>	rifice Ma	anhole: 46	5, DS/PN: 4	4.001, Vol	ume (m³):	0.8	
Diamete	er (m) 0.0	25 Discharg	e Coefficier	nt 0.600 In	vert Level	(m) 71.110)
<u>Cc</u>	omplex Ma	nhole: 38	, DS/PN: 1	.007, Volu	ume (m³):	23.6	
		<u>Hyd</u> :	<u>ro-Brake O</u>	ptimum®			
		•	+ D-C			2000	
			t Reference qn Head (m)	MD-SHE-0086	o-3900-1500	1.500	
			Flow $(1/s)$			3.9	
			Flush-Flo™			lated	
			-	Minimise (-	orage Irface	
			Application p Available		SL	Yes	
			ameter (mm)			86	
		Inver	t Level (m)		6	9.810	
M:		let Pipe Di Manhole Di				100 1200	
		Control P	oints	Head (m) Fl	.ow (l/s)		
	Des	ign Point (C		1.500	3.9		
			Flush-Flo™	0.377	3.6		
	Mear	ı Flow over	Kick-Flo® Head Range	0.772	2.9 3.2		
The hydrologic the Hydro-Brak than a Hydro-E invalidated	e Optimum	® as specif:	ied. Should	another ty	pe of cont:	rol device	other
Depth (m) Flow	w (l/s) De	epth (m) Flo	ow (l/s) Dep	th (m) Flow	v (l/s) Dep	oth (m) Flo	w (l/s)
0.100	2.6	1.200	3.5	3.000	5.4	7.000	8.0
0.200 0.300	3.3 3.6	1.400 1.600	3.8 4.0	3.500 4.000	5.8 6.2	7.500 8.000	8.3 8.5
0.400	3.6	1.800	4.0	4.500	6.5	8.500	8.8
0.500	3.5	2.000	4.4	5.000	6.8	9.000	9.0
0.600	3.4	2.200	4.7	5.500	7.2	9.500	9.3
0.800	2.9	2.400	4.8	6.000	7.5		
1.000	3.2	2.600	5.0	6.500	7.7		

Cole Easdon Consultants		Page 6
York House Edison Park	Parcel KMF, Bicester	
Dorcan Way		L
Swindon SN3 3RB	SW NW3	Micco
Date Nov 2018	Designed by NP	
File 6008-SW NW3.mdx	Checked by RB	Dialidye
Elstree Computing Ltd	Network 2016.1	

<u>Weir</u>

Discharge Coef 0.544 Width (m) 1.500 Invert Level (m) 71.315

	Cole Easdon Consultants		Page 7
borcan Way Swindon SN3 3RB SW NW3 Date Nov 2018 Dile 6008-SW NW3.mdx Elstree Computing Ltd Network 2016.1 Checked by RB Elstree Computing Ltd Network 2016.1 Calcular Storage Manhole: 40, DS/PN: 2,000 Calcular Storage Manhole: 40, DS/PN: 2,000 Infiltration Coefficient Saie (n/hr) 0.0000 Porosity 0.95 Infiltration Coefficient Side (n/hr) 0.0000 Porosity 0.95 Infiltration Coefficient Rase (n/hr) 0.0000 Nidth (m) 6.3 Membrane Percolation (mm/hr) 1008 Length (m) 50.0 Max Percolation (1/6) 87.5 Sidepe (1.3) 200.0 Safety Pactor 2.0 Deprenation Storage (mm) 5 Porosity 0.30 Nover Level (m) 71.600 Membrane Depth (m) 7.1 Membrane Percolation (mm/hr) 1000 Length (m) 7.1 Membrane Percolation (mm/hr) 1000 Length (m) 45.0 Safety Pactor 2.0 Depresation Storage (mm) 5 Safety Pactor 2.0 Depresation (mm/hr) 100 Safety Pactor 2.0 Depresation (mm/hr) 10 Safety Pactor 2.0 Depresation Storage (mm) 5 Safety Pactor 2.0 Depresation Storage (mm) 5 Safety Pactor 2.0 Depresation Storage (mm) 5 Safety Pactor 2.0 Depresation		Parcel KMF, Bicester	
Swindon SN 3 3R SW NN3 Date Nov 2018 Designed by NP Dile 6008-SW NN3.mdx Checked by RB Elstree Computing Ltd Network 2016.1 Generating States			4
<pre>bate Nov 2018 File 6008-SW NW3.mdx Checked by RB Elstree Computing Ltd Network 2016.1 Cellular Storage Environment for 6008-SW NW3.SWS Cellular Storage Manhole: 40, DS/FN: 2.000 Infiltration Coefficient Base (m/hr) 0.00000 Perosity 0.95 Infiltration Coefficient Base (m/hr) 0.0000 Depth (m) Area (m²) Inf. Area (m²) Depth (m) Area (m²) Inf. Area (m²) 0.000 30.0 30.0 47.5 Dorous Car Park Manhole: 43, DS/PN: 3.000 Infiltration Coefficient Base (m/hr) 0.0000 Width (m) 6.3 Membrane Percolation (mm/hr) 1000 Length (m) 50.0 Max Percolation (1/s) 07.5 Slope(1:X) 200.0 Safety Factor 2.0 Depreseion Storage (mm) 5 Invert Level (m) 71.600 Membrane Depth (m) 43.0 Membrane Percolation (1/s) 08.2 Slope(1:X) 200.0 Safety Factor 2.0 Depreseion Storage (mm) 5 Invert Level (m) 71.600 Membrane Depth (mm) 0 Derous Car Park Manhole: 45, DS/PN: 4.000 Safety Factor 2.0 Depreseion Storage (mm) 5 Invert Level (m) 71.600 Membrane Depth (mm) 0 Safety Factor 2.0 Depreseion Storage (mm) 5 Invert Level (m) 71.600 Membrane Depth (mm) 0 Safety Factor 2.0 Depreseion Storage (mm) 5 Invert Level (m) 71.600 Membrane Depth (mm) 0 Safety Factor 2.0 Depreseion Storage (mm) 5 Safety Factor 2.0 Depreseion Storage (mm) 5 Invert Level (m) 71.600 Membrane Depth (mm) 0 Safety Factor 2.0 Depreseion Storage (mm) 5 Safet</pre>	-	SW NW3	1 mm
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Storage Structures for 6008-SW NW3.SW5 Cellular Storage Manhole: 40, DS/PN: 2.000 Infiltration Coefficient Base (m/hr) 0.00000 Depth (m) Area (m²) Inf. Area (m²) Depth (m) Area (m²) Inf. Area (m²) 0.000 30.0 30.0 0.801 0.0 47.5 Dorous Car Park Manhole: 43, DS/PN: 3.000 Infiltration Coefficient Base (m/hr) 0.0000 Nidth (m) 6.3 Membrane Percolation (mm/r) 0.0000 Nidth (m) 7.1 Membrane Percolation (mm/r) 0.0000 Nidth (m) 7.1 Membrane Percolation (mm/r) 1000 Length Factor 2.0 Derosity 2.00 Safety Factor 2.00 Derosity 2.000 Nidth (m) 7.1 Membrane Percolation (mm/r) 1000 Membrane Percolation (mm/r) 2.000			
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Invert Level (m) 70.835 Safety Factor 2.0 Infiltration Coefficient Side (m/hr) 0.0000 Porosity 0.95 Infiltration Coefficient Side (m/hr) 0.0000 0.01 0.0 0.000 30.0 30.0 0.801 0.0 47.5 Orosity 0.500 Depth (m) Area (m²) Inf. Area (m²) 0.801 0.0 47.5 Orosity 0.5000 Nidth (m) 6.3 Membrane Percolation (m/hr) 0.000 Nidth (m) 6.3 Membrane Percolation (m/hr) 0.00 Length (m) 50.0 Safety Factor 2.0 Depression Storage (m) 5 Porosity 0.30 Waporation (mm/day) 3 Invert Level (m) 71.600 Membrane Depth (m) 7.1 Membrane Percolation (m/hr) 1000 Length (m) 45.0 Max Percolation (m/hr) 1000 Length (m) 45.0 Max Percolation (m/hr) 1000 Length (m) 53.0 Max Percolation (m/hr) 1000 Length (m) 45.0 Max Percolation (m/hr) 1000 Length (m) 53.0 Max Percolation (m/hr) 1000 Length (m) 53.0 Max Percolation (m/hr) 1000 Length (m) 3.0 Max Percolatin			
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<pre>Infiltration Coefficient Base (m/hr) 0.0000 Depth (m) Area (m²) Inf. Area (m²) 0.000 30.0 30.0 0.001 0.0 47.5 Dorous Car Park Manhole: 43, DS/FN: 3.000 Infiltration Coefficient Base (m/hr) 0.0000 Midth (m) 6.3 Membrane Percolation (mm/hr) 1000 Length (m) 50.0 Max Percolation (1/s) 87.5 Slope (1:x) 200.0 Safety Factor 2.0 Depression Storage (mm) 5 Porous Car Park Manhole: 45, DS/FN: 4.000 Infiltration Coefficient Base (m/hr) 0.0000 Midth (m) 7.1 Membrane Percolation (1/s) 88.8 Slope (1:x) 200.0 Safety Factor 2.0 Depression Storage (mm) 5 Porosity 0.30 Evaporation (mm/day) 3 Invert Level (m) 71.150 Membrane Depth (mm) 0 </pre>	<u>Cellular Storag</u>	$\underline{e} \text{Mannore: 40, } DS/PN: 2.000$	
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0.00 0.0 47.5	Depth (m) Area (m²) Inf. Are	ea (m²) Depth (m) Area (m²) Inf. Area	(m²)
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<pre>Membrane Percolation (mm/hr) 1000 Length (m) 50.0 Max Percolation (1/s) 87.5 Slope (1:X) 200.0 Safety Factor 2.0 Depression Storage (mm) 5 Porosity 0.30 Evaporation (mm/day) 3 Invert Level (m) 71.600 Membrane Depth (mm) 0 Porous Car Park Manhole: 45, DS/PN: 4.000 Infiltration Coefficient Base (m/hr) 0.00000 Width (m) 7.1 Membrane Percolation (mm/hr) 1000 Length (m) 45.0 Max Percolation (1/s) 88.8 Slope (1:X) 200.0 Safety Factor 2.0 Depression Storage (mm) 5 Porosity 0.30 Evaporation (mm/day) 3 Invert Level (m) 71.150 Membrane Depth (mm) 0</pre>	Infiltration Coefficient Base	(m/hr) = 0.0000 Width (m)	6.3
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Porosity 0.30 Evaporation (mm/day) 3 Invert Level (m) 71.600 Membrane Depth (mm) 0 Dorous Car Park Manhole: 45, DS/PN: 4.000 Infiltration Coefficient Base (m/hr) 0.0000 Width (m) 7.1 Membrane Percolation (mm/hr) 1000 Length (m) 45.0 Max Percolation (1/s) 88.8 Slope (1:X) 200.0 Safety Factor 2.0 Depression Storage (mm) 5 Porosity 0.30 Evaporation (mm/day) 3 Invert Level (m) 71.150 Membrane Depth (mm) 0		(1/s) 87.5 Slope (1:X)	200.0
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<pre>Membrane Percolation (mm/hr) 1000 Length (m) 45.0 Max Percolation (l/s) 88.8 Slope (l:X) 200.0 Safety Factor 2.0 Depression Storage (mm) 5 Porosity 0.30 Evaporation (mm/day) 3 Invert Level (m) 71.150 Membrane Depth (mm) 0</pre>	Porous Car Park	<u> Manhole: 45, DS/PN: 4.000</u>	
<pre>Membrane Percolation (mm/hr) 1000 Length (m) 45.0 Max Percolation (l/s) 88.8 Slope (l:X) 200.0 Safety Factor 2.0 Depression Storage (mm) 5 Porosity 0.30 Evaporation (mm/day) 3 Invert Level (m) 71.150 Membrane Depth (mm) 0</pre>	Infiltration Coofficient Page	(m/hx) = 0.0000 Width (m)	7 1
<pre>Max Percolation (1/s) 88.8 Slope (1:X) 200.0 Safety Factor 2.0 Depression Storage (mm) 5 Porosity 0.30 Evaporation (mm/day) 3 Invert Level (m) 71.150 Membrane Depth (mm) 0</pre>			
Safety Factor 2.0 Depression Storage (mm) 5 Porosity 0.30 Evaporation (mm/day) 3 Invert Level (m) 71.150 Membrane Depth (mm) 0	Max Percolation	(1/s) 88.8 Slope (1:X)	
Invert Level (m) 71.150 Membrane Depth (mm) 0	Safety	Factor 2.0 Depression Storage (mm)	5
	Po	rosity 0.30 Evaporation (mm/day)	3
01982-2016 XP Solutions			0
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NW3 igned by F work 2016 itical Re 3-SW NW3. ion Criter Additio MAD Flow per 0 Number of 3 Number of 3 Number of 3 Number of 3	B Sults by SWS ia nal Flow - D Factor * Inl Person per of Storage of Storage of Time/Are of Real Tim	<pre>% of Total 10m³/ha St let Coeffic Day (1/per Structures a Diagrams e Controls R 0.400) 0.750) 0.840</pre>	1 Flow 0.0 torage 2.0 ecient 0.8 r/day) 0.0 3 0 0	000 000 800
igned by cked by F work 2016 itical Re 3-SW NW3. ion Criter Additio MAD Flow per 0 Number of 3 Number of 0 Number of 3 Number of 0 Number of 20.000 mm) step 2.5 Se atus	2B <u>sults by</u> <u>SWS</u> <u>ia</u> nal Flow - D Factor * Inl Person per of Storage of Storage of Time/Are of Real Tim <u>etails</u> Ratio Cv (Summer Cv (Winter	<pre>% of Total 10m³/ha St let Coeffic Day (1/per Structures a Diagrams e Controls R 0.400) 0.750) 0.840</pre>	1 Flow 0.0 torage 2.0 ecient 0.8 r/day) 0.0 3 0 0 300.0 nded) OFF ON	000 000 800
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cked by F work 2016 itical Re 3-SW NW3. ion Criter Additio MAD Flow per 0 Number of 3 Number of 8 Number of 3 Number of 8 Numb	2B <u>sults by</u> <u>SWS</u> <u>ia</u> nal Flow - D Factor * Inl Person per of Storage of Storage of Time/Are of Real Tim <u>etails</u> Ratio Cv (Summer Cv (Winter	<pre>% of Total 10m³/ha St let Coeffic Day (1/per Structures a Diagrams e Controls R 0.400) 0.750) 0.840</pre>	1 Flow 0.0 torage 2.0 ecient 0.8 r/day) 0.0 3 0 0 300.0 nded) OFF ON	000 000 800
work 2016 itical Re 3-SW NW3. ion Criter Additio MAD Flow per 0 Number of 3 Number of 0 Number of 2 Number of 8 and Wales 20.000 mm) step 2.5 Second	<u>sults by</u> <u>SWS</u> <u>ia</u> nal Flow - D Factor * In Person per of Storage of Storage of Time/Are of Real Tim <u>etails</u> Ratio Cv (Summer Cv (Winter	<pre>% of Total 10m³/ha St let Coeffic Day (1/per Structures a Diagrams e Controls R 0.400) 0.750) 0.840</pre>	1 Flow 0.0 torage 2.0 ecient 0.8 r/day) 0.0 3 0 0 300.0 nded) OFF ON	000 000 800
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FSR and Wales 20.000 mm) step 2.5 Se atus atus	Ratio Cv (Summer Cv (Winter) 0.750) 0.840	nded) OFF ON	
step 2.5 Se utus utus utus	econd Incre		nded) OFF ON	
utus utus utus			OFF ON	
itus			-	
			ON	
), 60, 120				
	Su , 240, 360,	mmer and W 480, 960, 1, 10, 30 0, 0,	1440 , 100	
				Water Level (m)
ar char ye	11000	OVGLITOW	ALL.	()
				71.205
				71.190
				71.189
				71.18
				71.189
				71.188
/60 Summer				71.18
				71.18
				71.840
				71.838
				71.187
				71.382
				71.187
5 XP Solu	tions			
	240 Winter /60 Winter /60 Winter /60 Summer 120 Winter /30 Winter /30 Winter /30 Winter /30 Winter /30 Winter /30 Winter /15 Summer		<pre>/d0 Winter 240 Winter 240 Winter /60 Winter /60 Winter /60 Summer 120 Winter 120 Winter /30 Winter /30 Winter /30 Summer /30 Winter /30 Winter /30 Winter /30 Winter /30 Winter /30 Winter /30 Winter /30 Winter /30 Winter</pre>	urchargeFloodOverflowAct./60 Winter240 Winter/60 Winter/60 Winter/20 Winter120 Winter120 Winter/30 Winter/30 Summer/30 Winter/30 Winter

Cole Easdon Consultants		Page 11
York House Edison Park	Parcel KMF, Bicester	
Dorcan Way		L
Swindon SN3 3RB	SW NW3	Micco
Date Nov 2018	Designed by NP	
File 6008-SW NW3.mdx	Checked by RB	Dialitaye
Elstree Computing Ltd	Network 2016.1	

<u>10 year Return Period Summary of Critical Results by Maximum Level (Rank 1)</u> <u>for 6008-SW NW3.SWS</u>

PN	US/MH Name	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (1/s)	Pipe Flow (l/s)	Status	Level Exceeded
1.000	31	-0.095	0.000	0.28		4.6	OK	
1.001	32	0.010	0.000	0.12		2.0	SURCHARGED	
1.002	33	0.184	0.000	0.13		3.9	SURCHARGED	
1.003	34	0.229	0.000	0.14		5.2	SURCHARGED	
1.004	35	0.372	0.000	0.02		8.0	SURCHARGED	
2.000	40	0.129	0.000	0.15		4.4	SURCHARGED	
2.001	41	0.163	0.000	0.11		4.4	SURCHARGED	
2.002	42	0.352	0.000	0.01		7.1	SURCHARGED	
1.005	36	0.457	0.000	0.02		7.8	SURCHARGED	
3.000	43	0.090	0.000	0.05		0.7	SURCHARGED	
3.001	44	0.132	0.000	0.06		0.7	SURCHARGED	
1.006	37	0.482	0.000	0.01		8.5	SURCHARGED	
4.000	45	0.082	0.000	0.05		0.7	SURCHARGED	
4.001	46	0.121	0.000	0.04		0.7	SURCHARGED	
1.007	38	1.077	0.000	0.07		3.7	SURCHARGED	

ork Hour			ts							Pa	ge	-
.017 11008	se, Edis	son Pa	rk	Pa	rcel KMF,	Bices	ster					
Dorcan Wa	ау									4	-	-
Swindon,	SN3 3RE	3		SW	NW4					N	lice	J
Date Nov	2018			De	signed by	NP						U
File 6008	8-SW NW4	4.mdx		Ch	ecked by i	RB				U	dl	ndy
Elstree (Computir	ng Ltd		Ne	twork 201	6.1						
Maximum T	Ret Maximu 'ime of Co Fo	E P: turn Pe um Rain oncentr oul Sew etric R	FSR Rain FSR Rain riod (ye M5-60 Rat fall (mm ation (m age (1/s unoff Co De	Criteria s STANDA nfall Mod ars) (mm) 20. io R 0. /hr) ins) /ha) 0. eff. 0. esigned w	400 75 Min Des 30 Min	<u>S-SW N</u> Sizes nd and Add F Mir Max sign De Vel fo in Slop Soffits	JW4.SV STANDA Wales Flow / himum l cimum l cimum l cimum l cor Auto pe for	RD Clim Backd Backd or Op Des Opti	ate Cl rop He rop He timisa ign on misat:	hange eight eight ation hly (m	(m) (m) (m) /s)	1.500 1.200
	ngth Fal m) (m)	-) (ha)		π	(mm)	HYD			on Typ		esign
1.000 6. 1.001 7.	.466 0.06 .237 0.07		5 0.000	0.00	0.0	0.600	0	150	-	Condui Condui	t	of of
			5 0.000	0.00	0.0	0.600	0	150	-		t	ď
		75 96. T.C.	5 0.000 <u>1</u>	0.00	0.0 0.0 Results :	0.600 0.600 <u>Fable</u> Foul	o o Add F	150 150	Pipe/ Vel		t t Fl	ew .
1.001 7. PN 1.000	.237 0.07 Rain (mm/hr) 75.00	<pre>75 96. T.C. (mins) 5.11</pre>	5 0.000 <u>P</u> US/IL 2 (m) 68.800	0.00 <u>Jetwork</u> E I.Area (ha) 0.085	0.0 0.0 <u>Results 5</u> Σ Base Flow (1/s) 0.0	0.600 0.600 <u>Fable</u> Foul (1/s) 0.0	0 0 Add E (1/	150 150 'low s) 0.0	<pre>Pipe/ Vel (m/s) 1.01</pre>	Condui Cap (1/s) 17.8	-t .t Fl (1,	ew -
1.001 7. PN	.237 0.07 Rain (mm/hr)	<pre>75 96. T.C. (mins) 5.11</pre>	5 0.000 <u>P</u> Us/IL 3 (m)	0.00 <u>Jetwork</u> E I.Area (ha)	0.0 0.0 Results 7 E Base Flow (1/s)	0.600 0.600 <u>Fable</u> Foul (1/s) 0.0	0 0 Add E (1/	150 150 *low	Pipe/ Vel (m/s)	Condui Cap (1/s)	-t .t Fl (1,	ow /s)

Cole Easdon Consultants	Page 2
York House, Edison Park	Parcel KMF, Bicester
Dorcan Way	
Swindon, SN3 3RB	SW NW4
Date Nov 2018	Designed by NP MICCO
File 6008-SW NW4.mdx	Checked by RB Drainage
Elstree Computing Ltd	Network 2016.1
EISTIGE COMPUTING LEG	NECWOIK 2010.1
PIPELINE SCHE	DULES for 6008-SW NW4.SWS
Up	stream Manhole
PN Hyd Diam MH C.Level Sect (mm) Name (m)	I.Level D.Depth MH MH DIAM., L*W (m) (m) Connection (mm)
	68.8001.250 Open Manhole120068.7351.212 Open Manhole1200
Dow	nstream Manhole
PN Length Slope MH C.Leve (m) (1:X) Name (m)	-
	7 68.735 1.212 Open Manhole 1200 4 68.660 1.134 Open Manhole 1200
	1] Details for COOD ON NUM OND
FILE FILOWING OULIA	11 Details for 6008-SW NW4.SWS
Outfall Outfall C	. Level I. Level Min D,L W
Pipe Number Name	(m) (m) I. Level (mm) (mm)
	(m)
1.001 46	69.944 68.660 68.285 1200 0
Simulation Cr	iteria for 6008-SW NW4.SWS
Areal Reduction Factor : Hot Start (mins) Hot Start Level (mm)	0 Inlet Coefficcient 0.800 0 Flow per Person per Day (l/per/day) 0.000
Manhole Headloss Coeff (Global) (Foul Sewage per hectare (l/s) (
Number of Online Cont	aphs 0 Number of Storage Structures 1 rols 1 Number of Time/Area Diagrams 0 rols 0 Number of Real Time Controls 0
Synthet	ic Rainfall Details
Rainfall Model	FSR Profile Type Summer
Return Period (years)	100 Cv (Summer) 0.750
Region Engla	
M5-60 (mm) Ratio R	20.000 Storm Duration (mins) 30 0.400
RALLU R	0.100

Parcel KMF, SW NW4	Bicester			
SW NWA		7.		
SW NW4		1 M		
		- C		
ate Nov 2018 Designed by NP				
crols for 6008	-SW NW4.SWS			
). DS/PN: 1.00	1. Volume (m³):	1.6		
<u>, 100/110/1100</u>	ry voranie (m /	1.0		
<u>ro-Brake Optim</u>	num®			
t Reference MD-S	SHE-0049-1000-0800-	1000		
.gn Head (m)		.800		
Flow (l/s)		1.0		
Flush-Flo™	Calcul	ated		
-	nimise upstream sto	rage		
Application	Sur	face		
-		Yes		
. ,		49		
. ,	68	.735		
		75		
ameter (mm).		1200		
oints Head	(m) Flow (1/s)			
Calculated) 0	.800 1.0			
Flush-Flo™ 0	.215 0.9			
Kick-Flo® 0	.437 0.8			
Head Range	- 0.8			
been based on t	he Head/Discharge r	elationship for		
	-	-		
	5 5			
ow (l/s) Depth (m) Flow (1/s) Dept	h (m) Flow (1/s)		
		7.000 2.7		
1.3 3.5		7.500 2.8		
	00 2.1	8.000 2.9		
1.4 4.5		8.500 2.9		
1.4 4.5 1.5 5.0	00 2.3	9.000 3.0		
1.4 4.5 1.5 5.0 1.6 5.5	00 2.3 00 2.4			
1.4 4.5 1.5 5.0	00 2.3 00 2.4	9.000 3.0		
	Network 2016 Trols for 6008 P, DS/PN: 1.00 ro-Brake Optim t Reference MD-S gn Head (m) Flush-Flo™ Objective Mir Application up Available ameter (mm) t Level (m) ameter (mm) t Level (m) ameter (mm) oints Head Calculated) 0 Flush-Flo™ 0 Kick-Flo® 0 Head Range been based on ti ied. Should ano lised then these ow (1/s) Depth (s 1.2 3.0	a Flow (1/s) Flush-Flo™ Calculation Objective Minimise upstream stor Application Surray Application Surray Surray ameter (mm) 68 ameter (mm) 68 oints Head (m) Flow (1/s) Calculated) 0.800 1.0 Flush-Flo™ 0.215 0.9 Kick-Flo® 0.437 0.8 Head Range - 0.8 been based on the Head/Discharge r ied. should another type of contro lised then these storage routing ca ow (1/s) Depth (m) Flow (1/s) Depth 1.2 3.000 1.8 Surray		

Discharge Coef 0.544 Width (m) 1.200 Invert Level (m) 69.535

Cole Easdon Consultants		Page 4
York House, Edison Park	Parcel KMF, Bicester	
Dorcan Way		L
Swindon, SN3 3RB	SW NW4	Micco
Date Nov 2018	Designed by NP	
File 6008-SW NW4.mdx	Checked by RB	Dialiaye
Elstree Computing Ltd	Network 2016.1	

Storage Structures for 6008-SW NW4.SWS

Cellular Storage Manhole: 48, DS/PN: 1.000

Invert Level (m) 68.800 Safety Factor 2.0 Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95 Infiltration Coefficient Side (m/hr) 0.00000

Depth (m) Area (m²) Inf. Area (m²) Depth (m) Area (m²) Inf. Area (m²)

0.000	40.0	40.0	0.801	0.0	60.3
0.800	40.0	60.2			

York H	Lasuon	Consulta	nts						Page	e 6
	louse,	Edison P	ark	F	Parcel	KMF, B	icester	-	5	
Dorcar	-								2	4
	on, SN				SW NW4				Mir	
Date N	lov 20	18		I	Designe	ed by N	P		Dra	ninar
		W NW4.mdx				d by RB			DIC	may
lstre	e Com	puting Lt	d	Ň	letwor]	c 2016.	1			
<u>10 ye</u> a	<u>ar Ret</u>	urn Peric	od Summa			al Resu NW4.SI		Maximum	Level (I	<u>Rank 1</u>
Ма		Hot Hot Star	Start (n rt Level peff (Glo	actor 1. nins) (mm) obal) 0.	000 A 0 500 Flc	MADD	al Flow Factor In	- % of Tota * 10m³/ha S nlet Coeffi r Day (1/pe	torage 2. ecient 0.	000 800
		Number	of Onlin	e Contro	ls 1 Ni	umber of	Time/Ar	e Structures ea Diagrams me Controls	s 0	
			fall Mod Regi M5-60 (m	el on Engla	and and	Wales C	Ratio v (Summe	r) 0.400 r) 0.750 r) 0.840		
	Ma	argin for F		lysis Ti DTS	mestep Status Status	2.5 Sec	ond Incr	ement (Exte	300.0 ended) OFF ON ON	
	Re	eturn Perio		ins) 15, ars)	, 30, 6	0, 120,		ummer and 0 , 480, 960 1, 10, 30 0, 0,	, 1440	
PN	US/MH Name	Storm		Climate Change			irst (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
1.000		120 Winter 120 Winter			1/60 W 1/15 S					69.170 69.168
		Sur	charged	Flooded			Pipe			
			-		Flow /	Overflo	_		Level	
	PN		Depth (m)	(m ³)	Cap.	(l/s)	(l/s)	Status	Exceeded	L

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From: Geoff Noke

Sent: 26 October 2018 16:06

To: Lucy Smith <

Subject: FW: DS4060971:ADNS:OX26 1BT:Kingsmere Parcel KMG 35prprties £75k

Lucy - FYI

From: Geoff Nokes Sent: 11 October 2018 11:05 To: 'James Kirby (Linden Homes) Subject: RE: DS4060971:ADNS:OX26 1BT:Kingsmere Parcel KMG 35prprties £75k

Yes that is the plan, giving about 10 days notice to me for an inspection please

From: James Kirby (Linden Home Sent: 11 October 2018 10:38 To: Geoff Nokes Subject: RE: DS4060971:ADNS:OX26 1BT:Kingsmere Parcel KMG 35prprties £75k

Geoff,

thank you for your speedy response.

I do not normally deal with this side of the site.

I am arranging payment to be made.

Do I then need to pass both yours and the ground workers details to one another for the inspections to be arranged?

Kind Regards

James

James Kirby Technical Co-ordinator james.kirby@lindenhomes.co.uk

Tel: 01235 545000

Linden Homes Thames Valley 18D Croft Drive Milton Park Abingdon Oxfordshire OX14 4RP www.lindenhomes.co.uk



From: Geoff Noke Sent: 11 October 2018 10:36 To: James Kirby (Linden Homes

Subject: RE: DS4060971:ADNS:OX26 1BT:Kingsmere Parcel KMG 35prprties £75k

James

These proposals are Technically Approved and the inspection fees can be agreed at £1875, with £500 application fee already being paid the outstanding fee is £1375 no vat to pay please.

Regards Geoff Nokes Developer Services – Sewer Adoptions Engineer Office: 0203 5779 228 geoff.nokes@thameswater.co.uk Clearwater Court, Vastern Road, Reading, RG1 8DB



From: James Kirby (Linden Homes Sent: 11 October 2018 09:59 To: Geoff Nokes Cc: Lee Griffin (Linden Homes) Subject: RE: DS4060971:ADNS:OX26 1BT:Kingsmere Parcel KMG 35prprties £75k

Geoff,

The attached was the pdf I am told was submitted. I trust this is everything you need? Kind Regards James

James Kirby Technical Co-ordinator james.kirby@lindenhomes.co.uk

Tel: 01235 545000

Linden Homes Thames Valley 18D Croft Drive Milton Park Abingdon Oxfordshire OX14 4RP www.lindenhomes.co.uk



From: Geoff Noke Sent: 10 October 2018 17:08 To: James Kirby (Linden Homes) Subject: DS4060971:ADNS:OX26 1BT:Kingsmere Parcel KMG 35prprties £75k

James

Could you please send me pdf S104 adoption proposals drawing as it didn't appear to have been included with the application form.

Regards Geoff Nokes Developer Services – Sewer Adoptions Engineer Office: 0203 5779 228 geoff.nokes@thameswater.co.uk Clearwater Court, Vastern Road, Reading, RG1 8DB



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Developer Services

Ryan Taylor Cole Easdon Consultants

Unit 2, York House, Edison Park, Dorcan Way,

Swindon

Wiltshire,

SN3 3RB

Your ref Our ref DS6057325 Name Geoff Nokes Phone 0800 009 3921 Email developer.services@thameswater.co.uk

11 September 2020 Dear Ryan

Sewer Adoption under Section

104 of the Water Industry Act 1991

Site Address: DS6057325 Lnd off Pioneer Way Parcel KMF Kingsmere Bicester OX26 1BF CW 142 prprties £550k Linden TA

Thank you for your Section 104 adoption application for the above site.

We are pleased to confirm that your proposals as shown on drawing number 6008/125/01-4 are acceptable to us in principle, subject to completion of a suitable Section 104 Agreement. Our acceptance is also subject to a number of conditions and statements which are listed below.

These works may be undertaken by a competent contractor of your choice so long as they have operatives qualified for working in confined spaces.

- 1. All plans should include the following statement: 'All adoptable drainage works to be constructed as detailed in Sewers for Adoption, 7th edition' or as stipulated in Thames Water's Addendum.
- 2. No private drainage shown coloured on the proposed Agreement plan.
- 3. Pressure testing programme. Sewers for adoption 7th Edition E7.3.3 sets out the requirement for an air-test once backfilling is complete. In the case of sewers constructed using plastic pipework of less than 400mm diameter, TWUL requires that under clause E1.3, the post-backfilling test shall be carried out at the end of Thames Water the maintenance period to confirm that any high pressure jetting carried out under clause E7.1.1 has not damaged the pipework. For complex developments rear Court TWUL may require the developer to provide an air testing programme showing how the air testing of plastic pipework will be carried out.

Developer Services Vastern Road Reading RG1 8DB

NOTE: For the avoidance of doubt, for new clay and concrete sewers, no air test is required at the end of the maintenance period as their resistance to high I www.thameswater.co.uk pressure jetting is much greater. See WRC Jetting Guidance for further information.

T 0800 009 3921

Thames Water Utilities Ltd Registered in England and Wales No. 2366661, Registered office 4. Trees and shrubs of a large size or heavy canopy, or with a moderate or high water demand must not be planted within any sewer easement.

Thames Water Developer Services 3rd Floor West Clearwater Court Vastern Road Reading RG1 8DB

T 0800 009 3921 I <u>www.thameswater.co.uk</u>

Thames Water Utilities Ltd Registered in England and Wales No. 2366661, Registered office

NEXT STEPS 1 LEGAL AGREEMENT

Please supply the following information so that we can instruct our solicitors to prepare the Agreement.

- Received 1 No. copy of the technically approved adoptable drainage layout plan to be included in the agreement.
- Payment for our inspection fees to the value of £13250, representing 2.5% of the scheme estimate after deduction of initial £500 application fee. Please note that in addition our solicitors will also request a fee in the region of £600 to draft the legal agreement.
- A completed copy of the enclosed Legal Instruction Form as attached. Please complete all sections marked Developer/Agent.

Thames Water will require a surety (e.g. an independent bank or financial institution) to be party to the Agreement who will be liable for £55000

2 SITE INSPECTIONS

Gravity Sewer

Please provide pdf copy of the updated drainage design (adoptable drainage layout plan,) this will be submitted to our Field Engineer to complete the inspections. They will contact you to arrange this. Please provide us with the onsite contact details or the Developer contact if no onsite contact detail is available at this point.

3 PROVISIONAL CERTIFICATE

In order to issue the Provisional Certificate of Substantial Completion we will need the following items in place:

- 1) Signed Agreement
- 2) Satisfactory inspection and CCTV Survey of the adoptable sewers
- 3) As Built drawings
- 4) Confirmation that at least 50% of the properties are occupied

4 FINAL CERTIFICATE

Following the 12 months Maintenance Period we will carry out a final inspection before issuing the Final Certificate. Please contact the Field Engineer to arrange the final inspection quoting the Service Order provided.

If you have any questions please give the Helpdesk a call on 0800 009 3921. We are open 8am-5pm, Monday to Friday, or you can email us at <u>developer.services@thameswater.co.uk</u>.

We look forward to hearing from you.

Yours sincerely

Development Engineer - Wastewater

Thames Water Developer Services 3rd Floor West Clearwater Court Vastern Road Reading RG1 8DB

T 0800 009 3921 I <u>www.thameswater.co.uk</u>

Thames Water Utilities Ltd Registered in England and Wales No. 2366661, Registered office



9 March, 2018

Alex Pook Linden Homes Thames Valley 18d Croft Drive Milton Park Abingdon Oxfordshire OX14 4RP

By e-mail only:

Dear Mr Pook

PARCELS KMF AND KMG, HAWKSWOOD, BICESTER SOAKAGE TEST RESULTS

Further to the site work carried out on 22 February 2018, we are pleased to provide this letter report which includes a brief account of the ground conditions encountered and an assessment of the soakage potential of the near surface soils at the site.

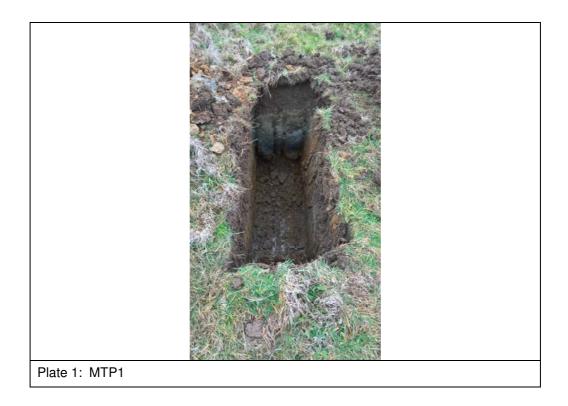
The investigation comprised five soakage test locations as agreed in advance of works. One pre-agreed soakage test location (MTP4) was unable to be accessed as roadways were yet to be built. As a result, the water tanker could not get close enough to the test location. It was anticipated that the soakage tests would be conducted within the expected natural gravelly soils which exist below topsoil at shallow depth. Test locations were numbered MTP1, MTP2, MTP3, MTP5 and MTP6 with test depths ranging from 1.7 to 2.4 metres below ground level (m bgl).

Ground conditions encountered in the test locations typically comprised a layer of topsoil underlain by light brown mottled grey silty sandy gravelly Clay over Limestone and Mudstone cobbles and gravel. Trial pit locations are indicated on the attached plan (Drawing No. 21385-304-001), whilst engineers logs and soakage test results are also attached to this letter.

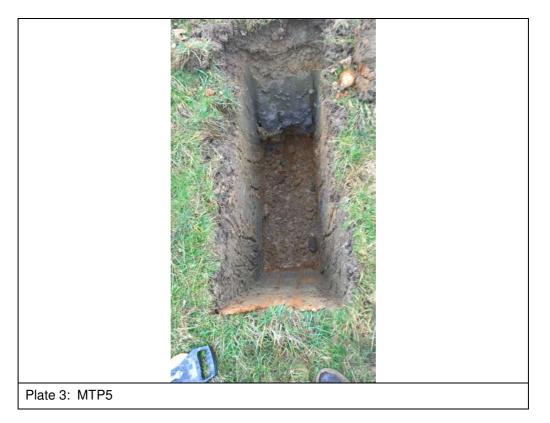
The trial pits were dug using a 12 tonne 360 tracked excavator. Soakage tests were carried out in the pits over a maximum period of 4 hours, with the sides and bases squared off prior to filling with water from a 10,000 gallon water tanker. A selection of photographs of the soakage pit locations are presented below:

AN Idom GROUP COMPANY

idom Merebrook Ltd Cromford Mills Mill Lane, Matistik, Derovshire, DE4 3FO t =44 (0)1773 829 968 f =44 (0)1773 829 895 e consulting@merebrook.co.uk, idom.com Eventees intergrad Natize 4620 Englander on a stock offices London, Kent, Derovshire, Cardill, Manchester, String







The trial pit soakage tests were performed as far as possible in accordance with BRE document 365. The accompanying data sheets show that the water level fell by a maximum of 160 mm over a period of 3 hours in MTP1; 630 mm over a period of 4 hours in MTP2; 100 mm over a period of 2 hours in MTP3; 390 mm over a period of 3 hours in MTP5 and 340 mm over a period of 3.5 hours in MTP6.

The BRE methodology for calculation of soil infiltration rate requires measurement of the volume out flowing from between 75 % and 25 % of the effective depth of the trial pit (height of water in the pit), i.e. three-quarters of the water should soak away. If, due to low levels of infiltration the water level does not fall from between 75 % to 25 % of the total water height, it may be possible to extrapolate from a curve derived from the plots of actual depth to water against time elapsed.

Data obtained from the tests allowed extrapolation from only one test location, MTP2, due to the slow rate of infiltration. The test conducted in MTP2 was the only test to achieved 75 % of effective depth. Therefore, based on the data obtained, it is estimated that an infiltration rate in the order of 1.0×10^{-7} or 1.0×10^{-8} m/s would apply in these locations.

Based on the soakage tests carried out to date, the near surface soils do not generally appear to be suitable for use as a soakage medium due to their predominantly cohesive nature.

We trust that the above information is helpful; however, if you have any questions, please do not hesitate to contact us.

Yours sincerely

Tim Crowe For Idom Merebrook Ltd

enc Drawing No. 21385-304-001 Trial Pit Logs Soakage Test Results Sheets



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	dom nerebrook	Crom t +44	ford Mills, Mill Lane, Ma (0) 1773 829 988 e co merebrook.co	onsulting@ .uk idom.c)merebroo com	E4 3RQ k.co.uk	TRIAL PIT LOG	TrialPit No MTP1	
		K.	AN idom GRO	UP COMP	ANY			Sheet 1 of 1	
offic		Ken	t Derby Ca	ardiff Ma	anchester Project	Stirling t No	Co-ords: 457430.00 - 221878.00	Date	
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e e	Samp	oles & In S	Situ Testing	Depth	Level				
Water Strike	Depth	Туре	Results	(m)	(m)	Legend	Stratum Description		
				0.30			TOPSOIL. Grass over light grey brown very san with organic rootlets throughout. Light orange brown very soft sandy gravelly CLA Gravel is angular sandstone and mudstone.		
				0.60			Light grey brown soft to firm slightly silty CLAY w organic rootlets throughout.	vith	
				1.00 1.30			Orange brown soft very sandy slightly gravelly C with orange red sand pockets. Gravel is angular limestone and mudstone.	weather	
				1.70			limestone.	1	
				1.71			LIMESTONE End of Pit at 1.700m		_
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D -		(4.45)		Stability			Remarks	5	
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offic	es London	Kent	Derby	Cardiff	Manchester	Stirling		Sheet 1 of 1	1
Project Name:		Kingsmere,	Hawkswood		Project 2138		Co-ords: 457497.00 - 221827.00 Level:	Date 22/02/2018	
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				-			Depth o	1:25 Logged	
Equipm			JCB 30			1	1.90	TPC	
Water Strike	Depth	les & In Situ Type	Results	Dept (m)		Legend	Stratum Description		
				0.20			Grass over reworked grey mottled orange browr clay with organic rootlets throughout. MADE GR	OUND	
				0.35			Reworked dark grey brown very sandy gravelly Gravel is angular mudstone and plastic. MADE	clay.	
				0.30			GROUND Orange brown very sandy gravelly CLAY. Grave angular limestone.	lis	
				0.80)		Gravel and cobbles of angular LIMESTONE with sandy clay matrix.	nin a soft	1 -
				1.90					
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) = smc ¹	disturbed complet	(tub)		Stabi	lity		Remarks	5	5
J = orgar V = volati B = bulk HSV = ha PP = poc	I disturbed sample (itic sample (amber g ile sample (amber g bag sample and shear vane (kPa ket penetrometer (k otoionisation detect	lass jar) lass vial) a) g.cm2)		Pit Sta					

	n rebrook	Cromford t +44 (0	d Mills, Mill Lane) 1773 829 988 merebrook AN idom G	.co.uk idor	n.com	E4 3RQ k.co.uk	TRIAL PIT LOG	TrialPit No MTP3
offices	London	Kent	Derby	Cardiff	Manchester	Stirling	Co-ords: 457543.00 - 221954.00	Sheet 1 of 1
Project Name:		Kingsmere,	Hawkswood		Project 2138		Level:	Date 22/02/2018
Location:			Biceste	er			Dimensions (m):	Scale
							Depth O	1:25 Logged
Equipment:			JCB 30	;x			2.40	TPC
Water Strike	Depth	les & In Situ Type	Results	Depth (m)	n Level (m)	Legend	Stratum Description	
	-			0.10			TOPSOIL. Grass over light grey brown very sar with organic rootlets throughout.	dy clay
							Orange brown soft very sandy CLAY with organ throughout.	lics
				0.90			Blue grey stiff CLAY.	1
				1.20			Dark grey blue very sandy gravelly stiff CLAY. G angular limestone. Sand is fine to coarse and or brown in colour.	rravel is range
				2.40			End of Pit at 2.400m	3
								4
J = organic sa	turbed sample (ample (amber gi ample (amber gi	lass jar)		Stabili Pit Stat			Remarks	5
V = volatile sa B = bulk bag HSV = hand s PP = pocket p	ample (amber gl	lass vial) ı) g.cm2)		Fit Stat	JIE .			

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offic		Ken	it Derby Ca	ardiff Ma	anchester Project	Stirling	Co-ords: 457479	.00 - 2221	11 00	Sheet 1 o Date	of 1
Project Name:	•	Kingsme	re, Hawkswood		21385		Level:	.00 - 222 1	11.00	Date	
Locatio	חרי		Bicester	I			Dimensions (m):			Scale	
							Depth			1:25 Logged	1
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Water Strike			Situ Testing	Depth (m)	Level (m)	Legend		Stratu	m Description		
	Depth	(tub)	Results	Stability				Remark			1 1 2 3 4 5
J = orga V = vola B = bulk HSV = h PP = po	all disturbed sample anic sample (amber g atile sample (amber g k bag sample hand shear vane (kP bocket penetrometer (k hotoionisation detect	glass jar) glass vial) Pa) kg.cm2)		Stability				Unable to	s 9 get tanker close enoug 9 test. Pit not advanced	gh to carry out	İ

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Name.		-			2138	5	Level:	22/02/20	
Locatio	on:		Bicester				Dimensions (m):	Scale 1:25	
Equipn	nent [.]		JCB 3CX				Depth o	Logged	
		ples & In Si			1		1.80	TPC	
Water Strike	Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description		-
				0.20			TOPSOIL. Grass over light grey brown very sand with organic rootlets throughout.	ly clay	
				1.00			Light brown soft very sandy CLAY with organics throughout.		
				1.50					
							Orange brown very sandy gravelly CLAY. Gravel weathered angular Mudstone and Limestone.	is	
				1.70 1.80			LIMESTONE.		
				1.00			End of Pit at 1.800m		
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J = orga V = vola B = bulk HSV = h PP = po	all disturbed sample anic sample (amber y atile sample (amber y k bag sample hand shear vane (kF pcket penetrometer (hotoionisation detec	glass jar) glass vial) Pa) kg.cm2)		Stability Pit Stable			Remarks		

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Water Strike	Depth	Туре	Results	(m)	(m)	Legend	Stratum Description		
				0.65 0.70 1.00 1.50 1.70			TOPSOIL. Grass over light grey brown very sam with organic rootlets throughout.	ndy/	
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J = orga V = vola B = bulk HSV = h PP = po	all disturbed sample anic sample (amber atile sample (amber a bag sample and shear vane (kF ocket penetrometer (hotoionisation detec	glass jar) glass vial) Pa) kg.cm2)		Stability Pit Stable		1	Remarks		

	GENERAL INFORMATION									
Site Name:	Site Name: Kingsmere, Hawkswood, Bicester Job No: 21385									
Engineer:	Sam Raven	Date:	22/02/2018	We	ather:	Overcast, Dry				

TEST PIT DETAILS										
Trial Pit Number:	Trial Pit Number: MT		Test	1 of 3						
Length (m):	m): <i>1.9</i>			0.6	Depth (m):	1.	7			
Depth to Groundwater	(m):	N/A								
Time Filling Comment	Time Filling Commenced:		Time	Filling Com	pleted:	09:38				
Depth to Water at Sta	Depth to Water at Start of Test:									
Effective Dept	75%:	0.55	50%:	0.94	25%:	1.32				

			TEST I	PIT RESULTS
	TEST	DATA		MTP1
Time	t	t	Depth to	
	(mins)	(secs)	Water (m)	Time (secs)
09:38	0	0	0.170	
	0.5	30	0.180	
09:39	1	60	0.180	
	1.5	90	0.190	0.05
09:40	2	120	0.190	
09:41	3	180	0.190	
09:42	4	240	0.200	0.1
09:43	5	300	0.200	
09:44	6	360	0.200	
09:45	7	420	0.210	e 0.15
09:46	8	480	0.220	Dep dep de
09:47	9	540	0.220	
09:48	10	600	0.220	0.2 -
09:50	12	720	0.220	
09:52	14	840	0.230	
09:54	16	960	0.230	0.25
09:56	18	1080	0.240	
09:58	20	1200	0.240	
10:03	25	1500	0.250	0.3
10:08	30	1800	0.260	
10:18	40	2400	0.280	
10:28	50	3000	0.290	0.35
10:38	60	3600	0.300	
11:08	90	5400	0.300	t at 75% Effective Depth:secs
11:38	120	7200	0.300	t at 25% Effective Depth:
12:08	150	9000	0.310	
12:38	180	10800	0.330	Infiltration Rate f = Vp75-25 / ap50 x tp75-25
	210	12600		
	240	14400		Vp75-25: 0.87 m3
	270	16200		ap50: 4.965 m2
	300	18000		tp75-25 0 secs
				f = <i>#DIV/0!</i> m/s

	GENERAL INFORMATION									
Site Name:	Site Name: Kingsmere, Hawkswood, Bicester Job No: 21385									
Engineer:	Michael Whittall	Date:	22/02/2018	We	eather:	Overcast, Dry				

TEST PIT DETAILS									
Trial Pit Number:		MTP2		1	of	3			
Length (m):	2.2	Width (m):		0.6			Depth (m):	1.9	
Depth to Groundwater	(m):	N/A							
Time Filling Comment	ced:	09:47	Time	Time Filling Completed:			10:05	10:05	
Depth to Water at Start of Test: 0.59									
Effective Dept	pths: 75%:		0.92	Ę	50%:		1.25	25%:	1.57

			TEST I	PIT RESULTS
	TEST	DATA		MTP2
Time	t	t	Depth to	
	(mins)	(secs)	Water (m)	Time (secs)
10:05	0	0	0.590	
10:05:30	0.5	30	0.630	
10:06	1	60	0.650	
10:06:30	1.5	90	0.700	0.2
10:07	2	120	0.700	
10:08	3	180	0.700	
10:09	4	240	0.730	0.4
10:10	5	300	0.730	
10:11	6	360	0.750	
10:12	7	420	0.750	
10:13	8	480	0.760	Depth fft (m)
10:14	9	540	0.770	
10:15	10	600	0.790	0.8
10:17	12	720	0.800	
10:19	14	840	0.810	
10:21	16	960	0.840	
10:23	18	1080	0.840	
10:25	20	1200	0.850	
10:30	25	1500	0.860	1.2
10:40	30	1800	0.880	
10:50	40	2400	0.920	
11:00	50	3000	0.950	1.4
11:05	60	3600	0.970	
11:35	90	5400	1.120	t at 75% Effective Depth:secs
12:05	120	7200	1.120	t at 25% Effective Depth: secs
12:35	150	9000	1.160	
13:05	180	10800	1.200	Infiltration Rate f = Vp75-25 / ap50 x tp75-25
13:35	210	12600	1.220	
14:05	240	14400	1.220	Vp75-25: 0.86 m3
	270	16200		ap50: 4.988 m2
	300	18000		tp75-25 0 secs
				f = <i>#DIV/0!</i> m/s

GENERAL INFORMATION									
Site Name:	Kingsmere,	Kingsmere, Hawkswood, Bicester Job No: 21385							
Engineer:	Sam Raven Date: 22/02/2018 Weather: Overcast,								

TEST PIT DETAILS										
Trial Pit Number:		MTP3		Test	1	of	3			
Length (m):	2.	1 Wid	lth (m):		0.6			Depth (m):	2.4	
Depth to Groundwater	(m):	N/A	1							
Time Filling Comment	ced:	13:1	4	Time	Time Filling Completed:			oleted:	13:30	
Depth to Water at Start of Test: 0.25		0.25								
Effective Dept	ns:	s: 75%:		0.79		50%:		1.33	25%:	1.86

			TEST I	PIT RESULTS
	TEST	DATA		MTP3
Time	t	t	Depth to	
	(mins)	(secs)	Water (m)	Time (secs)
13:30	0	0	0.250	0 5000 10000 15000 20000
	0.5	30	0.270	
13:31	1	60	0.270	
	1.5	90	0.270	0.05
13:32	2	120	0.270	
13:33	3	180	0.280	0.1
13:34	4	240	0.280	
13:35	5	300	0.229	
13:36	6	360	0.290	0.15
13:37	7	420	0.300	
13:38	8	480	0.300	(L) 0.2
13:39	9	540	0.300	
13:40	10	600	0.300	
13:42	12	720	0.300	0.25
13:44	14	840	0.300	
13:46	16	960	0.300	
13:48	18	1080	0.310	0.3
13:50	20	1200	0.310	
13:55	25	1500	0.310	0.35
14:00	30	1800	0.320	
14:10	40	2400	0.320	
14:20	50	3000	0.330	0.4
14:30	60	3600	0.330	
15:00	90	5400	0.340	t at 75% Effective Depth:secs
15:30	120	7200	0.350	t at 25% Effective Depth: secs
	150	9000		• •••••••••••••••••••••••••••••••••••••
	180	10800		Infiltration Rate f = Vp75-25 / ap50 x tp75-25
	210	12600		
	240	14400		Vp75-25: 1.35 m3
	270	16200		ap50: 7.065 m2
	300	18000		tp75-25 0 secs
				f = <i>#DIV/0!</i> m/s

GENERAL INFORMATION									
Site Name:	Kingsmere,	Kingsmere, Hawkswood, Bicester Job No: 21385							
Engineer:	Elizabeth Whittall Date: 22/02/2018 Weather: Overcast a								

TEST PIT DETAILS										
Trial Pit Number:		MTP5		Test	1	of	3			
Length (m):	1.9		Width (m):		0.6			Depth (m):	1	.8
Depth to Groundwater	(m):		N/A							
Time Filling Comment	ced:	1	2:01	Time	Time Filling Completed:			oleted:	12:08	
Depth to Water at Start of Test: 0.2										
Effective Dept	າຣ:	s: 75%:		0.60		50%:		1.00	25%:	1.40

			TEST I	PIT RESULTS
	TEST	DATA		MTP5
Time	t	t	Depth to	
	(mins)	(secs)	Water (m)	Time (secs)
12:01	0	0	0.200	
	0.5	30	0.200	
12:02	1	60	0.220	
	1.5	90	0.230	0.1
12:03	2	120	0.230	
12:04	3	180	0.240	
12:05	4	240	0.250	0.2
12:06	5	300	0.250	
12:07	6	360	0.270	
12:08	7	420	0.280	
12:09	8	480	0.290	Depth (m)
12:10	9	540	0.290	
12:11	10	600	0.290	0.4
12:13	12	720	0.300	
12:15	14	840	0.300	
12:17	16	960	0.310	0.5
12:19	18	1080	0.310	
12:21	20	1200	0.320	
12:26	25	1500	0.320	0.6
12:31	30	1800	0.330	
12:41	40	2400	0.350	
12:51	50	3000	0.360	0.7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
13:01	60	3600	0.390	
13:31	90	5400	0.450	t at 75% Effective Depth:secs
14:01	120	7200	0.510	t at 25% Effective Depth: secs
14:31	150	9000	0.580	
15:01	180	10800	0.590	Infiltration Rate f = Vp75-25 / ap50 x tp75-25
	210	12600		
	240	14400		Vp75-25: 0.91 m3
	270	16200		ap50: 5.14 m2
	300	18000		tp75-25 0 secs
				f = <i>#DIV/0!</i> m/s

GENERAL INFORMATION									
Site Name:	Kingsmere,	Kingsmere, Hawkswood, Bicester Job No: 21385							
Engineer:	Elizabeth Whittall Date: 22/02/2018 Weather: Overcast								

TEST PIT DETAILS									
Trial Pit Number:		MTP6		1	of	3			
Length (m):	2.0	Width (m):		0.6		Depth (m):	1.7		
Depth to Groundwater	(m):	N/A							
Time Filling Comment	ced:	10:50	Time	Time Filling Completed:			oleted:	10:57	
Depth to Water at Start of Test: 0.19									
Effective Dept	ns:	s: 75%:			50%:		0.95	25%:	1.32

			TEST I	PIT RESULTS
	TEST	DATA		MTP6
Time	t (mins)	t (secs)	Depth to Water (m)	Time (secs)
10:50	0	0	0.190	0 5000 10000 15000 20000
10.00	0.5	30	0.190	
10:51	1	60	0.190	
10.01	1.5	90	0.190	
10:52	2	120	0.190	0.1
10:53	3	180	0.190	
10:54	4	240	0.190	
10:55	5	300	0.190	
10:56	6	360	0.190	
10:57	7	420	0.200	
10:58	8	480	0.200	(E) 0.3
10:59	9	540	0.200	
11:00	10	600	0.200	
11:02	12	720	0.210	
11:04	14	840	0.220	0.4
11:06	16	960	0.220	
11:08	18	1080	0.230	
11:10	20	1200	0.240	0.5
11:15	25	1500	0.260	
11:20	30	1800	0.270	
11:30	40	2400	0.290	
11:40	50	3000	0.300	0.6
11:50	60	3600	0.320	
12:20	90	5400	0.370	t at 75% Effective Depth:secs t at 25% Effective Depth:secs
12:50	120	7200	0.420	t at 25% Effective Depth: secs
13:20	150	9000	0.460	
13:50	180	10800	0.500	Infiltration Rate f = Vp75-25 / ap50 x tp75-25
14:20	210	12600	0.530	
	240	14400		Vp75-25: 0.91 m3
	270	16200		ap50: 5.126 m2
	300	18000		tp75-25 0 secs
				f = <i>#DIV/0!</i> m/s
				f = <i>#DIV/0!</i> m/s