

Drainage Design Report



Flow

V8.1

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Project Reference & Site Location	399-18 The Elms Tallarn Green Malpas
File Name	399-18 Foul Water Soakaway Calculations 01.pfd
Network	
Last analysed	10/04/2019 15:51:47
Report produced on	10/04/2019 15:53:21
Flow Control	Soakaway

Revisions

Name	Area (ha)	T of E (mins)	Add Inflow (l/s)	Cover Level (m)	Node Type	Manhole Type	Diameter (mm)	Depth (m)	Notes
S7		2.00	0.3	51.250	Manhole	Private	450	0.400	
S8				51.250	Junction	Private		0.401	

Flow v8.1 Design Report: Links (Input)

Name	US Node	DS Node	Length (m)	ks (mm) / n	Velocity Equation	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	Link Type	T of C (mins)	Rain (mm/hr)
S7 - S8	S7	S8	8.150	0.600	Colebrook-White	50.850	50.849	0.001	8150.0	100	Circular	1.27	0.0

Flow v8.1 Design Report: Links (Results)

Name	US Node	DS Node	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Minimum Depth (m)	Maximum Depth (m)	Σ Area (ha)	Σ Add Inflow (ha)	Pro Depth (mm)	Pro Velocity (m/s)
S7 - S8	S7	S8	0.077	0.6	0.3	0.300	0.301	0.300	0.301	0.000	0.3	50	0.077

Flow v8.1 Design Report: Pipeline Schedule

Link Name	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)	US Node Name	Dia (mm)	Node Type	MH Type	DS Node Name	Node Type
S7 - S8	8.150	8150.0	100	Circular	51.250	50.850	0.300	51.250	50.849	0.301	S7	450	Manhole	Private	S8	Junction

Soakaway											
Node	Base Inf Coefficient (m/hr)	Side Inf Coefficient (m/hr)	Safety Factor	Porosity	Invert Level (m)	Time to half empty (mins)	Pit Width (m)	Pit Length (m)	Depth (m)	Inf Depth (m)	Number Required
S7	0.07200	0.07200	2.0	0.10	50.000		4.600	4.870		0.850	1
S8	0.07200	0.07200	2.0	0.10	50.000	56	4.600	4.870		0.850	1

Results for 1 year Critical Storm Duration. Lowest mass balance: 100.00%															
Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute summer	S7	1920	50.403	-0.447	0.3	0.9018	0.0000	OK	S7 - S8	S8	0.0	0.000	0.000	0.0000	
									Infiltration		0.3				
15 minute summer	S8	1	50.000	-0.849	0.0	0.0000	0.0000	OK	Infiltration		0.0				