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Ormond House Upper Ormond Quay Dublin 7	MCC Offices Network Analysis Catchment 1A	
Date 14/04/2023 File 220084_Surface water Ne...	Designed by KMM Checked by JPC	
Innovyze	Network 2020.1	

#### Network Classifications for Storm

PN	USMH	Pipe	Min Cover	Max Cover	Pipe Type	MH	MH	MH Ring	MH Type
	Name	Dia	Depth	Depth		Dia	Width	Depth	
		(mm)	(m)	(m)		(mm)	(mm)	(m)	
S1.000	S17	225	0.726	2.234	Unclassified	1200	0	0.726	Unclassified
S1.001	S16	225	2.234	2.396	Unclassified	1200	0	2.234	Unclassified
S1.002	S15	225	1.362	2.396	Unclassified	1200	0	2.396	Unclassified
S1.003	S14	225	1.362	1.362	Unclassified	1200	0	1.362	Unclassified

#### Free Flowing Outfall Details for Storm

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

S1.003	S00	NaN	53.611	53.244	0 0
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#### Simulation Criteria for Storm

Volumetric Runoff Coeff	0.750	Additional Flow - % of Total Flow	0.000
Areal Reduction Factor	1.000	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Inlet Coefficient	0.800
Hot Start Level (mm)	0	Flow per Person per Day (l/per/day)	0.000
Manhole Headloss Coeff (Global)	0.500	Run Time (mins)	60
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	1

Number of Input Hydrographs	0	Number of Storage Structures	1
Number of Online Controls	1	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	Scotland and Ireland	Cv (Winter)	0.840
M5-60 (mm)	16.100	Storm Duration (mins)	30
Ratio R	0.271		

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Online Controls for Storm


Hydro-Brake® Optimum Manhole: S14, DS/PN: S1.003, Volume (m³): 2.2

Unit Reference MD-SHE-0070-2000-0800-2000  
Design Head (m) 0.800  
Design Flow (l/s) 2.0  
Flush-Flo™ Calculated  
Objective Minimise upstream storage  
Application Surface  
Sump Available Yes  
Diameter (mm) 70  
Invert Level (m) 54.263  
Minimum Outlet Pipe Diameter (mm) 100  
Suggested Manhole Diameter (mm) 1200

Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	0.800	2.0
Flush-Flo™	0.240	2.0
Kick-Flo®	0.504	1.6
Mean Flow over Head Range	-	1.7

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	1.8	1.200	2.4	3.000	3.7	7.000	5.5
0.200	2.0	1.400	2.6	3.500	3.9	7.500	5.6
0.300	2.0	1.600	2.7	4.000	4.2	8.000	5.8
0.400	1.9	1.800	2.9	4.500	4.4	8.500	6.0
0.500	1.6	2.000	3.0	5.000	4.7	9.000	6.2
0.600	1.8	2.200	3.2	5.500	4.9	9.500	6.3
0.800	2.0	2.400	3.3	6.000	5.1		
1.000	2.2	2.600	3.4	6.500	5.3		

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Storage Structures for Storm

Cellular Storage Manhole: S14, DS/PN: S1.003

Invert Level (m) 52.850 Safety Factor 2.0  
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 1.00  
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m <sup>2</sup> )	Inf. Area (m <sup>2</sup> )	Depth (m)	Area (m <sup>2</sup> )	Inf. Area (m <sup>2</sup> )
0.000	85.0	0.0	1.001	0.0	0.0
1.000	85.0	0.0			



