

25 Buckingham Palace Road
London
SW1W 0PP

69 Redington Road
102463 - Existing Drainage



Date 06.07.2015

Designed by LJG

File 102463-Existing Drainage.mdx

Checked by

XP Solutions

Network 2015.1

Time Area Diagram for Storm

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.025	4-8	0.005

Total Area Contributing (ha) = 0.030

Total Pipe Volume (m³) = 0.532

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Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	Pipes In PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdrop (mm)
CWIC06	18.610	0.790	Open Manhole	500 x 400	1.000	17.820	100				
CWIC05	20.260	2.970	Open Manhole	500 x 400	1.001	17.290	100	1.000	17.290	100	
SWIC01	18.030	0.700	Open Manhole	500 x 400	2.000	17.330	100				
CWIC02	18.500	1.450	Open Manhole	500 x 400	2.001	17.050	100	2.000	17.050	100	
CWIC03	18.690	1.700	Open Manhole	500 x 400	2.002	16.990	100	2.001	16.990	100	
CWIC04	19.200	3.510	Open Manhole	500 x 400	1.002	15.690	150	1.001	15.690	100	
								2.002	15.690	100	
OF	19.000	3.357	Open Manhole	0		OUTFALL		1.002	15.643	150	

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PIPELINE SCHEDULES for Storm

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.000	o	100	CWIC06	18.610	17.820	0.690	Open Manhole	500 x 400
1.001	o	100	CWIC05	20.260	17.290	2.870	Open Manhole	500 x 400
2.000	o	100	SWIC01	18.030	17.330	0.600	Open Manhole	500 x 400
2.001	o	100	CWIC02	18.500	17.050	1.350	Open Manhole	500 x 400
2.002	o	100	CWIC03	18.690	16.990	1.600	Open Manhole	500 x 400
1.002	o	150	CWIC04	19.200	15.690	3.360	Open Manhole	500 x 400

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.000	9.016	17.0	CWIC05	20.260	17.290	2.870	Open Manhole	500 x 400
1.001	20.416	12.8	CWIC04	19.200	15.690	3.410	Open Manhole	500 x 400
2.000	11.258	40.2	CWIC02	18.500	17.050	1.350	Open Manhole	500 x 400
2.001	6.047	100.8	CWIC03	18.690	16.990	1.600	Open Manhole	500 x 400
2.002	10.538	8.1	CWIC04	19.200	15.690	3.410	Open Manhole	500 x 400
1.002	4.658	100.0	OF	19.000	15.643	3.207	Open Manhole	0

Fairhurst GGA		Page 4
25 Buckingham Palace Road London SW1W 0PP	69 Redington Road 102463 - Existing Drainage	
Date 06.07.2015 File 102463-Existing Drainage.mdx	Designed by LJG Checked by	
XP Solutions	Network 2015.1	

1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

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

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

Synthetic Rainfall Details


Rainfall Model FSR M5-60 (mm) 20.800 Cv (Summer) 0.750
Region England and Wales Ratio R 0.438 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0
Analysis Timestep 2.5 Second Increment (Extended)
DTS Status ON
DVD Status ON
Inertia Status OFF

Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years) 1, 30, 100
Climate Change (%) 0, 0, 0

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water	Surcharged	Flooded
									Level (m)	Depth (m)	Volume (m ³)
1.000	CWIC06	15 Winter	1	+0%					17.832	-0.088	0.000
1.001	CWIC05	15 Winter	1	+0%					17.309	-0.081	0.000
2.000	SWIC01	15 Winter	1	+0%					17.362	-0.068	0.000
2.001	CWIC02	15 Winter	1	+0%	30/15 Summer				17.098	-0.052	0.000
2.002	CWIC03	15 Winter	1	+0%					17.015	-0.075	0.000
1.002	CWIC04	15 Winter	1	+0%	100/15 Winter				15.747	-0.093	0.000

PN	US/MH Name	Flow / Cap. (l/s)	Pipe	
			Flow (l/s)	Level Exceeded
1.000	CWIC06	0.03	0.4	OK
1.001	CWIC05	0.08	1.3	OK
2.000	SWIC01	0.22	1.9	OK
2.001	CWIC02	0.45	2.4	OK
2.002	CWIC03	0.14	2.8	OK
1.002	CWIC04	0.31	4.2	OK

Fairhurst GGA		Page 5
25 Buckingham Palace Road London SW1W 0PP	69 Redington Road 102463 - Existing Drainage	
Date 06.07.2015 File 102463-Existing Drainage.mdx	Designed by LJG Checked by	
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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

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

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

Synthetic Rainfall Details


Rainfall Model FSR M5-60 (mm) 20.800 Cv (Summer) 0.750
Region England and Wales Ratio R 0.438 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0
Analysis Timestep 2.5 Second Increment (Extended)
DTS Status ON
DVD Status ON
Inertia Status OFF

Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960,
1440
Return Period(s) (years) 1, 30, 100
Climate Change (%) 0, 0, 0

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)
1.000	CWIC06	15 Winter	30	+0%					17.839	-0.081	0.000
1.001	CWIC05	15 Winter	30	+0%					17.323	-0.067	0.000
2.000	SWIC01	15 Winter	30	+0%					17.382	-0.048	0.000
2.001	CWIC02	15 Winter	30	+0%	30/15 Summer				17.171	0.021	0.000
2.002	CWIC03	15 Winter	30	+0%					17.033	-0.057	0.000
1.002	CWIC04	15 Winter	30	+0%	100/15 Winter				15.796	-0.044	0.000

PN	US/MH Name	Flow / Cap. (l/s)	Pipe Flow (l/s)	Level Exceeded	Status
1.000	CWIC06	0.08	1.1		OK
1.001	CWIC05	0.23	3.8		OK
2.000	SWIC01	0.53	4.8		OK
2.001	CWIC02	1.16	6.2		SURCHARGED
2.002	CWIC03	0.37	7.3		OK
1.002	CWIC04	0.82	11.1		OK

Fairhurst GGA		Page 6
25 Buckingham Palace Road London SW1W 0PP	69 Redington Road 102463 - Existing Drainage	
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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model FSR M5-60 (mm) 20.800 Cv (Summer) 0.750
Region England and Wales Ratio R 0.438 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0
Analysis Timestep 2.5 Second Increment (Extended)
DTS Status ON
DVD Status ON
Inertia Status OFF

Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960,
1440
Return Period(s) (years) 1, 30, 100
Climate Change (%) 0, 0, 0

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m ³)
1.000	CWIC06	15 Winter	100	+0%					17.842	-0.078	0.000
1.001	CWIC05	15 Winter	100	+0%					17.328	-0.062	0.000
2.000	SWIC01	15 Winter	100	+0%					17.392	-0.038	0.000
2.001	CWIC02	15 Winter	100	+0%	30/15 Summer				17.230	0.080	0.000
2.002	CWIC03	15 Winter	100	+0%					17.040	-0.050	0.000
1.002	CWIC04	15 Winter	100	+0%	100/15 Winter				15.842	0.002	0.000

PN	US/MH Name	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
1.000	CWIC06	0.11		1.4	OK	
1.001	CWIC05	0.30		5.0	OK	
2.000	SWIC01	0.69		6.2	OK	
2.001	CWIC02	1.51		8.1	SURCHARGED	
2.002	CWIC03	0.48		9.5	OK	
1.002	CWIC04	1.06		14.4	SURCHARGED	