

JPP Consulting Ltd		Page 1
Cedar Barn White Lodge Walgrave Northampton NN6 9PY	Highover Farm, Walsworth Surface Water 1 in 2 Year FSR	
Date 31/07/2026 13:55 File Drainage Network1.MDX	Designed by SWF Checked by	
XP Solutions Network 2020.1.3		

Simulation Criteria for Storm

Volumetric Runoff Coeff	0.750	Additional Flow - % of Total Flow	0.000
Areal Reduction Factor	1.000	MADD Factor * 10m ³ /ha Storage	0.000
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	0
Number of Online Controls	0	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)	2	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	20.000	Storm Duration (mins)	30
Ratio R	0.450		

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Cedar Barn White Lodge
Walgrave
Northampton NN6 9PY

Highover Farm, Walsworth
Surface Water
1 in 2 Year FSR

Date 31/07/2026 13:55
File Drainage Network1.MDX

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Checked by

XP Solutions

Network 2020.1.3

Micro
Drainage

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 0.000

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 Storage Structures 0

Number of Online Controls 0

Number of Time/Area Diagrams 0

Number of Offline Controls 0

Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR

Ratio R 0.450

Region England and Wales Cv (Summer) 0.750

M5-60 (mm) 20.000 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0

Analysis Timestep 2.5 Second Increment (Extended)

DTS Status OFF

DVD Status ON

Inertia Status ON

Profile(s) Summer and Winter

Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440

Return Period(s) (years) 2

Climate Change (%) 0

US/MH

PN

Name

Storm

Return
Period

Climate
Change

First (X)
Surcharge

First (Y)
Flood

First (Z)
Overflow

Overflow
Act.

Water
Level
(m)

S1.000

SA1

15 Winter

2

+0%

71.002

S1.001

SA2

15 Winter

2

+0%

70.491

S1.002

SA3

15 Winter

2

+0%

70.187

S1.003

SA4

15 Winter

2

+0%

69.405

S1.004

SA5

15 Winter

2

+0%

68.537

S2.000

SA6

15 Winter

2

+0%

68.879

S2.001

SA7

15 Winter

2

+0%

68.607

S3.000

SA8

15 Winter

2

+0%

69.390

S2.002

SA9

15 Winter

2

+0%

68.361

S2.003

SA10

15 Winter

2

+0%

67.993

S4.000

SA11

15 Winter

2

+0%

67.566

S1.005

SA12

15 Winter

2

+0%

67.353

S1.006

SA13

15 Winter

2

+0%

67.127

S5.000

SA14

15 Winter

2

+0%

70.555

S6.000

SA15

15 Winter

2

+0%

69.640

S5.001

SA16

15 Winter

2

+0%

69.385

S7.000

SA17

15 Winter

2

+0%

70.165

S7.001

SA18

15 Winter

2

+0%

68.499

S7.002

SA19

15 Winter

2

+0%

68.257

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XP Solutions		Network 2020.1.3

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

PN	US/MH Name	Surcharged Flooded		Flow / Overflow Cap. (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
		Depth (m)	Volume (m³)					
S1.000	SA1	-0.148	0.000	0.25		13.6	OK	
S1.001	SA2	-0.209	0.000	0.20		25.4	OK	
S1.002	SA3	-0.203	0.000	0.22		37.1	OK	
S1.003	SA4	-0.195	0.000	0.26		48.8	OK	
S1.004	SA5	-0.188	0.000	0.30		60.5	OK	
S2.000	SA6	-0.146	0.000	0.26		13.8	OK	
S2.001	SA7	-0.193	0.000	0.27		25.3	OK	
S3.000	SA8	-0.160	0.000	0.18		13.6	OK	
S2.002	SA9	-0.139	0.000	0.56		50.9	OK	
S2.003	SA10	-0.332	0.000	0.16		62.4	OK	
S4.000	SA11	-0.134	0.000	0.34		13.7	OK	
S1.005	SA12	-0.177	0.000	0.68		148.2	OK	
S1.006	SA13	-0.253	0.000	0.40		147.6	OK	
S5.000	SA14	-0.145	0.000	0.27		18.3	OK	
S6.000	SA15	-0.060	0.000	0.65		9.6	OK	
S5.001	SA16	-0.165	0.000	0.41		28.2	OK	
S7.000	SA17	-0.160	0.000	0.18		15.0	OK	
S7.001	SA18	-0.176	0.000	0.35		27.9	OK	
S7.002	SA19	-0.198	0.000	0.25		43.1	OK	

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<table><tr><th colspan="2">Surcharged</th><th>Flooded</th><th colspan="2">Half Drain</th><th>Pipe</th><th colspan="2">Level</th></tr><tr><th>PN</th><th>US/MH</th><th>Depth</th><th>Volume</th><th>Flow /</th><th>Overflow</th><th>Time</th><th>Flow</th><th>Level</th></tr><tr><th></th><th>Name</th><th>(m)</th><th>(m³)</th><th>Cap.</th><th>(l/s)</th><th>(mins)</th><th>(l/s)</th><th>Exceeded</th></tr><tr><td>S7.003</td><td>SA20</td><td>-0.139</td><td>0.000</td><td>0.56</td><td></td><td></td><td>58.3</td><td>OK</td></tr><tr><td>S7.004</td><td>SA21</td><td>-0.243</td><td>0.000</td><td>0.27</td><td></td><td></td><td>73.5</td><td>OK</td></tr><tr><td>S8.000</td><td>SA22</td><td>-0.114</td><td>0.000</td><td>0.47</td><td></td><td></td><td>17.6</td><td>OK</td></tr><tr><td>S7.005</td><td>SA23</td><td>-0.114</td><td>0.000</td><td>0.82</td><td></td><td></td><td>106.0</td><td>OK</td></tr><tr><td>S9.000</td><td>SA25</td><td>-0.148</td><td>0.000</td><td>0.25</td><td></td><td></td><td>14.6</td><td>OK</td></tr><tr><td>S9.001</td><td>SA26</td><td>-0.140</td><td>0.000</td><td>0.30</td><td></td><td></td><td>27.0</td><td>OK</td></tr><tr><td>S10.000</td><td>SA27</td><td>-0.051</td><td>0.000</td><td>0.76</td><td></td><td></td><td>10.7</td><td>OK</td></tr><tr><td>S10.001</td><td>SA28</td><td>-0.158</td><td>0.000</td><td>0.19</td><td></td><td></td><td>19.6</td><td>OK</td></tr><tr><td>S10.002</td><td>SA29</td><td>-0.146</td><td>0.000</td><td>0.27</td><td></td><td></td><td>28.5</td><td>OK</td></tr><tr><td>S10.003</td><td>SA30</td><td>-0.139</td><td>0.000</td><td>0.31</td><td></td><td></td><td>37.4</td><td>OK</td></tr><tr><td>S10.004</td><td>SA31</td><td>-0.076</td><td>0.000</td><td>0.76</td><td></td><td></td><td>46.4</td><td>OK</td></tr><tr><td>S11.000</td><td>SA32</td><td>-0.087</td><td>0.000</td><td>0.36</td><td></td><td></td><td>13.1</td><td>OK</td></tr><tr><td>S11.001</td><td>SA33</td><td>-0.150</td><td>0.000</td><td>0.24</td><td></td><td></td><td>24.3</td><td>OK</td></tr><tr><td>S12.000</td><td>SA34</td><td>-0.091</td><td>0.000</td><td>0.33</td><td></td><td></td><td>9.9</td><td>OK</td></tr><tr><td>S12.001</td><td>SA35</td><td>-0.168</td><td>0.000</td><td>0.14</td><td></td><td></td><td>18.2</td><td>OK</td></tr><tr><td>S12.002</td><td>SA36</td><td>-0.095</td><td>0.000</td><td>0.62</td><td></td><td></td><td>26.5</td><td>OK</td></tr><tr><td>S13.000</td><td>SA37</td><td>-0.097</td><td>0.000</td><td>0.26</td><td></td><td></td><td>9.9</td><td>OK</td></tr><tr><td>S13.001</td><td>SA38</td><td>-0.083</td><td>0.000</td><td>0.70</td><td></td><td></td><td>18.3</td><td>OK</td></tr><tr><td>S14.000</td><td>SA39</td><td>-0.099</td><td>0.000</td><td>0.25</td><td></td><td></td><td>10.1</td><td>OK</td></tr><tr><td>S14.001</td><td>SA40</td><td>-0.113</td><td>0.000</td><td>0.49</td><td></td><td></td><td>18.5</td><td>OK</td></tr><tr><td>S12.003</td><td>SA41</td><td>-0.177</td><td>0.000</td><td>0.35</td><td></td><td></td><td>63.8</td><td>OK</td></tr></table>										Surcharged		Flooded	Half Drain		Pipe	Level		PN	US/MH	Depth	Volume	Flow /	Overflow	Time	Flow	Level		Name	(m)	(m³)	Cap.	(l/s)	(mins)	(l/s)	Exceeded	S7.003	SA20	-0.139	0.000	0.56			58.3	OK	S7.004	SA21	-0.243	0.000	0.27			73.5	OK	S8.000	SA22	-0.114	0.000	0.47			17.6	OK	S7.005	SA23	-0.114	0.000	0.82			106.0	OK	S9.000	SA25	-0.148	0.000	0.25			14.6	OK	S9.001	SA26	-0.140	0.000	0.30			27.0	OK	S10.000	SA27	-0.051	0.000	0.76			10.7	OK	S10.001	SA28	-0.158	0.000	0.19			19.6	OK	S10.002	SA29	-0.146	0.000	0.27			28.5	OK	S10.003	SA30	-0.139	0.000	0.31			37.4	OK	S10.004	SA31	-0.076	0.000	0.76			46.4	OK	S11.000	SA32	-0.087	0.000	0.36			13.1	OK	S11.001	SA33	-0.150	0.000	0.24			24.3	OK	S12.000	SA34	-0.091	0.000	0.33			9.9	OK	S12.001	SA35	-0.168	0.000	0.14			18.2	OK	S12.002	SA36	-0.095	0.000	0.62			26.5	OK	S13.000	SA37	-0.097	0.000	0.26			9.9	OK	S13.001	SA38	-0.083	0.000	0.70			18.3	OK	S14.000	SA39	-0.099	0.000	0.25			10.1	OK	S14.001	SA40	-0.113	0.000	0.49			18.5	OK	S12.003	SA41	-0.177	0.000	0.35			63.8	OK																								
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