

**R O BISHOPTON
SUPPLEMENTARY NOTE
TO FLOOD RISK ASSESSMENT
REF. 185.0003/MD/jah/75025**

**DRAINAGE ASSESSMENT SUPPORTING
SUDS CALCULATIONS**

Revision Status	Prepared by: (Name)	Approved by: (Signature)	Date Approved:
Original	M.P. DEWSON	[REDACTED]	13/7/06

Engineer:
Upton McGougan Limited
IAC House
Moorside Road
WINCHESTER
Hampshire
SO23 7RX

Reference: 185.0003/RB/sl/78038

Date: July 2006

1.0 GREENFIELD RUN-OFF RATES

The following pages give the input data for the ADAS 345 greenfield run-off calculations and the results for the return periods from 1 in 1 year to 1 in 1,000 years.

Each sheet has been referenced to the applicable development area.

AREA H1



Upton McGougan Plc

IAC House
Moorside House
Winchester SO23 7RX

Date 22 November 2005 12:00
File

Designed By Mike Dewson
Checked By

Source Control W.10.1

Micro Drainage

ADAS 345

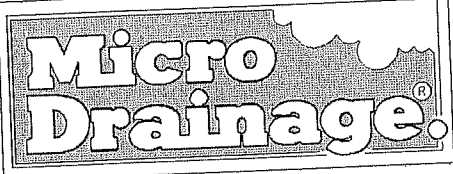
Input

Area (Ha)	3.570	Soil Type Factor (St)	1.000
Length (m)	180.000	Paved Area (%)	0.000
Average Slope (1:x)	20.0	Dominant Crop Type	Grass
AAR (mm)	1250	Region Number	2

Results 1/s

Q0 - Peak Flood Flow	67.8
Total Q0	67.8
QBAR	78.0
Q 2 years	71.3
Q 1 year	67.8
Q 2 years	71.3
Q 5 years	92.0
Q 10 years	110.7
Q 20 years	133.1
Q 25 years	141.3
Q 30 years	147.9
Q 50 years	169.5
Q 100 years	205.0
Q 200 years	232.3
Q 250 years	241.7
Q 1000 years	300.1

AREA H2



Upton McGougan Plc

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Micro Drainage

Source Control W.10.1

ADAS 345

Input

Area (Ha)	4.530	Soil Type Factor (St)	1.000
Length (m)	260.000	Paved Area (%)	0.000
Average Slope (1:x)	70.0	Dominant Crop Type	Grass
AAR (mm)	1250	Region Number	2

Results

1/s

Q0 - Peak Flood Flow	56.2
Total Q0	56.2
QBAR	64.6
Q 2 years	59.1
Q 1 year	56.2
Q 2 years	59.1
Q 5 years	76.3
Q 10 years	91.8
Q 20 years	110.4
Q 25 years	117.1
Q 30 years	122.6
Q 50 years	140.5
Q 100 years	170.0
Q 200 years	192.6
Q 250 years	200.4
Q 1000 years	248.9

AREA H3

Upton McGougan Plc

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Micro Drainage

Source Control W.10.1

ADAS 345

Input

Area (Ha)	6.480	Soil Type Factor (St)	1.000
Length (m)	255.000	Paved Area (%)	0.000
Average Slope (1:x)	14.0	Dominant Crop Type	Grass
AAR (mm)	1250	Region Number	2

Results

l/s

Q0 - Peak Flood Flow 123.4
Total Q0 123.4

QBAR 141.8

Q 2 years 129.6

Q 1 year 123.4

Q 2 years 129.6

Q 5 years 167.3

Q 10 years 201.4

Q 20 years 242.1

Q 25 years 257.0

Q 30 years 269.0

Q 50 years 308.3

Q 100 years 373.0

Q 200 years 422.6

Q 250 years 439.6

Q 1000 years 546.0

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Micro Drainage

Source Control W.10.1

ADAS 345

Input

Area (Ha)	1.370	Soil Type Factor (St)	1.000
Length (m)	120.000	Paved Area (%)	0.000
Average Slope (1:x)	39.0	Dominant Crop Type	Grass
AAR (mm)	1250	Region Number	2

Results

l/s

Q0 - Peak Flood Flow	24.3
Total Q0	24.3
QBAR	27.9
Q 2 years	25.5
Q 1 year	24.3
Q 2 years	25.5
Q 5 years	33.0
Q 10 years	39.7
Q 20 years	47.7
Q 25 years	50.6
Q 30 years	53.0
Q 50 years	60.7
Q 100 years	73.4
Q 200 years	83.2
Q 250 years	86.6
Q 1000 years	107.5

AREA H4B

Upton McGougan Plc

IAC House
Moorside House
Winchester SO23 7RX



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Micro Drainage

Source Control W.10.1

ADAS 345

Input

Area (Ha)	2.080	Soil Type Factor (St)	1.000
Length (m)	110.000	Paved Area (%)	0.000
Average Slope (1:x)	18.0	Dominant Crop Type	Grass
AAR (mm)	1250	Region Number	2

Results

Q0 - Peak Flood Flow	46.2
Total Q0	46.2
QBAR	53.1
Q 2 years	48.6
Q 1 year	46.2
Q 2 years	48.6
Q 5 years	62.7
Q 10 years	75.5
Q 20 years	90.7
Q 25 years	96.3
Q 30 years	100.8
Q 50 years	115.5
Q 100 years	139.8
Q 200 years	158.4
Q 250 years	164.7
Q 1000 years	204.6

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Micro Drainage

Source Control W.10.1

ADAS 345

Input

Area (Ha)	5.480	Soil Type Factor (St)	1.000
Length (m)	330.000	Paved Area (%)	0.000
Average Slope (1:x)	33.0	Dominant Crop Type	Grass
AAR (mm)	1250	Region Number	2

Results l/s

Q0 - Peak Flood Flow	77.9
Total Q0	77.9
QBAR	89.5
Q 2 years	81.8
Q 1 year	77.9
Q 2 years	81.8
Q 5 years	105.6
Q 10 years	127.1
Q 20 years	152.8
Q 25 years	162.1
Q 30 years	169.8
Q 50 years	194.5
Q 100 years	235.3
Q 200 years	266.7
Q 250 years	277.4
Q 1000 years	344.5

AREA H6

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Micro Drainage

Source Control W.10.1

ADAS 345

Input

Area (Ha)	3.400	Soil Type Factor (St)	1.000
Length (m)	220.000	Paved Area (%)	0.000
Average Slope (1:x)	65.0	Dominant Crop Type	Grass
AAR (mm)	1250	Region Number	2

Results

l/s

Q0 - Peak Flood Flow	45.0
Total Q0	45.0
QBAR	51.7
Q 2 years	47.2
Q 1 year	45.0
Q 2 years	47.2
Q 5 years	61.0
Q 10 years	73.4
Q 20 years	88.2
Q 25 years	93.7
Q 30 years	98.0
Q 50 years	112.4
Q 100 years	135.9
Q 200 years	154.0
Q 250 years	160.2
Q 1000 years	199.0

AREA H7

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Micro Drainage

Source Control W.10.1

ADAS 345

Input

Area (Ha)	6.290	Soil Type Factor (St)	1.000
Length (m)	200.000	Paved Area (%)	0.000
Average Slope (1:x)	57.0	Dominant Crop Type	Grass
AAR (mm)	1250	Region Number	2

Results

l/s

Q0 - Peak Flood Flow 88.3
Total Q0 88.3

QBAR 101.5

Q	2 years	92.8
Q	1 year	88.3
Q	2 years	92.8
Q	5 years	119.7
Q	10 years	144.1
Q	20 years	173.3
Q	25 years	183.9
Q	30 years	192.5
Q	50 years	220.6
Q	100 years	266.9
Q	200 years	302.4
Q	250 years	314.6
Q	1000 years	390.7

AREA HB

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Micro Drainage

Source Control W.10.1

ADAS 345

Input

Area (Ha)	4.290	Soil Type Factor (St)	1.000
Length (m)	200.000	Paved Area (%)	0.000
Average Slope (1:x)	45.0	Dominant Crop Type	Grass
AAR (mm)	1250	Region Number	2

Results

l/s

Q0 - Peak Flood Flow	64.1
Total Q0	64.1
QBAR	73.6
Q 2 years	67.3
Q 1 year	64.1
Q 2 years	67.3
Q 5 years	86.9
Q 10 years	104.6
Q 20 years	125.7
Q 25 years	133.4
Q 30 years	139.7
Q 50 years	160.1
Q 100 years	193.7
Q 200 years	219.5
Q 250 years	228.3
Q 1000 years	283.5

AREA H9

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Moorside House
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Micro Drainage

Source Control W.10.1

ADAS 345

Input

Area (Ha)	5.180	Soil Type Factor (St)	1.000
Length (m)	200.000	Paved Area (%)	0.000
Average Slope (1:x)	28.0	Dominant Crop Type	Grass
AAR (mm)	1250	Region Number	2

Results 1/s

Q0 - Peak Flood Flow 87.6
Total Q0 87.6

QBAR 100.7

Q	2 years	92.1
Q	1 year	87.6
Q	2 years	92.1
Q	5 years	118.9
Q	10 years	143.0
Q	20 years	172.0
Q	25 years	182.5
Q	30 years	191.1
Q	50 years	219.0
Q	100 years	264.9
Q	200 years	300.2
Q	250 years	312.3
Q	1000 years	387.8

AREA H10

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Micro Drainage

Source Control W.10.1

ADAS 345

Input

Area (Ha)	5.610	Soil Type Factor (St)	1.000
Length (m)	170.000	Paved Area (%)	0.000
Average Slope (1:x)	77.0	Dominant Crop Type	Grass
AAR (mm)	1250	Region Number	2

Results

l/s

Q0 - Peak Flood Flow	75.9
Total Q0	75.9
QBAR	87.3
Q 2 years	79.8
Q 1 year	75.9
Q 2 years	79.8
Q 5 years	103.0
Q 10 years	123.9
Q 20 years	149.0
Q 25 years	158.2
Q 30 years	165.6
Q 50 years	189.8
Q 100 years	229.6
Q 200 years	260.1
Q 250 years	270.6
Q 1000 years	336.0

AREA III

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Micro Drainage

Source Control W.10.1

ADAS 345

Input

Area (Ha)	2.360	Soil Type Factor (St)	1.000
Length (m)	80.000	Paved Area (%)	0.000
Average Slope (1:x)	30.0	Dominant Crop Type	Grass
AAR (mm)	1250	Region Number	2

Results

l/s

Q0 - Peak Flood Flow	49.9
Total Q0	49.9
QBAR	57.3
Q 2 years	52.4
Q 1 year	49.9
Q 2 years	52.4
Q 5 years	67.6
Q 10 years	81.4
Q 20 years	97.9
Q 25 years	103.9
Q 30 years	108.8
Q 50 years	124.6
Q 100 years	150.8
Q 200 years	170.8
Q 250 years	177.7
Q 1000 years	220.7

AREA H12

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Source Control W.10.1

ADAS 345

Input

Area (Ha)	5.710	Soil Type Factor (St)	1.000
Length (m)	180.000	Paved Area (%)	0.000
Average Slope (1:x)	85.0	Dominant Crop Type	Grass
AAR (mm)	1250	Region Number	2

Results

	l/s
Q0 - Peak Flood Flow	74.2
Total Q0	74.2
QBAR	85.3
Q 2 years	77.9
Q 1 year	74.2
Q 2 years	77.9
Q 5 years	100.6
Q 10 years	121.1
Q 20 years	145.6
Q 25 years	154.5
Q 30 years	161.8
Q 50 years	185.4
Q 100 years	224.3
Q 200 years	254.1
Q 250 years	264.4
Q 1000 years	328.3

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IAC House
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Source Control W.10.1

ADAS 345

Input

Area (Ha)	3.530	Soil Type Factor (St)	1.000
Length (m)	250.000	Paved Area (%)	0.000
Average Slope (1:x)	51.0	Dominant Crop Type	Grass
AAR (mm)	1250	Region Number	2

Results l/s

Q0 - Peak Flood Flow 48.1
 Total Q0 48.1

 QBAR 55.3

 Q 2 years 50.5

 Q 1 year 48.1

 Q 2 years 50.5

 Q 5 years 65.3

 Q 10 years 78.5

 Q 20 years 94.4

 Q 25 years 100.2

 Q 30 years 104.9

 Q 50 years 120.2

 Q 100 years 145.4

 Q 200 years 164.8

 Q 250 years 171.4

 Q 1000 years 212.9

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IAC House
Moorside House
Winchester SO23 7RX



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Micro Drainage

Source Control W.10.1

ADAS 345

Input

Area (Ha)	4.370	Soil Type Factor (St)	1.000
Length (m)	210.000	Paved Area (%)	0.000
Average Slope (1:x)	30.0	Dominant Crop Type	Grass
AAR (mm)	1250	Region Number	2

Results l/s

Q0 - Peak Flood Flow		71.7
Total Q0		71.7
QBAR		82.4
Q 2 years		75.3
Q 1 year		71.7
Q 2 years		75.3
Q 5 years		97.2
Q 10 years		117.0
Q 20 years		140.7
Q 25 years		149.3
Q 30 years		156.3
Q 50 years		179.1
Q 100 years		216.7
Q 200 years		245.5
Q 250 years		255.4
Q 1000 years		317.2

Upton McGougan Plc

IAC House
Moorside House
Winchester SO23 7RX

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Micro Drainage

Source Control W.10.1

ADAS 345

Input

Area (Ha)	7.490	Soil Type Factor (St)	1.000
Length (m)	110.000	Paved Area (%)	0.000
Average Slope (1:x)	34.0	Dominant Crop Type	Grass
AAR (mm)	1250	Region Number	2

Results 1/s

Q0 - Peak Flood Flow 140.9
 Total Q0 140.9

 QBAR 161.9

Q 2 years 148.0

Q 1 year 140.9

Q 2 years 148.0

Q 5 years 191.1

Q 10 years 229.9

Q 20 years 276.5

Q 25 years 293.4

Q 30 years 307.2

Q 50 years 352.0

Q 100 years 425.9

Q 200 years 482.6

Q 250 years 502.0

Q 1000 years 623.4

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IAC House
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Micro Drainage

Source Control W.10.1

ADAS 345

Input

Area (Ha)	7.270	Soil Type Factor (St)	1.000
Length (m)	270.000	Paved Area (%)	0.000
Average Slope (1:x)	45.0	Dominant Crop Type	Grass
AAR (mm)	1250	Region Number	2

Results 1/s

Q0 - Peak Flood Flow	100.4
Total Q0	100.4
QBAR	115.3
Q 2 years	105.4
Q 1 year	100.4
Q 2 years	105.4
Q 5 years	136.1
Q 10 years	163.8
Q 20 years	196.9
Q 25 years	209.0
Q 30 years	218.8
Q 50 years	250.8
Q 100 years	303.4
Q 200 years	343.7
Q 250 years	357.6
Q 1000 years	444.1



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Source Control W.10.1

Micro Drainage

ADAS 345

Input

Area (Ha)	3.940	Soil Type Factor (St)	1.000
Length (m)	190.000	Paved Area (%)	0.000
Average Slope (1:x)	44.0	Dominant Crop Type	Grass
AAR (mm)	1250	Region Number	2

Results l/s

Q0 - Peak Flood Flow	60.0
Total Q0	60.0
QBAR	69.0
Q 2 years	63.0
Q 1 year	60.0
Q 2 years	63.0
Q 5 years	81.4
Q 10 years	97.9
Q 20 years	117.7
Q 25 years	125.0
Q 30 years	130.8
Q 50 years	149.9
Q 100 years	181.4
Q 200 years	205.5
Q 250 years	213.8
Q 1000 years	265.5

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IAC House
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Micro Drainage

Source Control W.10.1

ADAS 345

Input

Area (Ha)	2.690	Soil Type Factor (St)	1.000
Length (m)	160.000	Paved Area (%)	0.000
Average Slope (1:x)	78.0	Dominant Crop Type	Grass
AAR (mm)	1250	Region Number	2

Results 1/s

Q0 - Peak Flood Flow		36.9
Total Q0		36.9
	QBAR	42.4
	Q 2 years	38.7
	Q 1 year	36.9
	Q 2 years	38.7
	Q 5 years	50.0
	Q 10 years	60.2
	Q 20 years	72.4
	Q 25 years	76.8
	Q 30 years	80.4
	Q 50 years	92.1
	Q 100 years	111.5
	Q 200 years	126.3
	Q 250 years	131.4
	Q 1000 years	163.2

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IAC House
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Source Control W.10.1

Micro Drainage

ADAS 345

Input

Area (Ha)	5.130	Soil Type Factor (St)	1.000
Length (m)	180.000	Paved Area (%)	0.000
Average Slope (1:x)	45.0	Dominant Crop Type	Grass
AAR (mm)	1250	Region Number	2

Results

l/s

Q0 - Peak Flood Flow	78.8
Total Q0	78.8
QBAR	90.5
Q 2 years	82.8
Q 1 year	78.8
Q 2 years	82.8
Q 5 years	106.8
Q 10 years	128.6
Q 20 years	154.6
Q 25 years	164.1
Q 30 years	171.8
Q 50 years	196.8
Q 100 years	238.1
Q 200 years	269.8
Q 250 years	280.7
Q 1000 years	348.6

AREA M1

Upton McGougan Plc

IAC House
Moorside House
Winchester SO23 7RXDate 22 November 2005 13:....
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Micro Drainage

Source Control W.10.1

ADAS 345

Input

Area (Ha)	0.690	Soil Type Factor (St)	1.000
Length (m)	105.000	Paved Area (%)	0.000
Average Slope (1:x)	53.0	Dominant Crop Type	Grass
AAR (mm)	1250	Region Number	2

Results 1/s

Q0 - Peak Flood Flow	11.7
Total Q0	11.7

QBAR	13.4
------	------

Q 2 years	12.3
-----------	------

Q 1 year	11.7
----------	------

Q 2 years	12.3
-----------	------

Q 5 years	15.9
-----------	------

Q 10 years	19.1
------------	------

Q 20 years	22.9
------------	------

Q 25 years	24.4
------------	------

Q 30 years	25.5
------------	------

Q 50 years	29.2
------------	------

Q 100 years	35.3
-------------	------

Q 200 years	40.0
-------------	------

Q 250 years	41.7
-------------	------

Q 1000 years	51.7
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AREA M2

Upton McGougan Plc

IAC House
Moorside House
Winchester SO23 7RX

Date 22 November 2005 13:00
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Designed By Mike Dewson
Checked By



Micro Drainage

Source Control W.10.1

ADAS 345

Input

Area (Ha)	1.900	Soil Type Factor (St)	1.000
Length (m)	95.000	Paved Area (%)	0.000
Average Slope (1:x)	70.0	Dominant Crop Type	Grass
AAR (mm)	1250	Region Number	2

Results 1/s

Q0 - Peak Flood Flow	30.7
Total Q0	30.7
QBAR	35.3
Q 2 years	32.3
Q 1 year	30.7
Q 2 years	32.3
Q 5 years	41.7
Q 10 years	50.1
Q 20 years	60.3
Q 25 years	64.0
Q 30 years	67.0
Q 50 years	76.8
Q 100 years	92.9
Q 200 years	105.2
Q 250 years	109.5
Q 1000 years	136.0

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Micro Drainage

Source Control W.10.1

ADAS 345

Input

Area (Ha)	1.080	Soil Type Factor (St)	1.000
Length (m)	95.000	Paved Area (%)	0.000
Average Slope (1:x)	25.0	Dominant Crop Type	Grass
AAR (mm)	1250	Region Number	2

Results 1/s

Q0 - Peak Flood Flow	22.9
Total Q0	22.9
QBAR	26.3
Q 2 years	24.0
Q 1 year	22.9
Q 2 years	24.0
Q 5 years	31.0
Q 10 years	37.4
Q 20 years	44.9
Q 25 years	47.7
Q 30 years	49.9
Q 50 years	57.2
Q 100 years	69.2
Q 200 years	78.4
Q 250 years	81.6
Q 1000 years	101.3

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IAC House
Moorside House
Winchester SO23 7RX

Date 22 November 2005 13:30
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Micro Drainage

Source Control W.10.1

ADAS 345

Input

Area (Ha)	2.610	Soil Type Factor (St)	1.000
Length (m)	230.000	Paved Area (%)	0.000
Average Slope (1:x)	140.0	Dominant Crop Type	Grass
AAR (mm)	1250	Region Number	2

Results 1/s

Q0 - Peak Flood Flow	27.9
Total Q0	27.9
QBAR	32.1
Q 2 years	29.3
Q 1 year	27.9
Q 2 years	29.3
Q 5 years	37.8
Q 10 years	45.5
Q 20 years	54.7
Q 25 years	58.1
Q 30 years	60.8
Q 50 years	69.7
Q 100 years	84.3
Q 200 years	95.5
Q 250 years	99.4
Q 1000 years	123.4

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Micro Drainage

Source Control W.10.1

ADAS 345

Input

Area (Ha)	8.470	Soil Type Factor (St)	1.000
Length (m)	330.000	Paved Area (%)	0.000
Average Slope (1:x)	202.0	Dominant Crop Type	Grass
AAR (mm)	1250	Region Number	2

Results 1/s

Q0 - Peak Flood Flow	74.8
Total Q0	74.8
QBAR	85.9
Q 2 years	78.6
Q 1 year	74.8
Q 2 years	78.6
Q 5 years	101.4
Q 10 years	122.0
Q 20 years	146.7
Q 25 years	155.7
Q 30 years	163.0
Q 50 years	186.8
Q 100 years	226.0
Q 200 years	256.1
Q 250 years	266.4
Q 1000 years	330.9

Upton McGougan Plc

IAC House
Moorside House
Winchester SO23 7RX



Date 22 November 2005 13:...
File

Designed By Mike Dewson
Checked By

Micro Drainage

Source Control W.10.1

ADAS 345

Input

Area (Ha)	14.600	Soil Type Factor (St)	1.000
Length (m)	360.000	Paved Area (%)	0.000
Average Slope (1:x)	275.0	Dominant Crop Type	Grass
AAR (mm)	1250	Region Number	2

Results 1/s

Q0 - Peak Flood Flow 116.2
 Total Q0 116.2

 QBAR 133.5

Q	2 years	122.0
Q	1 year	116.2
Q	2 years	122.0
Q	5 years	157.6
Q	10 years	189.6
Q	20 years	228.0
Q	25 years	242.0
Q	30 years	253.3
Q	50 years	290.3
Q	100 years	351.2
Q	200 years	397.9
Q	250 years	413.9
Q	1000 years	514.1

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ADAS 345

Input

Area (Ha)	13.940	Soil Type Factor (St)	1.000
Length (m)	400.000	Paved Area (%)	0.000
Average Slope (1:x)	74.0	Dominant Crop Type	Grass
AAR (mm)	1250	Region Number	2

Results 1/s

Q0 - Peak Flood Flow	152.3
Total Q0	152.3
QBAR	175.1
Q 2 years	160.0
Q 1 year	152.3
Q 2 years	160.0
Q 5 years	206.6
Q 10 years	248.6
Q 20 years	298.9
Q 25 years	317.2
Q 30 years	332.1
Q 50 years	380.6
Q 100 years	460.4
Q 200 years	521.7
Q 250 years	542.7
Q 1000 years	674.0

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Input

Area (Ha)	3.300	Soil Type Factor (St)	1.000
Length (m)	260.000	Paved Area (%)	0.000
Average Slope (1:x)	40.0	Dominant Crop Type	Grass
AAR (mm)	1250	Region Number	2

Results l/s

Q0 - Peak Flood Flow	47.5
Total Q0	47.5
QBAR	54.5
Q 2 years	49.9
Q 1 year	47.5
Q 2 years	49.9
Q 5 years	64.4
Q 10 years	77.4
Q 20 years	93.1
Q 25 years	98.8
Q 30 years	103.5
Q 50 years	118.6
Q 100 years	143.4
Q 200 years	162.5
Q 250 years	169.1
Q 1000 years	210.0

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ADAS 345

Input

Area (Ha)	1.910	Soil Type Factor (St)	1.000
Length (m)	215.000	Paved Area (%)	0.000
Average Slope (1:x)	133.0	Dominant Crop Type	Grass
AAR (mm)	1250	Region Number	2

Results 1/s

Q0 - Peak Flood Flow	21.1
Total Q0	21.1
QBAR	24.2
Q 2 years	22.1
Q 1 year	21.1
Q 2 years	22.1
Q 5 years	28.6
Q 10 years	34.4
Q 20 years	41.3
Q 25 years	43.9
Q 30 years	45.9
Q 50 years	52.6
Q 100 years	63.7
Q 200 years	72.1
Q 250 years	75.0
Q 1000 years	93.2

2.0 STORAGE VOLUMES

The greenfield run-off rates estimated from ADAS 345 from each development area have been summed to determine the allowable discharge rate from each SUDS retention pond.

The Microdrainage Windes Package has been used to determine the maximum storage volume for each pond depending on the total hard paved area it serves. The M5-60 and ratio R values have been determined from the FEH CD Rom; these are 15.70mm and 0.23 respectively for the site.

The allowable discharge rates and maximum storage volumes are as follows:-

	S1	S2	S3	S4	S6	S7	S8	S9	S10
Q	416l/s	59l/s	658l/s	143l/s	308l/s	129l/s	82l/s	82l/s	144l/s
V	1,810m ³	440m ³	3,100m ³	3,300m ³	3,300m ³	3,500m ³	430m ³	900m ³	5,800m ³

TREATMENT VOLUMES

The levels of treatment required for each development area have been identified with the FRA.

The employment areas will require a treatment pond to satisfy the criteria. The pond volume (Vt) has been determined from the equation given in Appendix C of the SUDS Design Manual.

D has been determined at 15.70mm and SOIL has been estimated at 0.4 from the FEH Catchment Description.

The required volumes for each treatment pond is as follows:-

	S6	S7	S10
Vt	1,625m ³	1,250m ³	1,800m ³

The following table has been taken from the FRA and revised in accordance with the above figures and added to for clarity.

RO BISHOPTON SUDS SCHEDULE					
SUDS REF	AREAS SERVED	TOTAL HARDBAVED AREA	TREATMENT LEVEL REQUIRED	TREATMENT POND VOLUME	STORAGE VOLUME
S1	H13,H14,H16,H17 H18,H19	10 Ha	1 STAGE	N/A	2000m3
S2	H2	2 Ha	1 STAGE	N/A	500m3
S3	H1,H3,H6,H7,H8 H9,H10,H12	16.6 Ha	1 STAGE	N/A	3100m3
S4	H4A,H4B,H4C M1,M2,M3,M5	10 Ha	H - 1 STAGE M - 2 STAGE	N/A	3100m3
S5	NONE	N/A	N/A	N/A	N/A
S6	H15,E3	13 Ha	H - 1 STAGE E - 3 STAGE	1625m3	3600m3
S7A+S7B	E1,E4	10 Ha	3 STAGE	1250m3	4000m3
S8	H5	2.2 Ha	1 STAGE	N/A	500m3
S9	H11,M4	3.5 Ha	H - 1 STAGE M - 2 STAGE	N/A	1000m3
S10	C1,E2	14.5 Ha	3 STAGE	1800m3	6000m3