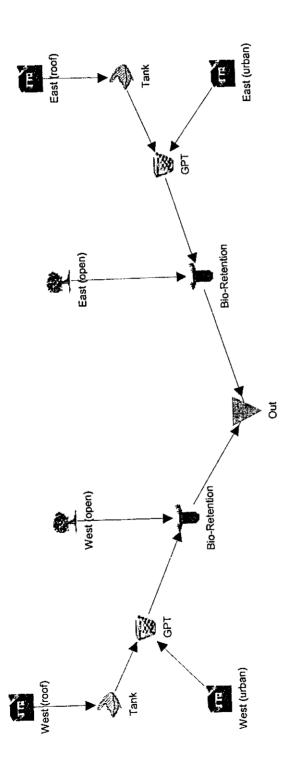
## APPENDIX I MUSIC MODELLING RESULTS (REVISED FOR DA)



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Source nodes
  , West (open) (ID = 1), East (open) (ID = 2), West (urban) (ID = 4), East
  (urban) (ID = 5), West (roof) (ID = 10), East (roof) (ID = 11)
  Total Area (ha),1.97,0.19,3.2,0.32,1.36,0.14
  Area Impervious
  (ha),0.287982894736842,0.027775,1.61417543859649,0.158582456140351,1.
  36,0.14
  Area Shallow Soils (ha),0,0,0,0,0,0
  Area Deep Soils
  (ha),1.68201710526316,0.162225,1.58582456140351,0.161417543859649,0,0
 Field Capacity (mm), 150, 150, 150, 150, 150, 150
 Infiltration Capacity coefficient, 100, 100, 100, 100, 100, 100
 Infiltration Capacity exponent, 0.65, 0.65, 0.65, 0.65, 0.65
 Rainfall Threshold (mm), 1.5, 1.5, 1.5, 1.5, 1.5, 1.5
 Shallow Soil Capacity (mm), 150, 150, 150, 150, 150
 Shallow Soil initial storage (mm), 37.5, 37.5, 37.5, 37.5, 37.5
 Deep Soil Capacity (mm),400,400,400,400,400,400
 Deep Soil initial storage (mm), 100, 100, 100, 100, 100, 100
 Groundwater Daily Recharge Rate (%),0.55,0.55,0.55,0.55,0.55
 Groundwater Daily Drainage Rate (%), 0.65, 0.65, 0.65, 0.65, 0.65
 Groundwater Initial Depth (mm),20,25,20,20,20
 Stormflow Total Suspended Solids Mean (log mg/L),1.176,1.176,2,2,2,2
 Stormflow Total Suspended Solids Standard Deviation (log
 mg/L),0.2,0.2,0.32,0.32,0.32,0.32
 Stormflow Total Suspended Solids Estimation
 Method, Mean, Mean, Mean, Mean, Mean
 Stormflow Total Phosphorus Mean (log mg/L),-1.398,-1.398,-0.523,-
 0.523,-0.523,-0.523
 Stormflow Total Phosphorus Standard Deviation (log
 mg/L),0.22,0.22,0.25,0.25,0.25,0.25
 Stormflow Total Phosphorus Estimation
 Method, Mean, Mean, Mean, Mean, Mean
 Stormflow Total Nitrogen Mean (log mg/L),-0.301,-
 0.301,0.176,0.176,0.176,0.176
 Stormflow Total Nitrogen Standard Deviation (log
 mg/L),0.24,0.24,0.19,0.19,0.19
 Stormflow Total Nitrogen Estimation
Method, Mean, Mean, Mean, Mean, Mean
Baseflow Total Suspended Solids Mean (log mg/L),-1,-1,-1,-1,-1,-1
Baseflow Total Suspended Solids Standard Deviation (log
mg/L),0.13,0.13,0.17,0.17,0.17,0.17
Baseflow Total Suspended Solids Estimation
Method, Mean, Mean, Mean, Mean, Mean
Baseflow Total Phosphorus Mean (log mg/L), -1, -1, -1, -1, -1, -1
Baseflow Total Phosphorus Standard Deviation (log
mg/L), 0.13, 0.13, 0.19, 0.19, 0.19, 0.19
Baseflow Total Phosphorus Estimation
Method, Mean, Mean, Mean, Mean, Mean
Baseflow Total Nitrogen Mean (log mg/L), -1, -1, -1, -1, -1
Baseflow Total Nitrogen Standard Deviation (log
mg/L),0.13,0.13,0.12,0.12,0.12,0.12
Baseflow Total Nitrogen Estimation
Method, Mean, Mean, Mean, Mean, Mean
USTM treatment nodes
,Tank (ID = 8),Tank (ID = 9),Bio-Retention (ID = 12),Bio-Retention
Lo-flow bypass rate (cum/sec),0,0,0,0
Hi-flow bypass rate (cum/sec),100,100,100,100
Inlet pond volume,0,0,,
Area (sqm),1,1,4690,400
Extended detention depth (m), 0.3, 0.3, 0.21, 0.25
Permanent pool volume (cum),300,36,,
Proportion vegetated, 0.1, 0.1,
Equivalent pipe diameter (mm), 90, 90,
Orifice discharge coefficient, 0.6, 0.6,,
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Overflow weir width (m),2,2,5,2
Weir coefficient, 1.7, 1.7, 1.7, 1.7
Number of CSTR cells, 2, 2, 3, 3
Total Suspended Solids k (m/yr),1000,1000,1000,1000
Total Suspended Solids C* (mg/L), 12, 12, 12, 12
Total Suspended Solids C** (mg/L),12,12,
Total Phosphorus k (m/yr),500,500,500
Total Phosphorus C* (mg/L),0.13,0.13,0.13,0.13
Total Phosphorus C** (mg/L), 0.13, 0.13,,
Total Nitrogen k (m/yr),50,50,50,50
Total Nitrogen C* (mg/L),1.3,1.3,1.3
Total Nitrogen C** (mg/L),1.3,1.3,,
Threshold hydraulic loading for C** (m/yr),3500,3500,,
Extraction for reuse, On, On, Off, Off
Annual reuse demand (ML), 5.6, 0.9,,
 Reuse scaling, Uniform, Uniform,,
 Filter area (sqm),,,780,50
 Filter depth (m),,,0.7,1
 Filter particle effective diameter (mm),,,5,5
 Saturated hydraulic conductivity (mm/hr),,,100,100
 Voids ratio,,,0.3,0.3
 Length (m),,,,
 Bed slope, , , ,
 Width (m),,,,
 Top width (m),,,,
 Vegetation height (m),,,,
 Proportion of upstream impervious area treated,,,,
 Generic treatment nodes
  ,GPT (ID = 6),GPT (ID = 7)
 Lo-flow bypass rate (cum/sec),0,0
 Hi-flow bypass rate (cum/sec),100,100
  Flow Transfer Function
  Input (cum/sec),0,0
  Output (cum/sec),0,0
  Input (cum/sec),10,10
  Output (cum/sec),10,10
  Input (cum/sec),,
  Output (cum/sec),,
  Input (cum/sec),,
  Output (cum/sec),,
  Input (cum/sec),,
  Output (cum/sec),,
   Input (cum/sec),,
   Output (cum/sec),,
   Input (cum/sec),,
   Output (cum/sec),,
   Input (cum/sec),,
   Output (cum/sec),,
   Input (cum/sec),,
   Output (cum/sec),,
   Input (cum/sec),,
   Output (cum/sec),,
   Gross Pollutant Transfer Function
   Input (kg/ML),0,0
   Output (kg/ML),0,0
   Input (kg/ML), 15, 15
   Output (kg/ML), 15, 15
    Input (kg/ML),,
   Output (kg/ML),,
    Input (kg/ML),,
    Output (kg/ML),,
    Input (kg/ML),,
    Output (kg/ML),,
    Input (kg/ML),,
    Output (kg/ML),,
```

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Input (kg/ML),,
  Output (kg/ML),,
  Input (kg/ML),,
  Output (kg/ML),,
  Input (kg/ML),,
  Output (kg/ML),,
  Input (kg/ML),,
  Output (kg/ML),
  Total Nitrogen Transfer Function
  Input (mg/L),0,0
  Output (mg/L),0,0
  Input (mg/L),49.9991804487862,49.9991804487862
 Output (mg/L),43.4831437481407,43.4831437481407
  Input (mg/L),,
 Output (mg/L),,
 Total Phosphorus Transfer Function
 Input (mg/L),0,0
 Output (mg/L),0,0
 Input (mg/L),10.0121859486036,10.0121859486036
 Output (mg/L),6.98514687069129,6.98514687069129
 Input (mg/L),,
 Output (mg/L),,
 Input (mg/L),,
 Output (mg/L),,
 Input (mg/L),,
 Output (mg/L),,
 Input (mg/L),,
Output (mg/L),,
 Input (mg/L),,
Output (mg/L),,
Input (mg/L),,
Output (mg/L),,
Input (mg/L),,
Output (mg/L),,
Input (mg/L),,
Output (mg/L),,
Total Suspended Solids Transfer Function
Input (mg/L),0,0
Output (mg/L),0,0
Input (mg/L),1002.68508939589,1002.68508939589
Output (mg/L),199.926799517283,199.926799517283
Input (mg/L),,
Output (mg/L),,
Input (mg/L),,
```

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Output (mg/L),,
Input (mg/L),,
Output (mg/L),,
Input (mg/L),,
Output (mg/L),,
Other nodes
Out (ID = 3)
 ,Drainage Link,Drainage Link,Drainage Link,Drainage
 Links
 Link, Drainage Link, Drainage Link, Drainage Link, Drainage
 Link, Drainage Link, Drainage Link
 Source node, West (roof) (ID = 10), West (open) (ID = 1), Tank (ID =
  8), West (urban) (ID = 4), GPT (ID = 6), Bio-Retention (ID = 12), East
  (roof) (ID = 11), Tank (ID = 9), East (open) (ID = 2), East (urban) (ID
  = 5), GPT (ID = 7), Bio-Retention (ID = 13)

Target node, Tank (ID = 8), Bio-Retention (ID = 12), GPT (ID = 6), GPT (ID = 6), Bio-Retention (ID = 12), Out (ID = 3), Tank (ID = 9), GPT (ID = 6), Bio-Retention (ID = 12), Out (ID = 3), Tank (ID = 9), GPT (ID = 12), Out (ID = 12)
   7), Bio-Retention (ID = 13), GPT (ID = 7), Bio-Retention (ID = 13), Out
  Muskingum-Cunge Routing, Not Routed, Not Routed, Not Routed, Not
   Routed, Not Routed, Not Routed, Not Routed, Not Routed, Not
   Routed, Not Routed, Not Routed
    Muskingum K,,,,,,,,,,
    Muskingum theta,,,,,,,,,,,
```

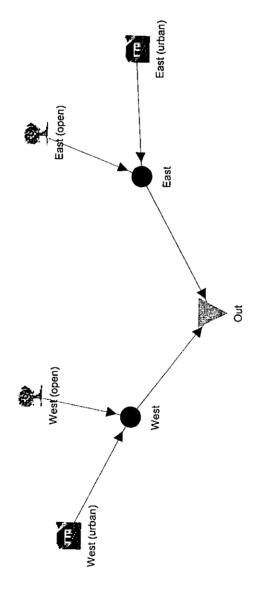
4

Loads	TN (kg/yr) Gross Pollutants (kg/yr)	0.00	00:00
Mean Annual Loads	TN (kg/yr)	24.6	0.00
	TP (kg/yr)	3.33	0.00
	TSS (kg/yr)	315	0.00
	Flow (ML/yr)	51.1	0.00

Inflow
OutFlow

Inflow

	mean	median	maximum	minimum	10 %ile	90 %ile	
manning matree per second)	1.62E-3	156E-6	1.13	1.20E-6	27.8E-6	367E-6	
Flow (came increased)	0.734	0.418	16.9	0.00	0.417	0.418	
(1991) (mg/c)	26.9E-3	26.7E-3	0.158	0.00	26.7E-3	26.8E-3	
TSS Load (kg/so Millores)	88.2E-3	68.1E-3	1.11	00.00	67.9E-3	68.2E-3	
[1P] (mg/L)	17.9E-3	118E-6	34.3	00.0	20.8E-6	276E-6	
TP Load (kg)30 Minutes)	190E-6	7.55E-6	0.320	0.00	1.33E-6	17.7E-6	
[1] (mg/c)	1.40E-3	19.2E-6	2.20	0.00	3.39E-6	45.1E-6	
(R Load (Rg/30 Minutes) Gross Pollutant Load (kg/30 Minutes)	0.00	0.00	0.00	0.00	0.00	0.00	



```
,West (open) (ID = 1),East (open) (ID = 2),West (urban) (ID = 6),East
Source nodes
(urban) (ID = 7)
Total Area (ha),1.97,0.19,4.56,0.46
Area Impervious
(ha),0.287982894736842,0.027775,2.9466,0.297244736842105
Area Shallow Soils (ha),0,0,0,0
Area Deep Soils
(ha),1.68201710526316,0.162225,1.6134,0.162755263157895
Field Capacity (mm), 150, 150, 150, 150
Infiltration Capacity coefficient, 100, 100, 100, 100
Infiltration Capacity exponent, 0.65, 0.65, 0.65
Rainfall Threshold (mm), 1.5, 1.5, 1.5, 1.5
Shallow Soil Capacity (mm), 150, 150, 150, 150
Shallow Soil initial storage (mm), 37.5, 37.5, 37.5, 37.5
Deep Soil Capacity (mm),400,400,400,400
Deep Soil initial storage (mm), 100, 100, 100, 100
Groundwater Daily Recharge Rate (%),0.55,0.55,0.55,0.55
 Groundwater Daily Drainage Rate (%),0.65,0.65,0.65,0.65
 Groundwater Initial Depth (mm), 20, 20, 20, 20
 Stormflow Total Suspended Solids Mean (log mg/L),1.176,1.176,2,2
 Stormflow Total Suspended Solids Standard Deviation (log
 mg/L),0.2,0.2,0.32,0.32
 Stormflow Total Suspended Solids Estimation
 Method, Mean, Mean, Mean, Mean
 Stormflow Total Phosphorus Mean (log mg/L), -1.398, -1.398, -0.523, -
 0.523
 Stormflow Total Phosphorus Standard Deviation (log
 mg/L),0.22,0.22,0.25,0.25
 Stormflow Total Phosphorus Estimation Method, Mean, Mean, Mean
 Stormflow Total Nitrogen Mean (log mg/L), -0.301, -0.301, 0.176, 0.176
 Stormflow Total Nitrogen Standard Deviation (log
 mg/L),0.24,0.24,0.19,0.19
 Stormflow Total Nitrogen Estimation Method, Mean, Mean, Mean, Mean
 Baseflow Total Suspended Solids Mean (log mg/L),-1,-1,-1
  Baseflow Total Suspended Solids Standard Deviation (log
  mg/L),0.13,0.13,0.17,0.17
  Baseflow Total Suspended Solids Estimation Method, Mean, Mean, Mean
  Baseflow Total Phosphorus Mean (log mg/L),-1,-1,-1
  Baseflow Total Phosphorus Standard Deviation (log
  mq/L),0.13,0.13,0.19,0.19
  Baseflow Total Phosphorus Estimation Method, Mean, Mean, Mean, Mean
  Baseflow Total Nitrogen Mean (log mg/L),-1,-1,-1
  Baseflow Total Nitrogen Standard Deviation (log
  mg/L),0.13,0.13,0.12,0.12
  Baseflow Total Nitrogen Estimation Method, Mean, Mean, Mean, Mean
  No USTM treatment nodes
  No Generic treatment nodes
   Other nodes
   Out (ID = 3)
   East (ID = 4)
   West (ID = 5)
   ,Drainage Link,Drainage Link,Drainage Link,Drainage Link,Drainage
   Links
   Link, Drainage Link
   Source node, West (urban) (ID = 6), West (open) (ID = 1), West (ID =
   5), East (open) (ID = 2), East (urban) (ID = 7), East (ID = 4)
   Target node, West (ID = 5), West (ID = 5), Out (ID = 3), East (ID =
   4), East (ID = 4), Out (ID = 3)
   Muskingum-Cunge Routing, Not Routed, Not Routed, Not Routed, Not
   Routed, Not Routed, Not Routed
   Muskingum K,,,,,
```

Muskingum theta,,,,,

Gross Pollutants (kg/yr) 0.00 Mean Annual Loads TN (kg/yr) 13.9 TP (kg/yr) 4.48E3 TSS (kg/yr)

0.00

0.00

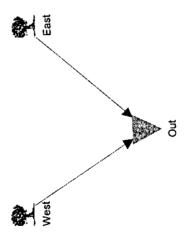
00.0 56.7

Flow (ML/yr)

Inflow

OutFlow

							Inflow
	теап	median	тахітит	minimum	10 %ile	90 %ile	
Flow (cubic metres per second)	1.80E-3	160E-6	1.43	22.9E-6	46.0F-6	351E.8	
[TSS] (mg/L)	3.96	0.100	92.3	100E-3	100F-3	01.00	
TSS Load (kg/30 Minutes)	0.107	0.100	0.276	100E-3	100F.3	5 6	
[TP] (mg/L)	0.155	0.100	14.	100F-3	100E-3	9 6	
TP Load (kg/30 Minutes)	0.255	28.7E-6	195	4 12E.R	0 0	00 10	
[TN] (mg/L)	794E-6	28,7E-6	0.580	4 12 18	0-202-0	63.TE-6	
TN Load (kg/30 Minutes)	3.98E-3	28.7E-6	3.12	4.12E-6	0.20E-0	63.1E-6 63.1E-6	
Gross Pollutant Load (kg/30 Minutes)	43.0E-3	0.00	17.8	0.00	0.00	0.00	



```
Source nodes
  ,West (ID = 1),East (ID = 2)
  Total Area (ha),6.5,0.67
 Area Impervious (ha),0.316732456140351,0.0326478070175439
 Area Shallow Soils (ha),0,0
 Area Deep Soils (ha),6.18326754385965,0.637352192982456
 Field Capacity (mm), 150, 150
 Infiltration Capacity coefficient, 100, 100
 Infiltration Capacity exponent, 0.65, 0.65
 Rainfall Threshold (mm), 1.5, 1.5
 Shallow Soil Capacity (mm),150,150
 Shallow Soil initial storage (mm), 37.5, 37.5
 Deep Soil Capacity (mm),400,400
 Deep Soil initial storage (mm),100,100
 Groundwater Daily Recharge Rate (%),0.55,0.55
 Groundwater Daily Drainage Rate (%),0.65,0.65
 Groundwater Initial Depth (mm), 20, 20
 Stormflow Total Suspended Solids Mean (log mg/L),1.477,1.477
 Stormflow Total Suspended Solids Standard Deviation (log
 mg/L), 0.2, 0.2
 Stormflow Total Suspended Solids Estimation Method, Mean, Mean
 Stormflow Total Phosphorus Mean (log mg/L),-0.921,-0.921
 Stormflow Total Phosphorus Standard Deviation (log mg/L),0.22,0.22
 Stormflow Total Phosphorus Estimation Method, Mean, Mean
 Stormflow Total Nitrogen Mean (log mg/L),0.176,0.176
 Stormflow Total Nitrogen Standard Deviation (log mg/L),0.24,0.24
 Stormflow Total Nitrogen Estimation Method, Mean, Mean
Baseflow Total Suspended Solids Mean (log mg/L),-1,-1
Baseflow Total Suspended Solids Standard Deviation (log
mg/L),0.13,0.13
Baseflow Total Suspended Solids Estimation Method, Mean, Mean
Baseflow Total Phosphorus Mean (log mg/L),-1,-1
Baseflow Total Phosphorus Standard Deviation (log mg/L),0.13,0.13
Baseflow Total Phosphorus Estimation Method, Mean, Mean
Baseflow Total Nitrogen Mean (log mg/L),-1,-1
Baseflow Total Nitrogen Standard Deviation (log mg/L),0.13,0.13
Baseflow Total Nitrogen Estimation Method, Mean, Mean
No USTM treatment nodes
No Generic treatment nodes
Other nodes
Out (ID = 3)
Links
,Drainage Link,Drainage Link
Source node, West (ID = 1), East (ID = 2)
Target node,Out (ID = 3),Out (ID = 3)
Muskingum-Cunge Routing, Not Routed, Not Routed
Muskingum K,,
Muskingum theta,,
```

Gross Pollutants (kg/yr)

TN (kg/yr)

TP (kg/yr)

TSS (kg/yr)

Flow (ML/yr)

Mean Annual Loads

0.00

29.1

0.00 3.26

564

28.8

OutFlow

							Inflow
	теап	median	maximum	minimum	10 %ile	90 %ile	
Flow (cubic metres per second)	913E-6	303E-6	1.33	43.4E-6	87.25-6	A TA	
[TSS] (mg/L)	1.22	0.100	30.0	100E-3	100F-3	0 100	
TSS Load (kg/30 Minutes)	0.101	0.100	0.120	100E-3	100F.3	2, 6	
[TP] (mg/L)	0.152	0.100	1.50	100E-3	100E.3	5 5	
TP Load (kg/30 Minutes)	32.1E-3	54.5E-6	71.6	7 805-6	15.75 ¢	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	
[TN] (mg/L)	186E-6	54.5E-6	0.286	7.80F.B	, 4, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	120E-0	
TN Load (kg/30 Minutes)	1.66E-3	54.5E-6	3.58	7.80E-6	15.7E-6	120E-6	
Gross Pollutant Load (kg/30 Minutes)	0.00	0.00	0.00	0.00	0.00	0.00	