APPENDIX F – MUSIC Link Report

MUSIC-*link* Report

Project Details		Company Details	
Project:	Cobbitty - Mirvac Masterplan IWCM	**Company:**	Orion Consulting
Report Export Date:	5/06/2022	**Contact:**	Christopher Scholes
Catchment Name:	Cobbitty Masterplan MUSIC Model	**Address:**	Suite 4.04, 12 Century Circuit Norwest NSW 2153
Catchment Area:	107.233ha	**Phone:**	8600 0035
Impervious Area*:	66.17%	**Email:**	christopher.scholes@orionconsulting.com.au
Rainfall Station:	67035 LIVERPOOL(WHITLAM		
Modelling Time-step:	6 Minutes		
Modelling Period:	1/01/1985 - 31/12/1994 11:54:00 PM		
Mean Annual Rainfall:	783mm		
Evapotranspiration:	1261mm		
MUSIC Version:	6.3.0		
MUSIC-link data Version:	6.34		
Study Area:	Camden City Council		
Scenario:	Camden City Council		

* takes into account area from all source nodes that link to the chosen reporting node, excluding Import Data Nodes

Treatment Train Effectiveness		Treatment Nodes		Source Nodes	
Node: Receiving Node	**Reduction**	**Node Type**	**Number**	**Node Type**	**Number**
Flow	11.8%	Bio Retention Node	8	Urban Source Node	58
TSS	90%	Rain Water Tank Node	10		
TP	86.7%	GPT Node	8		
TN	70.8%				
GP	96.4%				

Comments

Application of proprietary raingarden type to optimise landtake and maintenance cycle.

Passing Parameters

Node Type	Node Name	Parameter	Min	Max	Actual
Bio	FT Lake 01 850m^2	Hi-flow bypass rate (cum/sec)	None	None	1.5
Bio	FT Lake 01 850m^2	PET Scaling Factor	2.1	2.1	2.1
Bio	FT Lake 02 500m^2	Hi-flow bypass rate (cum/sec)	None	None	0.9
Bio	FT Lake 02 500m^2	PET Scaling Factor	2.1	2.1	2.1
Bio	FT Lake 03 650m^2	Hi-flow bypass rate (cum/sec)	None	None	1.25
Bio	FT Lake 03 650m^2	PET Scaling Factor	2.1	2.1	2.1
Bio	FT PD04 250m^2	Hi-flow bypass rate (cum/sec)	None	None	0.55
Bio	FT PD04 250m^2	PET Scaling Factor	2.1	2.1	2.1
Bio	FT PD05 500m^2	Hi-flow bypass rate (cum/sec)	None	None	1.05
Bio	FT PD05 500m^2	PET Scaling Factor	2.1	2.1	2.1
Bio	FT PD06 150m^2	Hi-flow bypass rate (cum/sec)	None	None	0.255
Bio	FT PD06 150m^2	PET Scaling Factor	2.1	2.1	2.1
Bio	FT PD07 900m^2	Hi-flow bypass rate (cum/sec)	None	None	1.75
Bio	FT PD07 900m^2	PET Scaling Factor	2.1	2.1	2.1
Bio	FT PD08 100m^2	Hi-flow bypass rate (cum/sec)	None	None	1
Bio	FT PD08 100m^2	PET Scaling Factor	2.1	2.1	2.1
GPT	HumeGard PD06	Hi-flow bypass rate (cum/sec)	None	99	0.255
GPT	HumeGard Lake 01	Hi-flow bypass rate (cum/sec)	None	99	1.5
GPT	HumeGard Lake 02	Hi-flow bypass rate (cum/sec)	None	99	0.9
GPT	HumeGard PD03	Hi-flow bypass rate (cum/sec)	None	99	1.25
GPT	HumeGard PD04	Hi-flow bypass rate (cum/sec)	None	99	0.55
GPT	HumeGard PD05	Hi-flow bypass rate (cum/sec)	None	99	1.05
GPT	HumeGard PD07	Hi-flow bypass rate (cum/sec)	None	99	1.75
GPT	HumeGard PD08	Hi-flow bypass rate (cum/sec)	None	99	1
Rain	PD01 RWT 111	% Reuse Demand Met	None	None	36.32
Rain	PD02 RWT 74	% Reuse Demand Met	None	None	36.00
Rain	PD03 RWT 166	% Reuse Demand Met	None	None	36.6956
Rain	PD04 RWT 89	% Reuse Demand Met	None	None	36.89
Rain	PD05 RWT 143	% Reuse Demand Met	None	None	36.47
Rain	PD06 RWT 23	% Reuse Demand Met	None	None	36.57
Rain	PD07 RWT 276	% Reuse Demand Met	None	None	36.123
Rain	PD08 RWT 30	% Reuse Demand Met	None	None	36.14
Rain	PD-A RWT 158	% Reuse Demand Met	None	None	36.03
Rain	PD-B RWT 149	% Reuse Demand Met	None	None	36.20
Receiving	Receiving Node	% Load Reduction	None	None	11.8
Receiving	Receiving Node	GP % Load Reduction	90	None	96.4
Receiving	Receiving Node	TN % Load Reduction	45	None	70.8
Receiving	Receiving Node	TP % Load Reduction	65	None	86.7
Receiving	Receiving Node	TSS % Load Reduction	85	None	90
Urban	581 Cobbitty Road (4.455 ha)	Area Impervious (ha)	None	None	0.901

Only certain parameters are reported when they pass validation

Node Type	Node Name	Parameter	Min	Max	Actual
Urban	581 Cobbitty Road (4.455 ha)	Area Pervious (ha)	None	None	3.553
Urban	581 Cobbitty Road (4.455 ha)	Total Area (ha)	None	None	4.455
Urban	B1 Area (1.854 ha)	Area Impervious (ha)	None	None	1.583
Urban	B1 Area (1.854 ha)	Area Pervious (ha)	None	None	0.270
Urban	B1 Area (1.854 ha)	Total Area (ha)	None	None	1.854
Urban	Lot Sup (0.3 ha)	Area Impervious (ha)	None	None	0.196
Urban	Lot Sup (0.3 ha)	Area Pervious (ha)	None	None	0.103
Urban	Lot Sup (0.3 ha)	Total Area (ha)	None	None	0.3
Urban	Lot Sup (0.34 ha)	Area Impervious (ha)	None	None	0.222
Urban	Lot Sup (0.34 ha)	Area Pervious (ha)	None	None	0.117
Urban	Lot Sup (0.34 ha)	Total Area (ha)	None	None	0.34
Urban	Lot Sup (1.89 ha)	Area Impervious (ha)	None	None	1.237
Urban	Lot Sup (1.89 ha)	Area Pervious (ha)	None	None	0.652
Urban	Lot Sup (1.89 ha)	Total Area (ha)	None	None	1.89
Urban	Lot Sup (1.92 ha)	Area Impervious (ha)	None	None	1.256
Urban	Lot Sup (1.92 ha)	Area Pervious (ha)	None	None	0.663
Urban	Lot Sup (1.92 ha)	Total Area (ha)	None	None	1.92
Urban	Lot Sup (2.09 ha)	Area Impervious (ha)	None	None	1.367
Urban	Lot Sup (2.09 ha)	Area Pervious (ha)	None	None	0.722
Urban	Lot Sup (2.09 ha)	Total Area (ha)	None	None	2.09
Urban	Lot Sup (2.22 ha)	Area Impervious (ha)	None	None	1.453
Urban	Lot Sup (2.22 ha)	Area Pervious (ha)	None	None	0.766
Urban	Lot Sup (2.22 ha)	Total Area (ha)	None	None	2.22
Urban	Lot Sup (2.46 ha)	Area Impervious (ha)	None	None	1.610
Urban	Lot Sup (2.46 ha)	Area Pervious (ha)	None	None	0.849
Urban	Lot Sup (2.46 ha)	Total Area (ha)	None	None	2.46
Urban	Lot Sup (3.106 ha)	Area Impervious (ha)	None	None	2.032
Urban	Lot Sup (3.106 ha)	Area Pervious (ha)	None	None	1.073
Urban	Lot Sup (3.106 ha)	Total Area (ha)	None	None	3.106
Urban	Lot Sup (4.292 ha)	Area Impervious (ha)	None	None	2.809
Urban	Lot Sup (4.292 ha)	Area Pervious (ha)	None	None	1.482
Urban	Lot Sup (4.292 ha)	Total Area (ha)	None	None	4.292
Urban	Lot Sup (4.82 ha)	Area Impervious (ha)	None	None	3.154
Urban	Lot Sup (4.82 ha)	Area Pervious (ha)	None	None	1.665
Urban	Lot Sup (4.82 ha)	Total Area (ha)	None	None	4.82
Urban	NW Basin Area (0.901 ha)	Area Impervious (ha)	None	None	0
Urban	NW Basin Area (0.901 ha)	Area Pervious (ha)	None	None	0.901
Urban	NW Basin Area (0.901 ha)	Total Area (ha)	None	None	0.901
Urban	PD-01 (0.274 ha)	Area Impervious (ha)	None	None	0.014
Urban	PD-01 (0.274 ha)	Area Pervious (ha)	None	None	0.259

Only certain parameters are reported when they pass validation

Node Type	Node Name	Parameter	Min	Max	Actual
Urban	PD-01 (0.274 ha)	Total Area (ha)	None	None	0.274
Urban	PD-05 Sports Field & Open Space (3.485 ha)	Area Impervious (ha)	None	None	0.179
Urban	PD-05 Sports Field & Open Space (3.485 ha)	Area Pervious (ha)	None	None	3.305
Urban	PD-05 Sports Field & Open Space (3.485 ha)	Total Area (ha)	None	None	3.485
Urban	PD-07 (5.011 ha)	Area Impervious (ha)	None	None	0.258
Urban	PD-07 (5.011 ha)	Area Pervious (ha)	None	None	4.752
Urban	PD-07 (5.011 ha)	Total Area (ha)	None	None	5.011
Urban	PD08 (0.134 ha)	Area Impervious (ha)	None	None	0.00690499999999999
Urban	PD08 (0.134 ha)	Area Pervious (ha)	None	None	0.127
Urban	PD08 (0.134 ha)	Total Area (ha)	None	None	0.134
Urban	PD-L (4.811 ha)	Area Impervious (ha)	None	None	0.247
Urban	PD-L (4.811 ha)	Area Pervious (ha)	None	None	4.563
Urban	PD-L (4.811 ha)	Total Area (ha)	None	None	4.811
Urban	PD-L Roads Bypass (0.289 ha)	Area Impervious (ha)	None	None	0.275
Urban	PD-L Roads Bypass (0.289 ha)	Area Pervious (ha)	None	None	0.013
Urban	PD-L Roads Bypass (0.289 ha)	Total Area (ha)	None	None	0.289
Urban	PD-R01 (2.01 ha)	Area Impervious (ha)	None	None	0.103
Urban	PD-R01 (2.01 ha)	Area Pervious (ha)	None	None	1.906
Urban	PD-R01 (2.01 ha)	Total Area (ha)	None	None	2.01
Urban	PD-R03E (1.509 ha)	Area Impervious (ha)	None	None	0.077
Urban	PD-R03E (1.509 ha)	Area Pervious (ha)	None	None	1.431
Urban	PD-R03E (1.509 ha)	Total Area (ha)	None	None	1.509
Urban	PD-R03E Roads Bypass (0.533 ha)	Area Impervious (ha)	None	None	0.507
Urban	PD-R03E Roads Bypass (0.533 ha)	Area Pervious (ha)	None	None	0.025
Urban	PD-R03E Roads Bypass (0.533 ha)	Total Area (ha)	None	None	0.533
Urban	PD-R03W (3.236 ha)	Area Impervious (ha)	None	None	0.166
Urban	PD-R03W (3.236 ha)	Area Pervious (ha)	None	None	3.069
Urban	PD-R03W (3.236 ha)	Total Area (ha)	None	None	3.236
Urban	PD-R04 (2.1 ha)	Area Impervious (ha)	None	None	0.108
Urban	PD-R04 (2.1 ha)	Area Pervious (ha)	None	None	1.991
Urban	PD-R04 (2.1 ha)	Total Area (ha)	None	None	2.1
Urban	PD-R04 Roads Bypass (0.52 ha)	Area Impervious (ha)	None	None	0.495
Urban	PD-R04 Roads Bypass (0.52 ha)	Area Pervious (ha)	None	None	0.024
Urban	PD-R04 Roads Bypass (0.52 ha)	Total Area (ha)	None	None	0.52
Urban	Roads (0.428 ha)	Area Impervious (ha)	None	None	0.407
Urban	Roads (0.428 ha)	Area Pervious (ha)	None	None	0.020
Urban	Roads (0.428 ha)	Total Area (ha)	None	None	0.428
Urban	Roads (0.485 ha)	Area Impervious (ha)	None	None	0.461
Urban	Roads (0.485 ha)	Area Pervious (ha)	None	None	0.023
Urban	Roads (0.485 ha)	Total Area (ha)	None	None	0.485

Only certain parameters are reported when they pass validation

Node Type	Node Name	Parameter	Min	Max	Actual
Urban	Roads (0.89 ha)	Area Impervious (ha)	None	None	0.847
Urban	Roads (0.89 ha)	Area Pervious (ha)	None	None	0.042
Urban	Roads (0.89 ha)	Total Area (ha)	None	None	0.89
Urban	Roads (1.6 ha)	Area Impervious (ha)	None	None	1.523
Urban	Roads (1.6 ha)	Area Pervious (ha)	None	None	0.076
Urban	Roads (1.6 ha)	Total Area (ha)	None	None	1.6
Urban	Roads (2.17 ha)	Area Impervious (ha)	None	None	2.066
Urban	Roads (2.17 ha)	Area Pervious (ha)	None	None	0.103
Urban	Roads (2.17 ha)	Total Area (ha)	None	None	2.17
Urban	Roads (2.542 ha)	Area Impervious (ha)	None	None	2.420
Urban	Roads (2.542 ha)	Area Pervious (ha)	None	None	0.121
Urban	Roads (2.542 ha)	Total Area (ha)	None	None	2.542
Urban	Roads (2.74 ha)	Area Impervious (ha)	None	None	2.609
Urban	Roads (2.74 ha)	Area Pervious (ha)	None	None	0.130
Urban	Roads (2.74 ha)	Total Area (ha)	None	None	2.74
Urban	Roads (3.26 ha)	Area Impervious (ha)	None	None	3.104
Urban	Roads (3.26 ha)	Area Pervious (ha)	None	None	0.155
Urban	Roads (3.26 ha)	Total Area (ha)	None	None	3.26
Urban	Roads (3.907 ha)	Area Impervious (ha)	None	None	3.720
Urban	Roads (3.907 ha)	Area Pervious (ha)	None	None	0.186
Urban	Roads (3.907 ha)	Total Area (ha)	None	None	3.907
Urban	Roads (4.83 ha)	Area Impervious (ha)	None	None	4.599
Urban	Roads (4.83 ha)	Area Pervious (ha)	None	None	0.230
Urban	Roads (4.83 ha)	Total Area (ha)	None	None	4.83
Urban	Roof Bypass (0.26 ha)	Area Impervious (ha)	None	None	0.26
Urban	Roof Bypass (0.26 ha)	Area Pervious (ha)	None	None	0
Urban	Roof Bypass (0.26 ha)	Total Area (ha)	None	None	0.26
Urban	Roof Bypass (0.34 ha)	Area Impervious (ha)	None	None	0.34
Urban	Roof Bypass (0.34 ha)	Area Pervious (ha)	None	None	0
Urban	Roof Bypass (0.34 ha)	Total Area (ha)	None	None	0.34
Urban	Roof Bypass (0.83 ha)	Area Impervious (ha)	None	None	0.83
Urban	Roof Bypass (0.83 ha)	Area Pervious (ha)	None	None	0
Urban	Roof Bypass (0.83 ha)	Total Area (ha)	None	None	0.83
Urban	Roof Bypass (1 ha)	Area Impervious (ha)	None	None	1
Urban	Roof Bypass (1 ha)	Area Pervious (ha)	None	None	0
Urban	Roof Bypass (1 ha)	Total Area (ha)	None	None	1
Urban	Roof Bypass (1.25 ha)	Area Impervious (ha)	None	None	1.25
Urban	Roof Bypass (1.25 ha)	Area Pervious (ha)	None	None	0
Urban	Roof Bypass (1.25 ha)	Total Area (ha)	None	None	1.25
Urban	Roof Bypass (1.61 ha)	Area Impervious (ha)	None	None	1.61

Only certain parameters are reported when they pass validation

Node Type	Node Name	Parameter	Min	Max	Actual
Urban	Roof Bypass (1.61 ha)	Area Pervious (ha)	None	None	0
Urban	Roof Bypass (1.61 ha)	Total Area (ha)	None	None	1.61
Urban	Roof Bypass (1.67 ha)	Area Impervious (ha)	None	None	1.67
Urban	Roof Bypass (1.67 ha)	Area Pervious (ha)	None	None	0
Urban	Roof Bypass (1.67 ha)	Total Area (ha)	None	None	1.67
Urban	Roof Bypass (1.78 ha)	Area Impervious (ha)	None	None	1.78
Urban	Roof Bypass (1.78 ha)	Area Pervious (ha)	None	None	0
Urban	Roof Bypass (1.78 ha)	Total Area (ha)	None	None	1.78
Urban	Roof Bypass (1.87 ha)	Area Impervious (ha)	None	None	1.87
Urban	Roof Bypass (1.87 ha)	Area Pervious (ha)	None	None	0
Urban	Roof Bypass (1.87 ha)	Total Area (ha)	None	None	1.87
Urban	Roof Bypass (3.105 ha)	Area Impervious (ha)	None	None	3.105
Urban	Roof Bypass (3.105 ha)	Area Pervious (ha)	None	None	0
Urban	Roof Bypass (3.105 ha)	Total Area (ha)	None	None	3.105
Urban	Roof to RWT (0.26 ha)	Area Impervious (ha)	None	None	0.26
Urban	Roof to RWT (0.26 ha)	Area Pervious (ha)	None	None	0
Urban	Roof to RWT (0.26 ha)	Total Area (ha)	None	None	0.26
Urban	Roof to RWT (0.34 ha)	Area Impervious (ha)	None	None	0.34
Urban	Roof to RWT (0.34 ha)	Area Pervious (ha)	None	None	0
Urban	Roof to RWT (0.34 ha)	Total Area (ha)	None	None	0.34
Urban	Roof to RWT (0.83 ha)	Area Impervious (ha)	None	None	0.83
Urban	Roof to RWT (0.83 ha)	Area Pervious (ha)	None	None	0
Urban	Roof to RWT (0.83 ha)	Total Area (ha)	None	None	0.83
Urban	Roof to RWT (1 ha)	Area Impervious (ha)	None	None	1
Urban	Roof to RWT (1 ha)	Area Pervious (ha)	None	None	0
Urban	Roof to RWT (1 ha)	Total Area (ha)	None	None	1
Urban	Roof to RWT (1.25 ha)	Area Impervious (ha)	None	None	1.25
Urban	Roof to RWT (1.25 ha)	Area Pervious (ha)	None	None	0
Urban	Roof to RWT (1.25 ha)	Total Area (ha)	None	None	1.25
Urban	Roof to RWT (1.61 ha)	Area Impervious (ha)	None	None	1.61
Urban	Roof to RWT (1.61 ha)	Area Pervious (ha)	None	None	0
Urban	Roof to RWT (1.61 ha)	Total Area (ha)	None	None	1.61
Urban	Roof to RWT (1.67 ha)	Area Impervious (ha)	None	None	1.67
Urban	Roof to RWT (1.67 ha)	Area Pervious (ha)	None	None	0
Urban	Roof to RWT (1.67 ha)	Total Area (ha)	None	None	1.67
Urban	Roof to RWT (1.78 ha)	Area Impervious (ha)	None	None	1.78
Urban	Roof to RWT (1.78 ha)	Area Pervious (ha)	None	None	0
Urban	Roof to RWT (1.78 ha)	Total Area (ha)	None	None	1.78
Urban	Roof to RWT (1.87 ha)	Area Impervious (ha)	None	None	1.87
Urban	Roof to RWT (1.87 ha)	Area Pervious (ha)	None	None	0

Only certain parameters are reported when they pass validation

Node Type	Node Name	Parameter	Min	Max	Actual
Urban	Roof to RWT (1.87 ha)	Total Area (ha)	None	None	1.87
Urban	Roof to RWT (3.105 ha)	Area Impervious (ha)	None	None	3.105
Urban	Roof to RWT (3.105 ha)	Area Pervious (ha)	None	None	0
Urban	Roof to RWT (3.105 ha)	Total Area (ha)	None	None	3.105
Urban	School Area (2.005 ha)	Area Impervious (ha)	None	None	1.508
Urban	School Area (2.005 ha)	Area Pervious (ha)	None	None	0.496
Urban	School Area (2.005 ha)	Total Area (ha)	None	None	2.005
Urban	T3 Basin Area (0.231 ha)	Area Impervious (ha)	None	None	0
Urban	T3 Basin Area (0.231 ha)	Area Pervious (ha)	None	None	0.231
Urban	T3 Basin Area (0.231 ha)	Total Area (ha)	None	None	0.231
Urban	Western Basin Area (0.155 ha)	Area Impervious (ha)	None	None	0
Urban	Western Basin Area (0.155 ha)	Area Pervious (ha)	None	None	0.155
Urban	Western Basin Area (0.155 ha)	Total Area (ha)	None	None	0.155

Only certain parameters are reported when they pass validation

Failing Parameters

Node Type	Node Name	Parameter	Min	Max	Actual
Bio	FT Lake 01 850m$	Orthophosphate Content in Filter (mg/kg)	40	50	0.1
Bio	FT Lake 01 850m$	Saturated Hydraulic Conductivity (mm/hr)	100	100	3550
Bio	FT Lake 01 850m$	Total Nitrogen Content in Filter (mg/kg)	750	950	200
Bio	FT Lake 02 500m$	Orthophosphate Content in Filter (mg/kg)	40	50	0.1
Bio	FT Lake 02 500m$	Saturated Hydraulic Conductivity (mm/hr)	100	100	3550
Bio	FT Lake 02 500m$	Total Nitrogen Content in Filter (mg/kg)	750	950	200
Bio	FT Lake 03 650m$	Orthophosphate Content in Filter (mg/kg)	40	50	0.1
Bio	FT Lake 03 650m$	Saturated Hydraulic Conductivity (mm/hr)	100	100	3550
Bio	FT Lake 03 650m$	Total Nitrogen Content in Filter (mg/kg)	750	950	200
Bio	FT PD04 250m$	Orthophosphate Content in Filter (mg/kg)	40	50	0.1
Bio	FT PD04 250m$	Saturated Hydraulic Conductivity (mm/hr)	100	100	3550
Bio	FT PD04 250m$	Total Nitrogen Content in Filter (mg/kg)	750	950	200
Bio	FT PD05 500m$	Orthophosphate Content in Filter (mg/kg)	40	50	0.1
Bio	FT PD05 500m$	Saturated Hydraulic Conductivity (mm/hr)	100	100	3550
Bio	FT PD05 500m$	Total Nitrogen Content in Filter (mg/kg)	750	950	200
Bio	FT PD06 150m$	Orthophosphate Content in Filter (mg/kg)	40	50	0.1
Bio	FT PD06 150m$	Saturated Hydraulic Conductivity (mm/hr)	100	100	3550
Bio	FT PD06 150m$	Total Nitrogen Content in Filter (mg/kg)	750	950	200
Bio	FT PD07 900m$	Orthophosphate Content in Filter (mg/kg)	40	50	0.1
Bio	FT PD07 900m$	Saturated Hydraulic Conductivity (mm/hr)	100	100	3550
Bio	FT PD07 900m$	Total Nitrogen Content in Filter (mg/kg)	750	950	200
Bio	FT PD08 100m$	Orthophosphate Content in Filter (mg/kg)	40	50	0.1
Bio	FT PD08 100m$	Saturated Hydraulic Conductivity (mm/hr)	100	100	3550
Bio	FT PD08 100m$	Total Nitrogen Content in Filter (mg/kg)	750	950	200

Only certain parameters are reported when they pass validation