Project	**Furnissdale**
Job Number	**25-10-131**
Date	**11/02/2026**
Engineer	**JT**
Summary	**Maintain 1% AEP Critical Event to Pre-Dev Outflow**
Scenario	**1% AEP 1hr duration**
File Name	**T019.26**
Revision	**A**
Reference Document	**L019.26**
IFD Used	**Furnissdale (32.5375 (S) 115.7875 (E))**
Ground Conditions	**Highly permeable sand**
Groundwater	**Max GWL = 1.5m AHD**

Porter Consulting Engineers
Level 2, 58 Kishorn Road
Mount Pleasant WA 6153
PO Box 1036
Canning Bridge WA 6153
Tel: (08) 9315 9955
Fax: (08) 9315 9959
office@portereng.com.au
www.portereng.com.au

Intensities (mm/hr)

1 EY (1 year)	6 minute	67.7
	30 minute	28.20
	1 hour	18.30
	3 hour	9.09
	6 hour	5.77
	12 hour	3.61
0.2 EY (5 year)	6 minute	95.10
	30 minute	39.60
	1 hour	25.40
	3 hour	12.50
	6 hour	8.07
	12 hour	5.15
10% AEP (10 Year)	6 minute	109.00
	30 minute	45.60
	1 hour	29.00
	3 hour	14.30
	6 hour	9.35
	12 hour	6.05
1% AEP 100 Year	6 minute	157.00
	30 minute	65.70
	1 hour	41.10
	3 hour	20.70
	6 hour	14.10
	12 hour	9.54
	24 hour	6.09
	72 hour	2.48

Soakwell details

Soakwell Diameter (m) =	1.2
Liner Depth (m) =	1.2
Effective Depth (m) =	1.2
Soakwell base area (m^2) =	1.13
Soakwell Volume (m^3) =	1.36
No of Soakwells =	40

Swale Details

Length (m) =	450.000	
Width (m) =	2.400	
Height (m) =	0.200	
Side Slopes = 1:	6.000	
Freeboard (m) =	0.000	to pavement
TWL =	3.25	m
Base RL =	3.1	m
Base Area (m^2) =	1080.00	
Swale cross section (m^2) =	0.72	
Volume (m^3) =	324.00	

Pre-Development Outflow

Run-off Coefficient (Cp)= m(0.0133 x 10I60 -0.233)
m=1.2 (100yr ARI)
10I60 = 29mm/hr
Cp = 0.1832

1% AEP Pre-Dev Outflow (L/s)

6 minute	225.1
30 minute	94.2
1 hour	58.9
3 hour	29.7
6 hour	20.2
12 hour	13.7
24 hour	8.7

Drainage Cells

Product Details: **EcoBloc core 800 x 800 x 350(H)** = 746 = 0

Location 1					Cell Dimensions		
Height	0.35	x	0	=	0.35		
Height	0.35	x	1				
Length	0.80	x	36	=	28.8		
Width	0.80	x	6	=	4.8		
Location 2							
Height	0.35	x	0	=	0.35		
Height	0.35	x	1				
Length	0.80	x	42	=	33.6		
Width	0.80	x	5	=	4		
Location 3							
Height	0.35	x	0	=	0.35		
Height	0.35	x	1				
Length	0.80	x	40	=	32		
Width	0.80	x	4	=	3.2		
Location 4							
Height	0.35	x	0	=	0.35		
Height	0.35	x	1				
Length	0.80	x	40	=	32		
Width	0.80	x	4	=	3.2		

Total Base Area (m^2) = 477.44
Total Storage Volume (m^3) = 167.1

Catchment Details

Roof Area (ha) =	0.915
Co-efficient of Runoff =	1.00
Hardstand Area (ha) =	1.900
Co-efficient of Runoff =	0.90

Infiltration

Rate of Soakage (m/day) = 5.0

Event	1EY (1 Year)						0.2 EY (5 Year)						10% AEP (10 Year)						1% AEP (100 Year)						
Duration	6 min	30 min	1 hour	3 hour	6 hour	12 hour	6 min	30 min	1 hour	3 hour	6 hour	12 hour	6 min	30 min	1 hour	3 hour	6 hour	12 hour	6 min	30 min	1 hour	3 hour	6 hour	12 hour	24 hour
Intensities	67.7	28.2	18.3	9.09	5.77	3.61	95.10	39.6	25.4	12.50	8.07	5.15	109	45.6	29	14.30	9.35	6.05	157	65.70	41.10	20.70	14.10	9.54	6.09
Q (m^3/s)	0.4940	0.2058	0.1335	0.0663	0.0421	0.0263	0.6940	0.2890	0.1854	0.0912	0.0589	0.0376	0.7954	0.3328	0.2116	0.1044	0.0682	0.0441	1.1457	0.4794	0.2999	0.1511	0.1029	0.0696	0.0444
Volume	**177.9**	**370.4**	**480.8**	**716.4**	**909.5**	**1138.1**	**249.8**	**520.2**	**667.3**	**985.2**	**1272.0**	**1623.5**	**286.4**	**599.0**	**761.9**	**1127.0**	**1473.8**	**1907.3**	**412.5**	**863.0**	**1079.7**	**1631.4**	**2222.5**	**3007.5**	**3839.8**
SW Vol.	54.29	54.29	54.29	54.29	54.29	54.29	54.29	54.29	54.29	54.29	54.29	54.29	54.29	54.29	54.29	54.29	54.29	54.29	54.29	54.29	54.29	54.29	54.29	54.29	54.29
Soak Vol	0.94	4.71	9.42	28.27	56.55	113.10	0.94	4.71	9.42	28.27	56.55	113.10	0.94	4.71	9.42	28.27	56.55	113.10	0.94	4.71	9.42	28.27	56.55	113.10	226.19
SW Total	55.23	59.00	63.71	82.56	110.84	167.38	55.23	59.00	63.71	82.56	110.84	167.38	55.23	59.00	63.71	82.56	110.84	167.38	55.23	59.00	63.71	82.56	110.84	167.38	280.48
Outflow Total (L/s)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	225.1	94.2	58.9	29.7	20.2	13.7	8.7
Outflow Volume (m3)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	81	170	212	321	437	591	755
Drn Cell Volume	167.10	167.10	167.10	167.10	167.10	167.10	167.10	167.10	167.10	167.10	167.10	167.10	167.10	167.10	167.10	167.10	167.10	167.10	167.10	167.10	167.10	167.10	167.10	167.10	167.10
Drn Cell Soak Vol	9.95	49.73	99.47	298.40	596.80	######	9.95	49.73	99.47	298.40	596.80	1193.60	9.95	49.73	99.47	298.40	596.80	1193.60	9.95	49.73	99.47	298.40	596.80	1193.60	2387.20
Drn Cell Total Vol	177.05	216.84	266.57	465.50	763.90	######	177.05	216.84	266.57	465.50	763.90	1360.70	177.05	216.84	266.57	465.50	763.90	1360.70	177.05	216.84	266.57	465.50	763.90	1360.70	2554.30
Swale Vol	324.00	324.00	324.00	324.00	324.00	324.00	324.00	324.00	324.00	324.00	324.00	324.00	324.00	324.00	324.00	324.00	324.00	324.00	324.00	324.00	324.00	324.00	324.00	324.00	324.00
Swale Soak	22.50	112.50	225.00	675.00	######	######	22.50	112.50	225.00	675.00	######	2700.00	22.50	112.50	225.00	675.00	######	2700.00	22.50	112.50	225.00	675.00	######	2700.00	5400.00
Swale Total	346.50	436.50	549.00	999.00	######	######	346.50	436.50	549.00	999.00	######	3024.00	346.50	436.50	549.00	999.00	######	3024.00	346.50	436.50	549.00	999.00	######	3024.00	5724.00
Total Vol	**578.8**	**712.3**	**879.3**	**1547.1**	**2548.7**	**4552.1**	**578.8**	**712.3**	**879.3**	**1547.1**	**2548.7**	**4552.1**	**578.8**	**712.3**	**879.3**	**1547.1**	**2548.7**	**4552.1**	**659.8**	**881.9**	**1091.5**	**1867.6**	**2985.5**	**5143.1**	**9313.3**
	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS