

Client Swift Properties

Site Whitcliffe hotel final with 70% of annual storm discharge rate

Design storm	100 M5-60	19	mm					
	r	0.32						
Site area sq m.	5674	orig Area	4725	Agricultural discharge	5	lit/s/ha		
Imp Area sq m.	2015	Orig discharge	98.5	at 70%	Allowable	68.95	lit/s	
T of Conc (approx)min	5	Time to Flow	1	T entry	4			
Allow Discharge	69	Lit / sec		Imp Ratio	0.36			

100 year storm

100year plus 30% climate

Storm Duration	Intensity	Depth	Vol In	Vol Out	Storage	Q	t	Intensity	Depth	Vol In	Vol Out	Storage	Intensity	Depth	Vol In	Vol Out	Storage
Mins	mm/hr	mm	cu.m	cu.m	cu.m.			mm/hr	mm	cu.m	cu.m	cu.m.	mm/hr	mm	cu.m	cu.m	cu.m.
10	81.8	13.63	27.47	30.93	-3.46	45.82	7.5	100.61	16.77	33.79	30.93	2.86	121.06	20.18	40.66	30.93	9.73
20	59.8	19.93	40.17	60.86	-20.70	33.50	10.3	73.55	24.52	49.40	60.86	-11.46	88.50	29.50	59.45	60.86	-1.42
30	47.6	23.80	47.96	91.33	-43.38	26.66	12.9	58.55	29.27	58.99	91.33	-32.35	70.45	35.22	70.98	91.33	-20.36
50	34.4	28.67	57.76	153.58	-95.82	19.27	17.9	42.31	35.26	71.05	153.58	-82.53	50.91	42.43	85.49	153.58	-68.09
60	30.3	30.30	61.05	184.95	-123.89	16.97	20.3	37.27	37.27	75.10	184.95	-109.85	44.84	44.84	90.36	184.95	-94.59
120	18.7	37.40	75.36	381.15	-305.79	10.48	32.9	23.00	46.00	92.69	381.15	-288.46	27.68	55.35	111.53	381.15	-269.61
180	14.1	42.30	85.23	585.07	-499.83	7.90	43.7	17.34	52.03	104.84	585.07	-480.23	20.87	62.60	126.15	585.07	-458.92
240	11.5	46.00	92.69	792.58	-699.89	6.44	53.6	14.15	56.58	114.01	792.58	-678.57	17.02	68.08	137.18	792.58	-655.40
300	9.8	49.00	98.74	1002.52	-903.79	5.49	62.8	12.05	60.27	121.44	1002.52	-881.08	14.50	72.52	146.13	1002.52	-856.39
360	8.7	52.20	105.18	1218.02	-1112.84	4.87	70.8	10.70	64.21	129.38	1218.02	-1088.65	12.88	77.26	155.67	1218.02	-1062.35
420	7.9	55.30	111.43	1436.75	-1325.32	4.43	78.0	9.72	68.02	137.06	1436.75	-1299.69	11.69	81.84	164.92	1436.75	-1271.83
480	7.5	60.00	120.90	1667.93	-1547.03	4.20	82.1	9.23	73.80	148.71	1667.93	-1519.22	11.10	88.80	178.93	1667.93	-1489.00
540	6.9	62.10	125.13	1886.77	-1761.64	3.87	89.3	8.49	76.38	153.91	1886.77	-1732.86	10.21	91.91	185.19	1886.77	-1701.57
600	6.38	63.80	128.56	2105.05	-1976.49	3.57	96.5	7.85	78.47	158.13	2105.05	-1946.93	9.44	94.42	190.26	2105.05	-1914.79

Storage -3.46 cu. m

Storage 2.86 cu. m

Storage 9.73 cu. m

Length of 1800	-1.36					Length of 1800	1.12
Length of 1500	-1.96	Culvert	2.4*1.5m	-0.96		Length of 1500	1.62
Length of 1200	-3.06	culvert	3.6*1.8m	-0.53		Length of 1200	2.53
Length of 1050	-3.99					Length of 1050	3.30
Length of 900	-5.44					Length of 900	4.50
Length of 750	-7.82					Length of 750	6.47
Length of 600	-12.22					Length of 600	10.11
						length of 525	13.21

Length of 1800	3.82
Length of 1500	5.51
Length of 1200	8.60
Length of 1050	11.23
Length of 900	15.30
Length of 750	22.01
Length of 600	34.37
length 525	44.91

Footprint Area				Footprint Area			
(m)				sq.m			
400mm deep 1200 deep				storm			
Aquacell Storage Crates	30 year	-9.1	-3.0	Pond 900mm deep	-3.84	30 year	
(400mm deep)	100 year	7.5	2.5		3.18	100 year	
	100 year +30%	9.8	3.3		4.13	100 year +30%	

Footprint Area			
Pond 1200 deep	-2.88	30 year	
	2.38	100 year	
	8.11	100 year +30%	

Length Availabe; 39 use 600mm Diam total storage 11.031 > 9.73 1.13399