


Phoenix Design Partnership Ltd		Page 3
Unit 9 Westway Business Centre Marksbury Bath, BA2 9HN	Robert Hitchins Ltd Kidnappers Lane Preliminary Attenuation Design	
Date 21/01/2019 File Preliminary Pond Design.srxc	Designed by P.A. Checked by	
Causeway	Source Control 2017.1.2	

Model Details

Storage is Online Cover Level (m) 78.000

Tank or Pond Structure

Invert Level (m) 76.750

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	136.0	0.300	197.0	0.600	267.0	0.900	346.0	1.200	434.0
0.100	156.0	0.400	219.0	0.700	292.0	1.000	374.0	1.250	450.0
0.200	176.0	0.500	243.0	0.800	319.0	1.100	404.0		

Hydro-Brake® Optimum Outflow Control

Unit Reference MD-SHE-0102-5000-1250-5000
 Design Head (m) 1.250
 Design Flow (l/s) 5.0
 Flush-Flo™ Calculated
 Objective Minimise upstream storage
 Application Surface
 Sump Available Yes
 Diameter (mm) 102
 Invert Level (m) 76.750
 Minimum Outlet Pipe Diameter (mm) 150
 Suggested Manhole Diameter (mm) 1200

Control Points	Head (m)	Flow (l/s)	Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.250	5.0	Kick-Flo®	0.772	4.0
Flush-Flo™	0.370	5.0	Mean Flow over Head Range	-	4.4

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	3.4	1.200	4.9	3.000	7.5	7.000	11.2
0.200	4.7	1.400	5.3	3.500	8.1	7.500	11.6
0.300	5.0	1.600	5.6	4.000	8.6	8.000	12.0
0.400	5.0	1.800	5.9	4.500	9.1	8.500	12.3
0.500	4.9	2.000	6.2	5.000	9.6	9.000	12.7
0.600	4.7	2.200	6.5	5.500	10.0	9.500	13.0
0.800	4.1	2.400	6.8	6.000	10.4		
1.000	4.5	2.600	7.0	6.500	10.9		