

Statement of Drainage Provision for Redevelopment of Goldthorpe Colliery

FOUL DRAINAGE

The sewerage undertaker for the area is Yorkshire Water Services Ltd. Enquiries were made as to the location of any public sewers in the proximity of the site to accept foul water flows from the development.

They stated that foul water may discharge to the existing 225mm public combined sewer within the site.

The proposed foul drainage system for the site has therefore been designed to accommodate Yorkshire Waters comments.

The existing 225 diameter combined sewer crossing the housing development will require diverting through the development and will be connected back onto its line within the proposed roundabout. Connections will be made to this realignment of the sewer for foul disposal from the properties in the North West corner of the development.

The South Western area of the residential development is proposed to discharge through an easement to the front of plots 269 to 271 where a new connection will be made to the existing 225mm diameter combined sewer.

The remainder of the site cannot drain by gravity to the existing combined sewer. It is therefore proposed to provide a foul water pumping station to the east of the site. This will then pump foul water back up the site into manhole F10 where it will then drain by gravity to the existing combined sewer.

The foul water flows from the Industrial area of the development will drain into the existing 225mm diameter combined sewer which crosses that area of the site. A length of the existing combined sewer will require diverting to accommodate the development.

Levels may need raising in the south west corner of the development to allow a gravity connection to the combined sewer.

A gravity connection from the Industrial Area has been shown in to the existing manhole in the proposed roundabout to accommodate some foul flows from the upper area of the industrial development.

SURFACE WATER

The sewerage undertaker for the area is Yorkshire Water Services Ltd. Enquiries were made as to the location of any public sewers in the proximity of the site to accept surface water flows from the development.

They stated that there are no public surface water nor adequate combined sewers in the vicinity to accept any surface water flows from this site.

West Moor Dyke crosses the site to the east of the development and is culverted in a 1.5m high box culvert. Consultation was made with the Environment Agency and the Dearne and Dove Internal Drainage Board.

From the responses received it is proposed to discharge surface water flows to the culverted West Moor Dyke. The Environment Agency have stated that flows should be restricted to 5 litres per second per hectare and this would result in a restricted flow to the watercourse of 80 litres per second.

An off line dry storage basin is proposed which will be offered to Yorkshire Water for Adoption and has been designed in accordance with their current guidelines.

It has been designed on a 1 in 30 year storm and will accommodate 3000 cubic metres of storage on this storm event.

The system has been checked on a 1 in 100 year storm event and water is still contained within the storage basin.

The whole development is proposed to drain to the storage basin by gravity (Both Industrial and Residential). This may require the south west corner of the Industrial site to be raised in level.

Connections from the Industrial area have been shown at two points into the residential development.

One connection is shown in the proposed roundabout to the west of the housing development and the other is shown entering the housing development in an easement in front of plots 269 to 271.

Subject to satisfactory negotiations with Yorkshire Water Services Ltd and the Local Authority the above information has been provided within the criteria necessary for the drainage system to become adopted under the Section 104 of the Water Industry Act 1991.

30 YEAR STORM RESULTS

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GOLDTHORPE COLLIERY

Date Feb-04
File pond-sim.src

Designed By M.Pearse
Checked By



Micro Drainage

Source Control W.8.1 net (c)1982-2002 Micro Drainage

Summary of Results for 30 year Return Period

Storm Duration (mins)	Maximum Control (m3/s)	Maximum Outflow (m3/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m3)	Status
15 Summer	0.0762	0.0762	36.9835	0.4835	1247.2	O K
30 Summer	0.0775	0.0775	37.1215	0.6215	1632.6	O K
60 Summer	0.0775	0.0775	37.2575	0.7575	2022.4	O K
120 Summer	0.0775	0.0775	37.3755	0.8755	2370.0	O K
180 Summer	0.0776	0.0776	37.4235	0.9235	2511.8	O K
240 Summer	0.0782	0.0782	37.4405	0.9405	2564.4	O K
360 Summer	0.0786	0.0786	37.4545	0.9545	2606.4	O K
480 Summer	0.0787	0.0787	37.4575	0.9575	2614.4	O K
600 Summer	0.0785	0.0785	37.4525	0.9525	2599.8	O K
720 Summer	0.0782	0.0782	37.4425	0.9425	2570.1	O K
960 Summer	0.0775	0.0775	37.4145	0.9145	2484.2	O K
1440 Summer	0.0775	0.0775	37.3425	0.8425	2269.7	O K
2160 Summer	0.0775	0.0775	37.2225	0.7225	1918.7	O K
2880 Summer	0.0775	0.0775	37.1135	0.6135	1609.0	O K
4320 Summer	0.0751	0.0751	36.9695	0.4695	1209.0	O K
5760 Summer	0.0680	0.0680	36.8915	0.3915	998.5	O K
7200 Summer	0.0603	0.0603	36.8455	0.3455	875.9	O K
8640 Summer	0.0544	0.0544	36.8105	0.3105	784.2	O K
10080 Summer	0.0497	0.0497	36.7875	0.2875	725.2	O K
15 Winter	0.0775	0.0775	37.0385	0.5385	1400.1	O K
30 Winter	0.0775	0.0775	37.1935	0.6935	1836.8	O K
60 Winter	0.0775	0.0775	37.3455	0.8455	2280.6	O K
120 Winter	0.0794	0.0794	37.4785	0.9785	2678.6	O K
180 Winter	0.0813	0.0813	37.5345	1.0345	2851.3	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	68.84	18
30 Summer	45.83	33
60 Summer	29.24	62
120 Summer	18.11	122
180 Summer	13.53	180
240 Summer	10.95	230
360 Summer	8.11	288
480 Summer	6.54	350
600 Summer	5.54	418
720 Summer	4.83	488
960 Summer	3.89	626
1440 Summer	2.87	896
2160 Summer	2.11	1280
2880 Summer	1.69	1644
4320 Summer	1.24	2332
5760 Summer	1.00	3048
7200 Summer	0.84	3744
8640 Summer	0.73	4416
10080 Summer	0.65	5152
15 Winter	68.84	18
30 Winter	45.83	33
60 Winter	29.24	62
120 Winter	18.11	120
180 Winter	13.53	176

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Summary of Results for 30 year Return Period

Storm Duration (mins)	Maximum Control (m3/s)	Maximum Outflow (m3/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m3)	Status
240 Winter	0.0822	0.0822	37.5585	1.0585	2924.7	O K
360 Winter	0.0825	0.0825	37.5665	1.0665	2949.0	O K
480 Winter	0.0824	0.0824	37.5645	1.0645	2943.5	O K
600 Winter	0.0820	0.0820	37.5535	1.0535	2909.1	O K
720 Winter	0.0814	0.0814	37.5355	1.0355	2853.9	O K
960 Winter	0.0797	0.0797	37.4885	0.9885	2709.3	O K
1440 Winter	0.0775	0.0775	37.3755	0.8755	2369.1	O K
2160 Winter	0.0775	0.0775	37.1895	0.6895	1823.5	O K
2880 Winter	0.0775	0.0775	37.0325	0.5325	1383.8	O K
4320 Winter	0.0674	0.0674	36.8875	0.3875	987.6	O K
5760 Winter	0.0561	0.0561	36.8205	0.3205	809.9	O K
7200 Winter	0.0483	0.0483	36.7815	0.2815	709.2	O K
8640 Winter	0.0423	0.0423	36.7565	0.2565	643.6	O K
10080 Winter	0.0377	0.0377	36.7375	0.2375	594.6	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
240 Winter	10.95	232
360 Winter	8.11	328
480 Winter	6.54	374
600 Winter	5.54	452
720 Winter	4.83	528
960 Winter	3.89	682
1440 Winter	2.87	968
2160 Winter	2.11	1364
2880 Winter	1.69	1700
4320 Winter	1.24	2340
5760 Winter	1.00	3056
7200 Winter	0.84	3752
8640 Winter	0.73	4496
10080 Winter	0.65	5152

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Micro Drainage

Source Control W.8.1 net (c)1982-2002 Micro Drainage

Rainfall Details

Region	ENG+WAL	Cv (Winter)	0.840
Return Period (years)	30	Shortest Storm (mins)	15
M5-60 (mm)	19	Longest Storm (mins)	10080
Ratio-R	0.350	Summer Storms	Yes
Cv (Summer)	0.750	Winter Storms	Yes

Time / Area Diagram

Total Area (ha) = 10.000

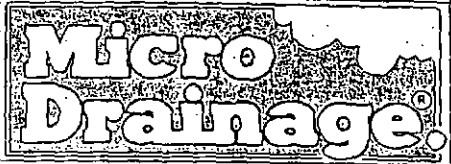
Time	(mins)	Area
from:	to:	(ha)
0	4	10.000

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Micro Drainage

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Tank/Pond Details

Invert Level (m) 36.500 Ground Level (m) 38.100

Depth (m)	Area (m2)	Depth (m)	Area (m2)	Depth (m)	Area (m2)	Depth (m)	Area (m2)
0.00	2432.00	0.70	2871.00	1.40	3065.00	2.10	3065.00
0.10	2494.00	0.80	2935.00	1.50	3065.00	2.20	3065.00
0.20	2555.00	0.90	3000.00	1.60	3065.00	2.30	3065.00
0.30	2618.00	1.00	3065.00	1.70	3065.00	2.40	3065.00
0.40	2680.00	1.10	3065.00	1.80	3065.00	2.50	3065.00
0.50	2744.00	1.20	3065.00	1.90	3065.00		
0.60	2807.00	1.30	3065.00	2.00	3065.00		

Hydro-Brake Outflow Control

Design Head (m) 1.000 Diameter (mm) 286
Design Flow (m3/s) 0.0800 Invert Level (m) 36.500
Hydro-Brake Type MD3

Depth (m)	Flow (m3/s)	Depth (m)	Flow (m3/s)	Depth (m)	Flow (m3/s)	Depth (m)	Flow (m3/s)	Depth (m)	Flow (m3/s)
0.10	0.0079	0.80	0.0737	2.00	0.1129	4.00	0.1596	7.00	0.2112
0.20	0.0288	1.00	0.0800	2.20	0.1184	4.50	0.1693	7.50	0.2186
0.30	0.0527	1.20	0.0875	2.40	0.1236	5.00	0.1785	8.00	0.2257
0.40	0.0695	1.40	0.0944	2.60	0.1287	5.50	0.1872	8.50	0.2327
0.50	0.0775	1.60	0.1010	3.00	0.1382	6.00	0.1955	9.00	0.2394
0.60	0.0765	1.80	0.1071	3.50	0.1493	6.50	0.2035	9.50	0.2460

100 YEAR STORM RESULTS

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Micro Drainage

Source Control W.8.1 net (c)1982-2002 Micro Drainage

Summary of Results for 100 year Return Period

Storm Duration (mins)	Maximum Control (m3/s)	Maximum Outflow (m3/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m3)	Status
15 Summer	0.0775	0.0775	37.1175	0.6175	1620.2	O K
30 Summer	0.0775	0.0775	37.3025	0.8025	2153.8	O K
60 Summer	0.0795	0.0795	37.4835	0.9835	2694.6	O K
120 Summer	0.0853	0.0853	37.6415	1.1415	3178.3	O K
180 Summer	0.0877	0.0877	37.7065	1.2065	3379.6	O K
240 Summer	0.0886	0.0886	37.7325	1.2325	3457.9	O K
360 Summer	0.0890	0.0890	37.7435	1.2435	3492.4	O K
480 Summer	0.0890	0.0890	37.7445	1.2445	3494.2	O K
600 Summer	0.0888	0.0888	37.7375	1.2375	3473.0	O K
720 Summer	0.0883	0.0883	37.7255	1.2255	3436.0	O K
960 Summer	0.0871	0.0871	37.6915	1.1915	3332.6	O K
1440 Summer	0.0841	0.0841	37.6095	1.1095	3081.8	O K
2160 Summer	0.0796	0.0796	37.4845	0.9845	2696.6	O K
2880 Summer	0.0775	0.0775	37.3655	0.8655	2338.1	O K
4320 Summer	0.0775	0.0775	37.1425	0.6425	1690.1	O K
5760 Summer	0.0771	0.0771	36.9945	0.4945	1279.0	O K
7200 Summer	0.0709	0.0709	36.9175	0.4175	1068.0	O K
8640 Summer	0.0644	0.0644	36.8695	0.3695	941.9	O K
10080 Summer	0.0585	0.0585	36.8345	0.3345	848.3	O K
15 Winter	0.0775	0.0775	37.1875	0.6875	1819.7	O K
30 Winter	0.0775	0.0775	37.3925	0.8925	2419.8	O K
60 Winter	0.0835	0.0835	37.5935	1.0935	3030.8	O K
120 Winter	0.0901	0.0901	37.7745	1.2745	3585.6	O K
180 Winter	0.0928	0.0928	37.8535	1.3535	3828.4	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	89.02	19
30 Summer	59.85	33
60 Summer	38.41	62
120 Summer	23.81	122
180 Summer	17.74	182
240 Summer	14.29	240
360 Summer	10.50	308
480 Summer	8.44	370
600 Summer	7.12	434
720 Summer	6.19	500
960 Summer	4.96	638
1440 Summer	3.62	912
2160 Summer	2.64	1320
2880 Summer	2.11	1704
4320 Summer	1.53	2420
5760 Summer	1.22	3064
7200 Summer	1.02	3752
8640 Summer	0.88	4496
10080 Summer	0.78	5152
15 Winter	89.02	18
30 Winter	59.85	33
60 Winter	38.41	62
120 Winter	23.81	120
180 Winter	17.74	176

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Micro Drainage

Source Control W.8.1 net (c)1982-2002 Micro Drainage

Summary of Results for 100 year Return Period

Storm Duration (mins)	Maximum Control (m3/s)	Maximum Outflow (m3/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m3)	Status
240 Winter	0.0940	0.0940	37.8875	1.3875	3934.2	O K
360 Winter	0.0946	0.0946	37.9035	1.4035	3982.9	FLOOD RISK
480 Winter	0.0943	0.0943	37.8955	1.3955	3957.2	O K
600 Winter	0.0939	0.0939	37.8835	1.3835	3921.2	O K
720 Winter	0.0932	0.0932	37.8635	1.3635	3860.8	O K
960 Winter	0.0913	0.0913	37.8115	1.3115	3698.9	O K
1440 Winter	0.0870	0.0870	37.6865	1.1865	3315.8	O K
2160 Winter	0.0800	0.0800	37.4995	0.9995	2742.4	O K
2880 Winter	0.0775	0.0775	37.3195	0.8195	2203.9	O K
4320 Winter	0.0775	0.0775	37.0065	0.5065	1311.6	O K
5760 Winter	0.0677	0.0677	36.8895	0.3895	994.7	O K
7200 Winter	0.0580	0.0580	36.8315	0.3315	839.4	O K
8640 Winter	0.0511	0.0511	36.7935	0.2935	739.8	O K
10080 Winter	0.0454	0.0454	36.7695	0.2695	678.1	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
240 Winter	14.29	232
360 Winter	10.50	340
480 Winter	8.44	386
600 Winter	7.12	462
720 Winter	6.19	540
960 Winter	4.96	692
1440 Winter	3.62	992
2160 Winter	2.64	1408
2880 Winter	2.11	1816
4320 Winter	1.53	2424
5760 Winter	1.22	3104
7200 Winter	1.02	3816
8640 Winter	0.88	4496
10080 Winter	0.78	5240

AIG House

Audby Lane

Wetherby LS22 7RD

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Micro Drainage

Source Control W.8.1 net (c)1982-2002 Micro Drainage

Rainfall Details

Region	ENG+WAL	Cv (Winter)	0.840
Return Period (years)	100	Shortest Storm (mins)	15
M5-60 (mm)	19	Longest Storm (mins)	10080
Ratio-R	0.350	Summer Storms	Yes
Cv (Summer)	0.750	Winter Storms	Yes

Time / Area Diagram

Total Area (ha) = 10.000

Time	(mins)	Area
from:	to:	(ha)
0	4	10.000

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Wetherby LS22 7RD

GOLDTHORPE COLLIERY

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Micro Drainage

Source Control W.8.1 net (c)1982-2002 Micro Drainage

Tank/Pond Details

Invert Level (m) 36.500 Ground Level (m) 38.100

Depth (m)	Area (m2)	Depth (m)	Area (m2)	Depth (m)	Area (m2)	Depth (m)	Area (m2)
0.00	2432.00	0.70	2871.00	1.40	3065.00	2.10	3065.00
0.10	2494.00	0.80	2935.00	1.50	3065.00	2.20	3065.00
0.20	2555.00	0.90	3000.00	1.60	3065.00	2.30	3065.00
0.30	2618.00	1.00	3065.00	1.70	3065.00	2.40	3065.00
0.40	2680.00	1.10	3065.00	1.80	3065.00	2.50	3065.00
0.50	2744.00	1.20	3065.00	1.90	3065.00		
0.60	2807.00	1.30	3065.00	2.00	3065.00		

Hydro-Brake Outflow Control

Design Head (m) 1.000 Diameter (mm) 286
Design Flow (m3/s) 0.0800 Invert Level (m) 36.500
Hydro-Brake Type MD3

Depth (m)	Flow (m3/s)	Depth (m)	Flow (m3/s)	Depth (m)	Flow (m3/s)	Depth (m)	Flow (m3/s)	Depth (m)	Flow (m3/s)
0.10	0.0079	0.80	0.0737	2.00	0.1129	4.00	0.1596	7.00	0.2112
0.20	0.0288	1.00	0.0800	2.20	0.1184	4.50	0.1693	7.50	0.2186
0.30	0.0527	1.20	0.0875	2.40	0.1236	5.00	0.1785	8.00	0.2257
0.40	0.0695	1.40	0.0944	2.60	0.1287	5.50	0.1872	8.50	0.2327
0.50	0.0775	1.60	0.1010	3.00	0.1382	6.00	0.1955	9.00	0.2394
0.60	0.0765	1.80	0.1071	3.50	0.1493	6.50	0.2035	9.50	0.2460

POND CALCULATIONS
FOR THE
DEVELOPMENT
AT
GOLDTHORPE COLLIERY



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Designed By
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Source Control W.9.3

Elstree Computing Ltd

Summary of Results for 100 year Return Period

Storm Duration (mins)	Maximum Control (m3/s)	Maximum Outflow (m3/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m3)	Status
15 Summer	0.0629	0.0629	10.6215	0.6215	1631.8	O K
30 Summer	0.0718	0.0718	10.8065	0.8065	2165.5	O K
60 Summer	0.0795	0.0795	10.9885	0.9885	2710.0	O K
120 Summer	0.0858	0.0858	11.1505	1.1505	3205.3	O K
180 Summer	0.0883	0.0883	11.2195	1.2195	3418.8	O K
240 Summer	0.0894	0.0894	11.2495	1.2495	3509.2	O K
360 Summer	0.0901	0.0901	11.2685	1.2685	3568.6	O K
480 Summer	0.0903	0.0903	11.2765	1.2765	3594.2	O K
600 Summer	0.0904	0.0904	11.2775	1.2775	3595.2	O K
720 Summer	0.0902	0.0902	11.2715	1.2715	3578.3	O K
960 Summer	0.0894	0.0894	11.2495	1.2495	3510.1	O K
1440 Summer	0.0871	0.0871	11.1855	1.1855	3313.0	O K
2160 Summer	0.0830	0.0830	11.0785	1.0785	2987.2	O K
2880 Summer	0.0792	0.0792	10.9815	0.9815	2688.1	O K
4320 Summer	0.0724	0.0724	10.8195	0.8195	2201.7	O K
5760 Summer	0.0666	0.0666	10.6975	0.6975	1849.2	O K
7200 Summer	0.0621	0.0621	10.6055	0.6055	1587.6	O K
8640 Summer	0.0574	0.0574	10.5405	0.5405	1404.8	O K
10080 Summer	0.0533	0.0533	10.4895	0.4895	1263.5	O K
15 Winter	0.0663	0.0663	10.6915	0.6915	1829.4	O K
30 Winter	0.0756	0.0756	10.8965	0.8965	2430.7	O K
60 Winter	0.0838	0.0838	11.0985	1.0985	3047.2	O K
120 Winter	0.0906	0.0906	11.2835	1.2835	3614.8	O K
180 Winter	0.0935	0.0935	11.3675	1.3675	3870.2	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	89.02	19
30 Summer	59.85	33
60 Summer	38.41	62
120 Summer	23.81	122
180 Summer	17.74	182
240 Summer	14.29	240
360 Summer	10.50	306
480 Summer	8.44	368
600 Summer	7.12	432
720 Summer	6.19	498
960 Summer	4.96	636
1440 Summer	3.62	910
2160 Summer	2.64	1316
2880 Summer	2.11	1700
4320 Summer	1.53	2460
5760 Summer	1.22	3168
7200 Summer	1.02	3888
8640 Summer	0.88	4584
10080 Summer	0.78	5336
15 Winter	89.02	18
30 Winter	59.85	33
60 Winter	38.41	62
120 Winter	23.81	120
180 Winter	17.74	176



Date
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Source Control W.9.3

Elstree Computing Ltd

Summary of Results for 100 year Return Period

Storm Duration (mins)	Maximum Control (m3/s)	Maximum Outflow (m3/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m3)	Status
240 Winter	0.0949	0.0949	11.4055	1.4055	3987.9	O K
360 Winter	0.0956	0.0956	11.4285	1.4285	4059.4	O K
480 Winter	0.0956	0.0956	11.4285	1.4285	4058.8	O K
600 Winter	0.0955	0.0955	11.4235	1.4235	4044.6	O K
720 Winter	0.0950	0.0950	11.4105	1.4105	4004.5	O K
960 Winter	0.0936	0.0936	11.3695	1.3695	3879.2	O K
1440 Winter	0.0900	0.0900	11.2655	1.2655	3559.1	O K
2160 Winter	0.0841	0.0841	11.1065	1.1065	3071.4	O K
2880 Winter	0.0786	0.0786	10.9675	0.9675	2644.6	O K
4320 Winter	0.0691	0.0691	10.7495	0.7495	1998.8	O K
5760 Winter	0.0618	0.0618	10.5995	0.5995	1570.1	O K
7200 Winter	0.0548	0.0548	10.5055	0.5055	1307.8	O K
8640 Winter	0.0487	0.0487	10.4435	0.4435	1138.5	O K
10080 Winter	0.0440	0.0440	10.3965	0.3965	1013.0	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
240 Winter	14.29	232
360 Winter	10.50	338
480 Winter	8.44	384
600 Winter	7.12	460
720 Winter	6.19	536
960 Winter	4.96	690
1440 Winter	3.62	982
2160 Winter	2.64	1404
2880 Winter	2.11	1792
4320 Winter	1.53	2548
5760 Winter	1.22	3232
7200 Winter	1.02	3960
8640 Winter	0.88	4664
10080 Winter	0.78	5344



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Tank/Pond Details

Invert Level (m) 10.000 Ground Level (m) 12.000

Depth (m)	Area (m2)	Depth (m)	Area (m2)	Depth (m)	Area (m2)	Depth (m)	Area (m2)	Depth (m)	Area (m2)
0.00	2432.0	0.60	2807.0	1.20	3065.0	1.80	3065.0	2.40	3065.0
0.10	2494.0	0.70	2871.0	1.30	3065.0	1.90	3065.0	2.50	3065.0
0.20	2555.0	0.80	2935.0	1.40	3065.0	2.00	3065.0		
0.30	2618.0	0.90	3000.0	1.50	3065.0	2.10	3065.0		
0.40	2680.0	1.00	3065.0	1.60	3065.0	2.20	3065.0		
0.50	2744.0	1.10	3065.0	1.70	3065.0	2.30	3065.0		

Hydro-Brake Outflow Control

Design Head (m) 1.000 Hydro-Brake Type MD10 Invert Level (m) 10.000
Design Flow (m3/s) 0.0800 Diameter (mm) 240

Depth (m)	Flow (m3/s)	Depth (m)	Flow (m3/s)	Depth (m)	Flow (m3/s)	Depth (m)	Flow (m3/s)	Depth (m)	Flow (m3/s)
0.10	0.0082	0.80	0.0716	2.00	0.1132	4.00	0.1600	7.00	0.2117
0.20	0.0201	1.00	0.0800	2.20	0.1187	4.50	0.1698	7.50	0.2191
0.30	0.0327	1.20	0.0877	2.40	0.1240	5.00	0.1789	8.00	0.2263
0.40	0.0444	1.40	0.0947	2.60	0.1290	5.50	0.1877	8.50	0.2333
0.50	0.0544	1.60	0.1012	3.00	0.1386	6.00	0.1960	9.00	0.2401
0.60	0.0619	1.80	0.1074	3.50	0.1497	6.50	0.2040	9.50	0.2466