

APPENDIX J

ADDITIONAL INFORMATION

J1 - DETAILS OF MINOR CULVERTS

J2 – DETAILS OF MAJOR CULVERTS

J1 - DETAILS OF MINOR CULVERTS

No.	CHAINAGE (km)	Culvert Size (mm)	Existing Culverts Length	New Culvert Length(m)	Additional Culvert Length Required	Total Length of Culverts	INVERT LEVEL		Slope (%)	Catchment Area (Km ²)	Return Periods (T)						Run-off Coefficient	Time of Concentration (hrs)	Average Depth of Precipitation(mm)	HW/D	Remarks
							INLET	OUTLET			2 yrs	5 yrs	10 yrs	20 yrs	50 yrs	100 yrs					
											Return Period (m ³ /s)	Return Period (m ³ /s)	Return Period (m ³ /s)	Return Period (m ³ /s)	Return Period (m ³ /s)	Return Period (m ³ /s)					
1	0.450	450 dia. Pc	17.0				1087.19	1086.85	2.00	562.5x10 ⁻⁶	0.0010	0.0030	0.0030	0.0040	0.0060	0.0110	0.4780	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
2	0.475	450 dia. Pc	16.0				1089.10	1088.95	0.94	35.0x10 ⁻³	0.0790	0.1640	0.2010	0.2490	0.3860	0.6690	0.4780	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
3	0.735	450 dia. Pc	16.0				1097.48	1097.17	1.94	21.0x10 ⁻³	0.0470	0.0980	0.1200	0.1490	0.2310	0.4020	0.4780	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
4	0.840	450 dia. Pc	17.0				1100.65	1100.16	2.88	32.0x10 ⁻³	0.0720	0.1500	0.1840	0.2280	0.3530	0.6120	0.4780	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
5	1.310	600 dia. Pc	14.0				1083.88	1083.64	1.69	8.346x10 ⁻³	0.0188	0.0390	0.0479	0.0594	0.0920	0.1596	0.4780	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
6	1.365	600 dia. Pc	14.0				1080.80	1080.03	5.50	6.927x10 ⁻³	0.0156	0.0324	0.0397	0.0493	0.0763	0.1324	0.4780	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
7	1.435	600 dia. Pc	15.0				1074.66	1074.38	1.87	3.23x10 ⁻³	0.0073	0.0577	0.0185	0.0250	0.0356	0.0618	0.4780	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
8	3.190	600 dia. Pc	15.0				1076.89	1076.80	0.60	72.014x10 ⁻³	0.2824	0.5392	0.6154	0.6973	0.9102	1.3697	0.4020	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
9	3.690	600 dia. Pc	15.0				1159.10	1158.32	5.20	5.760x10 ⁻³	0.0110	0.0229	0.0281	0.0348	0.0539	0.0936	0.406	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
10	3.750	600 dia. Pc	16.0				1055.14	1054.86	1.75	1.105x10 ⁻³	0.0021	0.0044	0.0054	0.0067	0.0103	0.0180	0.406	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
11	3.840	600 dia. Pc	16.0				1051.37	1051.10	1.69	1.754x10 ⁻³	0.0034	0.0070	0.0086	0.0106	0.0164	0.0285	0.406	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
12	3.865	600 dia. Pc	16.0				1051.77	1051.39	2.37	630x10 ⁻⁶	0.0012	0.0025	0.0031	0.0038	0.0059	0.0102	0.406	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
13	3.920	600 dia. Pc	18.0				1051.59	1051.46	0.72	1.134x10 ⁻³	0.0022	0.0045	0.0055	0.0069	0.0106	0.0184	0.406	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
14	4.672	600 dia. Pc	15.0				1014.28	1013.85	2.87	62.235x10 ⁻³	0.1572	0.3525	0.4135	0.5137	0.6434	1.0580	0.450	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
15	4.775	450 dia. Pc	15.0				1014.28	1013.85	2.87	7.639x10 ⁻³	0.0162	0.0336	0.0413	0.0634	0.0810	0.1375	0.450	0.25	670.000	1.20	Install 600mm diameter pipe
16	4.880	600 dia. Pc	15.0				1009.31	1008.90	2.73	1.150x10 ⁻³	0.0024	0.0051	0.0062	0.0096	0.0122	0.0207	0.450	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
17	4.976	600 dia. Pc	15.0				1008.00	1007.89	0.73	7.013x10 ⁻³	0.0150	0.0310	0.0380	0.0580	0.0740	0.1260	0.450	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
18	5.060	2/600 dia. Pc	15.0				1004.79	1004.42	2.47	18.089x10 ⁻³	0.0384	0.0796	0.0977	0.1501	0.1918	0.3256	0.450	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
19	5.130	2/600 dia. Pc	15.0				998.08	997.47	4.07	12.418x10 ⁻³	0.0264	0.0546	0.0671	0.1031	0.1370	0.2235	0.450	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
20	5.155	2/600 dia. Pc	15.0				997.07	996.44	4.20	4.757x10 ⁻³	0.0101	0.0209	0.0257	0.0395	0.0505	0.0856	0.450	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
21	5.250	2/600 dia. Pc	19.0				992.83	992.10	3.84	15.055x10 ⁻³	0.0320	0.0662	0.0813	0.1250	0.1597	0.2710	0.450	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
22	5.340	600 dia. Pc	15.0				988.39	988.04	2.33	5.668x10 ⁻³	0.0121	0.0249	0.0306	0.0470	0.0601	0.1020	0.450	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
23	5.620	600 dia. Pc	16.0				970.76	970.68	0.50	38.830x10 ⁻³	0.0825	0.1709	0.2097	0.3222	0.4118	0.6989	0.450	0.25	670.000	1.20	Install 900mm diameter pipe
24	5.810	2/600 dia. Pc	15.0				958.82	957.15	11.13	51.917x10 ⁻³	0.1103	0.2284	0.2804	0.4309	0.5501	0.9345	0.450	0.25	670.000	1.20	Install 900mm diameter pipe
25	5.955	600 dia. Pc	15.0				950.06	949.85	1.40	13.949x10 ⁻³	0.0296	0.0614	0.0753	0.1158	0.1479	0.2510	0.450	0.25	670.000	1.20	Install 900mm diameter pipe
26	7.010	600 dia. Pc	15.0				903.64	903.40	1.57	10.928x10 ⁻³	0.0232	0.0481	0.0590	0.0907	0.1159	0.1967	0.450	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
27	7.900	600 dia. Pc	19.0				867.79	855.75	63.37	39.0x10 ⁻³	0.0250	0.0420	0.0570	0.0720	0.1330	0.1780	0.58	0.25	670.000	1.20	Install 900mm diameter pipe
28	7.955	600 dia. Pc	19.0				866.16	864.16	10.53	4.0x10 ⁻³	0.0160	0.0270	0.0350	0.0420	0.0660	0.0770	0.58	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
29	8.445	600 dia. Pc	16.0				851.29	850.55	4.63	12.0x10 ⁻³	0.0500	0.0820	0.1070	0.1270	0.2020	0.2360	0.59	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
30	8.475	600 dia. Pc	18.0				851.39	849.68	9.50	1.1x10 ⁻³	0.0040	0.0060	0.0090	0.0110	0.0170	0.0200	0.59	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
31	8.495	600 dia. Pc	15.0				857.59	850.91	44.53	5.0x10 ⁻³	0.0210	0.0340	0.0450	0.0530	0.0840	0.0980	0.59	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
32	8.520	450 dia. Pc	18.0				851.55	850.38	6.50	10.0x10 ⁻³	0.0420	0.0680	0.0890	0.1060	0.1680	0.1970	0.59	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
33	8.560	600 dia. Pc	16.0				851.59	850.91	4.25	7.0x10 ⁻³	0.0290	0.0480	0.0620	0.0740	0.1180	0.1380	0.59	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
34	8.580	600 dia. Pc	15.0				851.55	850.38	7.80	12.0x10 ⁻³	0.0500	0.0820	0.1070	0.1270	0.2020	0.2360	0.59	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
35	8.620	600 dia. Pc	15.0				851.96	850.90	7.07	5.0x10 ⁻³	0.0210	0.0340	0.0440	0.0530	0.0840	0.0980	0.59	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
36	8.635	600 dia. Pc	16.0				851.35	850.05	8.13	5.0x10 ⁻³	0.0210	0.0340	0.0450	0.0530	0.0840	0.0980	0.59	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
37	8.650	2/600 dia. Pc	16.0				852.03	851.23	5.00	19.0x10 ⁻³	0.0790	0.1300	0.1700	0.2020	0.3200	0.3740	0.59	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
38	8.665	2/600 dia. Pc	16.0				852.15	851.10	6.56	24.0x10 ⁻³	0.1000	0.1640	0.2140	0.2550	0.4040	0.4720	0.59	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
39	9.965	600 dia. Pc	20.0				853.29	852.82	2.35	18.0x10 ⁻³	0.0760	0.1200	0.1520	0.1760	0.2710	0.3090	0.53	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
40	10.465	600 dia. Pc	17.0				879.50	879.10	2.35	6.0x10 ⁻³	0.0240	0.0380	0.0500	0.0590	0.0920	0.1070	0.51	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
41	11.010	600 dia. Pc	15.0				909.51	908.25	8.40	3.0x10 ⁻³	0.0160	0.0260	0.0340	0.0400	0.0640	0.0750	0.75	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
42	11.305	600 dia. Pc	14.0				920.23	918.56	11.93	7.0x10 ⁻³	0.0210	0.0340	0.0440	0.0530	0.0840	0.0980	0.42	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
43	11.458	600 dia. Pc	16.0				931.13	929.40	10.81	15.0x10 ⁻³	0.0340	0.0550	0.0730	0.0860	0.1370	0.1600	0.32	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
44	11.650	600 dia. Pc	20.0				943.92	943.35	2.85	23.0x10 ⁻³	0.0520	0.0850	0.1110	0.1320	0.2100	0.2450	0.32	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
45	11.730	600 dia. Pc	16.0				949.43	947.88	9.69	8.8x10 ⁻³	0.0200	0.0330	0.0430	0.0510	0.0800	0.0940	0.32	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
46	11.870	600 dia. Pc	18.0				957.87	957.70	0.94	14.0x10 ⁻³	0.0320	0.0520	0.0680	0.0810	0.1280	0.1490	0.32	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
47	12.570	600 dia. Pc	16.0				1007.34	1007.01	2.06	34.0x10 ⁻³	0.1180	0.1930	0.2520	0.3000	0.4750	0.5550	0.49	0.25	670.000	1.20	Install 900mm diameter pipe
48	12.680	600 dia. Pc	16.0				1007.34	1006.85	3.06	20.0x10 ⁻³	0.0700	0.1130	0.1480	0.1760	0.2800	0.3270	0.49	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
49	12.780	600 dia. Pc	17.0				1012.67	1012.24	2.53	20.0x10 ⁻³	0.0700	0.1130	0.1480	0.1760	0.2800	0.3270	0.49	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
50	13.265	600 dia. Pc	16.0				1049.60	1048.60	6.25	42.0x10 ⁻³	0.1220	0.1990	0.1260	0.3100	0.4910	0.5740	0.41	0.25	670.000	1.20	Install 900mm diameter pipe
51	13.450	600 dia. Pc	15.0				1061.84	1061.47	2.47	23.0x10 ⁻³	0.0520	0.0860	0.1130	0.1390	0.2510	0.3280	0.42	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
52	13.705	450 dia. Pc	15.0				1076.40	1073.99	16.07	11.0x10 ⁻³	0.0440	0.0680	0.0840	0.0940	0.1410	0.1570	0.47	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
53	13.795	600 dia. Pc	22.0				1078.02	1076.26	8.00	9.8x10 ⁻³	0.0210	0.0350	0.0470	0.0592	0.1100	0.14					

73	18.590	600 dia. Pc	18.0					1202.88	1201.27	8.94	14.38x10 ⁻³	0.0310	0.0630	0.0780	0.1190	0.1530	0.2590	0.45	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
74	18.690	600 dia. Pc	30.0					1204.50	1203.02	4.93	14.0x10 ⁻³	0.0300	0.0620	0.0760	0.1160	0.1480	0.2520	0.45	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
75	18.855	450 dia. Pc	18.0					1215.52	1214.71	4.50	3.863x10 ⁻³	0.0080	0.0170	0.0210	0.0320	0.0410	0.0700	0.45	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
76	19.115	600 dia. Pc	20.0					1212.29	1211.05	6.20	6.0x10 ⁻³	0.0130	0.0260	0.0320	0.0500	0.0640	0.1080	0.45	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
77	19.420	600 dia. Pc	17.0					1220.20	1219.09	6.53	1.35x10 ⁻³	0.0030	0.0060	0.0070	0.0110	0.0140	0.0240	0.45	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
78	19.785	600 dia. Pc	12.0					1210.32	1210.04	2.33	14.792x10 ⁻³	0.0389	0.0620	0.0810	0.0970	0.1690	0.2140	0.40	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
79	20.250	600 dia. Pc	14.0					1236.82	1235.38	10.29	5.8x10 ⁻³	0.0150	0.0240	0.0310	0.0380	0.0660	0.0830	0.40	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
80	20.370	600 dia. Pc	16.0					1244.36	1243.35	6.31	7.15x10 ⁻³	0.0180	0.0300	0.0390	0.0470	0.0820	0.1030	0.40	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
81	20.510	450 dia. Pc	14.0					1253.23	1252.61	4.43	2.47x10 ⁻³	0.0090	0.0150	0.0190	0.0220	0.0350	0.0410	0.53	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
82	20.600	450 dia. Pc	16.0					1258.83	1258.16	4.19	1.560x10 ⁻³	0.0057	0.0090	0.0120	0.0140	0.0220	0.0260	0.53	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
83	20.660	450 dia. Pc	18.0					1262.60	1261.71	4.94	7.65x10 ⁻³	0.0280	0.0450	0.0590	0.0690	0.1090	0.1260	0.53	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
84	20.810	600 dia. Pc	16.0					1272.38	1270.53	11.56	4.148x10 ⁻³	0.0150	0.0250	0.0320	0.0370	0.0590	0.0690	0.53	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
85	20.890	450 dia. Pc	16.0					1275.91	1275.00	5.69	2.6x10 ⁻³	0.0095	0.0150	0.0200	0.0240	0.0370	0.0430	0.53	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
86	21.160	450 dia. Pc	18.0					1267.75	1267.31	2.44	3.016x10 ⁻³	0.0110	0.0180	0.0230	0.0270	0.0290	0.0500	0.53	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
87	21.330	450 dia. Pc	16.0					1262.41	1261.22	7.44	4.264x10 ⁻³	0.0160	0.0250	0.0330	0.0390	0.0610	0.0710	0.53	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
88	21.670	450 dia. Pc	14.0					1260.39	1259.70	4.93	4.712x10 ⁻³	0.0190	0.0320	0.0420	0.0490	0.0770	0.0890	0.53	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
89	22.410	600 dia. Pc	18.0					1276.89	1275.20	9.39	8.25x10 ⁻³	0.0175	0.0295	0.0396	0.0616	0.0945	0.1238	0.45	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
90	24.020	450 dia. Pc	18.0					1272.22	1270.12	11.67	10.788x10 ⁻³	0.0750	0.1130	0.1660	0.2310	0.3020	0.4250	0.63	0.25	670.000	1.20	Install 600mm diameter pipe
91	24.110	450 dia. Pc	16.0					1299.53	1298.81	4.50	1.86x10 ⁻³	0.0080	0.0120	0.0160	0.0190	0.0310	0.0360	0.63	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
92	24.218	600 dia. Pc	14.0					1292.40	1291.20	8.57	3.60x10 ⁻³	0.0077	0.0129	0.0173	0.0269	0.0412	0.0540	0.45	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
93	24.800	600 dia. Pc	24.0					1262.03	1260.99	4.33	37.05x10 ⁻³	0.1560	0.2530	0.3270	0.3860	0.6080	0.7060	0.63	0.25	670.000	1.20	Install 900mm diameter pipe
94	25.750	450 dia. Pc	16.0					1249.08	1248.86	1.38	43.928x10 ⁻³	0.1850	0.2990	0.3870	0.4780	0.7210	0.8380	0.63	0.25	670.000	1.20	Install 600mm diameter pipe
95	25.830	450 dia. Pc	14.0					1270.80	1270.36	3.14	3.675x10 ⁻³	0.0100	0.0160	0.0210	0.0260	0.0450	0.0570	0.43	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
96	25.935	450 dia. Pc	14.0					1279.00	1278.41	4.21	3.276x10 ⁻³	0.0090	0.0150	0.0190	0.0230	0.0400	0.0510	0.43	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
97	26.050	450 dia. Pc	16.0					1287.05	1286.41	4.00	2.904x10 ⁻³	0.0080	0.0130	0.0170	0.0200	0.0350	0.0450	0.43	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
98	26.140	450 dia. Pc	14.0					1292.50	1292.01	3.50	13.65x10 ⁻³	0.0380	0.0610	0.0790	0.0950	0.1660	0.2110	0.43	0.25	670.000	1.20	Install 600mm diameter pipe
99	26.410	450 dia. Pc	16.0					1296.00	1295.59	2.56	1.9x10 ⁻³	0.0050	0.0080	0.0110	0.0130	0.0230	0.0293	0.43	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
100	26.560	450 dia. Pc	18.0					1298.01	1297.61	2.22	2.695x10 ⁻³	0.0070	0.0120	0.0160	0.0190	0.0330	0.0410	0.43	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
101	26.635	450 dia. Pc	18.0					1298.54	1297.95	3.28	38.8x10 ⁻³	0.1070	0.1730	0.2240	0.2700	0.4710	0.6000	0.43	0.25	670.000	1.20	Install 600mm diameter pipe
102	27.165	450 dia. Pc	16.0					1281.79	1281.25	3.37	10.126x10 ⁻³	0.0215	0.0446	0.0547	0.0841	0.1074	0.1823	0.45	0.25	670.000	1.20	Catchpit inlet – head and wing wall outlet
103	27.735	600 dia. Pc	28.0					1257.75	1256.37	4.93	66.558x10 ⁻³	0.1414	0.2929	0.3594	0.5524	0.7059	1.1980	0.45	0.25	670.000	1.20	Install 900mm diameter pipe
104	27.970	450 dia. Pc	25.0					1258.62	1258.01	2.44	31.289x10 ⁻³	0.0682	0.1403	0.1712	0.2586	0.3301	0.5569	0.45	0.25	670.000	1.20	Install 900mm diameter pipe
105	27.990	2/600 dia. Pc	19.0					1259.84	1258.90	4.95	23.197x10 ⁻³	0.0493	0.1021	0.1253	0.1925	0.2460	0.4175	0.45	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
106	28.120	600 dia. Pc	16.0					1260.14	1258.65	9.31	13.061x10 ⁻³	0.0278	0.0575	0.0705	0.1084	0.1385	0.2351	0.45	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
107	28.265	600 dia. Pc	14.0					1257.81	1257.46	2.50	23.963x10 ⁻³	0.0649	0.1289	0.1526	0.2081	0.2640	0.4259	0.45	0.25	670.000	1.20	Install 900mm diameter pipe
108	28.475	2/600 dia. Pc	24.0					1242.25	1241.42	3.46	30.034x10 ⁻³	0.0719	0.1450	0.1740	0.2486	0.3162	0.5209	0.45	0.25	670.000	1.20	Install 900mm diameter pipe
109	28.500	600 dia. Pc	18.0					1244.09	1242.65	8.00	20.937x10 ⁻³	0.0445	0.0921	0.1131	0.1738	0.2220	0.3769	0.45	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
110	28.585	600 dia. Pc	35.0					1245.98	1242.70	9.37	35.05x10 ⁻³	0.0740	0.1540	0.1890	0.2910	0.3720	0.6310	0.45	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
111	28.610	600 dia. Pc	14.0					1237.56	1236.69	6.21	44.602x10 ⁻³	0.0948	0.1962	0.2409	0.3702	0.4730	0.8028	0.45	0.25	670.000	1.20	Install 900mm diameter pipe
112	28.900	3/600 dia. Pc	20.0					1232.27	1231.77	2.50	38.8x10 ⁻³	0.1070	0.1730	0.2240	0.2700	0.4710	0.6000	0.45	0.25	670.000	1.20	Install 900mm diameter pipe
113	28.930	600 dia. Pc	16.0					1235.00	1234.55	2.81	26.88x10 ⁻³	0.0610	0.0980	0.1260	0.1510	0.2580	0.3230	0.30	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
114	29.115	600 dia. Pc	18.0					1239.67	1239.12	3.06	31.455x10 ⁻³	0.0710	0.1140	0.1480	0.1770	0.3020	0.3790	0.30	0.25	670.000	1.20	Install 450mm diameter pipe
115	29.185	4/600 dia. Pc	16.0					1239.05	1238.47	3.62	22.163x10 ⁻³	0.0500	0.0810	0.1040	0.1250	0.2130	0.2670	0.30	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
116	29.335	600 dia. Pc	19.0					1233.00	1232.19	4.26	10.875x10 ⁻³	0.0250	0.0400	0.0510	0.0610	0.1040	0.1310	0.30	0.25	670.000	1.20	Catchpit inlet – head and wing wall outlet
117	29.520	600 dia. Pc	20.0					1224.26	1222.85	7.05	14.5x10 ⁻³	0.0310	0.0640	0.0780	0.1200	0.1540	0.2610	0.30	0.25	670.000	1.20	Catchpit inlet – head and wing wall outlet
118	29.635	600 dia. Pc	17.0					1221.80	1220.83	5.71	4.875x10 ⁻³	0.0110	0.0180	0.0230	0.0270	0.0470	0.0590	0.30	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
119	29.730	600 dia. Pc	18.0					1219.42	1218.03	7.72	1.75x10 ⁻³	0.0040	0.0060	0.0080	0.0100	0.0170	0.0210	0.30	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
120	29.790	600 dia. Pc	17.0					1217.83	1216.83	5.88	2.95x10 ⁻³	0.0070	0.0100	0.0138	0.0170	0.0280	0.0350	0.30	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
121	29.860	600 dia. Pc	16.0					1215.94	1215.00	5.88	4.2x10 ⁻³	0.0100	0.0150	0.0200	0.0240	0.0400	0.0510	0.30	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
122	29.955	600 dia. Pc	16.0					1212.59	1211.47	7.00	4.75x10 ⁻³	0.0110	0.0170	0.0220	0.0270	0.0460	0.0570	0.30	0.25	670.000	1.20	Install 900mm diameter pipe
123	30.130	600 dia. Pc	15.0					1200.34	1200.30	0.27	1.105x10 ⁻³	0.002	0.004	0.005	0.006	0.010	0.01	0.30	0.25	670.000	1.20	Head/wingwall on both inlet and outlet
124	30.235	600 dia. Pc	20.0					1195.45	1195.02	2.15	42.284x10 ⁻³	0.0739	0.1530	0.1877	0.2329	0.3607	0.6258	0.37	0.25	670.000	1.20	Install 900mm diameter pipe
125	30.330	600 dia. Pc	18.0					1199.17	1198.21	5.33	18.132x10 ⁻³	0.0317	0.0656	0.0805	0.0999	0.1547	0.2684	0.37	0.25	670.000	1.20	Reconstruct Head/wingwall on both inlet and outlet
126	30.450	600 dia. Pc	14.0					1201.37	1200.8													

J2 – DETAILS OF MAJOR CULVERTS

