

STORM SEWER PIPE AND STRUCTURE TABLE																																
TITLE: WHIPSERING WOODS, LEE'S SUMMIT, MO																																
JOB #: 04078																																
DESIGN CONDITIONS: PUBLIC - 100 YEAR STORM EVENT																																
STRUCTURES										PIPE DESIGN																						
FROM	TO	DIRECT AREA (ACRES)	TOTAL AREA (ACRES)	C	KC (K=1.0)	Tc (MIN)	FLOW TIME (MIN)	INTENSITY (IN/HR)	DESIGN Q (CFS)	DESCRIPTION	PIPE LENGTH (L.F.)	PIPE SLOPE (%)	PIPE DIA (IN)	Q FULL (CFS)	PIPE AREA (SQ.FT.)	V FULL (F/S)	DESIGN V (F/S)	HwD	MH TOP ELEVATION	UPSTREAM FLOWLINE	DOWNSTREAM FLOWLINE	DOWNSTREAM WATER ELEVATION	FRICTION HEAD (h f)	ENTRY LOSS COEFFICIENT (K)	ACTUAL ENTRY LOSS (K)	ENTRY LOSS (h m)	h f + h m (FT)	HGL PIPE UIS	HW. INLET CONTROL	HW. OUTLET CONTROL	HYDRAULIC GRADE ELEV.	HYDRAULIC GRADE (MAX)
H-2	C-8, D-1, H-1	1.53	0.66	0.66	5.00	10.32	10.32	10.42	Field Inlet	24" HDPE	127.25	3.54	24	55.45	3.14	17.85	11.20	0.90	984.57	979.6	975.10	975.77	0.16	0.40	1.00	1.95	2.11	980.27	981.40	979.80	981.40	983.07
B-2		0.42	0.66	0.66	5.00	10.32	10.32	2.86	Curb Inlet	18" RCP	34.75	8.63	18	40.23	1.77	22.77	10.94	0.76	982.08	975.00	972.00	972.67	0.02	0.40	1.00	1.86	1.87	975.31	976.13	975.00	976.13	980.58
E-2	C-8, D-1, H-1	0.53	0.66	0.66	5.00	10.32	10.32	3.61	Curb Inlet	18" RCP	127.25	2.00	18	19.39	1.77	10.97	6.95	0.78	975.39	970.25	967.70	968.20	0.09	0.40	1.00	0.75	0.84	970.75	971.42	970.25	971.42	973.89
F-2	C-7, E-1	0.35	0.66	0.66	5.00	10.32	10.32	2.38	Curb Inlet	18" RCP	97.55	1.59	18	17.27	1.77	9.77	4.18	0.72	968.62	964.20	962.65	963.19	0.03	0.40	1.00	0.27	0.30	964.74	965.28	964.20	965.28	967.12
C-8, D-1, H-1	C-7, E-1	1.12	0.66	0.66	5.00	10.32	10.32	7.83	Curb Inlet	36" RCP	250.68	2.79	36	145.22	7.07	20.54	14.98	1.22	982.09	969.00	962.01	966.27	0.70	0.40	0.40	1.39	2.09	970.34	972.67	969.00	972.67	980.59
C-7, E-1		0.71	0.66	0.66	5.00	10.32	10.32	4.84	Curb Inlet	36" RCP	35.75	1.12	36	92.01	7.07	13.02	10.96	1.41	972.61	961.60	961.20	965.39	0.13	0.40	0.40	0.75	0.88	965.53	965.84	966.27	966.27	971.11
C-6	C-6	0.30	0.66	0.66	5.00	10.32	10.32	2.04	Curb Inlet	36" RCP	156.68	2.23	36	129.83	7.07	18.37	14.42	1.46	972.62	961.00	957.51	961.02	0.63	0.40	0.40	1.29	1.92	962.59	965.39	962.94	965.39	971.12
C-5, F-1	C-5, F-1	0.21	0.66	0.66	5.00	10.32	10.32	1.43	Curb Inlet	42" RCP	45.52	0.66	42	106.54	9.62	11.07	9.21	1.08	967.49	957.00	960.41	960.41	0.09	0.40	0.40	0.53	0.62	960.50	960.78	961.02	961.02	965.99
C-4	C-4	0.40	0.66	0.66	5.00	10.32	10.32	0.40	Curb Inlet	42" RCP	35.25	0.57	42	99.01	9.62	10.29	8.76	1.12	966.75	956.50	956.30	959.63	0.08	0.40	0.40	0.48	0.55	959.71	960.41	960.18	960.41	965.25
C-3	C-3	0.40	0.66	0.66	5.00	10.32	10.32	2.73	Curb Inlet	48" RCP	157.63	0.51	48	133.72	12.57	10.64	8.56	0.92	966.75	955.80	955.00	959.00	0.18	0.40	0.40	0.46	0.63	959.18	959.47	959.63	959.63	965.25
C-2	C-2	0.00	0.66	0.66	5.00	10.32	10.32	0.00	Curb Inlet	48" RCP	234.93	0.34	48	109.18	12.57	8.69	7.31	0.92	962.07	954.80	954.00	958.32	0.26	0.50	0.50	0.41	0.68	958.58	958.47	959.00	959.00	960.57
G-5, N-1	G-4	0.36	0.66	0.66	5.00	10.32	10.32	2.45	Curb Inlet	24" RCP	330.30	2.42	24	45.89	3.14	14.61	11.58	1.49	991.97	977.40	969.40	972.53	1.57	0.40	0.40	0.83	2.40	978.48	980.38	977.40	980.38	990.47
G-4		0.31	0.66	0.66	5.00	10.32	10.32	2.11	Curb Inlet	24" HDPE	34.21	1.17	24	31.90	3.14	10.15	8.80	1.62	978.42	969.10	968.70	971.86	0.19	0.40	0.40	0.48	0.67	972.05	972.34	972.53	972.53	976.92
G-3	G-3	0.53	0.66	0.66	5.00	10.32	10.32	3.61	Curb Inlet	24" HDPE	34.21	1.17	24	31.90	3.14	10.15	8.80	1.62	978.40	969.10	968.70	971.86	0.19	0.40	0.40	0.48	0.67	972.05	972.34	972.53	972.53	976.90
G-2	G-2	3.98	0.66	0.66	7.11	0.06	5.11	24.99	24" RCP	78.42	5.87	24	71.44	3.14	22.74	17.05	1.93		968.00	963.40	964.34	0.57	0.40	0.40	1.80	2.38	968.95	971.86	968.00			
G-1	G-1	0.06	0.66	0.66	5.00	10.32	10.32	0.41	Curb Inlet	36" RCP	135.32	3.77	36	168.81	7.07	23.88	14.21	0.84	976.43	960.80	955.70	958.70	0.12	0.40	0.40	1.25	1.37	961.70	963.32	960.80	963.32	974.93
G-1	G-0	0.00	0.66	0.66	5.00	10.32	10.32	0.00	Junction Box	42" RCP	42.77	0.70	42	109.84	9.62	11.42	7.66	0.75	976.43	954.30	954.00	958.32	0.02	0.40	0.40	0.40	0.36	958.34	956.92	958.70	958.70	974.93
A-3	A-2	1.24	0.66	0.66	5.00	10.32	10.32	8.45	Curb Inlet	24" HDPE	43.00	0.50	24	20.85	3.14	6.64	5.16	0.81	959.50	953.30	953.09	956.02	0.04	0.40	1.00	0.41	0.45	955.05	954.93	956.47	956.47	958.14
A-2		0.62	1.24	0.66	0.66	5.00	10.32	10.32	4.22	Curb Inlet	24" HDPE	42.20	0.50	24	20.85	3.14	6.64	5.64	0.89	959.50	952.65	952.44	955.74	0.08	0.40	0.40	0.20	0.28	955.82	954.63	956.02	956.02
A1 - 2	A1 - 1	0.50	0.66	0.66	5.00	10.32	10.32	3.41	FES										956.45	952.65	952.44	955.74	0.08	0.40	0.40	0.20	0.28	955.82	954.63	956.02	956.02	958.00
		0.50	0.66	0.66	5.00	10.32	10.32	3.41	18" RCP	106.90	2.08	18	19.75	1.77	11.16	6.64	5.64	0.77	956.45	954.66	952.44	953.20	0.07	0.40	1.00	0.74	0.81	955.14	955.81	954.66	955.81	954.95

D_{50} = Median Rock Size, ft
Q = Flowrate, cfs
D = Culvert Rise, ft
*TW = Tailwater Depth, ft
1.0D.
If tailwater is unknown, use 0.4

DESIGNED
BLG
DRAWN
BLG
SCALE
Noted
DATE
09-01-201
JOB NO.
04078
SHEET

3855 S. NORTHERN BLVD.
INDEPENDENCE, MO 64052
(816) 743-9000 FAX: (816) 743-9700
ENGINEERING CERTIFICATE NO: MO E-2000151302-D KS: E-853

THE SEAL(S) AND SIGNATURE(S) APPLY ONLY TO THE DOCUMENT TO WHICH THEY ARE AFFIXED, AND EXPRESSLY DISCLAIM ANY RESPONSIBILITY FOR ALL OTHER PLANS, SPECIFICATIONS, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS RELATING TO OR INTENDED TO