

LAKWOOD

Preliminary Storm and Sanitary Design Notes

1. Existing ditch on west side of Bradner Rd. has a bottom elevation of 608.7 at the south end and a bottom elevation of 608.5 at the north end
2. Existing edge of pavement grade of Bradner Road is approximately 614.0
3. Existing grade at right-of-way is approximately 612.5
4. Existing average grade across site is approximately 612.5
5. Existing site currently drains to a low spot in the rear with an elevation of 612.0
6. Difference between existing grade of ditch (608.7) and low area in rear of property (612) is 3.3'.
7. County requires a catch basin at rear of every other lot
8. Design storm taps to use storm sewer at rear of property
9. Proposed storm sewer will require a fall of approximately 1.9'
10. Proposed storm sewer invert at rear of development will be 610.60
11. Existing sanitary at proposed entrance has an invert of 602.69
12. Proposed sanitary main-line invert at the furthest point will be 609.48
13. Proposed sanitary invert will be approximately 1' below proposed storm – clearance will be approximately 0.0'
14. Proposed top of curb for catch basin at rear of property will be 613.50
15. Highest proposed top of curb will be 614.58
16. Site will require approximately 1' to 2' of fill to be brought in for construction of the roadway

SITE DETENTION BASED ON MAXIMUM C ALLOWABLE

PROJECT: **Lakewood - North 1/2**

CALCULATED BY: Troy M. Barman DATE: 5/31/2002

PRINTED: 2/22/2005

DRAINAGE AREA =	9.370 AC	
PERVIOUS AREA =	6.360 AC	C = 0.15
IMPERVIOUS AREA =	3.010 AC	C = 0.90
WEIGHTED Cw =	0.391	i 5y,20m = 3.2
MAX Qallow =	3.00 CFS	C allow = 0.1

TOTAL DETENTION REQUIRED

tc MIN	i25 IN/HR	Cw*A	Qin(Q25)	Qout (Qall)	VOLUME FT^3
5	7.00	3.66	25.64	3.00	6793
10	6.00	3.66	21.98	3.00	11388
15	5.03	3.66	18.42	3.00	13884
20	4.43	3.66	16.23	3.00	15874
30	3.57	3.66	13.08	3.00	18141
40	3.00	3.66	10.99	3.00	19177
50	2.58	3.66	9.45	3.00	19356
60	2.30	3.66	8.42	3.00	19535
70	2.03	3.66	7.44	3.00	18637
80	1.86	3.66	6.81	3.00	18311
90	1.70	3.66	6.23	3.00	17435
100	1.56	3.66	5.71	3.00	16295
110	1.46	3.66	5.35	3.00	15507
120	1.38	3.66	5.05	3.00	14807

DETENTION AREA 1

DETENTION ELEVATION =	611.9
DETENTION BOTTOM =	608.8
DEPTH =	3.1 FT
BOTTOM AREA =	4,535 SQ FT
SIDE SLOPE =	3 :1
SIDE SLOPE CENTER LENGTH =	400 FT

VOLUME 20,156 CU FT

Meter Pipe - 38'-8" PVC, n=0.10, head = 3.1', Q = 3.0cfs

SITE DETENTION BASED ON MAXIMUM C ALLOWABLE

PROJECT: **Lakewood - South 1/2**

CALCULATED BY: Troy M. Barman

DATE: 5/31/2002
PRINTED: 2/22/2005

DRAINAGE AREA = 16.610 AC
 PERVIOUS AREA = 13.110 AC C = 0.15
 IMPERVIOUS AREA = 3.500 AC C = 0.90
 WEIGHTED Cw = 0.308 i 5y,20m = 3.2
 MAX Qallow = 5.32 CFS C allow = 0.1

TOTAL DETENTION REQUIRED

t _c MIN	i25 IN/HR	Cw*A	Qin(Q25)	Qout (Qall)	VOLUME FT ³
5	7.00	5.12	35.82	5.32	9150
10	6.00	5.12	30.70	5.32	15230
15	5.03	5.12	25.74	5.32	18379
20	4.43	5.12	22.67	5.32	20821
30	3.57	5.12	18.27	5.32	23311
40	3.00	5.12	15.35	5.32	24082
50	2.58	5.12	13.20	5.32	23656
60	2.30	5.12	11.77	5.32	23230
70	2.03	5.12	10.39	5.32	21299
80	1.86	5.12	9.52	5.32	20167
90	1.70	5.12	8.70	5.32	18267
100	1.56	5.12	7.98	5.32	15999
110	1.46	5.12	7.47	5.32	14222
120	1.38	5.12	7.06	5.32	12568

DETENTION AREA 2

DETENTION ELEVATION = 611.8
 DETENTION BOTTOM = 609.2
 DEPTH = 2.6 FT
 BOTTOM AREA = 3,150 SQ FT
 SIDE SLOPE = 3 :1
 SIDE SLOPE CENTER LENGTH = 310 FT
 VOLUME 11,445 CU FT

DETENTION AREA 3

DETENTION ELEVATION = 611.8
 DETENTION BOTTOM = 609.9
 DEPTH = 1.9 FT
 BOTTOM AREA = 9,973 SQ FT
 SIDE SLOPE = 3 :1
 SIDE SLOPE CENTER LENGTH = 509 FT
 VOLUME 22,092 CU FT

DETENTION AREA 4

DETENTION ELEVATION = 611.8
 DETENTION BOTTOM = 610.4
 DEPTH = 1.4 FT
 BOTTOM AREA = 3,448 SQ FT
 SIDE SLOPE = 3 :1
 SIDE SLOPE CENTER LENGTH = 310 FT
 VOLUME 5,691 CU FT

TOTAL VOLUME 39,228 CU FT

Meter Pipe - 11'-10" PVC, n=0.10, head = 2.6', Q = 5.3cfs

PROJ: LAKEWOOD, LAKE TOWNSHIP, WOOD COUNTY, OHIO
 LOCATION: SOUTH RUN
 VELOCITIES WITH CONSTRUCTION SLOPE
 ROUGHNESS COEFF: PVC = .010; CONC = .013

H = 10 YR HGL
 C = 5 YR CONSTRUCTION GRADE

DESIGNED BY: TMB
 CHECKED BY:
 DATE: 2/1/2005

STATN	AREA (ACRES)	CW	C x A	TIME (min)	RAINFALL INTENSITY I	RUNOFF Q (cfs)	PIPE SIZE	PIPE MATERIAL	SLOPE %	VELOCITY (fps)	LENGTH (ft)	TIME (MIN)	FALL (ft)	H	C	CASTING ELEVATION
CB3-2				20.0	3.75	1.14	12	CONC	0.10	1.4	29	0.33	0.03	612.63	610.57	
CB3-1	0.66	0.46	0.304	20.0	3.16	0.96	12	CONC	0.22	2.4	29	0.20	0.06	612.60	610.51	
CB3-1			0.304	0.3	3.72	2.26	12	PVC	0.24	2.9	8	0.05	0.02	612.60	610.51	
MH3-1	0.66	0.46	0.607	20.3	3.14	1.91	12	PVC	0.22	3.1	8	0.04	0.02	612.58	610.49	
MH3-1			0.607	0.0	3.71	2.28	12	PVC	0.24	2.9	140	0.81	0.33	612.58	610.49	
MH3-2	0	0.00	0.607	20.4	3.14	1.91	12	PVC	0.22	3.1	140	0.75	0.31	612.25	610.18	
MH3-2			0.607	0.8	3.63	2.20	12	PVC	0.23	2.9	152	0.90	0.34	612.25	610.18	
DET-3	0	0.00	0.607	21.2	3.08	1.87	12	PVC	0.22	3.1	152	0.82	0.33	611.91	609.85	
YB3-1				20.0	3.75	0.96	10	PVC	0.04	1.0	150	2.45	0.06	613.24	612.16	
YB3-2	0.57	0.26	0.148	20.0	3.16	0.47	10	PVC	0.28	3.1	150	0.81	0.42	613.18	611.74	
YB3-2			0.148	2.5	3.59	1.06	10	PVC	0.14	2.0	150	1.28	0.21	613.18	611.74	
YB3-3	0.57	0.26	0.296	22.5	3.1	0.92	10	PVC	0.28	3.1	150	0.81	0.42	612.97	611.32	
YB3-3			0.148	1.3	3.63	1.57	12	PVC	0.11	2.0	150	1.25	0.17	612.97	611.32	
YB3-4	0.57	0.26	0.445	23.7	3.04	1.35	12	PVC	0.22	3.1	150	0.81	0.33	612.80	610.99	
YB3-4			0.148	1.3	3.46	2.05	12	PVC	0.20	2.6	150	0.96	0.29	612.80	610.99	
YB3-5	0.57	0.26	0.593	25.0	2.98	1.77	12	PVC	0.22	3.1	150	0.81	0.16	612.50	610.66	
YB3-5			0.138	1.0	3.39	2.48	15	PVC	0.09	2.0	186	1.54	0.28	612.34	610.38	
DET-4	0.53	0.26	0.731	25.9	2.91	2.13	15	PVC	0.15	3.1	290	1.00	0.28	612.34	610.28	
DET-4			0.247	1.5	3.32	3.28	15	PVC	0.15	2.6	290	1.83	0.43	612.34	610.28	
DET-3	0.95	0.26	0.978	27.5	2.84	2.78	15	PVC	0.15	3.1	290	1.56	0.44	611.91	609.85	
YB2-3				20.0	3.75	0.67	8	PVC	0.18	1.9	150	1.30	0.28	612.79	611.25	
YB2-4	0.69	0.26	0.179	20.0	3.16	0.57	8	PVC	0.40	3.0	150	0.83	0.60	612.52	610.65	
YB2-4			0.179	1.3	3.62	1.30	10	PVC	0.21	2.4	150	1.05	0.31	612.52	610.65	
YB2-5	0.69	0.26	0.359	21.3	3.1	1.11	10	PVC	0.28	3.1	150	0.81	0.42	612.20	610.23	
YB2-5			0.179	1.0	3.54	1.91	12	PVC	0.17	2.4	175	1.20	0.30	612.20	610.23	
DET-3	0.69	0.26	0.538	22.3	3.04	1.84	12	PVC	0.22	3.1	175	0.94	0.39	611.91	609.85	
CB2-5				20.0	3.75	0.72	12	CONC	0.04	0.9	29	0.52	0.01	612.30	610.61	
CB2-6	0.42	0.46	0.193	20.0	3.16	0.61	12	CONC	0.22	2.4	29	0.20	0.06	612.29	610.55	
CB2-6			0.248	0.5	3.7	1.63	12	PVC	0.12	2.1	8	0.05	0.01	612.29	610.55	
MH2-1	0.54	0.46	0.442	20.5	3.14	1.89	12	PVC	0.22	3.1	149	0.80	0.18	612.28	610.53	
MH2-1			0.000	0.1	3.69	1.68	12	PVC	0.12	2.1	149	1.20	0.02	612.28	610.53	
MH2-2	0	0.00	0.442	20.6	3.14	1.39	12	PVC	0.22	3.1	161	0.80	0.33	612.10	610.20	
MH2-2			0.000	1.2	3.58	1.56	12	PVC	0.12	2.0	161	1.33	0.19	612.10	610.20	
DET-3	0	0.00	0.442	21.8	3.08	1.36	12	PVC	0.22	3.1	161	0.87	0.35	611.91	609.85	
DET-3			0.523	1.8	3.17	9.78		PVC	0.11	3.1		1.41	0.29	611.91	609.75	

Handwritten note:
 2 *opposite flow?*
 2 *opposite flow?*

YB1-6	2.01	0.26	s	3.087	29.3	25.8	C	2.73	8.43	24	0.010	0.10	3.1	263	1.41	0.26	611.62	609.49
YB1-3			Δ		20.0	20.0	H	3.75	0.67		PVC	0.06	1.2		2.03	0.08	612.35	610.82
YB1-4	0.69	0.26	s	0.179	20.0	20.0	C	3.16	0.57	10	0.010	0.28	3.0	150	0.83	0.42	612.26	610.40
YB1-4			Δ	0.179	2.0	0.8	H	3.62	1.30		PVC	0.08	1.7		1.51	0.12	612.26	610.40
YB1-5	0.69	0.26	s	0.359	22.0	20.8	C	3.1	1.11	12	0.010	0.22	3.1	150	0.81	0.33	612.14	610.07
YB1-5			Δ	0.200	1.5	0.8	H	3.54	1.98		PVC	0.18	2.5		0.83	0.23	612.14	610.07
CB1-9	0.77	0.26	s	0.559	23.5	21.6	C	3.04	1.70	12	0.010	0.22	3.1	125	0.67	0.28	611.92	609.79
CB1-9			Δ	0.129	0.8	0.7	H	3.46	2.38		PVC	0.26	3.0		0.16	0.08	611.92	609.79
CB1-10	0.28	0.46	s	0.688	24.4	22.3	C	2.99	2.06	12	0.010	0.22	3.1	29	0.16	0.06	611.84	609.73
CB1-10			Δ	0.216	0.2	0.2	H	3.45	3.12		PVC	0.14	2.5		1.06	0.22	611.84	609.73
YB1-6	0.47	0.46	s	0.904	24.5	22.5	C	2.97	2.68	15	0.010	0.15	3.1	161	0.87	0.24	611.62	609.49
YB1-6			Δ	0.101	1.4	1.4	H	3.07	12.98		PVC	0.18	4.0		0.88	0.39	611.62	609.49
DET-2	0.39	0.28	s	4.093	30.7	27.2	C	2.82	10.72	24	0.010	0.12	3.4	211	1.03	0.25	611.23	609.23
CB1-7			Δ		20.0	20.0	H	3.75	0.74		CONC	0.04	0.9		0.51	0.01	611.60	609.91
CB1-8	0.43	0.46	s	0.198	20.0	20.0	C	3.16	0.63	12	0.013	0.22	2.4	29	0.20	0.06	611.59	609.85
CB1-8			Δ	0.258	0.5	0.2	H	3.7	1.68		PVC	0.18	2.1		0.06	0.01	611.59	609.85
MH1-1	0.56	0.46	s	0.455	20.5	20.2	C	3.14	1.43	12	0.010	0.22	3.1	8	0.04	0.02	611.58	609.83
MH1-1			Δ	0.000	0.1	0.0	H	3.69	1.68		PVC	0.13	2.1		1.11	0.19	611.58	609.83
MH1-2	0	0.00	s	0.455	20.5	20.2	C	3.14	1.43	12	0.010	0.22	3.1	142	0.76	0.31	611.39	609.52
MH1-2			Δ	0.000	1.1	0.8	H	3.59	1.63		PVC	0.12	2.1		1.04	0.16	611.39	609.52
DET-2	0	0.00	s	0.455	21.7	21.0	C	3.08	1.40	12	0.010	0.22	3.1	130	0.70	0.29	611.23	609.23
YB1-7			Δ		20.0	20.0	H	3.75	0.37		PVC	0.06	1.1		2.36	0.08	611.91	611.03
YB1-8	0.38	0.28	s	0.099	20.0	20.0	C	3.16	0.31	8	0.010	0.40	3.0	150	0.83	0.60	611.83	610.43
YB1-8			Δ	0.099	2.4	0.8	H	3.62	0.72		PVC	0.21	2.0		1.22	0.31	611.83	610.43
YB1-9	0.38	0.26	s	0.198	22.4	20.8	C	3.1	0.61	8	0.010	0.40	3.0	150	0.83	0.60	611.52	609.83
YB1-9			Δ	0.099	1.2	0.8	H	3.52	1.94		PVC	0.13	1.9		1.86	0.29	611.52	609.83
DET-2	0.38	0.28	s	0.296	23.6	21.7	C	3.04	0.90	10	0.010	0.28	3.1	213	1.15	0.60	611.23	609.23
DET-2			Δ	0.286	0.9	1.0	H	2.99	15.34		PVC-meter							609.13
YB1-10	1.1	0.26	s	5.130	31.6	28.2	C	2.55	13.08	10	0.010	0.10	2.6	11	0.07	0.01		609.12
YB1-10			Δ	0.000	0.0	0.1	H	2.89	14.83		PVC							609.12
DITCH		0.26	s	5.130	31.6	28.3	C	2.46	12.62	15	0.010	0.15	2.6	281	1.80	0.42		608.70

PROJ: LAKEWOOD, LAKE TOWNSHIP, WOOD COUNTY, OHIO
 LOCATION: NORTH RUN
 VELOCITIES WITH CONSTRUCTION SLOPE
 RAUGHNESS COEFF: PVC = .010; CONC = .013

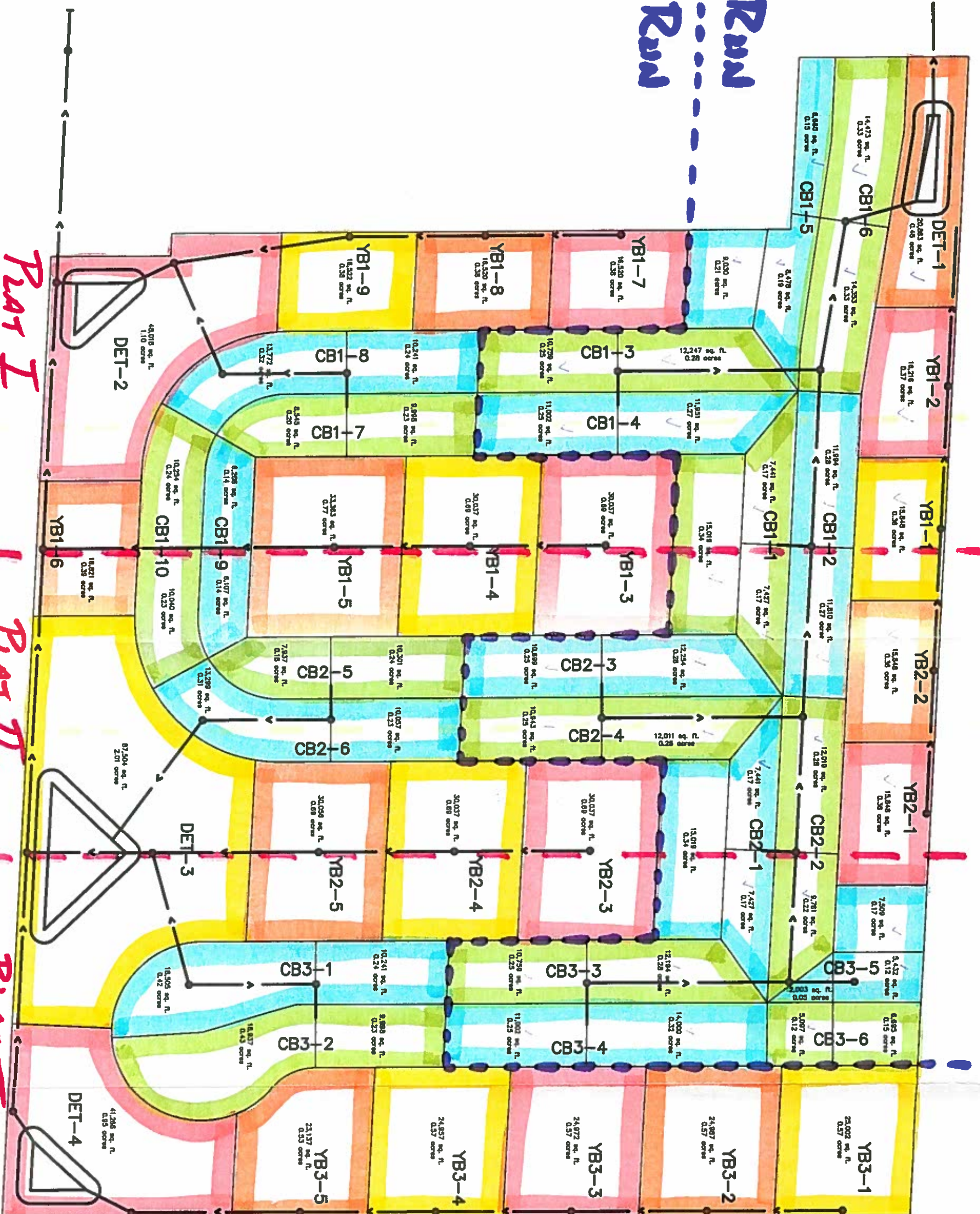
H = 10 YR HGL
 C = 5 YR CONSTRUCTION GRADE

DESIGNED BY: TMB
 CHECKED BY:
 DATE: 2/1/2005

STATN	AREA (ACRES)	Cw	C x A	TIME (min)		RAINFALL INTENSITY I	RUNOFF Q (cfs)	PIPE SIZE	PIPE MATERIAL	SLOPE %	VELOCITY (fps)	LENGTH (ft)	TIME (MIN)	FALL (ft)	H	C
				H	C											
CB3-4	0.57	0.46	0.262	20.0	20.0	3.75	0.93	12	CONC	0.08	1.3	29	0.39	0.02	613.14	610.62
CB3-3	0.57	0.46	0.262	20.0	20.0	3.16	0.83	12	CONC	0.22	2.4	29	0.20	0.06	613.12	610.55
CB3-3	0.53	0.46	0.244	0.4	0.2	3.71	1.88	12	PVC	0.16	2.4	8	0.06	0.01	613.14	610.55
MH3-3	0.53	0.46	0.506	20.4	20.2	3.14	1.59	12	0.010	0.22	3.1	8	0.04	0.02	613.12	610.54
MH3-3	0	0.00	0.000	0.1	0.0	3.71	1.88	12	PVC	0.16	2.4	224	1.56	0.37	613.12	610.54
MH3-4	0	0.00	0.506	20.4	20.2	3.14	1.59	12	0.010	0.22	3.1	224	1.20	0.49	612.75	610.04
CB3-6	0.27	0.46	0.124	20.0	20.0	3.75	0.47	6	PVC	0.41	2.4	29	0.20	0.12	613.03	610.41
CB3-5	0.27	0.46	0.124	20.0	20.0	3.16	0.39	6	0.010	0.63	3.2	29	0.15	0.18	612.91	610.23
CB3-5	0.34	0.36	0.122	0.2	0.2	3.73	0.92	8	PVC	0.34	2.6	48	0.29	0.16	612.91	610.23
MH3-4	0.34	0.36	0.247	20.2	20.2	3.14	0.77	8	0.010	0.40	3.1	48	0.25	0.18	612.75	610.04
MH3-4	0	0.00	0.000	1.6	1.2	3.56	2.68	12	PVC	0.33	3.4	145	0.71	0.49	612.75	610.04
MH2-3	0	0.00	0.753	22.0	21.4	3.06	2.30	12	0.010	0.23	3.1	145	0.78	0.33	612.27	609.71
CB2-1	0.68	0.36	0.245	20.0	20.0	3.75	0.92	12	CONC	0.07	1.2	29	0.41	0.02	612.30	609.79
CB2-2	0.68	0.36	0.245	20.0	20.0	3.16	0.77	12	0.013	0.22	2.4	29	0.20	0.06	612.28	609.73
CB2-2	0.5	0.46	0.230	0.4	0.2	3.71	1.76	12	PVC	0.14	2.2	8	0.06	0.01	612.28	609.73
MH2-3	0.5	0.46	0.475	20.4	20.2	3.14	1.49	12	0.010	0.22	3.1	8	0.04	0.02	612.27	609.71
MH2-3	0	0.00	0.000	0.7	0.8	3.5	4.30	18	PVC	0.10	2.4	150	1.03	0.15	612.27	609.71
MH2-5	0	0.00	1.227	22.7	22.2	2.99	3.67	18	0.010	0.12	3.1	150	0.81	0.18	612.12	609.53
CB2-3	0.53	0.46	0.244	20.0	20.0	3.75	0.91	12	CONC	0.07	1.2	29	0.42	0.02	612.49	610.10
CB2-4	0.53	0.46	0.244	20.0	20.0	3.16	0.77	12	0.013	0.22	2.4	29	0.20	0.06	612.47	610.04
CB2-4	0.53	0.46	0.244	0.4	0.2	3.71	1.81	12	PVC	0.15	2.3	8	0.06	0.01	612.47	610.04
MH2-4	0.53	0.46	0.488	20.4	20.2	3.14	1.53	12	0.010	0.22	3.1	8	0.04	0.02	612.46	610.02
MH2-4	0	0.00	0.000	0.1	0.0	3.7	1.88	12	PVC	0.15	2.3	222	1.61	0.34	612.46	610.02
MH2-5	0	0.00	0.488	20.5	20.2	3.14	1.53	12	0.010	0.22	3.1	222	1.19	0.49	612.12	609.53
MH2-5	0	1.00	0.000	1.0	0.8	3.42	5.87	18	PVC	0.18	3.3	191	0.96	0.35	612.12	609.53
MH1-3	0	1.00	1.715	23.7	23.0	2.93	5.02	18	0.010	0.12	3.1	191	1.03	0.23	611.77	609.30
CB1-1	0.68	0.36	0.245	20.0	20.0	3.75	0.92	12	CONC	0.07	1.2	29	0.41	0.02	611.80	609.38
CB1-2	0.68	0.36	0.245	20.0	20.0	3.16	0.77	12	0.013	0.22	2.4	29	0.20	0.06	611.78	609.32
CB1-2	0.55	0.46	0.253	0.4	0.2	3.71	1.85	12	PVC	0.16	2.4	8	0.06	0.01	611.78	609.32
MH1-3	0.55	0.46	0.498	20.4	20.2	3.14	1.56	12	0.010	0.22	3.1	8	0.04	0.02	611.77	609.30

MH1-3		Δ	0.000	1.0	1.0	H	3.36	7.44	18	PVC	0.30	4.2	196	0.78	0.59	611.77	609.30
MH1-5	0	s	2.213	24.7	24.1	C	2.85	6.31	18	PVC	0.12	3.1	196	1.05	0.24	611.19	609.07
CB1-4		Δ		20.0	20.0	H	3.75	0.90	12	CONC	0.06	1.1	29	0.42	0.02	611.55	609.64
CB1-3	0.52	s	0.239	20.0	20.0	C	3.16	0.76	12	PVC	0.22	2.4	29	0.20	0.06	611.53	609.58
CB1-4		Δ	0.244	0.4	0.2	H	3.71	1.79	12	PVC	0.15	2.3	8	0.06	0.01	611.53	609.58
MH1-3	0.53	s	0.483	20.4	20.2	C	3.14	1.52	12	PVC	0.22	3.1	8	0.04	0.02	611.52	609.56
MH1-4		Δ	0.000	0.1	0.0	H	3.7	1.73	12	PVC	0.15	2.3	224	1.64	0.33	611.52	609.56
MH1-5	0	s	0.483	20.5	20.2	C	3.14	1.52	12	PVC	0.22	3.1	224	1.20	0.49	611.19	609.07
MH1-5		Δ	0.000	0.8	1.1	H	3.32	8.95	21	PVC	0.19	3.7	151	0.68	0.29	611.19	609.07
MH1-6	0	s	2.696	25.5	25.1	C	2.78	7.49	21	PVC	0.12	3.0	151	0.84	0.18	610.90	608.88
CB1-5		Δ		20.0	20.0	H	3.75	0.79	12	CONC	0.05	1.0	29	0.48	0.01	610.94	608.99
CB1-6	0.55	s	0.211	20.0	20.0	C	3.16	0.67	12	PVC	0.22	2.4	29	0.20	0.06	610.93	608.92
CB1-6		Δ	0.304	0.5	0.2	H	3.7	1.93	12	PVC	0.17	2.4	17	0.12	0.03	610.93	608.92
MH1-6	0.66	s	0.515	20.5	20.2	C	3.14	1.62	12	PVC	0.22	3.1	17	0.09	0.04	610.90	608.88
MH1-6		Δ	0.000	0.7	0.8	H	3.25	10.43	24	PVC	0.13	3.3	68	0.34	0.09	610.90	608.88
DET-1	0	s	3.210	26.2	26.0	C	2.72	8.73	24	PVC	0.10	3.2	68	0.35	0.07	610.82	608.82
YB2-1		Δ		20.0	20.0	H	3.75	0.35	6	PVC	0.23	1.8	150	1.40	0.35	612.38	611.44
YB2-2	0.36	s	0.094	20.0	20.0	C	3.16	0.30	6	PVC	0.63	3.2	150	0.78	0.95	612.03	610.50
YB2-2		Δ	0.094	1.4	0.8	H	3.6	0.67	8	PVC	0.18	1.8	150	1.29	0.28	612.03	610.50
YB1-1	0.36	s	0.187	21.4	20.8	C	3.1	0.58	8	PVC	0.40	3.1	150	0.81	0.60	611.75	609.90
YB1-1		Δ	0.094	1.3	0.8	H	3.5	0.93	8	PVC	0.39	2.8	150	0.89	0.59	611.75	609.90
YB1-2	0.36	s	0.281	22.7	21.6	C	3.03	0.85	8	PVC	0.40	3.1	150	0.81	0.60	611.17	609.30
YB1-2		Δ	0.096	0.9	0.8	H	3.42	1.29	10	PVC	0.20	2.4	171	1.21	0.35	611.17	609.30
DET-1	0.37	s	0.377	23.6	22.4	C	2.97	1.12	10	PVC	0.28	3.1	171	0.92	0.48	610.82	608.82
DET-1		Δ	0.072	0.3	0.4	H	3.22	11.73	8	PVC-meter			38				608.72
YB1-11	0.48	s	3.659	26.5	26.3	C	2.69	9.84	8	PVC	0.10	3.2	38	0.20	0.04		608.68
YB1-11		Δ	0.000	0.0	0.2	H	3.22	11.73	12	PVC	0.22	3.0	81	0.45	0.18		608.68
DITCH	0	s	3.659	26.5	26.5	C	2.69	9.84	12	PVC	0.22	3.0	81	0.45	0.18		608.50

NORTH RUN
SOUTH RUN



Part I

Part II

Part III

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