STORM WATER CALCULATIONS - 15 YEAR STORM DESIGN

CARRIAGE HILLS
SUBDIVISION - PHASE ONE
HYDRAULIC CALCS. & DATA

200 LINE

JOB NO. :120485
DATE :8/24/87
BY :JLC

TERRA ASSOCIATES LIMITED
1821 SHERMAN DRIVE
ST. CHARLES, MISSOURI 63303
(314) 946-2886

STRUCTURE INFLOW DATA: FILE NO. CH1200LN

STRUC. NO.	DRAIN. AREA ACRES	P.I.	DRAIN. AREA Q CFS	ADD. INFLOW CFS	Q TO STRUC. CFS	ST. GRADE %	INL. CAP. CFS	OUT. CAP. CFS	TOTAL Q1 IN PIPE CFS	FLOW TO STRUC. NO.
DCB 260	0.93	2.64	2.46	---	2.46	1.50	7.36	3.80	2.46	YCB 207
YCB 250	0.68	2.64	1.80	---	1.80	---	8.25	---	1.80	MH 205
DCB 242	1.12	2.64	2.96	---	2.96	4.60	2.64	6.64	2.64	DCB 241
DCB 241	0.92	2.64	2.43	0.32	2.75	4.60	2.64	6.64	5.28	CB 240
CB 240	0.32	2.64	0.84	---	0.84	4.02	1.21	6.10	6.12	CB 204
YCB 230	0.30	2.64	0.79	---	0.79	---	8.25	---	0.79	MH 202
DCB 222	1.33	2.64	3.51	---	3.51	4.00	3.56	6.10	3.51	DCB 221
DCB 221	1.24	2.64	3.27	---	3.27	0.00	8.00	8.00	6.78	DCB 220
DCB 220	0.95	2.64	2.51	0.11	2.62	4.02	3.56	6.10	9.40	DCB 201
DCB 209	0.68	2.64	1.80	---	1.80	5.00	2.06	7.00	1.80	YCB 208
YCB 208	0.96	2.64	2.53	---	2.53	---	8.25	---	4.33	YCB 207
YCB 207	1.25	2.64	3.30	---	3.30	---	8.25	---	10.09	YCB 206
YCB 206	0.52	2.64	1.37	---	1.37	---	8.25	---	11.46	MH 205
MH 205	---	---	0.00	---	---	---	---	---	15.26	CB 204
CB 204	0.16	2.64	0.42	---	0.42	4.02	1.21	6.10	19.80	DCB 203
DCB 203	0.84	2.64	2.22	---	2.22	0.00	8.00	8.00	22.02	MH 202
MH 202	---	---	0.00	---	---	---	---	---	22.81	DCB 201
DCB 201	0.57	2.64	1.50	---	1.50	4.02	3.56	6.10	33.71	DCB 200
EP 200	0.00	0.00	0.00	---	0.00	---	0.00	---	33.71	

STRUCTURE HYDRAULIC DATA: FILE NO. CH1200LN

LINE NO	UPPER STR	LOWER STR	UPPER FL LN	UPPER ST EL	LOWER FL LN	LOWER ST EL	PIPE SIZE	PIPE LENGTH	MANN NO	TURN ANGLE	REMARKS
1	DCB 260	YCB 207	532.05	537.05	531.71	538.06	15	128.09	.013	90	
2	YCB 250	MH 205	529.20	535.00	526.38	537.45	12	94.00	.013	90	
3	DCB 242	DCB 241	538.23	542.98	526.91	532.57	12	226.41	.013	45	
4	DCB 241	CB 240	526.91	532.57	526.03	533.06	15	43.66	.013	45	
5	CB 240	CB 204	526.03	533.06	525.36	533.06	15	34.00	.013	45	
6	YCB 230	MH 202	515.95	525.00	515.01	525.03	12	94.00	.013	88	
7	DCB 222	DCB 221	519.05	523.74	514.73	520.29	12	86.41	.013	45	
8	DCB 221	DCB 220	514.73	520.29	513.82	521.08	15	45.25	.013	45	
9	DCB 220	DCB 201	513.82	521.08	513.14	521.08	18	34.00	.013	90	
10	DCB 209	YCB 208	536.70	540.70	535.42	541.50	12	128.00	.013	90	
11	YCB 208	YCB 207	535.42	541.50	531.71	537.00	15	202.00	.013	0	
12	YCB 207	YCB 206	531.71	537.00	527.74	536.60	18	397.00	.013	2	
13	YCB 206	MH 205	527.74	536.60	526.38	537.45	21	136.90	.013	68	
14	MH 205	CB 204	526.38	537.45	525.23	533.06	21	103.08	.013	50	
15	CB 204	DCB 203	525.23	533.06	523.49	531.74	21	43.86	.013	60	
16	DCB 203	MH 202	523.49	531.74	515.01	525.09	21	176.73	.013	6	
17	MH 202	DCB 201	515.01	525.09	513.14	521.08	24	93.59	.013	0	
18	DCB 201	EP 200	513.14	521.08	505.83	508.33	30	225.00	.013	0	

STORMWATER CALCULATIONS: FILE NO. CH1200LN

LINE NO	UPPER STRUC	LOWER STRUC	PIPE SIZE	PIPE LENGTH	PIPE SLOPE	VEL.	VEL. HEAD	FR HEAD	JUNC HEAD	TURN LOSS	BOTH LOSS	HYDR. GR SA	UPPER HYD EL	LOWER HYD EL	STR GRADE	INLET CAP	Q TO STRUC.	TOTAL Q IN PIPE	PIPE CAPACITY
1	DCB 260	YCB 207	15	128.09	1.05	2.00	0.06	0.19	0.08	0.00	2.75	.00150	526.20	532.74	1.5	7.36	2.46	2.46	6.62
2	YCB 250	MH 205	12	94.00	2.00	2.29	0.08	0.24	0.11	0.00	4.80	.00502	530.20	528.35	0	8.25	1.80	1.80	6.17
3	DCB 242	DCB 241	12	226.41	5.00	3.36	0.18	1.24	0.24	0.00	3.75	.00520	535.23	526.44	4.6	2.64	2.96	2.64	7.57
4	DCB 241	CB 240	15	43.66	2.01	4.30	0.29	0.28	0.27	0.60	4.13	.00675	528.44	527.60	4.6	2.64	2.75	5.28	9.15
5	CB 240	CB 204	15	34.00	1.00	4.98	0.38	0.21	0.15	0.14	5.16	.00500	527.60	527.16	4.02	1.21	0.84	6.12	9.15
6	YCB 230	MH 202	12	94.00	1.00	1.01	0.02	0.05	0.01	0.00	2.91	.00150	517.01	517.01	0	8.25	0.79	0.79	3.56
7	DCB 222	DCB 221	12	86.41	5.00	4.47	0.31	0.84	0.41	0.00	3.89	.00974	520.00	517.31	4	3.56	3.51	3.51	7.97
8	DCB 221	DCB 220	15	45.25	2.01	5.32	0.47	0.50	0.41	0.14	2.98	.01190	517.31	516.36	0	8.00	3.27	6.78	9.16
9	DCB 220	DCB 201	18	34.00	1.00	5.32	0.44	0.27	0.12	0.22	4.82	.00806	516.36	515.64	4.02	3.56	2.62	9.40	14.86
10	DCB 209	YCB 208	12	128.00	1.00	2.29	0.08	0.33	0.11	0.00	2.00	.00650	537.70	536.67	5	2.06	1.80	1.80	3.56
11	YCB 208	YCB 207	15	202.00	1.15	3.32	0.19	1.45	0.21	0.06	4.61	.00450	536.67	532.74	0	8.25	2.53	4.33	6.92
12	YCB 207	YCB 206	18	397.00	1.00	3.71	0.31	3.66	0.55	0.04	3.26	.00503	532.74	528.49	0	8.25	3.30	10.09	10.50
13	YCB 206	MH 205	21	136.90	1.00	4.76	0.35	0.71	0.01	0.01	3.11	.00520	528.49	528.23	1	8.25	1.37	11.46	15.82
14	MH 205	CB 204	21	103.08	1.00	5.25	0.47	0.32	0.23	0.30	3.96	.00750	528.23	525.36	0	8.00	0.42	15.26	15.84
15	CB 204	DCB 203	21	43.86	4.24	8.12	1.05	0.68	0.42	0.42	5.90	.01560	527.16	525.24	4.02	1.21	0.42	19.80	22.61
16	DCB 203	MH 202	21	176.73	4.00	5.15	0.38	3.41	0.47	0.56	6.58	.01000	525.24	517.01	0	8.00	2.22	22.02	24.71
17	MH 202	DCB 201	24	93.59	2.00	7.06	0.80	0.55	0.11	0.11	8.58	.00800	517.01	515.64	0	8.00	0.00	22.81	31.58
18	DCB 201	EP 200	30	225.00	1.05	6.47	0.73	1.52	0.07	0.22	5.44	.00661	515.64	508.33	4.02	3.56	1.50	33.71	73.50

300 LINE

PROJECT :CARRIAGE HILLS SUBDIVISION PHASE ONE
JOB NO. :120485
DATE :9/10/87
BY :JLC

TERRA ASSOCIATES LIMITED
1821 SHERMAN DRIVE
ST. CHARLES, MISSOURI 63303
(314) 946-2886

STRUCTURE INFLOW DATA: FILE NO. CH1300LN

STRUC. NO.	DRAIN. AREA ACRES	P.I.	DRAIN. AREA Q CFS	ADD. INFLOW CFS	Q TO STRUC. CFS	ST. GRADE %	INL. CAP. CFS	OUT. CAP. CFS	TOTAL Q1 IN PIPE CFS	FLOW TO STRUC. NO.
DCB 310	1.26	2.64	3.33	---	3.33	0.00	8.00	8.00	3.33	DCB 302
CB 304	0.69	2.64	1.82	---	1.82	1.00	2.29	3.10	1.82	DCB 303
DCB 303	0.95	2.64	2.51	---	2.51	1.00	8.00	3.10	4.33	DCB 302
DCB 302	1.18	2.64	3.12	---	3.12	0.00	8.00	8.00	10.78	DCB 301
EP 301	0.00	0.00	0.00	---	0.00	---	0.00	---	10.78	

STRUCTURE HYDRAULIC DATA: FILE NO. CH1300LN

LINE NO	UPPER STR	LOWER STR	UPPER FL LN	UPPER ST EL	LOWER FL LN	LOWER ST EL	PIPE SIZE	PIPE LENGTH	MANN NO	TURN ANGLE	REMARKS
1	DCB 310	DCB 302	530.74	535.03	530.06	535.03	12	34.00	.013	0	
2	CB 304	DCB 303	542.27	546.07	541.52	546.11	12	37.60	.013	60	
3	DCB 303	DCB 302	541.02	546.11	530.06	535.03	12	295.00	.013	90	
4	DCB 302	EP 301	530.06	535.03	518.00	519.50	18	103.00	.013	0	

STORMWATER CALCULATIONS: FILE NO. CH1300LN

LINE NO	UPPER STRUC	LOWER STRUC	PIPE SIZE	PIPE LENGTH	PIPE SLOPE	VEL.	VEL. HEAD	FR HEAD	JUNC HEAD	TURN LOSS	BOTH LOSS	HYDR. GR SA	UPPER HYD EL	LOWER HYD EL	STR GRADE	INLET CAP	Q TO STRUC.	TOTAL Q IN PIPE	PIPE CAPACITY
1	DCB 310	DCB 302	12	34.00	2.00	4.24	0.28	0.20	0.27	0.00	2.90	.00870	532.13	531.56	0	8.00	3.33	3.33	5.04
2	CB 304	DCB 303	12	37.60	1.00	2.32	0.08	0.10	0.11	0.00	1.06	.00850	543.27	542.52	1	2.29	1.82	1.82	5.03
3	DCB 303	DCB 302	12	295.00	2.00	5.31	0.47	5.82	0.58	0.04	1.19	.01480	542.52	531.56	1	8.00	2.51	4.33	6.67
4	DCB 302	EP 301	18	103.00	5.00	6.16	0.58	1.20	0.41	0.33	1.47	.01050	531.56	519.50	0	5.00	3.12	10.78	30.49

400 LINE

PROJECT :CARRIAGE HILLS SUBDIVISION PHASE ONE
JOB NO. :120485
DATE :8/11/87
BY :JLC

TERRA ASSOCIATES LIMITED
1821 SHERMAN DRIVE
ST. CHARLES, MISSOURI 63303
(314) 946-2886

STRUCTURE INFLOW DATA: FILE NO. CH1400LN

STRUC. NO.	DRAIN. AREA ACRES	P.I.	DRAIN. AREA Q CFS	ADD. INFLOW CFS	Q TO STRUC. CFS	ST. GRADE %	INL. CAP. CFS	OUT. CAP. CFS	TOTAL Q1 IN PIPE CFS	FLOW TO STRUC. NO.
DCB 410	1.14	2.64	3.01	---	3.01	1.50	7.36	3.80	3.01	YCB 403
YCB 404	1.16	2.64	3.06	---	3.06	---	8.25	---	3.06	YCB 403
YCB 403	1.08	2.64	2.85	---	2.85	---	8.25	---	8.92	DCB 402
DCB 402	1.08	2.64	2.85	---	2.85	4.00	3.56	6.10	11.77	DCB 401
EP 401	0.00	0.00	0.00	---	0.00	---	0.00	---	11.77	TO DITCH

STRUCTURE HYDRAULIC DATA: FILE NO. CH1400LN

LINE NO	UPPER STR	LOWER STR	UPPER FL LN	UPPER ST EL	LOWER FL LN	LOWER ST EL	PIPE SIZE	PIPE LENGTH	MANN NO	TURN ANGLE	REMARKS
1	DCB 410	YCB 403	543.93	548.21	533.35	537.00	12	133.03	.013	0	
2	YCB 404	YCB 403	543.75	547.75	533.25	537.00	12	400.00	.013	90	
3	YCB 403	DCB 402	533.25	537.00	531.69	535.74	18	133.00	.013	0	
4	DCB 402	EP 401	531.69	535.74	517.02	518.52	18	180.00	.013	0	

STORMWATER CALCULATIONS: FILE NO. CH1400LN

LINE NO	UPPER STRUC	LOWER STRUC	PIPE SIZE	PIPE LENGTH	PIPE SLOPE	VEL.	VEL. HEAD	FR HEAD	JUNC HEAD	TURN LOSS	BOTH LOSS	HYDR. GR SA	UPPER HYD EL	LOWER HYD EL	STR GRADE	INLET CAP	Q TO STRUC.	TOTAL Q IN PIPE	PIPE CAPACITY
1	DCB 410	YCB 403	12	133.03	8.00	3.83	0.23	0.95	0.31	0.00	2.22	.00769	544.99	534.85	1.5	7.36	3.01	3.01	10.08
2	YCB 404	YCB 403	12	400.00	2.00	3.90	0.24	2.95	0.22	0.00	3.00	.00740	544.75	534.85	0	8.25	3.06	3.06	5.74
3	YCB 403	DCB 402	18	133.00	1.05	5.05	0.40	0.96	0.32	0.17	0.55	.00320	534.85	531.19	0	8.25	2.85	8.92	11.74
4	DCB 402	EP 401	18	180.00	6.13	6.46	0.49	2.26	0.51	0.46	0.52	.00260	531.19	516.52	4	3.56	2.85	11.77	25.98

500 LINE

PROJECT :CARRIAGE HILLS SUBDIVISION PHASE ONE
JOB NO. :120485
DATE :8/24/87
BY :JLC

TERRA ASSOCIATES LIMITED
1821 SHERMAN DRIVE
ST. CHARLES, MISSOURI 63303
(314) 946-2886

STRUCTURE INFLOW DATA: FILE NO. CH1500LN

STRUC. NO.	DRAIN. AREA ACRES	P.I.	DRAIN. AREA Q CFS	ADD. INFLOW CFS	Q TO STRUC. CFS	ST. GRADE %	INL. CAP. CFS	OUT. CAP. CFS	TOTAL Q1 IN PIPE CFS	FLOW TO STRUC. NO.
DCB 510	1.01	2.64	2.67	---	2.67	1.00	8.00	3.10	2.67	CB 503
YCB 506	1.25	2.64	3.56	---	3.56	---	11.00	---	3.56	MH 505
MH 505	---	---	0.00	---	---	---	---	---	3.56	DCB 504
DCB 504	1.32	2.64	3.48	---	3.48	1.36	7.50	3.66	7.04	CB 503
CB 503	0.20	2.64	0.53	---	0.53	2.89	1.61	5.30	10.24	CB 502
CB 502	0.17	2.64	0.45	---	0.45	2.89	1.61	5.30	10.69	CB 501
EP 501	0.00	0.00	0.00	---	0.00	---	0.00	---	10.69	

STRUCTURE HYDRAULIC DATA: FILE NO. CH1500LN

LINE NO	UPPER STR	LOWER STR	UPPER FL LN	UPPER ST EL	LOWER FL LN	LOWER ST EL	PIPE SIZE	PIPE LENGTH	MANN NO	TURN ANGLE	REMARKS
1	DCB 510	CB 503	535.62	539.63	535.16	540.89	12	43.86	.013	45	
2	YCB 506	MH 505	535.75	543.75	539.00	543.25	12	75.00	.013	35	
3	MH 505	DCB 504	539.00	543.25	536.96	541.05	12	151.26	.013	20	
4	DCB 504	CB 503	536.96	541.05	535.16	540.89	18	179.52	.012	12	
5	CB 503	CB 502	535.16	540.89	534.48	540.89	18	24.00	.013	45	
6	CB 502	EP 501	534.48	540.89	533.20	534.70	18	63.86	.013	0	

STORMWATER CALCULATIONS: FILE NO. CH1500LN

LINE NO	UPPER STRUC	LOWER STRUC	PIPE SIZE	PIPE LENGTH	PIPE SLOPE	VEL.	VEL. HEAD	FR HEAD	JUNC HEAD	TURN LOSS	BOTH LOSS	HYDR. GR SA	UPPER HYD EL	LOWER HYD EL	STR GRADE	INLET CAP	Q TO STRUC.	TOTAL Q IN PIPE	PIPE CAPACITY
1	DCB 510	CB 503	12	43.86	1.05	2.46	0.18	0.25	0.24	0.00	2.52	.00560	537.31	536.82	1	8.00	2.67	2.67	3.63
2	YCB 506	MH 505	12	75.00	1.00	4.53	0.32	0.75	0.43	0.00	2.47	.0100	541.33	540.10	0	11.00	3.56	3.56	3.56
3	MH 505	DCB 504	12	151.26	1.25	4.53	0.32	1.51	0.00	0.13	3.15	.0100	540.10	538.46	0	0.00	3.00	3.56	4.14
4	DCB 504	CB 503	18	179.52	1.00	3.38	0.25	0.81	0.12	0.08	2.53	.00450	538.46	536.82	1.36	7.50	3.66	7.04	10.52
5	CB 503	CB 502	18	24.00	2.08	5.79	0.52	0.12	0.45	0.12	1.07	.0050	536.82	535.58	2.89	1.61	0.53	10.24	14.86
6	CB 502	EP 501	18	63.86	2.00	5.82	0.57	0.44	0.05	0.24	4.51	.0100	535.58	534.70	2.89	1.61	0.45	10.69	14.87

600 LINE

PROJECT :CARRIAGE HILLS SUBDIVISION PHASE ONE
JOB NO. :120485
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BY :JLC

TERRA ASSOCIATES LIMITED
1821 SHERMAN DRIVE
ST. CHARLES, MISSOURI 63303
(314) 946-2886

STRUCTURE INFLOW DATA: FILE NO. CH1600LN

STRUC. NO.	DRAIN. AREA ACRES	P.I.	DRAIN. AREA Q CFS	ADD. INFLOW CFS	Q TO STRUC. CFS	ST. GRADE %	INL. CAP. CFS	OUT. CAP. CFS	TOTAL Q1 IN PIPE CFS	FLOW TO STRUC. NO.
DCB 602	1.44	2.64	3.80	---	3.80	0.00	8.00	8.00	3.80	601
EP 601	0.00	0.00	0.00	---	0.00	---	0.00	---	3.80	

STRUCTURE HYDRAULIC DATA: FILE NO. CH1600LN

LINE NO	UPPER STR	LOWER STR	UPPER FL LN	UPPER ST EL	LOWER FL LN	LOWER ST EL	PIPE SIZE	PIPE LENGTH	MANN NO	TURN ANGLE	REMARKS
1	DCB 602	EP 601	500.00	507.75	490.00	491.00	12	113.00	.013	0	

STORMWATER CALCULATIONS: FILE NO. CH1600LN

LINE NO	UPPER STRUC	LOWER STRUC	PIPE SIZE	PIPE LENGTH	PIPE SLOPE	VEL.	VEL. HEAD	FR HEAD	JUNC HEAD	TURN LOSS	BOTH LOSS	HYDR. GR SA	UPPER HYD EL	LOWER HYD EL	STR GRADE	INLET CAP	Q TO STRUC.	TOTAL Q IN PIPE	PIPE CAPACITY
1	DCB 602	EP 601	12	113.00	8.85	4.84	0.36	1.29	0.06	0.00	1.75	.0150	501.06	491.00	0	8.00	3.80	3.80	10.60

700 LINE

PROJECT :CARRIAGE HILLS SUBDIVISION PHASE ONE
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TERRA ASSOCIATES LIMITED
1821 SHERMAN DRIVE
ST. CHARLES, MISSOURI 63303
(314) 946-2886

STRUCTURE INFLOW DATA: FILE NO. CH1700LN

STRUC. NO.	DRAIN. AREA ACRES	P.I.	DRAIN. AREA Q CFS	ADD. INFLOW CFS	Q TO STRUC. CFS	ST. GRADE %	INL. CAP. CFS	OUT. CAP. CFS	TOTAL Q1 IN PIPE CFS	FLOW TO STRUC. NO.
DCB 703	0.92	2.64	2.43	---	2.43	0.00	8.00	8.00	2.43	MH 702
MH 702	---	---	0.00	---	---	---	---	---	2.43	MH 701
EP 701	0.00	0.00	0.00	---	0.00	---	0.00	---	2.43	

STRUCTURE HYDRAULIC DATA: FILE NO. CH1700LN

LINE NO	UPPER STR	LOWER STR	UPPER FL LN	UPPER ST EL	LOWER FL LN	LOWER ST EL	PIPE SIZE	PIPE LENGTH	MANN NO	TURN ANGLE	REMARKS
1	DCB 703	MH 702	535.03	538.90	534.01	537.50	12	108.29	.013	65	
2	MH 702	EP 701	534.01	537.50	532.25	533.25	12	176.15	.013	0	

STORMWATER CALCULATIONS: FILE NO. CH1700LN

LINE NO	UPPER STRUC	LOWER STRUC	PIPE SIZE	PIPE LENGTH	PIPE SLOPE	VEL.	VEL. HEAD	FR HEAD	JUNC LOSS	TURN LOSS	BOTH LOSS	HYDR. GR SA	UPPER HYD EL	LOWER HYD EL	STR GRADE	INLET CAP	Q TO STRUC.	TOTAL Q IN PIPE	PIPE CAPACITY
1	DCB 703	MH 702	12	108.29	1.00	3.08	0.15	0.48	0.38	0.00	2.87	.0079	538.02	535.01	0	8.00	2.43	2.43	3.56
2	MH 702	EP 701	12	176.15	1.00	3.09	0.15	0.82	0.00	0.09	3.49	.0079	535.01	533.25	0	0.00	0.00	2.43	3.56

SWALE CALCULATIONS

A

SWALE WITH SIDE SLOPES 3 : 1 AND 3 : 1
WITH BOTTOM WIDTH OF 4 FEET

n= .05
SLOPE IN FT/FT .02

VEL = 1.70 FPS
Q = 2.59 CFS

DEPTH = 0.31 FT.

B

SWALE WITH SIDE SLOPES 3 : 1 AND 3 : 1
WITH BOTTOM WIDTH OF 4 FEET

n= .05
SLOPE IN FT/FT .015

VEL = 1.52 FPS
Q = 2.51 CFS

DEPTH = 0.33 FT.

C

SWALE WITH SIDE SLOPES 3 : 1 AND 3 : 1
WITH BOTTOM WIDTH OF 4 FEET

n= .05
SLOPE IN FT/FT .12

VEL = 3.31 FPS
Q = 3.22 CFS

DEPTH = 0.21 FT.

D

SWALE WITH SIDE SLOPES 3 : 1 AND 3 : 1
WITH BOTTOM WIDTH OF 4 FEET

n= .05
SLOPE IN FT/FT .015

VEL = 1.44 FPS
Q = 2.12 CFS

DEPTH = 0.30 FT.

E

SWALE WITH SIDE SLOPES 3 : 1 AND 3 : 1
WITH BOTTOM WIDTH OF 4 FEET

n= .05
SLOPE IN FT/FT .025

VEL = 1.55 FPS
Q = 1.59 CFS

DEPTH = 0.22 FT.

F

SWALE WITH SIDE SLOPES 3 : 1 AND 3 : 1
WITH BOTTOM WIDTH OF 4 FEET

n= .05
SLOPE IN FT/FT .01

VEL = 1.24 FPS
Q = 2.05 CFS

DEPTH = 0.33 FT.

G

SWALE WITH SIDE SLOPES 3 : 1 AND 3 : 1
WITH BOTTOM WIDTH OF 2 FEET

n= .05
SLOPE IN FT/FT .1

VEL = 4.05 FPS
Q = 5.18 CFS

DEPTH = 0.40 FT.

H

SWALE WITH SIDE SLOPES 3 : 1 AND 3 : 1
WITH BOTTOM WIDTH OF 4 FEET

n= .05
SLOPE IN FT/FT .02

VEL = 1.82 FPS
Q = 3.21 CFS

DEPTH = 0.35 FT.

I

SWALE WITH SIDE SLOPES 3 : 1 AND 3 : 1
WITH BOTTOM WIDTH OF 4 FEET

n= .05
SLOPE IN FT/FT .027

VEL = 1.97 FPS
Q = 3.01 CFS

DEPTH = 0.31 FT.

TYPICAL SWALE CROSS-SECTION
N.T.S.

SWALE	W	X	Y	Z
A - F	4	1	3	3
G	2	2	3	3
H,I	4	1	3	3

NOTE: SWALES C & G ARE TO BE SODDED.

STATE OF MISSOURI
ALLEN FRANK
E-20075
PROFESSIONAL ENGINEER
9/15/87
JC

NOTE:
UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND THEREFORE THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF LOCATION OF ALL UNDERGROUND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS, IS THE RESPONSIBILITY OF THE CONTRACTOR.

REVISION DATE	DESCRIPTION

TERRA ASSOCIATES
1821 SHERMAN DRIVE
ST. CHARLES, MISSOURI 63303
PHONE: (314) 724-2277 or 946-2886

PROJECT DESCRIPTION

CLIENT
SPRING MEADOW PARTNERSHIP
1821 SHERMAN DRIVE - SUITE 2
ST. CHARLES, MO. 63303

JOB NO. 120485
SCALE AS SHOWN
DATE 08/07/87
DRAWN BY M M