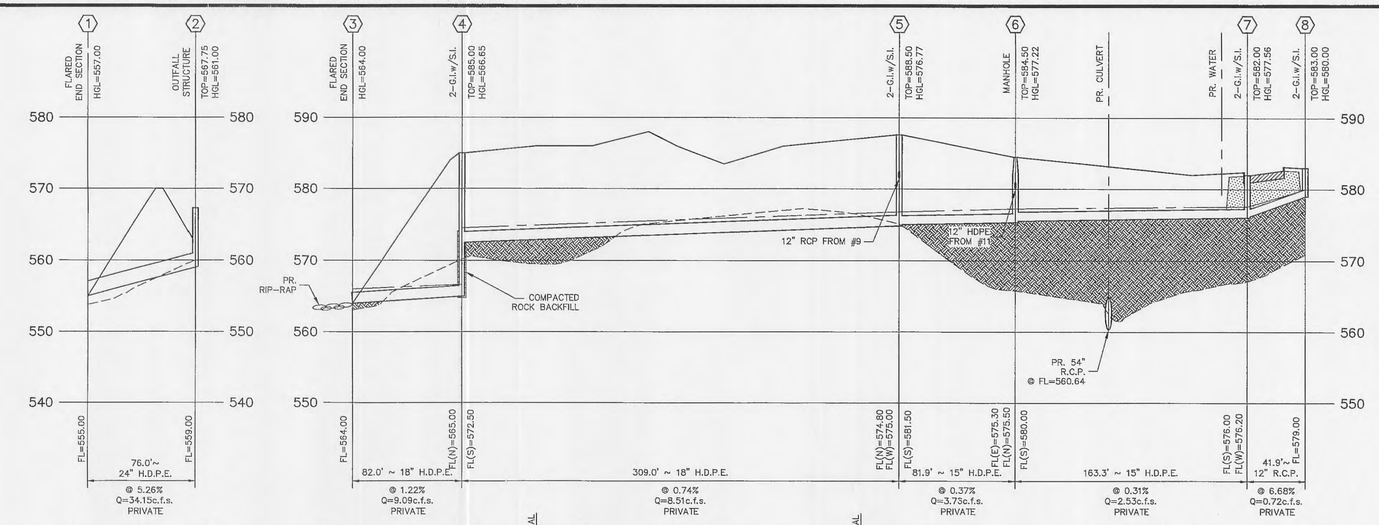
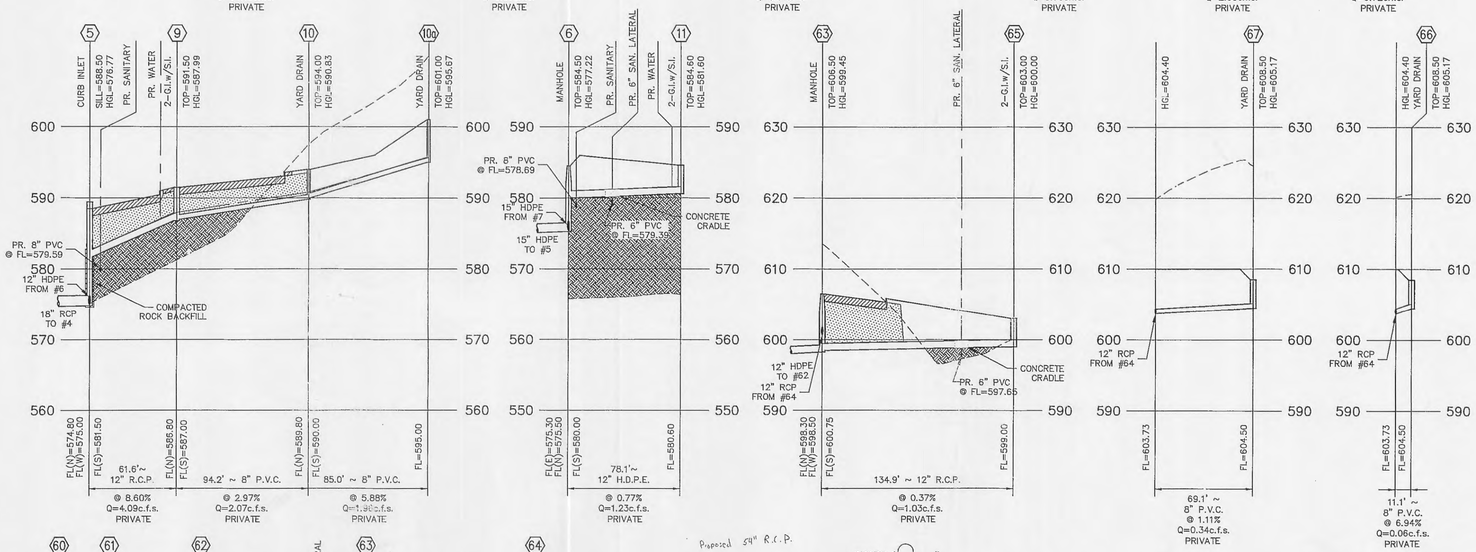
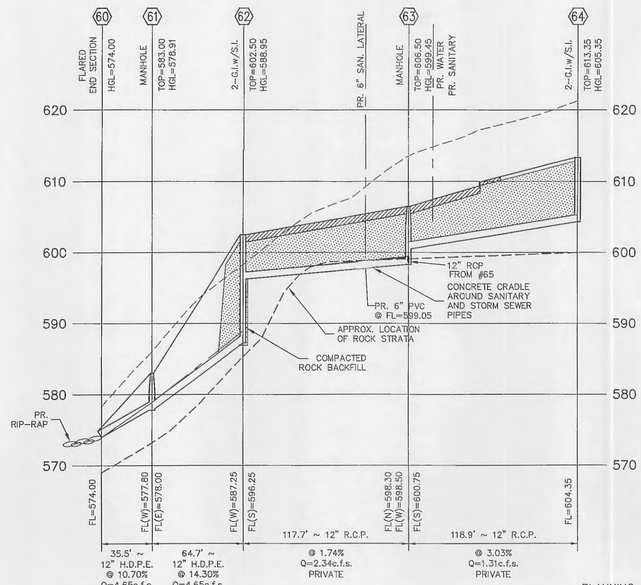
full flow

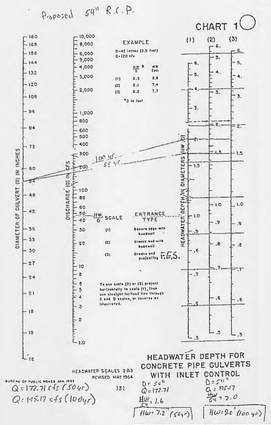
	line	reach	flowline elevation		length	slope	pipe	flow	flow vel	vel head	mean Q x Vh	head losses: pipe	minor	minor	minor	hydraulic elevations: upper	lower	lower	exit HGL	enter HGL					
str #	upper	lower	upper	lower	(feet)	(ft/ft)	size (in)	(cfs)	(ft/sec)	Vh (ft)	(ft^4/sec^2)	hf	junc	bend	total (hmn)	EL + dis	HE + hf	HE	upper reach HE + hent	top of pipe in drop str	top of structure	freeboard (ft)	manning coeff	pipe capacity	drop str
2	2	1	559.00	555.00	76.0	0.0526	24	34.15	10.87	1.83	62.66	1.73	0.00	0.00	0.00	561.00	558.73	557.00	**561.09**	0.00	567.75	6.75	0.013	52.04	0.00
	1		555.00																**557.09**						
8	8	7	578.00	576.20	41.9	0.0668	12	0.72	0.92	0.01	0.01	0.02	0.00	0.00	0.00	580.00	577.58	577.56	**580.00**	0.00	583.00	3.00	0.013	9.23	0.00
7	7	5	576.00	575.50	163.3	0.0031	15	2.53	2.06	0.07	0.17	0.25	0.08	0.01	0.09	577.25	577.47	577.22	**577.56**	577.20	582.00	4.44	0.013	3.58	0.20
6	6	5	575.30	575.00	81.9	0.0037	15	3.76	3.06	0.15	0.55	0.28	0.12	0.06	0.18	576.55	577.04	576.77	**577.22**	576.75	584.50	7.28	0.013	3.92	0.20
5	5	4	574.80	572.50	309.0	0.0074	18	8.51	4.82	0.36	3.06	2.02	0.12	0.34	0.47	576.30	576.02	574.00	**576.77**	576.25	588.50	11.73	0.013	9.09	0.20
4	4	3	565.00	564.00	82.0	0.0122	18	9.09	5.14	0.41	3.73	0.91	0.10	0.05	0.15	566.50	564.81	564.00	**566.65**	574.00	585.00	11.00	0.013	11.67	7.50
	3		564.00																**564.00**						
10z	10a	10	595.00	590.00	85.0	0.0588	8	1.96	5.61	0.49	0.86	2.23	0.00	0.00	0.00	595.67	593.09	590.86	**595.67**	0.00	601.00	5.33	0.013	2.94	0.00
10	10	9	589.80	587.00	94.2	0.0297	8	2.07	5.93	0.55	1.13	2.76	0.11	0.00	0.11	590.47	590.75	587.99	**590.86**	590.67	594.00	3.14	0.013	2.09	0.20
9	9	5	586.80	581.50	61.6	0.0860	12	4.09	5.21	0.42	1.72	0.81	0.19	0.00	0.19	587.80	577.58	576.77	**587.99**	587.67	591.50	3.51	0.013	10.48	0.20
	5		581.50																**576.77**						
11	11	6	580.60	580.00	78.1	0.0077	12	1.23	1.57	0.04	0.05	0.09	0.00	0.00	0.00	581.60	577.31	577.22	**581.63**	0.00	584.60	3.00	0.013	3.13	0.00
	6		580.00																**577.22**						
27	27	26	609.00	596.50	83.3	0.1501	18	4.96	2.81	0.12	0.61	0.19	0.00	0.00	0.00	610.50	598.74	598.55	**610.69**	0.00	619.00	8.50	0.013	40.80	0.00
26	26	25	596.30	595.95	196.4	0.0018	24	6.05	1.93	0.06	0.35	0.14	0.06	0.25	0.25	598.30	598.29	598.15	**598.55**	598.00	601.50	2.95	0.013	9.58	0.20
25	25	24	595.75	592.50	118.5	0.0274	24	13.82	4.40	0.30	4.15	0.44	0.37	0.24	0.40	597.75	594.88	594.54	**598.15**	597.95	601.50	3.35	0.013	37.56	0.20
24	24	23	592.30	591.70	57.4	0.0105	24	14.40	4.58	0.33	4.70	0.23	0.05	0.19	0.24	594.30	593.93	593.70	**594.54**	594.50	598.75	4.21	0.013	23.18	0.20
23	23	22	591.50	587.50	57.2	0.0699	24	14.83	4.72	0.35	5.13	0.25	0.04	0.16	0.20	593.50	589.75	589.50	**593.70**	593.70	596.50	2.80	0.013	59.98	0.20
22	22	21	583.05	574.00	193.0	0.0469	24	19.54	6.22	0.60	11.74	1.44	0.43	0.87	1.30	583.05	577.44	576.00	**586.35**	589.50	592.50	3.00	0.013	49.12	4.45
21	21	20	565.00	564.00	53.0	0.0189	24	22.68	7.22	0.81	18.35	0.53	0.38	0.13	0.51	567.00	564.53	564.00	**567.51**	576.00	580.00	4.00	0.013	31.16	9.00
	20		564.00																**564.00**						
29	29	28	575.00	574.50	43.3	0.0115	12	1.53	1.95	0.06	0.09	0.08	0.00	0.00	0.00	576.00	575.58	575.50	**576.00**	0.00	579.00	3.00	0.013	3.84	0.00
28	28	21	574.30	574.00	31.5	0.0095	12	2.05	2.61	0.11	0.22	0.10	0.08	0.01	0.09	575.30	567.81	567.51	**575.39**	575.50	579.00	3.50	0.013	3.49	0.20
	21		574.00																**567.51**						
35	35	34	591.50	588.50	35.8	0.0843	12	1.30	1.66	0.04	0.06	0.05	0.00	0.00	0.00	592.50	589.55	589.50	**592.50**	#NOT	595.50	#NOT	0.013	10.37	0.00
34	34	22	588.30	587.50	43.4	0.0184	12	2.32	2.95	0.14	0.31	0.18	0.15	0.01	0.16	589.30	588.53	586.35	**589.46**	589.50	592.50	3.00	0.013	4.85	0.20
	22		587.50																**586.35**						
41	41	40	570.75	570.00	55.0	0.0136	24	22.67	7.22	0.81	18.33	0.55	0.00	0.00	0.00	572.75	572.55	572.00	**572.75**	0.00	577.75	5.00	0.013	26.49	0.00
	40		570.00																**572.00**						
48	48	47	593.50	592.75	84.4	0.0118	8	0.02	0.06	0.00	0.00	0.00	0.00	0.00	0.00	594.17	593.95	593.95	**594.17**	0.00	597.50	3.33	0.013	1.31	0.00
47	47	46	592.55	592.20	52.6	0.0057	12	1.09	1.39	0.03	0.03	0.05	0.04	0.00	0.04	593.55	593.91	593.86	**593.95**	593.42	597.15	3.20	0.013	2.91	0.20
46	46	45	592.00	591.25	36.3	0.0207	12	1.96	2.50	0.10	0.19	0.11	0.11	0.01	0.12	593.00	593.74	593.63	**593.86**	593.20	596.75	2.89	0.013	5.13	0.20
45	45	44	591.05	585.50	101.9	0.0545	18	16.58	9.39	1.37	22.70	2.54	0.44	0.64	1.08	592.55	588.89	587.16	**593.63**	592.25	595.25	1.82	0.013	24.58	0.20
44	44	43	585.30	578.50	80.8	0.0842	18	19.84	9.53	1.41	23.75	2.07	0.08	0.27	0.36	586.80	583.56	581.49	**587.16**	587.00	589.50	2.34	0.013	30.55	0.20
43	43	42	578.30	574.00	30.0	0.1433	18	19.03	10.77	1.80	34.27	0.98	0.72	0.97	1.69	579.80	574.98	574.00	**581.49**	580.00	583.00	1.51	0.013	39.88	0.20
	42		574.00																**574.00**						
49	49	43	586.75	578.50	93.4	0.0883	12	2.19	2.79	0.12	0.26	0.35	0.00	0.00	0.00	587.75	581.84	581.49	**587.75**	0.00	590.75	3.00	0.013	10.62	0.00
	43		578.50																**581.49**						
51d	51d	51	605.00	604.00	95.0	0.0105	12	3.26	4.15	0.27	0.87	0.79	0.00	0.00	0.00	606.00	607.60	606.26	**607.85**	0.00	609.00	1.95	0.013	3.67	0.00
	51		596.50																**606.26**						
51c	51c	51b	613.00	611.50	135.0	0.0111	8	1.07	3.07	0.15	0.16	1.06	0.00	0.00	0.00	613.67	615.05	614.00	**615.05**	0.00	617.00	1.95	0.013	1.28	0.00
51b	51b	51a	611.30	605.50	110.0	0.0527	8	2.74	7.85	0.95	2.62	5.64	1.20	0.00	1.20	611.97	612.80	607.16	**614.00**	612.17	615.50	1.50	0.013	2.78	0.20
51a	51a	51	605.30	604.00	55.0	0.0236	12	4.56	5.81	0.52	2.39	0.90	4.67	0.00	0.00	606.30	607.16	606.26	**607.16**	606.17	611.00	3.84	0.013	5.49	0.20
51	51	50	603.80	599.50	159.1	0.0270	15	9.32	7.59	0.90	8.35	3.31	0.73	0.48	1.21	605.05	604.86	601.56	**606.26**	605.00	610.25	3.59	0.013	10.65	0.20
50	50	45	599.30	591.25	139.1	0.0579	15	11.83	9.64	1.44	17.07	4.66	0.98	0.02	1.01	600.55	598.28	593.63	**601.56**	600.75	603.50	1.94	0.013	15.58	0.20
	45		591.25																**593.63**						
64	64	63	604.35	600.75	118.9	0.0303	12	1.31	1.67	0.04	0.06	0.16	0.00	0.00	0.00	605.35	601.91	601.75	**605.35**	0.00	613.35	8.00	0.013	6.22	0.00
63	63	62	598.30	596.25	117.7	0.0174	12	2.34	2.98	0.14	0.32	0.51	0.14	0.02	0.15	599.30	597.76	597.25	**599.45**	601.75	606.50	4.75	0.013	4.71	2.45
62	62	61	587.25	578.00	64.7	0.1430	12	4.65	5.92	0.54	2.53	1.10	0.63	0.07	0.70	588.25	580.10	579.00	**588.95**	597.25	602.50	5.25	0.013	13.51	8.00
61	61	60	577.80	574.00	35.5	0.1070	12	4.65	5.92	0.54	2.53	0.60	0.00	0.11	0.11	578.80	574.60	574.00	**578.91**	579.00	583.00	4.00	0.013	11.69	0.20
	60		574.00																**574.00**						
65	65	63	599.00	598.50	134.9	0.0037	12	1.03	1.31	0.03	0.03	0.11	0.00	0.00	0.00	600.00	599.57	599.45	**600.00**	0.00	603.00	3.00	0.013	2.17	0.00
	63		598.50																**599.45**						
67	67	INV.	604.50	603.73	69.1	0.0111	8	0.34	0.97	0.01	0.01	0.05	0.00	0.00	0.00	605.17	604.45	604.40	**605.17**	0.00	608.50	3.33	0.013	1.28	0.00
	INV.		603.73																**604.40**						
66	66	INV.	604.50	603.73	11.1	0.0694	8	0.06	0.17	0.00	0.00	0.00	0.00	0.00	0.00	605.17	604.40	604.40	**605.17**	0.00	608.50	3.33	0.013	3.19	0.00
	INV.		603.73																**604.40**						
73	73	72	563.00	562.50	39.7	0.0126	15	1.12	0.91	0.01	0.01	0.01	0.00	0.00	0.00	564.25	563.81	563.80	**564.25**	0.00	567.00	2.75	0.013	7.27	0.00
72	72	71	562.50	562.00	59.0	0.0085	15	2.03	1.65	0.04	0.09	0.06	0.05	0.00	0.05	563.75	563.34	563.26	**563.80**	563.75	566.85	3.05	0.013	5.96	0.00
71	71	70	562.00	561.00	24.0	0.0417	15	2.38	1.94	0.06	0.14	0.03	0.03	0.00	0.03	563.25	562.28	562.25	**563.28**	563.25	566.95	3.57	0.013	13.22	0.00
	70		561.00																**562.25**						
81	81	80	572.00	563.00	91.5	0.1463	12	1.79	2.28	0.08	0.14	0.15	0.00	0.00	0.00	573.00	564.15	564.00	**573.00**	0.00	581.00	8.00	0.013	13.67	0.00
	80		563.00																**564.00**						
91	91	90	552.00	559.00	242.0	0.0124	54	195.17	12.20	2.31	450.93	2.35	0.00	0.00	0.00	566.50	565.85	563.50	**566.50**	0.00	NA	NA	0.013	219.56	0.00
	90		559.00																**563.50**						







NOTE: A CONCRETE CRADLE FOR RCP AND ENCASEMENT FOR HDPE WILL BE REQUIRED FOR ALL STORM SEWER LINES WHEN CROSSING MORE THAN 18" ABOVE SANITARY LINES.



PLANNING AND ZONING FILE NUMBER 2203.01

STORM SEWER PROFILES
HORIZONTAL SCALE: 1"=50'
VERTICAL SCALE: 1"=10'

LINETYPE LEGEND
- EXISTING GRADE.....
- PROPOSED GRADE.....
- HYDRAULIC GRADE.....
- PROPOSED PAVEMENT.....
- GRANULAR BACKFILL.....
- COMPACTED FILL.....

1 MODOT/CITY COMMENTS 04/08/04	4 CULVERT REVISION
3 MODOT COMMENTS 03/24/04	3 WATER/SANITARY LATERAL REV. 09-16-04
2 CITY COMMENTS 02/20/04	2 ADDED GARAGES 08-17-04
1 CITY COMMENTS 01/26/04	1 O'FALLON FIRE DIST. COMMENTS 06-03-04
1 MODOT SUBMITTAL 09/05/03	5 CITY COMMENTS 05/06/04

STATE OF MISSOURI GEORGE MICHAEL STOCK NUMBER E-25116 PROFESSIONAL ENGINEER
OCT 14 2004
GEORGE M. STOCK E-25116

O'FALLON LAKES L.P.

STORM SEWER PROFILES AND HYDRAULIC DATA

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DRAWN BY:	DATE:	CHECKED BY:	DATE:	JOB NUMBER:	SHEET:
R.E.S	08/27/03	G.M.S.	08/27/03	202-2927	C10 of 16

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