

**STORM SEWER CALCULATIONS**

Design Return Period: 25 Year

Mannings 'n': 0.012

Project Name: **Saddle Creek Estates**  
Project #: 15-2184  
Date: 8/15/18

I NO.	SUB-BASIN NO.	UPSTREAM STRUCTURE	PIPE #	DOWNSTREAM STRUCTURE	LENGTH (ft)	CJ	Aj (ac.)	CJAj	SUM CJAj	Tj (min)	Tcum (min)	I (In/hr)	PIPE Q (cfs)	PIPE DIA. (in)	PIPE SLOPE (ft/ft)	I.E. (Upstream)	I.E. (Downstream)	CAP. (cfs)	TRAVEL VELOCITY (ft/sec)	TIME (min)
1	1	CI 500	501	CI 502	26	0.636	1.13	0.72	0.72	14.26	14.26	5.165	3.71	12	0.0119	461.17	460.86	4.21	5.36	0.08
1	2	CI 502	503	AD 504	288	0.628	2.43	1.53	2.24	15.43	15.43	4.993	11.21	15	0.0355	461.84	450.64	13.18	10.75	0.45
1	3	AD 504	505	CI 508	270	0.531	0.52	0.28	2.52	10.84	15.88	4.952	12.48	15	0.0596	450.64	434.54	17.08	13.92	0.32
1	4	CI 506	507	CI 508	26	0.654	0.95	0.62	0.62	13.52	13.52	5.297	3.29	12	0.0250	435.03	434.38	6.10	7.77	0.06
1	5	CI 508	509	CI 510	152	0.611	2.37	1.45	4.59	15.92	16.20	4.922	22.59	18	0.0539	431.84	423.65	26.41	14.95	0.17
1	7	CI 510	511	CI 512	32	0.521	0.44	0.23	4.82	9.36	16.37	4.906	23.64	18	0.0540	423.65	421.92	26.43	14.97	0.04
1	6	CI 512	513	MH 514	70	0.683	0.28	0.19	5.01	8.67	16.40	4.904	24.57	18	0.0541	421.92	418.13	26.46	14.98	0.08
1		MH 514	515	FES 514B	135				5.01	12.87	16.48	4.896	24.53	18	0.0543	418.13	410.80	26.51	15.01	0.15
2	9+OS-4B	FES 516A	516B	CI 516	34	0.450	3.43	1.54	1.54	16.89	16.89	4.858	7.50	15	0.0135	416.17	415.71	8.13	6.63	0.09
2	8	CI 516	517	CI 518	145	0.564	0.91	0.51	2.06	13.89	16.98	4.853	9.98	15	0.0270	415.71	411.79	11.50	9.38	0.26
2	10	CI 518	519	CI 522	43	0.662	0.60	0.40	2.45	16.10	17.23	4.830	11.85	15	0.0340	411.79	410.33	12.90	10.52	0.07
2	11	CI 520	521	CI 522	37	0.577	0.57	0.33	0.33	13.68	13.68	5.268	1.73	12	0.0200	412.52	411.78	5.46	6.95	0.09
2	12	CI 522	523	AD 524	161	0.560	0.53	0.30	3.08	16.64	17.30	4.823	14.85	18	0.0202	410.33	407.08	16.17	9.15	0.29
2	13	AD 524	525	AD 526	73	0.400	0.08	0.03	3.11	13.00	17.59	4.796	14.92	18	0.0296	407.08	404.92	19.57	11.08	0.11
2	14	AD 526	527	MH 528	133	0.432	1.42	0.61	3.73	11.68	17.70	4.786	17.83	24	0.0066	404.92	404.04	19.90	6.34	0.35
2		MH 528	529	CI 530	29				3.73		18.05	4.754	17.71	24	0.0076	404.04	403.82	21.36	6.80	0.07
2	15	CI 530	531	CI 532	26	0.620	0.76	0.47	4.20	14.87	18.13	4.746	19.92	24	0.0204	403.82	403.29	34.99	11.14	0.04
2	16	CI 532	533	FES 534	186	0.624	1.32	0.82	5.02	15.26	18.16	4.744	23.81	30	0.0037	403.29	402.60	27.02	5.51	0.56
3	18+OS-2A	CI 536	537	CI 538	26	0.517	2.16	1.12	1.12	17.11	17.11	4.838	5.40	12	0.0242	413.29	412.66	6.00	7.65	0.06
3	19	CI 538	539	FES 540	71	0.594	0.42	0.25	1.37	15.45	17.17	4.832	6.60	12	0.0656	412.66	408.00	9.88	12.59	0.09
4	20+OS-2B	CI 542	543	CI 544	26	0.482	5.44	2.62	2.62	22.22	22.22	4.365	11.45	15	0.0331	409.04	408.18	12.73	10.38	0.04
4	21	CI 544	545	FES 546	30	0.617	0.56	0.35	2.97	17.31	22.26	4.362	12.94	15	0.0400	408.18	406.98	13.99	11.41	0.04
5	22	CI 548	549	CI 550	26	0.585	0.72	0.42	0.42	18.62	18.62	4.699	1.98	12	0.0215	405.96	405.40	5.66	7.21	0.06
5	23+OS-2C	CI 550	551	AD 552	157	0.472	3.54	1.67	2.09	22.17	22.17	4.370	9.14	18	0.0134	405.40	403.30	13.17	7.46	0.35
5	24A	AD 552A	552B	AD 552	75	0.472	0.89	0.42	0.42	11.87	11.87	5.591	2.35	12	0.0060	403.75	403.30	2.99	3.81	0.33
5	24B	AD 552	553	CI 554	147	0.453	1.11	0.50	3.01	13.00	22.52	4.338	13.08	18	0.0155	403.30	401.02	14.16	8.02	0.31
5	25+OS-1A	CI 554	555	CI 556	26	0.504	2.91	1.47	4.48	17.78	22.83	4.309	19.31	24	0.0077	401.02	400.82	21.50	6.85	0.06
5	26	CI 556	557	AD 558	157	0.619	0.87	0.54	5.02	14.38	22.89	4.303	21.60	24	0.0206	400.82	397.58	35.16	11.20	0.23
5	27	AD 558	559	CI 560	147	0.473	1.77	0.84	5.86	12.39	23.12	4.282	25.08	24	0.0128	397.58	395.70	27.72	8.83	0.28
5	28	CI 560	561	CI 562	26	0.620	0.82	0.51	6.37	14.29	23.40	4.256	27.09	24	0.0146	395.70	395.32	29.60	9.43	0.05
5	29	CI 562	563	MH 564	75	0.619	0.79	0.49	6.85	14.32	23.45	4.252	29.15	24	0.0168	395.32	394.06	31.75	10.11	0.12
5		MH 564	565	AD 566	164				6.85		23.57	4.241	29.07	30	0.0053	394.06	393.19	32.34	6.59	0.41
5	30	AD 566	567	HW 568	152	0.432	0.41	0.18	7.03	11.22	23.99	4.202	29.55	30	0.0055	393.19	392.36	32.94	6.71	0.38
6	33	CI 572	573	CI 576	217	0.625	0.18	0.11	0.11	13.97	13.97	5.217	0.59	12	0.0171	402.63	398.91	5.05	6.43	0.56
6	34+OS-1B	CI 574	575	CI 576	27	0.501	4.19	2.10	2.10	17.92	17.92	4.763	10.00	15	0.0261	399.61	398.91	11.30	9.21	0.05
6	35	CI 576	577	AD 578	172	0.653	0.12	0.08	2.29	13.00	17.97	4.758	10.90	18	0.0120	398.91	396.84	12.46	7.06	0.41
6	36	AD 578	579	AD 580	296	0.409	0.39	0.16	2.45	12.81	18.38	4.720	11.56	18	0.0150	396.84	392.40	13.93	7.89	0.63
6	37	AD 580	581	FES 582	21	0.387	1.23	0.48	2.93	18.37	19.00	4.663	13.64	18	0.0286	392.40	391.80	19.24	10.89	0.03
7	39	CI 584	585	CI 586	31	0.613	0.56	0.34	0.34	13.68	13.68	5.269	1.81	12	0.0232	398.90	398.18	5.88	7.49	0.07
7	40	CI 586	587	CI 588	237	0.588	0.29	0.17	0.51	14.05	14.05	5.202	2.67	12	0.0208	398.18	393.25	5.56	7.09	0.56
7	41	CI 588	589	FES 590	175	0.559	0.95	0.53	1.04	13.86	14.61	5.103	5.33	15	0.0083	393.25	391.80	6.37	5.20	0.56
8	42	CI 592	593	CI 594	26	0.604	0.63	0.38	0.38	17.88	17.88	4.767	1.81	12	0.0100	403.10	402.84	3.86	4.92	0.09
8	43	CI 594	595	FES 596	191	0.626	1.15	0.72	1.10	17.90	17.97	4.758	5.24	15	0.0150	402.84	399.98	8.57	6.99	0.46
9	38+OS-1C	CI 598	599	FES 600	102	0.547	2.18	1.19	1.19	17.28	17.28	4.822	5.75	12	0.0385	396.54	392.61	7.57	9.64	0.18
10	45 + OS-3		609		74	0.457	100.79	46.06	46.06	18.94	18.94	4.669	215.06	60	0.0128	409.70	408.75	319.10	16.26	0.08
11	OS-2		611		74	0.452	26.20	11.84	11.84	15.50	15.50	4.987	59.06	36	0.0075	408.40	407.85	62.55	8.85	0.14