COFFMAN ENGINEERS

Project Description

File Name	2023.01.10 CURRENT Ratl & Mod Ratl.SPF
Description	Drainage Report (Rational 10-yr 1-hr Storm)

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	Rational
Time of Concentration (TOC) Method	SCS TR-55
Link Routing Method	Hydrodynamic
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	NO

Analysis Options

Start Analysis On	00:00:00	0:00:00
End Analysis On	00:00:00	1:00:00
Start Reporting On	00:00:00	0:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	58
Nodes	104
Junctions	55
Outfalls	4
Flow Diversions	0
Inlets	44
Storage Nodes	1
Links	139
Channels	44
Pipes	94
Pumps	0
Orifices	0
Weirs	1
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

Return Period	10 year(s)

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Subbasin Summary

Subbasin ID	Area (ac)	Weighted Runoff Coefficient	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ft^3)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
A5	0.06	0.9500	0.86	0.82	165.67	0.55	0 00:05:00
A5.1	0.25	0.5500	0.86	0.47	426.63	1.41	0 00:05:00
A6.1	0.08	0.9500	0.86	0.82	224.84	0.74	0 00:05:00
A6.2	0.08	0.8400	0.86	0.72	201.25	0.67	0 00:05:00
B10.1	0.14	0.5400	0.86	0.46	235.30	0.78	0 00:05:00
B11.1	0.58	0.3200	1.32	0.42	880.26	1.41	0 00:10:18
B11.2	0.02	0.9500	0.86	0.82	68.04	0.23	0 00:05:00
B12.1	0.57	0.2900	1.06	0.31	632.03	1.46	0 00:07:13
B12.2	0.07	0.9500	0.86	0.82	210.05	0.69	0 00:05:00
B13.1	0.58	0.2900	1.20	0.35	726.80	1.36	0 00:08:52
B8.1	0.61	0.3000	1.32	0.40	877.52	1.40	0 00:10:16
B9.1	0.46	0.3000	1.09	0.33	545.54	1.20	0 00:07:31
B9.2	0.06	0.9500	0.86	0.82	171.59	0.57	0 00:05:00
B-C1	0.56	0.4800	1.30	0.62	1270.96	2.07	0 00:10:13
B-C2	0.64	0.2900	1.42	0.41	953.48	1.33	0 00:11:49
C1.1	0.58	0.3200	1.43	0.46	967.60	1.33	0 00:12:01
C2.1	0.55	0.3100	1.32	0.41	821.54	1.30	0 00:10:32
C2.2	0.10	0.5700	0.86	0.49	168.63	0.56	0 00:05:00
C3.1	0.56	0.3800	1.15	0.44	881.55	1.79	0 00:08:05
C3.2	0.05	0.9500	0.86	0.82	139.05	0.46	0 00:05:00
D1.1	0.37	0.2800	1.59	0.44	589.89	0.69	0 00:14:05
D2.1	0.59	0.3200	1.52	0.49	1033.81	1.30	0 00:13:06
D2.2	0.06	0.9500	0.86	0.82	189.34	0.63	0 00:05:00
D3.1	0.52	0.3300	1.22	0.40	756.31	1.37	0 00:09:12
D3.2	0.05	0.9500	0.86	0.82	147.92	0.49	0 00:05:00
D4.1	0.61	0.2900	1.22	0.36	789.94	1.42	0 00:09:12
D4.2	0.07	0.9500	0.86	0.82	198.22	0.66	0 00:05:00
D5.1	0.58	0.3100	1.22	0.38	786.89	1.44	0 00:08:55
D-E1	1.28	0.2700	1.39	0.38	1746.48	2.54	0 00:11:19
D-E2	0.80	0.4100	1.97	0.81	2337.63	1.72	0 00:22:28
E1.1	0.31	0.3200	1.25	0.40	446.88	0.78	0 00:09:28
E2.1	0.40	0.3700	1.42	0.53	765.66	1.07	0 00:11:50
E2.2	0.08	0.9500	0.86	0.82	230.76	0.76	0 00:05:00
E4.1	0.63	0.3800	1.61	0.61	1397.42	1.58	0 00:14:40
E4.2	0.05	0.9500	0.86	0.82	136.09	0.45	0 00:05:00
E5.1	0.71	0.2900	1.43	0.42	1074.10	1.48	0 00:12:02
E5.2	0.04	0.9500	0.86	0.82	109.46	0.36	0 00:05:00
E6.1	0.45	0.3900	1.40	0.55	899.82	1.29	0 00:11:27
E8.1	0.68	0.3200	1.18	0.38	937.17	1.79	0 00:08:43
E8.2	0.05	0.9500	0.86	0.82	144.96	0.48	0 00:05:00
F1.1	0.22	0.5500	1.20	0.66	535.85	1.00	0 00:08:50
F1.2	0.01	0.3500	1.35	0.47	11.16	0.02	0 00:10:48
F3.1	0.56	0.3000	0.97	0.29	589.51	1.58	0 00:06:12
F3.2	0.04	0.9500	0.86	0.82	112.42	0.37	0 00:05:00
H_POND	1.57	0.4000	1.90	0.76	4319.92	3.46	0 00:20:39
H2	0.26	0.4000	0.86	0.34	328.70	1.09	0 00:05:00
H-3	1.30	0.2400	1.39	0.33	1571.43	2.29	0 00:11:18
MAUKA_NORTH	20.06	0.4200	1.66	0.70	50681.19	54.08	0 00:15:31
MAUKA_SOUTH	5.66	0.4100	1.40	0.57	11772.74	16.91	0 00:11:32
PRESERV_1	2.89	0.3400	1.14	0.39	4070.39	8.24	0 00:08:12
PRESERV_2	1.10	0.3300	1.89	0.62	2490.42	2.03	0 00:20:15
PRESERV_3	3.81	0.3600	2.13	0.77	10607.84	6.57	0 00:26:42
PRESERV_4	0.44	0.4000	1.75	0.70	1119.64	1.06	0 00:17:33
PRESERV_5	0.17	0.2400	1.09	0.26	161.68	0.36	0 00:07:27
PRESERV_6	0.42	0.2400	1.06	0.25	385.72	0.89	0 00:07:14
PRESERV_7	9.79	0.4000	1.68	0.67	23881.34	24.69	0 00:16:03
PRESERV_8	6.24	0.4000	1.66	0.66	15017.75	16.02	0 00:15:32
PRESERV_9	1.09	0.3100	2.27	0.70	2785.52	1.50	0 00:30:37

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Node Summary

Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Diameter or Width (in)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ft^3)	Total Time Flooded (min)
SDFC D (STORM)	Junction	229.40	237.42	96.00	17.30	231.17	0 00:00	0.00	0.00
SDFC-A (STORM)	Junction	252.88	258.84	48.00	2.27	253.31	0 00:00	0.00	0.00
SDFC-BC (STORM)	Junction	255.76	263.76	72.00	13.02	258.53	0 00:00	0.00	0.00
SDFC-E(STORM)	Junction	231.93	237.65	72.00	8.83	233.16	0 00:00	0.00	0.00
SDHW-G1 (STORM)	Junction	233.00	237.00		47.63	236.08	0 00:00	0.00	0.00
SDHW-H2	Junction	246.54	251.54		65.09	248.81	0 00:00	0.00	0.00
SDMH-A1 (STORM)	Junction	217.50	239.13	48.00	2.25	220.96	0 00:00	0.00	0.00
SDMH-A2 (STORM)	Junction	233.07	246.59	48.00	2.25	236.29	0 00:00	0.00	0.00
SDMH-A3 (STORM)	Junction	243.28	258.09	48.00	2.27	246.59	0 00:00	0.00	0.00
SDMH-A5 (STORM)	Junction	265.11	274.77	48.00	1.30	268.35	0 00:00	0.00	0.00
SDMH-B1 (STORM)	Junction	212.90	222.77	48.00	12.95	216.91	0 00:00	0.00	0.00
SDMH-B10 (STORM)	Junction	288.00	299.48	48.00	3.84	291.47	0 00:00	0.00	0.00
SDMH-B11 (STORM)	Junction	298.46	306.18	48.00	2.59	301.78	0 00:00	0.00	0.00
SDMH-B12 (STORM)	Junction	306.23	314.37	48.00	1.08	309.42	0 00:00	0.00	0.00
SDMH-B2 (STORM)	Junction	218.98	227.86	48.00	12.95	222.65	0 00:00	0.00	0.00
SDMH-B3 (STORM)	Junction	238.89	248.68	48.00	12.95	242.46	0 00:00	0.00	0.00
SDMH-B4 (STORM)	Junction	252.24	269.51	48.00	12.96	255.99	0 00:00	0.00	0.00
SDMH-B5 (STORM)	Junction	252.76	266.49	48.00	12.98	257.30	0 00:00	0.00	0.00
SDMH-B6 (STORM)	Junction	252.54	263.83	48.00	13.00	258.07	0 00:00	0.00	0.00
SDMH-B7 (STORM)	Junction	257.38	265.79	48.00	6.64	261.26	0 00:00	0.00	0.00
SDMH-B8 (STORM)	Junction	266.72	276.34	48.00	5.25	270.15	0 00:00	0.00	0.00
SDMH-B9 (STORM)	Junction	283.30	291.00	48.00	4.16	286.66	0 00:00	0.00	0.00
SDMH-C1 (STORM)	Junction	256.00	265.00	48.00	4.06	259.45	0 00:00	0.00	0.00
SDMH-C2 (STORM)	Junction	259.28	266.56	48.00	2.92	262.81	0 00:00	0.00	0.00
SDMH-C3 (STORM)	Junction	262.48	270.00	48.00	2.93	266.00	0 00:00	0.00	0.00
SDMH-C4 (STORM)	Junction	271.00	281.00	48.00	1.21	274.24	0 00:00	0.00	0.00
SDMH-D1 (STORM)	Junction	235.43	244.00	48.00	5.88	238.89	0 00:00	0.00	0.00
SDMH-D2 (STORM)	Junction	249.50	257.09	48.00	5.37	252.96	0 00:00	0.00	0.00
SDMH-D3 (STORM)	Junction	282.53	290.10	48.00	3.77	285.87	0 00:00	0.00	0.00
SDMH-D4 (STORM)	Junction	299.50	306.95	48.00	2.33	302.83	0 00:00	0.00	0.00
SDMH-D5 (STORM)	Junction	305.50	314.00	48.00	0.91	308.71	0 00:00	0.00	0.00
SDMH-E1 (STORM)	Junction	232.75	242.43	48.00	8.83	236.40	0 00:00	0.00	0.00
SDMH-E2 (STORM)	Junction	246.13	255.60	48.00	8.10	249.53	0 00:00	0.00	0.00
SDMH-E3 (STORM)	Junction	269.66	278.00	48.00	6.93	273.04	0 00:00	0.00	0.00
SDMH-E4 (STORM)	Junction	286.50	295.57	48.00	6.93	289.92	0 00:00	0.00	0.00
SDMH-E5 (STORM)	Junction	288.69	297.87	60.00	5.42	292.27	0 00:00	0.00	0.00
SDMH-E6 (STORM)	Junction	291.15	299.42	48.00	2.14	294.52	0 00:00	0.00	0.00
SDMH-E7 (STORM)	Junction	303.26	314.53	48.00	1.18	306.49	0 00:00	0.00	0.00
SDMH-E8 (STORM)	Junction	318.27	326.00	48.00	1.18	321.47	0 00:00	0.00	0.00
SDMH-F1 (STORM)	Junction	290.93	300.47	48.00	2.55	294.41	0 00:00	0.00	0.00
SDMH-F2 (STORM)	Junction	293.34	303.31	48.00	1.21	296.68	0 00:00	0.00	0.00
SDMH-F3 (STORM)	Junction	312.09	323.59	48.00	1.21	315.30	0 00:00	0.00	0.00
SDMH-G1 (STORM)	Junction	228.94	249.00	60.00	47.27	233.62	0 00:00	0.00	0.00
SDMH-H1 (STORM)	Junction	179.49	193.34	96.00	131.24	187.17	0 00:00	0.00	0.00
SDMH-H2 (STORM)	Junction	184.28	219.21	96.00	131.19	189.36	0 00:00	0.00	0.00
SDMH-H3 (STORM)	Junction	210.82	240.96	96.00	121.81	215.69	0 00:00	0.00	0.00
SDMH-H4 (STORM)	Junction	217.45	239.00	72.00	64.93	222.93	0 00:00	0.00	0.00
SDMH-H5 (STORM)	Junction	224.14	253.00	72.00	65.05	228.82	0 00:00	0.00	0.00
OUTFALL__DET_WEIR	Outfall	175.00			0.00	175.00			
OUTFALL_DET_PIPE_24	Outfall	180.00			44.48	181.52			
OUTFALL_DET_PIPE_30	Outfall	180.00			69.41	181.68			
SDHW-A1 (STORM)	Outfall	220.29			2.25	220.63			
DETENTION_POND	Storage Node	182.00	192.00		133.01	186.81		0.00	0.00

Link Summary

Element ID	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow Velocity	Peak Flow Depth	Total Time Surcharged	Reported Condition
			(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)	(ft/sec)	(ft)	(min)	
{STORM}.A-0 (STORM)	SDHW-A1 (STORM)	SDMH-A1 (STORM)	10.71	220.29	220.50	-1.9600	30.000	0.0130	2.25	57.43	4.45	0.40	0.00	Calculated
{STORM}.A-1 (STORM)	SDMH-A1 (STORM)	SDMH-A2 (STORM)	100.70	220.50	236.07	-15.4600	24.000	0.0130	2.25	88.96	10.74	0.34	0.00	Calculated
{STORM}.A-2 (STORM)	SDMH-A2 (STORM)	SDMH-A3 (STORM)	218.68	236.07	246.28	-4.6700	24.000	0.0130	2.25	48.89	7.75	0.30	0.00	Calculated
{STORM}.A-3 (STORM)	SDMH-A3 (STORM)	SDFC-A (STORM)	14.06	251.62	252.88	-8.9600	12.000	0.0130	2.27	10.67	8.42	0.38	0.00	Calculated
{STORM}.A-4 (STORM)	SDFC-A (STORM)	SDMH-A4 (STORM)	29.04	252.88	253.84	-3.3100	12.000	0.0130	2.27	6.48	6.09	0.49	0.00	Calculated
{STORM}.A-5 (STORM)	SDMH-A4 (STORM)	SDMH-A5 (STORM)	143.05	254.34	268.11	-9.6300	12.000	0.0130	1.29	11.06	9.16	0.23	0.00	Calculated
{STORM}.B-0 (STORM)	SDMH-B1 (STORM)	SDMH-H2 (STORM)	69.39	215.90	213.00	4.1700	24.000	0.0130	12.95	46.22	9.92	0.87	0.00	Calculated
{STORM}.B-1 (STORM)	SDMH-B2 (STORM)	SDMH-B1 (STORM)	78.08	221.98	215.90	7.7900	24.000	0.0130	12.95	63.13	11.52	0.84	0.00	Calculated
{STORM}.B-10 (STORM)	SDMH-B8 (STORM)	SDMH-B9 (STORM)	106.44	271.47	286.30	-13.9300	18.000	0.0130	4.16	39.20	13.50	0.35	0.00	Calculated
{STORM}.B-11 (STORM)	SDMH-B9 (STORM)	SDMH-B10 (STORM)	92.10	286.80	291.00	-4.5600	18.000	0.0130	3.83	22.43	8.80	0.44	0.00	Calculated
{STORM}.B-12 (STORM)	SDMH-B10 (STORM)	SDMH-B11 (STORM)	100.47	292.50	301.46	-8.9200	18.000	0.0130	2.59	31.37	10.10	0.30	0.00	Calculated
{STORM}.B-13 (STORM)	SDMH-B11 (STORM)	SDMH-B12 (STORM)	80.79	301.46	309.23	-9.6200	18.000	0.0130	1.08	32.57	5.90	0.25	0.00	Calculated
{STORM}.B-2 (STORM)	SDMH-B2 (STORM)	SDMH-B3 (STORM)	163.81	221.98	241.89	-12.1600	24.000	0.0130	12.95	78.88	15.53	0.62	0.00	Calculated
{STORM}.B-3 (STORM)	SDMH-B3 (STORM)	SDMH-B4 (STORM)	249.48	242.86	255.24	-4.9700	24.000	0.0130	12.95	50.41	12.75	0.72	0.00	Calculated
{STORM}.B-4 (STORM)	SDMH-B4 (STORM)	SDMH-B5 (STORM)	98.43	255.14	255.76	-0.6300	24.000	0.0130	12.96	17.90	5.50	1.40	0.00	Calculated
{STORM}.B-5 (STORM)	SDMH-B5 (STORM)	SDMH-B6 (STORM)	99.98	255.76	256.49	-0.7400	24.000	0.0130	12.98	19.41	4.96	1.56	0.00	Calculated
{STORM}.B-6 (STORM)	SDMH-B6 (STORM)	SDFC-BC (STORM)	24.21	256.49	256.84	-1.4400	24.000	0.0130	13.00	27.16	5.18	1.63	0.00	Calculated
{STORM}.B-7 (STORM)	SDCB-B1 (STORM)	SDFC-BC (STORM)	10.44	257.00	256.84	1.5500	24.000	0.0130	8.23	28.18	3.21	1.71	0.00	Calculated
{STORM}.B-8 (STORM)	SDCB-B1 (STORM)	SDMH-B7 (STORM)	79.04	258.86	260.38	-1.9200	18.000	0.0130	6.63	14.56	6.96	0.80	0.00	Calculated
{STORM}.B-9 (STORM)	SDMH-B7 (STORM)	SDMH-B8 (STORM)	115.90	260.38	269.72	-8.0600	18.000	0.0130	5.25	29.81	7.89	0.65	0.00	Calculated
{STORM}.C-0 (STORM)	SDCB-C1 (STORM)	SDFC-BC (STORM)	17.61	257.37	256.84	2.9800	24.000	0.0130	5.34	39.02	2.71	1.48	0.00	Calculated
{STORM}.C-1 (STORM)	SDMH-C1 (STORM)	SDCB-C1 (STORM)	63.57	259.00	257.37	2.5700	24.000	0.0130	4.05	36.28	4.94	0.86	0.00	Calculated
{STORM}.C-2 (STORM)	SDMH-C1 (STORM)	SDMH-C2 (STORM)	54.84	260.00	262.28	-4.1600	12.000	0.0130	2.91	7.27	7.68	0.49	0.00	Calculated
{STORM}.C-3 (STORM)	SDMH-C2 (STORM)	SDMH-C3 (STORM)	99.30	262.28	265.48	-3.2200	12.000	0.0130	2.92	6.39	6.99	0.52	0.00	Calculated
{STORM}.C-4 (STORM)	SDMH-C3 (STORM)	SDMH-C4 (STORM)	125.09	265.48	274.00	-6.8100	12.000	0.0130	1.21	9.30	5.49	0.38	0.00	Calculated
{STORM}.D-0 (STORM)	SDFC D (STORM)	SDMH-H3 (STORM)	37.25	229.40	228.67	1.9500	24.000	0.0130	17.29	31.67	7.29	1.41	0.00	Calculated
{STORM}.D-1 (STORM)	SDMH-D1 (STORM)	SDFC D (STORM)	98.20	238.43	230.40	8.1800	18.000	0.0130	5.88	30.04	11.25	0.61	0.00	Calculated
{STORM}.D-2 (STORM)	SDMH-D2 (STORM)	SDMH-D1 (STORM)	80.60	252.50	238.43	17.4600	12.000	0.0130	5.37	14.89	15.40	0.46	0.00	Calculated
{STORM}.D-3 (STORM)	SDMH-D3 (STORM)	SDMH-D2 (STORM)	203.16	285.53	252.50	16.2600	12.000	0.0130	3.75	14.36	12.68	0.40	0.00	Calculated
{STORM}.D-4 (STORM)	SDMH-D4 (STORM)	SDMH-D3 (STORM)	192.04	302.50	285.53	8.8400	12.000	0.0130	2.32	10.59	9.95	0.34	0.00	Calculated
{STORM}.D-5 (STORM)	SDMH-D5 (STORM)	SDMH-D4 (STORM)	85.24	308.50	302.50	7.0400	12.000	0.0130	0.91	9.45	5.37	0.27	0.00	Calculated
{STORM}.D-E.1 (STORM)	SDCB-D2 (STORM)	SDFC D (STORM)	19.30	232.82	233.09	-1.4000	18.000	0.0150	1.71	4.07	2.60	0.60	0.00	Calculated
{STORM}.D-E.2 (STORM)	SDCB-D1 (STORM)	SDFC D (STORM)	15.15	233.49	233.25	1.5800	18.000	0.0130	2.49	13.22	4.25	0.55	0.00	Calculated
{STORM}.E-1 (STORM)	SDFC-E(STORM)	SDFC D (STORM)	10.39	231.93	231.63	2.8900	24.000	0.0130	8.83	38.45	6.11	0.94	0.00	Calculated
{STORM}.E-2 (STORM)	SDFC-E(STORM)	SDMH-E1 (STORM)	64.97	232.03	235.75	-5.7300	24.000	0.0130	8.83	54.13	7.12	0.88	0.00	Calculated
{STORM}.E-3 (STORM)	SDMH-E1 (STORM)	SDMH-E2 (STORM)	77.50	235.75	249.13	-17.2600	24.000	0.0130	8.10	93.98	12.46	0.52	0.00	Calculated
{STORM}.E-4 (STORM)	SDMH-E2 (STORM)	SDMH-E3 (STORM)	125.26	249.13	272.66	-18.7800	24.000	0.0130	6.92	98.05	15.89	0.39	0.00	Calculated
{STORM}.E-5 (STORM)	SDMH-E3 (STORM)	SDMH-E4 (STORM)	121.85	272.66	289.50	-13.8200	24.000	0.0130	6.93	84.11	15.32	0.40	0.00	Calculated
{STORM}.E-6 (STORM)	SDMH-E4 (STORM)	SDMH-E5 (STORM)	45.09	289.50	291.69	-4.8600	24.000	0.0130	5.42	49.87	8.55	0.51	0.00	Calculated
{STORM}.E-7 (STORM)	SDMH-E5 (STORM)	SDMH-E6 (STORM)	41.79	292.16	294.15	-4.7500	18.000	0.0130	2.14	22.91	7.06	0.34	0.00	Calculated
{STORM}.E-8 (STORM)	SDMH-E6 (STORM)	SDMH-E7 (STORM)	155.55	294.15	306.26	-7.7900	12.000	0.0130	1.17	9.94	6.35	0.30	0.00	Calculated
{STORM}.E-9 (STORM)	SDMH-E7 (STORM)	SDMH-E8 (STORM)	94.31	306.26	321.27	-15.9200	12.000	0.0130	1.18	14.22	9.61	0.21	0.00	Calculated
{STORM}.F-0 (STORM)	SDMH-E5 (STORM)	SDMH-F1 (STORM)	120.28	291.88	293.93	-1.7000	18.000	0.0130	2.52	13.71	5.48	0.46	0.00	Calculated
{STORM}.F-1 (STORM)	SDMH-F1 (STORM)	SDMH-F2 (STORM)	127.59	293.93	296.34	-1.8900	12.000	0.0130	1.20	4.90	3.97	0.41	0.00	Calculated

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Link Summary

Element ID	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow Velocity	Peak Flow Depth	Total Time Surcharged	Reported Condition
			(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)	(ft/sec)	(ft)	(min)	
{STORM}.F-2 (STORM)	SDMH-F2 (STORM)	SDMH-F3 (STORM)	143.28	296.34	315.09	-13.0900	12.000	0.0130	1.21	12.89	9.04	0.28	0.00	Calculated
{STORM}.G-1 (STORM)	SDMH-G1 (STORM)	SDHW-G1 (STORM)	44.33	231.94	233.00	-2.3900	42.000	0.0130	47.27	155.58	6.84	2.38	0.00	Calculated
{STORM}.G-2 (STORM)	SDMH-H3 (STORM)	SDMH-G1 (STORM)	200.57	227.17	231.94	-2.3800	42.000	0.0130	47.21	155.16	11.95	1.50	0.00	Calculated
{STORM}.H-0 (STORM)	SDMH-H1 (STORM)	DETENTION_POND	16.29	182.49	182.00	3.0000	72.000	0.0130	130.35	733.76	9.99	4.74	0.00	Calculated
{STORM}.H-3 (STORM)	SDMH-H2 (STORM)	SDMH-H1 (STORM)	43.53	187.28	182.49	11.0000	72.000	0.0130	131.24	1404.59	10.54	3.31	0.00	Calculated
{STORM}.H-4 (STORM)	SDMH-H3 (STORM)	SDMH-H2 (STORM)	201.47	213.82	203.76	4.9900	72.000	0.0130	121.79	946.36	19.08	1.66	0.00	Calculated
{STORM}.H-5 (STORM)	SDMH-H4 (STORM)	SDMH-H3 (STORM)	49.07	220.45	219.96	1.0000	72.000	0.0130	64.91	423.22	7.70	2.03	0.00	Calculated
{STORM}.H-6 (STORM)	SDMH-H5 (STORM)	SDMH-H4 (STORM)	131.86	227.14	223.19	3.0000	60.000	0.0130	64.93	450.77	13.38	1.48	0.00	Calculated
{STORM}.H-7 (STORM)	SDHW-H2	SDMH-H5 (STORM)	28.58	246.54	246.00	1.8900	60.000	0.0130	65.05	358.00	9.78	1.86	0.00	Calculated
DET_BASIN_OUT_24	DETENTION_POND	OUTFALL_DET_PIPE_24	44.00	182.00	180.00	4.5500	24.000	0.0130	44.48	48.23	15.21	1.76	0.00	Calculated
DET_BASIN_OUT_30	DETENTION_POND	OUTFALL_DET_PIPE_30	44.00	182.00	180.00	4.5500	30.000	0.0130	69.41	87.45	15.83	2.09	0.00	Calculated
WEIR_LIPALU	DETENTION_POND	OUTFALL__DET_WEIR		182.00	175.00				0.00					

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Inlet Summary

Element ID	Number of Inlets	Catchbasin Invert Elevation (ft)	Max (Rim) Elevation (ft)	Peak Flow (cfs)	Peak Flow Intercepted by Inlet (cfs)	Peak Flow Bypassing Inlet (cfs)	Inlet Efficiency during Peak Flow (%)	Allowable Spread (ft)	Max Gutter Spread during Peak Flow (ft)	Max Gutter Water Elev. during Peak Flow (ft)
DI-A4.1 (STORM)	2	255.71	260.68	1.47	N/A	N/A	N/A	7.00	3.47	261.25
DI-A5.1 (STORM)	1	269.47	274.85	0.75	0.00	0.75	0.43	7.00	2.08	274.89
DI-A5.2 (STORM)	1	270.40	275.30	0.73	0.00	0.72	0.43	7.00	2.05	275.34
DI-B10.1 (STORM)	1	292.48	297.48	1.53	1.19	0.34	78.01	7.00	4.05	297.65
DI-B10.2 (STORM)	1	292.48	297.39	0.22	0.22	0.00	100.00	7.00	1.32	297.47
DI-B11.1 (STORM)	1	301.55	306.54	1.63	1.25	0.38	76.83	7.00	4.24	306.71
DI-B11.2 (STORM)	1	301.55	306.55	0.69	0.00	0.69	0.44	7.00	2.01	306.59
DI-B12.1 (STORM)	1	309.67	314.69	1.36	1.09	0.26	80.61	7.00	3.75	314.85
DI-B7.1 (STORM)	1	260.75	265.75	1.62	1.35	0.26	83.64	7.00	5.19	265.94
DI-B8.1 (STORM)	1	271.34	276.34	1.29	0.00	1.29	0.21	7.00	2.24	276.38
DI-B8.2 (STORM)	1	271.34	276.34	0.57	0.45	0.12	78.72	7.00	1.65	276.44
DI-B9.1 (STORM)	1	286.00	291.00	0.84	0.61	0.24	71.78	7.00	1.91	291.12
DI-C1.1 (STORM)	1	260.00	265.00	1.54	1.31	0.23	84.83	7.00	5.06	265.19
DI-C3.1 (STORM)	1	265.00	270.00	1.74	1.31	0.43	75.21	7.00	4.42	270.17
DI-C3.2 (STORM)	1	265.00	270.00	0.65	0.59	0.06	90.79	7.00	1.97	270.12
DI-C4.1 (STORM)	1	276.00	281.00	1.78	1.08	0.70	60.69	7.00	3.57	281.16
DI-C4.2 (STORM)	1	276.00	281.00	0.46	0.37	0.08	81.61	7.00	1.52	281.09
DI-D1.1 (STORM)	1	239.00	244.00	0.81	0.01	0.81	0.66	7.00	2.45	244.05
DI-D2.1 (STORM)	1	252.12	257.15	1.57	1.32	0.25	84.24	7.00	5.09	257.34
DI-D2.2 (STORM)	1	252.12	257.13	0.76	0.01	0.75	0.68	7.00	2.37	257.17
DI-D3.1 (STORM)	1	285.10	290.11	1.98	1.16	0.82	58.69	7.00	3.84	290.27
DI-D3.2 (STORM)	1	285.10	290.15	0.65	0.49	0.16	75.95	7.00	1.72	290.26
DI-D4.1 (STORM)	1	301.90	306.90	1.94	1.14	0.80	58.71	7.00	3.76	307.06
DI-D4.2 (STORM)	1	301.90	306.91	0.65	0.50	0.15	76.36	7.00	1.74	307.01
DI-D5.1 (STORM)	1	309.60	314.60	1.44	0.00	1.44	0.20	7.00	2.33	314.64
DI-E1.1 (STORM)	1	237.48	242.48	0.81	0.01	0.81	0.67	7.00	2.45	242.53
DI-E2.1 (STORM)	1	250.60	255.60	1.33	1.18	0.16	88.31	7.00	4.61	255.78
DI-E2.2 (STORM)	1	250.60	255.60	0.79	0.01	0.79	0.67	7.00	2.42	255.65
DI-E4.1 (STORM)	1	290.70	295.70	1.71	1.29	0.41	75.72	7.00	4.36	295.87
DI-E4.2 (STORM)	1	290.93	295.94	0.45	0.43	0.02	94.93	7.00	1.71	296.05
DI-E5.1 (STORM)	1	292.96	298.02	1.62	N/A	N/A	N/A	7.00	8.82	298.38
DI-E5.2 (STORM)	1	293.02	297.96	0.36	0.36	0.00	100.00	7.00	1.80	298.07
DI-E6.1 (STORM)	1	294.56	299.56	1.30	1.16	0.14	89.24	7.00	4.57	299.73
DI-E8.1 (STORM)	1	321.43	326.43	1.79	1.08	0.70	60.65	7.00	3.57	326.58
DI-E8.2 (STORM)	1	321.56	326.56	0.48	0.39	0.09	81.05	7.00	1.54	326.66
DI-F1.1 (STORM)	1	295.37	300.37	1.31	1.17	0.15	88.78	7.00	4.59	300.54
DI-F1.2 (STORM)	1	295.27	300.27	0.08	0.08	0.00	100.00	7.00	1.02	300.34
DI-F3.1 (STORM)	1	319.00	325.00	1.58	0.00	1.58	0.19	7.00	2.41	325.05
DI-F3.2 (STORM)	1	319.00	325.00	0.37	0.31	0.06	84.48	7.00	1.40	325.09
SDCB-B1 (STORM)	2	257.00	263.87	2.08	N/A	N/A	N/A	7.00	3.71	264.13
SDCB-C1 (STORM)	2	257.36	264.52	1.61	N/A	N/A	N/A	7.00	3.44	264.78
SDCB-D1 (STORM)	2	233.49	235.30	2.56	N/A	N/A	N/A	7.00	3.97	235.57
SDCB-D2 (STORM)	2	233.09	234.90	1.72	N/A	N/A	N/A	7.00	3.51	235.16
SDMH-A4 (STORM)	2	250.84	260.33	0.63	N/A	N/A	N/A	7.00	2.40	260.57

Project Description

File Name	2023.01.10 CURRENT Ratl & Mod Ratl.SPF
Description	Drainage Report (Rational 10-yr 24-hr Storm)

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	Rational
Time of Concentration (TOC) Method	SCS TR-55
Link Routing Method	Hydrodynamic
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	NO

Analysis Options

Start Analysis On	00:00:00	0:00:00
End Analysis On	00:00:00	0:00:00
Start Reporting On	00:00:00	0:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	58
Nodes	104
Junctions	55
Outfalls	4
Flow Diversions	0
Inlets	44
Storage Nodes	1
Links	139
Channels	44
Pipes	94
Pumps	0
Orifices	0
Weirs	1
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

Return Period	10 year(s)

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Subbasin Summary

Subbasin ID	Area (ac)	Weighted Runoff Coefficient	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ft^3)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
A5	0.06	0.9500	0.86	0.82	165.67	0.55	0 00:05:00
A5.1	0.25	0.5500	0.86	0.47	426.63	1.41	0 00:05:00
A6.1	0.08	0.9500	0.86	0.82	224.84	0.74	0 00:05:00
A6.2	0.08	0.8400	0.86	0.72	201.25	0.67	0 00:05:00
B10.1	0.14	0.5400	0.86	0.46	235.30	0.78	0 00:05:00
B11.1	0.58	0.3200	1.32	0.42	880.26	1.41	0 00:10:18
B11.2	0.02	0.9500	0.86	0.82	68.04	0.23	0 00:05:00
B12.1	0.57	0.2900	1.06	0.31	632.03	1.46	0 00:07:13
B12.2	0.07	0.9500	0.86	0.82	210.05	0.69	0 00:05:00
B13.1	0.58	0.2900	1.20	0.35	726.80	1.36	0 00:08:52
B8.1	0.61	0.3000	1.32	0.40	877.52	1.40	0 00:10:16
B9.1	0.46	0.3000	1.09	0.33	545.54	1.20	0 00:07:31
B9.2	0.06	0.9500	0.86	0.82	171.59	0.57	0 00:05:00
B-C1	0.56	0.4800	1.30	0.62	1270.96	2.07	0 00:10:13
B-C2	0.64	0.2900	1.42	0.41	953.48	1.33	0 00:11:49
C1.1	0.58	0.3200	1.43	0.46	967.60	1.33	0 00:12:01
C2.1	0.55	0.3100	1.32	0.41	821.54	1.30	0 00:10:32
C2.2	0.10	0.5700	0.86	0.49	168.63	0.56	0 00:05:00
C3.1	0.56	0.3800	1.15	0.44	881.55	1.79	0 00:08:05
C3.2	0.05	0.9500	0.86	0.82	139.05	0.46	0 00:05:00
D1.1	0.37	0.2800	1.59	0.44	589.89	0.69	0 00:14:05
D2.1	0.59	0.3200	1.52	0.49	1033.81	1.30	0 00:13:06
D2.2	0.06	0.9500	0.86	0.82	189.34	0.63	0 00:05:00
D3.1	0.52	0.3300	1.22	0.40	756.31	1.37	0 00:09:12
D3.2	0.05	0.9500	0.86	0.82	147.92	0.49	0 00:05:00
D4.1	0.61	0.2900	1.22	0.36	789.94	1.42	0 00:09:12
D4.2	0.07	0.9500	0.86	0.82	198.22	0.66	0 00:05:00
D5.1	0.58	0.3100	1.22	0.38	786.89	1.44	0 00:08:55
D-E1	1.28	0.2700	1.39	0.38	1746.48	2.54	0 00:11:19
D-E2	0.80	0.4100	1.97	0.81	2337.63	1.72	0 00:22:28
E1.1	0.31	0.3200	1.25	0.40	446.88	0.78	0 00:09:28
E2.1	0.40	0.3700	1.42	0.53	765.66	1.07	0 00:11:50
E2.2	0.08	0.9500	0.86	0.82	230.76	0.76	0 00:05:00
E4.1	0.63	0.3800	1.61	0.61	1397.42	1.58	0 00:14:40
E4.2	0.05	0.9500	0.86	0.82	136.09	0.45	0 00:05:00
E5.1	0.71	0.2900	1.43	0.42	1074.10	1.48	0 00:12:02
E5.2	0.04	0.9500	0.86	0.82	109.46	0.36	0 00:05:00
E6.1	0.45	0.3900	1.40	0.55	899.82	1.29	0 00:11:27
E8.1	0.68	0.3200	1.18	0.38	937.17	1.79	0 00:08:43
E8.2	0.05	0.9500	0.86	0.82	144.96	0.48	0 00:05:00
F1.1	0.22	0.5500	1.20	0.66	535.85	1.00	0 00:08:50
F1.2	0.01	0.3500	1.35	0.47	11.16	0.02	0 00:10:48
F3.1	0.56	0.3000	0.97	0.29	589.51	1.58	0 00:06:12
F3.2	0.04	0.9500	0.86	0.82	112.42	0.37	0 00:05:00
H_POND	1.57	0.4000	1.90	0.76	4319.92	3.46	0 00:20:39
H2	0.26	0.4000	0.86	0.34	328.70	1.09	0 00:05:00
H-3	1.30	0.2400	1.39	0.33	1571.43	2.29	0 00:11:18
MAUKA_NORTH	20.06	0.4200	1.66	0.70	50681.19	54.08	0 00:15:31
MAUKA_SOUTH	5.66	0.4100	1.40	0.57	11772.74	16.91	0 00:11:32
PRESERV_1	2.89	0.3400	1.14	0.39	4070.39	8.24	0 00:08:12
PRESERV_2	1.10	0.3300	1.89	0.62	2490.42	2.03	0 00:20:15
PRESERV_3	3.81	0.3600	2.13	0.77	10607.84	6.57	0 00:26:42
PRESERV_4	0.44	0.4000	1.75	0.70	1119.64	1.06	0 00:17:33
PRESERV_5	0.17	0.2400	1.09	0.26	161.68	0.36	0 00:07:27
PRESERV_6	0.42	0.2400	1.06	0.25	385.72	0.89	0 00:07:14
PRESERV_7	9.79	0.4000	1.68	0.67	23881.34	24.69	0 00:16:03
PRESERV_8	6.24	0.4000	1.66	0.66	15017.75	16.02	0 00:15:32
PRESERV_9	1.09	0.3100	2.27	0.70	2785.52	1.50	0 00:30:37

Node Summary

Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Diameter or Width (in)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ft^3)	Total Time Flooded (min)
SDFC D (STORM)	Junction	229.40	237.42	96.00	17.30	231.17	0 00:00	0.00	0.00
SDFC-A (STORM)	Junction	252.88	258.84	48.00	2.27	253.31	0 00:00	0.00	0.00
SDFC-BC (STORM)	Junction	255.76	263.76	72.00	13.02	258.53	0 00:00	0.00	0.00
SDFC-E(STORM)	Junction	231.93	237.65	72.00	8.83	233.16	0 00:00	0.00	0.00
SDHW-G1 (STORM)	Junction	233.00	237.00		47.63	236.08	0 00:00	0.00	0.00
SDHW-H2	Junction	246.54	251.54		65.09	248.81	0 00:00	0.00	0.00
SDMH-A1 (STORM)	Junction	217.50	239.13	48.00	2.25	220.96	0 00:00	0.00	0.00
SDMH-A2 (STORM)	Junction	233.07	246.59	48.00	2.25	236.29	0 00:00	0.00	0.00
SDMH-A3 (STORM)	Junction	243.28	258.09	48.00	2.27	246.59	0 00:00	0.00	0.00
SDMH-A5 (STORM)	Junction	265.11	274.77	48.00	1.30	268.35	0 00:00	0.00	0.00
SDMH-B1 (STORM)	Junction	212.90	222.77	48.00	12.95	216.91	0 00:00	0.00	0.00
SDMH-B10 (STORM)	Junction	288.00	299.48	48.00	3.84	291.47	0 00:00	0.00	0.00
SDMH-B11 (STORM)	Junction	298.46	306.18	48.00	2.59	301.78	0 00:00	0.00	0.00
SDMH-B12 (STORM)	Junction	306.23	314.37	48.00	1.08	309.42	0 00:00	0.00	0.00
SDMH-B2 (STORM)	Junction	218.98	227.86	48.00	12.95	222.65	0 00:00	0.00	0.00
SDMH-B3 (STORM)	Junction	238.89	248.68	48.00	12.95	242.46	0 00:00	0.00	0.00
SDMH-B4 (STORM)	Junction	252.24	269.51	48.00	12.96	255.99	0 00:00	0.00	0.00
SDMH-B5 (STORM)	Junction	252.76	266.49	48.00	12.98	257.30	0 00:00	0.00	0.00
SDMH-B6 (STORM)	Junction	252.54	263.83	48.00	13.00	258.07	0 00:00	0.00	0.00
SDMH-B7 (STORM)	Junction	257.38	265.79	48.00	6.64	261.26	0 00:00	0.00	0.00
SDMH-B8 (STORM)	Junction	266.72	276.34	48.00	5.25	270.15	0 00:00	0.00	0.00
SDMH-B9 (STORM)	Junction	283.30	291.00	48.00	4.16	286.66	0 00:00	0.00	0.00
SDMH-C1 (STORM)	Junction	256.00	265.00	48.00	4.06	259.45	0 00:00	0.00	0.00
SDMH-C2 (STORM)	Junction	259.28	266.56	48.00	2.92	262.81	0 00:00	0.00	0.00
SDMH-C3 (STORM)	Junction	262.48	270.00	48.00	2.93	266.00	0 00:00	0.00	0.00
SDMH-C4 (STORM)	Junction	271.00	281.00	48.00	1.21	274.24	0 00:00	0.00	0.00
SDMH-D1 (STORM)	Junction	235.43	244.00	48.00	5.88	238.89	0 00:00	0.00	0.00
SDMH-D2 (STORM)	Junction	249.50	257.09	48.00	5.37	252.96	0 00:00	0.00	0.00
SDMH-D3 (STORM)	Junction	282.53	290.10	48.00	3.77	285.87	0 00:00	0.00	0.00
SDMH-D4 (STORM)	Junction	299.50	306.95	48.00	2.33	302.83	0 00:00	0.00	0.00
SDMH-D5 (STORM)	Junction	305.50	314.00	48.00	0.91	308.71	0 00:00	0.00	0.00
SDMH-E1 (STORM)	Junction	232.75	242.43	48.00	8.83	236.40	0 00:00	0.00	0.00
SDMH-E2 (STORM)	Junction	246.13	255.60	48.00	8.10	249.53	0 00:00	0.00	0.00
SDMH-E3 (STORM)	Junction	269.66	278.00	48.00	6.93	273.04	0 00:00	0.00	0.00
SDMH-E4 (STORM)	Junction	286.50	295.57	48.00	6.93	289.92	0 00:00	0.00	0.00
SDMH-E5 (STORM)	Junction	288.69	297.87	60.00	5.42	292.27	0 00:00	0.00	0.00
SDMH-E6 (STORM)	Junction	291.15	299.42	48.00	2.14	294.52	0 00:00	0.00	0.00
SDMH-E7 (STORM)	Junction	303.26	314.53	48.00	1.18	306.49	0 00:00	0.00	0.00
SDMH-E8 (STORM)	Junction	318.27	326.00	48.00	1.18	321.47	0 00:00	0.00	0.00
SDMH-F1 (STORM)	Junction	290.93	300.47	48.00	2.55	294.41	0 00:00	0.00	0.00
SDMH-F2 (STORM)	Junction	293.34	303.31	48.00	1.21	296.68	0 00:00	0.00	0.00
SDMH-F3 (STORM)	Junction	312.09	323.59	48.00	1.21	315.30	0 00:00	0.00	0.00
SDMH-G1 (STORM)	Junction	228.94	249.00	60.00	47.27	233.62	0 00:00	0.00	0.00
SDMH-H1 (STORM)	Junction	179.49	193.34	96.00	131.24	187.17	0 00:00	0.00	0.00
SDMH-H2 (STORM)	Junction	184.28	219.21	96.00	131.19	189.36	0 00:00	0.00	0.00
SDMH-H3 (STORM)	Junction	210.82	240.96	96.00	121.81	215.69	0 00:00	0.00	0.00
SDMH-H4 (STORM)	Junction	217.45	239.00	72.00	64.93	222.93	0 00:00	0.00	0.00
SDMH-H5 (STORM)	Junction	224.14	253.00	72.00	65.05	228.82	0 00:00	0.00	0.00
OUTFALL__DET_WEIR	Outfall	175.00			0.00	175.00			
OUTFALL_DET_PIPE_24	Outfall	180.00			44.48	181.52			
OUTFALL_DET_PIPE_30	Outfall	180.00			69.41	181.68			
SDHW-A1 (STORM)	Outfall	220.29			2.25	220.63			
DETENTION_POND	Storage Node	182.00	192.00		133.01	186.81		0.00	0.00

Link Summary

Element ID	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow Velocity	Peak Flow Depth	Total Time Surcharged	Reported Condition
			(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)	(ft/sec)	(ft)	(min)	
{STORM}.A-0 (STORM)	SDHW-A1 (STORM)	SDMH-A1 (STORM)	10.71	220.29	220.50	-1.9600	30.000	0.0130	2.25	57.43	4.45	0.40	0.00	Calculated
{STORM}.A-1 (STORM)	SDMH-A1 (STORM)	SDMH-A2 (STORM)	100.70	220.50	236.07	-15.4600	24.000	0.0130	2.25	88.96	10.74	0.34	0.00	Calculated
{STORM}.A-2 (STORM)	SDMH-A2 (STORM)	SDMH-A3 (STORM)	218.68	236.07	246.28	-4.6700	24.000	0.0130	2.25	48.89	7.75	0.30	0.00	Calculated
{STORM}.A-3 (STORM)	SDMH-A3 (STORM)	SDFC-A (STORM)	14.06	251.62	252.88	-8.9600	12.000	0.0130	2.27	10.67	8.42	0.38	0.00	Calculated
{STORM}.A-4 (STORM)	SDFC-A (STORM)	SDMH-A4 (STORM)	29.04	252.88	253.84	-3.3100	12.000	0.0130	2.27	6.48	6.09	0.49	0.00	Calculated
{STORM}.A-5 (STORM)	SDMH-A4 (STORM)	SDMH-A5 (STORM)	143.05	254.34	268.11	-9.6300	12.000	0.0130	1.29	11.06	9.16	0.23	0.00	Calculated
{STORM}.B-0 (STORM)	SDMH-B1 (STORM)	SDMH-H2 (STORM)	69.39	215.90	213.00	4.1700	24.000	0.0130	12.95	46.22	9.92	0.87	0.00	Calculated
{STORM}.B-1 (STORM)	SDMH-B2 (STORM)	SDMH-B1 (STORM)	78.08	221.98	215.90	7.7900	24.000	0.0130	12.95	63.13	11.52	0.84	0.00	Calculated
{STORM}.B-10 (STORM)	SDMH-B8 (STORM)	SDMH-B9 (STORM)	106.44	271.47	286.30	-13.9300	18.000	0.0130	4.16	39.20	13.50	0.35	0.00	Calculated
{STORM}.B-11 (STORM)	SDMH-B9 (STORM)	SDMH-B10 (STORM)	92.10	286.80	291.00	-4.5600	18.000	0.0130	3.83	22.43	8.80	0.44	0.00	Calculated
{STORM}.B-12 (STORM)	SDMH-B10 (STORM)	SDMH-B11 (STORM)	100.47	292.50	301.46	-8.9200	18.000	0.0130	2.59	31.37	10.10	0.30	0.00	Calculated
{STORM}.B-13 (STORM)	SDMH-B11 (STORM)	SDMH-B12 (STORM)	80.79	301.46	309.23	-9.6200	18.000	0.0130	1.08	32.57	5.90	0.25	0.00	Calculated
{STORM}.B-2 (STORM)	SDMH-B2 (STORM)	SDMH-B3 (STORM)	163.81	221.98	241.89	-12.1600	24.000	0.0130	12.95	78.88	15.53	0.62	0.00	Calculated
{STORM}.B-3 (STORM)	SDMH-B3 (STORM)	SDMH-B4 (STORM)	249.48	242.86	255.24	-4.9700	24.000	0.0130	12.95	50.41	12.75	0.72	0.00	Calculated
{STORM}.B-4 (STORM)	SDMH-B4 (STORM)	SDMH-B5 (STORM)	98.43	255.14	255.76	-0.6300	24.000	0.0130	12.96	17.90	5.50	1.40	0.00	Calculated
{STORM}.B-5 (STORM)	SDMH-B5 (STORM)	SDMH-B6 (STORM)	99.98	255.76	256.49	-0.7400	24.000	0.0130	12.98	19.41	4.96	1.56	0.00	Calculated
{STORM}.B-6 (STORM)	SDMH-B6 (STORM)	SDFC-BC (STORM)	24.21	256.49	256.84	-1.4400	24.000	0.0130	13.00	27.16	5.18	1.63	0.00	Calculated
{STORM}.B-7 (STORM)	SDCB-B1 (STORM)	SDFC-BC (STORM)	10.44	257.00	256.84	1.5500	24.000	0.0130	8.23	28.18	3.21	1.71	0.00	Calculated
{STORM}.B-8 (STORM)	SDCB-B1 (STORM)	SDMH-B7 (STORM)	79.04	258.86	260.38	-1.9200	18.000	0.0130	6.63	14.56	6.96	0.80	0.00	Calculated
{STORM}.B-9 (STORM)	SDMH-B7 (STORM)	SDMH-B8 (STORM)	115.90	260.38	269.72	-8.0600	18.000	0.0130	5.25	29.81	7.89	0.65	0.00	Calculated
{STORM}.C-0 (STORM)	SDCB-C1 (STORM)	SDFC-BC (STORM)	17.61	257.37	256.84	2.9800	24.000	0.0130	5.34	39.02	2.71	1.48	0.00	Calculated
{STORM}.C-1 (STORM)	SDMH-C1 (STORM)	SDCB-C1 (STORM)	63.57	259.00	257.37	2.5700	24.000	0.0130	4.05	36.28	4.94	0.86	0.00	Calculated
{STORM}.C-2 (STORM)	SDMH-C1 (STORM)	SDMH-C2 (STORM)	54.84	260.00	262.28	-4.1600	12.000	0.0130	2.91	7.27	7.68	0.49	0.00	Calculated
{STORM}.C-3 (STORM)	SDMH-C2 (STORM)	SDMH-C3 (STORM)	99.30	262.28	265.48	-3.2200	12.000	0.0130	2.92	6.39	6.99	0.52	0.00	Calculated
{STORM}.C-4 (STORM)	SDMH-C3 (STORM)	SDMH-C4 (STORM)	125.09	265.48	274.00	-6.8100	12.000	0.0130	1.21	9.30	5.49	0.38	0.00	Calculated
{STORM}.D-0 (STORM)	SDFC D (STORM)	SDMH-H3 (STORM)	37.25	229.40	228.67	1.9500	24.000	0.0130	17.29	31.67	7.29	1.41	0.00	Calculated
{STORM}.D-1 (STORM)	SDMH-D1 (STORM)	SDFC D (STORM)	98.20	238.43	230.40	8.1800	18.000	0.0130	5.88	30.04	11.25	0.61	0.00	Calculated
{STORM}.D-2 (STORM)	SDMH-D2 (STORM)	SDMH-D1 (STORM)	80.60	252.50	238.43	17.4600	12.000	0.0130	5.37	14.89	15.40	0.46	0.00	Calculated
{STORM}.D-3 (STORM)	SDMH-D3 (STORM)	SDMH-D2 (STORM)	203.16	285.53	252.50	16.2600	12.000	0.0130	3.75	14.36	12.68	0.40	0.00	Calculated
{STORM}.D-4 (STORM)	SDMH-D4 (STORM)	SDMH-D3 (STORM)	192.04	302.50	285.53	8.8400	12.000	0.0130	2.32	10.59	9.95	0.34	0.00	Calculated
{STORM}.D-5 (STORM)	SDMH-D5 (STORM)	SDMH-D4 (STORM)	85.24	308.50	302.50	7.0400	12.000	0.0130	0.91	9.45	5.37	0.27	0.00	Calculated
{STORM}.D-E.1 (STORM)	SDCB-D2 (STORM)	SDFC D (STORM)	19.30	232.82	233.09	-1.4000	18.000	0.0150	1.71	4.07	2.60	0.60	0.00	Calculated
{STORM}.D-E.2 (STORM)	SDCB-D1 (STORM)	SDFC D (STORM)	15.15	233.49	233.25	1.5800	18.000	0.0130	2.49	13.22	4.25	0.55	0.00	Calculated
{STORM}.E-1 (STORM)	SDFC-E(STORM)	SDFC D (STORM)	10.39	231.93	231.63	2.8900	24.000	0.0130	8.83	38.45	6.11	0.94	0.00	Calculated
{STORM}.E-2 (STORM)	SDFC-E(STORM)	SDMH-E1 (STORM)	64.97	232.03	235.75	-5.7300	24.000	0.0130	8.83	54.13	7.12	0.88	0.00	Calculated
{STORM}.E-3 (STORM)	SDMH-E1 (STORM)	SDMH-E2 (STORM)	77.50	235.75	249.13	-17.2600	24.000	0.0130	8.10	93.98	12.46	0.52	0.00	Calculated
{STORM}.E-4 (STORM)	SDMH-E2 (STORM)	SDMH-E3 (STORM)	125.26	249.13	272.66	-18.7800	24.000	0.0130	6.92	98.05	15.89	0.39	0.00	Calculated
{STORM}.E-5 (STORM)	SDMH-E3 (STORM)	SDMH-E4 (STORM)	121.85	272.66	289.50	-13.8200	24.000	0.0130	6.93	84.11	15.32	0.40	0.00	Calculated
{STORM}.E-6 (STORM)	SDMH-E4 (STORM)	SDMH-E5 (STORM)	45.09	289.50	291.69	-4.8600	24.000	0.0130	5.42	49.87	8.55	0.51	0.00	Calculated
{STORM}.E-7 (STORM)	SDMH-E5 (STORM)	SDMH-E6 (STORM)	41.79	292.16	294.15	-4.7500	18.000	0.0130	2.14	22.91	7.06	0.34	0.00	Calculated
{STORM}.E-8 (STORM)	SDMH-E6 (STORM)	SDMH-E7 (STORM)	155.55	294.15	306.26	-7.7900	12.000	0.0130	1.17	9.94	6.35	0.30	0.00	Calculated
{STORM}.E-9 (STORM)	SDMH-E7 (STORM)	SDMH-E8 (STORM)	94.31	306.26	321.27	-15.9200	12.000	0.0130	1.18	14.22	9.61	0.21	0.00	Calculated
{STORM}.F-0 (STORM)	SDMH-E5 (STORM)	SDMH-F1 (STORM)	120.28	291.88	293.93	-1.7000	18.000	0.0130	2.52	13.71	5.48	0.46	0.00	Calculated
{STORM}.F-1 (STORM)	SDMH-F1 (STORM)	SDMH-F2 (STORM)	127.59	293.93	296.34	-1.8900	12.000	0.0130	1.20	4.90	3.97	0.41	0.00	Calculated

Link Summary

Element ID	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow Velocity	Peak Flow Depth	Total Time Surcharged	Reported Condition
			(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)	(ft/sec)	(ft)	(min)	
{STORM}.F-2 (STORM)	SDMH-F2 (STORM)	SDMH-F3 (STORM)	143.28	296.34	315.09	-13.0900	12.000	0.0130	1.21	12.89	9.04	0.28	0.00	Calculated
{STORM}.G-1 (STORM)	SDMH-G1 (STORM)	SDHW-G1 (STORM)	44.33	231.94	233.00	-2.3900	42.000	0.0130	47.27	155.58	6.84	2.38	0.00	Calculated
{STORM}.G-2 (STORM)	SDMH-H3 (STORM)	SDMH-G1 (STORM)	200.57	227.17	231.94	-2.3800	42.000	0.0130	47.21	155.16	11.95	1.50	0.00	Calculated
{STORM}.H-0 (STORM)	SDMH-H1 (STORM)	DETENTION_POND	16.29	182.49	182.00	3.0000	72.000	0.0130	130.35	733.76	9.99	4.74	0.00	Calculated
{STORM}.H-3 (STORM)	SDMH-H2 (STORM)	SDMH-H1 (STORM)	43.53	187.28	182.49	11.0000	72.000	0.0130	131.24	1404.59	10.54	3.31	0.00	Calculated
{STORM}.H-4 (STORM)	SDMH-H3 (STORM)	SDMH-H2 (STORM)	201.47	213.82	203.76	4.9900	72.000	0.0130	121.79	946.36	19.08	1.66	0.00	Calculated
{STORM}.H-5 (STORM)	SDMH-H4 (STORM)	SDMH-H3 (STORM)	49.07	220.45	219.96	1.0000	72.000	0.0130	64.91	423.22	7.70	2.03	0.00	Calculated
{STORM}.H-6 (STORM)	SDMH-H5 (STORM)	SDMH-H4 (STORM)	131.86	227.14	223.19	3.0000	60.000	0.0130	64.93	450.77	13.38	1.48	0.00	Calculated
{STORM.}H-7 (STORM)	SDHW-H2	SDMH-H5 (STORM)	28.58	246.54	246.00	1.8900	60.000	0.0130	65.05	358.00	9.78	1.86	0.00	Calculated
DET_BASIN_OUT_24	DETENTION_POND	OUTFALL_DET_PIPE_24	44.00	182.00	180.00	4.5500	24.000	0.0130	44.48	48.23	15.21	1.76	0.00	Calculated
DET_BASIN_OUT_30	DETENTION_POND	OUTFALL_DET_PIPE_30	44.00	182.00	180.00	4.5500	30.000	0.0130	69.41	87.45	15.83	2.09	0.00	Calculated
WEIR_LIPALU	DETENTION_POND	OUTFALL__DET_WEIR		182.00	175.00				0.00					

COFFMAN ENGINEERS

Inlet Summary

Element ID	Number of Inlets	Catchbasin Invert Elevation (ft)	Max (Rim) Elevation (ft)	Peak Flow (cfs)	Peak Flow Intercepted by Inlet (cfs)	Peak Flow Bypassing Inlet (cfs)	Inlet Efficiency during Peak Flow (%)	Allowable Spread (ft)	Max Gutter Spread during Peak Flow (ft)	Max Gutter Water Elev. during Peak Flow (ft)
DI-A4.1 (STORM)	2	255.71	260.68	1.47	N/A	N/A	N/A	7.00	3.47	261.25
DI-A5.1 (STORM)	1	269.47	274.85	0.75	0.00	0.75	0.43	7.00	2.08	274.89
DI-A5.2 (STORM)	1	270.40	275.30	0.73	0.00	0.72	0.43	7.00	2.05	275.34
DI-B10.1 (STORM)	1	292.48	297.48	1.53	1.19	0.34	78.01	7.00	4.05	297.65
DI-B10.2 (STORM)	1	292.48	297.39	0.22	0.22	0.00	100.00	7.00	1.32	297.47
DI-B11.1 (STORM)	1	301.55	306.54	1.63	1.25	0.38	76.83	7.00	4.24	306.71
DI-B11.2 (STORM)	1	301.55	306.55	0.69	0.00	0.69	0.44	7.00	2.01	306.59
DI-B12.1 (STORM)	1	309.67	314.69	1.36	1.09	0.26	80.61	7.00	3.75	314.85
DI-B7.1 (STORM)	1	260.75	265.75	1.62	1.35	0.26	83.64	7.00	5.19	265.94
DI-B8.1 (STORM)	1	271.34	276.34	1.29	0.00	1.29	0.21	7.00	2.24	276.38
DI-B8.2 (STORM)	1	271.34	276.34	0.57	0.45	0.12	78.72	7.00	1.65	276.44
DI-B9.1 (STORM)	1	286.00	291.00	0.84	0.61	0.24	71.78	7.00	1.91	291.12
DI-C1.1 (STORM)	1	260.00	265.00	1.54	1.31	0.23	84.83	7.00	5.06	265.19
DI-C3.1 (STORM)	1	265.00	270.00	1.74	1.31	0.43	75.21	7.00	4.42	270.17
DI-C3.2 (STORM)	1	265.00	270.00	0.65	0.59	0.06	90.79	7.00	1.97	270.12
DI-C4.1 (STORM)	1	276.00	281.00	1.78	1.08	0.70	60.69	7.00	3.57	281.16
DI-C4.2 (STORM)	1	276.00	281.00	0.46	0.37	0.08	81.61	7.00	1.52	281.09
DI-D1.1 (STORM)	1	239.00	244.00	0.81	0.01	0.81	0.66	7.00	2.45	244.05
DI-D2.1 (STORM)	1	252.12	257.15	1.57	1.32	0.25	84.24	7.00	5.09	257.34
DI-D2.2 (STORM)	1	252.12	257.13	0.76	0.01	0.75	0.68	7.00	2.37	257.17
DI-D3.1 (STORM)	1	285.10	290.11	1.98	1.16	0.82	58.69	7.00	3.84	290.27
DI-D3.2 (STORM)	1	285.10	290.15	0.65	0.49	0.16	75.95	7.00	1.72	290.26
DI-D4.1 (STORM)	1	301.90	306.90	1.94	1.14	0.80	58.71	7.00	3.76	307.06
DI-D4.2 (STORM)	1	301.90	306.91	0.65	0.50	0.15	76.36	7.00	1.74	307.01
DI-D5.1 (STORM)	1	309.60	314.60	1.44	0.00	1.44	0.20	7.00	2.33	314.64
DI-E1.1 (STORM)	1	237.48	242.48	0.81	0.01	0.81	0.67	7.00	2.45	242.53
DI-E2.1 (STORM)	1	250.60	255.60	1.33	1.18	0.16	88.31	7.00	4.61	255.78
DI-E2.2 (STORM)	1	250.60	255.60	0.79	0.01	0.79	0.67	7.00	2.42	255.65
DI-E4.1 (STORM)	1	290.70	295.70	1.71	1.29	0.41	75.72	7.00	4.36	295.87
DI-E4.2 (STORM)	1	290.93	295.94	0.45	0.43	0.02	94.93	7.00	1.71	296.05
DI-E5.1 (STORM)	1	292.96	298.02	1.62	N/A	N/A	N/A	7.00	8.82	298.38
DI-E5.2 (STORM)	1	293.02	297.96	0.36	0.36	0.00	100.00	7.00	1.80	298.07
DI-E6.1 (STORM)	1	294.56	299.56	1.30	1.16	0.14	89.24	7.00	4.57	299.73
DI-E8.1 (STORM)	1	321.43	326.43	1.79	1.08	0.70	60.65	7.00	3.57	326.58
DI-E8.2 (STORM)	1	321.56	326.56	0.48	0.39	0.09	81.05	7.00	1.54	326.66
DI-F1.1 (STORM)	1	295.37	300.37	1.31	1.17	0.15	88.78	7.00	4.59	300.54
DI-F1.2 (STORM)	1	295.27	300.27	0.08	0.08	0.00	100.00	7.00	1.02	300.34
DI-F3.1 (STORM)	1	319.00	325.00	1.58	0.00	1.58	0.19	7.00	2.41	325.05
DI-F3.2 (STORM)	1	319.00	325.00	0.37	0.31	0.06	84.48	7.00	1.40	325.09
SDCB-B1 (STORM)	2	257.00	263.87	2.08	N/A	N/A	N/A	7.00	3.71	264.13
SDCB-C1 (STORM)	2	257.36	264.52	1.61	N/A	N/A	N/A	7.00	3.44	264.78
SDCB-D1 (STORM)	2	233.49	235.30	2.56	N/A	N/A	N/A	7.00	3.97	235.57
SDCB-D2 (STORM)	2	233.09	234.90	1.72	N/A	N/A	N/A	7.00	3.51	235.16
SDMH-A4 (STORM)	2	250.84	260.33	0.63	N/A	N/A	N/A	7.00	2.40	260.57