

THE RANCH PLAN PLANNED COMMUNITY
PLANNING AREAS 3 AND 4 RUNOFF MANAGEMENT PLAN

Michael Baker
INTERNATIONAL

TECHNICAL APPENDIX C.4

**Local Single Area, Free Draining, Calibrated, and Complex
Hydrographs (2-, 5-, 10-, 25-, 50- and 100-year)**

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - SINGLE AREA UH *
* ULTIMATE CONDITION - REGIONAL NODE 132C *
* 2-YR EV JULY 2016 DMALOTT *

FILE NAME: EVO232CS.DAT
TIME/DATE OF STUDY: 15:33 07/19/2016

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

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(UNIT-HYDROGRAPH ADDED TO STREAM #2)

WATERSHED AREA = 4924.400 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 1.262 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.487
LOW LOSS FRACTION = 0.830
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.13
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.28
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.37
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 0.62
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 0.85
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 1.44

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.788
30-MINUTE FACTOR = 0.788
1-HOUR FACTOR = 0.788
3-HOUR FACTOR = 0.968
6-HOUR FACTOR = 0.984
24-HOUR FACTOR = 0.990

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 6.603

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.377	224.717
2	1.132	449.434
3	1.911	463.780
4	2.976	634.355
5	4.303	790.190
6	6.488	1301.338
7	9.544	1819.956
8	12.914	2006.852
9	16.961	2410.163
10	20.725	2241.910
11	25.165	2644.456
12	29.333	2481.743
13	34.493	3073.013
14	39.423	2936.183
15	45.485	3610.378
16	51.675	3686.475
17	56.456	2846.918
18	62.294	3476.779
19	67.301	2982.083
20	71.799	2678.747
21	75.788	2375.749
22	78.877	1839.476
23	81.880	1788.683
24	84.631	1638.025
25	86.932	1370.413
26	88.737	1075.090
27	90.252	902.381
28	91.646	830.151
29	92.942	771.411
30	94.108	694.914
31	94.971	513.923
32	95.798	492.163
33	96.400	358.907
34	96.918	308.441
35	97.436	308.441
36	97.921	288.626
37	98.113	114.232
38	98.237	73.807
39	98.361	73.807
40	98.484	73.721
41	98.608	73.630
42	98.732	73.721
43	98.856	73.807
44	98.979	73.630

45	99.104	73.984
46	99.227	73.630
47	99.351	73.630
48	99.474	73.630
49	99.598	73.630
50	99.722	73.630
51	99.845	73.630
52	99.969	73.630
53	100.000	18.452

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 467.3455
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 117.6563

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2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H
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HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	100.0	200.0	300.0	400.0
10.000	17.1941	31.10	. Q V	.	.	.	.
10.083	17.4098	31.32	. Q V	.	.	.	.
10.167	17.6270	31.54	. Q V	.	.	.	.
10.250	17.8458	31.77	. Q V	.	.	.	.
10.333	18.0662	32.00	. Q V	.	.	.	.
10.417	18.2882	32.24	. Q V	.	.	.	.
10.500	18.5119	32.48	. Q V	.	.	.	.
10.583	18.7373	32.73	. Q V	.	.	.	.
10.667	18.9645	32.98	. Q V	.	.	.	.
10.750	19.1934	33.24	. Q V	.	.	.	.
10.833	19.4241	33.50	. Q V	.	.	.	.
10.917	19.6567	33.77	. Q V	.	.	.	.
11.000	19.8911	34.04	. Q V	.	.	.	.
11.083	20.1275	34.32	. Q V	.	.	.	.
11.167	20.3658	34.61	. Q V	.	.	.	.
11.250	20.6062	34.90	. Q V	.	.	.	.
11.333	20.8486	35.20	. Q V	.	.	.	.
11.417	21.0931	35.50	. Q V	.	.	.	.
11.500	21.3398	35.82	. Q V	.	.	.	.
11.583	21.5887	36.14	. Q V	.	.	.	.
11.667	21.8398	36.47	. Q V	.	.	.	.
11.750	22.0933	36.80	. Q V	.	.	.	.
11.833	22.3491	37.15	. Q V	.	.	.	.
11.917	22.6074	37.50	. Q V	.	.	.	.
12.000	22.8681	37.86	. Q V	.	.	.	.
12.083	23.1317	38.28	. Q V	.	.	.	.
12.167	23.3985	38.74	. Q V	.	.	.	.
12.250	23.6686	39.22	. Q V	.	.	.	.
12.333	23.9423	39.74	. Q V	.	.	.	.
12.417	24.2199	40.30	. Q V	.	.	.	.
12.500	24.5020	40.97	. Q V	.	.	.	.
12.583	24.7895	41.75	. Q V	.	.	.	.
12.667	25.0827	42.57	. Q V	.	.	.	.
12.750	25.3822	43.49	. Q V	.	.	.	.
12.833	25.6879	44.39	. Q V	.	.	.	.
12.917	26.0005	45.38	. Q V	.	.	.	.
13.000	26.3197	46.35	. Q V	.	.	.	.
13.083	26.6466	47.46	. Q V	.	.	.	.
13.167	26.9810	48.56	. Q V	.	.	.	.
13.250	27.3239	49.80	. Q V	.	.	.	.
13.333	27.6757	51.08	. Q V	.	.	.	.
13.417	28.0354	52.23	. Q V	.	.	.	.
13.500	28.4039	53.51	. Q V	.	.	.	.
13.583	28.7809	54.73	. Q V	.	.	.	.
13.667	29.1660	55.92	. Q V	.	.	.	.
13.750	29.5591	57.08	. Q V	.	.	.	.
13.833	29.9597	58.17	. Q V	.	.	.	.

13.917	30.3680	59.28	.	Q	V	.	.	.
14.000	30.7839	60.40	.	Q	V	.	.	.
14.083	31.2083	61.61	.	Q	V	.	.	.
14.167	31.6416	62.92	.	Q	V	.	.	.
14.250	32.0840	64.24	.	Q	V	.	.	.
14.333	32.5364	65.68	.	Q	.V	.	.	.
14.417	32.9993	67.23	.	Q	.V	.	.	.
14.500	33.4750	69.06	.	Q	.V	.	.	.
14.583	33.9652	71.18	.	Q	.V	.	.	.
14.667	34.4708	73.43	.	Q	.V	.	.	.
14.750	34.9937	75.92	.	Q	.V	.	.	.
14.833	35.5334	78.36	.	Q	.V	.	.	.
14.917	36.0918	81.09	.	Q	.V	.	.	.
15.000	36.6689	83.79	.	Q	.V	.	.	.
15.083	37.2669	86.84	.	Q	.V	.	.	.
15.167	37.8860	89.89	.	Q	.V	.	.	.
15.250	38.5291	93.38	.	Q.	V	.	.	.
15.333	39.1972	97.01	.	Q.	V	.	.	.
15.417	39.8866	100.11	.	Q	V	.	.	.
15.500	40.5989	103.42	.	Q	V	.	.	.
15.583	41.3334	106.66	.	Q	V	.	.	.
15.667	42.0893	109.75	.	Q	V	.	.	.
15.750	42.8665	112.86	.	.Q	V	.	.	.
15.833	43.6622	115.53	.	.Q	V	.	.	.
15.917	44.4766	118.24	.	.Q	V	.	.	.
16.000	45.3142	121.63	.	.Q	V	.	.	.
16.083	46.2634	137.82	.	.Q	V	.	.	.
16.167	47.3255	154.22	.	.	QV	.	.	.
16.250	48.4179	158.63	.	.	QV	.	.	.
16.333	49.6071	172.67	.	.	VQ	.	.	.
16.417	50.8928	186.69	.	.	VQ	.	.	.
16.500	52.4169	221.29	.	.	V	.Q	.	.
16.583	54.1727	254.95	.	.	V	.Q	.	.
16.667	56.0223	268.56	.	.	V.	.Q	.	.
16.750	58.0485	294.20	.	.	V.	.Q.	.	.
16.833	60.0220	286.56	.	.	V	.Q.	.	.
16.917	62.1699	311.87	.	.	.V	.Q	.	.
17.000	64.2750	305.66	.	.	.V	.Q	.	.
17.083	66.6282	341.69	.	.	.V	.Q	.	.
17.167	68.9462	336.57	.	.	.V	.Q	.	.
17.250	71.5308	375.28	.	.	.V	.Q	.Q	.
17.333	74.1298	377.38	.	.	.V	.Q	.Q	.
17.417	76.3864	327.66	.	.	.V	.Q	.Q	.
17.500	78.8627	359.55	.	.	.V	.Q	.Q	.
17.583	81.1152	327.07	.	.	.V	.Q	.Q	.
17.667	83.2114	304.36	.	.	.V	.Q	.Q	.
17.750	85.1423	280.37	.	.	.V	.Q	.Q	.
17.833	86.8270	244.61	.	.	.Q	.V.	.Q	.
17.917	88.4545	236.32	.	.	.Q	.V	.Q	.
18.000	89.9849	222.21	.	.	.Q	.V	.Q	.
18.083	91.3688	200.94	.	.	.Q	.V	.Q	.
18.167	92.5958	178.16	.	.	.Q	.V	.Q	.
18.250	93.7162	162.69	.	.	.Q	.V	.Q	.
18.333	94.7722	153.33	.	.	.Q	.V	.Q	.
18.417	95.7723	145.22	.	.	.Q	.V	.Q	.
18.500	96.7056	135.51	.	.	.Q	.V	.Q	.
18.583	97.5331	120.15	.	.	.Q	.V	.Q	.
18.667	98.3191	114.13	.	.	.Q	.V	.Q	.

18.750	99.0227	102.15	.	Q	.	.	V	.
18.833	99.6803	95.49	.	Q.	.	.	V	.
18.917	100.3112	91.60	.	Q.	.	.	V	.
19.000	100.9077	86.62	.	Q	.	.	V	.
19.083	101.4108	73.05	.	Q	.	.	V	.
19.167	101.8768	67.65	.	Q	.	.	V	.
19.250	102.3238	64.92	.	Q	.	.	V	.
19.333	102.7537	62.41	.	Q	.	.	V	.
19.417	103.1673	60.06	.	Q	.	.	V	.
19.500	103.5648	57.72	.	Q	.	.	V	.
19.583	103.9481	55.65	.	Q	.	.	V	.
19.667	104.3181	53.72	.	Q	.	.	V	.
19.750	104.6767	52.07	.	Q	.	.	V	.
19.833	105.0250	50.57	.	Q	.	.	V	.
19.917	105.3635	49.16	.	Q	.	.	V	.
20.000	105.6928	47.82	.	Q	.	.	V	.

 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	510.0
20%	260.0
30%	175.0
40%	135.0
50%	100.0
60%	85.0
70%	70.0
80%	50.0
90%	20.0

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END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - SINGLE AREA UH *
* ULTIMATE CONDITION - REGIONAL NODE 132C *
* 5-YR EV JULY 2016 DMALOTT *

FILE NAME: EV0532CS.DAT
TIME/DATE OF STUDY: 15:31 07/19/2016

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

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(UNIT-HYDROGRAPH ADDED TO STREAM #2)

WATERSHED AREA = 4924.400 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.986 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.406
LOW LOSS FRACTION = 0.789
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.18
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.41
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.55
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 0.92
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 1.27
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 2.12

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.788
30-MINUTE FACTOR = 0.788
1-HOUR FACTOR = 0.788
3-HOUR FACTOR = 0.968
6-HOUR FACTOR = 0.984
24-HOUR FACTOR = 0.990

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 8.452

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.483	287.619
2	1.449	575.239
3	2.632	704.860
4	4.301	993.530
5	7.218	1737.327
6	11.363	2468.400
7	16.187	2873.247
8	21.207	2989.700
9	26.667	3251.397
10	32.713	3600.828
11	39.164	3841.879
12	46.947	4634.997
13	54.052	4231.546
14	60.943	4103.863
15	67.597	3962.565
16	73.191	3331.305
17	77.756	2718.781
18	81.570	2271.200
19	85.069	2084.043
20	87.803	1627.988
21	89.864	1227.766
22	91.667	1073.936
23	93.315	981.346
24	94.618	775.664
25	95.682	633.702
26	96.472	470.617
27	97.135	394.847
28	97.788	389.004
29	98.110	191.783
30	98.269	94.344
31	98.427	94.412
32	98.586	94.408
33	98.744	94.344
34	98.902	94.276
35	99.061	94.549
36	99.219	94.276
37	99.378	94.276
38	99.536	94.276
39	99.694	94.276
40	99.853	94.276
41	100.000	87.770

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 644.1730
 TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 217.0570

24 - H O U R S T O R M
 R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
 (Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	225.0	450.0	675.0	900.0
10.000	32.0086	57.06	. Q	V	.	.	.
10.083	32.4045	57.49	. Q	V	.	.	.
10.167	32.8035	57.92	. Q	V	.	.	.
10.250	33.2054	58.36	. Q	V	.	.	.
10.333	33.6105	58.82	. Q	V	.	.	.
10.417	34.0187	59.28	. Q	V	.	.	.
10.500	34.4302	59.75	. Q	V	.	.	.
10.583	34.8450	60.23	. Q	V	.	.	.
10.667	35.2632	60.72	. Q	V	.	.	.
10.750	35.6848	61.22	. Q	V	.	.	.
10.833	36.1100	61.73	. Q	V	.	.	.
10.917	36.5387	62.26	. Q	V	.	.	.
11.000	36.9712	62.79	. Q	V	.	.	.
11.083	37.4074	63.34	. Q	V	.	.	.
11.167	37.8474	63.90	. Q	V	.	.	.
11.250	38.2915	64.47	. Q	V	.	.	.
11.333	38.7395	65.06	. Q	V	.	.	.
11.417	39.1917	65.66	. Q	V	.	.	.
11.500	39.6482	66.28	. Q	V	.	.	.
11.583	40.1089	66.91	. Q	V	.	.	.
11.667	40.5742	67.55	. Q	V	.	.	.
11.750	41.0440	68.22	. Q	V	.	.	.
11.833	41.5185	68.90	. Q	V	.	.	.
11.917	41.9978	69.60	. Q	V	.	.	.
12.000	42.4821	70.32	. Q	V	.	.	.
12.083	42.9723	71.17	. Q	V	.	.	.
12.167	43.4694	72.17	. Q	V	.	.	.
12.250	43.9738	73.25	. Q	V	.	.	.
12.333	44.4867	74.47	. Q	V	.	.	.
12.417	45.0103	76.03	. Q	V	.	.	.
12.500	45.5470	77.92	. Q	V	.	.	.
12.583	46.0980	80.01	. Q	V	.	.	.
12.667	46.6640	82.18	. Q	V	.	.	.
12.750	47.2458	84.49	. Q	V	.	.	.
12.833	47.8449	86.98	. Q	V	.	.	.
12.917	48.4620	89.61	. Q	V	.	.	.
13.000	49.0998	92.61	. Q	V	.	.	.
13.083	49.7573	95.48	. Q	V	.	.	.
13.167	50.4345	98.34	. Q	V	.	.	.
13.250	51.1314	101.18	. Q	V	.	.	.
13.333	51.8463	103.81	. Q	V	.	.	.
13.417	52.5779	106.23	. Q	V	.	.	.
13.500	53.3252	108.51	. Q	V	.	.	.
13.583	54.0881	110.76	. Q	V	.	.	.
13.667	54.8655	112.89	. Q	V	.	.	.
13.750	55.6568	114.90	. Q	V	.	.	.
13.833	56.4620	116.91	. Q	V	.	.	.

13.917	57.2812	118.95	.	Q	V	.	.	.
14.000	58.1144	120.97	.	Q	V	.	.	.
14.083	58.9633	123.26	.	Q	V	.	.	.
14.167	59.8297	125.81	.	Q	.V	.	.	.
14.250	60.7149	128.52	.	Q	.V	.	.	.
14.333	61.6210	131.58	.	Q	.V	.	.	.
14.417	62.5527	135.28	.	Q	.V	.	.	.
14.500	63.5147	139.69	.	Q	.V	.	.	.
14.583	64.5102	144.54	.	Q	.V	.	.	.
14.667	65.5406	149.61	.	Q	.V	.	.	.
14.750	66.6082	155.02	.	Q	.V	.	.	.
14.833	67.7162	160.88	.	Q	.V	.	.	.
14.917	68.8669	167.07	.	Q	.V	.	.	.
15.000	70.0660	174.12	.	Q	.V	.	.	.
15.083	71.3125	180.98	.	Q	.V	.	.	.
15.167	72.6068	187.93	.	Q	.V	.	.	.
15.250	73.9496	194.97	.	Q	.V	.	.	.
15.333	75.3389	201.72	.	Q	.V	.	.	.
15.417	76.7694	207.72	.	Q	.V	.	.	.
15.500	78.2374	213.14	.	Q	.V	.	.	.
15.583	79.7429	218.60	.	Q	.V	.	.	.
15.667	81.2835	223.69	.	Q	.V	.	.	.
15.750	82.8534	227.95	.	Q	.V	.	.	.
15.833	84.4500	231.82	.	Q	.V	.	.	.
15.917	86.0786	236.48	.	Q	.V	.	.	.
16.000	87.7701	245.61	.	Q	.V	.	.	.
16.083	89.7297	284.53	.	.	Q	.V	.	.
16.167	91.9524	322.73	.	.	.	Q	.V	.
16.250	94.3490	348.00	.	.	.	.	Q	.V
16.333	97.0607	393.73	.	.	.	.	.	Q
16.417	100.4062	485.77	.	.	.	.	.	.
16.500	104.3471	572.22	.	.	.	.	.	.
16.583	108.6226	620.81	.	.	.	.	.	.
16.667	113.0422	641.72	.	.	.	.	.	.
16.750	117.7109	677.90	.	.	.	.	.	.
16.833	122.6863	722.42	.	.	.	.	.	.
16.917	127.9147	759.17	.	.	.	.	.	.
17.000	133.6637	834.75	.	.	.	.	.	.
17.083	139.1064	790.28	.	.	.	.	.	.
17.167	144.3995	768.57	.	.	.	.	.	.
17.250	149.4813	737.87	.	.	.	.	.	.
17.333	154.0119	657.84	.	.	.	.	.	.
17.417	158.0044	579.71	.	.	.	.	.	.
17.500	161.5895	520.56	.	.	.	.	.	.
17.583	164.9291	484.91	.	.	.	.	.	.
17.667	167.8419	422.94	.	.	.	.	.	.
17.750	170.3857	369.36	.	.	.	.	.	.
17.833	172.7370	341.41	.	.	.	.	.	.
17.917	174.9341	319.03	.	.	.	.	.	.
18.000	176.8994	285.36	.	.	.	.	.	.
18.083	178.6764	258.02	.	.	.	.	.	.
18.167	180.2619	230.21	.	.	.	.	.	.
18.250	181.7247	212.40	.	.	.	.	.	.
18.333	183.1042	200.30	.	.	.	.	.	.
18.417	184.2813	170.92	.	.	.	.	.	.
18.500	185.3357	153.10	.	.	.	.	.	.
18.583	186.3399	145.81	.	.	.	.	.	.
18.667	187.3010	139.55	.	.	.	.	.	.

18.750	188.2212	133.61	.	Q	.	.	.	V	.
18.833	189.1025	127.96	.	Q	.	.	.	V	.
18.917	189.9466	122.57	.	Q	.	.	.	V	.
19.000	190.7536	117.18	.	Q	.	.	.	V	.
19.083	191.5269	112.27	.	Q	.	.	.	V	.
19.167	192.2681	107.63	.	Q	.	.	.	V	.
19.250	192.9788	103.20	.	Q	.	.	.	V	.
19.333	193.6600	98.91	.	Q	.	.	.	V	.
19.417	194.3048	93.63	.	Q	.	.	.	V	.
19.500	194.8668	81.61	.	Q	.	.	.	V	.
19.583	195.4086	78.66	.	Q	.	.	.	V	.
19.667	195.9335	76.21	.	Q	.	.	.	V	.
19.750	196.4437	74.09	.	Q	.	.	.	V	.
19.833	196.9396	72.00	.	Q	.	.	.	V	.
19.917	197.4221	70.05	.	Q	.	.	.	V	.
20.000	197.8923	68.28	.	Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	405.0
20%	215.0
30%	125.0
40%	100.0
50%	80.0
60%	65.0
70%	50.0
80%	35.0
90%	20.0

END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - SINGLE AREA UH *
* ULTIMATE CONDITION - REGIONAL NODE 132C *
* 10-YR EV JULY 2016 DMALOTT *

FILE NAME: EV1032CS.DAT
TIME/DATE OF STUDY: 15:23 07/19/2016

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

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(UNIT-HYDROGRAPH ADDED TO STREAM #2)

WATERSHED AREA = 4924.400 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.938 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244
LOW LOSS FRACTION = 0.727
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.26
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.59
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.78
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.31
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 1.81
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 3.03

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.788
30-MINUTE FACTOR = 0.788
1-HOUR FACTOR = 0.788
3-HOUR FACTOR = 0.968
6-HOUR FACTOR = 0.984
24-HOUR FACTOR = 0.990

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 8.884

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.508	302.338
2	1.523	604.819
3	2.819	771.800
4	4.716	1129.648
5	8.114	2023.451
6	12.597	2670.161
7	17.853	3130.103
8	23.366	3283.224
9	29.066	3394.346
10	35.795	4007.575
11	43.214	4418.483
12	51.431	4893.746
13	58.237	4053.149
14	65.724	4458.599
15	71.827	3634.834
16	76.932	3039.875
17	80.977	2408.986
18	84.732	2236.623
19	87.674	1751.966
20	89.859	1301.150
21	91.751	1126.819
22	93.468	1022.475
23	94.780	781.630
24	95.870	649.332
25	96.640	458.377
26	97.337	415.035
27	97.954	367.513
28	98.175	131.320
29	98.341	99.306
30	98.508	99.115
31	98.674	99.242
32	98.841	99.111
33	99.008	99.374
34	99.174	99.111
35	99.341	99.111
36	99.507	99.111
37	99.673	99.111
38	99.840	99.111
39	100.000	95.385

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 799.0910
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 431.7545

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2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

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HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	475.0	950.0	1425.0	1900.0
10.000	59.9062	106.38	. Q	V	.	.	.
10.083	60.6442	107.17	. Q	V	.	.	.
10.167	61.3879	107.98	. Q	V	.	.	.
10.250	62.1373	108.81	. Q	V	.	.	.
10.333	62.8925	109.66	. Q	V	.	.	.
10.417	63.6536	110.51	. Q	V	.	.	.
10.500	64.4208	111.40	. Q	V	.	.	.
10.583	65.1942	112.29	. Q	V	.	.	.
10.667	65.9740	113.22	. Q	V	.	.	.
10.750	66.7601	114.15	. Q	V	.	.	.
10.833	67.5529	115.11	. Q	V	.	.	.
10.917	68.3524	116.09	. Q	V	.	.	.
11.000	69.1589	117.10	. Q	V	.	.	.
11.083	69.9723	118.12	. Q	V	.	.	.
11.167	70.7931	119.17	. Q	V	.	.	.
11.250	71.6212	120.24	. Q	V	.	.	.
11.333	72.4569	121.34	. Q	V	.	.	.
11.417	73.3003	122.46	. Q	V	.	.	.
11.500	74.1517	123.63	. Q	V	.	.	.
11.583	75.0112	124.80	. Q	V	.	.	.
11.667	75.8791	126.02	. Q	V	.	.	.
11.750	76.7556	127.26	. Q	V	.	.	.
11.833	77.6409	128.54	. Q	V	.	.	.
11.917	78.5351	129.85	. Q	V	.	.	.
12.000	79.4387	131.20	. Q	V	.	.	.
12.083	80.3534	132.81	. Q	V	.	.	.
12.167	81.2812	134.71	. Q	V	.	.	.
12.250	82.2230	136.76	. Q	V	.	.	.
12.333	83.1813	139.15	. Q	V	.	.	.
12.417	84.1610	142.25	. Q	V	.	.	.
12.500	85.1659	145.91	. Q	V	.	.	.
12.583	86.1988	149.97	. Q	V	.	.	.
12.667	87.2609	154.22	. Q	V	.	.	.
12.750	88.3532	158.60	. Q	V	.	.	.
12.833	89.4795	163.54	. Q	V	.	.	.
12.917	90.6423	168.83	. Q	V	.	.	.
13.000	91.8447	174.59	. Q	V	.	.	.
13.083	93.0827	179.76	. Q	V	.	.	.
13.167	94.3591	185.34	. Q	V	.	.	.
13.250	95.6701	190.35	. Q	V	.	.	.
13.333	97.0132	195.01	. Q	V	.	.	.
13.417	98.3855	199.26	. Q	V	.	.	.
13.500	99.7870	203.50	. Q	V	.	.	.
13.583	101.2156	207.43	. Q	V	.	.	.
13.667	102.6698	211.16	. Q	V	.	.	.
13.750	104.1493	214.83	. Q	V	.	.	.
13.833	105.6546	218.57	. Q	V	.	.	.

13.917	107.1851	222.22	.	Q	V.	.	.	.	.
14.000	108.7411	225.93	.	Q	V	.	.	.	.
14.083	110.3258	230.10	.	Q	V	.	.	.	.
14.167	111.9436	234.91	.	Q	V	.	.	.	.
14.250	113.5971	240.08	.	Q	V	.	.	.	.
14.333	115.2903	245.86	.	Q	V	.	.	.	.
14.417	117.0341	253.20	.	Q	V	.	.	.	.
14.500	118.8372	261.81	.	Q	.V	.	.	.	.
14.583	120.7058	271.32	.	Q	.V	.	.	.	.
14.667	122.6434	281.34	.	Q	.V	.	.	.	.
14.750	124.6524	291.71	.	Q	.V	.	.	.	.
14.833	126.7418	303.37	.	Q	.V	.	.	.	.
14.917	128.9177	315.95	.	Q	.V	.	.	.	.
15.000	131.1888	329.77	.	Q	.V	.	.	.	.
15.083	133.5501	342.86	.	Q	.V	.	.	.	.
15.167	136.0122	357.49	.	Q	.V	.	.	.	.
15.250	138.5736	371.92	.	Q	.V	.	.	.	.
15.333	141.2393	387.06	.	Q	.V	.	.	.	.
15.417	144.0016	401.09	.	Q	.V	.	.	.	.
15.500	146.8601	415.04	.	Q	.V	.	.	.	.
15.583	149.8191	429.64	.	Q	.V	.	.	.	.
15.667	152.8751	443.74	.	Q	.V	.	.	.	.
15.750	156.0183	456.39	.	Q	.V	.	.	.	.
15.833	159.2609	470.82	.	Q	.V	.	.	.	.
15.917	162.6442	491.26	.	Q	.V	.	.	.	.
16.000	166.2754	527.25	.	.Q	V	.	.	.	.
16.083	170.5463	620.13	.	.	Q V	.	.	.	.
16.167	175.5017	719.53	.	.	QV	.	.	.	.
16.250	181.0869	810.97	.	.	VQ	.	.	.	.
16.333	187.5749	942.06	.	.	V Q.	.	.	.	.
16.417	195.5287	1154.89	.	.	V .	Q	.	.	.
16.500	204.6004	1317.22	.	.	V .	Q	.	.	.
16.583	214.4725	1433.43	.	.	V.	Q	.	.	.
16.667	224.8264	1503.39	.	.	V	.Q	.	.	.
16.750	235.6517	1571.83	.	.	.V	Q	.	.	.
16.833	247.4462	1712.55	.	.	.V	Q	.	.	.
16.917	259.8239	1797.25	.	.	.V	Q	.	.	.
17.000	272.5439	1846.95	.	.	.V	Q	.	.	.
17.083	284.1719	1688.38	.	.	.V	Q	.	.	.
17.167	295.7141	1675.93	.	.	.V	Q	.	.	.
17.250	305.9140	1481.03	.	.	.V	.Q	.	.	.
17.333	314.9560	1312.89	.	.	.Q	V.	.	.	.
17.417	322.8535	1146.72	.	.	.Q	V.	.	.	.
17.500	330.1093	1053.54	.	.	.Q	V	.	.	.
17.583	336.4246	916.99	.	.	.Q	.V	.	.	.
17.667	341.8996	794.96	.	.	.Q	.V	.	.	.
17.750	346.8590	720.12	.	.	.Q	.V	.	.	.
17.833	351.4143	661.42	.	.	.Q	.V	.	.	.
17.917	355.4395	584.46	.	.	.Q	.V	.	.	.
18.000	359.0372	522.40	.	.	.Q	.V	.	.	.
18.083	362.2090	460.54	.	.	.Q	.V	.	.	.
18.167	365.1139	421.79	.	.	.Q	.V	.	.	.
18.250	367.7548	383.46	.	.	.Q	.V	.	.	.
18.333	369.9863	324.02	.	.	.Q	.V	.	.	.
18.417	372.0447	298.88	.	.	.Q	.V	.	.	.
18.500	373.9992	283.80	.	.	.Q	.V	.	.	.
18.583	375.8662	271.09	.	.	.Q	.V	.	.	.
18.667	377.6494	258.92	.	.	.Q	.V	.	.	.

18.750	379.3564	247.84	.	Q	.	.	.	V	.
18.833	380.9901	237.22	.	Q	.	.	.	V	.
18.917	382.5555	227.30	.	Q	.	.	.	V	.
19.000	384.0482	216.73	.	Q	.	.	.	V	.
19.083	385.4737	206.99	.	Q	.	.	.	V	.
19.167	386.8217	195.72	.	Q	.	.	.	V	.
19.250	388.0829	183.13	.	Q	.	.	.	V	.
19.333	389.1844	159.94	.	Q	.	.	.	V	.
19.417	390.2353	152.59	.	Q	.	.	.	V	.
19.500	391.2496	147.27	.	Q	.	.	.	V	.
19.583	392.2328	142.76	.	Q	.	.	.	V	.
19.667	393.1843	138.15	.	Q	.	.	.	V	.
19.750	394.1074	134.04	.	Q	.	.	.	V	.
19.833	395.0050	130.32	.	Q	.	.	.	V	.
19.917	395.8798	127.02	.	Q	.	.	.	V	.
20.000	396.7336	123.97	.	Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	365.0
20%	185.0
30%	115.0
40%	90.0
50%	75.0
60%	65.0
70%	55.0
80%	40.0
90%	25.0

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END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - SINGLE AREA UH *
* ULTIMATE CONDITION - REGIONAL NODE 132C *
* 25-YR EV JULY 2016 DMALOTT *

FILE NAME: EV2532CS.DAT
TIME/DATE OF STUDY: 15:28 07/19/2016

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

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(UNIT-HYDROGRAPH ADDED TO STREAM #2)

WATERSHED AREA = 4924.400 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.856 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244
LOW LOSS FRACTION = 0.567
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.34
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.72
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.95
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.59
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.20
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 3.68

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.788
30-MINUTE FACTOR = 0.788
1-HOUR FACTOR = 0.788
3-HOUR FACTOR = 0.968
6-HOUR FACTOR = 0.984
24-HOUR FACTOR = 0.990

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 9.735

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.556	331.300
2	1.681	669.681
3	3.190	898.530
4	5.694	1491.595
5	9.996	2562.006
6	15.343	3184.527
7	21.165	3467.137
8	27.440	3736.834
9	34.550	4234.553
10	42.448	4703.686
11	51.437	5353.104
12	59.048	4532.599
13	66.996	4733.692
14	73.451	3844.114
15	78.519	3018.107
16	82.874	2593.681
17	86.545	2186.207
18	89.201	1581.784
19	91.334	1270.321
20	93.252	1141.972
21	94.739	886.011
22	95.921	703.742
23	96.748	492.799
24	97.512	454.687
25	98.060	326.543
26	98.248	112.074
27	98.431	108.729
28	98.613	108.666
29	98.796	108.729
30	98.978	108.607
31	99.161	108.966
32	99.344	108.607
33	99.526	108.607
34	99.708	108.607
35	99.891	108.607
36	100.000	65.051

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 762.7112
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 732.0699

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)

(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	675.0	1350.0	2025.0	2700.0
10.000	116.7064	206.21	. Q	V	.	.	.
10.083	118.1374	207.78	. Q	V	.	.	.
10.167	119.5793	209.37	. Q	V	.	.	.
10.250	121.0325	211.00	. Q	V	.	.	.
10.333	122.4971	212.65	. Q	V	.	.	.
10.417	123.9734	214.36	. Q	V	.	.	.
10.500	125.4615	216.08	. Q	V	.	.	.
10.583	126.9619	217.86	. Q	V	.	.	.
10.667	128.4746	219.65	. Q	V	.	.	.
10.750	130.0002	221.51	. Q	V	.	.	.
10.833	131.5386	223.38	. Q	V	.	.	.
10.917	133.0904	225.32	. Q	V	.	.	.
11.000	134.6557	227.28	. Q	V	.	.	.
11.083	136.2349	229.31	. Q	V	.	.	.
11.167	137.8283	231.36	. Q	V	.	.	.
11.250	139.4364	233.49	. Q	V	.	.	.
11.333	141.0593	235.65	. Q	V	.	.	.
11.417	142.6976	237.88	. Q	V	.	.	.
11.500	144.3515	240.14	. Q	V	.	.	.
11.583	146.0215	242.49	. Q	V	.	.	.
11.667	147.7079	244.87	. Q	V	.	.	.
11.750	149.4113	247.34	. Q	V	.	.	.
11.833	151.1320	249.85	. Q	V	.	.	.
11.917	152.8707	252.45	. Q	V	.	.	.
12.000	154.6276	255.10	. Q	V	.	.	.
12.083	156.4069	258.35	. Q	V	.	.	.
12.167	158.2124	262.17	. Q	V	.	.	.
12.250	160.0475	266.45	. Q	V	.	.	.
12.333	161.9185	271.68	. Q	V	.	.	.
12.417	163.8377	278.66	. Q	V	.	.	.
12.500	165.8119	286.65	. Q	V	.	.	.
12.583	167.8451	295.22	. Q	V	.	.	.
12.667	169.9407	304.28	. Q	V	.	.	.
12.750	172.1050	314.26	. Q	V	.	.	.
12.833	174.3436	325.04	. Q	V	.	.	.
12.917	176.6645	336.99	. Q	V	.	.	.
13.000	179.0598	347.80	. Q	V	.	.	.
13.083	181.5330	359.11	. Q	V	.	.	.
13.167	184.0757	369.20	. Q	V	.	.	.
13.250	186.6807	378.25	. Q	V	.	.	.
13.333	189.3445	386.78	. Q	V	.	.	.
13.417	192.0644	394.93	. Q	V	.	.	.
13.500	194.8351	402.30	. Q	V	.	.	.
13.583	197.6551	409.46	. Q	V	.	.	.
13.667	200.5240	416.57	. Q	V	.	.	.
13.750	203.4413	423.59	. Q	.V	.	.	.
13.833	206.4062	430.50	. Q	.V	.	.	.

13.917	209.4187	437.42	. Q	.V	.	.	.
14.000	212.4798	444.48	. Q	.V	.	.	.
14.083	215.5977	452.71	. Q	.V	.	.	.
14.167	218.7786	461.87	. Q	.V	.	.	.
14.250	222.0303	472.13	. Q	.V	.	.	.
14.333	225.3666	484.44	. Q	.V	.	.	.
14.417	228.8132	500.44	. Q	.V	.	.	.
14.500	232.3848	518.60	. Q	.V	.	.	.
14.583	236.0909	538.12	. Q	.V	.	.	.
14.667	239.9392	558.77	. Q	.V	.	.	.
14.750	243.9441	581.51	. Q	.V	.	.	.
14.833	248.1180	606.04	. Q	.V	.	.	.
14.917	252.4789	633.21	. Q	.V	.	.	.
15.000	257.0127	658.30	. Q	.V	.	.	.
15.083	261.7284	684.73	. Q	.V	.	.	.
15.167	266.6129	709.23	. Q	.V	.	.	.
15.250	271.6595	732.76	. Q	.V	.	.	.
15.333	276.8693	756.46	. .Q	.V	.	.	.
15.417	282.2281	778.10	. .Q	.V	.	.	.
15.500	287.7192	797.31	. .Q	.V	.	.	.
15.583	293.3472	817.19	. .Q	.V	.	.	.
15.667	299.0958	834.69	. .Q	.V	.	.	.
15.750	304.9315	847.34	. .Q	.V	.	.	.
15.833	310.8583	860.58	. .Q	.V	.	.	.
15.917	316.9466	884.02	. .Q	.V	.	.	.
16.000	323.3335	927.39	. .Q	.V	.	.	.
16.083	330.5617	1049.53	. .Q	.V	.	.	.
16.167	338.7055	1182.48	. .QV	.	.	.	.
16.250	347.7397	1311.76	. .Q	.	.	.	.
16.333	358.3228	1536.67	. .V	.Q	.	.	.
16.417	371.0200	1843.63	. .V	.Q	.	.	.
16.500	385.0994	2044.33	. .V	.Q	.	.	.
16.583	400.0253	2167.24	. .V	.Q	.	.	.
16.667	415.7552	2283.99	. .V	.Q	.	.	.
16.750	432.6277	2449.89	. .V	.Q	.	.	.
16.833	450.4196	2583.37	. .V	.Q	.	.	.
16.917	468.9674	2693.15	. .V	.Q	.	.	.
17.000	486.0839	2485.31	. .V	.Q	.	.	.
17.083	502.8346	2432.20	. .V	.Q	.	.	.
17.167	517.6788	2155.38	. .V	.Q	.	.	.
17.250	530.7520	1898.24	. .V	.Q	.	.	.
17.333	542.5989	1720.17	. .Q	.V	.	.	.
17.417	553.2944	1552.99	. .Q	.V	.	.	.
17.500	562.6240	1354.65	. .Q	.V	.	.	.
17.583	571.0385	1221.80	. .Q	.V	.	.	.
17.667	578.8353	1132.09	. .Q	.V	.	.	.
17.750	585.8581	1019.72	. .Q	.V	.	.	.
17.833	592.2009	920.98	. .Q	.V	.	.	.
17.917	597.8663	822.62	. .Q	.V	.	.	.
18.000	603.1239	763.40	. .Q	.V	.	.	.
18.083	607.8580	687.39	. .Q	.V	.	.	.
18.167	612.0210	604.47	. .Q	.V	.	.	.
18.250	615.9568	571.48	. .Q	.V	.	.	.
18.333	619.7154	545.75	. .Q	.V	.	.	.
18.417	623.3060	521.35	. .Q	.V	.	.	.
18.500	626.7321	497.46	. .Q	.V	.	.	.
18.583	630.0083	475.71	. .Q	.V	.	.	.
18.667	633.1396	454.67	. .Q	.V	.	.	.

18.750	636.1282	433.95	.	Q	.	.	.	V	.
18.833	638.9704	412.68	.	Q	.	.	.	V	.
18.917	641.6526	389.47	.	Q	.	.	.	V	.
19.000	644.1246	358.93	.	Q	.	.	.	V	.
19.083	646.3752	326.79	.	Q	.	.	.	V	.
19.167	648.5229	311.84	.	Q	.	.	.	V	.
19.250	650.5886	299.94	.	Q	.	.	.	V	.
19.333	652.5788	288.97	.	Q	.	.	.	V	.
19.417	654.4976	278.61	.	Q	.	.	.	V	.
19.500	656.3555	269.76	.	Q	.	.	.	V	.
19.583	658.1587	261.83	.	Q	.	.	.	V	.
19.667	659.9110	254.43	.	Q	.	.	.	V	.
19.750	661.6171	247.73	.	Q	.	.	.	V	.
19.833	663.2809	241.58	.	Q	.	.	.	V	.
19.917	664.9062	236.00	.	Q	.	.	.	V	.
20.000	666.4960	230.84	.	Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	435.0
20%	225.0
30%	145.0
40%	95.0
50%	75.0
60%	60.0
70%	50.0
80%	40.0
90%	25.0

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END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - SINGLE AREA UH *
* ULTIMATE CONDITION - REGIONAL NODE 132C *
* 50-YR EV JULY 2016 DMALOTT *

FILE NAME: EV5032CS.DAT
TIME/DATE OF STUDY: 15:25 07/19/2016

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

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(UNIT-HYDROGRAPH ADDED TO STREAM #2)

WATERSHED AREA = 4924.400 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.821 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244
LOW LOSS FRACTION = 0.538
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.37
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.80
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 1.06
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.78
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.47
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 4.12

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.788
30-MINUTE FACTOR = 0.788
1-HOUR FACTOR = 0.788
3-HOUR FACTOR = 0.968
6-HOUR FACTOR = 0.984
24-HOUR FACTOR = 0.990

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 10.150

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.580	345.423
2	1.763	704.566
3	3.385	965.815
4	6.233	1696.091
5	10.947	2807.365
6	16.695	3423.111
7	22.920	3707.788
8	29.521	3930.894
9	37.286	4624.335
10	46.219	5319.988
11	54.738	5073.336
12	63.175	5024.953
13	70.521	4374.467
14	76.573	3604.496
15	81.238	2778.116
16	85.407	2483.066
17	88.495	1839.204
18	90.815	1381.282
19	92.862	1219.414
20	94.528	992.055
21	95.788	750.029
22	96.685	534.246
23	97.481	474.138
24	98.059	344.417
25	98.257	117.576
26	98.447	113.337
27	98.637	113.450
28	98.828	113.332
29	99.018	113.223
30	99.208	113.223
31	99.398	113.223
32	99.588	113.223
33	99.778	113.223
34	99.968	113.223
35	100.000	18.833

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 803.6531
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 869.8262

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)

(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	800.0	1600.0	2400.0	3200.0
10.000	139.5128	246.21	. Q	V	.	.	.
10.083	141.2214	248.09	. Q	V	.	.	.
10.167	142.9432	250.01	. Q	V	.	.	.
10.250	144.6785	251.96	. Q	V	.	.	.
10.333	146.4276	253.97	. Q	V	.	.	.
10.417	148.1906	256.00	. Q	V	.	.	.
10.500	149.9681	258.09	. Q	V	.	.	.
10.583	151.7602	260.21	. Q	V	.	.	.
10.667	153.5673	262.39	. Q	V	.	.	.
10.750	155.3897	264.61	. Q	V	.	.	.
10.833	157.2278	266.89	. Q	V	.	.	.
10.917	159.0818	269.21	. Q	V	.	.	.
11.000	160.9523	271.59	. Q	V	.	.	.
11.083	162.8395	274.02	. Q	V	.	.	.
11.167	164.7439	276.51	. Q	V	.	.	.
11.250	166.6658	279.06	. Q	V	.	.	.
11.333	168.6057	281.68	. Q	V	.	.	.
11.417	170.5640	284.35	. Q	V	.	.	.
11.500	172.5413	287.10	. Q	V	.	.	.
11.583	174.5380	289.91	. Q	V	.	.	.
11.667	176.5546	292.81	. Q	V	.	.	.
11.750	178.5916	295.77	. Q	V	.	.	.
11.833	180.6496	298.82	. Q	V	.	.	.
11.917	182.7291	301.94	. Q	V	.	.	.
12.000	184.8308	305.17	. Q	V	.	.	.
12.083	186.9597	309.13	. Q	V	.	.	.
12.167	189.1215	313.88	. Q	V	.	.	.
12.250	191.3200	319.23	. Q	V	.	.	.
12.333	193.5658	326.09	. Q	V	.	.	.
12.417	195.8742	335.18	. Q	V	.	.	.
12.500	198.2543	345.59	. Q	V	.	.	.
12.583	200.7107	356.67	. Q	V	.	.	.
12.667	203.2474	368.33	. Q	V	.	.	.
12.750	205.8745	381.46	. Q	V	.	.	.
12.833	208.6024	396.09	. Q	V	.	.	.
12.917	211.4290	410.41	. Q	V	.	.	.
13.000	214.3549	424.85	. Q	V	.	.	.
13.083	217.3729	438.21	. Q	V	.	.	.
13.167	220.4743	450.32	. Q	V	.	.	.
13.250	223.6494	461.03	. Q	V	.	.	.
13.333	226.8961	471.42	. Q	V	.	.	.
13.417	230.2072	480.77	. Q	V	.	.	.
13.500	233.5785	489.51	. Q	V	.	.	.
13.583	237.0092	498.15	. Q	V	.	.	.
13.667	240.4985	506.64	. Q	.V	.	.	.
13.750	244.0448	514.92	. Q	.V	.	.	.
13.833	247.6474	523.10	. Q	.V	.	.	.

13.917	251.3076	531.46	. Q	.V	.	.	.
14.000	255.0261	539.93	. Q	.V	.	.	.
14.083	258.8108	549.53	. Q	.V	.	.	.
14.167	262.6732	560.82	. Q	.V	.	.	.
14.250	266.6223	573.41	. Q	.V	.	.	.
14.333	270.6793	589.08	. Q	.V	.	.	.
14.417	274.8744	609.13	. Q	.V	.	.	.
14.500	279.2262	631.88	. Q	.V	.	.	.
14.583	283.7448	656.10	. Q	.V	.	.	.
14.667	288.4395	681.68	. Q	.V	.	.	.
14.750	293.3311	710.26	. Q	.V	.	.	.
14.833	298.4411	741.98	. Q	.V	.	.	.
14.917	303.7670	773.32	. Q	.V	.	.	.
15.000	309.3139	805.42	. Q	V	.	.	.
15.083	315.0744	836.42	. Q	V	.	.	.
15.167	321.0409	866.33	. Q	V	.	.	.
15.250	327.2085	895.54	. .Q	V	.	.	.
15.333	333.5912	926.77	. .Q	V	.	.	.
15.417	340.1692	955.12	. .Q	V	.	.	.
15.500	346.9292	981.56	. .Q	V	.	.	.
15.583	353.8773	1008.87	. .Q	V	.	.	.
15.667	360.9828	1031.72	. .Q	V	.	.	.
15.750	368.2032	1048.40	. .Q	V	.	.	.
15.833	375.5505	1066.82	. .Q	V	.	.	.
15.917	383.1097	1097.60	. .Q	V	.	.	.
16.000	391.0563	1153.85	. .Q	V	.	.	.
16.083	399.9898	1297.14	. .Q	V	.	.	.
16.167	410.0115	1455.15	. .Q	.	.	.	.
16.250	421.1897	1623.08	. .VQ	.	.	.	.
16.333	434.3109	1905.19	. .V	.Q	.	.	.
16.417	449.8767	2260.17	. .V	.Q	.	.	.
16.500	467.0224	2489.55	. .V	.Q	.	.	.
16.583	485.1437	2631.22	. .V	.Q	.	.	.
16.667	504.1861	2764.95	. .V	.Q	.	.	.
16.750	524.7488	2985.71	. .V	.Q	.	.	.
16.833	546.4779	3155.07	. .V	.Q	.	.	.
16.917	567.6077	3068.05	. .V	.Q	.	.	.
17.000	588.0260	2964.74	. .V	.Q	.	.	.
17.083	606.6608	2705.77	. .V	.Q	.	.	.
17.167	623.3058	2416.85	. .V	.Q	.	.	.
17.250	637.9421	2125.20	. .V	.Q	.	.	.
17.333	651.3724	1950.08	. .V	.Q	.	.	.
17.417	663.1564	1711.03	. .V	.Q	.	.	.
17.500	673.6295	1520.69	. .V	.Q	.	.	.
17.583	683.2654	1399.14	. .V	.Q	.	.	.
17.667	692.0244	1271.80	. .V	.Q	.	.	.
17.750	699.8815	1140.86	. .V	.Q	.	.	.
17.833	706.9141	1021.12	. .V	.Q	.	.	.
17.917	713.3902	940.34	. .V	.Q	.	.	.
18.000	719.2393	849.28	. .V	.Q	.	.	.
18.083	724.3970	748.91	. .V	.Q	.	.	.
18.167	729.2541	705.25	. .V	.Q	.	.	.
18.250	733.8919	673.41	. .V	.Q	.	.	.
18.333	738.3231	643.41	. .V	.Q	.	.	.
18.417	742.5458	613.13	. .V	.Q	.	.	.
18.500	746.5769	585.32	. .V	.Q	.	.	.
18.583	750.4222	558.34	. .V	.Q	.	.	.
18.667	754.0887	532.37	. .V	.Q	.	.	.

18.750	757.5652	504.80	.	Q	.	.	.	V	.
18.833	760.8341	474.64	.	Q	.	.	.	V	.
18.917	763.7784	427.50	.	Q	.	.	.	V	.
19.000	766.5316	399.76	.	Q	.	.	.	V	.
19.083	769.1556	381.02	.	Q	.	.	.	V	.
19.167	771.6710	365.24	.	Q	.	.	.	V	.
19.250	774.0864	350.71	.	Q	.	.	.	V	.
19.333	776.4095	337.31	.	Q	.	.	.	V	.
19.417	778.6536	325.85	.	Q	.	.	.	V	.
19.500	780.8289	315.85	.	Q	.	.	.	V	.
19.583	782.9404	306.59	.	Q	.	.	.	V	.
19.667	784.9938	298.15	.	Q	.	.	.	V	.
19.750	786.9945	290.51	.	Q	.	.	.	V	.
19.833	788.9475	283.58	.	Q	.	.	.	V	.
19.917	790.8579	277.39	.	Q	.	.	.	V	.
20.000	792.7296	271.77	.	Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	440.0
20%	235.0
30%	150.0
40%	100.0
50%	75.0
60%	65.0
70%	50.0
80%	35.0
90%	20.0

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END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - SINGLE AREA UH *
* ULTIMATE CONDITION - REGIONAL NODE 132C *
* 100-YR EV JULY 2016 DMALOTT *

FILE NAME: EV0032CS.DAT
TIME/DATE OF STUDY: 08:43 08/30/2018

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

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(UNIT-HYDROGRAPH ADDED TO STREAM #2)

WATERSHED AREA = 4924.400 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.795 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244
LOW LOSS FRACTION = 0.515
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.40
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.87
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 1.15
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.94
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.71
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 4.49

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.788
30-MINUTE FACTOR = 0.788
1-HOUR FACTOR = 0.788
3-HOUR FACTOR = 0.968
6-HOUR FACTOR = 0.984
24-HOUR FACTOR = 0.990

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 10.482

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.599	356.720
2	1.831	733.770
3	3.556	1027.088
4	6.695	1869.576
5	11.711	2987.196
6	17.780	3614.240
7	24.320	3895.169
8	31.406	4219.920
9	39.536	4841.828
10	49.118	5706.248
11	57.463	4970.213
12	66.163	5181.218
13	73.208	4195.692
14	78.677	3256.871
15	83.329	2770.256
16	87.117	2255.902
17	89.790	1591.898
18	92.011	1323.059
19	93.944	1150.833
20	95.353	839.020
21	96.422	637.114
22	97.244	489.587
23	97.961	426.666
24	98.212	149.804
25	98.409	117.181
26	98.605	116.849
27	98.802	117.181
28	98.999	116.958
29	99.195	117.072
30	99.392	116.958
31	99.588	116.958
32	99.784	116.958
33	99.981	116.958
34	100.000	11.500

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 831.9361
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 991.8080

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)

(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	925.0	1850.0	2775.0	3700.0
10.000	158.4725	279.83	. Q	V	.	.	.
10.083	160.4145	281.98	. Q	V	.	.	.
10.167	162.3718	284.20	. Q	V	.	.	.
10.250	164.3446	286.44	. Q	V	.	.	.
10.333	166.3332	288.75	. Q	V	.	.	.
10.417	168.3379	291.09	. Q	V	.	.	.
10.500	170.3592	293.49	. Q	V	.	.	.
10.583	172.3973	295.93	. Q	V	.	.	.
10.667	174.4527	298.44	. Q	V	.	.	.
10.750	176.5257	300.99	. Q	V	.	.	.
10.833	178.6167	303.62	. Q	V	.	.	.
10.917	180.7261	306.28	. Q	V	.	.	.
11.000	182.8544	309.03	. Q	V	.	.	.
11.083	185.0020	311.82	. Q	V	.	.	.
11.167	187.1694	314.70	. Q	V	.	.	.
11.250	189.3569	317.63	. Q	V	.	.	.
11.333	191.5653	320.66	. Q	V	.	.	.
11.417	193.7948	323.73	. Q	V	.	.	.
11.500	196.0462	326.91	. Q	V	.	.	.
11.583	198.3199	330.14	. Q	V	.	.	.
11.667	200.6167	333.49	. Q	V	.	.	.
11.750	202.9369	336.89	. Q	V	.	.	.
11.833	205.2814	340.42	. Q	V	.	.	.
11.917	207.6506	344.02	. Q	V	.	.	.
12.000	210.0456	347.74	. Q	V	.	.	.
12.083	212.4727	352.42	. Q	V	.	.	.
12.167	214.9395	358.17	. Q	V	.	.	.
12.250	217.4514	364.73	. Q	V	.	.	.
12.333	220.0239	373.53	. Q	V	.	.	.
12.417	222.6767	385.18	. Q	V	.	.	.
12.500	225.4215	398.55	. Q	V	.	.	.
12.583	228.2641	412.75	. Q	V	.	.	.
12.667	231.2115	427.95	. Q	V	.	.	.
12.750	234.2751	444.83	. Q	V	.	.	.
12.833	237.4711	464.07	. Q	V	.	.	.
12.917	240.7884	481.66	. Q	V	.	.	.
13.000	244.2322	500.04	. Q	V	.	.	.
13.083	247.7870	516.17	. Q	V	.	.	.
13.167	251.4390	530.27	. Q	V	.	.	.
13.250	255.1811	543.35	. Q	V	.	.	.
13.333	259.0067	555.48	. Q	V	.	.	.
13.417	262.9059	566.17	. Q	V	.	.	.
13.500	266.8765	576.52	. Q	V	.	.	.
13.583	270.9170	586.68	. Q	V	.	.	.
13.667	275.0246	596.43	. Q	.V	.	.	.
13.750	279.1978	605.94	. Q	.V	.	.	.
13.833	283.4366	615.49	. Q	.V	.	.	.

13.917	287.7422	625.18	. Q	.V	.	.	.
14.000	292.1131	634.64	. Q	.V	.	.	.
14.083	296.5606	645.78	. Q	.V	.	.	.
14.167	301.0987	658.93	. Q	.V	.	.	.
14.250	305.7380	673.63	. Q	.V	.	.	.
14.333	310.5055	692.24	. Q	.V	.	.	.
14.417	315.4345	715.69	. Q	.V	.	.	.
14.500	320.5464	742.24	. Q	.V	.	.	.
14.583	325.8519	770.36	. Q	.V	.	.	.
14.667	331.3647	800.47	. Q	.V	.	.	.
14.750	337.1061	833.64	. Q	.V	.	.	.
14.833	343.1045	870.97	. Q	.V	.	.	.
14.917	349.3470	906.40	. Q	.V	.	.	.
15.000	355.8503	944.28	. Q	.V	.	.	.
15.083	362.6009	980.20	. Q	.V	.	.	.
15.167	369.5929	1015.23	. Q	.V	.	.	.
15.250	376.8350	1051.56	. Q	.V	.	.	.
15.333	384.3411	1089.88	. Q	.V	.	.	.
15.417	392.0867	1124.66	. Q	.V	.	.	.
15.500	400.0628	1158.13	. Q	.V	.	.	.
15.583	408.2728	1192.09	. Q	.V	.	.	.
15.667	416.6679	1218.97	. Q	.V	.	.	.
15.750	425.1917	1237.65	. Q	.V	.	.	.
15.833	433.8574	1258.27	. Q	.V	.	.	.
15.917	442.7566	1292.17	. Q	.V	.	.	.
16.000	452.0839	1354.32	. Q	.V	.	.	.
16.083	462.5210	1515.46	. Q	.V	.	.	.
16.167	474.1875	1693.99	. Q	.V	.	.	.
16.250	487.2400	1895.22	. Q	.V	.	.	.
16.333	502.6082	2231.46	. Q	.V	.	.	.
16.417	520.6853	2624.80	. Q	.V	.	.	.
16.500	540.5705	2887.33	. Q	.V	.	.	.
16.583	561.5244	3042.50	. Q	.V	.	.	.
16.667	583.6687	3215.36	. Q	.V	.	.	.
16.750	607.3161	3433.60	. Q	.V	.	.	.
16.833	632.3170	3630.12	. Q	.V	.	.	.
16.917	655.8015	3409.95	. Q	.V	.	.	.
17.000	678.7299	3329.20	. Q	.V	.	.	.
17.083	699.0954	2957.08	. Q	.V	.	.	.
17.167	717.0429	2605.98	. Q	.V	.	.	.
17.250	733.2759	2357.02	. Q	.V	.	.	.
17.333	747.8764	2119.99	. Q	.V	.	.	.
17.417	760.6566	1855.68	. Q	.V	.	.	.
17.500	772.2745	1686.92	. Q	.V	.	.	.
17.583	782.9455	1549.43	. Q	.V	.	.	.
17.667	792.4832	1384.87	. Q	.V	.	.	.
17.750	801.0815	1248.48	. Q	.V	.	.	.
17.833	808.8660	1130.31	. Q	.V	.	.	.
17.917	816.0209	1038.89	. Q	.V	.	.	.
18.000	822.2814	909.04	. Q	.V	.	.	.
18.083	828.1188	847.59	. Q	.V	.	.	.
18.167	833.6735	806.54	. Q	.V	.	.	.
18.250	838.9875	771.59	. Q	.V	.	.	.
18.333	844.0532	735.55	. Q	.V	.	.	.
18.417	848.8853	701.61	. Q	.V	.	.	.
18.500	853.4868	668.15	. Q	.V	.	.	.
18.583	857.8649	635.70	. Q	.V	.	.	.
18.667	862.0154	602.64	. Q	.V	.	.	.

18.750	865.9179	566.65	.	Q	.	.	.	V	.
18.833	869.4176	508.16	.	Q	.	.	.	V	.
18.917	872.6985	476.39	.	Q	.	.	.	V	.
19.000	875.8068	451.31	.	Q	.	.	.	V	.
19.083	878.7714	430.46	.	Q	.	.	.	V	.
19.167	881.6043	411.35	.	Q	.	.	.	V	.
19.250	884.3193	394.21	.	Q	.	.	.	V	.
19.333	886.9306	379.17	.	Q	.	.	.	V	.
19.417	889.4544	366.46	.	Q	.	.	.	V	.
19.500	891.8994	355.02	.	Q	.	.	.	V	.
19.583	894.2718	344.46	.	Q	.	.	.	V	.
19.667	896.5795	335.09	.	Q	.	.	.	V	.
19.750	898.8287	326.57	.	Q	.	.	.	V	.
19.833	901.0269	319.18	.	Q	.	.	.	V	.
19.917	903.1776	312.29	.	Q	.	.	.	V	.
20.000	905.2876	306.37	.	Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	435.0
20%	235.0
30%	155.0
40%	95.0
50%	75.0
60%	60.0
70%	50.0
80%	35.0
90%	20.0

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END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

Michael Baker International
5 Hutton Centre Drive, Suite 500
Santa Ana, CA 92707

***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - SINGLE AREA UH *
* ULTIMATE CONDITION - REGIONAL NODE 133T *
* 2-YR EV AUGUST 2018 CCHIU *

FILE NAME: EVO233TS.DAT
TIME/DATE OF STUDY: 14:54 08/30/2018

FLOW PROCESS FROM NODE 13010.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

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(UNIT-HYDROGRAPH ADDED TO STREAM #3)

WATERSHED AREA = 6640.500 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 1.871 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.477
LOW LOSS FRACTION = 0.810
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.13
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.28
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.37
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 0.62
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 0.85
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 1.44

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.744
30-MINUTE FACTOR = 0.744
1-HOUR FACTOR = 0.744
3-HOUR FACTOR = 0.959
6-HOUR FACTOR = 0.978
24-HOUR FACTOR = 0.986

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 4.454

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.255	204.394
2	0.764	408.789
3	1.273	408.788
4	1.782	409.325
5	2.442	530.014
6	3.217	622.070
7	4.069	684.523
8	5.411	1077.689
9	7.098	1355.050
10	9.231	1712.633
11	11.508	1828.801
12	13.832	1866.370
13	16.740	2335.485
14	19.141	1927.572
15	21.952	2257.501
16	25.016	2460.740
17	27.621	2092.293
18	30.787	2542.327
19	34.458	2948.538
20	37.479	2426.222
21	41.431	3173.475
22	45.462	3237.083
23	49.931	3589.490
24	53.382	2770.753
25	56.537	2534.248
26	60.454	3145.278
27	64.417	3182.782
28	67.496	2473.174
29	70.664	2543.512
30	73.433	2224.189
31	76.086	2130.163
32	78.133	1644.263
33	80.131	1604.204
34	82.175	1641.971
35	84.042	1499.432
36	85.737	1361.205
37	87.175	1154.754
38	88.416	996.186
39	89.465	842.911
40	90.459	798.270
41	91.397	753.107
42	92.302	726.430
43	93.151	682.407
44	93.964	652.740

45	94.565	482.818
46	95.131	454.291
47	95.696	454.119
48	96.162	373.646
49	96.511	280.680
50	96.860	280.497
51	97.210	280.674
52	97.559	280.325
53	97.901	274.688
54	98.062	129.073
55	98.145	67.085
56	98.229	66.914
57	98.312	67.085
58	98.396	67.091
59	98.479	67.263
60	98.563	66.907
61	98.646	67.091
62	98.730	66.907
63	98.813	67.269
64	98.897	66.907
65	98.980	67.263
66	99.064	66.914
67	99.147	66.914
68	99.230	66.914
69	99.314	66.914
70	99.397	66.914
71	99.480	66.914
72	99.564	66.914
73	99.647	66.914
74	99.730	66.914
75	99.814	66.914
76	99.897	66.914
77	99.980	66.914
78	100.000	15.838

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 615.4011
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 170.6124

=====

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

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HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	125.0	250.0	375.0	500.0
10.000	23.5223	44.61	. Q V	.	.	.	.
10.083	23.8316	44.91	. Q V	.	.	.	.
10.167	24.1429	45.20	. Q V	.	.	.	.
10.250	24.4563	45.51	. Q V	.	.	.	.
10.333	24.7718	45.81	. Q V	.	.	.	.
10.417	25.0895	46.13	. Q V	.	.	.	.
10.500	25.4094	46.45	. Q V	.	.	.	.
10.583	25.7315	46.77	. Q V	.	.	.	.
10.667	26.0559	47.10	. Q V	.	.	.	.
10.750	26.3827	47.44	. Q V	.	.	.	.
10.833	26.7118	47.79	. Q V	.	.	.	.
10.917	27.0433	48.14	. Q V	.	.	.	.
11.000	27.3773	48.50	. Q V	.	.	.	.
11.083	27.7138	48.86	. Q V	.	.	.	.
11.167	28.0529	49.23	. Q V	.	.	.	.
11.250	28.3946	49.62	. Q V	.	.	.	.
11.333	28.7390	50.00	. Q V	.	.	.	.
11.417	29.0861	50.40	. Q V	.	.	.	.
11.500	29.4360	50.81	. Q V	.	.	.	.
11.583	29.7888	51.22	. Q V	.	.	.	.
11.667	30.1445	51.65	. Q V	.	.	.	.
11.750	30.5032	52.08	. Q V	.	.	.	.
11.833	30.8649	52.52	. Q V	.	.	.	.
11.917	31.2298	52.98	. Q V	.	.	.	.
12.000	31.5978	53.44	. Q V	.	.	.	.
12.083	31.9695	53.96	. Q V	.	.	.	.
12.167	32.3450	54.53	. Q V	.	.	.	.
12.250	32.7247	55.12	. Q V	.	.	.	.
12.333	33.1084	55.72	. Q V	.	.	.	.
12.417	33.4966	56.36	. Q V	.	.	.	.
12.500	33.8894	57.03	. Q V	.	.	.	.
12.583	34.2870	57.74	. Q V	.	.	.	.
12.667	34.6901	58.53	. Q V	.	.	.	.
12.750	35.0993	59.41	. Q V	.	.	.	.
12.833	35.5152	60.38	. Q V	.	.	.	.
12.917	35.9380	61.40	. Q V	.	.	.	.
13.000	36.3680	62.43	. Q V	.	.	.	.
13.083	36.8060	63.60	. Q V	.	.	.	.
13.167	37.2515	64.69	. Q V	.	.	.	.
13.250	37.7052	65.88	. Q V	.	.	.	.
13.333	38.1676	67.13	. Q V	.	.	.	.
13.417	38.6382	68.33	. Q V	.	.	.	.
13.500	39.1178	69.65	. Q V	.	.	.	.
13.583	39.6074	71.09	. Q V	.	.	.	.
13.667	40.1062	72.43	. Q V	.	.	.	.
13.750	40.6157	73.98	. Q V	.	.	.	.
13.833	41.1361	75.56	. Q V	.	.	.	.

13.917	41.6682	77.26	.	Q	V.	.	.	.
14.000	42.2109	78.81	.	Q	V.	.	.	.
14.083	42.7653	80.50	.	Q	V	.	.	.
14.167	43.3334	82.48	.	Q	V	.	.	.
14.250	43.9155	84.52	.	Q	V	.	.	.
14.333	44.5108	86.45	.	Q	V	.	.	.
14.417	45.1205	88.52	.	Q	V	.	.	.
14.500	45.7447	90.63	.	Q	V	.	.	.
14.583	46.3839	92.82	.	Q	V	.	.	.
14.667	47.0397	95.22	.	Q	.V	.	.	.
14.750	47.7137	97.86	.	Q	.V	.	.	.
14.833	48.4079	100.80	.	Q	.V	.	.	.
14.917	49.1232	103.86	.	Q	.V	.	.	.
15.000	49.8599	106.97	.	Q	.V	.	.	.
15.083	50.6206	110.45	.	Q	.V	.	.	.
15.167	51.4034	113.67	.	Q	.V	.	.	.
15.250	52.2104	117.18	.	Q	.V	.	.	.
15.333	53.0431	120.90	.	Q	.V	.	.	.
15.417	53.8985	124.22	.	Q	.V	.	.	.
15.500	54.7778	127.67	.	Q	V	.	.	.
15.583	55.6839	131.56	.	Q	V	.	.	.
15.667	56.6152	135.24	.	Q	V	.	.	.
15.750	57.5761	139.52	.	.Q	V	.	.	.
15.833	58.5679	144.01	.	.Q	V	.	.	.
15.917	59.5952	149.17	.	.Q	V	.	.	.
16.000	60.6558	153.99	.	.	Q V	.	.	.
16.083	61.8212	169.22	.	.	Q V	.	.	.
16.167	63.0895	184.15	.	.	Q	.	.	.
16.250	64.3865	188.32	.	.	Q	.	.	.
16.333	65.7110	192.32	.	.	Q	.	.	.
16.417	67.1068	202.67	.	.	V Q	.	.	.
16.500	68.5715	212.67	.	.	V Q	.	.	.
16.583	70.0975	221.58	.	.	V Q	.	.	.
16.667	71.8001	247.21	.	.	V Q.	.	.	.
16.750	73.6424	267.50	.	.	V .Q	.	.	.
16.833	75.6413	290.25	.	.	V . Q	.	.	.
16.917	77.7039	299.48	.	.	V . Q	.	.	.
17.000	79.8056	305.17	.	.	V . Q	.	.	.
17.083	82.0845	330.90	.	.	V. Q	.	.	.
17.167	84.2312	311.71	.	.	V. Q	.	.	.
17.250	86.5030	329.85	.	.	V Q	.	.	.
17.333	88.8564	341.72	.	.	V Q	.	.	.
17.417	91.1011	325.93	.	.	.V Q	.	.	.
17.500	93.5152	350.53	.	.	.V Q	.	.	.
17.583	96.0800	372.40	.	.	.V Q.	.	.	.
17.667	98.4723	347.37	.	.	.V Q	.	.	.
17.750	101.1321	386.20	.	.	.V Q	.	.	.
17.833	103.8114	389.04	.	.	.V .Q	.	.	.
17.917	106.5952	404.20	.	.	.V .Q	.	.	.
18.000	109.0631	358.34	.	.	.V Q .	.	.	.
18.083	111.4350	344.40	.	.	.V Q	.	.	.
18.167	114.0077	373.55	.	.	.V Q.	.	.	.
18.250	116.5665	371.55	.	.	.V Q.	.	.	.
18.333	118.8336	329.19	.	.	.Q V	.	.	.
18.417	121.0849	326.89	.	.	.Q V	.	.	.
18.500	123.1857	305.04	.	.	.Q V	.	.	.
18.583	125.2127	294.32	.	.	.Q V.	.	.	.
18.667	127.0280	263.59	.	.	.Q V.	.	.	.

18.750	128.7915	256.06	.	.	Q	V	.
18.833	130.5282	252.16	.	.	Q	V	.
18.917	132.1697	238.35	.	.	Q.	V	.
19.000	133.7159	224.51	.	.	Q	.V	.
19.083	135.1451	207.52	.	.	Q	.V	.
19.167	136.4754	193.15	.	.	Q	.V	.
19.250	137.7107	179.37	.	.	Q	.V	.
19.333	138.8956	172.05	.	.	Q	.V	.
19.417	140.0311	164.87	.	.	Q	.V	.
19.500	141.1242	158.71	.	.	Q	.V	.
19.583	142.1671	151.43	.	.	Q	.V	.
19.667	143.1669	145.17	.	.	.Q	.V	.
19.750	144.0742	131.74	.	.	Q	.V	.
19.833	144.9421	126.02	.	.	Q	.V	.
19.917	145.7818	121.91	.	.	Q.	.V	.
20.000	146.5669	114.00	.	.	Q.	.V	.

 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	865.0
20%	385.0
30%	275.0
40%	205.0
50%	165.0
60%	135.0
70%	110.0
80%	80.0
90%	30.0

 END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

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5 Hutton Centre Drive, Suite 500
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***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - SINGLE AREA UH *
* ULTIMATE CONDITION - REGIONAL NODE 133T *
* 5-YR EV AUGUST 2018 CCHIU *

FILE NAME: EV0533TS.DAT
TIME/DATE OF STUDY: 14:50 08/30/2018

FLOW PROCESS FROM NODE 0.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

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(UNIT-HYDROGRAPH ADDED TO STREAM #3)

WATERSHED AREA = 6640.500 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 1.485 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.398
LOW LOSS FRACTION = 0.763
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.18
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.41
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.55
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 0.92
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 1.27
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 2.12

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.744
30-MINUTE FACTOR = 0.744
1-HOUR FACTOR = 0.744
3-HOUR FACTOR = 0.959
6-HOUR FACTOR = 0.978
24-HOUR FACTOR = 0.986

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 5.612

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.321	257.523
2	0.962	515.046
3	1.603	515.046
4	2.375	619.449
5	3.348	781.878
6	4.608	1011.742
7	6.539	1550.394
8	9.115	2068.751
9	11.975	2296.801
10	15.207	2596.158
11	18.492	2637.890
12	21.936	2765.560
13	25.655	2986.753
14	29.201	2848.160
15	33.556	3497.379
16	37.655	3291.506
17	42.593	3965.550
18	47.921	4279.182
19	52.768	3892.788
20	56.796	3234.506
21	61.850	4058.436
22	66.241	3526.908
23	70.188	3169.587
24	73.736	2849.657
25	76.872	2518.502
26	79.381	2014.895
27	81.947	2060.553
28	84.299	1888.518
29	86.347	1644.716
30	88.029	1350.740
31	89.390	1092.963
32	90.635	1000.438
33	91.810	943.352
34	92.903	877.946
35	93.932	826.233
36	94.694	611.854
37	95.407	572.298
38	96.059	523.526
39	96.514	365.736
40	96.954	353.304
41	97.394	353.580
42	97.832	351.350
43	98.066	187.972
44	98.171	84.547

45	98.276	84.278
46	98.381	84.412
47	98.486	84.688
48	98.592	84.412
49	98.697	84.412
50	98.802	84.412
51	98.907	84.694
52	99.012	84.412
53	99.117	84.412
54	99.223	84.412
55	99.328	84.412
56	99.433	84.412
57	99.538	84.412
58	99.643	84.412
59	99.748	84.412
60	99.853	84.412
61	99.958	84.412
62	100.000	33.435

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 842.0026
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 315.1511

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2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H
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HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	225.0	450.0	675.0	900.0
10.000	44.8365	82.75	. Q V	.	.	.	.
10.083	45.4104	83.33	. Q V	.	.	.	.
10.167	45.9883	83.91	. Q V	.	.	.	.
10.250	46.5704	84.52	. Q V	.	.	.	.
10.333	47.1566	85.12	. Q V	.	.	.	.
10.417	47.7472	85.75	. Q V	.	.	.	.
10.500	48.3421	86.38	. Q V	.	.	.	.
10.583	48.9414	87.03	. Q V	.	.	.	.
10.667	49.5453	87.68	. Q V	.	.	.	.
10.750	50.1539	88.36	. Q V	.	.	.	.
10.833	50.7671	89.04	. Q V	.	.	.	.
10.917	51.3853	89.75	. Q V	.	.	.	.
11.000	52.0083	90.46	. Q V	.	.	.	.
11.083	52.6363	91.20	. Q V	.	.	.	.
11.167	53.2695	91.94	. Q V	.	.	.	.
11.250	53.9080	92.71	. Q V	.	.	.	.
11.333	54.5518	93.48	. Q V	.	.	.	.
11.417	55.2012	94.28	. Q V	.	.	.	.
11.500	55.8561	95.10	. Q V	.	.	.	.
11.583	56.5168	95.94	. Q V	.	.	.	.
11.667	57.1834	96.78	. Q V	.	.	.	.
11.750	57.8560	97.66	. Q V	.	.	.	.
11.833	58.5347	98.55	. Q V	.	.	.	.
11.917	59.2198	99.48	. Q V	.	.	.	.
12.000	59.9114	100.41	. Q V	.	.	.	.
12.083	60.6105	101.51	. Q V	.	.	.	.
12.167	61.3181	102.74	. Q V	.	.	.	.
12.250	62.0344	104.02	. Q V	.	.	.	.
12.333	62.7600	105.35	. Q V	.	.	.	.
12.417	63.4956	106.81	. Q V	.	.	.	.
12.500	64.2422	108.40	. Q V	.	.	.	.
12.583	65.0018	110.30	. Q V	.	.	.	.
12.667	65.7764	112.46	. Q V	.	.	.	.
12.750	66.5669	114.79	. Q V	.	.	.	.
12.833	67.3747	117.29	. Q V	.	.	.	.
12.917	68.2002	119.86	. Q V	.	.	.	.
13.000	69.0441	122.53	. Q V	.	.	.	.
13.083	69.9074	125.36	. Q V	.	.	.	.
13.167	70.7900	128.15	. Q V	.	.	.	.
13.250	71.6945	131.33	. Q V	.	.	.	.
13.333	72.6204	134.44	. Q V	.	.	.	.
13.417	73.5704	137.95	. Q V	.	.	.	.
13.500	74.5460	141.65	. Q V	.	.	.	.
13.583	75.5464	145.25	. Q V	.	.	.	.
13.667	76.5696	148.57	. Q V	.	.	.	.
13.750	77.6191	152.39	. Q V	.	.	.	.
13.833	78.6934	155.99	. Q V	.	.	.	.

13.917	79.7920	159.52	.	Q	V	.	.	.		
14.000	80.9143	162.96	.	Q	V	.	.	.		
14.083	82.0620	166.65	.	Q	V	.	.	.		
14.167	83.2360	170.46	.	Q	V	.	.	.		
14.250	84.4372	174.42	.	Q	V	.	.	.		
14.333	85.6664	178.48	.	Q	V	.	.	.		
14.417	86.9250	182.75	.	Q	.V	.	.	.		
14.500	88.2145	187.23	.	Q	.V	.	.	.		
14.583	89.5394	192.38	.	Q	.V	.	.	.		
14.667	90.9043	198.18	.	Q	.V	.	.	.		
14.750	92.3118	204.38	.	Q	.V	.	.	.		
14.833	93.7650	211.00	.	Q	.V	.	.	.		
14.917	95.2651	217.82	.	Q	.V	.	.	.		
15.000	96.8133	224.80	.	Q	.V	.	.	.		
15.083	98.4127	232.23	.	Q	V	.	.	.		
15.167	100.0628	239.60	.	Q	V	.	.	.		
15.250	101.7702	247.92	.	.	QV	.	.	.		
15.333	103.5344	256.16	.	.	.Q	V	.	.		
15.417	105.3589	264.92	.	.	.Q	V	.	.		
15.500	107.2441	273.73	.	.	.	QV	.	.		
15.583	109.1890	282.40	.	.	.	.QV	.	.
15.667	111.1888	290.37	.	.	.	.Q	V	.
15.750	113.2528	299.69	.	.	.	.	QV	.
15.833	115.3783	308.63	.	.	.	.	.QV	.
15.917	117.5630	317.21	.	.	.	.	.Q	.
16.000	119.8183	327.48	.	.	.	.	.QV	.
16.083	122.3068	361.33	.	.	.	.	.VQ	.
16.167	125.0100	392.51V	Q	.	
16.250	127.7750	401.48VQ	.	.	
16.333	130.6731	420.80V	Q	.	
16.417	133.7545	447.42V	.Q	.	
16.500	137.0895	484.24V	.Q	.	
16.583	140.8601	547.49V	.	Q	.
16.667	145.0345	606.12V	.	.Q	.
16.750	149.4115	635.54V	.	.Q	.
16.833	154.0038	666.81V	.	.Q	.
16.917	158.6620	676.37V	.	.Q	.
17.000	163.4475	694.85V	.	.Q	.
17.083	168.3930	718.09V	.	.Q	.
17.167	173.3133	714.42V	.	.Q	.
17.250	178.6632	776.81V	.	.Q	.
17.333	183.9428	766.60V	.	.Q	.
17.417	189.6760	832.47V	.	.Q	.
17.500	195.5727	856.20V	.	.Q	.
17.583	201.1645	811.92V	.	.Q	.
17.667	206.3307	750.13V	.	.Q	.
17.750	211.9373	814.08V	.	.Q	.
17.833	217.1308	754.10V	.	.Q	.
17.917	222.0038	707.55V	.	.Q	.
18.000	226.5643	662.19VQ	.	.	.
18.083	230.8111	616.64Q	V	.	.
18.167	234.6613	559.04Q	V	.	.
18.250	238.4441	549.26Q	V	.	.
18.333	242.0208	519.34Q	V	.	.
18.417	245.3320	480.80Q	V	.	.
18.500	248.3421	437.06Q	V	.	.
18.583	251.0945	399.65Q	V	.	.
18.667	253.7041	378.91Q	V	.	.

18.750	256.1880	360.67	.	.	Q	.	.	V	.
18.833	258.5423	341.84	.	.	Q	.	.	V	.
18.917	260.7702	323.50	.	.	Q	.	.	V	.
19.000	262.7837	292.35	.	.	Q	.	.	V	.
19.083	264.6961	277.68	.	.	Q	.	.	V	.
19.167	266.5044	262.56	.	.	Q	.	.	V	.
19.250	268.1470	238.50	.	.	Q	.	.	V	.
19.333	269.7187	228.21	.	.	Q	.	.	V	.
19.417	271.2285	219.23	.	.	Q	.	.	V	.
19.500	272.6678	208.99	.	.	Q	.	.	V	.
19.583	273.9414	184.93	.	.	Q	.	.	V	.
19.667	275.0993	168.13	.	.	Q	.	.	V	.
19.750	276.2099	161.25	.	.	Q	.	.	V	.
19.833	277.2799	155.36	.	.	Q	.	.	V	.
19.917	278.3109	149.71	.	.	Q	.	.	V	.
20.000	279.3057	144.44	.	.	Q	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	670.0
20%	325.0
30%	230.0
40%	165.0
50%	130.0
60%	110.0
70%	90.0
80%	60.0
90%	25.0

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END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

Michael Baker International
5 Hutton Centre Drive, Suite 500
Santa Ana, CA 92707

***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - SINGLE AREA UH *
* ULTIMATE CONDITION - REGIONAL NODE 133T *
* 10-YR EV AUGUST 2018 CCHIU *

FILE NAME: EV1033TS.DAT
TIME/DATE OF STUDY: 14:47 08/30/2018

FLOW PROCESS FROM NODE 0.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

(UNIT-HYDROGRAPH ADDED TO STREAM #3)

WATERSHED AREA = 6640.500 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 1.347 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.239
LOW LOSS FRACTION = 0.698
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.26
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.59
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.78
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.31
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 1.81
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 3.03

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.744
30-MINUTE FACTOR = 0.744
1-HOUR FACTOR = 0.744
3-HOUR FACTOR = 0.959
6-HOUR FACTOR = 0.978
24-HOUR FACTOR = 0.986

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 6.187

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.354	283.906
2	1.061	567.812
3	1.773	572.159
4	2.722	762.339
5	3.842	899.489
6	5.637	1441.239
7	8.189	2049.359
8	11.324	2517.976
9	14.748	2749.878
10	18.412	2942.405
11	22.245	3078.136
12	26.226	3197.131
13	30.333	3297.822
14	35.267	3962.365
15	39.898	3719.524
16	45.616	4592.372
17	51.470	4701.026
18	55.932	3583.185
19	61.290	4302.991
20	66.232	3968.895
21	70.552	3469.298
22	74.448	3128.579
23	77.644	2566.550
24	80.427	2235.021
25	83.183	2213.754
26	85.596	1937.589
27	87.580	1593.035
28	89.148	1260.017
29	90.540	1117.458
30	91.834	1039.247
31	93.036	965.532
32	94.123	873.050
33	94.929	646.649
34	95.712	628.771
35	96.309	479.565
36	96.794	389.809
37	97.279	389.558
38	97.764	389.687
39	98.060	237.056
40	98.176	93.174
41	98.292	93.174
42	98.408	93.431
43	98.523	92.666
44	98.640	93.554

45	98.756	93.052
46	98.872	93.045
47	98.987	93.052
48	99.104	93.297
49	99.219	93.052
50	99.335	93.052
51	99.451	93.052
52	99.567	93.052
53	99.683	93.052
54	99.799	93.052
55	99.915	93.052
56	100.000	68.500

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 1042.3370
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 611.4357

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2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H
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HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	475.0	950.0	1425.0	1900.0
10.000	83.8373	153.02	. Q V	.	.	.	.
10.083	84.8986	154.10	. Q V	.	.	.	.
10.167	85.9675	155.20	. Q V	.	.	.	.
10.250	87.0441	156.33	. Q V	.	.	.	.
10.333	88.1286	157.47	. Q V	.	.	.	.
10.417	89.2212	158.64	. Q V	.	.	.	.
10.500	90.3219	159.83	. Q V	.	.	.	.
10.583	91.4310	161.04	. Q V	.	.	.	.
10.667	92.5487	162.29	. Q V	.	.	.	.
10.750	93.6751	163.55	. Q V	.	.	.	.
10.833	94.8104	164.84	. Q V	.	.	.	.
10.917	95.9547	166.16	. Q V	.	.	.	.
11.000	97.1083	167.51	. Q V	.	.	.	.
11.083	98.2714	168.88	. Q V	.	.	.	.
11.167	99.4442	170.29	. Q V	.	.	.	.
11.250	100.6269	171.72	. Q V	.	.	.	.
11.333	101.8197	173.19	. Q V	.	.	.	.
11.417	103.0228	174.70	. Q V	.	.	.	.
11.500	104.2366	176.24	. Q V	.	.	.	.
11.583	105.4611	177.81	. Q V	.	.	.	.
11.667	106.6968	179.42	. Q V	.	.	.	.
11.750	107.9439	181.07	. Q V	.	.	.	.
11.833	109.2026	182.77	. Q V	.	.	.	.
11.917	110.4733	184.50	. Q V	.	.	.	.
12.000	111.7562	186.28	. Q V	.	.	.	.
12.083	113.0534	188.35	. Q V	.	.	.	.
12.167	114.3669	190.72	. Q V	.	.	.	.
12.250	115.6971	193.15	. Q V	.	.	.	.
12.333	117.0455	195.79	. Q V	.	.	.	.
12.417	118.4134	198.61	. Q V	.	.	.	.
12.500	119.8044	201.97	. Q V	.	.	.	.
12.583	121.2226	205.92	. Q V	.	.	.	.
12.667	122.6713	210.35	. Q V	.	.	.	.
12.750	124.1524	215.05	. Q V	.	.	.	.
12.833	125.6675	220.00	. Q V	.	.	.	.
12.917	127.2181	225.14	. Q V	.	.	.	.
13.000	128.8054	230.48	. Q V	.	.	.	.
13.083	130.4307	235.99	. Q V	.	.	.	.
13.167	132.0985	242.17	. Q V	.	.	.	.
13.250	133.8081	248.23	. Q V	.	.	.	.
13.333	135.5655	255.17	. Q V	.	.	.	.
13.417	137.3720	262.30	. Q V	.	.	.	.
13.500	139.2217	268.58	. Q V	.	.	.	.
13.583	141.1198	275.60	. Q V	.	.	.	.
13.667	143.0652	282.47	. Q V	.	.	.	.
13.750	145.0557	289.02	. Q V	.	.	.	.
13.833	147.0903	295.42	. Q V	.	.	.	.

13.917	149.1665	301.47	.	Q	V.	.	.	.
14.000	151.2836	307.40	.	Q	V.	.	.	.
14.083	153.4467	314.08	.	Q	V	.	.	.
14.167	155.6597	321.33	.	Q	V	.	.	.
14.250	157.9218	328.45	.	Q	V	.	.	.
14.333	160.2351	335.90	.	Q	V	.	.	.
14.417	162.6022	343.71	.	Q	V	.	.	.
14.500	165.0324	352.86	.	Q	V	.	.	.
14.583	167.5357	363.48	.	Q	V	.	.	.
14.667	170.1203	375.28	.	Q	.V	.	.	.
14.750	172.7898	387.61	.	Q	.V	.	.	.
14.833	175.5488	400.61	.	Q	.V	.	.	.
14.917	178.4009	414.12	.	Q	.V	.	.	.
15.000	181.3506	428.30	.	Q	.V	.	.	.
15.083	184.4035	443.28	.	Q	.V	.	.	.
15.167	187.5746	460.44	.	Q	.V	.	.	.
15.250	190.8649	477.75	.	Q	V	.	.	.
15.333	194.2946	498.01	.	Q	V	.	.	.
15.417	197.8589	517.53	.	Q	V	.	.	.
15.500	201.5368	534.02	.	.Q	V	.	.	.
15.583	205.3507	553.78	.	.Q	V	.	.	.
15.667	209.3002	573.48	.	.QV		.	.	.
15.750	213.3982	595.03	.	.QV		.	.	.
15.833	217.6461	616.80	.	.Q	V	.	.	.
15.917	222.0518	639.71	.	.QV		.	.	.
16.000	226.6720	670.85	.	.Q		.	.	.
16.083	231.7897	743.09	.	.Q		.	.	.
16.167	237.4006	814.70	.	.V	Q	.	.	.
16.250	243.2641	851.39	.	.V	Q	.	.	.
16.333	249.6086	921.21	.	.V	Q	.	.	.
16.417	256.5145	1002.73	.	.V	.Q	.	.	.
16.500	264.3875	1143.17	.	.V	.Q	.	.	.
16.583	273.2642	1288.89	.	.V	.Q	.	.	.
16.667	282.8596	1393.25	.	.V	.Q	.	.	.
16.750	292.8448	1449.86	.	.V	.Q	.	.	.
16.833	303.2180	1506.18	.	.V	.Q	.	.	.
16.917	313.8635	1545.72	.	.V	.Q	.	.	.
17.000	324.8382	1593.54	.	.V	.Q	.	.	.
17.083	336.1735	1645.89	.	.V	.Q	.	.	.
17.167	348.3047	1761.45	.	.V	.Q	.	.	.
17.250	360.4669	1765.94	.	.V	.Q	.	.	.
17.333	373.4553	1885.91	.	.V	.Q	.	.	.
17.417	386.3686	1875.02	.	.V	.Q	.	.	.
17.500	398.1081	1704.57	.	.V	.Q	.	.	.
17.583	410.2359	1760.95	.	.V	.Q	.	.	.
17.667	421.7683	1674.51	.	.V	.Q	.	.	.
17.750	432.4318	1548.34	.	.V	.Q	.	.	.
17.833	442.2899	1431.39	.	.V	.Q	.	.	.
17.917	451.2459	1300.42	.	.Q	V.	.	.	.
18.000	459.5631	1207.65	.	.Q	V	.	.	.
18.083	467.5259	1156.20	.	.Q	V	.	.	.
18.167	474.8564	1064.38	.	.Q	.V	.	.	.
18.250	481.4831	962.20	.	.Q	.V	.	.	.
18.333	487.4643	868.48	.	.Q	.V	.	.	.
18.417	493.0388	809.41	.	.Q	.V	.	.	.
18.500	498.3085	765.17	.	.Q	.V	.	.	.
18.583	503.2525	717.87	.	.Q	.V	.	.	.
18.667	507.8423	666.44	.	.Q	.V	.	.	.

18.750	511.9818	601.05	.	.Q	.	.	.V	.
18.833	515.8801	566.04	.	.Q	.	.	.V	.
18.917	519.4501	518.38	.	.Q	.	.	.V	.
19.000	522.7684	481.80	.	.Q	.	.	.V	.
19.083	525.9180	457.33	.	.Q	.	.	.V	.
19.167	528.8843	430.70	.	.Q	.	.	.V	.
19.250	531.5280	383.87	.	.Q	.	.	.V	.
19.333	533.8873	342.57	.	.Q	.	.	.V	.
19.417	536.1337	326.18	.	.Q	.	.	.V	.
19.500	538.2980	314.26	.	.Q	.	.	.V	.
19.583	540.3735	301.36	.	.Q	.	.	.V	.
19.667	542.3622	288.77	.	.Q	.	.	.V	.
19.750	544.2748	277.71	.	.Q	.	.	.V	.
19.833	546.1184	267.69	.	.Q	.	.	.V	.
19.917	547.9012	258.87	.	.Q	.	.	.V	.
20.000	549.6300	251.02	.	.Q	.	.	.V	.

 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	515.0
20%	275.0
30%	195.0
40%	145.0
50%	115.0
60%	100.0
70%	75.0
80%	55.0
90%	30.0

 END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

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5 Hutton Centre Drive, Suite 500
Santa Ana, CA 92707

***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - SINGLE AREA UH *
* ULTIMATE CONDITION - REGIONAL NODE 133T *
* 25-YR EV AUGUST 2018 CCHIU *

FILE NAME: EV2533TS.DAT
TIME/DATE OF STUDY: 14:49 08/30/2018

FLOW PROCESS FROM NODE 0.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

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(UNIT-HYDROGRAPH ADDED TO STREAM #3)

WATERSHED AREA = 6640.500 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 1.220 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.239
LOW LOSS FRACTION = 0.526
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.34
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.72
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.95
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.59
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.20
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 3.68

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.744
30-MINUTE FACTOR = 0.744
1-HOUR FACTOR = 0.744
3-HOUR FACTOR = 0.959
6-HOUR FACTOR = 0.978
24-HOUR FACTOR = 0.986

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 6.831

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.390	313.460
2	1.171	626.921
3	1.991	658.296
4	3.114	902.355
5	4.586	1182.047
6	6.993	1932.884
7	10.306	2660.458
8	13.921	2903.118
9	18.032	3301.742
10	22.199	3346.653
11	26.568	3508.606
12	31.295	3796.108
13	36.535	4208.018
14	42.246	4586.423
15	48.721	5200.097
16	54.215	4411.737
17	59.660	4373.275
18	65.465	4661.648
19	70.227	3824.324
20	74.551	3472.613
21	78.012	2779.557
22	81.103	2482.554
23	84.041	2359.358
24	86.530	1998.548
25	88.485	1570.052
26	90.074	1276.584
27	91.527	1166.187
28	92.875	1082.540
29	94.088	974.674
30	94.984	719.782
31	95.834	682.009
32	96.444	490.269
33	96.980	430.211
34	97.516	430.334
35	97.979	372.121
36	98.140	129.514
37	98.268	102.873
38	98.397	102.873
39	98.525	102.879
40	98.653	102.873
41	98.781	102.647
42	98.909	102.873
43	99.037	103.106
44	99.165	102.873

45	99.293	102.873
46	99.421	102.873
47	99.549	102.873
48	99.678	102.873
49	99.806	102.873
50	99.934	102.873
51	100.000	53.232

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 965.1652
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 1043.2218

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2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H
=====

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	725.0	1450.0	2175.0	2900.0
10.000	162.7976	294.50	.	Q V	.	.	.
10.083	164.8404	296.62	.	Q V	.	.	.
10.167	166.8981	298.78	.	Q V	.	.	.
10.250	168.9710	300.98	.	Q V	.	.	.
10.333	171.0593	303.22	.	Q V	.	.	.
10.417	173.1634	305.52	.	Q V	.	.	.
10.500	175.2836	307.85	.	Q V	.	.	.
10.583	177.4202	310.24	.	Q V	.	.	.
10.667	179.5735	312.66	.	Q V	.	.	.
10.750	181.7440	315.15	.	Q V	.	.	.
10.833	183.9319	317.68	.	Q V	.	.	.
10.917	186.1376	320.28	.	Q V	.	.	.
11.000	188.3616	322.92	.	Q V	.	.	.
11.083	190.6042	325.63	.	Q V	.	.	.
11.167	192.8658	328.39	.	Q V	.	.	.
11.250	195.1469	331.22	.	Q V	.	.	.
11.333	197.4479	334.11	.	Q V	.	.	.
11.417	199.7693	337.07	.	Q V	.	.	.
11.500	202.1116	340.10	.	Q V	.	.	.
11.583	204.4753	343.20	.	Q V	.	.	.
11.667	206.8608	346.38	.	Q V	.	.	.
11.750	209.2687	349.64	.	Q V	.	.	.
11.833	211.6997	352.97	.	Q V	.	.	.
11.917	214.1542	356.40	.	Q V	.	.	.
12.000	216.6329	359.91	.	Q V	.	.	.
12.083	219.1402	364.06	.	Q V	.	.	.
12.167	221.6803	368.82	.	Q V	.	.	.
12.250	224.2544	373.76	.	Q V	.	.	.
12.333	226.8661	379.21	.	Q V	.	.	.
12.417	229.5194	385.27	.	Q V	.	.	.
12.500	232.2241	392.71	.	Q V	.	.	.
12.583	234.9895	401.54	.	Q V	.	.	.
12.667	237.8195	410.91	.	Q V	.	.	.
12.750	240.7198	421.12	.	Q V	.	.	.
12.833	243.6918	431.55	.	Q V	.	.	.
12.917	246.7389	442.43	.	Q V	.	.	.
13.000	249.8652	453.95	.	Q V	.	.	.
13.083	253.0772	466.38	.	Q V	.	.	.
13.167	256.3804	479.62	.	Q V	.	.	.
13.250	259.7834	494.13	.	Q V	.	.	.
13.333	263.2785	507.49	.	Q V	.	.	.
13.417	266.8669	521.02	.	Q V	.	.	.
13.500	270.5533	535.26	.	Q V	.	.	.
13.583	274.3297	548.34	.	Q V	.	.	.
13.667	278.1938	561.06	.	Q V	.	.	.
13.750	282.1392	572.88	.	Q V	.	.	.
13.833	286.1645	584.47	.	Q V	.	.	.

13.917	290.2703	596.16	.	Q	.V	.	.	.
14.000	294.4544	607.54	.	Q	.V	.	.	.
14.083	298.7231	619.82	.	Q	.V	.	.	.
14.167	303.0840	633.20	.	Q	.V	.	.	.
14.250	307.5394	646.91	.	Q	.V	.	.	.
14.333	312.0975	661.84	.	Q	.V	.	.	.
14.417	316.7679	678.15	.	Q	.V	.	.	.
14.500	321.5715	697.48	.	Q	.V	.	.	.
14.583	326.5313	720.17	.	Q	.V	.	.	.
14.667	331.6548	743.94	.	Q	V	.	.	.
14.750	336.9561	769.74	.	Q	V	.	.	.
14.833	342.4395	796.20	.	Q	V	.	.	.
14.917	348.1132	823.81	.	.Q	V	.	.	.
15.000	353.9861	852.75	.	.Q	V	.	.	.
15.083	360.0743	884.01	.	.	QV	.	.	.
15.167	366.3931	917.49	.	.	Q V	.	.	.
15.250	372.9666	954.47	.	.	QV	.	.	.
15.333	379.7807	989.41	.	.	QV	.	.	.
15.417	386.8226	1022.48	.	.	Q	.	.	.
15.500	394.0893	1055.13	.	.	QV	.	.	.
15.583	401.5681	1085.92	.	.	QV	.	.	.
15.667	409.2495	1115.34	.	.	Q	.	.	.
15.750	417.1222	1143.12	.	.	Q	.	.	.
15.833	425.1637	1167.63	.	.	Q	.	.	.
15.917	433.3907	1194.55	.	.	Q	.	.	.
16.000	441.8896	1234.05	.	.	VQ	.	.	.
16.083	451.0714	1333.20	.	.	VQ	.	.	.
16.167	460.9297	1431.41	.	.	V Q.	.	.	.
16.250	471.1477	1483.67	.	.	V Q	.	.	.
16.333	482.0769	1586.91	.	.	V .Q	.	.	.
16.417	493.9119	1718.45	.	.	V . Q	.	.	.
16.500	507.2429	1935.66	.	.	V. Q	.	.	.
16.583	521.8788	2125.13	.	.	V Q.	.	.	.
16.667	537.1392	2215.82	.	.	V Q	.	.	.
16.750	553.1055	2318.31	.	.	.V .Q	.	.	.
16.833	569.3170	2353.91	.	.	.V . Q	.	.	.
16.917	586.0297	2426.67	.	.	. V . Q	.	.	.
17.000	603.4354	2527.32	.	.	. V . Q	.	.	.
17.083	621.7197	2654.87	.	.	. V . Q	.	.	.
17.167	640.6880	2754.21	.	.	. V . Q	.	.	.
17.250	660.3096	2849.05	.	.	. V . Q	.	.	.
17.333	678.7623	2679.32	.	.	. V . Q	.	.	.
17.417	696.9426	2639.77	.	.	. V . Q	.	.	.
17.500	715.0840	2634.13	.	.	. V . Q	.	.	.
17.583	731.6725	2408.66	.	.	. V . Q	.	.	.
17.667	747.1920	2253.43	.	.	. V . Q	.	.	.
17.750	761.3068	2049.46	.	.	. QV.	.	.	.
17.833	774.6200	1933.08	.	.	. Q V.	.	.	.
17.917	787.2917	1839.94	.	.	. Q V	.	.	.
18.000	798.9964	1699.51	.	.	. Q V	.	.	.
18.083	809.6434	1545.95	.	.	. Q .V	.	.	.
18.167	819.4653	1426.14	.	.	. Q .V	.	.	.
18.250	828.7410	1346.82	.	.	. Q .V	.	.	.
18.333	837.5279	1275.86	.	.	. Q .V	.	.	.
18.417	845.7667	1196.27	.	.	. Q .V	.	.	.
18.500	853.2682	1089.22	.	.	. Q .V	.	.	.
18.583	860.3351	1026.12	.	.	. Q .V	.	.	.
18.667	866.8203	941.64	.	.	. Q .V	.	.	.

18.750	872.9309	887.27	.	.	Q	.	.	V	.
18.833	878.7332	842.49	.	.	.Q	.	.	V	.
18.917	884.1391	784.94	.	.	Q	.	.	V	.
19.000	888.9506	698.63	.	.	Q.	.	.	V	.
19.083	893.4932	659.58	.	.	Q.	.	.	V	.
19.167	897.8422	631.49	.	.	Q .	.	.	V	.
19.250	902.0049	604.43	.	.	Q .	.	.	V	.
19.333	905.9866	578.13	.	.	Q .	.	.	V	.
19.417	909.7979	553.41	.	.	Q .	.	.	V	.
19.500	913.4496	530.23	.	.	Q .	.	.	V	.
19.583	916.9608	509.82	.	.	Q .	.	.	V	.
19.667	920.3481	491.85	.	.	Q .	.	.	V	.
19.750	923.6255	475.88	.	.	Q .	.	.	V	.
19.833	926.7995	460.86	.	.	Q .	.	.	V	.
19.917	929.8746	446.51	.	.	Q .	.	.	V	.
20.000	932.8618	433.74	.	.	Q .	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	705.0
20%	340.0
30%	225.0
40%	165.0
50%	125.0
60%	95.0
70%	75.0
80%	55.0
90%	30.0

END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

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***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - SINGLE AREA UH *
* ULTIMATE CONDITION - REGIONAL NODE 133T *
* 50-YR EV AUGUST 2018 CCHIU *

FILE NAME: EV5033TS.DAT
TIME/DATE OF STUDY: 14:40 08/30/2018

FLOW PROCESS FROM NODE 13010.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

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(UNIT-HYDROGRAPH ADDED TO STREAM #3)

WATERSHED AREA = 6640.500 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 1.167 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.239
LOW LOSS FRACTION = 0.497
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.37
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.80
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 1.06
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.78
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.47
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 4.12

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.744
30-MINUTE FACTOR = 0.744
1-HOUR FACTOR = 0.744
3-HOUR FACTOR = 0.959
6-HOUR FACTOR = 0.978
24-HOUR FACTOR = 0.986

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 7.141

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.408	327.696
2	1.224	655.393
3	2.104	706.980
4	3.303	962.607
5	5.006	1367.719
6	7.758	2210.063
7	11.331	2869.095
8	15.356	3232.452
9	19.498	3326.183
10	24.196	3772.995
11	28.682	3602.828
12	34.147	4388.926
13	39.538	4329.675
14	46.146	5306.640
15	52.565	5154.775
16	57.848	4242.759
17	64.198	5099.515
18	69.270	4073.640
19	73.878	3700.141
20	77.665	3041.495
21	80.888	2588.460
22	83.975	2479.374
23	86.576	2088.769
24	88.597	1622.873
25	90.243	1321.729
26	91.748	1208.549
27	93.139	1117.612
28	94.329	955.398
29	95.240	731.454
30	96.071	667.206
31	96.651	465.785
32	97.211	449.744
33	97.769	448.317
34	98.079	249.200
35	98.213	107.413
36	98.347	107.524
37	98.481	107.413
38	98.614	107.407
39	98.748	107.634
40	98.882	107.634
41	99.016	107.407
42	99.150	107.407
43	99.284	107.407
44	99.417	107.407

45	99.551	107.407
46	99.685	107.407
47	99.819	107.407
48	99.952	107.407
49	100.000	38.214

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 1014.7770
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 1233.7089

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2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H
=====

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	850.0	1700.0	2550.0	3400.0
10.000	194.1065	350.14	.	Q V	.	.	.
10.083	196.5354	352.68	.	Q V	.	.	.
10.167	198.9822	355.28	.	Q V	.	.	.
10.250	201.4472	357.92	.	Q V	.	.	.
10.333	203.9308	360.62	.	Q V	.	.	.
10.417	206.4334	363.37	.	Q V	.	.	.
10.500	208.9553	366.18	.	Q V	.	.	.
10.583	211.4969	369.04	.	Q V	.	.	.
10.667	214.0587	371.97	.	Q V	.	.	.
10.750	216.6410	374.95	.	Q V	.	.	.
10.833	219.2443	378.01	.	Q V	.	.	.
10.917	221.8691	381.12	.	Q V	.	.	.
11.000	224.5159	384.31	.	Q V	.	.	.
11.083	227.1850	387.56	.	Q V	.	.	.
11.167	229.8771	390.89	.	Q V	.	.	.
11.250	232.5926	394.29	.	Q V	.	.	.
11.333	235.3321	397.78	.	Q V	.	.	.
11.417	238.0961	401.34	.	Q V	.	.	.
11.500	240.8853	404.99	.	Q V	.	.	.
11.583	243.7002	408.72	.	Q V	.	.	.
11.667	246.5415	412.56	.	Q V	.	.	.
11.750	249.4098	416.48	.	Q V	.	.	.
11.833	252.3059	420.51	.	Q V	.	.	.
11.917	255.2304	424.63	.	Q V	.	.	.
12.000	258.1841	428.88	.	Q V	.	.	.
12.083	261.1725	433.92	.	Q V	.	.	.
12.167	264.2015	439.80	.	Q V	.	.	.
12.250	267.2725	445.91	.	Q V	.	.	.
12.333	270.3903	452.70	.	Q V	.	.	.
12.417	273.5617	460.49	.	Q V	.	.	.
12.500	276.8003	470.24	.	Q V	.	.	.
12.583	280.1167	481.55	.	Q V	.	.	.
12.667	283.5177	493.82	.	Q V	.	.	.
12.750	287.0056	506.45	.	Q V	.	.	.
12.833	290.5886	520.25	.	Q V	.	.	.
12.917	294.2653	533.86	.	Q V	.	.	.
13.000	298.0489	549.38	.	Q V	.	.	.
13.083	301.9399	564.98	.	Q V	.	.	.
13.167	305.9546	582.92	.	Q V	.	.	.
13.250	310.0921	600.76	.	Q V	.	.	.
13.333	314.3410	616.95	.	Q V	.	.	.
13.417	318.7157	635.20	.	Q V	.	.	.
13.500	323.2032	651.59	.	Q V	.	.	.
13.583	327.7999	667.44	.	Q V	.	.	.
13.667	332.4984	682.23	.	Q V	.	.	.
13.750	337.2943	696.35	.	Q V	.	.	.
13.833	342.1883	710.62	.	Q V	.	.	.

13.917	347.1772	724.39	.	Q	.V	.	.	.
14.000	352.2571	737.59	.	Q	.V	.	.	.
14.083	357.4368	752.10	.	Q	.V	.	.	.
14.167	362.7289	768.40	.	Q	.V	.	.	.
14.250	368.1364	785.17	.	Q	.V	.	.	.
14.333	373.6690	803.34	.	Q	.V	.	.	.
14.417	379.3399	823.42	.	Q	.V	.	.	.
14.500	385.1800	847.98	.	Q	.V	.	.	.
14.583	391.2113	875.75	.	Q	V	.	.	.
14.667	397.4498	905.83	.	Q	V	.	.	.
14.750	403.9021	936.88	.	.Q	V	.	.	.
14.833	410.5848	970.33	.	.Q	V	.	.	.
14.917	417.4944	1003.27	.	.Q	V	.	.	.
15.000	424.6623	1040.78	.	.	QV	.	.	.
15.083	432.0929	1078.93	.	.	Q V	.	.	.
15.167	439.8272	1123.02	.	.	QV	.	.	.
15.250	447.8691	1167.69	.	.	QV	.	.	.
15.333	456.2006	1209.72	.	.	Q	.	.	.
15.417	464.8345	1253.65	.	.	QV	.	.	.
15.500	473.7271	1291.19	.	.	Q	.	.	.
15.583	482.8818	1329.27	.	.	Q	.	.	.
15.667	492.2819	1364.89	.	.	VQ	.	.	.
15.750	501.9151	1398.75	.	.	Q	.	.	.
15.833	511.7581	1429.20	.	.	Q	.	.	.
15.917	521.8217	1461.22	.	.	VQ	.	.	.
16.000	532.2028	1507.35	.	.	Q	.	.	.
16.083	543.3993	1625.73	.	.	V	Q.	.	.
16.167	555.4053	1743.28	.	.	V	Q	.	.
16.250	567.9344	1819.23	.	.	V	.Q	.	.
16.333	581.3384	1946.25	.	.	V	.Q	.	.
16.417	595.9993	2128.77	.	.	V.	Q	.	.
16.500	612.4339	2386.30	.	.	V.	Q	.	.
16.583	630.2183	2582.30	.	.	V	Q	.	.
16.667	648.8768	2709.21	.	.	.V	.Q	.	.
16.750	667.8859	2760.13	.	.	.V	.Q	.	.
16.833	687.8073	2892.58	.	.	.V	.Q	.	.
16.917	707.9200	2920.37	.	.	.V	.Q	.	.
17.000	729.4858	3131.36	.	.	.V	.Q	.	.
17.083	751.3923	3180.82	.	.	.V	.Q	.	.
17.167	774.6456	3376.38	.	.	.V	.Q	.	.
17.250	797.4574	3312.27	.	.	.V	.Q	.	.
17.333	818.8110	3100.55	.	.	.V	.Q	.	.
17.417	840.8082	3193.99	.	.	.V	.Q	.	.
17.500	860.8558	2910.91	.	.	.V	.Q	.	.
17.583	879.6618	2730.63	.	.	.V	.Q	.	.
17.667	896.8510	2495.87	.	.	.Q	.	.	.
17.750	912.8860	2328.28	.	.	.Q	V.	.	.
17.833	928.1473	2215.94	.	.	.Q	V	.	.
17.917	942.2485	2047.50	.	.	.Q	V	.	.
18.000	955.0747	1862.36	.	.	.Q	V	.	.
18.083	966.9256	1720.75	.	.	.Q	.V	.	.
18.167	978.1148	1624.67	.	.	.Q	.V	.	.
18.250	988.6756	1533.43	.	.	.Q	.V	.	.
18.333	998.5127	1428.35	.	.	.Q	.V	.	.
18.417	1007.5252	1308.62	.	.	.Q	.V	.	.
18.500	1015.9749	1226.89	.	.	.Q	.V	.	.
18.583	1023.7349	1126.76	.	.	.Q	.V	.	.
18.667	1031.0837	1067.05	.	.	.Q	.V	.	.

18.750	1038.0267	1008.13	.	.Q	.	.	V	.
18.833	1044.3091	912.19	.	Q	.	.	V	.
18.917	1050.0663	835.95	.	Q.	.	.	V	.
19.000	1055.5516	796.48	.	Q.	.	.	V	.
19.083	1060.8093	763.42	.	Q	.	.	V	.
19.167	1065.8260	728.43	.	Q	.	.	V	.
19.250	1070.6069	694.19	.	Q	.	.	V	.
19.333	1075.1814	664.20	.	Q	.	.	V	.
19.417	1079.5577	635.45	.	Q	.	.	V	.
19.500	1083.7632	610.63	.	Q	.	.	V	.
19.583	1087.8147	588.29	.	Q	.	.	V	.
19.667	1091.7268	568.04	.	Q	.	.	V	.
19.750	1095.5072	548.91	.	Q	.	.	V	.
19.833	1099.1638	530.93	.	Q	.	.	V	.
19.917	1102.6998	513.43	.	Q	.	.	V	.
20.000	1106.1085	494.94	.	Q	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	705.0
20%	340.0
30%	225.0
40%	165.0
50%	120.0
60%	95.0
70%	75.0
80%	60.0
90%	30.0

END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

Michael Baker International
5 Hutton Centre Drive, Suite 500
Santa Ana, CA 92707

***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - SINGLE AREA UH *
* ULTIMATE CONDITION - REGIONAL NODE 133T *
* 100-YR EV AUGUST 2018 CCHIU *

FILE NAME: EV0033TS.DAT
TIME/DATE OF STUDY: 14:39 08/30/2018

FLOW PROCESS FROM NODE 13010.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

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(UNIT-HYDROGRAPH ADDED TO STREAM #3)

WATERSHED AREA = 6640.500 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 1.127 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.239
LOW LOSS FRACTION = 0.476
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.40
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.87
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 1.15
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.94
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.71
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 4.49

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.744
30-MINUTE FACTOR = 0.744
1-HOUR FACTOR = 0.744
3-HOUR FACTOR = 0.959
6-HOUR FACTOR = 0.978
24-HOUR FACTOR = 0.986

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 7.394

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.423	339.327
2	1.268	678.654
3	2.201	749.659
4	3.461	1011.570
5	5.388	1547.802
6	8.425	2439.222
7	12.156	2996.359
8	16.532	3513.942
9	20.824	3446.977
10	25.704	3919.088
11	30.580	3916.026
12	36.288	4583.875
13	42.436	4937.512
14	49.432	5617.720
15	55.181	4617.352
16	61.419	5009.695
17	67.201	4643.500
18	72.197	4012.204
19	76.508	3462.185
20	79.882	2709.029
21	83.181	2650.105
22	86.010	2271.569
23	88.231	1783.831
24	89.980	1404.713
25	91.556	1265.605
26	93.010	1167.602
27	94.269	1011.160
28	95.218	761.961
29	96.077	689.729
30	96.677	481.850
31	97.257	465.619
32	97.826	457.452
33	98.099	219.342
34	98.238	111.365
35	98.377	111.476
36	98.515	111.261
37	98.654	111.255
38	98.793	111.476
39	98.931	111.365
40	99.070	111.371
41	99.209	111.365
42	99.348	111.365
43	99.486	111.365
44	99.625	111.365

45	99.764	111.365
46	99.902	111.365
47	100.000	78.543

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 1052.0483
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 1398.3374

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2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H
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HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	975.0	1950.0	2925.0	3900.0
10.000	219.2744	395.25	.	Q V	.	.	.
10.083	222.0165	398.15	.	Q V	.	.	.
10.167	224.7791	401.13	.	Q V	.	.	.
10.250	227.5625	404.14	.	Q V	.	.	.
10.333	230.3672	407.25	.	Q V	.	.	.
10.417	233.1935	410.38	.	Q V	.	.	.
10.500	236.0421	413.61	.	Q V	.	.	.
10.583	238.9131	416.87	.	Q V	.	.	.
10.667	241.8074	420.24	.	Q V	.	.	.
10.750	244.7250	423.64	.	Q V	.	.	.
10.833	247.6668	427.15	.	Q V	.	.	.
10.917	250.6331	430.70	.	Q V	.	.	.
11.000	253.6246	434.37	.	Q V	.	.	.
11.083	256.6417	438.08	.	Q V	.	.	.
11.167	259.6852	441.92	.	Q V	.	.	.
11.250	262.7554	445.79	.	Q V	.	.	.
11.333	265.8533	449.81	.	Q V	.	.	.
11.417	268.9792	453.88	.	Q V	.	.	.
11.500	272.1341	458.09	.	Q V	.	.	.
11.583	275.3183	462.35	.	Q V	.	.	.
11.667	278.5331	466.78	.	Q V	.	.	.
11.750	281.7786	471.25	.	Q V	.	.	.
11.833	285.0562	475.91	.	Q V	.	.	.
11.917	288.3662	480.62	.	Q V	.	.	.
12.000	291.7100	485.52	.	Q V	.	.	.
12.083	295.0944	491.41	.	Q V	.	.	.
12.167	298.5271	498.43	.	Q V	.	.	.
12.250	302.0100	505.72	.	Q V	.	.	.
12.333	305.5497	513.95	.	Q V	.	.	.
12.417	309.1566	523.74	.	Q V	.	.	.
12.500	312.8494	536.19	.	Q V	.	.	.
12.583	316.6393	550.28	.	Q V	.	.	.
12.667	320.5377	566.05	.	Q V	.	.	.
12.750	324.5444	581.78	.	Q V	.	.	.
12.833	328.6704	599.09	.	Q V	.	.	.
12.917	332.9166	616.55	.	Q V	.	.	.
13.000	337.2978	636.15	.	Q V	.	.	.
13.083	341.8219	656.89	.	Q V	.	.	.
13.167	346.5041	679.86	.	Q V	.	.	.
13.250	351.3270	700.29	.	Q V	.	.	.
13.333	356.3009	722.20	.	Q V	.	.	.
13.417	361.4202	743.33	.	Q V	.	.	.
13.500	366.6763	763.18	.	Q V	.	.	.
13.583	372.0604	781.77	.	Q V	.	.	.
13.667	377.5617	798.80	.	Q V	.	.	.
13.750	383.1810	815.92	.	Q V	.	.	.
13.833	388.9148	832.55	.	Q V	.	.	.

13.917	394.7560	848.14	.	Q	.V	.	.	.
14.000	400.7015	863.30	.	Q	.V	.	.	.
14.083	406.7635	880.20	.	Q	.V	.	.	.
14.167	412.9570	899.30	.	Q	.V	.	.	.
14.250	419.2841	918.70	.	Q	.V	.	.	.
14.333	425.7547	939.53	.	Q	.	V	.	.
14.417	432.3897	963.41	.	Q	.	V	.	.
14.500	439.2232	992.23	.	Q	V	.	.	.
14.583	446.2780	1024.36	.	Q	V	.	.	.
14.667	453.5786	1060.04	.	Q	V	.	.	.
14.750	461.1211	1095.17	.	.	Q	V	.	.
14.833	468.9272	1133.45	.	.	Q	V	.	.
14.917	477.0020	1172.45	.	.	Q	V	.	.
15.000	485.3792	1216.37	.	.	Q	V	.	.
15.083	494.0788	1263.18	.	.	Q	V	.	.
15.167	503.1379	1315.39	.	.	Q	V	.	.
15.250	512.5317	1363.98	.	.	Q	V	.	.
15.333	522.2942	1417.52	.	.	Q	.	.	.
15.417	532.3947	1466.60	.	.	Q	.	.	.
15.500	542.8007	1510.94	.	.	Q	.	.	.
15.583	553.5076	1554.65	.	.	Q	.	.	.
15.667	564.4954	1595.43	.	.	Q	.	.	.
15.750	575.7513	1634.36	.	.	Q	.	.	.
15.833	587.2368	1667.68	.	.	V	Q	.	.
15.917	598.9694	1703.57	.	.	Q	.	.	.
16.000	611.0513	1754.30	.	.	Q	.	.	.
16.083	624.0720	1890.59	.	.	V	Q	.	.
16.167	638.0386	2027.96	.	.	V	Q	.	.
16.250	652.6450	2120.84	.	.	V	Q	.	.
16.333	668.2844	2270.84	.	.	V	Q	.	.
16.417	685.4757	2496.19	.	.	V	Q	.	.
16.500	704.6492	2783.99	.	.	V	Q	.	.
16.583	725.2079	2985.13	.	.	V	Q	.	.
16.667	746.8470	3141.99	.	.	V	Q	.	.
16.750	768.6975	3172.68	.	.	V	Q	.	.
16.833	791.6379	3330.94	.	.	V	Q	.	.
16.917	815.0817	3404.04	.	.	V	Q	.	.
17.000	840.0499	3625.38	.	.	V	Q	.	.
17.083	865.8038	3739.47	.	.	V	Q	.	.
17.167	892.3982	3861.51	.	.	V	Q	.	.
17.250	917.2814	3613.03	.	.	V	Q	.	.
17.333	942.2802	3629.82	.	.	V	Q	.	.
17.417	966.1409	3464.58	.	.	V	Q	.	.
17.500	988.3235	3220.90	.	.	V	Q	.	.
17.583	1008.8123	2974.97	.	.	V	Q	.	.
17.667	1027.5022	2713.78	.	.	Q	V	.	.
17.750	1045.4108	2600.32	.	.	Q	V	.	.
17.833	1062.0322	2413.44	.	.	Q	V	.	.
17.917	1077.2025	2202.72	.	.	Q	V	.	.
18.000	1091.1129	2019.79	.	.	Q	V	.	.
18.083	1104.2360	1905.46	.	.	Q	V	.	.
18.167	1116.6146	1797.37	.	.	Q	V	.	.
18.250	1128.1698	1677.82	.	.	Q	V	.	.
18.333	1138.7595	1537.63	.	.	Q	V	.	.
18.417	1148.6711	1439.17	.	.	Q	V	.	.
18.500	1157.7833	1323.09	.	.	Q	V	.	.
18.583	1166.3977	1250.81	.	.	Q	V	.	.
18.667	1174.5129	1178.34	.	.	Q	V	.	.

18.750	1181.8276	1062.09	.	Q	.	.	V	.
18.833	1188.5842	981.05	.	Q	.	.	V	.
18.917	1195.0250	935.21	.	Q	.	.	V	.
19.000	1201.1860	894.57	.	Q	.	.	V	.
19.083	1207.0585	852.68	.	Q	.	.	V	.
19.167	1212.6367	809.96	.	Q	.	.	V	.
19.250	1217.9604	773.01	.	Q	.	.	V	.
19.333	1223.0499	738.99	.	Q	.	.	V	.
19.417	1227.9227	707.54	.	Q	.	.	V	.
19.500	1232.6041	679.74	.	Q	.	.	V	.
19.583	1237.1084	654.02	.	Q	.	.	V	.
19.667	1241.4492	630.28	.	Q	.	.	V	.
19.750	1245.6331	607.50	.	Q	.	.	V	.
19.833	1249.6577	584.37	.	Q	.	.	V	.
19.917	1253.4780	554.72	.	Q	.	.	V	.
20.000	1257.0535	519.16	.	Q	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	685.0
20%	345.0
30%	230.0
40%	165.0
50%	115.0
60%	90.0
70%	75.0
80%	55.0
90%	25.0

END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

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***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - SINGLE AREA UH *
* ULTIMATE CONDITION - REGIONAL NODE 13305 *
* 2-YR EV AUGUST 2018 CCHIU *

FILE NAME: EVO2305S.DAT
TIME/DATE OF STUDY: 15:39 08/30/2018

FLOW PROCESS FROM NODE 13010.00 TO NODE 13305.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

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(UNIT-HYDROGRAPH ADDED TO STREAM #3)

WATERSHED AREA = 6245.200 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 1.646 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.479
LOW LOSS FRACTION = 0.813
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.13
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.28
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.37
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 0.62
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 0.85
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 1.44

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.754
30-MINUTE FACTOR = 0.754
1-HOUR FACTOR = 0.754
3-HOUR FACTOR = 0.961
6-HOUR FACTOR = 0.979
24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 5.063

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.289	218.503
2	0.868	437.007
3	1.447	437.007
4	2.070	470.670
5	2.919	641.243
6	3.827	685.662
7	5.251	1075.831
8	7.148	1433.122
9	9.607	1856.985
10	12.173	1938.132
11	15.110	2218.100
12	18.118	2272.164
13	21.051	2215.089
14	24.581	2665.776
15	27.585	2268.885
16	31.192	2724.388
17	35.331	3125.951
18	38.909	2702.563
19	43.542	3499.328
20	48.449	3706.440
21	52.750	3248.166
22	56.344	2714.188
23	60.783	3352.968
24	65.096	3257.215
25	68.634	2672.686
26	71.994	2537.784
27	75.152	2384.956
28	77.656	1891.228
29	79.920	1709.917
30	82.235	1748.524
31	84.338	1588.274
32	86.200	1406.456
33	87.758	1176.412
34	89.024	956.505
35	90.186	877.688
36	91.259	809.871
37	92.292	780.149
38	93.258	729.815
39	94.136	663.600
40	94.791	494.309
41	95.434	485.718
42	96.030	449.882
43	96.444	313.228
44	96.842	299.963

45	97.239	299.969
46	97.636	299.969
47	97.981	261.068
48	98.103	91.494
49	98.198	71.678
50	98.293	71.822
51	98.388	71.971
52	98.482	71.384
53	98.577	71.678
54	98.672	71.822
55	98.767	71.389
56	98.862	71.966
57	98.957	71.389
58	99.052	71.966
59	99.147	71.389
60	99.241	71.389
61	99.336	71.389
62	99.430	71.389
63	99.525	71.389
64	99.619	71.389
65	99.714	71.389
66	99.808	71.389
67	99.903	71.389
68	99.997	71.389
69	100.000	2.086

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 580.8564
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 158.9847

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2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H
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HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	125.0	250.0	375.0	500.0
10.000	22.5733	42.02	. Q V	.	.	.	.
10.083	22.8646	42.31	. Q V	.	.	.	.
10.167	23.1580	42.59	. Q V	.	.	.	.
10.250	23.4534	42.89	. Q V	.	.	.	.
10.333	23.7508	43.19	. Q V	.	.	.	.
10.417	24.0503	43.49	. Q V	.	.	.	.
10.500	24.3520	43.80	. Q V	.	.	.	.
10.583	24.6558	44.12	. Q V	.	.	.	.
10.667	24.9618	44.44	. Q V	.	.	.	.
10.750	25.2701	44.77	. Q V	.	.	.	.
10.833	25.5808	45.10	. Q V	.	.	.	.
10.917	25.8937	45.44	. Q V	.	.	.	.
11.000	26.2091	45.79	. Q V	.	.	.	.
11.083	26.5269	46.15	. Q V	.	.	.	.
11.167	26.8472	46.51	. Q V	.	.	.	.
11.250	27.1701	46.88	. Q V	.	.	.	.
11.333	27.4956	47.26	. Q V	.	.	.	.
11.417	27.8238	47.65	. Q V	.	.	.	.
11.500	28.1546	48.04	. Q V	.	.	.	.
11.583	28.4883	48.45	. Q V	.	.	.	.
11.667	28.8248	48.86	. Q V	.	.	.	.
11.750	29.1643	49.29	. Q V	.	.	.	.
11.833	29.5067	49.72	. Q V	.	.	.	.
11.917	29.8522	50.17	. Q V	.	.	.	.
12.000	30.2008	50.62	. Q V	.	.	.	.
12.083	30.5529	51.13	. Q V	.	.	.	.
12.167	30.9090	51.70	. Q V	.	.	.	.
12.250	31.2691	52.28	. Q V	.	.	.	.
12.333	31.6333	52.88	. Q V	.	.	.	.
12.417	32.0020	53.54	. Q V	.	.	.	.
12.500	32.3754	54.21	. Q V	.	.	.	.
12.583	32.7540	54.98	. Q V	.	.	.	.
12.667	33.1386	55.84	. Q V	.	.	.	.
12.750	33.5299	56.81	. Q V	.	.	.	.
12.833	33.9281	57.81	. Q V	.	.	.	.
12.917	34.3337	58.90	. Q V	.	.	.	.
13.000	34.7469	60.00	. Q V	.	.	.	.
13.083	35.1679	61.12	. Q V	.	.	.	.
13.167	35.5974	62.36	. Q V	.	.	.	.
13.250	36.0349	63.53	. Q V	.	.	.	.
13.333	36.4814	64.82	. Q V	.	.	.	.
13.417	36.9375	66.23	. Q V	.	.	.	.
13.500	37.4029	67.57	. Q V	.	.	.	.
13.583	37.8788	69.11	. Q V	.	.	.	.
13.667	38.3658	70.71	. Q V	.	.	.	.
13.750	38.8634	72.26	. Q V	.	.	.	.
13.833	39.3711	73.72	. Q V	.	.	.	.

13.917	39.8901	75.35	.	Q	V	.	.	.
14.000	40.4204	77.00	.	Q	V	.	.	.
14.083	40.9625	78.71	.	Q	V	.	.	.
14.167	41.5173	80.57	.	Q	V	.	.	.
14.250	42.0851	82.44	.	Q	V	.	.	.
14.333	42.6655	84.27	.	Q	V	.	.	.
14.417	43.2593	86.22	.	Q	V	.	.	.
14.500	43.8671	88.26	.	Q	.V	.	.	.
14.583	44.4909	90.57	.	Q	.V	.	.	.
14.667	45.1322	93.12	.	Q	.V	.	.	.
14.750	45.7931	95.96	.	Q	.V	.	.	.
14.833	46.4739	98.86	.	Q	.V	.	.	.
14.917	47.1764	101.99	.	Q	.V	.	.	.
15.000	47.9010	105.21	.	Q	.V	.	.	.
15.083	48.6480	108.47	.	Q	.V	.	.	.
15.167	49.4200	112.09	.	Q	.V	.	.	.
15.250	50.2157	115.54	.	Q	.V	.	.	.
15.333	51.0375	119.33	.	Q	.V	.	.	.
15.417	51.8863	123.24	.	Q	.V	.	.	.
15.500	52.7590	126.71	.	Q	.V	.	.	.
15.583	53.6602	130.85	.	Q	.V	.	.	.
15.667	54.5916	135.25	.	Q	.V	.	.	.
15.750	55.5520	139.45	.	.Q	V	.	.	.
15.833	56.5408	143.58	.	.Q	V	.	.	.
15.917	57.5614	148.19	.	.Q	V	.	.	.
16.000	58.6157	153.09	.	.Q	V	.	.	.
16.083	59.7804	169.11	.	.Q	V	.	.	.
16.167	61.0527	184.74	.	.	QV	.	.	.
16.250	62.3511	188.53	.	.	Q	.	.	.
16.333	63.6879	194.10	.	.	QV	.	.	.
16.417	65.1191	207.81	.	.	Q	.	.	.
16.500	66.6035	215.54	.	.	VQ	.	.	.
16.583	68.2737	242.51	.	.	V	Q.	.	.
16.667	70.1121	266.93	.	.	V	.Q	.	.
16.750	72.1324	293.35	.	.	V	.Q	.	.
16.833	74.2082	301.40	.	.	V	.Q	.	.
16.917	76.3989	318.10	.	.	V.	Q	.	.
17.000	78.6202	322.53	.	.	V.	Q	.	.
17.083	80.8372	321.91	.	.	V	Q	.	.
17.167	83.2313	347.63	.	.	V	Q	.	.
17.250	85.4976	329.05	.	.	.V	Q	.	.
17.333	87.9427	355.04	.	.	.V	Q	.	.
17.417	90.5444	377.75	.	.	.V	Q	.	.
17.500	93.0079	357.71	.	.	.V	Q	.	.
17.583	95.7626	399.99	.	.	.V	.Q	.	.
17.667	98.5807	409.19	.	.	.V	.Q	.	.
17.750	101.2119	382.04	.	.	.V	Q	.	.
17.833	103.6297	351.06	.	.	.V	Q	.	.
17.917	106.2600	381.93	.	.	.V	Q	.	.
18.000	108.8251	372.44	.	.	.V	Q.	.	.
18.083	111.1392	336.02	.	.	.	QV	.	.
18.167	113.3588	322.28	.	.	.	Q	V	.
18.250	115.4826	308.38	.	.	.	Q	V.	.
18.333	117.3878	276.64	.	.	.	Q	V.	.
18.417	119.1865	261.17	.	.	Q	V.	.	.
18.500	120.9609	257.63	.	.	Q	V	.	.
18.583	122.6326	242.74	.	.	Q.	V	.	.
18.667	124.1884	225.90	.	.	Q	.V	.	.

18.750	125.6124	206.76	.	.	Q	.	.V	.
18.833	126.9154	189.20	.	.	Q	.	.V	.
18.917	128.1499	179.24	.	.	Q	.	.V	.
19.000	129.3216	170.14	.	.	Q	.	.V	.
19.083	130.4467	163.36	.	.	Q	.	.V	.
19.167	131.5157	155.22	.	.	Q	.	.V	.
19.250	132.5236	146.34	.	.	.Q	.	.V	.
19.333	133.4377	132.72	.	.	Q	.	.V	.
19.417	134.3181	127.83	.	.	Q	.	.V	.
19.500	135.1558	121.65	.	.	Q.	.	.V	.
19.583	135.9156	110.32	.	.	Q	.	.V	.
19.667	136.6433	105.66	.	.	Q	.	.V	.
19.750	137.3465	102.10	.	.	Q	.	.V	.
19.833	138.0259	98.66	.	.	Q	.	.V	.
19.917	138.6649	92.78	.	.	Q	.	.V	.
20.000	139.2183	80.36	.	.	Q	.	.V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	755.0
20%	345.0
30%	245.0
40%	180.0
50%	145.0
60%	115.0
70%	95.0
80%	60.0
90%	30.0

END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

Michael Baker International
5 Hutton Centre Drive, Suite 500
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***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - SINGLE AREA UH *
* ULTIMATE CONDITION - REGIONAL NODE 13305 *
* 5-YR EV AUGUST 2018 CCHIU *

FILE NAME: EV05305S.DAT
TIME/DATE OF STUDY: 15:26 08/30/2018

FLOW PROCESS FROM NODE 13010.00 TO NODE 13305.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

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(UNIT-HYDROGRAPH ADDED TO STREAM #1)

WATERSHED AREA = 6245.200 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 1.299 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.399
LOW LOSS FRACTION = 0.767
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.18
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.41
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.55
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 0.92
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 1.27
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 2.12

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.754
30-MINUTE FACTOR = 0.754
1-HOUR FACTOR = 0.754
3-HOUR FACTOR = 0.961
6-HOUR FACTOR = 0.979
24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 6.415

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.367	276.872
2	1.100	553.744
3	1.847	564.439
4	2.861	766.116
5	4.085	924.018
6	6.093	1517.084
7	8.922	2136.663
8	12.182	2461.847
9	15.975	2864.736
10	19.630	2760.793
11	23.895	3221.303
12	27.861	2995.089
13	32.597	3576.818
14	37.419	3642.527
15	42.974	4195.376
16	49.106	4631.221
17	54.198	3846.309
18	59.244	3810.727
19	64.860	4241.716
20	69.370	3406.235
21	73.506	3123.743
22	77.070	2692.249
23	79.949	2173.893
24	82.839	2182.946
25	85.384	1922.068
26	87.475	1579.446
27	89.118	1241.198
28	90.561	1089.661
29	91.900	1011.310
30	93.143	938.469
31	94.235	824.819
32	95.058	621.547
33	95.854	601.425
34	96.424	430.808
35	96.927	379.985
36	97.430	379.990
37	97.908	360.439
38	98.105	148.662
39	98.225	90.831
40	98.345	90.595
41	98.465	91.062
42	98.586	90.831
43	98.706	90.826
44	98.826	90.831

45	98.947	91.056
46	99.067	90.601
47	99.187	90.601
48	99.307	90.601
49	99.426	90.601
50	99.546	90.601
51	99.666	90.601
52	99.786	90.601
53	99.906	90.601
54	100.000	70.761

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 795.6158
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 293.5640

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2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H
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HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	225.0	450.0	675.0	900.0
10.000	42.6878	77.71	. Q V	.	.	.	.
10.083	43.2269	78.27	. Q V	.	.	.	.
10.167	43.7698	78.83	. Q V	.	.	.	.
10.250	44.3167	79.41	. Q V	.	.	.	.
10.333	44.8677	80.00	. Q V	.	.	.	.
10.417	45.4228	80.60	. Q V	.	.	.	.
10.500	45.9821	81.21	. Q V	.	.	.	.
10.583	46.5457	81.84	. Q V	.	.	.	.
10.667	47.1137	82.47	. Q V	.	.	.	.
10.750	47.6861	83.12	. Q V	.	.	.	.
10.833	48.2631	83.78	. Q V	.	.	.	.
10.917	48.8448	84.46	. Q V	.	.	.	.
11.000	49.4313	85.15	. Q V	.	.	.	.
11.083	50.0226	85.86	. Q V	.	.	.	.
11.167	50.6189	86.58	. Q V	.	.	.	.
11.250	51.2203	87.32	. Q V	.	.	.	.
11.333	51.8269	88.07	. Q V	.	.	.	.
11.417	52.4388	88.85	. Q V	.	.	.	.
11.500	53.0561	89.64	. Q V	.	.	.	.
11.583	53.6791	90.45	. Q V	.	.	.	.
11.667	54.3077	91.28	. Q V	.	.	.	.
11.750	54.9422	92.13	. Q V	.	.	.	.
11.833	55.5827	93.00	. Q V	.	.	.	.
11.917	56.2294	93.90	. Q V	.	.	.	.
12.000	56.8823	94.81	. Q V	.	.	.	.
12.083	57.5427	95.88	. Q V	.	.	.	.
12.167	58.2114	97.11	. Q V	.	.	.	.
12.250	58.8889	98.37	. Q V	.	.	.	.
12.333	59.5759	99.75	. Q V	.	.	.	.
12.417	60.2731	101.24	. Q V	.	.	.	.
12.500	60.9827	103.03	. Q V	.	.	.	.
12.583	61.7069	105.16	. Q V	.	.	.	.
12.667	62.4471	107.47	. Q V	.	.	.	.
12.750	63.2048	110.02	. Q V	.	.	.	.
12.833	63.9800	112.55	. Q V	.	.	.	.
12.917	64.7744	115.35	. Q V	.	.	.	.
13.000	65.5875	118.07	. Q V	.	.	.	.
13.083	66.4217	121.13	. Q V	.	.	.	.
13.167	67.2775	124.25	. Q V	.	.	.	.
13.250	68.1569	127.70	. Q V	.	.	.	.
13.333	69.0619	131.40	. Q V	.	.	.	.
13.417	69.9902	134.80	. Q V	.	.	.	.
13.500	70.9422	138.22	. Q V	.	.	.	.
13.583	71.9197	141.93	. Q V	.	.	.	.
13.667	72.9203	145.29	. Q V	.	.	.	.
13.750	73.9438	148.61	. Q V	.	.	.	.
13.833	74.9892	151.78	. Q V	.	.	.	.

13.917	76.0553	154.80	.	Q	V	.	.	.
14.000	77.1426	157.89	.	Q	V	.	.	.
14.083	78.2533	161.27	.	Q	V	.	.	.
14.167	79.3887	164.87	.	Q	V	.	.	.
14.250	80.5487	168.43	.	Q	V	.	.	.
14.333	81.7349	172.23	.	Q	.V	.	.	.
14.417	82.9491	176.30	.	Q	.V	.	.	.
14.500	84.1962	181.09	.	Q	.V	.	.	.
14.583	85.4817	186.65	.	Q	.V	.	.	.
14.667	86.8080	192.59	.	Q	.V	.	.	.
14.750	88.1793	199.11	.	Q	.V	.	.	.
14.833	89.5950	205.55	.	Q	.V	.	.	.
14.917	91.0596	212.66	.	Q	.V	.	.	.
15.000	92.5723	219.64	.	Q	.V	.	.	.
15.083	94.1389	227.48	.	Q	V	.	.	.
15.167	95.7605	235.45	.	Q	V	.	.	.
15.250	97.4426	244.25	.	Q	V	.	.	.
15.333	99.1902	253.75	.	.Q	V	.	.	.
15.417	100.9952	262.08	.	.Q	V	.	.	.
15.500	102.8551	270.06	.	.	Q	V	.	.
15.583	104.7761	278.94	.	.	Q	V	.	.
15.667	106.7519	286.88	.	.	Q	V	.	.
15.750	108.7834	294.97	.	.	Q	V	.	.
15.833	110.8647	302.20	.	.	Q	V	.	.
15.917	112.9924	308.94	.	.	Q	V	.	.
16.000	115.1881	318.82	.	.	Q	V	.	.
16.083	117.6295	354.49	.	.	Q	V	.	.
16.167	120.3079	388.90	.	.	V	Q	.	.
16.250	123.0595	399.53	.	.	V	Q	.	.
16.333	126.0158	429.25	.	.	V	Q	.	.
16.417	129.1811	459.60	.	.	V	Q	.	.
16.500	132.8390	531.13	.	.	V	Q	.	.
16.583	136.9790	601.12	.	.	V	Q	.	.
16.667	141.3897	640.44	.	.	V	Q	.	.
16.750	146.0953	683.26	.	.	V	Q	.	.
16.833	150.7919	681.94	.	.	V	Q	.	.
16.917	155.8021	727.48	.	.	.V	Q	.	.
17.000	160.7412	717.16	.	.	.V	Q	.	.
17.083	166.0977	777.76	.	.	.V	Q	.	.
17.167	171.5594	793.04	.	.	.V	Q	.	.
17.250	177.4174	850.58	.	.	.V	Q	.	.
17.333	183.4932	882.21	.	.	.V	Q	.	.
17.417	189.0335	804.44	.	.	.V	Q	.	.
17.500	194.5210	796.78	.	.	.V	Q	.	.
17.583	200.1795	821.63	.	.	.V	Q	.	.
17.667	205.2151	731.16	.	.	.V	Q	.	.
17.750	209.9471	687.09	.	.	.V	Q	.	.
17.833	214.2818	629.41	.	.	.Q	V	.	.
17.917	218.2006	569.00	.	.	.Q	V	.	.
18.000	222.0242	555.19	.	.	.Q	V	.	.
18.083	225.5686	514.65	.	.	.Q	V	.	.
18.167	228.7785	466.08	.	.	.Q	V	.	.
18.250	231.6639	418.96	.	.	.Q	V	.	.
18.333	234.3538	390.57	.	.	.Q	V	.	.
18.417	236.9057	370.53	.	.	.Q	V	.	.
18.500	239.3196	350.50	.	.	.Q	V	.	.
18.583	241.5582	325.04	.	.	.Q	V	.	.
18.667	243.5798	293.54	.	.	.Q	V	.	.

18.750	245.4986	278.60	.	.	Q	.	.	V	.
18.833	247.2320	251.69	.	.	.Q	.	.	V	.
18.917	248.8652	237.13	.	.	Q	.	.	V	.
19.000	250.4297	227.17	.	.	Q	.	.	V	.
19.083	251.9045	214.13	.	.	Q	.	.	V	.
19.167	253.1777	184.88	.	.	Q	.	.	V	.
19.250	254.3569	171.22	.	.	Q	.	.	V	.
19.333	255.4852	163.83	.	.	Q	.	.	V	.
19.417	256.5699	157.50	.	.	Q	.	.	V	.
19.500	257.6108	151.13	.	.	Q	.	.	V	.
19.583	258.6084	144.85	.	.	Q	.	.	V	.
19.667	259.5687	139.44	.	.	Q	.	.	V	.
19.750	260.4942	134.39	.	.	Q	.	.	V	.
19.833	261.3887	129.88	.	.	Q	.	.	V	.
19.917	262.2566	126.02	.	.	Q	.	.	V	.
20.000	263.0987	122.27	.	.	Q	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	565.0
20%	285.0
30%	200.0
40%	145.0
50%	110.0
60%	95.0
70%	75.0
80%	50.0
90%	25.0

END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

Michael Baker International
5 Hutton Centre Drive, Suite 500
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***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - SINGLE AREA UH *
* ULTIMATE CONDITION - REGIONAL NODE 13305 *
* 10-YR EV AUGUST 2018 CCHIU *

FILE NAME: EV10305S.DAT
TIME/DATE OF STUDY: 15:23 08/30/2018

FLOW PROCESS FROM NODE 13010.00 TO NODE 13305.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

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(UNIT-HYDROGRAPH ADDED TO STREAM #1)

WATERSHED AREA = 6245.200 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 1.193 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.239
LOW LOSS FRACTION = 0.702
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.26
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.59
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.78
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.31
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 1.81
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 3.03

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.754
30-MINUTE FACTOR = 0.754
1-HOUR FACTOR = 0.754
3-HOUR FACTOR = 0.961
6-HOUR FACTOR = 0.979
24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 6.985

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.399	301.472
2	1.197	602.945
3	2.047	641.438
4	3.208	877.365
5	4.790	1194.875
6	7.364	1943.962
7	10.819	2609.158
8	14.635	2882.450
9	18.745	3103.865
10	23.211	3372.910
11	27.592	3309.229
12	32.721	3873.573
13	37.987	3977.494
14	44.127	4637.764
15	50.765	5013.354
16	55.950	3916.033
17	62.011	4577.974
18	67.364	4043.075
19	72.088	3567.274
20	76.222	3122.343
21	79.430	2423.062
22	82.588	2385.157
23	85.378	2107.287
24	87.633	1702.979
25	89.384	1322.747
26	90.921	1160.664
27	92.350	1079.675
28	93.669	996.305
29	94.677	760.788
30	95.564	669.979
31	96.278	539.785
32	96.826	413.919
33	97.374	413.706
34	97.895	393.647
35	98.112	163.978
36	98.243	98.835
37	98.374	98.835
38	98.505	99.043
39	98.636	99.049
40	98.767	98.830
41	98.898	98.835
42	99.029	99.043
43	99.160	98.835
44	99.291	98.835

45	99.422	98.835
46	99.553	98.835
47	99.684	98.835
48	99.814	98.835
49	99.945	98.835
50	100.000	41.345

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 984.1474
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 572.4788

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2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H
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HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	500.0	1000.0	1500.0	2000.0
10.000	79.7000	143.89	. Q	V	.	.	.
10.083	80.6981	144.93	. Q	V	.	.	.
10.167	81.7035	145.99	. Q	V	.	.	.
10.250	82.7164	147.07	. Q	V	.	.	.
10.333	83.7368	148.17	. Q	V	.	.	.
10.417	84.7650	149.29	. Q	V	.	.	.
10.500	85.8010	150.43	. Q	V	.	.	.
10.583	86.8451	151.60	. Q	V	.	.	.
10.667	87.8974	152.79	. Q	V	.	.	.
10.750	88.9581	154.01	. Q	V	.	.	.
10.833	90.0274	155.26	. Q	V	.	.	.
10.917	91.1054	156.53	. Q	V	.	.	.
11.000	92.1923	157.82	. Q	V	.	.	.
11.083	93.2884	159.15	. Q	V	.	.	.
11.167	94.3938	160.51	. Q	V	.	.	.
11.250	95.5088	161.89	. Q	V	.	.	.
11.333	96.6335	163.31	. Q	V	.	.	.
11.417	97.7683	164.77	. Q	V	.	.	.
11.500	98.9132	166.25	. Q	V	.	.	.
11.583	100.0687	167.77	. Q	V	.	.	.
11.667	101.2349	169.33	. Q	V	.	.	.
11.750	102.4121	170.93	. Q	V	.	.	.
11.833	103.6006	172.57	. Q	V	.	.	.
11.917	104.8007	174.25	. Q	V	.	.	.
12.000	106.0127	175.98	. Q	V	.	.	.
12.083	107.2386	178.01	. Q	V	.	.	.
12.167	108.4807	180.34	. Q	V	.	.	.
12.250	109.7394	182.76	. Q	V	.	.	.
12.333	111.0165	185.44	. Q	V	.	.	.
12.417	112.3143	188.45	. Q	V	.	.	.
12.500	113.6377	192.15	. Q	V	.	.	.
12.583	114.9910	196.50	. Q	V	.	.	.
12.667	116.3762	201.14	. Q	V	.	.	.
12.750	117.7953	206.05	. Q	V	.	.	.
12.833	119.2503	211.26	. Q	V	.	.	.
12.917	120.7413	216.50	. Q	V	.	.	.
13.000	122.2724	222.31	. Q	V	.	.	.
13.083	123.8447	228.30	. Q	V	.	.	.
13.167	125.4628	234.95	. Q	V	.	.	.
13.250	127.1296	242.02	. Q	V	.	.	.
13.333	128.8393	248.25	. Q	V	.	.	.
13.417	130.5966	255.16	. Q	V	.	.	.
13.500	132.3992	261.73	. Q	V	.	.	.
13.583	134.2450	268.01	. Q	V	.	.	.
13.667	136.1323	274.04	. Q	V	.	.	.
13.750	138.0580	279.60	. Q	V	.	.	.
13.833	140.0227	285.27	. Q	V	.	.	.

13.917	142.0258	290.86	.	Q	V.	.	.	.
14.000	144.0661	296.25	.	Q	V	.	.	.
14.083	146.1468	302.11	.	Q	V	.	.	.
14.167	148.2723	308.63	.	Q	V	.	.	.
14.250	150.4441	315.34	.	Q	V	.	.	.
14.333	152.6663	322.66	.	Q	V	.	.	.
14.417	154.9434	330.64	.	Q	V	.	.	.
14.500	157.2871	340.31	.	Q	V	.	.	.
14.583	159.7076	351.46	.	Q	.V	.	.	.
14.667	162.2096	363.29	.	Q	.V	.	.	.
14.750	164.7979	375.82	.	Q	.V	.	.	.
14.833	167.4780	389.16	.	Q	.V	.	.	.
14.917	170.2503	402.53	.	Q	.V	.	.	.
15.000	173.1257	417.51	.	Q	.V	.	.	.
15.083	176.1102	433.36	.	Q	.V	.	.	.
15.167	179.2186	451.34	.	Q	.V	.	.	.
15.250	182.4630	471.08	.	Q	.V	.	.	.
15.333	185.8370	489.92	.	Q	.V	.	.	.
15.417	189.3452	509.38	.	Q	V	.	.	.
15.500	192.9770	527.34	.	Q	V	.	.	.
15.583	196.7381	546.11	.	Q	V	.	.	.
15.667	200.6265	564.61	.	.Q	V	.	.	.
15.750	204.6471	583.79	.	.Q	V	.	.	.
15.833	208.7992	602.88	.	.Q	V	.	.	.
15.917	213.0981	624.21	.	.Q	V	.	.	.
16.000	217.6219	656.86	.	.	Q V	.	.	.
16.083	222.6872	735.47	.	.	QV	.	.	.
16.167	228.3086	816.23	.	.	VQ	.	.	.
16.250	234.2996	869.90	.	.	VQ	.	.	.
16.333	240.9045	959.03	.	.	V	Q.	.	.
16.417	248.3311	1078.34	.	.	V	.Q	.	.
16.500	256.9562	1252.36	.	.	V	.	Q	.
16.583	266.5557	1393.85	.	.	V	.	Q	.
16.667	276.7127	1474.80	.	.	V.	.	Q.	.
16.750	287.2557	1530.84	.	.	V	.	Q	.
16.833	298.2666	1598.78	.	.	V	.	.Q	.
16.917	309.5212	1634.17	.	.	.V	.	Q	.
17.000	321.5597	1747.99	.	.	.V	.	Q	.
17.083	334.0201	1809.25	.	.	.V	.	Q	.
17.167	347.1904	1912.32	.	.	.V	.	Q	.
17.250	360.5552	1940.57	.	.	.V	.	Q	.
17.333	372.7321	1768.10	.	.	.V	.	Q	.
17.417	385.1949	1809.59	.	.	.V	.	Q	.
17.500	396.8079	1686.21	.	.	.V	.	Q	.
17.583	407.4967	1552.02	.	.	.V	.Q	.	.
17.667	417.2331	1413.72	.	.	.QV	.	.	.
17.750	425.9187	1261.15	.	.	.Q	V.	.	.
17.833	434.1721	1198.39	.	.	.Q	V	.	.
17.917	441.7697	1103.17	.	.	.Q	V	.	.
18.000	448.5763	988.32	.	.	.Q	.V	.	.
18.083	454.6508	882.03	.	.	.Q	.V	.	.
18.167	460.2718	816.17	.	.	.Q	.V	.	.
18.250	465.5453	765.71	.	.	.Q	.V	.	.
18.333	470.4665	714.56	.	.	.Q	.V	.	.
18.417	474.8851	641.58	.	.	.Q	.V	.	.
18.500	478.9562	591.12	.	.	.Q	.V	.	.
18.583	482.6740	539.82	.	.	.Q	.V	.	.
18.667	486.0775	494.19	.	.	.Q	.V	.	.

18.750	489.2889	466.30	.	Q.	.	.	V	.
18.833	492.2745	433.51	.	Q	.	.	V	.
18.917	494.8595	375.34	.	Q	.	.	V	.
19.000	497.2329	344.62	.	Q	.	.	V	.
19.083	499.5009	329.30	.	Q	.	.	V	.
19.167	501.6762	315.86	.	Q	.	.	V	.
19.250	503.7512	301.29	.	Q	.	.	V	.
19.333	505.7358	288.16	.	Q	.	.	V	.
19.417	507.6351	275.78	.	Q	.	.	V	.
19.500	509.4613	265.16	.	Q	.	.	V	.
19.583	511.2234	255.86	.	Q	.	.	V	.
19.667	512.9279	247.50	.	Q	.	.	V	.
19.750	514.5807	239.98	.	Q	.	.	V	.
19.833	516.1807	232.32	.	Q	.	.	V	.
19.917	517.7307	225.06	.	Q	.	.	V	.
20.000	519.2283	217.46	.	Q	.	.	V	.

 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	455.0
20%	245.0
30%	170.0
40%	125.0
50%	100.0
60%	85.0
70%	70.0
80%	45.0
90%	30.0

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END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

Michael Baker International
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Santa Ana, CA 92707

***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - SINGLE AREA UH *
* ULTIMATE CONDITION - REGIONAL NODE 13305 *
* 25-YR EV AUGUST 2018 CCHIU *

FILE NAME: EV25305S.DAT
TIME/DATE OF STUDY: 15:05 08/30/2018

FLOW PROCESS FROM NODE 13010.00 TO NODE 13305.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

(UNIT-HYDROGRAPH ADDED TO STREAM #1)

WATERSHED AREA = 6245.200 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 1.083 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.239
LOW LOSS FRACTION = 0.533
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.34
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.72
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.95
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.59
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.20
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 3.68

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.754
30-MINUTE FACTOR = 0.754
1-HOUR FACTOR = 0.754
3-HOUR FACTOR = 0.961
6-HOUR FACTOR = 0.979
24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 7.695

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.440	332.093
2	1.319	664.186
3	2.319	755.435
4	3.670	1020.364
5	5.869	1660.322
6	9.242	2547.930
7	13.220	3004.239
8	17.843	3491.698
9	22.553	3557.444
10	27.450	3698.837
11	33.103	4269.435
12	38.929	4400.368
13	45.945	5298.702
14	52.801	5178.353
15	58.651	4418.089
16	65.259	4991.175
17	70.612	4043.230
18	75.376	3598.010
19	79.050	2774.897
20	82.524	2624.092
21	85.577	2305.706
22	87.981	1815.218
23	89.837	1402.416
24	91.487	1245.785
25	93.004	1145.665
26	94.305	982.804
27	95.290	744.031
28	96.155	653.545
29	96.768	463.077
30	97.372	455.886
31	97.927	419.180
32	98.138	159.599
33	98.283	108.989
34	98.427	108.891
35	98.571	109.179
36	98.715	108.700
37	98.860	109.277
38	99.004	108.700
39	99.148	108.700
40	99.292	108.700
41	99.436	108.700
42	99.580	108.700
43	99.723	108.700
44	99.867	108.700

 TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 917.3271
 TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 973.0844

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2 4 - H O U R S T O R M
 R U N O F F H Y D R O G R A P H

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HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
 (Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	725.0	1450.0	2175.0	2900.0
10.000	154.0970	276.18	. Q	V .	.	.	.
10.083	156.0130	278.20	. Q	V .	.	.	.
10.167	157.9433	280.27	. Q	V .	.	.	.
10.250	159.8880	282.37	. Q	V .	.	.	.
10.333	161.8476	284.53	. Q	V .	.	.	.
10.417	163.8221	286.71	. Q	V .	.	.	.
10.500	165.8122	288.95	. Q	V .	.	.	.
10.583	167.8179	291.23	. Q	V .	.	.	.
10.667	169.8397	293.56	. Q	V .	.	.	.
10.750	171.8778	295.93	. Q	V .	.	.	.
10.833	173.9327	298.37	. Q	V .	.	.	.
10.917	176.0046	300.85	. Q	V .	.	.	.
11.000	178.0941	303.39	. Q	V .	.	.	.
11.083	180.2014	305.98	. Q	V .	.	.	.
11.167	182.3271	308.64	. Q	V .	.	.	.
11.250	184.4713	311.35	. Q	V .	.	.	.
11.333	186.6348	314.14	. Q	V .	.	.	.
11.417	188.8178	316.97	. Q	V .	.	.	.
11.500	191.0210	319.90	. Q	V .	.	.	.
11.583	193.2446	322.87	. Q	V .	.	.	.
11.667	195.4893	325.94	. Q	V .	.	.	.
11.750	197.7557	329.07	. Q	V .	.	.	.
11.833	200.0442	332.30	. Q	V .	.	.	.
11.917	202.3554	335.59	. Q	V .	.	.	.
12.000	204.6900	338.99	. Q	V .	.	.	.
12.083	207.0524	343.01	. Q	V .	.	.	.
12.167	209.4471	347.71	. Q	V .	.	.	.
12.250	211.8757	352.64	. Q	V .	.	.	.
12.333	214.3423	358.15	. Q	V .	.	.	.
12.417	216.8548	364.81	. Q	V .	.	.	.
12.500	219.4244	373.10	. Q	V .	.	.	.
12.583	222.0571	382.26	. Q	V .	.	.	.
12.667	224.7596	392.41	. Q	V .	.	.	.
12.750	227.5335	402.78	. Q	V .	.	.	.
12.833	230.3818	413.57	. Q	V .	.	.	.
12.917	233.3118	425.44	. Q	V .	.	.	.
13.000	236.3266	437.74	. Q	V .	.	.	.
13.083	239.4374	451.69	. Q	V .	.	.	.
13.167	242.6445	465.67	. Q	V .	.	.	.
13.250	245.9402	478.54	. Q	V .	.	.	.
13.333	249.3330	492.62	. Q	V .	.	.	.
13.417	252.8130	505.31	. Q	V .	.	.	.
13.500	256.3772	517.52	. Q	V .	.	.	.
13.583	260.0174	528.56	. Q	V .	.	.	.
13.667	263.7339	539.64	. Q	V .	.	.	.
13.750	267.5247	550.42	. Q	V .	.	.	.
13.833	271.3864	560.71	. Q	.V	.	.	.

13.917	275.3159	570.57	.	Q	.V	.	.	.
14.000	279.3140	580.53	.	Q	.V	.	.	.
14.083	283.3904	591.89	.	Q	.V	.	.	.
14.167	287.5547	604.65	.	Q	.V	.	.	.
14.250	291.8087	617.69	.	Q	.V	.	.	.
14.333	296.1616	632.04	.	Q	.V	.	.	.
14.417	300.6304	648.88	.	Q	.V	.	.	.
14.500	305.2420	669.59	.	Q	.V	.	.	.
14.583	310.0104	692.37	.	Q	.V	.	.	.
14.667	314.9492	717.12	.	Q	.V	.	.	.
14.750	320.0625	742.45	.	Q	.V	.	.	.
14.833	325.3582	768.93	.	Q	.V	.	.	.
14.917	330.8548	798.10	.	.Q	V	.	.	.
15.000	336.5606	828.48	.	.Q	V	.	.	.
15.083	342.5034	862.90	.	.Q	V	.	.	.
15.167	348.6859	897.70	.	.Q	V	.	.	.
15.250	355.0949	930.59	.	.Q	V	.	.	.
15.333	361.7558	967.16	.	.	QV	.	.	.
15.417	368.6308	998.26	.	.	QV	.	.	.
15.500	375.6988	1026.27	.	.	QV	.	.	.
15.583	382.9473	1052.49	.	.	QV	.	.	.
15.667	390.3773	1078.83	.	.	QV	.	.	.
15.750	397.9679	1102.15	.	.	QV	.	.	.
15.833	405.6892	1121.14	.	.	QV	.	.	.
15.917	413.5745	1144.94	.	.	QV	.	.	.
16.000	421.7146	1181.95	.	.	QV	.	.	.
16.083	430.6023	1290.49	.	.	Q	.	.	.
16.167	440.2567	1401.82	.	.	VQ	.	.	.
16.250	450.4150	1474.98	.	.	VQ	.	.	.
16.333	461.4534	1602.78	.	.	VQ	.	.	.
16.417	473.8995	1807.16	.	.	VQ	.	.	.
16.500	488.0217	2050.55	.	.	V	Q	.	.
16.583	503.1730	2199.97	.	.	V	Q	.	.
16.667	519.1752	2323.52	.	.	.V	Q	.	.
16.750	535.5356	2375.54	.	.	.V	Q	.	.
16.833	552.4380	2454.23	.	.	.V	Q	.	.
16.917	570.4655	2617.59	.	.	.V	Q	.	.
17.000	589.0580	2699.63	.	.	.V	Q	.	.
17.083	608.8533	2874.27	.	.	.V	Q	.	.
17.167	628.3163	2826.04	.	.	.V	Q	.	.
17.250	646.5756	2651.25	.	.	.V	Q	.	.
17.333	665.0965	2689.23	.	.	.V	Q	.	.
17.417	681.8622	2434.38	.	.	.V	Q	.	.
17.500	697.4022	2256.40	.	.	.V	Q	.	.
17.583	711.3106	2019.51	.	.	.Q	V	.	.
17.667	724.5238	1918.55	.	.	.Q	V	.	.
17.750	736.7775	1779.23	.	.	.Q	V	.	.
17.833	747.8535	1608.25	.	.	.Q	V	.	.
17.917	757.8895	1457.22	.	.	.Q	V	.	.
18.000	767.3115	1368.08	.	.	.Q	V	.	.
18.083	776.1774	1287.33	.	.	.Q	V	.	.
18.167	784.3858	1191.86	.	.	.Q	V	.	.
18.250	791.8683	1086.45	.	.	.Q	V	.	.
18.333	798.8211	1009.55	.	.	.Q	V	.	.
18.417	805.1854	924.09	.	.	.Q	V	.	.
18.500	811.1973	872.94	.	.	.Q	V	.	.
18.583	816.8129	815.38	.	.	.Q	V	.	.
18.667	821.7817	721.48	.	.	.Q	V	.	.

18.750	826.4211	673.63	.	Q	.	.	V	.
18.833	830.8526	643.45	.	Q	.	.	V	.
18.917	835.0981	616.45	.	Q	.	.	V	.
19.000	839.1526	588.71	.	Q	.	.	V	.
19.083	843.0175	561.18	.	Q	.	.	V	.
19.167	846.7112	536.32	.	Q	.	.	V	.
19.250	850.2554	514.63	.	Q	.	.	V	.
19.333	853.6506	492.98	.	Q	.	.	V	.
19.417	856.9166	474.22	.	Q	.	.	V	.
19.500	860.0592	456.32	.	Q	.	.	V	.
19.583	863.0884	439.85	.	Q	.	.	V	.
19.667	866.0023	423.09	.	Q	.	.	V	.
19.750	868.7832	403.79	.	Q	.	.	V	.
19.833	871.3345	370.46	.	Q	.	.	V	.
19.917	873.8057	358.81	.	Q	.	.	V	.
20.000	876.2120	349.40	.	Q	.	.	V	.

 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	615.0
20%	305.0
30%	210.0
40%	135.0
50%	105.0
60%	85.0
70%	70.0
80%	50.0
90%	30.0

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END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

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5 Hutton Centre Drive, Suite 500
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***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - SINGLE AREA UH *
* ULTIMATE CONDITION - REGIONAL NODE 13305 *
* 50-YR EV AUGUST 2018 CCHIU *

FILE NAME: EV50305S.DAT
TIME/DATE OF STUDY: 15:01 08/30/2018

FLOW PROCESS FROM NODE 13010.00 TO NODE 13305.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

(UNIT-HYDROGRAPH ADDED TO STREAM #1)

WATERSHED AREA = 6245.200 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 1.036 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.239
LOW LOSS FRACTION = 0.504
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.37
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.80
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 1.06
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.78
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.47
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 4.12

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.754
30-MINUTE FACTOR = 0.754
1-HOUR FACTOR = 0.754
3-HOUR FACTOR = 0.961
6-HOUR FACTOR = 0.979
24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 8.044

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.460	347.159
2	1.379	694.318
3	2.461	817.418
4	3.944	1120.125
5	6.458	1898.895
6	10.219	2840.657
7	14.584	3296.609
8	19.298	3559.989
9	24.523	3946.509
10	29.679	3893.965
11	35.859	4668.279
12	42.494	5011.271
13	50.064	5717.277
14	56.212	4643.131
15	63.179	5262.227
16	69.066	4446.480
17	74.247	3912.743
18	78.341	3091.906
19	81.977	2746.374
20	85.256	2476.605
21	87.831	1944.864
22	89.794	1482.530
23	91.519	1303.178
24	93.101	1194.523
25	94.420	996.363
26	95.443	772.992
27	96.287	637.007
28	96.918	476.636
29	97.549	476.544
30	98.032	364.761
31	98.194	122.415
32	98.345	113.887
33	98.495	113.887
34	98.646	113.887
35	98.797	114.071
36	98.948	113.702
37	99.099	114.065
38	99.249	113.702
39	99.400	113.702
40	99.550	113.702
41	99.701	113.702
42	99.852	113.702
43	100.000	112.135

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 964.8992
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 1151.5076

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2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

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HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	875.0	1750.0	2625.0	3500.0
10.000	183.7141	328.50	. Q	V .	.	.	.
10.083	185.9934	330.96	. Q	V .	.	.	.
10.167	188.2897	333.42	. Q	V .	.	.	.
10.250	190.6035	335.97	. Q	V .	.	.	.
10.333	192.9349	338.52	. Q	V .	.	.	.
10.417	195.2847	341.18	. Q	V .	.	.	.
10.500	197.6527	343.84	. Q	V .	.	.	.
10.583	200.0398	346.61	. Q	V .	.	.	.
10.667	202.4461	349.38	. Q	V .	.	.	.
10.750	204.8722	352.27	. Q	V .	.	.	.
10.833	207.3182	355.17	. Q	V .	.	.	.
10.917	209.7850	358.18	. Q	V .	.	.	.
11.000	212.2726	361.21	. Q	V .	.	.	.
11.083	214.7820	364.36	. Q	V .	.	.	.
11.167	217.3131	367.52	. Q	V .	.	.	.
11.250	219.8670	370.82	. Q	V .	.	.	.
11.333	222.4437	374.13	. Q	V .	.	.	.
11.417	225.0442	377.59	. Q	V .	.	.	.
11.500	227.6686	381.07	. Q	V .	.	.	.
11.583	230.3180	384.70	. Q	V .	.	.	.
11.667	232.9926	388.35	. Q	V .	.	.	.
11.750	235.6935	392.16	. Q	V .	.	.	.
11.833	238.4208	396.01	. Q	V .	.	.	.
11.917	241.1758	400.02	. Q	V .	.	.	.
12.000	243.9587	404.08	. Q	V .	.	.	.
12.083	246.7758	409.04	. Q	V .	.	.	.
12.167	249.6323	414.77	. Q	V .	.	.	.
12.250	252.5316	420.97	. Q	V .	.	.	.
12.333	255.4782	427.85	. Q	V .	.	.	.
12.417	258.4849	436.58	. Q	V .	.	.	.
12.500	261.5659	447.35	. Q	V .	.	.	.
12.583	264.7293	459.33	. Q	V .	.	.	.
12.667	267.9796	471.94	. Q	V .	.	.	.
12.750	271.3242	485.63	. Q	V .	.	.	.
12.833	274.7629	499.31	. Q	V .	.	.	.
12.917	278.3091	514.91	. Q	V .	.	.	.
13.000	281.9685	531.34	. Q	V .	.	.	.
13.083	285.7535	549.58	. Q	V .	.	.	.
13.167	289.6494	565.70	. Q	V .	.	.	.
13.250	293.6678	583.47	. Q	V .	.	.	.
13.333	297.7979	599.68	. Q	V .	.	.	.
13.417	302.0346	615.17	. Q	V .	.	.	.
13.500	306.3672	629.10	. Q	V .	.	.	.
13.583	310.7937	642.73	. Q	V .	.	.	.
13.667	315.3114	655.96	. Q	V .	.	.	.
13.750	319.9158	668.56	. Q	.V	.	.	.
13.833	324.6017	680.39	. Q	.V	.	.	.

13.917	329.3700	692.36	.	Q	.V	.	.	.
14.000	334.2208	704.34	.	Q	.V	.	.	.
14.083	339.1661	718.06	.	Q	.V	.	.	.
14.167	344.2152	733.13	.	Q	.V	.	.	.
14.250	349.3745	749.13	.	Q	.V	.	.	.
14.333	354.6530	766.44	.	Q	.V	.	.	.
14.417	360.0800	787.99	.	Q	.V	.	.	.
14.500	365.6852	813.87	.	Q	.V	.	.	.
14.583	371.4845	842.07	.	Q	.V	.	.	.
14.667	377.4883	871.75	.	Q	.V	.	.	.
14.750	383.7145	904.04	.	Q	.V	.	.	.
14.833	390.1640	936.47	.	Q	.V	.	.	.
14.917	396.8677	973.37	.	.Q	.V	.	.	.
15.000	403.8397	1012.33	.	.Q	.V	.	.	.
15.083	411.1116	1055.88	.	.	.Q	.V	.	.
15.167	418.6566	1095.54	.	.	.Q	.V	.	.
15.250	426.5072	1139.91	.	.	.QV	.	.	.
15.333	434.6493	1182.23	.	.	.Q	.V	.	.
15.417	443.0567	1220.76	.	.	.Q	.V	.	.
15.500	451.6932	1254.02	.	.	.QV	.	.	.
15.583	460.5656	1288.28	.	.	.QV	.	.	.
15.667	469.6648	1321.19	.	.	.QV	.	.	.
15.750	478.9558	1349.06	.	.	.QV	.	.	.
15.833	488.3962	1370.75	.	.	.QV	.	.	.
15.917	498.0423	1400.61	.	.	.QV	.	.	.
16.000	508.0217	1449.01	.	.	.QV	.	.	.
16.083	518.8891	1577.95	.	.	.Q	.	.	.
16.167	530.6981	1714.66	.	.	.VQ	.	.	.
16.250	543.1980	1814.99	.	.	.V	.Q	.	.
16.333	556.7804	1972.17	.	.	.V	.Q	.	.
16.417	572.1622	2233.44	.	.	.V	.Q	.	.
16.500	589.5147	2519.58	.	.	.V	.Q	.	.
16.583	607.9326	2674.27	.	.	.V	.Q	.	.
16.667	627.0570	2776.87	.	.	.V	.Q	.	.
16.750	647.0933	2909.27	.	.	.V	.Q	.	.
16.833	667.5736	2973.74	.	.	.V	.Q	.	.
16.917	689.6271	3202.17	.	.	.V	.Q	.	.
17.000	712.4300	3310.97	.	.	.V	.Q	.	.
17.083	736.0865	3434.92	.	.	.V	.Q	.	.
17.167	758.0162	3184.20	.	.	.V	.Q	.	.
17.250	780.2739	3231.80	.	.	.V	.Q	.	.
17.333	800.7614	2974.78	.	.	.V	.Q	.	.
17.417	819.7551	2757.89	.	.	.V	.Q	.	.
17.500	836.8498	2482.15	.	.	.QV	.	.	.
17.583	852.8239	2319.43	.	.	.Q	.V	.	.
17.667	867.7344	2165.02	.	.	.Q	.V	.	.
17.750	881.2131	1957.11	.	.	.Q	.V	.	.
17.833	893.4205	1772.51	.	.	.Q	.V	.	.
17.917	904.8362	1657.56	.	.	.Q	.V	.	.
18.000	915.5780	1559.71	.	.	.Q	.V	.	.
18.083	925.4797	1437.72	.	.	.Q	.V	.	.
18.167	934.5399	1315.54	.	.	.Q	.V	.	.
18.250	942.8987	1213.70	.	.	.Q	.V	.	.
18.333	950.6022	1118.55	.	.	.Q	.V	.	.
18.417	957.8687	1055.08	.	.	.Q	.V	.	.
18.500	964.5494	970.05	.	.	.Q	.V	.	.
18.583	970.5226	867.31	.	.	.Q	.V	.	.
18.667	976.1665	819.49	.	.	.Q	.V	.	.

18.750	981.5543	782.31	.	Q	.	.	.	V	.
18.833	986.7103	748.66	.	Q	.	.	.	V	.
18.917	991.6225	713.25	.	Q	.	.	.	V	.
19.000	996.3099	680.61	.	Q	.	.	.	V	.
19.083	1000.7799	649.05	.	Q	.	.	.	V	.
19.167	1005.0611	621.63	.	Q	.	.	.	V	.
19.250	1009.1551	594.45	.	Q	.	.	.	V	.
19.333	1013.0786	569.70	.	Q	.	.	.	V	.
19.417	1016.8404	546.21	.	Q	.	.	.	V	.
19.500	1020.4444	523.30	.	Q	.	.	.	V	.
19.583	1023.8860	499.71	.	Q	.	.	.	V	.
19.667	1027.0352	457.26	.	Q	.	.	.	V	.
19.750	1030.0734	441.14	.	Q	.	.	.	V	.
19.833	1033.0258	428.69	.	Q	.	.	.	V	.
19.917	1035.9009	417.46	.	Q	.	.	.	V	.
20.000	1038.6951	405.71	.	Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	610.0
20%	305.0
30%	205.0
40%	135.0
50%	100.0
60%	80.0
70%	65.0
80%	50.0
90%	25.0

END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

Michael Baker International
5 Hutton Centre Drive, Suite 500
Santa Ana, CA 92707

***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - SINGLE AREA UH *
* ULTIMATE CONDITION - REGIONAL NODE 13305 *
* 100-YR EV AUGUST 2018 CCHIU *

FILE NAME: EV00305S.DAT
TIME/DATE OF STUDY: 14:59 08/30/2018

FLOW PROCESS FROM NODE 13010.00 TO NODE 13305.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

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(UNIT-HYDROGRAPH ADDED TO STREAM #1)

WATERSHED AREA = 6245.200 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 1.002 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.239
LOW LOSS FRACTION = 0.483
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.40
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.87
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 1.15
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.94
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.71
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 4.49

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.754
30-MINUTE FACTOR = 0.754
1-HOUR FACTOR = 0.754
3-HOUR FACTOR = 0.961
6-HOUR FACTOR = 0.979
24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 8.317

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.475	358.939
2	1.426	717.877
3	2.575	868.156
4	4.179	1211.154
5	6.957	2098.102
6	10.987	3043.658
7	15.656	3526.965
8	20.542	3690.389
9	25.965	4095.361
10	31.687	4321.665
11	38.051	4806.592
12	45.424	5568.848
13	52.853	5610.979
14	59.297	4867.147
15	66.201	5214.108
16	71.888	4295.787
17	76.706	3638.733
18	80.503	2867.734
19	84.102	2718.190
20	87.047	2224.031
21	89.232	1650.807
22	91.065	1384.259
23	92.738	1263.602
24	94.192	1097.843
25	95.271	815.207
26	96.195	697.696
27	96.854	498.147
28	97.507	492.655
29	98.022	389.066
30	98.194	130.102
31	98.350	117.776
32	98.506	117.955
33	98.662	117.776
34	98.818	117.684
35	98.973	117.597
36	99.130	118.133
37	99.286	117.597
38	99.441	117.597
39	99.597	117.597
40	99.753	117.597
41	99.908	117.597
42	100.000	69.182

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 1000.4967
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 1305.9495

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2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

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HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	975.0	1950.0	2925.0	3900.0
10.000	207.4574	370.91	. Q V .	.	.	.	.
10.083	210.0311	373.70	. Q V .	.	.	.	.
10.167	212.6242	376.52	. Q V .	.	.	.	.
10.250	215.2374	379.43	. Q V .	.	.	.	.
10.333	217.8707	382.36	. Q V .	.	.	.	.
10.417	220.5249	385.39	. Q V .	.	.	.	.
10.500	223.2001	388.45	. Q V .	.	.	.	.
10.583	225.8971	391.60	. Q V .	.	.	.	.
10.667	228.6160	394.79	. Q V .	.	.	.	.
10.750	231.3576	398.08	. Q V .	.	.	.	.
10.833	234.1221	401.41	. Q V .	.	.	.	.
10.917	236.9103	404.84	. Q V .	.	.	.	.
11.000	239.7224	408.32	. Q V .	.	.	.	.
11.083	242.5593	411.91	. Q V .	.	.	.	.
11.167	245.4212	415.56	. Q V .	.	.	.	.
11.250	248.3091	419.32	. Q V .	.	.	.	.
11.333	251.2232	423.13	. Q V .	.	.	.	.
11.417	254.1646	427.08	. Q V .	.	.	.	.
11.500	257.1335	431.08	. Q V .	.	.	.	.
11.583	260.1309	435.23	. Q V .	.	.	.	.
11.667	263.1573	439.43	. Q V .	.	.	.	.
11.750	266.2137	443.79	. Q V .	.	.	.	.
11.833	269.3006	448.22	. Q V .	.	.	.	.
11.917	272.4191	452.81	. Q V .	.	.	.	.
12.000	275.5698	457.48	. Q V .	.	.	.	.
12.083	278.7604	463.28	. Q V .	.	.	.	.
12.167	281.9983	470.14	. Q V .	.	.	.	.
12.250	285.2874	477.58	. Q V .	.	.	.	.
12.333	288.6349	486.05	. Q V .	.	.	.	.
12.417	292.0584	497.10	. Q V .	.	.	.	.
12.500	295.5764	510.80	. Q V .	.	.	.	.
12.583	299.1992	526.04	. Q V .	.	.	.	.
12.667	302.9310	541.86	. Q V .	.	.	.	.
12.750	306.7810	559.02	. Q V .	.	.	.	.
12.833	310.7545	576.96	. Q V .	.	.	.	.
12.917	314.8626	596.49	. Q V .	.	.	.	.
13.000	319.1205	618.25	. Q V .	.	.	.	.
13.083	323.5313	640.44	. Q V .	.	.	.	.
13.167	328.0827	660.87	. Q V .	.	.	.	.
13.250	332.7837	682.58	. Q V .	.	.	.	.
13.333	337.6188	702.07	. Q V .	.	.	.	.
13.417	342.5788	720.19	. Q V .	.	.	.	.
13.500	347.6512	736.51	. Q V .	.	.	.	.
13.583	352.8361	752.85	. Q V .	.	.	.	.
13.667	358.1263	768.14	. Q V .	.	.	.	.
13.750	363.5145	782.37	. Q V .	.	.	.	.
13.833	368.9980	796.21	. Q V .	.	.	.	.

13.917	374.5782	810.23	.	Q	.V	.	.	.
14.000	380.2544	824.18	.	Q	.V	.	.	.
14.083	386.0377	839.74	.	Q	.V	.	.	.
14.167	391.9412	857.19	.	Q	.V	.	.	.
14.250	397.9707	875.48	.	Q	.V	.	.	.
14.333	404.1410	895.92	.	Q	.V	.	.	.
14.417	410.4854	921.21	.	Q	.V	.	.	.
14.500	417.0350	951.00	.	Q	.V	.	.	.
14.583	423.8112	983.90	.	Q	V	.	.	.
14.667	430.8230	1018.12	.	Q	V	.	.	.
14.750	438.0901	1055.18	.	Q	V	.	.	.
14.833	445.6247	1094.02	.	.Q	V	.	.	.
14.917	453.4518	1136.50	.	.Q	V	.	.	.
15.000	461.6049	1183.82	.	.	Q	V	.	.
15.083	470.0963	1232.97	.	.	Q	V	.	.
15.167	478.9120	1280.04	.	.	Q	V	.	.
15.250	488.0827	1331.58	.	.	Q	V	.	.
15.333	497.5965	1381.40	.	.	Q	V	.	.
15.417	507.4191	1426.24	.	.	Q	V	.	.
15.500	517.5109	1465.33	.	.	Q	.	.	.
15.583	527.8830	1506.03	.	.	Q	V	.	.
15.667	538.5164	1543.96	.	.	Q	V	.	.
15.750	549.3597	1574.46	.	.	Q	.	.	.
15.833	560.3757	1599.52	.	.	Q	V	.	.
15.917	571.6246	1633.35	.	.	Q	V	.	.
16.000	583.2650	1690.17	.	.	Q	.	.	.
16.083	595.9184	1837.28	.	.	Q	.	.	.
16.167	609.6410	1992.52	.	.	V	Q	.	.
16.250	624.2134	2115.91	.	.	V	Q	.	.
16.333	640.0394	2297.94	.	.	V	Q	.	.
16.417	658.0220	2611.07	.	.	V	Q	.	.
16.500	678.1469	2922.14	.	.	V	Q	.	.
16.583	699.4487	3093.02	.	.	.V	.Q	.	.
16.667	721.4296	3191.62	.	.	.V	.Q	.	.
16.750	744.5042	3350.43	.	.	.V	.Q	.	.
16.833	768.5229	3487.51	.	.	.V	.Q	.	.
16.917	793.8141	3672.28	.	.	.V	.Q	.	.
17.000	820.3912	3858.99	.	.	.V	.Q	.	.
17.083	846.8261	3838.35	.	.	.V	.Q	.	.
17.167	871.7325	3616.42	.	.	.V	.Q	.	.
17.250	896.4355	3586.87	.	.	.V	.Q	.	.
17.333	918.9765	3272.96	.	.	.V	.Q	.	.
17.417	939.6534	3002.28	.	.	.V	Q	.	.
17.500	958.3494	2714.66	.	.	.Q	V	.	.
17.583	976.0582	2571.32	.	.	.Q	V	.	.
17.667	992.2205	2346.76	.	.	.Q	V	.	.
17.750	1006.7617	2111.38	.	.	.Q	V	.	.
17.833	1020.2335	1956.10	.	.	.Q	.V	.	.
17.917	1032.9138	1841.19	.	.	.Q	.V	.	.
18.000	1044.7031	1711.81	.	.	.Q	.V	.	.
18.083	1055.4200	1556.10	.	.	.Q	.V	.	.
18.167	1065.3585	1443.06	.	.	.Q	.V	.	.
18.250	1074.4607	1321.64	.	.	.Q	.V	.	.
18.333	1083.0431	1246.17	.	.	.Q	.V	.	.
18.417	1090.9578	1149.21	.	.	.Q	.V	.	.
18.500	1098.0468	1029.33	.	.	.Q	.V	.	.
18.583	1104.7281	970.13	.	.	.Q	.V	.	.
18.667	1111.0963	924.65	.	.	.Q	.V	.	.

18.750	1117.1774	882.96	.	Q	.	.	V	.
18.833	1122.9719	841.37	.	Q	.	.	V	.
18.917	1128.4967	802.20	.	Q	.	.	V	.
19.000	1133.7565	763.72	.	Q	.	.	V	.
19.083	1138.7684	727.73	.	Q	.	.	V	.
19.167	1143.5560	695.16	.	Q	.	.	V	.
19.250	1148.1204	662.75	.	Q	.	.	V	.
19.333	1152.4749	632.27	.	Q	.	.	V	.
19.417	1156.6210	602.02	.	Q	.	.	V	.
19.500	1160.5087	564.50	.	Q	.	.	V	.
19.583	1164.1318	526.08	.	Q	.	.	V	.
19.667	1167.6241	507.09	.	Q	.	.	V	.
19.750	1171.0126	491.99	.	Q	.	.	V	.
19.833	1174.3035	477.84	.	Q	.	.	V	.
19.917	1177.4974	463.76	.	Q	.	.	V	.
20.000	1180.6027	450.88	.	Q	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	610.0
20%	315.0
30%	205.0
40%	150.0
50%	105.0
60%	80.0
70%	65.0
80%	50.0
90%	30.0

END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

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5 Hutton Center Drive, Suite 500
Santa Ana, CA
92707

***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO *
* ULTIMATE CONDITION - UH FREE DRAINING MODEL NODE 133T *
* 2-YR EV NOVEMBER 2018 CCHIU *

FILE NAME: EVO233TF.DAT
TIME/DATE OF STUDY: 11:01 03/11/2019

FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

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(UNIT-HYDROGRAPH ADDED TO STREAM #2)

WATERSHED AREA = 4924.400 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 1.262 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.487
LOW LOSS FRACTION = 0.830
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.13
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.28
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.37
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 0.62
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 0.85
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 1.44

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.744
30-MINUTE FACTOR = 0.744
1-HOUR FACTOR = 0.744
3-HOUR FACTOR = 0.959
6-HOUR FACTOR = 0.978
24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 6.603

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.377	224.717
2	1.132	449.434
3	1.911	463.780
4	2.976	634.355
5	4.303	790.190
6	6.488	1301.338
7	9.544	1819.956
8	12.914	2006.852
9	16.961	2410.163
10	20.725	2241.910
11	25.165	2644.456
12	29.333	2481.743
13	34.493	3073.013
14	39.423	2936.183
15	45.485	3610.378
16	51.675	3686.475
17	56.456	2846.918
18	62.294	3476.779
19	67.301	2982.083
20	71.799	2678.747
21	75.788	2375.749
22	78.877	1839.476
23	81.880	1788.683
24	84.631	1638.025
25	86.932	1370.413
26	88.737	1075.090
27	90.252	902.381
28	91.646	830.151
29	92.942	771.411
30	94.108	694.914
31	94.971	513.923
32	95.798	492.163
33	96.400	358.907
34	96.918	308.441
35	97.436	308.441
36	97.921	288.626
37	98.113	114.232
38	98.237	73.807
39	98.361	73.807
40	98.484	73.721
41	98.608	73.630
42	98.732	73.721
43	98.856	73.807
44	98.979	73.630

45	99.104	73.984
46	99.227	73.630
47	99.351	73.630
48	99.474	73.630
49	99.598	73.630
50	99.722	73.630
51	99.845	73.630
52	99.969	73.630
53	100.000	18.452

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 467.5681
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 115.3478

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2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H
=====

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	100.0	200.0	300.0	400.0
10.000	17.1830	31.06	. Q V	.	.	.	.
10.083	17.3984	31.28	. Q V	.	.	.	.
10.167	17.6153	31.50	. Q V	.	.	.	.
10.250	17.8339	31.73	. Q V	.	.	.	.
10.333	18.0540	31.96	. Q V	.	.	.	.
10.417	18.2758	32.20	. Q V	.	.	.	.
10.500	18.4992	32.44	. Q V	.	.	.	.
10.583	18.7243	32.69	. Q V	.	.	.	.
10.667	18.9511	32.94	. Q V	.	.	.	.
10.750	19.1797	33.19	. Q V	.	.	.	.
10.833	19.4101	33.45	. Q V	.	.	.	.
10.917	19.6424	33.72	. Q V	.	.	.	.
11.000	19.8765	33.99	. Q V	.	.	.	.
11.083	20.1125	34.27	. Q V	.	.	.	.
11.167	20.3505	34.56	. Q V	.	.	.	.
11.250	20.5906	34.85	. Q V	.	.	.	.
11.333	20.8326	35.15	. Q V	.	.	.	.
11.417	21.0768	35.45	. Q V	.	.	.	.
11.500	21.3231	35.76	. Q V	.	.	.	.
11.583	21.5716	36.08	. Q V	.	.	.	.
11.667	21.8223	36.41	. Q V	.	.	.	.
11.750	22.0754	36.75	. Q V	.	.	.	.
11.833	22.3308	37.09	. Q V	.	.	.	.
11.917	22.5887	37.44	. Q V	.	.	.	.
12.000	22.8490	37.80	. Q V	.	.	.	.
12.083	23.1122	38.22	. Q V	.	.	.	.
12.167	23.3786	38.68	. Q V	.	.	.	.
12.250	23.6483	39.16	. Q V	.	.	.	.
12.333	23.9216	39.69	. Q V	.	.	.	.
12.417	24.1989	40.25	. Q V	.	.	.	.
12.500	24.4807	40.93	. Q V	.	.	.	.
12.583	24.7680	41.72	. Q V	.	.	.	.
12.667	25.0611	42.55	. Q V	.	.	.	.
12.750	25.3606	43.48	. Q V	.	.	.	.
12.833	25.6663	44.40	. Q V	.	.	.	.
12.917	25.9790	45.40	. Q V	.	.	.	.
13.000	26.2985	46.40	. Q V	.	.	.	.
13.083	26.6258	47.52	. Q V	.	.	.	.
13.167	26.9608	48.64	. Q V	.	.	.	.
13.250	27.3045	49.90	. Q V	.	.	.	.
13.333	27.6571	51.20	. Q V	.	.	.	.
13.417	28.0178	52.37	. Q V	.	.	.	.
13.500	28.3874	53.67	. Q V	.	.	.	.
13.583	28.7656	54.91	. Q V	.	.	.	.
13.667	29.1521	56.12	. Q V	.	.	.	.
13.750	29.5467	57.29	. Q V	.	.	.	.
13.833	29.9488	58.39	. Q V	.	.	.	.

13.917	30.3586	59.51	.	Q	V	.	.	.
14.000	30.7762	60.63	.	Q	V	.	.	.
14.083	31.2023	61.87	.	Q	V	.	.	.
14.167	31.6378	63.23	.	Q	V	.	.	.
14.250	32.0827	64.60	.	Q	.V	.	.	.
14.333	32.5379	66.10	.	Q	.V	.	.	.
14.417	33.0044	67.73	.	Q	.V	.	.	.
14.500	33.4843	69.69	.	Q	.V	.	.	.
14.583	33.9800	71.98	.	Q	.V	.	.	.
14.667	34.4925	74.42	.	Q	.V	.	.	.
14.750	35.0237	77.13	.	Q	.V	.	.	.
14.833	35.5732	79.78	.	Q	.V	.	.	.
14.917	36.1430	82.74	.	Q	.V	.	.	.
15.000	36.7328	85.65	.	Q	.V	.	.	.
15.083	37.3455	88.95	.	Q	.V	.	.	.
15.167	37.9807	92.24	.	Q	.V	.	.	.
15.250	38.6420	96.02	.	Q	.V	.	.	.
15.333	39.3302	99.93	.	Q	.V	.	.	.
15.417	40.0407	103.17	.	Q	V	.	.	.
15.500	40.7753	106.66	.	Q	V	.	.	.
15.583	41.5328	109.99	.	Q	V	.	.	.
15.667	42.3117	113.10	.	.Q	V	.	.	.
15.750	43.1117	116.15	.	.Q	V	.	.	.
15.833	43.9286	118.62	.	.Q	V	.	.	.
15.917	44.7621	121.02	.	.Q	V	.	.	.
16.000	45.6161	124.00	.	.Q	V	.	.	.
16.083	46.5696	138.44	.	.Q	V	.	.	.
16.167	47.6238	153.08	.	.	QV	.	.	.
16.250	48.7035	156.77	.	.	QV	.	.	.
16.333	49.8689	169.22	.	.	QV	.	.	.
16.417	51.1197	181.61	.	.	VQ	.	.	.
16.500	52.5844	212.67	.	.	V	.Q	.	.
16.583	54.2559	242.70	.	.	V	.	Q	.
16.667	56.0092	254.58	.	.	V	.	Q	.
16.750	57.9203	277.50	.	.	V	.	Q	.
16.833	59.7817	270.28	.	.	V	.	Q	.
16.917	61.8000	293.05	.	.	.V	.	Q	.
17.000	63.7798	287.47	.	.	.V	.	Q	.
17.083	65.9846	320.13	.	.	.V	.	.Q	.
17.167	68.1585	315.65	.	.	.V	.	.Q	.
17.250	70.5744	350.79	.	.	.V	.	.Q	Q
17.333	73.0036	352.72	.	.	.V	.	.Q	Q
17.417	75.1245	307.95	.	.	.V	.	Q	Q
17.500	77.4444	336.85	.	.	.V	.	Q	Q
17.583	79.5630	307.63	.	.	.V	.	Q	Q
17.667	81.5410	287.20	.	.	.	.	Q	.
17.750	83.3686	265.38	.	.	.	.	Q	V
17.833	84.9741	233.12	.	.	.	.	Q	V
17.917	86.5277	225.58	.	.	.	.	Q	V
18.000	87.9929	212.74	.	.	.	.	.Q	V
18.083	89.3241	193.29	.	.	.	.	Q	V
18.167	90.5114	172.40	.	.	.	.	Q	.V
18.250	91.5996	158.01	.	.	.	.	Q	.V
18.333	92.6266	149.12	.	.	.	.	Q	.V
18.417	93.6007	141.44	.	.	.	.	Q	.V
18.500	94.5108	132.15	.	.	.	.	Q	.V
18.583	95.3219	117.77	.	.	.	.	.Q	.V
18.667	96.0923	111.86	.	.	.	.	.Q	.V

18.750	96.7851	100.60	.	Q	.	.	V	.
18.833	97.4340	94.21	.	Q	.	.	V	.
18.917	98.0558	90.30	.	Q	.	.	V	.
19.000	98.6441	85.42	.	Q	.	.	V	.
19.083	99.1453	72.77	.	Q	.	.	V	.
19.167	99.6106	67.57	.	Q	.	.	V	.
19.250	100.0569	64.80	.	Q	.	.	V	.
19.333	100.4856	62.25	.	Q	.	.	V	.
19.417	100.8977	59.84	.	Q	.	.	V	.
19.500	101.2932	57.43	.	Q	.	.	V	.
19.583	101.6741	55.31	.	Q	.	.	V	.
19.667	102.0414	53.33	.	Q	.	.	V	.
19.750	102.3970	51.64	.	Q	.	.	V	.
19.833	102.7422	50.13	.	Q	.	.	V	.
19.917	103.0775	48.69	.	Q	.	.	V	.
20.000	103.4035	47.33	.	Q	.	.	V	.

 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	560.0
20%	275.0
30%	195.0
40%	140.0
50%	105.0
60%	95.0
70%	70.0
80%	50.0
90%	20.0

 FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8

>>>>MODEL STREAM SPLITFLOW WHERE A CONSTANT PROPORTION
 OF STREAM 3 IS ADDED TO STREAM 4<<<<<
 =====

 *****ERROR-STREAM 3 CONTAINS NO INFORMATION (EMPTY).
 PROCESS IS NEGATED.

 FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
 =====

 *****ERROR-STREAM 3 CONTAINS NO INFORMATION (EMPTY).

PROCESS IS NEGATED.

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<

****ERROR-STREAM 4 CONTAINS NO INFORMATION (EMPTY).
PROCESS IS NEGATED.

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<

FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE
INTERVALS (Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:

BASEWIDTH(FT) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 427.51
DOWNSTREAM ELEVATION(FT) = 315.00
CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040
CONSTANT LOSS RATE (CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:

MAXIMUM INFLOW(CFS) = 352.72
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 272.80
CHANNEL NORMAL VELOCITY FOR Q = 272.80 CFS = 6.02 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.780

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
UNIT INTERVALS IS CSTAR = 0.525

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 2) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS
			LOSS (STREAM 2) (CFS)
10.000	31.06	30.00	30.00
10.083	31.28	30.20	30.20
10.167	31.50	30.41	30.41
10.250	31.73	30.61	30.61
10.333	31.96	30.82	30.82
10.417	32.20	31.04	31.04
10.500	32.44	31.26	31.26
10.583	32.69	31.48	31.48
10.667	32.94	31.71	31.71
10.750	33.19	31.94	31.94
10.833	33.45	32.18	32.18
10.917	33.72	32.42	32.42
11.000	33.99	32.66	32.66
11.083	34.27	32.91	32.91
11.167	34.56	33.17	33.17
11.250	34.85	33.43	33.43
11.333	35.15	33.70	33.70
11.417	35.45	33.97	33.97
11.500	35.76	34.25	34.25
11.583	36.08	34.53	34.53
11.667	36.41	34.82	34.82
11.750	36.75	35.12	35.12
11.833	37.09	35.42	35.42
11.917	37.44	35.73	35.73
12.000	37.80	36.05	36.05
12.083	38.22	36.38	36.38
12.167	38.68	36.71	36.71
12.250	39.16	37.06	37.06
12.333	39.69	37.41	37.41
12.417	40.25	37.79	37.79
12.500	40.93	38.20	38.20
12.583	41.72	38.65	38.65
12.667	42.55	39.14	39.14
12.750	43.48	39.66	39.66
12.833	44.40	40.25	40.25
12.917	45.40	40.93	40.93
13.000	46.40	41.69	41.69
13.083	47.52	42.53	42.53
13.167	48.64	43.41	43.41
13.250	49.90	44.34	44.34
13.333	51.20	45.31	45.31
13.417	52.37	46.35	46.35
13.500	53.67	47.42	47.42
13.583	54.91	48.59	48.59
13.667	56.12	49.82	49.82
13.750	57.29	51.03	51.03
13.833	58.39	52.27	52.27
13.917	59.51	53.52	53.52

14.000	60.63	54.75	54.75
14.083	61.87	55.95	55.95
14.167	63.23	57.11	57.11
14.250	64.60	58.24	58.24
14.333	66.10	59.37	59.37
14.417	67.73	60.55	60.55
14.500	69.69	61.80	61.80
14.583	71.98	63.12	63.12
14.667	74.42	64.52	64.52
14.750	77.13	66.02	66.02
14.833	79.78	67.73	67.73
14.917	82.74	69.70	69.70
15.000	85.65	71.91	71.91
15.083	88.95	74.35	74.35
15.167	92.24	76.91	76.91
15.250	96.02	79.64	79.64
15.333	99.93	82.47	82.47
15.417	103.17	85.51	85.51
15.500	106.66	88.67	88.67
15.583	109.99	92.11	92.11
15.667	113.10	95.78	95.78
15.750	116.15	99.30	99.30
15.833	118.62	102.77	102.77
15.917	121.02	106.19	106.19
16.000	124.00	109.47	109.47
16.083	138.44	112.64	112.64
16.167	153.08	115.51	115.51
16.250	156.77	118.13	118.13
16.333	169.22	120.88	120.88
16.417	181.61	128.50	128.50
16.500	212.67	139.77	139.77
16.583	242.70	148.28	148.28
16.667	254.58	157.89	157.89
16.750	277.50	168.96	168.96
16.833	270.28	188.46	188.46
16.917	293.05	213.59	213.59
17.000	287.47	233.79	233.79
17.083	320.13	254.19	254.19
17.167	315.65	263.43	263.43
17.250	350.79	276.45	276.45
17.333	352.72	282.86	282.86
17.417	307.95	298.80	298.80
17.500	336.85	308.14	308.14
17.583	307.63	326.63	326.63
17.667	287.20	340.11	340.11
17.750	265.38	328.20	328.20
17.833	233.12	329.53	329.53
17.917	225.58	321.28	321.28
18.000	212.74	305.66	305.66
18.083	193.29	286.94	286.94
18.167	172.40	262.27	262.27
18.250	158.01	243.85	243.85
18.333	149.12	228.95	228.95
18.417	141.44	212.39	212.39
18.500	132.15	193.72	193.72
18.583	117.77	176.57	176.57
18.667	111.86	163.15	163.15
18.750	100.60	152.61	152.61

18.833	94.21	142.90	142.90
18.917	90.30	131.31	131.31
19.000	85.42	121.76	121.76
19.083	72.77	111.90	111.90
19.167	67.57	103.32	103.32
19.250	64.80	96.92	96.92
19.333	62.25	91.42	91.42
19.417	59.84	83.04	83.04
19.500	57.43	75.49	75.49
19.583	55.31	70.19	70.19
19.667	53.33	66.30	66.30
19.750	51.64	63.18	63.18
19.833	50.13	60.43	60.43
19.917	48.69	57.98	57.98
20.000	47.33	55.76	55.76

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PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 115.348 AF
 OUTFLOW VOLUME = 115.348 AF
 LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<

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THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
 TO ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE
 INTERVALS(Reference: the National Engineering Handbook,
 Hydrology, Chapter 17, page 17-52, August,1972,
 U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:

BASEWIDTH(FT) = 0.01 CHANNEL Z = 3.00
 UPSTREAM ELEVATION(FT) = 315.00
 DOWNSTREAM ELEVATION(FT) = 212.00
 CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040
 CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:

MAXIMUM INFLOW(CFS) = 340.11
 AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 267.08
 CHANNEL NORMAL VELOCITY FOR Q = 267.08 CFS = 6.60 FPS
 ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.795

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
 UNIT INTERVALS IS CSTAR = 0.598

CONVEX METHOD CHANNEL ROUTING RESULTS:

			OUTFLOW LESS
MODEL	INFLOW	ROUTED	LOSS
TIME	(STREAM 2)	FLOW	(STREAM 2)
(HRS)	(CFS)	(CFS)	(CFS)

10.000	30.00	29.35	29.35
10.083	30.20	29.53	29.53
10.167	30.41	29.73	29.73
10.250	30.61	29.92	29.92
10.333	30.82	30.12	30.12
10.417	31.04	30.32	30.32
10.500	31.26	30.53	30.53
10.583	31.48	30.74	30.74
10.667	31.71	30.95	30.95
10.750	31.94	31.17	31.17
10.833	32.18	31.39	31.39
10.917	32.42	31.61	31.61
11.000	32.66	31.84	31.84
11.083	32.91	32.08	32.08
11.167	33.17	32.31	32.31
11.250	33.43	32.56	32.56
11.333	33.70	32.81	32.81
11.417	33.97	33.06	33.06
11.500	34.25	33.32	33.32
11.583	34.53	33.58	33.58
11.667	34.82	33.85	33.85
11.750	35.12	34.13	34.13
11.833	35.42	34.41	34.41
11.917	35.73	34.70	34.70
12.000	36.05	34.99	34.99
12.083	36.38	35.29	35.29
12.167	36.71	35.60	35.60
12.250	37.06	35.92	35.92
12.333	37.41	36.24	36.24
12.417	37.79	36.57	36.57
12.500	38.20	36.91	36.91
12.583	38.65	37.26	37.26
12.667	39.14	37.64	37.64
12.750	39.66	38.04	38.04
12.833	40.25	38.48	38.48
12.917	40.93	38.95	38.95
13.000	41.69	39.46	39.46
13.083	42.53	40.03	40.03
13.167	43.41	40.68	40.68
13.250	44.34	41.40	41.40
13.333	45.31	42.20	42.20
13.417	46.35	43.06	43.06
13.500	47.42	43.97	43.97
13.583	48.59	44.92	44.92
13.667	49.82	45.93	45.93
13.750	51.03	46.99	46.99
13.833	52.27	48.12	48.12
13.917	53.52	49.31	49.31
14.000	54.75	50.51	50.51
14.083	55.95	51.74	51.74
14.167	57.11	52.98	52.98
14.250	58.24	54.21	54.21
14.333	59.37	55.42	55.42
14.417	60.55	56.59	56.59
14.500	61.80	57.74	57.74
14.583	63.12	58.89	58.89
14.667	64.52	60.06	60.06
14.750	66.02	61.29	61.29

14.833	67.73	62.59	62.59
14.917	69.70	63.96	63.96
15.000	71.91	65.44	65.44
15.083	74.35	67.09	67.09
15.167	76.91	68.97	68.97
15.250	79.64	71.08	71.08
15.333	82.47	73.40	73.40
15.417	85.51	75.89	75.89
15.500	88.67	78.54	78.54
15.583	92.11	81.32	81.32
15.667	95.78	84.28	84.28
15.750	99.30	87.40	87.40
15.833	102.77	90.74	90.74
15.917	106.19	94.26	94.26
16.000	109.47	97.77	97.77
16.083	112.64	101.25	101.25
16.167	115.51	104.68	104.68
16.250	118.13	108.00	108.00
16.333	120.88	111.19	111.19
16.417	128.50	114.15	114.15
16.500	139.77	116.93	116.93
16.583	148.28	120.38	120.38
16.667	157.89	126.85	126.85
16.750	168.96	135.80	135.80
16.833	188.46	144.65	144.65
16.917	213.59	154.16	154.16
17.000	233.79	165.81	165.81
17.083	254.19	182.96	182.96
17.167	263.43	204.18	204.18
17.250	276.45	224.82	224.82
17.333	282.86	243.71	243.71
17.417	298.80	257.38	257.38
17.500	308.14	269.71	269.71
17.583	326.63	279.86	279.86
17.667	340.11	292.53	292.53
17.750	328.20	304.52	304.52
17.833	329.53	319.68	319.68
17.917	321.28	330.19	330.19
18.000	305.66	329.19	329.19
18.083	286.94	328.21	328.21
18.167	262.27	321.82	321.82
18.250	243.85	309.47	309.47
18.333	228.95	292.46	292.46
18.417	212.39	271.76	271.76
18.500	193.72	252.93	252.93
18.583	176.57	236.21	236.21
18.667	163.15	219.28	219.28
18.750	152.61	201.53	201.53
18.833	142.90	184.68	184.68
18.917	131.31	170.29	170.29
19.000	121.76	158.32	158.32
19.083	111.90	147.43	147.43
19.167	103.32	136.42	136.42
19.250	96.92	126.23	126.23
19.333	91.42	116.43	116.43
19.417	83.04	107.67	107.67
19.500	75.49	100.45	100.45
19.583	70.19	93.85	93.85

19.667	66.30	86.30	86.30
19.750	63.18	79.08	79.08
19.833	60.43	73.20	73.20
19.917	57.98	68.63	68.63
20.000	55.76	64.97	64.97

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PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 115.348 AF

OUTFLOW VOLUME = 115.348 AF

LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<

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(UNIT-HYDROGRAPH ADDED TO STREAM #3)

WATERSHED AREA = 1715.900 ACRES

BASEFLOW = 0.000 CFS/SQUARE-MILE

*USER ENTERED "LAG" TIME = 0.983 HOURS

VALLEY (DEVELOPED) S-GRAPH SELECTED

MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.449

LOW LOSS FRACTION = 0.750

HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.13

SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.28

SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.37

SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 0.62

SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 0.85

SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 1.44

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE FACTOR = 0.744

30-MINUTE FACTOR = 0.744

1-HOUR FACTOR = 0.744

3-HOUR FACTOR = 0.959

6-HOUR FACTOR = 0.978

24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES

UNIT INTERVAL PERCENTAGE OF LAG-TIME = 8.477

RUNOFF HYDROGRAPH LISTING LIMITS:

MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00

MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

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UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
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1	0.484	100.526
2	1.453	201.053
3	2.643	246.973
4	4.324	348.835
5	7.269	611.026
6	11.434	864.402
7	16.289	1007.379
8	21.336	1047.360
9	26.804	1134.742
10	32.906	1266.313
11	39.384	1344.219
12	47.231	1628.337
13	54.284	1463.697
14	61.254	1446.311
15	67.859	1370.627
16	73.438	1157.890
17	77.946	935.346
18	81.771	793.877
19	85.244	720.710
20	87.940	559.305
21	89.982	423.869
22	91.780	373.097
23	93.421	340.609
24	94.695	264.198
25	95.754	219.855
26	96.524	159.684
27	97.188	137.980
28	97.834	133.868
29	98.124	60.240
30	98.283	32.988
31	98.442	32.990
32	98.601	32.988
33	98.760	32.990
34	98.919	32.988
35	99.077	32.941
36	99.236	32.941
37	99.395	32.941
38	99.554	32.941
39	99.712	32.941
40	99.871	32.941
41	100.000	26.750

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 147.3265

TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 55.7816

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)

(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	50.0	100.0	150.0	200.0
10.000	9.1914	16.30	. Q	V	.	.	.
10.083	9.3044	16.42	. Q	V	.	.	.
10.167	9.4183	16.54	. Q	V	.	.	.
10.250	9.5331	16.66	. Q	V	.	.	.
10.333	9.6487	16.79	. Q	V	.	.	.
10.417	9.7653	16.92	. Q	V	.	.	.
10.500	9.8827	17.05	. Q	V	.	.	.
10.583	10.0011	17.19	. Q	V	.	.	.
10.667	10.1204	17.32	. Q	V	.	.	.
10.750	10.2406	17.46	. Q	V	.	.	.
10.833	10.3619	17.61	. Q	V	.	.	.
10.917	10.4842	17.75	. Q	V	.	.	.
11.000	10.6075	17.90	. Q	V	.	.	.
11.083	10.7318	18.06	. Q	V	.	.	.
11.167	10.8572	18.21	. Q	V	.	.	.
11.250	10.9838	18.37	. Q	V	.	.	.
11.333	11.1114	18.54	. Q	V	.	.	.
11.417	11.2403	18.70	. Q	V	.	.	.
11.500	11.3703	18.88	. Q	V	.	.	.
11.583	11.5015	19.05	. Q	V	.	.	.
11.667	11.6340	19.23	. Q	V	.	.	.
11.750	11.7677	19.42	. Q	V	.	.	.
11.833	11.9028	19.61	. Q	V	.	.	.
11.917	12.0392	19.81	. Q	V	.	.	.
12.000	12.1770	20.01	. Q	V	.	.	.
12.083	12.3164	20.24	. Q	V	.	.	.
12.167	12.4576	20.51	. Q	V	.	.	.
12.250	12.6008	20.80	. Q	V	.	.	.
12.333	12.7463	21.12	. Q	V	.	.	.
12.417	12.8945	21.52	. Q	V	.	.	.
12.500	13.0461	22.01	. Q	V	.	.	.
12.583	13.2013	22.54	. Q	V	.	.	.
12.667	13.3603	23.09	. Q	V	.	.	.
12.750	13.5234	23.67	. Q	V	.	.	.
12.833	13.6908	24.31	. Q	V	.	.	.
12.917	13.8627	24.97	. Q	V	.	.	.
13.000	14.0399	25.72	. Q	V	.	.	.
13.083	14.2220	26.44	. Q	V	.	.	.
13.167	14.4090	27.16	. Q	V	.	.	.
13.250	14.6010	27.88	. Q	V	.	.	.
13.333	14.7976	28.55	. Q	V	.	.	.
13.417	14.9985	29.16	. Q	V	.	.	.
13.500	15.2034	29.76	. Q	V	.	.	.
13.583	15.4124	30.34	. Q	.V	.	.	.
13.667	15.6251	30.90	. Q	.V	.	.	.
13.750	15.8416	31.43	. Q	.V	.	.	.
13.833	16.0617	31.96	. Q	.V	.	.	.

13.917	16.2856	32.51	. Q	.V	.	.	.
14.000	16.5133	33.05	. Q	.V	.	.	.
14.083	16.7453	33.69	. Q	.V	.	.	.
14.167	16.9824	34.43	. Q	.V	.	.	.
14.250	17.2250	35.22	. Q	.V	.	.	.
14.333	17.4738	36.13	. Q	.V	.	.	.
14.417	17.7305	37.27	. Q	.V	.	.	.
14.500	17.9967	38.66	. Q	.V	.	.	.
14.583	18.2736	40.20	. Q	.V	.	.	.
14.667	18.5615	41.81	. Q	.V	.	.	.
14.750	18.8612	43.52	. Q	.V	.	.	.
14.833	19.1737	45.38	. Q	.V	.	.	.
14.917	19.4998	47.34	. Q	.V	.	.	.
15.000	19.8414	49.60	. Q	.V	.	.	.
15.083	20.1977	51.74	. Q	.V	.	.	.
15.167	20.5690	53.92	. Q	.V	.	.	.
15.250	20.9552	56.07	. Q	.V	.	.	.
15.333	21.3554	58.10	. Q	.V	.	.	.
15.417	21.7674	59.82	. Q	.V	.	.	.
15.500	22.1897	61.33	. Q	.V	.	.	.
15.583	22.6222	62.79	. Q	.V	.	.	.
15.667	23.0634	64.07	. Q	.V	.	.	.
15.750	23.5109	64.97	. Q	.V	.	.	.
15.833	23.9631	65.66	. Q	.V	.	.	.
15.917	24.4210	66.49	. Q	.V	.	.	.
16.000	24.8882	67.84	. Q	.V	.	.	.
16.083	25.4032	74.78	. Q	.V	.	.	.
16.167	25.9663	81.76	. Q	.V	.	.	.
16.250	26.5602	86.23	. Q	.V	.	.	.
16.333	27.2063	93.81	. Q	.V	.	.	.
16.417	27.9659	110.30	. Q	.V	.	.	.
16.500	28.8329	125.89	. Q	.V	.	.	.
16.583	29.7619	134.89	. Q	.V	.	.	.
16.667	30.7159	138.53	. Q	.V	.	.	.
16.750	31.7141	144.94	. Q	.V	.	.	.
16.833	32.7746	153.98	. Q	.V	.	.	.
16.917	33.8757	159.88	. Q	.V	.	.	.
17.000	35.0818	175.12	. Q	.V	.	.	.
17.083	36.2239	165.83	. Q	.V	.	.	.
17.167	37.3476	163.17	. Q	.V	.	.	.
17.250	38.4257	156.54	. Q	.V	.	.	.
17.333	39.4077	142.58	. Q	.V	.	.	.
17.417	40.2870	127.68	. Q	.V	.	.	.
17.500	41.0938	117.15	. Q	.V	.	.	.
17.583	41.8521	110.10	. Q	.V	.	.	.
17.667	42.5289	98.27	. Q	.V	.	.	.
17.750	43.1348	87.97	. Q	.V	.	.	.
17.833	43.7011	82.23	. Q	.V	.	.	.
17.917	44.2347	77.48	. Q	.V	.	.	.
18.000	44.7176	70.11	. Q	.V	.	.	.
18.083	45.1617	64.48	. Q	.V	.	.	.
18.167	45.5628	58.24	. Q	.V	.	.	.
18.250	45.9361	54.21	. Q	.V	.	.	.
18.333	46.2888	51.21	. Q	.V	.	.	.
18.417	46.5976	44.83	. Q	.V	.	.	.
18.500	46.8809	41.14	. Q	.V	.	.	.
18.583	47.1503	39.12	. Q	.V	.	.	.
18.667	47.4079	37.40	. Q	.V	.	.	.

18.750	47.6543	35.77	.	Q	.	.	.	V	.
18.833	47.8900	34.23	.	Q	.	.	.	V	.
18.917	48.1156	32.76	.	Q	.	.	.	V	.
19.000	48.3313	31.32	.	Q	.	.	.	V	.
19.083	48.5380	30.02	.	Q	.	.	.	V	.
19.167	48.7363	28.79	.	Q	.	.	.	V	.
19.250	48.9266	27.63	.	Q	.	.	.	V	.
19.333	49.1091	26.50	.	Q	.	.	.	V	.
19.417	49.2825	25.17	.	Q	.	.	.	V	.
19.500	49.4402	22.90	.	Q	.	.	.	V	.
19.583	49.5926	22.14	.	Q	.	.	.	V	.
19.667	49.7407	21.51	.	Q	.	.	.	V	.
19.750	49.8850	20.94	.	Q	.	.	.	V	.
19.833	50.0253	20.38	.	Q	.	.	.	V	.
19.917	50.1620	19.85	.	Q	.	.	.	V	.
20.000	50.2954	19.37	.	Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	575.0
20%	275.0
30%	190.0
40%	120.0
50%	90.0
60%	75.0
70%	60.0
80%	40.0
90%	20.0

FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<<
=====

FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<<
=====

FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<
=====

FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<
=====

FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<<
=====

STREAM HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	125.0	250.0	375.0	500.0
10.000	24.5936	45.64	.	Q V	.	.	.
10.083	24.9101	45.95	.	Q V	.	.	.
10.167	25.2287	46.27	.	Q V	.	.	.
10.250	25.5495	46.58	.	Q V	.	.	.
10.333	25.8726	46.91	.	Q V	.	.	.
10.417	26.1979	47.24	.	Q V	.	.	.
10.500	26.5256	47.58	.	Q V	.	.	.
10.583	26.8556	47.92	.	Q V	.	.	.
10.667	27.1881	48.27	.	Q V	.	.	.
10.750	27.5230	48.63	.	Q V	.	.	.
10.833	27.8604	48.99	.	Q V	.	.	.
10.917	28.2004	49.37	.	Q V	.	.	.
11.000	28.5430	49.74	.	Q V	.	.	.
11.083	28.8883	50.13	.	Q V	.	.	.
11.167	29.2362	50.53	.	Q V	.	.	.
11.250	29.5870	50.93	.	Q V	.	.	.
11.333	29.9406	51.34	.	Q V	.	.	.
11.417	30.2971	51.77	.	Q V	.	.	.
11.500	30.6566	52.20	.	Q V	.	.	.
11.583	31.0191	52.64	.	Q V	.	.	.
11.667	31.3847	53.09	.	Q V	.	.	.
11.750	31.7535	53.55	.	Q V	.	.	.
11.833	32.1256	54.02	.	Q V	.	.	.
11.917	32.5010	54.50	.	Q V	.	.	.
12.000	32.8797	55.00	.	Q V	.	.	.
12.083	33.2622	55.54	.	Q V	.	.	.
12.167	33.6487	56.11	.	Q V	.	.	.
12.250	34.0393	56.72	.	Q V	.	.	.
12.333	34.4343	57.36	.	Q V	.	.	.
12.417	34.8344	58.10	.	Q V	.	.	.
12.500	35.2402	58.92	.	Q V	.	.	.
12.583	35.6521	59.80	.	Q V	.	.	.
12.667	36.0703	60.72	.	Q V	.	.	.
12.750	36.4953	61.71	.	Q V	.	.	.
12.833	36.9277	62.78	.	Q V	.	.	.
12.917	37.3679	63.91	.	Q V	.	.	.
13.000	37.8168	65.18	.	Q V	.	.	.
13.083	38.2745	66.47	.	Q V	.	.	.
13.167	38.7418	67.84	.	Q V	.	.	.
13.250	39.2189	69.28	.	Q V	.	.	.
13.333	39.7061	70.75	.	Q V	.	.	.

13.417	40.2035	72.22	.	Q	V.	.	.	.
13.500	40.7113	73.72	.	Q	V.	.	.	.
13.583	41.2296	75.26	.	Q	V.	.	.	.
13.667	41.7586	76.82	.	Q	V.	.	.	.
13.750	42.2987	78.42	.	Q	V.	.	.	.
13.833	42.8503	80.08	.	Q	V	.	.	.
13.917	43.4137	81.82	.	Q	V	.	.	.
14.000	43.9893	83.57	.	Q	V	.	.	.
14.083	44.5777	85.44	.	Q	V	.	.	.
14.167	45.1797	87.41	.	Q	V	.	.	.
14.250	45.7956	89.43	.	Q	V	.	.	.
14.333	46.4261	91.55	.	Q	V	.	.	.
14.417	47.0725	93.86	.	Q	.V	.	.	.
14.500	47.7364	96.40	.	Q	.V	.	.	.
14.583	48.4188	99.09	.	Q	.V	.	.	.
14.667	49.1204	101.87	.	Q	.V	.	.	.
14.750	49.8422	104.81	.	Q	.V	.	.	.
14.833	50.5858	107.97	.	Q	.V	.	.	.
14.917	51.3523	111.30	.	Q	.V	.	.	.
15.000	52.1446	115.03	.	Q	.V	.	.	.
15.083	52.9630	118.83	.	Q	.V	.	.	.
15.167	53.8093	122.89	.	Q	.V	.	.	.
15.250	54.6850	127.15	.	Q	V	.	.	.
15.333	55.5906	131.50	.	Q	V	.	.	.
15.417	56.5253	135.71	.	Q	V	.	.	.
15.500	57.4885	139.86	.	.Q	V	.	.	.
15.583	58.4810	144.11	.	.Q	V	.	.	.
15.667	59.5027	148.35	.	.Q	V	.	.	.
15.750	60.5521	152.37	.	.Q	V	.	.	.
15.833	61.6293	156.41	.	.Q	V	.	.	.
15.917	62.7364	160.75	.	.Q	V	.	.	.
16.000	63.8769	165.61	.	.QV	.	.	.	.
16.083	65.0893	176.03	.	.QV	.	.	.	.
16.167	66.3733	186.44	.	.QV	.	.	.	.
16.250	67.7110	194.23	.	.Q	.	.	.	.
16.333	69.1228	205.00	.	.Q	.	.	.	.
16.417	70.6686	224.45	.	.VQ	.	.	.	.
16.500	72.3409	242.81	.	.V	.Q	.	.	.
16.583	74.0990	255.28	.	.V	.Q	.	.	.
16.667	75.9267	265.38	.	.V	.Q	.	.	.
16.750	77.8602	280.74	.	.V	.Q	.	.	.
16.833	79.9168	298.63	.	.V	.Q	.	.	.
16.917	82.0796	314.04	.	.V.	.Q	.	.	.
17.000	84.4276	340.93	.	.V.	.Q	.	.	.
17.083	86.8297	348.79	.	.V	.Q	.	.	.
17.167	89.3597	367.35	.	.V	.Q	.	.	.
17.250	91.9862	381.36	.	.V	.Q	.	.	.
17.333	94.6465	386.29	.	.V	.Q	.	.	.
17.417	97.2984	385.06	.	.V	.Q	.	.	.
17.500	99.9628	386.86	.	.V	.Q	.	.	.
17.583	102.6484	389.95	.	.V	.Q	.	.	.
17.667	105.3398	390.80	.	.V	.Q	.	.	.
17.750	108.0430	392.49	.	.V	.Q	.	.	.
17.833	110.8109	401.91	.	.V	.Q	.	.	.
17.917	113.6186	407.67	.	.V	.Q	.	.	.
18.000	116.3686	399.30	.	.V	.Q	.	.	.
18.083	119.0731	392.69	.	.V	.Q	.	.	.
18.167	121.6906	380.06	.	.V	.Q	.	.	.

18.250	124.1953	363.68	.	.	.	.	Q.	.
18.333	126.5621	343.66	.	.	.	.	Q V.	.
18.417	128.7425	316.59	.	.	.	.	Q V	.
18.500	130.7677	294.06	.	.	.	.	Q V	.
18.583	132.6639	275.33	.	.	.	.	Q .V	.
18.667	134.4317	256.69	.	.	.	.	Q .V	.
18.750	136.0661	237.31	.	.	.	.	Q .V	.
18.833	137.5737	218.91	.	.	.	.	Q .V	.
18.917	138.9721	203.04	.	.	.	.	Q .V	.
19.000	140.2781	189.64	.	.	.	.	Q .V	.
19.083	141.5002	177.45	.	.	.	.	Q .V	.
19.167	142.6381	165.21	.	.	.	.	Q .V	.
19.250	143.6977	153.86	.	.	.	.	Q .V	.
19.333	144.6821	142.93	.	.	.	.	Q .V	.
19.417	145.5969	132.84	.	.	.	.	Q .V	.
19.500	146.4465	123.35	.	.	.	.	Q .V	.
19.583	147.2453	115.99	.	.	.	.	Q .V	.
19.667	147.9877	107.80	.	.	.	.	Q .V	.
19.750	148.6766	100.02	.	.	.	.	Q .V	.
19.833	149.3210	93.58	.	.	.	.	Q .V	.
19.917	149.9304	88.48	.	.	.	.	Q .V	.
20.000	150.5112	84.34	.	.	.	.	Q .V	.

 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	845.0
20%	370.0
30%	265.0
40%	195.0
50%	155.0
60%	130.0
70%	105.0
80%	85.0
90%	65.0
=====	=====

END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

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92707

***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - FREE DRAINING UH *
* ULTIMATE CONDITION - NODE 133T PA3 SEPARATE *
* 5-YR EV NOVEMBER 2018 CCHIUI *

FILE NAME: EV0533TF.DAT
TIME/DATE OF STUDY: 11:03 03/11/2019

FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

(UNIT-HYDROGRAPH ADDED TO STREAM #2)

WATERSHED AREA = 4924.400 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.986 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.406
LOW LOSS FRACTION = 0.789
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.18
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.41
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.55
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 0.92
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 1.27
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 2.12

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.744
30-MINUTE FACTOR = 0.744
1-HOUR FACTOR = 0.744
3-HOUR FACTOR = 0.959
6-HOUR FACTOR = 0.978
24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 8.452

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.483	287.619
2	1.449	575.239
3	2.632	704.860
4	4.301	993.530
5	7.218	1737.327
6	11.363	2468.400
7	16.187	2873.247
8	21.207	2989.700
9	26.667	3251.397
10	32.713	3600.828
11	39.164	3841.879
12	46.947	4634.997
13	54.052	4231.546
14	60.943	4103.863
15	67.597	3962.565
16	73.191	3331.305
17	77.756	2718.781
18	81.570	2271.200
19	85.069	2084.043
20	87.803	1627.988
21	89.864	1227.766
22	91.667	1073.936
23	93.315	981.346
24	94.618	775.664
25	95.682	633.702
26	96.472	470.617
27	97.135	394.847
28	97.788	389.004
29	98.110	191.783
30	98.269	94.344
31	98.427	94.412
32	98.586	94.408
33	98.744	94.344
34	98.902	94.276
35	99.061	94.549
36	99.219	94.276
37	99.378	94.276
38	99.536	94.276
39	99.694	94.276
40	99.853	94.276
41	100.000	87.770

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 645.2873
 TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 212.8722

2 4 - H O U R S T O R M
 R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
 (Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	200.0	400.0	600.0	800.0
10.000	31.9903	57.00	. Q	V	.	.	.
10.083	32.3858	57.42	. Q	V	.	.	.
10.167	32.7842	57.85	. Q	V	.	.	.
10.250	33.1857	58.30	. Q	V	.	.	.
10.333	33.5903	58.75	. Q	V	.	.	.
10.417	33.9981	59.20	. Q	V	.	.	.
10.500	34.4090	59.67	. Q	V	.	.	.
10.583	34.8233	60.15	. Q	V	.	.	.
10.667	35.2410	60.64	. Q	V	.	.	.
10.750	35.6620	61.14	. Q	V	.	.	.
10.833	36.0866	61.65	. Q	V	.	.	.
10.917	36.5148	62.17	. Q	V	.	.	.
11.000	36.9467	62.71	. Q	V	.	.	.
11.083	37.3823	63.25	. Q	V	.	.	.
11.167	37.8218	63.81	. Q	V	.	.	.
11.250	38.2652	64.38	. Q	V	.	.	.
11.333	38.7126	64.97	. Q	V	.	.	.
11.417	39.1642	65.56	. Q	V	.	.	.
11.500	39.6199	66.18	. Q	V	.	.	.
11.583	40.0800	66.81	. Q	V	.	.	.
11.667	40.5446	67.45	. Q	V	.	.	.
11.750	41.0137	68.11	. Q	V	.	.	.
11.833	41.4875	68.79	. Q	V	.	.	.
11.917	41.9661	69.49	. Q	V	.	.	.
12.000	42.4496	70.21	. Q	V	.	.	.
12.083	42.9390	71.06	. Q	V	.	.	.
12.167	43.4353	72.07	. Q	V	.	.	.
12.250	43.9391	73.15	. Q	V	.	.	.
12.333	44.4514	74.38	. Q	V	.	.	.
12.417	44.9745	75.96	. Q	V	.	.	.
12.500	45.5109	77.88	. Q	V	.	.	.
12.583	46.0618	80.00	. Q	V	.	.	.
12.667	46.6279	82.20	. Q	V	.	.	.
12.750	47.2102	84.55	. Q	V	.	.	.
12.833	47.8100	87.08	. Q	V	.	.	.
12.917	48.4281	89.75	. Q	V	.	.	.
13.000	49.0673	92.81	. Q	V	.	.	.
13.083	49.7266	95.73	. Q	V	.	.	.
13.167	50.4058	98.63	. Q	V	.	.	.
13.250	51.1050	101.52	. Q	V	.	.	.
13.333	51.8226	104.19	. Q	V	.	.	.
13.417	52.5569	106.63	. Q	V	.	.	.
13.500	53.3072	108.94	. Q	V	.	.	.
13.583	54.0731	111.21	. Q	V	.	.	.
13.667	54.8537	113.34	. Q	V	.	.	.
13.750	55.6482	115.36	. Q	V	.	.	.
13.833	56.4566	117.38	. Q	V	.	.	.

13.917	57.2790	119.42	.	Q	V	.	.	.
14.000	58.1154	121.44	.	Q	V	.	.	.
14.083	58.9678	123.78	.	Q	.V	.	.	.
14.167	59.8386	126.43	.	Q	.V	.	.	.
14.250	60.7289	129.27	.	Q	.V	.	.	.
14.333	61.6414	132.49	.	Q	.V	.	.	.
14.417	62.5815	136.51	.	Q	.V	.	.	.
14.500	63.5550	141.35	.	Q	.V	.	.	.
14.583	64.5655	146.71	.	Q	.V	.	.	.
14.667	65.6143	152.30	.	Q	.V	.	.	.
14.750	66.7043	158.26	.	Q	.V	.	.	.
14.833	67.8386	164.71	.	Q	.V	.	.	.
14.917	69.0200	171.53	.	Q	.V	.	.	.
15.000	70.2550	179.32	.	Q	.V	.	.	.
15.083	71.5417	186.83	.	Q	.V	.	.	.
15.167	72.8803	194.36	.	Q	.V	.	.	.
15.250	74.2709	201.92	.	Q	.V	.	.	.
15.333	75.7105	209.03	.	Q	.V	.	.	.
15.417	77.1924	215.16	.	Q	.V	.	.	.
15.500	78.7111	220.53	.	.Q	.V	.	.	.
15.583	80.2663	225.81	.	.Q	.V	.	.	.
15.667	81.8540	230.52	.	.Q	.V	.	.	.
15.750	83.4661	234.09	.	.Q	.V	.	.	.
15.833	85.0984	237.01	.	.Q	.V	.	.	.
15.917	86.7548	240.50	.	.Q	.V	.	.	.
16.000	88.4599	247.59	.	.Q	.V	.	.	.
16.083	90.4030	282.13	.	.Q	.V	.	.	.
16.167	92.5802	316.14	.	.Q	.V	.	.	.
16.250	94.9070	337.85	.	.Q	.V	.	.	.
16.333	97.5066	377.47	.	.Q	.V	.	.	.
16.417	100.6758	460.16	.	.Q	.V	.	.	.
16.500	104.3834	538.35	.	.Q	.V	.	.	.
16.583	108.3923	582.09	.	.Q	.V	.	.	.
16.667	112.5265	600.29	.	.Q	.V	.	.	.
16.750	116.8856	632.94	.	.Q	.V	.	.	.
16.833	121.5270	673.93	.	.Q	.V	.	.	.
16.917	126.3958	706.96	.	.Q	.V	.	.	.
17.000	131.7547	778.11	.	.Q	.V	.	.	.
17.083	136.8363	737.85	.	.Q	.V	.	.	.
17.167	141.7860	718.70	.	.Q	.V	.	.	.
17.250	146.5527	692.12	.	.Q	.V	.	.	.
17.333	150.8236	620.14	.	.Q	.V	.	.	.
17.417	154.6071	549.37	.	.Q	.V	.	.	.
17.500	158.0198	495.53	.	.Q	.V	.	.	.
17.583	161.2139	463.78	.	.Q	.V	.	.	.
17.667	164.0192	407.34	.	.Q	.V	.	.	.
17.750	166.4850	358.03	.	.Q	.V	.	.	.
17.833	168.7723	332.11	.	.Q	.V	.	.	.
17.917	170.9169	311.40	.	.Q	.V	.	.	.
18.000	172.8434	279.74	.	.Q	.V	.	.	.
18.083	174.5921	253.90	.	.Q	.V	.	.	.
18.167	176.1583	227.42	.	.Q	.V	.	.	.
18.250	177.6049	210.04	.	.Q	.V	.	.	.
18.333	178.9709	198.35	.	.Q	.V	.	.	.
18.417	180.1456	170.56	.	.Q	.V	.	.	.
18.500	181.2016	153.33	.	.Q	.V	.	.	.
18.583	182.2062	145.86	.	.Q	.V	.	.	.
18.667	183.1666	139.45	.	.Q	.V	.	.	.

18.750	184.0851	133.37	.	Q	.	.	.	V	.
18.833	184.9637	127.57	.	Q	.	.	.	V	.
18.917	185.8042	122.04	.	Q	.	.	.	V	.
19.000	186.6066	116.51	.	Q	.	.	.	V	.
19.083	187.3745	111.50	.	Q	.	.	.	V	.
19.167	188.1099	106.78	.	Q	.	.	.	V	.
19.250	188.8144	102.29	.	Q	.	.	.	V	.
19.333	189.4892	97.98	.	Q	.	.	.	V	.
19.417	190.1295	92.97	.	Q	.	.	.	V	.
19.500	190.6917	81.63	.	Q	.	.	.	V	.
19.583	191.2337	78.70	.	Q	.	.	.	V	.
19.667	191.7589	76.27	.	Q	.	.	.	V	.
19.750	192.2696	74.15	.	Q	.	.	.	V	.
19.833	192.7658	72.05	.	Q	.	.	.	V	.
19.917	193.2485	70.08	.	Q	.	.	.	V	.
20.000	193.7188	68.29	.	Q	.	.	.	V	.

 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	430.0
20%	225.0
30%	145.0
40%	110.0
50%	80.0
60%	65.0
70%	55.0
80%	35.0
90%	20.0

 FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8

>>>>MODEL STREAM SPLITFLOW WHERE A CONSTANT PROPORTION
 OF STREAM 3 IS ADDED TO STREAM 4<<<<<
 =====

 ****ERROR-STREAM 3 CONTAINS NO INFORMATION (EMPTY).
 PROCESS IS NEGATED.

 FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
 =====

 ****ERROR-STREAM 3 CONTAINS NO INFORMATION (EMPTY).

PROCESS IS NEGATED.

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<

*****ERROR-STREAM 4 CONTAINS NO INFORMATION (EMPTY).
PROCESS IS NEGATED.

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<

FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH(FT) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 427.51
DOWNSTREAM ELEVATION(FT) = 315.00
CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040
CONSTANT LOSS RATE (CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:
MAXIMUM INFLOW(CFS) = 778.11
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 603.60
CHANNEL NORMAL VELOCITY FOR Q = 603.60 CFS = 7.32 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.812

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
UNIT INTERVALS IS CSTAR = 0.579

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 2) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 2) (CFS)
10.000	57.00	55.25	55.25
10.083	57.42	55.64	55.64
10.167	57.85	56.04	56.04
10.250	58.30	56.45	56.45
10.333	58.75	56.86	56.86
10.417	59.20	57.28	57.28
10.500	59.67	57.71	57.71
10.583	60.15	58.15	58.15
10.667	60.64	58.60	58.60
10.750	61.14	59.06	59.06
10.833	61.65	59.52	59.52
10.917	62.17	60.00	60.00
11.000	62.71	60.48	60.48
11.083	63.25	60.98	60.98
11.167	63.81	61.49	61.49
11.250	64.38	62.01	62.01
11.333	64.97	62.54	62.54
11.417	65.56	63.08	63.08
11.500	66.18	63.63	63.63
11.583	66.81	64.20	64.20
11.667	67.45	64.78	64.78
11.750	68.11	65.37	65.37
11.833	68.79	65.98	65.98
11.917	69.49	66.61	66.61
12.000	70.21	67.25	67.25
12.083	71.06	67.90	67.90
12.167	72.07	68.58	68.58
12.250	73.15	69.27	69.27
12.333	74.38	70.01	70.01
12.417	75.96	70.85	70.85
12.500	77.88	71.80	71.80
12.583	80.00	72.86	72.86
12.667	82.20	74.10	74.10
12.750	84.55	75.61	75.61
12.833	87.08	77.41	77.41
12.917	89.75	79.41	79.41
13.000	92.81	81.56	81.56
13.083	95.73	83.87	83.87
13.167	98.63	86.33	86.33
13.250	101.52	89.01	89.01
13.333	104.19	91.87	91.87
13.417	106.63	94.76	94.76
13.500	108.94	97.66	97.66
13.583	111.21	100.50	100.50
13.667	113.34	103.19	103.19
13.750	115.36	105.71	105.71
13.833	117.38	108.09	108.09
13.917	119.42	110.38	110.38

14.000	121.44	112.56	112.56
14.083	123.78	114.64	114.64
14.167	126.43	116.69	116.69
14.250	129.27	118.73	118.73
14.333	132.49	120.83	120.83
14.417	136.51	123.14	123.14
14.500	141.35	125.69	125.69
14.583	146.71	128.49	128.49
14.667	152.30	131.72	131.72
14.750	158.26	135.60	135.60
14.833	164.71	140.15	140.15
14.917	171.53	145.22	145.22
15.000	179.32	150.67	150.67
15.083	186.83	156.53	156.53
15.167	194.36	162.82	162.82
15.250	201.92	169.63	169.63
15.333	209.03	176.95	176.95
15.417	215.16	184.38	184.38
15.500	220.53	191.88	191.88
15.583	225.81	199.31	199.31
15.667	230.52	206.33	206.33
15.750	234.09	212.66	212.66
15.833	237.01	218.42	218.42
15.917	240.50	223.77	223.77
16.000	247.59	228.49	228.49
16.083	282.13	232.39	232.39
16.167	316.14	235.86	235.86
16.250	337.85	240.16	240.16
16.333	377.47	252.31	252.31
16.417	460.16	277.30	277.30
16.500	538.35	304.72	304.72
16.583	582.09	332.90	332.90
16.667	600.29	377.50	377.50
16.750	632.94	443.12	443.12
16.833	673.93	508.18	508.18
16.917	706.96	555.10	555.10
17.000	778.11	588.68	588.68
17.083	737.85	623.62	623.62
17.167	718.70	660.25	660.25
17.250	692.12	703.46	703.46
17.333	620.14	737.51	737.51
17.417	549.37	733.35	733.35
17.500	495.53	718.83	718.83
17.583	463.78	687.00	687.00
17.667	407.34	632.21	632.21
17.750	358.03	572.02	572.02
17.833	332.11	520.53	520.53
17.917	311.40	474.85	474.85
18.000	279.74	424.56	424.56
18.083	253.90	380.16	380.16
18.167	227.42	347.64	347.64
18.250	210.04	319.46	319.46
18.333	198.35	290.59	290.59
18.417	170.56	263.33	263.33
18.500	153.33	238.60	238.60
18.583	145.86	219.41	219.41
18.667	139.45	200.90	200.90
18.750	133.37	179.43	179.43

18.833	127.57	162.62	162.62
18.917	122.04	151.47	151.47
19.000	116.51	143.13	143.13
19.083	111.50	136.16	136.16
19.167	106.78	129.93	129.93
19.250	102.29	124.10	124.10
19.333	97.98	118.57	118.57
19.417	92.97	113.40	113.40
19.500	81.63	108.55	108.55
19.583	78.70	103.95	103.95
19.667	76.27	99.35	99.35
19.750	74.15	93.08	93.08
19.833	72.05	85.79	85.79
19.917	70.08	81.13	81.13
20.000	68.29	77.83	77.83

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PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 212.872 AF
 OUTFLOW VOLUME = 212.872 AF
 LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<

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THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
 TO ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE
 INTERVALS(Reference: the National Engineering Handbook,
 Hydrology, Chapter 17, page 17-52, August,1972,
 U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:

BASEWIDTH(FT) = 0.01 CHANNEL Z = 3.00
 UPSTREAM ELEVATION(FT) = 315.00
 DOWNSTREAM ELEVATION(FT) = 212.00
 CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040
 CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:

MAXIMUM INFLOW(CFS) = 737.51
 AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 574.50
 CHANNEL NORMAL VELOCITY FOR Q = 574.50 CFS = 8.00 FPS
 ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.825

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
 UNIT INTERVALS IS CSTAR = 0.658

CONVEX METHOD CHANNEL ROUTING RESULTS:

			OUTFLOW LESS
MODEL	INFLOW	ROUTED	LOSS
TIME	(STREAM 2)	FLOW	(STREAM 2)
(HRS)	(CFS)	(CFS)	(CFS)

10.000	55.25	54.17	54.17
10.083	55.64	54.54	54.54
10.167	56.04	54.92	54.92
10.250	56.45	55.30	55.30
10.333	56.86	55.69	55.69
10.417	57.28	56.09	56.09
10.500	57.71	56.50	56.50
10.583	58.15	56.92	56.92
10.667	58.60	57.34	57.34
10.750	59.06	57.77	57.77
10.833	59.52	58.21	58.21
10.917	60.00	58.66	58.66
11.000	60.48	59.12	59.12
11.083	60.98	59.58	59.58
11.167	61.49	60.06	60.06
11.250	62.01	60.55	60.55
11.333	62.54	61.04	61.04
11.417	63.08	61.55	61.55
11.500	63.63	62.07	62.07
11.583	64.20	62.60	62.60
11.667	64.78	63.15	63.15
11.750	65.37	63.70	63.70
11.833	65.98	64.27	64.27
11.917	66.61	64.85	64.85
12.000	67.25	65.45	65.45
12.083	67.90	66.06	66.06
12.167	68.58	66.69	66.69
12.250	69.27	67.33	67.33
12.333	70.01	67.99	67.99
12.417	70.85	68.67	68.67
12.500	71.80	69.37	69.37
12.583	72.86	70.14	70.14
12.667	74.10	71.00	71.00
12.750	75.61	71.97	71.97
12.833	77.41	73.08	73.08
12.917	79.41	74.38	74.38
13.000	81.56	75.94	75.94
13.083	83.87	77.74	77.74
13.167	86.33	79.74	79.74
13.250	89.01	81.90	81.90
13.333	91.87	84.23	84.23
13.417	94.76	86.73	86.73
13.500	97.66	89.43	89.43
13.583	100.50	92.25	92.25
13.667	103.19	95.11	95.11
13.750	105.71	97.98	97.98
13.833	108.09	100.76	100.76
13.917	110.38	103.41	103.41
14.000	112.56	105.92	105.92
14.083	114.64	108.31	108.31
14.167	116.69	110.58	110.58
14.250	118.73	112.75	112.75
14.333	120.83	114.85	114.85
14.417	123.14	116.91	116.91
14.500	125.69	118.99	118.99
14.583	128.49	121.17	121.17
14.667	131.72	123.53	123.53
14.750	135.60	126.13	126.13

14.833	140.15	129.04	129.04
14.917	145.22	132.43	132.43
15.000	150.67	136.42	136.42
15.083	156.53	140.99	140.99
15.167	162.82	146.06	146.06
15.250	169.63	151.55	151.55
15.333	176.95	157.46	157.46
15.417	184.38	163.84	163.84
15.500	191.88	170.71	170.71
15.583	199.31	177.93	177.93
15.667	206.33	185.31	185.31
15.750	212.66	192.74	192.74
15.833	218.42	200.00	200.00
15.917	223.77	206.82	206.82
16.000	228.49	213.07	213.07
16.083	232.39	218.83	218.83
16.167	235.86	224.05	224.05
16.250	240.16	228.61	228.61
16.333	252.31	232.55	232.55
16.417	277.30	236.53	236.53
16.500	304.72	244.01	244.01
16.583	332.90	259.94	259.94
16.667	377.50	282.84	282.84
16.750	443.12	309.04	309.04
16.833	508.18	343.42	343.42
16.917	555.10	393.32	393.32
17.000	588.68	453.33	453.33
17.083	623.62	509.06	509.06
17.167	660.25	553.41	553.41
17.250	703.46	591.24	591.24
17.333	737.51	627.88	627.88
17.417	733.35	667.27	667.27
17.500	718.83	705.34	705.34
17.583	687.00	724.76	724.76
17.667	632.21	724.32	724.32
17.750	572.02	707.37	707.37
17.833	520.53	671.02	671.02
17.917	474.85	620.28	620.28
18.000	424.56	566.97	566.97
18.083	380.16	517.29	517.29
18.167	347.64	468.31	468.31
18.250	319.46	420.94	420.94
18.333	290.59	380.49	380.49
18.417	263.33	347.08	347.08
18.500	238.60	316.82	316.82
18.583	219.41	288.15	288.15
18.667	200.90	261.47	261.47
18.750	179.43	238.39	238.39
18.833	162.62	218.15	218.15
18.917	151.47	197.81	197.81
19.000	143.13	178.68	178.68
19.083	136.16	163.45	163.45
19.167	129.93	152.07	152.07
19.250	124.10	143.27	143.27
19.333	118.57	135.98	135.98
19.417	113.40	129.56	129.56
19.500	108.55	123.65	123.65
19.583	103.95	118.15	118.15

19.667	99.35	112.99	112.99
19.750	93.08	108.14	108.14
19.833	85.79	103.46	103.46
19.917	81.13	98.13	98.13
20.000	77.83	91.75	91.75

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PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 212.872 AF

OUTFLOW VOLUME = 212.872 AF

LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<

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(UNIT-HYDROGRAPH ADDED TO STREAM #3)

WATERSHED AREA = 1715.900 ACRES

BASEFLOW = 0.000 CFS/SQUARE-MILE

*USER ENTERED "LAG" TIME = 0.712 HOURS

VALLEY (DEVELOPED) S-GRAPH SELECTED

MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.374

LOW LOSS FRACTION = 0.689

HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.18

SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.41

SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.55

SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 0.92

SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 1.27

SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 2.12

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE FACTOR = 0.744

30-MINUTE FACTOR = 0.744

1-HOUR FACTOR = 0.744

3-HOUR FACTOR = 0.959

6-HOUR FACTOR = 0.978

24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES

UNIT INTERVAL PERCENTAGE OF LAG-TIME = 11.704

RUNOFF HYDROGRAPH LISTING LIMITS:

MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00

MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

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UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
-----------------	-----------------------	---------------------------------

1	0.669	138.789
2	2.095	296.029
3	4.278	453.028
4	8.616	900.042
5	14.839	1291.452
6	21.892	1463.647
7	29.534	1585.849
8	38.513	1863.211
9	49.002	2176.762
10	58.450	1960.436
11	67.828	1946.164
12	75.247	1539.659
13	80.842	1160.891
14	85.632	994.037
15	89.040	707.260
16	91.600	531.179
17	93.806	457.809
18	95.403	331.490
19	96.551	238.215
20	97.469	190.495
21	98.090	128.908
22	98.312	46.058
23	98.531	45.502
24	98.751	45.591
25	98.970	45.502
26	99.190	45.538
27	99.409	45.502
28	99.628	45.502
29	99.848	45.502
30	100.000	31.617

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 196.8151

TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 102.1948

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)

(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	100.0	200.0	300.0	400.0
10.000	17.1317	30.01	. Q	V .	.	.	.
10.083	17.3400	30.25	. Q	V .	.	.	.
10.167	17.5499	30.48	. Q	V .	.	.	.
10.250	17.7615	30.72	. Q	V .	.	.	.
10.333	17.9748	30.97	. Q	V .	.	.	.
10.417	18.1899	31.22	. Q	V .	.	.	.
10.500	18.4067	31.48	. Q	V .	.	.	.
10.583	18.6253	31.74	. Q	V .	.	.	.
10.667	18.8458	32.01	. Q	V .	.	.	.
10.750	19.0681	32.29	. Q	V .	.	.	.
10.833	19.2924	32.57	. Q	V .	.	.	.
10.917	19.5187	32.86	. Q	V .	.	.	.
11.000	19.7471	33.15	. Q	V .	.	.	.
11.083	19.9774	33.45	. Q	V .	.	.	.
11.167	20.2100	33.76	. Q	V .	.	.	.
11.250	20.4447	34.08	. Q	V .	.	.	.
11.333	20.6816	34.40	. Q	V .	.	.	.
11.417	20.9208	34.74	. Q	V .	.	.	.
11.500	21.1624	35.08	. Q	V .	.	.	.
11.583	21.4064	35.43	. Q	V .	.	.	.
11.667	21.6528	35.78	. Q	V .	.	.	.
11.750	21.9018	36.15	. Q	V .	.	.	.
11.833	22.1534	36.53	. Q	V .	.	.	.
11.917	22.4077	36.92	. Q	V .	.	.	.
12.000	22.6647	37.32	. Q	V .	.	.	.
12.083	22.9252	37.82	. Q	V .	.	.	.
12.167	23.1899	38.43	. Q	V .	.	.	.
12.250	23.4596	39.16	. Q	V .	.	.	.
12.333	23.7364	40.19	. Q	V .	.	.	.
12.417	24.0220	41.48	. Q	V .	.	.	.
12.500	24.3174	42.89	. Q	V .	.	.	.
12.583	24.6232	44.40	. Q	V .	.	.	.
12.667	24.9407	46.11	. Q	V .	.	.	.
12.750	25.2715	48.03	. Q	V .	.	.	.
12.833	25.6148	49.84	. Q	V .	.	.	.
12.917	25.9706	51.67	. Q	V .	.	.	.
13.000	26.3374	53.25	. Q	V .	.	.	.
13.083	26.7136	54.63	. Q	V .	.	.	.
13.167	27.0987	55.91	. Q	V .	.	.	.
13.250	27.4916	57.05	. Q	V .	.	.	.
13.333	27.8917	58.09	. Q	V .	.	.	.
13.417	28.2989	59.12	. Q	.V	.	.	.
13.500	28.7128	60.10	. Q	.V	.	.	.
13.583	29.1332	61.05	. Q	.V	.	.	.
13.667	29.5602	62.00	. Q	.V	.	.	.
13.750	29.9938	62.95	. Q	.V	.	.	.
13.833	30.4337	63.88	. Q	.V	.	.	.

13.917	30.8804	64.86	. Q	. V	.	.	.
14.000	31.3340	65.87	. Q	. V	.	.	.
14.083	31.7965	67.15	. Q	. V	.	.	.
14.167	32.2697	68.72	. Q	. V	.	.	.
14.250	32.7559	70.59	. Q	. V	.	.	.
14.333	33.2601	73.21	. Q	. V	.	.	.
14.417	33.7869	76.49	. Q	. V	.	.	.
14.500	34.3384	80.08	. Q	. V	.	.	.
14.583	34.9161	83.89	. Q	. V	.	.	.
14.667	35.5235	88.19	. Q	. V	.	.	.
14.750	36.1644	93.05	. Q	. V	.	.	.
14.833	36.8367	97.62	. Q	. V	.	.	.
14.917	37.5408	102.25	. Q	V	.	.	.
15.000	38.2730	106.31	. Q	V	.	.	.
15.083	39.0298	109.89	. Q	V	.	.	.
15.167	39.8101	113.31	. .Q	V	.	.	.
15.250	40.6119	116.42	. .Q	V	.	.	.
15.333	41.4342	119.40	. .Q	V	.	.	.
15.417	42.2749	122.06	. .Q	V	.	.	.
15.500	43.1307	124.28	. .Q	V	.	.	.
15.583	43.9998	126.19	. .Q	V	.	.	.
15.667	44.8750	127.08	. .Q	V	.	.	.
15.750	45.7519	127.33	. .Q	V	.	.	.
15.833	46.6317	127.73	. .Q	V	.	.	.
15.917	47.5203	129.04	. .Q	V	.	.	.
16.000	48.4302	132.11	. .Q	V	.	.	.
16.083	49.4541	148.67	. .Q	V	.	.	.
16.167	50.6198	169.26	. .Q	V	.	.	.
16.250	51.9476	192.80	. .Q	V	.	.	.
16.333	53.6230	243.26	. .V	Q	.	.	.
16.417	55.6029	287.49	. .V	Q	.	.	.
16.500	57.7370	309.87	. .V	Q	.	.	.
16.583	59.9944	327.78	. .V	Q	.	.	.
16.667	62.4613	358.19	. .V	Q	.	.	.
16.750	65.1203	386.10	. .V	Q	.	.	.
16.833	67.6241	363.54	. .V	Q	.	.	.
16.917	70.0589	353.54	. .V	Q	.	.	.
17.000	72.1761	307.41	. .V	Q	.	.	.
17.083	74.0033	265.31	. .Q	V	.	.	.
17.167	75.6682	241.75	. .Q	V	.	.	.
17.250	77.1074	208.97	. .Q	V	.	.	.
17.333	78.3890	186.09	. .Q	V	.	.	.
17.417	79.5712	171.65	. .Q	V	.	.	.
17.500	80.6236	152.80	. .Q	V	.	.	.
17.583	81.5671	137.00	. .Q	V	.	.	.
17.667	82.4282	125.03	. .Q	V	.	.	.
17.750	83.1978	111.75	. .Q	V	.	.	.
17.833	83.8713	97.80	. .Q	V	.	.	.
17.917	84.5040	91.87	. .Q	V	.	.	.
18.000	85.1037	87.07	. .Q	V	.	.	.
18.083	85.6745	82.89	. .Q	V	.	.	.
18.167	86.2176	78.85	. .Q	V	.	.	.
18.250	86.7361	75.29	. .Q	V	.	.	.
18.333	87.2308	71.82	. .Q	V	.	.	.
18.417	87.7003	68.17	. .Q	V	.	.	.
18.500	88.1365	63.34	. .Q	V	.	.	.
18.583	88.5314	57.34	. .Q	V	.	.	.
18.667	88.9056	54.33	. .Q	V	.	.	.

18.750	89.2598	51.44	.	Q	.	.	.	V	.
18.833	89.5967	48.91	.	Q	.	.	.	V	.
18.917	89.9164	46.42	.	Q	.	.	.	V	.
19.000	90.2212	44.27	.	Q	.	.	.	V	.
19.083	90.5135	42.44	.	Q	.	.	.	V	.
19.167	90.7944	40.78	.	Q	.	.	.	V	.
19.250	91.0655	39.37	.	Q	.	.	.	V	.
19.333	91.3280	38.12	.	Q	.	.	.	V	.
19.417	91.5827	36.97	.	Q	.	.	.	V	.
19.500	91.8304	35.97	.	Q	.	.	.	V	.
19.583	92.0722	35.11	.	Q	.	.	.	V	.
19.667	92.3086	34.32	.	Q	.	.	.	V	.
19.750	92.5400	33.61	.	Q	.	.	.	V	.
19.833	92.7671	32.98	.	Q	.	.	.	V	.
19.917	92.9901	32.37	.	Q	.	.	.	V	.
20.000	93.2091	31.80	.	Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	425.0
20%	225.0
30%	150.0
40%	80.0
50%	60.0
60%	55.0
70%	40.0
80%	30.0
90%	20.0

FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<

STREAM HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	225.0	450.0	675.0	900.0
10.000	46.3540	84.18	.	Q V	.	.	.
10.083	46.9379	84.79	.	Q V	.	.	.
10.167	47.5261	85.40	.	Q V	.	.	.
10.250	48.1185	86.03	.	Q V	.	.	.
10.333	48.7154	86.67	.	Q V	.	.	.
10.417	49.3168	87.32	.	Q V	.	.	.
10.500	49.9227	87.98	.	Q V	.	.	.
10.583	50.5333	88.66	.	Q V	.	.	.
10.667	51.1487	89.35	.	Q V	.	.	.
10.750	51.7689	90.06	.	Q V	.	.	.
10.833	52.3941	90.78	.	Q V	.	.	.
10.917	53.0243	91.52	.	Q V	.	.	.
11.000	53.6598	92.27	.	Q V	.	.	.
11.083	54.3005	93.04	.	Q V	.	.	.
11.167	54.9467	93.82	.	Q V	.	.	.
11.250	55.5984	94.63	.	Q V	.	.	.
11.333	56.2557	95.45	.	Q V	.	.	.
11.417	56.9189	96.29	.	Q V	.	.	.
11.500	57.5879	97.15	.	Q V	.	.	.
11.583	58.2631	98.03	.	Q V	.	.	.
11.667	58.9444	98.93	.	Q V	.	.	.
11.750	59.6321	99.86	.	Q V	.	.	.
11.833	60.3264	100.80	.	Q V	.	.	.
11.917	61.0273	101.78	.	Q V	.	.	.
12.000	61.7351	102.77	.	Q V	.	.	.
12.083	62.4506	103.89	.	Q V	.	.	.
12.167	63.1746	105.12	.	Q V	.	.	.
12.250	63.9080	106.49	.	Q V	.	.	.
12.333	64.6530	108.17	.	Q V	.	.	.
12.417	65.4116	110.14	.	Q V	.	.	.
12.500	66.1847	112.26	.	Q V	.	.	.
12.583	66.9735	114.54	.	Q V	.	.	.
12.667	67.7801	117.11	.	Q V	.	.	.
12.750	68.6066	120.01	.	Q V	.	.	.
12.833	69.4531	122.92	.	Q V	.	.	.
12.917	70.3212	126.05	.	Q V	.	.	.
13.000	71.2110	129.20	.	Q V	.	.	.
13.083	72.1226	132.37	.	Q V	.	.	.
13.167	73.0569	135.65	.	Q V	.	.	.
13.250	74.0138	138.95	.	Q V	.	.	.
13.333	74.9940	142.32	.	Q V	.	.	.

13.417	75.9985	145.86	.	Q	V.	.	.	.
13.500	77.0283	149.53	.	Q	V.	.	.	.
13.583	78.0841	153.30	.	Q	V.	.	.	.
13.667	79.1662	157.11	.	Q	V	.	.	.
13.750	80.2745	160.93	.	Q	V	.	.	.
13.833	81.4084	164.64	.	Q	V	.	.	.
13.917	82.5672	168.27	.	Q	V	.	.	.
14.000	83.7504	171.79	.	Q	V	.	.	.
14.083	84.9588	175.46	.	Q	V	.	.	.
14.167	86.1936	179.30	.	Q	V	.	.	.
14.250	87.4563	183.34	.	Q	.V	.	.	.
14.333	88.7515	188.06	.	Q	.V	.	.	.
14.417	90.0835	193.40	.	Q	.V	.	.	.
14.500	91.4544	199.06	.	Q	.V	.	.	.
14.583	92.8667	205.06	.	Q	.V	.	.	.
14.667	94.3248	211.73	.	Q	.V	.	.	.
14.750	95.8343	219.17	.	Q	.V	.	.	.
14.833	97.3953	226.65	.	Q	V	.	.	.
14.917	99.0115	234.67	.	Q	V	.	.	.
15.000	100.6831	242.73	.	Q	V	.	.	.
15.083	102.4110	250.88	.	.Q	V	.	.	.
15.167	104.1972	259.36	.	.Q	V	.	.	.
15.250	106.0427	267.97	.	.Q	V	.	.	.
15.333	107.9494	276.86	.	.	QV	.	.	.
15.417	109.9184	285.90	.	.	QV	.	.	.
15.500	111.9500	294.99	.	.	QV	.	.	.
15.583	114.0445	304.12	.	.	QV	.	.	.
15.667	116.1959	312.39	.	.	QV	.	.	.
15.750	118.4003	320.08	.	.	QV	.	.	.
15.833	120.6574	327.74	.	.	QV	.	.	.
15.917	122.9705	335.85	.	.	QV	.	.	.
16.000	125.3478	345.19	.	.	Q	.	.	.
16.083	127.8788	367.50	.	.	Q	.	.	.
16.167	130.5875	393.32	.	.	VQ	.	.	.
16.250	133.4898	421.40	.	.	V	Q	.	.
16.333	136.7667	475.81	.	.	V	.Q	.	.
16.417	140.3756	524.01	.	.	V	.Q	.	.
16.500	144.1902	553.88	.	.	V	.Q	.	.
16.583	148.2378	587.72	.	.	V	.Q	.	.
16.667	152.6527	641.04	.	.	V.	.Q	.	.
16.750	157.4401	695.13	.	.	V.	.Q	.	.
16.833	162.3089	706.96	.	.	V	.Q	.	.
16.917	167.4526	746.86	.	.	.V	.Q	.	.
17.000	172.6919	760.74	.	.	.V	.Q	.	.
17.083	178.0250	774.37	.	.	.V	.Q	.	.
17.167	183.5013	795.16	.	.	.V	.Q	.	.
17.250	189.0124	800.22	.	.	.V	.Q	.	.
17.333	194.6183	813.97	.	.	.V	.Q	.	.
17.417	200.3960	838.93	.	.	.V	.Q	.	.
17.500	206.3060	858.14	.	.	.V	.Q	.	.
17.583	212.2410	861.76	.	.	.V	.Q	.	.
17.667	218.0906	849.36	.	.	.V	.Q	.	.
17.750	223.7319	819.12	.	.	.V	.Q	.	.
17.833	229.0268	768.82	.	.	.V.	.Q	.	.
17.917	233.9314	712.15	.	.	.V.Q	.	.	.
18.000	238.4358	654.03	.	.	.QV	.	.	.
18.083	242.5692	600.17	.	.	.Q	V	.	.
18.167	246.3375	547.16	.	.	.Q	.V	.	.

18.250	249.7551	496.23	.	.	.Q	.V	.	.
18.333	252.8702	452.32	.	.	.Q	.V	.	.
18.417	255.7301	415.25	.	.	.Q	.V	.	.
18.500	258.3482	380.16	.	.	.Q	.V	.	.
18.583	260.7277	345.49	.	.	.Q	.V	.	.
18.667	262.9026	315.80	.	.	.Q	.V	.	.
18.750	264.8987	289.83	.	.	.Q	.V	.	.
18.833	266.7379	267.07	.	.	.Q	.V	.	.
18.917	268.4200	244.23	.	.	.Q	.V	.	.
19.000	269.9554	222.95	.	.	.Q.	.V	.	.
19.083	271.3733	205.88	.	.	.Q.	.V	.	.
19.167	272.7015	192.85	.	.	.Q	.V	.	.
19.250	273.9593	182.64	.	.	.Q	.V	.	.
19.333	275.1584	174.11	.	.	.Q	.V	.	.
19.417	276.3054	166.53	.	.	.Q	.V	.	.
19.500	277.4047	159.62	.	.	.Q	.V	.	.
19.583	278.4601	153.26	.	.	.Q	.V	.	.
19.667	279.4747	147.32	.	.	.Q	.V	.	.
19.750	280.4510	141.75	.	.	.Q	.V	.	.
19.833	281.3906	136.44	.	.	.Q	.V	.	.
19.917	282.2894	130.50	.	.	.Q	.V	.	.
20.000	283.1403	123.55	.	.	.Q	.V	.	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	650.0
20%	320.0
30%	225.0
40%	160.0
50%	125.0
60%	110.0
70%	85.0
80%	75.0
90%	40.0
=====	=====

END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

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***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - FREE DRAINING UH *
* ULTIMATE CONDITION - REGIONAL NODE 133T *
* 10-YR EV AUGUST 2018 CCHIU *

FILE NAME: EV1033TF.DAT
TIME/DATE OF STUDY: 10:11 08/31/2018

FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

(UNIT-HYDROGRAPH ADDED TO STREAM #2)

WATERSHED AREA = 4924.400 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.938 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244
LOW LOSS FRACTION = 0.727
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.26
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.59
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.78
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.31
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 1.81
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 3.03

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.744
30-MINUTE FACTOR = 0.744
1-HOUR FACTOR = 0.744
3-HOUR FACTOR = 0.959
6-HOUR FACTOR = 0.978
24-HOUR FACTOR = 0.986

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 8.884

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.508	302.338
2	1.523	604.819
3	2.819	771.800
4	4.716	1129.648
5	8.114	2023.451
6	12.597	2670.161
7	17.853	3130.103
8	23.366	3283.224
9	29.066	3394.346
10	35.795	4007.575
11	43.214	4418.483
12	51.431	4893.746
13	58.237	4053.149
14	65.724	4458.599
15	71.827	3634.834
16	76.932	3039.875
17	80.977	2408.986
18	84.732	2236.623
19	87.674	1751.966
20	89.859	1301.150
21	91.751	1126.819
22	93.468	1022.475
23	94.780	781.630
24	95.870	649.332
25	96.640	458.377
26	97.337	415.035
27	97.954	367.513
28	98.175	131.320
29	98.341	99.306
30	98.508	99.115
31	98.674	99.242
32	98.841	99.111
33	99.008	99.374
34	99.174	99.111
35	99.341	99.111
36	99.507	99.111
37	99.673	99.111
38	99.840	99.111
39	100.000	95.385

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 802.2755
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 424.1288

=====

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

=====

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	450.0	900.0	1350.0	1800.0
10.000	59.8701	106.25	. Q	V	.	.	.
10.083	60.6073	107.04	. Q	V	.	.	.
10.167	61.3501	107.85	. Q	V	.	.	.
10.250	62.0985	108.67	. Q	V	.	.	.
10.333	62.8528	109.52	. Q	V	.	.	.
10.417	63.6129	110.38	. Q	V	.	.	.
10.500	64.3792	111.26	. Q	V	.	.	.
10.583	65.1516	112.15	. Q	V	.	.	.
10.667	65.9303	113.07	. Q	V	.	.	.
10.750	66.7154	114.00	. Q	V	.	.	.
10.833	67.5071	114.96	. Q	V	.	.	.
10.917	68.3055	115.93	. Q	V	.	.	.
11.000	69.1109	116.93	. Q	V	.	.	.
11.083	69.9232	117.95	. Q	V	.	.	.
11.167	70.7428	119.00	. Q	V	.	.	.
11.250	71.5697	120.07	. Q	V	.	.	.
11.333	72.4042	121.17	. Q	V	.	.	.
11.417	73.2463	122.28	. Q	V	.	.	.
11.500	74.0965	123.44	. Q	V	.	.	.
11.583	74.9547	124.61	. Q	V	.	.	.
11.667	75.8213	125.83	. Q	V	.	.	.
11.750	76.6963	127.06	. Q	V	.	.	.
11.833	77.5802	128.34	. Q	V	.	.	.
11.917	78.4730	129.64	. Q	V	.	.	.
12.000	79.3752	130.99	. Q	V	.	.	.
12.083	80.2884	132.60	. Q	V	.	.	.
12.167	81.2148	134.51	. Q	V	.	.	.
12.250	82.1553	136.57	. Q	V	.	.	.
12.333	83.1125	138.98	. Q	V	.	.	.
12.417	84.0912	142.12	. Q	V	.	.	.
12.500	85.0957	145.84	. Q	V	.	.	.
12.583	86.1285	149.97	. Q	V	.	.	.
12.667	87.1911	154.29	. Q	V	.	.	.
12.750	88.2844	158.74	. Q	V	.	.	.
12.833	89.4123	163.76	. Q	V	.	.	.
12.917	90.5773	169.16	. Q	V	.	.	.
13.000	91.7827	175.02	. Q	V	.	.	.
13.083	93.0242	180.28	. Q	V	.	.	.
13.167	94.3049	185.95	. Q	V	.	.	.
13.250	95.6206	191.04	. Q	V	.	.	.
13.333	96.9688	195.76	. Q	V	.	.	.
13.417	98.3466	200.05	. Q	V	.	.	.
13.500	99.7538	204.33	. Q	V	.	.	.
13.583	101.1882	208.29	. Q	V	.	.	.
13.667	102.6485	212.03	. Q	V	.	.	.
13.750	104.1340	215.71	. Q	V	.	.	.
13.833	105.6454	219.45	. Q	V	.	.	.

13.917	107.1819	223.10	.	Q	V	.	.	.
14.000	108.7440	226.81	.	Q	V	.	.	.
14.083	110.3354	231.07	.	Q	V	.	.	.
14.167	111.9613	236.08	.	Q	V	.	.	.
14.250	113.6245	241.50	.	Q	V	.	.	.
14.333	115.3301	247.65	.	Q	V	.	.	.
14.417	117.0908	255.65	.	Q	.V	.	.	.
14.500	118.9169	265.16	.	Q	.V	.	.	.
14.583	120.8156	275.69	.	Q	.V	.	.	.
14.667	122.7906	286.76	.	Q	.V	.	.	.
14.750	124.8443	298.19	.	Q	.V	.	.	.
14.833	126.9872	311.15	.	Q	.V	.	.	.
14.917	129.2276	325.31	.	Q	.V	.	.	.
15.000	131.5762	341.01	.	Q	.V	.	.	.
15.083	134.0260	355.71	.	Q	.V	.	.	.
15.167	136.5901	372.31	.	Q	.V	.	.	.
15.250	139.2679	388.81	.	Q	.V	.	.	.
15.333	142.0638	405.97	.	Q	.V	.	.	.
15.417	144.9675	421.61	.	Q	.V	.	.	.
15.500	147.9752	436.73	.	Q	.V	.	.	.
15.583	151.0887	452.07	.	Q	.V	.	.	.
15.667	154.3021	466.59	.	Q	.V	.	.	.
15.750	157.5977	478.52	.	Q	.V	.	.	.
15.833	160.9795	491.04	.	Q	.V	.	.	.
15.917	164.4784	508.04	.	.Q	.V	.	.	.
16.000	168.1909	539.06	.	.Q	.V	.	.	.
16.083	172.4746	621.99	.	.	Q	.V	.	.
16.167	177.3590	709.22	.	.	.	Q	.V	.
16.250	182.7840	787.71	.	.	.	.	Q	.V
16.333	189.0035	903.07	.	.	.	.	.	Q
16.417	196.5571	1096.79	.	.	.	.	.	.
16.500	205.1119	1242.16	.	.	.	.	.	.
16.583	214.3759	1345.13	.	.	.	.	.	.
16.667	224.0591	1405.99	.	.	.	.	.	.
16.750	234.1733	1468.59	.	.	.	.	.	.
16.833	245.1945	1600.28	.	.	.	.	.	.
16.917	256.7736	1681.28	.	.	.	.	.	.
17.000	268.6923	1730.59	.	.	.	.	.	.
17.083	279.6056	1584.61	.	.	.	.	.	.
17.167	290.4689	1577.35	.	.	.	.	.	.
17.250	300.1081	1399.62	.	.	.	.	.	.
17.333	308.6975	1247.18	.	.	.	.	.	.
17.417	316.2471	1096.20	.	.	.	.	.	.
17.500	323.2238	1013.02	.	.	.	.	.	.
17.583	329.3343	887.24	.	.	.	.	.	.
17.667	334.6648	773.99	.	.	.	.	.	.
17.750	339.5183	704.72	.	.	.	.	.	.
17.833	343.9914	649.50	.	.	.	.	.	.
17.917	347.9600	576.24	.	.	.	.	.	.
18.000	351.5182	516.65	.	.	.	.	.	.
18.083	354.6688	457.47	.	.	.	.	.	.
18.167	357.5580	419.51	.	.	.	.	.	.
18.250	360.1895	382.11	.	.	.	.	.	.
18.333	362.4267	324.84	.	.	.	.	.	.
18.417	364.4924	299.94	.	.	.	.	.	.
18.500	366.4518	284.50	.	.	.	.	.	.
18.583	368.3200	271.27	.	.	.	.	.	.
18.667	370.1013	258.63	.	.	.	.	.	.

18.750	371.8032	247.12	.	Q	.	.	.	V	.
18.833	373.4288	236.04	.	Q	.	.	.	V	.
18.917	374.9836	225.77	.	Q	.	.	.	V	.
19.000	376.4653	215.13	.	Q	.	.	.	V	.
19.083	377.8802	205.44	.	Q	.	.	.	V	.
19.167	379.2184	194.31	.	Q	.	.	.	V	.
19.250	380.4720	182.02	.	Q	.	.	.	V	.
19.333	381.5731	159.89	.	Q	.	.	.	V	.
19.417	382.6252	152.75	.	Q	.	.	.	V	.
19.500	383.6414	147.56	.	Q	.	.	.	V	.
19.583	384.6267	143.06	.	Q	.	.	.	V	.
19.667	385.5799	138.40	.	Q	.	.	.	V	.
19.750	386.5042	134.22	.	Q	.	.	.	V	.
19.833	387.4023	130.41	.	Q	.	.	.	V	.
19.917	388.2772	127.03	.	Q	.	.	.	V	.
20.000	389.1308	123.94	.	Q	.	.	.	V	.

 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	380.0
20%	195.0
30%	120.0
40%	100.0
50%	80.0
60%	65.0
70%	55.0
80%	40.0
90%	25.0

FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

 >>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
 TO ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE
 INTERVALS(Reference: the National Engineering Handbook,
 Hydrology, Chapter 17, page 17-52, August,1972,
 U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
 BASEWIDTH(FT) = 50.00 CHANNEL Z = 3.00
 UPSTREAM ELEVATION(FT) = 427.51
 DOWNSTREAM ELEVATION(FT) = 315.00
 CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040
 CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:

MAXIMUM INFLOW(CFS) = 1730.59
 AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 1329.94
 CHANNEL NORMAL VELOCITY FOR Q = 1329.94 CFS = 7.47 FPS
 ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.815

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
 UNIT INTERVALS IS CSTAR = 0.585

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 2) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS
			LOSS (STREAM 2) (CFS)
10.000	106.25	103.05	103.05
10.083	107.04	103.78	103.78
10.167	107.85	104.52	104.52
10.250	108.67	105.28	105.28
10.333	109.52	106.06	106.06
10.417	110.38	106.85	106.85
10.500	111.26	107.65	107.65
10.583	112.15	108.48	108.48
10.667	113.07	109.31	109.31
10.750	114.00	110.17	110.17
10.833	114.96	111.04	111.04
10.917	115.93	111.93	111.93
11.000	116.93	112.84	112.84
11.083	117.95	113.77	113.77
11.167	119.00	114.72	114.72
11.250	120.07	115.70	115.70
11.333	121.17	116.69	116.69
11.417	122.28	117.71	117.71
11.500	123.44	118.75	118.75
11.583	124.61	119.81	119.81
11.667	125.83	120.90	120.90
11.750	127.06	122.02	122.02
11.833	128.34	123.16	123.16
11.917	129.64	124.33	124.33
12.000	130.99	125.53	125.53
12.083	132.60	126.77	126.77
12.167	134.51	128.03	128.03
12.250	136.57	129.33	129.33
12.333	138.98	130.73	130.73
12.417	142.12	132.33	132.33
12.500	145.84	134.15	134.15
12.583	149.97	136.20	136.20
12.667	154.29	138.66	138.66
12.750	158.74	141.67	141.67
12.833	163.76	145.21	145.21
12.917	169.16	149.14	149.14
13.000	175.02	153.33	153.33
13.083	180.28	157.83	157.83
13.167	185.95	162.73	162.73
13.250	191.04	168.05	168.05
13.333	195.76	173.52	173.52
13.417	200.05	178.98	178.98
13.500	204.33	184.41	184.41
13.583	208.29	189.54	189.54

13.667	212.03	194.32	194.32
13.750	215.71	198.80	198.80
13.833	219.45	203.08	203.08
13.917	223.10	207.12	207.12
14.000	226.81	210.97	210.97
14.083	231.07	214.73	214.73
14.167	236.08	218.46	218.46
14.250	241.50	222.16	222.16
14.333	247.65	226.01	226.01
14.417	255.65	230.30	230.30
14.500	265.16	235.12	235.12
14.583	275.69	240.48	240.48
14.667	286.76	246.80	246.80
14.750	298.19	254.50	254.50
14.833	311.15	263.53	263.53
14.917	325.31	273.58	273.58
15.000	341.01	284.32	284.32
15.083	355.71	295.87	295.87
15.167	372.31	308.57	308.57
15.250	388.81	322.53	322.53
15.333	405.97	337.24	337.24
15.417	421.61	352.45	352.45
15.500	436.73	368.44	368.44
15.583	452.07	384.91	384.91
15.667	466.59	401.38	401.38
15.750	478.52	417.22	417.22
15.833	491.04	432.70	432.70
15.917	508.04	447.88	447.88
16.000	539.06	461.99	461.99
16.083	621.99	474.98	474.98
16.167	709.22	488.88	488.88
16.250	787.71	508.32	508.32
16.333	903.07	548.31	548.31
16.417	1096.79	614.55	614.55
16.500	1242.16	690.74	690.74
16.583	1345.13	778.07	778.07
16.667	1405.99	902.59	902.59
16.750	1468.59	1054.74	1054.74
16.833	1600.28	1191.67	1191.67
16.917	1681.28	1297.57	1297.57
17.000	1730.59	1377.58	1377.58
17.083	1584.61	1465.76	1465.76
17.167	1577.35	1565.93	1565.93
17.250	1399.62	1646.47	1646.47
17.333	1247.18	1656.91	1656.91
17.417	1096.20	1612.70	1612.70
17.500	1013.02	1544.85	1544.85
17.583	887.24	1419.46	1419.46
17.667	773.99	1278.64	1278.64
17.750	704.72	1149.87	1149.87
17.833	649.50	1036.46	1036.46
17.917	576.24	919.14	919.14
18.000	516.65	815.87	815.87
18.083	457.47	736.22	736.22
18.167	419.51	666.06	666.06
18.250	382.11	597.72	597.72
18.333	324.84	534.60	534.60
18.417	299.94	479.42	479.42

18.500	284.50	434.46	434.46
18.583	271.27	388.64	388.64
18.667	258.63	344.72	344.72
18.750	247.12	314.44	314.44
18.833	236.04	293.42	293.42
18.917	225.77	277.11	277.11
19.000	215.13	263.25	263.25
19.083	205.44	250.87	250.87
19.167	194.31	239.47	239.47
19.250	182.02	228.63	228.63
19.333	159.89	218.17	218.17
19.417	152.75	207.77	207.77
19.500	147.56	196.64	196.64
19.583	143.06	182.21	182.21
19.667	138.40	167.26	167.26
19.750	134.22	157.40	157.40
19.833	130.41	150.45	150.45
19.917	127.03	144.89	144.89
20.000	123.94	139.98	139.98

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PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 424.129 AF
 OUTFLOW VOLUME = 424.129 AF
 LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
 TO ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE
 INTERVALS(Reference: the National Engineering Handbook,
 Hydrology, Chapter 17, page 17-52, August,1972,
 U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:

BASEWIDTH(FT) = 50.00 CHANNEL Z = 3.00
 UPSTREAM ELEVATION(FT) = 315.00
 DOWNSTREAM ELEVATION(FT) = 212.00
 CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040
 CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:

MAXIMUM INFLOW(CFS) = 1656.91
 AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 1320.02
 CHANNEL NORMAL VELOCITY FOR Q = 1320.02 CFS = 8.12 FPS
 ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.827

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE

UNIT INTERVALS IS CSTAR = 0.662

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 2) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 2) (CFS)
10.000	103.05	101.04	101.04
10.083	103.78	101.74	101.74
10.167	104.52	102.44	102.44
10.250	105.28	103.17	103.17
10.333	106.06	103.90	103.90
10.417	106.85	104.65	104.65
10.500	107.65	105.41	105.41
10.583	108.48	106.19	106.19
10.667	109.31	106.98	106.98
10.750	110.17	107.79	107.79
10.833	111.04	108.61	108.61
10.917	111.93	109.45	109.45
11.000	112.84	110.31	110.31
11.083	113.77	111.19	111.19
11.167	114.72	112.08	112.08
11.250	115.70	113.00	113.00
11.333	116.69	113.93	113.93
11.417	117.71	114.89	114.89
11.500	118.75	115.86	115.86
11.583	119.81	116.86	116.86
11.667	120.90	117.88	117.88
11.750	122.02	118.92	118.92
11.833	123.16	119.99	119.99
11.917	124.33	121.09	121.09
12.000	125.53	122.21	122.21
12.083	126.77	123.36	123.36
12.167	128.03	124.53	124.53
12.250	129.33	125.74	125.74
12.333	130.73	126.98	126.98
12.417	132.33	128.25	128.25
12.500	134.15	129.58	129.58
12.583	136.20	131.05	131.05
12.667	138.66	132.70	132.70
12.750	141.67	134.57	134.57
12.833	145.21	136.74	136.74
12.917	149.14	139.34	139.34
13.000	153.33	142.44	142.44
13.083	157.83	146.01	146.01
13.167	162.73	149.93	149.93
13.250	168.05	154.17	154.17
13.333	173.52	158.76	158.76
13.417	178.98	163.74	163.74
13.500	184.41	169.01	169.01
13.583	189.54	174.40	174.40
13.667	194.32	179.83	179.83
13.750	198.80	185.13	185.13
13.833	203.08	190.16	190.16
13.917	207.12	194.89	194.89
14.000	210.97	199.37	199.37
14.083	214.73	203.61	203.61
14.167	218.46	207.63	207.63
14.250	222.16	211.50	211.50
14.333	226.01	215.29	215.29
14.417	230.30	219.02	219.02

14.500	235.12	222.80	222.80
14.583	240.48	226.82	226.82
14.667	246.80	231.25	231.25
14.750	254.50	236.18	236.18
14.833	263.53	241.82	241.82
14.917	273.58	248.52	248.52
15.000	284.32	256.46	256.46
15.083	295.87	265.58	265.58
15.167	308.57	275.62	275.62
15.250	322.53	286.48	286.48
15.333	337.24	298.31	298.31
15.417	352.45	311.26	311.26
15.500	368.44	325.22	325.22
15.583	384.91	339.89	339.89
15.667	401.38	355.27	355.27
15.750	417.22	371.26	371.26
15.833	432.70	387.57	387.57
15.917	447.88	403.71	403.71
16.000	461.99	419.49	419.49
16.083	474.98	434.94	434.94
16.167	488.88	449.74	449.74
16.250	508.32	463.59	463.59
16.333	548.31	477.27	477.27
16.417	614.55	493.54	493.54
16.500	690.74	520.98	520.98
16.583	778.07	568.32	568.32
16.667	902.59	632.57	632.57
16.750	1054.74	709.64	709.64
16.833	1191.67	809.93	809.93
16.917	1297.57	938.46	938.46
17.000	1377.58	1075.92	1075.92
17.083	1465.76	1199.33	1199.33
17.167	1565.93	1299.71	1299.71
17.250	1646.47	1390.21	1390.21
17.333	1656.91	1484.46	1484.46
17.417	1612.70	1573.97	1573.97
17.500	1544.85	1626.60	1626.60
17.583	1419.46	1627.17	1627.17
17.667	1278.64	1587.64	1587.64
17.750	1149.87	1503.95	1503.95
17.833	1036.46	1385.83	1385.83
17.917	919.14	1258.00	1258.00
18.000	815.87	1136.32	1136.32
18.083	736.22	1018.39	1018.39
18.167	666.06	907.07	907.07
18.250	597.72	811.51	811.51
18.333	534.60	730.67	730.67
18.417	479.42	657.71	657.71
18.500	434.46	590.12	590.12
18.583	388.64	528.99	528.99
18.667	344.72	476.31	476.31
18.750	314.44	428.37	428.37
18.833	293.42	382.67	382.67
18.917	277.11	344.17	344.17
19.000	263.25	315.20	315.20
19.083	250.87	293.57	293.57
19.167	239.47	276.55	276.55
19.250	228.63	262.28	262.28

19.333	218.17	249.69	249.69
19.417	207.77	238.14	238.14
19.500	196.64	227.22	227.22
19.583	182.21	216.64	216.64
19.667	167.26	205.85	205.85
19.750	157.40	193.38	193.38
19.833	150.45	179.39	179.39
19.917	144.89	167.00	167.00
20.000	139.98	157.58	157.58

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PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 424.129 AF
 OUTFLOW VOLUME = 424.129 AF
 LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<

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(UNIT-HYDROGRAPH ADDED TO STREAM #3)

WATERSHED AREA = 1715.900 ACRES
 BASEFLOW = 0.000 CFS/SQUARE-MILE
 *USER ENTERED "LAG" TIME = 0.653 HOURS
 VALLEY(DEVELOPED) S-GRAPH SELECTED
 MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.224
 LOW LOSS FRACTION = 0.615
 HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL(INCH)= 0.26
 SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)= 0.59
 SPECIFIED PEAK 1-HOUR RAINFALL(INCH) = 0.78
 SPECIFIED PEAK 3-HOUR RAINFALL(INCH) = 1.31
 SPECIFIED PEAK 6-HOUR RAINFALL(INCH) = 1.81
 SPECIFIED PEAK 24-HOUR RAINFALL(INCH) = 3.03

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
 5-MINUTE FACTOR = 0.744
 30-MINUTE FACTOR = 0.744
 1-HOUR FACTOR = 0.744
 3-HOUR FACTOR = 0.959
 6-HOUR FACTOR = 0.978
 24-HOUR FACTOR = 0.986

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
 UNIT INTERVAL PERCENTAGE OF LAG-TIME = 12.762

RUNOFF HYDROGRAPH LISTING LIMITS:
 MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 10.00
 MODEL TIME(HOURS) FOR END OF RESULTS = 20.00

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UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.729	151.328
2	2.338	333.865
3	5.035	559.642
4	10.432	1119.928
5	17.615	1490.696
6	25.626	1662.381
7	34.661	1874.885
8	45.564	2262.640
9	56.243	2216.035
10	66.648	2159.267
11	74.892	1710.657
12	81.043	1276.415
13	86.145	1058.830
14	89.631	723.378
15	92.325	559.034
16	94.501	451.649
17	96.030	317.169
18	97.085	218.872
19	97.955	180.619
20	98.260	63.217
21	98.499	49.672
22	98.739	49.705
23	98.978	49.640
24	99.217	49.640
25	99.456	49.640
26	99.695	49.640
27	99.935	49.640
28	100.000	13.579

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 239.4737
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 187.8444

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2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

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HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	200.0	400.0	600.0	800.0
10.000	30.7245	53.59	. Q	V .	.	.	.
10.083	31.0965	54.01	. Q	V .	.	.	.
10.167	31.4714	54.44	. Q	V .	.	.	.
10.250	31.8493	54.87	. Q	V .	.	.	.
10.333	32.2302	55.31	. Q	V .	.	.	.
10.417	32.6143	55.77	. Q	V .	.	.	.
10.500	33.0015	56.23	. Q	V .	.	.	.
10.583	33.3920	56.70	. Q	V .	.	.	.
10.667	33.7859	57.19	. Q	V .	.	.	.
10.750	34.1831	57.68	. Q	V .	.	.	.
10.833	34.5838	58.19	. Q	V .	.	.	.
10.917	34.9881	58.70	. Q	V .	.	.	.
11.000	35.3961	59.23	. Q	V .	.	.	.
11.083	35.8077	59.77	. Q	V .	.	.	.
11.167	36.2232	60.33	. Q	V .	.	.	.
11.250	36.6427	60.90	. Q	V .	.	.	.
11.333	37.0661	61.48	. Q	V .	.	.	.
11.417	37.4937	62.08	. Q	V .	.	.	.
11.500	37.9254	62.70	. Q	V .	.	.	.
11.583	38.3616	63.33	. Q	V .	.	.	.
11.667	38.8022	63.97	. Q	V .	.	.	.
11.750	39.2473	64.64	. Q	V .	.	.	.
11.833	39.6972	65.32	. Q	V .	.	.	.
11.917	40.1519	66.02	. Q	V .	.	.	.
12.000	40.6116	66.75	. Q	V .	.	.	.
12.083	41.0775	67.66	. Q	V .	.	.	.
12.167	41.5513	68.80	. Q	V .	.	.	.
12.250	42.0348	70.21	. Q	V .	.	.	.
12.333	42.5326	72.28	. Q	V .	.	.	.
12.417	43.0476	74.78	. Q	V .	.	.	.
12.500	43.5815	77.51	. Q	V .	.	.	.
12.583	44.1360	80.51	. Q	V .	.	.	.
12.667	44.7143	83.98	. Q	V .	.	.	.
12.750	45.3165	87.43	. Q	V .	.	.	.
12.833	45.9423	90.87	. Q	V .	.	.	.
12.917	46.5885	93.83	. Q	V .	.	.	.
13.000	47.2522	96.36	. Q	V .	.	.	.
13.083	47.9319	98.69	. Q	V .	.	.	.
13.167	48.6253	100.69	. Q	V .	.	.	.
13.250	49.3316	102.55	. Q	V .	.	.	.
13.333	50.0502	104.34	. Q	V .	.	.	.
13.417	50.7804	106.02	. Q	V .	.	.	.
13.500	51.5218	107.66	. Q	V .	.	.	.
13.583	52.2746	109.30	. Q	.V	.	.	.
13.667	53.0383	110.88	. Q	.V	.	.	.
13.750	53.8131	112.50	. Q	.V	.	.	.
13.833	54.5996	114.20	. Q	.V	.	.	.

13.917	55.3983	115.97	.	Q	.V	.	.	.
14.000	56.2097	117.82	.	Q	.V	.	.	.
14.083	57.0373	120.17	.	Q	.V	.	.	.
14.167	57.8853	123.13	.	Q	.V	.	.	.
14.250	58.7586	126.80	.	Q	.V	.	.	.
14.333	59.6684	132.10	.	Q	.V	.	.	.
14.417	60.6222	138.49	.	Q	.V	.	.	.
14.500	61.6241	145.47	.	Q	.V	.	.	.
14.583	62.6786	153.12	.	Q	.V	.	.	.
14.667	63.7940	161.95	.	Q	.V	.	.	.
14.750	64.9699	170.75	.	Q	.V	.	.	.
14.833	66.2062	179.50	.	Q	.V	.	.	.
14.917	67.4949	187.12	.	Q	.V	.	.	.
15.000	68.8289	193.69	.	Q	.V	.	.	.
15.083	70.2051	199.83	.	Q	.V	.	.	.
15.167	71.6191	205.31	.	Q	.V	.	.	.
15.250	73.0704	210.74	.	Q	.V	.	.	.
15.333	74.5612	216.47	.	Q	.V	.	.	.
15.417	76.0868	221.51	.	.Q	.V	.	.	.
15.500	77.6438	226.07	.	.Q	.V	.	.	.
15.583	79.2279	230.02	.	.Q	.V	.	.	.
15.667	80.8171	230.75	.	.Q	.V	.	.	.
15.750	82.4068	230.82	.	.Q	.V	.	.	.
15.833	84.0090	232.65	.	.Q	.V	.	.	.
15.917	85.6491	238.15	.	.Q	.V	.	.	.
16.000	87.3773	250.93	.	.Q	.V	.	.	.
16.083	89.3962	293.15	.	.Q	.V	.	.	.
16.167	91.8052	349.78	.	.	.Q	.V	.	.
16.250	94.7272	424.28	.	.	.V	.Q	.	.
16.333	98.4759	544.31	.	.	.V	.Q	.	.
16.417	102.8200	630.77	.	.	.V	.Q	.	.
16.500	107.5351	684.62	.	.	.V	.Q	.	.
16.583	112.6029	735.85	.	.	.V	.Q	.	.
16.667	118.0800	795.27	.	.	.V	.Q	.	.
16.750	123.4372	777.86	.	.	.V	.Q	.	.
16.833	128.5051	735.86	.	.	.V	.Q	.	.
16.917	132.8723	634.12	.	.	.V	.Q	.	.
17.000	136.5824	538.71	.	.	.Q	.V	.	.
17.083	139.8615	476.13	.	.	.Q	.V	.	.
17.167	142.6510	405.03	.	.	.Q	.V	.	.
17.250	145.1261	359.39	.	.	.Q	.V	.	.
17.333	147.3438	322.01	.	.	.Q	.V	.	.
17.417	149.2939	283.15	.	.	.Q	.V	.	.
17.500	151.0154	249.97	.	.	.Q	.V	.	.
17.583	152.5717	225.97	.	.	.Q	.V	.	.
17.667	153.9097	194.27	.	.	.Q	.V	.	.
17.750	155.1433	179.11	.	.	.Q	.V	.	.
17.833	156.3001	167.97	.	.	.Q	.V	.	.
17.917	157.3941	158.84	.	.	.Q	.V	.	.
18.000	158.4302	150.45	.	.	.Q	.V	.	.
18.083	159.4132	142.73	.	.	.Q	.V	.	.
18.167	160.3471	135.60	.	.	.Q	.V	.	.
18.250	161.2296	128.13	.	.	.Q	.V	.	.
18.333	162.0284	115.98	.	.	.Q	.V	.	.
18.417	162.7704	107.73	.	.	.Q	.V	.	.
18.500	163.4753	102.35	.	.	.Q	.V	.	.
18.583	164.1455	97.32	.	.	.Q	.V	.	.
18.667	164.7801	92.15	.	.	.Q	.V	.	.

18.750	165.3808	87.22	.	Q	.	.	.	V	.
18.833	165.9494	82.57	.	Q	.	.	.	V	.
18.917	166.4907	78.59	.	Q	.	.	.	V	.
19.000	167.0088	75.22	.	Q	.	.	.	V	.
19.083	167.5062	72.22	.	Q	.	.	.	V	.
19.167	167.9862	69.70	.	Q	.	.	.	V	.
19.250	168.4508	67.45	.	Q	.	.	.	V	.
19.333	168.9020	65.52	.	Q	.	.	.	V	.
19.417	169.3416	63.84	.	Q	.	.	.	V	.
19.500	169.7711	62.35	.	Q	.	.	.	V	.
19.583	170.1909	60.97	.	Q	.	.	.	V	.
19.667	170.6026	59.77	.	Q	.	.	.	V	.
19.750	171.0065	58.65	.	Q	.	.	.	V	.
19.833	171.4030	57.57	.	Q	.	.	.	V	.
19.917	171.7924	56.55	.	Q	.	.	.	V	.
20.000	172.1751	55.56	.	Q	.	.	.	V	.

 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	380.0
20%	195.0
30%	95.0
40%	75.0
50%	60.0
60%	45.0
70%	35.0
80%	25.0
90%	20.0

 FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

 >>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
 =====

 FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

 >>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
 =====

 FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 11

 >>>>VIEW STREAM NUMBER 2 HYDROGRAPH<<<<<
 =====

STREAM HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
 (Note: Time indicated is at END of Each Unit Intervals)

19.417	542.5184	301.98	.	Q	.	.	.	V	.
19.500	544.5128	289.57	.	Q	.	.	.	V	.
19.583	546.4246	277.60	.	Q	.	.	.	V	.
19.667	548.2540	265.62	.	Q	.	.	.	V	.
19.750	549.9897	252.03	.	Q	.	.	.	V	.
19.833	551.6216	236.96	.	Q	.	.	.	V	.
19.917	553.1613	223.55	.	Q	.	.	.	V	.
20.000	554.6292	213.14	.	Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	500.0
20%	270.0
30%	190.0
40%	140.0
50%	120.0
60%	100.0
70%	80.0
80%	65.0
90%	35.0

=====

END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
(c) Copyright 1989-2013 Advanced Engineering Software (aes)
Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

Michael Baker International
5 Hutton Centre Drive, Suite 500
Santa Ana, CA 92707

***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - FREE DRAINING UH *
* ULTIMATE CONDITION - REGIONAL NODE 133T *
* 25-YR EV AUGUST 2018 CCHIU *

FILE NAME: EV2533TF.DAT
TIME/DATE OF STUDY: 10:10 08/31/2018

FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

=====

(UNIT-HYDROGRAPH ADDED TO STREAM #2)

WATERSHED AREA = 4924.400 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.856 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244
LOW LOSS FRACTION = 0.567
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.34
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.72
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.95
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.59
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.20
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 3.68

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.744
30-MINUTE FACTOR = 0.744
1-HOUR FACTOR = 0.744
3-HOUR FACTOR = 0.959
6-HOUR FACTOR = 0.978
24-HOUR FACTOR = 0.986

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 9.735

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.556	331.300
2	1.681	669.681
3	3.190	898.530
4	5.694	1491.595
5	9.996	2562.006
6	15.343	3184.527
7	21.165	3467.137
8	27.440	3736.834
9	34.550	4234.553
10	42.448	4703.686
11	51.437	5353.104
12	59.048	4532.599
13	66.996	4733.692
14	73.451	3844.114
15	78.519	3018.107
16	82.874	2593.681
17	86.545	2186.207
18	89.201	1581.784
19	91.334	1270.321
20	93.252	1141.972
21	94.739	886.011
22	95.921	703.742
23	96.748	492.799
24	97.512	454.687
25	98.060	326.543
26	98.248	112.074
27	98.431	108.729
28	98.613	108.666
29	98.796	108.729
30	98.978	108.607
31	99.161	108.966
32	99.344	108.607
33	99.526	108.607
34	99.708	108.607
35	99.891	108.607
36	100.000	65.051

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 766.1984
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 723.1885

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)

(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	650.0	1300.0	1950.0	2600.0
10.000	116.6359	205.97	. Q	V .	.	.	.
10.083	118.0652	207.53	. Q	V .	.	.	.
10.167	119.5054	209.11	. Q	V .	.	.	.
10.250	120.9568	210.74	. Q	V .	.	.	.
10.333	122.4195	212.39	. Q	V .	.	.	.
10.417	123.8939	214.09	. Q	V .	.	.	.
10.500	125.3801	215.80	. Q	V .	.	.	.
10.583	126.8785	217.57	. Q	V .	.	.	.
10.667	128.3893	219.36	. Q	V .	.	.	.
10.750	129.9128	221.21	. Q	V .	.	.	.
10.833	131.4491	223.08	. Q	V .	.	.	.
10.917	132.9987	225.01	. Q	V .	.	.	.
11.000	134.5619	226.96	. Q	V .	.	.	.
11.083	136.1389	228.99	. Q	V .	.	.	.
11.167	137.7300	231.03	. Q	V .	.	.	.
11.250	139.3358	233.15	. Q	V .	.	.	.
11.333	140.9563	235.30	. Q	V .	.	.	.
11.417	142.5921	237.52	. Q	V .	.	.	.
11.500	144.2435	239.78	. Q	V .	.	.	.
11.583	145.9110	242.12	. Q	V .	.	.	.
11.667	147.5948	244.49	. Q	V .	.	.	.
11.750	149.2955	246.95	. Q	V .	.	.	.
11.833	151.0135	249.45	. Q	V .	.	.	.
11.917	152.7493	252.04	. Q	V .	.	.	.
12.000	154.5033	254.68	. Q	V .	.	.	.
12.083	156.2798	257.94	. Q	V .	.	.	.
12.167	158.0826	261.77	. Q	V .	.	.	.
12.250	159.9151	266.08	. Q	V .	.	.	.
12.333	161.7840	271.37	. Q	V .	.	.	.
12.417	163.7018	278.46	. Q	V .	.	.	.
12.500	165.6755	286.58	. Q	V .	.	.	.
12.583	167.7092	295.30	. Q	V .	.	.	.
12.667	169.8064	304.51	. Q	V .	.	.	.
12.750	171.9735	314.67	. Q	V .	.	.	.
12.833	174.2163	325.64	. Q	V .	.	.	.
12.917	176.5428	337.82	. Q	V .	.	.	.
13.000	178.9451	348.81	. Q	V .	.	.	.
13.083	181.4267	360.33	. Q	V .	.	.	.
13.167	183.9787	370.56	. Q	V .	.	.	.
13.250	186.5939	379.73	. Q	V .	.	.	.
13.333	189.2685	388.35	. Q	V .	.	.	.
13.417	191.9998	396.57	. Q	V .	.	.	.
13.500	194.7820	403.99	. Q	V .	.	.	.
13.583	197.6138	411.17	. Q	V .	.	.	.
13.667	200.4947	418.30	. Q	.V	.	.	.
13.750	203.4239	425.32	. Q	.V	.	.	.
13.833	206.4006	432.22	. Q	.V	.	.	.

13.917	209.4249	439.12	. Q	.V	.	.	.
14.000	212.4976	446.16	. Q	.V	.	.	.
14.083	215.6283	454.59	. Q	.V	.	.	.
14.167	218.8250	464.16	. Q	.V	.	.	.
14.250	222.0962	474.97	. Q	.V	.	.	.
14.333	225.4586	488.23	. Q	.V	.	.	.
14.417	228.9427	505.89	. Q	.V	.	.	.
14.500	232.5659	526.09	. Q	.V	.	.	.
14.583	236.3386	547.79	. Q	.V	.	.	.
14.667	240.2694	570.75	. Q	.V	.	.	.
14.750	244.3746	596.07	. Q	.V	.	.	.
14.833	248.6681	623.42	. Q	.V	.	.	.
14.917	253.1706	653.76	. Q	V	.	.	.
15.000	257.8629	681.33	. Q	V	.	.	.
15.083	262.7556	710.41	. Q	V	.	.	.
15.167	267.8312	736.99	. Q	V	.	.	.
15.250	273.0786	761.92	. Q	V	.	.	.
15.333	278.4975	786.83	. Q	V	.	.	.
15.417	284.0713	809.32	. Q	V	.	.	.
15.500	289.7781	828.63	. Q	V	.	.	.
15.583	295.6177	847.90	. Q	V	.	.	.
15.667	301.5674	863.89	. Q	V	.	.	.
15.750	307.5810	873.17	. Q	V	.	.	.
15.833	313.6531	881.67	. Q	V	.	.	.
15.917	319.8457	899.17	. Q	V	.	.	.
16.000	326.2773	933.88	. Q	V	.	.	.
16.083	333.4457	1040.84	. Q	V	.	.	.
16.167	341.4071	1156.00	. Q	V	.	.	.
16.250	350.1288	1266.39	. Q	V	.	.	.
16.333	360.2410	1468.29	. V	Q	.	.	.
16.417	372.2758	1747.45	. V	Q	.	.	.
16.500	385.5559	1928.27	. V	Q	.	.	.
16.583	399.5900	2037.75	. V	Q	.	.	.
16.667	414.3602	2144.64	. V	Q	.	.	.
16.750	430.2023	2300.27	. V	Q	.	.	.
16.833	446.9278	2428.55	. V	Q	.	.	.
16.917	464.3977	2536.63	. V	Q	.	.	.
17.000	480.5583	2346.51	. V	Q	.	.	.
17.083	496.4279	2304.27	. V	Q	.	.	.
17.167	510.5572	2051.58	. V	Q	.	.	.
17.250	523.0850	1819.03	. Q	V	.	.	.
17.333	534.5079	1658.62	. Q	V	.	.	.
17.417	544.8871	1507.05	. Q	V	.	.	.
17.500	554.0079	1324.34	. Q	V	.	.	.
17.583	562.2834	1201.60	. Q	V	.	.	.
17.667	569.9834	1118.04	. Q	V	.	.	.
17.750	576.9531	1012.01	. Q	V	.	.	.
17.833	583.2732	917.67	. Q	V	.	.	.
17.917	588.9367	822.34	. Q	V	.	.	.
18.000	594.2001	764.24	. Q	V	.	.	.
18.083	598.9486	689.49	. Q	V	.	.	.
18.167	603.1397	608.55	. Q	V	.	.	.
18.250	607.0992	574.92	. Q	V	.	.	.
18.333	610.8749	548.23	. Q	V	.	.	.
18.417	614.4762	522.92	. Q	V	.	.	.
18.500	617.9074	498.21	. Q	V	.	.	.
18.583	621.1838	475.73	. Q	V	.	.	.
18.667	624.3113	454.13	. Q	V	.	.	.

18.750	627.2940	433.09	.	Q	.	.	.	V	.
18.833	630.1290	411.64	.	Q	.	.	.	V	.
18.917	632.8044	388.47	.	Q	.	.	.	V	.
19.000	635.2737	358.54	.	Q	.	.	.	V	.
19.083	637.5272	327.20	.	Q	.	.	.	V	.
19.167	639.6784	312.36	.	Q	.	.	.	V	.
19.250	641.7476	300.45	.	Q	.	.	.	V	.
19.333	643.7409	289.42	.	Q	.	.	.	V	.
19.417	645.6619	278.94	.	Q	.	.	.	V	.
19.500	647.5212	269.97	.	Q	.	.	.	V	.
19.583	649.3251	261.94	.	Q	.	.	.	V	.
19.667	651.0776	254.46	.	Q	.	.	.	V	.
19.750	652.7833	247.67	.	Q	.	.	.	V	.
19.833	654.4462	241.44	.	Q	.	.	.	V	.
19.917	656.0701	235.79	.	Q	.	.	.	V	.
20.000	657.6581	230.58	.	Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	465.0
20%	240.0
30%	170.0
40%	100.0
50%	75.0
60%	60.0
70%	50.0
80%	40.0
90%	25.0

FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<
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THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:

BASEWIDTH(FT) = 50.00 CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 427.51
DOWNSTREAM ELEVATION(FT) = 315.00
CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040
CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:

MAXIMUM INFLOW(CFS) = 2536.63
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 1973.55
CHANNEL NORMAL VELOCITY FOR Q = 1973.55 CFS = 8.52 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.834

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
UNIT INTERVALS IS CSTAR = 0.622

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 2) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS
			LOSS (STREAM 2) (CFS)
10.000	205.97	200.35	200.35
10.083	207.53	201.80	201.80
10.167	209.11	203.28	203.28
10.250	210.74	204.78	204.78
10.333	212.39	206.31	206.31
10.417	214.09	207.88	207.88
10.500	215.80	209.47	209.47
10.583	217.57	211.10	211.10
10.667	219.36	212.76	212.76
10.750	221.21	214.46	214.46
10.833	223.08	216.19	216.19
10.917	225.01	217.96	217.96
11.000	226.96	219.77	219.77
11.083	228.99	221.62	221.62
11.167	231.03	223.51	223.51
11.250	233.15	225.44	225.44
11.333	235.30	227.41	227.41
11.417	237.52	229.43	229.43
11.500	239.78	231.51	231.51
11.583	242.12	233.62	233.62
11.667	244.49	235.80	235.80
11.750	246.95	238.02	238.02
11.833	249.45	240.30	240.30
11.917	252.04	242.64	242.64
12.000	254.68	245.04	245.04
12.083	257.94	247.50	247.50
12.167	261.77	250.03	250.03
12.250	266.08	252.62	252.62
12.333	271.37	255.56	255.56
12.417	278.46	258.99	258.99
12.500	286.58	262.91	262.91
12.583	295.30	267.57	267.57
12.667	304.51	273.54	273.54
12.750	314.67	280.73	280.73
12.833	325.64	288.80	288.80
12.917	337.82	297.53	297.53
13.000	348.81	307.04	307.04
13.083	360.33	317.37	317.37
13.167	370.56	328.71	328.71
13.250	379.73	339.97	339.97
13.333	388.35	351.32	351.32
13.417	396.57	362.13	362.13
13.500	403.99	372.04	372.04
13.583	411.17	381.21	381.21

13.667	418.30	389.83	389.83
13.750	425.32	397.80	397.80
13.833	432.22	405.30	405.30
13.917	439.12	412.58	412.58
14.000	446.16	419.71	419.71
14.083	454.59	426.71	426.71
14.167	464.16	433.65	433.65
14.250	474.97	440.63	440.63
14.333	488.23	448.36	448.36
14.417	505.89	457.10	457.10
14.500	526.09	466.99	466.99
14.583	547.79	478.70	478.70
14.667	570.75	493.60	493.60
14.750	596.07	511.52	511.52
14.833	623.42	531.62	531.62
14.917	653.76	553.36	553.36
15.000	681.33	577.05	577.05
15.083	710.41	602.79	602.79
15.167	736.99	631.05	631.05
15.250	761.92	659.20	659.20
15.333	786.83	687.75	687.75
15.417	809.32	715.36	715.36
15.500	828.63	741.49	741.49
15.583	847.90	766.87	766.87
15.667	863.89	790.72	790.72
15.750	873.17	812.11	812.11
15.833	881.67	832.19	832.19
15.917	899.17	850.10	850.10
16.000	933.88	863.40	863.40
16.083	1040.84	873.80	873.80
16.167	1156.00	887.59	887.59
16.250	1266.39	912.44	912.44
16.333	1468.29	980.16	980.16
16.417	1747.45	1076.47	1076.47
16.500	1928.27	1182.08	1182.08
16.583	2037.75	1337.19	1337.19
16.667	2144.64	1560.69	1560.69
16.750	2300.27	1768.83	1768.83
16.833	2428.55	1923.70	1923.70
16.917	2536.63	2049.01	2049.01
17.000	2346.51	2187.64	2187.64
17.083	2304.27	2322.94	2322.94
17.167	2051.58	2443.61	2443.61
17.250	1819.03	2404.84	2404.84
17.333	1658.62	2347.07	2347.07
17.417	1507.05	2191.97	2191.97
17.500	1324.34	1986.39	1986.39
17.583	1201.60	1800.69	1800.69
17.667	1118.04	1635.23	1635.23
17.750	1012.01	1462.58	1462.58
17.833	917.67	1314.16	1314.16
17.917	822.34	1201.63	1201.63
18.000	764.24	1095.71	1095.71
18.083	689.49	995.66	995.66
18.167	608.55	898.66	898.66
18.250	574.92	821.63	821.63
18.333	548.23	747.91	747.91
18.417	522.92	670.41	670.41

18.500	498.21	614.82	614.82
18.583	475.73	576.42	576.42
18.667	454.13	546.01	546.01
18.750	433.09	519.08	519.08
18.833	411.64	494.66	494.66
18.917	388.47	471.90	471.90
19.000	358.54	450.14	450.14
19.083	327.20	428.63	428.63
19.167	312.36	406.27	406.27
19.250	300.45	379.98	379.98
19.333	289.42	350.71	350.71
19.417	278.94	328.53	328.53
19.500	269.97	312.41	312.41
19.583	261.94	299.36	299.36
19.667	254.46	287.85	287.85
19.750	247.67	277.74	277.74
19.833	241.44	268.82	268.82
19.917	235.79	260.73	260.73
20.000	230.58	253.38	253.38

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PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 723.189 AF
 OUTFLOW VOLUME = 723.188 AF
 LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
 TO ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE
 INTERVALS(Reference: the National Engineering Handbook,
 Hydrology, Chapter 17, page 17-52, August,1972,
 U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:

BASEWIDTH(FT) = 50.00 CHANNEL Z = 3.00
 UPSTREAM ELEVATION(FT) = 315.00
 DOWNSTREAM ELEVATION(FT) = 212.00
 CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040
 CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:

MAXIMUM INFLOW(CFS) = 2443.61
 AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 1921.03
 CHANNEL NORMAL VELOCITY FOR Q = 1921.03 CFS = 9.26 FPS
 ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.845

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
 UNIT INTERVALS IS CSTAR = 0.703

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 2) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS
			LOSS (STREAM 2) (CFS)
10.000	200.35	196.84	196.84
10.083	201.80	198.22	198.22
10.167	203.28	199.63	199.63
10.250	204.78	201.06	201.06
10.333	206.31	202.52	202.52
10.417	207.88	204.01	204.01
10.500	209.47	205.53	205.53
10.583	211.10	207.08	207.08
10.667	212.76	208.66	208.66
10.750	214.46	210.27	210.27
10.833	216.19	211.92	211.92
10.917	217.96	213.59	213.59
11.000	219.77	215.31	215.31
11.083	221.62	217.06	217.06
11.167	223.51	218.85	218.85
11.250	225.44	220.67	220.67
11.333	227.41	222.54	222.54
11.417	229.43	224.45	224.45
11.500	231.51	226.41	226.41
11.583	233.62	228.40	228.40
11.667	235.80	230.45	230.45
11.750	238.02	232.54	232.54
11.833	240.30	234.69	234.69
11.917	242.64	236.89	236.89
12.000	245.04	239.14	239.14
12.083	247.50	241.45	241.45
12.167	250.03	243.82	243.82
12.250	252.62	246.25	246.25
12.333	255.56	248.74	248.74
12.417	258.99	251.30	251.30
12.500	262.91	254.11	254.11
12.583	267.57	257.32	257.32
12.667	273.54	261.00	261.00
12.750	280.73	265.32	265.32
12.833	288.80	270.71	270.71
12.917	297.53	277.29	277.29
13.000	307.04	284.86	284.86
13.083	317.37	293.20	293.20
13.167	328.71	302.31	302.31
13.250	339.97	312.23	312.23
13.333	351.32	323.08	323.08
13.417	362.13	334.22	334.22
13.500	372.04	345.51	345.51
13.583	381.21	356.49	356.49
13.667	389.83	366.78	366.78
13.750	397.80	376.33	376.33
13.833	405.30	385.26	385.26
13.917	412.58	393.56	393.56
14.000	419.71	401.33	401.33
14.083	426.71	408.77	408.77
14.167	433.65	416.00	416.00
14.250	440.63	423.07	423.07
14.333	448.36	430.06	430.06
14.417	457.10	437.04	437.04

14.500	466.99	444.49	444.49
14.583	478.70	452.79	452.79
14.667	493.60	462.13	462.13
14.750	511.52	473.02	473.02
14.833	531.62	486.52	486.52
14.917	553.36	502.93	502.93
15.000	577.05	521.80	521.80
15.083	602.79	542.58	542.58
15.167	631.05	565.28	565.28
15.250	659.20	589.98	589.98
15.333	687.75	617.02	617.02
15.417	715.36	644.85	644.85
15.500	741.49	673.16	673.16
15.583	766.87	701.04	701.04
15.667	790.72	727.79	727.79
15.750	812.11	753.62	753.62
15.833	832.19	778.16	778.16
15.917	850.10	800.64	800.64
16.000	863.40	821.52	821.52
16.083	873.80	840.45	840.45
16.167	887.59	855.72	855.72
16.250	912.44	867.76	867.76
16.333	980.16	880.81	880.81
16.417	1076.47	901.44	901.44
16.500	1182.08	952.39	952.39
16.583	1337.19	1033.37	1033.37
16.667	1560.69	1131.07	1131.07
16.750	1768.83	1265.92	1265.92
16.833	1923.70	1458.66	1458.66
16.917	2049.01	1663.23	1663.23
17.000	2187.64	1836.32	1836.32
17.083	2322.94	1977.73	1977.73
17.167	2443.61	2116.32	2116.32
17.250	2404.84	2252.81	2252.81
17.333	2347.07	2379.13	2379.13
17.417	2191.97	2399.73	2399.73
17.500	1986.39	2366.46	2366.46
17.583	1800.69	2253.85	2253.85
17.667	1635.23	2079.15	2079.15
17.750	1462.58	1895.42	1895.42
17.833	1314.16	1723.22	1723.22
17.917	1201.63	1551.17	1551.17
18.000	1095.71	1394.16	1394.16
18.083	995.66	1266.10	1266.10
18.167	898.66	1153.17	1153.17
18.250	821.63	1048.92	1048.92
18.333	747.91	949.57	949.57
18.417	670.41	864.62	864.62
18.500	614.82	787.35	787.35
18.583	576.42	710.16	710.16
18.667	546.01	646.73	646.73
18.750	519.08	599.79	599.79
18.833	494.66	563.95	563.95
18.917	471.90	534.15	534.15
19.000	450.14	507.97	507.97
19.083	428.63	484.09	484.09
19.167	406.27	461.63	461.63
19.250	379.98	439.82	439.82

19.333	350.71	417.69	417.69
19.417	328.53	392.88	392.88
19.500	312.41	365.13	365.13
19.583	299.36	340.84	340.84
19.667	287.85	321.90	321.90
19.750	277.74	306.90	306.90
19.833	268.82	294.25	294.25
19.917	260.73	283.30	283.30
20.000	253.38	273.70	273.70

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PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 723.188 AF
 OUTFLOW VOLUME = 723.188 AF
 LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

(UNIT-HYDROGRAPH ADDED TO STREAM #3)

WATERSHED AREA = 1715.900 ACRES
 BASEFLOW = 0.000 CFS/SQUARE-MILE
 *USER ENTERED "LAG" TIME = 0.606 HOURS
 VALLEY(DEVELOPED) S-GRAPH SELECTED
 MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.224
 LOW LOSS FRACTION = 0.408
 HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL(INCH)= 0.34
 SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)= 0.72
 SPECIFIED PEAK 1-HOUR RAINFALL(INCH) = 0.95
 SPECIFIED PEAK 3-HOUR RAINFALL(INCH) = 1.59
 SPECIFIED PEAK 6-HOUR RAINFALL(INCH) = 2.20
 SPECIFIED PEAK 24-HOUR RAINFALL(INCH) = 3.68

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE FACTOR = 0.744
 30-MINUTE FACTOR = 0.744
 1-HOUR FACTOR = 0.744
 3-HOUR FACTOR = 0.959
 6-HOUR FACTOR = 0.978
 24-HOUR FACTOR = 0.986

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
 UNIT INTERVAL PERCENTAGE OF LAG-TIME = 13.751

RUNOFF HYDROGRAPH LISTING LIMITS:

MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 10.00
 MODEL TIME(HOURS) FOR END OF RESULTS = 20.00

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UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.786	163.065
2	2.574	371.146
3	5.872	684.303
4	12.292	1332.370
5	20.367	1675.596
6	29.284	1850.459
7	39.871	2197.010
8	52.024	2521.933
9	63.182	2315.532
10	72.927	2022.223
11	79.983	1464.158
12	85.656	1177.259
13	89.540	805.998
14	92.441	602.049
15	94.713	471.493
16	96.268	322.517
17	97.365	227.657
18	98.103	153.160
19	98.364	54.218
20	98.622	53.466
21	98.879	53.524
22	99.137	53.496
23	99.395	53.496
24	99.653	53.496
25	99.911	53.496
26	100.000	18.549

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 196.1094
 TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 322.8289

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)

(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	300.0	600.0	900.0	1200.0
10.000	57.7155	100.43	. Q	V .	.	.	.
10.083	58.4126	101.22	. Q	V .	.	.	.
10.167	59.1152	102.02	. Q	V .	.	.	.
10.250	59.8235	102.84	. Q	V .	.	.	.
10.333	60.5376	103.68	. Q	V .	.	.	.
10.417	61.2575	104.54	. Q	V .	.	.	.
10.500	61.9835	105.41	. Q	V .	.	.	.
10.583	62.7156	106.30	. Q	V .	.	.	.
10.667	63.4541	107.22	. Q	V .	.	.	.
10.750	64.1989	108.15	. Q	V .	.	.	.
10.833	64.9504	109.11	. Q	V .	.	.	.
10.917	65.7086	110.09	. Q	V .	.	.	.
11.000	66.4737	111.10	. Q	V .	.	.	.
11.083	67.2459	112.12	. Q	V .	.	.	.
11.167	68.0253	113.17	. Q	V .	.	.	.
11.250	68.8122	114.25	. Q	V .	.	.	.
11.333	69.6066	115.36	. Q	V .	.	.	.
11.417	70.4089	116.49	. Q	V .	.	.	.
11.500	71.2192	117.65	. Q	V .	.	.	.
11.583	72.0377	118.84	. Q	V .	.	.	.
11.667	72.8646	120.07	. Q	V .	.	.	.
11.750	73.7002	121.33	. Q	V .	.	.	.
11.833	74.5448	122.63	. Q	V .	.	.	.
11.917	75.3985	123.96	. Q	V .	.	.	.
12.000	76.2616	125.33	. Q	V .	.	.	.
12.083	77.1368	127.08	. Q	V .	.	.	.
12.167	78.0276	129.34	. Q	V .	.	.	.
12.250	78.9387	132.29	. Q	V .	.	.	.
12.333	79.8800	136.68	. Q	V .	.	.	.
12.417	80.8570	141.85	. Q	V .	.	.	.
12.500	81.8726	147.47	. Q	V .	.	.	.
12.583	82.9324	153.88	. Q	V .	.	.	.
12.667	84.0417	161.06	. Q	V .	.	.	.
12.750	85.1978	167.86	. Q	V .	.	.	.
12.833	86.3970	174.13	. Q	V .	.	.	.
12.917	87.6317	179.27	. Q	V .	.	.	.
13.000	88.8982	183.90	. Q	.V	.	.	.
13.083	90.1916	187.80	. Q	.V	.	.	.
13.167	91.5095	191.36	. Q	.V	.	.	.
13.250	92.8505	194.72	. Q	.V	.	.	.
13.333	94.2132	197.87	. Q	.V	.	.	.
13.417	95.5967	200.89	. Q	.V	.	.	.
13.500	97.0008	203.87	. Q	.V	.	.	.
13.583	98.4246	206.74	. Q	.V	.	.	.
13.667	99.8691	209.74	. Q	.V	.	.	.
13.750	101.3349	212.84	. Q	.V	.	.	.
13.833	102.8232	216.10	. Q	.V	.	.	.

13.917	104.3348	219.47	. Q	. V	.	.	.
14.000	105.8708	223.04	. Q	. V	.	.	.
14.083	107.4380	227.56	. Q	. V	.	.	.
14.167	109.0445	233.27	. Q	. V	.	.	.
14.250	110.7020	240.67	. Q	. V	.	.	.
14.333	112.4347	251.58	. Q	. V	.	.	.
14.417	114.2553	264.35	. Q	. V	.	.	.
14.500	116.1715	278.23	. Q	. V	.	.	.
14.583	118.1962	293.99	. Q	. V	.	.	.
14.667	120.3424	311.63	. Q	. V	.	.	.
14.750	122.6039	328.36	. Q	. V	.	.	.
14.833	124.9721	343.87	. Q	. V	.	.	.
14.917	127.4291	356.75	. Q	. V	.	.	.
15.000	129.9672	368.54	. Q	. V	.	.	.
15.083	132.5757	378.75	. Q	. V	.	.	.
15.167	135.2508	388.42	. Q	. V	.	.	.
15.250	137.9910	397.87	. Q	. V	.	.	.
15.333	140.7955	407.21	. Q	. V	.	.	.
15.417	143.6536	415.01	. Q	. V	.	.	.
15.500	146.5544	421.19	. Q	. V	.	.	.
15.583	149.4789	424.63	. Q	. V	.	.	.
15.667	152.3909	422.83	. Q	. V	.	.	.
15.750	155.2805	419.57	. Q	. V	.	.	.
15.833	158.1569	417.66	. Q	. V	.	.	.
15.917	161.0369	418.18	. Q	. V	.	.	.
16.000	163.9776	426.98	. Q	. V	.	.	.
16.083	167.2745	478.71	. Q	. V	.	.	.
16.167	171.0988	555.29	. Q	. V	.	.	.
16.250	175.6950	667.37	. Q	. V	.	.	.
16.333	181.4514	835.83	. Q	. V	. Q	.	.
16.417	187.9184	939.01	. Q	. V	. Q	.	.
16.500	194.8460	1005.89	. Q	. V	. Q	.	.
16.583	202.3567	1090.55	. Q	. V	. Q	.	.
16.667	210.2623	1147.90	. Q	. V	. Q	.	.
16.750	217.7152	1082.16	. Q	. V	. Q	.	.
16.833	224.4868	983.24	. Q	. V	. Q	.	.
16.917	230.2603	838.31	. Q	. V	. Q	.	.
17.000	235.4218	749.45	. Q	. V	. Q	.	.
17.083	239.9092	651.56	. Q	. V	. Q	.	.
17.167	243.9650	588.91	. Q	. V	. Q	.	.
17.250	247.6741	538.56	. Q	. V	. Q	.	.
17.333	251.0090	484.23	. Q	. V	. Q	.	.
17.417	254.0293	438.55	. Q	. V	. Q	.	.
17.500	256.7709	398.07	. Q	. V	. Q	.	.
17.583	259.2218	355.87	. Q	. V	. Q	.	.
17.667	261.5123	332.58	. Q	. V	. Q	.	.
17.750	263.6605	311.92	. Q	. V	. Q	.	.
17.833	265.6790	293.08	. Q	. V	. Q	.	.
17.917	267.5855	276.82	. Q	. V	. Q	.	.
18.000	269.3907	262.11	. Q	. V	. Q	.	.
18.083	271.1019	248.47	. Q	. V	. Q	.	.
18.167	272.6839	229.71	. Q	. V	. Q	.	.
18.250	274.1673	215.39	. Q	. V	. Q	.	.
18.333	275.5796	205.06	. Q	. V	. Q	.	.
18.417	276.9243	195.27	. Q	. V	. Q	.	.
18.500	278.2028	185.63	. Q	. V	. Q	.	.
18.583	279.4149	176.00	. Q	. V	. Q	.	.
18.667	280.5586	166.05	. Q	. V	. Q	.	.

18.750	281.6390	156.88	.	Q	.	.	.	V	.
18.833	282.6625	148.62	.	Q	.	.	.	V	.
18.917	283.6391	141.81	.	Q	.	.	.	V	.
19.000	284.5746	135.83	.	Q	.	.	.	V	.
19.083	285.4758	130.85	.	Q	.	.	.	V	.
19.167	286.3481	126.66	.	Q	.	.	.	V	.
19.250	287.1953	123.01	.	Q	.	.	.	V	.
19.333	288.0205	119.82	.	Q	.	.	.	V	.
19.417	288.8261	116.98	.	Q	.	.	.	V	.
19.500	289.6141	114.41	.	Q	.	.	.	V	.
19.583	290.3866	112.17	.	Q	.	.	.	V	.
19.667	291.1444	110.03	.	Q	.	.	.	V	.
19.750	291.8882	107.99	.	Q	.	.	.	V	.
19.833	292.6184	106.04	.	Q	.	.	.	V	.
19.917	293.3358	104.17	.	Q	.	.	.	V	.
20.000	294.0409	102.37	.	Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	490.0
20%	245.0
30%	165.0
40%	80.0
50%	60.0
60%	45.0
70%	40.0
80%	30.0
90%	15.0

FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
=====

FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
=====

FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 2 HYDROGRAPH<<<<<
=====

STREAM HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	725.0	1450.0	2175.0	2900.0
-----	-----	-----	-----	-----	-----	-----	-----
10.000	165.5877	297.27	.	Q V	.	.	.
10.083	167.6499	299.43	.	Q V	.	.	.
10.167	169.7274	301.65	.	Q V	.	.	.
10.250	171.8203	303.90	.	Q V	.	.	.
10.333	173.9292	306.21	.	Q V	.	.	.
10.417	176.0542	308.55	.	Q V	.	.	.
10.500	178.1956	310.95	.	Q V	.	.	.
10.583	180.3539	313.38	.	Q V	.	.	.
10.667	182.5294	315.88	.	Q V	.	.	.
10.750	184.7224	318.42	.	Q V	.	.	.
10.833	186.9334	321.03	.	Q V	.	.	.
10.917	189.1626	323.68	.	Q V	.	.	.
11.000	191.4106	326.41	.	Q V	.	.	.
11.083	193.6776	329.18	.	Q V	.	.	.
11.167	195.9642	332.02	.	Q V	.	.	.
11.250	198.2709	334.92	.	Q V	.	.	.
11.333	200.5980	337.90	.	Q V	.	.	.
11.417	202.9461	340.94	.	Q V	.	.	.
11.500	205.3156	344.06	.	Q V	.	.	.
11.583	207.7071	347.25	.	Q V	.	.	.
11.667	210.1212	350.53	.	Q V	.	.	.
11.750	212.5584	353.87	.	Q V	.	.	.
11.833	215.0192	357.32	.	Q V	.	.	.
11.917	217.5044	360.84	.	Q V	.	.	.
12.000	220.0145	364.47	.	Q V	.	.	.
12.083	222.5526	368.53	.	Q V	.	.	.
12.167	225.1225	373.15	.	Q V	.	.	.
12.250	227.7295	378.53	.	Q V	.	.	.
12.333	230.3839	385.43	.	Q V	.	.	.
12.417	233.0916	393.16	.	Q V	.	.	.
12.500	235.8573	401.58	.	Q V	.	.	.
12.583	238.6893	411.20	.	Q V	.	.	.
12.667	241.5960	422.06	.	Q V	.	.	.
12.750	244.5794	433.18	.	Q V	.	.	.
12.833	247.6431	444.84	.	Q V	.	.	.
12.917	250.7874	456.56	.	Q V	.	.	.
13.000	254.0158	468.76	.	Q V	.	.	.
13.083	257.3285	481.00	.	Q V	.	.	.
13.167	260.7284	493.67	.	Q V	.	.	.
13.250	264.2198	506.94	.	Q V	.	.	.
13.333	267.8075	520.94	.	Q V	.	.	.
13.417	271.4928	535.11	.	Q V	.	.	.
13.500	275.2764	549.38	.	Q V	.	.	.
13.583	279.1554	563.23	.	Q V	.	.	.
13.667	283.1259	576.52	.	Q V	.	.	.
13.750	287.1835	589.16	.	Q V	.	.	.
13.833	291.3251	601.36	.	Q V	.	.	.
13.917	295.5471	613.03	.	Q V	.	.	.
14.000	299.8471	624.36	.	Q V	.	.	.
14.083	304.2295	636.32	.	Q V	.	.	.
14.167	308.7010	649.26	.	Q V	.	.	.
14.250	313.2723	663.74	.	Q V	.	.	.
14.333	317.9667	681.63	.	Q V	.	.	.
14.417	322.7973	701.39	.	Q V	.	.	.
14.500	327.7747	722.72	.	Q V	.	.	.

14.583	332.9178	746.78	.	Q	V	.	.	.
14.667	338.2468	773.76	.	Q	V	.	.	.
14.750	343.7659	801.38	.	.Q	V	.	.	.
14.833	349.4849	830.39	.	.Q	V	.	.	.
14.917	355.4056	859.69	.	.Q	V	.	.	.
15.000	361.5374	890.34	.	.	QV	.	.	.
15.083	367.8826	921.33	.	.	Q	V	.	.
15.167	374.4508	953.70	.	.	QV	.	.	.
15.250	381.2542	987.85	.	.	QV	.	.	.
15.333	388.3082	1024.24	.	.	Q	.	.	.
15.417	395.6075	1059.86	.	.	QV	.	.	.
15.500	403.1443	1094.35	.	.	Q	.	.	.
15.583	410.8969	1125.67	.	.	Q	.	.	.
15.667	418.8213	1150.61	.	.	QV	.	.	.
15.750	426.9011	1173.19	.	.	Q	.	.	.
15.833	435.1367	1195.82	.	.	Q	.	.	.
15.917	443.5308	1218.82	.	.	Q	.	.	.
16.000	452.1292	1248.50	.	.	Q	.	.	.
16.083	461.2144	1319.16	.	.	VQ	.	.	.
16.167	470.9321	1411.02	.	.	VQ	.	.	.
16.250	481.5046	1535.13	.	.	V	.Q	.	.
16.333	493.3271	1716.63	.	.	V	.Q	.	.
16.417	506.0024	1840.44	.	.	V	.Q	.	.
16.500	519.4891	1958.28	.	.	V	.Q	.	.
16.583	534.1167	2123.92	.	.	V	.Q	.	.
16.667	549.8121	2278.97	.	.	V	.Q	.	.
16.750	565.9834	2348.08	.	.	V	.Q	.	.
16.833	582.8008	2441.89	.	.	V	.Q	.	.
16.917	600.0291	2501.54	.	.	V	.Q	.	.
17.000	617.8374	2585.76	.	.	V	.Q	.	.
17.083	635.9455	2629.29	.	.	V	.Q	.	.
17.167	654.5765	2705.23	.	.	V	.Q	.	.
17.250	673.8008	2791.37	.	.	V	.Q	.	.
17.333	693.5209	2863.35	.	.	V	.Q	.	.
17.417	713.0682	2838.28	.	.	V	.Q	.	.
17.500	732.1077	2764.53	.	.	V	.Q	.	.
17.583	750.0811	2609.72	.	.	V	.Q	.	.
17.667	766.6907	2411.73	.	.	V	.Q	.	.
17.750	781.8928	2207.34	.	.	VQ	.	.	.
17.833	795.7792	2016.31	.	.	Q	V	.	.
17.917	808.3687	1827.99	.	.	Q	V	.	.
18.000	819.7756	1656.27	.	.	Q	V	.	.
18.083	830.2065	1514.57	.	.	Q	V	.	.
18.167	839.7305	1382.88	.	.	Q	V	.	.
18.250	848.4379	1264.31	.	.	Q	V	.	.
18.333	856.3899	1154.64	.	.	Q	V	.	.
18.417	863.6893	1059.88	.	.	Q	V	.	.
18.500	870.3903	972.98	.	.	Q	V	.	.
18.583	876.4933	886.16	.	.	Q	V	.	.
18.667	882.0911	812.79	.	.	Q	V	.	.
18.750	887.3022	756.67	.	.	Q	V	.	.
18.833	892.2097	712.57	.	.	Q	V	.	.
18.917	896.8651	675.95	.	.	Q	V	.	.
19.000	901.2990	643.80	.	.	Q	V	.	.
19.083	905.5341	614.93	.	.	Q	V	.	.
19.167	909.5856	588.29	.	.	Q	V	.	.
19.250	913.4619	562.83	.	.	Q	V	.	.
19.333	917.1637	537.51	.	.	Q	V	.	.

19.417	920.6751	509.86	.	Q	.	.	.	V	.
19.500	923.9777	479.54	.	Q	.	.	.	V	.
19.583	927.0976	453.01	.	Q	.	.	.	V	.
19.667	930.0723	431.93	.	Q	.	.	.	V	.
19.750	932.9297	414.89	.	Q	.	.	.	V	.
19.833	935.6866	400.29	.	Q	.	.	.	V	.
19.917	938.3551	387.46	.	Q	.	.	.	V	.
20.000	940.9451	376.07	.	Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	700.0
20%	335.0
30%	225.0
40%	165.0
50%	115.0
60%	95.0
70%	80.0
80%	60.0
90%	40.0

END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

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***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - FREE DRAINING UH *
* ULTIMATE CONDITION - REGIONAL NODE 133T *
* 50-YR EV AUGUST 2018 CCHIU *

FILE NAME: EV5033TF.DAT
TIME/DATE OF STUDY: 10:10 08/31/2018

FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

=====

(UNIT-HYDROGRAPH ADDED TO STREAM #2)

WATERSHED AREA = 4924.400 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.821 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244
LOW LOSS FRACTION = 0.538
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.37
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.80
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 1.06
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.78
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.47
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 4.12

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.744
30-MINUTE FACTOR = 0.744
1-HOUR FACTOR = 0.744
3-HOUR FACTOR = 0.959
6-HOUR FACTOR = 0.978
24-HOUR FACTOR = 0.986

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 10.150

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.580	345.423
2	1.763	704.566
3	3.385	965.815
4	6.233	1696.091
5	10.947	2807.365
6	16.695	3423.111
7	22.920	3707.788
8	29.521	3930.894
9	37.286	4624.335
10	46.219	5319.988
11	54.738	5073.336
12	63.175	5024.953
13	70.521	4374.467
14	76.573	3604.496
15	81.238	2778.116
16	85.407	2483.066
17	88.495	1839.204
18	90.815	1381.282
19	92.862	1219.414
20	94.528	992.055
21	95.788	750.029
22	96.685	534.246
23	97.481	474.138
24	98.059	344.417
25	98.257	117.576
26	98.447	113.337
27	98.637	113.450
28	98.828	113.332
29	99.018	113.223
30	99.208	113.223
31	99.398	113.223
32	99.588	113.223
33	99.778	113.223
34	99.968	113.223
35	100.000	18.833

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 806.7413
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 860.6979

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)

(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	750.0	1500.0	2250.0	3000.0
10.000	139.4305	245.92	. Q	V	.	.	.
10.083	141.1370	247.79	. Q	V	.	.	.
10.167	142.8567	249.71	. Q	V	.	.	.
10.250	144.5899	251.65	. Q	V	.	.	.
10.333	146.3368	253.65	. Q	V	.	.	.
10.417	148.0977	255.68	. Q	V	.	.	.
10.500	149.8729	257.76	. Q	V	.	.	.
10.583	151.6627	259.88	. Q	V	.	.	.
10.667	153.4674	262.05	. Q	V	.	.	.
10.750	155.2874	264.26	. Q	V	.	.	.
10.833	157.1230	266.53	. Q	V	.	.	.
10.917	158.9745	268.84	. Q	V	.	.	.
11.000	160.8424	271.21	. Q	V	.	.	.
11.083	162.7269	273.63	. Q	V	.	.	.
11.167	164.6286	276.12	. Q	V	.	.	.
11.250	166.5477	278.66	. Q	V	.	.	.
11.333	168.4848	281.27	. Q	V	.	.	.
11.417	170.4402	283.93	. Q	V	.	.	.
11.500	172.4146	286.67	. Q	V	.	.	.
11.583	174.4082	289.47	. Q	V	.	.	.
11.667	176.4217	292.36	. Q	V	.	.	.
11.750	178.4554	295.31	. Q	V	.	.	.
11.833	180.5102	298.35	. Q	V	.	.	.
11.917	182.5863	301.46	. Q	V	.	.	.
12.000	184.6846	304.67	. Q	V	.	.	.
12.083	186.8102	308.64	. Q	V	.	.	.
12.167	188.9687	313.42	. Q	V	.	.	.
12.250	191.1643	318.80	. Q	V	.	.	.
12.333	193.4077	325.74	. Q	V	.	.	.
12.417	195.7147	334.97	. Q	V	.	.	.
12.500	198.0945	345.55	. Q	V	.	.	.
12.583	200.5518	356.81	. Q	V	.	.	.
12.667	203.0908	368.66	. Q	V	.	.	.
12.750	205.7218	382.02	. Q	V	.	.	.
12.833	208.4554	396.92	. Q	V	.	.	.
12.917	211.2894	411.50	. Q	V	.	.	.
13.000	214.2245	426.18	. Q	V	.	.	.
13.083	217.2531	439.75	. Q	V	.	.	.
13.167	220.3663	452.03	. Q	V	.	.	.
13.250	223.5540	462.86	. Q	V	.	.	.
13.333	226.8140	473.35	. Q	V	.	.	.
13.417	230.1388	482.76	. Q	V	.	.	.
13.500	233.5240	491.53	. Q	V	.	.	.
13.583	236.9689	500.20	. Q	.V	.	.	.
13.667	240.4724	508.71	. Q	.V	.	.	.
13.750	244.0329	516.98	. Q	.V	.	.	.
13.833	247.6496	525.14	. Q	.V	.	.	.

13.917	251.3236	533.47	. Q	.V	.	.	.
14.000	255.0558	541.90	. Q	.V	.	.	.
14.083	258.8556	551.73	. Q	.V	.	.	.
14.167	262.7367	563.54	. Q	.V	.	.	.
14.250	266.7094	576.84	. Q	.V	.	.	.
14.333	270.7990	593.80	. Q	.V	.	.	.
14.417	275.0416	616.03	. Q	.V	.	.	.
14.500	279.4590	641.40	. Q	.V	.	.	.
14.583	284.0623	668.41	. Q	.V	.	.	.
14.667	288.8618	696.88	. Q	.V	.	.	.
14.750	293.8813	728.83	. Q	.V	.	.	.
14.833	299.1464	764.49	. Q	.V	.	.	.
14.917	304.6537	799.65	. Q	.V	.	.	.
15.000	310.4084	835.59	. Q	.V	.	.	.
15.083	316.4002	870.01	. Q	.V	.	.	.
15.167	322.6195	903.05	. Q	.V	.	.	.
15.250	329.0589	934.99	. Q	.V	.	.	.
15.333	335.7300	968.65	. Q	.V	.	.	.
15.417	342.6050	998.25	. Q	.V	.	.	.
15.500	349.6638	1024.94	. Q	.V	.	.	.
15.583	356.9091	1052.02	. Q	.V	.	.	.
15.667	364.3008	1073.29	. Q	.V	.	.	.
15.750	371.7784	1085.74	. Q	.V	.	.	.
15.833	379.3387	1097.75	. Q	.V	.	.	.
15.917	387.0522	1120.01	. Q	.V	.	.	.
16.000	395.0710	1164.33	. Q	.V	.	.	.
16.083	403.9389	1287.63	. QV	.	.	.	.
16.167	413.7368	1422.65	. QV	.	.	.	.
16.250	424.5288	1567.00	. VQ	.	.	.	.
16.333	437.0585	1819.32	. V	Q	.	.	.
16.417	451.8102	2141.94	. V	Q	.	.	.
16.500	467.9796	2347.79	. V	Q	.	.	.
16.583	485.0193	2474.18	. V	Q	.	.	.
16.667	502.9011	2596.44	. V	Q	.	.	.
16.750	522.2228	2805.51	. V	Q	.	.	.
16.833	542.6732	2969.40	. V	Q	.	.	.
16.917	562.6007	2893.48	. V	Q	.	.	.
17.000	581.9117	2803.95	. V	Q	.	.	.
17.083	599.6118	2570.06	. V	Q	.	.	.
17.167	615.5167	2309.38	. VQ	.	.	.	.
17.250	629.6061	2045.78	. QV	.	.	.	.
17.333	642.6293	1890.97	. Q	V	.	.	.
17.417	654.1509	1672.93	. Q	V	.	.	.
17.500	664.4648	1497.58	. Q	V	.	.	.
17.583	674.0027	1384.91	. Q	V	.	.	.
17.667	682.7158	1265.13	. Q	V	.	.	.
17.750	690.5664	1139.90	. Q	V	.	.	.
17.833	697.6166	1023.69	. Q	V	.	.	.
17.917	704.1186	944.08	. Q	V	.	.	.
18.000	710.0010	854.12	. Q	V	.	.	.
18.083	715.2040	755.48	. Q	V	.	.	.
18.167	720.0988	710.72	. Q	V	.	.	.
18.250	724.7668	677.80	. Q	V	.	.	.
18.333	729.2186	646.39	. Q	V	.	.	.
18.417	733.4531	614.86	. Q	V	.	.	.
18.500	737.4894	586.07	. Q	V	.	.	.
18.583	741.3345	558.31	. Q	V	.	.	.
18.667	744.9970	531.79	. Q	V	.	.	.

18.750	748.4684	504.04	.	Q	.	.	.	V	.
18.833	751.7327	473.97	.	Q	.	.	.	V	.
18.917	754.6804	428.01	.	Q	.	.	.	V	.
19.000	757.4388	400.51	.	Q	.	.	.	V	.
19.083	760.0687	381.86	.	Q	.	.	.	V	.
19.167	762.5897	366.05	.	Q	.	.	.	V	.
19.250	765.0096	351.38	.	Q	.	.	.	V	.
19.333	767.3361	337.81	.	Q	.	.	.	V	.
19.417	769.5824	326.16	.	Q	.	.	.	V	.
19.500	771.7586	315.99	.	Q	.	.	.	V	.
19.583	773.8702	306.61	.	Q	.	.	.	V	.
19.667	775.9230	298.06	.	Q	.	.	.	V	.
19.750	777.9224	290.31	.	Q	.	.	.	V	.
19.833	779.8734	283.29	.	Q	.	.	.	V	.
19.917	781.7817	277.08	.	Q	.	.	.	V	.
20.000	783.6512	271.46	.	Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	475.0
20%	245.0
30%	170.0
40%	100.0
50%	80.0
60%	65.0
70%	50.0
80%	35.0
90%	20.0

FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<
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THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:

BASEWIDTH(FT) = 50.00 CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 427.51
DOWNSTREAM ELEVATION(FT) = 315.00
CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040
CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:

MAXIMUM INFLOW(CFS) = 2969.40
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 2275.36
CHANNEL NORMAL VELOCITY FOR Q = 2275.36 CFS = 8.96 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.840

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
UNIT INTERVALS IS CSTAR = 0.637

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 2) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS
			LOSS (STREAM 2) (CFS)
10.000	245.92	239.44	239.44
10.083	247.79	241.19	241.19
10.167	249.71	242.97	242.97
10.250	251.65	244.78	244.78
10.333	253.65	246.63	246.63
10.417	255.68	248.53	248.53
10.500	257.76	250.45	250.45
10.583	259.88	252.42	252.42
10.667	262.05	254.43	254.43
10.750	264.26	256.48	256.48
10.833	266.53	258.57	258.57
10.917	268.84	260.71	260.71
11.000	271.21	262.90	262.90
11.083	273.63	265.13	265.13
11.167	276.12	267.41	267.41
11.250	278.66	269.75	269.75
11.333	281.27	272.14	272.14
11.417	283.93	274.59	274.59
11.500	286.67	277.10	277.10
11.583	289.47	279.66	279.66
11.667	292.36	282.29	282.29
11.750	295.31	284.99	284.99
11.833	298.35	287.75	287.75
11.917	301.46	290.59	290.59
12.000	304.67	293.49	293.49
12.083	308.64	296.48	296.48
12.167	313.42	299.54	299.54
12.250	318.80	302.70	302.70
12.333	325.74	306.34	306.34
12.417	334.97	310.69	310.69
12.500	345.55	315.67	315.67
12.583	356.81	321.85	321.85
12.667	368.66	329.89	329.89
12.750	382.02	339.50	339.50
12.833	396.92	350.14	350.14
12.917	411.50	361.53	361.53
13.000	426.18	374.13	374.13
13.083	439.75	388.14	388.14
13.167	452.03	402.52	402.52
13.250	462.86	417.09	417.09
13.333	473.35	431.06	431.06
13.417	482.76	443.99	443.99
13.500	491.53	455.64	455.64
13.583	500.20	466.56	466.56

13.667	508.71	476.56	476.56
13.750	516.98	485.80	485.80
13.833	525.14	494.68	494.68
13.917	533.47	503.32	503.32
14.000	541.90	511.74	511.74
14.083	551.73	520.00	520.00
14.167	563.54	528.29	528.29
14.250	576.84	536.67	536.67
14.333	593.80	545.93	545.93
14.417	616.03	556.74	556.74
14.500	641.40	569.09	569.09
14.583	668.41	584.25	584.25
14.667	696.88	603.73	603.73
14.750	728.83	626.86	626.86
14.833	764.49	652.40	652.40
14.917	799.65	679.76	679.76
15.000	835.59	709.93	709.93
15.083	870.01	743.46	743.46
15.167	903.05	778.05	778.05
15.250	934.99	813.47	813.47
15.333	968.65	848.31	848.31
15.417	998.25	882.04	882.04
15.500	1024.94	914.68	914.68
15.583	1052.02	947.90	947.90
15.667	1073.29	978.96	978.96
15.750	1085.74	1007.33	1007.33
15.833	1097.75	1034.87	1034.87
15.917	1120.01	1058.61	1058.61
16.000	1164.33	1075.46	1075.46
16.083	1287.63	1089.25	1089.25
16.167	1422.65	1108.08	1108.08
16.250	1567.00	1142.40	1142.40
16.333	1819.32	1230.70	1230.70
16.417	2141.94	1348.35	1348.35
16.500	2347.79	1482.69	1482.69
16.583	2474.18	1688.49	1688.49
16.667	2596.44	1966.30	1966.30
16.750	2805.51	2202.24	2202.24
16.833	2969.40	2371.11	2371.11
16.917	2893.48	2510.44	2510.44
17.000	2803.95	2691.24	2691.24
17.083	2570.06	2862.81	2862.81
17.167	2309.38	2884.91	2884.91
17.250	2045.78	2836.39	2836.39
17.333	1890.97	2674.73	2674.73
17.417	1672.93	2450.92	2450.92
17.500	1497.58	2201.88	2201.88
17.583	1384.91	2009.16	2009.16
17.667	1265.13	1802.45	1802.45
17.750	1139.90	1614.26	1614.26
17.833	1023.69	1472.04	1472.04
17.917	944.08	1344.35	1344.35
18.000	854.12	1218.41	1218.41
18.083	755.48	1098.36	1098.36
18.167	710.72	1002.82	1002.82
18.250	677.80	911.18	911.18
18.333	646.39	815.38	815.38
18.417	614.86	750.26	750.26

18.500	586.07	705.23	705.23
18.583	558.31	668.83	668.83
18.667	531.79	635.53	635.53
18.750	504.04	605.01	605.01
18.833	473.97	576.21	576.21
18.917	428.01	548.83	548.83
19.000	400.51	521.25	521.25
19.083	381.86	492.17	492.17
19.167	366.05	452.87	452.87
19.250	351.38	420.46	420.46
19.333	337.81	396.51	396.51
19.417	326.16	377.65	377.65
19.500	315.99	361.42	361.42
19.583	306.61	346.84	346.84
19.667	298.06	334.07	334.07
19.750	290.31	322.90	322.90
19.833	283.29	312.84	312.84
19.917	277.08	303.72	303.72
20.000	271.46	295.44	295.44

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PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 860.698 AF
 OUTFLOW VOLUME = 860.698 AF
 LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
 TO ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE
 INTERVALS(Reference: the National Engineering Handbook,
 Hydrology, Chapter 17, page 17-52, August,1972,
 U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:

BASEWIDTH(FT) = 50.00 CHANNEL Z = 3.00
 UPSTREAM ELEVATION(FT) = 315.00
 DOWNSTREAM ELEVATION(FT) = 212.00
 CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040
 CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:

MAXIMUM INFLOW(CFS) = 2884.91
 AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 2218.94
 CHANNEL NORMAL VELOCITY FOR Q = 2218.94 CFS = 9.67 FPS
 ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.851

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
 UNIT INTERVALS IS CSTAR = 0.717

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 2) (CFS)	OUTFLOW LESS	
		ROUTED FLOW (CFS)	LOSS (STREAM 2) (CFS)
10.000	239.44	235.36	235.36
10.083	241.19	237.04	237.04
10.167	242.97	238.74	238.74
10.250	244.78	240.47	240.47
10.333	246.63	242.24	242.24
10.417	248.53	244.04	244.04
10.500	250.45	245.88	245.88
10.583	252.42	247.76	247.76
10.667	254.43	249.67	249.67
10.750	256.48	251.62	251.62
10.833	258.57	253.61	253.61
10.917	260.71	255.64	255.64
11.000	262.90	257.72	257.72
11.083	265.13	259.84	259.84
11.167	267.41	262.01	262.01
11.250	269.75	264.22	264.22
11.333	272.14	266.49	266.49
11.417	274.59	268.80	268.80
11.500	277.10	271.17	271.17
11.583	279.66	273.60	273.60
11.667	282.29	276.08	276.08
11.750	284.99	278.62	278.62
11.833	287.75	281.22	281.22
11.917	290.59	283.89	283.89
12.000	293.49	286.63	286.63
12.083	296.48	289.43	289.43
12.167	299.54	292.31	292.31
12.250	302.70	295.27	295.27
12.333	306.34	298.30	298.30
12.417	310.69	301.42	301.42
12.500	315.67	304.91	304.91
12.583	321.85	309.00	309.00
12.667	329.89	313.73	313.73
12.750	339.50	319.48	319.48
12.833	350.14	326.85	326.85
12.917	361.53	335.81	335.81
13.000	374.13	345.96	345.96
13.083	388.14	357.00	357.00
13.167	402.52	369.14	369.14
13.250	417.09	382.60	382.60
13.333	431.06	396.72	396.72
13.417	443.99	411.16	411.16
13.500	455.64	425.27	425.27
13.583	466.56	438.55	438.55
13.667	476.56	450.67	450.67
13.750	485.80	461.94	461.94
13.833	494.68	472.31	472.31
13.917	503.32	481.88	481.88
14.000	511.74	490.95	490.95
14.083	520.00	499.72	499.72
14.167	528.29	508.24	508.24
14.250	536.67	516.58	516.58
14.333	545.93	524.89	524.89
14.417	556.74	533.24	533.24

14.500	569.09	542.23	542.23
14.583	584.25	552.51	552.51
14.667	603.73	564.26	564.26
14.750	626.86	578.42	578.42
14.833	652.40	596.35	596.35
14.917	679.76	617.96	617.96
15.000	709.93	642.37	642.37
15.083	743.46	668.87	668.87
15.167	778.05	697.96	697.96
15.250	813.47	730.21	730.21
15.333	848.31	764.12	764.12
15.417	882.04	799.10	799.10
15.500	914.68	833.99	833.99
15.583	947.90	868.06	868.06
15.667	978.96	901.11	901.11
15.750	1007.33	934.28	934.28
15.833	1034.87	965.96	965.96
15.917	1058.61	995.30	995.30
16.000	1075.46	1023.36	1023.36
16.083	1089.25	1048.37	1048.37
16.167	1108.08	1067.60	1067.60
16.250	1142.40	1082.97	1082.97
16.333	1230.70	1100.76	1100.76
16.417	1348.35	1130.22	1130.22
16.500	1482.69	1201.26	1201.26
16.583	1688.49	1305.39	1305.39
16.667	1966.30	1430.99	1430.99
16.750	2202.24	1613.29	1613.29
16.833	2371.11	1863.25	1863.25
16.917	2510.44	2103.63	2103.63
17.000	2691.24	2293.50	2293.50
17.083	2862.81	2447.47	2447.47
17.167	2884.91	2620.21	2620.21
17.250	2836.39	2792.21	2792.21
17.333	2674.73	2858.42	2858.42
17.417	2450.92	2843.17	2843.17
17.500	2201.88	2724.23	2724.23
17.583	2009.16	2530.80	2530.80
17.667	1802.45	2297.78	2297.78
17.750	1614.26	2093.02	2093.02
17.833	1472.04	1887.02	1887.02
17.917	1344.35	1693.58	1693.58
18.000	1218.41	1536.35	1536.35
18.083	1098.36	1400.13	1400.13
18.167	1002.82	1271.27	1271.27
18.250	911.18	1148.65	1148.65
18.333	815.38	1045.17	1045.17
18.417	750.26	950.14	950.14
18.500	705.23	854.60	854.60
18.583	668.83	780.52	780.52
18.667	635.53	727.05	727.05
18.750	605.01	685.72	685.72
18.833	576.21	650.11	650.11
18.917	548.83	618.12	618.12
19.000	521.25	588.40	588.40
19.083	492.17	560.34	560.34
19.167	452.87	532.62	532.62
19.250	420.46	503.94	503.94

19.333	396.51	467.77	467.77
19.417	377.65	434.22	434.22
19.500	361.42	407.46	407.46
19.583	346.84	386.30	386.30
19.667	334.07	368.65	368.65
19.750	322.90	353.18	353.18
19.833	312.84	339.62	339.62
19.917	303.72	327.76	327.76
20.000	295.44	317.18	317.18

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PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 860.698 AF
 OUTFLOW VOLUME = 860.697 AF
 LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

(UNIT-HYDROGRAPH ADDED TO STREAM #3)

WATERSHED AREA = 1715.900 ACRES
 BASEFLOW = 0.000 CFS/SQUARE-MILE
 *USER ENTERED "LAG" TIME = 0.586 HOURS
 VALLEY(DEVELOPED) S-GRAPH SELECTED
 MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.224
 LOW LOSS FRACTION = 0.381
 HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL(INCH)= 0.37
 SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)= 0.80
 SPECIFIED PEAK 1-HOUR RAINFALL(INCH) = 1.06
 SPECIFIED PEAK 3-HOUR RAINFALL(INCH) = 1.78
 SPECIFIED PEAK 6-HOUR RAINFALL(INCH) = 2.47
 SPECIFIED PEAK 24-HOUR RAINFALL(INCH) = 4.12

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE FACTOR = 0.744
 30-MINUTE FACTOR = 0.744
 1-HOUR FACTOR = 0.744
 3-HOUR FACTOR = 0.959
 6-HOUR FACTOR = 0.978
 24-HOUR FACTOR = 0.986

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
 UNIT INTERVAL PERCENTAGE OF LAG-TIME = 14.221

RUNOFF HYDROGRAPH LISTING LIMITS:

MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 10.00
 MODEL TIME(HOURS) FOR END OF RESULTS = 20.00

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UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.813	168.630
2	2.689	389.344
3	6.321	753.810
4	13.223	1432.156
5	21.676	1754.274
6	31.170	1969.980
7	42.478	2346.646
8	54.847	2566.873
9	66.351	2387.128
10	75.462	1890.751
11	82.157	1389.368
12	87.385	1084.923
13	90.834	715.622
14	93.599	573.863
15	95.556	406.140
16	96.857	269.834
17	97.876	211.579
18	98.260	79.646
19	98.527	55.364
20	98.793	55.291
21	99.060	55.350
22	99.326	55.291
23	99.593	55.291
24	99.859	55.291
25	100.000	29.220

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 204.8031
 TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 376.1744

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)

(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	350.0	700.0	1050.0	1400.0
10.000	67.4591	117.37	. Q	V .	.	.	.
10.083	68.2737	118.29	. Q	V .	.	.	.
10.167	69.0949	119.24	. Q	V .	.	.	.
10.250	69.9228	120.20	. Q	V .	.	.	.
10.333	70.7574	121.19	. Q	V .	.	.	.
10.417	71.5990	122.19	. Q	V .	.	.	.
10.500	72.4476	123.23	. Q	V .	.	.	.
10.583	73.3035	124.28	. Q	V .	.	.	.
10.667	74.1668	125.35	. Q	V .	.	.	.
10.750	75.0377	126.45	. Q	V .	.	.	.
10.833	75.9164	127.58	. Q	V .	.	.	.
10.917	76.8029	128.73	. Q	V .	.	.	.
11.000	77.6976	129.91	. Q	V .	.	.	.
11.083	78.6007	131.12	. Q	V .	.	.	.
11.167	79.5122	132.36	. Q	V .	.	.	.
11.250	80.4325	133.63	. Q	V .	.	.	.
11.333	81.3618	134.93	. Q	V .	.	.	.
11.417	82.3002	136.26	. Q	V .	.	.	.
11.500	83.2481	137.63	. Q	V .	.	.	.
11.583	84.2057	139.04	. Q	V .	.	.	.
11.667	85.1732	140.49	. Q	V .	.	.	.
11.750	86.1510	141.97	. Q	V .	.	.	.
11.833	87.1393	143.50	. Q	V .	.	.	.
11.917	88.1383	145.06	. Q	V .	.	.	.
12.000	89.1485	146.68	. Q	V .	.	.	.
12.083	90.1732	148.79	. Q	V .	.	.	.
12.167	91.2168	151.53	. Q	V .	.	.	.
12.250	92.2862	155.28	. Q	V .	.	.	.
12.333	93.3942	160.88	. Q	V .	.	.	.
12.417	94.5470	167.39	. Q	V .	.	.	.
12.500	95.7491	174.54	. Q	V .	.	.	.
12.583	97.0078	182.76	. Q	V .	.	.	.
12.667	98.3277	191.65	. Q	V .	.	.	.
12.750	99.7061	200.14	. Q	V .	.	.	.
12.833	101.1347	207.43	. Q	V .	.	.	.
12.917	102.6050	213.48	. Q	V .	.	.	.
13.000	104.1121	218.84	. Q	.V	.	.	.
13.083	105.6500	223.31	. Q	.V	.	.	.
13.167	107.2169	227.51	. Q	.V	.	.	.
13.250	108.8103	231.37	. Q	.V	.	.	.
13.333	110.4287	234.98	. Q	.V	.	.	.
13.417	112.0715	238.55	. Q	.V	.	.	.
13.500	113.7375	241.90	. Q	.V	.	.	.
13.583	115.4269	245.30	. Q	.V	.	.	.
13.667	117.1408	248.86	. Q	.V	.	.	.
13.750	118.8801	252.55	. Q	.V	.	.	.
13.833	120.6460	256.41	. Q	.V	.	.	.

13.917	122.4396	260.43	. Q	. V	.	.	.
14.000	124.2622	264.64	. Q	. V	.	.	.
14.083	126.1215	269.97	. Q	. V	.	.	.
14.167	128.0275	276.74	. Q	. V	.	.	.
14.250	129.9962	285.86	. Q	. V	.	.	.
14.333	132.0569	299.21	. Q	. V	.	.	.
14.417	134.2239	314.64	. Q	. V	.	.	.
14.500	136.5074	331.56	. Q.	. V	.	.	.
14.583	138.9239	350.88	. Q	. V	.	.	.
14.667	141.4840	371.72	. Q	. V	.	.	.
14.750	144.1817	391.70	. .Q	. V	.	.	.
14.833	146.9986	409.02	. .Q	. V	.	.	.
14.917	149.9164	423.66	. .Q	. V	.	.	.
15.000	152.9252	436.89	. .Q	. V	.	.	.
15.083	156.0131	448.36	. .Q	. V	.	.	.
15.167	159.1779	459.52	. .Q	. V	.	.	.
15.250	162.4166	470.27	. .Q	. V	.	.	.
15.333	165.7289	480.95	. .Q	. V	.	.	.
15.417	169.1040	490.06	. .Q	. V	.	.	.
15.500	172.5254	496.79	. .Q	. V	.	.	.
15.583	175.9709	500.30	. .Q	. V	.	.	.
15.667	179.3966	497.40	. .Q	. V	.	.	.
15.750	182.7944	493.37	. .Q	. V	.	.	.
15.833	186.1738	490.68	. .Q	. V	.	.	.
15.917	189.5566	491.18	. .Q	. V	.	.	.
16.000	193.0230	503.33	. .Q	. V	.	.	.
16.083	196.9137	564.92	. .Q	. V	.	.	.
16.167	201.4584	659.89	. .Q	. V	.	.	.
16.250	206.9695	800.21	. .Q	. V	.	.	.
16.333	213.8204	994.75	. .Q	. V	.	.	.
16.417	221.4562	1108.73	. .Q	. V	.	.	.
16.500	229.6542	1190.35	. .Q	. V	.	.	.
16.583	238.4986	1284.20	. .Q	. V	.	.	.
16.667	247.5750	1317.90	. .Q	. V	.	.	.
16.750	256.1097	1239.24	. .Q	. V	.	.	.
16.833	263.5803	1084.72	. .Q	. V	.	.	.
16.917	270.0135	934.10	. .Q	. V	.	.	.
17.000	275.7426	831.86	. .Q	. V	.	.	.
17.083	280.7456	726.45	. .Q	. V	.	.	.
17.167	285.3410	667.24	. .Q	. V	.	.	.
17.250	289.4952	603.19	. .Q	. V	.	.	.
17.333	293.2426	544.13	. .Q	. V	.	.	.
17.417	296.6800	499.10	. .Q	. V	.	.	.
17.500	299.7374	443.94	. .Q	. V	.	.	.
17.583	302.5721	411.59	. .Q	. V	.	.	.
17.667	305.2239	385.05	. .Q	. V	.	.	.
17.750	307.7085	360.76	. .Q	. V	.	.	.
17.833	310.0419	338.81	. .Q	. V	.	.	.
17.917	312.2451	319.90	. .Q	. V	.	.	.
18.000	314.3276	302.38	. .Q	. V	.	.	.
18.083	316.2691	281.91	. .Q	. V	.	.	.
18.167	318.0787	262.75	. .Q	. V	.	.	.
18.250	319.8069	250.94	. .Q	. V	.	.	.
18.333	321.4545	239.23	. .Q	. V	.	.	.
18.417	323.0205	227.39	. .Q	. V	.	.	.
18.500	324.5078	215.94	. .Q	. V	.	.	.
18.583	325.9135	204.12	. .Q	. V	.	.	.
18.667	327.2368	192.13	. .Q	. V	.	.	.

18.750	328.4833	180.99	.	Q	.	.	.	V	.
18.833	329.6643	171.48	.	Q	.	.	.	V	.
18.917	330.7909	163.58	.	Q	.	.	.	V	.
19.000	331.8703	156.73	.	Q	.	.	.	V	.
19.083	332.9119	151.24	.	Q	.	.	.	V	.
19.167	333.9209	146.50	.	Q	.	.	.	V	.
19.250	334.9016	142.39	.	Q	.	.	.	V	.
19.333	335.8576	138.81	.	Q	.	.	.	V	.
19.417	336.7910	135.54	.	Q	.	.	.	V	.
19.500	337.7053	132.75	.	Q	.	.	.	V	.
19.583	338.6016	130.15	.	Q	.	.	.	V	.
19.667	339.4809	127.68	.	Q	.	.	.	V	.
19.750	340.3439	125.31	.	Q	.	.	.	V	.
19.833	341.1913	123.04	.	Q	.	.	.	V	.
19.917	342.0236	120.86	.	Q	.	.	.	V	.
20.000	342.8416	118.77	.	Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	505.0
20%	250.0
30%	170.0
40%	80.0
50%	65.0
60%	50.0
70%	40.0
80%	30.0
90%	20.0

FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 2 HYDROGRAPH<<<<<

STREAM HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	875.0	1750.0	2625.0	3500.0
-----	-----	-----	-----	-----	-----	-----	-----
10.000	196.8658	352.73	.	Q V	.	.	.
10.083	199.3129	355.33	.	Q V	.	.	.
10.167	201.7783	357.98	.	Q V	.	.	.
10.250	204.2623	360.68	.	Q V	.	.	.
10.333	206.7653	363.43	.	Q V	.	.	.
10.417	209.2876	366.24	.	Q V	.	.	.
10.500	211.8296	369.11	.	Q V	.	.	.
10.583	214.3918	372.03	.	Q V	.	.	.
10.667	216.9746	375.02	.	Q V	.	.	.
10.750	219.5784	378.07	.	Q V	.	.	.
10.833	222.2036	381.19	.	Q V	.	.	.
10.917	224.8508	384.37	.	Q V	.	.	.
11.000	227.5205	387.63	.	Q V	.	.	.
11.083	230.2130	390.96	.	Q V	.	.	.
11.167	232.9290	394.37	.	Q V	.	.	.
11.250	235.6691	397.85	.	Q V	.	.	.
11.333	238.4336	401.42	.	Q V	.	.	.
11.417	241.2233	405.07	.	Q V	.	.	.
11.500	244.0388	408.81	.	Q V	.	.	.
11.583	246.8806	412.64	.	Q V	.	.	.
11.667	249.7495	416.56	.	Q V	.	.	.
11.750	252.6461	420.59	.	Q V	.	.	.
11.833	255.5712	424.72	.	Q V	.	.	.
11.917	258.5255	428.96	.	Q V	.	.	.
12.000	261.5097	433.31	.	Q V	.	.	.
12.083	264.5277	438.22	.	Q V	.	.	.
12.167	267.5844	443.84	.	Q V	.	.	.
12.250	270.6874	450.55	.	Q V	.	.	.
12.333	273.8498	459.18	.	Q V	.	.	.
12.417	277.0785	468.81	.	Q V	.	.	.
12.500	280.3805	479.45	.	Q V	.	.	.
12.583	283.7673	491.76	.	Q V	.	.	.
12.667	287.2479	505.38	.	Q V	.	.	.
12.750	290.8265	519.62	.	Q V	.	.	.
12.833	294.5062	534.28	.	Q V	.	.	.
12.917	298.2892	549.30	.	Q V	.	.	.
13.000	302.1790	564.80	.	Q V	.	.	.
13.083	306.1756	580.30	.	Q V	.	.	.
13.167	310.2847	596.65	.	Q V	.	.	.
13.250	314.5131	613.97	.	Q V	.	.	.
13.333	318.8637	631.70	.	Q V	.	.	.
13.417	323.3382	649.71	.	Q V	.	.	.
13.500	327.9330	667.17	.	Q V	.	.	.
13.583	332.6428	683.85	.	Q V	.	.	.
13.667	337.4604	699.53	.	Q V	.	.	.
13.750	342.3812	714.49	.	Q V	.	.	.
13.833	347.3999	728.72	.	Q V	.	.	.
13.917	352.5121	742.30	.	Q V	.	.	.
14.000	357.7160	755.60	.	Q V	.	.	.
14.083	363.0169	769.69	.	Q V	.	.	.
14.167	368.4232	784.99	.	Q V	.	.	.
14.250	373.9496	802.44	.	Q V	.	.	.
14.333	379.6252	824.10	.	Q V	.	.	.
14.417	385.4647	847.89	.	Q V	.	.	.
14.500	391.4825	873.79	.	Q V	.	.	.

14.583	397.7042	903.39	.	Q	V	.	.	.
14.667	404.1504	935.98	.	Q	V	.	.	.
14.750	410.8317	970.12	.	.Q	V	.	.	.
14.833	417.7557	1005.37	.	.Q	V	.	.	.
14.917	424.9294	1041.62	.	.Q	V	.	.	.
15.000	432.3623	1079.26	.	.	QV	.	.	.
15.083	440.0567	1117.22	.	.	Q	V	.	.
15.167	448.0284	1157.49	.	.	QV	.	.	.
15.250	456.2961	1200.48	.	.	QV	.	.	.
15.333	464.8709	1245.06	.	.	QV	.	.	.
15.417	473.7495	1289.16	.	.	QV	.	.	.
15.500	482.9146	1330.78	.	.	Q	.	.	.
15.583	492.3386	1368.36	.	.	Q	.	.	.
15.667	501.9702	1398.52	.	.	QV	.	.	.
15.750	511.8025	1427.65	.	.	Q	.	.	.
15.833	521.8345	1456.65	.	.	Q	.	.	.
15.917	532.0720	1486.48	.	.	QV	.	.	.
16.000	542.5864	1526.69	.	.	Q	.	.	.
16.083	553.6972	1613.29	.	.	VQ	.	.	.
16.167	565.5945	1727.49	.	.	VQ	.	.	.
16.250	578.5641	1883.18	.	.	V	.Q	.	.
16.333	592.9960	2095.51	.	.	V	.Q	.	.
16.417	608.4158	2238.95	.	.	V	.Q	.	.
16.500	624.8870	2391.61	.	.	V	.Q	.	.
16.583	642.7216	2589.60	.	.	V	.Q	.	.
16.667	661.6533	2748.89	.	.	.V	.Q	.	.
16.750	681.2988	2852.53	.	.	.V	.Q	.	.
16.833	701.6016	2947.97	.	.	.V	.Q	.	.
16.917	722.5227	3037.74	.	.	.V	.Q	.	.
17.000	744.0472	3125.36	.	.	.V	.Q	.	.
17.083	765.9062	3173.92	.	.	.V	.Q	.	.
17.167	788.5471	3287.45	.	.	.V	.Q	.	.
17.250	811.9313	3395.40	.	.	.V	.Q	.	.
17.333	835.3649	3402.55	.	.	.V	.Q	.	.
17.417	858.3833	3342.27	.	.	.V	.Q	.	.
17.500	880.2026	3168.17	.	.	.V	.Q	.	.
17.583	900.4670	2942.39	.	.	.V	.Q	.	.
17.667	918.9438	2682.83	.	.	.VQ	.	.	.
17.750	935.8431	2453.78	.	.	.Q	V	.	.
17.833	951.1725	2225.83	.	.	.Q	V	.	.
17.917	965.0396	2013.49	.	.	.Q	V	.	.
18.000	977.7030	1838.73	.	.	.Q	V	.	.
18.083	989.2874	1682.04	.	.	.Q	V	.	.
18.167	999.8522	1534.02	.	.	.Q	V	.	.
18.250	1009.4913	1399.59	.	.	.Q	V	.	.
18.333	1018.3370	1284.41	.	.	.Q	V	.	.
18.417	1026.4468	1177.53	.	.	.Q	V	.	.
18.500	1033.8197	1070.55	.	.	.Q	V	.	.
18.583	1040.6010	984.64	.	.	.Q	V	.	.
18.667	1046.9314	919.18	.	.	.Q	V	.	.
18.750	1052.9005	866.71	.	.	.Q	V	.	.
18.833	1058.5588	821.59	.	.	.Q	V	.	.
18.917	1063.9425	781.70	.	.	.Q	V	.	.
19.000	1069.0743	745.14	.	.	.Q	V	.	.
19.083	1073.9750	711.58	.	.	.Q	V	.	.
19.167	1078.6522	679.13	.	.	.Q	V	.	.
19.250	1083.1036	646.34	.	.	.Q	V	.	.
19.333	1087.2812	606.58	.	.	.Q	V	.	.

19.417	1091.2052	569.76	.	Q	.	.	.	V	.
19.500	1094.9257	540.21	.	Q	.	.	.	V	.
19.583	1098.4825	516.45	.	Q	.	.	.	V	.
19.667	1101.9008	496.32	.	Q	.	.	.	V	.
19.750	1105.1962	478.48	.	Q	.	.	.	V	.
19.833	1108.3826	462.66	.	Q	.	.	.	V	.
19.917	1111.4723	448.62	.	Q	.	.	.	V	.
20.000	1114.4747	435.95	.	Q	.	.	.	V	.

 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	695.0
20%	335.0
30%	220.0
40%	165.0
50%	115.0
60%	95.0
70%	80.0
80%	60.0
90%	35.0
=====	=====

END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Analysis prepared by:

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***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - FREE DRAINING UH *
* ULTIMATE CONDITION - REGIONAL NODE 133T *
* 100-YR EV AUGUST 2018 CCHIU *

FILE NAME: EV0033TF.DAT
TIME/DATE OF STUDY: 10:08 08/31/2018

FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

=====

(UNIT-HYDROGRAPH ADDED TO STREAM #2)

WATERSHED AREA = 4924.400 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.795 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244
LOW LOSS FRACTION = 0.515
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.40
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.87
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 1.15
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.94
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.71
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 4.49

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.744
30-MINUTE FACTOR = 0.744
1-HOUR FACTOR = 0.744
3-HOUR FACTOR = 0.959
6-HOUR FACTOR = 0.978
24-HOUR FACTOR = 0.986

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 10.482

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.599	356.720
2	1.831	733.770
3	3.556	1027.088
4	6.695	1869.576
5	11.711	2987.196
6	17.780	3614.240
7	24.320	3895.169
8	31.406	4219.920
9	39.536	4841.828
10	49.118	5706.248
11	57.463	4970.213
12	66.163	5181.218
13	73.208	4195.692
14	78.677	3256.871
15	83.329	2770.256
16	87.117	2255.902
17	89.790	1591.898
18	92.011	1323.059
19	93.944	1150.833
20	95.353	839.020
21	96.422	637.114
22	97.244	489.587
23	97.961	426.666
24	98.212	149.804
25	98.409	117.181
26	98.605	116.849
27	98.802	117.181
28	98.999	116.958
29	99.195	117.072
30	99.392	116.958
31	99.588	116.958
32	99.784	116.958
33	99.981	116.958
34	100.000	11.500

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 834.1907
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 982.9713

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)

(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	875.0	1750.0	2625.0	3500.0
10.000	158.3863	279.51	. Q	V	.	.	.
10.083	160.3261	281.66	. Q	V	.	.	.
10.167	162.2811	283.87	. Q	V	.	.	.
10.250	164.2515	286.10	. Q	V	.	.	.
10.333	166.2377	288.40	. Q	V	.	.	.
10.417	168.2400	290.73	. Q	V	.	.	.
10.500	170.2588	293.13	. Q	V	.	.	.
10.583	172.2944	295.56	. Q	V	.	.	.
10.667	174.3472	298.07	. Q	V	.	.	.
10.750	176.4174	300.60	. Q	V	.	.	.
10.833	178.5057	303.22	. Q	V	.	.	.
10.917	180.6123	305.88	. Q	V	.	.	.
11.000	182.7378	308.62	. Q	V	.	.	.
11.083	184.8824	311.40	. Q	V	.	.	.
11.167	187.0468	314.27	. Q	V	.	.	.
11.250	189.2313	317.19	. Q	V	.	.	.
11.333	191.4365	320.20	. Q	V	.	.	.
11.417	193.6629	323.26	. Q	V	.	.	.
11.500	195.9110	326.43	. Q	V	.	.	.
11.583	198.1813	329.65	. Q	V	.	.	.
11.667	200.4746	332.98	. Q	V	.	.	.
11.750	202.7913	336.38	. Q	V	.	.	.
11.833	205.1322	339.89	. Q	V	.	.	.
11.917	207.4977	343.48	. Q	V	.	.	.
12.000	209.8888	347.19	. Q	V	.	.	.
12.083	212.3122	351.88	. Q	V	.	.	.
12.167	214.7754	357.66	. Q	V	.	.	.
12.250	217.2841	364.27	. Q	V	.	.	.
12.333	219.8541	373.16	. Q	V	.	.	.
12.417	222.5054	384.97	. Q	V	.	.	.
12.500	225.2502	398.55	. Q	V	.	.	.
12.583	228.0943	412.96	. Q	V	.	.	.
12.667	231.0448	428.40	. Q	V	.	.	.
12.750	234.1133	445.55	. Q	V	.	.	.
12.833	237.3165	465.11	. Q	V	.	.	.
12.917	240.6429	482.98	. Q	V	.	.	.
13.000	244.0977	501.64	. Q	V	.	.	.
13.083	247.6651	517.99	. Q	V	.	.	.
13.167	251.3308	532.25	. Q	V	.	.	.
13.250	255.0874	545.47	. Q	V	.	.	.
13.333	258.9283	557.69	. Q	V	.	.	.
13.417	262.8431	568.43	. Q	V	.	.	.
13.500	266.8295	578.82	. Q	V	.	.	.
13.583	270.8860	589.00	. Q	.V	.	.	.
13.667	275.0096	598.75	. Q	.V	.	.	.
13.750	279.1985	608.24	. Q	.V	.	.	.
13.833	283.4530	617.75	. Q	.V	.	.	.

13.917	287.7739	627.40	. Q	.V	.	.	.
14.000	292.1597	636.81	. Q	.V	.	.	.
14.083	296.6240	648.22	. Q	.V	.	.	.
14.167	301.1831	661.98	. Q	.V	.	.	.
14.250	305.8494	677.55	. Q	.V	.	.	.
14.333	310.6551	697.79	. Q	.V	.	.	.
14.417	315.6405	723.88	. Q	.V	.	.	.
14.500	320.8307	753.61	. Q	.V	.	.	.
14.583	326.2381	785.16	. Q	.V	.	.	.
14.667	331.8792	819.09	. Q	.V	.	.	.
14.750	337.7802	856.82	. Q	.V	.	.	.
14.833	343.9770	899.76	. Q	.V	.	.	.
14.917	350.4540	940.47	. Q	.V	.	.	.
15.000	357.2327	984.26	. Q	.V	.	.	.
15.083	364.2949	1025.43	. Q	.V	.	.	.
15.167	371.6282	1064.80	. Q	.V	.	.	.
15.250	379.2377	1104.90	. Q	.V	.	.	.
15.333	387.1335	1146.46	. Q	.V	.	.	.
15.417	395.2814	1183.09	. Q	.V	.	.	.
15.500	403.6644	1217.21	. Q	.V	.	.	.
15.583	412.2751	1250.27	. Q	.V	.	.	.
15.667	421.0470	1273.68	. Q	.V	.	.	.
15.750	429.9008	1285.57	. Q	.V	.	.	.
15.833	438.8315	1296.74	. Q	.V	.	.	.
15.917	447.9140	1318.79	. Q	.V	.	.	.
16.000	457.3148	1365.00	. Q	.V	.	.	.
16.083	467.6592	1502.01	. Q	.V	.	.	.
16.167	479.0436	1653.01	. Q	.V	.	.	.
16.250	491.6247	1826.78	. Q	.V	.	.	.
16.333	506.2769	2127.49	. V	.Q	.	.	.
16.417	523.3890	2484.68	. V	.Q	.	.	.
16.500	542.1318	2721.44	. V	.Q	.	.	.
16.583	561.8303	2860.23	. V	.Q	.	.	.
16.667	582.6315	3020.33	. V	.Q	.	.	.
16.750	604.8709	3229.17	. V	.Q	.	.	.
16.833	628.4299	3420.77	. V	.Q	.	.	.
16.917	650.6158	3221.39	. V	.Q	.	.	.
17.000	672.3541	3156.40	. V	.Q	.	.	.
17.083	691.7697	2819.14	. V	.Q	.	.	.
17.167	709.0032	2502.31	. Q	.V	.	.	.
17.250	724.7092	2280.51	. Q	.V	.	.	.
17.333	738.9586	2069.02	. Q	.V	.	.	.
17.417	751.5439	1827.39	. Q	.V	.	.	.
17.500	763.0594	1672.05	. Q	.V	.	.	.
17.583	773.6892	1543.44	. Q	.V	.	.	.
17.667	783.2442	1387.38	. Q	.V	.	.	.
17.750	791.8876	1255.03	. Q	.V	.	.	.
17.833	799.7278	1138.40	. Q	.V	.	.	.
17.917	806.9418	1047.47	. Q	.V	.	.	.
18.000	813.2729	919.27	. Q	.V	.	.	.
18.083	819.1698	856.23	. Q	.V	.	.	.
18.167	824.7730	813.58	. Q	.V	.	.	.
18.250	830.1231	776.83	. Q	.V	.	.	.
18.333	835.2120	738.91	. Q	.V	.	.	.
18.417	840.0578	703.61	. Q	.V	.	.	.
18.500	844.6661	669.13	. Q	.V	.	.	.
18.583	849.0452	635.85	. Q	.V	.	.	.
18.667	853.1935	602.33	. Q	.V	.	.	.

18.750	857.0942	566.38	.	Q	.	.	.	V	.
18.833	860.6014	509.25	.	Q	.	.	.	V	.
18.917	863.8904	477.57	.	Q	.	.	.	V	.
19.000	867.0070	452.52	.	Q	.	.	.	V	.
19.083	869.9794	431.59	.	Q	.	.	.	V	.
19.167	872.8188	412.29	.	Q	.	.	.	V	.
19.250	875.5388	394.94	.	Q	.	.	.	V	.
19.333	878.1536	379.67	.	Q	.	.	.	V	.
19.417	880.6794	366.74	.	Q	.	.	.	V	.
19.500	883.1248	355.08	.	Q	.	.	.	V	.
19.583	885.4966	344.38	.	Q	.	.	.	V	.
19.667	887.8029	334.88	.	Q	.	.	.	V	.
19.750	890.0498	326.24	.	Q	.	.	.	V	.
19.833	892.2456	318.83	.	Q	.	.	.	V	.
19.917	894.3940	311.94	.	Q	.	.	.	V	.
20.000	896.5016	306.03	.	Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	465.0
20%	250.0
30%	170.0
40%	100.0
50%	75.0
60%	65.0
70%	50.0
80%	35.0
90%	20.0

FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<<
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THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH(FT) = 50.00 CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 427.51
DOWNSTREAM ELEVATION(FT) = 315.00
CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040
CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:

MAXIMUM INFLOW(CFS) = 3420.77
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 2637.80
CHANNEL NORMAL VELOCITY FOR Q = 2637.80 CFS = 9.36 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.846

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
UNIT INTERVALS IS CSTAR = 0.650

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 2) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS
			LOSS (STREAM 2) (CFS)
10.000	279.51	272.34	272.34
10.083	281.66	274.36	274.36
10.167	283.87	276.41	276.41
10.250	286.10	278.51	278.51
10.333	288.40	280.64	280.64
10.417	290.73	282.82	282.82
10.500	293.13	285.04	285.04
10.583	295.56	287.31	287.31
10.667	298.07	289.63	289.63
10.750	300.60	292.00	292.00
10.833	303.22	294.41	294.41
10.917	305.88	296.88	296.88
11.000	308.62	299.40	299.40
11.083	311.40	301.99	301.99
11.167	314.27	304.62	304.62
11.250	317.19	307.32	307.32
11.333	320.20	310.08	310.08
11.417	323.26	312.91	312.91
11.500	326.43	315.81	315.81
11.583	329.65	318.78	318.78
11.667	332.98	321.81	321.81
11.750	336.38	324.94	324.94
11.833	339.89	328.13	328.13
11.917	343.48	331.41	331.41
12.000	347.19	334.77	334.77
12.083	351.88	338.24	338.24
12.167	357.66	341.78	341.78
12.250	364.27	345.48	345.48
12.333	373.16	349.86	349.86
12.417	384.97	355.18	355.18
12.500	398.55	361.42	361.42
12.583	412.96	369.50	369.50
12.667	428.40	380.07	380.07
12.750	445.55	392.63	392.63
12.833	465.11	406.43	406.43
12.917	482.98	421.36	421.36
13.000	501.64	437.83	437.83
13.083	517.99	456.24	456.24
13.167	532.25	474.33	474.33
13.250	545.47	492.70	492.70
13.333	557.69	509.68	509.68
13.417	568.43	524.85	524.85
13.500	578.82	538.72	538.72
13.583	589.00	551.45	551.45

13.667	598.75	562.88	562.88
13.750	608.24	573.63	573.63
13.833	617.75	583.99	583.99
13.917	627.40	593.94	593.94
14.000	636.81	603.59	603.59
14.083	648.22	613.16	613.16
14.167	661.98	622.78	622.78
14.250	677.55	632.33	632.33
14.333	697.79	643.18	643.18
14.417	723.88	655.99	655.99
14.500	753.61	670.77	670.77
14.583	785.16	689.32	689.32
14.667	819.09	712.92	712.92
14.750	856.82	740.56	740.56
14.833	899.76	770.84	770.84
14.917	940.47	803.63	803.63
15.000	984.26	839.84	839.84
15.083	1025.43	880.33	880.33
15.167	1064.80	921.08	921.08
15.250	1104.90	963.71	963.71
15.333	1146.46	1005.32	1005.32
15.417	1183.09	1045.50	1045.50
15.500	1217.21	1085.68	1085.68
15.583	1250.27	1126.57	1126.57
15.667	1273.68	1164.60	1164.60
15.750	1285.57	1200.05	1200.05
15.833	1296.74	1233.57	1233.57
15.917	1318.79	1260.09	1260.09
16.000	1365.00	1277.07	1277.07
16.083	1502.01	1290.69	1290.69
16.167	1653.01	1310.72	1310.72
16.250	1826.78	1351.24	1351.24
16.333	2127.49	1454.98	1454.98
16.417	2484.68	1590.30	1590.30
16.500	2721.44	1755.47	1755.47
16.583	2860.23	2010.86	2010.86
16.667	3020.33	2327.77	2327.77
16.750	3229.17	2588.85	2588.85
16.833	3420.77	2771.30	2771.30
16.917	3221.39	2941.09	2941.09
17.000	3156.40	3135.60	3135.60
17.083	2819.14	3313.21	3313.21
17.167	2502.31	3251.07	3251.07
17.250	2280.51	3176.63	3176.63
17.333	2069.02	2932.23	2932.23
17.417	1827.39	2644.41	2644.41
17.500	1672.05	2399.88	2399.88
17.583	1543.44	2175.66	2175.66
17.667	1387.38	1943.45	1943.45
17.750	1255.03	1762.19	1762.19
17.833	1138.40	1614.09	1614.09
17.917	1047.47	1461.73	1461.73
18.000	919.27	1322.97	1322.97
18.083	856.23	1199.57	1199.57
18.167	813.58	1095.84	1095.84
18.250	776.83	978.71	978.71
18.333	738.91	897.51	897.51
18.417	703.61	841.58	841.58

18.500	669.13	798.06	798.06
18.583	635.85	758.27	758.27
18.667	602.33	721.44	721.44
18.750	566.38	686.18	686.18
18.833	509.25	652.19	652.19
18.917	477.57	618.42	618.42
19.000	452.52	582.42	582.42
19.083	431.59	533.67	533.67
19.167	412.29	496.26	496.26
19.250	394.94	467.04	467.04
19.333	379.67	443.27	443.27
19.417	366.74	422.48	422.48
19.500	355.08	404.00	404.00
19.583	344.38	387.70	387.70
19.667	334.88	373.63	373.63
19.750	326.24	361.17	361.17
19.833	318.83	349.90	349.90
19.917	311.94	339.81	339.81
20.000	306.03	330.71	330.71

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PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 982.971 AF
 OUTFLOW VOLUME = 982.971 AF
 LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
 TO ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE
 INTERVALS(Reference: the National Engineering Handbook,
 Hydrology, Chapter 17, page 17-52, August,1972,
 U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:

BASEWIDTH(FT) = 50.00 CHANNEL Z = 3.00
 UPSTREAM ELEVATION(FT) = 315.00
 DOWNSTREAM ELEVATION(FT) = 212.00
 CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040
 CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:

MAXIMUM INFLOW(CFS) = 3313.21
 AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 2570.60
 CHANNEL NORMAL VELOCITY FOR Q = 2570.60 CFS = 10.16 FPS
 ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.857

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
 UNIT INTERVALS IS CSTAR = 0.732

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 2) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS
			LOSS (STREAM 2) (CFS)
10.000	272.34	267.87	267.87
10.083	274.36	269.80	269.80
10.167	276.41	271.76	271.76
10.250	278.51	273.77	273.77
10.333	280.64	275.81	275.81
10.417	282.82	277.89	277.89
10.500	285.04	280.01	280.01
10.583	287.31	282.18	282.18
10.667	289.63	284.39	284.39
10.750	292.00	286.64	286.64
10.833	294.41	288.95	288.95
10.917	296.88	291.30	291.30
11.000	299.40	293.70	293.70
11.083	301.99	296.15	296.15
11.167	304.62	298.66	298.66
11.250	307.32	301.23	301.23
11.333	310.08	303.84	303.84
11.417	312.91	306.53	306.53
11.500	315.81	309.27	309.27
11.583	318.78	312.08	312.08
11.667	321.81	314.96	314.96
11.750	324.94	317.91	317.91
11.833	328.13	320.92	320.92
11.917	331.41	324.02	324.02
12.000	334.77	327.19	327.19
12.083	338.24	330.45	330.45
12.167	341.78	333.79	333.79
12.250	345.48	337.22	337.22
12.333	349.86	340.75	340.75
12.417	355.18	344.43	344.43
12.500	361.42	348.67	348.67
12.583	369.50	353.74	353.74
12.667	380.07	359.77	359.77
12.750	392.63	367.42	367.42
12.833	406.43	377.31	377.31
12.917	421.36	389.21	389.21
13.000	437.83	402.56	402.56
13.083	456.24	417.14	417.14
13.167	474.33	433.20	433.20
13.250	492.70	450.97	450.97
13.333	509.68	468.98	468.98
13.417	524.85	487.19	487.19
13.500	538.72	504.41	504.41
13.583	551.45	520.06	520.06
13.667	562.88	534.35	534.35
13.750	573.63	547.44	547.44
13.833	583.99	559.28	559.28
13.917	593.94	570.30	570.30
14.000	603.59	580.82	580.82
14.083	613.16	590.90	590.90
14.167	622.78	600.67	600.67
14.250	632.33	610.29	610.29
14.333	643.18	619.91	619.91
14.417	655.99	629.54	629.54

14.500	670.77	640.16	640.16
14.583	689.32	652.49	652.49
14.667	712.92	666.80	666.80
14.750	740.56	684.46	684.46
14.833	770.84	706.67	706.67
14.917	803.63	732.99	732.99
15.000	839.84	762.33	762.33
15.083	880.33	794.37	794.37
15.167	921.08	829.67	829.67
15.250	963.71	868.79	868.79
15.333	1005.32	909.19	909.19
15.417	1045.50	951.17	951.17
15.500	1085.68	992.81	992.81
15.583	1126.57	1033.38	1033.38
15.667	1164.60	1073.71	1073.71
15.750	1200.05	1114.30	1114.30
15.833	1233.57	1152.89	1152.89
15.917	1260.09	1189.08	1189.08
16.000	1277.07	1222.98	1222.98
16.083	1290.69	1250.99	1250.99
16.167	1310.72	1270.76	1270.76
16.250	1351.24	1286.35	1286.35
16.333	1454.98	1306.20	1306.20
16.417	1590.30	1344.32	1344.32
16.500	1755.47	1432.06	1432.06
16.583	2010.86	1556.12	1556.12
16.667	2327.77	1714.75	1714.75
16.750	2588.85	1947.29	1947.29
16.833	2771.30	2238.84	2238.84
16.917	2941.09	2504.19	2504.19
17.000	3135.60	2708.20	2708.20
17.083	3313.21	2888.38	2888.38
17.167	3251.07	3078.21	3078.21
17.250	3176.63	3247.23	3247.23
17.333	2932.23	3246.35	3246.35
17.417	2644.41	3183.19	3183.19
17.500	2399.88	2985.16	2985.16
17.583	2175.66	2723.52	2723.52
17.667	1943.45	2475.42	2475.42
17.750	1762.19	2244.41	2244.41
17.833	1614.09	2015.04	2015.04
17.917	1461.73	1822.55	1822.55
18.000	1322.97	1662.35	1662.35
18.083	1199.57	1508.56	1508.56
18.167	1095.84	1366.54	1366.54
18.250	978.71	1239.13	1239.13
18.333	897.51	1128.40	1128.40
18.417	841.58	1014.76	1014.76
18.500	798.06	926.13	926.13
18.583	758.27	862.05	862.05
18.667	721.44	813.22	813.22
18.750	686.18	771.16	771.16
18.833	652.19	733.00	733.00
18.917	618.42	697.03	697.03
19.000	582.42	662.52	662.52
19.083	533.67	628.45	628.45
19.167	496.26	592.33	592.33
19.250	467.04	547.52	547.52

19.333	443.27	508.54	508.54
19.417	422.48	476.97	476.97
19.500	404.00	451.26	451.26
19.583	387.70	429.27	429.27
19.667	373.63	409.96	409.96
19.750	361.17	392.96	392.96
19.833	349.90	378.19	378.19
19.917	339.81	365.17	365.17
20.000	330.71	353.49	353.49

=====

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 982.971 AF
 OUTFLOW VOLUME = 982.970 AF
 LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

(UNIT-HYDROGRAPH ADDED TO STREAM #3)

WATERSHED AREA = 1715.900 ACRES
 BASEFLOW = 0.000 CFS/SQUARE-MILE
 *USER ENTERED "LAG" TIME = 0.573 HOURS
 VALLEY(DEVELOPED) S-GRAPH SELECTED
 MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.224
 LOW LOSS FRACTION = 0.362
 HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL(INCH)= 0.40
 SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)= 0.87
 SPECIFIED PEAK 1-HOUR RAINFALL(INCH) = 1.15
 SPECIFIED PEAK 3-HOUR RAINFALL(INCH) = 1.94
 SPECIFIED PEAK 6-HOUR RAINFALL(INCH) = 2.71
 SPECIFIED PEAK 24-HOUR RAINFALL(INCH) = 4.49

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE FACTOR = 0.744
 30-MINUTE FACTOR = 0.744
 1-HOUR FACTOR = 0.744
 3-HOUR FACTOR = 0.959
 6-HOUR FACTOR = 0.978
 24-HOUR FACTOR = 0.986

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
 UNIT INTERVAL PERCENTAGE OF LAG-TIME = 14.543

RUNOFF HYDROGRAPH LISTING LIMITS:

MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 10.00
 MODEL TIME(HOURS) FOR END OF RESULTS = 20.00

=====

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.831	172.456
2	2.768	402.032
3	6.650	805.396
4	13.860	1496.350
5	22.578	1809.093
6	32.457	2050.109
7	44.436	2485.713
8	56.790	2563.628
9	68.295	2387.526
10	77.057	1818.212
11	83.585	1354.743
12	88.400	999.314
13	91.670	678.405
14	94.280	541.756
15	96.050	367.255
16	97.249	248.744
17	98.082	172.955
18	98.366	58.858
19	98.638	56.573
20	98.911	56.588
21	99.184	56.602
22	99.457	56.588
23	99.729	56.588
24	100.000	56.182

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 211.6761
 TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 421.4706

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)

(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	375.0	750.0	1125.0	1500.0
10.000	75.0922	130.84	. Q	V	.	.	.
10.083	76.0005	131.89	. Q	V	.	.	.
10.167	76.9161	132.95	. Q	V	.	.	.
10.250	77.8393	134.04	. Q	V	.	.	.
10.333	78.7700	135.15	. Q	V	.	.	.
10.417	79.7086	136.28	. Q	V	.	.	.
10.500	80.6552	137.44	. Q	V	.	.	.
10.583	81.6099	138.63	. Q	V	.	.	.
10.667	82.5730	139.84	. Q	V	.	.	.
10.750	83.5446	141.08	. Q	V	.	.	.
10.833	84.5249	142.35	. Q	V	.	.	.
10.917	85.5142	143.65	. Q	V	.	.	.
11.000	86.5126	144.97	. Q	V	.	.	.
11.083	87.5205	146.34	. Q	V	.	.	.
11.167	88.5379	147.73	. Q	V	.	.	.
11.250	89.5652	149.16	. Q	V	.	.	.
11.333	90.6026	150.63	. Q	V	.	.	.
11.417	91.6504	152.14	. Q	V	.	.	.
11.500	92.7088	153.68	. Q	V	.	.	.
11.583	93.7782	155.27	. Q	V	.	.	.
11.667	94.8588	156.90	. Q	V	.	.	.
11.750	95.9509	158.58	. Q	V	.	.	.
11.833	97.0549	160.30	. Q	V	.	.	.
11.917	98.1711	162.07	. Q	V	.	.	.
12.000	99.2998	163.89	. Q	V	.	.	.
12.083	100.4455	166.35	. Q	V	.	.	.
12.167	101.6136	169.61	. Q	V	.	.	.
12.250	102.8139	174.28	. Q	V	.	.	.
12.333	104.0626	181.31	. Q	V	.	.	.
12.417	105.3674	189.46	. Q	V	.	.	.
12.500	106.7343	198.48	. Q	V	.	.	.
12.583	108.1740	209.04	. Q	V	.	.	.
12.667	109.6888	219.95	. Q	V	.	.	.
12.750	111.2755	230.39	. Q	V	.	.	.
12.833	112.9217	239.03	. Q	V	.	.	.
12.917	114.6177	246.25	. Q	V	.	.	.
13.000	116.3559	252.39	. Q	.V	.	.	.
13.083	118.1299	257.59	. Q	.V	.	.	.
13.167	119.9373	262.43	. Q	.V	.	.	.
13.250	121.7749	266.82	. Q	.V	.	.	.
13.333	123.6409	270.93	. Q	.V	.	.	.
13.417	125.5343	274.93	. Q	.V	.	.	.
13.500	127.4536	278.68	. Q	.V	.	.	.
13.583	129.3997	282.58	. Q	.V	.	.	.
13.667	131.3737	286.62	. Q	.V	.	.	.
13.750	133.3767	290.84	. Q	.V	.	.	.
13.833	135.4099	295.22	. Q	.V	.	.	.

13.917	137.4748	299.82	. Q	. V	.	.	.
14.000	139.5726	304.60	. Q	. V	.	.	.
14.083	141.7114	310.55	. Q	. V	.	.	.
14.167	143.9029	318.20	. Q	. V	.	.	.
14.250	146.1667	328.70	. Q	. V	.	.	.
14.333	148.5350	343.88	. Q.	. V	.	.	.
14.417	151.0234	361.31	. Q.	. V	.	.	.
14.500	153.6438	380.48	. Q	. V	.	.	.
14.583	156.4172	402.70	. Q	. V	.	.	.
14.667	159.3485	425.62	. .Q	. V	.	.	.
14.750	162.4315	447.66	. .Q	. V	.	.	.
14.833	165.6429	466.28	. . Q	. V	.	.	.
14.917	168.9643	482.27	. . Q	. V	.	.	.
15.000	172.3828	496.37	. . Q	. V	.	.	.
15.083	175.8876	508.90	. . Q	. V	.	.	.
15.167	179.4765	521.11	. . Q	. V	.	.	.
15.250	183.1465	532.89	. . Q	. V	.	.	.
15.333	186.8977	544.67	. . Q	. V	.	.	.
15.417	190.7170	554.56	. . Q	. V	.	.	.
15.500	194.5853	561.68	. . Q	. V	.	.	.
15.583	198.4749	564.77	. . Q	. V	.	.	.
15.667	202.3335	560.26	. . Q	. V	.	.	.
15.750	206.1540	554.74	. . Q	. V	.	.	.
15.833	209.9459	550.58	. . Q	. V	.	.	.
15.917	213.7317	549.70	. . Q	. V	.	.	.
16.000	217.6193	564.48	. . Q	. V	.	.	.
16.083	221.9941	635.23	. . Q	.V	.	.	.
16.167	227.1320	746.03	. . Q.V	.	.	.	.
16.250	233.4104	911.61	. . .	. V Q	.	.	.
16.333	241.1864	1129.07	. . .	. V	. Q	.	.
16.417	249.8269	1254.60	. . .	. V	. Q	. Q	.
16.500	259.1139	1348.47	. . .	. V	. Q	. Q	.
16.583	269.1449	1456.50	. . .	. V	. Q	. Q	.
16.667	279.1693	1455.54	. . .	. V	. Q	. Q	.
16.750	288.5640	1364.12	. . .	. V	. Q	. Q	.
16.833	296.6760	1177.86	. . .	. V	.Q	. Q	.
16.917	303.7078	1021.02	. . .	. QV	.	.	.
17.000	309.9021	899.41	. . .	. Q	.V	.	.
17.083	315.3846	796.05	. . .	.Q	.V	.	.
17.167	320.4286	732.40	. . .	. Q.	. V	.	.
17.250	324.9822	661.18	. . .	. Q	. V	.	.
17.333	329.1109	599.48	. . .	. Q	. V	.	.
17.417	332.8819	547.55	. . .	. Q	. V	.	.
17.500	336.2724	492.30	. . .	. Q	. V	.	.
17.583	339.4502	461.43	. . .	. Q	. V	.	.
17.667	342.4304	432.72	. . .	.Q	. V	.	.
17.750	345.2237	405.58	. . .	. Q	. V	.	.
17.833	347.8513	381.54	. . .	. Q	. V	.	.
17.917	350.3325	360.26	. . .	. Q.	. V	.	.
18.000	352.6779	340.55	. . .	. Q.	. V	.	.
18.083	354.8293	312.38	. . .	. Q	. V	.	.
18.167	356.8828	298.17	. . .	. Q	. V	.	.
18.250	358.8483	285.40	. . .	. Q	. V	.	.
18.333	360.7213	271.96	. . .	. Q	. V	.	.
18.417	362.4973	257.87	. . .	. Q	. V	.	.
18.500	364.1798	244.30	. . .	. Q	. V	.	.
18.583	365.7625	229.81	. . .	. Q	. V	.	.
18.667	367.2467	215.51	. . Q	.	. V	.	.

18.750	368.6393	202.20	.	Q	.	.	.	V	.
18.833	369.9557	191.14	.	Q	.	.	.	V	.
18.917	371.2087	181.94	.	Q	.	.	.	V	.
19.000	372.4084	174.20	.	Q	.	.	.	V	.
19.083	373.5664	168.14	.	Q	.	.	.	V	.
19.167	374.6873	162.75	.	Q	.	.	.	V	.
19.250	375.7766	158.16	.	Q	.	.	.	V	.
19.333	376.8382	154.15	.	Q	.	.	.	V	.
19.417	377.8750	150.55	.	Q	.	.	.	V	.
19.500	378.8908	147.49	.	Q	.	.	.	V	.
19.583	379.8865	144.58	.	Q	.	.	.	V	.
19.667	380.8631	141.80	.	Q	.	.	.	V	.
19.750	381.8213	139.13	.	Q	.	.	.	V	.
19.833	382.7620	136.58	.	Q	.	.	.	V	.
19.917	383.6858	134.14	.	Q	.	.	.	V	.
20.000	384.5934	131.79	.	Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	510.0
20%	265.0
30%	175.0
40%	80.0
50%	65.0
60%	50.0
70%	40.0
80%	30.0
90%	20.0

FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 2 HYDROGRAPH<<<<<

STREAM HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	1000.0	2000.0	3000.0	4000.0
-----	-----	-----	-----	-----	-----	-----	-----
10.000	222.5613	398.71	.	Q V	.	.	.
10.083	225.3277	401.68	.	Q V	.	.	.
10.167	228.1149	404.71	.	Q V	.	.	.
10.250	230.9235	407.80	.	Q V	.	.	.
10.333	233.7538	410.95	.	Q V	.	.	.
10.417	236.6062	414.17	.	Q V	.	.	.
10.500	239.4812	417.45	.	Q V	.	.	.
10.583	242.3793	420.80	.	Q V	.	.	.
10.667	245.3009	424.22	.	Q V	.	.	.
10.750	248.2467	427.72	.	Q V	.	.	.
10.833	251.2170	431.29	.	Q V	.	.	.
10.917	254.2125	434.94	.	Q V	.	.	.
11.000	257.2336	438.67	.	Q V	.	.	.
11.083	260.2811	442.49	.	Q V	.	.	.
11.167	263.3554	446.39	.	Q V	.	.	.
11.250	266.4572	450.39	.	Q V	.	.	.
11.333	269.5872	454.48	.	Q V	.	.	.
11.417	272.7461	458.67	.	Q V	.	.	.
11.500	275.9345	462.95	.	Q V	.	.	.
11.583	279.1532	467.35	.	Q V	.	.	.
11.667	282.4029	471.86	.	Q V	.	.	.
11.750	285.6844	476.48	.	Q V	.	.	.
11.833	288.9986	481.22	.	Q V	.	.	.
11.917	292.3464	486.09	.	Q V	.	.	.
12.000	295.7285	491.08	.	Q V	.	.	.
12.083	299.1500	496.80	.	Q V	.	.	.
12.167	302.6169	503.40	.	Q V	.	.	.
12.250	306.1397	511.51	.	Q V	.	.	.
12.333	309.7351	522.06	.	Q V	.	.	.
12.417	313.4120	533.88	.	Q V	.	.	.
12.500	317.1802	547.15	.	Q V	.	.	.
12.583	321.0562	562.79	.	Q V	.	.	.
12.667	325.0487	579.72	.	Q V	.	.	.
12.750	329.1658	597.80	.	Q V	.	.	.
12.833	333.4106	616.34	.	Q V	.	.	.
12.917	337.7870	635.46	.	Q V	.	.	.
13.000	342.2977	654.95	.	Q V	.	.	.
13.083	346.9446	674.73	.	Q V	.	.	.
13.167	351.7355	695.63	.	Q V	.	.	.
13.250	356.6790	717.79	.	Q V	.	.	.
13.333	361.7748	739.92	.	Q V	.	.	.
13.417	367.0236	762.12	.	Q V	.	.	.
13.500	372.4168	783.09	.	Q V	.	.	.
13.583	377.9446	802.64	.	Q V	.	.	.
13.667	383.5987	820.97	.	Q V	.	.	.
13.750	389.3719	838.28	.	Q V	.	.	.
13.833	395.2570	854.51	.	Q V	.	.	.
13.917	401.2495	870.12	.	Q V	.	.	.
14.000	407.3475	885.42	.	Q V	.	.	.
14.083	413.5558	901.46	.	Q V	.	.	.
14.167	419.8842	918.87	.	Q V	.	.	.
14.250	426.3511	939.00	.	Q V	.	.	.
14.333	432.9888	963.79	.	Q V	.	.	.
14.417	439.8128	990.85	.	Q V	.	.	.
14.500	446.8420	1020.65	.	Q V	.	.	.

14.583	454.1092	1055.19	.	Q V	.	.	.
14.667	461.6327	1092.42	.	Q V	.	.	.
14.750	469.4297	1132.12	.	.Q V	.	.	.
14.833	477.5078	1172.95	.	.Q V	.	.	.
14.917	485.8774	1215.26	.	.QV	.	.	.
15.000	494.5461	1258.70	.	.Q V	.	.	.
15.083	503.5218	1303.27	.	.QV	.	.	.
15.167	512.8247	1350.78	.	.QV	.	.	.
15.250	522.4781	1401.67	.	.Q	.	.	.
15.333	532.4910	1453.87	.	.QV	.	.	.
15.417	542.8611	1505.74	.	.Q	.	.	.
15.500	553.5670	1554.50	.	.Q	.	.	.
15.583	564.5735	1598.15	.	.QV	.	.	.
15.667	575.8268	1633.97	.	.Q	.	.	.
15.750	587.3216	1669.04	.	.Q	.	.	.
15.833	599.0535	1703.47	.	.Q	.	.	.
15.917	611.0286	1738.78	.	.Q	.	.	.
16.000	623.3389	1787.45	.	.Q	.	.	.
16.083	636.3294	1886.22	.	.Q	.	.	.
16.167	650.2192	2016.79	.	.V Q	.	.	.
16.250	665.3567	2197.96	.	.V .Q	.	.	.
16.333	682.1285	2435.27	.	.V .Q	.	.	.
16.417	700.0275	2598.92	.	.V .Q	.	.	.
16.500	719.1771	2780.53	.	.V .Q	.	.	.
16.583	739.9252	3012.62	.	.V .Q	.	.	.
16.667	761.7592	3170.29	.	.V .Q	.	.	.
16.750	784.5650	3311.41	.	.V .Q	.	.	.
16.833	808.0960	3416.70	.	.V .Q	.	.	.
16.917	832.3743	3525.21	.	.V .Q	.	.	.
17.000	857.2201	3607.61	.	.V .Q	.	.	.
17.083	882.5950	3684.44	.	.V .Q	.	.	.
17.167	908.8389	3810.62	.	.V .Q	.	.	.
17.250	935.7562	3908.40	.	.V .Q	.	.	.
17.333	962.2427	3845.83	.	.V .Q	.	.	.
17.417	987.9365	3730.74	.	.V .Q	.	.	.
17.500	1011.8859	3477.45	.	.V .Q	.	.	.
17.583	1033.8208	3184.95	.	.V .Q	.	.	.
17.667	1053.8494	2908.14	.	.QV	.	.	.
17.750	1072.1000	2649.99	.	.Q V	.	.	.
17.833	1088.6053	2396.58	.	.Q .V	.	.	.
17.917	1103.6384	2182.80	.	.Q .V	.	.	.
18.000	1117.4325	2002.90	.	.Q .V	.	.	.
18.083	1129.9734	1820.94	.	.Q .V	.	.	.
18.167	1141.4384	1664.71	.	.Q .V	.	.	.
18.250	1151.9379	1524.53	.	.Q .V	.	.	.
18.333	1161.5822	1400.36	.	.Q .V	.	.	.
18.417	1170.3469	1272.64	.	.Q .V	.	.	.
18.500	1178.4077	1170.43	.	.Q .V	.	.	.
18.583	1185.9274	1091.86	.	.Q .V	.	.	.
18.667	1193.0123	1028.73	.	.Q .V	.	.	.
18.750	1199.7159	973.36	.	.Q .V	.	.	.
18.833	1206.0806	924.15	.	.Q .V	.	.	.
18.917	1212.1340	878.97	.	.Q .V	.	.	.
19.000	1217.8966	836.72	.	.Q .V	.	.	.
19.083	1223.3827	796.58	.	.Q .V	.	.	.
19.167	1228.5830	755.08	.	.Q .V	.	.	.
19.250	1233.4430	705.68	.	.Q .V	.	.	.
19.333	1238.0070	662.68	.	.Q .V	.	.	.

19.417	1242.3287	627.52	.	Q	.	.	.	V	.
19.500	1246.4524	598.75	.	Q	.	.	.	V	.
19.583	1250.4045	573.85	.	Q	.	.	.	V	.
19.667	1254.2045	551.75	.	Q	.	.	.	V	.
19.750	1257.8690	532.09	.	Q	.	.	.	V	.
19.833	1261.4143	514.77	.	Q	.	.	.	V	.
19.917	1264.8530	499.30	.	Q	.	.	.	V	.
20.000	1268.1951	485.27	.	Q	.	.	.	V	.

 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	670.0
20%	340.0
30%	220.0
40%	160.0
50%	115.0
60%	95.0
70%	75.0
80%	60.0
90%	35.0

 END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1264

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***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - FREE DRAINING UH *
* ULTIMATE CONDITION - REGIONAL NODE 13305 *
* 2-YR EV MARCH 2019 ROKAMOTO *

FILE NAME: EVO2305F.DAT
TIME/DATE OF STUDY: 07:28 03/28/2019

** INPUT SUMMARY **

FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 1.262 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.487; LOW LOSS FRACTION = 0.830
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.13; 30-MINUTE = 0.28; 1-HOUR = 0.37
3-HOUR = 0.62; 6-HOUR = 0.85; 24-HOUR = 1.44
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.754; 30-MINUTE = 0.754; 1-HOUR = 0.754
3-HOUR = 0.961; 6-HOUR = 0.979; 24-HOUR = 0.987

FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
(Reference: the National Engineering Handbook, Hydrology,
Chapter 17, page 17-52, August, 1972, U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH (FT) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION (FT) = 427.51; DOWNSTREAM ELEVATION (FT) = 315.00

CHANNEL LENGTH (FT) = 9760.05 MANNING'S FACTOR = 0.040
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 31100.00 TO NODE 13305.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<

WATERSHED AREA = 810.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.758 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.564; LOW LOSS FRACTION = 0.903
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.13; 30-MINUTE = 0.28; 1-HOUR = 0.37
3-HOUR = 0.62; 6-HOUR = 0.85; 24-HOUR = 1.44
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.754; 30-MINUTE = 0.754; 1-HOUR = 0.754
3-HOUR = 0.961; 6-HOUR = 0.979; 24-HOUR = 0.987

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 7

>>>>STREAM NUMBER 1 ADDED TO STREAM NUMBER 2<<<<<

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6

>>>>STREAM NUMBER 1 CLEARED AND SET TO ZERO<<<<<

FLOW PROCESS FROM NODE 100.00 TO NODE 130.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<

WATERSHED AREA = 447.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.340 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.213; LOW LOSS FRACTION = 0.431
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.13; 30-MINUTE = 0.28; 1-HOUR = 0.37
3-HOUR = 0.62; 6-HOUR = 0.85; 24-HOUR = 1.44
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.754; 30-MINUTE = 0.754; 1-HOUR = 0.754
3-HOUR = 0.961; 6-HOUR = 0.979; 24-HOUR = 0.987

FLOW PROCESS FROM NODE 130.00 TO NODE 13305.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

 FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6

 >>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<<
 =====

 FLOW PROCESS FROM NODE 150.00 TO NODE 13305.00 IS CODE = 1

 >>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<<
 =====

WATERSHED AREA = 62.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
 *USER ENTERED "LAG" TIME = 0.470 HOURS
 VALLEY (DEVELOPED) S-GRAPH SELECTED
 MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.404; LOW LOSS FRACTION = 0.835
 SPECIFIED PEAK RAINFALL DEPTHS (INCH):
 5-MINUTE = 0.13; 30-MINUTE = 0.28; 1-HOUR = 0.37
 3-HOUR = 0.62; 6-HOUR = 0.85; 24-HOUR = 1.44
 *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
 5-MINUTE = 0.754; 30-MINUTE = 0.754; 1-HOUR = 0.754
 3-HOUR = 0.961; 6-HOUR = 0.979; 24-HOUR = 0.987

 FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 7

 >>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<<
 =====

 FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6

 >>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<<
 =====

 FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 11

 >>>>VIEW STREAM NUMBER 2 HYDROGRAPH<<<<<<
 =====

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 | * AES FLOODSCx PROGRAM RESULTS SUMMARY *
 |
 | INPUT FILENAME: [EV02305F.DAT]
 Page: 1 of |

-----+-----+-----+
 | UPSTREAM DOWNSTREAM | | UPSTREAM DOWNSTREAM |
 TIME (2) TO | MAX. STORAGE | |
 | NODE # NODE # | HYDROLOGIC/HYDRAULIC PROCESS | PEAK (CFS) PEAK (CFS) |
 PEAK (HR) | MODELED (AF) | FOOTNOTES |

| 13010.00	132.00	| Subarea (UH) Added to Stream #2	|	0.0	358.2
17.333	|	|	|		
| 132.00	13305.00	| Convex Routing: Stream #2	|	358.2	345.1
17.667	|	|	|		
| 31100.00	13305.00	| Subarea (UH) Added to Stream #1	|	0.0	64.0
16.833	|	|	|		
| 13305.00	13305.00	| Stream #1 Added to: Stream #2	|	345.1	361.6
17.667	|	|	|		
| 13305.00	13305.00	| Zero Out: Stream #1	|	64.0	0.0

| 100.00	130.00	| Subarea (UH) Added to Stream #3	|	0.0	142.1
16.417	|	|	|		
| 130.00	13305.00	| Stream #3 Added to: Stream #2	|	361.6	384.7
17.667	|	|	|		
| 13305.00	13305.00	| Zero Out: Stream #3	|	142.1	0.0
| 150.00	13305.00	| Subarea (UH) Added to Stream #3	|	0.0	9.3
16.500	|	|	|		
| 13305.00	13305.00	| Stream #3 Added to: Stream #2	|	384.7	385.9
17.667	|	|	|		

| 13305.00	13305.00	| Zero Out: Stream #3	|	9.3	0.0
| 13305.00	13305.00	| View: Stream #2	|		385.9
17.667	160.47	| 3	|		

-----+-----+-----+
 | Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT
 INTERVAL |
 | 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF
 THE DESIGN STORM |
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END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
(c) Copyright 1989-2013 Advanced Engineering Software (aes)
Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

Michael Baker International
5 Hutton Centre Drive Suite 500
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***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - FREE DRAINING UH *
* ULTIMATE CONDITION - REGIONAL NODE 13305 *
* 5-YR EV MARCH 2019 ROKAMOTO *

FILE NAME: EV05305F.DAT
TIME/DATE OF STUDY: 07:28 03/28/2019

FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

=====

(UNIT-HYDROGRAPH ADDED TO STREAM #2)

WATERSHED AREA = 4924.400 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.986 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.406
LOW LOSS FRACTION = 0.789
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.18
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.41
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.55
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 0.92
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 1.27
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 2.12

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.754
30-MINUTE FACTOR = 0.754
1-HOUR FACTOR = 0.754
3-HOUR FACTOR = 0.961
6-HOUR FACTOR = 0.979
24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 8.452

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.483	287.619
2	1.449	575.239
3	2.632	704.860
4	4.301	993.530
5	7.218	1737.327
6	11.363	2468.400
7	16.187	2873.247
8	21.207	2989.700
9	26.667	3251.397
10	32.713	3600.828
11	39.164	3841.879
12	46.947	4634.997
13	54.052	4231.546
14	60.943	4103.863
15	67.597	3962.565
16	73.191	3331.305
17	77.756	2718.781
18	81.570	2271.200
19	85.069	2084.043
20	87.803	1627.988
21	89.864	1227.766
22	91.667	1073.936
23	93.315	981.346
24	94.618	775.664
25	95.682	633.702
26	96.472	470.617
27	97.135	394.847
28	97.788	389.004
29	98.110	191.783
30	98.269	94.344
31	98.427	94.412
32	98.586	94.408
33	98.744	94.344
34	98.902	94.276
35	99.061	94.549
36	99.219	94.276
37	99.378	94.276
38	99.536	94.276
39	99.694	94.276
40	99.853	94.276
41	100.000	87.770

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 644.8221
 TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 213.7349

2 4 - H O U R S T O R M
 R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
 (Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	200.0	400.0	600.0	800.0
10.000	31.9927	57.01	. Q V	.	.	.	.
10.083	32.3882	57.43	. Q V	.	.	.	.
10.167	32.7867	57.86	. Q V	.	.	.	.
10.250	33.1883	58.30	. Q V	.	.	.	.
10.333	33.5929	58.76	. Q V	.	.	.	.
10.417	34.0007	59.21	. Q V	.	.	.	.
10.500	34.4118	59.68	. Q V	.	.	.	.
10.583	34.8261	60.16	. Q V	.	.	.	.
10.667	35.2438	60.65	. Q V	.	.	.	.
10.750	35.6650	61.15	. Q V	.	.	.	.
10.833	36.0896	61.66	. Q V	.	.	.	.
10.917	36.5179	62.18	. Q V	.	.	.	.
11.000	36.9498	62.72	. Q V	.	.	.	.
11.083	37.3855	63.26	. Q V	.	.	.	.
11.167	37.8251	63.82	. Q V	.	.	.	.
11.250	38.2686	64.39	. Q V	.	.	.	.
11.333	38.7161	64.98	. Q V	.	.	.	.
11.417	39.1677	65.58	. Q V	.	.	.	.
11.500	39.6236	66.19	. Q V	.	.	.	.
11.583	40.0838	66.82	. Q V	.	.	.	.
11.667	40.5484	67.47	. Q V	.	.	.	.
11.750	41.0176	68.13	. Q V	.	.	.	.
11.833	41.4915	68.81	. Q V	.	.	.	.
11.917	41.9701	69.50	. Q V	.	.	.	.
12.000	42.4537	70.22	. Q V	.	.	.	.
12.083	42.9433	71.08	. Q V	.	.	.	.
12.167	43.4397	72.08	. Q V	.	.	.	.
12.250	43.9435	73.16	. Q V	.	.	.	.
12.333	44.4557	74.38	. Q V	.	.	.	.
12.417	44.9788	75.94	. Q V	.	.	.	.
12.500	45.5149	77.85	. Q V	.	.	.	.
12.583	46.0655	79.95	. Q V	.	.	.	.
12.667	46.6311	82.13	. Q V	.	.	.	.
12.750	47.2128	84.45	. Q V	.	.	.	.
12.833	47.8117	86.96	. Q V	.	.	.	.
12.917	48.4288	89.61	. Q V	.	.	.	.
13.000	49.0667	92.63	. Q V	.	.	.	.
13.083	49.7246	95.52	. Q V	.	.	.	.
13.167	50.4022	98.40	. Q V	.	.	.	.
13.250	51.0996	101.26	. Q V	.	.	.	.
13.333	51.8151	103.90	. Q V	.	.	.	.
13.417	52.5474	106.33	. Q V	.	.	.	.
13.500	53.2955	108.62	. Q V	.	.	.	.
13.583	54.0591	110.88	. Q V	.	.	.	.
13.667	54.8373	113.00	. Q V	.	.	.	.
13.750	55.6294	115.01	. Q V	.	.	.	.
13.833	56.4353	117.02	. Q V	.	.	.	.

13.917	57.2553	119.05	.	Q	V	.	.	.
14.000	58.0891	121.07	.	Q	V	.	.	.
14.083	58.9390	123.40	.	Q	.V	.	.	.
14.167	59.8069	126.03	.	Q	.V	.	.	.
14.250	60.6943	128.84	.	Q	.V	.	.	.
14.333	61.6036	132.03	.	Q	.V	.	.	.
14.417	62.5402	135.99	.	Q	.V	.	.	.
14.500	63.5095	140.75	.	Q	.V	.	.	.
14.583	64.5151	146.01	.	Q	.V	.	.	.
14.667	65.5586	151.50	.	Q	.V	.	.	.
14.750	66.6423	157.36	.	Q	.V	.	.	.
14.833	67.7697	163.70	.	Q	.V	.	.	.
14.917	68.9433	170.41	.	Q	.V	.	.	.
15.000	70.1697	178.06	.	Q	.V	.	.	.
15.083	71.4469	185.45	.	Q	.V	.	.	.
15.167	72.7753	192.88	.	Q	.V	.	.	.
15.250	74.1551	200.35	.	Q	.V	.	.	.
15.333	75.5835	207.40	.	Q	.V	.	.	.
15.417	77.0541	213.53	.	Q	.V	.	.	.
15.500	78.5618	218.92	.	Q	.V	.	.	.
15.583	80.1062	224.26	.	.Q	.V	.	.	.
15.667	81.6838	229.06	.	.Q	.V	.	.	.
15.750	83.2870	232.79	.	.Q	.V	.	.	.
15.833	84.9119	235.92	.	.Q	.V	.	.	.
15.917	86.5625	239.68	.	.Q	.V	.	.	.
16.000	88.2651	247.21	.	.Q	.V	.	.	.
16.083	90.2123	282.72	.	.Q	.V	.	.	.
16.167	92.4000	317.65	.	.Q	.V	.	.	.
16.250	94.7425	340.14	.	.Q	.V	.	.	.
16.333	97.3672	381.10	.	.Q	.V	.	.	.
16.417	100.5755	465.85	.	.Q	.V	.	.	.
16.500	104.3348	545.85	.	.Q	.V	.	.	.
16.583	108.4026	590.65	.	.Q	.V	.	.	.
16.667	112.5999	609.45	.	.Q	.V	.	.	.
16.750	117.0274	642.87	.	.Q	.V	.	.	.
16.833	121.7425	684.64	.	.Q	.V	.	.	.
16.917	126.6908	718.49	.	.Q	.V	.	.	.
17.000	132.1359	790.62	.	.Q	.V	.	.	.
17.083	137.2973	749.43	.	.Q	.V	.	.	.
17.167	142.3229	729.72	.	.Q	.V	.	.	.
17.250	147.1592	702.23	.	.Q	.V	.	.	.
17.333	151.4876	628.48	.	.Q	.V	.	.	.
17.417	155.3173	556.08	.	.Q	.V	.	.	.
17.500	158.7682	501.07	.	.Q	.V	.	.	.
17.583	161.9944	468.44	.	.Q	.V	.	.	.
17.667	164.8234	410.77	.	.Q	.V	.	.	.
17.750	167.3062	360.50	.	.Q	.V	.	.	.
17.833	169.6072	334.11	.	.Q	.V	.	.	.
17.917	171.7630	313.01	.	.Q	.V	.	.	.
18.000	173.6974	280.88	.	.Q	.V	.	.	.
18.083	175.4515	254.69	.	.Q	.V	.	.	.
18.167	177.0210	227.90	.	.Q	.V	.	.	.
18.250	178.4701	210.40	.	.Q	.V	.	.	.
18.333	179.8379	198.61	.	.Q	.V	.	.	.
18.417	181.0119	170.46	.	.Q	.V	.	.	.
18.500	182.0663	153.10	.	.Q	.V	.	.	.
18.583	183.0695	145.67	.	.Q	.V	.	.	.
18.667	184.0288	139.29	.	.Q	.V	.	.	.

18.750	184.9465	133.25	.	Q	.	.	.	V	.
18.833	185.8246	127.50	.	Q	.	.	.	V	.
18.917	186.6649	122.00	.	Q	.	.	.	V	.
19.000	187.4674	116.52	.	Q	.	.	.	V	.
19.083	188.2356	111.55	.	Q	.	.	.	V	.
19.167	188.9716	106.86	.	Q	.	.	.	V	.
19.250	189.6769	102.41	.	Q	.	.	.	V	.
19.333	190.3525	98.11	.	Q	.	.	.	V	.
19.417	190.9934	93.05	.	Q	.	.	.	V	.
19.500	191.5552	81.57	.	Q	.	.	.	V	.
19.583	192.0969	78.65	.	Q	.	.	.	V	.
19.667	192.6218	76.22	.	Q	.	.	.	V	.
19.750	193.1322	74.11	.	Q	.	.	.	V	.
19.833	193.6281	72.01	.	Q	.	.	.	V	.
19.917	194.1106	70.05	.	Q	.	.	.	V	.
20.000	194.5807	68.27	.	Q	.	.	.	V	.

 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	420.0
20%	220.0
30%	135.0
40%	105.0
50%	80.0
60%	65.0
70%	55.0
80%	35.0
90%	20.0

FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

 >>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
 TO ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE
 INTERVALS(Reference: the National Engineering Handbook,
 Hydrology, Chapter 17, page 17-52, August,1972,
 U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
 BASEWIDTH(FT) = 0.01 CHANNEL Z = 3.00
 UPSTREAM ELEVATION(FT) = 427.51
 DOWNSTREAM ELEVATION(FT) = 315.00
 CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040
 CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:

MAXIMUM INFLOW(CFS) = 790.62
 AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 612.16
 CHANNEL NORMAL VELOCITY FOR Q = 612.16 CFS = 7.34 FPS
 ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.812

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
 UNIT INTERVALS IS CSTAR = 0.580

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 2) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS
			LOSS (STREAM 2) (CFS)
10.000	57.01	55.27	55.27
10.083	57.43	55.66	55.66
10.167	57.86	56.06	56.06
10.250	58.30	56.46	56.46
10.333	58.76	56.88	56.88
10.417	59.21	57.30	57.30
10.500	59.68	57.73	57.73
10.583	60.16	58.17	58.17
10.667	60.65	58.61	58.61
10.750	61.15	59.07	59.07
10.833	61.66	59.54	59.54
10.917	62.18	60.01	60.01
11.000	62.72	60.50	60.50
11.083	63.26	61.00	61.00
11.167	63.82	61.50	61.50
11.250	64.39	62.02	62.02
11.333	64.98	62.55	62.55
11.417	65.58	63.09	63.09
11.500	66.19	63.65	63.65
11.583	66.82	64.22	64.22
11.667	67.47	64.80	64.80
11.750	68.13	65.39	65.39
11.833	68.81	66.00	66.00
11.917	69.50	66.63	66.63
12.000	70.22	67.27	67.27
12.083	71.08	67.92	67.92
12.167	72.08	68.60	68.60
12.250	73.16	69.29	69.29
12.333	74.38	70.03	70.03
12.417	75.94	70.87	70.87
12.500	77.85	71.82	71.82
12.583	79.95	72.88	72.88
12.667	82.13	74.11	74.11
12.750	84.45	75.61	75.61
12.833	86.96	77.39	77.39
12.917	89.61	79.38	79.38
13.000	92.63	81.51	81.51
13.083	95.52	83.80	83.80
13.167	98.40	86.25	86.25
13.250	101.26	88.89	88.89
13.333	103.90	91.73	91.73
13.417	106.33	94.59	94.59
13.500	108.62	97.46	97.46
13.583	110.88	100.27	100.27

13.667	113.00	102.94	102.94
13.750	115.01	105.43	105.43
13.833	117.02	107.80	107.80
13.917	119.05	110.08	110.08
14.000	121.07	112.24	112.24
14.083	123.40	114.31	114.31
14.167	126.03	116.35	116.35
14.250	128.84	118.39	118.39
14.333	132.03	120.48	120.48
14.417	135.99	122.78	122.78
14.500	140.75	125.32	125.32
14.583	146.01	128.10	128.10
14.667	151.50	131.30	131.30
14.750	157.36	135.12	135.12
14.833	163.70	139.60	139.60
14.917	170.41	144.59	144.59
15.000	178.06	149.96	149.96
15.083	185.45	155.72	155.72
15.167	192.88	161.90	161.90
15.250	200.35	168.60	168.60
15.333	207.40	175.80	175.80
15.417	213.53	183.12	183.12
15.500	218.92	190.51	190.51
15.583	224.26	197.85	197.85
15.667	229.06	204.81	204.81
15.750	232.79	211.11	211.11
15.833	235.92	216.87	216.87
15.917	239.68	222.27	222.27
16.000	247.21	227.07	227.07
16.083	282.72	231.11	231.11
16.167	317.65	234.77	234.77
16.250	340.14	239.36	239.36
16.333	381.10	252.15	252.15
16.417	465.85	277.96	277.96
16.500	545.85	306.18	306.18
16.583	590.65	335.36	335.36
16.667	609.45	381.51	381.51
16.750	642.87	448.93	448.93
16.833	684.64	515.48	515.48
16.917	718.49	563.40	563.40
17.000	790.62	597.83	597.83
17.083	749.43	633.62	633.62
17.167	729.72	671.03	671.03
17.250	702.23	715.26	715.26
17.333	628.48	749.38	749.38
17.417	556.08	744.84	744.84
17.500	501.07	729.71	729.71
17.583	468.44	696.69	696.69
17.667	410.77	640.38	640.38
17.750	360.50	578.77	578.77
17.833	334.11	526.18	526.18
17.917	313.01	479.35	479.35
18.000	280.88	427.95	427.95
18.083	254.69	382.75	382.75
18.167	227.90	349.67	349.67
18.250	210.40	320.98	320.98
18.333	198.61	291.67	291.67
18.417	170.46	264.03	264.03

18.500	153.10	239.03	239.03
18.583	145.67	219.71	219.71
18.667	139.29	200.95	200.95
18.750	133.25	179.26	179.26
18.833	127.50	162.38	162.38
18.917	122.00	151.22	151.22
19.000	116.52	142.91	142.91
19.083	111.55	135.98	135.98
19.167	106.86	129.79	129.79
19.250	102.41	124.01	124.01
19.333	98.11	118.52	118.52
19.417	93.05	113.39	113.39
19.500	81.57	108.58	108.58
19.583	78.65	104.00	104.00
19.667	76.22	99.41	99.41
19.750	74.11	93.07	93.07
19.833	72.01	85.73	85.73
19.917	70.05	81.06	81.06
20.000	68.27	77.77	77.77

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 213.735 AF
 OUTFLOW VOLUME = 213.735 AF
 LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 31100.00 TO NODE 13305.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

(UNIT-HYDROGRAPH ADDED TO STREAM #1)

WATERSHED AREA = 810.600 ACRES
 BASEFLOW = 0.000 CFS/SQUARE-MILE
 *USER ENTERED "LAG" TIME = 0.555 HOURS
 VALLEY (DEVELOPED) S-GRAPH SELECTED
 MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.470
 LOW LOSS FRACTION = 0.838
 HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.18
 SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.41
 SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.55
 SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 0.92
 SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 1.27
 SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 2.12

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE FACTOR = 0.754
 30-MINUTE FACTOR = 0.754
 1-HOUR FACTOR = 0.754
 3-HOUR FACTOR = 0.961
 6-HOUR FACTOR = 0.979
 24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES

UNIT INTERVAL PERCENTAGE OF LAG-TIME = 15.015

RUNOFF HYDROGRAPH LISTING LIMITS:

MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00

MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.858	84.111
2	2.891	199.290
3	7.148	417.348
4	14.791	749.280
5	23.904	893.279
6	34.396	1028.570
7	47.258	1260.892
8	59.688	1218.527
9	70.972	1106.238
10	79.198	806.428
11	85.468	614.679
12	89.712	416.040
13	92.835	306.066
14	95.136	225.621
15	96.645	147.883
16	97.768	110.099
17	98.239	46.213
18	98.521	27.595
19	98.802	27.595
20	99.084	27.608
21	99.365	27.595
22	99.647	27.595
23	99.928	27.595
24	100.000	7.049

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 113.1720
 TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 28.1577

24 - HOUR STORM
 RUNOFF HYDROGRAPH

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)

(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	50.0	100.0	150.0	200.0
10.000	4.3175	7.50	.Q	V	.	.	.
10.083	4.3695	7.56	.Q	V	.	.	.
10.167	4.4220	7.62	.Q	V	.	.	.
10.250	4.4749	7.68	.Q	V	.	.	.
10.333	4.5282	7.74	.Q	V	.	.	.
10.417	4.5820	7.81	.Q	V	.	.	.
10.500	4.6362	7.87	.Q	V	.	.	.
10.583	4.6909	7.94	.Q	V	.	.	.
10.667	4.7460	8.01	.Q	V	.	.	.
10.750	4.8017	8.08	.Q	V	.	.	.
10.833	4.8578	8.15	.Q	V	.	.	.
10.917	4.9145	8.23	.Q	V	.	.	.
11.000	4.9717	8.30	.Q	V	.	.	.
11.083	5.0294	8.38	.Q	V	.	.	.
11.167	5.0876	8.46	.Q	V	.	.	.
11.250	5.1465	8.54	.Q	V	.	.	.
11.333	5.2059	8.62	.Q	V	.	.	.
11.417	5.2659	8.71	.Q	V	.	.	.
11.500	5.3265	8.80	.Q	V	.	.	.
11.583	5.3877	8.89	.Q	V	.	.	.
11.667	5.4495	8.98	.Q	V	.	.	.
11.750	5.5121	9.08	.Q	V	.	.	.
11.833	5.5753	9.18	.Q	V	.	.	.
11.917	5.6391	9.28	.Q	V	.	.	.
12.000	5.7037	9.38	.Q	V	.	.	.
12.083	5.7693	9.52	.Q	V	.	.	.
12.167	5.8360	9.69	.Q	V	.	.	.
12.250	5.9045	9.94	.Q	V	.	.	.
12.333	5.9754	10.30	.Q	V	.	.	.
12.417	6.0492	10.72	.Q	V	.	.	.
12.500	6.1262	11.18	.Q	V	.	.	.
12.583	6.2069	11.72	.Q	V	.	.	.
12.667	6.2913	12.26	.Q	V	.	.	.
12.750	6.3792	12.76	.Q	V	.	.	.
12.833	6.4699	13.17	.Q	V	.	.	.
12.917	6.5631	13.53	.Q	V	.	.	.
13.000	6.6583	13.82	.Q	V	.	.	.
13.083	6.7553	14.09	.Q	V	.	.	.
13.167	6.8541	14.34	.Q	V	.	.	.
13.250	6.9544	14.57	.Q	V	.	.	.
13.333	7.0562	14.79	.Q	V	.	.	.
13.417	7.1595	15.00	.Q	V	.	.	.
13.500	7.2643	15.21	.Q	V	.	.	.
13.583	7.3706	15.43	.Q	V	.	.	.
13.667	7.4784	15.66	.Q	V	.	.	.
13.750	7.5879	15.90	.Q	V	.	.	.
13.833	7.6991	16.15	.Q	V	.	.	.

13.917	7.8122	16.41	.Q	.V	.	.	.
14.000	7.9270	16.68	.Q	.V	.	.	.
14.083	8.0442	17.02	.Q	.V	.	.	.
14.167	8.1645	17.47	.Q	.V	.	.	.
14.250	8.2891	18.10	.Q	.V	.	.	.
14.333	8.4200	19.00	.Q	.V	.	.	.
14.417	8.5580	20.04	.Q	.V	.	.	.
14.500	8.7039	21.19	.Q	.V	.	.	.
14.583	8.8591	22.54	.Q	.V	.	.	.
14.667	9.0235	23.86	.Q	.V	.	.	.
14.750	9.1965	25.12	.Q	.V	.	.	.
14.833	9.3767	26.16	.Q	.V	.	.	.
14.917	9.5631	27.07	.Q	.V	.	.	.
15.000	9.7550	27.85	.Q	.V	.	.	.
15.083	9.9518	28.58	.Q	.V	.	.	.
15.167	10.1535	29.28	.Q	.V	.	.	.
15.250	10.3599	29.97	.Q	.V	.	.	.
15.333	10.5711	30.66	.Q	.V	.	.	.
15.417	10.7863	31.25	.Q	.V	.	.	.
15.500	11.0048	31.72	.Q	.V	.	.	.
15.583	11.2250	31.97	.Q	.V	.	.	.
15.667	11.4443	31.84	.Q	.V	.	.	.
15.750	11.6627	31.71	.Q	.V	.	.	.
15.833	11.8806	31.65	.Q	.V	.	.	.
15.917	12.0991	31.72	.Q	.V	.	.	.
16.000	12.3256	32.90	.Q	.V	.	.	.
16.083	12.6194	42.65	.Q	.V	.	.	.
16.167	13.0104	56.78	.Q	.V	.	.	.
16.250	13.5696	81.20	.Q	.V	.	.	.
16.333	14.3598	114.74	.Q	.V	.	.	.
16.417	15.2604	130.77	.Q	.V	.	.	.
16.500	16.2614	145.34	.Q	.V	.	.	.
16.583	17.4061	166.21	.Q	.V	.	.	.
16.667	18.5133	160.77	.Q	.V	.	.	.
16.750	19.5259	147.03	.Q	.V	.	.	.
16.833	20.3282	116.49	.Q	.V	.	.	.
16.917	20.9893	95.99	.Q	.V	.	.	.
17.000	21.5107	75.70	.Q	.V	.	.	.
17.083	21.9499	63.78	.Q	.V	.	.	.
17.167	22.3253	54.50	.Q	.V	.	.	.
17.250	22.6393	45.59	.Q	.V	.	.	.
17.333	22.9146	39.98	.Q	.V	.	.	.
17.417	23.1372	32.32	.Q	.V	.	.	.
17.500	23.3362	28.90	.Q	.V	.	.	.
17.583	23.5229	27.11	.Q	.V	.	.	.
17.667	23.6980	25.42	.Q	.V	.	.	.
17.750	23.8620	23.82	.Q	.V	.	.	.
17.833	24.0167	22.45	.Q	.V	.	.	.
17.917	24.1624	21.17	.Q	.V	.	.	.
18.000	24.2886	18.31	.Q	.V	.	.	.
18.083	24.4045	16.84	.Q	.V	.	.	.
18.167	24.5155	16.11	.Q	.V	.	.	.
18.250	24.6218	15.44	.Q	.V	.	.	.
18.333	24.7230	14.69	.Q	.V	.	.	.
18.417	24.8193	13.98	.Q	.V	.	.	.
18.500	24.9107	13.27	.Q	.V	.	.	.
18.583	24.9969	12.51	.Q	.V	.	.	.
18.667	25.0781	11.79	.Q	.V	.	.	.

18.750	25.1548	11.13	. Q	.	.	.	V	.
18.833	25.2277	10.59	. Q	.	.	.	V	.
18.917	25.2975	10.13	. Q	.	.	.	V	.
19.000	25.3647	9.76	.Q	.	.	.	V	.
19.083	25.4298	9.45	.Q	.	.	.	V	.
19.167	25.4930	9.17	.Q	.	.	.	V	.
19.250	25.5545	8.94	.Q	.	.	.	V	.
19.333	25.6146	8.72	.Q	.	.	.	V	.
19.417	25.6734	8.54	.Q	.	.	.	V	.
19.500	25.7311	8.37	.Q	.	.	.	V	.
19.583	25.7876	8.21	.Q	.	.	.	V	.
19.667	25.8431	8.06	.Q	.	.	.	V	.
19.750	25.8976	7.91	.Q	.	.	.	V	.
19.833	25.9511	7.77	.Q	.	.	.	V	.
19.917	26.0036	7.63	.Q	.	.	.	V	.
20.000	26.0553	7.51	.Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	250.0
20%	80.0
30%	65.0
40%	50.0
50%	40.0
60%	35.0
70%	30.0
80%	20.0
90%	10.0

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 7

>>>>STREAM NUMBER 1 ADDED TO STREAM NUMBER 2<<<<<
=====

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6

>>>>STREAM NUMBER 1 CLEARED AND SET TO ZERO<<<<<
=====

FLOW PROCESS FROM NODE 100.00 TO NODE 130.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<
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(UNIT-HYDROGRAPH ADDED TO STREAM #3)

WATERSHED AREA = 447.600 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.315 HOURS
CAUTION: LAG TIME IS LESS THAN 0.50 HOURS.
THE 5-MINUTE PERIOD UH MODEL (USED IN THIS COMPUTER PROGRAM)
MAY BE TOO LARGE FOR PEAK FLOW ESTIMATES.
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.178
LOW LOSS FRACTION = 0.371
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.18
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.41
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.55
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 0.92
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 1.27
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 2.12

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.754
30-MINUTE FACTOR = 0.754
1-HOUR FACTOR = 0.754
3-HOUR FACTOR = 0.961
6-HOUR FACTOR = 0.979
24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 26.455

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
-----	-----	-----
1	1.602	86.724
2	8.340	364.756
3	23.113	799.660
4	42.894	1070.774
5	64.603	1175.143
6	80.398	855.024
7	89.457	490.399
8	94.500	272.954
9	97.195	145.866
10	98.306	60.168
11	98.802	26.848
12	99.296	26.748
13	99.718	22.859
14	99.930	11.430
15	100.000	3.810

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 27.4794
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 50.5425

=====

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

=====

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	75.0	150.0	225.0	300.0
10.000	9.5968	16.46	. Q	V .	.	.	.
10.083	9.7111	16.60	. Q	V .	.	.	.
10.167	9.8264	16.73	. Q	V .	.	.	.
10.250	9.9426	16.88	. Q	V .	.	.	.
10.333	10.0598	17.02	. Q	V .	.	.	.
10.417	10.1780	17.17	. Q	V .	.	.	.
10.500	10.2973	17.32	. Q	V .	.	.	.
10.583	10.4177	17.47	. Q	V .	.	.	.
10.667	10.5391	17.63	. Q	V .	.	.	.
10.750	10.6616	17.79	. Q	V .	.	.	.
10.833	10.7853	17.96	. Q	V .	.	.	.
10.917	10.9102	18.13	. Q	V .	.	.	.
11.000	11.0363	18.30	. Q	V .	.	.	.
11.083	11.1636	18.48	. Q	V .	.	.	.
11.167	11.2921	18.67	. Q	V .	.	.	.
11.250	11.4220	18.86	. Q	V .	.	.	.
11.333	11.5532	19.05	. Q	V .	.	.	.
11.417	11.6857	19.25	. Q	V .	.	.	.
11.500	11.8197	19.45	. Q	V .	.	.	.
11.583	11.9551	19.66	. Q	V .	.	.	.
11.667	12.0920	19.88	. Q	V .	.	.	.
11.750	12.2304	20.10	. Q	V .	.	.	.
11.833	12.3704	20.33	. Q	V .	.	.	.
11.917	12.5120	20.56	. Q	V .	.	.	.
12.000	12.6553	20.80	. Q	V .	.	.	.
12.083	12.8011	21.17	. Q	V .	.	.	.
12.167	12.9518	21.88	. Q	V .	.	.	.
12.250	13.1113	23.17	. Q	V .	.	.	.
12.333	13.2821	24.80	. Q	V .	.	.	.
12.417	13.4652	26.58	. Q	V .	.	.	.
12.500	13.6578	27.97	. Q	V .	.	.	.
12.583	13.8569	28.91	. Q	V .	.	.	.
12.667	14.0606	29.59	. Q	.V	.	.	.
12.750	14.2681	30.12	. Q	.V	.	.	.
12.833	14.4784	30.55	. Q	.V	.	.	.
12.917	14.6916	30.96	. Q	.V	.	.	.
13.000	14.9077	31.37	. Q	.V	.	.	.
13.083	15.1267	31.80	. Q	.V	.	.	.
13.167	15.3487	32.23	. Q	. V	.	.	.
13.250	15.5737	32.67	. Q	. V	.	.	.
13.333	15.8018	33.12	. Q	. V	.	.	.
13.417	16.0331	33.59	. Q	. V	.	.	.
13.500	16.2678	34.07	. Q	. V	.	.	.
13.583	16.5060	34.59	. Q	. V	.	.	.
13.667	16.7478	35.12	. Q	. V	.	.	.
13.750	16.9936	35.68	. Q	. V	.	.	.
13.833	17.2433	36.26	. Q	. V	.	.	.

13.917	17.4973	36.88	.	Q	.	V	.	.	.
14.000	17.7558	37.53	.	Q	.	V	.	.	.
14.083	18.0208	38.48	.	Q	.	V	.	.	.
14.167	18.2984	40.31	.	Q	.	V	.	.	.
14.250	18.5979	43.50	.	Q	.	V	.	.	.
14.333	18.9253	47.53	.	Q	.	V	.	.	.
14.417	19.2828	51.91	.	Q	.	V	.	.	.
14.500	19.6638	55.32	.	Q	.	V	.	.	.
14.583	20.0610	57.67	.	Q	.	V	.	.	.
14.667	20.4700	59.39	.	Q	.	V	.	.	.
14.750	20.8886	60.79	.	Q	.	V	.	.	.
14.833	21.3155	61.97	.	Q	.	V	.	.	.
14.917	21.7503	63.15	.	Q	.	V	.	.	.
15.000	22.1938	64.39	.	Q	.	V	.	.	.
15.083	22.6465	65.73	.	Q	.	V	.	.	.
15.167	23.1088	67.13	.	Q	.	V	.	.	.
15.250	23.5817	68.66	.	Q	.	V	.	.	.
15.333	24.0660	70.32	.	Q	.	V	.	.	.
15.417	24.5597	71.69	.	Q	.	V	.	.	.
15.500	25.0534	71.68	.	Q	.	V	.	.	.
15.583	25.5324	69.54	.	Q	.	V	.	.	.
15.667	25.9890	66.30	.	Q	.	V	.	.	.
15.750	26.4252	63.34	.	Q	.	V	.	.	.
15.833	26.8630	63.56	.	Q	.	V	.	.	.
15.917	27.3329	68.23	.	Q	.	V	.	.	.
16.000	27.8701	78.00	.	Q	.	V	.	.	.
16.083	28.5722	101.94	.	.	Q	.	V	.	.
16.167	29.5815	146.55	.	.	.	Q	.	V	.
16.250	30.9675	201.25	.	.	.	.	V	Q	.
16.333	32.5542	230.39	.	.	.	.	.	V	Q
16.417	34.1415	230.48	.	.	.	.	.	V	Q
16.500	35.4133	184.66	.	.	.	Q	.	V	.
16.583	36.3543	136.63	.	.	Q	.	.	V	.
16.667	37.0926	107.20	.	.	.	Q	.	V	.
16.750	37.7167	90.62	.	.	Q	.	.	V	.
16.833	38.2640	79.47	.	.	Q	.	.	V	.
16.917	38.7712	73.65	.	Q	.	.	.	V	.
17.000	39.2609	71.10	.	Q	.	.	.	V	.
17.083	39.7285	67.91	.	Q	.	.	.	V	.
17.167	40.1636	63.17	.	Q	.	.	.	V	.
17.250	40.5611	57.71	.	Q	.	.	.	V	.
17.333	40.9204	52.18	.	Q	.	.	.	V	.
17.417	41.2437	46.94	.	Q	.	.	.	V	.
17.500	41.5384	42.79	.	Q	.	.	.	V	.
17.583	41.8130	39.87	.	Q	.	.	.	V	.
17.667	42.0727	37.72	.	Q	.	.	.	V	.
17.750	42.3212	36.08	.	Q	.	.	.	V	.
17.833	42.5609	34.80	.	Q	.	.	.	V	.
17.917	42.7931	33.72	.	Q	.	.	.	V	.
18.000	43.0184	32.72	.	Q	.	.	.	V	.
18.083	43.2367	31.69	.	Q	.	.	.	V	.
18.167	43.4461	30.41	.	Q	.	.	.	V	.
18.250	43.6435	28.66	.	Q	.	.	.	V	.
18.333	43.8269	26.64	.	Q	.	.	.	V	.
18.417	43.9959	24.53	.	Q	.	.	.	V	.
18.500	44.1535	22.88	.	Q	.	.	.	V	.
18.583	44.3031	21.73	.	Q	.	.	.	V	.
18.667	44.4470	20.89	.	Q	.	.	.	V	.

18.750	44.5863	20.24	.	Q	.	.	.	.	V	.
18.833	44.7222	19.73	.	Q	.	.	.	.	V	.
18.917	44.8550	19.28	.	Q	.	.	.	.	V	.
19.000	44.9848	18.85	.	Q	.	.	.	.	V	.
19.083	45.1119	18.45	.	Q	.	.	.	.	V	.
19.167	45.2365	18.09	.	Q	.	.	.	.	V	.
19.250	45.3587	17.75	.	Q	.	.	.	.	V	.
19.333	45.4788	17.43	.	Q	.	.	.	.	V	.
19.417	45.5967	17.13	.	Q	.	.	.	.	V	.
19.500	45.7127	16.83	.	Q	.	.	.	.	V	.
19.583	45.8267	16.56	.	Q	.	.	.	.	V	.
19.667	45.9389	16.29	.	Q	.	.	.	.	V	.
19.750	46.0493	16.03	.	Q	.	.	.	.	V	.
19.833	46.1580	15.79	.	Q	.	.	.	.	V	.
19.917	46.2651	15.55	.	Q	.	.	.	.	V	.
20.000	46.3707	15.32	.	Q	.	.	.	.	V	.

 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	375.0
20%	190.0
30%	85.0
40%	40.0
50%	30.0
60%	25.0
70%	20.0
80%	20.0
90%	10.0

 FLOW PROCESS FROM NODE 130.00 TO NODE 13305.00 IS CODE = 7

 >>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
 =====

 FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6

 >>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
 =====

 FLOW PROCESS FROM NODE 150.00 TO NODE 13305.00 IS CODE = 1

 >>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<
 =====

(UNIT-HYDROGRAPH ADDED TO STREAM #3)

WATERSHED AREA = 62.600 ACRES
 BASEFLOW = 0.000 CFS/SQUARE-MILE
 *USER ENTERED "LAG" TIME = 0.380 HOURS
 CAUTION: LAG TIME IS LESS THAN 0.50 HOURS.
 THE 5-MINUTE PERIOD UH MODEL (USED IN THIS COMPUTER PROGRAM)
 MAY BE TOO LARGE FOR PEAK FLOW ESTIMATES.
 VALLEY (DEVELOPED) S-GRAPH SELECTED
 MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.504
 LOW LOSS FRACTION = 0.724
 HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.18
 SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.41
 SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.55
 SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 0.92
 SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 1.27
 SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 2.12

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
 5-MINUTE FACTOR = 0.754
 30-MINUTE FACTOR = 0.754
 1-HOUR FACTOR = 0.754
 3-HOUR FACTOR = 0.961
 6-HOUR FACTOR = 0.979
 24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
 UNIT INTERVAL PERCENTAGE OF LAG-TIME = 21.930

RUNOFF HYDROGRAPH LISTING LIMITS:
 MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
 MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

=====

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	1.280	9.689
2	5.622	32.871
3	16.129	79.546
4	30.247	106.882
5	48.037	134.686
6	65.898	135.222
7	79.093	99.893
8	87.542	63.966
9	92.554	37.941
10	95.746	24.164
11	97.576	13.855
12	98.322	5.653
13	98.734	3.113
14	99.145	3.112
15	99.556	3.112
16	99.967	3.112

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 7.6094
 TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 3.3045

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)

(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	5.0	10.0	15.0	20.0
10.000	0.5832	1.00	. Q	V .	.	.	.
10.083	0.5902	1.01	. Q	V .	.	.	.
10.167	0.5972	1.02	. Q	V .	.	.	.
10.250	0.6043	1.03	. Q	V .	.	.	.
10.333	0.6115	1.04	. Q	V .	.	.	.
10.417	0.6187	1.05	. Q	V .	.	.	.
10.500	0.6259	1.06	. Q	V .	.	.	.
10.583	0.6333	1.06	. Q	V .	.	.	.
10.667	0.6407	1.07	. Q	V .	.	.	.
10.750	0.6481	1.08	. Q	V .	.	.	.
10.833	0.6557	1.09	. Q	V .	.	.	.
10.917	0.6633	1.10	. Q	V .	.	.	.
11.000	0.6709	1.11	. Q	V .	.	.	.
11.083	0.6787	1.13	. Q	V .	.	.	.
11.167	0.6865	1.14	. Q	V .	.	.	.
11.250	0.6944	1.15	. Q	V .	.	.	.
11.333	0.7024	1.16	. Q	V .	.	.	.
11.417	0.7105	1.17	. Q	V .	.	.	.
11.500	0.7186	1.18	. Q	V .	.	.	.
11.583	0.7269	1.20	. Q	V .	.	.	.
11.667	0.7352	1.21	. Q	V .	.	.	.
11.750	0.7436	1.22	. Q	V .	.	.	.
11.833	0.7521	1.24	. Q	V .	.	.	.
11.917	0.7607	1.25	. Q	V .	.	.	.
12.000	0.7694	1.26	. Q	V .	.	.	.
12.083	0.7783	1.29	. Q	V .	.	.	.
12.167	0.7874	1.32	. Q	V .	.	.	.
12.250	0.7969	1.38	. Q	V .	.	.	.
12.333	0.8069	1.46	. Q	V .	.	.	.
12.417	0.8176	1.55	. Q	V .	.	.	.
12.500	0.8288	1.64	. Q	V .	.	.	.
12.583	0.8407	1.71	. Q	V .	.	.	.
12.667	0.8529	1.77	. Q	V .	.	.	.
12.750	0.8653	1.81	. Q	V .	.	.	.
12.833	0.8780	1.85	. Q	V .	.	.	.
12.917	0.8910	1.88	. Q	V .	.	.	.
13.000	0.9041	1.90	. Q	V .	.	.	.
13.083	0.9173	1.93	. Q	.V	.	.	.
13.167	0.9308	1.95	. Q	.V	.	.	.
13.250	0.9445	1.98	. Q	.V	.	.	.
13.333	0.9583	2.01	. Q	.V	.	.	.
13.417	0.9723	2.04	. Q	.V	.	.	.
13.500	0.9866	2.07	. Q	.V	.	.	.
13.583	1.0010	2.10	. Q	. V	.	.	.
13.667	1.0157	2.13	. Q	. V	.	.	.
13.750	1.0306	2.16	. Q	. V	.	.	.
13.833	1.0457	2.20	. Q	. V	.	.	.

13.917	1.0611	2.23	. Q	. V	.	.	.
14.000	1.0767	2.27	. Q	. V	.	.	.
14.083	1.0928	2.33	. Q	. V	.	.	.
14.167	1.1094	2.41	. Q	. V	.	.	.
14.250	1.1270	2.56	. Q	. V	.	.	.
14.333	1.1460	2.75	. Q	. V	.	.	.
14.417	1.1665	2.98	. Q	. V	.	.	.
14.500	1.1886	3.21	. Q	. V	.	.	.
14.583	1.2119	3.39	. Q	. V	.	.	.
14.667	1.2362	3.53	. Q	. V	.	.	.
14.750	1.2613	3.64	. Q	. V	.	.	.
14.833	1.2870	3.73	. Q	. V	.	.	.
14.917	1.3132	3.81	. Q	. V	.	.	.
15.000	1.3400	3.89	. Q	. V	.	.	.
15.083	1.3673	3.96	. Q	. V	.	.	.
15.167	1.3952	4.05	. Q	. V	.	.	.
15.250	1.4237	4.14	. Q	. V	.	.	.
15.333	1.4528	4.24	. Q	. V	.	.	.
15.417	1.4826	4.32	. Q	. V	.	.	.
15.500	1.5126	4.36	. Q	. V	.	.	.
15.583	1.5422	4.29	. Q	. V	.	.	.
15.667	1.5710	4.18	. Q	. V	.	.	.
15.750	1.5988	4.05	. Q	. V	.	.	.
15.833	1.6262	3.97	. Q	. V	.	.	.
15.917	1.6544	4.10	. Q	. V	.	.	.
16.000	1.6853	4.48	. Q	. V	.	.	.
16.083	1.7262	5.94	. Q	. V	.	.	.
16.167	1.7859	8.67	.	. Q .V	.	.	.
16.250	1.8771	13.24	.	. V . Q	.	.	.
16.333	1.9870	15.95	.	. V . Q	.	.	.
16.417	2.1125	18.23	.	. V . Q	.	.	.
16.500	2.2352	17.81	.	. V . Q	.	.	.
16.583	2.3334	14.26	.	. Q . V	.	.	.
16.667	2.4070	10.68	.	. Q . V	.	.	.
16.750	2.4629	8.12	.	. Q . V	.	.	.
16.833	2.5093	6.73	.	. Q . V	.	.	.
16.917	2.5483	5.66	.	. Q . V	.	.	.
17.000	2.5813	4.80	.	. Q . V	.	.	.
17.083	2.6117	4.42	.	. Q . V	.	.	.
17.167	2.6409	4.24	.	. Q . V	.	.	.
17.250	2.6685	4.00	.	. Q . V	.	.	.
17.333	2.6940	3.71	.	. Q . V	.	.	.
17.417	2.7158	3.17	.	. Q . V	.	.	.
17.500	2.7355	2.85	.	. Q . V	.	.	.
17.583	2.7536	2.63	.	. Q . V	.	.	.
17.667	2.7705	2.46	.	. Q . V	.	.	.
17.750	2.7866	2.33	.	. Q . V	.	.	.
17.833	2.8019	2.22	.	. Q . V	.	.	.
17.917	2.8166	2.14	.	. Q . V	.	.	.
18.000	2.8308	2.07	.	. Q . V	.	.	.
18.083	2.8446	2.00	.	. Q . V	.	.	.
18.167	2.8579	1.93	.	. Q . V	.	.	.
18.250	2.8705	1.83	.	. Q . V	.	.	.
18.333	2.8824	1.73	.	. Q . V	.	.	.
18.417	2.8935	1.61	.	. Q . V	.	.	.
18.500	2.9038	1.50	. Q	. V	.	.	.
18.583	2.9135	1.41	. Q	. V	.	.	.
18.667	2.9227	1.34	. Q	. V	.	.	.

18.750	2.9316	1.29	. Q	.	.	.	V	.
18.833	2.9402	1.25	. Q	.	.	.	V	.
18.917	2.9485	1.21	. Q	.	.	.	V	.
19.000	2.9566	1.18	. Q	.	.	.	V	.
19.083	2.9646	1.16	. Q	.	.	.	V	.
19.167	2.9724	1.13	. Q	.	.	.	V	.
19.250	2.9800	1.11	. Q	.	.	.	V	.
19.333	2.9875	1.09	. Q	.	.	.	V	.
19.417	2.9949	1.07	. Q	.	.	.	V	.
19.500	3.0021	1.05	. Q	.	.	.	V	.
19.583	3.0092	1.03	. Q	.	.	.	V	.
19.667	3.0162	1.01	. Q	.	.	.	V	.
19.750	3.0230	1.00	. Q	.	.	.	V	.
19.833	3.0298	0.98	. Q	.	.	.	V	.
19.917	3.0365	0.97	. Q	.	.	.	V	.
20.000	3.0430	0.95	. Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	330.0
20%	155.0
30%	55.0
40%	40.0
50%	30.0
60%	25.0
70%	25.0
80%	15.0
90%	10.0

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
=====

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
=====

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 2 HYDROGRAPH<<<<<
=====

STREAM HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	225.0	450.0	675.0	900.0
10.000	44.8143	80.23	. Q	V	.	.	.
10.083	45.3709	80.82	. Q	V	.	.	.
10.167	45.9317	81.43	. Q	V	.	.	.
10.250	46.4968	82.05	. Q	V	.	.	.
10.333	47.0662	82.68	. Q	V	.	.	.
10.417	47.6400	83.32	. Q	V	.	.	.
10.500	48.2183	83.97	. Q	V	.	.	.
10.583	48.8013	84.65	. Q	V	.	.	.
10.667	49.3890	85.33	. Q	V	.	.	.
10.750	49.9814	86.03	. Q	V	.	.	.
10.833	50.5789	86.74	. Q	V	.	.	.
10.917	51.1813	87.47	. Q	V	.	.	.
11.000	51.7889	88.22	. Q	V	.	.	.
11.083	52.4017	88.98	. Q	V	.	.	.
11.167	53.0199	89.76	. Q	V	.	.	.
11.250	53.6437	90.57	. Q	V	.	.	.
11.333	54.2730	91.38	. Q	V	.	.	.
11.417	54.9082	92.22	. Q	V	.	.	.
11.500	55.5492	93.08	. Q	V	.	.	.
11.583	56.1963	93.96	. Q	V	.	.	.
11.667	56.8497	94.86	. Q	V	.	.	.
11.750	57.5094	95.79	. Q	V	.	.	.
11.833	58.1756	96.74	. Q	V	.	.	.
11.917	58.8486	97.72	. Q	V	.	.	.
12.000	59.5284	98.72	. Q	V	.	.	.
12.083	60.2164	99.89	. Q	V	.	.	.
12.167	60.9153	101.49	. Q	V	.	.	.
12.250	61.6300	103.77	. Q	V	.	.	.
12.333	62.3641	106.58	. Q	V	.	.	.
12.417	63.1197	109.71	. Q	V	.	.	.
12.500	63.8952	112.60	. Q	V	.	.	.
12.583	64.6887	115.22	. Q	V	.	.	.
12.667	65.4995	117.72	. Q	V	.	.	.
12.750	66.3280	120.30	. Q	V	.	.	.
12.833	67.1748	122.96	. Q	V	.	.	.
12.917	68.0408	125.74	. Q	V	.	.	.
13.000	68.9265	128.61	. Q	V	.	.	.
13.083	69.8330	131.62	. Q	V	.	.	.
13.167	70.7612	134.77	. Q	V	.	.	.
13.250	71.7123	138.11	. Q	V	.	.	.
13.333	72.6879	141.64	. Q	V	.	.	.
13.417	73.6880	145.22	. Q	V	.	.	.
13.500	74.7128	148.81	. Q	V	.	.	.
13.583	75.7623	152.39	. Q	V	.	.	.
13.667	76.8356	155.84	. Q	V	.	.	.
13.750	77.9319	159.17	. Q	V	.	.	.
13.833	79.0504	162.41	. Q	V	.	.	.
13.917	80.1909	165.60	. Q	V	.	.	.
14.000	81.3529	168.71	. Q	.V	.	.	.
14.083	82.5384	172.14	. Q	.V	.	.	.
14.167	83.7542	176.53	. Q	.V	.	.	.
14.250	85.0113	182.54	. Q	.V	.	.	.
14.333	86.3183	189.76	. Q	.V	.	.	.
14.417	87.6799	197.71	. Q	.V	.	.	.
14.500	89.0919	205.04	. Q	.V	.	.	.

14.583	90.5499	211.70	.	Q.	V	.	.	.	.
14.667	92.0519	218.08	.	Q.	V	.	.	.	.
14.750	93.5992	224.67	.	Q.	V	.	.	.	.
14.833	95.1933	231.47	.	Q	V	.	.	.	.
14.917	96.8367	238.62	.	Q	V	.	.	.	.
15.000	98.5315	246.08	.	Q	V	.	.	.	.
15.083	100.2808	253.99	.	.Q	V	.	.	.	.
15.167	102.0877	262.36	.	.Q	V	.	.	.	.
15.250	103.9566	271.37	.	.Q	V	.	.	.	.
15.333	105.8921	281.02	.	.Q	V	.	.	.	.
15.417	107.8919	290.38	.	.Q	V	.	.	.	.
15.500	109.9461	298.27	.	.	QV	.	.	.	.
15.583	112.0374	303.65	.	.	Q	V	.	.	.
15.667	114.1526	307.13	.	.	Q	V	.	.	.
15.750	116.2890	310.20	.	.	Q	V	.	.	.
15.833	118.4657	316.05	.	.	Q	V	.	.	.
15.917	120.7131	326.32	.	.	Q	V	.	.	.
16.000	123.0715	342.45	.	.	QV	.	.	.	.
16.083	125.6999	381.64	.	.	QV	.	.	.	.
16.167	128.7769	446.77	.	.	V	Q.	.	.	.
16.250	132.4617	535.05	.	.	V	.	Q	.	.
16.333	136.6851	613.23	.	.	V	.	Q	.	.
16.417	141.2129	657.44	.	.	V.	.	Q.	.	.
16.500	145.7170	653.99	.	.	V.	.	Q.	.	.
16.583	150.2105	652.46	.	.	V	.	Q.	.	.
16.667	154.7571	660.16	.	.	V	.	Q.	.	.
16.750	159.5415	694.70	.	.	.V	.	Q	.	.
16.833	164.4876	718.17	.	.	.V	.	.Q	.	.
16.917	169.5751	738.70	.	.	.V	.	.Q	.	.
17.000	174.7365	749.43	.	.	.V	.	.Q	.	.
17.083	180.0376	769.72	.	.	.V	.	.Q	.	.
17.167	185.4986	792.94	.	.	.V	.	.Q	.	.
17.250	191.1637	822.56	.	.	.V	.	.Q	.	.
17.333	196.9850	845.25	.	.	.V	.	.Q	.	.
17.417	202.6824	827.26	.	.	.V	.	.Q	.	.
17.500	208.2213	804.25	.	.	.V	.	.Q	.	.
17.583	213.4987	766.29	.	.	.V	.	.Q	.	.
17.667	218.3608	705.98	.	.	.V	.Q	.	.	.
17.750	222.7754	640.99	.	.	.Q	V	.	.	.
17.833	226.8088	585.65	.	.	.Q	V	.	.	.
17.917	230.5028	536.37	.	.	.Q	.V	.	.	.
18.000	233.8158	481.05	.	.	.Q	.V	.	.	.
18.083	236.7998	433.28	.	.	.Q	.V	.	.	.
18.167	239.5417	398.12	.	.	.Q	.V	.	.	.
18.250	242.0686	366.91	.	.	.Q	.V	.	.	.
18.333	244.3739	334.73	.	.	.Q	.V	.	.	.
18.417	246.4686	304.15	.	.	.Q	.V	.	.	.
18.500	248.3742	276.68	.	.	.Q	.V	.	.	.
18.583	250.1328	255.36	.	.	.Q	.V	.	.	.
18.667	251.7511	234.97	.	.	.Q	.V	.	.	.
18.750	253.2106	211.92	.	.	.Q	.V	.	.	.
18.833	254.5463	193.94	.	.	.Q	.V	.	.	.
18.917	255.7986	181.83	.	.	.Q	.V	.	.	.
19.000	256.9880	172.70	.	.	.Q	.V	.	.	.
19.083	258.1246	165.04	.	.	.Q	.V	.	.	.
19.167	259.2140	158.18	.	.	.Q	.V	.	.	.
19.250	260.2595	151.80	.	.	.Q	.V	.	.	.
19.333	261.2633	145.76	.	.	.Q	.V	.	.	.

19.417	262.2284	140.13	.	Q	.	.	.	V	.
19.500	263.1570	134.83	.	Q	.	.	.	V	.
19.583	264.0509	129.80	.	Q	.	.	.	V	.
19.667	264.9102	124.77	.	Q	.	.	.	V	.
19.750	265.7229	118.01	.	Q	.	.	.	V	.
19.833	266.4823	110.27	.	Q	.	.	.	V	.
19.917	267.2069	105.21	.	Q	.	.	.	V	.
20.000	267.9063	101.55	.	Q	.	.	.	V	.

 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	605.0
20%	300.0
30%	215.0
40%	140.0
50%	120.0
60%	105.0
70%	90.0
80%	60.0
90%	35.0

 END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

Michael Baker International
5 Hutton Centre Drive Suite 500
Santa Ana, CA 92707

***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - FREE DRAINING UH *
* ULTIMATE CONDITION - REGIONAL NODE 13305 *
* 10-YR EV MARCH 2019 ROKAMOTO *

FILE NAME: EV10305F.DAT
TIME/DATE OF STUDY: 07:28 03/28/2019

** INPUT SUMMARY **

FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<

WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.938 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244; LOW LOSS FRACTION = 0.727
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.754; 30-MINUTE = 0.754; 1-HOUR = 0.754
3-HOUR = 0.961; 6-HOUR = 0.979; 24-HOUR = 0.987

FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
(Reference: the National Engineering Handbook, Hydrology,
Chapter 17, page 17-52, August, 1972, U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH (FT) = 50.00 CHANNEL Z = 3.00
UPSTREAM ELEVATION (FT) = 427.51; DOWNSTREAM ELEVATION (FT) = 315.00

CHANNEL LENGTH (FT) = 9760.05 MANNING'S FACTOR = 0.040
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 31100.00 TO NODE 13305.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<

WATERSHED AREA = 810.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.504 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.282; LOW LOSS FRACTION = 0.754
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.754; 30-MINUTE = 0.754; 1-HOUR = 0.754
3-HOUR = 0.961; 6-HOUR = 0.979; 24-HOUR = 0.987

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 7

>>>>STREAM NUMBER 1 ADDED TO STREAM NUMBER 2<<<<<

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6

>>>>STREAM NUMBER 1 CLEARED AND SET TO ZERO<<<<<

FLOW PROCESS FROM NODE 100.00 TO NODE 130.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<

WATERSHED AREA = 447.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.293 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.107; LOW LOSS FRACTION = 0.314
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.754; 30-MINUTE = 0.754; 1-HOUR = 0.754
3-HOUR = 0.961; 6-HOUR = 0.979; 24-HOUR = 0.987

FLOW PROCESS FROM NODE 130.00 TO NODE 13305.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<


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*****
FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====
```

```
*****
FLOW PROCESS FROM NODE 150.00 TO NODE 13305.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<
=====
```

```
WATERSHED AREA = 62.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.335 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.702; LOW LOSS FRACTION = 0.612
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.59; 1-HOUR = 0.78
3-HOUR = 1.31; 6-HOUR = 1.81; 24-HOUR = 3.03
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.754; 30-MINUTE = 0.754; 1-HOUR = 0.754
3-HOUR = 0.961; 6-HOUR = 0.979; 24-HOUR = 0.987
```

```
*****
FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====
```

```
*****
FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====
```

```
*****
FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 11
-----
>>>>VIEW STREAM NUMBER 2 HYDROGRAPH<<<<
=====
```

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-----+-----
| * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV10305F.DAT ]
Page: 1 of |
-----+-----
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-----+-----+-----+-----+
|UPSTREAM DOWNSTREAM| |UPSTREAM DOWNSTREAM|
TIME (2) TO | MAX. STORAGE| |
| NODE # NODE # | HYDROLOGIC/HYDRAULIC PROCESS |PEAK (CFS) PEAK (CFS)|
PEAK (HR) | MODELED (AF)| FOOTNOTES |
-----+-----+-----+-----+
```

```
| 13010.00 132.00| Subarea (UH) Added to Stream #2| 0.0 1757.4|
17.000 | | |
| 132.00 13305.00| Convex Routing: Stream #2| 1757.4 1681.6|
17.333 | | |
| 31100.00 13305.00| Subarea (UH) Added to Stream #1| 0.0 405.3|
16.583 | | |
| 13305.00 13305.00| Stream #1 Added to: Stream #2| 1681.6 1760.8|
17.250 | | |
| 13305.00 13305.00| Zero Out: Stream #1| 405.3 0.0|
| | |
```

```
-----+-----+-----+-----+
| 100.00 130.00| Subarea (UH) Added to Stream #3| 0.0 401.8|
16.333 | | |
| 130.00 13305.00| Stream #3 Added to: Stream #2| 1760.8 1848.4|
17.250 | | |
| 13305.00 13305.00| Zero Out: Stream #3| 401.8 0.0|
| | |
| 150.00 13305.00| Subarea (UH) Added to Stream #3| 0.0 32.6|
16.417 | | |
| 13305.00 13305.00| Stream #3 Added to: Stream #2| 1848.4 1855.8|
17.250 | | |
```

```
-----+-----+-----+-----+
| 13305.00 13305.00| Zero Out: Stream #3| 32.6 0.0|
| | |
| 13305.00 13305.00| View: Stream #2| 1855.8|
17.250 | 575.14| 3 |
```

```
-----+-----+-----+-----+
|Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT
INTERVAL |
| 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF
THE DESIGN STORM |
-----+-----+-----+-----+
```

END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

Michael Baker International
5 Hutton Centre Drive, Suite 500
Santa Ana, CA 92707

***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - FREE DRAINING UH *
* ULTIMATE CONDITION - REGIONAL NODE 13305 *
* 25-YR EV AUGUST 2018 CCHIU *

FILE NAME: EV25305F.DAT
TIME/DATE OF STUDY: 09:53 08/31/2018

FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

=====

(UNIT-HYDROGRAPH ADDED TO STREAM #1)

WATERSHED AREA = 4924.400 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.856 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244
LOW LOSS FRACTION = 0.567
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.34
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.72
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.95
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.59
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.20
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 3.68

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.754
30-MINUTE FACTOR = 0.754
1-HOUR FACTOR = 0.754
3-HOUR FACTOR = 0.961
6-HOUR FACTOR = 0.979
24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 9.735

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.556	331.300
2	1.681	669.681
3	3.190	898.530
4	5.694	1491.595
5	9.996	2562.006
6	15.343	3184.527
7	21.165	3467.137
8	27.440	3736.834
9	34.550	4234.553
10	42.448	4703.686
11	51.437	5353.104
12	59.048	4532.599
13	66.996	4733.692
14	73.451	3844.114
15	78.519	3018.107
16	82.874	2593.681
17	86.545	2186.207
18	89.201	1581.784
19	91.334	1270.321
20	93.252	1141.972
21	94.739	886.011
22	95.921	703.742
23	96.748	492.799
24	97.512	454.687
25	98.060	326.543
26	98.248	112.074
27	98.431	108.729
28	98.613	108.666
29	98.796	108.729
30	98.978	108.607
31	99.161	108.966
32	99.344	108.607
33	99.526	108.607
34	99.708	108.607
35	99.891	108.607
36	100.000	65.051

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 765.4289
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 725.2009

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)

(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	650.0	1300.0	1950.0	2600.0
10.000	116.6521	206.02	. Q	V	.	.	.
10.083	118.0818	207.59	. Q	V	.	.	.
10.167	119.5224	209.17	. Q	V	.	.	.
10.250	120.9742	210.80	. Q	V	.	.	.
10.333	122.4374	212.45	. Q	V	.	.	.
10.417	123.9122	214.15	. Q	V	.	.	.
10.500	125.3989	215.86	. Q	V	.	.	.
10.583	126.8978	217.64	. Q	V	.	.	.
10.667	128.4090	219.43	. Q	V	.	.	.
10.750	129.9329	221.28	. Q	V	.	.	.
10.833	131.4698	223.15	. Q	V	.	.	.
10.917	133.0199	225.08	. Q	V	.	.	.
11.000	134.5835	227.04	. Q	V	.	.	.
11.083	136.1611	229.06	. Q	V	.	.	.
11.167	137.7527	231.11	. Q	V	.	.	.
11.250	139.3590	233.23	. Q	V	.	.	.
11.333	140.9801	235.38	. Q	V	.	.	.
11.417	142.6165	237.61	. Q	V	.	.	.
11.500	144.2684	239.86	. Q	V	.	.	.
11.583	145.9365	242.20	. Q	V	.	.	.
11.667	147.6209	244.57	. Q	V	.	.	.
11.750	149.3222	247.04	. Q	V	.	.	.
11.833	151.0408	249.54	. Q	V	.	.	.
11.917	152.7773	252.14	. Q	V	.	.	.
12.000	154.5320	254.78	. Q	V	.	.	.
12.083	156.3091	258.04	. Q	V	.	.	.
12.167	158.1125	261.86	. Q	V	.	.	.
12.250	159.9456	266.17	. Q	V	.	.	.
12.333	161.8150	271.44	. Q	V	.	.	.
12.417	163.7331	278.50	. Q	V	.	.	.
12.500	165.7069	286.60	. Q	V	.	.	.
12.583	167.7406	295.28	. Q	V	.	.	.
12.667	169.8374	304.46	. Q	V	.	.	.
12.750	172.0039	314.57	. Q	V	.	.	.
12.833	174.2456	325.50	. Q	V	.	.	.
12.917	176.5709	337.62	. Q	V	.	.	.
13.000	178.9715	348.58	. Q	V	.	.	.
13.083	181.4512	360.05	. Q	V	.	.	.
13.167	184.0011	370.25	. Q	V	.	.	.
13.250	186.6139	379.39	. Q	V	.	.	.
13.333	189.2860	387.99	. Q	V	.	.	.
13.417	192.0146	396.20	. Q	V	.	.	.
13.500	194.7942	403.60	. Q	V	.	.	.
13.583	197.6233	410.78	. Q	V	.	.	.
13.667	200.5014	417.90	. Q	.V	.	.	.
13.750	203.4278	424.92	. Q	.V	.	.	.
13.833	206.4018	431.83	. Q	.V	.	.	.

13.917	209.4234	438.73	. Q	.V	.	.	.
14.000	212.4934	445.77	. Q	.V	.	.	.
14.083	215.6212	454.15	. Q	.V	.	.	.
14.167	218.8143	463.63	. Q	.V	.	.	.
14.250	222.0809	474.31	. Q	.V	.	.	.
14.333	225.4372	487.34	. Q	.V	.	.	.
14.417	228.9126	504.61	. Q	.V	.	.	.
14.500	232.5237	524.34	. Q	.V	.	.	.
14.583	236.2808	545.53	. Q	.V	.	.	.
14.667	240.1923	567.95	. Q	.V	.	.	.
14.750	244.2740	592.66	. Q	.V	.	.	.
14.833	248.5395	619.36	. Q	.V	.	.	.
14.917	253.0089	648.95	. Q	.V	.	.	.
15.000	257.6642	675.95	. Q	V	.	.	.
15.083	262.5156	704.42	. Q	V	.	.	.
15.167	267.5467	730.52	. .Q	V	.	.	.
15.250	272.7474	755.14	. .Q	V	.	.	.
15.333	278.1179	779.79	. .Q	V	.	.	.
15.417	283.6420	802.11	. .Q	V	.	.	.
15.500	289.2992	821.42	. .Q	V	.	.	.
15.583	295.0902	840.87	. .Q	V	.	.	.
15.667	300.9940	857.23	. .Q	V	.	.	.
15.750	306.9672	867.31	. .Q	V	.	.	.
15.833	313.0066	876.91	. .Q	V	.	.	.
15.917	319.1760	895.80	. .Q	V	.	.	.
16.000	325.5982	932.51	. .Q	V	.	.	.
16.083	332.7813	1042.99	. .Q	V	.	.	.
16.167	340.7857	1162.24	. .Q	V	.	.	.
16.250	349.5802	1276.96	. .Q	.	.	.	.
16.333	359.8015	1484.13	. .V	.Q	.	.	.
16.417	371.9893	1769.67	. .V	.	.Q	.	.
16.500	385.4538	1955.04	. .V	.	.Q	.	.
16.583	399.6931	2067.55	. .V	.	.Q	.	.
16.667	414.6839	2176.67	. .V	.	.Q	.	.
16.750	430.7627	2334.64	. .V	.	.Q	.	.
16.833	447.7329	2464.07	. .V	.	.Q	.	.
16.917	465.4495	2572.45	. .V	.	.Q	.	.
17.000	481.8281	2378.18	. .V	.	.Q	.	.
17.083	497.8983	2333.39	. .V	.	.Q	.	.
17.167	512.1900	2075.15	. .V	.Q	.	.	.
17.250	524.8408	1836.89	. .Q	.	.	.	.
17.333	536.3587	1672.39	. .Q	.	.V	.	.
17.417	546.8077	1517.19	. .Q	.	.V	.	.
17.500	555.9740	1330.95	. .Q	.	.V	.	.
17.583	564.2788	1205.86	. .Q	.	.V	.	.
17.667	571.9988	1120.95	. .Q	.	.V	.	.
17.750	578.9791	1013.53	. .Q	.	.V	.	.
17.833	585.3027	918.20	. .Q	.	.V	.	.
17.917	590.9653	822.20	. .Q	.	.V	.	.
18.000	596.2263	763.90	. .Q	.	.V	.	.
18.083	600.9707	688.89	. .Q	.	.V	.	.
18.167	605.1546	607.50	. .Q	.	.V	.	.
18.250	609.1081	574.05	. .Q	.	.V	.	.
18.333	612.8794	547.59	. .Q	.	.V	.	.
18.417	616.4780	522.51	. .Q	.	.V	.	.
18.500	619.9077	497.99	. .Q	.	.V	.	.
18.583	623.1838	475.69	. .Q	.	.V	.	.
18.667	626.3121	454.24	. .Q	.	.V	.	.

18.750	629.2961	433.27	.	Q	.	.	.	V	.
18.833	632.1326	411.87	.	Q	.	.	.	V	.
18.917	634.8095	388.68	.	Q	.	.	.	V	.
19.000	637.2794	358.62	.	Q	.	.	.	V	.
19.083	639.5321	327.10	.	Q	.	.	.	V	.
19.167	641.6824	312.23	.	Q	.	.	.	V	.
19.250	643.7508	300.33	.	Q	.	.	.	V	.
19.333	645.7433	289.31	.	Q	.	.	.	V	.
19.417	647.6638	278.85	.	Q	.	.	.	V	.
19.500	649.5226	269.91	.	Q	.	.	.	V	.
19.583	651.3264	261.91	.	Q	.	.	.	V	.
19.667	653.0789	254.45	.	Q	.	.	.	V	.
19.750	654.7847	247.69	.	Q	.	.	.	V	.
19.833	656.4477	241.48	.	Q	.	.	.	V	.
19.917	658.0719	235.84	.	Q	.	.	.	V	.
20.000	659.6603	230.63	.	Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	455.0
20%	240.0
30%	160.0
40%	100.0
50%	75.0
60%	60.0
70%	50.0
80%	40.0
90%	25.0

FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<
=====

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH(FT) = 50.00 CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 427.51
DOWNSTREAM ELEVATION(FT) = 315.00
CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040
CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:

MAXIMUM INFLOW(CFS) = 2572.45
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 1997.89
CHANNEL NORMAL VELOCITY FOR Q = 1997.89 CFS = 8.58 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.835

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
UNIT INTERVALS IS CSTAR = 0.624

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 1) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS
			LOSS (STREAM 1) (CFS)
10.000	206.02	200.44	200.44
10.083	207.59	201.89	201.89
10.167	209.17	203.37	203.37
10.250	210.80	204.87	204.87
10.333	212.45	206.41	206.41
10.417	214.15	207.97	207.97
10.500	215.86	209.58	209.58
10.583	217.64	211.20	211.20
10.667	219.43	212.87	212.87
10.750	221.28	214.57	214.57
10.833	223.15	216.30	216.30
10.917	225.08	218.07	218.07
11.000	227.04	219.88	219.88
11.083	229.06	221.73	221.73
11.167	231.11	223.63	223.63
11.250	233.23	225.56	225.56
11.333	235.38	227.54	227.54
11.417	237.61	229.56	229.56
11.500	239.86	231.64	231.64
11.583	242.20	233.75	233.75
11.667	244.57	235.93	235.93
11.750	247.04	238.16	238.16
11.833	249.54	240.44	240.44
11.917	252.14	242.78	242.78
12.000	254.78	245.19	245.19
12.083	258.04	247.65	247.65
12.167	261.86	250.19	250.19
12.250	266.17	252.78	252.78
12.333	271.44	255.73	255.73
12.417	278.50	259.17	259.17
12.500	286.60	263.10	263.10
12.583	295.28	267.77	267.77
12.667	304.46	273.75	273.75
12.750	314.57	280.95	280.95
12.833	325.50	289.01	289.01
12.917	337.62	297.72	297.72
13.000	348.58	307.21	307.21
13.083	360.05	317.52	317.52
13.167	370.25	328.84	328.84
13.250	379.39	340.05	340.05
13.333	387.99	351.37	351.37
13.417	396.20	362.12	362.12
13.500	403.60	371.97	371.97
13.583	410.78	381.10	381.10

13.667	417.90	389.69	389.69
13.750	424.92	397.62	397.62
13.833	431.83	405.10	405.10
13.917	438.73	412.37	412.37
14.000	445.77	419.49	419.49
14.083	454.15	426.49	426.49
14.167	463.63	433.43	433.43
14.250	474.31	440.42	440.42
14.333	487.34	448.14	448.14
14.417	504.61	456.85	456.85
14.500	524.34	466.66	466.66
14.583	545.53	478.25	478.25
14.667	567.95	492.95	492.95
14.750	592.66	510.54	510.54
14.833	619.36	530.23	530.23
14.917	648.95	551.50	551.50
15.000	675.95	574.69	574.69
15.083	704.42	599.86	599.86
15.167	730.52	627.50	627.50
15.250	755.14	655.00	655.00
15.333	779.79	682.96	682.96
15.417	802.11	710.00	710.00
15.500	821.42	735.68	735.68
15.583	840.87	760.71	760.71
15.667	857.23	784.29	784.29
15.750	867.31	805.51	805.51
15.833	876.91	825.60	825.60
15.917	895.80	843.69	843.69
16.000	932.51	857.41	857.41
16.083	1042.99	868.61	868.61
16.167	1162.24	883.66	883.66
16.250	1276.96	910.42	910.42
16.333	1484.13	981.94	981.94
16.417	1769.67	1082.37	1082.37
16.500	1955.04	1192.19	1192.19
16.583	2067.55	1353.37	1353.37
16.667	2176.67	1584.22	1584.22
16.750	2334.64	1796.89	1796.89
16.833	2464.07	1954.43	1954.43
16.917	2572.45	2082.08	2082.08
17.000	2378.18	2223.69	2223.69
17.083	2333.39	2360.60	2360.60
17.167	2075.15	2481.84	2481.84
17.250	1836.89	2436.91	2436.91
17.333	1672.39	2376.83	2376.83
17.417	1517.19	2214.77	2214.77
17.500	1330.95	2003.09	2003.09
17.583	1205.86	1813.36	1813.36
17.667	1120.95	1644.24	1644.24
17.750	1013.53	1467.59	1467.59
17.833	918.20	1316.90	1316.90
17.917	822.20	1203.20	1203.20
18.000	763.90	1095.71	1095.71
18.083	688.89	994.58	994.58
18.167	607.50	896.73	896.73
18.250	574.05	819.73	819.73
18.333	547.59	745.67	745.67
18.417	522.51	667.69	667.69

18.500	497.99	612.62	612.62
18.583	475.69	574.71	574.71
18.667	454.24	544.67	544.67
18.750	433.27	518.02	518.02
18.833	411.87	493.86	493.86
18.917	388.68	471.31	471.31
19.000	358.62	449.69	449.69
19.083	327.10	428.25	428.25
19.167	312.23	405.91	405.91
19.250	300.33	379.44	379.44
19.333	289.31	349.97	349.97
19.417	278.85	327.92	327.92
19.500	269.91	311.90	311.90
19.583	261.91	298.92	298.92
19.667	254.45	287.45	287.45
19.750	247.69	277.41	277.41
19.833	241.48	268.55	268.55
19.917	235.84	260.51	260.51
20.000	230.63	253.19	253.19

=====

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 725.201 AF
 OUTFLOW VOLUME = 725.201 AF
 LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 100.00 TO NODE 13305.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<

(UNIT-HYDROGRAPH ADDED TO STREAM #2)

WATERSHED AREA = 510.200 ACRES
 BASEFLOW = 0.000 CFS/SQUARE-MILE
 *USER ENTERED "LAG" TIME = 0.283 HOURS
 CAUTION: LAG TIME IS LESS THAN 0.50 HOURS.
 THE 5-MINUTE PERIOD UH MODEL (USED IN THIS COMPUTER PROGRAM)
 MAY BE TOO LARGE FOR PEAK FLOW ESTIMATES.
 VALLEY (DEVELOPED) S-GRAPH SELECTED
 MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.130
 LOW LOSS FRACTION = 0.316
 HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.34
 SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.72
 SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.95
 SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.59
 SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.20
 SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 3.68

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE FACTOR = 0.754
 30-MINUTE FACTOR = 0.754
 1-HOUR FACTOR = 0.754
 3-HOUR FACTOR = 0.961
 6-HOUR FACTOR = 0.979

24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
 UNIT INTERVAL PERCENTAGE OF LAG-TIME = 29.446

RUNOFF HYDROGRAPH LISTING LIMITS:
 MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 10.00
 MODEL TIME(HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	1.828	112.770
2	10.526	536.736
3	28.125	1085.868
4	51.719	1455.788
5	73.613	1350.911
6	86.628	803.098
7	93.373	416.153
8	96.880	216.419
9	98.287	86.777
10	98.839	34.071
11	99.367	32.561
12	99.747	23.449
13	99.937	11.724
14	100.000	3.908

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 43.8953
 TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 110.5253

24 - HOUR STORM
 RUNOFF HYDROGRAPH

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS(CFS)
 (Note: Time indicated is at END of Each Unit Intervals)

TIME(HRS)	VOLUME(AF)	Q(CFS)	0.	150.0	300.0	450.0	600.0
10.000	20.8177	35.63	. Q	V	.	.	.
10.083	21.0651	35.92	. Q	V	.	.	.
10.167	21.3145	36.22	. Q	V	.	.	.
10.250	21.5661	36.53	. Q	V	.	.	.
10.333	21.8199	36.84	. Q	V	.	.	.
10.417	22.0758	37.16	. Q	V	.	.	.
10.500	22.3340	37.49	. Q	V	.	.	.
10.583	22.5946	37.83	. Q	V	.	.	.
10.667	22.8575	38.17	. Q	V	.	.	.
10.750	23.1228	38.52	. Q	V	.	.	.
10.833	23.3906	38.89	. Q	V	.	.	.
10.917	23.6609	39.26	. Q	V	.	.	.
11.000	23.9339	39.63	. Q	V	.	.	.
11.083	24.2095	40.02	. Q	V	.	.	.
11.167	24.4879	40.42	. Q	V	.	.	.
11.250	24.7691	40.83	. Q	V	.	.	.
11.333	25.0532	41.25	. Q	V	.	.	.
11.417	25.3403	41.68	. Q	V	.	.	.
11.500	25.6304	42.13	. Q	V	.	.	.
11.583	25.9237	42.58	. Q	V	.	.	.
11.667	26.2202	43.05	. Q	V	.	.	.
11.750	26.5200	43.54	. Q	V	.	.	.
11.833	26.8233	44.03	. Q	V	.	.	.
11.917	27.1301	44.55	. Q	V	.	.	.
12.000	27.4405	45.07	. Q	V	.	.	.
12.083	27.7566	45.90	. Q	V	.	.	.
12.167	28.0856	47.77	. Q	V	.	.	.
12.250	28.4369	51.01	. Q	V	.	.	.
12.333	28.8170	55.18	. Q	V	.	.	.
12.417	29.2242	59.13	. Q	V	.	.	.
12.500	29.6496	61.76	. Q	V	.	.	.
12.583	30.0868	63.48	. Q	V	.	.	.
12.667	30.5326	64.74	. Q	.V	.	.	.
12.750	30.9851	65.70	. Q	.V	.	.	.
12.833	31.4435	66.56	. Q	.V	.	.	.
12.917	31.9080	67.45	. Q	.V	.	.	.
13.000	32.3788	68.35	. Q	.V	.	.	.
13.083	32.8557	69.25	. Q	.V	.	.	.
13.167	33.3389	70.16	. Q	. V	.	.	.
13.250	33.8286	71.10	. Q	. V	.	.	.
13.333	34.3250	72.08	. Q	. V	.	.	.
13.417	34.8285	73.10	. Q	. V	.	.	.
13.500	35.3393	74.17	. Q	. V	.	.	.
13.583	35.8577	75.28	. Q	. V	.	.	.
13.667	36.3842	76.45	. Q	. V	.	.	.
13.750	36.9192	77.67	. Q	. V	.	.	.
13.833	37.4629	78.95	. Q	. V	.	.	.

13.917	38.0159	80.30	.	Q	.	V	.	.	.
14.000	38.5787	81.72	.	Q	.	V	.	.	.
14.083	39.1562	83.85	.	Q	.	V	.	.	.
14.167	39.7652	88.42	.	Q	.	V	.	.	.
14.250	40.4273	96.15	.	Q	.	V	.	.	.
14.333	41.1573	105.99	.	Q	.	V	.	.	.
14.417	41.9512	115.28	.	Q	.	V	.	.	.
14.500	42.7883	121.55	.	Q	.	V	.	.	.
14.583	43.6543	125.73	.	Q	.	V	.	.	.
14.667	44.5420	128.89	.	Q	.	V	.	.	.
14.750	45.4473	131.45	.	Q	.	V	.	.	.
14.833	46.3691	133.85	.	Q	.	V	.	.	.
14.917	47.3088	136.44	.	Q	.	V	.	.	.
15.000	48.2678	139.25	.	Q	.	V	.	.	.
15.083	49.2487	142.44	.	Q	.	V	.	.	.
15.167	50.2555	146.18	.	Q	.	V	.	.	.
15.250	51.2926	150.60	.	Q	.	V	.	.	.
15.333	52.3653	155.75	.	Q	.	V	.	.	.
15.417	53.4678	160.08	.	Q	.	V	.	.	.
15.500	54.5644	159.23	.	Q	.	V	.	.	.
15.583	55.6078	151.50	.	Q	.	V	.	.	.
15.667	56.5682	139.44	.	Q	.	V	.	.	.
15.750	57.4664	130.42	.	Q	.	V	.	.	.
15.833	58.3793	132.56	.	Q	.	V	.	.	.
15.917	59.3918	147.01	.	Q	.	V	.	.	.
16.000	60.6159	177.73	.	.Q	.	V	.	.	.
16.083	62.3247	248.11	.	.	Q	.	V	.	.
16.167	64.9542	381.81	.	.	.	V	Q	.	.
16.250	68.5389	520.50	.	.	.	V	.	Q	.
16.333	72.5725	585.67	.	.	.	V	.	.	Q.
16.417	76.1903	525.30	.	.	.	V	.	.	Q
16.500	78.7723	374.90	.	.	Q	.	V	.	.
16.583	80.6192	268.17	.	.	Q	.	V	.	.
16.667	82.0942	214.17	.	.	Q	.	V	.	.
16.750	83.3541	182.95	.	.	Q	.	V	.	.
16.833	84.5002	166.41	.	.	Q	.	V	.	.
16.917	85.5952	158.99	.	.	Q	.	V	.	.
17.000	86.6310	150.40	.	.	Q	.	V	.	.
17.083	87.6019	140.97	.	.	Q	.	V	.	.
17.167	88.5029	130.83	.	.	Q	.	V	.	.
17.250	89.3262	119.56	.	.	Q	.	V	.	.
17.333	90.0673	107.60	.	.	Q	.	V	.	.
17.417	90.7321	96.54	.	.	Q	.	V	.	.
17.500	91.3436	88.78	.	.	Q	.	V	.	.
17.583	91.9183	83.45	.	.	Q	.	V	.	.
17.667	92.4659	79.52	.	.	Q	.	V	.	.
17.750	92.9932	76.57	.	.	Q	.	V	.	.
17.833	93.5037	74.13	.	.	Q	.	V	.	.
17.917	93.9988	71.88	.	.	Q	.	V	.	.
18.000	94.4798	69.85	.	.	Q	.	V	.	.
18.083	94.9465	67.75	.	.	Q	.	V	.	.
18.167	95.3927	64.79	.	.	Q	.	V	.	.
18.250	95.8102	60.63	.	.	Q	.	V	.	.
18.333	96.1937	55.68	.	.	Q	.	V	.	.
18.417	96.5456	51.09	.	.	Q	.	V	.	.
18.500	96.8758	47.94	.	.	Q	.	V	.	.
18.583	97.1914	45.82	.	.	Q	.	V	.	.
18.667	97.4962	44.26	.	.	Q	.	V	.	.

18.750	97.7929	43.08	.	Q	.	.	.	.	V	.
18.833	98.0827	42.08	.	Q	.	.	.	.	V	.
18.917	98.3659	41.13	.	Q	.	.	.	.	V	.
19.000	98.6431	40.25	.	Q	.	.	.	.	V	.
19.083	98.9148	39.44	.	Q	.	.	.	.	V	.
19.167	99.1813	38.69	.	Q	.	.	.	.	V	.
19.250	99.4429	37.99	.	Q	.	.	.	.	V	.
19.333	99.6999	37.32	.	Q	.	.	.	.	V	.
19.417	99.9525	36.67	.	Q	.	.	.	.	V	.
19.500	100.2008	36.06	.	Q	.	.	.	.	V	.
19.583	100.4451	35.47	.	Q	.	.	.	.	V	.
19.667	100.6855	34.91	.	Q	.	.	.	.	V	.
19.750	100.9222	34.37	.	Q	.	.	.	.	V	.
19.833	101.1553	33.85	.	Q	.	.	.	.	V	.
19.917	101.3849	33.35	.	Q	.	.	.	.	V	.
20.000	101.6113	32.87	.	Q	.	.	.	.	V	.

 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	355.0
20%	170.0
30%	50.0
40%	35.0
50%	25.0
60%	25.0
70%	15.0
80%	15.0
90%	5.0

 FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
 =====

 FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
 =====

 FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<
 =====

(UNIT-HYDROGRAPH ADDED TO STREAM #2)

WATERSHED AREA = 810.600 ACRES
 BASEFLOW = 0.000 CFS/SQUARE-MILE
 *USER ENTERED "LAG" TIME = 0.471 HOURS
 CAUTION: LAG TIME IS LESS THAN 0.50 HOURS.
 THE 5-MINUTE PERIOD UH MODEL (USED IN THIS COMPUTER PROGRAM)
 MAY BE TOO LARGE FOR PEAK FLOW ESTIMATES.
 VALLEY (DEVELOPED) S-GRAPH SELECTED
 MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.282
 LOW LOSS FRACTION = 0.465
 HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.34
 SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.72
 SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.95
 SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.59
 SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.20
 SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 3.68

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
 5-MINUTE FACTOR = 0.754
 30-MINUTE FACTOR = 0.754
 1-HOUR FACTOR = 0.754
 3-HOUR FACTOR = 0.961
 6-HOUR FACTOR = 0.979
 24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
 UNIT INTERVAL PERCENTAGE OF LAG-TIME = 17.693

RUNOFF HYDROGRAPH LISTING LIMITS:
 MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
 MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

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UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	1.011	99.118
2	3.740	267.565
3	10.258	638.898
4	20.446	998.796
5	32.186	1150.913
6	46.955	1447.830
7	61.592	1434.868
8	74.057	1221.977
9	82.586	836.121
10	88.585	588.106
11	92.457	379.542
12	95.223	271.173
13	96.915	165.817
14	98.030	109.376
15	98.404	36.632
16	98.736	32.520

17	99.067	32.520
18	99.399	32.520
19	99.731	32.520
20	100.000	26.383

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 106.0859
 TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 139.2747

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)

(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	150.0	300.0	450.0	600.0
10.000	25.1505	43.45	. Q	V .	.	.	.
10.083	25.4522	43.80	. Q	V .	.	.	.
10.167	25.7563	44.16	. Q	V .	.	.	.
10.250	26.0629	44.52	. Q	V .	.	.	.
10.333	26.3720	44.89	. Q	V .	.	.	.
10.417	26.6838	45.27	. Q	V .	.	.	.
10.500	26.9982	45.66	. Q	V .	.	.	.
10.583	27.3154	46.05	. Q	V .	.	.	.
10.667	27.6353	46.46	. Q	V .	.	.	.
10.750	27.9581	46.87	. Q	V .	.	.	.
10.833	28.2838	47.30	. Q	V .	.	.	.
10.917	28.6126	47.73	. Q	V .	.	.	.
11.000	28.9443	48.18	. Q	V .	.	.	.
11.083	29.2793	48.63	. Q	V .	.	.	.
11.167	29.6174	49.10	. Q	V .	.	.	.
11.250	29.9588	49.58	. Q	V .	.	.	.
11.333	30.3037	50.07	. Q	V .	.	.	.
11.417	30.6520	50.57	. Q	V .	.	.	.
11.500	31.0039	51.10	. Q	V .	.	.	.
11.583	31.3594	51.62	. Q	V .	.	.	.
11.667	31.7188	52.17	. Q	V .	.	.	.
11.750	32.0819	52.73	. Q	V .	.	.	.
11.833	32.4491	53.32	. Q	V .	.	.	.
11.917	32.8204	53.91	. Q	V .	.	.	.
12.000	33.1959	54.53	. Q	V .	.	.	.
12.083	33.5771	55.34	. Q	V .	.	.	.
12.167	33.9663	56.51	. Q	V .	.	.	.
12.250	34.3685	58.40	. Q	V .	.	.	.
12.333	34.7887	61.02	. Q	V .	.	.	.
12.417	35.2291	63.94	. Q	V .	.	.	.
12.500	35.6937	67.47	. Q	V .	.	.	.
12.583	36.1827	71.00	. Q	V .	.	.	.
12.667	36.6935	74.16	. Q	V .	.	.	.
12.750	37.2211	76.61	. Q	V .	.	.	.
12.833	37.7626	78.63	. Q	V .	.	.	.
12.917	38.3155	80.27	. Q	.V	.	.	.
13.000	38.8785	81.76	. Q	.V	.	.	.
13.083	39.4506	83.06	. Q	.V	.	.	.
13.167	40.0312	84.31	. Q	.V	.	.	.
13.250	40.6197	85.44	. Q	.V	.	.	.
13.333	41.2163	86.63	. Q	.V	.	.	.
13.417	41.8212	87.84	. Q	. V	.	.	.
13.500	42.4350	89.12	. Q	. V	.	.	.
13.583	43.0578	90.43	. Q	. V	.	.	.
13.667	43.6900	91.80	. Q	. V	.	.	.
13.750	44.3316	93.16	. Q	. V	.	.	.
13.833	44.9832	94.61	. Q	. V	.	.	.

13.917	45.6451	96.10	. Q	. V	.	.	.
14.000	46.3179	97.69	. Q	. V	.	.	.
14.083	47.0050	99.77	. Q	. V	.	.	.
14.167	47.7123	102.70	. Q	. V	.	.	.
14.250	48.4514	107.31	. Q	. V	.	.	.
14.333	49.2338	113.61	. Q	. V	.	.	.
14.417	50.0645	120.62	. Q	. V	.	.	.
14.500	50.9532	129.03	. Q	. V	.	.	.
14.583	51.8997	137.43	. Q	. V	.	.	.
14.667	52.8984	145.01	. Q	. V	.	.	.
14.750	53.9381	150.97	. Q	. V	.	.	.
14.833	55.0125	155.99	. Q	. V	.	.	.
14.917	56.1159	160.22	. Q	. V	.	.	.
15.000	57.2465	164.17	. Q	. V	.	.	.
15.083	58.4024	167.83	. Q	. V	.	.	.
15.167	59.5836	171.51	. Q	. V	.	.	.
15.250	60.7897	175.12	. Q	. V	.	.	.
15.333	62.0229	179.06	. Q	. V	.	.	.
15.417	63.2794	182.44	. Q	. V	.	.	.
15.500	64.5519	184.78	. Q	. V	.	.	.
15.583	65.8210	184.27	. Q	. V	.	.	.
15.667	67.0696	181.29	. Q	. V	.	.	.
15.750	68.2959	178.06	. Q	. V	.	.	.
15.833	69.4942	174.00	. Q	. V	.	.	.
15.917	70.6916	173.86	. Q	. V	.	.	.
16.000	71.9526	183.10	. Q	. V	.	.	.
16.083	73.4914	223.44	. Q	. V	.	.	.
16.167	75.4827	289.14	. Q	. V	.	.	.
16.250	78.1981	394.28	. Q	. V	. Q	.	.
16.333	81.5695	489.52	. Q	. V	. Q	.	.
16.417	85.2730	537.75	. Q	. V	. Q	. Q	.
16.500	89.3741	595.48	. Q	. V	. Q	. Q	. Q
16.583	93.3500	577.30	. Q	. V	. Q	. Q	. Q
16.667	96.8602	509.68	. Q	. V	. Q	. Q	. Q
16.750	99.6765	408.94	. Q	. V	. Q	. Q	. Q
16.833	102.0243	340.90	. Q	. V	. Q	. V	. V
16.917	103.9988	286.69	. Q	. V	. Q	. V	. V
17.000	105.7520	254.56	. Q	. V	. Q	. V	. V
17.083	107.2925	223.69	. Q	. V	. Q	. V	. V
17.167	108.6861	202.35	. Q	. V	. Q	. V	. V
17.250	109.9166	178.66	. Q	. V	. Q	. V	. V
17.333	111.0744	168.11	. Q	. V	. Q	. V	. V
17.417	112.1641	158.22	. Q	. V	. Q	. V	. V
17.500	113.1780	147.23	. Q	. V	. Q	. V	. V
17.583	114.1122	135.64	. Q	. V	. Q	. V	. V
17.667	114.9642	123.72	. Q	. V	. Q	. V	. V
17.750	115.7260	110.62	. Q	. V	. Q	. V	. V
17.833	116.4448	104.37	. Q	. V	. Q	. V	. V
17.917	117.1308	99.60	. Q	. V	. Q	. V	. V
18.000	117.7892	95.60	. Q	. V	. Q	. V	. V
18.083	118.4222	91.92	. Q	. V	. Q	. V	. V
18.167	119.0311	88.40	. Q	. V	. Q	. V	. V
18.250	119.6143	84.69	. Q	. V	. Q	. V	. V
18.333	120.1687	80.50	. Q	. V	. Q	. V	. V
18.417	120.6934	76.19	. Q	. V	. Q	. V	. V
18.500	121.1855	71.45	. Q	. V	. Q	. V	. V
18.583	121.6461	66.88	. Q	. V	. Q	. V	. V
18.667	122.0791	62.87	. Q	. V	. Q	. V	. V

18.750	122.4911	59.82	.	Q	.	.	.	V	.
18.833	122.8859	57.34	.	Q	.	.	.	V	.
18.917	123.2671	55.34	.	Q	.	.	.	V	.
19.000	123.6364	53.63	.	Q	.	.	.	V	.
19.083	123.9959	52.19	.	Q	.	.	.	V	.
19.167	124.3465	50.92	.	Q	.	.	.	V	.
19.250	124.6898	49.85	.	Q	.	.	.	V	.
19.333	125.0261	48.83	.	Q	.	.	.	V	.
19.417	125.3557	47.86	.	Q	.	.	.	V	.
19.500	125.6790	46.94	.	Q	.	.	.	V	.
19.583	125.9961	46.05	.	Q	.	.	.	V	.
19.667	126.3075	45.21	.	Q	.	.	.	V	.
19.750	126.6138	44.46	.	Q	.	.	.	V	.
19.833	126.9150	43.74	.	Q	.	.	.	V	.
19.917	127.2116	43.05	.	Q	.	.	.	V	.
20.000	127.5035	42.39	.	Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	390.0
20%	200.0
30%	105.0
40%	55.0
50%	40.0
60%	35.0
70%	25.0
80%	25.0
90%	15.0

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
=====

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
=====

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<
=====

STREAM HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	725.0	1450.0	2175.0	2900.0
-----	-----	-----	-----	-----	-----	-----	-----
10.000	157.3381	279.52	.	Q	V	.	.
10.083	159.2776	281.61	.	Q	V	.	.
10.167	161.2318	283.75	.	Q	V	.	.
10.250	163.2009	285.92	.	Q	V	.	.
10.333	165.1854	288.14	.	Q	V	.	.
10.417	167.1854	290.41	.	Q	V	.	.
10.500	169.2014	292.72	.	Q	V	.	.
10.583	171.2337	295.08	.	Q	V	.	.
10.667	173.2826	297.50	.	Q	V	.	.
10.750	175.3484	299.96	.	Q	V	.	.
10.833	177.4316	302.48	.	Q	V	.	.
10.917	179.5325	305.05	.	Q	V	.	.
11.000	181.6517	307.69	.	Q	V	.	.
11.083	183.7893	310.38	.	Q	V	.	.
11.167	185.9460	313.15	.	Q	V	.	.
11.250	188.1220	315.96	.	Q	V	.	.
11.333	190.3180	318.86	.	Q	V	.	.
11.417	192.5344	321.82	.	Q	V	.	.
11.500	194.7717	324.86	.	Q	V	.	.
11.583	197.0304	327.96	.	Q	V	.	.
11.667	199.3111	331.16	.	Q	V	.	.
11.750	201.6143	334.43	.	Q	V	.	.
11.833	203.9407	337.79	.	Q	V	.	.
11.917	206.2908	341.24	.	Q	V	.	.
12.000	208.6654	344.79	.	Q	V	.	.
12.083	211.0682	348.89	.	Q	V	.	.
12.167	213.5095	354.47	.	Q	V	.	.
12.250	216.0040	362.20	.	Q	V	.	.
12.333	218.5655	371.93	.	Q	V	.	.
12.417	221.1980	382.24	.	Q	V	.	.
12.500	223.9000	392.33	.	Q	V	.	.
12.583	226.6703	402.25	.	Q	V	.	.
12.667	229.5122	412.65	.	Q	V	.	.
12.750	232.4273	423.26	.	Q	V	.	.
12.833	235.4177	434.21	.	Q	V	.	.
12.917	238.4855	445.45	.	Q	V	.	.
13.000	241.6351	457.32	.	Q	V	.	.
13.083	244.8708	469.83	.	Q	V	.	.
13.167	248.1994	483.31	.	Q	V	.	.
13.250	251.6194	496.60	.	Q	V	.	.
13.333	255.1324	510.07	.	Q	V	.	.
13.417	258.7347	523.06	.	Q	V	.	.
13.500	262.4210	535.25	.	Q	V	.	.
13.583	266.1869	546.81	.	Q	V	.	.
13.667	270.0294	557.94	.	Q	.V	.	.
13.750	273.9444	568.45	.	Q	.V	.	.
13.833	277.9297	578.66	.	Q	.V	.	.
13.917	281.9846	588.77	.	Q	.V	.	.
14.000	286.1093	598.90	.	Q	.V	.	.
14.083	290.3111	610.11	.	Q	.V	.	.
14.167	294.6124	624.55	.	Q	.V	.	.
14.250	299.0468	643.88	.	Q	.V	.	.
14.333	303.6456	667.74	.	Q	.V	.	.
14.417	308.4166	692.75	.	Q	.V	.	.
14.500	313.3563	717.25	.	Q	.V	.	.

14.583	318.4625	741.42	.	Q	V	.	.	.
14.667	323.7438	766.85	.	Q	V	.	.	.
14.750	329.2050	792.96	.	Q	V	.	.	.
14.833	334.8529	820.07	.	.Q	V	.	.	.
14.917	340.6942	848.15	.	.Q	V	.	.	.
15.000	346.7417	878.11	.	.	Q	V	.	.
15.083	353.0098	910.13	.	.	Q	V	.	.
15.167	359.5194	945.19	.	.	Q	V	.	.
15.250	366.2736	980.72	.	.	Q	V	.	.
15.333	373.2831	1017.77	.	.	Q	V	.	.
15.417	380.5318	1052.52	.	.	Q	V	.	.
15.500	387.9677	1079.69	.	.	Q	V	.	.
15.583	395.5192	1096.48	.	.	Q	V	.	.
15.667	403.1295	1105.02	.	.	Q	V	.	.
15.750	410.8016	1113.99	.	.	Q	V	.	.
15.833	418.5988	1132.16	.	.	Q	V	.	.
15.917	426.6192	1164.56	.	.	Q	V	.	.
16.000	435.0093	1218.24	.	.	Q	V	.	.
16.083	444.2391	1340.16	.	.	Q	.	.	.
16.167	454.9458	1554.61	.	.	V	.Q	.	.
16.250	467.5161	1825.21	.	.	V	.	Q	.
16.333	481.6837	2057.14	.	.	V	.	Q	.
16.417	496.4593	2145.42	.	.	V	.	Q	.
16.500	511.3530	2162.57	.	.	V	.	Q	.
16.583	526.4966	2198.85	.	.	.V	.	Q	.
16.667	542.3924	2308.07	.	.	.V	.	.Q	.
16.750	558.8440	2388.77	.	.	.V	.	.Q	.
16.833	575.7982	2461.75	.	.	.V	.	.Q	.
16.917	593.2071	2527.76	.	.	.V	.	.Q	.
17.000	611.3107	2628.65	.	.	.V	.	.Q	.
17.083	630.0797	2725.25	.	.	.V	.	.Q	.
17.167	649.4669	2815.02	.	.	.V	.	.Q	.
17.250	668.3039	2735.13	.	.	.V	.	.Q	.
17.333	686.5721	2652.54	.	.	.V	.	.Q	.
17.417	703.5799	2469.54	.	.	.V	.	.Q	.
17.500	719.0007	2239.10	.	.	.V	.	.Q	.
17.583	732.9982	2032.44	.	.	.Q	.	.V	.
17.667	745.7219	1847.47	.	.	.Q	.	.V	.
17.750	757.1183	1654.77	.	.	.Q	.	.V	.
17.833	767.4172	1495.40	.	.	.Q	.	.V	.
17.917	776.8847	1374.68	.	.	.Q	.	.V	.
18.000	785.5704	1261.16	.	.	.Q	.	.V	.
18.083	793.5198	1154.25	.	.	.Q	.	.V	.
18.167	800.7506	1049.92	.	.	.Q	.	.V	.
18.250	807.3969	965.05	.	.	.Q	.	.V	.
18.333	813.4703	881.85	.	.	.Q	.	.V	.
18.417	818.9453	794.97	.	.	.Q	.	.V	.
18.500	823.9867	732.02	.	.	.Q	.	.V	.
18.583	828.7209	687.42	.	.	.Q	.	.V	.
18.667	833.2099	651.80	.	.	.Q	.	.V	.
18.750	837.4861	620.91	.	.	.Q	.	.V	.
18.833	841.5721	593.27	.	.	.Q	.	.V	.
18.917	845.4824	567.78	.	.	.Q	.	.V	.
19.000	849.2260	543.57	.	.	.Q	.	.V	.
19.083	852.8065	519.89	.	.	.Q	.	.V	.
19.167	856.2192	495.52	.	.	.Q	.	.V	.
19.250	859.4373	467.28	.	.	.Q	.	.V	.
19.333	862.4409	436.11	.	.	.Q	.	.V	.

19.417	865.2814	412.45	.	Q	.	.	.	V	.
19.500	868.0011	394.90	.	Q	.	.	.	V	.
19.583	870.6212	380.44	.	Q	.	.	.	V	.
19.667	873.1527	367.58	.	Q	.	.	.	V	.
19.750	875.6061	356.24	.	Q	.	.	.	V	.
19.833	877.9900	346.14	.	Q	.	.	.	V	.
19.917	880.3103	336.91	.	Q	.	.	.	V	.
20.000	882.5723	328.45	.	Q	.	.	.	V	.

 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	635.0
20%	315.0
30%	210.0
40%	140.0
50%	105.0
60%	90.0
70%	80.0
80%	50.0
90%	25.0

 END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

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***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - FREE DRAINING UH *
* ULTIMATE CONDITION - REGIONAL NODE 13305 *
* 50-YR EV AUGUST 2018 CCHIU *

FILE NAME: EV50305F.DAT
TIME/DATE OF STUDY: 09:57 08/31/2018

FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

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(UNIT-HYDROGRAPH ADDED TO STREAM #1)

WATERSHED AREA = 4924.400 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.821 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244
LOW LOSS FRACTION = 0.538
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.37
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.80
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 1.06
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.78
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.47
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 4.12

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.754
30-MINUTE FACTOR = 0.754
1-HOUR FACTOR = 0.754
3-HOUR FACTOR = 0.961
6-HOUR FACTOR = 0.979
24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 10.150

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.580	345.423
2	1.763	704.566
3	3.385	965.815
4	6.233	1696.091
5	10.947	2807.365
6	16.695	3423.111
7	22.920	3707.788
8	29.521	3930.894
9	37.286	4624.335
10	46.219	5319.988
11	54.738	5073.336
12	63.175	5024.953
13	70.521	4374.467
14	76.573	3604.496
15	81.238	2778.116
16	85.407	2483.066
17	88.495	1839.204
18	90.815	1381.282
19	92.862	1219.414
20	94.528	992.055
21	95.788	750.029
22	96.685	534.246
23	97.481	474.138
24	98.059	344.417
25	98.257	117.576
26	98.447	113.337
27	98.637	113.450
28	98.828	113.332
29	99.018	113.223
30	99.208	113.223
31	99.398	113.223
32	99.588	113.223
33	99.778	113.223
34	99.968	113.223
35	100.000	18.833

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 806.0732
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 862.7573

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)

(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	775.0	1550.0	2325.0	3100.0
10.000	139.4494	245.99	. Q	V	.	.	.
10.083	141.1564	247.86	. Q	V	.	.	.
10.167	142.8766	249.78	. Q	V	.	.	.
10.250	144.6103	251.72	. Q	V	.	.	.
10.333	146.3577	253.72	. Q	V	.	.	.
10.417	148.1190	255.75	. Q	V	.	.	.
10.500	149.8948	257.84	. Q	V	.	.	.
10.583	151.6851	259.95	. Q	V	.	.	.
10.667	153.4904	262.13	. Q	V	.	.	.
10.750	155.3109	264.34	. Q	V	.	.	.
10.833	157.1471	266.61	. Q	V	.	.	.
10.917	158.9992	268.92	. Q	V	.	.	.
11.000	160.8676	271.30	. Q	V	.	.	.
11.083	162.7528	273.72	. Q	V	.	.	.
11.167	164.6551	276.21	. Q	V	.	.	.
11.250	166.5748	278.75	. Q	V	.	.	.
11.333	168.5126	281.36	. Q	V	.	.	.
11.417	170.4687	284.03	. Q	V	.	.	.
11.500	172.4437	286.77	. Q	V	.	.	.
11.583	174.4380	289.57	. Q	V	.	.	.
11.667	176.4522	292.46	. Q	V	.	.	.
11.750	178.4867	295.41	. Q	V	.	.	.
11.833	180.5422	298.46	. Q	V	.	.	.
11.917	182.6191	301.57	. Q	V	.	.	.
12.000	184.7182	304.78	. Q	V	.	.	.
12.083	186.8445	308.75	. Q	V	.	.	.
12.167	189.0038	313.52	. Q	V	.	.	.
12.250	191.2001	318.90	. Q	V	.	.	.
12.333	193.4440	325.82	. Q	V	.	.	.
12.417	195.7513	335.02	. Q	V	.	.	.
12.500	198.1312	345.56	. Q	V	.	.	.
12.583	200.5883	356.77	. Q	V	.	.	.
12.667	203.1268	368.59	. Q	V	.	.	.
12.750	205.7569	381.89	. Q	V	.	.	.
12.833	208.4892	396.73	. Q	V	.	.	.
12.917	211.3215	411.25	. Q	V	.	.	.
13.000	214.2545	425.87	. Q	V	.	.	.
13.083	217.2806	439.39	. Q	V	.	.	.
13.167	220.3910	451.63	. Q	V	.	.	.
13.250	223.5759	462.44	. Q	V	.	.	.
13.333	226.8328	472.90	. Q	V	.	.	.
13.417	230.1544	482.30	. Q	V	.	.	.
13.500	233.5364	491.07	. Q	V	.	.	.
13.583	236.9781	499.73	. Q	V	.	.	.
13.667	240.4783	508.23	. Q	.V	.	.	.
13.750	244.0355	516.50	. Q	.V	.	.	.
13.833	247.6489	524.67	. Q	.V	.	.	.

13.917	251.3198	533.01	. Q	.V	.	.	.
14.000	255.0488	541.45	. Q	.V	.	.	.
14.083	258.8451	551.22	. Q	.V	.	.	.
14.167	262.7218	562.91	. Q	.V	.	.	.
14.250	266.6891	576.05	. Q	.V	.	.	.
14.333	270.7710	592.70	. Q	.V	.	.	.
14.417	275.0025	614.41	. Q	.V	.	.	.
14.500	279.4046	639.18	. Q	.V	.	.	.
14.583	283.9881	665.53	. Q	.V	.	.	.
14.667	288.7630	693.32	. Q	.V	.	.	.
14.750	293.7526	724.48	. Q	.V	.	.	.
14.833	298.9811	759.18	. Q	.V	.	.	.
14.917	304.4453	793.41	. Q	V	.	.	.
15.000	310.1508	828.43	. Q	V	.	.	.
15.083	316.0872	861.97	. .Q	V	.	.	.
15.167	322.2455	894.18	. .Q	V	.	.	.
15.250	328.6192	925.45	. .Q	V	.	.	.
15.333	335.2207	958.54	. .Q	V	.	.	.
15.417	342.0241	987.85	. .Q	V	.	.	.
15.500	349.0106	1014.44	. . Q	V	.	.	.
15.583	356.1838	1041.54	. . Q	V	.	.	.
15.667	363.5064	1063.24	. . Q	V	.	.	.
15.750	370.9217	1076.70	. . Q	V	.	.	.
15.833	378.4306	1090.29	. . Q	V	.	.	.
15.917	386.1069	1114.61	. . Q	V	.	.	.
16.000	394.1082	1161.78	. . Q	V	.	.	.
16.083	402.9905	1289.72	. . Q	V	.	.	.
16.167	412.8397	1430.09	. . QV	.	.	.	.
16.250	423.7206	1579.91	. . VQ	.	.	.	.
16.333	436.3864	1839.08	. . V	Q	.	.	.
16.417	451.3256	2169.17	. . V	Q	.	.	.
16.500	467.7199	2380.45	. . .V	Q	.	.	.
16.583	485.0090	2510.38	. . .V	Q	.	.	.
16.667	503.1583	2635.27	. . .V	Q	.	.	.
16.750	522.7661	2847.05	. . .V	Q	.	.	.
16.833	543.5115	3012.23	. . .V	Q	.	.	.
16.917	563.7163	2933.74	. . .V	Q	.	.	.
17.000	583.2825	2841.01	. . .V	Q	.	.	.
17.083	601.1979	2601.33	. . .V	Q	.	.	.
17.167	617.2733	2334.14	. . .V	Q	.	.	.
17.250	631.4886	2064.07	. . .Q	V	.	.	.
17.333	644.6054	1904.55	. . .Q	V	.	.	.
17.417	656.1870	1681.64	. . .Q	V	.	.	.
17.500	666.5370	1502.82	. . .Q	V	.	.	.
17.583	676.0969	1388.09	. . .Q	V	.	.	.
17.667	684.8199	1266.58	. . .Q	V	.	.	.
17.750	692.6714	1140.04	. . .Q	V	.	.	.
17.833	699.7170	1023.03	. . .Q	V	.	.	.
17.917	706.2126	943.15	. . .Q	V	.	.	.
18.000	712.0869	852.95	. . .Q	V	.	.	.
18.083	717.2792	753.93	. . .Q	V	.	.	.
18.167	722.1650	709.42	. . .Q	V	.	.	.
18.250	726.8259	676.76	. . .Q	V	.	.	.
18.333	731.2727	645.68	. . .Q	V	.	.	.
18.417	735.5044	614.44	. . .Q	V	.	.	.
18.500	739.5394	585.88	. . .Q	V	.	.	.
18.583	743.3845	558.30	. . .Q	V	.	.	.
18.667	747.0479	531.92	. . .Q	V	.	.	.

18.750	750.5204	504.21	.	Q	.	.	.	V	.
18.833	753.7857	474.12	.	Q	.	.	.	V	.
18.917	756.7326	427.89	.	Q	.	.	.	V	.
19.000	759.4897	400.34	.	Q	.	.	.	V	.
19.083	762.1183	381.66	.	Q	.	.	.	V	.
19.167	764.6380	365.86	.	Q	.	.	.	V	.
19.250	767.0569	351.23	.	Q	.	.	.	V	.
19.333	769.3826	337.69	.	Q	.	.	.	V	.
19.417	771.6284	326.09	.	Q	.	.	.	V	.
19.500	773.8043	315.95	.	Q	.	.	.	V	.
19.583	775.9160	306.61	.	Q	.	.	.	V	.
19.667	777.9688	298.08	.	Q	.	.	.	V	.
19.750	779.9685	290.36	.	Q	.	.	.	V	.
19.833	781.9200	283.36	.	Q	.	.	.	V	.
19.917	783.8287	277.15	.	Q	.	.	.	V	.
20.000	785.6988	271.53	.	Q	.	.	.	V	.

 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	465.0
20%	245.0
30%	165.0
40%	100.0
50%	75.0
60%	65.0
70%	50.0
80%	35.0
90%	20.0

FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

 >>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<
 =====

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
 TO ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE
 INTERVALS(Reference: the National Engineering Handbook,
 Hydrology, Chapter 17, page 17-52, August,1972,
 U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:

BASEWIDTH(FT) = 50.00 CHANNEL Z = 3.00
 UPSTREAM ELEVATION(FT) = 427.51
 DOWNSTREAM ELEVATION(FT) = 315.00
 CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040
 CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:

MAXIMUM INFLOW(CFS) = 3012.23
 AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 2355.60
 CHANNEL NORMAL VELOCITY FOR Q = 2355.60 CFS = 9.03 FPS
 ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.842

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
 UNIT INTERVALS IS CSTAR = 0.639

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 1) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS
			LOSS (STREAM 1) (CFS)
10.000	245.99	239.54	239.54
10.083	247.86	241.30	241.30
10.167	249.78	243.08	243.08
10.250	251.72	244.90	244.90
10.333	253.72	246.75	246.75
10.417	255.75	248.64	248.64
10.500	257.84	250.57	250.57
10.583	259.95	252.54	252.54
10.667	262.13	254.55	254.55
10.750	264.34	256.61	256.61
10.833	266.61	258.70	258.70
10.917	268.92	260.85	260.85
11.000	271.30	263.03	263.03
11.083	273.72	265.27	265.27
11.167	276.21	267.56	267.56
11.250	278.75	269.90	269.90
11.333	281.36	272.29	272.29
11.417	284.03	274.75	274.75
11.500	286.77	277.25	277.25
11.583	289.57	279.82	279.82
11.667	292.46	282.46	282.46
11.750	295.41	285.16	285.16
11.833	298.46	287.92	287.92
11.917	301.57	290.76	290.76
12.000	304.78	293.67	293.67
12.083	308.75	296.67	296.67
12.167	313.52	299.74	299.74
12.250	318.90	302.89	302.89
12.333	325.82	306.55	306.55
12.417	335.02	310.91	310.91
12.500	345.56	315.90	315.90
12.583	356.77	322.10	322.10
12.667	368.59	330.16	330.16
12.750	381.89	339.78	339.78
12.833	396.73	350.41	350.41
12.917	411.25	361.78	361.78
13.000	425.87	374.36	374.36
13.083	439.39	388.35	388.35
13.167	451.63	402.68	402.68
13.250	462.44	417.20	417.20
13.333	472.90	431.10	431.10
13.417	482.30	443.97	443.97
13.500	491.07	455.55	455.55
13.583	499.73	466.42	466.42

13.667	508.23	476.38	476.38
13.750	516.50	485.58	485.58
13.833	524.67	494.44	494.44
13.917	533.01	503.08	503.08
14.000	541.45	511.49	511.49
14.083	551.22	519.74	519.74
14.167	562.91	528.05	528.05
14.250	576.05	536.44	536.44
14.333	592.70	545.68	545.68
14.417	614.41	556.45	556.45
14.500	639.18	568.70	568.70
14.583	665.53	583.69	583.69
14.667	693.32	602.87	602.87
14.750	724.48	625.56	625.56
14.833	759.18	650.56	650.56
14.917	793.41	677.31	677.31
15.000	828.43	706.81	706.81
15.083	861.97	739.56	739.56
15.167	894.18	773.26	773.26
15.250	925.45	807.79	807.79
15.333	958.54	841.72	841.72
15.417	987.85	874.58	874.58
15.500	1014.44	906.44	906.44
15.583	1041.54	939.05	939.05
15.667	1063.24	969.63	969.63
15.750	1076.70	997.72	997.72
15.833	1090.29	1025.16	1025.16
15.917	1114.61	1049.05	1049.05
16.000	1161.78	1066.44	1066.44
16.083	1289.72	1081.40	1081.40
16.167	1430.09	1102.12	1102.12
16.250	1579.91	1139.27	1139.27
16.333	1839.08	1232.76	1232.76
16.417	2169.17	1355.96	1355.96
16.500	2380.45	1495.97	1495.97
16.583	2510.38	1709.86	1709.86
16.667	2635.27	1996.54	1996.54
16.750	2847.05	2237.50	2237.50
16.833	3012.23	2409.19	2409.19
16.917	2933.74	2551.08	2551.08
17.000	2841.01	2735.83	2735.83
17.083	2601.33	2909.04	2909.04
17.167	2334.14	2926.46	2926.46
17.250	2064.07	2873.77	2873.77
17.333	1904.55	2704.64	2704.64
17.417	1681.64	2473.41	2473.41
17.500	1502.82	2217.42	2217.42
17.583	1388.09	2020.78	2020.78
17.667	1266.58	1808.67	1808.67
17.750	1140.04	1616.92	1616.92
17.833	1023.03	1473.07	1473.07
17.917	943.15	1343.63	1343.63
18.000	852.95	1216.15	1216.15
18.083	753.93	1095.16	1095.16
18.167	709.42	999.67	999.67
18.250	676.76	907.78	907.78
18.333	645.68	811.51	811.51
18.417	614.44	747.19	747.19

18.500	585.88	702.86	702.86
18.583	558.30	666.96	666.96
18.667	531.92	634.05	634.05
18.750	504.21	603.86	603.86
18.833	474.12	575.32	575.32
18.917	427.89	548.13	548.13
19.000	400.34	520.64	520.64
19.083	381.66	491.54	491.54
19.167	365.86	451.82	451.82
19.250	351.23	419.49	419.49
19.333	337.69	395.70	395.70
19.417	326.09	376.96	376.96
19.500	315.95	360.82	360.82
19.583	306.61	346.32	346.32
19.667	298.08	333.63	333.63
19.750	290.36	322.54	322.54
19.833	283.36	312.55	312.55
19.917	277.15	303.48	303.48
20.000	271.53	295.25	295.25

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PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 862.757 AF
 OUTFLOW VOLUME = 862.757 AF
 LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 100.00 TO NODE 13305.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<

(UNIT-HYDROGRAPH ADDED TO STREAM #2)

WATERSHED AREA = 510.200 ACRES
 BASEFLOW = 0.000 CFS/SQUARE-MILE
 *USER ENTERED "LAG" TIME = 0.279 HOURS
 CAUTION: LAG TIME IS LESS THAN 0.50 HOURS.
 THE 5-MINUTE PERIOD UH MODEL (USED IN THIS COMPUTER PROGRAM)
 MAY BE TOO LARGE FOR PEAK FLOW ESTIMATES.
 VALLEY (DEVELOPED) S-GRAPH SELECTED
 MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.130
 LOW LOSS FRACTION = 0.296
 HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.37
 SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.80
 SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 1.06
 SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.78
 SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.47
 SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 4.12

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE FACTOR = 0.754
 30-MINUTE FACTOR = 0.754
 1-HOUR FACTOR = 0.754
 3-HOUR FACTOR = 0.961
 6-HOUR FACTOR = 0.979

24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
 UNIT INTERVAL PERCENTAGE OF LAG-TIME = 29.869

RUNOFF HYDROGRAPH LISTING LIMITS:
 MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
 MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	1.861	114.848
2	10.847	554.425
3	28.861	1111.516
4	52.993	1489.019
5	74.684	1338.352
6	87.332	780.424
7	93.820	400.334
8	97.123	203.774
9	98.354	75.984
10	98.914	34.554
11	99.419	31.144
12	99.768	21.514
13	99.942	10.757
14	100.000	3.586

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 45.6609
 TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 127.2213

24 - HOUR STORM
 RUNOFF HYDROGRAPH

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
 (Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	175.0	350.0	525.0	700.0
10.000	23.8940	40.93	. Q	V	.	.	.
10.083	24.1782	41.27	. Q	V	.	.	.
10.167	24.4648	41.61	. Q	V	.	.	.
10.250	24.7539	41.97	. Q	V	.	.	.
10.333	25.0454	42.33	. Q	V	.	.	.
10.417	25.3394	42.70	. Q	V	.	.	.
10.500	25.6361	43.08	. Q	V	.	.	.
10.583	25.9354	43.46	. Q	V	.	.	.
10.667	26.2375	43.86	. Q	V	.	.	.
10.750	26.5424	44.27	. Q	V	.	.	.
10.833	26.8501	44.68	. Q	V	.	.	.
10.917	27.1608	45.11	. Q	V	.	.	.
11.000	27.4745	45.55	. Q	V	.	.	.
11.083	27.7913	46.00	. Q	V	.	.	.
11.167	28.1112	46.46	. Q	V	.	.	.
11.250	28.4344	46.93	. Q	V	.	.	.
11.333	28.7609	47.41	. Q	V	.	.	.
11.417	29.0909	47.91	. Q	V	.	.	.
11.500	29.4244	48.42	. Q	V	.	.	.
11.583	29.7615	48.95	. Q	V	.	.	.
11.667	30.1024	49.49	. Q	V	.	.	.
11.750	30.4470	50.05	. Q	V	.	.	.
11.833	30.7957	50.62	. Q	V	.	.	.
11.917	31.1484	51.22	. Q	V	.	.	.
12.000	31.5053	51.83	. Q	V	.	.	.
12.083	31.8690	52.80	. Q	V	.	.	.
12.167	32.2484	55.10	. Q	V	.	.	.
12.250	32.6553	59.08	. Q	V	.	.	.
12.333	33.0975	64.21	. Q	V	.	.	.
12.417	33.5722	68.93	. Q	V	.	.	.
12.500	34.0682	72.03	. Q	V	.	.	.
12.583	34.5780	74.02	. Q	V	.	.	.
12.667	35.0978	75.47	. Q	.V	.	.	.
12.750	35.6251	76.57	. Q	.V	.	.	.
12.833	36.1594	77.57	. Q	.V	.	.	.
12.917	36.7007	78.60	. Q	.V	.	.	.
13.000	37.2491	79.63	. Q	.V	.	.	.
13.083	37.8047	80.67	. Q	.V	.	.	.
13.167	38.3676	81.73	. Q	. V	.	.	.
13.250	38.9380	82.82	. Q	. V	.	.	.
13.333	39.5162	83.95	. Q	. V	.	.	.
13.417	40.1025	85.13	. Q	. V	.	.	.
13.500	40.6973	86.37	. Q	. V	.	.	.
13.583	41.3010	87.65	. Q	. V	.	.	.
13.667	41.9139	89.00	. Q	. V	.	.	.
13.750	42.5366	90.41	. Q	. V	.	.	.
13.833	43.1695	91.90	. Q	. V	.	.	.

13.917	43.8131	93.45	.	Q	.	V	.	.	.
14.000	44.4680	95.09	.	Q	.	V	.	.	.
14.083	45.1399	97.56	.	Q	.	V	.	.	.
14.167	45.8488	102.93	.	Q	.	V	.	.	.
14.250	46.6199	111.96	.	Q	.	V	.	.	.
14.333	47.4701	123.46	.	Q	.	V	.	.	.
14.417	48.3932	134.03	.	Q	.	V	.	.	.
14.500	49.3647	141.07	.	Q	.	V	.	.	.
14.583	50.3686	145.76	.	Q	.	V	.	.	.
14.667	51.3969	149.31	.	Q	.	V	.	.	.
14.750	52.4451	152.20	.	Q	.	V	.	.	.
14.833	53.5136	155.14	.	Q	.	V	.	.	.
14.917	54.6051	158.49	.	Q	.	V	.	.	.
15.000	55.7232	162.35	.	Q	.	V	.	.	.
15.083	56.8713	166.71	.	Q	.	V	.	.	.
15.167	58.0529	171.57	.	Q	.	V	.	.	.
15.250	59.2717	176.96	.	Q	.	V	.	.	.
15.333	60.5318	182.98	.	Q	.	V	.	.	.
15.417	61.8254	187.82	.	Q	.	V	.	.	.
15.500	63.1087	186.34	.	Q	.	V	.	.	.
15.583	64.3255	176.67	.	Q	.	V	.	.	.
15.667	65.4406	161.92	.	Q	.	V	.	.	.
15.750	66.4845	151.58	.	Q	.	V	.	.	.
15.833	67.5516	154.94	.	Q	.	V	.	.	.
15.917	68.7426	172.94	.	Q	.	V	.	.	.
16.000	70.1883	209.90	.	.Q	.	V	.	.	.
16.083	72.1890	290.50	.	.	Q	V	.	.	.
16.167	75.2246	440.77	.	.	.	V	Q	.	.
16.250	79.3047	592.43	.	.	.	V	.	Q	.
16.333	83.8581	661.16	.	.	.	V	.	Q	.
16.417	87.8716	582.75	.	.	.	V	.	Q	.
16.500	90.7331	415.50	.	.	Q	V	.	.	.
16.583	92.8009	300.24	.	.	Q	V	.	.	.
16.667	94.4725	242.72	.	.	Q	V	.	.	.
16.750	95.9169	209.72	.	.Q	.	V	.	.	.
16.833	97.2516	193.80	.	.Q	.	V	.	.	.
16.917	98.5232	184.63	.	Q	.	V	.	.	.
17.000	99.7228	174.19	.	Q	.	V	.	.	.
17.083	100.8459	163.07	.	Q	.	V	.	.	.
17.167	101.8877	151.26	.	Q	.	V	.	.	.
17.250	102.8388	138.11	.	Q	.	V	.	.	.
17.333	103.6933	124.07	.	Q	.	V	.	.	.
17.417	104.4608	111.43	.	Q	.	V	.	.	.
17.500	105.1679	102.67	.	Q	.	V	.	.	.
17.583	105.8335	96.65	.	Q	.	V	.	.	.
17.667	106.4686	92.22	.	Q	.	V	.	.	.
17.750	107.0808	88.89	.	Q	.	V	.	.	.
17.833	107.6737	86.08	.	Q	.	V	.	.	.
17.917	108.2489	83.52	.	Q	.	V	.	.	.
18.000	108.8081	81.20	.	Q	.	V	.	.	.
18.083	109.3505	78.77	.	Q	.	V	.	.	.
18.167	109.8686	75.22	.	Q	.	V	.	.	.
18.250	110.3520	70.19	.	Q	.	V	.	.	.
18.333	110.7939	64.16	.	Q	.	V	.	.	.
18.417	111.1983	58.71	.	Q	.	V	.	.	.
18.500	111.5773	55.03	.	Q	.	V	.	.	.
18.583	111.9394	52.57	.	Q	.	V	.	.	.
18.667	112.2891	50.78	.	Q	.	V	.	.	.

18.750	112.6296	49.44	.	Q	.	.	.	V	.
18.833	112.9621	48.28	.	Q	.	.	.	V	.
18.917	113.2871	47.19	.	Q	.	.	.	V	.
19.000	113.6052	46.19	.	Q	.	.	.	V	.
19.083	113.9169	45.26	.	Q	.	.	.	V	.
19.167	114.2227	44.40	.	Q	.	.	.	V	.
19.250	114.5229	43.59	.	Q	.	.	.	V	.
19.333	114.8177	42.81	.	Q	.	.	.	V	.
19.417	115.1075	42.07	.	Q	.	.	.	V	.
19.500	115.3924	41.37	.	Q	.	.	.	V	.
19.583	115.6727	40.69	.	Q	.	.	.	V	.
19.667	115.9484	40.05	.	Q	.	.	.	V	.
19.750	116.2200	39.42	.	Q	.	.	.	V	.
19.833	116.4874	38.83	.	Q	.	.	.	V	.
19.917	116.7508	38.25	.	Q	.	.	.	V	.
20.000	117.0105	37.70	.	Q	.	.	.	V	.

 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	355.0
20%	175.0
30%	50.0
40%	35.0
50%	25.0
60%	25.0
70%	15.0
80%	15.0
90%	5.0

 FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
 =====

 FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
 =====

 FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<
 =====

(UNIT-HYDROGRAPH ADDED TO STREAM #2)

WATERSHED AREA = 810.600 ACRES
 BASEFLOW = 0.000 CFS/SQUARE-MILE
 *USER ENTERED "LAG" TIME = 0.457 HOURS
 CAUTION: LAG TIME IS LESS THAN 0.50 HOURS.
 THE 5-MINUTE PERIOD UH MODEL (USED IN THIS COMPUTER PROGRAM)
 MAY BE TOO LARGE FOR PEAK FLOW ESTIMATES.
 VALLEY (DEVELOPED) S-GRAPH SELECTED
 MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.282
 LOW LOSS FRACTION = 0.434
 HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.37
 SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.80
 SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 1.06
 SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.78
 SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.47
 SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 4.12

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
 5-MINUTE FACTOR = 0.754
 30-MINUTE FACTOR = 0.754
 1-HOUR FACTOR = 0.754
 3-HOUR FACTOR = 0.961
 6-HOUR FACTOR = 0.979
 24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
 UNIT INTERVAL PERCENTAGE OF LAG-TIME = 18.235

RUNOFF HYDROGRAPH LISTING LIMITS:
 MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
 MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

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UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	1.043	102.235
2	3.941	284.116
3	10.979	689.923
4	21.605	1041.720
5	34.018	1216.903
6	49.509	1518.605
7	64.397	1459.479
8	76.256	1162.565
9	84.437	801.992
10	89.825	528.197
11	93.483	358.601
12	95.910	237.894
13	97.439	149.915
14	98.209	75.517
15	98.551	33.522
16	98.893	33.511

17	99.235	33.527
18	99.577	33.511
19	99.919	33.511
20	100.000	7.950

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 110.7504
 TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 163.9426

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)

(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	175.0	350.0	525.0	700.0
10.000	29.7165	51.35	. Q	V .	.	.	.
10.083	30.0730	51.77	. Q	V .	.	.	.
10.167	30.4324	52.19	. Q	V .	.	.	.
10.250	30.7948	52.62	. Q	V .	.	.	.
10.333	31.1602	53.06	. Q	V .	.	.	.
10.417	31.5287	53.51	. Q	V .	.	.	.
10.500	31.9004	53.97	. Q	V .	.	.	.
10.583	32.2754	54.44	. Q	V .	.	.	.
10.667	32.6536	54.92	. Q	V .	.	.	.
10.750	33.0353	55.42	. Q	V .	.	.	.
10.833	33.4204	55.92	. Q	V .	.	.	.
10.917	33.8091	56.44	. Q	V .	.	.	.
11.000	34.2014	56.97	. Q	V .	.	.	.
11.083	34.5975	57.51	. Q	V .	.	.	.
11.167	34.9974	58.07	. Q	V .	.	.	.
11.250	35.4012	58.64	. Q	V .	.	.	.
11.333	35.8091	59.22	. Q	V .	.	.	.
11.417	36.2211	59.82	. Q	V .	.	.	.
11.500	36.6373	60.44	. Q	V .	.	.	.
11.583	37.0579	61.07	. Q	V .	.	.	.
11.667	37.4830	61.72	. Q	V .	.	.	.
11.750	37.9127	62.39	. Q	V .	.	.	.
11.833	38.3472	63.08	. Q	V .	.	.	.
11.917	38.7865	63.79	. Q	V .	.	.	.
12.000	39.2309	64.52	. Q	V .	.	.	.
12.083	39.6821	65.52	. Q	V .	.	.	.
12.167	40.1434	66.98	. Q	V .	.	.	.
12.250	40.6215	69.43	. Q	V .	.	.	.
12.333	41.1225	72.75	. Q	V .	.	.	.
12.417	41.6495	76.52	. Q	V .	.	.	.
12.500	42.2078	81.06	. Q	V .	.	.	.
12.583	42.7965	85.48	. Q	V .	.	.	.
12.667	43.4111	89.25	. Q	V .	.	.	.
12.750	44.0460	92.18	. Q	V .	.	.	.
12.833	44.6969	94.51	. Q	V .	.	.	.
12.917	45.3613	96.47	. Q	.V	.	.	.
13.000	46.0375	98.18	. Q	.V	.	.	.
13.083	46.7243	99.73	. Q	.V	.	.	.
13.167	47.4208	101.14	. Q	.V	.	.	.
13.250	48.1268	102.50	. Q	.V	.	.	.
13.333	48.8424	103.91	. Q	.V	.	.	.
13.417	49.5681	105.37	. Q	. V	.	.	.
13.500	50.3043	106.90	. Q	. V	.	.	.
13.583	51.0514	108.48	. Q	. V	.	.	.
13.667	51.8094	110.07	. Q	. V	.	.	.
13.750	52.5787	111.70	. Q	. V	.	.	.
13.833	53.3599	113.42	. Q	. V	.	.	.

13.917	54.1534	115.22	. Q	. V	.	.	.
14.000	54.9599	117.10	. Q	. V	.	.	.
14.083	55.7837	119.61	. Q	. V	.	.	.
14.167	56.6319	123.16	. Q	. V	.	.	.
14.250	57.5196	128.90	. Q	. V	.	.	.
14.333	58.4600	136.55	. Q	. V	.	.	.
14.417	59.4599	145.19	. Q	. V	.	.	.
14.500	60.5307	155.47	. Q	. V	.	.	.
14.583	61.6706	165.52	. Q	. V	.	.	.
14.667	62.8700	174.15	. Q	. V	.	.	.
14.750	64.1167	181.02	. Q	. V	.	.	.
14.833	65.4020	186.63	. Q	. V	.	.	.
14.917	66.7212	191.54	. Q	. V	.	.	.
15.000	68.0714	196.04	. Q	. V	.	.	.
15.083	69.4510	200.33	. Q	. V	.	.	.
15.167	70.8595	204.51	. Q	. V	.	.	.
15.250	72.2976	208.80	. Q	. V	.	.	.
15.333	73.7679	213.49	. Q	. V	.	.	.
15.417	75.2660	217.53	. Q	. V	.	.	.
15.500	76.7824	220.18	. Q	. V	.	.	.
15.583	78.2922	219.22	. Q	. V	.	.	.
15.667	79.7754	215.36	. Q	. V	.	.	.
15.750	81.2300	211.21	. Q	. V	.	.	.
15.833	82.6498	206.16	. Q	. V	.	.	.
15.917	84.0735	206.71	. Q	. V	.	.	.
16.000	85.5853	219.52	. Q	. V	.	.	.
16.083	87.4339	268.41	. Q	. V	.	.	.
16.167	89.8332	348.38	. Q	. V	.	.	.
16.250	93.0952	473.64	. Q	. V	. Q	.	.
16.333	97.0819	578.86	. Q	. V	. Q	.	.
16.417	101.4662	636.60	. Q	. V	. Q	. Q	.
16.500	106.2575	695.70	. Q	. V	. Q	. Q	.
16.583	110.8051	660.31	. Q	. V	. Q	. Q	.
16.667	114.6961	564.97	. Q	. V	. Q	. Q	.
16.750	117.8474	457.57	. Q	. V	. Q	. Q	.
16.833	120.4480	377.61	. Q	. V	. Q	. Q	.
16.917	122.6920	325.83	. Q	. V	. Q	. Q	.
17.000	124.6717	287.46	. Q	. V	. Q	. Q	.
17.083	126.4379	256.45	. Q	. V	. Q	. Q	.
17.167	128.0175	229.37	. Q	. V	. Q	. Q	.
17.250	129.4610	209.59	. Q	. V	. Q	. Q	.
17.333	130.8245	197.98	. Q	. V	. Q	. Q	.
17.417	132.1059	186.05	. Q	. V	. Q	. Q	.
17.500	133.2914	172.13	. Q	. V	. Q	. Q	.
17.583	134.3786	157.87	. Q	. V	. Q	. Q	.
17.667	135.3481	140.77	. Q	. V	. Q	. Q	.
17.750	136.2441	130.10	. Q	. V	. Q	. Q	.
17.833	137.0932	123.29	. Q	. V	. Q	. Q	.
17.917	137.9051	117.90	. Q	. V	. Q	. Q	.
18.000	138.6850	113.23	. Q	. V	. Q	. Q	.
18.083	139.4356	109.00	. Q	. V	. Q	. Q	.
18.167	140.1587	104.99	. Q	. V	. Q	. Q	.
18.250	140.8506	100.46	. Q	. V	. Q	. Q	.
18.333	141.5069	95.30	. Q	. V	. Q	. Q	.
18.417	142.1262	89.92	. Q	. V	. Q	. Q	.
18.500	142.7047	84.00	. Q	. V	. Q	. Q	.
18.583	143.2444	78.37	. Q	. V	. Q	. Q	.
18.667	143.7522	73.73	. Q	. V	. Q	. Q	.

18.750	144.2351	70.11	. Q	.	.	.	V	.
18.833	144.6983	67.27	. Q	.	.	.	V	.
18.917	145.1455	64.93	. Q	.	.	.	V	.
19.000	145.5792	62.97	. Q	.	.	.	V	.
19.083	146.0013	61.29	. Q	.	.	.	V	.
19.167	146.4137	59.87	. Q	.	.	.	V	.
19.250	146.8173	58.61	. Q	.	.	.	V	.
19.333	147.2127	57.42	. Q	.	.	.	V	.
19.417	147.6003	56.27	. Q	.	.	.	V	.
19.500	147.9803	55.18	. Q	.	.	.	V	.
19.583	148.3532	54.14	. Q	.	.	.	V	.
19.667	148.7195	53.19	. Q	.	.	.	V	.
19.750	149.0798	52.31	. Q	.	.	.	V	.
19.833	149.4343	51.47	. Q	.	.	.	V	.
19.917	149.7832	50.66	. Q	.	.	.	V	.
20.000	150.1267	49.88	. Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	390.0
20%	200.0
30%	115.0
40%	55.0
50%	45.0
60%	35.0
70%	25.0
80%	25.0
90%	15.0

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
=====

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
=====

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<
=====

STREAM HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	850.0	1700.0	2550.0	3400.0
-----	-----	-----	-----	-----	-----	-----	-----
10.000	187.0298	331.82	. Q	V	.	.	.
10.083	189.3324	334.33	. Q	V	.	.	.
10.167	191.6525	336.88	. Q	V	.	.	.
10.250	193.9905	339.48	. Q	V	.	.	.
10.333	196.3468	342.14	. Q	V	.	.	.
10.417	198.7218	344.85	. Q	V	.	.	.
10.500	201.1159	347.62	. Q	V	.	.	.
10.583	203.5294	350.45	. Q	V	.	.	.
10.667	205.9629	353.34	. Q	V	.	.	.
10.750	208.4167	356.29	. Q	V	.	.	.
10.833	210.8912	359.31	. Q	V	.	.	.
10.917	213.3871	362.39	. Q	V	.	.	.
11.000	215.9046	365.55	. Q	V	.	.	.
11.083	218.4444	368.78	. Q	V	.	.	.
11.167	221.0069	372.08	. Q	V	.	.	.
11.250	223.5928	375.46	. Q	V	.	.	.
11.333	226.2025	378.93	. Q	V	.	.	.
11.417	228.8366	382.48	. Q	V	.	.	.
11.500	231.4958	386.11	. Q	V	.	.	.
11.583	234.1807	389.85	. Q	V	.	.	.
11.667	236.8919	393.67	. Q	V	.	.	.
11.750	239.6302	397.60	. Q	V	.	.	.
11.833	242.3962	401.63	. Q	V	.	.	.
11.917	245.1908	405.77	. Q	V	.	.	.
12.000	248.0146	410.02	. Q	V	.	.	.
12.083	250.8726	414.98	. Q	V	.	.	.
12.167	253.7776	421.81	. Q	V	.	.	.
12.250	256.7487	431.40	. Q	V	.	.	.
12.333	259.8031	443.51	. Q	V	.	.	.
12.417	262.9461	456.36	. Q	V	.	.	.
12.500	266.1760	468.99	. Q	V	.	.	.
12.583	269.4929	481.61	. Q	V	.	.	.
12.667	272.9012	494.88	. Q	V	.	.	.
12.750	276.4034	508.53	. Q	V	.	.	.
12.833	280.0019	522.49	. Q	V	.	.	.
12.917	283.6992	536.85	. Q	V	.	.	.
13.000	287.5020	552.17	. Q	V	.	.	.
13.083	291.4190	568.75	. Q	V	.	.	.
13.167	295.4517	585.55	. Q	V	.	.	.
13.250	299.6013	602.51	. Q	V	.	.	.
13.333	303.8641	618.97	. Q	V	.	.	.
13.417	308.2338	634.47	. Q	V	.	.	.
13.500	312.7021	648.81	. Q	V	.	.	.
13.583	317.2652	662.55	. Q	V	.	.	.
13.667	321.9170	675.44	. Q	.V	.	.	.
13.750	326.6532	687.70	. Q	.V	.	.	.
13.833	331.4725	699.76	. Q	.V	.	.	.
13.917	336.3743	711.75	. Q	.V	.	.	.
14.000	341.3583	723.68	. Q	.V	.	.	.
14.083	346.4335	736.91	. Q	.V	.	.	.
14.167	351.6273	754.14	. Q	.V	.	.	.
14.250	356.9806	777.29	. Q	.V	.	.	.
14.333	362.5294	805.69	. Q	.V	.	.	.
14.417	368.2846	835.66	. Q	.V	.	.	.
14.500	374.2436	865.24	. Q	.V	.	.	.

14.583	380.4073	894.98	.	Q	V	.	.	.
14.667	386.7870	926.33	.	Q	V	.	.	.
14.750	393.3902	958.78	.	.Q	V	.	.	.
14.833	400.2244	992.33	.	.Q	V	.	.	.
14.917	407.2997	1027.34	.	.Q	V	.	.	.
15.000	414.6358	1065.20	.	.Q	V	.	.	.
15.083	422.2570	1106.59	.	.	QV	.	.	.
15.167	430.1726	1149.35	.	.	QV	.	.	.
15.250	438.3927	1193.56	.	.	QV	.	.	.
15.333	446.9202	1238.19	.	.	QV	.	.	.
15.417	455.7351	1279.93	.	.	Q	.	.	.
15.500	464.7776	1312.96	.	.	QV	.	.	.
15.583	473.9714	1334.94	.	.	QV	.	.	.
15.667	483.2476	1346.91	.	.	QV	.	.	.
15.750	492.6175	1360.51	.	.	QV	.	.	.
15.833	502.1648	1386.26	.	.	QV	.	.	.
15.917	512.0043	1428.70	.	.	QV	.	.	.
16.000	522.3064	1495.87	.	.	QV	.	.	.
16.083	533.6033	1640.32	.	.	VQ.	.	.	.
16.167	546.6287	1891.27	.	.	V . Q	.	.	.
16.250	561.8169	2205.34	.	.	V. Q	.	.	.
16.333	578.8471	2472.79	.	.	V	Q.	.	.
16.417	596.5834	2575.31	.	.	V	Q	.	.
16.500	614.5391	2607.17	.	.	.V	Q	.	.
16.583	632.9303	2670.41	.	.	.V	.Q	.	.
16.667	652.2432	2804.23	.	.	.V	.Q	.	.
16.750	672.2486	2904.79	.	.	.V	.Q	.	.
16.833	692.7761	2980.60	.	.	.V	.Q	.	.
16.917	713.8611	3061.55	.	.	.V	.Q	.	.
17.000	735.8824	3197.48	.	.	.V	.Q	.	.
17.083	758.8063	3328.56	.	.	.V	.Q.	.	.
17.167	781.5824	3307.09	.	.	.V	.Q.	.	.
17.250	803.7689	3221.47	.	.	.V	.Q	.	.
17.333	824.6138	3026.69	.	.	.V	.Q	.	.
17.417	843.6971	2770.89	.	.	.V	.Q	.	.
17.500	860.8611	2492.22	.	.	.Q.	.V	.	.
17.583	876.5312	2275.31	.	.	.Q	.V	.	.
17.667	890.5922	2041.65	.	.	.Q	.V	.	.
17.750	903.2363	1835.91	.	.	.Q	.V	.	.
17.833	914.8233	1682.44	.	.	.Q.	.V	.	.
17.917	925.4641	1545.04	.	.	.Q	.V	.	.
18.000	935.1788	1410.57	.	.	.Q	.V	.	.
18.083	944.0144	1282.93	.	.	.Q	.V	.	.
18.167	952.1403	1179.89	.	.	.Q	.V	.	.
18.250	959.5675	1078.43	.	.	.Q	.V	.	.
18.333	966.2547	970.98	.	.	.Q	.V	.	.
18.417	972.4243	895.83	.	.	.Q	.V	.	.
18.500	978.2224	841.88	.	.	.Q.	.V	.	.
18.583	983.7177	797.91	.	.	.Q.	.V	.	.
18.667	988.9418	758.55	.	.	.Q	.V	.	.
18.750	993.9240	723.41	.	.	.Q	.V	.	.
18.833	998.6821	690.87	.	.	.Q	.V	.	.
18.917	1003.2292	660.25	.	.	.Q	.V	.	.
19.000	1007.5667	629.79	.	.	.Q	.V	.	.
19.083	1011.6857	598.09	.	.	.Q	.V	.	.
19.167	1015.5156	556.09	.	.	.Q	.V	.	.
19.250	1019.1085	521.69	.	.	.Q	.V	.	.
19.333	1022.5240	495.93	.	.	.Q	.V	.	.

19.417	1025.7975	475.31	.	Q	.	.	.	V	.
19.500	1028.9474	457.37	.	Q	.	.	.	V	.
19.583	1031.9856	441.15	.	Q	.	.	.	V	.
19.667	1034.9254	426.87	.	Q	.	.	.	V	.
19.750	1037.7786	414.28	.	Q	.	.	.	V	.
19.833	1040.5530	402.85	.	Q	.	.	.	V	.
19.917	1043.2554	392.39	.	Q	.	.	.	V	.
20.000	1045.8920	382.84	.	Q	.	.	.	V	.

 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	635.0
20%	315.0
30%	205.0
40%	150.0
50%	105.0
60%	90.0
70%	75.0
80%	55.0
90%	30.0
=====	=====

END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

Michael Baker International
5 Hutton Centre Drive, Suite 500
Santa Ana, CA 92707

***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - FREE DRAINING UH *
* ULTIMATE CONDITION - REGIONAL NODE 13305 *
* 100-YR EV AUGUST 2018 CCHIU *

FILE NAME: EV00305F.DAT
TIME/DATE OF STUDY: 06:37 09/04/2018

FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

=====

(UNIT-HYDROGRAPH ADDED TO STREAM #1)

WATERSHED AREA = 4924.400 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.795 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244
LOW LOSS FRACTION = 0.515
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.40
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.87
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 1.15
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.94
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.71
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 4.49

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE FACTOR = 0.754
30-MINUTE FACTOR = 0.754
1-HOUR FACTOR = 0.754
3-HOUR FACTOR = 0.961
6-HOUR FACTOR = 0.979
24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 10.482

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.599	356.720
2	1.831	733.770
3	3.556	1027.088
4	6.695	1869.576
5	11.711	2987.196
6	17.780	3614.240
7	24.320	3895.169
8	31.406	4219.920
9	39.536	4841.828
10	49.118	5706.248
11	57.463	4970.213
12	66.163	5181.218
13	73.208	4195.692
14	78.677	3256.871
15	83.329	2770.256
16	87.117	2255.902
17	89.790	1591.898
18	92.011	1323.059
19	93.944	1150.833
20	95.353	839.020
21	96.422	637.114
22	97.244	489.587
23	97.961	426.666
24	98.212	149.804
25	98.409	117.181
26	98.605	116.849
27	98.802	117.181
28	98.999	116.958
29	99.195	117.072
30	99.392	116.958
31	99.588	116.958
32	99.784	116.958
33	99.981	116.958
34	100.000	11.500

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 833.8049
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 984.8735

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)

(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	875.0	1750.0	2625.0	3500.0
10.000	158.4060	279.59	. Q	V	.	.	.
10.083	160.3464	281.73	. Q	V	.	.	.
10.167	162.3019	283.94	. Q	V	.	.	.
10.250	164.2728	286.18	. Q	V	.	.	.
10.333	166.2596	288.48	. Q	V	.	.	.
10.417	168.2625	290.82	. Q	V	.	.	.
10.500	170.2819	293.22	. Q	V	.	.	.
10.583	172.3180	295.65	. Q	V	.	.	.
10.667	174.3714	298.15	. Q	V	.	.	.
10.750	176.4424	300.70	. Q	V	.	.	.
10.833	178.5313	303.32	. Q	V	.	.	.
10.917	180.6385	305.97	. Q	V	.	.	.
11.000	182.7647	308.71	. Q	V	.	.	.
11.083	184.9100	311.50	. Q	V	.	.	.
11.167	187.0751	314.37	. Q	V	.	.	.
11.250	189.2603	317.29	. Q	V	.	.	.
11.333	191.4662	320.31	. Q	V	.	.	.
11.417	193.6933	323.37	. Q	V	.	.	.
11.500	195.9422	326.54	. Q	V	.	.	.
11.583	198.2133	329.76	. Q	V	.	.	.
11.667	200.5074	333.10	. Q	V	.	.	.
11.750	202.8249	336.50	. Q	V	.	.	.
11.833	205.1666	340.02	. Q	V	.	.	.
11.917	207.5330	343.60	. Q	V	.	.	.
12.000	209.9250	347.32	. Q	V	.	.	.
12.083	212.3492	352.00	. Q	V	.	.	.
12.167	214.8132	357.78	. Q	V	.	.	.
12.250	217.3227	364.37	. Q	V	.	.	.
12.333	219.8932	373.24	. Q	V	.	.	.
12.417	222.5449	385.02	. Q	V	.	.	.
12.500	225.2897	398.55	. Q	V	.	.	.
12.583	228.1335	412.91	. Q	V	.	.	.
12.667	231.0832	428.30	. Q	V	.	.	.
12.750	234.1506	445.39	. Q	V	.	.	.
12.833	237.3522	464.87	. Q	V	.	.	.
12.917	240.6764	482.68	. Q	V	.	.	.
13.000	244.1287	501.27	. Q	V	.	.	.
13.083	247.6932	517.57	. Q	V	.	.	.
13.167	251.3557	531.79	. Q	V	.	.	.
13.250	255.1090	544.98	. Q	V	.	.	.
13.333	258.9464	557.18	. Q	V	.	.	.
13.417	262.8576	567.91	. Q	V	.	.	.
13.500	266.8403	578.29	. Q	V	.	.	.
13.583	270.8931	588.46	. Q	.V	.	.	.
13.667	275.0131	598.21	. Q	.V	.	.	.
13.750	279.1984	607.71	. Q	.V	.	.	.
13.833	283.4493	617.23	. Q	.V	.	.	.

13.917	287.7667	626.89	. Q	.V	.	.	.
14.000	292.1490	636.31	. Q	.V	.	.	.
14.083	296.6095	647.66	. Q	.V	.	.	.
14.167	301.1637	661.28	. Q	.V	.	.	.
14.250	305.8237	676.63	. Q	.V	.	.	.
14.333	310.6205	696.49	. Q	.V	.	.	.
14.417	315.5927	721.97	. Q	.V	.	.	.
14.500	320.7646	750.95	. Q	.V	.	.	.
14.583	326.1478	781.65	. Q	.V	.	.	.
14.667	331.7580	814.60	. Q	.V	.	.	.
14.750	337.6202	851.20	. Q	.V	.	.	.
14.833	343.7682	892.69	. Q	.V	.	.	.
14.917	350.1866	931.95	. Q	.V	.	.	.
15.000	356.8958	974.19	. Q	.V	.	.	.
15.083	363.8798	1014.07	. Q	.V	.	.	.
15.167	371.1275	1052.38	. Q	.V	.	.	.
15.250	378.6449	1091.52	. Q	.V	.	.	.
15.333	386.4424	1132.19	. Q	.V	.	.	.
15.417	394.4897	1168.46	. Q	.V	.	.	.
15.500	402.7714	1202.51	. Q	.V	.	.	.
15.583	411.2834	1235.94	. Q	.V	.	.	.
15.667	419.9636	1260.37	. Q	.V	.	.	.
15.750	428.7373	1273.95	. Q	.V	.	.	.
15.833	437.6037	1287.40	. Q	.V	.	.	.
15.917	446.6412	1312.24	. Q	.V	.	.	.
16.000	456.0222	1362.12	. Q	.V	.	.	.
16.083	466.3849	1504.66	. Q	.V	.	.	.
16.167	477.8312	1662.02	. Q	.V	.	.	.
16.250	490.5179	1842.11	. V	.Q	.	.	.
16.333	505.3317	2150.95	. V	.Q	.	.	.
16.417	522.6621	2516.38	. V	.Q	.	.	.
16.500	541.6648	2759.19	. V	.Q	.	.	.
16.583	561.6493	2901.75	. V	.Q	.	.	.
16.667	582.7573	3064.89	. V	.Q	.	.	.
16.750	605.3193	3276.00	. V	.Q	.	.	.
16.833	629.2090	3468.78	. V	.Q	.	.	.
16.917	651.6929	3264.66	. V	.Q	.	.	.
17.000	673.7045	3196.08	. V	.Q	.	.	.
17.083	693.3380	2850.79	. V	.Q	.	.	.
17.167	710.7351	2526.06	. V	.Q	.	.	.
17.250	726.5616	2298.01	. V	.Q	.	.	.
17.333	740.8911	2080.65	. V	.Q	.	.	.
17.417	753.5205	1833.79	. V	.Q	.	.	.
17.500	765.0584	1675.31	. V	.Q	.	.	.
17.583	775.6965	1544.65	. V	.Q	.	.	.
17.667	785.2463	1386.63	. V	.Q	.	.	.
17.750	793.8781	1253.34	. V	.Q	.	.	.
17.833	801.7043	1136.38	. V	.Q	.	.	.
17.917	808.9039	1045.37	. V	.Q	.	.	.
18.000	815.2180	916.80	. V	.Q	.	.	.
18.083	821.1005	854.15	. V	.Q	.	.	.
18.167	826.6920	811.89	. V	.Q	.	.	.
18.250	832.0333	775.56	. V	.Q	.	.	.
18.333	837.1165	738.08	. V	.Q	.	.	.
18.417	841.9589	703.12	. V	.Q	.	.	.
18.500	846.5655	668.88	. V	.Q	.	.	.
18.583	850.9442	635.79	. V	.Q	.	.	.
18.667	855.0929	602.39	. V	.Q	.	.	.

18.750	858.9940	566.43	.	Q	.	.	.	V	.
18.833	862.4995	508.99	.	Q	.	.	.	V	.
18.917	865.7866	477.30	.	Q	.	.	.	V	.
19.000	868.9012	452.23	.	Q	.	.	.	V	.
19.083	871.8718	431.33	.	Q	.	.	.	V	.
19.167	874.7097	412.07	.	Q	.	.	.	V	.
19.250	877.4285	394.77	.	Q	.	.	.	V	.
19.333	880.0425	379.54	.	Q	.	.	.	V	.
19.417	882.5677	366.67	.	Q	.	.	.	V	.
19.500	885.0131	355.06	.	Q	.	.	.	V	.
19.583	887.3849	344.40	.	Q	.	.	.	V	.
19.667	889.6916	334.92	.	Q	.	.	.	V	.
19.750	891.9390	326.32	.	Q	.	.	.	V	.
19.833	894.1353	318.91	.	Q	.	.	.	V	.
19.917	896.2842	312.02	.	Q	.	.	.	V	.
20.000	898.3923	306.11	.	Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	455.0
20%	250.0
30%	170.0
40%	95.0
50%	75.0
60%	60.0
70%	50.0
80%	35.0
90%	20.0

FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<
=====

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:

BASEWIDTH(FT) = 50.00 CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 427.51
DOWNSTREAM ELEVATION(FT) = 315.00
CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040
CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:

MAXIMUM INFLOW(CFS) = 3468.78
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 2668.67
CHANNEL NORMAL VELOCITY FOR Q = 2668.67 CFS = 9.39 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.847

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
UNIT INTERVALS IS CSTAR = 0.651

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 1) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS
			LOSS (STREAM 1) (CFS)
10.000	279.59	272.43	272.43
10.083	281.73	274.45	274.45
10.167	283.94	276.50	276.50
10.250	286.18	278.60	278.60
10.333	288.48	280.74	280.74
10.417	290.82	282.92	282.92
10.500	293.22	285.14	285.14
10.583	295.65	287.42	287.42
10.667	298.15	289.73	289.73
10.750	300.70	292.11	292.11
10.833	303.32	294.52	294.52
10.917	305.97	297.00	297.00
11.000	308.71	299.52	299.52
11.083	311.50	302.11	302.11
11.167	314.37	304.74	304.74
11.250	317.29	307.45	307.45
11.333	320.31	310.21	310.21
11.417	323.37	313.05	313.05
11.500	326.54	315.94	315.94
11.583	329.76	318.91	318.91
11.667	333.10	321.95	321.95
11.750	336.50	325.08	325.08
11.833	340.02	328.27	328.27
11.917	343.60	331.56	331.56
12.000	347.32	334.93	334.93
12.083	352.00	338.40	338.40
12.167	357.78	341.95	341.95
12.250	364.37	345.65	345.65
12.333	373.24	350.04	350.04
12.417	385.02	355.36	355.36
12.500	398.55	361.61	361.61
12.583	412.91	369.70	369.70
12.667	428.30	380.26	380.26
12.750	445.39	392.79	392.79
12.833	464.87	406.56	406.56
12.917	482.68	421.45	421.45
13.000	501.27	437.88	437.88
13.083	517.57	456.22	456.22
13.167	531.79	474.25	474.25
13.250	544.98	492.55	492.55
13.333	557.18	509.45	509.45
13.417	567.91	524.57	524.57
13.500	578.29	538.39	538.39
13.583	588.46	551.08	551.08

13.667	598.21	562.49	562.49
13.750	607.71	573.22	573.22
13.833	617.23	583.57	583.57
13.917	626.89	593.51	593.51
14.000	636.31	603.17	603.17
14.083	647.66	612.74	612.74
14.167	661.28	622.36	622.36
14.250	676.63	631.94	631.94
14.333	696.49	642.76	642.76
14.417	721.97	655.48	655.48
14.500	750.95	670.11	670.11
14.583	781.65	688.39	688.39
14.667	814.60	711.51	711.51
14.750	851.20	738.51	738.51
14.833	892.69	768.02	768.02
14.917	931.95	799.93	799.93
15.000	974.19	835.11	835.11
15.083	1014.07	874.29	874.29
15.167	1052.38	913.66	913.66
15.250	1091.52	954.79	954.79
15.333	1132.19	995.04	995.04
15.417	1168.46	1034.06	1034.06
15.500	1202.51	1073.23	1073.23
15.583	1235.94	1113.18	1113.18
15.667	1260.37	1150.64	1150.64
15.750	1273.95	1185.86	1185.86
15.833	1287.40	1219.51	1219.51
15.917	1312.24	1246.69	1246.69
16.000	1362.12	1265.01	1265.01
16.083	1504.66	1280.67	1280.67
16.167	1662.02	1303.40	1303.40
16.250	1842.11	1347.85	1347.85
16.333	2150.95	1456.78	1456.78
16.417	2516.38	1598.21	1598.21
16.500	2759.19	1770.44	1770.44
16.583	2901.75	2034.04	2034.04
16.667	3064.89	2358.52	2358.52
16.750	3276.00	2625.46	2625.46
16.833	3468.78	2812.38	2812.38
16.917	3264.66	2985.93	2985.93
17.000	3196.08	3183.11	3183.11
17.083	2850.79	3360.03	3360.03
17.167	2526.06	3294.97	3294.97
17.250	2298.01	3215.49	3215.49
17.333	2080.65	2963.96	2963.96
17.417	1833.79	2669.04	2669.04
17.500	1675.31	2418.10	2418.10
17.583	1544.65	2187.72	2187.72
17.667	1386.63	1950.49	1950.49
17.750	1253.34	1765.72	1765.72
17.833	1136.38	1614.95	1614.95
17.917	1045.37	1460.55	1460.55
18.000	916.80	1320.60	1320.60
18.083	854.15	1196.75	1196.75
18.167	811.89	1092.62	1092.62
18.250	775.56	975.48	975.48
18.333	738.08	894.69	894.69
18.417	703.12	839.22	839.22

18.500	668.88	796.16	796.16
18.583	635.79	756.83	756.83
18.667	602.39	720.38	720.38
18.750	566.43	685.42	685.42
18.833	508.99	651.66	651.66
18.917	477.30	618.03	618.03
19.000	452.23	581.94	581.94
19.083	431.33	533.09	533.09
19.167	412.07	495.69	495.69
19.250	394.77	466.50	466.50
19.333	379.54	442.77	442.77
19.417	366.67	422.04	422.04
19.500	355.06	403.63	403.63
19.583	344.40	387.39	387.39
19.667	334.92	373.40	373.40
19.750	326.32	361.00	361.00
19.833	318.91	349.78	349.78
19.917	312.02	339.74	339.74
20.000	306.11	330.68	330.68

=====

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 984.873 AF
 OUTFLOW VOLUME = 984.873 AF
 LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 100.00 TO NODE 13305.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<

(UNIT-HYDROGRAPH ADDED TO STREAM #3)

WATERSHED AREA = 510.200 ACRES
 BASEFLOW = 0.000 CFS/SQUARE-MILE
 *USER ENTERED "LAG" TIME = 0.275 HOURS
 CAUTION: LAG TIME IS LESS THAN 0.50 HOURS.
 THE 5-MINUTE PERIOD UH MODEL (USED IN THIS COMPUTER PROGRAM)
 MAY BE TOO LARGE FOR PEAK FLOW ESTIMATES.
 VALLEY (DEVELOPED) S-GRAPH SELECTED
 MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.130
 LOW LOSS FRACTION = 0.282
 HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.40
 SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.87
 SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 1.15
 SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.94
 SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.71
 SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 4.49

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE FACTOR = 0.754
 30-MINUTE FACTOR = 0.754
 1-HOUR FACTOR = 0.754
 3-HOUR FACTOR = 0.961
 6-HOUR FACTOR = 0.979

24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 30.303

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME(HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	1.897	117.047
2	11.178	572.680
3	29.641	1139.210
4	54.278	1520.146
5	75.754	1325.101
6	88.015	756.576
7	94.253	384.898
8	97.340	190.424
9	98.423	66.864
10	98.992	35.062
11	99.460	28.892
12	99.784	19.998
13	99.946	9.999
14	100.000	3.333

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 47.0081
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 141.3985

24 - HOUR STORM
RUNOFF HYDROGRAPH

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	200.0	400.0	600.0	800.0
10.000	26.2850	45.12	. Q	V .	.	.	.
10.083	26.5983	45.50	. Q	V .	.	.	.
10.167	26.9143	45.88	. Q	V .	.	.	.
10.250	27.2330	46.28	. Q	V .	.	.	.
10.333	27.5545	46.68	. Q	V .	.	.	.
10.417	27.8788	47.09	. Q	V .	.	.	.
10.500	28.2060	47.51	. Q	V .	.	.	.
10.583	28.5362	47.94	. Q	V .	.	.	.
10.667	28.8694	48.38	. Q	V .	.	.	.
10.750	29.2057	48.83	. Q	V .	.	.	.
10.833	29.5452	49.30	. Q	V .	.	.	.
10.917	29.8880	49.77	. Q	V .	.	.	.
11.000	30.2342	50.26	. Q	V .	.	.	.
11.083	30.5837	50.76	. Q	V .	.	.	.
11.167	30.9368	51.27	. Q	V .	.	.	.
11.250	31.2935	51.80	. Q	V .	.	.	.
11.333	31.6540	52.34	. Q	V .	.	.	.
11.417	32.0182	52.89	. Q	V .	.	.	.
11.500	32.3864	53.46	. Q	V .	.	.	.
11.583	32.7587	54.05	. Q	V .	.	.	.
11.667	33.1350	54.65	. Q	V .	.	.	.
11.750	33.5157	55.27	. Q	V .	.	.	.
11.833	33.9008	55.91	. Q	V .	.	.	.
11.917	34.2904	56.57	. Q	V .	.	.	.
12.000	34.6847	57.25	. Q	V .	.	.	.
12.083	35.0868	58.39	. Q	V .	.	.	.
12.167	35.5085	61.24	. Q	V .	.	.	.
12.250	35.9645	66.22	. Q	V .	.	.	.
12.333	36.4649	72.64	. Q	V .	.	.	.
12.417	37.0047	78.39	. Q	V .	.	.	.
12.500	37.5699	82.06	. Q	V .	.	.	.
12.583	38.1511	84.40	. Q	V .	.	.	.
12.667	38.7437	86.05	. Q	V .	.	.	.
12.750	39.3447	87.27	. Q	.V	.	.	.
12.833	39.9536	88.41	. Q	.V	.	.	.
12.917	40.5704	89.56	. Q	.V	.	.	.
13.000	41.1952	90.72	. Q	.V	.	.	.
13.083	41.8280	91.88	. Q	.V	.	.	.
13.167	42.4690	93.07	. Q	.V	.	.	.
13.250	43.1183	94.28	. Q	.V	.	.	.
13.333	43.7764	95.55	. Q	.V	.	.	.
13.417	44.4435	96.87	. Q	.V	.	.	.
13.500	45.1202	98.25	. Q	.V	.	.	.
13.583	45.8067	99.69	. Q	.V	.	.	.
13.667	46.5036	101.19	. Q	.V	.	.	.
13.750	47.2114	102.77	. Q	.V	.	.	.
13.833	47.9306	104.42	. Q	.V	.	.	.

13.917	48.6617	106.16	.	Q	.	V	.	.	.
14.000	49.4054	107.99	.	Q	.	V	.	.	.
14.083	50.1680	110.73	.	Q	.	V	.	.	.
14.167	50.9719	116.73	.	Q	.	V	.	.	.
14.250	51.8447	126.72	.	Q	.	V	.	.	.
14.333	52.8049	139.42	.	Q	.	V	.	.	.
14.417	53.8434	150.80	.	Q	.	V	.	.	.
14.500	54.9337	158.31	.	Q	.	V	.	.	.
14.583	56.0590	163.39	.	Q	.	V	.	.	.
14.667	57.2122	167.44	.	Q	.	V	.	.	.
14.750	58.3902	171.05	.	Q	.	V	.	.	.
14.833	59.5949	174.92	.	Q	.	V	.	.	.
14.917	60.8289	179.17	.	Q	.	V	.	.	.
15.000	62.0946	183.79	.	Q	.	V	.	.	.
15.083	63.3946	188.75	.	Q	.	V	.	.	.
15.167	64.7317	194.15	.	Q	.	V	.	.	.
15.250	66.1093	200.03	.	Q	.	V	.	.	.
15.333	67.5321	206.59	.	Q	.	V	.	.	.
15.417	68.9900	211.69	.	Q	.	V	.	.	.
15.500	70.4308	209.21	.	Q	.	V	.	.	.
15.583	71.7885	197.13	.	Q	.	V	.	.	.
15.667	73.0224	179.17	.	Q	.	V	.	.	.
15.750	74.1738	167.18	.	Q	.	V	.	.	.
15.833	75.3549	171.49	.	Q	.	V	.	.	.
15.917	76.6817	192.66	.	Q	.	V	.	.	.
16.000	78.3025	235.34	.	.Q	.	V	.	.	.
16.083	80.5454	325.67	.	.	Q	V	.	.	.
16.167	83.9404	492.94	.	.	.	VQ	.	.	.
16.250	88.4735	658.21	.	.	.	V	.	Q	.
16.333	93.5000	729.86	.	.	.	V	.	Q	.
16.417	97.8542	632.22	.	.	.	V	.	.Q	.
16.500	100.9374	447.68	.	.	Q	V	.	.	.
16.583	103.1769	325.17	.	.	Q	V	.	.	.
16.667	105.0030	265.16	.	.	Q	V	.	.	.
16.750	106.5989	231.72	.	.Q	.	V	.	.	.
16.833	108.0939	217.08	.	Q	.	V	.	.	.
16.917	109.5174	206.69	.	Q	.	V	.	.	.
17.000	110.8619	195.22	.	Q	.	V	.	.	.
17.083	112.1205	182.75	.	Q	.	V	.	.	.
17.167	113.2873	169.42	.	Q	.	V	.	.	.
17.250	114.3519	154.59	.	Q	.	V	.	.	.
17.333	115.3085	138.90	.	Q	.	V	.	.	.
17.417	116.1703	125.14	.	Q	.	V	.	.	.
17.500	116.9671	115.70	.	Q	.	V	.	.	.
17.583	117.7192	109.19	.	Q	.	V	.	.	.
17.667	118.4382	104.40	.	Q	.	V	.	.	.
17.750	119.1323	100.78	.	Q	.	V	.	.	.
17.833	119.8049	97.67	.	Q	.	V	.	.	.
17.917	120.4581	94.84	.	Q	.	V	.	.	.
18.000	121.0936	92.27	.	Q	.	V	.	.	.
18.083	121.7102	89.53	.	Q	.	V	.	.	.
18.167	122.2976	85.30	.	Q	.	V	.	.	.
18.250	122.8427	79.15	.	Q	.	V	.	.	.
18.333	123.3367	71.73	.	Q	.	V	.	.	.
18.417	123.7856	65.18	.	Q	.	V	.	.	.
18.500	124.2048	60.87	.	Q	.	V	.	.	.
18.583	124.6045	58.03	.	Q	.	V	.	.	.
18.667	124.9902	56.01	.	Q	.	V	.	.	.

18.750	125.3657	54.52	.	Q	.	.	.	V	.
18.833	125.7323	53.23	.	Q	.	.	.	V	.
18.917	126.0905	52.01	.	Q	.	.	.	V	.
19.000	126.4410	50.89	.	Q	.	.	.	V	.
19.083	126.7844	49.86	.	Q	.	.	.	V	.
19.167	127.1213	48.91	.	Q	.	.	.	V	.
19.250	127.4519	48.01	.	Q	.	.	.	V	.
19.333	127.7767	47.15	.	Q	.	.	.	V	.
19.417	128.0958	46.33	.	Q	.	.	.	V	.
19.500	128.4095	45.55	.	Q	.	.	.	V	.
19.583	128.7181	44.80	.	Q	.	.	.	V	.
19.667	129.0217	44.09	.	Q	.	.	.	V	.
19.750	129.3206	43.40	.	Q	.	.	.	V	.
19.833	129.6149	42.74	.	Q	.	.	.	V	.
19.917	129.9048	42.10	.	Q	.	.	.	V	.
20.000	130.1906	41.49	.	Q	.	.	.	V	.

 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	355.0
20%	175.0
30%	50.0
40%	35.0
50%	25.0
60%	25.0
70%	15.0
80%	15.0
90%	10.0

 FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 1<<<<<
 =====

 FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
 =====

 FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<
 =====

(UNIT-HYDROGRAPH ADDED TO STREAM #2)

WATERSHED AREA = 810.600 ACRES
 BASEFLOW = 0.000 CFS/SQUARE-MILE
 *USER ENTERED "LAG" TIME = 0.448 HOURS
 CAUTION: LAG TIME IS LESS THAN 0.50 HOURS.
 THE 5-MINUTE PERIOD UH MODEL (USED IN THIS COMPUTER PROGRAM)
 MAY BE TOO LARGE FOR PEAK FLOW ESTIMATES.
 VALLEY (DEVELOPED) S-GRAPH SELECTED
 MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.282
 LOW LOSS FRACTION = 0.411
 HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.40
 SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.87
 SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 1.15
 SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.94
 SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.71
 SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 4.49

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
 5-MINUTE FACTOR = 0.754
 30-MINUTE FACTOR = 0.754
 1-HOUR FACTOR = 0.754
 3-HOUR FACTOR = 0.961
 6-HOUR FACTOR = 0.979
 24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
 UNIT INTERVAL PERCENTAGE OF LAG-TIME = 18.601

RUNOFF HYDROGRAPH LISTING LIMITS:
 MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
 MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

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UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	1.065	104.391
2	4.084	295.927
3	11.477	724.784
4	22.383	1069.102
5	35.315	1267.757
6	51.196	1556.902
7	66.228	1473.628
8	77.662	1120.877
9	85.576	775.788
10	90.593	491.811
11	94.096	343.472
12	96.315	217.509
13	97.731	138.774
14	98.302	56.022
15	98.651	34.205
16	99.000	34.200

17	99.348	34.081
18	99.695	34.081
19	100.000	29.881

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 114.1495
 TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 185.2092

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2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H
=====

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)

(Note: Time indicated is at END of Each Unit Intervals)

Table with columns: TIME (HRS), VOLUME (AF), Q (CFS), 0., 200.0, 400.0, 600.0, 800.0. Contains 48 rows of hydrograph data.

Continuation of hydrograph data table with columns: TIME (HRS), VOLUME (AF), Q (CFS), 0., 200.0, 400.0, 600.0, 800.0. Contains 48 rows of data.

18.750	163.1440	78.95	. Q	.	.	.	V	.
18.833	163.6651	75.67	. Q	.	.	.	V	.
18.917	164.1676	72.95	. Q	.	.	.	V	.
19.000	164.6546	70.72	. Q	.	.	.	V	.
19.083	165.1286	68.82	. Q	.	.	.	V	.
19.167	165.5918	67.25	. Q	.	.	.	V	.
19.250	166.0451	65.82	. Q	.	.	.	V	.
19.333	166.4890	64.46	. Q	.	.	.	V	.
19.417	166.9240	63.16	. Q	.	.	.	V	.
19.500	167.3504	61.91	. Q	.	.	.	V	.
19.583	167.7686	60.73	. Q	.	.	.	V	.
19.667	168.1798	59.70	. Q	.	.	.	V	.
19.750	168.5841	58.70	. Q	.	.	.	V	.
19.833	168.9818	57.75	. Q	.	.	.	V	.
19.917	169.3733	56.84	. Q	.	.	.	V	.
20.000	169.7587	55.96	. Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	395.0
20%	205.0
30%	115.0
40%	55.0
50%	45.0
60%	35.0
70%	25.0
80%	20.0
90%	15.0

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<

STREAM HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	975.0	1950.0	2925.0	3900.0
-----	-----	-----	-----	-----	-----	-----	-----
10.000	211.4568	375.34	. Q	V	.	.	.
10.083	214.0616	378.20	. Q	V	.	.	.
10.167	216.6864	381.12	. Q	V	.	.	.
10.250	219.3317	384.10	. Q	V	.	.	.
10.333	221.9980	387.14	. Q	V	.	.	.
10.417	224.6856	390.25	. Q	V	.	.	.
10.500	227.3951	393.41	. Q	V	.	.	.
10.583	230.1268	396.65	. Q	V	.	.	.
10.667	232.8814	399.96	. Q	V	.	.	.
10.750	235.6592	403.34	. Q	V	.	.	.
10.833	238.4608	406.79	. Q	V	.	.	.
10.917	241.2868	410.33	. Q	V	.	.	.
11.000	244.1376	413.94	. Q	V	.	.	.
11.083	247.0140	417.64	. Q	V	.	.	.
11.167	249.9164	421.43	. Q	V	.	.	.
11.250	252.8455	425.31	. Q	V	.	.	.
11.333	255.8019	429.27	. Q	V	.	.	.
11.417	258.7864	433.35	. Q	V	.	.	.
11.500	261.7996	437.51	. Q	V	.	.	.
11.583	264.8423	441.80	. Q	V	.	.	.
11.667	267.9152	446.18	. Q	V	.	.	.
11.750	271.0191	450.69	. Q	V	.	.	.
11.833	274.1548	455.31	. Q	V	.	.	.
11.917	277.3233	460.06	. Q	V	.	.	.
12.000	280.5254	464.94	. Q	V	.	.	.
12.083	283.7672	470.72	. Q	V	.	.	.
12.167	287.0654	478.90	. Q	V	.	.	.
12.250	290.4449	490.70	. Q	V	.	.	.
12.333	293.9279	505.72	. Q	V	.	.	.
12.417	297.5204	521.64	. Q	V	.	.	.
12.500	301.2211	537.34	. Q	V	.	.	.
12.583	305.0318	553.31	. Q	V	.	.	.
12.667	308.9578	570.06	. Q	V	.	.	.
12.750	313.0028	587.34	. Q	V	.	.	.
12.833	317.1692	604.96	. Q	V	.	.	.
12.917	321.4620	623.32	. Q	V	.	.	.
13.000	325.8895	642.87	. Q	V	.	.	.
13.083	330.4637	664.16	. Q	V	.	.	.
13.167	335.1810	684.95	. Q	V	.	.	.
13.250	340.0435	706.03	. Q	V	.	.	.
13.333	345.0423	725.83	. Q	V	.	.	.
13.417	350.1660	743.95	. Q	V	.	.	.
13.500	355.4063	760.90	. Q	V	.	.	.
13.583	360.7565	776.85	. Q	.V	.	.	.
13.667	366.2079	791.55	. Q	.V	.	.	.
13.750	371.7570	805.73	. Q	.V	.	.	.
13.833	377.4023	819.69	. Q	.V	.	.	.
13.917	383.1422	833.43	. Q	.V	.	.	.
14.000	388.9759	847.06	. Q	.V	.	.	.
14.083	394.9142	862.24	. Q	.V	.	.	.
14.167	400.9879	881.91	. Q	.V	.	.	.
14.250	407.2420	908.09	. Q	.V	.	.	.
14.333	413.7178	940.28	. Q	.V	.	.	.
14.417	420.4277	974.28	. Q	.V	.	.	.
14.500	427.3701	1008.04	. Q	V	.	.	.

14.583	434.5509	1042.66	.	Q	V	.	.	.
14.667	441.9832	1079.16	.	.Q	V	.	.	.
14.750	449.6779	1117.28	.	.Q	V	.	.	.
14.833	457.6443	1156.72	.	.Q	V	.	.	.
14.917	465.8971	1198.31	.	.Q	V	.	.	.
15.000	474.4579	1243.03	.	.Q	V	.	.	.
15.083	483.3556	1291.94	.	.	QV	.	.	.
15.167	492.5933	1341.31	.	.	Q V	.	.	.
15.250	502.1884	1393.21	.	.	QV	.	.	.
15.333	512.1422	1445.30	.	.	QV	.	.	.
15.417	522.4312	1493.96	.	.	Q	.	.	.
15.500	532.9919	1533.42	.	.	QV	.	.	.
15.583	543.7327	1559.57	.	.	QV	.	.	.
15.667	554.5731	1574.02	.	.	Q	.	.	.
15.750	565.5353	1591.71	.	.	QV	.	.	.
15.833	576.7150	1623.29	.	.	QV	.	.	.
15.917	588.2324	1672.32	.	.	Q	.	.	.
16.000	600.2776	1748.95	.	.	QV	.	.	.
16.083	613.4415	1911.40	.	.	VQ.	.	.	.
16.167	628.5518	2194.01	.	.	V. Q	.	.	.
16.250	646.0942	2547.16	.	.	V. Q	.	.	.
16.333	665.6685	2842.19	.	.	V	Q.	.	.
16.417	686.0071	2953.16	.	.	V	Q	.	.
16.500	706.6581	2998.53	.	.	.V	Q	.	.
16.583	727.9499	3091.57	.	.	.V	.Q	.	.
16.667	750.2474	3237.60	.	.	.V	Q	.	.
16.750	773.3654	3356.74	.	.	V	Q	.	.
16.833	797.0599	3440.43	.	.	V	Q	.	.
16.917	821.5256	3552.43	.	.	V	Q	.	.
17.000	846.9758	3695.36	.	.	V	Q	.	.
17.083	873.3400	3828.09	.	.	V	Q.	.	.
17.167	898.9521	3718.87	.	.	V	Q.	.	.
17.250	923.7975	3607.55	.	.	V	Q	.	.
17.333	946.7136	3327.42	.	.	V	Q	.	.
17.417	967.4099	3005.09	.	.	VQ	.	.	.
17.500	986.2016	2728.57	.	.	Q V	.	.	.
17.583	1003.2452	2474.73	.	.	Q V	.	.	.
17.667	1018.4891	2213.41	.	.	Q .V	.	.	.
17.750	1032.3684	2015.28	.	.	Q .V	.	.	.
17.833	1045.1382	1854.17	.	.	Q .V	.	.	.
17.917	1056.7843	1691.01	.	.	Q .V	.	.	.
18.000	1067.4132	1543.32	.	.	Q .V	.	.	.
18.083	1077.1378	1412.01	.	.	Q .V	.	.	.
18.167	1086.0850	1299.12	.	.	Q .V	.	.	.
18.250	1094.1455	1170.39	.	.	Q .V	.	.	.
18.333	1101.5555	1075.93	.	.	.Q .V	.	.	.
18.417	1108.4927	1007.28	.	.	Q .V	.	.	.
18.500	1115.0531	952.57	.	.	Q .V	.	.	.
18.583	1121.2759	903.54	.	.	Q .V	.	.	.
18.667	1127.1960	859.60	.	.	Q .V	.	.	.
18.750	1132.8358	818.89	.	.	Q .V	.	.	.
18.833	1138.2115	780.56	.	.	Q .V	.	.	.
18.917	1143.3286	743.00	.	.	Q .V	.	.	.
19.000	1148.1741	703.56	.	.	Q .V	.	.	.
19.083	1152.6628	651.77	.	.	Q .V	.	.	.
19.167	1156.8767	611.85	.	.	Q .V	.	.	.
19.250	1160.8735	580.33	.	.	Q .V	.	.	.
19.333	1164.6917	554.38	.	.	Q .V	.	.	.

19.417	1168.3523	531.53	.	Q	.	.	.	V	.
19.500	1171.8722	511.09	.	Q	.	.	.	V	.
19.583	1175.2671	492.93	.	Q	.	.	.	V	.
19.667	1178.5535	477.18	.	Q	.	.	.	V	.
19.750	1181.7429	463.10	.	Q	.	.	.	V	.
19.833	1184.8440	450.27	.	Q	.	.	.	V	.
19.917	1187.8652	438.68	.	Q	.	.	.	V	.
20.000	1190.8138	428.13	.	Q	.	.	.	V	.

 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	615.0
20%	320.0
30%	210.0
40%	155.0
50%	100.0
60%	85.0
70%	75.0
80%	50.0
90%	25.0

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END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
(c) Copyright 1989-2013 Advanced Engineering Software (aes)
Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

Michael Baker International
5 Hutton Center Drive, Suite 500
Santa Ana, CA
92707

***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - FREE DRAINING UH *
* ULTIMATE CONDITION - REGIONAL NODE 13305 *
* 2-YR EV DECEMBER 2018 JCLARK *

FILE NAME: EVO2305F.DAT
TIME/DATE OF STUDY: 12:10 12/27/2018

FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

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(UNIT-HYDROGRAPH ADDED TO STREAM #2)

WATERSHED AREA = 4924.400 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 1.262 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.487
LOW LOSS FRACTION = 0.830
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.14
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.29
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.39
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 0.65
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 0.89
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 1.50

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.754
30-MINUTE FACTOR = 0.754
1-HOUR FACTOR = 0.754
3-HOUR FACTOR = 0.961
6-HOUR FACTOR = 0.979
24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 6.603

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.377	224.717
2	1.132	449.434
3	1.911	463.780
4	2.976	634.355
5	4.303	790.190
6	6.488	1301.338
7	9.544	1819.956
8	12.914	2006.852
9	16.961	2410.163
10	20.725	2241.910
11	25.165	2644.456
12	29.333	2481.743
13	34.493	3073.013
14	39.423	2936.183
15	45.485	3610.378
16	51.675	3686.475
17	56.456	2846.918
18	62.294	3476.779
19	67.301	2982.083
20	71.799	2678.747
21	75.788	2375.749
22	78.877	1839.476
23	81.880	1788.683
24	84.631	1638.025
25	86.932	1370.413
26	88.737	1075.090
27	90.252	902.381
28	91.646	830.151
29	92.942	771.411
30	94.108	694.914
31	94.971	513.923
32	95.798	492.163
33	96.400	358.907
34	96.918	308.441
35	97.436	308.441
36	97.921	288.626
37	98.113	114.232
38	98.237	73.807
39	98.361	73.807
40	98.484	73.721
41	98.608	73.630
42	98.732	73.721
43	98.856	73.807
44	98.979	73.630

45	99.104	73.984
46	99.227	73.630
47	99.351	73.630
48	99.474	73.630
49	99.598	73.630
50	99.722	73.630
51	99.845	73.630
52	99.969	73.630
53	100.000	18.452

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 486.2486
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 121.2366

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2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H
=====

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	100.0	200.0	300.0	400.0
10.000	17.8815	32.33	. Q V	.	.	.	.
10.083	18.1058	32.56	. Q V	.	.	.	.
10.167	18.3316	32.79	. Q V	.	.	.	.
10.250	18.5591	33.03	. Q V	.	.	.	.
10.333	18.7882	33.27	. Q V	.	.	.	.
10.417	19.0191	33.52	. Q V	.	.	.	.
10.500	19.2516	33.77	. Q V	.	.	.	.
10.583	19.4860	34.03	. Q V	.	.	.	.
10.667	19.7221	34.29	. Q V	.	.	.	.
10.750	19.9601	34.55	. Q V	.	.	.	.
10.833	20.2000	34.83	. Q V	.	.	.	.
10.917	20.4417	35.11	. Q V	.	.	.	.
11.000	20.6855	35.39	. Q V	.	.	.	.
11.083	20.9312	35.68	. Q V	.	.	.	.
11.167	21.1790	35.98	. Q V	.	.	.	.
11.250	21.4288	36.28	. Q V	.	.	.	.
11.333	21.6808	36.59	. Q V	.	.	.	.
11.417	21.9350	36.91	. Q V	.	.	.	.
11.500	22.1914	37.23	. Q V	.	.	.	.
11.583	22.4502	37.57	. Q V	.	.	.	.
11.667	22.7112	37.91	. Q V	.	.	.	.
11.750	22.9747	38.26	. Q V	.	.	.	.
11.833	23.2406	38.61	. Q V	.	.	.	.
11.917	23.5091	38.98	. Q V	.	.	.	.
12.000	23.7801	39.36	. Q V	.	.	.	.
12.083	24.0542	39.79	. Q V	.	.	.	.
12.167	24.3315	40.27	. Q V	.	.	.	.
12.250	24.6123	40.77	. Q V	.	.	.	.
12.333	24.8969	41.32	. Q V	.	.	.	.
12.417	25.1855	41.91	. Q V	.	.	.	.
12.500	25.4789	42.61	. Q V	.	.	.	.
12.583	25.7780	43.43	. Q V	.	.	.	.
12.667	26.0831	44.29	. Q V	.	.	.	.
12.750	26.3948	45.26	. Q V	.	.	.	.
12.833	26.7130	46.21	. Q V	.	.	.	.
12.917	27.0384	47.25	. Q V	.	.	.	.
13.000	27.3710	48.28	. Q V	.	.	.	.
13.083	27.7115	49.45	. Q V	.	.	.	.
13.167	28.0601	50.61	. Q V	.	.	.	.
13.250	28.4177	51.92	. Q V	.	.	.	.
13.333	28.7845	53.27	. Q V	.	.	.	.
13.417	29.1597	54.48	. Q V	.	.	.	.
13.500	29.5443	55.83	. Q V	.	.	.	.
13.583	29.9376	57.12	. Q V	.	.	.	.
13.667	30.3396	58.37	. Q V	.	.	.	.
13.750	30.7500	59.59	. Q V	.	.	.	.
13.833	31.1683	60.73	. Q V	.	.	.	.

13.917	31.5946	61.90	.	Q	V	.	.	.
14.000	32.0289	63.06	.	Q	V	.	.	.
14.083	32.4721	64.35	.	Q	V	.	.	.
14.167	32.9249	65.75	.	Q	V	.	.	.
14.250	33.3875	67.17	.	Q	.V	.	.	.
14.333	33.8607	68.71	.	Q	.V	.	.	.
14.417	34.3455	70.39	.	Q	.V	.	.	.
14.500	34.8441	72.40	.	Q	.V	.	.	.
14.583	35.3589	74.74	.	Q	.V	.	.	.
14.667	35.8909	77.24	.	Q	.V	.	.	.
14.750	36.4419	80.01	.	Q	.V	.	.	.
14.833	37.0116	82.72	.	Q	.V	.	.	.
14.917	37.6022	85.75	.	Q	.V	.	.	.
15.000	38.2133	88.73	.	Q	.V	.	.	.
15.083	38.8476	92.11	.	Q	.V	.	.	.
15.167	39.5052	95.48	.	Q	.V	.	.	.
15.250	40.1894	99.35	.	Q	.V	.	.	.
15.333	40.9011	103.35	.	Q	V	.	.	.
15.417	41.6360	106.70	.	Q	V	.	.	.
15.500	42.3956	110.29	.	.Q	V	.	.	.
15.583	43.1789	113.74	.	.Q	V	.	.	.
15.667	43.9846	116.99	.	.Q	V	.	.	.
15.750	44.8124	120.19	.	.Q	V	.	.	.
15.833	45.6583	122.83	.	.Q	V	.	.	.
15.917	46.5220	125.41	.	.Q	V	.	.	.
16.000	47.4079	128.63	.	.Q	V	.	.	.
16.083	48.4025	144.41	.	.Q	V	.	.	.
16.167	49.5071	160.40	.	.	Q	.	.	.
16.250	50.6399	164.47	.	.	Q	.	.	.
16.333	51.8663	178.08	.	.	Q	.	.	.
16.417	53.1860	191.61	.	.	V	Q.	.	.
16.500	54.7391	225.52	.	.	V	.Q	.	.
16.583	56.5186	258.38	.	.	V	.Q	.	.
16.667	58.3881	271.44	.	.	V.	Q	.	.
16.750	60.4302	296.52	.	.	V.	Q.	.	.
16.833	62.4185	288.70	.	.	V	Q.	.	.
16.917	64.5781	313.58	.	.	.V	.Q	.	.
17.000	66.6954	307.42	.	.	.V	Q	.	.
17.083	69.0578	343.02	.	.	.V	.Q	.	.
17.167	71.3859	338.04	.	.	.V	.Q	.	.
17.250	73.9779	376.36	.	.	.V	.Q	.	.
17.333	76.5847	378.50	.	.	.V	.Q	.	.
17.417	78.8544	329.57	.	.	.V	.Q	.	.
17.500	81.3419	361.18	.	.	.V	.Q	.	.
17.583	83.6097	329.29	.	.	.V	.Q	.	.
17.667	85.7242	307.03	.	.	.V	Q	.	.
17.750	87.6757	283.35	.	.	.V	Q	.	.
17.833	89.3849	248.18	.	.	.Q	V.	.	.
17.917	91.0381	240.05	.	.	.Q	V	.	.
18.000	92.5956	226.14	.	.	.Q	V	.	.
18.083	94.0079	205.08	.	.	.Q	.V	.	.
18.167	95.2646	182.46	.	.	.Q	.V	.	.
18.250	96.4145	166.96	.	.	.Q	.V	.	.
18.333	97.4991	157.48	.	.	.Q	.V	.	.
18.417	98.5272	149.29	.	.	.Q	.V	.	.
18.500	99.4873	139.40	.	.	.Q	.V	.	.
18.583	100.3409	123.94	.	.	.Q	.V	.	.
18.667	101.1516	117.72	.	.	.Q	.V	.	.

18.750	101.8791	105.63	.	Q	.	.	V	.
18.833	102.5598	98.84	.	Q.	.	.	V	.
18.917	103.2125	94.76	.	Q.	.	.	V	.
19.000	103.8297	89.63	.	Q	.	.	V	.
19.083	104.3531	76.00	.	Q	.	.	V	.
19.167	104.8385	70.48	.	Q	.	.	V	.
19.250	105.3041	67.60	.	Q	.	.	V	.
19.333	105.7514	64.95	.	Q	.	.	V	.
19.417	106.1815	62.46	.	Q	.	.	V	.
19.500	106.5945	59.96	.	Q	.	.	V	.
19.583	106.9923	57.77	.	Q	.	.	V	.
19.667	107.3760	55.71	.	Q	.	.	V	.
19.750	107.7477	53.96	.	Q	.	.	V	.
19.833	108.1085	52.39	.	Q	.	.	V	.
19.917	108.4590	50.90	.	Q	.	.	V	.
20.000	108.7998	49.49	.	Q	.	.	V	.

 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	535.0
20%	270.0
30%	190.0
40%	135.0
50%	105.0
60%	85.0
70%	70.0
80%	50.0
90%	20.0

 FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

 >>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
 TO ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE
 INTERVALS(Reference: the National Engineering Handbook,
 Hydrology, Chapter 17, page 17-52, August,1972,
 U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
 BASEWIDTH(FT) = 0.01 CHANNEL Z = 3.00
 UPSTREAM ELEVATION(FT) = 427.51
 DOWNSTREAM ELEVATION(FT) = 315.00
 CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040
 CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:

MAXIMUM INFLOW(CFS) = 378.50
 AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 291.38
 CHANNEL NORMAL VELOCITY FOR Q = 291.38 CFS = 6.10 FPS
 ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.782

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
 UNIT INTERVALS IS CSTAR = 0.528

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 2) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS
			LOSS (STREAM 2) (CFS)
10.000	32.33	31.24	31.24
10.083	32.56	31.45	31.45
10.167	32.79	31.66	31.66
10.250	33.03	31.88	31.88
10.333	33.27	32.10	32.10
10.417	33.52	32.32	32.32
10.500	33.77	32.55	32.55
10.583	34.03	32.78	32.78
10.667	34.29	33.02	33.02
10.750	34.55	33.26	33.26
10.833	34.83	33.51	33.51
10.917	35.11	33.76	33.76
11.000	35.39	34.01	34.01
11.083	35.68	34.27	34.27
11.167	35.98	34.54	34.54
11.250	36.28	34.81	34.81
11.333	36.59	35.09	35.09
11.417	36.91	35.38	35.38
11.500	37.23	35.67	35.67
11.583	37.57	35.96	35.96
11.667	37.91	36.27	36.27
11.750	38.26	36.58	36.58
11.833	38.61	36.89	36.89
11.917	38.98	37.22	37.22
12.000	39.36	37.55	37.55
12.083	39.79	37.89	37.89
12.167	40.27	38.24	38.24
12.250	40.77	38.60	38.60
12.333	41.32	38.96	38.96
12.417	41.91	39.36	39.36
12.500	42.61	39.80	39.80
12.583	43.43	40.27	40.27
12.667	44.29	40.77	40.77
12.750	45.26	41.32	41.32
12.833	46.21	41.93	41.93
12.917	47.25	42.65	42.65
13.000	48.28	43.44	43.44
13.083	49.45	44.31	44.31
13.167	50.61	45.23	45.23
13.250	51.92	46.20	46.20
13.333	53.27	47.21	47.21
13.417	54.48	48.28	48.28
13.500	55.83	49.40	49.40
13.583	57.12	50.61	50.61

13.667	58.37	51.89	51.89
13.750	59.59	53.15	53.15
13.833	60.73	54.44	54.44
13.917	61.90	55.74	55.74
14.000	63.06	57.01	57.01
14.083	64.35	58.26	58.26
14.167	65.75	59.46	59.46
14.250	67.17	60.64	60.64
14.333	68.71	61.81	61.81
14.417	70.39	63.04	63.04
14.500	72.40	64.34	64.34
14.583	74.74	65.71	65.71
14.667	77.24	67.15	67.15
14.750	80.01	68.71	68.71
14.833	82.72	70.47	70.47
14.917	85.75	72.51	72.51
15.000	88.73	74.78	74.78
15.083	92.11	77.29	77.29
15.167	95.48	79.91	79.91
15.250	99.35	82.72	82.72
15.333	103.35	85.62	85.62
15.417	106.70	88.74	88.74
15.500	110.29	91.99	91.99
15.583	113.74	95.52	95.52
15.667	116.99	99.29	99.29
15.750	120.19	102.89	102.89
15.833	122.83	106.47	106.47
15.917	125.41	109.99	109.99
16.000	128.63	113.39	113.39
16.083	144.41	116.69	116.69
16.167	160.40	119.69	119.69
16.250	164.47	122.47	122.47
16.333	178.08	125.43	125.43
16.417	191.61	134.01	134.01
16.500	225.52	146.48	146.48
16.583	258.38	155.61	155.61
16.667	271.44	166.23	166.23
16.750	296.52	178.39	178.39
16.833	288.70	200.17	200.17
16.917	313.58	227.90	227.90
17.000	307.42	249.70	249.70
17.083	343.02	272.12	272.12
17.167	338.04	281.59	281.59
17.250	376.36	296.20	296.20
17.333	378.50	302.69	302.69
17.417	329.57	320.73	320.73
17.500	361.18	330.32	330.32
17.583	329.29	351.12	351.12
17.667	307.03	365.39	365.39
17.750	283.35	350.96	350.96
17.833	248.18	353.46	353.46
17.917	240.05	343.61	343.61
18.000	226.14	326.34	326.34
18.083	205.08	305.81	305.81
18.167	182.46	278.60	278.60
18.250	166.96	258.99	258.99
18.333	157.48	242.92	242.92
18.417	149.29	224.87	224.87

18.500	139.40	204.55	204.55
18.583	123.94	186.12	186.12
18.667	117.72	171.87	171.87
18.750	105.63	160.70	160.70
18.833	98.84	150.36	150.36
18.917	94.76	137.83	137.83
19.000	89.63	127.78	127.78
19.083	76.00	117.19	117.19
19.167	70.48	108.12	108.12
19.250	67.60	101.44	101.44
19.333	64.95	95.67	95.67
19.417	62.46	86.53	86.53
19.500	59.96	78.56	78.56
19.583	57.77	73.04	73.04
19.667	55.71	69.01	69.01
19.750	53.96	65.78	65.78
19.833	52.39	62.93	62.93
19.917	50.90	60.41	60.41
20.000	49.49	58.12	58.12

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 121.237 AF
 OUTFLOW VOLUME = 121.237 AF
 LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 31100.00 TO NODE 13305.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

(UNIT-HYDROGRAPH ADDED TO STREAM #1)

WATERSHED AREA = 810.600 ACRES
 BASEFLOW = 0.000 CFS/SQUARE-MILE
 *USER ENTERED "LAG" TIME = 0.758 HOURS
 VALLEY (DEVELOPED) S-GRAPH SELECTED
 MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.564
 LOW LOSS FRACTION = 0.903
 HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.14
 SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.29
 SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.39
 SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 0.65
 SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 0.89
 SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 1.50

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE FACTOR = 0.754
 30-MINUTE FACTOR = 0.754
 1-HOUR FACTOR = 0.754
 3-HOUR FACTOR = 0.961
 6-HOUR FACTOR = 0.979
 24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES

UNIT INTERVAL PERCENTAGE OF LAG-TIME = 10.994

RUNOFF HYDROGRAPH LISTING LIMITS:

MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00

MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.628	61.586
2	1.939	128.525
3	3.842	186.506
4	7.464	355.056
5	12.996	542.376
6	19.432	630.890
7	26.464	689.416
8	34.306	768.753
9	43.361	887.652
10	53.163	960.925
11	62.063	872.481
12	70.212	798.898
13	76.755	641.396
14	81.786	493.160
15	86.125	425.407
16	89.207	302.128
17	91.598	234.376
18	93.692	205.260
19	95.224	150.160
20	96.382	113.544
21	97.245	84.616
22	97.979	71.980
23	98.232	24.748
24	98.438	20.220
25	98.644	20.202
26	98.850	20.203
27	99.056	20.219
28	99.262	20.203
29	99.468	20.203
30	99.675	20.203
31	99.881	20.203
32	100.000	11.698

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 87.2729
 TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 12.7283

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)

(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	17.5	35.0	52.5	70.0
10.000	1.8143	3.17	.Q	V	.	.	.
10.083	1.8363	3.20	.Q	V	.	.	.
10.167	1.8585	3.22	.Q	V	.	.	.
10.250	1.8808	3.25	.Q	V	.	.	.
10.333	1.9034	3.27	.Q	V	.	.	.
10.417	1.9261	3.30	.Q	V	.	.	.
10.500	1.9490	3.32	.Q	V	.	.	.
10.583	1.9721	3.35	.Q	V	.	.	.
10.667	1.9953	3.38	.Q	V	.	.	.
10.750	2.0188	3.41	.Q	V	.	.	.
10.833	2.0425	3.44	.Q	V	.	.	.
10.917	2.0664	3.47	.Q	V	.	.	.
11.000	2.0904	3.50	.Q	V	.	.	.
11.083	2.1147	3.53	.Q	V	.	.	.
11.167	2.1393	3.56	.Q	V	.	.	.
11.250	2.1640	3.59	.Q	V	.	.	.
11.333	2.1890	3.63	.Q	V	.	.	.
11.417	2.2142	3.66	.Q	V	.	.	.
11.500	2.2396	3.69	.Q	V	.	.	.
11.583	2.2653	3.73	.Q	V	.	.	.
11.667	2.2913	3.77	.Q	V	.	.	.
11.750	2.3175	3.81	.Q	V	.	.	.
11.833	2.3439	3.84	.Q	V	.	.	.
11.917	2.3707	3.88	.Q	V	.	.	.
12.000	2.3977	3.93	.Q	V	.	.	.
12.083	2.4251	3.97	.Q	V	.	.	.
12.167	2.4529	4.03	.Q	V	.	.	.
12.250	2.4811	4.10	.Q	V	.	.	.
12.333	2.5099	4.19	.Q	V	.	.	.
12.417	2.5395	4.29	.Q	V	.	.	.
12.500	2.5699	4.42	.Q	V	.	.	.
12.583	2.6012	4.54	.Q	V	.	.	.
12.667	2.6335	4.68	.Q	V	.	.	.
12.750	2.6668	4.84	.Q	V	.	.	.
12.833	2.7013	5.01	.Q	V	.	.	.
12.917	2.7368	5.16	.Q	V	.	.	.
13.000	2.7734	5.32	.Q	V	.	.	.
13.083	2.8110	5.45	.Q	V	.	.	.
13.167	2.8494	5.57	.Q	V	.	.	.
13.250	2.8886	5.69	.Q	V	.	.	.
13.333	2.9285	5.80	.Q	V	.	.	.
13.417	2.9691	5.90	.Q	V	.	.	.
13.500	3.0105	6.00	.Q	V	.	.	.
13.583	3.0524	6.10	.Q	V	.	.	.
13.667	3.0951	6.19	.Q	V	.	.	.
13.750	3.1384	6.29	.Q	V	.	.	.
13.833	3.1824	6.39	.Q	V	.	.	.

13.917	3.2271	6.49	.Q	V	.	.	.
14.000	3.2725	6.59	.Q	V	.	.	.
14.083	3.3188	6.72	.Q	V	.	.	.
14.167	3.3661	6.87	.Q	V	.	.	.
14.250	3.4147	7.05	.Q	V	.	.	.
14.333	3.4649	7.30	.Q	V	.	.	.
14.417	3.5174	7.61	.Q	.V	.	.	.
14.500	3.5722	7.97	.Q	.V	.	.	.
14.583	3.6297	8.34	.Q	.V	.	.	.
14.667	3.6900	8.75	.Q	.V	.	.	.
14.750	3.7534	9.21	.Q	.V	.	.	.
14.833	3.8202	9.70	.Q	.V	.	.	.
14.917	3.8901	10.16	.Q	.V	.	.	.
15.000	3.9632	10.61	.Q	.V	.	.	.
15.083	4.0390	11.01	.Q	.V	.	.	.
15.167	4.1174	11.37	.Q	.V	.	.	.
15.250	4.1981	11.73	.Q	.V	.	.	.
15.333	4.2811	12.05	.Q	.V	.	.	.
15.417	4.3661	12.33	.Q	.V	.	.	.
15.500	4.4527	12.58	.Q	.V	.	.	.
15.583	4.5408	12.79	.Q	.V	.	.	.
15.667	4.6297	12.92	.Q	.V	.	.	.
15.750	4.7190	12.96	.Q	.V	.	.	.
15.833	4.8087	13.02	.Q	.V	.	.	.
15.917	4.8991	13.13	.Q	.V	.	.	.
16.000	4.9913	13.39	.Q	.V	.	.	.
16.083	5.1080	16.94	.Q	V	.	.	.
16.167	5.2517	20.87	.Q	V	.	.	.
16.250	5.4209	24.58	.Q	V	.	.	.
16.333	5.6560	34.13	.	V	Q	.	.
16.417	5.9633	44.63	.	V	Q	.	.
16.500	6.3069	49.89	.	V	Q	.	.
16.583	6.6752	53.46	.	V	Q	.	.
16.667	7.0754	58.12	.	V	Q	.	.
16.750	7.5205	64.63	.	V	Q	.	.
16.833	7.9911	68.33	.	V	Q	.	.
16.917	8.4268	63.27	.	V	Q	.	.
17.000	8.8312	58.71	.	V	Q	.	.
17.083	9.1738	49.75	.	V	Q	.	.
17.167	9.4585	41.34	.	V	Q	.	.
17.250	9.7141	37.11	.	.Q	V	.	.
17.333	9.9210	30.04	.	.Q	.V	.	.
17.417	10.0987	25.81	.	.Q	.V	.	.
17.500	10.2611	23.57	.	.Q	.V	.	.
17.583	10.3987	19.99	.	.Q	.V	.	.
17.667	10.5182	17.35	.	.Q	.V	.	.
17.750	10.6222	15.10	.	.Q	.V	.	.
17.833	10.7165	13.69	.	.Q	.V	.	.
17.917	10.7894	10.58	.	.Q	.V	.	.
18.000	10.8566	9.77	.	.Q	.V	.	.
18.083	10.9206	9.29	.	.Q	.V	.	.
18.167	10.9818	8.89	.	.Q	.V	.	.
18.250	11.0403	8.49	.Q	.	.V	.	.
18.333	11.0963	8.13	.Q	.	.V	.	.
18.417	11.1500	7.79	.Q	.	.V	.	.
18.500	11.2014	7.46	.Q	.	.V	.	.
18.583	11.2505	7.13	.Q	.	.V	.	.
18.667	11.2943	6.37	.Q	.	.V	.	.

18.750	11.3320	5.47	. Q	.	.	.	V	.
18.833	11.3678	5.19	. Q	.	.	.	V	.
18.917	11.4020	4.97	. Q	.	.	.	V	.
19.000	11.4347	4.75	. Q	.	.	.	V	.
19.083	11.4662	4.56	. Q	.	.	.	V	.
19.167	11.4964	4.39	. Q	.	.	.	V	.
19.250	11.5256	4.24	. Q	.	.	.	V	.
19.333	11.5539	4.11	. Q	.	.	.	V	.
19.417	11.5814	3.99	. Q	.	.	.	V	.
19.500	11.6081	3.88	. Q	.	.	.	V	.
19.583	11.6341	3.78	. Q	.	.	.	V	.
19.667	11.6595	3.69	. Q	.	.	.	V	.
19.750	11.6844	3.61	. Q	.	.	.	V	.
19.833	11.7087	3.54	. Q	.	.	.	V	.
19.917	11.7326	3.47	.Q	.	.	.	V	.
20.000	11.7561	3.41	.Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	270.0
20%	110.0
30%	85.0
40%	65.0
50%	55.0
60%	50.0
70%	40.0
80%	25.0
90%	15.0

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 7

>>>>STREAM NUMBER 1 ADDED TO STREAM NUMBER 2<<<<<
=====

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6

>>>>STREAM NUMBER 1 CLEARED AND SET TO ZERO<<<<<
=====

FLOW PROCESS FROM NODE 100.00 TO NODE 130.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<
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(UNIT-HYDROGRAPH ADDED TO STREAM #3)

WATERSHED AREA = 222.600 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.340 HOURS
CAUTION: LAG TIME IS LESS THAN 0.50 HOURS.
THE 5-MINUTE PERIOD UH MODEL (USED IN THIS COMPUTER PROGRAM)
MAY BE TOO LARGE FOR PEAK FLOW ESTIMATES.
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.176
LOW LOSS FRACTION = 0.384
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.14
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.29
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.39
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 0.65
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 0.89
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 1.50

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.754
30-MINUTE FACTOR = 0.754
1-HOUR FACTOR = 0.754
3-HOUR FACTOR = 0.961
6-HOUR FACTOR = 0.979
24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 24.510

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
-----	-----	-----
1	1.460	39.313
2	7.103	151.908
3	20.046	348.443
4	37.087	458.757
5	57.881	559.789
6	75.054	462.291
7	85.873	291.271
8	92.044	166.116
9	95.730	99.231
10	97.707	53.213
11	98.419	19.178
12	98.879	12.372
13	99.333	12.243
14	99.733	10.767
15	99.933	5.383
16	100.000	1.794

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 10.0929
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 17.3614

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2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

=====

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	20.0	40.0	60.0	80.0
10.000	3.3692	5.76	. Q	V .	.	.	.
10.083	3.4091	5.80	. Q	V .	.	.	.
10.167	3.4494	5.85	. Q	V .	.	.	.
10.250	3.4901	5.90	. Q	V .	.	.	.
10.333	3.5310	5.95	. Q	V .	.	.	.
10.417	3.5724	6.00	. Q	V .	.	.	.
10.500	3.6140	6.05	. Q	V .	.	.	.
10.583	3.6561	6.10	. Q	V .	.	.	.
10.667	3.6985	6.16	. Q	V .	.	.	.
10.750	3.7413	6.21	. Q	V .	.	.	.
10.833	3.7845	6.27	. Q	V .	.	.	.
10.917	3.8281	6.33	. Q	V .	.	.	.
11.000	3.8721	6.39	. Q	V .	.	.	.
11.083	3.9165	6.45	. Q	V .	.	.	.
11.167	3.9613	6.51	. Q	V .	.	.	.
11.250	4.0066	6.58	. Q	V .	.	.	.
11.333	4.0524	6.64	. Q	V .	.	.	.
11.417	4.0986	6.71	. Q	V .	.	.	.
11.500	4.1453	6.78	. Q	V .	.	.	.
11.583	4.1925	6.85	. Q	V .	.	.	.
11.667	4.2402	6.92	. Q	V .	.	.	.
11.750	4.2884	7.00	. Q	V .	.	.	.
11.833	4.3372	7.08	. Q	V .	.	.	.
11.917	4.3865	7.16	. Q	V .	.	.	.
12.000	4.4363	7.24	. Q	V .	.	.	.
12.083	4.4870	7.36	. Q	V .	.	.	.
12.167	4.5390	7.55	. Q	V .	.	.	.
12.250	4.5934	7.89	. Q	V .	.	.	.
12.333	4.6507	8.32	. Q	V .	.	.	.
12.417	4.7114	8.82	. Q	V .	.	.	.
12.500	4.7751	9.26	. Q	.V	.	.	.
12.583	4.8411	9.57	. Q	.V	.	.	.
12.667	4.9086	9.80	. Q	.V	.	.	.
12.750	4.9774	9.99	. Q	.V	.	.	.
12.833	5.0473	10.15	. Q	.V	.	.	.
12.917	5.1182	10.29	. Q	.V	.	.	.
13.000	5.1900	10.43	. Q	.V	.	.	.
13.083	5.2628	10.57	. Q	. V	.	.	.
13.167	5.3366	10.72	. Q	. V	.	.	.
13.250	5.4115	10.87	. Q	. V	.	.	.
13.333	5.4873	11.02	. Q	. V	.	.	.
13.417	5.5643	11.18	. Q	. V	.	.	.
13.500	5.6424	11.34	. Q	. V	.	.	.
13.583	5.7217	11.51	. Q	. V	.	.	.
13.667	5.8022	11.69	. Q	. V	.	.	.
13.750	5.8840	11.88	. Q	. V	.	.	.
13.833	5.9672	12.08	. Q	. V	.	.	.

13.917	6.0518	12.28	.	Q	.	V	.	.	.
14.000	6.1379	12.50	.	Q	.	V	.	.	.
14.083	6.2262	12.82	.	Q	.	V	.	.	.
14.167	6.3184	13.39	.	Q	.	V	.	.	.
14.250	6.4177	14.41	.	Q	.	V	.	.	.
14.333	6.5257	15.68	.	Q	.	V	.	.	.
14.417	6.6440	17.18	.	Q	.	V	.	.	.
14.500	6.7713	18.47	.	Q	.	V	.	.	.
14.583	6.9049	19.40	.	Q	.	V	.	.	.
14.667	7.0431	20.07	.	Q	.	V	.	.	.
14.750	7.1850	20.61	.	Q	.	V	.	.	.
14.833	7.3301	21.06	.	Q	.	V	.	.	.
14.917	7.4779	21.47	.	Q	.	V	.	.	.
15.000	7.6286	21.88	.	Q	.	V	.	.	.
15.083	7.7824	22.34	.	.Q	.	V	.	.	.
15.167	7.9396	22.81	.	.Q	.	V	.	.	.
15.250	8.1003	23.33	.	.Q	.	V	.	.	.
15.333	8.2648	23.89	.	.Q	.	V	.	.	.
15.417	8.4324	24.34	.	.Q	.	V	.	.	.
15.500	8.6003	24.38	.	.Q	.	V	.	.	.
15.583	8.7635	23.70	.	.Q	.	V	.	.	.
15.667	8.9198	22.68	.	.Q	.	V	.	.	.
15.750	9.0679	21.51	.	Q	.	V	.	.	.
15.833	9.2134	21.13	.	Q	.	V	.	.	.
15.917	9.3664	22.21	.	.Q	.	V	.	.	.
16.000	9.5377	24.87	.	.Q	.	V	.	.	.
16.083	9.7580	31.99	.	.	Q	.	V	.	.
16.167	10.0681	45.03	.	.	.	QV	.	.	.
16.250	10.5018	62.97	.	.	.	V	.	.Q	.
16.333	11.0016	72.57	.	.	.	V	.	.	Q
16.417	11.5383	77.93	.	.	.	V	.	.	Q
16.500	12.0010	67.19	.	.	.	V	.	.	Q
16.583	12.3538	51.23	.	.	.	Q	.	V	.
16.667	12.6259	39.50	.	.	Q	.	V	.	.
16.750	12.8551	33.28	.	.	Q	.	V	.	.
16.833	13.0552	29.06	.	.	Q	.	V	.	.
16.917	13.2328	25.78	.	.Q	.	.	V	.	.
17.000	13.4013	24.47	.	.Q	.	.	V	.	.
17.083	13.5638	23.59	.	.Q	.	.	V	.	.
17.167	13.7178	22.36	.	.Q	.	.	V	.	.
17.250	13.8583	20.41	.	Q	.	.	V	.	.
17.333	13.9852	18.43	.	Q	.	.	V	.	.
17.417	14.0986	16.46	.	Q	.	.	V	.	.
17.500	14.2013	14.91	.	Q	.	.	V	.	.
17.583	14.2962	13.78	.	Q	.	.	V	.	.
17.667	14.3854	12.95	.	Q	.	.	V	.	.
17.750	14.4701	12.31	.	Q	.	.	V	.	.
17.833	14.5515	11.81	.	Q	.	.	V	.	.
17.917	14.6301	11.41	.	Q	.	.	V	.	.
18.000	14.7063	11.06	.	Q	.	.	V	.	.
18.083	14.7800	10.71	.	Q	.	.	V	.	.
18.167	14.8510	10.30	.	Q	.	.	V	.	.
18.250	14.9184	9.79	.	Q	.	.	V	.	.
18.333	14.9819	9.22	.	Q	.	.	V	.	.
18.417	15.0411	8.60	.	Q	.	.	V	.	.
18.500	15.0967	8.07	.	Q	.	.	V	.	.
18.583	15.1495	7.67	.	Q	.	.	V	.	.
18.667	15.2003	7.38	.	Q	.	.	V	.	.

18.750	15.2495	7.14	.	Q	.	.	.	V	.
18.833	15.2974	6.95	.	Q	.	.	.	V	.
18.917	15.3442	6.79	.	Q	.	.	.	V	.
19.000	15.3900	6.65	.	Q	.	.	.	V	.
19.083	15.4348	6.51	.	Q	.	.	.	V	.
19.167	15.4787	6.38	.	Q	.	.	.	V	.
19.250	15.5218	6.26	.	Q	.	.	.	V	.
19.333	15.5641	6.14	.	Q	.	.	.	V	.
19.417	15.6057	6.04	.	Q	.	.	.	V	.
19.500	15.6465	5.93	.	Q	.	.	.	V	.
19.583	15.6867	5.84	.	Q	.	.	.	V	.
19.667	15.7263	5.74	.	Q	.	.	.	V	.
19.750	15.7652	5.65	.	Q	.	.	.	V	.
19.833	15.8035	5.57	.	Q	.	.	.	V	.
19.917	15.8413	5.49	.	Q	.	.	.	V	.
20.000	15.8786	5.41	.	Q	.	.	.	V	.

 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	380.0
20%	190.0
30%	90.0
40%	45.0
50%	35.0
60%	25.0
70%	20.0
80%	20.0
90%	10.0

FLOW PROCESS FROM NODE 120.00 TO NODE 130.00 IS CODE = 1

 >>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<
 =====

(UNIT-HYDROGRAPH ADDED TO STREAM #1)

WATERSHED AREA = 225.000 ACRES
 BASEFLOW = 0.000 CFS/SQUARE-MILE
 *USER ENTERED "LAG" TIME = 0.219 HOURS
 CAUTION: LAG TIME IS LESS THAN 0.50 HOURS.
 THE 5-MINUTE PERIOD UH MODEL (USED IN THIS COMPUTER PROGRAM)
 MAY BE TOO LARGE FOR PEAK FLOW ESTIMATES.
 VALLEY(DEVELOPED) S-GRAPH SELECTED
 MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.250
 LOW LOSS FRACTION = 0.477
 HYDROGRAPH MODEL #1 SPECIFIED

 SPECIFIED PEAK 5-MINUTES RAINFALL(INCH)= 0.14
 SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)= 0.29
 SPECIFIED PEAK 1-HOUR RAINFALL(INCH) = 0.39

SPECIFIED PEAK 3-HOUR RAINFALL(INCH) = 0.65
 SPECIFIED PEAK 6-HOUR RAINFALL(INCH) = 0.89
 SPECIFIED PEAK 24-HOUR RAINFALL(INCH) = 1.50

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE FACTOR = 0.754
 30-MINUTE FACTOR = 0.754
 1-HOUR FACTOR = 0.754
 3-HOUR FACTOR = 0.961
 6-HOUR FACTOR = 0.979
 24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
 UNIT INTERVAL PERCENTAGE OF LAG-TIME = 38.052

RUNOFF HYDROGRAPH LISTING LIMITS:

MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 10.00
 MODEL TIME(HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	2.673	72.735
2	17.681	408.393
3	45.003	743.437
4	73.728	781.648
5	89.102	418.340
6	95.737	180.533
7	98.196	66.925
8	98.945	20.369
9	99.480	14.552
10	99.792	8.496
11	99.948	4.248
12	100.000	1.416

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 12.7215
 TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 15.0301

24 - HOUR STORM
 RUNOFF HYDROGRAPH

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
 (Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	22.5	45.0	67.5	90.0
10.000	2.9439	5.00	. Q	V	.	.	.
10.083	2.9786	5.04	. Q	V	.	.	.
10.167	3.0137	5.09	. Q	V	.	.	.
10.250	3.0490	5.13	. Q	V	.	.	.
10.333	3.0846	5.17	. Q	V	.	.	.
10.417	3.1205	5.22	. Q	V	.	.	.
10.500	3.1568	5.26	. Q	V	.	.	.
10.583	3.1933	5.31	. Q	V	.	.	.
10.667	3.2302	5.36	. Q	V	.	.	.
10.750	3.2675	5.41	. Q	V	.	.	.
10.833	3.3050	5.46	. Q	V	.	.	.
10.917	3.3430	5.51	. Q	V	.	.	.
11.000	3.3813	5.56	. Q	V	.	.	.
11.083	3.4200	5.62	. Q	V	.	.	.
11.167	3.4590	5.67	. Q	V	.	.	.
11.250	3.4985	5.73	. Q	V	.	.	.
11.333	3.5384	5.79	. Q	V	.	.	.
11.417	3.5787	5.85	. Q	V	.	.	.
11.500	3.6194	5.91	. Q	V	.	.	.
11.583	3.6605	5.98	. Q	V	.	.	.
11.667	3.7021	6.04	. Q	V	.	.	.
11.750	3.7442	6.11	. Q	V	.	.	.
11.833	3.7868	6.18	. Q	V	.	.	.
11.917	3.8298	6.25	. Q	V	.	.	.
12.000	3.8734	6.33	. Q	V	.	.	.
12.083	3.9178	6.45	. Q	V	.	.	.
12.167	3.9644	6.78	. Q	V	.	.	.
12.250	4.0148	7.31	. Q	V	.	.	.
12.333	4.0690	7.88	. Q	V	.	.	.
12.417	4.1256	8.22	. Q	V	.	.	.
12.500	4.1837	8.43	. Q	.V	.	.	.
12.583	4.2426	8.56	. Q	.V	.	.	.
12.667	4.3024	8.68	. Q	.V	.	.	.
12.750	4.3630	8.79	. Q	.V	.	.	.
12.833	4.4243	8.91	. Q	.V	.	.	.
12.917	4.4864	9.02	. Q	.V	.	.	.
13.000	4.5494	9.14	. Q	. V	.	.	.
13.083	4.6132	9.26	. Q	. V	.	.	.
13.167	4.6778	9.39	. Q	. V	.	.	.
13.250	4.7434	9.52	. Q	. V	.	.	.
13.333	4.8099	9.66	. Q	. V	.	.	.
13.417	4.8774	9.80	. Q	. V	.	.	.
13.500	4.9460	9.95	. Q	. V	.	.	.
13.583	5.0156	10.11	. Q	. V	.	.	.
13.667	5.0864	10.28	. Q	. V	.	.	.
13.750	5.1583	10.45	. Q	. V	.	.	.
13.833	5.2315	10.63	. Q	. V	.	.	.

13.917	5.3061	10.82	.	Q	.	V	.	.	.
14.000	5.3820	11.02	.	Q	.	V	.	.	.
14.083	5.4603	11.37	.	Q	.	V	.	.	.
14.167	5.5454	12.36	.	Q	.	V	.	.	.
14.250	5.6416	13.97	.	Q	.	V	.	.	.
14.333	5.7495	15.67	.	Q	.	V	.	.	.
14.417	5.8645	16.69	.	Q	.	V	.	.	.
14.500	5.9835	17.28	.	Q	.	V	.	.	.
14.583	6.1051	17.66	.	Q	.	V	.	.	.
14.667	6.2289	17.98	.	Q	.	V	.	.	.
14.750	6.3550	18.30	.	Q	.	V	.	.	.
14.833	6.4833	18.64	.	Q	.	V	.	.	.
14.917	6.6141	18.99	.	Q	.	V	.	.	.
15.000	6.7475	19.37	.	Q	.	V	.	.	.
15.083	6.8837	19.77	.	Q	.	V	.	.	.
15.167	7.0229	20.22	.	Q	.	V	.	.	.
15.250	7.1656	20.71	.	Q	.	V	.	.	.
15.333	7.3120	21.26	.	Q	.	V	.	.	.
15.417	7.4608	21.61	.	Q	.	V	.	.	.
15.500	7.6043	20.84	.	Q	.	V	.	.	.
15.583	7.7349	18.97	.	Q	.	V	.	.	.
15.667	7.8533	17.19	.	Q	.	V	.	.	.
15.750	7.9707	17.04	.	Q	.	.V	.	.	.
15.833	8.0975	18.42	.	Q	.	.V	.	.	.
15.917	8.2429	21.11	.	Q	.	.V	.	.	.
16.000	8.4196	25.66	.	.	.Q	.	V	.	.
16.083	8.6733	36.83	.	.	.	Q	.	V	.
16.167	9.1193	64.75	.	.	.	.	V	.	Q
16.250	9.7265	88.18	.	.	.	.	V	.	Q
16.333	10.3210	86.32	.	.	.	.	V	.	Q
16.417	10.7057	55.85	.	.	.	Q	.	V	.
16.500	10.9491	35.34	.	.	Q	.	.	V	.
16.583	11.1289	26.11	.	.	.Q	.	.	V	.
16.667	11.2876	23.04	.	.	Q	.	.	V	.
16.750	11.4411	22.29	.	.	Q	.	.	V	.
16.833	11.5870	21.19	.	.	Q	.	.	V	.
16.917	11.7253	20.08	.	.	Q	.	.	.V	.
17.000	11.8569	19.10	.	.	Q	.	.	.V	.
17.083	11.9823	18.21	.	.	Q	.	.	.V	.
17.167	12.0986	16.88	.	.	Q	.	.	.V	.
17.250	12.2017	14.97	.	.	Q	.	.	.V	.
17.333	12.2914	13.03	.	.	Q	.	.	.V	.
17.417	12.3726	11.80	.	.	Q	.	.	.V	.
17.500	12.4487	11.05	.	.	Q	.	.	.V	.
17.583	12.5214	10.55	.	.	Q	.	.	.V	.
17.667	12.5915	10.17	.	.	Q	.	.	.V	.
17.750	12.6592	9.84	.	.	Q	.	.	.V	.
17.833	12.7249	9.54	.	.	Q	.	.	.V	.
17.917	12.7887	9.27	.	.	Q	.	.	.V	.
18.000	12.8509	9.03	.	.	Q	.	.	.V	.
18.083	12.9112	8.76	.	.	Q	.	.	.V	.
18.167	12.9684	8.30	.	.	Q	.	.	.V	.
18.250	13.0211	7.66	.	.	Q	.	.	.V	.
18.333	13.0694	7.00	.	.	Q	.	.	.V	.
18.417	13.1147	6.58	.	.	Q	.	.	.V	.
18.500	13.1582	6.32	.	.	Q	.	.	.V	.
18.583	13.2005	6.14	.	.	Q	.	.	.V	.
18.667	13.2418	5.99	.	.	Q	.	.	.V	.

18.750	13.2821	5.86	.	Q	.	.	.	.	V	.
18.833	13.3216	5.73	.	Q	.	.	.	.	V	.
18.917	13.3603	5.62	.	Q	.	.	.	.	V	.
19.000	13.3982	5.51	.	Q	.	.	.	.	V	.
19.083	13.4355	5.41	.	Q	.	.	.	.	V	.
19.167	13.4720	5.31	.	Q	.	.	.	.	V	.
19.250	13.5079	5.22	.	Q	.	.	.	.	V	.
19.333	13.5432	5.13	.	Q	.	.	.	.	V	.
19.417	13.5780	5.04	.	Q	.	.	.	.	V	.
19.500	13.6121	4.96	.	Q	.	.	.	.	V	.
19.583	13.6457	4.88	.	Q	.	.	.	.	V	.
19.667	13.6788	4.81	.	Q	.	.	.	.	V	.
19.750	13.7115	4.74	.	Q	.	.	.	.	V	.
19.833	13.7436	4.67	.	Q	.	.	.	.	V	.
19.917	13.7753	4.60	.	Q	.	.	.	.	V	.
20.000	13.8065	4.54	.	Q	.	.	.	.	V	.

 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	315.0
20%	145.0
30%	30.0
40%	30.0
50%	20.0
60%	20.0
70%	15.0
80%	10.0
90%	10.0

 FLOW PROCESS FROM NODE 130.00 TO NODE 130.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 1<<<<<
 =====

 FLOW PROCESS FROM NODE 130.00 TO NODE 130.60 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
 =====

 FLOW PROCESS FROM NODE 130.60 TO NODE 13305.00 IS CODE = 7

>>>>STREAM NUMBER 1 ADDED TO STREAM NUMBER 2<<<<<
 =====

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6

>>>>STREAM NUMBER 1 CLEARED AND SET TO ZERO<<<<

FLOW PROCESS FROM NODE 150.00 TO NODE 13305.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<

(UNIT-HYDROGRAPH ADDED TO STREAM #3)

WATERSHED AREA = 62.600 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.470 HOURS
CAUTION: LAG TIME IS LESS THAN 0.50 HOURS.
THE 5-MINUTE PERIOD UH MODEL (USED IN THIS COMPUTER PROGRAM)
MAY BE TOO LARGE FOR PEAK FLOW ESTIMATES.
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.404
LOW LOSS FRACTION = 0.835
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL(INCH)= 0.14
SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)= 0.29
SPECIFIED PEAK 1-HOUR RAINFALL(INCH) = 0.39
SPECIFIED PEAK 3-HOUR RAINFALL(INCH) = 0.65
SPECIFIED PEAK 6-HOUR RAINFALL(INCH) = 0.89
SPECIFIED PEAK 24-HOUR RAINFALL(INCH) = 1.50

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.754
30-MINUTE FACTOR = 0.754
1-HOUR FACTOR = 0.754
3-HOUR FACTOR = 0.961
6-HOUR FACTOR = 0.979
24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 17.730

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME(HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

Table with 3 columns: INTERVAL NUMBER, "S" GRAPH MEAN VALUES, UNIT HYDROGRAPH ORDINATES (CFS). Rows 1 and 2.

Table with 3 columns: Interval Number, Value 1, Value 2. Rows 3 to 20.

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 6.1812
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 1.5413

=====

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

=====

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	2.5	5.0	7.5	10.0
10.000	0.2489	0.43	.Q	V	.	.	.
10.083	0.2519	0.43	.Q	V	.	.	.
10.167	0.2549	0.44	.Q	V	.	.	.
10.250	0.2579	0.44	.Q	V	.	.	.
10.333	0.2609	0.44	.Q	V	.	.	.
10.417	0.2640	0.45	.Q	V	.	.	.
10.500	0.2671	0.45	.Q	V	.	.	.
10.583	0.2702	0.45	.Q	V	.	.	.
10.667	0.2734	0.46	.Q	V	.	.	.
10.750	0.2766	0.46	.Q	V	.	.	.
10.833	0.2798	0.47	.Q	V	.	.	.
10.917	0.2830	0.47	.Q	V	.	.	.
11.000	0.2863	0.47	.Q	V	.	.	.
11.083	0.2896	0.48	.Q	V	.	.	.
11.167	0.2929	0.48	.Q	V	.	.	.
11.250	0.2962	0.49	.Q	V	.	.	.
11.333	0.2996	0.49	.Q	V	.	.	.
11.417	0.3031	0.50	.Q	V	.	.	.
11.500	0.3065	0.50	.Q	V	.	.	.
11.583	0.3100	0.51	.Q	V	.	.	.
11.667	0.3135	0.51	.Q	V	.	.	.
11.750	0.3171	0.52	.Q	V	.	.	.
11.833	0.3207	0.52	.Q	V	.	.	.
11.917	0.3244	0.53	.Q	V	.	.	.
12.000	0.3281	0.54	.Q	V	.	.	.
12.083	0.3318	0.54	.Q	V	.	.	.
12.167	0.3356	0.55	.Q	V	.	.	.
12.250	0.3395	0.57	.Q	V	.	.	.
12.333	0.3436	0.59	.Q	V	.	.	.
12.417	0.3479	0.62	.Q	V	.	.	.
12.500	0.3523	0.64	.Q	V	.	.	.
12.583	0.3569	0.67	.Q	V	.	.	.
12.667	0.3617	0.70	.Q	V	.	.	.
12.750	0.3667	0.72	.Q	V	.	.	.
12.833	0.3718	0.74	.Q	V	.	.	.
12.917	0.3770	0.75	.Q	V	.	.	.
13.000	0.3822	0.76	.Q	V	.	.	.
13.083	0.3876	0.78	.Q	V	.	.	.
13.167	0.3930	0.79	.Q	V	.	.	.
13.250	0.3985	0.80	.Q	V	.	.	.
13.333	0.4041	0.81	.Q	V	.	.	.
13.417	0.4098	0.82	.Q	V	.	.	.
13.500	0.4155	0.83	.Q	V	.	.	.
13.583	0.4213	0.85	.Q	V	.	.	.
13.667	0.4273	0.86	.Q	.V	.	.	.
13.750	0.4333	0.87	.Q	.V	.	.	.
13.833	0.4394	0.89	.Q	.V	.	.	.

13.917	0.4456	0.90	.Q	.V	.	.	.
14.000	0.4519	0.92	.Q	.V	.	.	.
14.083	0.4583	0.94	.Q	.V	.	.	.
14.167	0.4650	0.97	.Q	.V	.	.	.
14.250	0.4720	1.01	.Q	.V	.	.	.
14.333	0.4794	1.08	.Q	.V	.	.	.
14.417	0.4873	1.15	.Q	.V	.	.	.
14.500	0.4958	1.23	.Q	.V	.	.	.
14.583	0.5049	1.32	.Q	.V	.	.	.
14.667	0.5145	1.40	.Q	.V	.	.	.
14.750	0.5246	1.46	.Q	.V	.	.	.
14.833	0.5349	1.51	.Q	.V	.	.	.
14.917	0.5456	1.55	.Q	.V	.	.	.
15.000	0.5565	1.59	.Q	.V	.	.	.
15.083	0.5677	1.62	.Q	.V	.	.	.
15.167	0.5792	1.66	.Q	.V	.	.	.
15.250	0.5908	1.70	.Q	.V	.	.	.
15.333	0.6028	1.73	.Q	.V	.	.	.
15.417	0.6149	1.77	.Q	.V	.	.	.
15.500	0.6273	1.79	.Q	.V	.	.	.
15.583	0.6396	1.78	.Q	.V	.	.	.
15.667	0.6517	1.76	.Q	.V	.	.	.
15.750	0.6635	1.73	.Q	.V	.	.	.
15.833	0.6752	1.69	.Q	.V	.	.	.
15.917	0.6868	1.69	.Q	.V	.	.	.
16.000	0.6989	1.76	.Q	.V	.	.	.
16.083	0.7154	2.40	.Q	.V	.	.	.
16.167	0.7394	3.47	.Q	.V	.	.	.
16.250	0.7776	5.56	.Q	.V	.Q	.	.
16.333	0.8294	7.52	.Q	.V	.Q	.	.
16.417	0.8872	8.40	.Q	.V	.V	.Q	.
16.500	0.9552	9.87	.Q	.V	.V	.Q	.Q
16.583	1.0218	9.68	.Q	.V	.V	.Q	.Q
16.667	1.0799	8.43	.Q	.V	.V	.Q	.Q
16.750	1.1236	6.35	.Q	.V	.Q	.V	.Q
16.833	1.1579	4.97	.Q	.V	.Q	.V	.Q
16.917	1.1844	3.86	.Q	.V	.Q	.V	.Q
17.000	1.2067	3.24	.Q	.V	.Q	.V	.Q
17.083	1.2249	2.64	.Q	.V	.Q	.V	.Q
17.167	1.2405	2.27	.Q	.V	.Q	.V	.Q
17.250	1.2531	1.83	.Q	.V	.Q	.V	.Q
17.333	1.2649	1.71	.Q	.V	.Q	.V	.Q
17.417	1.2760	1.61	.Q	.V	.Q	.V	.Q
17.500	1.2863	1.50	.Q	.V	.Q	.V	.Q
17.583	1.2959	1.39	.Q	.V	.Q	.V	.Q
17.667	1.3045	1.25	.Q	.V	.Q	.V	.Q
17.750	1.3117	1.05	.Q	.V	.Q	.V	.Q
17.833	1.3184	0.98	.Q	.V	.Q	.V	.Q
17.917	1.3249	0.94	.Q	.V	.Q	.V	.Q
18.000	1.3311	0.90	.Q	.V	.Q	.V	.Q
18.083	1.3370	0.86	.Q	.V	.Q	.V	.Q
18.167	1.3427	0.83	.Q	.V	.Q	.V	.Q
18.250	1.3482	0.80	.Q	.V	.Q	.V	.Q
18.333	1.3534	0.76	.Q	.V	.Q	.V	.Q
18.417	1.3584	0.72	.Q	.V	.Q	.V	.Q
18.500	1.3630	0.68	.Q	.V	.Q	.V	.Q
18.583	1.3675	0.64	.Q	.V	.Q	.V	.Q
18.667	1.3716	0.61	.Q	.V	.Q	.V	.Q

18.750	1.3756	0.58	. Q	.	.	.	V	.
18.833	1.3795	0.56	. Q	.	.	.	V	.
18.917	1.3832	0.54	. Q	.	.	.	V	.
19.000	1.3868	0.52	. Q	.	.	.	V	.
19.083	1.3903	0.51	. Q	.	.	.	V	.
19.167	1.3938	0.50	.Q	.	.	.	V	.
19.250	1.3971	0.49	.Q	.	.	.	V	.
19.333	1.4005	0.48	.Q	.	.	.	V	.
19.417	1.4037	0.47	.Q	.	.	.	V	.
19.500	1.4069	0.46	.Q	.	.	.	V	.
19.583	1.4100	0.45	.Q	.	.	.	V	.
19.667	1.4131	0.45	.Q	.	.	.	V	.
19.750	1.4161	0.44	.Q	.	.	.	V	.
19.833	1.4190	0.43	.Q	.	.	.	V	.
19.917	1.4220	0.42	.Q	.	.	.	V	.
20.000	1.4248	0.42	.Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	215.0
20%	70.0
30%	55.0
40%	40.0
50%	40.0
60%	30.0
70%	25.0
80%	20.0
90%	10.0

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 2 HYDROGRAPH<<<<<

STREAM HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	125.0	250.0	375.0	500.0
-----	-----	-----	-----	-----	-----	-----	-----
10.000	25.1463	45.60	. Q V	.	.	.	.
10.083	25.4626	45.92	. Q V	.	.	.	.
10.167	25.7812	46.25	. Q V	.	.	.	.
10.250	26.1020	46.59	. Q V	.	.	.	.
10.333	26.4253	46.93	. Q V	.	.	.	.
10.417	26.7509	47.28	. Q V	.	.	.	.
10.500	27.0790	47.64	. Q V	.	.	.	.
10.583	27.4095	48.00	. Q V	.	.	.	.
10.667	27.7427	48.37	. Q V	.	.	.	.
10.750	28.0784	48.75	. Q V	.	.	.	.
10.833	28.4168	49.14	. Q V	.	.	.	.
10.917	28.7580	49.53	. Q V	.	.	.	.
11.000	29.1019	49.93	. Q V	.	.	.	.
11.083	29.4486	50.35	. Q V	.	.	.	.
11.167	29.7983	50.77	. Q V	.	.	.	.
11.250	30.1509	51.20	. Q V	.	.	.	.
11.333	30.5065	51.64	. Q V	.	.	.	.
11.417	30.8653	52.09	. Q V	.	.	.	.
11.500	31.2272	52.55	. Q V	.	.	.	.
11.583	31.5924	53.03	. Q V	.	.	.	.
11.667	31.9610	53.51	. Q V	.	.	.	.
11.750	32.3330	54.01	. Q V	.	.	.	.
11.833	32.7084	54.52	. Q V	.	.	.	.
11.917	33.0875	55.04	. Q V	.	.	.	.
12.000	33.4703	55.58	. Q V	.	.	.	.
12.083	33.8574	56.21	. Q V	.	.	.	.
12.167	34.2510	57.15	. Q V	.	.	.	.
12.250	34.6537	58.47	. Q V	.	.	.	.
12.333	35.0665	59.93	. Q V	.	.	.	.
12.417	35.4887	61.31	. Q V	.	.	.	.
12.500	35.9194	62.54	. Q V	.	.	.	.
12.583	36.3576	63.62	. Q V	.	.	.	.
12.667	36.8028	64.64	. Q V	.	.	.	.
12.750	37.2550	65.66	. Q V	.	.	.	.
12.833	37.7146	66.73	. Q V	.	.	.	.
12.917	38.1820	67.87	. Q V	.	.	.	.
13.000	38.6578	69.09	. Q V	.	.	.	.
13.083	39.1425	70.37	. Q V	.	.	.	.
13.167	39.6363	71.70	. Q V	.	.	.	.
13.250	40.1396	73.08	. Q V	.	.	.	.
13.333	40.6526	74.49	. Q V	.	.	.	.
13.417	41.1759	75.98	. Q V	.	.	.	.
13.500	41.7099	77.53	. Q V	.	.	.	.
13.583	42.2552	79.18	. Q V	.	.	.	.
13.667	42.8124	80.91	. Q V	.	.	.	.
13.750	43.3816	82.64	. Q V	.	.	.	.
13.833	43.9630	84.42	. Q V	.	.	.	.
13.917	44.5569	86.23	. Q V	.	.	.	.
14.000	45.1632	88.04	. Q V	.	.	.	.
14.083	45.7838	90.10	. Q V	.	.	.	.
14.167	46.4246	93.05	. Q .V	.	.	.	.
14.250	47.0933	97.09	. Q .V	.	.	.	.
14.333	47.7926	101.54	. Q .V	.	.	.	.
14.417	48.5204	105.67	. Q .V	.	.	.	.
14.500	49.2731	109.29	. Q .V	.	.	.	.

14.583	50.0474	112.43	.	Q	.V	.	.	.
14.667	50.8418	115.35	.	Q	.	V	.	.
14.750	51.6564	118.28	.	Q	.	V	.	.
14.833	52.4924	121.38	.	Q	.	V	.	.
14.917	53.3510	124.68	.	Q	.	V	.	.
15.000	54.2342	128.23	.	Q	.	V	.	.
15.083	55.1435	132.03	.	Q	.	V	.	.
15.167	56.0800	135.98	.	Q	.	V	.	.
15.250	57.0454	140.18	.	.	Q	.	V	.
15.333	58.0409	144.55	.	.	Q	.	V	.
15.417	59.0656	148.78	.	.	Q	.	V	.
15.500	60.1094	151.57	.	.	Q	.	V	.
15.583	61.1615	152.76	.	.	Q	.	V	.
15.667	62.2210	153.83	.	.	Q	.	V	.
15.750	63.2963	156.13	.	.	Q	.	V	.
15.833	64.4032	160.73	.	.	Q	.	V	.
15.917	65.5611	168.13	.	.	Q	.	V	.
16.000	66.7944	179.07	.	.	Q	.	V	.
16.083	68.2052	204.85	.	.	Q	.	V	.
16.167	69.9532	253.81	.	.	V	.	Q	.
16.250	72.0451	303.75	.	.	V	.	Q	.
16.333	74.2901	325.97	.	.	V	.	Q	.
16.417	76.4996	320.82	.	.	V	.	Q	.
16.500	78.6261	308.77	.	.	V	.	Q	.
16.583	80.6652	296.08	.	.	V	.	Q	.
16.667	82.6991	295.32	.	.	V	.	Q	.
16.750	84.7993	304.94	.	.	V	.	Q	.
16.833	87.0287	323.72	.	.	V	.	Q	.
16.917	89.3765	340.90	.	.	V	.	Q	.
17.000	91.8229	355.21	.	.	V	.	Q	.
17.083	94.3457	366.32	.	.	V	.	Q	.
17.167	96.8556	364.44	.	.	V	.	Q	.
17.250	99.4074	370.52	.	.	V	.	Q	.
17.333	101.9273	365.90	.	.	V	.	Q	.
17.417	104.5197	376.41	.	.	V	.	Q	.
17.500	107.1461	381.35	.	.	V	.	Q	.
17.583	109.8791	396.83	.	.	V	.	Q	.
17.667	112.6828	407.11	.	.	V	.	Q	.
17.750	115.3636	389.24	.	.	V	.	Q	.
17.833	118.0460	389.48	.	.	V	.	Q	.
17.917	120.6342	375.81	.	.	V	.	Q	.
18.000	123.0935	357.09	.	.	V	.	Q	.
18.083	125.4036	335.43	.	.	V	.	Q	.
18.167	127.5174	306.92	.	.	V	.	Q	.
18.250	129.4852	285.72	.	.	V	.	Q	.
18.333	131.3311	268.03	.	.	V	.	Q	.
18.417	133.0430	248.56	.	.	V	.	Q	.
18.500	134.6068	227.07	.	.	V	.	Q	.
18.583	136.0373	207.70	.	.	V	.	Q	.
18.667	137.3611	192.22	.	.	V	.	Q	.
18.750	138.5990	179.75	.	.	V	.	Q	.
18.833	139.7615	168.79	.	.	V	.	Q	.
18.917	140.8341	155.74	.	.	V	.	Q	.
19.000	141.8342	145.21	.	.	V	.	Q	.
19.083	142.7582	134.18	.	.	V	.	Q	.
19.167	143.6171	124.70	.	.	V	.	Q	.
19.250	144.4273	117.64	.	.	V	.	Q	.
19.333	145.1954	111.53	.	.	V	.	Q	.

19.417	145.8983	102.07	.	Q	.	.	.	V	.
19.500	146.5443	93.79	.	Q	.	.	.	V	.
19.583	147.1503	87.98	.	Q	.	.	.	V	.
19.667	147.7267	83.69	.	Q	.	.	.	V	.
19.750	148.2791	80.21	.	Q	.	.	.	V	.
19.833	148.8103	77.14	.	Q	.	.	.	V	.
19.917	149.3226	74.39	.	Q	.	.	.	V	.
20.000	149.8177	71.89	.	Q	.	.	.	V	.

 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	810.0
20%	360.0
30%	260.0
40%	180.0
50%	155.0
60%	140.0
70%	125.0
80%	80.0
90%	40.0

 END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

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Santa Ana, CA
92707

***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - FREE DRAINING UH *
* ULTIMATE CONDITION - REGIONAL NODE 13305 *
* 5-YR EV DECEMBER 2018 JCLARK *

FILE NAME: EV05305F.DAT
TIME/DATE OF STUDY: 13:13 12/27/2018

FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

=====

(UNIT-HYDROGRAPH ADDED TO STREAM #2)

WATERSHED AREA = 4924.400 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.986 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.406
LOW LOSS FRACTION = 0.789
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.19
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.42
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.57
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 0.95
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 1.31
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 2.19

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.754
30-MINUTE FACTOR = 0.754
1-HOUR FACTOR = 0.754
3-HOUR FACTOR = 0.961
6-HOUR FACTOR = 0.979
24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 8.452

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.483	287.619
2	1.449	575.239
3	2.632	704.860
4	4.301	993.530
5	7.218	1737.327
6	11.363	2468.400
7	16.187	2873.247
8	21.207	2989.700
9	26.667	3251.397
10	32.713	3600.828
11	39.164	3841.879
12	46.947	4634.997
13	54.052	4231.546
14	60.943	4103.863
15	67.597	3962.565
16	73.191	3331.305
17	77.756	2718.781
18	81.570	2271.200
19	85.069	2084.043
20	87.803	1627.988
21	89.864	1227.766
22	91.667	1073.936
23	93.315	981.346
24	94.618	775.664
25	95.682	633.702
26	96.472	470.617
27	97.135	394.847
28	97.788	389.004
29	98.110	191.783
30	98.269	94.344
31	98.427	94.412
32	98.586	94.408
33	98.744	94.344
34	98.902	94.276
35	99.061	94.549
36	99.219	94.276
37	99.378	94.276
38	99.536	94.276
39	99.694	94.276
40	99.853	94.276
41	100.000	87.770

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 664.5764
 TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 221.5187

2 4 - H O U R S T O R M
 R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
 (Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	225.0	450.0	675.0	900.0
10.000	33.0078	58.82	. Q	V	.	.	.
10.083	33.4159	59.26	. Q	V	.	.	.
10.167	33.8271	59.70	. Q	V	.	.	.
10.250	34.2414	60.16	. Q	V	.	.	.
10.333	34.6589	60.62	. Q	V	.	.	.
10.417	35.0797	61.10	. Q	V	.	.	.
10.500	35.5039	61.58	. Q	V	.	.	.
10.583	35.9314	62.08	. Q	V	.	.	.
10.667	36.3624	62.58	. Q	V	.	.	.
10.750	36.7969	63.10	. Q	V	.	.	.
10.833	37.2351	63.62	. Q	V	.	.	.
10.917	37.6770	64.16	. Q	V	.	.	.
11.000	38.1227	64.71	. Q	V	.	.	.
11.083	38.5722	65.28	. Q	V	.	.	.
11.167	39.0258	65.85	. Q	V	.	.	.
11.250	39.4834	66.44	. Q	V	.	.	.
11.333	39.9451	67.05	. Q	V	.	.	.
11.417	40.4111	67.66	. Q	V	.	.	.
11.500	40.8815	68.30	. Q	V	.	.	.
11.583	41.3563	68.95	. Q	V	.	.	.
11.667	41.8358	69.61	. Q	V	.	.	.
11.750	42.3199	70.30	. Q	V	.	.	.
11.833	42.8089	71.00	. Q	V	.	.	.
11.917	43.3028	71.72	. Q	V	.	.	.
12.000	43.8018	72.46	. Q	V	.	.	.
12.083	44.3069	73.34	. Q	V	.	.	.
12.167	44.8192	74.38	. Q	V	.	.	.
12.250	45.3391	75.49	. Q	V	.	.	.
12.333	45.8677	76.76	. Q	V	.	.	.
12.417	46.4076	78.38	. Q	V	.	.	.
12.500	46.9610	80.36	. Q	V	.	.	.
12.583	47.5295	82.54	. Q	V	.	.	.
12.667	48.1135	84.81	. Q	V	.	.	.
12.750	48.7142	87.22	. Q	V	.	.	.
12.833	49.3329	89.83	. Q	V	.	.	.
12.917	49.9704	92.57	. Q	V	.	.	.
13.000	50.6296	95.71	. Q	V	.	.	.
13.083	51.3095	98.71	. Q	V	.	.	.
13.167	52.0099	101.71	. Q	V	.	.	.
13.250	52.7308	104.68	. Q	V	.	.	.
13.333	53.4706	107.42	. Q	V	.	.	.
13.417	54.2278	109.94	. Q	V	.	.	.
13.500	55.0012	112.31	. Q	V	.	.	.
13.583	55.7909	114.65	. Q	V	.	.	.
13.667	56.5956	116.85	. Q	V	.	.	.
13.750	57.4147	118.93	. Q	V	.	.	.
13.833	58.2482	121.01	. Q	V	.	.	.

13.917	59.0961	123.12	.	Q	V	.	.	.
14.000	59.9584	125.21	.	Q	V	.	.	.
14.083	60.8372	127.60	.	Q	V	.	.	.
14.167	61.7347	130.32	.	Q	.V	.	.	.
14.250	62.6521	133.21	.	Q	.V	.	.	.
14.333	63.5921	136.49	.	Q	.V	.	.	.
14.417	64.5602	140.56	.	Q	.V	.	.	.
14.500	65.5618	145.44	.	Q	.V	.	.	.
14.583	66.6007	150.84	.	Q	.V	.	.	.
14.667	67.6783	156.47	.	Q	.V	.	.	.
14.750	68.7973	162.48	.	Q	.V	.	.	.
14.833	69.9610	168.98	.	Q	.V	.	.	.
14.917	71.1721	175.86	.	Q	.V	.	.	.
15.000	72.4373	183.71	.	Q	.V	.	.	.
15.083	73.7547	191.28	.	Q	.V	.	.	.
15.167	75.1246	198.91	.	Q	.V	.	.	.
15.250	76.5473	206.57	.	Q	.V	.	.	.
15.333	78.0198	213.82	.	Q	.V	.	.	.
15.417	79.5358	220.11	.	Q	.V	.	.	.
15.500	81.0900	225.67	.	Q	.V	.	.	.
15.583	82.6821	231.17	.	Q	.V	.	.	.
15.667	84.3083	236.14	.	Q	.V	.	.	.
15.750	85.9613	240.00	.	Q	.V	.	.	.
15.833	87.6366	243.26	.	Q	.V	.	.	.
15.917	89.3389	247.17	.	Q	.V	.	.	.
16.000	91.0970	255.28	.	.Q	.V	.	.	.
16.083	93.1122	292.61	.	.	Q .V	.	.	.
16.167	95.3792	329.16	.	.	. Q .V	.	.	.
16.250	97.8093	352.85	.	.	. Q .V	.	.	.
16.333	100.5386	396.29	.	.	. . QV	.	.	.
16.417	103.8820	485.47	.	.	. . V .Q	.	.	.
16.500	107.8035	569.39	.	.	. . V . Q	.	.	.
16.583	112.0478	616.28	.	.	. . V . Q	.	.	.
16.667	116.4286	636.09	.	.	. . .V . Q	.	.	.
16.750	121.0516	671.27	.	.	. . .V . Q	.	.	.
16.833	125.9761	715.04	.	.	. . .V . Q	.	.	.
16.917	131.1488	751.07	.	.	. . .V . Q	.	.	.
17.000	136.8380	826.08	.	.	. . .V . Q	.	.	.
17.083	142.2300	782.91	.	.	. . .V . Q	.	.	.
17.167	147.4798	762.27	.	.	. . .V . Q	.	.	.
17.250	152.5285	733.07	.	.	. . .V . Q	.	.	.
17.333	157.0430	655.51	.	.	. . .V . Q	.	.	.
17.417	161.0344	579.56	.	.	. . .V . Q	.	.	.
17.500	164.6296	522.02	.	.	. . .V . Q	.	.	.
17.583	167.9880	487.64	.	.	. . .V . Q	.	.	.
17.667	170.9297	427.13	.	.	. . .V . Q	.	.	.
17.750	173.5097	374.61	.	.	. . .V . Q	.	.	.
17.833	175.9002	347.10	.	.	. . .V . Q	.	.	.
17.917	178.1385	325.01	.	.	. . .V . Q	.	.	.
18.000	180.1460	291.48	.	.	. . .V . Q	.	.	.
18.083	181.9651	264.14	.	.	. . .V . Q	.	.	.
18.167	183.5922	236.24	.	.	. . .V . Q	.	.	.
18.250	185.0944	218.12	.	.	. . .V . Q	.	.	.
18.333	186.5115	205.76	.	.	. . .V . Q	.	.	.
18.417	187.7263	176.38	.	.	. . .V . Q	.	.	.
18.500	188.8169	158.35	.	.	. . .V . Q	.	.	.
18.583	189.8547	150.69	.	.	. . .V . Q	.	.	.
18.667	190.8472	144.11	.	.	. . .V . Q	.	.	.

18.750	191.7967	137.87	.	Q	.	.	.	V	.
18.833	192.7053	131.92	.	Q	.	.	.	V	.
18.917	193.5748	126.25	.	Q	.	.	.	V	.
19.000	194.4052	120.58	.	Q	.	.	.	V	.
19.083	195.2002	115.43	.	Q	.	.	.	V	.
19.167	195.9617	110.58	.	Q	.	.	.	V	.
19.250	196.6915	105.97	.	Q	.	.	.	V	.
19.333	197.3906	101.51	.	Q	.	.	.	V	.
19.417	198.0531	96.18	.	Q	.	.	.	V	.
19.500	198.6331	84.22	.	Q	.	.	.	V	.
19.583	199.1922	81.19	.	Q	.	.	.	V	.
19.667	199.7341	78.67	.	Q	.	.	.	V	.
19.750	200.2608	76.49	.	Q	.	.	.	V	.
19.833	200.7727	74.32	.	Q	.	.	.	V	.
19.917	201.2706	72.30	.	Q	.	.	.	V	.
20.000	201.7558	70.45	.	Q	.	.	.	V	.

 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	415.0
20%	220.0
30%	130.0
40%	100.0
50%	80.0
60%	65.0
70%	55.0
80%	35.0
90%	20.0

 FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

 >>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS(Reference: the National Engineering Handbook, Hydrology, Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
 BASEWIDTH(FT) = 0.01 CHANNEL Z = 3.00
 UPSTREAM ELEVATION(FT) = 427.51
 DOWNSTREAM ELEVATION(FT) = 315.00
 CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040
 CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:

MAXIMUM INFLOW(CFS) = 826.08
 AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 638.80
 CHANNEL NORMAL VELOCITY FOR Q = 638.80 CFS = 7.44 FPS
 ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.814

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
 UNIT INTERVALS IS CSTAR = 0.583

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 2) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS
			LOSS (STREAM 2) (CFS)
10.000	58.82	57.04	57.04
10.083	59.26	57.45	57.45
10.167	59.70	57.86	57.86
10.250	60.16	58.28	58.28
10.333	60.62	58.71	58.71
10.417	61.10	59.14	59.14
10.500	61.58	59.59	59.59
10.583	62.08	60.04	60.04
10.667	62.58	60.50	60.50
10.750	63.10	60.97	60.97
10.833	63.62	61.46	61.46
10.917	64.16	61.95	61.95
11.000	64.71	62.45	62.45
11.083	65.28	62.96	62.96
11.167	65.85	63.49	63.49
11.250	66.44	64.02	64.02
11.333	67.05	64.57	64.57
11.417	67.66	65.13	65.13
11.500	68.30	65.70	65.70
11.583	68.95	66.29	66.29
11.667	69.61	66.89	66.89
11.750	70.30	67.50	67.50
11.833	71.00	68.13	68.13
11.917	71.72	68.78	68.78
12.000	72.46	69.44	69.44
12.083	73.34	70.12	70.12
12.167	74.38	70.82	70.82
12.250	75.49	71.53	71.53
12.333	76.76	72.30	72.30
12.417	78.38	73.17	73.17
12.500	80.36	74.16	74.16
12.583	82.54	75.26	75.26
12.667	84.81	76.55	76.55
12.750	87.22	78.13	78.13
12.833	89.83	79.99	79.99
12.917	92.57	82.06	82.06
13.000	95.71	84.28	84.28
13.083	98.71	86.67	86.67
13.167	101.71	89.22	89.22
13.250	104.68	91.98	91.98
13.333	107.42	94.93	94.93
13.417	109.94	97.91	97.91
13.500	112.31	100.89	100.89
13.583	114.65	103.80	103.80

13.667	116.85	106.56	106.56
13.750	118.93	109.14	109.14
13.833	121.01	111.59	111.59
13.917	123.12	113.94	113.94
14.000	125.21	116.18	116.18
14.083	127.60	118.32	118.32
14.167	130.32	120.43	120.43
14.250	133.21	122.53	122.53
14.333	136.49	124.71	124.71
14.417	140.56	127.09	127.09
14.500	145.44	129.72	129.72
14.583	150.84	132.60	132.60
14.667	156.47	135.92	135.92
14.750	162.48	139.88	139.88
14.833	168.98	144.51	144.51
14.917	175.86	149.65	149.65
15.000	183.71	155.17	155.17
15.083	191.28	161.11	161.11
15.167	198.91	167.47	167.47
15.250	206.57	174.38	174.38
15.333	213.82	181.77	181.77
15.417	220.11	189.28	189.28
15.500	225.67	196.87	196.87
15.583	231.17	204.39	204.39
15.667	236.14	211.51	211.51
15.750	240.00	217.96	217.96
15.833	243.26	223.87	223.87
15.917	247.17	229.41	229.41
16.000	255.28	234.33	234.33
16.083	292.61	238.48	238.48
16.167	329.16	242.27	242.27
16.250	352.85	247.21	247.21
16.333	396.29	261.51	261.51
16.417	485.47	289.05	289.05
16.500	569.39	318.54	318.54
16.583	616.28	349.72	349.72
16.667	636.09	399.80	399.80
16.750	671.27	471.35	471.35
16.833	715.04	540.60	540.60
16.917	751.07	589.84	589.84
17.000	826.08	625.86	625.86
17.083	782.91	663.60	663.60
17.167	762.27	702.87	702.87
17.250	733.07	750.26	750.26
17.333	655.51	783.40	783.40
17.417	579.56	777.81	777.81
17.500	522.02	761.24	761.24
17.583	487.64	724.88	724.88
17.667	427.13	664.89	664.89
17.750	374.61	600.32	600.32
17.833	347.10	545.81	545.81
17.917	325.01	496.32	496.32
18.000	291.48	442.46	442.46
18.083	264.14	395.80	395.80
18.167	236.24	361.71	361.71
18.250	218.12	331.69	331.69
18.333	205.76	301.20	301.20
18.417	176.38	272.41	272.41

18.500	158.35	246.66	246.66
18.583	150.69	226.83	226.83
18.667	144.11	206.99	206.99
18.750	137.87	184.50	184.50
18.833	131.92	167.28	167.28
18.917	126.25	155.91	155.91
19.000	120.58	147.42	147.42
19.083	115.43	140.32	140.32
19.167	110.58	133.96	133.96
19.250	105.97	128.00	128.00
19.333	101.51	122.35	122.35
19.417	96.18	117.07	117.07
19.500	84.22	112.10	112.10
19.583	81.19	107.37	107.37
19.667	78.67	102.59	102.59
19.750	76.49	95.78	95.78
19.833	74.32	88.26	88.26
19.917	72.30	83.49	83.49
20.000	70.45	80.12	80.12

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 221.519 AF
 OUTFLOW VOLUME = 221.519 AF
 LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 31100.00 TO NODE 13305.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

(UNIT-HYDROGRAPH ADDED TO STREAM #1)

WATERSHED AREA = 810.600 ACRES
 BASEFLOW = 0.000 CFS/SQUARE-MILE
 *USER ENTERED "LAG" TIME = 0.555 HOURS
 VALLEY (DEVELOPED) S-GRAPH SELECTED
 MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.470
 LOW LOSS FRACTION = 0.838
 HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.19
 SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.42
 SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.57
 SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 0.95
 SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 1.31
 SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 2.19

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE FACTOR = 0.754
 30-MINUTE FACTOR = 0.754
 1-HOUR FACTOR = 0.754
 3-HOUR FACTOR = 0.961
 6-HOUR FACTOR = 0.979
 24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES

UNIT INTERVAL PERCENTAGE OF LAG-TIME = 15.015

RUNOFF HYDROGRAPH LISTING LIMITS:

MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00

MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.858	84.111
2	2.891	199.290
3	7.148	417.348
4	14.791	749.280
5	23.904	893.279
6	34.396	1028.570
7	47.258	1260.892
8	59.688	1218.527
9	70.972	1106.238
10	79.198	806.428
11	85.468	614.679
12	89.712	416.040
13	92.835	306.066
14	95.136	225.621
15	96.645	147.883
16	97.768	110.099
17	98.239	46.213
18	98.521	27.595
19	98.802	27.595
20	99.084	27.608
21	99.365	27.595
22	99.647	27.595
23	99.928	27.595
24	100.000	7.049

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 116.6258
 TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 29.2371

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	50.0	100.0	150.0	200.0
10.000	4.4545	7.74	.Q	V	.	.	.
10.083	4.5082	7.80	.Q	V	.	.	.
10.167	4.5623	7.86	.Q	V	.	.	.
10.250	4.6169	7.92	.Q	V	.	.	.
10.333	4.6719	7.99	.Q	V	.	.	.
10.417	4.7274	8.06	.Q	V	.	.	.
10.500	4.7833	8.12	.Q	V	.	.	.
10.583	4.8398	8.19	.Q	V	.	.	.
10.667	4.8967	8.26	.Q	V	.	.	.
10.750	4.9541	8.34	.Q	V	.	.	.
10.833	5.0120	8.41	.Q	V	.	.	.
10.917	5.0705	8.49	.Q	V	.	.	.
11.000	5.1295	8.57	.Q	V	.	.	.
11.083	5.1891	8.65	.Q	V	.	.	.
11.167	5.2492	8.73	.Q	V	.	.	.
11.250	5.3099	8.81	.Q	V	.	.	.
11.333	5.3712	8.90	.Q	V	.	.	.
11.417	5.4331	8.99	.Q	V	.	.	.
11.500	5.4956	9.08	.Q	V	.	.	.
11.583	5.5588	9.17	.Q	V	.	.	.
11.667	5.6226	9.27	.Q	V	.	.	.
11.750	5.6871	9.37	.Q	V	.	.	.
11.833	5.7523	9.47	.Q	V	.	.	.
11.917	5.8182	9.57	.Q	V	.	.	.
12.000	5.8849	9.68	.Q	V	.	.	.
12.083	5.9525	9.82	.Q	V	.	.	.
12.167	6.0214	10.00	.Q	V	.	.	.
12.250	6.0920	10.26	.Q	V	.	.	.
12.333	6.1653	10.64	.Q	V	.	.	.
12.417	6.2415	11.07	.Q	V	.	.	.
12.500	6.3210	11.55	.Q	V	.	.	.
12.583	6.4044	12.11	.Q	V	.	.	.
12.667	6.4917	12.67	.Q	V	.	.	.
12.750	6.5825	13.19	.Q	V	.	.	.
12.833	6.6763	13.62	.Q	V	.	.	.
12.917	6.7727	13.99	.Q	V	.	.	.
13.000	6.8711	14.30	.Q	V	.	.	.
13.083	6.9715	14.57	.Q	V	.	.	.
13.167	7.0736	14.83	.Q	V	.	.	.
13.250	7.1774	15.07	.Q	V	.	.	.
13.333	7.2827	15.30	.Q	V	.	.	.
13.417	7.3896	15.51	.Q	V	.	.	.
13.500	7.4979	15.73	.Q	V	.	.	.
13.583	7.6078	15.96	.Q	V	.	.	.
13.667	7.7193	16.20	.Q	V	.	.	.
13.750	7.8326	16.44	.Q	V	.	.	.
13.833	7.9476	16.70	.Q	V	.	.	.

13.917	8.0645	16.97	.Q	.V	.	.	.
14.000	8.1832	17.24	.Q	.V	.	.	.
14.083	8.3044	17.60	.Q	.V	.	.	.
14.167	8.4288	18.06	.Q	.V	.	.	.
14.250	8.5576	18.71	.Q	.V	.	.	.
14.333	8.6928	19.63	.Q	.V	.	.	.
14.417	8.8353	20.69	.Q	.V	.	.	.
14.500	8.9859	21.87	.Q	.V	.	.	.
14.583	9.1460	23.25	.Q	.V	.	.	.
14.667	9.3155	24.61	.Q	.V	.	.	.
14.750	9.4939	25.90	.Q	.V	.	.	.
14.833	9.6796	26.96	.Q	.V	.	.	.
14.917	9.8717	27.90	.Q	.V	.	.	.
15.000	10.0694	28.70	.Q	.V	.	.	.
15.083	10.2722	29.45	.Q	.V	.	.	.
15.167	10.4800	30.17	.Q	.V	.	.	.
15.250	10.6927	30.88	.Q	.V	.	.	.
15.333	10.9103	31.60	.Q	.V	.	.	.
15.417	11.1322	32.21	.Q	.V	.	.	.
15.500	11.3574	32.70	.Q	.V	.	.	.
15.583	11.5844	32.96	.Q	.V	.	.	.
15.667	11.8105	32.84	.Q	.V	.	.	.
15.750	12.0358	32.72	.Q	.V	.	.	.
15.833	12.2608	32.66	.Q	.V	.	.	.
15.917	12.4863	32.75	.Q	.V	.	.	.
16.000	12.7209	34.07	.Q	.V	.	.	.
16.083	13.0266	44.39	.Q	.V	.	.	.
16.167	13.4357	59.40	.Q	.V	.	.	.
16.250	14.0232	85.30	.	.Q V.	.	.	.
16.333	14.8535	120.56	.	.	.V Q	.	.
16.417	15.8001	137.46	.	.	.V Q	.	.
16.500	16.8537	152.97	.	.	.V Q	.	.
16.583	18.0575	174.80	.	.	.V Q	.	.
16.667	19.2214	168.99	.	.	.V Q	.	.
16.750	20.2840	154.29	.	.	.V Q	.	.
16.833	21.1250	122.12	.	.	.Q V.	.	.
16.917	21.8167	100.44	.	.	.Q V.	.	.
17.000	22.3613	79.07	.	.	.Q V.	.	.
17.083	22.8193	66.51	.	.	.Q V.	.	.
17.167	23.2100	56.72	.	.	.Q V.	.	.
17.250	23.5362	47.37	.	.	.Q V.	.	.
17.333	23.8216	41.45	.	.	.Q V.	.	.
17.417	24.0519	33.43	.	.	.Q V.	.	.
17.500	24.2577	29.88	.	.	.Q V.	.	.
17.583	24.4507	28.04	.	.	.Q V.	.	.
17.667	24.6320	26.31	.	.	.Q V.	.	.
17.750	24.8018	24.66	.	.	.Q V.	.	.
17.833	24.9620	23.26	.	.	.Q V.	.	.
17.917	25.1129	21.92	.	.	.Q V.	.	.
18.000	25.2433	18.93	.Q	.	.V	.	.
18.083	25.3632	17.41	.Q	.	.V	.	.
18.167	25.4780	16.66	.Q	.	.V	.	.
18.250	25.5879	15.96	.Q	.	.V	.	.
18.333	25.6925	15.19	.Q	.	.V	.	.
18.417	25.7920	14.45	.Q	.	.V	.	.
18.500	25.8865	13.72	.Q	.	.V	.	.
18.583	25.9756	12.93	.Q	.	.V	.	.
18.667	26.0595	12.18	.Q	.	.V	.	.

18.750	26.1387	11.50	. Q	.	.	.	V	.
18.833	26.2140	10.93	. Q	.	.	.	V	.
18.917	26.2860	10.45	. Q	.	.	.	V	.
19.000	26.3554	10.07	. Q	.	.	.	V	.
19.083	26.4225	9.75	.Q	.	.	.	V	.
19.167	26.4877	9.47	.Q	.	.	.	V	.
19.250	26.5513	9.22	.Q	.	.	.	V	.
19.333	26.6133	9.00	.Q	.	.	.	V	.
19.417	26.6740	8.81	.Q	.	.	.	V	.
19.500	26.7335	8.64	.Q	.	.	.	V	.
19.583	26.7918	8.47	.Q	.	.	.	V	.
19.667	26.8491	8.31	.Q	.	.	.	V	.
19.750	26.9053	8.16	.Q	.	.	.	V	.
19.833	26.9605	8.01	.Q	.	.	.	V	.
19.917	27.0147	7.87	.Q	.	.	.	V	.
20.000	27.0680	7.75	.Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	240.0
20%	80.0
30%	65.0
40%	50.0
50%	40.0
60%	35.0
70%	25.0
80%	20.0
90%	10.0

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 7

>>>>STREAM NUMBER 1 ADDED TO STREAM NUMBER 2<<<<<

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6

>>>>STREAM NUMBER 1 CLEARED AND SET TO ZERO<<<<<

FLOW PROCESS FROM NODE 100.00 TO NODE 130.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

(UNIT-HYDROGRAPH ADDED TO STREAM #3)

WATERSHED AREA = 222.600 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.315 HOURS
CAUTION: LAG TIME IS LESS THAN 0.50 HOURS.
THE 5-MINUTE PERIOD UH MODEL (USED IN THIS COMPUTER PROGRAM)
MAY BE TOO LARGE FOR PEAK FLOW ESTIMATES.
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.147
LOW LOSS FRACTION = 0.328
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.19
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.42
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.57
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 0.95
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 1.31
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 2.19

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.754
30-MINUTE FACTOR = 0.754
1-HOUR FACTOR = 0.754
3-HOUR FACTOR = 0.961
6-HOUR FACTOR = 0.979
24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 26.455

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

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UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	1.602	43.129
2	8.340	181.400
3	23.113	397.686
4	42.894	532.516
5	64.603	584.421
6	80.398	425.220
7	89.457	243.885
8	94.500	135.745
9	97.195	72.542
10	98.306	29.923
11	98.802	13.352
12	99.296	13.302
13	99.718	11.368
14	99.930	5.684
15	100.000	1.895

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 12.4090
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 27.6365

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2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

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HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	50.0	100.0	150.0	200.0
10.000	5.2608	9.02	.Q	V	.	.	.
10.083	5.3234	9.10	.Q	V	.	.	.
10.167	5.3866	9.17	.Q	V	.	.	.
10.250	5.4503	9.25	.Q	V	.	.	.
10.333	5.5146	9.33	.Q	V	.	.	.
10.417	5.5794	9.41	.Q	V	.	.	.
10.500	5.6448	9.49	.Q	V	.	.	.
10.583	5.7108	9.58	.Q	V	.	.	.
10.667	5.7774	9.67	.Q	V	.	.	.
10.750	5.8446	9.76	.Q	V	.	.	.
10.833	5.9124	9.85	.Q	V	.	.	.
10.917	5.9808	9.94	.Q	V	.	.	.
11.000	6.0499	10.03	.Q	V	.	.	.
11.083	6.1197	10.13	.Q	V	.	.	.
11.167	6.1902	10.23	.Q	V	.	.	.
11.250	6.2614	10.34	.Q	V	.	.	.
11.333	6.3333	10.44	.Q	V	.	.	.
11.417	6.4060	10.55	.Q	V	.	.	.
11.500	6.4794	10.66	.Q	V	.	.	.
11.583	6.5537	10.78	.Q	V	.	.	.
11.667	6.6287	10.90	.Q	V	.	.	.
11.750	6.7046	11.02	.Q	V	.	.	.
11.833	6.7813	11.14	.Q	V	.	.	.
11.917	6.8590	11.27	.Q	V	.	.	.
12.000	6.9375	11.41	.Q	V	.	.	.
12.083	7.0175	11.60	.Q	V	.	.	.
12.167	7.1001	12.00	.Q	V	.	.	.
12.250	7.1877	12.71	.Q	V	.	.	.
12.333	7.2814	13.61	.Q	V	.	.	.
12.417	7.3820	14.60	.Q	V	.	.	.
12.500	7.4878	15.37	.Q	V	.	.	.
12.583	7.5972	15.89	.Q	V	.	.	.
12.667	7.7092	16.26	.Q	.V	.	.	.
12.750	7.8232	16.55	.Q	.V	.	.	.
12.833	7.9388	16.79	.Q	.V	.	.	.
12.917	8.0559	17.01	.Q	.V	.	.	.
13.000	8.1747	17.24	.Q	.V	.	.	.
13.083	8.2951	17.48	.Q	.V	.	.	.
13.167	8.4170	17.71	.Q	.V	.	.	.
13.250	8.5407	17.95	.Q	.V	.	.	.
13.333	8.6660	18.20	.Q	.V	.	.	.
13.417	8.7931	18.46	.Q	.V	.	.	.
13.500	8.9221	18.72	.Q	.V	.	.	.
13.583	9.0529	19.00	.Q	.V	.	.	.
13.667	9.1858	19.29	.Q	.V	.	.	.
13.750	9.3208	19.60	.Q	.V	.	.	.
13.833	9.4580	19.92	.Q	.V	.	.	.

13.917	9.5976	20.26	.	Q	.	V	.	.	.
14.000	9.7396	20.62	.	Q	.	V	.	.	.
14.083	9.8851	21.14	.	Q	.	V	.	.	.
14.167	10.0376	22.13	.	Q	.	V	.	.	.
14.250	10.2019	23.86	.	Q	.	V	.	.	.
14.333	10.3814	26.05	.	Q	.	V	.	.	.
14.417	10.5772	28.43	.	Q	.	V	.	.	.
14.500	10.7858	30.29	.	Q	.	V	.	.	.
14.583	11.0033	31.57	.	Q	.	V	.	.	.
14.667	11.2272	32.51	.	Q	.	V	.	.	.
14.750	11.4563	33.27	.	Q	.	V	.	.	.
14.833	11.6899	33.92	.	Q	.	V	.	.	.
14.917	11.9280	34.57	.	Q	.	V	.	.	.
15.000	12.1708	35.25	.	Q	.	V	.	.	.
15.083	12.4186	35.98	.	Q	.	V	.	.	.
15.167	12.6717	36.76	.	Q	.	V	.	.	.
15.250	12.9307	37.60	.	Q	.	V	.	.	.
15.333	13.1959	38.51	.	Q	.	V	.	.	.
15.417	13.4663	39.26	.	Q	.	V	.	.	.
15.500	13.7367	39.27	.	Q	.	V	.	.	.
15.583	13.9993	38.12	.	Q	.	V	.	.	.
15.667	14.2499	36.38	.	Q	.	V	.	.	.
15.750	14.4894	34.78	.	Q	.	V	.	.	.
15.833	14.7299	34.92	.	Q	.	V	.	.	.
15.917	14.9881	37.49	.	Q	.	V	.	.	.
16.000	15.2838	42.93	.	Q	.	V	.	.	.
16.083	15.6694	56.00	.	.Q	.	V	.	.	.
16.167	16.2196	79.89	.	.	Q	.	V	.	.
16.250	16.9692	108.83	.	.	.	.Q	V	.	.
16.333	17.8234	124.03	.	.	.	.	QV	.	.
16.417	18.6749	123.63	.	.	.	.	Q	V	.
16.500	19.3582	99.22	.	.	Q.	.	.	V	.
16.583	19.8662	73.76	.	.	Q	.	.	V	.
16.667	20.2665	58.13	.	.	.Q	.	.	V	.
16.750	20.6062	49.32	.	.	Q.	.	.	V	.
16.833	20.9051	43.41	.	.	Q	.	.	V	.
16.917	21.1826	40.29	.	.	Q	.	.	V	.
17.000	21.4503	38.88	.	.	Q	.	.	V	.
17.083	21.7060	37.13	.	.	Q	.	.	V	.
17.167	21.9440	34.56	.	.	Q	.	.	V	.
17.250	22.1616	31.60	.	.	Q	.	.	V	.
17.333	22.3586	28.59	.	.	Q	.	.	V	.
17.417	22.5359	25.74	.	.	Q	.	.	V	.
17.500	22.6976	23.48	.	.	Q	.	.	V	.
17.583	22.8483	21.89	.	.	Q	.	.	V	.
17.667	22.9910	20.72	.	.	Q	.	.	V	.
17.750	23.1275	19.82	.	.	Q	.	.	V	.
17.833	23.2592	19.12	.	.	Q	.	.	V	.
17.917	23.3867	18.53	.	.	Q	.	.	V	.
18.000	23.5106	17.98	.	.	Q	.	.	V	.
18.083	23.6305	17.41	.	.	Q	.	.	V	.
18.167	23.7456	16.71	.	.	Q	.	.	V	.
18.250	23.8540	15.75	.	.	Q	.	.	V	.
18.333	23.9548	14.63	.	.	Q	.	.	V	.
18.417	24.0475	13.46	.	.	Q	.	.	V	.
18.500	24.1339	12.55	.	.	Q	.	.	V	.
18.583	24.2160	11.92	.	.	Q	.	.	V	.
18.667	24.2949	11.45	.	.	Q	.	.	V	.

18.750	24.3713	11.10	.	Q	.	.	.	.	V	.
18.833	24.4458	10.82	.	Q	.	.	.	.	V	.
18.917	24.5186	10.57	.	Q	.	.	.	.	V	.
19.000	24.5898	10.34	.	Q	.	.	.	.	V	.
19.083	24.6595	10.12	.	Q	.	.	.	.	V	.
19.167	24.7278	9.92	.	.Q	.	.	.	.	V	.
19.250	24.7948	9.73	.	.Q	.	.	.	.	V	.
19.333	24.8606	9.56	.	.Q	.	.	.	.	V	.
19.417	24.9252	9.39	.	.Q	.	.	.	.	V	.
19.500	24.9888	9.23	.	.Q	.	.	.	.	V	.
19.583	25.0513	9.08	.	.Q	.	.	.	.	V	.
19.667	25.1128	8.93	.	.Q	.	.	.	.	V	.
19.750	25.1733	8.79	.	.Q	.	.	.	.	V	.
19.833	25.2329	8.65	.	.Q	.	.	.	.	V	.
19.917	25.2917	8.53	.	.Q	.	.	.	.	V	.
20.000	25.3495	8.40	.	.Q	.	.	.	.	V	.

 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	380.0
20%	190.0
30%	95.0
40%	40.0
50%	30.0
60%	25.0
70%	20.0
80%	15.0
90%	10.0

FLOW PROCESS FROM NODE 120.00 TO NODE 130.00 IS CODE = 1

 >>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<
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(UNIT-HYDROGRAPH ADDED TO STREAM #1)

WATERSHED AREA = 225.000 ACRES
 BASEFLOW = 0.000 CFS/SQUARE-MILE
 *USER ENTERED "LAG" TIME = 0.204 HOURS
 CAUTION: LAG TIME IS LESS THAN 0.50 HOURS.
 THE 5-MINUTE PERIOD UH MODEL (USED IN THIS COMPUTER PROGRAM)
 MAY BE TOO LARGE FOR PEAK FLOW ESTIMATES.
 VALLEY(DEVELOPED) S-GRAPH SELECTED
 MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.208
 LOW LOSS FRACTION = 0.413
 HYDROGRAPH MODEL #1 SPECIFIED

 SPECIFIED PEAK 5-MINUTES RAINFALL(INCH)= 0.19
 SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)= 0.42
 SPECIFIED PEAK 1-HOUR RAINFALL(INCH) = 0.57

SPECIFIED PEAK 3-HOUR RAINFALL(INCH) = 0.95
 SPECIFIED PEAK 6-HOUR RAINFALL(INCH) = 1.31
 SPECIFIED PEAK 24-HOUR RAINFALL(INCH) = 2.19

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
 5-MINUTE FACTOR = 0.754
 30-MINUTE FACTOR = 0.754
 1-HOUR FACTOR = 0.754
 3-HOUR FACTOR = 0.961
 6-HOUR FACTOR = 0.979
 24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
 UNIT INTERVAL PERCENTAGE OF LAG-TIME = 40.850

RUNOFF HYDROGRAPH LISTING LIMITS:
 MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 10.00
 MODEL TIME(HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	3.023	82.260
2	20.258	468.984
3	50.866	832.871
4	78.854	761.583
5	91.891	354.753
6	97.099	141.709
7	98.572	40.086
8	99.308	20.008
9	99.723	11.304
10	99.931	5.652
11	100.000	1.884

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 15.8804
 TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 24.5986

24 - HOUR STORM
 RUNOFF HYDROGRAPH

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS(CFS)
 (Note: Time indicated is at END of Each Unit Intervals)

TIME(HRS)	VOLUME(AF)	Q(CFS)	0.	50.0	100.0	150.0	200.0
10.000	4.7227	8.06	.Q	V	.	.	.
10.083	4.7787	8.13	.Q	V	.	.	.
10.167	4.8351	8.20	.Q	V	.	.	.
10.250	4.8920	8.27	.Q	V	.	.	.
10.333	4.9495	8.34	.Q	V	.	.	.
10.417	5.0074	8.41	.Q	V	.	.	.
10.500	5.0659	8.49	.Q	V	.	.	.
10.583	5.1249	8.56	.Q	V	.	.	.
10.667	5.1844	8.64	.Q	V	.	.	.
10.750	5.2445	8.72	.Q	V	.	.	.
10.833	5.3051	8.81	.Q	V	.	.	.
10.917	5.3664	8.89	.Q	V	.	.	.
11.000	5.4282	8.98	.Q	V	.	.	.
11.083	5.4907	9.07	.Q	V	.	.	.
11.167	5.5538	9.16	.Q	V	.	.	.
11.250	5.6176	9.26	.Q	V	.	.	.
11.333	5.6820	9.35	.Q	V	.	.	.
11.417	5.7471	9.45	.Q	V	.	.	.
11.500	5.8129	9.56	.Q	V	.	.	.
11.583	5.8795	9.66	.Q	V	.	.	.
11.667	5.9467	9.77	.Q	V	.	.	.
11.750	6.0148	9.88	.Q	V	.	.	.
11.833	6.0837	10.00	.Q	V	.	.	.
11.917	6.1533	10.12	.Q	V	.	.	.
12.000	6.2238	10.24	.Q	V	.	.	.
12.083	6.2959	10.47	.Q	V	.	.	.
12.167	6.3729	11.18	.Q	V	.	.	.
12.250	6.4579	12.34	.Q	V	.	.	.
12.333	6.5503	13.42	.Q	V	.	.	.
12.417	6.6468	14.01	.Q	V	.	.	.
12.500	6.7455	14.34	.Q	V	.	.	.
12.583	6.8458	14.55	.Q	.V	.	.	.
12.667	6.9473	14.75	.Q	.V	.	.	.
12.750	7.0502	14.94	.Q	.V	.	.	.
12.833	7.1544	15.13	.Q	.V	.	.	.
12.917	7.2599	15.32	.Q	.V	.	.	.
13.000	7.3667	15.51	.Q	.V	.	.	.
13.083	7.4750	15.72	.Q	.V	.	.	.
13.167	7.5847	15.93	.Q	.V	.	.	.
13.250	7.6959	16.15	.Q	.V	.	.	.
13.333	7.8087	16.38	.Q	.V	.	.	.
13.417	7.9232	16.62	.Q	.V	.	.	.
13.500	8.0394	16.87	.Q	.V	.	.	.
13.583	8.1574	17.13	.Q	.V	.	.	.
13.667	8.2773	17.41	.Q	.V	.	.	.
13.750	8.3991	17.70	.Q	.V	.	.	.
13.833	8.5231	18.00	.Q	.V	.	.	.

13.917	8.6493	18.32	. Q	. V	. .
14.000	8.7778	18.66	. Q	. V	. .
14.083	8.9103	19.25	. Q	. V	. .
14.167	9.0548	20.98	. Q	. V	. .
14.250	9.2186	23.78	. Q	. V	. .
14.333	9.4003	26.38	. Q	. V	. .
14.417	9.5918	27.80	. Q	. V	. .
14.500	9.7890	28.63	. Q	. V	. .
14.583	9.9900	29.18	. Q	. V	. .
14.667	10.1946	29.71	. Q	. V	. .
14.750	10.4028	30.24	. Q	. V	. .
14.833	10.6149	30.79	. Q	. V	. .
14.917	10.8310	31.37	. Q	. V	. .
15.000	11.0514	32.00	. Q	. V	. .
15.083	11.2765	32.68	. Q	. V	. .
15.167	11.5067	33.44	. Q	. V	. .
15.250	11.7427	34.26	. Q	. V	. .
15.333	11.9850	35.19	. Q	. V	. .
15.417	12.2314	35.77	. Q	. V	. .
15.500	12.4683	34.40	. Q	. V	. .
15.583	12.6836	31.25	. Q	. V	. .
15.667	12.8826	28.89	. Q	. V	. .
15.750	13.0847	29.35	. Q	. V	. .
15.833	13.3065	32.21	. Q	. V	. .
15.917	13.5632	37.28	. Q	. V	. .
16.000	13.8775	45.63	. Q	. V	. .
16.083	14.3350	66.43	. Q	. V	. .
16.167	15.1274	115.06	. .	. QV	. .
16.250	16.1660	150.81	. .	. V	. Q
16.333	17.0842	133.32	. .	. QV	. .
16.417	17.6437	81.24	. .	. Q	. V
16.500	18.0040	52.31	. Q	. .	. V
16.583	18.2803	40.13	. Q	. .	. V
16.667	18.5422	38.02	. Q	. .	. V
16.750	18.7917	36.23	. Q	. .	. V
16.833	19.0279	34.30	. Q	. .	. V
16.917	19.2516	32.48	. Q	. .	. V
17.000	19.4655	31.06	. Q	. .	. V
17.083	19.6705	29.76	. Q	. .	. V
17.167	19.8597	27.48	. Q	. .	. V
17.250	20.0264	24.21	. Q	. .	. V
17.333	20.1725	21.21	. Q	. .	. V
17.417	20.3065	19.45	. Q	. .	. V
17.500	20.4330	18.37	. Q	. .	. V
17.583	20.5546	17.65	. Q	. .	. V
17.667	20.6720	17.04	. Q	. .	. V
17.750	20.7857	16.51	. Q	. .	. V
17.833	20.8961	16.03	. Q	. .	. V
17.917	21.0036	15.60	. Q	. .	. V
18.000	21.1083	15.21	. Q	. .	. V
18.083	21.2098	14.74	. Q	. .	. V
18.167	21.3051	13.83	. Q	. .	. V
18.250	21.3911	12.49	. Q	. .	. V
18.333	21.4687	11.27	. Q	. .	. V
18.417	21.5414	10.56	. Q	. .	. V
18.500	21.6113	10.14	. Q	. .	. V
18.583	21.6792	9.86	. Q	. .	. V
18.667	21.7455	9.62	. Q	. .	. V

18.750	21.8102	9.40	.Q	. .	. V	. .
18.833	21.8736	9.20	.Q	. .	. V	. .
18.917	21.9357	9.02	.Q	. .	. V	. .
19.000	21.9966	8.84	.Q	. .	. V	. .
19.083	22.0564	8.68	.Q	. .	. V	. .
19.167	22.1150	8.52	.Q	. .	. V	. .
19.250	22.1726	8.37	.Q	. .	. V	. .
19.333	22.2293	8.22	.Q	. .	. V	. .
19.417	22.2849	8.08	.Q	. .	. V	. .
19.500	22.3397	7.95	.Q	. .	. V	. .
19.583	22.3936	7.83	.Q	. .	. V	. .
19.667	22.4467	7.70	.Q	. .	. V	. .
19.750	22.4989	7.59	.Q	. .	. V	. .
19.833	22.5504	7.48	.Q	. .	. V	. .
19.917	22.6012	7.37	.Q	. .	. V	. .
20.000	22.6512	7.26	.Q	. .	. V	. .

 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	315.0
20%	130.0
30%	35.0
40%	25.0
50%	20.0
60%	15.0
70%	15.0
80%	10.0
90%	5.0

 FLOW PROCESS FROM NODE 130.00 TO NODE 130.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 1<<<<<<
 =====

 FLOW PROCESS FROM NODE 130.00 TO NODE 130.60 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<<
 =====

 FLOW PROCESS FROM NODE 130.60 TO NODE 13305.00 IS CODE = 7

>>>>STREAM NUMBER 1 ADDED TO STREAM NUMBER 2<<<<<<
 =====

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6

>>>>STREAM NUMBER 1 CLEARED AND SET TO ZERO<<<<<

FLOW PROCESS FROM NODE 150.00 TO NODE 13305.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

(UNIT-HYDROGRAPH ADDED TO STREAM #3)

WATERSHED AREA = 62.600 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.380 HOURS
CAUTION: LAG TIME IS LESS THAN 0.50 HOURS.
THE 5-MINUTE PERIOD UH MODEL (USED IN THIS COMPUTER PROGRAM)
MAY BE TOO LARGE FOR PEAK FLOW ESTIMATES.
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.504
LOW LOSS FRACTION = 0.724
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL(INCH)= 0.19
SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)= 0.42
SPECIFIED PEAK 1-HOUR RAINFALL(INCH) = 0.57
SPECIFIED PEAK 3-HOUR RAINFALL(INCH) = 0.95
SPECIFIED PEAK 6-HOUR RAINFALL(INCH) = 1.31
SPECIFIED PEAK 24-HOUR RAINFALL(INCH) = 2.19

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.754
30-MINUTE FACTOR = 0.754
1-HOUR FACTOR = 0.754
3-HOUR FACTOR = 0.961
6-HOUR FACTOR = 0.979
24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 21.930

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME(HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

Table with 3 columns: INTERVAL NUMBER, "S" GRAPH MEAN VALUES, UNIT HYDROGRAPH ORDINATES (CFS). Rows 1 and 2.

Table with 3 columns: Index (3-17), Value 1 (16.129-100.000), Value 2 (79.546-0.251).

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 7.8458
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 3.4181

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)

(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	5.0	10.0	15.0	20.0
10.000	0.6017	1.04	. Q	V .	.	.	.
10.083	0.6089	1.04	. Q	V .	.	.	.
10.167	0.6162	1.05	. Q	V .	.	.	.
10.250	0.6235	1.06	. Q	V .	.	.	.
10.333	0.6309	1.07	. Q	V .	.	.	.
10.417	0.6383	1.08	. Q	V .	.	.	.
10.500	0.6458	1.09	. Q	V .	.	.	.
10.583	0.6534	1.10	. Q	V .	.	.	.
10.667	0.6610	1.11	. Q	V .	.	.	.
10.750	0.6687	1.12	. Q	V .	.	.	.
10.833	0.6765	1.13	. Q	V .	.	.	.
10.917	0.6843	1.14	. Q	V .	.	.	.
11.000	0.6922	1.15	. Q	V .	.	.	.
11.083	0.7002	1.16	. Q	V .	.	.	.
11.167	0.7083	1.17	. Q	V .	.	.	.
11.250	0.7165	1.18	. Q	V .	.	.	.
11.333	0.7247	1.20	. Q	V .	.	.	.
11.417	0.7330	1.21	. Q	V .	.	.	.
11.500	0.7414	1.22	. Q	V .	.	.	.
11.583	0.7499	1.23	. Q	V .	.	.	.
11.667	0.7585	1.25	. Q	V .	.	.	.
11.750	0.7672	1.26	. Q	V .	.	.	.
11.833	0.7760	1.28	. Q	V .	.	.	.
11.917	0.7849	1.29	. Q	V .	.	.	.
12.000	0.7939	1.31	. Q	V .	.	.	.
12.083	0.8030	1.33	. Q	V .	.	.	.
12.167	0.8124	1.36	. Q	V .	.	.	.
12.250	0.8222	1.42	. Q	V .	.	.	.
12.333	0.8325	1.50	. Q	V .	.	.	.
12.417	0.8436	1.60	. Q	V .	.	.	.
12.500	0.8552	1.70	. Q	V .	.	.	.
12.583	0.8674	1.77	. Q	V .	.	.	.
12.667	0.8801	1.83	. Q	V .	.	.	.
12.750	0.8930	1.87	. Q	V .	.	.	.
12.833	0.9061	1.91	. Q	V .	.	.	.
12.917	0.9195	1.94	. Q	V .	.	.	.
13.000	0.9330	1.97	. Q	V .	.	.	.
13.083	0.9468	1.99	. Q	.V	.	.	.
13.167	0.9607	2.02	. Q	.V	.	.	.
13.250	0.9748	2.05	. Q	.V	.	.	.
13.333	0.9891	2.08	. Q	.V	.	.	.
13.417	1.0036	2.11	. Q	.V	.	.	.
13.500	1.0184	2.14	. Q	.V	.	.	.
13.583	1.0333	2.17	. Q	. V	.	.	.
13.667	1.0485	2.20	. Q	. V	.	.	.
13.750	1.0639	2.24	. Q	. V	.	.	.
13.833	1.0795	2.27	. Q	. V	.	.	.

13.917	1.0954	2.31	. Q	. V	.	.	.
14.000	1.1116	2.35	. Q	. V	.	.	.
14.083	1.1282	2.40	. Q	. V	.	.	.
14.167	1.1453	2.49	. Q	. V	.	.	.
14.250	1.1635	2.65	. Q	. V	.	.	.
14.333	1.1831	2.84	. Q	. V	.	.	.
14.417	1.2043	3.07	. Q	. V	.	.	.
14.500	1.2270	3.31	. Q	. V	.	.	.
14.583	1.2511	3.50	. Q	. V	.	.	.
14.667	1.2762	3.64	. Q	. V	.	.	.
14.750	1.3020	3.75	. Q	. V	.	.	.
14.833	1.3285	3.84	. Q	. V	.	.	.
14.917	1.3555	3.93	. Q	. V	.	.	.
15.000	1.3831	4.00	. Q	. V	.	.	.
15.083	1.4112	4.08	. Q	. V	.	.	.
15.167	1.4399	4.17	. Q	. V	.	.	.
15.250	1.4693	4.26	. Q	. V	.	.	.
15.333	1.4994	4.37	. Q	. V	.	.	.
15.417	1.5300	4.45	. Q	. V	.	.	.
15.500	1.5610	4.49	. Q	. V	.	.	.
15.583	1.5915	4.43	. Q	. V	.	.	.
15.667	1.6212	4.32	. Q	. V	.	.	.
15.750	1.6500	4.18	. Q	. V	.	.	.
15.833	1.6782	4.10	. Q	. V	.	.	.
15.917	1.7074	4.24	. Q	. V	.	.	.
16.000	1.7393	4.63	. Q	. V	.	.	.
16.083	1.7816	6.15	. Q	. V	.	.	.
16.167	1.8436	9.00	.	. Q	. V	.	.
16.250	1.9385	13.78	.	.	. V	. Q	.
16.333	2.0530	16.62	.	.	.	. V	. Q
16.417	2.1839	19.01	.	.	.	. V	. Q
16.500	2.3119	18.59	.	.	.	. V	. Q
16.583	2.4143	14.87	.	.	.	. V	. Q
16.667	2.4909	11.12	.	.	. Q	. V	.
16.750	2.5491	8.44	.	.	. Q	. V	.
16.833	2.5971	6.98	.	. Q	.	. V	.
16.917	2.6375	5.86	.	. Q	.	. V	.
17.000	2.6716	4.96	.	. Q	.	. V	.
17.083	2.7030	4.56	.	. Q	.	. V	.
17.167	2.7331	4.37	.	. Q	.	. V	.
17.250	2.7616	4.13	.	. Q	.	. V	.
17.333	2.7879	3.83	.	. Q	.	. V	.
17.417	2.8104	3.27	.	. Q	.	. V	.
17.500	2.8307	2.95	.	. Q	.	. V	.
17.583	2.8494	2.71	.	. Q	.	. V	.
17.667	2.8669	2.54	.	. Q	.	. V	.
17.750	2.8835	2.41	.	. Q	.	. V	.
17.833	2.8993	2.30	.	. Q	.	. V	.
17.917	2.9145	2.21	.	. Q	.	. V	.
18.000	2.9293	2.14	.	. Q	.	. V	.
18.083	2.9436	2.07	.	. Q	.	. V	.
18.167	2.9573	1.99	.	. Q	.	. V	.
18.250	2.9703	1.90	.	. Q	.	. V	.
18.333	2.9826	1.78	.	. Q	.	. V	.
18.417	2.9941	1.66	.	. Q	.	. V	.
18.500	3.0047	1.55	.	. Q	.	. V	.
18.583	3.0147	1.45	. Q	.	.	. V	.
18.667	3.0242	1.38	. Q	.	.	. V	.

18.750	3.0334	1.33	. Q	.	.	.	V	.
18.833	3.0422	1.28	. Q	.	.	.	V	.
18.917	3.0508	1.25	. Q	.	.	.	V	.
19.000	3.0592	1.22	. Q	.	.	.	V	.
19.083	3.0675	1.19	. Q	.	.	.	V	.
19.167	3.0755	1.17	. Q	.	.	.	V	.
19.250	3.0834	1.14	. Q	.	.	.	V	.
19.333	3.0911	1.12	. Q	.	.	.	V	.
19.417	3.0987	1.10	. Q	.	.	.	V	.
19.500	3.1062	1.08	. Q	.	.	.	V	.
19.583	3.1135	1.06	. Q	.	.	.	V	.
19.667	3.1207	1.05	. Q	.	.	.	V	.
19.750	3.1278	1.03	. Q	.	.	.	V	.
19.833	3.1347	1.01	. Q	.	.	.	V	.
19.917	3.1416	1.00	.Q	.	.	.	V	.
20.000	3.1484	0.98	.Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	325.0
20%	155.0
30%	55.0
40%	40.0
50%	30.0
60%	25.0
70%	25.0
80%	15.0
90%	10.0

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
=====

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
=====

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 2 HYDROGRAPH<<<<<
=====

STREAM HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	225.0	450.0	675.0	900.0
-----	-----	-----	-----	-----	-----	-----	-----
10.000	46.3388	82.90	. Q	V	.	.	.
10.083	46.9140	83.51	. Q	V	.	.	.
10.167	47.4934	84.14	. Q	V	.	.	.
10.250	48.0773	84.78	. Q	V	.	.	.
10.333	48.6657	85.43	. Q	V	.	.	.
10.417	49.2587	86.10	. Q	V	.	.	.
10.500	49.8564	86.78	. Q	V	.	.	.
10.583	50.4588	87.48	. Q	V	.	.	.
10.667	51.0662	88.19	. Q	V	.	.	.
10.750	51.6785	88.91	. Q	V	.	.	.
10.833	52.2959	89.65	. Q	V	.	.	.
10.917	52.9186	90.41	. Q	V	.	.	.
11.000	53.5466	91.18	. Q	V	.	.	.
11.083	54.1800	91.97	. Q	V	.	.	.
11.167	54.8190	92.78	. Q	V	.	.	.
11.250	55.4638	93.61	. Q	V	.	.	.
11.333	56.1143	94.46	. Q	V	.	.	.
11.417	56.7709	95.33	. Q	V	.	.	.
11.500	57.4336	96.22	. Q	V	.	.	.
11.583	58.1026	97.14	. Q	V	.	.	.
11.667	58.7780	98.07	. Q	V	.	.	.
11.750	59.4601	99.03	. Q	V	.	.	.
11.833	60.1489	100.02	. Q	V	.	.	.
11.917	60.8447	101.03	. Q	V	.	.	.
12.000	61.5477	102.07	. Q	V	.	.	.
12.083	62.2594	103.34	. Q	V	.	.	.
12.167	62.9850	105.36	. Q	V	.	.	.
12.250	63.7306	108.26	. Q	V	.	.	.
12.333	64.4983	111.47	. Q	V	.	.	.
12.417	65.2865	114.44	. Q	V	.	.	.
12.500	66.0930	117.11	. Q	V	.	.	.
12.583	66.9166	119.59	. Q	V	.	.	.
12.667	67.7573	122.06	. Q	V	.	.	.
12.750	68.6160	124.68	. Q	V	.	.	.
12.833	69.4936	127.44	. Q	V	.	.	.
12.917	70.3911	130.32	. Q	V	.	.	.
13.000	71.3092	133.30	. Q	V	.	.	.
13.083	72.2488	136.43	. Q	V	.	.	.
13.167	73.2110	139.71	. Q	V	.	.	.
13.250	74.1972	143.20	. Q	V	.	.	.
13.333	75.2088	146.88	. Q	V	.	.	.
13.417	76.2460	150.60	. Q	V	.	.	.
13.500	77.3090	154.35	. Q	V	.	.	.
13.583	78.3976	158.07	. Q	V	.	.	.
13.667	79.5110	161.66	. Q	V	.	.	.
13.750	80.6482	165.12	. Q	V	.	.	.
13.833	81.8085	168.49	. Q	V	.	.	.
13.917	82.9918	171.80	. Q	V	.	.	.
14.000	84.1973	175.04	. Q	V	.	.	.
14.083	85.4280	178.71	. Q	.V	.	.	.
14.167	86.6959	184.09	. Q	.V	.	.	.
14.250	88.0150	191.53	. Q	.V	.	.	.
14.333	89.3898	199.62	. Q	.V	.	.	.
14.417	90.8160	207.10	. Q	.V	.	.	.
14.500	92.2886	213.82	. Q	.V	.	.	.

14.583	93.8045	220.10	.	Q.	V	.	.	.																																					
14.667	95.3636	226.38	.	Q	V	.	.	.																																					
14.750	96.9685	233.03	.	Q	V	.	.	.																																					
14.833	98.6216	240.03	.	Q	V	.	.	.																																					
14.917	100.3256	247.41	.	Q	V	.	.	.																																					
15.000	102.0827	255.13	.	.	Q	V	.	.																																					
15.083	103.8961	263.31	.	.	.	Q	V	.																																					
15.167	105.7694	272.00	.	.	.	.	Q	V																																					
15.250	107.7072	281.38	.	.	.	.	.	Q	V																																				
15.333	109.7143	291.43	.	.	.	.	.	.	Q	V																																			
15.417	111.7871	300.97	.	.	.	.	.	.	.	Q	V																																		
15.500	113.9065	307.73	.	.	.	.	.	.	.	.	Q	V																																	
15.583	116.0494	311.15	.	.	.	.	.	.	.	.	.	Q	V																																
15.667	118.2115	313.94	.	.	.	.	.	.	.	.	.	.	Q	V																															
15.750	120.4084	318.98	.	.	.	.	.	.	.	.	.	.	.	Q	V																														
15.833	122.6657	327.76	.	.	.	.	.	.	.	.	.	.	.	.	Q	V																													
15.917	125.0153	341.16	.	.	.	.	.	.	.	.	.	.	.	.	.	Q	V																												
16.000	127.5055	361.58	.	.	.	.	.	.	.	.	.	.	.	.	.	.	Q																												
16.083	130.3391	411.43	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	V	Q																										
16.167	133.8213	505.62	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	V	.	Q																							
16.250	137.9944	605.94	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	V	.	.	Q																			
16.333	142.5126	656.04	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	V	.	.	Q														
16.417	146.9919	650.39	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	V	.	.	Q										
16.500	151.4108	641.62	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	V	.	.	Q							
16.583	155.9099	653.27	V	.	.	Q					
16.667	160.5660	676.07	V	.	.	Q				
16.750	165.5221	719.63	V	.	.	Q			
16.833	170.6695	747.40	V	.	.	Q		
16.917	175.9650	768.91	V	.	.	Q	
17.000	181.3357	779.83	V	.	.	Q
17.083	186.8560	801.56	V	.	.	Q
17.167	192.5448	826.00	V	.	.	Q
17.250	198.4509	857.57	V	.	.	Q
17.333	204.5011	878.49	V	.	.	Q
17.417	210.4219	859.70	V	.	.	Q
17.500	216.1790	835.93	V	.	.	Q
17.583	221.6553	795.17	V	.	.	Q
17.667	226.6932	731.50	V	.	.	Q	
17.750	231.2643	663.72	V	.	.	Q
17.833	235.4414	606.51	V	.	.	Q	
17.917	239.2608	554.58	V	.	.	Q	
18.000	242.6817	496.72	V	.	.	Q	
18.083	245.7632	447.44	V	.	.	Q	
18.167	248.5932	410.91	V	.	.	Q		
18.250	251.1949	377.78	V	.	.	Q		
18.333	253.5646	344.07	V	.	.	Q		
18.417	255.7172	312.56	V	.	.	Q		
18.500	257.6773	284.61	V	.	.	Q		
18.583	259.4886	263.00	V	.	.	Q			
18.667	261.1527	241.63	V	.	.	Q				
18.750	262.6529	217.83	V	.	.	Q				
18.833	264.0270	199.51	V	.	.	Q				
18.917	265.3163	187.20	V	.	.	Q				
19.000	266.5414	177.90	V	.	.	Q					
19.083	267.7126	170.06	V	.	.	Q					
19.167	268.8355	163.03	V	.	.	Q					
19.250	269.9131	156.47	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	V	.	.	Q						
19.333	270.9479	150.25	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	V	.	.	Q						

19.417	271.9427	144.45	.	Q	.	.	.	V	.
19.500	272.9000	139.00	.	Q	.	.	.	V	.
19.583	273.8216	133.81	.	Q	.	.	.	V	.
19.667	274.7071	128.58	.	Q	.	.	.	V	.
19.750	275.5428	121.34	.	Q	.	.	.	V	.
19.833	276.3239	113.41	.	Q	.	.	.	V	.
19.917	277.0694	108.25	.	Q	.	.	.	V	.
20.000	277.7892	104.51	.	Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	600.0
20%	300.0
30%	205.0
40%	140.0
50%	120.0
60%	105.0
70%	90.0
80%	60.0
90%	35.0

END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

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***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - FREE DRAINING UH *
* ULTIMATE CONDITION - REGIONAL NODE 13305 *
* 10-YR EV MARCH 2019 CCHIU *

FILE NAME: EV10305F.DAT
TIME/DATE OF STUDY: 09:16 03/28/2019

FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

(UNIT-HYDROGRAPH ADDED TO STREAM #2)

WATERSHED AREA = 4924.400 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.938 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244
LOW LOSS FRACTION = 0.727
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.26
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.60
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.79
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.33
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 1.84
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 3.08

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.754
30-MINUTE FACTOR = 0.754
1-HOUR FACTOR = 0.754
3-HOUR FACTOR = 0.961
6-HOUR FACTOR = 0.979
24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 8.884

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.508	302.338
2	1.523	604.819
3	2.819	771.800
4	4.716	1129.648
5	8.114	2023.451
6	12.597	2670.161
7	17.853	3130.103
8	23.366	3283.224
9	29.066	3394.346
10	35.795	4007.575
11	43.214	4418.483
12	51.431	4893.746
13	58.237	4053.149
14	65.724	4458.599
15	71.827	3634.834
16	76.932	3039.875
17	80.977	2408.986
18	84.732	2236.623
19	87.674	1751.966
20	89.859	1301.150
21	91.751	1126.819
22	93.468	1022.475
23	94.780	781.630
24	95.870	649.332
25	96.640	458.377
26	97.337	415.035
27	97.954	367.513
28	98.175	131.320
29	98.341	99.306
30	98.508	99.115
31	98.674	99.242
32	98.841	99.111
33	99.008	99.374
34	99.174	99.111
35	99.341	99.111
36	99.507	99.111
37	99.673	99.111
38	99.840	99.111
39	100.000	95.385

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 812.0192
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 435.2540

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2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

=====

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	450.0	900.0	1350.0	1800.0
10.000	60.8560	108.01	. Q	V	.	.	.
10.083	61.6054	108.81	. Q	V	.	.	.
10.167	62.3606	109.64	. Q	V	.	.	.
10.250	63.1214	110.48	. Q	V	.	.	.
10.333	63.8882	111.34	. Q	V	.	.	.
10.417	64.6610	112.21	. Q	V	.	.	.
10.500	65.4399	113.10	. Q	V	.	.	.
10.583	66.2251	114.01	. Q	V	.	.	.
10.667	67.0167	114.95	. Q	V	.	.	.
10.750	67.8149	115.89	. Q	V	.	.	.
10.833	68.6198	116.87	. Q	V	.	.	.
10.917	69.4314	117.86	. Q	V	.	.	.
11.000	70.2501	118.88	. Q	V	.	.	.
11.083	71.0760	119.91	. Q	V	.	.	.
11.167	71.9092	120.98	. Q	V	.	.	.
11.250	72.7498	122.06	. Q	V	.	.	.
11.333	73.5982	123.18	. Q	V	.	.	.
11.417	74.4543	124.32	. Q	V	.	.	.
11.500	75.3186	125.49	. Q	V	.	.	.
11.583	76.1911	126.68	. Q	V	.	.	.
11.667	77.0721	127.92	. Q	V	.	.	.
11.750	77.9618	129.18	. Q	V	.	.	.
11.833	78.8604	130.48	. Q	V	.	.	.
11.917	79.7681	131.80	. Q	V	.	.	.
12.000	80.6852	133.17	. Q	V	.	.	.
12.083	81.6137	134.81	. Q	V	.	.	.
12.167	82.5555	136.75	. Q	V	.	.	.
12.250	83.5117	138.84	. Q	V	.	.	.
12.333	84.4848	141.29	. Q	V	.	.	.
12.417	85.4799	144.49	. Q	V	.	.	.
12.500	86.5010	148.27	. Q	V	.	.	.
12.583	87.5511	152.46	. Q	V	.	.	.
12.667	88.6313	156.86	. Q	V	.	.	.
12.750	89.7428	161.38	. Q	V	.	.	.
12.833	90.8894	166.48	. Q	V	.	.	.
12.917	92.0737	171.97	. Q	V	.	.	.
13.000	93.2991	177.93	. Q	V	.	.	.
13.083	94.5612	183.26	. Q	V	.	.	.
13.167	95.8631	189.03	. Q	V	.	.	.
13.250	97.2006	194.20	. Q	V	.	.	.
13.333	98.5712	199.01	. Q	V	.	.	.
13.417	99.9718	203.37	. Q	V	.	.	.
13.500	101.4023	207.71	. Q	V	.	.	.
13.583	102.8605	211.74	. Q	V	.	.	.
13.667	104.3450	215.54	. Q	V	.	.	.
13.750	105.8552	219.29	. Q	V	.	.	.
13.833	107.3917	223.10	. Q	V	.	.	.

13.917	108.9537	226.81	.	Q	V	.	.	.
14.000	110.5417	230.58	.	Q	V	.	.	.
14.083	112.1595	234.89	.	Q	V	.	.	.
14.167	113.8120	239.95	.	Q	V	.	.	.
14.250	115.5021	245.40	.	Q	V	.	.	.
14.333	117.2347	251.57	.	Q	V	.	.	.
14.417	119.0224	259.58	.	Q	V	.	.	.
14.500	120.8754	269.06	.	Q	.V	.	.	.
14.583	122.8007	279.56	.	Q	.V	.	.	.
14.667	124.8021	290.59	.	Q	.V	.	.	.
14.750	126.8821	302.02	.	Q	.V	.	.	.
14.833	129.0517	315.03	.	Q	.V	.	.	.
14.917	131.3196	329.29	.	Q	.V	.	.	.
15.000	133.6965	345.14	.	Q	.V	.	.	.
15.083	136.1771	360.18	.	Q	.V	.	.	.
15.167	138.7757	377.31	.	Q	.V	.	.	.
15.250	141.4928	394.53	.	Q	.V	.	.	.
15.333	144.3343	412.59	.	Q	.V	.	.	.
15.417	147.2897	429.12	.	Q	.V	.	.	.
15.500	150.3556	445.18	.	Q	.V	.	.	.
15.583	153.5347	461.61	.	Q	.V	.	.	.
15.667	156.8217	477.27	.	Q	.V	.	.	.
15.750	160.2001	490.55	.	Q	.V	.	.	.
15.833	163.6763	504.74	.	.Q	.V	.	.	.
15.917	167.2829	523.68	.	.Q	.V	.	.	.
16.000	171.1217	557.39	.	.	Q	.V	.	.
16.083	175.5610	644.59	.	.	Q	.V	.	.
16.167	180.6367	736.99	.	.	Q	.	.	.
16.250	186.2913	821.05	.	.	V	Q	.	.
16.333	192.7780	941.87	.	.	V	Q	.	.
16.417	200.6387	1141.37	.	.	V	.	Q	.
16.500	209.5397	1292.43	.	.	V	.	Q	.
16.583	219.1828	1400.17	.	.	V	.	.Q	.
16.667	229.2758	1465.51	.	.	.V	.	.Q	.
16.750	239.8194	1530.94	.	.	.V	.	Q	.
16.833	251.2927	1665.93	.	.	.V	.	Q	.
16.917	263.3329	1748.23	.	.	.V	.	Q	.
17.000	275.7033	1796.18	.	.	.V	.	Q	.
17.083	287.0406	1646.19	.	.	.V	.	Q	.
17.167	298.2908	1633.52	.	.	.V	.	Q	.
17.250	308.2781	1450.15	.	.	.V	.	.Q	.
17.333	317.1705	1291.18	.	.	.	.	QV	.
17.417	324.9822	1134.25	.	.	Q	.	.V	.
17.500	332.1879	1046.27	.	.	Q	.	.V	.
17.583	338.4963	915.98	.	.	Q	.	.V	.
17.667	343.9955	798.48	.	.	Q	.	.V	.
17.750	348.9930	725.64	.	.	Q	.	.V	.
17.833	353.5907	667.59	.	.	Q	.	.V	.
17.917	357.6671	591.89	.	.	Q	.	.V	.
18.000	361.3156	529.77	.	.	.Q	.	.V	.
18.083	364.5428	468.59	.	.	Q	.	.V	.
18.167	367.4973	428.99	.	.	Q	.	.V	.
18.250	370.1850	390.26	.	.	Q	.	.V	.
18.333	372.4708	331.90	.	.	Q	.	.V	.
18.417	374.5789	306.10	.	.	Q	.	.V	.
18.500	376.5776	290.22	.	.	Q	.	.V	.
18.583	378.4834	276.72	.	.	Q	.	.V	.
18.667	380.3003	263.81	.	.	Q	.	.V	.

18.750	382.0363	252.07	.	Q	.	.	.	V	.
18.833	383.6947	240.79	.	Q	.	.	.	V	.
18.917	385.2810	230.33	.	Q	.	.	.	V	.
19.000	386.7920	219.39	.	Q	.	.	.	V	.
19.083	388.2341	209.40	.	Q	.	.	.	V	.
19.167	389.5973	197.94	.	Q	.	.	.	V	.
19.250	390.8733	185.27	.	Q	.	.	.	V	.
19.333	391.9945	162.79	.	Q	.	.	.	V	.
19.417	393.0646	155.38	.	Q	.	.	.	V	.
19.500	394.0981	150.07	.	Q	.	.	.	V	.
19.583	395.1002	145.50	.	Q	.	.	.	V	.
19.667	396.0694	140.73	.	Q	.	.	.	V	.
19.750	397.0092	136.46	.	Q	.	.	.	V	.
19.833	397.9221	132.56	.	Q	.	.	.	V	.
19.917	398.8114	129.12	.	Q	.	.	.	V	.
20.000	399.6790	125.98	.	Q	.	.	.	V	.

 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	375.0
20%	195.0
30%	120.0
40%	100.0
50%	80.0
60%	65.0
70%	55.0
80%	40.0
90%	25.0

FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

 >>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
 TO ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE
 INTERVALS(Reference: the National Engineering Handbook,
 Hydrology, Chapter 17, page 17-52, August,1972,
 U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
 BASEWIDTH(FT) = 50.00 CHANNEL Z = 3.00
 UPSTREAM ELEVATION(FT) = 427.51
 DOWNSTREAM ELEVATION(FT) = 315.00
 CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040
 CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:

MAXIMUM INFLOW(CFS) = 1796.18
 AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 1381.26
 CHANNEL NORMAL VELOCITY FOR Q = 1381.26 CFS = 7.59 FPS
 ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.817

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
 UNIT INTERVALS IS CSTAR = 0.589

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 2) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS
			LOSS (STREAM 2) (CFS)
10.000	108.01	104.79	104.79
10.083	108.81	105.54	105.54
10.167	109.64	106.30	106.30
10.250	110.48	107.07	107.07
10.333	111.34	107.86	107.86
10.417	112.21	108.66	108.66
10.500	113.10	109.48	109.48
10.583	114.01	110.32	110.32
10.667	114.95	111.17	111.17
10.750	115.89	112.04	112.04
10.833	116.87	112.93	112.93
10.917	117.86	113.84	113.84
11.000	118.88	114.77	114.77
11.083	119.91	115.71	115.71
11.167	120.98	116.68	116.68
11.250	122.06	117.67	117.67
11.333	123.18	118.68	118.68
11.417	124.32	119.72	119.72
11.500	125.49	120.78	120.78
11.583	126.68	121.86	121.86
11.667	127.92	122.97	122.97
11.750	129.18	124.11	124.11
11.833	130.48	125.27	125.27
11.917	131.80	126.47	126.47
12.000	133.17	127.69	127.69
12.083	134.81	128.95	128.95
12.167	136.75	130.23	130.23
12.250	138.84	131.56	131.56
12.333	141.29	132.99	132.99
12.417	144.49	134.63	134.63
12.500	148.27	136.49	136.49
12.583	152.46	138.59	138.59
12.667	156.86	141.12	141.12
12.750	161.38	144.21	144.21
12.833	166.48	147.83	147.83
12.917	171.97	151.84	151.84
13.000	177.93	156.12	156.12
13.083	183.26	160.71	160.71
13.167	189.03	165.71	165.71
13.250	194.20	171.14	171.14
13.333	199.01	176.70	176.70
13.417	203.37	182.25	182.25
13.500	207.71	187.76	187.76
13.583	211.74	192.96	192.96

13.667	215.54	197.79	197.79
13.750	219.29	202.35	202.35
13.833	223.10	206.68	206.68
13.917	226.81	210.77	210.77
14.000	230.58	214.68	214.68
14.083	234.89	218.50	218.50
14.167	239.95	222.29	222.29
14.250	245.40	226.05	226.05
14.333	251.57	229.98	229.98
14.417	259.58	234.35	234.35
14.500	269.06	239.24	239.24
14.583	279.56	244.67	244.67
14.667	290.59	251.08	251.08
14.750	302.02	258.85	258.85
14.833	315.03	267.93	267.93
14.917	329.29	278.00	278.00
15.000	345.14	288.76	288.76
15.083	360.18	300.37	300.37
15.167	377.31	313.17	313.17
15.250	394.53	327.30	327.30
15.333	412.59	342.20	342.20
15.417	429.12	357.80	357.80
15.500	445.18	374.32	374.32
15.583	461.61	391.50	391.50
15.667	477.27	408.75	408.75
15.750	490.55	425.44	425.44
15.833	504.74	441.87	441.87
15.917	523.68	458.07	458.07
16.000	557.39	473.26	473.26
16.083	644.59	487.59	487.59
16.167	736.99	503.23	503.23
16.250	821.05	525.13	525.13
16.333	941.87	569.61	569.61
16.417	1141.37	640.78	640.78
16.500	1292.43	722.01	722.01
16.583	1400.17	815.65	815.65
16.667	1465.51	948.30	948.30
16.750	1530.94	1106.16	1106.16
16.833	1665.93	1247.35	1247.35
16.917	1748.23	1356.45	1356.45
17.000	1796.18	1439.80	1439.80
17.083	1646.19	1532.93	1532.93
17.167	1633.52	1635.31	1635.31
17.250	1450.15	1715.83	1715.83
17.333	1291.18	1719.31	1719.31
17.417	1134.25	1672.54	1672.54
17.500	1046.27	1595.96	1595.96
17.583	915.98	1463.63	1463.63
17.667	798.48	1316.20	1316.20
17.750	725.64	1183.33	1183.33
17.833	667.59	1064.53	1064.53
17.917	591.89	942.70	942.70
18.000	529.77	836.47	836.47
18.083	468.59	754.23	754.23
18.167	428.99	681.08	681.08
18.250	390.26	610.40	610.40
18.333	331.90	545.03	545.03
18.417	306.10	488.44	488.44

18.500	290.22	442.11	442.11
18.583	276.72	394.51	394.51
18.667	263.81	350.10	350.10
18.750	252.07	319.54	319.54
18.833	240.79	298.33	298.33
18.917	230.33	281.83	281.83
19.000	219.39	267.79	267.79
19.083	209.40	255.23	255.23
19.167	197.94	243.67	243.67
19.250	185.27	232.62	232.62
19.333	162.79	221.91	221.91
19.417	155.38	211.19	211.19
19.500	150.07	199.68	199.68
19.583	145.50	184.63	184.63
19.667	140.73	169.60	169.60
19.750	136.46	159.67	159.67
19.833	132.56	152.68	152.68
19.917	129.12	147.06	147.06
20.000	125.98	142.08	142.08

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 435.254 AF
 OUTFLOW VOLUME = 435.254 AF
 LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 31100.00 TO NODE 13305.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

(UNIT-HYDROGRAPH ADDED TO STREAM #1)

WATERSHED AREA = 810.600 ACRES
 BASEFLOW = 0.000 CFS/SQUARE-MILE
 *USER ENTERED "LAG" TIME = 0.504 HOURS
 VALLEY (DEVELOPED) S-GRAPH SELECTED
 MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.282
 LOW LOSS FRACTION = 0.754
 HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.26
 SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.60
 SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.79
 SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.33
 SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 1.84
 SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 3.08

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE FACTOR = 0.754
 30-MINUTE FACTOR = 0.754
 1-HOUR FACTOR = 0.754
 3-HOUR FACTOR = 0.961
 6-HOUR FACTOR = 0.979
 24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES

UNIT INTERVAL PERCENTAGE OF LAG-TIME = 16.534

RUNOFF HYDROGRAPH LISTING LIMITS:

MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00

MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.945	92.623
2	3.345	235.260
3	8.856	540.253
4	17.884	885.060
5	28.510	1041.661
6	41.259	1249.812
7	55.548	1400.816
8	68.538	1273.414
9	78.202	947.391
10	85.240	689.906
11	89.918	458.624
12	93.271	328.672
13	95.598	228.196
14	97.076	144.826
15	98.067	97.150
16	98.399	32.575
17	98.709	30.409
18	99.019	30.386
19	99.329	30.386
20	99.639	30.386
21	99.949	30.386
22	100.000	5.001

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 140.9443
 TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 64.3717

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS(CFS)

(Note: Time indicated is at END of Each Unit Intervals)

TIME(HRS)	VOLUME(AF)	Q(CFS)	0.	125.0	250.0	375.0	500.0
10.000	9.6414	16.68	.Q	V	.	.	.
10.083	9.7572	16.81	.Q	V	.	.	.
10.167	9.8740	16.95	.Q	V	.	.	.
10.250	9.9917	17.09	.Q	V	.	.	.
10.333	10.1103	17.23	.Q	V	.	.	.
10.417	10.2300	17.37	.Q	V	.	.	.
10.500	10.3507	17.52	.Q	V	.	.	.
10.583	10.4724	17.67	.Q	V	.	.	.
10.667	10.5952	17.83	.Q	V	.	.	.
10.750	10.7190	17.99	.Q	V	.	.	.
10.833	10.8440	18.15	.Q	V	.	.	.
10.917	10.9701	18.31	.Q	V	.	.	.
11.000	11.0974	18.48	.Q	V	.	.	.
11.083	11.2259	18.66	.Q	V	.	.	.
11.167	11.3556	18.83	.Q	V	.	.	.
11.250	11.4866	19.02	.Q	V	.	.	.
11.333	11.6188	19.20	.Q	V	.	.	.
11.417	11.7524	19.40	.Q	V	.	.	.
11.500	11.8874	19.59	.Q	V	.	.	.
11.583	12.0237	19.80	.Q	V	.	.	.
11.667	12.1615	20.00	.Q	V	.	.	.
11.750	12.3007	20.22	.Q	V	.	.	.
11.833	12.4415	20.44	.Q	V	.	.	.
11.917	12.5838	20.67	.Q	V	.	.	.
12.000	12.7278	20.90	.Q	V	.	.	.
12.083	12.8738	21.21	.Q	V	.	.	.
12.167	13.0227	21.62	.Q	V	.	.	.
12.250	13.1761	22.27	.Q	V	.	.	.
12.333	13.3357	23.18	.Q	V	.	.	.
12.417	13.5025	24.21	.Q	V	.	.	.
12.500	13.6774	25.40	.Q	V	.	.	.
12.583	13.8613	26.71	.Q	V	.	.	.
12.667	14.0538	27.94	.Q	V	.	.	.
12.750	14.2532	28.95	.Q	V	.	.	.
12.833	14.4583	29.79	.Q	V	.	.	.
12.917	14.6682	30.47	.Q	V	.	.	.
13.000	14.8822	31.07	.Q	V	.	.	.
13.083	15.0999	31.61	.Q	V	.	.	.
13.167	15.3210	32.11	.Q	V	.	.	.
13.250	15.5454	32.58	.Q	V	.	.	.
13.333	15.7729	33.03	.Q	V	.	.	.
13.417	16.0035	33.49	.Q	V	.	.	.
13.500	16.2375	33.97	.Q	V	.	.	.
13.583	16.4749	34.47	.Q	V	.	.	.
13.667	16.7158	34.99	.Q	V	.	.	.
13.750	16.9605	35.53	.Q	V	.	.	.
13.833	17.2089	36.07	.Q	V	.	.	.

13.917	17.4613	36.64	.Q	V	.	.	.
14.000	17.7177	37.24	.Q	.V	.	.	.
14.083	17.9796	38.02	.Q	.V	.	.	.
14.167	18.2488	39.09	.Q	.V	.	.	.
14.250	18.5293	40.72	.Q	.V	.	.	.
14.333	18.8254	42.99	.Q	.V	.	.	.
14.417	19.1391	45.55	.Q	.V	.	.	.
14.500	19.4732	48.51	.Q	.V	.	.	.
14.583	19.8296	51.76	.Q	.V	.	.	.
14.667	20.2071	54.81	.Q	.V	.	.	.
14.750	20.6019	57.33	.Q	.V	.	.	.
14.833	21.0113	59.44	.Q	.V	.	.	.
14.917	21.4328	61.21	.Q	.V	.	.	.
15.000	21.8654	62.80	.Q	.V	.	.	.
15.083	22.3082	64.30	.Q	.V	.	.	.
15.167	22.7609	65.74	.Q	.V	.	.	.
15.250	23.2244	67.30	.Q	.V	.	.	.
15.333	23.7002	69.08	.Q	.V	.	.	.
15.417	24.1886	70.91	.Q	.V	.	.	.
15.500	24.6891	72.68	.Q	.V	.	.	.
15.583	25.1948	73.43	.Q	.V	.	.	.
15.667	25.6973	72.97	.Q	.V	.	.	.
15.750	26.1993	72.88	.Q	.V	.	.	.
15.833	26.7040	73.29	.Q	.V	.	.	.
15.917	27.2326	76.75	.Q	.V	.	.	.
16.000	27.8384	87.97	.Q	.V	.	.	.
16.083	28.6748	121.44	.Q	.V	.	.	.
16.167	29.8604	172.15	.Q	.V	.	.	.
16.250	31.5699	248.21	.Q	.V	.	.	.
16.333	33.8008	323.93	.Q	.V	.	.	.
16.417	36.3204	365.84	.Q	.V	.	.	.
16.500	39.0872	401.75	.Q	.V	.	.	.
16.583	41.9312	412.94	.Q	.V	.	.	.
16.667	44.4915	371.76	.Q	.V	.	.	.
16.750	46.5392	297.32	.Q	.V	.	.	.
16.833	48.1578	235.02	.Q	.V	.	.	.
16.917	49.4242	183.87	.Q	.V	.	.	.
17.000	50.4635	150.92	.Q	.V	.	.	.
17.083	51.3230	124.80	.Q	.V	.	.	.
17.167	52.0342	103.26	.Q	.V	.	.	.
17.250	52.6400	87.96	.Q	.V	.	.	.
17.333	53.1414	72.80	.Q	.V	.	.	.
17.417	53.6070	67.60	.Q	.V	.	.	.
17.500	54.0429	63.29	.Q	.V	.	.	.
17.583	54.4479	58.80	.Q	.V	.	.	.
17.667	54.8203	54.08	.Q	.V	.	.	.
17.750	55.1622	49.64	.Q	.V	.	.	.
17.833	55.4560	42.66	.Q	.V	.	.	.
17.917	55.7272	39.37	.Q	.V	.	.	.
18.000	55.9860	37.57	.Q	.V	.	.	.
18.083	56.2345	36.09	.Q	.V	.	.	.
18.167	56.4729	34.61	.Q	.V	.	.	.
18.250	56.7007	33.09	.Q	.V	.	.	.
18.333	56.9179	31.53	.Q	.V	.	.	.
18.417	57.1240	29.93	.Q	.V	.	.	.
18.500	57.3186	28.25	.Q	.V	.	.	.
18.583	57.5011	26.51	.Q	.V	.	.	.
18.667	57.6727	24.91	.Q	.V	.	.	.

18.750	57.8352	23.59	.Q	.	.	.	V	.
18.833	57.9904	22.54	.Q	.	.	.	V	.
18.917	58.1399	21.71	.Q	.	.	.	V	.
19.000	58.2845	21.00	.Q	.	.	.	V	.
19.083	58.4249	20.39	.Q	.	.	.	V	.
19.167	58.5617	19.86	.Q	.	.	.	V	.
19.250	58.6952	19.39	.Q	.	.	.	V	.
19.333	58.8260	18.99	.Q	.	.	.	V	.
19.417	58.9542	18.61	.Q	.	.	.	V	.
19.500	59.0799	18.25	.Q	.	.	.	V	.
19.583	59.2032	17.91	.Q	.	.	.	V	.
19.667	59.3243	17.57	.Q	.	.	.	V	.
19.750	59.4431	17.26	.Q	.	.	.	V	.
19.833	59.5600	16.97	.Q	.	.	.	V	.
19.917	59.6750	16.70	.Q	.	.	.	V	.
20.000	59.7883	16.44	.Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	215.0
20%	80.0
30%	60.0
40%	50.0
50%	40.0
60%	35.0
70%	30.0
80%	20.0
90%	15.0

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 7

>>>>STREAM NUMBER 1 ADDED TO STREAM NUMBER 2<<<<<

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6

>>>>STREAM NUMBER 1 CLEARED AND SET TO ZERO<<<<<

FLOW PROCESS FROM NODE 100.00 TO NODE 130.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

(UNIT-HYDROGRAPH ADDED TO STREAM #3)

WATERSHED AREA = 222.600 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.293 HOURS
CAUTION: LAG TIME IS LESS THAN 0.50 HOURS.
THE 5-MINUTE PERIOD UH MODEL (USED IN THIS COMPUTER PROGRAM)
MAY BE TOO LARGE FOR PEAK FLOW ESTIMATES.
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.088
LOW LOSS FRACTION = 0.276
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.26
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.60
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.79
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.33
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 1.84
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 3.08

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.754
30-MINUTE FACTOR = 0.754
1-HOUR FACTOR = 0.754
3-HOUR FACTOR = 0.961
6-HOUR FACTOR = 0.979
24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 28.441

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

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UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
-----	-----	-----
1	1.751	47.130
2	9.772	215.940
3	26.423	448.254
4	48.663	598.704
5	70.906	598.815
6	84.771	373.255
7	92.216	200.431
8	96.206	107.414
9	98.068	50.117
10	98.660	15.934
11	99.193	14.355
12	99.677	13.032
13	99.919	6.516
14	100.000	2.172

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 13.7850
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 42.5842

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2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

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HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	75.0	150.0	225.0	300.0
10.000	8.0431	13.77	.Q	V	.	.	.
10.083	8.1387	13.88	.Q	V	.	.	.
10.167	8.2351	14.00	.Q	V	.	.	.
10.250	8.3323	14.12	.Q	V	.	.	.
10.333	8.4303	14.24	.Q	V	.	.	.
10.417	8.5292	14.36	.Q	V	.	.	.
10.500	8.6290	14.49	.Q	V	.	.	.
10.583	8.7296	14.62	.Q	V	.	.	.
10.667	8.8312	14.75	.Q	V	.	.	.
10.750	8.9337	14.88	.Q	V	.	.	.
10.833	9.0372	15.02	.Q	V	.	.	.
10.917	9.1416	15.17	.Q	V	.	.	.
11.000	9.2471	15.31	.Q	V	.	.	.
11.083	9.3536	15.46	.Q	V	.	.	.
11.167	9.4611	15.61	.Q	V	.	.	.
11.250	9.5697	15.77	.Q	V	.	.	.
11.333	9.6795	15.93	.Q	V	.	.	.
11.417	9.7903	16.10	.Q	V	.	.	.
11.500	9.9024	16.27	.Q	V	.	.	.
11.583	10.0157	16.45	.Q	V	.	.	.
11.667	10.1302	16.63	.Q	V	.	.	.
11.750	10.2460	16.81	.Q	V	.	.	.
11.833	10.3631	17.00	.Q	V	.	.	.
11.917	10.4816	17.20	.Q	V	.	.	.
12.000	10.6014	17.41	.Q	V	.	.	.
12.083	10.7234	17.72	.Q	V	.	.	.
12.167	10.8501	18.39	.Q	V	.	.	.
12.250	10.9849	19.57	.Q	V	.	.	.
12.333	11.1301	21.08	.Q	V	.	.	.
12.417	11.2858	22.61	.Q	V	.	.	.
12.500	11.4487	23.66	.Q	V	.	.	.
12.583	11.6165	24.36	.Q	V	.	.	.
12.667	11.7877	24.86	.Q	.V	.	.	.
12.750	11.9617	25.26	.Q	.V	.	.	.
12.833	12.1379	25.59	.Q	.V	.	.	.
12.917	12.3165	25.93	.Q	.V	.	.	.
13.000	12.4975	26.28	.Q	.V	.	.	.
13.083	12.6810	26.63	.Q	.V	.	.	.
13.167	12.8668	26.98	.Q	.V	.	.	.
13.250	13.0551	27.35	.Q	.V	.	.	.
13.333	13.2460	27.72	.Q	.V	.	.	.
13.417	13.4397	28.12	.Q	.V	.	.	.
13.500	13.6361	28.52	.Q	.V	.	.	.
13.583	13.8355	28.95	.Q	.V	.	.	.
13.667	14.0380	29.40	.Q	.V	.	.	.
13.750	14.2437	29.87	.Q	.V	.	.	.
13.833	14.4528	30.36	.Q	.V	.	.	.

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13.917 14.6655 30.88 . Q . V . .
14.000 14.8819 31.42 . Q . V . .
14.083 15.1039 32.24 . Q . V . .
14.167 15.3377 33.95 . Q . V . .
14.250 15.5918 36.88 . Q . V . .
14.333 15.8714 40.60 . Q . V . .
14.417 16.1768 44.34 . Q . V . .
14.500 16.5000 46.93 . Q . V . .
14.583 16.8352 48.68 . Q . V . .
14.667 17.1796 50.00 . Q . V . .
14.750 17.5318 51.14 . Q . V . .
14.833 17.8915 52.23 . Q . V . .
14.917 18.2597 53.46 . Q . V . .
15.000 18.6372 54.82 . Q . V . .
15.083 19.0249 56.29 . Q . V . .
15.167 19.4235 57.87 . Q . V . .
15.250 19.8341 59.62 . Q . V . .
15.333 20.2578 61.53 . Q . V . .
15.417 20.6922 63.07 . Q . V . .
15.500 21.1239 62.68 . Q . V . .
15.583 21.5343 59.59 . Q . V . .
15.667 21.9123 54.88 . Q . V . .
15.750 22.2635 51.01 . Q . V . .
15.833 22.6217 52.00 . Q . V . .
15.917 23.0259 58.69 . Q . V . .
16.000 23.5200 71.75 . Q . V . .
16.083 24.1929 97.70 . . Q . V . .
16.167 25.1651 141.17 . . Q . V . .
16.250 26.4494 186.48 . . Q . V . .
16.333 27.8731 206.73 . . . VQ . .
16.417 29.1965 192.15 . . . Q V . .
16.500 30.1800 142.80 . . Q . V . .
16.583 30.9004 104.61 . . Q . V . .
16.667 31.4800 84.16 . . Q . V . .
16.750 31.9839 73.16 . . Q . V . .
16.833 32.4373 65.84 . . Q . V . .
16.917 32.8700 62.82 . . Q . V . .
17.000 33.2821 59.84 . . Q . V . .
17.083 33.6671 55.90 . . Q . V . .
17.167 34.0226 51.62 . . Q . V . .
17.250 34.3467 47.05 . . Q . V . .
17.333 34.6387 42.41 . . Q . V . .
17.417 34.9000 37.94 . . Q . V . .
17.500 35.1392 34.73 . . Q . V . .
17.583 35.3631 32.52 . . Q . V . .
17.667 35.5759 30.90 . . Q . V . .
17.750 35.7803 29.67 . . Q . V . .
17.833 35.9779 28.70 . . Q . V . .
17.917 36.1696 27.82 . . Q . V . .
18.000 36.3556 27.01 . . Q . V . .
18.083 36.5360 26.20 . . Q . V . .
18.167 36.7088 25.09 . . Q . V . .
18.250 36.8710 23.55 . . Q . V . .
18.333 37.0206 21.73 . . Q . V . .
18.417 37.1581 19.95 . . Q . V . .
18.500 37.2868 18.69 . . Q . V . .
18.583 37.4096 17.84 . . Q . V . .
18.667 37.5281 17.20 . . Q . V . .

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18.750 37.6433 16.72 . Q . . V .
18.833 37.7557 16.33 . Q . . V .
18.917 37.8656 15.96 . Q . . V .
19.000 37.9732 15.61 . Q . . V .
19.083 38.0785 15.30 . Q . . V .
19.167 38.1818 15.00 . Q . . V .
19.250 38.2833 14.73 .Q . . V .
19.333 38.3829 14.47 .Q . . V .
19.417 38.4808 14.22 .Q . . V .
19.500 38.5771 13.98 .Q . . V .
19.583 38.6718 13.75 .Q . . V .
19.667 38.7650 13.53 .Q . . V .
19.750 38.8567 13.32 .Q . . V .
19.833 38.9471 13.12 .Q . . V .
19.917 39.0361 12.92 .Q . . V .
20.000 39.1238 12.74 .Q . . V .

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TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	365.0
20%	180.0
30%	70.0
40%	40.0
50%	30.0
60%	25.0
70%	15.0
80%	15.0
90%	15.0

FLOW PROCESS FROM NODE 120.00 TO NODE 130.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<
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(UNIT-HYDROGRAPH ADDED TO STREAM #1)

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WATERSHED AREA = 225.000 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.192 HOURS
CAUTION: LAG TIME IS LESS THAN 0.50 HOURS.
THE 5-MINUTE PERIOD UH MODEL (USED IN THIS COMPUTER PROGRAM)
MAY BE TOO LARGE FOR PEAK FLOW ESTIMATES.
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.125
LOW LOSS FRACTION = 0.351
*HYDROGRAPH MODEL #1 SPECIFIED*

SPECIFIED PEAK 5-MINUTES RAINFALL(INCH)= 0.26
SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)= 0.60
SPECIFIED PEAK 1-HOUR RAINFALL(INCH) = 0.79

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SPECIFIED PEAK 3-HOUR RAINFALL(INCH) = 1.33
 SPECIFIED PEAK 6-HOUR RAINFALL(INCH) = 1.84
 SPECIFIED PEAK 24-HOUR RAINFALL(INCH) = 3.08

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE FACTOR = 0.754
 30-MINUTE FACTOR = 0.754
 1-HOUR FACTOR = 0.754
 3-HOUR FACTOR = 0.961
 6-HOUR FACTOR = 0.979
 24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
 UNIT INTERVAL PERCENTAGE OF LAG-TIME = 43.403

RUNOFF HYDROGRAPH LISTING LIMITS:

MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 10.00
 MODEL TIME(HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	3.383	92.041
2	22.745	526.863
3	56.050	906.274
4	82.707	725.366
5	93.849	303.167
6	97.847	108.804
7	98.883	28.196
8	99.482	16.280
9	99.793	8.462
10	99.948	4.231
11	100.000	1.410

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 18.0931
 TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 38.8861

24 - HOUR STORM
 RUNOFF HYDROGRAPH

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS(CFS)
 (Note: Time indicated is at END of Each Unit Intervals)

TIME(HRS)	VOLUME(AF)	Q(CFS)	0.	75.0	150.0	225.0	300.0
10.000	7.3983	12.61	.Q	V	.	.	.
10.083	7.4858	12.71	.Q	V	.	.	.
10.167	7.5741	12.82	.Q	V	.	.	.
10.250	7.6632	12.93	.Q	V	.	.	.
10.333	7.7530	13.04	.Q	V	.	.	.
10.417	7.8436	13.16	.Q	V	.	.	.
10.500	7.9350	13.27	.Q	V	.	.	.
10.583	8.0272	13.39	.Q	V	.	.	.
10.667	8.1204	13.52	.Q	V	.	.	.
10.750	8.2143	13.64	.Q	V	.	.	.
10.833	8.3092	13.78	.Q	V	.	.	.
10.917	8.4050	13.91	.Q	V	.	.	.
11.000	8.5017	14.04	.Q	V	.	.	.
11.083	8.5994	14.18	.Q	V	.	.	.
11.167	8.6981	14.33	.Q	V	.	.	.
11.250	8.7978	14.48	.Q	V	.	.	.
11.333	8.8985	14.63	.Q	V	.	.	.
11.417	9.0003	14.78	.Q	V	.	.	.
11.500	9.1032	14.94	.Q	V	.	.	.
11.583	9.2073	15.11	.Q	V	.	.	.
11.667	9.3125	15.28	.Q	V	.	.	.
11.750	9.4189	15.45	.Q	V	.	.	.
11.833	9.5266	15.63	.Q	V	.	.	.
11.917	9.6355	15.82	.Q	V	.	.	.
12.000	9.7458	16.01	.Q	V	.	.	.
12.083	9.8586	16.38	.Q	V	.	.	.
12.167	9.9798	17.60	.Q	V	.	.	.
12.250	10.1144	19.54	.Q	V	.	.	.
12.333	10.2601	21.15	.Q	V	.	.	.
12.417	10.4113	21.97	.Q	V	.	.	.
12.500	10.5658	22.42	.Q	V	.	.	.
12.583	10.7223	22.73	.Q	V	.	.	.
12.667	10.8809	23.03	.Q	V	.	.	.
12.750	11.0415	23.32	.Q	V	.	.	.
12.833	11.2041	23.61	.Q	V	.	.	.
12.917	11.3687	23.91	.Q	V	.	.	.
13.000	11.5355	24.21	.Q	V	.	.	.
13.083	11.7044	24.53	.Q	V	.	.	.
13.167	11.8756	24.86	.Q	V	.	.	.
13.250	12.0492	25.20	.Q	V	.	.	.
13.333	12.2252	25.56	.Q	V	.	.	.
13.417	12.4039	25.94	.Q	V	.	.	.
13.500	12.5852	26.33	.Q	V	.	.	.
13.583	12.7694	26.74	.Q	V	.	.	.
13.667	12.9565	27.17	.Q	V	.	.	.
13.750	13.1467	27.62	.Q	V	.	.	.
13.833	13.3402	28.09	.Q	V	.	.	.

13.917	13.5371	28.59	. Q	. V	.	.	.
14.000	13.7376	29.12	. Q	. V	.	.	.
14.083	13.9449	30.10	. Q	. V	.	.	.
14.167	14.1729	33.11	. Q	. V	.	.	.
14.250	14.4337	37.87	. Q	. V	.	.	.
14.333	14.7217	41.82	. Q	. V	.	.	.
14.417	15.0235	43.82	. Q	. V	.	.	.
14.500	15.3331	44.96	. Q	. V	.	.	.
14.583	15.6483	45.76	. Q	. V	.	.	.
14.667	15.9689	46.56	. Q	. V	.	.	.
14.750	16.2951	47.36	. Q	. V	.	.	.
14.833	16.6271	48.21	. Q	. V	.	.	.
14.917	16.9653	49.10	. Q	. V	.	.	.
15.000	17.3102	50.08	. Q	. V	.	.	.
15.083	17.6626	51.17	. Q	. V	.	.	.
15.167	18.0246	52.56	. Q	. V	.	.	.
15.250	18.3987	54.32	. Q	. V	.	.	.
15.333	18.7875	56.45	. Q	. V	.	.	.
15.417	19.1858	57.84	. Q	. V	.	.	.
15.500	19.5621	54.63	. Q	. V	.	.	.
15.583	19.8883	47.37	. Q	. V	.	.	.
15.667	20.1809	42.48	. Q	. V	.	.	.
15.750	20.4800	43.44	. Q	. V	.	.	.
15.833	20.8280	50.53	. Q	. V	.	.	.
15.917	21.2692	64.06	. Q	. V	.	.	.
16.000	21.8545	84.98	. Q	. V	.	.	.
16.083	22.7209	125.81	. Q	. V	.	.	.
16.167	24.1405	206.13	. Q	. V	. Q	.	.
16.250	25.8934	254.53	. Q	. V	. Q	.	.
16.333	27.3054	205.02	. Q	. V	. Q	.	.
16.417	28.1227	118.67	. Q	. V	. V	.	.
16.500	28.6425	75.47	. Q	. V	. V	.	.
16.583	29.0674	61.70	. Q	. V	. V	.	.
16.667	29.4814	60.12	. Q	. V	. V	.	.
16.750	29.8731	56.88	. Q	. V	. V	.	.
16.833	30.2412	53.44	. Q	. V	. V	.	.
16.917	30.5886	50.45	. Q	. V	. V	.	.
17.000	30.9211	48.28	. Q	. V	. V	.	.
17.083	31.2396	46.24	. Q	. V	. V	.	.
17.167	31.5316	42.41	. Q	. V	. V	.	.
17.250	31.7860	36.94	. Q	. V	. V	.	.
17.333	32.0091	32.39	. Q	. V	. V	.	.
17.417	32.2149	29.88	. Q	. V	. V	.	.
17.500	32.4102	28.36	. Q	. V	. V	.	.
17.583	32.5983	27.30	. Q	. V	. V	.	.
17.667	32.7800	26.39	. Q	. V	. V	.	.
17.750	32.9562	25.58	. Q	. V	. V	.	.
17.833	33.1274	24.86	. Q	. V	. V	.	.
17.917	33.2941	24.20	. Q	. V	. V	.	.
18.000	33.4566	23.60	. Q	. V	. V	.	.
18.083	33.6141	22.87	. Q	. V	. V	.	.
18.167	33.7611	21.34	. Q	. V	. V	.	.
18.250	33.8928	19.13	. Q	. V	. V	.	.
18.333	34.0120	17.31	. Q	. V	. V	.	.
18.417	34.1244	16.32	. Q	. V	. V	.	.
18.500	34.2328	15.74	. Q	. V	. V	.	.
18.583	34.3383	15.33	. Q	. V	. V	.	.
18.667	34.4414	14.96	. Q	. V	. V	.	.

18.750	34.5421	14.63	.Q	.	.	.	V	.
18.833	34.6408	14.32	.Q	.	.	.	V	.
18.917	34.7374	14.03	.Q	.	.	.	V	.
19.000	34.8322	13.77	.Q	.	.	.	V	.
19.083	34.9252	13.51	.Q	.	.	.	V	.
19.167	35.0166	13.26	.Q	.	.	.	V	.
19.250	35.1064	13.03	.Q	.	.	.	V	.
19.333	35.1946	12.81	.Q	.	.	.	V	.
19.417	35.2813	12.60	.Q	.	.	.	V	.
19.500	35.3667	12.39	.Q	.	.	.	V	.
19.583	35.4507	12.20	.Q	.	.	.	V	.
19.667	35.5334	12.01	.Q	.	.	.	V	.
19.750	35.6148	11.83	.Q	.	.	.	V	.
19.833	35.6951	11.66	.Q	.	.	.	V	.
19.917	35.7742	11.49	.Q	.	.	.	V	.
20.000	35.8522	11.33	.Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	270.0
20%	90.0
30%	30.0
40%	25.0
50%	15.0
60%	15.0
70%	15.0
80%	15.0
90%	5.0

FLOW PROCESS FROM NODE 130.00 TO NODE 130.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 1<<<<<<
=====

FLOW PROCESS FROM NODE 130.00 TO NODE 130.60 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<<
=====

FLOW PROCESS FROM NODE 130.60 TO NODE 13305.00 IS CODE = 7

>>>>STREAM NUMBER 1 ADDED TO STREAM NUMBER 2<<<<<<
=====

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6

>>>>STREAM NUMBER 1 CLEARED AND SET TO ZERO<<<<

FLOW PROCESS FROM NODE 150.00 TO NODE 13305.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<

(UNIT-HYDROGRAPH ADDED TO STREAM #3)

WATERSHED AREA = 62.600 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.335 HOURS
CAUTION: LAG TIME IS LESS THAN 0.50 HOURS.
THE 5-MINUTE PERIOD UH MODEL (USED IN THIS COMPUTER PROGRAM)
MAY BE TOO LARGE FOR PEAK FLOW ESTIMATES.
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.702
LOW LOSS FRACTION = 0.612
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL(INCH)= 0.26
SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)= 0.60
SPECIFIED PEAK 1-HOUR RAINFALL(INCH) = 0.79
SPECIFIED PEAK 3-HOUR RAINFALL(INCH) = 1.33
SPECIFIED PEAK 6-HOUR RAINFALL(INCH) = 1.84
SPECIFIED PEAK 24-HOUR RAINFALL(INCH) = 3.08

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.754
30-MINUTE FACTOR = 0.754
1-HOUR FACTOR = 0.754
3-HOUR FACTOR = 0.961
6-HOUR FACTOR = 0.979
24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 24.876

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME(HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

Table with 3 columns: INTERVAL NUMBER, "S" GRAPH MEAN VALUES, UNIT HYDROGRAPH ORDINATES (CFS). Rows 1 and 2.

Table with 3 columns: Interval Number, Value 1, Value 2. Rows 3 to 16.

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 9.3847
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 6.4704

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)

(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	10.0	20.0	30.0	40.0
10.000	1.2046	2.07	. Q	V .	.	.	.
10.083	1.2189	2.08	. Q	V .	.	.	.
10.167	1.2334	2.10	. Q	V .	.	.	.
10.250	1.2480	2.12	. Q	V .	.	.	.
10.333	1.2627	2.14	. Q	V .	.	.	.
10.417	1.2775	2.15	. Q	V .	.	.	.
10.500	1.2925	2.17	. Q	V .	.	.	.
10.583	1.3076	2.19	. Q	V .	.	.	.
10.667	1.3228	2.21	. Q	V .	.	.	.
10.750	1.3382	2.23	. Q	V .	.	.	.
10.833	1.3537	2.25	. Q	V .	.	.	.
10.917	1.3694	2.27	. Q	V .	.	.	.
11.000	1.3852	2.30	. Q	V .	.	.	.
11.083	1.4011	2.32	. Q	V .	.	.	.
11.167	1.4173	2.34	. Q	V .	.	.	.
11.250	1.4335	2.36	. Q	V .	.	.	.
11.333	1.4500	2.39	. Q	V .	.	.	.
11.417	1.4666	2.41	. Q	V .	.	.	.
11.500	1.4834	2.44	. Q	V .	.	.	.
11.583	1.5004	2.46	. Q	V .	.	.	.
11.667	1.5175	2.49	. Q	V .	.	.	.
11.750	1.5349	2.52	. Q	V .	.	.	.
11.833	1.5524	2.55	. Q	V .	.	.	.
11.917	1.5702	2.58	. Q	V .	.	.	.
12.000	1.5881	2.61	. Q	V .	.	.	.
12.083	1.6064	2.65	. Q	V .	.	.	.
12.167	1.6252	2.73	. Q	V .	.	.	.
12.250	1.6451	2.88	. Q	V .	.	.	.
12.333	1.6662	3.07	. Q	V .	.	.	.
12.417	1.6888	3.29	. Q	V .	.	.	.
12.500	1.7127	3.47	. Q	V .	.	.	.
12.583	1.7375	3.60	. Q	V .	.	.	.
12.667	1.7630	3.69	. Q	V .	.	.	.
12.750	1.7889	3.77	. Q	.V	.	.	.
12.833	1.8153	3.83	. Q	.V	.	.	.
12.917	1.8420	3.88	. Q	.V	.	.	.
13.000	1.8690	3.93	. Q	.V	.	.	.
13.083	1.8965	3.98	. Q	.V	.	.	.
13.167	1.9243	4.04	. Q	.V	.	.	.
13.250	1.9525	4.09	. Q	. V	.	.	.
13.333	1.9810	4.15	. Q	. V	.	.	.
13.417	2.0100	4.21	. Q	. V	.	.	.
13.500	2.0394	4.27	. Q	. V	.	.	.
13.583	2.0692	4.33	. Q	. V	.	.	.
13.667	2.0995	4.40	. Q	. V	.	.	.
13.750	2.1302	4.47	. Q	. V	.	.	.
13.833	2.1615	4.54	. Q	. V	.	.	.

13.917	2.1933	4.61	. Q	. V	.	.	.
14.000	2.2256	4.69	. Q	. V	.	.	.
14.083	2.2587	4.81	. Q	. V	.	.	.
14.167	2.2933	5.02	. Q	. V	.	.	.
14.250	2.3304	5.39	. Q	. V	.	.	.
14.333	2.3707	5.85	. Q	. V	.	.	.
14.417	2.4146	6.39	. Q	. V	.	.	.
14.500	2.4618	6.84	. Q	. V	.	.	.
14.583	2.5111	7.16	. Q	. V	.	.	.
14.667	2.5620	7.40	. Q	. V	.	.	.
14.750	2.6143	7.58	. Q	. V	.	.	.
14.833	2.6676	7.74	. Q	. V	.	.	.
14.917	2.7219	7.89	. Q	. V	.	.	.
15.000	2.7773	8.04	. Q	. V	.	.	.
15.083	2.8338	8.20	. Q	. V	.	.	.
15.167	2.8914	8.37	. Q	. V	.	.	.
15.250	2.9504	8.56	. Q	. V	.	.	.
15.333	3.0108	8.76	. Q	. V	.	.	.
15.417	3.0722	8.92	. Q	. V	.	.	.
15.500	3.1336	8.92	. Q	. V	.	.	.
15.583	3.1931	8.64	. Q	. V	.	.	.
15.667	3.2497	8.22	. Q	. V	.	.	.
15.750	3.3032	7.76	. Q	. V	.	.	.
15.833	3.3560	7.67	. Q	. V	.	.	.
15.917	3.4124	8.19	. Q	. V	.	.	.
16.000	3.4768	9.34	. Q	. V	.	.	.
16.083	3.5624	12.44	. Q	. V	.	.	.
16.167	3.6881	18.25	. Q	. V	.	.	.
16.250	3.8692	26.29	. Q	. V	. Q	.	.
16.333	4.0800	30.62	. Q	. V	. Q	.	.
16.417	4.3061	32.83	. Q	. V	. Q	.	.
16.500	4.4970	27.71	. Q	. V	. Q	.	.
16.583	4.6380	20.48	. Q	. V	. V	.	.
16.667	4.7438	15.35	. Q	. V	. V	.	.
16.750	4.8309	12.65	. Q	. V	. V	.	.
16.833	4.9056	10.85	. Q	. V	. V	.	.
16.917	4.9709	9.47	. Q	. V	. V	.	.
17.000	5.0331	9.04	. Q	. V	. V	.	.
17.083	5.0931	8.70	. Q	. V	. V	.	.
17.167	5.1497	8.22	. Q	. V	. V	.	.
17.250	5.2013	7.50	. Q	. V	. V	.	.
17.333	5.2480	6.77	. Q	. V	. V	.	.
17.417	5.2897	6.06	. Q	. V	. V	.	.
17.500	5.3276	5.51	. Q	. V	. V	.	.
17.583	5.3629	5.11	. Q	. V	. V	.	.
17.667	5.3961	4.82	. Q	. V	. V	.	.
17.750	5.4278	4.60	. Q	. V	. V	.	.
17.833	5.4582	4.42	. Q	. V	. V	.	.
17.917	5.4877	4.28	. Q	. V	. V	.	.
18.000	5.5162	4.15	. Q	. V	. V	.	.
18.083	5.5439	4.02	. Q	. V	. V	.	.
18.167	5.5705	3.86	. Q	. V	. V	.	.
18.250	5.5957	3.65	. Q	. V	. V	.	.
18.333	5.6192	3.41	. Q	. V	. V	.	.
18.417	5.6409	3.15	. Q	. V	. V	.	.
18.500	5.6611	2.93	. Q	. V	. V	.	.
18.583	5.6802	2.77	. Q	. V	. V	.	.
18.667	5.6985	2.66	. Q	. V	. V	.	.

18.750	5.7162	2.57	. Q	.	.	.	V	.
18.833	5.7334	2.50	. Q	.	.	.	V	.
18.917	5.7502	2.44	. Q	.	.	.	V	.
19.000	5.7666	2.39	. Q	.	.	.	V	.
19.083	5.7827	2.34	. Q	.	.	.	V	.
19.167	5.7985	2.29	. Q	.	.	.	V	.
19.250	5.8139	2.24	. Q	.	.	.	V	.
19.333	5.8291	2.20	. Q	.	.	.	V	.
19.417	5.8440	2.16	. Q	.	.	.	V	.
19.500	5.8586	2.13	. Q	.	.	.	V	.
19.583	5.8730	2.09	. Q	.	.	.	V	.
19.667	5.8872	2.06	. Q	.	.	.	V	.
19.750	5.9012	2.03	. Q	.	.	.	V	.
19.833	5.9149	1.99	.Q	.	.	.	V	.
19.917	5.9284	1.96	.Q	.	.	.	V	.
20.000	5.9417	1.94	.Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	360.0
20%	175.0
30%	50.0
40%	35.0
50%	30.0
60%	25.0
70%	20.0
80%	20.0
90%	10.0

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
=====

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
=====

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 2 HYDROGRAPH<<<<<
=====

STREAM HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	475.0	950.0	1425.0	1900.0
-----	-----	-----	-----	-----	-----	-----	-----
10.000	84.0577	149.91	. Q V	.	.	.	.
10.083	85.0979	151.03	. Q V	.	.	.	.
10.167	86.1458	152.16	. Q V	.	.	.	.
10.250	87.2017	153.32	. Q V	.	.	.	.
10.333	88.2658	154.50	. Q V	.	.	.	.
10.417	89.3382	155.71	. Q V	.	.	.	.
10.500	90.4190	156.94	. Q V	.	.	.	.
10.583	91.5085	158.20	. Q V	.	.	.	.
10.667	92.6068	159.48	. Q V	.	.	.	.
10.750	93.7142	160.79	. Q V	.	.	.	.
10.833	94.8308	162.13	. Q V	.	.	.	.
10.917	95.9568	163.50	. Q V	.	.	.	.
11.000	97.0925	164.90	. Q V	.	.	.	.
11.083	98.2381	166.33	. Q V	.	.	.	.
11.167	99.3937	167.80	. Q V	.	.	.	.
11.250	100.5597	169.30	. Q V	.	.	.	.
11.333	101.7363	170.84	. Q V	.	.	.	.
11.417	102.9237	172.41	. Q V	.	.	.	.
11.500	104.1222	174.02	. Q V	.	.	.	.
11.583	105.3321	175.68	. Q V	.	.	.	.
11.667	106.5537	177.37	. Q V	.	.	.	.
11.750	107.7872	179.11	. Q V	.	.	.	.
11.833	109.0331	180.90	. Q V	.	.	.	.
11.917	110.2915	182.73	. Q V	.	.	.	.
12.000	111.5630	184.61	. Q V	.	.	.	.
12.083	112.8502	186.90	. Q V	.	.	.	.
12.167	114.1627	190.58	. Q V	.	.	.	.
12.250	115.5113	195.82	. Q V	.	.	.	.
12.333	116.8989	201.47	. Q V	.	.	.	.
12.417	118.3224	206.69	. Q V	.	.	.	.
12.500	119.7785	211.44	. Q V	.	.	.	.
12.583	121.2661	215.99	. Q V	.	.	.	.
12.667	122.7856	220.64	. Q V	.	.	.	.
12.750	124.3387	225.50	. Q V	.	.	.	.
12.833	125.9271	230.64	. Q V	.	.	.	.
12.917	127.5526	236.03	. Q V	.	.	.	.
13.000	129.2166	241.61	. Q V	.	.	.	.
13.083	130.9210	247.47	. Q V	.	.	.	.
13.167	132.6682	253.70	. Q V	.	.	.	.
13.250	134.4614	260.36	. Q V	.	.	.	.
13.333	136.3013	267.16	. Q V	.	.	.	.
13.417	138.1884	274.00	. Q V	.	.	.	.
13.500	140.1226	280.85	. Q V	.	.	.	.
13.583	142.1022	287.44	. Q V	.	.	.	.
13.667	144.1253	293.74	. Q V	.	.	.	.
13.750	146.1902	299.83	. Q V	.	.	.	.
13.833	148.2959	305.75	. Q V	.	.	.	.
13.917	150.4412	311.50	. Q V	.	.	.	.
14.000	152.6254	317.15	. Q V	.	.	.	.
14.083	154.8545	323.67	. Q V	.	.	.	.
14.167	157.1511	333.46	. Q V	.	.	.	.
14.250	159.5403	346.92	. Q V	.	.	.	.
14.333	162.0281	361.23	. Q .V	.	.	.	.
14.417	164.6070	374.45	. Q .V	.	.	.	.
14.500	167.2687	386.48	. Q .V	.	.	.	.

14.583	170.0099	398.03	.	Q	.V	.	.	.	.
14.667	172.8325	409.84	.	Q	.V	.	.	.	.
14.750	175.7407	422.27	.	Q	.V	.	.	.	.
14.833	178.7404	435.56	.	Q	.V	.	.	.	.
14.917	181.8373	449.67	.	Q	.V	.	.	.	.
15.000	185.0363	464.50	.	Q	.V	.	.	.	.
15.083	188.3445	480.34	.	Q	V	.	.	.	.
15.167	191.7723	497.72	.	Q	V	.	.	.	.
15.250	195.3335	517.09	.	Q	V	.	.	.	.
15.333	199.0389	538.02	.	.	Q	V	.	.	.
15.417	202.8856	558.54	.	.	Q	V	.	.	.
15.500	206.8334	573.22	.	.	Q	V	.	.	.
15.583	210.8315	580.52	.	.	Q	V	.	.	.
15.667	214.8763	587.30	.	.	Q	V	.	.	.
15.750	219.0122	600.53	.	.	Q	V	.	.	.
15.833	223.3190	625.35	.	.	Q	V	.	.	.
15.917	227.9041	665.76	.	.	Q	V	.	.	.
16.000	232.9131	727.30	.	.	Q	.	.	.	.
16.083	238.7325	844.97	.	.	V	Q	.	.	.
16.167	245.9013	1040.92	.	.	V	.	Q	.	.
16.250	254.4456	1240.63	.	.	V	.	Q	.	.
16.333	263.6460	1335.90	.	.	V	.	Q	.	.
16.417	272.9454	1350.28	.	.	V	.	Q	.	.
16.500	282.3789	1369.74	.	.	V	.	Q	.	.
16.583	292.1267	1415.39	.	.	V	.	Q	.	.
16.667	302.3174	1479.69	.	.	V	.	Q	.	.
16.750	312.9659	1546.17	.	.	V	.	Q	.	.
16.833	324.0713	1612.50	.	.	V	.	Q	.	.
16.917	335.5249	1663.06	.	.	V	.	Q	.	.
17.000	347.2871	1707.88	.	.	V	.	Q	.	.
17.083	359.4674	1768.58	.	.	V	.	Q	.	.
17.167	372.1453	1840.83	.	.	V	.	Q	.	.
17.250	385.1982	1895.28	.	.	V	.	Q	.	.
17.333	398.1023	1873.68	.	.	V	.	Q	.	.
17.417	410.5956	1814.02	.	.	V	.	Q	.	.
17.500	422.4954	1727.85	.	.	V	.	Q	.	.
17.583	433.4276	1587.36	.	.	V	.	Q	.	.
17.667	443.2925	1432.39	.	.	V	.	Q	.	.
17.750	452.1962	1292.82	.	.	V	.	Q	.	.
17.833	460.2208	1165.17	.	.	V	.	Q	.	.
17.917	467.3721	1038.37	.	.	V	.	Q	.	.
18.000	473.7689	928.81	.	.	V	.	Q	.	.
18.083	479.5775	843.41	.	.	V	.	Q	.	.
18.167	484.8528	765.98	.	.	V	.	Q	.	.
18.250	489.6036	689.81	.	.	V	.	Q	.	.
18.333	493.8668	619.01	.	.	V	.	Q	.	.
18.417	497.7083	557.80	.	.	V	.	Q	.	.
18.500	501.2050	507.71	.	.	V	.	Q	.	.
18.583	504.3521	456.96	.	.	V	.	Q	.	.
18.667	507.1746	409.83	.	.	V	.	Q	.	.
18.750	509.7713	377.05	.	.	V	.	Q	.	.
18.833	512.2095	354.02	.	.	V	.	Q	.	.
18.917	514.5233	335.97	.	.	V	.	Q	.	.
19.000	516.7310	320.55	.	.	V	.	Q	.	.
19.083	518.8436	306.76	.	.	V	.	Q	.	.
19.167	520.8690	294.09	.	.	V	.	Q	.	.
19.250	522.8113	282.01	.	.	V	.	Q	.	.
19.333	524.6734	270.38	.	.	V	.	Q	.	.

19.417	526.4556	258.78	.	Q	.	.	.	.	V	.
19.500	528.1528	246.43	.	Q	.	.	.	.	V	.
19.583	529.7408	230.57	.	Q	.	.	.	.	V	.
19.667	531.2199	214.77	.	Q	.	.	.	.	V	.
19.750	532.6256	204.11	.	Q	.	.	.	.	V	.
19.833	533.9784	196.42	.	Q	.	.	.	.	V	.
19.917	535.2878	190.13	.	Q	.	.	.	.	V	.
20.000	536.5587	184.52	.	Q	.	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	470.0
20%	255.0
30%	175.0
40%	130.0
50%	110.0
60%	100.0
70%	85.0
80%	55.0
90%	35.0

END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

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Santa Ana, CA 92707

***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - CALIBRATED UH *
* ULTIMATE CONDITION - REGIONAL NODE 13305 *
* 25-YR EV AUGUST 2018 CCHIU *

FILE NAME: EV25305F.DAT
TIME/DATE OF STUDY: 11:18 09/04/2018

FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

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(UNIT-HYDROGRAPH ADDED TO STREAM #1)

WATERSHED AREA = 4924.400 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.856 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244
LOW LOSS FRACTION = 0.567
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.35
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.73
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.97
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.62
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.24
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 3.75

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.754
30-MINUTE FACTOR = 0.754
1-HOUR FACTOR = 0.754
3-HOUR FACTOR = 0.961
6-HOUR FACTOR = 0.979
24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 9.735

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.556	331.300
2	1.681	669.681
3	3.190	898.530
4	5.694	1491.595
5	9.996	2562.006
6	15.343	3184.527
7	21.165	3467.137
8	27.440	3736.834
9	34.550	4234.553
10	42.448	4703.686
11	51.437	5353.104
12	59.048	4532.599
13	66.996	4733.692
14	73.451	3844.114
15	78.519	3018.107
16	82.874	2593.681
17	86.545	2186.207
18	89.201	1581.784
19	91.334	1270.321
20	93.252	1141.972
21	94.739	886.011
22	95.921	703.742
23	96.748	492.799
24	97.512	454.687
25	98.060	326.543
26	98.248	112.074
27	98.431	108.729
28	98.613	108.666
29	98.796	108.729
30	98.978	108.607
31	99.161	108.966
32	99.344	108.607
33	99.526	108.607
34	99.708	108.607
35	99.891	108.607
36	100.000	65.051

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 777.1218
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 740.2405

=====

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

=====

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	675.0	1350.0	2025.0	2700.0
10.000	118.6972	209.65	.	Q V	.	.	.
10.083	120.1520	211.25	.	Q V	.	.	.
10.167	121.6180	212.86	.	Q V	.	.	.
10.250	123.0954	214.52	.	Q V	.	.	.
10.333	124.5843	216.19	.	Q V	.	.	.
10.417	126.0852	217.92	.	Q V	.	.	.
10.500	127.5980	219.67	.	Q V	.	.	.
10.583	129.1233	221.47	.	Q V	.	.	.
10.667	130.6612	223.29	.	Q V	.	.	.
10.750	132.2120	225.18	.	Q V	.	.	.
10.833	133.7759	227.08	.	Q V	.	.	.
10.917	135.3534	229.05	.	Q V	.	.	.
11.000	136.9446	231.04	.	Q V	.	.	.
11.083	138.5500	233.10	.	Q V	.	.	.
11.167	140.1697	235.19	.	Q V	.	.	.
11.250	141.8044	237.35	.	Q V	.	.	.
11.333	143.4540	239.53	.	Q V	.	.	.
11.417	145.1193	241.80	.	Q V	.	.	.
11.500	146.8004	244.10	.	Q V	.	.	.
11.583	148.4979	246.48	.	Q V	.	.	.
11.667	150.2121	248.89	.	Q V	.	.	.
11.750	151.9435	251.40	.	Q V	.	.	.
11.833	153.6925	253.95	.	Q V	.	.	.
11.917	155.4596	256.59	.	Q V	.	.	.
12.000	157.2453	259.28	.	Q V	.	.	.
12.083	159.0538	262.60	.	Q V	.	.	.
12.167	160.8892	266.50	.	Q V	.	.	.
12.250	162.7547	270.88	.	Q V	.	.	.
12.333	164.6573	276.25	.	Q V	.	.	.
12.417	166.6093	283.44	.	Q V	.	.	.
12.500	168.6182	291.69	.	Q V	.	.	.
12.583	170.6880	300.53	.	Q V	.	.	.
12.667	172.8221	309.88	.	Q V	.	.	.
12.750	175.0273	320.18	.	Q V	.	.	.
12.833	177.3091	331.32	.	Q V	.	.	.
12.917	179.6759	343.67	.	Q V	.	.	.
13.000	182.1196	354.82	.	Q V	.	.	.
13.083	184.6437	366.51	.	Q V	.	.	.
13.167	187.2394	376.89	.	Q V	.	.	.
13.250	189.8992	386.21	.	Q V	.	.	.
13.333	192.6194	394.97	.	Q V	.	.	.
13.417	195.3971	403.33	.	Q V	.	.	.
13.500	198.2268	410.86	.	Q V	.	.	.
13.583	201.1068	418.18	.	Q V	.	.	.
13.667	204.0368	425.43	.	Q .V	.	.	.
13.750	207.0160	432.58	.	Q .V	.	.	.
13.833	210.0436	439.61	.	Q .V	.	.	.

13.917	213.1196	446.64	.	Q .V	.	.	.
14.000	216.2450	453.81	.	Q .V	.	.	.
14.083	219.4293	462.35	.	Q .V	.	.	.
14.167	222.6800	472.00	.	Q .V	.	.	.
14.250	226.0056	482.89	.	Q .V	.	.	.
14.333	229.4228	496.17	.	Q .V	.	.	.
14.417	232.9611	513.77	.	Q .V	.	.	.
14.500	236.6380	533.88	.	Q .V	.	.	.
14.583	240.4636	555.48	.	Q .V	.	.	.
14.667	244.4466	578.33	.	Q .V	.	.	.
14.750	248.6031	603.53	.	Q .V	.	.	.
14.833	252.9471	630.74	.	Q .V	.	.	.
14.917	257.4988	660.91	.	Q .V	.	.	.
15.000	262.2402	688.46	.	Q V	.	.	.
15.083	267.1827	717.64	.	Q V	.	.	.
15.167	272.3102	744.52	.	.Q V	.	.	.
15.250	277.6133	770.00	.	.Q V	.	.	.
15.333	283.0939	795.78	.	.Q V	.	.	.
15.417	288.7372	819.41	.	.Q V	.	.	.
15.500	294.5226	840.05	.	.Q V	.	.	.
15.583	300.4512	860.82	.	.Q V	.	.	.
15.667	306.5005	878.36	.	.Q V	.	.	.
15.750	312.6257	889.39	.	.Q V	.	.	.
15.833	318.8242	900.03	.	.Q V	.	.	.
15.917	325.1616	920.18	.	.Q V	.	.	.
16.000	331.7621	958.41	.	.Q V	.	.	.
16.083	339.1442	1071.87	.	.Q V	.	.	.
16.167	347.3674	1194.02	.	.QV	.	.	.
16.250	356.3965	1311.02	.	.Q	.	.	.
16.333	366.8802	1522.24	.	.V. Q	.	.	.
16.417	379.3676	1813.16	.	.V	Q	.	.
16.500	393.1582	2002.40	.	.V	Q.	.	.
16.583	407.7425	2117.64	.	.V	.Q	.	.
16.667	423.0942	2229.07	.	.V	.Q	.	.
16.750	439.5580	2390.55	.	.V	.Q	.	.
16.833	456.9329	2522.83	.	.V	.Q	Q	.
16.917	475.0670	2633.08	.	.V	.Q	Q.	.
17.000	491.8355	2434.78	.	.V	.Q	.Q	.
17.083	508.2825	2388.11	.	.V	Q	.Q	.
17.167	522.9138	2124.45	.	.V	.Q	.Q	.
17.250	535.8694	1881.15	.	.V	.QV	.	.
17.333	547.6649	1712.70	.	.Q	.V.	.	.
17.417	558.3666	1553.89	.	.Q	.V	.	.
17.500	567.7542	1363.08	.	.Q	.V	.	.
17.583	576.2567	1234.56	.	.Q	.V	.	.
17.667	584.1554	1146.90	.	.Q	.V	.	.
17.750	591.2943	1036.57	.	.Q	.V	.	.
17.833	597.7584	938.59	.	.Q	.V	.	.
17.917	603.5439	840.06	.	.Q	.V	.	.
18.000	608.9161	780.04	.	.Q	.V	.	.
18.083	613.7591	703.21	.	.Q	.V	.	.
18.167	618.0289	619.97	.	.Q	.V	.	.
18.250	622.0614	585.52	.	.Q	.V	.	.
18.333	625.9070	558.39	.	.Q	.V	.	.
18.417	629.5757	532.69	.	.Q	.V	.	.
18.500	633.0715	507.58	.	.Q	.V	.	.
18.583	636.4099	484.73	.	.Q	.V	.	.
18.667	639.5970	462.77	.	.Q	.V	.	.

18.750	642.6367	441.37	.	Q	.	.	.	V	.
18.833	645.5260	419.53	.	Q	.	.	.	V	.
18.917	648.2524	395.87	.	Q	.	.	.	V	.
19.000	650.7677	365.22	.	Q	.	.	.	V	.
19.083	653.0616	333.08	.	Q	.	.	.	V	.
19.167	655.2512	317.92	.	Q	.	.	.	V	.
19.250	657.3572	305.80	.	Q	.	.	.	V	.
19.333	659.3859	294.56	.	Q	.	.	.	V	.
19.417	661.3409	283.87	.	Q	.	.	.	V	.
19.500	663.2330	274.73	.	Q	.	.	.	V	.
19.583	665.0687	266.56	.	Q	.	.	.	V	.
19.667	666.8522	258.96	.	Q	.	.	.	V	.
19.750	668.5882	252.07	.	Q	.	.	.	V	.
19.833	670.2806	245.74	.	Q	.	.	.	V	.
19.917	671.9335	240.00	.	Q	.	.	.	V	.
20.000	673.5500	234.71	.	Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	450.0
20%	240.0
30%	160.0
40%	100.0
50%	75.0
60%	60.0
70%	50.0
80%	40.0
90%	25.0

FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<
=====

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH(FT) = 50.00 CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 427.51
DOWNSTREAM ELEVATION(FT) = 315.00
CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040
CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:

MAXIMUM INFLOW(CFS) = 2633.08
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 2045.94
CHANNEL NORMAL VELOCITY FOR Q = 2045.94 CFS = 8.63 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.835

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
UNIT INTERVALS IS CSTAR = 0.626

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 1) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS
			LOSS (STREAM 1) (CFS)
10.000	209.65	203.99	203.99
10.083	211.25	205.47	205.47
10.167	212.86	206.97	206.97
10.250	214.52	208.50	208.50
10.333	216.19	210.07	210.07
10.417	217.92	211.66	211.66
10.500	219.67	213.29	213.29
10.583	221.47	214.95	214.95
10.667	223.29	216.65	216.65
10.750	225.18	218.37	218.37
10.833	227.08	220.14	220.14
10.917	229.05	221.94	221.94
11.000	231.04	223.79	223.79
11.083	233.10	225.67	225.67
11.167	235.19	227.60	227.60
11.250	237.35	229.57	229.57
11.333	239.53	231.59	231.59
11.417	241.80	233.64	233.64
11.500	244.10	235.76	235.76
11.583	246.48	237.91	237.91
11.667	248.89	240.13	240.13
11.750	251.40	242.40	242.40
11.833	253.95	244.73	244.73
11.917	256.59	247.11	247.11
12.000	259.28	249.56	249.56
12.083	262.60	252.07	252.07
12.167	266.50	254.65	254.65
12.250	270.88	257.29	257.29
12.333	276.25	260.30	260.30
12.417	283.44	263.81	263.81
12.500	291.69	267.82	267.82
12.583	300.53	272.59	272.59
12.667	309.88	278.70	278.70
12.750	320.18	286.05	286.05
12.833	331.32	294.28	294.28
12.917	343.67	303.16	303.16
13.000	354.82	312.84	312.84
13.083	366.51	323.36	323.36
13.167	376.89	334.90	334.90
13.250	386.21	346.32	346.32
13.333	394.97	357.85	357.85
13.417	403.33	368.79	368.79
13.500	410.86	378.81	378.81
13.583	418.18	388.10	388.10

13.667	425.43	396.84	396.84
13.750	432.58	404.91	404.91
13.833	439.61	412.52	412.52
13.917	446.64	419.92	419.92
14.000	453.81	427.17	427.17
14.083	462.35	434.29	434.29
14.167	472.00	441.36	441.36
14.250	482.89	448.48	448.48
14.333	496.17	456.35	456.35
14.417	513.77	465.24	465.24
14.500	533.88	475.26	475.26
14.583	555.48	487.09	487.09
14.667	578.33	502.13	502.13
14.750	603.53	520.10	520.10
14.833	630.74	540.21	540.21
14.917	660.91	561.92	561.92
15.000	688.46	585.58	585.58
15.083	717.64	611.28	611.28
15.167	744.52	639.50	639.50
15.250	770.00	667.55	667.55
15.333	795.78	696.15	696.15
15.417	819.41	723.89	723.89
15.500	840.05	750.35	750.35
15.583	860.82	776.35	776.35
15.667	878.36	801.08	801.08
15.750	889.39	823.52	823.52
15.833	900.03	844.91	844.91
15.917	920.18	864.19	864.19
16.000	958.41	878.92	878.92
16.083	1071.87	891.13	891.13
16.167	1194.02	907.41	907.41
16.250	1311.02	935.72	935.72
16.333	1522.24	1010.24	1010.24
16.417	1813.16	1113.75	1113.75
16.500	2002.40	1226.19	1226.19
16.583	2117.64	1391.57	1391.57
16.667	2229.07	1628.01	1628.01
16.750	2390.55	1844.49	1844.49
16.833	2522.83	2004.58	2004.58
16.917	2633.08	2134.58	2134.58
17.000	2434.78	2279.56	2279.56
17.083	2388.11	2419.34	2419.34
17.167	2124.45	2542.72	2542.72
17.250	1881.15	2493.85	2493.85
17.333	1712.70	2432.07	2432.07
17.417	1553.89	2264.39	2264.39
17.500	1363.08	2047.47	2047.47
17.583	1234.56	1853.83	1853.83
17.667	1146.90	1681.08	1681.08
17.750	1036.57	1500.04	1500.04
17.833	938.59	1346.00	1346.00
17.917	840.06	1229.65	1229.65
18.000	780.04	1119.21	1119.21
18.083	703.21	1015.40	1015.40
18.167	619.97	914.95	914.95
18.250	585.52	836.17	836.17
18.333	558.39	760.19	760.19
18.417	532.69	680.28	680.28

18.500	507.58	624.22	624.22
18.583	484.73	585.58	585.58
18.667	462.77	554.90	554.90
18.750	441.37	527.65	527.65
18.833	419.53	502.94	502.94
18.917	395.87	479.87	479.87
19.000	365.22	457.79	457.79
19.083	333.08	435.90	435.90
19.167	317.92	413.08	413.08
19.250	305.80	386.02	386.02
19.333	294.56	355.92	355.92
19.417	283.87	333.57	333.57
19.500	274.73	317.33	317.33
19.583	266.56	304.14	304.14
19.667	258.96	292.46	292.46
19.750	252.07	282.22	282.22
19.833	245.74	273.19	273.19
19.917	240.00	265.00	265.00
20.000	234.71	257.56	257.56

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PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 740.241 AF
 OUTFLOW VOLUME = 740.240 AF
 LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 100.00 TO NODE 13305.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<

(UNIT-HYDROGRAPH ADDED TO STREAM #2)

WATERSHED AREA = 510.200 ACRES
 BASEFLOW = 0.000 CFS/SQUARE-MILE
 *USER ENTERED "LAG" TIME = 0.283 HOURS
 CAUTION: LAG TIME IS LESS THAN 0.50 HOURS.
 THE 5-MINUTE PERIOD UH MODEL (USED IN THIS COMPUTER PROGRAM)
 MAY BE TOO LARGE FOR PEAK FLOW ESTIMATES.
 VALLEY(DEVELOPED) S-GRAPH SELECTED
 MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.130
 LOW LOSS FRACTION = 0.316
 HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.35
 SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.73
 SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.97
 SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.62
 SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.24
 SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 3.75

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE FACTOR = 0.754
 30-MINUTE FACTOR = 0.754
 1-HOUR FACTOR = 0.754
 3-HOUR FACTOR = 0.961
 6-HOUR FACTOR = 0.979

24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 29.446

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	1.828	112.770
2	10.526	536.736
3	28.125	1085.868
4	51.719	1455.788
5	73.613	1350.911
6	86.628	803.098
7	93.373	416.153
8	96.880	216.419
9	98.287	86.777
10	98.839	34.071
11	99.367	32.561
12	99.747	23.449
13	99.937	11.724
14	100.000	3.908

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 44.5362
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 112.6538

24 - HOUR STORM
RUNOFF HYDROGRAPH

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	150.0	300.0	450.0	600.0
10.000	21.1828	36.26	. Q	V .	.	.	.
10.083	21.4345	36.56	. Q	V .	.	.	.
10.167	21.6884	36.86	. Q	V .	.	.	.
10.250	21.9444	37.17	. Q	V .	.	.	.
10.333	22.2026	37.49	. Q	V .	.	.	.
10.417	22.4631	37.82	. Q	V .	.	.	.
10.500	22.7259	38.15	. Q	V .	.	.	.
10.583	22.9910	38.50	. Q	V .	.	.	.
10.667	23.2585	38.85	. Q	V .	.	.	.
10.750	23.5285	39.21	. Q	V .	.	.	.
10.833	23.8011	39.57	. Q	V .	.	.	.
10.917	24.0762	39.95	. Q	V .	.	.	.
11.000	24.3540	40.33	. Q	V .	.	.	.
11.083	24.6345	40.73	. Q	V .	.	.	.
11.167	24.9178	41.14	. Q	V .	.	.	.
11.250	25.2040	41.55	. Q	V .	.	.	.
11.333	25.4931	41.98	. Q	V .	.	.	.
11.417	25.7852	42.42	. Q	V .	.	.	.
11.500	26.0805	42.87	. Q	V .	.	.	.
11.583	26.3789	43.34	. Q	V .	.	.	.
11.667	26.6807	43.81	. Q	V .	.	.	.
11.750	26.9858	44.31	. Q	V .	.	.	.
11.833	27.2944	44.81	. Q	V .	.	.	.
11.917	27.6066	45.33	. Q	V .	.	.	.
12.000	27.9226	45.87	. Q	V .	.	.	.
12.083	28.2442	46.71	. Q	V .	.	.	.
12.167	28.5791	48.62	. Q	V .	.	.	.
12.250	28.9367	51.92	. Q	V .	.	.	.
12.333	29.3235	56.17	. Q	V .	.	.	.
12.417	29.7381	60.19	. Q	V .	.	.	.
12.500	30.1711	62.87	. Q	V .	.	.	.
12.583	30.6161	64.62	. Q	V .	.	.	.
12.667	31.0700	65.90	. Q	.V	.	.	.
12.750	31.5307	66.89	. Q	.V	.	.	.
12.833	31.9973	67.76	. Q	.V	.	.	.
12.917	32.4703	68.67	. Q	.V	.	.	.
13.000	32.9495	69.58	. Q	.V	.	.	.
13.083	33.4350	70.50	. Q	.V	.	.	.
13.167	33.9269	71.43	. Q	. V	.	.	.
13.250	34.4254	72.38	. Q	. V	.	.	.
13.333	34.9308	73.38	. Q	. V	.	.	.
13.417	35.4433	74.42	. Q	. V	.	.	.
13.500	35.9634	75.51	. Q	. V	.	.	.
13.583	36.4912	76.64	. Q	. V	.	.	.
13.667	37.0272	77.83	. Q	. V	.	.	.
13.750	37.5718	79.07	. Q	. V	.	.	.
13.833	38.1253	80.38	. Q	. V	.	.	.

13.917	38.6884	81.75	.	Q	.	V	.	.	.
14.000	39.2613	83.19	.	Q	.	V	.	.	.
14.083	39.8492	85.36	.	Q	.	V	.	.	.
14.167	40.4692	90.03	.	Q	.	V	.	.	.
14.250	41.1435	97.90	.	Q	.	V	.	.	.
14.333	41.8869	107.94	.	Q	.	V	.	.	.
14.417	42.6956	117.42	.	Q	.	V	.	.	.
14.500	43.5483	123.81	.	Q	.	V	.	.	.
14.583	44.4304	128.07	.	Q	.	V	.	.	.
14.667	45.3346	131.29	.	Q	.	V	.	.	.
14.750	46.2567	133.90	.	Q	.	V	.	.	.
14.833	47.1958	136.35	.	Q	.	V	.	.	.
14.917	48.1533	139.03	.	Q	.	V	.	.	.
15.000	49.1315	142.04	.	Q	.	V	.	.	.
15.083	50.1337	145.52	.	Q	.	V	.	.	.
15.167	51.1640	149.61	.	Q	.	V	.	.	.
15.250	52.2270	154.34	.	Q	.	V	.	.	.
15.333	53.3271	159.72	.	Q	.	V	.	.	.
15.417	54.4577	164.17	.	Q	.	V	.	.	.
15.500	55.5819	163.23	.	Q	.	V	.	.	.
15.583	56.6502	155.12	.	Q	.	V	.	.	.
15.667	57.6319	142.53	.	Q	.	V	.	.	.
15.750	58.5484	133.08	.	Q	.	V	.	.	.
15.833	59.4795	135.20	.	Q	.	V	.	.	.
15.917	60.5131	150.08	.	Q	.	V	.	.	.
16.000	61.7641	181.64	.	.	Q	.	V	.	.
16.083	63.5104	253.57	.	.	Q	.	V	.	.
16.167	66.1949	389.80	.	.	.	V	Q	.	.
16.250	69.8520	531.01	.	.	.	V	.	Q	.
16.333	73.9658	597.31	.	.	.	V	.	Q	.
16.417	77.6556	535.76	.	.	.	V	.	Q	.
16.500	80.2904	382.58	.	.	.	Q	V	.	.
16.583	82.1767	273.88	.	.	Q	.	V	.	.
16.667	83.6847	218.97	.	.	Q	.	V	.	.
16.750	84.9748	187.32	.	.	Q	.	V	.	.
16.833	86.1490	170.48	.	.	Q	.	V	.	.
16.917	87.2699	162.76	.	.	Q	.	V	.	.
17.000	88.3288	153.76	.	.	Q	.	V	.	.
17.083	89.3199	143.90	.	.	Q	.	V	.	.
17.167	90.2387	133.41	.	.	Q	.	V	.	.
17.250	91.0779	121.85	.	.	Q	.	V	.	.
17.333	91.8328	109.61	.	.	Q	.	V	.	.
17.417	92.5099	98.32	.	.	Q	.	V	.	.
17.500	93.1325	90.41	.	.	Q	.	V	.	.
17.583	93.7177	84.97	.	.	Q	.	V	.	.
17.667	94.2753	80.96	.	.	Q	.	V	.	.
17.750	94.8121	77.95	.	.	Q	.	V	.	.
17.833	95.3318	75.46	.	.	Q	.	V	.	.
17.917	95.8358	73.18	.	.	Q	.	V	.	.
18.000	96.3256	71.11	.	.	Q	.	V	.	.
18.083	96.8006	68.97	.	.	Q	.	V	.	.
18.167	97.2548	65.96	.	.	Q	.	V	.	.
18.250	97.6799	61.72	.	.	Q	.	V	.	.
18.333	98.0702	56.68	.	.	Q	.	V	.	.
18.417	98.4284	52.00	.	.	Q	.	V	.	.
18.500	98.7645	48.80	.	.	Q	.	V	.	.
18.583	99.0856	46.63	.	.	Q	.	V	.	.
18.667	99.3958	45.04	.	.	Q	.	V	.	.

18.750	99.6977	43.84	.	Q	.	.	.	V	.
18.833	99.9926	42.82	.	Q	.	.	.	V	.
18.917	100.2809	41.86	.	Q	.	.	.	V	.
19.000	100.5630	40.96	.	Q	.	.	.	V	.
19.083	100.8395	40.14	.	Q	.	.	.	V	.
19.167	101.1107	39.38	.	Q	.	.	.	V	.
19.250	101.3769	38.66	.	Q	.	.	.	V	.
19.333	101.6384	37.97	.	Q	.	.	.	V	.
19.417	101.8954	37.32	.	Q	.	.	.	V	.
19.500	102.1482	36.69	.	Q	.	.	.	V	.
19.583	102.3968	36.10	.	Q	.	.	.	V	.
19.667	102.6414	35.52	.	Q	.	.	.	V	.
19.750	102.8823	34.97	.	Q	.	.	.	V	.
19.833	103.1195	34.44	.	Q	.	.	.	V	.
19.917	103.3532	33.93	.	Q	.	.	.	V	.
20.000	103.5835	33.44	.	Q	.	.	.	V	.

 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	355.0
20%	170.0
30%	50.0
40%	35.0
50%	25.0
60%	25.0
70%	15.0
80%	15.0
90%	5.0

 FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
 =====

 FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
 =====

 FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<
 =====

(UNIT-HYDROGRAPH ADDED TO STREAM #2)

WATERSHED AREA = 810.600 ACRES
 BASEFLOW = 0.000 CFS/SQUARE-MILE
 *USER ENTERED "LAG" TIME = 0.471 HOURS
 CAUTION: LAG TIME IS LESS THAN 0.50 HOURS.
 THE 5-MINUTE PERIOD UH MODEL (USED IN THIS COMPUTER PROGRAM)
 MAY BE TOO LARGE FOR PEAK FLOW ESTIMATES.
 VALLEY (DEVELOPED) S-GRAPH SELECTED
 MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.282
 LOW LOSS FRACTION = 0.465
 HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.35
 SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.73
 SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.97
 SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.62
 SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.24
 SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 3.75

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
 5-MINUTE FACTOR = 0.754
 30-MINUTE FACTOR = 0.754
 1-HOUR FACTOR = 0.754
 3-HOUR FACTOR = 0.961
 6-HOUR FACTOR = 0.979
 24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
 UNIT INTERVAL PERCENTAGE OF LAG-TIME = 17.693

RUNOFF HYDROGRAPH LISTING LIMITS:
 MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
 MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

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UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	1.011	99.118
2	3.740	267.565
3	10.258	638.898
4	20.446	998.796
5	32.186	1150.913
6	46.955	1447.830
7	61.592	1434.868
8	74.057	1221.977
9	82.586	836.121
10	88.585	588.106
11	92.457	379.542
12	95.223	271.173
13	96.915	165.817
14	98.030	109.376
15	98.404	36.632
16	98.736	32.520

17	99.067	32.520
18	99.399	32.520
19	99.731	32.520
20	100.000	26.383

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 107.8742
 TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 141.8867

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)

(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	175.0	350.0	525.0	700.0
10.000	25.5916	44.22	. Q	V .	.	.	.
10.083	25.8985	44.57	. Q	V .	.	.	.
10.167	26.2080	44.93	. Q	V .	.	.	.
10.250	26.5200	45.30	. Q	V .	.	.	.
10.333	26.8346	45.68	. Q	V .	.	.	.
10.417	27.1518	46.06	. Q	V .	.	.	.
10.500	27.4718	46.46	. Q	V .	.	.	.
10.583	27.7946	46.86	. Q	V .	.	.	.
10.667	28.1202	47.28	. Q	V .	.	.	.
10.750	28.4487	47.70	. Q	V .	.	.	.
10.833	28.7801	48.13	. Q	V .	.	.	.
10.917	29.1146	48.57	. Q	V .	.	.	.
11.000	29.4523	49.03	. Q	V .	.	.	.
11.083	29.7931	49.49	. Q	V .	.	.	.
11.167	30.1372	49.97	. Q	V .	.	.	.
11.250	30.4847	50.45	. Q	V .	.	.	.
11.333	30.8357	50.96	. Q	V .	.	.	.
11.417	31.1901	51.47	. Q	V .	.	.	.
11.500	31.5482	52.00	. Q	V .	.	.	.
11.583	31.9100	52.54	. Q	V .	.	.	.
11.667	32.2757	53.10	. Q	V .	.	.	.
11.750	32.6453	53.67	. Q	V .	.	.	.
11.833	33.0190	54.26	. Q	V .	.	.	.
11.917	33.3968	54.86	. Q	V .	.	.	.
12.000	33.7790	55.49	. Q	V .	.	.	.
12.083	34.1669	56.32	. Q	V .	.	.	.
12.167	34.5630	57.51	. Q	V .	.	.	.
12.250	34.9724	59.44	. Q	V .	.	.	.
12.333	35.4000	62.10	. Q	V .	.	.	.
12.417	35.8483	65.08	. Q	V	.	.	.
12.500	36.3212	68.68	. Q	V	.	.	.
12.583	36.8190	72.27	. Q	V	.	.	.
12.667	37.3389	75.49	. Q	V	.	.	.
12.750	37.8760	77.99	. Q	V	.	.	.
12.833	38.4273	80.05	. Q	V	.	.	.
12.917	38.9901	81.72	. Q	V	.	.	.
13.000	39.5633	83.23	. Q	.V	.	.	.
13.083	40.1456	84.56	. Q	.V	.	.	.
13.167	40.7367	85.83	. Q	.V	.	.	.
13.250	41.3358	86.98	. Q	.V	.	.	.
13.333	41.9432	88.19	. Q	.V	.	.	.
13.417	42.5590	89.43	. Q	.V	.	.	.
13.500	43.1839	90.72	. Q	.V	.	.	.
13.583	43.8179	92.06	. Q	.V	.	.	.
13.667	44.4615	93.46	. Q	.V	.	.	.
13.750	45.1147	94.85	. Q	.V	.	.	.
13.833	45.7781	96.32	. Q	.V	.	.	.

13.917	46.4519	97.84	. Q	. V	.	.	.
14.000	47.1368	99.45	. Q	. V	.	.	.
14.083	47.8364	101.58	. Q	. V	.	.	.
14.167	48.5565	104.56	. Q	. V	.	.	.
14.250	49.3090	109.26	. Q	. V	.	.	.
14.333	50.1057	115.68	. Q	. V	.	.	.
14.417	50.9516	122.83	. Q	. V	.	.	.
14.500	51.8566	131.41	. Q	. V	.	.	.
14.583	52.8206	139.98	. Q	. V	.	.	.
14.667	53.8378	147.70	. Q	. V	.	.	.
14.750	54.8969	153.78	. Q	. V	.	.	.
14.833	55.9912	158.89	. Q	. V	.	.	.
14.917	57.1151	163.20	. Q	. V	.	.	.
15.000	58.2668	167.22	. Q	. V	.	.	.
15.083	59.4442	170.95	. Q	. V	.	.	.
15.167	60.6473	174.70	. Q	. V	.	.	.
15.250	61.8757	178.37	. Q	. V	.	.	.
15.333	63.1318	182.38	. Q	. V	.	.	.
15.417	64.4115	185.81	. Q	. V	.	.	.
15.500	65.7076	188.19	. Q	. V	.	.	.
15.583	67.0000	187.66	. Q	. V	.	.	.
15.667	68.2713	184.61	. Q	. V	.	.	.
15.750	69.5200	181.30	. Q	. V	.	.	.
15.833	70.7399	177.14	. Q	. V	.	.	.
15.917	71.9592	177.03	. Q	. V	.	.	.
16.000	73.2439	186.55	. Q	. V	.	.	.
16.083	74.8135	227.89	. Q	. V	.	.	.
16.167	76.8466	295.22	. Q	. V	.	.	.
16.250	79.6199	402.68	. Q	. V	.	.	.
16.333	83.0643	500.13	. Q	. V	. Q	.	.
16.417	86.8492	549.56	. Q	. V	. Q	.	.
16.500	91.0391	608.38	. Q	. V	. Q	.	.
16.583	95.1006	589.74	. Q	. V	. Q	.	.
16.667	98.6856	520.53	. Q	. V	. Q	.	.
16.750	101.5613	417.56	. Q	. V	. Q	.	.
16.833	103.9575	347.92	. Q	. V	. Q	.	.
16.917	105.9717	292.47	. Q	. V	. Q	.	.
17.000	107.7595	259.58	. Q	. V	. Q	.	.
17.083	109.3299	228.02	. Q	. V	. Q	.	.
17.167	110.7501	206.21	. Q	. V	. Q	.	.
17.250	112.0038	182.04	. Q	. V	. Q	.	.
17.333	113.1833	171.27	. Q	. V	. Q	.	.
17.417	114.2934	161.19	. Q	. V	. Q	.	.
17.500	115.3264	149.98	. Q	. V	. Q	.	.
17.583	116.2779	138.16	. Q	. V	. Q	.	.
17.667	117.1456	126.00	. Q	. V	. Q	.	.
17.750	117.9214	112.64	. Q	. V	. Q	.	.
17.833	118.6532	106.26	. Q	. V	. Q	.	.
17.917	119.3516	101.40	. Q	. V	. Q	.	.
18.000	120.0219	97.33	. Q	. V	. Q	.	.
18.083	120.6664	93.58	. Q	. V	. Q	.	.
18.167	121.2862	89.99	. Q	. V	. Q	.	.
18.250	121.8800	86.22	. Q	. V	. Q	.	.
18.333	122.4444	81.95	. Q	. V	. Q	.	.
18.417	122.9785	77.55	. Q	. V	. Q	.	.
18.500	123.4794	72.73	. Q	. V	. Q	.	.
18.583	123.9482	68.08	. Q	. V	. Q	.	.
18.667	124.3889	63.99	. Q	. V	. Q	.	.

18.750	124.8082	60.88	.	Q	.	.	.	V	.
18.833	125.2101	58.35	.	Q	.	.	.	V	.
18.917	125.5980	56.32	.	Q	.	.	.	V	.
19.000	125.9738	54.58	.	Q	.	.	.	V	.
19.083	126.3396	53.11	.	Q	.	.	.	V	.
19.167	126.6965	51.82	.	Q	.	.	.	V	.
19.250	127.0459	50.73	.	Q	.	.	.	V	.
19.333	127.3881	49.69	.	Q	.	.	.	V	.
19.417	127.7235	48.71	.	Q	.	.	.	V	.
19.500	128.0525	47.76	.	Q	.	.	.	V	.
19.583	128.3752	46.86	.	Q	.	.	.	V	.
19.667	128.6921	46.01	.	Q	.	.	.	V	.
19.750	129.0037	45.25	.	Q	.	.	.	V	.
19.833	129.3103	44.52	.	Q	.	.	.	V	.
19.917	129.6120	43.81	.	Q	.	.	.	V	.
20.000	129.9091	43.14	.	Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	390.0
20%	200.0
30%	95.0
40%	55.0
50%	40.0
60%	35.0
70%	25.0
80%	25.0
90%	15.0

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<<
=====

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<<
=====

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<<
=====

STREAM HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	725.0	1450.0	2175.0	2900.0
-----	-----	-----	-----	-----	-----	-----	-----
10.000	160.1192	284.47	.	Q	V	.	.
10.083	162.0929	286.59	.	Q	V	.	.
10.167	164.0817	288.77	.	Q	V	.	.
10.250	166.0857	290.98	.	Q	V	.	.
10.333	168.1053	293.25	.	Q	V	.	.
10.417	170.1407	295.55	.	Q	V	.	.
10.500	172.1925	297.91	.	Q	V	.	.
10.583	174.2607	300.31	.	Q	V	.	.
10.667	176.3459	302.77	.	Q	V	.	.
10.750	178.4483	305.28	.	Q	V	.	.
10.833	180.5685	307.85	.	Q	V	.	.
10.917	182.7067	310.46	.	Q	V	.	.
11.000	184.8634	313.15	.	Q	V	.	.
11.083	187.0389	315.89	.	Q	V	.	.
11.167	189.2338	318.70	.	Q	V	.	.
11.250	191.4485	321.57	.	Q	V	.	.
11.333	193.6835	324.52	.	Q	V	.	.
11.417	195.9392	327.53	.	Q	V	.	.
11.500	198.2163	330.63	.	Q	V	.	.
11.583	200.5151	333.79	.	Q	V	.	.
11.667	202.8363	337.04	.	Q	V	.	.
11.750	205.1804	340.37	.	Q	V	.	.
11.833	207.5482	343.80	.	Q	V	.	.
11.917	209.9401	347.30	.	Q	V	.	.
12.000	212.3569	350.92	.	Q	V	.	.
12.083	214.8025	355.10	.	Q	V	.	.
12.167	217.2872	360.78	.	Q	V	.	.
12.250	219.8261	368.65	.	Q	V	.	.
12.333	222.4334	378.57	.	Q	V	.	.
12.417	225.1130	389.08	.	Q	V	.	.
12.500	227.8635	399.37	.	Q	V	.	.
12.583	230.6836	409.48	.	Q	V	.	.
12.667	233.5768	420.10	.	Q	V	.	.
12.750	236.5446	430.93	.	Q	V	.	.
12.833	239.5893	442.09	.	Q	V	.	.
12.917	242.7130	453.55	.	Q	V	.	.
13.000	245.9199	465.65	.	Q	V	.	.
13.083	249.2148	478.41	.	Q	V	.	.
13.167	252.6043	492.16	.	Q	V	.	.
13.250	256.0870	505.69	.	Q	V	.	.
13.333	259.6643	519.42	.	Q	V	.	.
13.417	263.3326	532.64	.	Q	V	.	.
13.500	267.0864	545.04	.	Q	V	.	.
13.583	270.9211	556.80	.	Q	V	.	.
13.667	274.8338	568.13	.	Q	.V	.	.
13.750	278.8202	578.83	.	Q	.V	.	.
13.833	282.8781	589.21	.	Q	.V	.	.
13.917	287.0070	599.51	.	Q	.V	.	.
14.000	291.2068	609.82	.	Q	.V	.	.
14.083	295.4853	621.23	.	Q	.V	.	.
14.167	299.8651	635.94	.	Q	.V	.	.
14.250	304.3805	655.64	.	Q	.V	.	.
14.333	309.0635	679.97	.	Q	.V	.	.
14.417	313.9222	705.49	.	Q	.V	.	.
14.500	318.9531	730.48	.	Q	V	.	.

14.583	324.1538	755.14	.	Q	V	.	.	.	.
14.667	329.5334	781.12	.	Q	V	.	.	.	.
14.750	335.0966	807.78	.	.Q	V	.	.	.	.
14.833	340.8504	835.45	.	.Q	V	.	.	.	.
14.917	346.8018	864.14	.	.Q	V	.	.	.	.
15.000	352.9647	894.84	.	.	Q	V	.	.	.
15.083	359.3541	927.75	.	.	Q	V	.	.	.
15.167	365.9919	963.81	.	.	Q	V	.	.	.
15.250	372.8807	1000.26	.	.	Q	V	.	.	.
15.333	380.0312	1038.25	.	.	Q	V	.	.	.
15.417	387.4271	1073.88	.	.	Q	V	.	.	.
15.500	395.0150	1101.76	.	.	Q	.	.	.	.
15.583	402.7225	1119.14	.	.	Q	V	.	.	.
15.667	410.4926	1128.22	.	.	Q	V	.	.	.
15.750	418.3293	1137.90	.	.	Q	V	.	.	.
15.833	426.2994	1157.25	.	.	Q	V	.	.	.
15.917	434.5040	1191.30	.	.	Q	V	.	.	.
16.000	443.0929	1247.11	.	.	Q	.	.	.	.
16.083	452.5460	1372.59	.	.	Q	.	.	.	.
16.167	463.5131	1592.42	.	.	V	.Q	.	.	.
16.250	476.3878	1869.42	.	.	V	.	Q	.	.
16.333	490.9035	2107.68	.	.	V	.	Q	.	.
16.417	506.0486	2199.06	.	.	V	.	Q	.	.
16.500	521.3182	2217.14	.	.	V	.	Q	.	.
16.583	536.8498	2255.19	.	.	.V	.	.Q	.	.
16.667	553.1550	2367.52	.	.	.V	.	.Q	.	.
16.750	570.0240	2449.37	.	.	.V	.	.Q	.	.
16.833	587.3999	2522.98	.	.	.V	.	.Q	.	.
16.917	605.2361	2589.81	.	.	.V	.	.Q	.	.
17.000	623.7822	2692.90	.	.	.V	.	.Q	.	.
17.083	643.0058	2791.27	.	.	.V	.	.Q	.	.
17.167	662.8566	2882.34	.	.	.V	.	.Q	.	.
17.250	682.1248	2797.74	.	.	.V	.	.Q	.	.
17.333	700.8090	2712.95	.	.	.V	.	.Q	.	.
17.417	718.1912	2523.91	.	.	.V	.	.Q	.	.
17.500	733.9478	2287.86	.	.	.V	.Q	.	.	.
17.583	748.2519	2076.95	.	.	.Q	V	.	.	.
17.667	761.2549	1888.03	.	.	.Q	V	.	.	.
17.750	772.8983	1690.63	.	.	.Q	.V	.	.	.
17.833	783.4198	1527.72	.	.	.Q	.V	.	.	.
17.917	793.0908	1404.23	.	.	.Q	.V	.	.	.
18.000	801.9589	1287.65	.	.	.Q	.V	.	.	.
18.083	810.0715	1177.96	.	.	.Q	.V	.	.	.
18.167	817.4468	1070.90	.	.	.Q	.V	.	.	.
18.250	824.2244	984.10	.	.	.Q	.V	.	.	.
18.333	830.4146	898.82	.	.	.Q	.V	.	.	.
18.417	835.9920	809.84	.	.	.Q	.V	.	.	.
18.500	841.1281	745.75	.	.	.Q	.V	.	.	.
18.583	845.9510	700.29	.	.	.Q	.V	.	.	.
18.667	850.5235	663.93	.	.	.Q	.V	.	.	.
18.750	854.8786	632.36	.	.	.Q	.V	.	.	.
18.833	859.0392	604.11	.	.	.Q	.V	.	.	.
18.917	863.0202	578.05	.	.	.Q	.V	.	.	.
19.000	866.8311	553.33	.	.	.Q	.V	.	.	.
19.083	870.4754	529.16	.	.	.Q	.V	.	.	.
19.167	873.9484	504.27	.	.	.Q	.V	.	.	.
19.250	877.2225	475.40	.	.	.Q	.V	.	.	.
19.333	880.2775	443.58	.	.	.Q	.V	.	.	.

19.417	883.1672	419.59	.	Q	.	.	.	V	.
19.500	885.9344	401.79	.	Q	.	.	.	V	.
19.583	888.6003	387.10	.	Q	.	.	.	V	.
19.667	891.1761	374.00	.	Q	.	.	.	V	.
19.750	893.6722	362.44	.	Q	.	.	.	V	.
19.833	896.0975	352.15	.	Q	.	.	.	V	.
19.917	898.4580	342.75	.	Q	.	.	.	V	.
20.000	900.7593	334.14	.	Q	.	.	.	V	.

 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	630.0
20%	315.0
30%	205.0
40%	140.0
50%	105.0
60%	90.0
70%	80.0
80%	50.0
90%	25.0

 END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

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***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - CALIBRATED UH *
* ULTIMATE CONDITION - REGIONAL NODE 13305 *
* 50-YR EV AUGUST 2018 CCHIU *

FILE NAME: EV50305F.DAT
TIME/DATE OF STUDY: 10:14 09/04/2018

FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

=====

(UNIT-HYDROGRAPH ADDED TO STREAM #1)

WATERSHED AREA = 4924.400 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.821 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244
LOW LOSS FRACTION = 0.538
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.38
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.82
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 1.08
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.81
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.52
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 4.20

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.754
30-MINUTE FACTOR = 0.754
1-HOUR FACTOR = 0.754
3-HOUR FACTOR = 0.961
6-HOUR FACTOR = 0.979
24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 10.150

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.580	345.423
2	1.763	704.566
3	3.385	965.815
4	6.233	1696.091
5	10.947	2807.365
6	16.695	3423.111
7	22.920	3707.788
8	29.521	3930.894
9	37.286	4624.335
10	46.219	5319.988
11	54.738	5073.336
12	63.175	5024.953
13	70.521	4374.467
14	76.573	3604.496
15	81.238	2778.116
16	85.407	2483.066
17	88.495	1839.204
18	90.815	1381.282
19	92.862	1219.414
20	94.528	992.055
21	95.788	750.029
22	96.685	534.246
23	97.481	474.138
24	98.059	344.417
25	98.257	117.576
26	98.447	113.337
27	98.637	113.450
28	98.828	113.332
29	99.018	113.223
30	99.208	113.223
31	99.398	113.223
32	99.588	113.223
33	99.778	113.223
34	99.968	113.223
35	100.000	18.833

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 818.5361
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 882.6972

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)

(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	775.0	1550.0	2325.0	3100.0
10.000	141.9690	250.49	. Q	V .	.	.	.
10.083	143.7073	252.40	. Q	V .	.	.	.
10.167	145.4590	254.36	. Q	V .	.	.	.
10.250	147.2245	256.34	. Q	V .	.	.	.
10.333	149.0040	258.38	. Q	V .	.	.	.
10.417	150.7977	260.45	. Q	V .	.	.	.
10.500	152.6061	262.57	. Q	V .	.	.	.
10.583	154.4293	264.73	. Q	V .	.	.	.
10.667	156.2678	266.95	. Q	V .	.	.	.
10.750	158.1218	269.20	. Q	V .	.	.	.
10.833	159.9918	271.52	. Q	V .	.	.	.
10.917	161.8780	273.88	. Q	V .	.	.	.
11.000	163.7808	276.30	. Q	V .	.	.	.
11.083	165.7007	278.77	. Q	V .	.	.	.
11.167	167.6381	281.31	. Q	V .	.	.	.
11.250	169.5933	283.89	. Q	V .	.	.	.
11.333	171.5668	286.56	. Q	V .	.	.	.
11.417	173.5590	289.27	. Q	V .	.	.	.
11.500	175.5705	292.07	. Q	V .	.	.	.
11.583	177.6017	294.93	. Q	V .	.	.	.
11.667	179.6532	297.87	. Q	V .	.	.	.
11.750	181.7253	300.88	. Q	V .	.	.	.
11.833	183.8189	303.98	. Q	V .	.	.	.
11.917	185.9343	307.16	. Q	V .	.	.	.
12.000	188.0723	310.43	. Q	V .	.	.	.
12.083	190.2383	314.50	. Q	V .	.	.	.
12.167	192.4382	319.43	. Q	V .	.	.	.
12.250	194.6765	325.00	. Q	V .	.	.	.
12.333	196.9644	332.20	. Q	V .	.	.	.
12.417	199.3186	341.82	. Q	V .	.	.	.
12.500	201.7487	352.86	. Q	V .	.	.	.
12.583	204.2599	364.62	. Q	V .	.	.	.
12.667	206.8564	377.01	. Q	V .	.	.	.
12.750	209.5490	390.97	. Q	V .	.	.	.
12.833	212.3491	406.56	. Q	V .	.	.	.
12.917	215.2540	421.80	. Q	V .	.	.	.
13.000	218.2647	437.15	. Q	V .	.	.	.
13.083	221.3729	451.32	. Q	V .	.	.	.
13.167	224.5693	464.10	. Q	V .	.	.	.
13.250	227.8431	475.36	. Q	V .	.	.	.
13.333	231.1919	486.24	. Q	V .	.	.	.
13.417	234.6078	495.99	. Q	V .	.	.	.
13.500	238.0860	505.04	. Q	V .	.	.	.
13.583	241.6258	513.98	. Q	V .	.	.	.
13.667	245.2259	522.73	. Q	.V	.	.	.
13.750	248.8844	531.22	. Q	.V	.	.	.
13.833	252.6006	539.59	. Q	.V	.	.	.

13.917	256.3755	548.12	. Q	.V	.	.	.
14.000	260.2099	556.75	. Q	.V	.	.	.
14.083	264.1125	566.66	. Q	.V	.	.	.
14.167	268.0964	578.46	. Q	.V	.	.	.
14.250	272.1715	591.70	. Q	.V	.	.	.
14.333	276.3616	608.41	. Q	.V	.	.	.
14.417	280.7011	630.10	. Q	.V	.	.	.
14.500	285.2107	654.79	. Q	.V	.	.	.
14.583	289.9012	681.07	. Q	.V	.	.	.
14.667	294.7826	708.78	. Q	.V	.	.	.
14.750	299.8781	739.87	. Q	.V	.	.	.
14.833	305.2125	774.56	. Q	.V	.	.	.
14.917	310.7835	808.90	. Q	V	.	.	.
15.000	316.5976	844.21	. Q	V	.	.	.
15.083	322.6472	878.40	. Q	V	.	.	.
15.167	328.9256	911.63	. Q	V	.	.	.
15.250	335.4282	944.17	. Q	V	.	.	.
15.333	342.1685	978.71	. Q	V	.	.	.
15.417	349.1207	1009.45	. Q	V	.	.	.
15.500	356.2663	1037.53	. Q	V	.	.	.
15.583	363.6085	1066.09	. Q	V	.	.	.
15.667	371.1069	1088.76	. Q	V	.	.	.
15.750	378.7010	1102.67	. Q	V	.	.	.
15.833	386.3903	1116.49	. Q	V	.	.	.
15.917	394.2493	1141.13	. Q	V	.	.	.
16.000	402.4414	1189.49	. Q	V	.	.	.
16.083	411.5414	1321.32	. QV	.	.	.	.
16.167	421.6372	1465.90	. QV	.	.	.	.
16.250	432.7947	1620.07	. VQ	.	.	.	.
16.333	445.7873	1886.52	. V	Q	.	.	.
16.417	461.1223	2226.65	. V	Q	.	.	.
16.500	477.9621	2445.14	. V	.Q	.	.	.
16.583	495.7269	2579.45	. V	.Q	.	.	.
16.667	514.3811	2708.58	. V	.Q	.	.	.
16.750	534.5400	2927.07	. V	.Q	.	.	.
16.833	555.8719	3097.40	. V	.Q	.	.	.
16.917	576.6458	3016.35	. V	.Q	.	.	.
17.000	596.7566	2920.10	. V	.Q	.	.	.
17.083	615.1635	2672.69	. V	.Q	.	.	.
17.167	631.6719	2397.02	. VQ	.	.	.	.
17.250	646.2631	2118.63	. QV	.	.	.	.
17.333	659.7236	1954.46	. Q	V.	.	.	.
17.417	671.6060	1725.32	. Q	V	.	.	.
17.500	682.2197	1541.12	. Q	V	.	.	.
17.583	692.0198	1422.97	. Q	.V	.	.	.
17.667	700.9589	1297.96	. Q	.V	.	.	.
17.750	709.0013	1167.75	. Q	.V	.	.	.
17.833	716.2164	1047.63	. Q	.V	.	.	.
17.917	722.8692	965.99	. Q	.V	.	.	.
18.000	728.8874	873.84	. Q	.V	.	.	.
18.083	734.2081	772.57	. Q	.V	.	.	.
18.167	739.2170	727.29	. Q	.V	.	.	.
18.250	743.9980	694.20	. Q	.V	.	.	.
18.333	748.5617	662.65	. Q	.V	.	.	.
18.417	752.9053	630.68	. Q	.V	.	.	.
18.500	757.0471	601.39	. Q	.V	.	.	.
18.583	760.9933	572.99	. Q	.V	.	.	.
18.667	764.7521	545.77	. Q	.V	.	.	.

18.750	768.3138	517.16	.	Q	.	.	.	V	.
18.833	771.6610	486.01	.	Q	.	.	.	V	.
18.917	774.6793	438.26	.	Q	.	.	.	V	.
19.000	777.5007	409.67	.	Q	.	.	.	V	.
19.083	780.1886	390.28	.	Q	.	.	.	V	.
19.167	782.7637	373.90	.	Q	.	.	.	V	.
19.250	785.2343	358.73	.	Q	.	.	.	V	.
19.333	787.6082	344.70	.	Q	.	.	.	V	.
19.417	789.8995	332.69	.	Q	.	.	.	V	.
19.500	792.1187	322.22	.	Q	.	.	.	V	.
19.583	794.2715	312.60	.	Q	.	.	.	V	.
19.667	796.3641	303.84	.	Q	.	.	.	V	.
19.750	798.4021	295.92	.	Q	.	.	.	V	.
19.833	800.3908	288.76	.	Q	.	.	.	V	.
19.917	802.3356	282.39	.	Q	.	.	.	V	.
20.000	804.2408	276.63	.	Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	460.0
20%	245.0
30%	165.0
40%	100.0
50%	75.0
60%	65.0
70%	50.0
80%	35.0
90%	20.0

FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<
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THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH(FT) = 50.00 CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 427.51
DOWNSTREAM ELEVATION(FT) = 315.00
CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040
CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:

MAXIMUM INFLOW(CFS) = 3097.40
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 2419.70
CHANNEL NORMAL VELOCITY FOR Q = 2419.70 CFS = 9.11 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.843

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
UNIT INTERVALS IS CSTAR = 0.642

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 1) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS
			LOSS (STREAM 1) (CFS)
10.000	250.49	243.98	243.98
10.083	252.40	245.77	245.77
10.167	254.36	247.59	247.59
10.250	256.34	249.44	249.44
10.333	258.38	251.33	251.33
10.417	260.45	253.26	253.26
10.500	262.57	255.23	255.23
10.583	264.73	257.24	257.24
10.667	266.95	259.29	259.29
10.750	269.20	261.39	261.39
10.833	271.52	263.52	263.52
10.917	273.88	265.71	265.71
11.000	276.30	267.94	267.94
11.083	278.77	270.22	270.22
11.167	281.31	272.55	272.55
11.250	283.89	274.94	274.94
11.333	286.56	277.38	277.38
11.417	289.27	279.89	279.89
11.500	292.07	282.44	282.44
11.583	294.93	285.07	285.07
11.667	297.87	287.75	287.75
11.750	300.88	290.51	290.51
11.833	303.98	293.33	293.33
11.917	307.16	296.23	296.23
12.000	310.43	299.20	299.20
12.083	314.50	302.25	302.25
12.167	319.43	305.38	305.38
12.250	325.00	308.61	308.61
12.333	332.20	312.37	312.37
12.417	341.82	316.88	316.88
12.500	352.86	322.06	322.06
12.583	364.62	328.53	328.53
12.667	377.01	337.01	337.01
12.750	390.97	347.12	347.12
12.833	406.56	358.29	358.29
12.917	421.80	370.23	370.23
13.000	437.15	383.47	383.47
13.083	451.32	398.21	398.21
13.167	464.10	413.27	413.27
13.250	475.36	428.51	428.51
13.333	486.24	443.07	443.07
13.417	495.99	456.50	456.50
13.500	505.04	468.54	468.54
13.583	513.98	479.84	479.84

13.667	522.73	490.15	490.15
13.750	531.22	499.66	499.66
13.833	539.59	508.80	508.80
13.917	548.12	517.69	517.69
14.000	556.75	526.33	526.33
14.083	566.66	534.79	534.79
14.167	578.46	543.30	543.30
14.250	591.70	551.88	551.88
14.333	608.41	561.31	561.31
14.417	630.10	572.25	572.25
14.500	654.79	584.66	584.66
14.583	681.07	599.81	599.81
14.667	708.78	619.13	619.13
14.750	739.87	641.88	641.88
14.833	774.56	666.89	666.89
14.917	808.90	693.62	693.62
15.000	844.21	723.13	723.13
15.083	878.40	755.95	755.95
15.167	911.63	789.75	789.75
15.250	944.17	824.51	824.51
15.333	978.71	858.91	858.91
15.417	1009.45	892.56	892.56
15.500	1037.53	925.51	925.51
15.583	1066.09	959.46	959.46
15.667	1088.76	991.38	991.38
15.750	1102.67	1020.85	1020.85
15.833	1116.49	1049.73	1049.73
15.917	1141.13	1074.65	1074.65
16.000	1189.49	1092.56	1092.56
16.083	1321.32	1107.84	1107.84
16.167	1465.90	1129.07	1129.07
16.250	1620.07	1167.58	1167.58
16.333	1886.52	1265.53	1265.53
16.417	2226.65	1393.34	1393.34
16.500	2445.14	1538.01	1538.01
16.583	2579.45	1760.22	1760.22
16.667	2708.58	2057.71	2057.71
16.750	2927.07	2305.17	2305.17
16.833	3097.40	2480.47	2480.47
16.917	3016.35	2626.16	2626.16
17.000	2920.10	2818.09	2818.09
17.083	2672.69	2996.42	2996.42
17.167	2397.02	3009.66	3009.66
17.250	2118.63	2952.71	2952.71
17.333	1954.46	2774.35	2774.35
17.417	1725.32	2533.69	2533.69
17.500	1541.12	2268.83	2268.83
17.583	1422.97	2067.97	2067.97
17.667	1297.96	1849.31	1849.31
17.750	1167.75	1652.52	1652.52
17.833	1047.63	1505.84	1505.84
17.917	965.99	1373.11	1373.11
18.000	873.84	1242.02	1242.02
18.083	772.57	1117.92	1117.92
18.167	727.29	1020.86	1020.86
18.250	694.20	927.01	927.01
18.333	662.65	828.44	828.44
18.417	630.68	763.77	763.77

18.500	601.39	719.30	719.30
18.583	572.99	683.12	683.12
18.667	545.77	649.64	649.64
18.750	517.16	618.84	618.84
18.833	486.01	589.57	589.57
18.917	438.26	561.61	561.61
19.000	409.67	533.24	533.24
19.083	390.28	503.10	503.10
19.167	373.90	461.75	461.75
19.250	358.73	428.48	428.48
19.333	344.70	404.07	404.07
19.417	332.69	384.79	384.79
19.500	322.22	368.15	368.15
19.583	312.60	353.17	353.17
19.667	303.84	340.09	340.09
19.750	295.92	328.68	328.68
19.833	288.76	318.41	318.41
19.917	282.39	309.11	309.11
20.000	276.63	300.69	300.69

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PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 882.697 AF
 OUTFLOW VOLUME = 882.697 AF
 LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 100.00 TO NODE 13305.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<

(UNIT-HYDROGRAPH ADDED TO STREAM #2)

WATERSHED AREA = 510.200 ACRES
 BASEFLOW = 0.000 CFS/SQUARE-MILE
 *USER ENTERED "LAG" TIME = 0.279 HOURS
 CAUTION: LAG TIME IS LESS THAN 0.50 HOURS.
 THE 5-MINUTE PERIOD UH MODEL (USED IN THIS COMPUTER PROGRAM)
 MAY BE TOO LARGE FOR PEAK FLOW ESTIMATES.
 VALLEY (DEVELOPED) S-GRAPH SELECTED
 MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.130
 LOW LOSS FRACTION = 0.296
 HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.38
 SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.82
 SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 1.08
 SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.81
 SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.52
 SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 4.20

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE FACTOR = 0.754
 30-MINUTE FACTOR = 0.754
 1-HOUR FACTOR = 0.754
 3-HOUR FACTOR = 0.961
 6-HOUR FACTOR = 0.979

24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
 UNIT INTERVAL PERCENTAGE OF LAG-TIME = 29.869

RUNOFF HYDROGRAPH LISTING LIMITS:
 MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
 MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	1.861	114.848
2	10.847	554.425
3	28.861	1111.516
4	52.993	1489.019
5	74.684	1338.352
6	87.332	780.424
7	93.820	400.334
8	97.123	203.774
9	98.354	75.984
10	98.914	34.554
11	99.419	31.144
12	99.768	21.514
13	99.942	10.757
14	100.000	3.586

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 46.3532
 TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 129.8859

24 - HOUR STORM
 RUNOFF HYDROGRAPH

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
 (Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	175.0	350.0	525.0	700.0
10.000	24.3263	41.68	. Q	V .	.	.	.
10.083	24.6157	42.02	. Q	V .	.	.	.
10.167	24.9076	42.38	. Q	V .	.	.	.
10.250	25.2019	42.74	. Q	V .	.	.	.
10.333	25.4988	43.11	. Q	V .	.	.	.
10.417	25.7983	43.48	. Q	V .	.	.	.
10.500	26.1004	43.87	. Q	V .	.	.	.
10.583	26.4053	44.27	. Q	V .	.	.	.
10.667	26.7129	44.67	. Q	V .	.	.	.
10.750	27.0234	45.08	. Q	V .	.	.	.
10.833	27.3368	45.51	. Q	V .	.	.	.
10.917	27.6532	45.94	. Q	V .	.	.	.
11.000	27.9727	46.39	. Q	V .	.	.	.
11.083	28.2954	46.85	. Q	V .	.	.	.
11.167	28.6212	47.32	. Q	V .	.	.	.
11.250	28.9504	47.80	. Q	V .	.	.	.
11.333	29.2830	48.29	. Q	V .	.	.	.
11.417	29.6191	48.80	. Q	V .	.	.	.
11.500	29.9587	49.32	. Q	V .	.	.	.
11.583	30.3021	49.86	. Q	V .	.	.	.
11.667	30.6493	50.41	. Q	V .	.	.	.
11.750	31.0004	50.98	. Q	V .	.	.	.
11.833	31.3555	51.56	. Q	V .	.	.	.
11.917	31.7148	52.17	. Q	V .	.	.	.
12.000	32.0783	52.79	. Q	V .	.	.	.
12.083	32.4488	53.79	. Q	V .	.	.	.
12.167	32.8360	56.21	. Q	V .	.	.	.
12.250	33.2521	60.42	. Q	V .	.	.	.
12.333	33.7056	65.85	. Q	V .	.	.	.
12.417	34.1934	70.84	. Q	V .	.	.	.
12.500	34.7037	74.10	. Q	V .	.	.	.
12.583	35.2284	76.19	. Q	V .	.	.	.
12.667	35.7635	77.69	. Q	.V	.	.	.
12.750	36.3063	78.82	. Q	.V	.	.	.
12.833	36.8562	79.85	. Q	.V	.	.	.
12.917	37.4133	80.90	. Q	.V	.	.	.
13.000	37.9778	81.96	. Q	.V	.	.	.
13.083	38.5495	83.02	. Q	.V	.	.	.
13.167	39.1287	84.09	. Q	. V	.	.	.
13.250	39.7155	85.20	. Q	. V	.	.	.
13.333	40.3102	86.36	. Q	. V	.	.	.
13.417	40.9132	87.56	. Q	. V	.	.	.
13.500	41.5249	88.82	. Q	. V	.	.	.
13.583	42.1456	90.13	. Q	. V	.	.	.
13.667	42.7758	91.50	. Q	. V	.	.	.
13.750	43.4159	92.94	. Q	. V	.	.	.
13.833	44.0663	94.45	. Q	. V	.	.	.

13.917	44.7277	96.03	.	Q	.	V	.	.	.
14.000	45.4006	97.70	.	Q	.	V	.	.	.
14.083	46.0905	100.18	.	Q	.	V	.	.	.
14.167	46.8173	105.52	.	Q	.	V	.	.	.
14.250	47.6055	114.45	.	Q	.	V	.	.	.
14.333	48.4720	125.81	.	Q	.	V	.	.	.
14.417	49.4104	136.27	.	Q	.	V	.	.	.
14.500	50.3971	143.26	.	Q	.	V	.	.	.
14.583	51.4160	147.95	.	Q	.	V	.	.	.
14.667	52.4597	151.54	.	Q	.	V	.	.	.
14.750	53.5243	154.58	.	Q	.	V	.	.	.
14.833	54.6107	157.75	.	Q	.	V	.	.	.
14.917	55.7222	161.39	.	Q	.	V	.	.	.
15.000	56.8622	165.53	.	Q	.	V	.	.	.
15.083	58.0337	170.10	.	Q	.	V	.	.	.
15.167	59.2398	175.13	.	Q	.	V	.	.	.
15.250	60.4841	180.66	.	Q	.	V	.	.	.
15.333	61.7707	186.82	.	Q	.	V	.	.	.
15.417	63.0912	191.73	.	Q	.	V	.	.	.
15.500	64.3994	189.96	.	Q	.	V	.	.	.
15.583	65.6361	179.57	.	Q	.	V	.	.	.
15.667	66.7642	163.80	.	Q	.	V	.	.	.
15.750	67.8157	152.67	.	Q	.	V	.	.	.
15.833	68.8909	156.13	.	Q	.	V	.	.	.
15.917	70.0974	175.18	.	Q	.	V	.	.	.
16.000	71.5716	214.05	.	.	Q	.	V	.	.
16.083	73.6219	297.70	.	.	.	Q	.	V	.
16.167	76.7389	452.60	.	.	.	.	V	Q	.
16.250	80.9305	608.62	.	.	.	.	V	.	Q
16.333	85.6072	679.05	.	.	.	.	.	V	Q
16.417	89.7246	597.84	.	.	.	.	.	V	Q
16.500	92.6530	425.20	.	.	.	Q	.	V	.
16.583	94.7628	306.35	.	.	Q	.	.	V	.
16.667	96.4667	247.40	.	.	.	Q	.	V	.
16.750	97.9393	213.83	.	.	Q	.	.	V	.
16.833	99.3009	197.70	.	.	.	Q	.	V	.
16.917	100.5982	188.37	.	.	Q	.	.	V	.
17.000	101.8213	177.58	.	.	Q	.	.	V	.
17.083	102.9646	166.01	.	.	Q	.	.	V	.
17.167	104.0243	153.87	.	.	Q	.	.	V	.
17.250	104.9926	140.60	.	.	Q	.	.	V	.
17.333	105.8644	126.59	.	.	Q	.	.	V	.
17.417	106.6496	114.00	.	.	Q	.	.	V	.
17.500	107.3744	105.25	.	.	Q	.	.	V	.
17.583	108.0577	99.21	.	.	Q	.	.	V	.
17.667	108.7101	94.74	.	.	Q	.	.	V	.
17.750	109.3394	91.37	.	.	Q	.	.	V	.
17.833	109.9490	88.51	.	.	Q	.	.	V	.
17.917	110.5406	85.90	.	.	Q	.	.	V	.
18.000	111.1160	83.54	.	.	Q	.	.	V	.
18.083	111.6742	81.06	.	.	Q	.	.	V	.
18.167	112.2071	77.37	.	.	Q	.	.	V	.
18.250	112.7036	72.09	.	.	Q	.	.	V	.
18.333	113.1564	65.75	.	.	Q	.	.	V	.
18.417	113.5698	60.02	.	.	Q	.	.	V	.
18.500	113.9566	56.16	.	.	Q	.	.	V	.
18.583	114.3258	53.60	.	.	Q	.	.	V	.
18.667	114.6821	51.75	.	.	Q	.	.	V	.

18.750	115.0290	50.37	.	Q	.	.	.	.	V	.
18.833	115.3678	49.19	.	Q	.	.	.	.	V	.
18.917	115.6989	48.07	.	Q	.	.	.	.	V	.
19.000	116.0228	47.04	.	Q	.	.	.	.	V	.
19.083	116.3403	46.10	.	Q	.	.	.	.	V	.
19.167	116.6517	45.22	.	Q	.	.	.	.	V	.
19.250	116.9574	44.39	.	Q	.	.	.	.	V	.
19.333	117.2577	43.60	.	Q	.	.	.	.	V	.
19.417	117.5528	42.85	.	Q	.	.	.	.	V	.
19.500	117.8430	42.13	.	Q	.	.	.	.	V	.
19.583	118.1284	41.44	.	Q	.	.	.	.	V	.
19.667	118.4092	40.78	.	Q	.	.	.	.	V	.
19.750	118.6857	40.15	.	Q	.	.	.	.	V	.
19.833	118.9580	39.54	.	Q	.	.	.	.	V	.
19.917	119.2263	38.95	.	Q	.	.	.	.	V	.
20.000	119.4907	38.39	.	Q	.	.	.	.	V	.

 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	355.0
20%	175.0
30%	50.0
40%	35.0
50%	25.0
60%	25.0
70%	15.0
80%	15.0
90%	5.0

 FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 7

 >>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
 =====

 FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6

 >>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
 =====

 FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 1

 >>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<
 =====

(UNIT-HYDROGRAPH ADDED TO STREAM #2)

WATERSHED AREA = 810.600 ACRES
 BASEFLOW = 0.000 CFS/SQUARE-MILE
 *USER ENTERED "LAG" TIME = 0.457 HOURS
 CAUTION: LAG TIME IS LESS THAN 0.50 HOURS.
 THE 5-MINUTE PERIOD UH MODEL (USED IN THIS COMPUTER PROGRAM)
 MAY BE TOO LARGE FOR PEAK FLOW ESTIMATES.
 VALLEY (DEVELOPED) S-GRAPH SELECTED
 MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.282
 LOW LOSS FRACTION = 0.434
 HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.38
 SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.82
 SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 1.08
 SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.81
 SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.52
 SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 4.20

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
 5-MINUTE FACTOR = 0.754
 30-MINUTE FACTOR = 0.754
 1-HOUR FACTOR = 0.754
 3-HOUR FACTOR = 0.961
 6-HOUR FACTOR = 0.979
 24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
 UNIT INTERVAL PERCENTAGE OF LAG-TIME = 18.235

RUNOFF HYDROGRAPH LISTING LIMITS:
 MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
 MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

=====

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	1.043	102.235
2	3.941	284.116
3	10.979	689.923
4	21.605	1041.720
5	34.018	1216.903
6	49.509	1518.605
7	64.397	1459.479
8	76.256	1162.565
9	84.437	801.992
10	89.825	528.197
11	93.483	358.601
12	95.910	237.894
13	97.439	149.915
14	98.209	75.517
15	98.551	33.522
16	98.893	33.511

17	99.235	33.527
18	99.577	33.511
19	99.919	33.511
20	100.000	7.950

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 112.6879
 TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 167.3388

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)

(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	200.0	400.0	600.0	800.0
10.000	30.2538	52.30	. Q	V	.	.	.
10.083	30.6169	52.72	. Q	V	.	.	.
10.167	30.9829	53.15	. Q	V	.	.	.
10.250	31.3520	53.59	. Q	V	.	.	.
10.333	31.7241	54.04	. Q	V	.	.	.
10.417	32.0994	54.49	. Q	V	.	.	.
10.500	32.4779	54.96	. Q	V	.	.	.
10.583	32.8598	55.44	. Q	V	.	.	.
10.667	33.2450	55.93	. Q	V	.	.	.
10.750	33.6337	56.44	. Q	V	.	.	.
10.833	34.0259	56.95	. Q	V	.	.	.
10.917	34.4218	57.48	. Q	V	.	.	.
11.000	34.8214	58.02	. Q	V	.	.	.
11.083	35.2247	58.57	. Q	V	.	.	.
11.167	35.6320	59.14	. Q	V	.	.	.
11.250	36.0433	59.72	. Q	V	.	.	.
11.333	36.4587	60.32	. Q	V	.	.	.
11.417	36.8783	60.93	. Q	V	.	.	.
11.500	37.3023	61.56	. Q	V	.	.	.
11.583	37.7307	62.20	. Q	V	.	.	.
11.667	38.1637	62.87	. Q	V	.	.	.
11.750	38.6013	63.55	. Q	V	.	.	.
11.833	39.0439	64.25	. Q	V	.	.	.
11.917	39.4914	64.98	. Q	V	.	.	.
12.000	39.9440	65.72	. Q	V	.	.	.
12.083	40.4037	66.75	. Q	V	.	.	.
12.167	40.8738	68.26	. Q	V	.	.	.
12.250	41.3616	70.83	. Q	V	.	.	.
12.333	41.8736	74.33	. Q	V	.	.	.
12.417	42.4129	78.31	. Q	V	.	.	.
12.500	42.9852	83.09	. Q	V	.	.	.
12.583	43.5896	87.76	. Q	V	.	.	.
12.667	44.2213	91.72	. Q	V	.	.	.
12.750	44.8742	94.80	. Q	V	.	.	.
12.833	45.5438	97.23	. Q	V	.	.	.
12.917	46.2275	99.26	. Q	.V	.	.	.
13.000	46.9233	101.04	. Q	.V	.	.	.
13.083	47.6301	102.63	. Q	.V	.	.	.
13.167	48.3469	104.08	. Q	.V	.	.	.
13.250	49.0733	105.47	. Q	.V	.	.	.
13.333	49.8095	106.91	. Q	.V	.	.	.
13.417	50.5561	108.40	. Q	.V	.	.	.
13.500	51.3134	109.96	. Q	.V	.	.	.
13.583	52.0818	111.57	. Q	.V	.	.	.
13.667	52.8614	113.19	. Q	.V	.	.	.
13.750	53.6524	114.86	. Q	.V	.	.	.
13.833	54.4555	116.61	. Q	.V	.	.	.

13.917	55.2711	118.43	. Q	. V	.	.	.
14.000	56.1000	120.36	. Q	. V	.	.	.
14.083	56.9464	122.89	. Q	. V	.	.	.
14.167	57.8172	126.45	. Q	. V	.	.	.
14.250	58.7274	132.16	. Q	. V	.	.	.
14.333	59.6899	139.76	. Q	. V	.	.	.
14.417	60.7114	148.32	. Q	. V	.	.	.
14.500	61.8031	158.50	. Q	. V	.	.	.
14.583	62.9633	168.47	. Q	. V	.	.	.
14.667	64.1826	177.04	. Q	. V	.	.	.
14.750	65.4490	183.89	. Q	. V	.	.	.
14.833	66.7542	189.51	. Q	. V	.	.	.
14.917	68.0934	194.45	. Q	. V	.	.	.
15.000	69.4639	199.00	. Q	. V	.	.	.
15.083	70.8643	203.34	. Q	. V	.	.	.
15.167	72.2940	207.59	. Q	. V	.	.	.
15.250	73.7538	211.97	. Q	. V	.	.	.
15.333	75.2466	216.74	. Q	. V	.	.	.
15.417	76.7675	220.84	. Q	. V	.	.	.
15.500	78.3066	223.48	. Q	. V	.	.	.
15.583	79.8377	222.32	. Q	. V	.	.	.
15.667	81.3398	218.11	. Q	. V	.	.	.
15.750	82.8109	213.61	. Q	. V	.	.	.
15.833	84.2447	208.18	. Q	. V	.	.	.
15.917	85.6821	208.71	. Q	. V	.	.	.
16.000	87.2118	222.12	. Q	. V	.	.	.
16.083	89.0916	272.94	. Q	. V	.	.	.
16.167	91.5438	356.07	. Q	. V	.	.	.
16.250	94.8894	485.78	. Q	. V	. Q	.	.
16.333	98.9860	594.83	. Q	. V	. Q	.	.
16.417	103.4941	654.57	. Q	. V	. Q	.	.
16.500	108.4200	715.25	. Q	. V	. Q	.	.
16.583	113.0930	678.51	. Q	. V	. Q	.	.
16.667	117.0859	579.78	. Q	. V	. Q	.	.
16.750	120.3133	468.62	. Q	. V	. Q	.	.
16.833	122.9712	385.92	. Q	. V	. Q	.	.
16.917	125.2607	332.44	. Q	. V	. Q	.	.
17.000	127.2779	292.89	. Q	. V	. Q	.	.
17.083	129.0752	260.98	. Q	. V	. Q	.	.
17.167	130.6813	233.20	. Q	. V	. Q	.	.
17.250	132.1487	213.06	. Q	. V	. Q	.	.
17.333	133.5359	201.43	. Q	. V	. Q	.	.
17.417	134.8412	189.53	. Q	. V	. Q	.	.
17.500	136.0507	175.62	. Q	. V	. Q	.	.
17.583	137.1618	161.33	. Q	. V	. Q	.	.
17.667	138.1539	144.05	. Q	. V	. Q	.	.
17.750	139.0719	133.29	. Q	. V	. Q	.	.
17.833	139.9428	126.46	. Q	. V	. Q	.	.
17.917	140.7764	121.04	. Q	. V	. Q	.	.
18.000	141.5776	116.34	. Q	. V	. Q	.	.
18.083	142.3493	112.04	. Q	. V	. Q	.	.
18.167	143.0926	107.94	. Q	. V	. Q	.	.
18.250	143.8038	103.26	. Q	. V	. Q	.	.
18.333	144.4780	97.90	. Q	. V	. Q	.	.
18.417	145.1136	92.29	. Q	. V	. Q	.	.
18.500	145.7065	86.09	. Q	. V	. Q	.	.
18.583	146.2589	80.21	. Q	. V	. Q	.	.
18.667	146.7779	75.35	. Q	. V	. Q	.	.

18.750	147.2709	71.58	.	Q	.	.	.	V	.
18.833	147.7435	68.63	.	Q	.	.	.	V	.
18.917	148.1994	66.20	.	Q	.	.	.	V	.
19.000	148.6414	64.18	.	Q	.	.	.	V	.
19.083	149.0716	62.46	.	Q	.	.	.	V	.
19.167	149.4917	61.00	.	Q	.	.	.	V	.
19.250	149.9029	59.71	.	Q	.	.	.	V	.
19.333	150.3057	58.49	.	Q	.	.	.	V	.
19.417	150.7005	57.32	.	Q	.	.	.	V	.
19.500	151.0875	56.20	.	Q	.	.	.	V	.
19.583	151.4672	55.13	.	Q	.	.	.	V	.
19.667	151.8403	54.17	.	Q	.	.	.	V	.
19.750	152.2072	53.27	.	Q	.	.	.	V	.
19.833	152.5682	52.41	.	Q	.	.	.	V	.
19.917	152.9235	51.59	.	Q	.	.	.	V	.
20.000	153.2733	50.80	.	Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	390.0
20%	200.0
30%	100.0
40%	55.0
50%	40.0
60%	35.0
70%	25.0
80%	25.0
90%	15.0

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
=====

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
=====

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<
=====

STREAM HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	875.0	1750.0	2625.0	3500.0
10.000	190.4598	337.96	.	Q	V	.	.
10.083	192.8049	340.51	.	Q	V	.	.
10.167	195.1680	343.11	.	Q	V	.	.
10.250	197.5493	345.77	.	Q	V	.	.
10.333	199.9492	348.47	.	Q	V	.	.
10.417	202.3683	351.24	.	Q	V	.	.
10.500	204.8067	354.06	.	Q	V	.	.
10.583	207.2651	356.95	.	Q	V	.	.
10.667	209.7437	359.89	.	Q	V	.	.
10.750	212.2430	362.91	.	Q	V	.	.
10.833	214.7636	365.98	.	Q	V	.	.
10.917	217.3058	369.13	.	Q	V	.	.
11.000	219.8702	372.35	.	Q	V	.	.
11.083	222.4572	375.64	.	Q	V	.	.
11.167	225.0675	379.01	.	Q	V	.	.
11.250	227.7015	382.46	.	Q	V	.	.
11.333	230.3598	385.99	.	Q	V	.	.
11.417	233.0431	389.61	.	Q	V	.	.
11.500	235.7520	393.32	.	Q	V	.	.
11.583	238.4870	397.13	.	Q	V	.	.
11.667	241.2489	401.03	.	Q	V	.	.
11.750	244.0384	405.04	.	Q	V	.	.
11.833	246.8562	409.15	.	Q	V	.	.
11.917	249.7032	413.37	.	Q	V	.	.
12.000	252.5799	417.71	.	Q	V	.	.
12.083	255.4917	422.79	.	Q	V	.	.
12.167	258.4522	429.86	.	Q	V	.	.
12.250	261.4815	439.86	.	Q	V	.	.
12.333	264.5982	452.55	.	Q	V	.	.
12.417	267.8078	466.02	.	Q	V	.	.
12.500	271.1084	479.25	.	Q	V	.	.
12.583	274.5001	492.48	.	Q	V	.	.
12.667	277.9879	506.42	.	Q	V	.	.
12.750	281.5742	520.74	.	Q	V	.	.
12.833	285.2613	535.37	.	Q	V	.	.
12.917	289.0519	550.40	.	Q	V	.	.
13.000	292.9532	566.46	.	Q	V	.	.
13.083	296.9742	583.85	.	Q	V	.	.
13.167	301.1163	601.44	.	Q	V	.	.
13.250	305.3806	619.18	.	Q	V	.	.
13.333	309.7631	636.33	.	Q	V	.	.
13.417	314.2567	652.46	.	Q	V	.	.
13.500	318.8525	667.32	.	Q	V	.	.
13.583	323.5463	681.54	.	Q	V	.	.
13.667	328.3318	694.84	.	Q	.V	.	.
13.750	333.2040	707.45	.	Q	.V	.	.
13.833	338.1617	719.85	.	Q	.V	.	.
13.917	343.2041	732.15	.	Q	.V	.	.
14.000	348.3307	744.39	.	Q	.V	.	.
14.083	353.5502	757.87	.	Q	.V	.	.
14.167	358.8895	775.28	.	Q	.V	.	.
14.250	364.3888	798.50	.	Q	.V	.	.
14.333	370.0836	826.88	.	Q	.V	.	.
14.417	375.9847	856.84	.	Q	.V	.	.
14.500	382.0896	886.43	.	Q	.V	.	.

14.583	388.3997	916.23	.	Q	V	.	.	.
14.667	394.9266	947.71	.	Q	V	.	.	.
14.750	401.6783	980.35	.	.Q	V	.	.	.
14.833	408.6628	1014.15	.	.Q	V	.	.	.
14.917	415.8906	1049.46	.	.Q	V	.	.	.
15.000	423.3813	1087.66	.	.	Q	V	.	.
15.083	431.1594	1129.38	.	.	Q	V	.	.
15.167	439.2343	1172.47	.	.	Q	V	.	.
15.250	447.6168	1217.14	.	.	Q	V	.	.
15.333	456.3115	1262.48	.	.	Q	V	.	.
15.417	465.3000	1305.13	.	.	Q	V	.	.
15.500	474.5213	1338.94	.	.	Q	V	.	.
15.583	483.8970	1361.35	.	.	Q	V	.	.
15.667	493.3549	1373.29	.	.	Q	V	.	.
15.750	502.9081	1387.13	.	.	Q	V	.	.
15.833	512.6465	1414.03	.	.	Q	V	.	.
15.917	522.6916	1458.54	.	.	Q	V	.	.
16.000	533.2200	1528.73	.	.	Q	V	.	.
16.083	544.7798	1678.48	.	.	V	Q	.	.
16.167	558.1251	1937.73	.	.	V	Q	.	.
16.250	573.7036	2261.98	.	.	V	Q	.	.
16.333	591.1926	2539.41	.	.	V	Q	.	.
16.417	609.4139	2645.75	.	.	V	Q	.	.
16.500	627.8607	2678.46	.	.	V	Q	.	.
16.583	646.7662	2745.09	.	.	V	Q	.	.
16.667	666.6346	2884.89	.	.	V	Q	.	.
16.750	687.2104	2987.61	.	.	V	Q	.	.
16.833	708.3129	3064.09	.	.	V	Q	.	.
16.917	729.9863	3146.98	.	.	V	Q	.	.
17.000	752.6348	3288.56	.	.	V	Q	.	.
17.083	776.2120	3423.41	.	.	V	Q	.	.
17.167	799.6055	3396.72	.	.	V	Q	.	.
17.250	822.3766	3306.37	.	.	V	Q	.	.
17.333	843.7428	3102.37	.	.	V	Q	.	.
17.417	863.2828	2837.22	.	.	V	Q	.	.
17.500	880.8428	2549.70	.	.	Q	V	.	.
17.583	896.8793	2328.51	.	.	Q	V	.	.
17.667	911.2602	2088.10	.	.	Q	V	.	.
17.750	924.1884	1877.18	.	.	Q	V	.	.
17.833	936.0397	1720.81	.	.	Q	V	.	.
17.917	946.9216	1580.05	.	.	Q	V	.	.
18.000	956.8521	1441.90	.	.	Q	V	.	.
18.083	965.8812	1311.02	.	.	Q	V	.	.
18.167	974.1881	1206.17	.	.	Q	V	.	.
18.250	981.7801	1102.36	.	.	Q	V	.	.
18.333	988.6127	992.10	.	.	Q	V	.	.
18.417	994.9218	916.08	.	.	Q	V	.	.
18.500	1000.8554	861.56	.	.	Q	V	.	.
18.583	1006.4816	816.93	.	.	Q	V	.	.
18.667	1011.8311	776.74	.	.	Q	V	.	.
18.750	1016.9329	740.79	.	.	Q	V	.	.
18.833	1021.8047	707.38	.	.	Q	V	.	.
18.917	1026.4596	675.88	.	.	Q	V	.	.
19.000	1030.8979	644.46	.	.	Q	V	.	.
19.083	1035.1105	611.65	.	.	Q	V	.	.
19.167	1039.0221	567.96	.	.	Q	V	.	.
19.250	1042.6901	532.58	.	.	Q	V	.	.
19.333	1046.1760	506.16	.	.	Q	V	.	.

19.417	1049.5160	484.96	.	Q	.	.	.	V	.
19.500	1052.7286	466.48	.	Q	.	.	.	V	.
19.583	1055.8260	449.75	.	Q	.	.	.	V	.
19.667	1058.8223	435.05	.	Q	.	.	.	V	.
19.750	1061.7294	422.10	.	Q	.	.	.	V	.
19.833	1064.5555	410.37	.	Q	.	.	.	V	.
19.917	1067.3080	399.65	.	Q	.	.	.	V	.
20.000	1069.9930	389.87	.	Q	.	.	.	V	.

 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	625.0
20%	315.0
30%	205.0
40%	145.0
50%	105.0
60%	90.0
70%	75.0
80%	55.0
90%	30.0

 END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - COMPLEX UH *
* ULTIMATE CONDITION - REGIONAL NODE 132C *
* 2-YR EV JUNE 2018 JMITAL *

FILE NAME: EVO232CC.DAT
TIME/DATE OF STUDY: 08:20 06/04/2018

** INPUT SUMMARY **

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 1.262 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.487; LOW LOSS FRACTION = 0.830
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.13; 30-MINUTE = 0.28; 1-HOUR = 0.37
3-HOUR = 0.62; 6-HOUR = 0.85; 24-HOUR = 1.44
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.788; 30-MINUTE = 0.788; 1-HOUR = 0.788
3-HOUR = 0.968; 6-HOUR = 0.984; 24-HOUR = 0.990

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 2

>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<

MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.

Table with 3 columns: DATA PAIR NUMBER, Qcenter (CFS), Qpass (CFS). Rows show data for pairs 1 and 2.

3 4682.00 3013.00
4 6819.00 4013.00
5 8100.00 4613.00

FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<

STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 8

>>>MODEL STREAM SPLITFLOW WHERE 0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<

STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<

STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<

STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<

****ERROR-STREAM 4 CONTAINS NO INFORMATION (EMPTY).
PROCESS IS NEGATED.

```

*****
FLOW PROCESS FROM NODE      0.00 TO NODE      132.00 IS CODE =   7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<
=====

*****
****ERROR-STREAM 4 CONTAINS NO INFORMATION (EMPTY).
      PROCESS IS NEGATED.
*****

*****
FLOW PROCESS FROM NODE      0.00 TO NODE      132.00 IS CODE =   6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
=====

*****
FLOW PROCESS FROM NODE      132.00 TO NODE      132.00 IS CODE =  11
-----
>>>>VIEW STREAM NUMBER 2 HYDROGRAPH<<<<<
=====

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-----+-----
|                                     * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV0232CC.DAT ]
Page: 1 of 1
-----+-----+-----+-----+
|UPSTREAM DOWNSTREAM|                                     | UPSTREAM DOWNSTREAM|
TIME (2) TO | MAX. STORAGE|                                     |
| NODE #     NODE # | HYDROLOGIC/HYDRAULIC PROCESS | PEAK (CFS) PEAK (CFS)|
PEAK (HR)   | MODELED (AF)| FOOTNOTES |
-----+-----+-----+-----+
|      0.00   132.00| Subarea (UH) Added to Stream #2|      0.0   377.4|
17.333 |      |      |
|      0.00   132.00| Flowby Basin Model:  Stream #2|      377.4   377.4|
17.333 |      |      |
|      0.00   132.00| Zero Out:          Stream #3|      0.0   0.0|
|      |      |      |
|      0.00   132.00| Zero Out:          Stream #4|      0.0   0.0|
|      |      |      |
|      132.00  132.00| View:          Stream #2|      377.4|
17.333 |      117.66| 3      |
-----+-----+-----+-----+
|Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT
INTERVAL
|      3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF
THE DESIGN STORM
-----+-----

```

END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 23.0 Release Date: 07/01/2016 License ID 1264

Analysis prepared by:

***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO *
* ULTIMATE CONDITION - REGIONAL NODE 13305 *
* 2-YR EV AUGUST 2019 ROKAMOTO *

FILE NAME: EVO2305C.DAT
TIME/DATE OF STUDY: 11:19 08/26/2019

** INPUT SUMMARY **

FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<
WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 1.262 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.487; LOW LOSS FRACTION = 0.830
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.13; 30-MINUTE = 0.29; 1-HOUR = 0.38
3-HOUR = 0.64; 6-HOUR = 0.88; 24-HOUR = 1.49
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.754; 30-MINUTE = 0.754; 1-HOUR = 0.754
3-HOUR = 0.961; 6-HOUR = 0.979; 24-HOUR = 0.987

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
DATA PAIR Qcenter Qpass
NUMBER (CFS) (CFS)
- 0.00 0.00
1 413.00 413.00
2 1897.00 1613.00

3 4682.00 3013.00
4 6819.00 4013.00
5 8100.00 4613.00

FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8
>>>MODEL STREAM SPLITFLOW WHERE 0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<
STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<

****ERROR-STREAM 4 CONTAINS NO INFORMATION (EMPTY).
PROCESS IS NEGATED.

```

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<
=====
*****
*****ERROR-STREAM 4 CONTAINS NO INFORMATION (EMPTY).
      PROCESS IS NEGATED.
*****

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
=====
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<<
=====
THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
(Reference: the National Engineering Handbook, Hydrology,
Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH(FT) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 427.51; DOWNSTREAM ELEVATION(FT) = 315.00
CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040
CONSTANT LOSS RATE (CFS) = 0.00
=====
*****
FLOW PROCESS FROM NODE 31100.00 TO NODE 13305.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
=====
WATERSHED AREA = 810.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.758 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.564; LOW LOSS FRACTION = 0.903
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.13; 30-MINUTE = 0.29; 1-HOUR = 0.38
3-HOUR = 0.64; 6-HOUR = 0.88; 24-HOUR = 1.49
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.754; 30-MINUTE = 0.754; 1-HOUR = 0.754
3-HOUR = 0.961; 6-HOUR = 0.979; 24-HOUR = 0.987

*****
FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 7

```

```

-----
>>>>STREAM NUMBER 1 ADDED TO STREAM NUMBER 2<<<<<
=====
*****
FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6
-----
>>>>STREAM NUMBER 1 CLEARED AND SET TO ZERO<<<<<
=====
*****
FLOW PROCESS FROM NODE 100.00 TO NODE 130.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
=====
WATERSHED AREA = 447.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.340 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.213; LOW LOSS FRACTION = 0.434
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.13; 30-MINUTE = 0.29; 1-HOUR = 0.38
3-HOUR = 0.64; 6-HOUR = 0.88; 24-HOUR = 1.49
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.754; 30-MINUTE = 0.754; 1-HOUR = 0.754
3-HOUR = 0.961; 6-HOUR = 0.979; 24-HOUR = 0.987

*****
FLOW PROCESS FROM NODE 130.00 TO NODE 131.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #1<<<<<
=====
MODEL STREAM NUMBER 1 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 1 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
      DATA PAIR          Qenter          Qpass
      NUMBER             (CFS)             (CFS)
      -                  -                  -
      1                   10.00           6.00
      2                   50.00           30.00
      3                   100.00          63.00
      4                   250.00          160.00
      5                   550.00          444.00
FLOW EXCESS IS ASSUMED TO BE PERMANENTLY STORED.
=====
*****
FLOW PROCESS FROM NODE 130.00 TO NODE 132.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #1<<<<<
=====
MODEL STREAM NUMBER 1 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 1 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
      DATA PAIR          Qenter          Qpass

```

NUMBER	(CFS)	(CFS)
-	0.00	0.00
1	50.00	18.00
2	100.00	31.00
3	250.00	34.00
4	750.00	80.00
5	1200.00	120.00

FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3

 FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #1<<<<<

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 1
 THROUGH A FLOW-THROUGH DETENTION BASIN.
 SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
 DEAD STORAGE (AF) = 0.000
 SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
 SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
 DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	2.00	4.300
3	2.00	2.01	6.100
4	3.00	2.02	8.000
5	4.00	43.00	10.000
6	5.00	45.00	11.900

 FLOW PROCESS FROM NODE 130.00 TO NODE 133.00 IS CODE = 2

>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<

MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
 FLOWRATES IN STREAM # 3 WHICH ARE GREATER THAN Qpass IN
 THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.

DATA PAIR NUMBER	Qcenter (CFS)	Qpass (CFS)
-	0.00	0.00
1	50.00	16.00
2	100.00	31.00
3	250.00	69.00
4	500.00	70.00
5	1200.00	75.00

FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 4

FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
 THROUGH A FLOW-THROUGH DETENTION BASIN.
 SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
 DEAD STORAGE (AF) = 0.000
 SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
 SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
 DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	3.00	2.700
3	2.00	3.01	3.800
4	3.00	9.00	5.100
5	4.00	71.00	6.200
6	5.00	75.00	7.600

 FLOW PROCESS FROM NODE 130.00 TO NODE 9.00 IS CODE = 2

>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #4<<<<<

MODEL STREAM NUMBER 4 FLOWING PAST A FLOWBY STRUCTURE:
 FLOWRATES IN STREAM # 4 WHICH ARE GREATER THAN Qpass IN
 THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.

DATA PAIR NUMBER	Qcenter (CFS)	Qpass (CFS)
-	0.00	0.00
1	50.00	50.00
2	100.00	100.00
3	250.00	250.00
4	550.00	445.00
5	750.00	450.00

FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 2

 FLOW PROCESS FROM NODE 9.00 TO NODE 9.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 3<<<<<

 FLOW PROCESS FROM NODE 9.00 TO NODE 9.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

```

*****
FLOW PROCESS FROM NODE 130.00 TO NODE 134.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #4<<<<
-----
MODEL STREAM NUMBER 4 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 4 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
      DATA PAIR      Qcenter      Qpass
      NUMBER          (CFS)        (CFS)
      -              0.00         0.00
      1              50.00        14.00
      2              100.00       23.00
      3              250.00       24.00
      4              500.00       24.00
      5              1200.00      25.00
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
-----
*****
FLOW PROCESS FROM NODE 134.00 TO NODE 135.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
      INTERVAL  DEPTH  OUTFLOW  STORAGE
      NUMBER   (FT)   (CFS)   (AF)
      1         0.00   0.00   0.000
      2         1.00   2.00   3.100
      3         2.00   2.01   4.300
      4         3.00   7.00   5.500
      5         4.00  25.00   6.900
      6         5.00  30.00   8.300
-----
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 135.00 IS CODE = 7
-----
>>>>STREAM NUMBER 1 ADDED TO STREAM NUMBER 4<<<<
-----
*****
FLOW PROCESS FROM NODE 135.00 TO NODE 135.00 IS CODE = 6
-----
>>>>STREAM NUMBER 1 CLEARED AND SET TO ZERO<<<<

```

```

=====
*****
FLOW PROCESS FROM NODE 133.00 TO NODE 135.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 4<<<<
-----
*****
FLOW PROCESS FROM NODE 135.00 TO NODE 135.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
-----
*****
FLOW PROCESS FROM NODE 130.00 TO NODE 136.00 IS CODE = 4
-----
>>>>MODEL PIPEFLOW ROUTING OF STREAM #5<<<<
-----
MODEL PIPEFLOW ROUTING OF STREAM 5 WHERE
STORAGE EFFECTS ARE NEGLECTED WITHIN THE PIPE, FLOW
VELOCITIES ARE ESTIMATED BY ASSUMING STEADY FLOW FOR
EACH UNIT INTERVAL (NORMAL DEPTH, Dn), AND FLOWS IN EXCESS
OF (.82) (DIAMETER) ARE PONDED AT THE UPSTREAM INLET.
      UNIT INTERVAL FLOW VELOCITY COMPUTED USING Dn UP TO
      (0.938) (DIAMETER):

PIPELENGTH (FT) = 1006.00      MANNINGS FACTOR = 0.015
UPSTREAM ELEVATION (FT) = 375.00; DOWNSTREAM ELEVATION (FT) = 335.00
PIPE DIAMETER (FT) = 60.00
-----
*****
FLOW PROCESS FROM NODE 136.00 TO NODE 137.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<
-----
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
      INTERVAL  DEPTH  OUTFLOW  STORAGE
      NUMBER   (FT)   (CFS)   (AF)
      1         0.00   0.00   0.000
      2         1.00   83.00  4.300
      3         2.00  380.00  8.900
      4         3.00  400.00 13.300
      5         4.00  478.00 18.000

```

```

6          5.00      600.00    23.100
=====
*****
FLOW PROCESS FROM NODE   136.00 TO NODE   136.10 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #5<<<<
=====
MODEL STREAM NUMBER 5 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 5 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
  DATA PAIR      Qcenter      Qpass
  NUMBER          (CFS)        (CFS)
  -              0.00          0.00
  1              5.00          2.00
  2             25.00          2.00
  3             75.00          2.00
  4            250.00          2.00
  5            500.00          84.00
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
=====
*****
FLOW PROCESS FROM NODE   137.00 TO NODE   138.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) =      0.000
SPECIFIED DEAD STORAGE (AF) FILLED =      0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET =      0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) =      0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

  INTERVAL  DEPTH  OUTFLOW  STORAGE
  NUMBER    (FT)   (CFS)   (AF)
  1          0.00    0.00    0.000
  2          1.00   48.00    2.100
  3          2.00  196.00    4.300
  4          3.00  225.00    6.400
  5          4.00  301.00    9.100
  6          5.00  378.00   11.600
=====
*****
FLOW PROCESS FROM NODE   137.00 TO NODE   137.10 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<
=====
MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 3 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.

```

```

DATA PAIR      Qcenter      Qpass
NUMBER          (CFS)        (CFS)
-              0.00          0.00
1              5.00          2.00
2             10.00          2.00
3             50.00          3.00
4            100.00         34.00
5            325.00        127.00
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 1
=====
*****
FLOW PROCESS FROM NODE   138.00 TO NODE   139.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #1<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 1
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) =      0.000
SPECIFIED DEAD STORAGE (AF) FILLED =      0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET =      0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) =      0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

  INTERVAL  DEPTH  OUTFLOW  STORAGE
  NUMBER    (FT)   (CFS)   (AF)
  1          0.00    0.00    0.000
  2          1.00   21.00    2.000
  3          2.00  114.00    4.200
  4          3.00  131.00    6.400
  5          4.00  176.00    8.800
  6          5.00  221.00   11.200
=====
*****
FLOW PROCESS FROM NODE   135.00 TO NODE   139.00 IS CODE = 7
-----
>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 1<<<<
=====
*****
FLOW PROCESS FROM NODE   139.00 TO NODE   139.00 IS CODE = 6
-----
>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<
=====
*****
FLOW PROCESS FROM NODE   139.00 TO NODE   139.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 1<<<<
=====

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```

*****
FLOW PROCESS FROM NODE 139.00 TO NODE 139.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 139.00 TO NODE 139.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 139.00 TO NODE 13305.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 150.00 TO NODE 13305.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<
=====
WATERSHED AREA = 62.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.470 HOURS
VALLEY(DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.596; LOW LOSS FRACTION = 0.980
SPECIFIED PEAK RAINFALL DEPTHS(INCH):
5-MINUTE = 0.13; 30-MINUTE = 0.29; 1-HOUR = 0.38
3-HOUR = 0.64; 6-HOUR = 0.88; 24-HOUR = 1.49
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.754; 30-MINUTE = 0.754; 1-HOUR = 0.754
3-HOUR = 0.961; 6-HOUR = 0.979; 24-HOUR = 0.987

*****
FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 1<<<<
=====

*****
FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 7
-----
>>>>STREAM NUMBER 1 ADDED TO STREAM NUMBER 2<<<<
=====

```

```

*****
FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6
-----
>>>>STREAM NUMBER 1 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 11
-----
>>>>VIEW STREAM NUMBER 2 HYDROGRAPH<<<<
=====

*****

```


* AES FLOODSCx PROGRAM RESULTS SUMMARY *

|INPUT FILENAME: [EV02305C.DAT]

Page: 1 of 1

UPSTREAM TIME (2) TO | NODE # PEAK (HR)	DOWNSTREAM MAX. STORAGE | NODE # MODELED (AF)	HYDROLOGIC/HYDRAULIC PROCESS | FOOTNOTES	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
--	--	---	------------------------	--------------------------

13010.00	132.00	Subarea (UH) Added to Stream #2	0.0	373.7
17.333				
132.00	132.00	Flowby Basin Model: Stream #2	373.7	373.7
17.333				
132.00	132.00	Zero Out: Stream #3	0.0	0.0
132.00	132.00	Zero Out: Stream #4	0.0	0.0
132.00	13305.00	Convex Routing: Stream #2	373.7	360.5
17.667				

31100.00	13305.00	Subarea (UH) Added to Stream #1	0.0	67.4
16.833				
13305.00	13305.00	Stream #1 Added to: Stream #2	360.5	377.7
17.667				
13305.00	13305.00	Zero Out: Stream #1	67.4	0.0
100.00	130.00	Subarea (UH) Added to Stream #1	0.0	146.9
16.417				
130.00	131.00	Flowby Basin Model: Stream #1	146.9	93.3
16.417				

130.00	132.00	Flowby Basin Model: Stream #1	93.3	29.3
16.417				
132.00	132.00	Flow-Through Basin: Stream #1	29.3	2.0
20.417	5.00			
130.00	133.00	Flowby Basin Model: Stream #3	64.1	20.2
16.417				
133.00	133.00	Flow-Through Basin: Stream #3	20.2	2.6
17.917	2.31			
130.00	9.00	Flowby Basin Model: Stream #4	43.8	43.8
16.417				

9.00	9.00	Stream #2 Added to: Stream #3	2.6	380.2
17.667				
9.00	9.00	Zero Out: Stream #2	377.7	0.0
130.00	134.00	Flowby Basin Model: Stream #4	43.8	12.3
16.417				
134.00	135.00	Flow-Through Basin: Stream #4	12.3	1.0
18.583	1.60			

132.00	135.00	Stream #1 Added to: Stream #4	1.0	3.0
18.583				

135.00	135.00	Zero Out: Stream #1	2.0	0.0
133.00	135.00	Stream #3 Added to: Stream #4	3.0	383.2
17.667				
135.00	135.00	Zero Out: Stream #3	380.2	0.0
130.00	136.00	Pipe Flow Routing: Stream #5	31.6	30.1
17.000				
136.00	137.00	Flow-Through Basin: Stream #5	30.1	17.0
17.167	0.89			

136.00	136.10	Flowby Basin Model: Stream #5	17.0	2.0
15.250				
137.00	138.00	Flow-Through Basin: Stream #3	15.0	11.5
17.667	0.51			
137.00	137.10	Flowby Basin Model: Stream #3	11.5	2.0
17.667				
138.00	139.00	Flow-Through Basin: Stream #1	9.5	6.5
18.417	0.62			
135.00	139.00	Stream #5 Added to: Stream #1	6.5	8.5
18.417				

139.00	139.00	Zero Out: Stream #5	2.0	0.0
139.00	139.00	Stream #3 Added to: Stream #1	8.5	10.5
18.417				
139.00	139.00	Zero Out: Stream #3	2.0	0.0
139.00	139.00	Stream #4 Added to: Stream #1	10.5	392.3
17.667				
139.00	13305.00	Zero Out: Stream #4	383.2	0.0

150.00	13305.00	Subarea (UH) Added to Stream #3	0.0	6.0
16.500				
13305.00	13305.00	Stream #3 Added to: Stream #1	392.3	392.5
17.667				
13305.00	13305.00	Zero Out: Stream #3	6.0	0.0
13305.00	13305.00	Stream #1 Added to: Stream #2	0.0	392.5
17.667				
13305.00	13305.00	Zero Out: Stream #1	392.5	0.0

|Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL

| 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

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-----+
|
| * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV02305C.DAT ]
Page: 2 of |
-----+-----+
|UPSTREAM DOWNSTREAM| | UPSTREAM DOWNSTREAM|
TIME (2) TO | MAX. STORAGE| |
| NODE # NODE # | HYDROLOGIC/HYDRAULIC PROCESS | PEAK (CFS) PEAK (CFS)|
PEAK (HR) | MODELED (AF)| FOOTNOTES |
-----+-----+
| 13305.00 13305.00| View: Stream #2| 392.5|
17.667 | 152.26| 3 |
-----+-----+
|Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT
INTERVAL |
| 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF
THE DESIGN STORM |
-----+
-----+

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END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

Michael Baker International
5 Hutton Center Drive, Suite 500
Santa Ana, CA
92707

***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - COMPLEX UH *
* ULTIMATE CONDITION - LOCAL NODE 133T *
* 2-YR EV ROKAMOTO OCTOBER 2018 *

FILE NAME: EVO233TC.DAT
TIME/DATE OF STUDY: 11:17 03/11/2019

FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

=====

(UNIT-HYDROGRAPH ADDED TO STREAM #2)

WATERSHED AREA = 4924.400 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 1.262 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.487
LOW LOSS FRACTION = 0.830
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.13
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.28
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.37
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 0.62
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 0.85
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 1.44

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.744
30-MINUTE FACTOR = 0.744
1-HOUR FACTOR = 0.744
3-HOUR FACTOR = 0.959
6-HOUR FACTOR = 0.978
24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 6.603

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.377	224.717
2	1.132	449.434
3	1.911	463.780
4	2.976	634.355
5	4.303	790.190
6	6.488	1301.338
7	9.544	1819.956
8	12.914	2006.852
9	16.961	2410.163
10	20.725	2241.910
11	25.165	2644.456
12	29.333	2481.743
13	34.493	3073.013
14	39.423	2936.183
15	45.485	3610.378
16	51.675	3686.475
17	56.456	2846.918
18	62.294	3476.779
19	67.301	2982.083
20	71.799	2678.747
21	75.788	2375.749
22	78.877	1839.476
23	81.880	1788.683
24	84.631	1638.025
25	86.932	1370.413
26	88.737	1075.090
27	90.252	902.381
28	91.646	830.151
29	92.942	771.411
30	94.108	694.914
31	94.971	513.923
32	95.798	492.163
33	96.400	358.907
34	96.918	308.441
35	97.436	308.441
36	97.921	288.626
37	98.113	114.232
38	98.237	73.807
39	98.361	73.807
40	98.484	73.721
41	98.608	73.630
42	98.732	73.721
43	98.856	73.807
44	98.979	73.630

45	99.104	73.984
46	99.227	73.630
47	99.351	73.630
48	99.474	73.630
49	99.598	73.630
50	99.722	73.630
51	99.845	73.630
52	99.969	73.630
53	100.000	18.452

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 467.5681
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 115.3478

=====
2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H
=====

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	100.0	200.0	300.0	400.0
10.000	17.1830	31.06	. Q V	.	.	.	.
10.083	17.3984	31.28	. Q V	.	.	.	.
10.167	17.6153	31.50	. Q V	.	.	.	.
10.250	17.8339	31.73	. Q V	.	.	.	.
10.333	18.0540	31.96	. Q V	.	.	.	.
10.417	18.2758	32.20	. Q V	.	.	.	.
10.500	18.4992	32.44	. Q V	.	.	.	.
10.583	18.7243	32.69	. Q V	.	.	.	.
10.667	18.9511	32.94	. Q V	.	.	.	.
10.750	19.1797	33.19	. Q V	.	.	.	.
10.833	19.4101	33.45	. Q V	.	.	.	.
10.917	19.6424	33.72	. Q V	.	.	.	.
11.000	19.8765	33.99	. Q V	.	.	.	.
11.083	20.1125	34.27	. Q V	.	.	.	.
11.167	20.3505	34.56	. Q V	.	.	.	.
11.250	20.5906	34.85	. Q V	.	.	.	.
11.333	20.8326	35.15	. Q V	.	.	.	.
11.417	21.0768	35.45	. Q V	.	.	.	.
11.500	21.3231	35.76	. Q V	.	.	.	.
11.583	21.5716	36.08	. Q V	.	.	.	.
11.667	21.8223	36.41	. Q V	.	.	.	.
11.750	22.0754	36.75	. Q V	.	.	.	.
11.833	22.3308	37.09	. Q V	.	.	.	.
11.917	22.5887	37.44	. Q V	.	.	.	.
12.000	22.8490	37.80	. Q V	.	.	.	.
12.083	23.1122	38.22	. Q V	.	.	.	.
12.167	23.3786	38.68	. Q V	.	.	.	.
12.250	23.6483	39.16	. Q V	.	.	.	.
12.333	23.9216	39.69	. Q V	.	.	.	.
12.417	24.1989	40.25	. Q V	.	.	.	.
12.500	24.4807	40.93	. Q V	.	.	.	.
12.583	24.7680	41.72	. Q V	.	.	.	.
12.667	25.0611	42.55	. Q V	.	.	.	.
12.750	25.3606	43.48	. Q V	.	.	.	.
12.833	25.6663	44.40	. Q V	.	.	.	.
12.917	25.9790	45.40	. Q V	.	.	.	.
13.000	26.2985	46.40	. Q V	.	.	.	.
13.083	26.6258	47.52	. Q V	.	.	.	.
13.167	26.9608	48.64	. Q V	.	.	.	.
13.250	27.3045	49.90	. Q V	.	.	.	.
13.333	27.6571	51.20	. Q V	.	.	.	.
13.417	28.0178	52.37	. Q V	.	.	.	.
13.500	28.3874	53.67	. Q V	.	.	.	.
13.583	28.7656	54.91	. Q V	.	.	.	.
13.667	29.1521	56.12	. Q V	.	.	.	.
13.750	29.5467	57.29	. Q V	.	.	.	.
13.833	29.9488	58.39	. Q V	.	.	.	.

13.917	30.3586	59.51	.	Q	V	.	.	.
14.000	30.7762	60.63	.	Q	V	.	.	.
14.083	31.2023	61.87	.	Q	V	.	.	.
14.167	31.6378	63.23	.	Q	V	.	.	.
14.250	32.0827	64.60	.	Q	.V	.	.	.
14.333	32.5379	66.10	.	Q	.V	.	.	.
14.417	33.0044	67.73	.	Q	.V	.	.	.
14.500	33.4843	69.69	.	Q	.V	.	.	.
14.583	33.9800	71.98	.	Q	.V	.	.	.
14.667	34.4925	74.42	.	Q	.V	.	.	.
14.750	35.0237	77.13	.	Q	.V	.	.	.
14.833	35.5732	79.78	.	Q	.V	.	.	.
14.917	36.1430	82.74	.	Q	.V	.	.	.
15.000	36.7328	85.65	.	Q	.V	.	.	.
15.083	37.3455	88.95	.	Q	.V	.	.	.
15.167	37.9807	92.24	.	Q	.V	.	.	.
15.250	38.6420	96.02	.	Q	.V	.	.	.
15.333	39.3302	99.93	.	Q	.V	.	.	.
15.417	40.0407	103.17	.	Q	.V	.	.	.
15.500	40.7753	106.66	.	Q	.V	.	.	.
15.583	41.5328	109.99	.	Q	.V	.	.	.
15.667	42.3117	113.10	.	Q	.V	.	.	.
15.750	43.1117	116.15	.	.Q	.V	.	.	.
15.833	43.9286	118.62	.	.Q	.V	.	.	.
15.917	44.7621	121.02	.	.Q	.V	.	.	.
16.000	45.6161	124.00	.	.Q	.V	.	.	.
16.083	46.5696	138.44	.	.Q	.V	.	.	.
16.167	47.6238	153.08	.	.	QV	.	.	.
16.250	48.7035	156.77	.	.	QV	.	.	.
16.333	49.8689	169.22	.	.	QV	.	.	.
16.417	51.1197	181.61	.	.	VQ	.	.	.
16.500	52.5844	212.67	.	.	V	.Q	.	.
16.583	54.2559	242.70	.	.	V	.	Q	.
16.667	56.0092	254.58	.	.	V	.	Q	.
16.750	57.9203	277.50	.	.	V	.	Q	.
16.833	59.7817	270.28	.	.	V	.	Q	.
16.917	61.8000	293.05	.	.	.V	.	Q	.
17.000	63.7798	287.47	.	.	.V	.	Q	.
17.083	65.9846	320.13	.	.	.V	.	.Q	.
17.167	68.1585	315.65	.	.	.V	.	.Q	.
17.250	70.5744	350.79	.	.	.V	.	.Q	Q
17.333	73.0036	352.72	.	.	.V	.	.Q	Q
17.417	75.1245	307.95	.	.	.V	.	Q	.
17.500	77.4444	336.85	.	.	.V	.	Q	.
17.583	79.5630	307.63	.	.	.V	.	Q	.
17.667	81.5410	287.20	.	.	.	.	Q	.
17.750	83.3686	265.38	.	.	.	.	Q	.V
17.833	84.9741	233.12	.	.	.	.	Q	.V
17.917	86.5277	225.58	.	.	.	.	Q	.V
18.000	87.9929	212.74	.	.	.	.	Q	.V
18.083	89.3241	193.29	.	.	.	.	Q	.V
18.167	90.5114	172.40	.	.	.	.	Q	.V
18.250	91.5996	158.01	.	.	.	.	Q	.V
18.333	92.6266	149.12	.	.	.	.	Q	.V
18.417	93.6007	141.44	.	.	.	.	Q	.V
18.500	94.5108	132.15	.	.	.	.	Q	.V
18.583	95.3219	117.77	.	.	.	.	.Q	.V
18.667	96.0923	111.86	.	.	.	.	.Q	.V

18.750	96.7851	100.60	.	Q	.	.	.V	.
18.833	97.4340	94.21	.	Q	.	.	.V	.
18.917	98.0558	90.30	.	Q	.	.	.V	.
19.000	98.6441	85.42	.	Q	.	.	.V	.
19.083	99.1453	72.77	.	Q	.	.	.V	.
19.167	99.6106	67.57	.	Q	.	.	.V	.
19.250	100.0569	64.80	.	Q	.	.	.V	.
19.333	100.4856	62.25	.	Q	.	.	.V	.
19.417	100.8977	59.84	.	Q	.	.	.V	.
19.500	101.2932	57.43	.	Q	.	.	.V	.
19.583	101.6741	55.31	.	Q	.	.	.V	.
19.667	102.0414	53.33	.	Q	.	.	.V	.
19.750	102.3970	51.64	.	Q	.	.	.V	.
19.833	102.7422	50.13	.	Q	.	.	.V	.
19.917	103.0775	48.69	.	Q	.	.	.V	.
20.000	103.4035	47.33	.	Q	.	.	.V	.

 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	560.0
20%	275.0
30%	195.0
40%	140.0
50%	105.0
60%	95.0
70%	70.0
80%	50.0
90%	20.0

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2

 >>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<

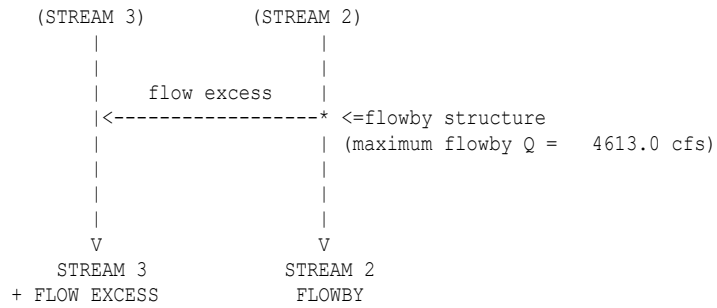
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
 FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
 THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.

DATA PAIR NUMBER	Qenter (CFS)	Qpass (CFS)
-	0.00	0.00
1	413.00	413.00
2	1897.00	1613.00
3	4682.00	3013.00
4	6819.00	4013.00
5	8100.00	4613.00

FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3

INFLOW

INFLOW



FLOWBY BASIN MODELING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 3) (CFS)	INFLOW (STREAM 2) (CFS)	OUTFLOW (STREAM 3) (CFS)	FLOWBY (STREAM 2) (CFS)
10.000	0.00	31.06	0.00	31.06
10.083	0.00	31.28	0.00	31.28
10.167	0.00	31.50	0.00	31.50
10.250	0.00	31.73	0.00	31.73
10.333	0.00	31.96	0.00	31.96
10.417	0.00	32.20	0.00	32.20
10.500	0.00	32.44	0.00	32.44
10.583	0.00	32.69	0.00	32.69
10.667	0.00	32.94	0.00	32.94
10.750	0.00	33.19	0.00	33.19
10.833	0.00	33.45	0.00	33.45
10.917	0.00	33.72	0.00	33.72
11.000	0.00	33.99	0.00	33.99
11.083	0.00	34.27	0.00	34.27
11.167	0.00	34.56	0.00	34.56
11.250	0.00	34.85	0.00	34.85
11.333	0.00	35.15	0.00	35.15
11.417	0.00	35.45	0.00	35.45
11.500	0.00	35.76	0.00	35.76
11.583	0.00	36.08	0.00	36.08
11.667	0.00	36.41	0.00	36.41
11.750	0.00	36.75	0.00	36.75
11.833	0.00	37.09	0.00	37.09
11.917	0.00	37.44	0.00	37.44
12.000	0.00	37.80	0.00	37.80
12.083	0.00	38.22	0.00	38.22
12.167	0.00	38.68	0.00	38.68
12.250	0.00	39.16	0.00	39.16
12.333	0.00	39.69	0.00	39.69
12.417	0.00	40.25	0.00	40.25
12.500	0.00	40.93	0.00	40.93
12.583	0.00	41.72	0.00	41.72
12.667	0.00	42.55	0.00	42.55
12.750	0.00	43.48	0.00	43.48
12.833	0.00	44.40	0.00	44.40
12.917	0.00	45.40	0.00	45.40
13.000	0.00	46.40	0.00	46.40

13.083	0.00	47.52	0.00	47.52
13.167	0.00	48.64	0.00	48.64
13.250	0.00	49.90	0.00	49.90
13.333	0.00	51.20	0.00	51.20
13.417	0.00	52.37	0.00	52.37
13.500	0.00	53.67	0.00	53.67
13.583	0.00	54.91	0.00	54.91
13.667	0.00	56.12	0.00	56.12
13.750	0.00	57.29	0.00	57.29
13.833	0.00	58.39	0.00	58.39
13.917	0.00	59.51	0.00	59.51
14.000	0.00	60.63	0.00	60.63
14.083	0.00	61.87	0.00	61.87
14.167	0.00	63.23	0.00	63.23
14.250	0.00	64.60	0.00	64.60
14.333	0.00	66.10	0.00	66.10
14.417	0.00	67.73	0.00	67.73
14.500	0.00	69.69	0.00	69.69
14.583	0.00	71.98	0.00	71.98
14.667	0.00	74.42	0.00	74.42
14.750	0.00	77.13	0.00	77.13
14.833	0.00	79.78	0.00	79.78
14.917	0.00	82.74	0.00	82.74
15.000	0.00	85.65	0.00	85.65
15.083	0.00	88.95	0.00	88.95
15.167	0.00	92.24	0.00	92.24
15.250	0.00	96.02	0.00	96.02
15.333	0.00	99.93	0.00	99.93
15.417	0.00	103.17	0.00	103.17
15.500	0.00	106.66	0.00	106.66
15.583	0.00	109.99	0.00	109.99
15.667	0.00	113.10	0.00	113.10
15.750	0.00	116.15	0.00	116.15
15.833	0.00	118.62	0.00	118.62
15.917	0.00	121.02	0.00	121.02
16.000	0.00	124.00	0.00	124.00
16.083	0.00	138.44	0.00	138.44
16.167	0.00	153.08	0.00	153.08
16.250	0.00	156.77	0.00	156.77
16.333	0.00	169.22	0.00	169.22
16.417	0.00	181.61	0.00	181.61
16.500	0.00	212.67	0.00	212.67
16.583	0.00	242.70	0.00	242.70
16.667	0.00	254.58	0.00	254.58
16.750	0.00	277.50	0.00	277.50
16.833	0.00	270.28	0.00	270.28
16.917	0.00	293.05	0.00	293.05
17.000	0.00	287.47	0.00	287.47
17.083	0.00	320.13	0.00	320.13
17.167	0.00	315.65	0.00	315.65
17.250	0.00	350.79	0.00	350.79
17.333	0.00	352.72	0.00	352.72
17.417	0.00	307.95	0.00	307.95
17.500	0.00	336.85	0.00	336.85
17.583	0.00	307.63	0.00	307.63
17.667	0.00	287.20	0.00	287.20
17.750	0.00	265.38	0.00	265.38
17.833	0.00	233.12	0.00	233.12

17.917	0.00	225.58	0.00	225.58
18.000	0.00	212.74	0.00	212.74
18.083	0.00	193.29	0.00	193.29
18.167	0.00	172.40	0.00	172.40
18.250	0.00	158.01	0.00	158.01
18.333	0.00	149.12	0.00	149.12
18.417	0.00	141.44	0.00	141.44
18.500	0.00	132.15	0.00	132.15
18.583	0.00	117.77	0.00	117.77
18.667	0.00	111.86	0.00	111.86
18.750	0.00	100.60	0.00	100.60
18.833	0.00	94.21	0.00	94.21
18.917	0.00	90.30	0.00	90.30
19.000	0.00	85.42	0.00	85.42
19.083	0.00	72.77	0.00	72.77
19.167	0.00	67.57	0.00	67.57
19.250	0.00	64.80	0.00	64.80
19.333	0.00	62.25	0.00	62.25
19.417	0.00	59.84	0.00	59.84
19.500	0.00	57.43	0.00	57.43
19.583	0.00	55.31	0.00	55.31
19.667	0.00	53.33	0.00	53.33
19.750	0.00	51.64	0.00	51.64
19.833	0.00	50.13	0.00	50.13
19.917	0.00	48.69	0.00	48.69
20.000	0.00	47.33	0.00	47.33

```
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***
```

```
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8
-----
>>>>MODEL STREAM SPLITFLOW WHERE A CONSTANT PROPORTION
OF STREAM 3 IS ADDED TO STREAM 4<<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***
```

```
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
=====
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***
```

```
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<
=====
```

STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO

```
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====
```

```
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<
=====
```

```
*****
****ERROR-STREAM 4 CONTAINS NO INFORMATION (EMPTY).
PROCESS IS NEGATED.
*****
```

```
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7
-----
>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<
=====
```

```
*****
****ERROR-STREAM 4 CONTAINS NO INFORMATION (EMPTY).
PROCESS IS NEGATED.
*****
```

```
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6
-----
>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<
=====
```

```
*****
FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2
-----
>>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<
=====
```

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS(Reference: the National Engineering Handbook, Hydrology, Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
 BASEWIDTH(FT) = 0.01 CHANNEL Z = 3.00

UPSTREAM ELEVATION (FT) = 427.51
 DOWNSTREAM ELEVATION (FT) = 315.00
 CHANNEL LENGTH (FT) = 9760.05 MANNING'S FACTOR = 0.040
 CONSTANT LOSS RATE (CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:

MAXIMUM INFLOW (CFS) = 352.72
 AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 272.80
 CHANNEL NORMAL VELOCITY FOR Q = 272.80 CFS = 6.02 FPS
 ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.780

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
 UNIT INTERVALS IS CSTAR = 0.525

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 2) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS
			LOSS (STREAM 2) (CFS)
10.000	31.06	30.00	30.00
10.083	31.28	30.20	30.20
10.167	31.50	30.41	30.41
10.250	31.73	30.61	30.61
10.333	31.96	30.82	30.82
10.417	32.20	31.04	31.04
10.500	32.44	31.26	31.26
10.583	32.69	31.48	31.48
10.667	32.94	31.71	31.71
10.750	33.19	31.94	31.94
10.833	33.45	32.18	32.18
10.917	33.72	32.42	32.42
11.000	33.99	32.66	32.66
11.083	34.27	32.91	32.91
11.167	34.56	33.17	33.17
11.250	34.85	33.43	33.43
11.333	35.15	33.70	33.70
11.417	35.45	33.97	33.97
11.500	35.76	34.25	34.25
11.583	36.08	34.53	34.53
11.667	36.41	34.82	34.82
11.750	36.75	35.12	35.12
11.833	37.09	35.42	35.42
11.917	37.44	35.73	35.73
12.000	37.80	36.05	36.05
12.083	38.22	36.38	36.38
12.167	38.68	36.71	36.71
12.250	39.16	37.06	37.06
12.333	39.69	37.41	37.41
12.417	40.25	37.79	37.79
12.500	40.93	38.20	38.20
12.583	41.72	38.65	38.65
12.667	42.55	39.14	39.14
12.750	43.48	39.66	39.66
12.833	44.40	40.25	40.25
12.917	45.40	40.93	40.93
13.000	46.40	41.69	41.69

13.083	47.52	42.53	42.53
13.167	48.64	43.41	43.41
13.250	49.90	44.34	44.34
13.333	51.20	45.31	45.31
13.417	52.37	46.35	46.35
13.500	53.67	47.42	47.42
13.583	54.91	48.59	48.59
13.667	56.12	49.82	49.82
13.750	57.29	51.03	51.03
13.833	58.39	52.27	52.27
13.917	59.51	53.52	53.52
14.000	60.63	54.75	54.75
14.083	61.87	55.95	55.95
14.167	63.23	57.11	57.11
14.250	64.60	58.24	58.24
14.333	66.10	59.37	59.37
14.417	67.73	60.55	60.55
14.500	69.69	61.80	61.80
14.583	71.98	63.12	63.12
14.667	74.42	64.52	64.52
14.750	77.13	66.02	66.02
14.833	79.78	67.73	67.73
14.917	82.74	69.70	69.70
15.000	85.65	71.91	71.91
15.083	88.95	74.35	74.35
15.167	92.24	76.91	76.91
15.250	96.02	79.64	79.64
15.333	99.93	82.47	82.47
15.417	103.17	85.51	85.51
15.500	106.66	88.67	88.67
15.583	109.99	92.11	92.11
15.667	113.10	95.78	95.78
15.750	116.15	99.30	99.30
15.833	118.62	102.77	102.77
15.917	121.02	106.19	106.19
16.000	124.00	109.47	109.47
16.083	138.44	112.64	112.64
16.167	153.08	115.51	115.51
16.250	156.77	118.13	118.13
16.333	169.22	120.88	120.88
16.417	181.61	128.50	128.50
16.500	212.67	139.77	139.77
16.583	242.70	148.28	148.28
16.667	254.58	157.89	157.89
16.750	277.50	168.96	168.96
16.833	270.28	188.46	188.46
16.917	293.05	213.59	213.59
17.000	287.47	233.79	233.79
17.083	320.13	254.19	254.19
17.167	315.65	263.43	263.43
17.250	350.79	276.45	276.45
17.333	352.72	282.86	282.86
17.417	307.95	298.80	298.80
17.500	336.85	308.14	308.14
17.583	307.63	326.63	326.63
17.667	287.20	340.11	340.11
17.750	265.38	328.20	328.20
17.833	233.12	329.53	329.53

17.917	225.58	321.28	321.28
18.000	212.74	305.66	305.66
18.083	193.29	286.94	286.94
18.167	172.40	262.27	262.27
18.250	158.01	243.85	243.85
18.333	149.12	228.95	228.95
18.417	141.44	212.39	212.39
18.500	132.15	193.72	193.72
18.583	117.77	176.57	176.57
18.667	111.86	163.15	163.15
18.750	100.60	152.61	152.61
18.833	94.21	142.90	142.90
18.917	90.30	131.31	131.31
19.000	85.42	121.76	121.76
19.083	72.77	111.90	111.90
19.167	67.57	103.32	103.32
19.250	64.80	96.92	96.92
19.333	62.25	91.42	91.42
19.417	59.84	83.04	83.04
19.500	57.43	75.49	75.49
19.583	55.31	70.19	70.19
19.667	53.33	66.30	66.30
19.750	51.64	63.18	63.18
19.833	50.13	60.43	60.43
19.917	48.69	57.98	57.98
20.000	47.33	55.76	55.76

=====

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 115.348 AF
 OUTFLOW VOLUME = 115.348 AF
 LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<

=====

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
 TO ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE
 INTERVALS(Reference: the National Engineering Handbook,
 Hydrology, Chapter 17, page 17-52, August,1972,
 U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:

BASEWIDTH(FT) = 0.01 CHANNEL Z = 3.00
 UPSTREAM ELEVATION(FT) = 315.00
 DOWNSTREAM ELEVATION(FT) = 212.00
 CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040
 CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:

MAXIMUM INFLOW(CFS) = 340.11
 AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 267.08
 CHANNEL NORMAL VELOCITY FOR Q = 267.08 CFS = 6.60 FPS

ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.795

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
 UNIT INTERVALS IS CSTAR = 0.598

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 2) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS
			LOSS (STREAM 2) (CFS)
10.000	30.00	29.35	29.35
10.083	30.20	29.53	29.53
10.167	30.41	29.73	29.73
10.250	30.61	29.92	29.92
10.333	30.82	30.12	30.12
10.417	31.04	30.32	30.32
10.500	31.26	30.53	30.53
10.583	31.48	30.74	30.74
10.667	31.71	30.95	30.95
10.750	31.94	31.17	31.17
10.833	32.18	31.39	31.39
10.917	32.42	31.61	31.61
11.000	32.66	31.84	31.84
11.083	32.91	32.08	32.08
11.167	33.17	32.31	32.31
11.250	33.43	32.56	32.56
11.333	33.70	32.81	32.81
11.417	33.97	33.06	33.06
11.500	34.25	33.32	33.32
11.583	34.53	33.58	33.58
11.667	34.82	33.85	33.85
11.750	35.12	34.13	34.13
11.833	35.42	34.41	34.41
11.917	35.73	34.70	34.70
12.000	36.05	34.99	34.99
12.083	36.38	35.29	35.29
12.167	36.71	35.60	35.60
12.250	37.06	35.92	35.92
12.333	37.41	36.24	36.24
12.417	37.79	36.57	36.57
12.500	38.20	36.91	36.91
12.583	38.65	37.26	37.26
12.667	39.14	37.64	37.64
12.750	39.66	38.04	38.04
12.833	40.25	38.48	38.48
12.917	40.93	38.95	38.95
13.000	41.69	39.46	39.46
13.083	42.53	40.03	40.03
13.167	43.41	40.68	40.68
13.250	44.34	41.40	41.40
13.333	45.31	42.20	42.20
13.417	46.35	43.06	43.06
13.500	47.42	43.97	43.97
13.583	48.59	44.92	44.92
13.667	49.82	45.93	45.93
13.750	51.03	46.99	46.99
13.833	52.27	48.12	48.12

13.917	53.52	49.31	49.31
14.000	54.75	50.51	50.51
14.083	55.95	51.74	51.74
14.167	57.11	52.98	52.98
14.250	58.24	54.21	54.21
14.333	59.37	55.42	55.42
14.417	60.55	56.59	56.59
14.500	61.80	57.74	57.74
14.583	63.12	58.89	58.89
14.667	64.52	60.06	60.06
14.750	66.02	61.29	61.29
14.833	67.73	62.59	62.59
14.917	69.70	63.96	63.96
15.000	71.91	65.44	65.44
15.083	74.35	67.09	67.09
15.167	76.91	68.97	68.97
15.250	79.64	71.08	71.08
15.333	82.47	73.40	73.40
15.417	85.51	75.89	75.89
15.500	88.67	78.54	78.54
15.583	92.11	81.32	81.32
15.667	95.78	84.28	84.28
15.750	99.30	87.40	87.40
15.833	102.77	90.74	90.74
15.917	106.19	94.26	94.26
16.000	109.47	97.77	97.77
16.083	112.64	101.25	101.25
16.167	115.51	104.68	104.68
16.250	118.13	108.00	108.00
16.333	120.88	111.19	111.19
16.417	128.50	114.15	114.15
16.500	139.77	116.93	116.93
16.583	148.28	120.38	120.38
16.667	157.89	126.85	126.85
16.750	168.96	135.80	135.80
16.833	188.46	144.65	144.65
16.917	213.59	154.16	154.16
17.000	233.79	165.81	165.81
17.083	254.19	182.96	182.96
17.167	263.43	204.18	204.18
17.250	276.45	224.82	224.82
17.333	282.86	243.71	243.71
17.417	298.80	257.38	257.38
17.500	308.14	269.71	269.71
17.583	326.63	279.86	279.86
17.667	340.11	292.53	292.53
17.750	328.20	304.52	304.52
17.833	329.53	319.68	319.68
17.917	321.28	330.19	330.19
18.000	305.66	329.19	329.19
18.083	286.94	328.21	328.21
18.167	262.27	321.82	321.82
18.250	243.85	309.47	309.47
18.333	228.95	292.46	292.46
18.417	212.39	271.76	271.76
18.500	193.72	252.93	252.93
18.583	176.57	236.21	236.21
18.667	163.15	219.28	219.28

18.750	152.61	201.53	201.53
18.833	142.90	184.68	184.68
18.917	131.31	170.29	170.29
19.000	121.76	158.32	158.32
19.083	111.90	147.43	147.43
19.167	103.32	136.42	136.42
19.250	96.92	126.23	126.23
19.333	91.42	116.43	116.43
19.417	83.04	107.67	107.67
19.500	75.49	100.45	100.45
19.583	70.19	93.85	93.85
19.667	66.30	86.30	86.30
19.750	63.18	79.08	79.08
19.833	60.43	73.20	73.20
19.917	57.98	68.63	68.63
20.000	55.76	64.97	64.97

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PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 115.348 AF
 OUTFLOW VOLUME = 115.348 AF
 LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

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(UNIT-HYDROGRAPH ADDED TO STREAM #3)

WATERSHED AREA = 1715.900 ACRES
 BASEFLOW = 0.000 CFS/SQUARE-MILE
 *USER ENTERED "LAG" TIME = 0.983 HOURS
 VALLEY(DEVELOPED) S-GRAPH SELECTED
 MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.449
 LOW LOSS FRACTION = 0.750
 HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL(INCH)= 0.13
 SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)= 0.28
 SPECIFIED PEAK 1-HOUR RAINFALL(INCH) = 0.37
 SPECIFIED PEAK 3-HOUR RAINFALL(INCH) = 0.62
 SPECIFIED PEAK 6-HOUR RAINFALL(INCH) = 0.85
 SPECIFIED PEAK 24-HOUR RAINFALL(INCH) = 1.44

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE FACTOR = 0.744
 30-MINUTE FACTOR = 0.744
 1-HOUR FACTOR = 0.744
 3-HOUR FACTOR = 0.959
 6-HOUR FACTOR = 0.978
 24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
 UNIT INTERVAL PERCENTAGE OF LAG-TIME = 8.477

RUNOFF HYDROGRAPH LISTING LIMITS:
 MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 10.00
 MODEL TIME(HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.484	100.526
2	1.453	201.053
3	2.643	246.973
4	4.324	348.835
5	7.269	611.026
6	11.434	864.402
7	16.289	1007.379
8	21.336	1047.360
9	26.804	1134.742
10	32.906	1266.313
11	39.384	1344.219
12	47.231	1628.337
13	54.284	1463.697
14	61.254	1446.311
15	67.859	1370.627
16	73.438	1157.890
17	77.946	935.346
18	81.771	793.877
19	85.244	720.710
20	87.940	559.305
21	89.982	423.869
22	91.780	373.097
23	93.421	340.609
24	94.695	264.198
25	95.754	219.855
26	96.524	159.684
27	97.188	137.980
28	97.834	133.868
29	98.124	60.240
30	98.283	32.988
31	98.442	32.990
32	98.601	32.988
33	98.760	32.990
34	98.919	32.988
35	99.077	32.941
36	99.236	32.941
37	99.395	32.941
38	99.554	32.941
39	99.712	32.941
40	99.871	32.941
41	100.000	26.750

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 147.3265
 TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 55.7816

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)

(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	50.0	100.0	150.0	200.0
10.000	9.1914	16.30	. Q	V	.	.	.
10.083	9.3044	16.42	. Q	V	.	.	.
10.167	9.4183	16.54	. Q	V	.	.	.
10.250	9.5331	16.66	. Q	V	.	.	.
10.333	9.6487	16.79	. Q	V	.	.	.
10.417	9.7653	16.92	. Q	V	.	.	.
10.500	9.8827	17.05	. Q	V	.	.	.
10.583	10.0011	17.19	. Q	V	.	.	.
10.667	10.1204	17.32	. Q	V	.	.	.
10.750	10.2406	17.46	. Q	V	.	.	.
10.833	10.3619	17.61	. Q	V	.	.	.
10.917	10.4842	17.75	. Q	V	.	.	.
11.000	10.6075	17.90	. Q	V	.	.	.
11.083	10.7318	18.06	. Q	V	.	.	.
11.167	10.8572	18.21	. Q	V	.	.	.
11.250	10.9838	18.37	. Q	V	.	.	.
11.333	11.1114	18.54	. Q	V	.	.	.
11.417	11.2403	18.70	. Q	V	.	.	.
11.500	11.3703	18.88	. Q	V	.	.	.
11.583	11.5015	19.05	. Q	V	.	.	.
11.667	11.6340	19.23	. Q	V	.	.	.
11.750	11.7677	19.42	. Q	V	.	.	.
11.833	11.9028	19.61	. Q	V	.	.	.
11.917	12.0392	19.81	. Q	V	.	.	.
12.000	12.1770	20.01	. Q	V	.	.	.
12.083	12.3164	20.24	. Q	V	.	.	.
12.167	12.4576	20.51	. Q	V	.	.	.
12.250	12.6008	20.80	. Q	V	.	.	.
12.333	12.7463	21.12	. Q	V	.	.	.
12.417	12.8945	21.52	. Q	V	.	.	.
12.500	13.0461	22.01	. Q	V	.	.	.
12.583	13.2013	22.54	. Q	V	.	.	.
12.667	13.3603	23.09	. Q	V	.	.	.
12.750	13.5234	23.67	. Q	V	.	.	.
12.833	13.6908	24.31	. Q	V	.	.	.
12.917	13.8627	24.97	. Q	V	.	.	.
13.000	14.0399	25.72	. Q	V	.	.	.
13.083	14.2220	26.44	. Q	V	.	.	.
13.167	14.4090	27.16	. Q	V	.	.	.
13.250	14.6010	27.88	. Q	V	.	.	.
13.333	14.7976	28.55	. Q	V	.	.	.
13.417	14.9985	29.16	. Q	V	.	.	.
13.500	15.2034	29.76	. Q	V	.	.	.
13.583	15.4124	30.34	. Q	.V	.	.	.
13.667	15.6251	30.90	. Q	.V	.	.	.
13.750	15.8416	31.43	. Q	.V	.	.	.
13.833	16.0617	31.96	. Q	.V	.	.	.

13.917	16.2856	32.51	. Q	.V	.	.	.
14.000	16.5133	33.05	. Q	.V	.	.	.
14.083	16.7453	33.69	. Q	.V	.	.	.
14.167	16.9824	34.43	. Q	.V	.	.	.
14.250	17.2250	35.22	. Q	.V	.	.	.
14.333	17.4738	36.13	. Q	.V	.	.	.
14.417	17.7305	37.27	. Q	.V	.	.	.
14.500	17.9967	38.66	. Q	.V	.	.	.
14.583	18.2736	40.20	. Q	.V	.	.	.
14.667	18.5615	41.81	. Q	.V	.	.	.
14.750	18.8612	43.52	. Q	.V	.	.	.
14.833	19.1737	45.38	. Q	.V	.	.	.
14.917	19.4998	47.34	. Q	.V	.	.	.
15.000	19.8414	49.60	. Q	.V	.	.	.
15.083	20.1977	51.74	. Q	.V	.	.	.
15.167	20.5690	53.92	. Q	.V	.	.	.
15.250	20.9552	56.07	. Q	.V	.	.	.
15.333	21.3554	58.10	. Q	.V	.	.	.
15.417	21.7674	59.82	. Q	.V	.	.	.
15.500	22.1897	61.33	. Q	.V	.	.	.
15.583	22.6222	62.79	. Q	.V	.	.	.
15.667	23.0634	64.07	. Q	.V	.	.	.
15.750	23.5109	64.97	. Q	.V	.	.	.
15.833	23.9631	65.66	. Q	.V	.	.	.
15.917	24.4210	66.49	. Q	.V	.	.	.
16.000	24.8882	67.84	. Q	.V	.	.	.
16.083	25.4032	74.78	. Q	.V	.	.	.
16.167	25.9663	81.76	. Q	.V	.	.	.
16.250	26.5602	86.23	. Q	.V	.	.	.
16.333	27.2063	93.81	. Q	.V	.	.	.
16.417	27.9659	110.30	. Q	.V	.	.	.
16.500	28.8329	125.89	. Q	.V	.	.	.
16.583	29.7619	134.89	. Q	.V	.	.	.
16.667	30.7159	138.53	. Q	.V	.	.	.
16.750	31.7141	144.94	. Q	.V	.	.	.
16.833	32.7746	153.98	. Q	.V	.	.	.
16.917	33.8757	159.88	. Q	.V	.	.	.
17.000	35.0818	175.12	. Q	.V	.	.	.
17.083	36.2239	165.83	. Q	.V	.	.	.
17.167	37.3476	163.17	. Q	.V	.	.	.
17.250	38.4257	156.54	. Q	.V	.	.	.
17.333	39.4077	142.58	. Q	.V	.	.	.
17.417	40.2870	127.68	. Q	.V	.	.	.
17.500	41.0938	117.15	. Q	.V	.	.	.
17.583	41.8521	110.10	. Q	.V	.	.	.
17.667	42.5289	98.27	. Q	.V	.	.	.
17.750	43.1348	87.97	. Q	.V	.	.	.
17.833	43.7011	82.23	. Q	.V	.	.	.
17.917	44.2347	77.48	. Q	.V	.	.	.
18.000	44.7176	70.11	. Q	.V	.	.	.
18.083	45.1617	64.48	. Q	.V	.	.	.
18.167	45.5628	58.24	. Q	.V	.	.	.
18.250	45.9361	54.21	. Q	.V	.	.	.
18.333	46.2888	51.21	. Q	.V	.	.	.
18.417	46.5976	44.83	. Q	.V	.	.	.
18.500	46.8809	41.14	. Q	.V	.	.	.
18.583	47.1503	39.12	. Q	.V	.	.	.
18.667	47.4079	37.40	. Q	.V	.	.	.

18.750	47.6543	35.77	.	Q	.	.	.	V	.
18.833	47.8900	34.23	.	Q	.	.	.	V	.
18.917	48.1156	32.76	.	Q	.	.	.	V	.
19.000	48.3313	31.32	.	Q	.	.	.	V	.
19.083	48.5380	30.02	.	Q	.	.	.	V	.
19.167	48.7363	28.79	.	Q	.	.	.	V	.
19.250	48.9266	27.63	.	Q	.	.	.	V	.
19.333	49.1091	26.50	.	Q	.	.	.	V	.
19.417	49.2825	25.17	.	Q	.	.	.	V	.
19.500	49.4402	22.90	.	Q	.	.	.	V	.
19.583	49.5926	22.14	.	Q	.	.	.	V	.
19.667	49.7407	21.51	.	Q	.	.	.	V	.
19.750	49.8850	20.94	.	Q	.	.	.	V	.
19.833	50.0253	20.38	.	Q	.	.	.	V	.
19.917	50.1620	19.85	.	Q	.	.	.	V	.
20.000	50.2954	19.37	.	Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	575.0
20%	275.0
30%	190.0
40%	120.0
50%	90.0
60%	75.0
70%	60.0
80%	40.0
90%	20.0

 FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

 FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

 FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

 FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<

STREAM HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
 (Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	125.0	250.0	375.0	500.0
10.000	24.5936	45.64	.	Q V	.	.	.
10.083	24.9101	45.95	.	Q V	.	.	.
10.167	25.2287	46.27	.	Q V	.	.	.
10.250	25.5495	46.58	.	Q V	.	.	.
10.333	25.8726	46.91	.	Q V	.	.	.
10.417	26.1979	47.24	.	Q V	.	.	.
10.500	26.5256	47.58	.	Q V	.	.	.
10.583	26.8556	47.92	.	Q V	.	.	.
10.667	27.1881	48.27	.	Q V	.	.	.
10.750	27.5230	48.63	.	Q V	.	.	.
10.833	27.8604	48.99	.	Q V	.	.	.
10.917	28.2004	49.37	.	Q V	.	.	.
11.000	28.5430	49.74	.	Q V	.	.	.
11.083	28.8883	50.13	.	Q V	.	.	.
11.167	29.2362	50.53	.	Q V	.	.	.
11.250	29.5870	50.93	.	Q V	.	.	.
11.333	29.9406	51.34	.	Q V	.	.	.
11.417	30.2971	51.77	.	Q V	.	.	.
11.500	30.6566	52.20	.	Q V	.	.	.
11.583	31.0191	52.64	.	Q V	.	.	.
11.667	31.3847	53.09	.	Q V	.	.	.
11.750	31.7535	53.55	.	Q V	.	.	.
11.833	32.1256	54.02	.	Q V	.	.	.
11.917	32.5010	54.50	.	Q V	.	.	.
12.000	32.8797	55.00	.	Q V	.	.	.
12.083	33.2622	55.54	.	Q V	.	.	.
12.167	33.6487	56.11	.	Q V	.	.	.
12.250	34.0393	56.72	.	Q V	.	.	.
12.333	34.4343	57.36	.	Q V	.	.	.
12.417	34.8344	58.10	.	Q V	.	.	.
12.500	35.2402	58.92	.	Q V	.	.	.
12.583	35.6521	59.80	.	Q V	.	.	.
12.667	36.0703	60.72	.	Q V	.	.	.
12.750	36.4953	61.71	.	Q V	.	.	.
12.833	36.9277	62.78	.	Q V	.	.	.
12.917	37.3679	63.91	.	Q V	.	.	.
13.000	37.8168	65.18	.	Q V	.	.	.
13.083	38.2745	66.47	.	Q V	.	.	.
13.167	38.7418	67.84	.	Q V	.	.	.
13.250	39.2189	69.28	.	Q V	.	.	.
13.333	39.7061	70.75	.	Q V	.	.	.

13.417	40.2035	72.22	.	Q	V.	.	.	.
13.500	40.7113	73.72	.	Q	V.	.	.	.
13.583	41.2296	75.26	.	Q	V.	.	.	.
13.667	41.7586	76.82	.	Q	V.	.	.	.
13.750	42.2987	78.42	.	Q	V.	.	.	.
13.833	42.8503	80.08	.	Q	V	.	.	.
13.917	43.4137	81.82	.	Q	V	.	.	.
14.000	43.9893	83.57	.	Q	V	.	.	.
14.083	44.5777	85.44	.	Q	V	.	.	.
14.167	45.1797	87.41	.	Q	V	.	.	.
14.250	45.7956	89.43	.	Q	V	.	.	.
14.333	46.4261	91.55	.	Q	V	.	.	.
14.417	47.0725	93.86	.	Q	.V	.	.	.
14.500	47.7364	96.40	.	Q	.V	.	.	.
14.583	48.4188	99.09	.	Q	.V	.	.	.
14.667	49.1204	101.87	.	Q	.V	.	.	.
14.750	49.8422	104.81	.	Q	.V	.	.	.
14.833	50.5858	107.97	.	Q	.V	.	.	.
14.917	51.3523	111.30	.	Q	.V	.	.	.
15.000	52.1446	115.03	.	Q	.V	.	.	.
15.083	52.9630	118.83	.	Q	.V	.	.	.
15.167	53.8093	122.89	.	Q	.V	.	.	.
15.250	54.6850	127.15	.	Q	V	.	.	.
15.333	55.5906	131.50	.	Q	V	.	.	.
15.417	56.5253	135.71	.	Q	V	.	.	.
15.500	57.4885	139.86	.	.Q	V	.	.	.
15.583	58.4810	144.11	.	.Q	V	.	.	.
15.667	59.5027	148.35	.	.Q	V	.	.	.
15.750	60.5521	152.37	.	.Q	V	.	.	.
15.833	61.6293	156.41	.	.Q	V	.	.	.
15.917	62.7364	160.75	.	.Q	V	.	.	.
16.000	63.8769	165.61	.	.QV	.	.	.	.
16.083	65.0893	176.03	.	.QV	.	.	.	.
16.167	66.3733	186.44	.	.QV	.	.	.	.
16.250	67.7110	194.23	.	.Q	.	.	.	.
16.333	69.1228	205.00	.	.Q	.	.	.	.
16.417	70.6686	224.45	.	.VQ	.	.	.	.
16.500	72.3409	242.81	.	.V	.Q.	.	.	.
16.583	74.0990	255.28	.	.V	.Q	.	.	.
16.667	75.9267	265.38	.	.V	.Q	.	.	.
16.750	77.8602	280.74	.	.V	.Q	.	.	.
16.833	79.9168	298.63	.	.V	.Q	.	.	.
16.917	82.0796	314.04	.	.V.	.Q	.	.	.
17.000	84.4276	340.93	.	.V.	.Q	.	.	.
17.083	86.8297	348.79	.	.V	.Q	.	.	.
17.167	89.3597	367.35	.	.V	.Q.	.	.	.
17.250	91.9862	381.36	.	.V	.Q	.	.	.
17.333	94.6465	386.29	.	.V	.Q	.	.	.
17.417	97.2984	385.06	.	.V	.Q	.	.	.
17.500	99.9628	386.86	.	.V	.Q	.	.	.
17.583	102.6484	389.95	.	.V	.Q	.	.	.
17.667	105.3398	390.80	.	.V	.Q	.	.	.
17.750	108.0430	392.49	.	.V	.Q	.	.	.
17.833	110.8109	401.91	.	.V	.Q	.	.	.
17.917	113.6186	407.67	.	.V	.Q	.	.	.
18.000	116.3686	399.30	.	.V	.Q	.	.	.
18.083	119.0731	392.69	.	.V	.Q	.	.	.
18.167	121.6906	380.06	.	.V	.Q	.	.	.

18.250	124.1953	363.68	.	.	.	.	Q.	.
18.333	126.5621	343.66	.	.	.	.	Q V.	.
18.417	128.7425	316.59	.	.	.	.	Q V	.
18.500	130.7677	294.06	.	.	.	.	Q V	.
18.583	132.6639	275.33	.	.	.	.	Q .V	.
18.667	134.4317	256.69	.	.	.	.	Q .V	.
18.750	136.0661	237.31	.	.	.	.	Q .V	.
18.833	137.5737	218.91	.	.	.	.	Q .V	.
18.917	138.9721	203.04	.	.	.	.	Q .V	.
19.000	140.2781	189.64	.	.	.	.	Q .V	.
19.083	141.5002	177.45	.	.	.	.	Q .V	.
19.167	142.6381	165.21	.	.	.	.	Q .V	.
19.250	143.6977	153.86	.	.	.	.	Q .V	.
19.333	144.6821	142.93	.	.	.	.	Q .V	.
19.417	145.5969	132.84	.	.	.	.	Q .V	.
19.500	146.4465	123.35	.	.	.	.	Q .V	.
19.583	147.2453	115.99	.	.	.	.	Q .V	.
19.667	147.9877	107.80	.	.	.	.	Q .V	.
19.750	148.6766	100.02	.	.	.	.	Q .V	.
19.833	149.3210	93.58	.	.	.	.	Q .V	.
19.917	149.9304	88.48	.	.	.	.	Q .V	.
20.000	150.5112	84.34	.	.	.	.	Q .V	.

 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	845.0
20%	370.0
30%	265.0
40%	195.0
50%	155.0
60%	130.0
70%	105.0
80%	85.0
90%	65.0
=====	=====

END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
(c) Copyright 1989-2013 Advanced Engineering Software (aes)
Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - COMPLEX UH *
* ULTIMATE CONDITION - REGIONAL NODE 132C *
* 5-YR EV JUNE 2018 JMITAL *

FILE NAME: EV0532CC.DAT
TIME/DATE OF STUDY: 08:21 06/04/2018

** INPUT SUMMARY **

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.986 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.406; LOW LOSS FRACTION = 0.789
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.18; 30-MINUTE = 0.41; 1-HOUR = 0.55
3-HOUR = 0.92; 6-HOUR = 1.27; 24-HOUR = 2.12
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.788; 30-MINUTE = 0.788; 1-HOUR = 0.788
3-HOUR = 0.968; 6-HOUR = 0.984; 24-HOUR = 0.990

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 2

>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<

MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.

Table with 3 columns: DATA PAIR NUMBER, Qenter (CFS), Qpass (CFS). Rows include values for 1 and 2.

Table with 3 columns: Node, Value 1, Value 2. Rows 3, 4, 5.

FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 5.700
SPECIFIED DEAD STORAGE (AF) FILLED = 5.700
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

Table with 4 columns: INTERVAL NUMBER, DEPTH (FT), OUTFLOW (CFS), STORAGE (AF). Rows 1-9.

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 8

>>>MODEL STREAM SPLITFLOW WHERE 0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.99	2.90	0.900
3	1.99	11.38	2.900
4	3.99	19.63	10.300
5	5.99	25.19	20.700
6	7.99	29.71	31.700
7	9.99	33.62	43.500
8	10.99	35.49	49.700
9	11.99	313.46	56.400
10	12.99	894.27	63.100
11	13.99	1748.55	69.900
12	15.99	4306.91	84.100

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.48	0.70	0.400
3	1.48	6.50	1.800
4	3.48	18.11	8.500
5	5.48	23.99	17.900
6	7.48	28.68	27.800
7	9.48	32.70	38.300
8	10.48	34.50	43.900
9	11.48	36.29	49.400
10	12.48	314.07	55.900

11	13.48	895.00	62.300
12	15.48	2882.95	74.700

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 2 HYDROGRAPH<<<<<

* AES FLOODSCx PROGRAM RESULTS SUMMARY *

| INPUT FILENAME: [EV0532CC.DAT]

Page: 1 of 1

UPSTREAM TIME (2) TO	DOWNSTREAM MAX. STORAGE	HYDROLOGIC/HYDRAULIC PROCESS	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
0.00	132.00	Subarea (UH) Added to Stream #2	0.0	834.8
17.000	0.00	Flowby Basin Model: Stream #2	834.8	754.0
17.000	0.00	Flow-Through Basin: Stream #3	80.7	0.0
17.750	4.83	Split Hydrograph: Stream #3	0.0	0.0
17.750	0.00	Flow-Through Basin: Stream #3	0.0	0.0
47.917	0.00			

0.00	132.00	Stream #3 Added to: Stream #2	754.0	754.0
17.000	0.00	Zero Out: Stream #3	0.0	0.0
69.917	0.00	Flow-Through Basin: Stream #4	0.0	0.0
17.000	0.01			
17.000	132.00	Stream #4 Added to: Stream #2	754.0	754.0
17.000	0.00	Zero Out: Stream #4	0.0	0.0

132.00	132.00	View: Stream #2	754.0	
17.000	213.81	3		

| Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL
 | 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 23.0 Release Date: 07/01/2016 License ID 1264

Analysis prepared by:

***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO *
* ULTIMATE CONDITION - REGIONAL NODE 13305 *
* 5-YR EV AUGUST 2019 ROKAMOTO *

FILE NAME: EV05305C.DAT
TIME/DATE OF STUDY: 11:13 08/26/2019

** INPUT SUMMARY **

FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.986 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.406; LOW LOSS FRACTION = 0.789
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.19; 30-MINUTE = 0.42; 1-HOUR = 0.57
3-HOUR = 0.95; 6-HOUR = 1.31; 24-HOUR = 2.19
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.754; 30-MINUTE = 0.754; 1-HOUR = 0.754
3-HOUR = 0.961; 6-HOUR = 0.979; 24-HOUR = 0.987

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2

>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<

MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.

Table with 3 columns: DATA PAIR NUMBER, Qenter (CFS), Qpass (CFS). Rows include values for data pairs 1 and 2.

Table with 3 columns: Node, Value 1, Value 2. Rows 3, 4, 5.

FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 5.700
SPECIFIED DEAD STORAGE (AF) FILLED = 5.700
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

Table with 4 columns: INTERVAL NUMBER, DEPTH (FT), OUTFLOW (CFS), STORAGE (AF). Rows 1 through 9.

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8

>>>MODEL STREAM SPLITFLOW WHERE 0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.99	2.90	0.900
3	1.99	11.38	2.900
4	3.99	19.63	10.300
5	5.99	25.19	20.700
6	7.99	29.71	31.700
7	9.99	33.62	43.500
8	10.99	35.49	49.700
9	11.99	313.46	56.400
10	12.99	894.27	63.100
11	13.99	1748.55	69.900
12	15.99	4306.91	84.100

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4 THROUGH A FLOW-THROUGH DETENTION BASIN. SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.48	0.70	0.400
3	1.48	6.50	1.800
4	3.48	18.11	8.500
5	5.48	23.99	17.900
6	7.48	28.68	27.800
7	9.48	32.70	38.300
8	10.48	34.50	43.900
9	11.48	36.29	49.400
10	12.48	314.07	55.900

11	13.48	895.00	62.300
12	15.48	2882.95	74.700

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<

FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS (Reference: the National Engineering Handbook, Hydrology, Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH (FT) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION (FT) = 427.51; DOWNSTREAM ELEVATION (FT) = 315.00
CHANNEL LENGTH (FT) = 9760.05 MANNING'S FACTOR = 0.040
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 31100.00 TO NODE 13305.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<

WATERSHED AREA = 810.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.555 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.470; LOW LOSS FRACTION = 0.838
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.19; 30-MINUTE = 0.42; 1-HOUR = 0.57
3-HOUR = 0.95; 6-HOUR = 1.31; 24-HOUR = 2.19
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.754; 30-MINUTE = 0.754; 1-HOUR = 0.754
3-HOUR = 0.961; 6-HOUR = 0.979; 24-HOUR = 0.987

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 7

>>>>STREAM NUMBER 1 ADDED TO STREAM NUMBER 2<<<<<

```

=====
*****
FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6
-----
>>>>STREAM NUMBER 1 CLEARED AND SET TO ZERO<<<<
=====

```

```

*****
FLOW PROCESS FROM NODE 100.00 TO NODE 130.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<
-----
WATERSHED AREA = 447.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.315 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.178; LOW LOSS FRACTION = 0.375
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.19; 30-MINUTE = 0.42; 1-HOUR = 0.57
3-HOUR = 0.95; 6-HOUR = 1.31; 24-HOUR = 2.19
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.754; 30-MINUTE = 0.754; 1-HOUR = 0.754
3-HOUR = 0.961; 6-HOUR = 0.979; 24-HOUR = 0.987

```

```

*****
FLOW PROCESS FROM NODE 130.00 TO NODE 131.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #1<<<<
=====

```

MODEL STREAM NUMBER 1 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 1 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.

DATA PAIR NUMBER	Qcenter (CFS)	Qpass (CFS)
-	0.00	0.00
1	10.00	6.00
2	50.00	30.00
3	100.00	63.00
4	250.00	160.00
5	550.00	444.00

FLOW EXCESS IS ASSUMED TO BE PERMANENTLY STORED.

```

*****
FLOW PROCESS FROM NODE 130.00 TO NODE 132.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #1<<<<
=====

```

MODEL STREAM NUMBER 1 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 1 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.

DATA PAIR NUMBER	Qcenter (CFS)	Qpass (CFS)
-	0.00	0.00

```

1 50.00 18.00
2 100.00 31.00
3 250.00 34.00
4 750.00 80.00
5 1200.00 120.00
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
=====

```

```

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #1<<<<
=====

```

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 1
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	2.00	4.300
3	2.00	2.01	6.100
4	3.00	2.02	8.000
5	4.00	43.00	10.000
6	5.00	45.00	11.900

```

*****
FLOW PROCESS FROM NODE 130.00 TO NODE 133.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<
=====

```

MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 3 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.

DATA PAIR NUMBER	Qcenter (CFS)	Qpass (CFS)
-	0.00	0.00
1	50.00	16.00
2	100.00	31.00
3	250.00	69.00
4	500.00	70.00
5	1200.00	75.00

FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 4

```

*****
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 3.1
-----

```

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3 THROUGH A FLOW-THROUGH DETENTION BASIN. SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS: DEAD STORAGE (AF) = 0.000 SPECIFIED DEAD STORAGE (AF) FILLED = 0.000 SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000 DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

Table with 4 columns: INTERVAL NUMBER, DEPTH (FT), OUTFLOW (CFS), STORAGE (AF). Rows 1-6 showing increasing depth and storage values.

***** FLOW PROCESS FROM NODE 130.00 TO NODE 9.00 IS CODE = 2 *****

>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #4<<<<<

MODEL STREAM NUMBER 4 FLOWING PAST A FLOWBY STRUCTURE: FLOWRATES IN STREAM # 4 WHICH ARE GREATER THAN Qpass IN THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.

Table with 3 columns: DATA PAIR NUMBER, Qcenter (CFS), Qpass (CFS). Rows 1-5 showing flow rates.

FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 2

***** FLOW PROCESS FROM NODE 9.00 TO NODE 9.00 IS CODE = 7 *****

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 3<<<<<

***** FLOW PROCESS FROM NODE 9.00 TO NODE 9.00 IS CODE = 6 *****

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

FLOW PROCESS FROM NODE 130.00 TO NODE 134.00 IS CODE = 2

>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #4<<<<<

MODEL STREAM NUMBER 4 FLOWING PAST A FLOWBY STRUCTURE: FLOWRATES IN STREAM # 4 WHICH ARE GREATER THAN Qpass IN THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.

Table with 3 columns: DATA PAIR NUMBER, Qcenter (CFS), Qpass (CFS). Rows 1-5 showing flow rates.

FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5

***** FLOW PROCESS FROM NODE 134.00 TO NODE 135.00 IS CODE = 3.1 *****

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4 THROUGH A FLOW-THROUGH DETENTION BASIN. SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:

DEAD STORAGE (AF) = 0.000 SPECIFIED DEAD STORAGE (AF) FILLED = 0.000 SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000 DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

Table with 4 columns: INTERVAL NUMBER, DEPTH (FT), OUTFLOW (CFS), STORAGE (AF). Rows 1-6 showing increasing depth and storage values.

***** FLOW PROCESS FROM NODE 132.00 TO NODE 135.00 IS CODE = 7 *****

>>>>STREAM NUMBER 1 ADDED TO STREAM NUMBER 4<<<<<

***** FLOW PROCESS FROM NODE 135.00 TO NODE 135.00 IS CODE = 6 *****

>>>>STREAM NUMBER 1 CLEARED AND SET TO ZERO<<<<<

```

*****
FLOW PROCESS FROM NODE 133.00 TO NODE 135.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 4<<<<
=====

*****
FLOW PROCESS FROM NODE 135.00 TO NODE 135.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 130.00 TO NODE 136.00 IS CODE = 4
-----
>>>>MODEL PIPEFLOW ROUTING OF STREAM #5<<<<
=====
MODEL PIPEFLOW ROUTING OF STREAM 5 WHERE
STORAGE EFFECTS ARE NEGLECTED WITHIN THE PIPE, FLOW
VELOCITIES ARE ESTIMATED BY ASSUMING STEADY FLOW FOR
EACH UNIT INTERVAL(NORMAL DEPTH, Dn), AND FLOWS IN EXCESS
OF (.82) (DIAMETER) ARE PONDED AT THE UPSTREAM INLET.
UNIT INTERVAL FLOW VELOCITY COMPUTED USING Dn UP TO
(0.938) (DIAMETER):

PIPELENGTH (FT) = 1006.00 MANNINGS FACTOR = 0.015
UPSTREAM ELEVATION (FT) = 375.00; DOWNSTREAM ELEVATION (FT) = 335.00
PIPE DIAMETER (FT) = 60.00
=====

*****
FLOW PROCESS FROM NODE 136.00 TO NODE 137.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL DEPTH OUTFLOW STORAGE
NUMBER (FT) (CFS) (AF)
1 0.00 0.00 0.000
2 1.00 83.00 4.269
3 2.00 380.00 8.868
4 3.00 400.00 13.250
5 4.00 478.00 17.970
6 5.00 600.00 23.120
=====

```

```

*****
FLOW PROCESS FROM NODE 136.00 TO NODE 136.10 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #5<<<<
=====
MODEL STREAM NUMBER 5 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 5 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.

DATA PAIR Qenter Qpass
NUMBER (CFS) (CFS)
- 0.00 0.00
1 5.00 2.00
2 25.00 2.00
3 75.00 2.00
4 250.00 2.00
5 500.00 84.00
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
=====

*****
FLOW PROCESS FROM NODE 137.00 TO NODE 138.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL DEPTH OUTFLOW STORAGE
NUMBER (FT) (CFS) (AF)
1 0.00 0.00 0.000
2 1.00 48.00 2.100
3 2.00 196.00 4.312
4 3.00 225.00 6.636
5 4.00 301.00 9.075
6 5.00 378.00 11.630
=====

*****
FLOW PROCESS FROM NODE 137.00 TO NODE 137.10 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<
=====
MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 3 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.

DATA PAIR Qenter Qpass
NUMBER (CFS) (CFS)

```

```

-          0.00      0.00
1          5.00      2.00
2         10.00      2.00
3         50.00      3.00
4        100.00     34.00
5        325.00    127.00

```

FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 1

```

*****
FLOW PROCESS FROM NODE 138.00 TO NODE 139.00 IS CODE = 3.1

```

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #1<<<<<

```

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 1
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

```

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	21.00	2.000
3	2.00	114.00	4.200
4	3.00	131.00	6.400
5	4.00	176.00	8.800
6	5.00	221.00	11.200

```

*****
FLOW PROCESS FROM NODE 135.00 TO NODE 139.00 IS CODE = 7

```

>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 1<<<<<

```

*****
FLOW PROCESS FROM NODE 139.00 TO NODE 139.00 IS CODE = 6

```

>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<

```

*****
FLOW PROCESS FROM NODE 139.00 TO NODE 139.00 IS CODE = 7

```

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 1<<<<<

```

FLOW PROCESS FROM NODE 139.00 TO NODE 139.00 IS CODE = 6

```

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

```

*****
FLOW PROCESS FROM NODE 139.00 TO NODE 139.00 IS CODE = 7

```

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 1<<<<<

```

*****
FLOW PROCESS FROM NODE 139.00 TO NODE 13305.00 IS CODE = 6

```

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<

```

*****
FLOW PROCESS FROM NODE 150.00 TO NODE 13305.00 IS CODE = 1

```

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<

```

WATERSHED AREA = 62.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.380 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.496; LOW LOSS FRACTION = 0.931
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.19; 30-MINUTE = 0.42; 1-HOUR = 0.57
3-HOUR = 0.95; 6-HOUR = 1.31; 24-HOUR = 2.19
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.754; 30-MINUTE = 0.754; 1-HOUR = 0.754
3-HOUR = 0.961; 6-HOUR = 0.979; 24-HOUR = 0.987

```

```

*****
FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 7

```

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 1<<<<<

```

*****
FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6

```

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

```

*****
FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 7

```

>>>>STREAM NUMBER 1 ADDED TO STREAM NUMBER 2<<<<<

```
*****
FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6
-----
>>>>STREAM NUMBER 1 CLEARED AND SET TO ZERO<<<<
=====
```

```
*****
FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 11
-----
>>>>VIEW STREAM NUMBER 2 HYDROGRAPH<<<<
=====
```

```
-----+-----
|
| * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV05305C.DAT ]
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-----+-----
|UPSTREAM DOWNSTREAM| | UPSTREAM DOWNSTREAM|
TIME (2) TO | MAX. STORAGE| |
| NODE # NODE # | HYDROLOGIC/HYDRAULIC PROCESS | PEAK (CFS) PEAK (CFS) |
PEAK (HR) | MODELED (AF) | FOOTNOTES |
-----+-----
| 13010.00 132.00| Subarea (UH) Added to Stream #2| 0.0 834.3|
17.000 | | |
| 132.00 132.00| Flowby Basin Model: Stream #2| 834.3 753.7|
17.000 | | |
| 132.00 132.00| Flow-Through Basin: Stream #3| 80.6 0.0|
17.750 | 4.87| |
| 132.00 132.00| Split Hydrograph: Stream #3| 0.0 0.0|
17.750 | | |
| 132.00 132.00| Flow-Through Basin: Stream #3| 0.0 0.0|
47.917 | 0.00| |
-----+-----
| 132.00 132.00| Stream #3 Added to: Stream #2| 753.7 753.7|
17.000 | | |
| 132.00 132.00| Zero Out: Stream #3| 0.0 0.0|
| | |
| 132.00 132.00| Flow-Through Basin: Stream #4| 0.0 0.0|
70.000 | 0.01| |
| 132.00 132.00| Stream #4 Added to: Stream #2| 753.7 753.7|
17.000 | | |
| 132.00 132.00| Zero Out: Stream #4| 0.0 0.0|
| | |
-----+-----
| 132.00 13305.00| Convex Routing: Stream #2| 753.7 717.6|
17.333 | | |
| 31100.00 13305.00| Subarea (UH) Added to Stream #1| 0.0 177.0|
16.583 | | |
| 13305.00 13305.00| Stream #1 Added to: Stream #2| 717.6 759.3|
17.333 | | |
| 13305.00 13305.00| Zero Out: Stream #1| 177.0 0.0|
| | |
| 100.00 130.00| Subarea (UH) Added to Stream #1| 0.0 240.5|
16.417 | | |
-----+-----
| 130.00 131.00| Flowby Basin Model: Stream #1| 240.5 153.8|
16.417 | | |
| 130.00 132.00| Flowby Basin Model: Stream #1| 153.8 32.1|
16.417 | | |
| 132.00 132.00| Flow-Through Basin: Stream #1| 32.1 3.6|
19.667 | 8.08| |
| 130.00 133.00| Flowby Basin Model: Stream #3| 121.7 36.5|
16.417 | | |
```


| 133.00	133.00	| Flow-Through Basin:	Stream #3	36.5	4.0
18.083	4.01	|	|		
+-----+					
| 130.00	9.00	| Flowby Basin Model:	Stream #4	85.2	85.2
16.417	|	|	|		
| 9.00	9.00	| Stream #2 Added to:	Stream #3	4.0	763.0
17.333	|	|	|		
| 9.00	9.00	| Zero Out:	Stream #2	759.3	0.0
| 130.00	134.00	| Flowby Basin Model:	Stream #4	85.2	20.3
16.417	|	|	|		
| 134.00	135.00	| Flow-Through Basin:	Stream #4	20.3	1.7
18.500	2.67	|	|		
+-----+					
| 132.00	135.00	| Stream #1 Added to:	Stream #4	1.7	5.3
19.583	|	|	|		
| 135.00	135.00	| Zero Out:	Stream #1	3.6	0.0
| 133.00	135.00	| Stream #3 Added to:	Stream #4	5.3	766.7
17.333	|	|	|		
| 135.00	135.00	| Zero Out:	Stream #3	763.0	0.0
| 130.00	136.00	| Pipe Flow Routing:	Stream #5	64.9	64.6
16.917	|	|	|		
+-----+					
| 136.00	137.00	| Flow-Through Basin:	Stream #5	64.6	32.7
17.167	1.70	|	|		
| 136.00	136.10	| Flowby Basin Model:	Stream #5	32.7	2.0
13.500	|	|	|		
| 137.00	138.00	| Flow-Through Basin:	Stream #3	30.7	23.1
17.583	1.01	|	|		
| 137.00	137.10	| Flowby Basin Model:	Stream #3	23.1	2.3
17.583	|	|	|		
| 138.00	139.00	| Flow-Through Basin:	Stream #1	20.8	14.6
18.417	1.39	|	|		
+-----+					
| 135.00	139.00	| Stream #5 Added to:	Stream #1	14.6	16.6
18.417	|	|	|		
| 139.00	139.00	| Zero Out:	Stream #5	2.0	0.0
| 139.00	139.00	| Stream #3 Added to:	Stream #1	16.6	18.8
18.417	|	|	|		
| 139.00	139.00	| Zero Out:	Stream #3	2.3	0.0
| 139.00	139.00	| Stream #4 Added to:	Stream #1	18.8	779.7
17.333	|	|	|		
+-----+					
+-----+					
|Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT					
INTERVAL					
| 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF					
THE DESIGN STORM					
+-----+					
+-----+					

* AES FLOODSCx PROGRAM RESULTS SUMMARY *

| INPUT FILENAME: [EV05305C.DAT]

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UPSTREAM TIME (2) TO	DOWNSTREAM MAX. STORAGE	UPSTREAM NODE #	DOWNSTREAM NODE #	HYDROLOGIC/HYDRAULIC PROCESS	PEAK (CFS)	PEAK (CFS)
139.00	13305.00			Zero Out:	Stream #4	766.7
150.00	13305.00			Subarea (UH) Added to Stream #3	0.0	16.0
16.417	13305.00			Stream #3 Added to:	Stream #1	779.7
17.333	13305.00			Zero Out:	Stream #3	16.0
13305.00	13305.00			Stream #1 Added to:	Stream #2	780.9
17.333	13305.00			Zero Out:	Stream #1	780.9
13305.00	13305.00			View:	Stream #2	780.9
17.333	281.47	3				

|Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL
 | 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM

END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

Michael Baker International
5 Hutton Center Drive, Suite 500
Santa Ana, CA
92707

***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - COMPLEX UH *
* ULTIMATE CONDITION - LOCAL NODE 133T *
* 5-YR EV ROKAMOTO OCTOBER 2018 *

FILE NAME: EV0533TC.DAT
TIME/DATE OF STUDY: 11:24 03/11/2019

FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

=====

(UNIT-HYDROGRAPH ADDED TO STREAM #2)

WATERSHED AREA = 4924.400 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.986 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.406
LOW LOSS FRACTION = 0.789
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.18
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.41
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.55
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 0.92
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 1.27
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 2.12

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.744
30-MINUTE FACTOR = 0.744
1-HOUR FACTOR = 0.744
3-HOUR FACTOR = 0.959
6-HOUR FACTOR = 0.978
24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 8.452

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.483	287.619
2	1.449	575.239
3	2.632	704.860
4	4.301	993.530
5	7.218	1737.327
6	11.363	2468.400
7	16.187	2873.247
8	21.207	2989.700
9	26.667	3251.397
10	32.713	3600.828
11	39.164	3841.879
12	46.947	4634.997
13	54.052	4231.546
14	60.943	4103.863
15	67.597	3962.565
16	73.191	3331.305
17	77.756	2718.781
18	81.570	2271.200
19	85.069	2084.043
20	87.803	1627.988
21	89.864	1227.766
22	91.667	1073.936
23	93.315	981.346
24	94.618	775.664
25	95.682	633.702
26	96.472	470.617
27	97.135	394.847
28	97.788	389.004
29	98.110	191.783
30	98.269	94.344
31	98.427	94.412
32	98.586	94.408
33	98.744	94.344
34	98.902	94.276
35	99.061	94.549
36	99.219	94.276
37	99.378	94.276
38	99.536	94.276
39	99.694	94.276
40	99.853	94.276
41	100.000	87.770

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 645.2873
 TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 212.8722

2 4 - H O U R S T O R M
 R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
 (Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	200.0	400.0	600.0	800.0
10.000	31.9903	57.00	. Q	V .	.	.	.
10.083	32.3858	57.42	. Q	V .	.	.	.
10.167	32.7842	57.85	. Q	V .	.	.	.
10.250	33.1857	58.30	. Q	V .	.	.	.
10.333	33.5903	58.75	. Q	V .	.	.	.
10.417	33.9981	59.20	. Q	V .	.	.	.
10.500	34.4090	59.67	. Q	V .	.	.	.
10.583	34.8233	60.15	. Q	V .	.	.	.
10.667	35.2410	60.64	. Q	V .	.	.	.
10.750	35.6620	61.14	. Q	V .	.	.	.
10.833	36.0866	61.65	. Q	V .	.	.	.
10.917	36.5148	62.17	. Q	V .	.	.	.
11.000	36.9467	62.71	. Q	V .	.	.	.
11.083	37.3823	63.25	. Q	V .	.	.	.
11.167	37.8218	63.81	. Q	V .	.	.	.
11.250	38.2652	64.38	. Q	V .	.	.	.
11.333	38.7126	64.97	. Q	V .	.	.	.
11.417	39.1642	65.56	. Q	V .	.	.	.
11.500	39.6199	66.18	. Q	V .	.	.	.
11.583	40.0800	66.81	. Q	V .	.	.	.
11.667	40.5446	67.45	. Q	V .	.	.	.
11.750	41.0137	68.11	. Q	V .	.	.	.
11.833	41.4875	68.79	. Q	V .	.	.	.
11.917	41.9661	69.49	. Q	V .	.	.	.
12.000	42.4496	70.21	. Q	V .	.	.	.
12.083	42.9390	71.06	. Q	V .	.	.	.
12.167	43.4353	72.07	. Q	V .	.	.	.
12.250	43.9391	73.15	. Q	V .	.	.	.
12.333	44.4514	74.38	. Q	V .	.	.	.
12.417	44.9745	75.96	. Q	V .	.	.	.
12.500	45.5109	77.88	. Q	V .	.	.	.
12.583	46.0618	80.00	. Q	V .	.	.	.
12.667	46.6279	82.20	. Q	V .	.	.	.
12.750	47.2102	84.55	. Q	V .	.	.	.
12.833	47.8100	87.08	. Q	V .	.	.	.
12.917	48.4281	89.75	. Q	V .	.	.	.
13.000	49.0673	92.81	. Q	V .	.	.	.
13.083	49.7266	95.73	. Q	V .	.	.	.
13.167	50.4058	98.63	. Q	V .	.	.	.
13.250	51.1050	101.52	. Q	V .	.	.	.
13.333	51.8226	104.19	. Q	V .	.	.	.
13.417	52.5569	106.63	. Q	V .	.	.	.
13.500	53.3072	108.94	. Q	V .	.	.	.
13.583	54.0731	111.21	. Q	V .	.	.	.
13.667	54.8537	113.34	. Q	V .	.	.	.
13.750	55.6482	115.36	. Q	V .	.	.	.
13.833	56.4566	117.38	. Q	V .	.	.	.

13.917	57.2790	119.42	.	Q	V	.	.	.
14.000	58.1154	121.44	.	Q	V	.	.	.
14.083	58.9678	123.78	.	Q	.V	.	.	.
14.167	59.8386	126.43	.	Q	.V	.	.	.
14.250	60.7289	129.27	.	Q	.V	.	.	.
14.333	61.6414	132.49	.	Q	.V	.	.	.
14.417	62.5815	136.51	.	Q	.V	.	.	.
14.500	63.5550	141.35	.	Q	.V	.	.	.
14.583	64.5655	146.71	.	Q	.V	.	.	.
14.667	65.6143	152.30	.	Q	.V	.	.	.
14.750	66.7043	158.26	.	Q	.V	.	.	.
14.833	67.8386	164.71	.	Q	.V	.	.	.
14.917	69.0200	171.53	.	Q	.V	.	.	.
15.000	70.2550	179.32	.	Q	.V	.	.	.
15.083	71.5417	186.83	.	Q	.V	.	.	.
15.167	72.8803	194.36	.	Q	.V	.	.	.
15.250	74.2709	201.92	.	Q	.V	.	.	.
15.333	75.7105	209.03	.	Q	.V	.	.	.
15.417	77.1924	215.16	.	Q	.V	.	.	.
15.500	78.7111	220.53	.	Q	.V	.	.	.
15.583	80.2663	225.81	.	Q	.V	.	.	.
15.667	81.8540	230.52	.	Q	.V	.	.	.
15.750	83.4661	234.09	.	Q	.V	.	.	.
15.833	85.0984	237.01	.	Q	.V	.	.	.
15.917	86.7548	240.50	.	Q	.V	.	.	.
16.000	88.4599	247.59	.	Q	.V	.	.	.
16.083	90.4030	282.13	.	Q	.V	.	.	.
16.167	92.5802	316.14	.	Q	.V	.	.	.
16.250	94.9070	337.85	.	Q	.V	.	.	.
16.333	97.5066	377.47	.	Q	.V	.	.	.
16.417	100.6758	460.16	.	Q	.V	.	.	.
16.500	104.3834	538.35	.	Q	.V	.	.	.
16.583	108.3923	582.09	.	Q	.V	.	.	.
16.667	112.5265	600.29	.	Q	.V	.	.	.
16.750	116.8856	632.94	.	Q	.V	.	.	.
16.833	121.5270	673.93	.	Q	.V	.	.	.
16.917	126.3958	706.96	.	Q	.V	.	.	.
17.000	131.7547	778.11	.	Q	.V	.	.	.
17.083	136.8363	737.85	.	Q	.V	.	.	.
17.167	141.7860	718.70	.	Q	.V	.	.	.
17.250	146.5527	692.12	.	Q	.V	.	.	.
17.333	150.8236	620.14	.	Q	.V	.	.	.
17.417	154.6071	549.37	.	Q	.V	.	.	.
17.500	158.0198	495.53	.	Q	.V	.	.	.
17.583	161.2139	463.78	.	Q	.V	.	.	.
17.667	164.0192	407.34	.	Q	.V	.	.	.
17.750	166.4850	358.03	.	Q	.V	.	.	.
17.833	168.7723	332.11	.	Q	.V	.	.	.
17.917	170.9169	311.40	.	Q	.V	.	.	.
18.000	172.8434	279.74	.	Q	.V	.	.	.
18.083	174.5921	253.90	.	Q	.V	.	.	.
18.167	176.1583	227.42	.	Q	.V	.	.	.
18.250	177.6049	210.04	.	Q	.V	.	.	.
18.333	178.9709	198.35	.	Q	.V	.	.	.
18.417	180.1456	170.56	.	Q	.V	.	.	.
18.500	181.2016	153.33	.	Q	.V	.	.	.
18.583	182.2062	145.86	.	Q	.V	.	.	.
18.667	183.1666	139.45	.	Q	.V	.	.	.

18.750	184.0851	133.37	.	Q	.	.	.	V	.
18.833	184.9637	127.57	.	Q	.	.	.	V	.
18.917	185.8042	122.04	.	Q	.	.	.	V	.
19.000	186.6066	116.51	.	Q	.	.	.	V	.
19.083	187.3745	111.50	.	Q	.	.	.	V	.
19.167	188.1099	106.78	.	Q	.	.	.	V	.
19.250	188.8144	102.29	.	Q	.	.	.	V	.
19.333	189.4892	97.98	.	Q	.	.	.	V	.
19.417	190.1295	92.97	.	Q	.	.	.	V	.
19.500	190.6917	81.63	.	Q	.	.	.	V	.
19.583	191.2337	78.70	.	Q	.	.	.	V	.
19.667	191.7589	76.27	.	Q	.	.	.	V	.
19.750	192.2696	74.15	.	Q	.	.	.	V	.
19.833	192.7658	72.05	.	Q	.	.	.	V	.
19.917	193.2485	70.08	.	Q	.	.	.	V	.
20.000	193.7188	68.29	.	Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	430.0
20%	225.0
30%	145.0
40%	110.0
50%	80.0
60%	65.0
70%	55.0
80%	35.0
90%	20.0

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2

>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<<
=====

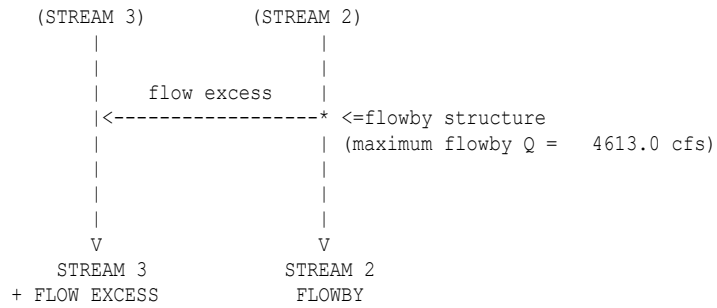
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.

DATA PAIR NUMBER	Qenter (CFS)	Qpass (CFS)
-	0.00	0.00
1	413.00	413.00
2	1897.00	1613.00
3	4682.00	3013.00
4	6819.00	4013.00
5	8100.00	4613.00

FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3

INFLOW

INFLOW



FLOWBY BASIN MODELING RESULTS:

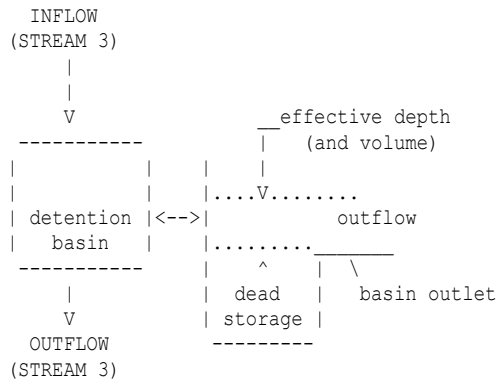
MODEL TIME (HRS)	INFLOW (STREAM 3) (CFS)	INFLOW (STREAM 2) (CFS)	OUTFLOW (STREAM 3) (CFS)	FLOWBY (STREAM 2) (CFS)
10.000	0.00	57.00	0.00	57.00
10.083	0.00	57.42	0.00	57.42
10.167	0.00	57.85	0.00	57.85
10.250	0.00	58.30	0.00	58.30
10.333	0.00	58.75	0.00	58.75
10.417	0.00	59.20	0.00	59.20
10.500	0.00	59.67	0.00	59.67
10.583	0.00	60.15	0.00	60.15
10.667	0.00	60.64	0.00	60.64
10.750	0.00	61.14	0.00	61.14
10.833	0.00	61.65	0.00	61.65
10.917	0.00	62.17	0.00	62.17
11.000	0.00	62.71	0.00	62.71
11.083	0.00	63.25	0.00	63.25
11.167	0.00	63.81	0.00	63.81
11.250	0.00	64.38	0.00	64.38
11.333	0.00	64.97	0.00	64.97
11.417	0.00	65.56	0.00	65.56
11.500	0.00	66.18	0.00	66.18
11.583	0.00	66.81	0.00	66.81
11.667	0.00	67.45	0.00	67.45
11.750	0.00	68.11	0.00	68.11
11.833	0.00	68.79	0.00	68.79
11.917	0.00	69.49	0.00	69.49
12.000	0.00	70.21	0.00	70.21
12.083	0.00	71.06	0.00	71.06
12.167	0.00	72.07	0.00	72.07
12.250	0.00	73.15	0.00	73.15
12.333	0.00	74.38	0.00	74.38
12.417	0.00	75.96	0.00	75.96
12.500	0.00	77.88	0.00	77.88
12.583	0.00	80.00	0.00	80.00
12.667	0.00	82.20	0.00	82.20
12.750	0.00	84.55	0.00	84.55
12.833	0.00	87.08	0.00	87.08
12.917	0.00	89.75	0.00	89.75
13.000	0.00	92.81	0.00	92.81

13.083	0.00	95.73	0.00	95.73
13.167	0.00	98.63	0.00	98.63
13.250	0.00	101.52	0.00	101.52
13.333	0.00	104.19	0.00	104.19
13.417	0.00	106.63	0.00	106.63
13.500	0.00	108.94	0.00	108.94
13.583	0.00	111.21	0.00	111.21
13.667	0.00	113.34	0.00	113.34
13.750	0.00	115.36	0.00	115.36
13.833	0.00	117.38	0.00	117.38
13.917	0.00	119.42	0.00	119.42
14.000	0.00	121.44	0.00	121.44
14.083	0.00	123.78	0.00	123.78
14.167	0.00	126.43	0.00	126.43
14.250	0.00	129.27	0.00	129.27
14.333	0.00	132.49	0.00	132.49
14.417	0.00	136.51	0.00	136.51
14.500	0.00	141.35	0.00	141.35
14.583	0.00	146.71	0.00	146.71
14.667	0.00	152.30	0.00	152.30
14.750	0.00	158.26	0.00	158.26
14.833	0.00	164.71	0.00	164.71
14.917	0.00	171.53	0.00	171.53
15.000	0.00	179.32	0.00	179.32
15.083	0.00	186.83	0.00	186.83
15.167	0.00	194.36	0.00	194.36
15.250	0.00	201.92	0.00	201.92
15.333	0.00	209.03	0.00	209.03
15.417	0.00	215.16	0.00	215.16
15.500	0.00	220.53	0.00	220.53
15.583	0.00	225.81	0.00	225.81
15.667	0.00	230.52	0.00	230.52
15.750	0.00	234.09	0.00	234.09
15.833	0.00	237.01	0.00	237.01
15.917	0.00	240.50	0.00	240.50
16.000	0.00	247.59	0.00	247.59
16.083	0.00	282.13	0.00	282.13
16.167	0.00	316.14	0.00	316.14
16.250	0.00	337.85	0.00	337.85
16.333	0.00	377.47	0.00	377.47
16.417	0.00	460.16	9.02	451.13
16.500	0.00	538.35	23.99	514.36
16.583	0.00	582.09	32.36	549.73
16.667	0.00	600.29	35.84	564.45
16.750	0.00	632.94	42.09	590.85
16.833	0.00	673.93	49.93	623.99
16.917	0.00	706.96	56.26	650.70
17.000	0.00	778.11	69.87	708.24
17.083	0.00	737.85	62.17	675.68
17.167	0.00	718.70	58.50	660.19
17.250	0.00	692.12	53.42	638.70
17.333	0.00	620.14	39.64	580.50
17.417	0.00	549.37	26.10	523.27
17.500	0.00	495.53	15.79	479.74
17.583	0.00	463.78	9.72	454.06
17.667	0.00	407.34	0.00	407.34
17.750	0.00	358.03	0.00	358.03
17.833	0.00	332.11	0.00	332.11

17.917	0.00	311.40	0.00	311.40
18.000	0.00	279.74	0.00	279.74
18.083	0.00	253.90	0.00	253.90
18.167	0.00	227.42	0.00	227.42
18.250	0.00	210.04	0.00	210.04
18.333	0.00	198.35	0.00	198.35
18.417	0.00	170.56	0.00	170.56
18.500	0.00	153.33	0.00	153.33
18.583	0.00	145.86	0.00	145.86
18.667	0.00	139.45	0.00	139.45
18.750	0.00	133.37	0.00	133.37
18.833	0.00	127.57	0.00	127.57
18.917	0.00	122.04	0.00	122.04
19.000	0.00	116.51	0.00	116.51
19.083	0.00	111.50	0.00	111.50
19.167	0.00	106.78	0.00	106.78
19.250	0.00	102.29	0.00	102.29
19.333	0.00	97.98	0.00	97.98
19.417	0.00	92.97	0.00	92.97
19.500	0.00	81.63	0.00	81.63
19.583	0.00	78.70	0.00	78.70
19.667	0.00	76.27	0.00	76.27
19.750	0.00	74.15	0.00	74.15
19.833	0.00	72.05	0.00	72.05
19.917	0.00	70.08	0.00	70.08
20.000	0.00	68.29	0.00	68.29

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<



ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
 THROUGH A FLOW-THROUGH DETENTION BASIN
 SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
 DEAD STORAGE(AF) = 5.700
 SPECIFIED DEAD STORAGE(AF) FILLED = 5.700
 SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000

DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.50	0.01	0.002
3	2.00	0.02	1.900
4	4.00	0.03	16.100
5	4.30	0.05	18.200
6	5.00	314.00	23.200
7	6.00	1306.00	30.300
8	7.00	2847.00	39.100
9	8.00	4942.00	47.800

=====

MODIFIED-PULS BASIN ROUTING MODEL RESULTS(5-MINUTE COMPUTATION INTERVALS):
 (Note: Computed EFFECTIVE DEPTH and VOLUME are estimated at the clock time;
 MEAN OUTFLOW is the average value during the unit interval.)

CLOCK TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	LOSS (CFS)	EFFECTIVE DEPTH (FT)	MEAN OUTFLOW (CFS)	EFFECTIVE VOLUME (AF)
10.083	5.700	0.00	0.00	0.00	0.0	0.000
10.167	5.700	0.00	0.00	0.00	0.0	0.000
10.250	5.700	0.00	0.00	0.00	0.0	0.000
10.333	5.700	0.00	0.00	0.00	0.0	0.000
10.417	5.700	0.00	0.00	0.00	0.0	0.000
10.500	5.700	0.00	0.00	0.00	0.0	0.000
10.583	5.700	0.00	0.00	0.00	0.0	0.000
10.667	5.700	0.00	0.00	0.00	0.0	0.000
10.750	5.700	0.00	0.00	0.00	0.0	0.000
10.833	5.700	0.00	0.00	0.00	0.0	0.000
10.917	5.700	0.00	0.00	0.00	0.0	0.000
11.000	5.700	0.00	0.00	0.00	0.0	0.000
11.083	5.700	0.00	0.00	0.00	0.0	0.000
11.167	5.700	0.00	0.00	0.00	0.0	0.000
11.250	5.700	0.00	0.00	0.00	0.0	0.000
11.333	5.700	0.00	0.00	0.00	0.0	0.000
11.417	5.700	0.00	0.00	0.00	0.0	0.000
11.500	5.700	0.00	0.00	0.00	0.0	0.000
11.583	5.700	0.00	0.00	0.00	0.0	0.000
11.667	5.700	0.00	0.00	0.00	0.0	0.000
11.750	5.700	0.00	0.00	0.00	0.0	0.000
11.833	5.700	0.00	0.00	0.00	0.0	0.000
11.917	5.700	0.00	0.00	0.00	0.0	0.000
12.000	5.700	0.00	0.00	0.00	0.0	0.000
12.083	5.700	0.00	0.00	0.00	0.0	0.000
12.167	5.700	0.00	0.00	0.00	0.0	0.000
12.250	5.700	0.00	0.00	0.00	0.0	0.000
12.333	5.700	0.00	0.00	0.00	0.0	0.000
12.417	5.700	0.00	0.00	0.00	0.0	0.000
12.500	5.700	0.00	0.00	0.00	0.0	0.000
12.583	5.700	0.00	0.00	0.00	0.0	0.000

12.667	5.700	0.00	0.00	0.00	0.0	0.000
12.750	5.700	0.00	0.00	0.00	0.0	0.000
12.833	5.700	0.00	0.00	0.00	0.0	0.000
12.917	5.700	0.00	0.00	0.00	0.0	0.000
13.000	5.700	0.00	0.00	0.00	0.0	0.000
13.083	5.700	0.00	0.00	0.00	0.0	0.000
13.167	5.700	0.00	0.00	0.00	0.0	0.000
13.250	5.700	0.00	0.00	0.00	0.0	0.000
13.333	5.700	0.00	0.00	0.00	0.0	0.000
13.417	5.700	0.00	0.00	0.00	0.0	0.000
13.500	5.700	0.00	0.00	0.00	0.0	0.000
13.583	5.700	0.00	0.00	0.00	0.0	0.000
13.667	5.700	0.00	0.00	0.00	0.0	0.000
13.750	5.700	0.00	0.00	0.00	0.0	0.000
13.833	5.700	0.00	0.00	0.00	0.0	0.000
13.917	5.700	0.00	0.00	0.00	0.0	0.000
14.000	5.700	0.00	0.00	0.00	0.0	0.000
14.083	5.700	0.00	0.00	0.00	0.0	0.000
14.167	5.700	0.00	0.00	0.00	0.0	0.000
14.250	5.700	0.00	0.00	0.00	0.0	0.000
14.333	5.700	0.00	0.00	0.00	0.0	0.000
14.417	5.700	0.00	0.00	0.00	0.0	0.000
14.500	5.700	0.00	0.00	0.00	0.0	0.000
14.583	5.700	0.00	0.00	0.00	0.0	0.000
14.667	5.700	0.00	0.00	0.00	0.0	0.000
14.750	5.700	0.00	0.00	0.00	0.0	0.000
14.833	5.700	0.00	0.00	0.00	0.0	0.000
14.917	5.700	0.00	0.00	0.00	0.0	0.000
15.000	5.700	0.00	0.00	0.00	0.0	0.000
15.083	5.700	0.00	0.00	0.00	0.0	0.000
15.167	5.700	0.00	0.00	0.00	0.0	0.000
15.250	5.700	0.00	0.00	0.00	0.0	0.000
15.333	5.700	0.00	0.00	0.00	0.0	0.000
15.417	5.700	0.00	0.00	0.00	0.0	0.000
15.500	5.700	0.00	0.00	0.00	0.0	0.000
15.583	5.700	0.00	0.00	0.00	0.0	0.000
15.667	5.700	0.00	0.00	0.00	0.0	0.000
15.750	5.700	0.00	0.00	0.00	0.0	0.000
15.833	5.700	0.00	0.00	0.00	0.0	0.000
15.917	5.700	0.00	0.00	0.00	0.0	0.000
16.000	5.700	0.00	0.00	0.00	0.0	0.000
16.083	5.700	0.00	0.00	0.00	0.0	0.000
16.167	5.700	0.00	0.00	0.00	0.0	0.000
16.250	5.700	0.00	0.00	0.00	0.0	0.000
16.333	5.700	0.00	0.00	0.00	0.0	0.000
16.417	5.700	9.02	0.00	1.52	0.0	0.062
16.500	5.700	23.99	0.00	1.56	0.0	0.227
16.583	5.700	32.36	0.00	1.62	0.0	0.450
16.667	5.700	35.84	0.00	1.68	0.0	0.697
16.750	5.700	42.09	0.00	1.76	0.0	0.987
16.833	5.700	49.93	0.00	1.85	0.0	1.330
16.917	5.700	56.26	0.00	1.95	0.0	1.718
17.000	5.700	69.87	0.00	2.04	0.0	2.199
17.083	5.700	62.17	0.00	2.10	0.0	2.627
17.167	5.700	58.50	0.00	2.16	0.0	3.029
17.250	5.700	53.42	0.00	2.21	0.0	3.397
17.333	5.700	39.64	0.00	2.25	0.0	3.670
17.417	5.700	26.10	0.00	2.27	0.0	3.850

17.500	5.700	15.79	0.00	2.29	0.0	3.958
17.583	5.700	9.72	0.00	2.30	0.0	4.025
17.667	5.700	0.00	0.00	2.30	0.0	4.025
17.750	5.700	0.00	0.00	2.30	0.0	4.025
17.833	5.700	0.00	0.00	2.30	0.0	4.024
17.917	5.700	0.00	0.00	2.30	0.0	4.024
18.000	5.700	0.00	0.00	2.30	0.0	4.024
18.083	5.700	0.00	0.00	2.30	0.0	4.024
18.167	5.700	0.00	0.00	2.30	0.0	4.024
18.250	5.700	0.00	0.00	2.30	0.0	4.024
18.333	5.700	0.00	0.00	2.30	0.0	4.023
18.417	5.700	0.00	0.00	2.30	0.0	4.023
18.500	5.700	0.00	0.00	2.30	0.0	4.023
18.583	5.700	0.00	0.00	2.30	0.0	4.023
18.667	5.700	0.00	0.00	2.30	0.0	4.023
18.750	5.700	0.00	0.00	2.30	0.0	4.023
18.833	5.700	0.00	0.00	2.30	0.0	4.023
18.917	5.700	0.00	0.00	2.30	0.0	4.022
19.000	5.700	0.00	0.00	2.30	0.0	4.022
19.083	5.700	0.00	0.00	2.30	0.0	4.022
19.167	5.700	0.00	0.00	2.30	0.0	4.022
19.250	5.700	0.00	0.00	2.30	0.0	4.022
19.333	5.700	0.00	0.00	2.30	0.0	4.022
19.417	5.700	0.00	0.00	2.30	0.0	4.021
19.500	5.700	0.00	0.00	2.30	0.0	4.021
19.583	5.700	0.00	0.00	2.30	0.0	4.021
19.667	5.700	0.00	0.00	2.30	0.0	4.021
19.750	5.700	0.00	0.00	2.30	0.0	4.021
19.833	5.700	0.00	0.00	2.30	0.0	4.021
19.917	5.700	0.00	0.00	2.30	0.0	4.020

PROCESS SUMMARY OF STORAGE:

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INFLOW VOLUME =      4.027 AF
BASIN STORAGE =      8.158 AF (WITH      5.700 AF INITIALLY FILLED)
OUTFLOW VOLUME =      1.568 AF
LOSS VOLUME =      0.000 AF

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FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8

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>>>>MODEL STREAM SPLITFLOW WHERE A CONSTANT PROPORTION
OF STREAM 3 IS ADDED TO STREAM 4<<<<<

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=====
                INFLOW              INFLOW
                (STREAM 4)           (STREAM 3)
                |                   |
                |                   |
                |   (.500) (STREAM 3) |
                |<-----* <= splitflow model
                |                   |
                |                   |
                V                   V
                STREAM 4           (.500) (STREAM 3)
                + (.500) (STREAM 3)

```


STREAM NUMBER 3 IS SPLIT TOWARDS STREAM 4
 WHERE 0.50 (DECIMAL PERCENT) REMAINS IN STREAM 3
 AND 0.50 (DECIMAL PERCENT) IS ADDED TO STREAM 4

STREAM SPLITFLOW MODELING RESULTS:

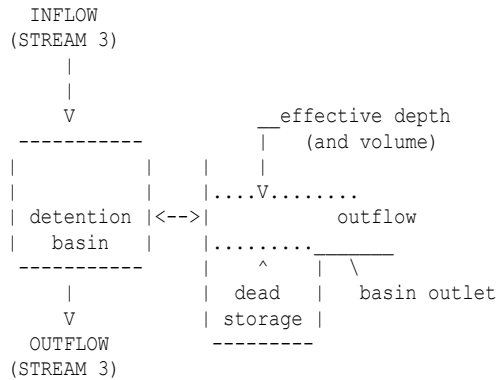
MODEL TIME (HRS)	INFLOW STREAM 4 (CFS)	INFLOW STREAM 3 (CFS)	OUTFLOW STREAM 4 (CFS)	OUTFLOW STREAM 3 (CFS)
10.000	0.00	0.00	0.00	0.00
10.083	0.00	0.00	0.00	0.00
10.167	0.00	0.00	0.00	0.00
10.250	0.00	0.00	0.00	0.00
10.333	0.00	0.00	0.00	0.00
10.417	0.00	0.00	0.00	0.00
10.500	0.00	0.00	0.00	0.00
10.583	0.00	0.00	0.00	0.00
10.667	0.00	0.00	0.00	0.00
10.750	0.00	0.00	0.00	0.00
10.833	0.00	0.00	0.00	0.00
10.917	0.00	0.00	0.00	0.00
11.000	0.00	0.00	0.00	0.00
11.083	0.00	0.00	0.00	0.00
11.167	0.00	0.00	0.00	0.00
11.250	0.00	0.00	0.00	0.00
11.333	0.00	0.00	0.00	0.00
11.417	0.00	0.00	0.00	0.00
11.500	0.00	0.00	0.00	0.00
11.583	0.00	0.00	0.00	0.00
11.667	0.00	0.00	0.00	0.00
11.750	0.00	0.00	0.00	0.00
11.833	0.00	0.00	0.00	0.00
11.917	0.00	0.00	0.00	0.00
12.000	0.00	0.00	0.00	0.00
12.083	0.00	0.00	0.00	0.00
12.167	0.00	0.00	0.00	0.00
12.250	0.00	0.00	0.00	0.00
12.333	0.00	0.00	0.00	0.00
12.417	0.00	0.00	0.00	0.00
12.500	0.00	0.00	0.00	0.00
12.583	0.00	0.00	0.00	0.00
12.667	0.00	0.00	0.00	0.00
12.750	0.00	0.00	0.00	0.00
12.833	0.00	0.00	0.00	0.00
12.917	0.00	0.00	0.00	0.00
13.000	0.00	0.00	0.00	0.00
13.083	0.00	0.00	0.00	0.00
13.167	0.00	0.00	0.00	0.00
13.250	0.00	0.00	0.00	0.00
13.333	0.00	0.00	0.00	0.00
13.417	0.00	0.00	0.00	0.00
13.500	0.00	0.00	0.00	0.00
13.583	0.00	0.00	0.00	0.00

13.667	0.00	0.00	0.00	0.00
13.750	0.00	0.00	0.00	0.00
13.833	0.00	0.00	0.00	0.00
13.917	0.00	0.00	0.00	0.00
14.000	0.00	0.00	0.00	0.00
14.083	0.00	0.00	0.00	0.00
14.167	0.00	0.00	0.00	0.00
14.250	0.00	0.00	0.00	0.00
14.333	0.00	0.00	0.00	0.00
14.417	0.00	0.00	0.00	0.00
14.500	0.00	0.00	0.00	0.00
14.583	0.00	0.00	0.00	0.00
14.667	0.00	0.00	0.00	0.00
14.750	0.00	0.00	0.00	0.00
14.833	0.00	0.00	0.00	0.00
14.917	0.00	0.00	0.00	0.00
15.000	0.00	0.00	0.00	0.00
15.083	0.00	0.00	0.00	0.00
15.167	0.00	0.00	0.00	0.00
15.250	0.00	0.00	0.00	0.00
15.333	0.00	0.00	0.00	0.00
15.417	0.00	0.00	0.00	0.00
15.500	0.00	0.00	0.00	0.00
15.583	0.00	0.00	0.00	0.00
15.667	0.00	0.00	0.00	0.00
15.750	0.00	0.00	0.00	0.00
15.833	0.00	0.00	0.00	0.00
15.917	0.00	0.00	0.00	0.00
16.000	0.00	0.00	0.00	0.00
16.083	0.00	0.00	0.00	0.00
16.167	0.00	0.00	0.00	0.00
16.250	0.00	0.00	0.00	0.00
16.333	0.00	0.00	0.00	0.00
16.417	0.00	0.01	0.00	0.00
16.500	0.00	0.01	0.01	0.01
16.583	0.00	0.01	0.01	0.01
16.667	0.00	0.01	0.01	0.01
16.750	0.00	0.02	0.01	0.01
16.833	0.00	0.02	0.01	0.01
16.917	0.00	0.02	0.01	0.01
17.000	0.00	0.02	0.01	0.01
17.083	0.00	0.02	0.01	0.01
17.167	0.00	0.02	0.01	0.01
17.250	0.00	0.02	0.01	0.01
17.333	0.00	0.02	0.01	0.01
17.417	0.00	0.02	0.01	0.01
17.500	0.00	0.02	0.01	0.01
17.583	0.00	0.02	0.01	0.01
17.667	0.00	0.02	0.01	0.01
17.750	0.00	0.02	0.01	0.01
17.833	0.00	0.02	0.01	0.01
17.917	0.00	0.02	0.01	0.01
18.000	0.00	0.02	0.01	0.01
18.083	0.00	0.02	0.01	0.01
18.167	0.00	0.02	0.01	0.01
18.250	0.00	0.02	0.01	0.01
18.333	0.00	0.02	0.01	0.01
18.417	0.00	0.02	0.01	0.01

18.500	0.00	0.02	0.01	0.01
18.583	0.00	0.02	0.01	0.01
18.667	0.00	0.02	0.01	0.01
18.750	0.00	0.02	0.01	0.01
18.833	0.00	0.02	0.01	0.01
18.917	0.00	0.02	0.01	0.01
19.000	0.00	0.02	0.01	0.01
19.083	0.00	0.02	0.01	0.01
19.167	0.00	0.02	0.01	0.01
19.250	0.00	0.02	0.01	0.01
19.333	0.00	0.02	0.01	0.01
19.417	0.00	0.02	0.01	0.01
19.500	0.00	0.02	0.01	0.01
19.583	0.00	0.02	0.01	0.01
19.667	0.00	0.02	0.01	0.01
19.750	0.00	0.02	0.01	0.01
19.833	0.00	0.02	0.01	0.01
19.917	0.00	0.02	0.01	0.01
20.000	0.00	0.02	0.01	0.01

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<



ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE(AF) = 0.000
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
-----------------	------------	---------------	--------------

1	0.00	0.00	0.000
2	0.99	2.90	0.900
3	1.99	11.38	2.900
4	3.99	19.63	10.300
5	5.99	25.19	20.700
6	7.99	29.71	31.700
7	9.99	33.62	43.500
8	10.99	35.49	49.700
9	11.99	313.49	56.400
10	12.99	894.27	63.100
11	13.99	1748.55	69.900
12	15.99	4306.91	84.100

=====
MODIFIED-PULS BASIN ROUTING MODEL RESULTS(5-MINUTE COMPUTATION INTERVALS):
(Note: Computed EFFECTIVE DEPTH and VOLUME are estimated at the clock time;
MEAN OUTFLOW is the average value during the unit interval.)

CLOCK TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	LOSS (CFS)	EFFECTIVE DEPTH (FT)	MEAN OUTFLOW (CFS)	EFFECTIVE VOLUME (AF)
10.083	0.000	0.00	0.00	0.00	0.0	0.000
10.167	0.000	0.00	0.00	0.00	0.0	0.000
10.250	0.000	0.00	0.00	0.00	0.0	0.000
10.333	0.000	0.00	0.00	0.00	0.0	0.000
10.417	0.000	0.00	0.00	0.00	0.0	0.000
10.500	0.000	0.00	0.00	0.00	0.0	0.000
10.583	0.000	0.00	0.00	0.00	0.0	0.000
10.667	0.000	0.00	0.00	0.00	0.0	0.000
10.750	0.000	0.00	0.00	0.00	0.0	0.000
10.833	0.000	0.00	0.00	0.00	0.0	0.000
10.917	0.000	0.00	0.00	0.00	0.0	0.000
11.000	0.000	0.00	0.00	0.00	0.0	0.000
11.083	0.000	0.00	0.00	0.00	0.0	0.000
11.167	0.000	0.00	0.00	0.00	0.0	0.000
11.250	0.000	0.00	0.00	0.00	0.0	0.000
11.333	0.000	0.00	0.00	0.00	0.0	0.000
11.417	0.000	0.00	0.00	0.00	0.0	0.000
11.500	0.000	0.00	0.00	0.00	0.0	0.000
11.583	0.000	0.00	0.00	0.00	0.0	0.000
11.667	0.000	0.00	0.00	0.00	0.0	0.000
11.750	0.000	0.00	0.00	0.00	0.0	0.000
11.833	0.000	0.00	0.00	0.00	0.0	0.000
11.917	0.000	0.00	0.00	0.00	0.0	0.000
12.000	0.000	0.00	0.00	0.00	0.0	0.000
12.083	0.000	0.00	0.00	0.00	0.0	0.000
12.167	0.000	0.00	0.00	0.00	0.0	0.000
12.250	0.000	0.00	0.00	0.00	0.0	0.000
12.333	0.000	0.00	0.00	0.00	0.0	0.000
12.417	0.000	0.00	0.00	0.00	0.0	0.000
12.500	0.000	0.00	0.00	0.00	0.0	0.000
12.583	0.000	0.00	0.00	0.00	0.0	0.000
12.667	0.000	0.00	0.00	0.00	0.0	0.000
12.750	0.000	0.00	0.00	0.00	0.0	0.000
12.833	0.000	0.00	0.00	0.00	0.0	0.000
12.917	0.000	0.00	0.00	0.00	0.0	0.000

13.000	0.000	0.00	0.00	0.00	0.0	0.000
13.083	0.000	0.00	0.00	0.00	0.0	0.000
13.167	0.000	0.00	0.00	0.00	0.0	0.000
13.250	0.000	0.00	0.00	0.00	0.0	0.000
13.333	0.000	0.00	0.00	0.00	0.0	0.000
13.417	0.000	0.00	0.00	0.00	0.0	0.000
13.500	0.000	0.00	0.00	0.00	0.0	0.000
13.583	0.000	0.00	0.00	0.00	0.0	0.000
13.667	0.000	0.00	0.00	0.00	0.0	0.000
13.750	0.000	0.00	0.00	0.00	0.0	0.000
13.833	0.000	0.00	0.00	0.00	0.0	0.000
13.917	0.000	0.00	0.00	0.00	0.0	0.000
14.000	0.000	0.00	0.00	0.00	0.0	0.000
14.083	0.000	0.00	0.00	0.00	0.0	0.000
14.167	0.000	0.00	0.00	0.00	0.0	0.000
14.250	0.000	0.00	0.00	0.00	0.0	0.000
14.333	0.000	0.00	0.00	0.00	0.0	0.000
14.417	0.000	0.00	0.00	0.00	0.0	0.000
14.500	0.000	0.00	0.00	0.00	0.0	0.000
14.583	0.000	0.00	0.00	0.00	0.0	0.000
14.667	0.000	0.00	0.00	0.00	0.0	0.000
14.750	0.000	0.00	0.00	0.00	0.0	0.000
14.833	0.000	0.00	0.00	0.00	0.0	0.000
14.917	0.000	0.00	0.00	0.00	0.0	0.000
15.000	0.000	0.00	0.00	0.00	0.0	0.000
15.083	0.000	0.00	0.00	0.00	0.0	0.000
15.167	0.000	0.00	0.00	0.00	0.0	0.000
15.250	0.000	0.00	0.00	0.00	0.0	0.000
15.333	0.000	0.00	0.00	0.00	0.0	0.000
15.417	0.000	0.00	0.00	0.00	0.0	0.000
15.500	0.000	0.00	0.00	0.00	0.0	0.000
15.583	0.000	0.00	0.00	0.00	0.0	0.000
15.667	0.000	0.00	0.00	0.00	0.0	0.000
15.750	0.000	0.00	0.00	0.00	0.0	0.000
15.833	0.000	0.00	0.00	0.00	0.0	0.000
15.917	0.000	0.00	0.00	0.00	0.0	0.000
16.000	0.000	0.00	0.00	0.00	0.0	0.000
16.083	0.000	0.00	0.00	0.00	0.0	0.000
16.167	0.000	0.00	0.00	0.00	0.0	0.000
16.250	0.000	0.00	0.00	0.00	0.0	0.000
16.333	0.000	0.00	0.00	0.00	0.0	0.000
16.417	0.000	0.00	0.00	0.00	0.0	0.000
16.500	0.000	0.01	0.00	0.00	0.0	0.000
16.583	0.000	0.01	0.00	0.00	0.0	0.000
16.667	0.000	0.01	0.00	0.00	0.0	0.000
16.750	0.000	0.01	0.00	0.00	0.0	0.000
16.833	0.000	0.01	0.00	0.00	0.0	0.000
16.917	0.000	0.01	0.00	0.00	0.0	0.000
17.000	0.000	0.01	0.00	0.00	0.0	0.000
17.083	0.000	0.01	0.00	0.00	0.0	0.000
17.167	0.000	0.01	0.00	0.00	0.0	0.001
17.250	0.000	0.01	0.00	0.00	0.0	0.001
17.333	0.000	0.01	0.00	0.00	0.0	0.001
17.417	0.000	0.01	0.00	0.00	0.0	0.001
17.500	0.000	0.01	0.00	0.00	0.0	0.001
17.583	0.000	0.01	0.00	0.00	0.0	0.001
17.667	0.000	0.01	0.00	0.00	0.0	0.001
17.750	0.000	0.01	0.00	0.00	0.0	0.001

17.833	0.000	0.01	0.00	0.00	0.0	0.001
17.917	0.000	0.01	0.00	0.00	0.0	0.001
18.000	0.000	0.01	0.00	0.00	0.0	0.001
18.083	0.000	0.01	0.00	0.00	0.0	0.001
18.167	0.000	0.01	0.00	0.00	0.0	0.001
18.250	0.000	0.01	0.00	0.00	0.0	0.001
18.333	0.000	0.01	0.00	0.00	0.0	0.001
18.417	0.000	0.01	0.00	0.00	0.0	0.001
18.500	0.000	0.01	0.00	0.00	0.0	0.001
18.583	0.000	0.01	0.00	0.00	0.0	0.002
18.667	0.000	0.01	0.00	0.00	0.0	0.002
18.750	0.000	0.01	0.00	0.00	0.0	0.002
18.833	0.000	0.01	0.00	0.00	0.0	0.002
18.917	0.000	0.01	0.00	0.00	0.0	0.002
19.000	0.000	0.01	0.00	0.00	0.0	0.002
19.083	0.000	0.01	0.00	0.00	0.0	0.002
19.167	0.000	0.01	0.00	0.00	0.0	0.002
19.250	0.000	0.01	0.00	0.00	0.0	0.002
19.333	0.000	0.01	0.00	0.00	0.0	0.002
19.417	0.000	0.01	0.00	0.00	0.0	0.002
19.500	0.000	0.01	0.00	0.00	0.0	0.002
19.583	0.000	0.01	0.00	0.00	0.0	0.002
19.667	0.000	0.01	0.00	0.00	0.0	0.002
19.750	0.000	0.01	0.00	0.00	0.0	0.002
19.833	0.000	0.01	0.00	0.00	0.0	0.002
19.917	0.000	0.01	0.00	0.00	0.0	0.002

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 0.784 AF
 BASIN STORAGE = 0.003 AF (WITH 0.000 AF INITIALLY FILLED)
 OUTFLOW VOLUME = 0.780 AF
 LOSS VOLUME = 0.000 AF

 FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7

 >>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
 =====

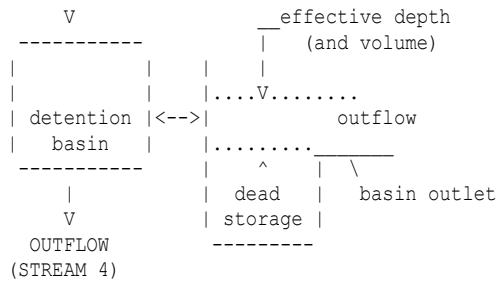
 FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

 >>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
 =====

 FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

 >>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<
 =====

INFLOW
 (STREAM 4)
 |
 |



ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
 THROUGH A FLOW-THROUGH DETENTION BASIN
 SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
 DEAD STORAGE(AF) = 0.000
 SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
 SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
 DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.48	0.70	0.400
3	1.48	6.50	1.800
4	3.48	18.11	8.500
5	5.48	23.99	17.900
6	7.48	28.68	27.800
7	9.48	32.70	38.300
8	10.48	34.50	43.900
9	11.48	36.29	49.400
10	12.48	314.07	55.900
11	13.48	895.00	62.300
12	15.48	2882.95	74.700

=====
 MODIFIED-PULS BASIN ROUTING MODEL RESULTS(5-MINUTE COMPUTATION INTERVALS):
 (Note: Computed EFFECTIVE DEPTH and VOLUME are estimated at the clock time;
 MEAN OUTFLOW is the average value during the unit interval.)

CLOCK TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	LOSS (CFS)	MEAN EFFECTIVE DEPTH (FT)	MEAN OUTFLOW (CFS)	MEAN EFFECTIVE VOLUME (AF)
10.083	0.000	0.00	0.00	0.00	0.0	0.000
10.167	0.000	0.00	0.00	0.00	0.0	0.000
10.250	0.000	0.00	0.00	0.00	0.0	0.000
10.333	0.000	0.00	0.00	0.00	0.0	0.000
10.417	0.000	0.00	0.00	0.00	0.0	0.000
10.500	0.000	0.00	0.00	0.00	0.0	0.000
10.583	0.000	0.00	0.00	0.00	0.0	0.000
10.667	0.000	0.00	0.00	0.00	0.0	0.000

10.750	0.000	0.00	0.00	0.00	0.0	0.000
10.833	0.000	0.00	0.00	0.00	0.0	0.000
10.917	0.000	0.00	0.00	0.00	0.0	0.000
11.000	0.000	0.00	0.00	0.00	0.0	0.000
11.083	0.000	0.00	0.00	0.00	0.0	0.000
11.167	0.000	0.00	0.00	0.00	0.0	0.000
11.250	0.000	0.00	0.00	0.00	0.0	0.000
11.333	0.000	0.00	0.00	0.00	0.0	0.000
11.417	0.000	0.00	0.00	0.00	0.0	0.000
11.500	0.000	0.00	0.00	0.00	0.0	0.000
11.583	0.000	0.00	0.00	0.00	0.0	0.000
11.667	0.000	0.00	0.00	0.00	0.0	0.000
11.750	0.000	0.00	0.00	0.00	0.0	0.000
11.833	0.000	0.00	0.00	0.00	0.0	0.000
11.917	0.000	0.00	0.00	0.00	0.0	0.000
12.000	0.000	0.00	0.00	0.00	0.0	0.000
12.083	0.000	0.00	0.00	0.00	0.0	0.000
12.167	0.000	0.00	0.00	0.00	0.0	0.000
12.250	0.000	0.00	0.00	0.00	0.0	0.000
12.333	0.000	0.00	0.00	0.00	0.0	0.000
12.417	0.000	0.00	0.00	0.00	0.0	0.000
12.500	0.000	0.00	0.00	0.00	0.0	0.000
12.583	0.000	0.00	0.00	0.00	0.0	0.000
12.667	0.000	0.00	0.00	0.00	0.0	0.000
12.750	0.000	0.00	0.00	0.00	0.0	0.000
12.833	0.000	0.00	0.00	0.00	0.0	0.000
12.917	0.000	0.00	0.00	0.00	0.0	0.000
13.000	0.000	0.00	0.00	0.00	0.0	0.000
13.083	0.000	0.00	0.00	0.00	0.0	0.000
13.167	0.000	0.00	0.00	0.00	0.0	0.000
13.250	0.000	0.00	0.00	0.00	0.0	0.000
13.333	0.000	0.00	0.00	0.00	0.0	0.000
13.417	0.000	0.00	0.00	0.00	0.0	0.000
13.500	0.000	0.00	0.00	0.00	0.0	0.000
13.583	0.000	0.00	0.00	0.00	0.0	0.000
13.667	0.000	0.00	0.00	0.00	0.0	0.000
13.750	0.000	0.00	0.00	0.00	0.0	0.000
13.833	0.000	0.00	0.00	0.00	0.0	0.000
13.917	0.000	0.00	0.00	0.00	0.0	0.000
14.000	0.000	0.00	0.00	0.00	0.0	0.000
14.083	0.000	0.00	0.00	0.00	0.0	0.000
14.167	0.000	0.00	0.00	0.00	0.0	0.000
14.250	0.000	0.00	0.00	0.00	0.0	0.000
14.333	0.000	0.00	0.00	0.00	0.0	0.000
14.417	0.000	0.00	0.00	0.00	0.0	0.000
14.500	0.000	0.00	0.00	0.00	0.0	0.000
14.583	0.000	0.00	0.00	0.00	0.0	0.000
14.667	0.000	0.00	0.00	0.00	0.0	0.000
14.750	0.000	0.00	0.00	0.00	0.0	0.000
14.833	0.000	0.00	0.00	0.00	0.0	0.000
14.917	0.000	0.00	0.00	0.00	0.0	0.000
15.000	0.000	0.00	0.00	0.00	0.0	0.000
15.083	0.000	0.00	0.00	0.00	0.0	0.000
15.167	0.000	0.00	0.00	0.00	0.0	0.000
15.250	0.000	0.00	0.00	0.00	0.0	0.000
15.333	0.000	0.00	0.00	0.00	0.0	0.000
15.417	0.000	0.00	0.00	0.00	0.0	0.000
15.500	0.000	0.00	0.00	0.00	0.0	0.000

15.583	0.000	0.00	0.00	0.00	0.0	0.000
15.667	0.000	0.00	0.00	0.00	0.0	0.000
15.750	0.000	0.00	0.00	0.00	0.0	0.000
15.833	0.000	0.00	0.00	0.00	0.0	0.000
15.917	0.000	0.00	0.00	0.00	0.0	0.000
16.000	0.000	0.00	0.00	0.00	0.0	0.000
16.083	0.000	0.00	0.00	0.00	0.0	0.000
16.167	0.000	0.00	0.00	0.00	0.0	0.000
16.250	0.000	0.00	0.00	0.00	0.0	0.000
16.333	0.000	0.00	0.00	0.00	0.0	0.000
16.417	0.000	0.00	0.00	0.00	0.0	0.000
16.500	0.000	0.01	0.00	0.00	0.0	0.000
16.583	0.000	0.01	0.00	0.00	0.0	0.000
16.667	0.000	0.01	0.00	0.00	0.0	0.000
16.750	0.000	0.01	0.00	0.00	0.0	0.000
16.833	0.000	0.01	0.00	0.00	0.0	0.000
16.917	0.000	0.01	0.00	0.00	0.0	0.000
17.000	0.000	0.01	0.00	0.00	0.0	0.000
17.083	0.000	0.01	0.00	0.00	0.0	0.000
17.167	0.000	0.01	0.00	0.00	0.0	0.001
17.250	0.000	0.01	0.00	0.00	0.0	0.001
17.333	0.000	0.01	0.00	0.00	0.0	0.001
17.417	0.000	0.01	0.00	0.00	0.0	0.001
17.500	0.000	0.01	0.00	0.00	0.0	0.001
17.583	0.000	0.01	0.00	0.00	0.0	0.001
17.667	0.000	0.01	0.00	0.00	0.0	0.001
17.750	0.000	0.01	0.00	0.00	0.0	0.001
17.833	0.000	0.01	0.00	0.00	0.0	0.001
17.917	0.000	0.01	0.00	0.00	0.0	0.001
18.000	0.000	0.01	0.00	0.00	0.0	0.001
18.083	0.000	0.01	0.00	0.00	0.0	0.001
18.167	0.000	0.01	0.00	0.00	0.0	0.001
18.250	0.000	0.01	0.00	0.00	0.0	0.001
18.333	0.000	0.01	0.00	0.00	0.0	0.002
18.417	0.000	0.01	0.00	0.00	0.0	0.002
18.500	0.000	0.01	0.00	0.00	0.0	0.002
18.583	0.000	0.01	0.00	0.00	0.0	0.002
18.667	0.000	0.01	0.00	0.00	0.0	0.002
18.750	0.000	0.01	0.00	0.00	0.0	0.002
18.833	0.000	0.01	0.00	0.00	0.0	0.002
18.917	0.000	0.01	0.00	0.00	0.0	0.002
19.000	0.000	0.01	0.00	0.00	0.0	0.002
19.083	0.000	0.01	0.00	0.00	0.0	0.002
19.167	0.000	0.01	0.00	0.00	0.0	0.002
19.250	0.000	0.01	0.00	0.00	0.0	0.002
19.333	0.000	0.01	0.00	0.00	0.0	0.002
19.417	0.000	0.01	0.00	0.00	0.0	0.002
19.500	0.000	0.01	0.00	0.00	0.0	0.002
19.583	0.000	0.01	0.00	0.00	0.0	0.002
19.667	0.000	0.01	0.00	0.00	0.0	0.002
19.750	0.000	0.01	0.00	0.00	0.0	0.002
19.833	0.000	0.01	0.00	0.00	0.0	0.003
19.917	0.000	0.01	0.00	0.00	0.0	0.003

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 0.784 AF
BASIN STORAGE = 0.006 AF (WITH 0.000 AF INITIALLY FILLED)
OUTFLOW VOLUME = 0.777 AF

LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<
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FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
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FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<<
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THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:

BASEWIDTH(FT) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 427.51
DOWNSTREAM ELEVATION(FT) = 315.00
CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040
CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:

MAXIMUM INFLOW(CFS) = 708.24
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 544.91
CHANNEL NORMAL VELOCITY FOR Q = 544.91 CFS = 7.14 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.808

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
UNIT INTERVALS IS CSTAR = 0.572

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 2) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS
			LOSS (STREAM 2) (CFS)
10.000	57.00	55.22	55.22
10.083	57.42	55.61	55.61
10.167	57.85	56.01	56.01
10.250	58.30	56.41	56.41
10.333	58.75	56.82	56.82

10.417	59.20	57.24	57.24
10.500	59.67	57.67	57.67
10.583	60.15	58.11	58.11
10.667	60.64	58.56	58.56
10.750	61.14	59.01	59.01
10.833	61.65	59.48	59.48
10.917	62.17	59.95	59.95
11.000	62.71	60.44	60.44
11.083	63.25	60.93	60.93
11.167	63.81	61.44	61.44
11.250	64.38	61.96	61.96
11.333	64.97	62.48	62.48
11.417	65.56	63.02	63.02
11.500	66.18	63.58	63.58
11.583	66.81	64.14	64.14
11.667	67.45	64.72	64.72
11.750	68.11	65.32	65.32
11.833	68.79	65.92	65.92
11.917	69.49	66.55	66.55
12.000	70.21	67.19	67.19
12.083	71.06	67.84	67.84
12.167	72.07	68.51	68.51
12.250	73.15	69.20	69.20
12.333	74.38	69.93	69.93
12.417	75.96	70.76	70.76
12.500	77.88	71.71	71.71
12.583	80.00	72.76	72.76
12.667	82.20	73.97	73.97
12.750	84.55	75.46	75.46
12.833	87.08	77.23	77.23
12.917	89.75	79.21	79.21
13.000	92.81	81.35	81.35
13.083	95.73	83.64	83.64
13.167	98.63	86.09	86.09
13.250	101.52	88.74	88.74
13.333	104.19	91.60	91.60
13.417	106.63	94.49	94.49
13.500	108.94	97.38	97.38
13.583	111.21	100.23	100.23
13.667	113.34	102.94	102.94
13.750	115.36	105.47	105.47
13.833	117.38	107.87	107.87
13.917	119.42	110.17	110.17
14.000	121.44	112.35	112.35
14.083	123.78	114.44	114.44
14.167	126.43	116.49	116.49
14.250	129.27	118.53	118.53
14.333	132.49	120.62	120.62
14.417	136.51	122.91	122.91
14.500	141.35	125.44	125.44
14.583	146.71	128.22	128.22
14.667	152.30	131.39	131.39
14.750	158.26	135.20	135.20
14.833	164.71	139.70	139.70
14.917	171.53	144.73	144.73
15.000	179.32	150.14	150.14
15.083	186.83	155.96	155.96
15.167	194.36	162.20	162.20

15.250	201.92	168.96	168.96
15.333	209.03	176.25	176.25
15.417	215.16	183.67	183.67
15.500	220.53	191.16	191.16
15.583	225.81	198.61	198.61
15.667	230.52	205.68	205.68
15.750	234.09	212.08	212.08
15.833	237.01	217.87	217.87
15.917	240.50	223.27	223.27
16.000	247.59	228.07	228.07
16.083	282.13	232.04	232.04
16.167	316.14	235.52	235.52
16.250	337.85	239.66	239.66
16.333	377.47	250.48	250.48
16.417	451.13	274.77	274.77
16.500	514.36	302.38	302.38
16.583	549.73	329.87	329.87
16.667	564.45	370.50	370.50
16.750	590.85	428.12	428.12
16.833	623.99	483.87	483.87
16.917	650.70	524.20	524.20
17.000	708.24	552.02	552.02
17.083	675.68	580.26	580.26
17.167	660.20	610.13	610.13
17.250	638.70	643.81	643.81
17.333	580.50	674.71	674.71
17.417	523.27	672.45	672.45
17.500	479.74	661.53	661.53
17.583	454.06	637.88	637.88
17.667	407.34	594.65	594.65
17.750	358.04	545.91	545.91
17.833	332.11	503.40	503.40
17.917	311.40	466.68	466.68
18.000	279.74	423.78	423.78
18.083	253.90	381.47	381.47
18.167	227.43	349.48	349.48
18.250	210.05	321.94	321.94
18.333	198.35	293.11	293.11
18.417	170.57	265.87	265.87
18.500	153.34	240.73	240.73
18.583	145.87	221.06	221.06
18.667	139.46	203.02	203.02
18.750	133.38	181.33	181.33
18.833	127.58	163.97	163.97
18.917	122.04	152.45	152.45
19.000	116.52	143.92	143.92
19.083	111.51	136.83	136.83
19.167	106.79	130.53	130.53
19.250	102.30	124.67	124.67
19.333	97.99	119.10	119.10
19.417	92.98	113.90	113.90
19.500	81.64	109.02	109.02
19.583	78.71	104.39	104.39
19.667	76.28	99.82	99.82
19.750	74.16	93.84	93.84
19.833	72.06	86.33	86.33
19.917	70.09	81.53	81.53
20.000	68.30	78.14	78.14

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PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 210.428 AF
OUTFLOW VOLUME = 210.428 AF
LOSS VOLUME = 0.000 AF

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FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2
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>>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<
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THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS(Reference: the National Engineering Handbook, Hydrology, Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:

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BASEWIDTH(FT) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 315.00
DOWNSTREAM ELEVATION(FT) = 212.00
CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040
CONSTANT LOSS RATE(CFS) = 0.00

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CHANNEL ROUTING COEFFICIENT ESTIMATED:

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MAXIMUM INFLOW(CFS) = 674.71
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 531.83
CHANNEL NORMAL VELOCITY FOR Q = 531.83 CFS = 7.84 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.822

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MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE UNIT INTERVALS IS CSTAR = 0.651

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 2) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS
			LOSS (STREAM 2) (CFS)
10.000	55.22	54.11	54.11
10.083	55.61	54.48	54.48
10.167	56.01	54.86	54.86
10.250	56.41	55.24	55.24
10.333	56.82	55.64	55.64
10.417	57.24	56.03	56.03
10.500	57.67	56.44	56.44
10.583	58.11	56.85	56.85
10.667	58.56	57.27	57.27
10.750	59.01	57.70	57.70
10.833	59.48	58.14	58.14
10.917	59.95	58.59	58.59
11.000	60.44	59.05	59.05
11.083	60.93	59.51	59.51
11.167	61.44	59.99	59.99

11.250	61.96	60.47	60.47
11.333	62.48	60.97	60.97
11.417	63.02	61.48	61.48
11.500	63.58	61.99	61.99
11.583	64.14	62.52	62.52
11.667	64.72	63.07	63.07
11.750	65.32	63.62	63.62
11.833	65.92	64.19	64.19
11.917	66.55	64.77	64.77
12.000	67.19	65.36	65.36
12.083	67.84	65.97	65.97
12.167	68.51	66.59	66.59
12.250	69.20	67.23	67.23
12.333	69.93	67.89	67.89
12.417	70.76	68.56	68.56
12.500	71.71	69.26	69.26
12.583	72.76	70.02	70.02
12.667	73.97	70.87	70.87
12.750	75.46	71.82	71.82
12.833	77.23	72.90	72.90
12.917	79.21	74.18	74.18
13.000	81.35	75.70	75.70
13.083	83.64	77.47	77.47
13.167	86.09	79.44	79.44
13.250	88.74	81.57	81.57
13.333	91.60	83.87	83.87
13.417	94.49	86.35	86.35
13.500	97.38	89.02	89.02
13.583	100.23	91.82	91.82
13.667	102.94	94.69	94.69
13.750	105.47	97.55	97.55
13.833	107.87	100.35	100.35
13.917	110.17	103.02	103.02
14.000	112.35	105.55	105.55
14.083	114.44	107.95	107.95
14.167	116.49	110.24	110.24
14.250	118.53	112.43	112.43
14.333	120.62	114.54	114.54
14.417	122.91	116.60	116.60
14.500	125.44	118.67	118.67
14.583	128.22	120.83	120.83
14.667	131.39	123.17	123.17
14.750	135.20	125.73	125.73
14.833	139.70	128.59	128.59
14.917	144.73	131.90	131.90
15.000	150.14	135.80	135.80
15.083	155.96	140.29	140.29
15.167	162.20	145.29	145.29
15.250	168.96	150.71	150.71
15.333	176.25	156.56	156.56
15.417	183.67	162.86	162.86
15.500	191.16	169.67	169.67
15.583	198.61	176.84	176.84
15.667	205.68	184.20	184.20
15.750	212.08	191.63	191.63
15.833	217.87	198.93	198.93
15.917	223.27	205.82	205.82
16.000	228.07	212.15	212.15

16.083	232.04	217.98	217.98
16.167	235.52	223.29	223.29
16.250	239.66	227.95	227.95
16.333	250.48	231.97	231.97
16.417	274.77	235.89	235.89
16.500	302.38	242.56	242.56
16.583	329.87	257.17	257.17
16.667	370.50	279.38	279.38
16.750	428.12	305.06	305.06
16.833	483.87	337.03	337.03
16.917	524.20	381.25	381.25
17.000	552.02	433.47	433.47
17.083	580.26	481.99	481.99
17.167	610.13	520.31	520.31
17.250	643.81	551.95	551.95
17.333	674.71	582.01	582.01
17.417	672.45	613.43	613.43
17.500	661.53	645.24	645.24
17.583	637.88	663.56	663.56
17.667	594.65	665.10	665.10
17.750	545.91	653.57	653.57
17.833	503.40	626.53	626.53
17.917	466.68	586.80	586.80
18.000	423.78	543.63	543.63
18.083	381.47	503.14	503.14
18.167	349.48	462.70	462.70
18.250	321.94	420.88	420.88
18.333	293.11	382.76	382.76
18.417	265.87	350.37	350.37
18.500	240.73	320.63	320.63
18.583	221.06	292.11	292.11
18.667	203.02	265.23	265.23
18.750	181.33	241.62	241.62
18.833	163.97	221.21	221.21
18.917	152.45	200.92	200.92
19.000	143.92	181.40	181.40
19.083	136.83	165.57	165.57
19.167	130.53	153.70	153.70
19.250	124.67	144.57	144.57
19.333	119.10	137.08	137.08
19.417	113.90	130.54	130.54
19.500	109.02	124.55	124.55
19.583	104.39	118.98	118.98
19.667	99.82	113.77	113.77
19.750	93.84	108.88	108.88
19.833	86.33	104.18	104.18
19.917	81.53	99.01	99.01
20.000	78.14	92.72	92.72

PROCESS SUMMARY OF STORAGE:
 INFLOW VOLUME = 210.428 AF
 OUTFLOW VOLUME = 210.427 AF
 LOSS VOLUME = 0.000 AF

 FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

(UNIT-HYDROGRAPH ADDED TO STREAM #3)

WATERSHED AREA = 1715.900 ACRES
 BASEFLOW = 0.000 CFS/SQUARE-MILE
 *USER ENTERED "LAG" TIME = 0.712 HOURS
 VALLEY(DEVELOPED) S-GRAPH SELECTED
 MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.374
 LOW LOSS FRACTION = 0.689
 HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL(INCH)= 0.18
 SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)= 0.41
 SPECIFIED PEAK 1-HOUR RAINFALL(INCH) = 0.55
 SPECIFIED PEAK 3-HOUR RAINFALL(INCH) = 0.92
 SPECIFIED PEAK 6-HOUR RAINFALL(INCH) = 1.27
 SPECIFIED PEAK 24-HOUR RAINFALL(INCH) = 2.12

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
 5-MINUTE FACTOR = 0.744
 30-MINUTE FACTOR = 0.744
 1-HOUR FACTOR = 0.744
 3-HOUR FACTOR = 0.959
 6-HOUR FACTOR = 0.978
 24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
 UNIT INTERVAL PERCENTAGE OF LAG-TIME = 11.704

RUNOFF HYDROGRAPH LISTING LIMITS:
 MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 10.00
 MODEL TIME(HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES(CFS)
1	0.669	138.789
2	2.095	296.029
3	4.278	453.028
4	8.616	900.042
5	14.839	1291.452
6	21.892	1463.647
7	29.534	1585.849
8	38.513	1863.211
9	49.002	2176.762
10	58.450	1960.436
11	67.828	1946.164
12	75.247	1539.659
13	80.842	1160.891
14	85.632	994.037

15	89.040	707.260
16	91.600	531.179
17	93.806	457.809
18	95.403	331.490
19	96.551	238.215
20	97.469	190.495
21	98.090	128.908
22	98.312	46.058
23	98.531	45.502
24	98.751	45.591
25	98.970	45.502
26	99.190	45.538
27	99.409	45.502
28	99.628	45.502
29	99.848	45.502
30	100.000	31.617

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 196.8151
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 102.1948

=====
2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H
=====

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	100.0	200.0	300.0	400.0
10.000	17.1317	30.01	. Q	V .	.	.	.
10.083	17.3400	30.25	. Q	V .	.	.	.
10.167	17.5499	30.48	. Q	V .	.	.	.
10.250	17.7615	30.72	. Q	V .	.	.	.
10.333	17.9748	30.97	. Q	V .	.	.	.
10.417	18.1899	31.22	. Q	V .	.	.	.
10.500	18.4067	31.48	. Q	V .	.	.	.
10.583	18.6253	31.74	. Q	V .	.	.	.
10.667	18.8458	32.01	. Q	V .	.	.	.
10.750	19.0681	32.29	. Q	V .	.	.	.
10.833	19.2924	32.57	. Q	V .	.	.	.
10.917	19.5187	32.86	. Q	V .	.	.	.
11.000	19.7471	33.15	. Q	V .	.	.	.
11.083	19.9774	33.45	. Q	V .	.	.	.
11.167	20.2100	33.76	. Q	V .	.	.	.
11.250	20.4447	34.08	. Q	V .	.	.	.
11.333	20.6816	34.40	. Q	V .	.	.	.
11.417	20.9208	34.74	. Q	V .	.	.	.
11.500	21.1624	35.08	. Q	V .	.	.	.
11.583	21.4064	35.43	. Q	V .	.	.	.
11.667	21.6528	35.78	. Q	V .	.	.	.
11.750	21.9018	36.15	. Q	V .	.	.	.
11.833	22.1534	36.53	. Q	V .	.	.	.
11.917	22.4077	36.92	. Q	V .	.	.	.
12.000	22.6647	37.32	. Q	V .	.	.	.
12.083	22.9252	37.82	. Q	V .	.	.	.
12.167	23.1899	38.43	. Q	V .	.	.	.
12.250	23.4596	39.16	. Q	V .	.	.	.
12.333	23.7364	40.19	. Q	V .	.	.	.
12.417	24.0220	41.48	. Q	V .	.	.	.
12.500	24.3174	42.89	. Q	V .	.	.	.
12.583	24.6232	44.40	. Q	V .	.	.	.
12.667	24.9407	46.11	. Q	V .	.	.	.
12.750	25.2715	48.03	. Q	V .	.	.	.
12.833	25.6148	49.84	. Q	V .	.	.	.
12.917	25.9706	51.67	. Q	V .	.	.	.
13.000	26.3374	53.25	. Q	V .	.	.	.
13.083	26.7136	54.63	. Q	V .	.	.	.
13.167	27.0987	55.91	. Q	V .	.	.	.
13.250	27.4916	57.05	. Q	V .	.	.	.
13.333	27.8917	58.09	. Q	V .	.	.	.
13.417	28.2989	59.12	. Q	.V	.	.	.
13.500	28.7128	60.10	. Q	.V	.	.	.
13.583	29.1332	61.05	. Q	.V	.	.	.
13.667	29.5602	62.00	. Q	.V	.	.	.
13.750	29.9938	62.95	. Q	.V	.	.	.
13.833	30.4337	63.88	. Q	.V	.	.	.

13.917	30.8804	64.86	.	Q	.	V	.	.	.	.
14.000	31.3340	65.87	.	Q	.	V	.	.	.	.
14.083	31.7965	67.15	.	Q	.	V	.	.	.	.
14.167	32.2697	68.72	.	Q	.	V	.	.	.	.
14.250	32.7559	70.59	.	Q	.	V	.	.	.	.
14.333	33.2601	73.21	.	Q	.	V	.	.	.	.
14.417	33.7869	76.49	.	Q	.	V	.	.	.	.
14.500	34.3384	80.08	.	Q	.	V	.	.	.	.
14.583	34.9161	83.89	.	Q	.	V	.	.	.	.
14.667	35.5235	88.19	.	Q	.	V	.	.	.	.
14.750	36.1644	93.05	.	Q	.	V	.	.	.	.
14.833	36.8367	97.62	.	Q	.	V	.	.	.	.
14.917	37.5408	102.25	.	Q	.	V	.	.	.	.
15.000	38.2730	106.31	.	Q	.	V	.	.	.	.
15.083	39.0298	109.89	.	Q	.	V	.	.	.	.
15.167	39.8101	113.31	.	.Q	.	V	.	.	.	.
15.250	40.6119	116.42	.	.Q	.	V	.	.	.	.
15.333	41.4342	119.40	.	.Q	.	V	.	.	.	.
15.417	42.2749	122.06	.	.	Q	.	V	.	.	.
15.500	43.1307	124.28	.	.	Q	.	V	.	.	.
15.583	43.9998	126.19	.	.	Q	.	V	.	.	.
15.667	44.8750	127.08	.	.	Q	.	V	.	.	.
15.750	45.7519	127.33	.	.	Q	.	V	.	.	.
15.833	46.6317	127.73	.	.	Q	.	V	.	.	.
15.917	47.5203	129.04	.	.	Q	.	V	.	.	.
16.000	48.4302	132.11	.	.	Q	.	V	.	.	.
16.083	49.4541	148.67	.	.	Q	.	V	.	.	.
16.167	50.6198	169.26	.	.	Q	.	V	.	.	.
16.250	51.9476	192.80	.	.	Q	.	V	.	.	.
16.333	53.6230	243.26	.	.	Q	.	V	.	.	.
16.417	55.6029	287.49	.	.	Q	.	V	.	.	.
16.500	57.7370	309.87	.	.	Q	.	V	.	.	.
16.583	59.9944	327.78	.	.	Q	.	V	.	.	.
16.667	62.4613	358.19	.	.	Q	.	V	.	.	.
16.750	65.1203	386.10	.	.	Q	.	V	.	.	.
16.833	67.6241	363.54	.	.	Q	.	V	.	.	.
16.917	70.0589	353.54	.	.	Q	.	V	.	.	.
17.000	72.1761	307.41	.	.	Q	.	V	.	.	.
17.083	74.0033	265.31	.	.	Q	.	V	.	.	.
17.167	75.6682	241.75	.	.	Q	.	V	.	.	.
17.250	77.1074	208.97	.	.	Q	.	V	.	.	.
17.333	78.3890	186.09	.	.	Q	.	V	.	.	.
17.417	79.5712	171.65	.	.	Q	.	V	.	.	.
17.500	80.6236	152.80	.	.	Q	.	V	.	.	.
17.583	81.5671	137.00	.	.	Q	.	V	.	.	.
17.667	82.4282	125.03	.	.	Q	.	V	.	.	.
17.750	83.1978	111.75	.	.	Q	.	V	.	.	.
17.833	83.8713	97.80	.	.	Q	.	V	.	.	.
17.917	84.5040	91.87	.	.	Q	.	V	.	.	.
18.000	85.1037	87.07	.	.	Q	.	V	.	.	.
18.083	85.6745	82.89	.	.	Q	.	V	.	.	.
18.167	86.2176	78.85	.	.	Q	.	V	.	.	.
18.250	86.7361	75.29	.	.	Q	.	V	.	.	.
18.333	87.2308	71.82	.	.	Q	.	V	.	.	.
18.417	87.7003	68.17	.	.	Q	.	V	.	.	.
18.500	88.1365	63.34	.	.	Q	.	V	.	.	.
18.583	88.5314	57.34	.	.	Q	.	V	.	.	.
18.667	88.9056	54.33	.	.	Q	.	V	.	.	.

18.750	89.2598	51.44	.	Q	.	.	.	.	V	.
18.833	89.5967	48.91	.	Q	.	.	.	.	V	.
18.917	89.9164	46.42	.	Q	.	.	.	.	V	.
19.000	90.2212	44.27	.	Q	.	.	.	.	V	.
19.083	90.5135	42.44	.	Q	.	.	.	.	V	.
19.167	90.7944	40.78	.	Q	.	.	.	.	V	.
19.250	91.0655	39.37	.	Q	.	.	.	.	V	.
19.333	91.3280	38.12	.	Q	.	.	.	.	V	.
19.417	91.5827	36.97	.	Q	.	.	.	.	V	.
19.500	91.8304	35.97	.	Q	.	.	.	.	V	.
19.583	92.0722	35.11	.	Q	.	.	.	.	V	.
19.667	92.3086	34.32	.	Q	.	.	.	.	V	.
19.750	92.5400	33.61	.	Q	.	.	.	.	V	.
19.833	92.7671	32.98	.	Q	.	.	.	.	V	.
19.917	92.9901	32.37	.	Q	.	.	.	.	V	.
20.000	93.2091	31.80	.	Q	.	.	.	.	V	.

 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	425.0
20%	225.0
30%	150.0
40%	80.0
50%	60.0
60%	55.0
70%	40.0
80%	30.0
90%	20.0

 FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

 >>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
 =====

 FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

 >>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
 =====

 FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

 >>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
 =====

FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<

STREAM HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	225.0	450.0	675.0	900.0
10.000	46.2980	84.13	. Q V	.	.	.	.
10.083	46.8815	84.73	. Q V	.	.	.	.
10.167	47.4693	85.34	. Q V	.	.	.	.
10.250	48.0613	85.97	. Q V	.	.	.	.
10.333	48.6578	86.61	. Q V	.	.	.	.
10.417	49.2587	87.26	. Q V	.	.	.	.
10.500	49.8642	87.92	. Q V	.	.	.	.
10.583	50.4744	88.60	. Q V	.	.	.	.
10.667	51.0893	89.29	. Q V	.	.	.	.
10.750	51.7091	89.99	. Q V	.	.	.	.
10.833	52.3339	90.71	. Q V	.	.	.	.
10.917	52.9637	91.45	. Q V	.	.	.	.
11.000	53.5986	92.20	. Q V	.	.	.	.
11.083	54.2389	92.97	. Q V	.	.	.	.
11.167	54.8846	93.75	. Q V	.	.	.	.
11.250	55.5357	94.55	. Q V	.	.	.	.
11.333	56.1926	95.37	. Q V	.	.	.	.
11.417	56.8552	96.21	. Q V	.	.	.	.
11.500	57.5237	97.07	. Q V	.	.	.	.
11.583	58.1983	97.95	. Q V	.	.	.	.
11.667	58.8791	98.85	. Q V	.	.	.	.
11.750	59.5662	99.77	. Q V	.	.	.	.
11.833	60.2599	100.72	. Q V	.	.	.	.
11.917	60.9602	101.69	. Q V	.	.	.	.
12.000	61.6674	102.68	. Q V	.	.	.	.
12.083	62.3822	103.79	. Q V	.	.	.	.
12.167	63.1056	105.03	. Q V	.	.	.	.
12.250	63.8383	106.40	. Q V	.	.	.	.
12.333	64.5827	108.07	. Q V	.	.	.	.
12.417	65.3405	110.04	. Q V	.	.	.	.
12.500	66.1129	112.15	. Q V	.	.	.	.
12.583	66.9009	114.42	. Q V	.	.	.	.
12.667	67.7065	116.98	. Q V	.	.	.	.
12.750	68.5320	119.86	. Q V	.	.	.	.
12.833	69.3774	122.75	. Q V	.	.	.	.
12.917	70.2441	125.84	. Q V	.	.	.	.
13.000	71.1322	128.95	. Q V	.	.	.	.
13.083	72.0419	132.09	. Q V	.	.	.	.
13.167	72.9741	135.35	. Q V	.	.	.	.
13.250	73.9288	138.62	. Q V	.	.	.	.
13.333	74.9065	141.97	. Q V	.	.	.	.

13.417	75.9084	145.47	. Q V	.	.	.	.
13.500	76.9354	149.12	. Q V	.	.	.	.
13.583	77.9882	152.87	. Q V	.	.	.	.
13.667	79.0673	156.69	. Q V	.	.	.	.
13.750	80.1727	160.50	. Q V	.	.	.	.
13.833	81.3038	164.23	. Q V	.	.	.	.
13.917	82.4600	167.88	. Q V	.	.	.	.
14.000	83.6405	171.42	. Q V	.	.	.	.
14.083	84.8465	175.10	. Q V	.	.	.	.
14.167	86.0790	178.96	. Q V	.	.	.	.
14.250	87.3395	183.02	. Q V	.	.	.	.
14.333	88.6325	187.74	. Q V	.	.	.	.
14.417	89.9623	193.09	. Q V	.	.	.	.
14.500	91.3311	198.75	. Q V	.	.	.	.
14.583	92.7411	204.73	. Q V	.	.	.	.
14.667	94.1967	211.36	. Q V	.	.	.	.
14.750	95.7034	218.78	. Q V	.	.	.	.
14.833	97.2613	226.20	. Q V	.	.	.	.
14.917	98.8739	234.14	. Q V	.	.	.	.
15.000	100.5413	242.11	. Q V	.	.	.	.
15.083	102.2643	250.18	. Q V	.	.	.	.
15.167	104.0452	258.59	. Q V	.	.	.	.
15.250	105.8849	267.13	. Q V	.	.	.	.
15.333	107.7855	275.96	. QV	.	.	.	.
15.417	109.7478	284.92	. Q V	.	.	.	.
15.500	111.7722	293.94	. QV	.	.	.	.
15.583	113.8592	303.03	. QV	.	.	.	.
15.667	116.0030	311.28	. QV	.	.	.	.
15.750	118.1997	318.97	. QV	.	.	.	.
15.833	120.4495	326.66	. QV	.	.	.	.
15.917	122.7556	334.85	. QV	.	.	.	.
16.000	125.1266	344.26	. QV	.	.	.	.
16.083	127.6517	366.65	. Q	.	.	.	.
16.167	130.3552	392.55	. VQ	.	.	.	.
16.250	133.2529	420.74	. VQ	.	.	.	.
16.333	136.5258	475.23	. V .Q	.	.	.	.
16.417	140.1304	523.38	. V . Q	.	.	.	.
16.500	143.9350	552.43	. V . Q	.	.	.	.
16.583	147.9635	584.95	. V . Q	.	.	.	.
16.667	152.3545	637.57	. V . Q	.	.	.	.
16.750	157.1145	691.15	. V . Q	.	.	.	.
16.833	161.9393	700.57	. V .Q	.	.	.	.
16.917	166.9999	734.79	. V . Q	.	.	.	.
17.000	172.1024	740.88	. V . Q	.	.	.	.
17.083	177.2490	747.30	. V . Q	.	.	.	.
17.167	182.4974	762.06	. V . Q	.	.	.	.
17.250	187.7379	760.93	. V . Q	.	.	.	.
17.333	193.0279	768.10	. V . Q	.	.	.	.
17.417	198.4348	785.08	. V . Q	.	.	.	.
17.500	203.9309	798.04	. V . Q	.	.	.	.
17.583	209.4444	800.56	. V . Q	.	.	.	.
17.667	214.8861	790.13	. V . Q	.	.	.	.
17.750	220.1569	765.32	. V . Q	.	.	.	.
17.833	225.1453	724.32	. V . Q	.	.	.	.
17.917	229.8194	678.67	. VQ	.	.	.	.
18.000	234.1630	630.69	. QV	.	.	.	.
18.083	238.1990	586.03	. Q V	.	.	.	.
18.167	241.9287	541.55	. Q V	.	.	.	.

18.250	245.3459	496.18	.	.	.	Q	.	V	.
18.333	248.4766	454.59	.	.	.	Q	.	V	.
18.417	251.3591	418.54	.	.	.	Q	.	V	.
18.500	254.0036	383.97	.	.	.	Q	.	V	.
18.583	256.4102	349.45	.	.	.	Q	.	V	.
18.667	258.6111	319.57	.	.	.	Q	.	V	.
18.750	260.6294	293.06	.	.	.	Q	.	V	.
18.833	262.4897	270.12	.	.	.	Q	.	V	.
18.917	264.1931	247.34	.	.	.	Q	.	V	.
19.000	265.7473	225.67	.	.	.	Q	.	V	.
19.083	267.1799	208.00	.	.	.	Q	.	V	.
19.167	268.5193	194.48	.	.	.	Q	.	V	.
19.250	269.7861	183.94	.	.	.	Q	.	V	.
19.333	270.9927	175.20	.	.	.	Q	.	V	.
19.417	272.1464	167.51	.	.	.	Q	.	V	.
19.500	273.2518	160.52	.	.	.	Q	.	V	.
19.583	274.3130	154.09	.	.	.	Q	.	V	.
19.667	275.3330	148.09	.	.	.	Q	.	V	.
19.750	276.3143	142.48	.	.	.	Q	.	V	.
19.833	277.2589	137.15	.	.	.	Q	.	V	.
19.917	278.1637	131.39	.	.	.	Q	.	V	.
20.000	279.0213	124.52	.	.	.	Q	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	730.0
20%	350.0
30%	240.0
40%	170.0
50%	135.0
60%	115.0
70%	95.0
80%	75.0
90%	60.0
=====	=====

END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - COMPLEX UH *
* ULTIMATE CONDITION - REGIONAL NODE 132C *
* 10-YR EV OCT 2016 DMALOTT *

FILE NAME: EV1032CC.DAT
TIME/DATE OF STUDY: 16:50 08/21/2017

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

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(UNIT-HYDROGRAPH ADDED TO STREAM #2)

WATERSHED AREA = 4924.400 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.938 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244
LOW LOSS FRACTION = 0.727
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.26
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.59
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.78
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.31
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 1.81
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 3.03

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.788
30-MINUTE FACTOR = 0.788
1-HOUR FACTOR = 0.788
3-HOUR FACTOR = 0.968
6-HOUR FACTOR = 0.984
24-HOUR FACTOR = 0.990

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 8.884

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.508	302.338
2	1.523	604.819
3	2.819	771.800
4	4.716	1129.648
5	8.114	2023.451
6	12.597	2670.161
7	17.853	3130.103
8	23.366	3283.224
9	29.066	3394.346
10	35.795	4007.575
11	43.214	4418.483
12	51.431	4893.746
13	58.237	4053.149
14	65.724	4458.599
15	71.827	3634.834
16	76.932	3039.875
17	80.977	2408.986
18	84.732	2236.623
19	87.674	1751.966
20	89.859	1301.150
21	91.751	1126.819
22	93.468	1022.475
23	94.780	781.630
24	95.870	649.332
25	96.640	458.377
26	97.337	415.035
27	97.954	367.513
28	98.175	131.320
29	98.341	99.306
30	98.508	99.115
31	98.674	99.242
32	98.841	99.111
33	99.008	99.374
34	99.174	99.111
35	99.341	99.111
36	99.507	99.111
37	99.673	99.111
38	99.840	99.111
39	100.000	95.385

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 799.0910
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 431.7545

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2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

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HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	475.0	950.0	1425.0	1900.0
10.000	59.9062	106.38	. Q	V	.	.	.
10.083	60.6442	107.17	. Q	V	.	.	.
10.167	61.3879	107.98	. Q	V	.	.	.
10.250	62.1373	108.81	. Q	V	.	.	.
10.333	62.8925	109.66	. Q	V	.	.	.
10.417	63.6536	110.51	. Q	V	.	.	.
10.500	64.4208	111.40	. Q	V	.	.	.
10.583	65.1942	112.29	. Q	V	.	.	.
10.667	65.9740	113.22	. Q	V	.	.	.
10.750	66.7601	114.15	. Q	V	.	.	.
10.833	67.5529	115.11	. Q	V	.	.	.
10.917	68.3524	116.09	. Q	V	.	.	.
11.000	69.1589	117.10	. Q	V	.	.	.
11.083	69.9723	118.12	. Q	V	.	.	.
11.167	70.7931	119.17	. Q	V	.	.	.
11.250	71.6212	120.24	. Q	V	.	.	.
11.333	72.4569	121.34	. Q	V	.	.	.
11.417	73.3003	122.46	. Q	V	.	.	.
11.500	74.1517	123.63	. Q	V	.	.	.
11.583	75.0112	124.80	. Q	V	.	.	.
11.667	75.8791	126.02	. Q	V	.	.	.
11.750	76.7556	127.26	. Q	V	.	.	.
11.833	77.6409	128.54	. Q	V	.	.	.
11.917	78.5351	129.85	. Q	V	.	.	.
12.000	79.4387	131.20	. Q	V	.	.	.
12.083	80.3534	132.81	. Q	V	.	.	.
12.167	81.2812	134.71	. Q	V	.	.	.
12.250	82.2230	136.76	. Q	V	.	.	.
12.333	83.1813	139.15	. Q	V	.	.	.
12.417	84.1610	142.25	. Q	V	.	.	.
12.500	85.1659	145.91	. Q	V	.	.	.
12.583	86.1988	149.97	. Q	V	.	.	.
12.667	87.2609	154.22	. Q	V	.	.	.
12.750	88.3532	158.60	. Q	V	.	.	.
12.833	89.4795	163.54	. Q	V	.	.	.
12.917	90.6423	168.83	. Q	V	.	.	.
13.000	91.8447	174.59	. Q	V	.	.	.
13.083	93.0827	179.76	. Q	V	.	.	.
13.167	94.3591	185.34	. Q	V	.	.	.
13.250	95.6701	190.35	. Q	V	.	.	.
13.333	97.0132	195.01	. Q	V	.	.	.
13.417	98.3855	199.26	. Q	V	.	.	.
13.500	99.7870	203.50	. Q	V	.	.	.
13.583	101.2156	207.43	. Q	V	.	.	.
13.667	102.6698	211.16	. Q	V	.	.	.
13.750	104.1493	214.83	. Q	V	.	.	.
13.833	105.6546	218.57	. Q	V	.	.	.

13.917	107.1851	222.22	.	Q	V.	.	.	.
14.000	108.7411	225.93	.	Q	V	.	.	.
14.083	110.3258	230.10	.	Q	V	.	.	.
14.167	111.9436	234.91	.	Q	V	.	.	.
14.250	113.5971	240.08	.	Q	V	.	.	.
14.333	115.2903	245.86	.	Q	V	.	.	.
14.417	117.0341	253.20	.	Q	V	.	.	.
14.500	118.8372	261.81	.	Q	.V	.	.	.
14.583	120.7058	271.32	.	Q	.V	.	.	.
14.667	122.6434	281.34	.	Q	.V	.	.	.
14.750	124.6524	291.71	.	Q	.V	.	.	.
14.833	126.7418	303.37	.	Q	.V	.	.	.
14.917	128.9177	315.95	.	Q	.V	.	.	.
15.000	131.1888	329.77	.	Q	.V	.	.	.
15.083	133.5501	342.86	.	Q	.V	.	.	.
15.167	136.0122	357.49	.	Q	.V	.	.	.
15.250	138.5736	371.92	.	Q	.V	.	.	.
15.333	141.2393	387.06	.	Q	.V	.	.	.
15.417	144.0016	401.09	.	Q	.V	.	.	.
15.500	146.8601	415.04	.	Q	.V	.	.	.
15.583	149.8191	429.64	.	Q	.V	.	.	.
15.667	152.8751	443.74	.	Q	.V	.	.	.
15.750	156.0183	456.39	.	Q	.V	.	.	.
15.833	159.2609	470.82	.	Q	.V	.	.	.
15.917	162.6442	491.26	.	Q	.V	.	.	.
16.000	166.2754	527.25	.	.Q	.V	.	.	.
16.083	170.5463	620.13	.	.	Q V	.	.	.
16.167	175.5017	719.53	.	.	QV	.	.	.
16.250	181.0869	810.97	.	.	VQ	.	.	.
16.333	187.5749	942.06	.	.	V Q.	.	.	.
16.417	195.5287	1154.89	.	.	V . Q	.	.	.
16.500	204.6004	1317.22	.	.	V . Q	.	.	.
16.583	214.4725	1433.43	.	.	V . Q	.	.	.
16.667	224.8264	1503.39	.	.	V . Q	.	.	.
16.750	235.6517	1571.83	.	.	.V . Q	.	.	.
16.833	247.4462	1712.55	.	.	.V . Q	.	.	.
16.917	259.8239	1797.25	.	.	V . Q	.	.	.
17.000	272.5439	1846.95	.	.	V . Q	.	.	.
17.083	284.1719	1688.38	.	.	V . Q	.	.	.
17.167	295.7141	1675.93	.	.	V . Q	.	.	.
17.250	305.9140	1481.03	.	.	V . Q	.	.	.
17.333	314.9560	1312.89	.	.	Q V.	.	.	.
17.417	322.8535	1146.72	.	.	Q V.	.	.	.
17.500	330.1093	1053.54	.	.	Q V	.	.	.
17.583	336.4246	916.99	.	.	Q .V	.	.	.
17.667	341.8996	794.96	.	.	Q .V	.	.	.
17.750	346.8590	720.12	.	.	Q .V	.	.	.
17.833	351.4143	661.42	.	.	Q .V	.	.	.
17.917	355.4395	584.46	.	.	Q .V	.	.	.
18.000	359.0372	522.40	.	.	Q .V	.	.	.
18.083	362.2090	460.54	.	.	Q .V	.	.	.
18.167	365.1139	421.79	.	.	Q .V	.	.	.
18.250	367.7548	383.46	.	.	Q .V	.	.	.
18.333	369.9863	324.02	.	.	Q .V	.	.	.
18.417	372.0447	298.88	.	.	Q .V	.	.	.
18.500	373.9992	283.80	.	.	Q .V	.	.	.
18.583	375.8662	271.09	.	.	Q .V	.	.	.
18.667	377.6494	258.92	.	.	Q .V	.	.	.

18.750	379.3564	247.84	.	Q	.	.	.	V	.
18.833	380.9901	237.22	.	Q	.	.	.	V	.
18.917	382.5555	227.30	.	Q	.	.	.	V	.
19.000	384.0482	216.73	.	Q	.	.	.	V	.
19.083	385.4737	206.99	.	Q	.	.	.	V	.
19.167	386.8217	195.72	.	Q	.	.	.	V	.
19.250	388.0829	183.13	.	Q	.	.	.	V	.
19.333	389.1844	159.94	.	Q	.	.	.	V	.
19.417	390.2353	152.59	.	Q	.	.	.	V	.
19.500	391.2496	147.27	.	Q	.	.	.	V	.
19.583	392.2328	142.76	.	Q	.	.	.	V	.
19.667	393.1843	138.15	.	Q	.	.	.	V	.
19.750	394.1074	134.04	.	Q	.	.	.	V	.
19.833	395.0050	130.32	.	Q	.	.	.	V	.
19.917	395.8798	127.02	.	Q	.	.	.	V	.
20.000	396.7336	123.97	.	Q	.	.	.	V	.

 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	365.0
20%	185.0
30%	115.0
40%	90.0
50%	75.0
60%	65.0
70%	55.0
80%	40.0
90%	25.0

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 2

 >>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<

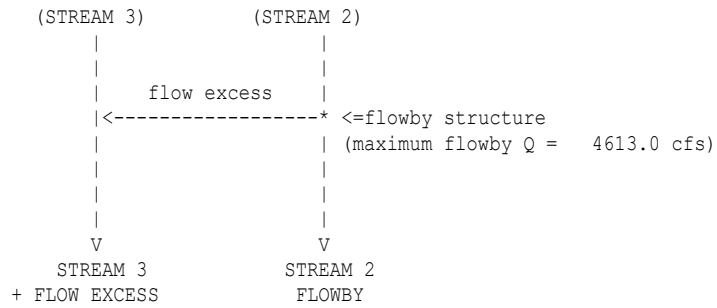
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
 FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
 THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.

DATA PAIR NUMBER	Qenter (CFS)	Qpass (CFS)
-	0.00	0.00
1	413.00	413.00
2	1897.00	1613.00
3	4682.00	3013.00
4	6819.00	4013.00
5	8100.00	4613.00

FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3

INFLOW

INFLOW



FLOWBY BASIN MODELING RESULTS:

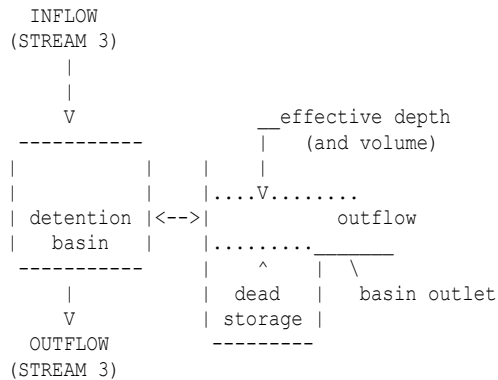
MODEL TIME (HRS)	INFLOW (STREAM 3) (CFS)	INFLOW (STREAM 2) (CFS)	OUTFLOW (STREAM 3) (CFS)	FLOWBY (STREAM 2) (CFS)
10.000	0.00	106.38	0.00	106.38
10.083	0.00	107.17	0.00	107.17
10.167	0.00	107.98	0.00	107.98
10.250	0.00	108.81	0.00	108.81
10.333	0.00	109.66	0.00	109.66
10.417	0.00	110.51	0.00	110.51
10.500	0.00	111.40	0.00	111.40
10.583	0.00	112.29	0.00	112.29
10.667	0.00	113.22	0.00	113.22
10.750	0.00	114.15	0.00	114.15
10.833	0.00	115.11	0.00	115.11
10.917	0.00	116.09	0.00	116.09
11.000	0.00	117.10	0.00	117.10
11.083	0.00	118.12	0.00	118.12
11.167	0.00	119.17	0.00	119.17
11.250	0.00	120.24	0.00	120.24
11.333	0.00	121.34	0.00	121.34
11.417	0.00	122.46	0.00	122.46
11.500	0.00	123.63	0.00	123.63
11.583	0.00	124.80	0.00	124.80
11.667	0.00	126.02	0.00	126.02
11.750	0.00	127.26	0.00	127.26
11.833	0.00	128.54	0.00	128.54
11.917	0.00	129.85	0.00	129.85
12.000	0.00	131.20	0.00	131.20
12.083	0.00	132.81	0.00	132.81
12.167	0.00	134.71	0.00	134.71
12.250	0.00	136.76	0.00	136.76
12.333	0.00	139.15	0.00	139.15
12.417	0.00	142.25	0.00	142.25
12.500	0.00	145.91	0.00	145.91
12.583	0.00	149.97	0.00	149.97
12.667	0.00	154.22	0.00	154.22
12.750	0.00	158.60	0.00	158.60
12.833	0.00	163.54	0.00	163.54
12.917	0.00	168.83	0.00	168.83
13.000	0.00	174.59	0.00	174.59

13.083	0.00	179.76	0.00	179.76
13.167	0.00	185.34	0.00	185.34
13.250	0.00	190.35	0.00	190.35
13.333	0.00	195.01	0.00	195.01
13.417	0.00	199.26	0.00	199.26
13.500	0.00	203.50	0.00	203.50
13.583	0.00	207.43	0.00	207.43
13.667	0.00	211.16	0.00	211.16
13.750	0.00	214.83	0.00	214.83
13.833	0.00	218.57	0.00	218.57
13.917	0.00	222.22	0.00	222.22
14.000	0.00	225.93	0.00	225.93
14.083	0.00	230.10	0.00	230.10
14.167	0.00	234.91	0.00	234.91
14.250	0.00	240.08	0.00	240.08
14.333	0.00	245.86	0.00	245.86
14.417	0.00	253.20	0.00	253.20
14.500	0.00	261.81	0.00	261.81
14.583	0.00	271.32	0.00	271.32
14.667	0.00	281.34	0.00	281.34
14.750	0.00	291.71	0.00	291.71
14.833	0.00	303.37	0.00	303.37
14.917	0.00	315.95	0.00	315.95
15.000	0.00	329.77	0.00	329.77
15.083	0.00	342.86	0.00	342.86
15.167	0.00	357.49	0.00	357.49
15.250	0.00	371.92	0.00	371.92
15.333	0.00	387.06	0.00	387.06
15.417	0.00	401.09	0.00	401.09
15.500	0.00	415.04	0.39	414.65
15.583	0.00	429.64	3.19	426.46
15.667	0.00	443.74	5.88	437.86
15.750	0.00	456.39	8.30	448.09
15.833	0.00	470.82	11.07	459.75
15.917	0.00	491.26	14.98	476.28
16.000	0.00	527.25	21.86	505.38
16.083	0.00	620.13	39.64	580.49
16.167	0.00	719.53	58.66	660.87
16.250	0.00	810.97	76.16	734.81
16.333	0.00	942.06	101.25	840.81
16.417	0.00	1154.89	141.98	1012.91
16.500	0.00	1317.22	173.05	1144.18
16.583	0.00	1433.43	195.28	1238.15
16.667	0.00	1503.39	208.67	1294.71
16.750	0.00	1571.83	221.77	1350.06
16.833	0.00	1712.55	248.70	1463.85
16.917	0.00	1797.25	264.91	1532.34
17.000	0.00	1846.95	274.42	1572.53
17.083	0.00	1688.38	244.08	1444.31
17.167	0.00	1675.93	241.69	1434.23
17.250	0.00	1481.03	204.39	1276.63
17.333	0.00	1312.89	172.22	1140.68
17.417	0.00	1146.72	140.42	1006.30
17.500	0.00	1053.54	122.58	930.96
17.583	0.00	916.99	96.45	820.54
17.667	0.00	794.96	73.10	721.86
17.750	0.00	720.12	58.77	661.34
17.833	0.00	661.42	47.54	613.88

17.917	0.00	584.46	32.81	551.64
18.000	0.00	522.40	20.94	501.46
18.083	0.00	460.54	9.10	451.44
18.167	0.00	421.79	1.68	420.11
18.250	0.00	383.46	0.00	383.46
18.333	0.00	324.02	0.00	324.02
18.417	0.00	298.88	0.00	298.88
18.500	0.00	283.80	0.00	283.80
18.583	0.00	271.09	0.00	271.09
18.667	0.00	258.92	0.00	258.92
18.750	0.00	247.84	0.00	247.84
18.833	0.00	237.22	0.00	237.22
18.917	0.00	227.30	0.00	227.30
19.000	0.00	216.73	0.00	216.73
19.083	0.00	206.99	0.00	206.99
19.167	0.00	195.72	0.00	195.72
19.250	0.00	183.13	0.00	183.13
19.333	0.00	159.94	0.00	159.94
19.417	0.00	152.59	0.00	152.59
19.500	0.00	147.27	0.00	147.27
19.583	0.00	142.76	0.00	142.76
19.667	0.00	138.15	0.00	138.15
19.750	0.00	134.04	0.00	134.04
19.833	0.00	130.32	0.00	130.32
19.917	0.00	127.02	0.00	127.02
20.000	0.00	123.97	0.00	123.97

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<



ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
 THROUGH A FLOW-THROUGH DETENTION BASIN
 SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
 DEAD STORAGE(AF) = 5.700
 SPECIFIED DEAD STORAGE(AF) FILLED = 5.700
 SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000

DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.50	0.01	0.001
3	2.00	0.02	1.900
4	4.00	0.03	16.100
5	4.30	0.04	18.200
6	5.00	314.00	23.200
7	6.00	1306.00	30.300
8	7.00	2847.00	39.100
9	8.00	4942.00	47.800

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MODIFIED-PULS BASIN ROUTING MODEL RESULTS(5-MINUTE COMPUTATION INTERVALS):
 (Note: Computed EFFECTIVE DEPTH and VOLUME are estimated at the clock time;
 MEAN OUTFLOW is the average value during the unit interval.)

CLOCK TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	LOSS (CFS)	MEAN EFFECTIVE DEPTH (FT)	MEAN OUTFLOW (CFS)	EFFECTIVE VOLUME (AF)
10.083	5.700	0.00	0.00	0.00	0.0	0.000
10.167	5.700	0.00	0.00	0.00	0.0	0.000
10.250	5.700	0.00	0.00	0.00	0.0	0.000
10.333	5.700	0.00	0.00	0.00	0.0	0.000
10.417	5.700	0.00	0.00	0.00	0.0	0.000
10.500	5.700	0.00	0.00	0.00	0.0	0.000
10.583	5.700	0.00	0.00	0.00	0.0	0.000
10.667	5.700	0.00	0.00	0.00	0.0	0.000
10.750	5.700	0.00	0.00	0.00	0.0	0.000
10.833	5.700	0.00	0.00	0.00	0.0	0.000
10.917	5.700	0.00	0.00	0.00	0.0	0.000
11.000	5.700	0.00	0.00	0.00	0.0	0.000
11.083	5.700	0.00	0.00	0.00	0.0	0.000
11.167	5.700	0.00	0.00	0.00	0.0	0.000
11.250	5.700	0.00	0.00	0.00	0.0	0.000
11.333	5.700	0.00	0.00	0.00	0.0	0.000
11.417	5.700	0.00	0.00	0.00	0.0	0.000
11.500	5.700	0.00	0.00	0.00	0.0	0.000
11.583	5.700	0.00	0.00	0.00	0.0	0.000
11.667	5.700	0.00	0.00	0.00	0.0	0.000
11.750	5.700	0.00	0.00	0.00	0.0	0.000
11.833	5.700	0.00	0.00	0.00	0.0	0.000
11.917	5.700	0.00	0.00	0.00	0.0	0.000
12.000	5.700	0.00	0.00	0.00	0.0	0.000
12.083	5.700	0.00	0.00	0.00	0.0	0.000
12.167	5.700	0.00	0.00	0.00	0.0	0.000
12.250	5.700	0.00	0.00	0.00	0.0	0.000
12.333	5.700	0.00	0.00	0.00	0.0	0.000
12.417	5.700	0.00	0.00	0.00	0.0	0.000
12.500	5.700	0.00	0.00	0.00	0.0	0.000
12.583	5.700	0.00	0.00	0.00	0.0	0.000

12.667	5.700	0.00	0.00	0.00	0.0	0.000
12.750	5.700	0.00	0.00	0.00	0.0	0.000
12.833	5.700	0.00	0.00	0.00	0.0	0.000
12.917	5.700	0.00	0.00	0.00	0.0	0.000
13.000	5.700	0.00	0.00	0.00	0.0	0.000
13.083	5.700	0.00	0.00	0.00	0.0	0.000
13.167	5.700	0.00	0.00	0.00	0.0	0.000
13.250	5.700	0.00	0.00	0.00	0.0	0.000
13.333	5.700	0.00	0.00	0.00	0.0	0.000
13.417	5.700	0.00	0.00	0.00	0.0	0.000
13.500	5.700	0.00	0.00	0.00	0.0	0.000
13.583	5.700	0.00	0.00	0.00	0.0	0.000
13.667	5.700	0.00	0.00	0.00	0.0	0.000
13.750	5.700	0.00	0.00	0.00	0.0	0.000
13.833	5.700	0.00	0.00	0.00	0.0	0.000
13.917	5.700	0.00	0.00	0.00	0.0	0.000
14.000	5.700	0.00	0.00	0.00	0.0	0.000
14.083	5.700	0.00	0.00	0.00	0.0	0.000
14.167	5.700	0.00	0.00	0.00	0.0	0.000
14.250	5.700	0.00	0.00	0.00	0.0	0.000
14.333	5.700	0.00	0.00	0.00	0.0	0.000
14.417	5.700	0.00	0.00	0.00	0.0	0.000
14.500	5.700	0.00	0.00	0.00	0.0	0.000
14.583	5.700	0.00	0.00	0.00	0.0	0.000
14.667	5.700	0.00	0.00	0.00	0.0	0.000
14.750	5.700	0.00	0.00	0.00	0.0	0.000
14.833	5.700	0.00	0.00	0.00	0.0	0.000
14.917	5.700	0.00	0.00	0.00	0.0	0.000
15.000	5.700	0.00	0.00	0.00	0.0	0.000
15.083	5.700	0.00	0.00	0.00	0.0	0.000
15.167	5.700	0.00	0.00	0.00	0.0	0.000
15.250	5.700	0.00	0.00	0.00	0.0	0.000
15.333	5.700	0.00	0.00	0.00	0.0	0.000
15.417	5.700	0.00	0.00	0.00	0.0	0.000
15.500	5.700	0.39	0.00	1.50	0.0	0.003
15.583	5.700	3.19	0.00	1.51	0.0	0.025
15.667	5.700	5.88	0.00	1.52	0.0	0.065
15.750	5.700	8.30	0.00	1.53	0.0	0.122
15.833	5.700	11.07	0.00	1.55	0.0	0.198
15.917	5.700	14.98	0.00	1.58	0.0	0.301
16.000	5.700	21.86	0.00	1.62	0.0	0.452
16.083	5.700	39.64	0.00	1.69	0.0	0.725
16.167	5.700	58.66	0.00	1.80	0.0	1.129
16.250	5.700	76.16	0.00	1.93	0.0	1.653
16.333	5.700	101.25	0.00	2.06	0.0	2.350
16.417	5.700	141.98	0.00	2.20	0.0	3.328
16.500	5.700	173.05	0.00	2.37	0.0	4.519
16.583	5.700	195.28	0.00	2.56	0.0	5.864
16.667	5.700	208.67	0.00	2.76	0.0	7.301
16.750	5.700	221.77	0.00	2.98	0.0	8.828
16.833	5.700	248.70	0.00	3.22	0.0	10.541
16.917	5.700	264.91	0.00	3.47	0.0	12.365
17.000	5.700	274.42	0.00	3.74	0.0	14.255
17.083	5.700	244.08	0.00	3.98	0.0	15.936
17.167	5.700	241.69	0.00	4.21	0.0	17.600
17.250	5.700	204.39	0.00	4.39	20.9	18.864
17.333	5.700	172.22	0.00	4.50	64.9	19.603
17.417	5.700	140.42	0.00	4.54	97.4	19.899

17.500	5.700	122.58	0.00	4.55	109.5	19.989
17.583	5.700	96.45	0.00	4.54	109.5	19.899
17.667	5.700	73.10	0.00	4.51	100.7	19.708
17.750	5.700	58.77	0.00	4.48	88.4	19.505
17.833	5.700	47.54	0.00	4.46	75.8	19.310
17.917	5.700	32.81	0.00	4.43	63.2	19.101
18.000	5.700	20.94	0.00	4.40	50.3	18.899
18.083	5.700	9.10	0.00	4.37	37.7	18.702
18.167	5.700	1.68	0.00	4.35	26.2	18.532
18.250	5.700	0.00	0.00	4.33	17.2	18.414
18.333	5.700	0.00	0.00	4.32	11.1	18.338
18.417	5.700	0.00	0.00	4.31	7.1	18.288
18.500	5.700	0.00	0.00	4.31	4.6	18.257
18.583	5.700	0.00	0.00	4.31	3.0	18.236
18.667	5.700	0.00	0.00	4.30	1.9	18.223
18.750	5.700	0.00	0.00	4.30	1.2	18.215
18.833	5.700	0.00	0.00	4.30	0.8	18.209
18.917	5.700	0.00	0.00	4.30	0.5	18.206
19.000	5.700	0.00	0.00	4.30	0.3	18.203
19.083	5.700	0.00	0.00	4.30	0.2	18.202
19.167	5.700	0.00	0.00	4.30	0.1	18.201
19.250	5.700	0.00	0.00	4.30	0.1	18.200
19.333	5.700	0.00	0.00	4.30	0.1	18.200
19.417	5.700	0.00	0.00	4.30	0.0	18.200
19.500	5.700	0.00	0.00	4.30	0.0	18.199
19.583	5.700	0.00	0.00	4.30	0.0	18.199
19.667	5.700	0.00	0.00	4.30	0.0	18.199
19.750	5.700	0.00	0.00	4.30	0.0	18.199
19.833	5.700	0.00	0.00	4.30	0.0	18.198
19.917	5.700	0.00	0.00	4.30	0.0	18.198

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 24.352 AF
BASIN STORAGE = 21.375 AF (WITH 5.700 AF INITIALLY FILLED)
OUTFLOW VOLUME = 8.676 AF
LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 8

>>>>MODEL STREAM SPLITFLOW WHERE A CONSTANT PROPORTION
OF STREAM 3 IS ADDED TO STREAM 4<<<<<

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	INFLOW	INFLOW
	(STREAM 4)	(STREAM 3)
	(.500) (STREAM 3)	
	<-----* <= splitflow model	
	V	V
	STREAM 4	(.500) (STREAM 3)
	+ (.500) (STREAM 3)	

STREAM NUMBER 3 IS SPLIT TOWARDS STREAM 4
 WHERE 0.50 (DECIMAL PERCENT) REMAINS IN STREAM 3
 AND 0.50 (DECIMAL PERCENT) IS ADDED TO STREAM 4

STREAM SPLITFLOW MODELING RESULTS:

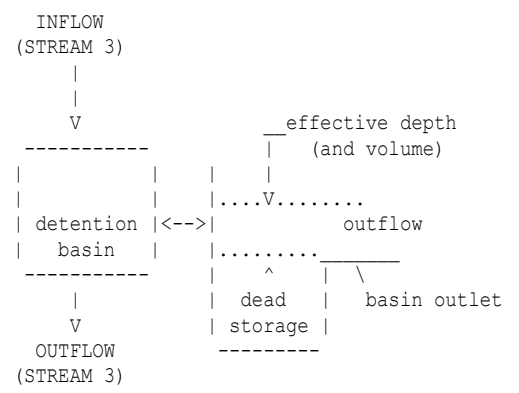
MODEL TIME (HRS)	INFLOW STREAM 4 (CFS)	INFLOW STREAM 3 (CFS)	OUTFLOW STREAM 4 (CFS)	OUTFLOW STREAM 3 (CFS)
10.000	0.00	0.00	0.00	0.00
10.083	0.00	0.00	0.00	0.00
10.167	0.00	0.00	0.00	0.00
10.250	0.00	0.00	0.00	0.00
10.333	0.00	0.00	0.00	0.00
10.417	0.00	0.00	0.00	0.00
10.500	0.00	0.00	0.00	0.00
10.583	0.00	0.00	0.00	0.00
10.667	0.00	0.00	0.00	0.00
10.750	0.00	0.00	0.00	0.00
10.833	0.00	0.00	0.00	0.00
10.917	0.00	0.00	0.00	0.00
11.000	0.00	0.00	0.00	0.00
11.083	0.00	0.00	0.00	0.00
11.167	0.00	0.00	0.00	0.00
11.250	0.00	0.00	0.00	0.00
11.333	0.00	0.00	0.00	0.00
11.417	0.00	0.00	0.00	0.00
11.500	0.00	0.00	0.00	0.00
11.583	0.00	0.00	0.00	0.00
11.667	0.00	0.00	0.00	0.00
11.750	0.00	0.00	0.00	0.00
11.833	0.00	0.00	0.00	0.00
11.917	0.00	0.00	0.00	0.00
12.000	0.00	0.00	0.00	0.00
12.083	0.00	0.00	0.00	0.00
12.167	0.00	0.00	0.00	0.00
12.250	0.00	0.00	0.00	0.00
12.333	0.00	0.00	0.00	0.00
12.417	0.00	0.00	0.00	0.00
12.500	0.00	0.00	0.00	0.00
12.583	0.00	0.00	0.00	0.00
12.667	0.00	0.00	0.00	0.00
12.750	0.00	0.00	0.00	0.00
12.833	0.00	0.00	0.00	0.00
12.917	0.00	0.00	0.00	0.00
13.000	0.00	0.00	0.00	0.00
13.083	0.00	0.00	0.00	0.00
13.167	0.00	0.00	0.00	0.00
13.250	0.00	0.00	0.00	0.00
13.333	0.00	0.00	0.00	0.00
13.417	0.00	0.00	0.00	0.00
13.500	0.00	0.00	0.00	0.00
13.583	0.00	0.00	0.00	0.00

13.667	0.00	0.00	0.00	0.00
13.750	0.00	0.00	0.00	0.00
13.833	0.00	0.00	0.00	0.00
13.917	0.00	0.00	0.00	0.00
14.000	0.00	0.00	0.00	0.00
14.083	0.00	0.00	0.00	0.00
14.167	0.00	0.00	0.00	0.00
14.250	0.00	0.00	0.00	0.00
14.333	0.00	0.00	0.00	0.00
14.417	0.00	0.00	0.00	0.00
14.500	0.00	0.00	0.00	0.00
14.583	0.00	0.00	0.00	0.00
14.667	0.00	0.00	0.00	0.00
14.750	0.00	0.00	0.00	0.00
14.833	0.00	0.00	0.00	0.00
14.917	0.00	0.00	0.00	0.00
15.000	0.00	0.00	0.00	0.00
15.083	0.00	0.00	0.00	0.00
15.167	0.00	0.00	0.00	0.00
15.250	0.00	0.00	0.00	0.00
15.333	0.00	0.00	0.00	0.00
15.417	0.00	0.00	0.00	0.00
15.500	0.00	0.01	0.00	0.00
15.583	0.00	0.01	0.01	0.01
15.667	0.00	0.01	0.01	0.01
15.750	0.00	0.01	0.01	0.01
15.833	0.00	0.01	0.01	0.01
15.917	0.00	0.01	0.01	0.01
16.000	0.00	0.01	0.01	0.01
16.083	0.00	0.01	0.01	0.01
16.167	0.00	0.02	0.01	0.01
16.250	0.00	0.02	0.01	0.01
16.333	0.00	0.02	0.01	0.01
16.417	0.00	0.02	0.01	0.01
16.500	0.00	0.02	0.01	0.01
16.583	0.00	0.02	0.01	0.01
16.667	0.00	0.03	0.01	0.01
16.750	0.00	0.03	0.01	0.01
16.833	0.00	0.03	0.01	0.01
16.917	0.00	0.03	0.01	0.01
17.000	0.00	0.03	0.02	0.02
17.083	0.00	0.03	0.02	0.02
17.167	0.00	0.04	0.02	0.02
17.250	0.00	20.88	10.44	10.44
17.333	0.00	64.92	32.46	32.46
17.417	0.00	97.42	48.71	48.71
17.500	0.00	109.54	54.77	54.77
17.583	0.00	109.53	54.76	54.76
17.667	0.00	100.73	50.36	50.36
17.750	0.00	88.36	44.18	44.18
17.833	0.00	75.84	37.92	37.92
17.917	0.00	63.16	31.58	31.58
18.000	0.00	50.26	25.13	25.13
18.083	0.00	37.73	18.86	18.86
18.167	0.00	26.23	13.11	13.11
18.250	0.00	17.20	8.60	8.60
18.333	0.00	11.09	5.54	5.54
18.417	0.00	7.14	3.57	3.57

18.500	0.00	4.60	2.30	2.30
18.583	0.00	2.97	1.48	1.48
18.667	0.00	1.91	0.96	0.96
18.750	0.00	1.23	0.62	0.62
18.833	0.00	0.79	0.40	0.40
18.917	0.00	0.51	0.26	0.26
19.000	0.00	0.33	0.16	0.16
19.083	0.00	0.21	0.11	0.11
19.167	0.00	0.14	0.07	0.07
19.250	0.00	0.09	0.04	0.04
19.333	0.00	0.06	0.03	0.03
19.417	0.00	0.04	0.02	0.02
19.500	0.00	0.04	0.02	0.02
19.583	0.00	0.04	0.02	0.02
19.667	0.00	0.04	0.02	0.02
19.750	0.00	0.04	0.02	0.02
19.833	0.00	0.04	0.02	0.02
19.917	0.00	0.04	0.02	0.02
20.000	0.00	0.04	0.02	0.02

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
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ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE(AF) = 0.000
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
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1	0.00	0.00	0.000
2	0.99	2.90	0.900
3	1.99	11.38	2.900
4	3.99	19.63	10.300
5	5.99	25.19	20.700
6	7.99	29.71	31.700
7	9.99	33.62	43.500
8	10.99	35.49	49.700
9	11.99	313.46	56.400
10	12.99	894.27	63.100
11	13.99	1748.55	69.900
12	15.99	4306.91	84.100

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MODIFIED-PULS BASIN ROUTING MODEL RESULTS(5-MINUTE COMPUTATION INTERVALS):
(Note: Computed EFFECTIVE DEPTH and VOLUME are estimated at the clock time;
MEAN OUTFLOW is the average value during the unit interval.)

CLOCK TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	LOSS (CFS)	EFFECTIVE DEPTH (FT)	MEAN OUTFLOW (CFS)	EFFECTIVE VOLUME (AF)
10.083	0.000	0.00	0.00	0.00	0.0	0.000
10.167	0.000	0.00	0.00	0.00	0.0	0.000
10.250	0.000	0.00	0.00	0.00	0.0	0.000
10.333	0.000	0.00	0.00	0.00	0.0	0.000
10.417	0.000	0.00	0.00	0.00	0.0	0.000
10.500	0.000	0.00	0.00	0.00	0.0	0.000
10.583	0.000	0.00	0.00	0.00	0.0	0.000
10.667	0.000	0.00	0.00	0.00	0.0	0.000
10.750	0.000	0.00	0.00	0.00	0.0	0.000
10.833	0.000	0.00	0.00	0.00	0.0	0.000
10.917	0.000	0.00	0.00	0.00	0.0	0.000
11.000	0.000	0.00	0.00	0.00	0.0	0.000
11.083	0.000	0.00	0.00	0.00	0.0	0.000
11.167	0.000	0.00	0.00	0.00	0.0	0.000
11.250	0.000	0.00	0.00	0.00	0.0	0.000
11.333	0.000	0.00	0.00	0.00	0.0	0.000
11.417	0.000	0.00	0.00	0.00	0.0	0.000
11.500	0.000	0.00	0.00	0.00	0.0	0.000
11.583	0.000	0.00	0.00	0.00	0.0	0.000
11.667	0.000	0.00	0.00	0.00	0.0	0.000
11.750	0.000	0.00	0.00	0.00	0.0	0.000
11.833	0.000	0.00	0.00	0.00	0.0	0.000
11.917	0.000	0.00	0.00	0.00	0.0	0.000
12.000	0.000	0.00	0.00	0.00	0.0	0.000
12.083	0.000	0.00	0.00	0.00	0.0	0.000
12.167	0.000	0.00	0.00	0.00	0.0	0.000
12.250	0.000	0.00	0.00	0.00	0.0	0.000
12.333	0.000	0.00	0.00	0.00	0.0	0.000
12.417	0.000	0.00	0.00	0.00	0.0	0.000
12.500	0.000	0.00	0.00	0.00	0.0	0.000
12.583	0.000	0.00	0.00	0.00	0.0	0.000
12.667	0.000	0.00	0.00	0.00	0.0	0.000
12.750	0.000	0.00	0.00	0.00	0.0	0.000
12.833	0.000	0.00	0.00	0.00	0.0	0.000
12.917	0.000	0.00	0.00	0.00	0.0	0.000

13.000	0.000	0.00	0.00	0.00	0.0	0.000
13.083	0.000	0.00	0.00	0.00	0.0	0.000
13.167	0.000	0.00	0.00	0.00	0.0	0.000
13.250	0.000	0.00	0.00	0.00	0.0	0.000
13.333	0.000	0.00	0.00	0.00	0.0	0.000
13.417	0.000	0.00	0.00	0.00	0.0	0.000
13.500	0.000	0.00	0.00	0.00	0.0	0.000
13.583	0.000	0.00	0.00	0.00	0.0	0.000
13.667	0.000	0.00	0.00	0.00	0.0	0.000
13.750	0.000	0.00	0.00	0.00	0.0	0.000
13.833	0.000	0.00	0.00	0.00	0.0	0.000
13.917	0.000	0.00	0.00	0.00	0.0	0.000
14.000	0.000	0.00	0.00	0.00	0.0	0.000
14.083	0.000	0.00	0.00	0.00	0.0	0.000
14.167	0.000	0.00	0.00	0.00	0.0	0.000
14.250	0.000	0.00	0.00	0.00	0.0	0.000
14.333	0.000	0.00	0.00	0.00	0.0	0.000
14.417	0.000	0.00	0.00	0.00	0.0	0.000
14.500	0.000	0.00	0.00	0.00	0.0	0.000
14.583	0.000	0.00	0.00	0.00	0.0	0.000
14.667	0.000	0.00	0.00	0.00	0.0	0.000
14.750	0.000	0.00	0.00	0.00	0.0	0.000
14.833	0.000	0.00	0.00	0.00	0.0	0.000
14.917	0.000	0.00	0.00	0.00	0.0	0.000
15.000	0.000	0.00	0.00	0.00	0.0	0.000
15.083	0.000	0.00	0.00	0.00	0.0	0.000
15.167	0.000	0.00	0.00	0.00	0.0	0.000
15.250	0.000	0.00	0.00	0.00	0.0	0.000
15.333	0.000	0.00	0.00	0.00	0.0	0.000
15.417	0.000	0.00	0.00	0.00	0.0	0.000
15.500	0.000	0.00	0.00	0.00	0.0	0.000
15.583	0.000	0.01	0.00	0.00	0.0	0.000
15.667	0.000	0.01	0.00	0.00	0.0	0.000
15.750	0.000	0.01	0.00	0.00	0.0	0.000
15.833	0.000	0.01	0.00	0.00	0.0	0.000
15.917	0.000	0.01	0.00	0.00	0.0	0.000
16.000	0.000	0.01	0.00	0.00	0.0	0.000
16.083	0.000	0.01	0.00	0.00	0.0	0.000
16.167	0.000	0.01	0.00	0.00	0.0	0.000
16.250	0.000	0.01	0.00	0.00	0.0	0.000
16.333	0.000	0.01	0.00	0.00	0.0	0.000
16.417	0.000	0.01	0.00	0.00	0.0	0.001
16.500	0.000	0.01	0.00	0.00	0.0	0.001
16.583	0.000	0.01	0.00	0.00	0.0	0.001
16.667	0.000	0.01	0.00	0.00	0.0	0.001
16.750	0.000	0.01	0.00	0.00	0.0	0.001
16.833	0.000	0.01	0.00	0.00	0.0	0.001
16.917	0.000	0.01	0.00	0.00	0.0	0.001
17.000	0.000	0.02	0.00	0.00	0.0	0.001
17.083	0.000	0.02	0.00	0.00	0.0	0.001
17.167	0.000	0.02	0.00	0.00	0.0	0.001
17.250	0.000	10.44	0.00	0.08	0.1	0.072
17.333	0.000	32.46	0.00	0.32	0.6	0.292
17.417	0.000	48.71	0.00	0.68	1.5	0.617
17.500	0.000	54.77	0.00	1.03	2.6	0.976
17.583	0.000	54.76	0.00	1.20	4.0	1.326
17.667	0.000	50.36	0.00	1.36	5.4	1.636
17.750	0.000	44.18	0.00	1.49	6.6	1.895

17.833	0.000	37.92	0.00	1.59	7.6	2.104
17.917	0.000	31.58	0.00	1.67	8.3	2.264
18.000	0.000	25.13	0.00	1.73	8.9	2.376
18.083	0.000	18.86	0.00	1.76	9.3	2.442
18.167	0.000	13.11	0.00	1.77	9.5	2.467
18.250	0.000	8.60	0.00	1.77	9.5	2.460
18.333	0.000	5.54	0.00	1.76	9.5	2.433
18.417	0.000	3.57	0.00	1.74	9.3	2.394
18.500	0.000	2.30	0.00	1.71	9.1	2.347
18.583	0.000	1.48	0.00	1.69	8.9	2.296
18.667	0.000	0.96	0.00	1.66	8.7	2.242
18.750	0.000	0.62	0.00	1.63	8.5	2.188
18.833	0.000	0.40	0.00	1.61	8.2	2.134
18.917	0.000	0.26	0.00	1.58	8.0	2.081
19.000	0.000	0.16	0.00	1.55	7.8	2.028
19.083	0.000	0.11	0.00	1.53	7.6	1.977
19.167	0.000	0.07	0.00	1.50	7.4	1.926
19.250	0.000	0.04	0.00	1.48	7.1	1.877
19.333	0.000	0.03	0.00	1.45	6.9	1.830
19.417	0.000	0.02	0.00	1.43	6.7	1.784
19.500	0.000	0.02	0.00	1.41	6.6	1.739
19.583	0.000	0.02	0.00	1.39	6.4	1.695
19.667	0.000	0.02	0.00	1.37	6.2	1.652
19.750	0.000	0.02	0.00	1.35	6.0	1.611
19.833	0.000	0.02	0.00	1.33	5.8	1.571
19.917	0.000	0.02	0.00	1.31	5.7	1.532

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 4.338 AF
BASIN STORAGE = 0.005 AF (WITH 0.000 AF INITIALLY FILLED)
OUTFLOW VOLUME = 4.333 AF
LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<<
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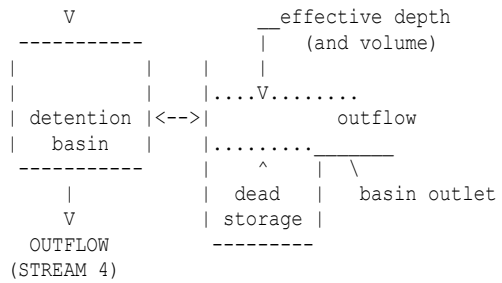
FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<<
=====

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<<
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INFLOW
(STREAM 4)
|
|



ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
 THROUGH A FLOW-THROUGH DETENTION BASIN
 SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
 DEAD STORAGE(AF) = 0.000
 SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
 SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
 DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.48	0.70	0.400
3	1.48	6.50	1.800
4	3.48	18.11	8.500
5	5.48	23.99	17.900
6	7.48	28.68	27.800
7	9.48	32.70	38.300
8	10.48	34.50	43.900
9	11.48	36.29	49.400
10	12.48	314.07	55.900
11	13.48	895.00	62.300
12	15.48	2882.95	74.700

=====
 MODIFIED-PULS BASIN ROUTING MODEL RESULTS(5-MINUTE COMPUTATION INTERVALS):
 (Note: Computed EFFECTIVE DEPTH and VOLUME are estimated at the clock time;
 MEAN OUTFLOW is the average value during the unit interval.)

CLOCK TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	LOSS (CFS)	MEAN EFFECTIVE DEPTH (FT)	MEAN OUTFLOW (CFS)	MEAN EFFECTIVE VOLUME (AF)
10.083	0.000	0.00	0.00	0.00	0.0	0.000
10.167	0.000	0.00	0.00	0.00	0.0	0.000
10.250	0.000	0.00	0.00	0.00	0.0	0.000
10.333	0.000	0.00	0.00	0.00	0.0	0.000
10.417	0.000	0.00	0.00	0.00	0.0	0.000
10.500	0.000	0.00	0.00	0.00	0.0	0.000
10.583	0.000	0.00	0.00	0.00	0.0	0.000
10.667	0.000	0.00	0.00	0.00	0.0	0.000

10.750	0.000	0.00	0.00	0.00	0.0	0.000
10.833	0.000	0.00	0.00	0.00	0.0	0.000
10.917	0.000	0.00	0.00	0.00	0.0	0.000
11.000	0.000	0.00	0.00	0.00	0.0	0.000
11.083	0.000	0.00	0.00	0.00	0.0	0.000
11.167	0.000	0.00	0.00	0.00	0.0	0.000
11.250	0.000	0.00	0.00	0.00	0.0	0.000
11.333	0.000	0.00	0.00	0.00	0.0	0.000
11.417	0.000	0.00	0.00	0.00	0.0	0.000
11.500	0.000	0.00	0.00	0.00	0.0	0.000
11.583	0.000	0.00	0.00	0.00	0.0	0.000
11.667	0.000	0.00	0.00	0.00	0.0	0.000
11.750	0.000	0.00	0.00	0.00	0.0	0.000
11.833	0.000	0.00	0.00	0.00	0.0	0.000
11.917	0.000	0.00	0.00	0.00	0.0	0.000
12.000	0.000	0.00	0.00	0.00	0.0	0.000
12.083	0.000	0.00	0.00	0.00	0.0	0.000
12.167	0.000	0.00	0.00	0.00	0.0	0.000
12.250	0.000	0.00	0.00	0.00	0.0	0.000
12.333	0.000	0.00	0.00	0.00	0.0	0.000
12.417	0.000	0.00	0.00	0.00	0.0	0.000
12.500	0.000	0.00	0.00	0.00	0.0	0.000
12.583	0.000	0.00	0.00	0.00	0.0	0.000
12.667	0.000	0.00	0.00	0.00	0.0	0.000
12.750	0.000	0.00	0.00	0.00	0.0	0.000
12.833	0.000	0.00	0.00	0.00	0.0	0.000
12.917	0.000	0.00	0.00	0.00	0.0	0.000
13.000	0.000	0.00	0.00	0.00	0.0	0.000
13.083	0.000	0.00	0.00	0.00	0.0	0.000
13.167	0.000	0.00	0.00	0.00	0.0	0.000
13.250	0.000	0.00	0.00	0.00	0.0	0.000
13.333	0.000	0.00	0.00	0.00	0.0	0.000
13.417	0.000	0.00	0.00	0.00	0.0	0.000
13.500	0.000	0.00	0.00	0.00	0.0	0.000
13.583	0.000	0.00	0.00	0.00	0.0	0.000
13.667	0.000	0.00	0.00	0.00	0.0	0.000
13.750	0.000	0.00	0.00	0.00	0.0	0.000
13.833	0.000	0.00	0.00	0.00	0.0	0.000
13.917	0.000	0.00	0.00	0.00	0.0	0.000
14.000	0.000	0.00	0.00	0.00	0.0	0.000
14.083	0.000	0.00	0.00	0.00	0.0	0.000
14.167	0.000	0.00	0.00	0.00	0.0	0.000
14.250	0.000	0.00	0.00	0.00	0.0	0.000
14.333	0.000	0.00	0.00	0.00	0.0	0.000
14.417	0.000	0.00	0.00	0.00	0.0	0.000
14.500	0.000	0.00	0.00	0.00	0.0	0.000
14.583	0.000	0.00	0.00	0.00	0.0	0.000
14.667	0.000	0.00	0.00	0.00	0.0	0.000
14.750	0.000	0.00	0.00	0.00	0.0	0.000
14.833	0.000	0.00	0.00	0.00	0.0	0.000
14.917	0.000	0.00	0.00	0.00	0.0	0.000
15.000	0.000	0.00	0.00	0.00	0.0	0.000
15.083	0.000	0.00	0.00	0.00	0.0	0.000
15.167	0.000	0.00	0.00	0.00	0.0	0.000
15.250	0.000	0.00	0.00	0.00	0.0	0.000
15.333	0.000	0.00	0.00	0.00	0.0	0.000
15.417	0.000	0.00	0.00	0.00	0.0	0.000
15.500	0.000	0.00	0.00	0.00	0.0	0.000

15.583	0.000	0.01	0.00	0.00	0.0	0.000
15.667	0.000	0.01	0.00	0.00	0.0	0.000
15.750	0.000	0.01	0.00	0.00	0.0	0.000
15.833	0.000	0.01	0.00	0.00	0.0	0.000
15.917	0.000	0.01	0.00	0.00	0.0	0.000
16.000	0.000	0.01	0.00	0.00	0.0	0.000
16.083	0.000	0.01	0.00	0.00	0.0	0.000
16.167	0.000	0.01	0.00	0.00	0.0	0.000
16.250	0.000	0.01	0.00	0.00	0.0	0.000
16.333	0.000	0.01	0.00	0.00	0.0	0.000
16.417	0.000	0.01	0.00	0.00	0.0	0.001
16.500	0.000	0.01	0.00	0.00	0.0	0.001
16.583	0.000	0.01	0.00	0.00	0.0	0.001
16.667	0.000	0.01	0.00	0.00	0.0	0.001
16.750	0.000	0.01	0.00	0.00	0.0	0.001
16.833	0.000	0.01	0.00	0.00	0.0	0.001
16.917	0.000	0.01	0.00	0.00	0.0	0.001
17.000	0.000	0.02	0.00	0.00	0.0	0.001
17.083	0.000	0.02	0.00	0.00	0.0	0.001
17.167	0.000	0.02	0.00	0.00	0.0	0.001
17.250	0.000	10.44	0.00	0.09	0.1	0.073
17.333	0.000	32.46	0.00	0.35	0.3	0.294
17.417	0.000	48.71	0.00	0.64	1.1	0.622
17.500	0.000	54.77	0.00	0.90	2.4	0.983
17.583	0.000	54.76	0.00	1.15	3.8	1.334
17.667	0.000	50.36	0.00	1.37	5.2	1.645
17.750	0.000	44.18	0.00	1.51	6.3	1.906
17.833	0.000	37.92	0.00	1.58	6.9	2.120
17.917	0.000	31.58	0.00	1.63	7.2	2.288
18.000	0.000	25.13	0.00	1.66	7.5	2.409
18.083	0.000	18.86	0.00	1.69	7.6	2.487
18.167	0.000	13.11	0.00	1.70	7.7	2.524
18.250	0.000	8.60	0.00	1.70	7.8	2.530
18.333	0.000	5.54	0.00	1.69	7.8	2.515
18.417	0.000	3.57	0.00	1.68	7.7	2.486
18.500	0.000	2.30	0.00	1.67	7.7	2.449
18.583	0.000	1.48	0.00	1.66	7.6	2.407
18.667	0.000	0.96	0.00	1.65	7.5	2.362
18.750	0.000	0.62	0.00	1.63	7.4	2.315
18.833	0.000	0.40	0.00	1.62	7.4	2.267
18.917	0.000	0.26	0.00	1.61	7.3	2.219
19.000	0.000	0.16	0.00	1.59	7.2	2.170
19.083	0.000	0.11	0.00	1.58	7.1	2.122
19.167	0.000	0.07	0.00	1.56	7.0	2.074
19.250	0.000	0.04	0.00	1.55	6.9	2.027
19.333	0.000	0.03	0.00	1.53	6.9	1.980
19.417	0.000	0.02	0.00	1.52	6.8	1.934
19.500	0.000	0.02	0.00	1.51	6.7	1.888
19.583	0.000	0.02	0.00	1.49	6.6	1.842
19.667	0.000	0.02	0.00	1.48	6.5	1.797
19.750	0.000	0.02	0.00	1.45	6.4	1.753
19.833	0.000	0.02	0.00	1.42	6.2	1.711
19.917	0.000	0.02	0.00	1.39	6.0	1.669

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 4.338 AF
 BASIN STORAGE = 0.009 AF (WITH 0.000 AF INITIALLY FILLED)
 OUTFLOW VOLUME = 4.329 AF

LOSS VOLUME = 0.000 AF

 FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<

 FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<

 FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 2 HYDROGRAPH<<<<<

STREAM HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
 (Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	400.0	800.0	1200.0	1600.0
10.000	59.9062	106.38	. Q	V	.	.	.
10.083	60.6442	107.17	. Q	V	.	.	.
10.167	61.3879	107.98	. Q	V	.	.	.
10.250	62.1373	108.81	. Q	V	.	.	.
10.333	62.8925	109.66	. Q	V	.	.	.
10.417	63.6536	110.51	. Q	V	.	.	.
10.500	64.4208	111.40	. Q	V	.	.	.
10.583	65.1942	112.29	. Q	V	.	.	.
10.667	65.9740	113.22	. Q	V	.	.	.
10.750	66.7601	114.15	. Q	V	.	.	.
10.833	67.5529	115.11	. Q	V	.	.	.
10.917	68.3524	116.09	. Q	V	.	.	.
11.000	69.1589	117.10	. Q	V	.	.	.
11.083	69.9723	118.12	. Q	V	.	.	.
11.167	70.7931	119.17	. Q	V	.	.	.
11.250	71.6212	120.24	. Q	V	.	.	.
11.333	72.4569	121.34	. Q	V	.	.	.
11.417	73.3003	122.46	. Q	V	.	.	.
11.500	74.1517	123.63	. Q	V	.	.	.
11.583	75.0112	124.80	. Q	V	.	.	.
11.667	75.8791	126.02	. Q	V	.	.	.
11.750	76.7556	127.26	. Q	V	.	.	.
11.833	77.6409	128.54	. Q	V	.	.	.
11.917	78.5351	129.85	. Q	V	.	.	.
12.000	79.4387	131.20	. Q	V	.	.	.
12.083	80.3534	132.81	. Q	V	.	.	.
12.167	81.2812	134.71	. Q	V	.	.	.
12.250	82.2230	136.76	. Q	V	.	.	.
12.333	83.1813	139.15	. Q	V	.	.	.
12.417	84.1610	142.25	. Q	V	.	.	.

12.500	85.1659	145.91	. Q	V .	.	.	.
12.583	86.1988	149.97	. Q	V .	.	.	.
12.667	87.2609	154.22	. Q	V .	.	.	.
12.750	88.3532	158.60	. Q	V .	.	.	.
12.833	89.4795	163.54	. Q	V .	.	.	.
12.917	90.6423	168.83	. Q	V .	.	.	.
13.000	91.8447	174.59	. Q	V .	.	.	.
13.083	93.0827	179.76	. Q	V .	.	.	.
13.167	94.3591	185.34	. Q	V .	.	.	.
13.250	95.6701	190.35	. Q	V .	.	.	.
13.333	97.0132	195.01	. Q	V .	.	.	.
13.417	98.3855	199.26	. Q	V .	.	.	.
13.500	99.7870	203.50	. Q	V .	.	.	.
13.583	101.2156	207.43	. Q	V .	.	.	.
13.667	102.6698	211.16	. Q	V .	.	.	.
13.750	104.1493	214.83	. Q	V .	.	.	.
13.833	105.6546	218.57	. Q	V .	.	.	.
13.917	107.1851	222.22	. Q	V .	.	.	.
14.000	108.7411	225.93	. Q	V .	.	.	.
14.083	110.3258	230.10	. Q	V .	.	.	.
14.167	111.9436	234.91	. Q	V .	.	.	.
14.250	113.5971	240.08	. Q	V .	.	.	.
14.333	115.2903	245.86	. Q	.V	.	.	.
14.417	117.0341	253.20	. Q	.V	.	.	.
14.500	118.8372	261.81	. Q	.V	.	.	.
14.583	120.7058	271.32	. Q	.V	.	.	.
14.667	122.6434	281.34	. Q	.V	.	.	.
14.750	124.6524	291.71	. Q	.V	.	.	.
14.833	126.7418	303.37	. Q	.V	.	.	.
14.917	128.9177	315.95	. Q	.V	.	.	.
15.000	131.1888	329.77	. Q	.V	.	.	.
15.083	133.5501	342.86	. Q	.V	.	.	.
15.167	136.0122	357.49	. Q	.V	.	.	.
15.250	138.5736	371.92	. Q	.V	.	.	.
15.333	141.2393	387.06	. Q	.V	.	.	.
15.417	144.0016	401.09	. Q	.V	.	.	.
15.500	146.8574	414.65	. Q	.V	.	.	.
15.583	149.7944	426.46	. Q	.V	.	.	.
15.667	152.8100	437.86	. Q	.V	.	.	.
15.750	155.8960	448.09	. Q	.V	.	.	.
15.833	159.0623	459.76	. Q	.V	.	.	.
15.917	162.3425	476.28	. Q	.V	.	.	.
16.000	165.8231	505.39	. Q	.V	.	.	.
16.083	169.8210	580.49	. Q	.V	.	.	.
16.167	174.3725	660.87	. Q	.V	.	.	.
16.250	179.4331	734.81	. VQ	.	.	.	.
16.333	185.2238	840.81	. V	.Q	.	.	.
16.417	192.1998	1012.91	. V	.Q	.	.	.
16.500	200.0798	1144.18	. V	.Q	.	.	.
16.583	208.6070	1238.15	. V	.Q	.	.	.
16.667	217.5238	1294.72	. V	.Q	.	.	.
16.750	226.8218	1350.06	. V	.Q	.	.	.
16.833	236.9034	1463.86	. V	.Q	.	.	.
16.917	247.4567	1532.34	. V	.Q	.	.	.
17.000	258.2869	1572.53	. V	.Q	.	.	.
17.083	268.2339	1444.31	. V	.Q	.	.	.
17.167	278.1116	1434.24	. V	.Q	.	.	.
17.250	286.9051	1276.82	. V	.Q	.	.	.

17.333	294.7673	1141.58	. Q	.	.	.	.
17.417	301.7152	1008.84	. Q	V.	.	.	.
17.500	308.1610	935.93	. Q	V.	.	.	.
17.583	313.8659	828.34	. Q	V	.	.	.
17.667	318.9102	732.44	. Q	V	.	.	.
17.750	323.5534	674.18	. Q	.V	.	.	.
17.833	327.8806	628.31	. Q	.V	.	.	.
17.917	331.7869	567.19	. Q	.V	.	.	.
18.000	335.3532	517.83	. Q	.V	.	.	.
18.083	338.5788	468.36	. Q	.V	.	.	.
18.167	341.5907	437.32	. Q	.V	.	.	.
18.250	344.3506	400.75	. Q	.V	.	.	.
18.333	346.7007	341.23	. Q	.V	.	.	.
18.417	348.8764	315.91	. Q	.V	.	.	.
18.500	350.9466	300.59	. Q	.V	.	.	.
18.583	352.9273	287.60	. Q	.V	.	.	.
18.667	354.8222	275.14	. Q	.V	.	.	.
18.750	356.6387	263.75	. Q	.V	.	.	.
18.833	358.3799	252.82	. Q	.V	.	.	.
18.917	360.0506	242.59	. Q	.V	.	.	.
19.000	361.6464	231.71	. Q	.V	.	.	.
19.083	363.1729	221.66	. Q	.V	.	.	.
19.167	364.6199	210.10	. Q	.V	.	.	.
19.250	365.9781	197.21	. Q	.V	.	.	.
19.333	367.1746	173.74	. Q	.V	.	.	.
19.417	368.3186	166.10	. Q	.V	.	.	.
19.500	369.4241	160.52	. Q	.V	.	.	.
19.583	370.4967	155.74	. Q	.V	.	.	.
19.667	371.5357	150.86	. Q	.V	.	.	.
19.750	372.5443	146.44	. Q	.V	.	.	.
19.833	373.5248	142.37	. Q	.V	.	.	.
19.917	374.4803	138.73	. Q	.V	.	.	.
20.000	375.4124	135.34	. Q	.V	.	.	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	410.0
20%	215.0
30%	130.0
40%	100.0
50%	80.0
60%	65.0
70%	55.0
80%	40.0
90%	25.0

END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Analysis prepared by:

***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - COMPLEX UH *
* ULTIMATE CONDITION - REGIONAL NODE 13305 *
* 10-YR EV AUGUST 2019 ROKAMOTO *

FILE NAME: EV10305C.DAT
TIME/DATE OF STUDY: 11:13 08/26/2019

** INPUT SUMMARY **

FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<

WATERSHED AREA = 4924.400 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.938 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244; LOW LOSS FRACTION = 0.727
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.60; 1-HOUR = 0.79
3-HOUR = 1.33; 6-HOUR = 1.84; 24-HOUR = 3.08
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.754; 30-MINUTE = 0.754; 1-HOUR = 0.754
3-HOUR = 0.961; 6-HOUR = 0.979; 24-HOUR = 0.987

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2

>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<

MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.

Table with 3 columns: DATA PAIR NUMBER, Qenter (CFS), Qpass (CFS). Rows include values for 1 and 2.

Table with 3 columns: Node, Value 1, Value 2. Rows 3, 4, 5.

FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 5.700
SPECIFIED DEAD STORAGE (AF) FILLED = 5.700
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

Table with 4 columns: INTERVAL NUMBER, DEPTH (FT), OUTFLOW (CFS), STORAGE (AF). Rows 1-9.

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8

>>>MODEL STREAM SPLITFLOW WHERE 0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.99	2.90	0.900
3	1.99	11.38	2.900
4	3.99	19.63	10.300
5	5.99	25.19	20.700
6	7.99	29.71	31.700
7	9.99	33.62	43.500
8	10.99	35.49	49.700
9	11.99	313.46	56.400
10	12.99	894.27	63.100
11	13.99	1748.55	69.900
12	15.99	4306.91	84.100

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.48	0.70	0.400
3	1.48	6.50	1.800
4	3.48	18.11	8.500
5	5.48	23.99	17.900
6	7.48	28.68	27.800
7	9.48	32.70	38.300
8	10.48	34.50	43.900
9	11.48	36.29	49.400
10	12.48	314.07	55.900

11	13.48	895.00	62.300
12	15.48	2882.95	74.700

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<

FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
(Reference: the National Engineering Handbook, Hydrology,
Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH (FT) = 0.01 CHANNEL Z = 3.00
UPSTREAM ELEVATION (FT) = 427.51; DOWNSTREAM ELEVATION (FT) = 315.00
CHANNEL LENGTH (FT) = 9760.05 MANNING'S FACTOR = 0.040
CONSTANT LOSS RATE (CFS) = 0.00

FLOW PROCESS FROM NODE 31100.00 TO NODE 13305.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<

WATERSHED AREA = 810.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.538 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.282; LOW LOSS FRACTION = 0.754
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.60; 1-HOUR = 0.79
3-HOUR = 1.33; 6-HOUR = 1.84; 24-HOUR = 3.08
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.754; 30-MINUTE = 0.754; 1-HOUR = 0.754
3-HOUR = 0.961; 6-HOUR = 0.979; 24-HOUR = 0.987

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 7

>>>>STREAM NUMBER 1 ADDED TO STREAM NUMBER 2<<<<<

```

=====
*****
FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6
-----
>>>>STREAM NUMBER 1 CLEARED AND SET TO ZERO<<<<
=====

```

```

*****
FLOW PROCESS FROM NODE 100.00 TO NODE 130.00 IS CODE = 1
-----
>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<
-----
WATERSHED AREA = 447.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.293 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.107; LOW LOSS FRACTION = 0.319
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.60; 1-HOUR = 0.79
3-HOUR = 1.33; 6-HOUR = 1.84; 24-HOUR = 3.08
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.754; 30-MINUTE = 0.754; 1-HOUR = 0.754
3-HOUR = 0.961; 6-HOUR = 0.979; 24-HOUR = 0.987

```

```

*****
FLOW PROCESS FROM NODE 130.00 TO NODE 131.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #1<<<<
=====

```

MODEL STREAM NUMBER 1 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 1 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.

DATA PAIR NUMBER	Qcenter (CFS)	Qpass (CFS)
-	0.00	0.00
1	10.00	6.00
2	50.00	30.00
3	100.00	63.00
4	250.00	160.00
5	550.00	444.00

FLOW EXCESS IS ASSUMED TO BE PERMANENTLY STORED.

```

*****
FLOW PROCESS FROM NODE 130.00 TO NODE 132.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #1<<<<
=====

```

MODEL STREAM NUMBER 1 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 1 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.

DATA PAIR NUMBER	Qcenter (CFS)	Qpass (CFS)
-	0.00	0.00

```

1 50.00 18.00
2 100.00 31.00
3 250.00 34.00
4 750.00 80.00
5 1200.00 120.00
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
=====

```

```

*****
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #1<<<<
=====

```

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 1
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	2.00	4.300
3	2.00	2.01	6.100
4	3.00	2.02	8.000
5	4.00	43.00	10.000
6	5.00	45.00	11.900

```

*****
FLOW PROCESS FROM NODE 130.00 TO NODE 133.00 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<
=====

```

MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 3 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.

DATA PAIR NUMBER	Qcenter (CFS)	Qpass (CFS)
-	0.00	0.00
1	50.00	16.00
2	100.00	31.00
3	250.00	69.00
4	500.00	70.00
5	1200.00	75.00

FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 4

```

*****
FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 3.1
-----

```

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3 THROUGH A FLOW-THROUGH DETENTION BASIN. SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS: DEAD STORAGE (AF) = 0.000 SPECIFIED DEAD STORAGE (AF) FILLED = 0.000 SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000 DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

Table with 4 columns: INTERVAL NUMBER, DEPTH (FT), OUTFLOW (CFS), STORAGE (AF). Rows 1-6 showing increasing depth and storage values.

***** FLOW PROCESS FROM NODE 130.00 TO NODE 9.00 IS CODE = 2 *****

>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #4<<<<<

MODEL STREAM NUMBER 4 FLOWING PAST A FLOWBY STRUCTURE: FLOWRATES IN STREAM # 4 WHICH ARE GREATER THAN Qpass IN THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.

Table with 3 columns: DATA PAIR NUMBER, Qcenter (CFS), Qpass (CFS). Rows 1-5 showing flow rates.

FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 2

***** FLOW PROCESS FROM NODE 9.00 TO NODE 9.00 IS CODE = 7 *****

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 3<<<<<

***** FLOW PROCESS FROM NODE 9.00 TO NODE 9.00 IS CODE = 6 *****

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

FLOW PROCESS FROM NODE 130.00 TO NODE 134.00 IS CODE = 2

>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #4<<<<<

MODEL STREAM NUMBER 4 FLOWING PAST A FLOWBY STRUCTURE: FLOWRATES IN STREAM # 4 WHICH ARE GREATER THAN Qpass IN THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.

Table with 3 columns: DATA PAIR NUMBER, Qcenter (CFS), Qpass (CFS). Rows 1-5 showing flow rates.

FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5

***** FLOW PROCESS FROM NODE 134.00 TO NODE 135.00 IS CODE = 3.1 *****

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4 THROUGH A FLOW-THROUGH DETENTION BASIN. SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:

DEAD STORAGE (AF) = 0.000 SPECIFIED DEAD STORAGE (AF) FILLED = 0.000 SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000 DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

Table with 4 columns: INTERVAL NUMBER, DEPTH (FT), OUTFLOW (CFS), STORAGE (AF). Rows 1-6 showing increasing depth and storage values.

***** FLOW PROCESS FROM NODE 132.00 TO NODE 135.00 IS CODE = 7 *****

>>>>STREAM NUMBER 1 ADDED TO STREAM NUMBER 4<<<<<

***** FLOW PROCESS FROM NODE 135.00 TO NODE 135.00 IS CODE = 6 *****

>>>>STREAM NUMBER 1 CLEARED AND SET TO ZERO<<<<<

```

*****
FLOW PROCESS FROM NODE 133.00 TO NODE 135.00 IS CODE = 7
-----
>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 4<<<<
=====

*****
FLOW PROCESS FROM NODE 135.00 TO NODE 135.00 IS CODE = 6
-----
>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<
=====

*****
FLOW PROCESS FROM NODE 130.00 TO NODE 136.00 IS CODE = 4
-----
>>>>MODEL PIPEFLOW ROUTING OF STREAM #5<<<<
=====
MODEL PIPEFLOW ROUTING OF STREAM 5 WHERE
STORAGE EFFECTS ARE NEGLECTED WITHIN THE PIPE, FLOW
VELOCITIES ARE ESTIMATED BY ASSUMING STEADY FLOW FOR
EACH UNIT INTERVAL(NORMAL DEPTH, Dn), AND FLOWS IN EXCESS
OF (.82) (DIAMETER) ARE PONDED AT THE UPSTREAM INLET.
UNIT INTERVAL FLOW VELOCITY COMPUTED USING Dn UP TO
(0.938) (DIAMETER):

PIPELENGTH(FT) = 1006.00 MANNINGS FACTOR = 0.015
UPSTREAM ELEVATION(FT) = 375.00; DOWNSTREAM ELEVATION(FT) = 335.00
PIPE DIAMETER(FT) = 60.00
=====

*****
FLOW PROCESS FROM NODE 136.00 TO NODE 137.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE(AF) = 0.000
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL DEPTH OUTFLOW STORAGE
NUMBER (FT) (CFS) (AF)
1 0.00 0.00 0.000
2 1.00 83.00 4.269
3 2.00 380.00 8.868
4 3.00 400.00 13.250
5 4.00 478.00 17.970
6 5.00 600.00 23.120
=====

```

```

*****
FLOW PROCESS FROM NODE 136.00 TO NODE 136.10 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #5<<<<
=====
MODEL STREAM NUMBER 5 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 5 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.

DATA PAIR Qenter Qpass
NUMBER (CFS) (CFS)
- 0.00 0.00
1 5.00 2.00
2 25.00 2.00
3 75.00 2.00
4 250.00 2.00
5 500.00 84.00
FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
=====

*****
FLOW PROCESS FROM NODE 137.00 TO NODE 138.00 IS CODE = 3.1
-----
>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<
=====
ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE(AF) = 0.000
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL DEPTH OUTFLOW STORAGE
NUMBER (FT) (CFS) (AF)
1 0.00 0.00 0.000
2 1.00 48.00 2.100
3 2.00 196.00 4.312
4 3.00 225.00 6.636
5 4.00 301.00 9.075
6 5.00 378.00 11.630
=====

*****
FLOW PROCESS FROM NODE 137.00 TO NODE 137.10 IS CODE = 2
-----
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<
=====
MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 3 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.

DATA PAIR Qenter Qpass
NUMBER (CFS) (CFS)

```

```

-          0.00      0.00
1          5.00      2.00
2         10.00      2.00
3         50.00      3.00
4        100.00     34.00
5        325.00    127.00

```

FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 1

```

*****
FLOW PROCESS FROM NODE 138.00 TO NODE 139.00 IS CODE = 3.1

```

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #1<<<<<

```

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 1
THROUGH A FLOW-THROUGH DETENTION BASIN.
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE (AF) = 0.000
SPECIFIED DEAD STORAGE (AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME (AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

```

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	21.00	2.000
3	2.00	114.00	4.200
4	3.00	131.00	6.400
5	4.00	176.00	8.800
6	5.00	221.00	11.200

```

*****
FLOW PROCESS FROM NODE 135.00 TO NODE 139.00 IS CODE = 7

```

>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 1<<<<<

```

*****
FLOW PROCESS FROM NODE 139.00 TO NODE 139.00 IS CODE = 6

```

>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<

```

*****
FLOW PROCESS FROM NODE 139.00 TO NODE 139.00 IS CODE = 7

```

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 1<<<<<

```

FLOW PROCESS FROM NODE 139.00 TO NODE 139.00 IS CODE = 6

```

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

```

*****
FLOW PROCESS FROM NODE 139.00 TO NODE 139.00 IS CODE = 7

```

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 1<<<<<

```

*****
FLOW PROCESS FROM NODE 139.00 TO NODE 13305.00 IS CODE = 6

```

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<

```

*****
FLOW PROCESS FROM NODE 150.00 TO NODE 13305.00 IS CODE = 1

```

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<

```

WATERSHED AREA = 62.600 ACRES; BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.335 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.298; LOW LOSS FRACTION = 0.853
SPECIFIED PEAK RAINFALL DEPTHS (INCH):
5-MINUTE = 0.26; 30-MINUTE = 0.60; 1-HOUR = 0.79
3-HOUR = 1.33; 6-HOUR = 1.84; 24-HOUR = 3.08
*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE = 0.754; 30-MINUTE = 0.754; 1-HOUR = 0.754
3-HOUR = 0.961; 6-HOUR = 0.979; 24-HOUR = 0.987

```

```

*****
FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 7

```

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 1<<<<<

```

*****
FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6

```

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

```

*****
FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 7

```

>>>>STREAM NUMBER 1 ADDED TO STREAM NUMBER 2<<<<<

```
*****
FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6
-----
>>>>STREAM NUMBER 1 CLEARED AND SET TO ZERO<<<<
=====
```

```
*****
FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 11
-----
>>>>VIEW STREAM NUMBER 2 HYDROGRAPH<<<<
=====
```

```
-----+-----
|
| * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
| INPUT FILENAME: [EV10305C.DAT ]
Page: 1 of |
-----+-----+-----+-----+
|UPSTREAM DOWNSTREAM| | UPSTREAM DOWNSTREAM|
TIME (2) TO | MAX. STORAGE| |
| NODE # NODE # | HYDROLOGIC/HYDRAULIC PROCESS | PEAK (CFS) PEAK (CFS) |
PEAK (HR) | MODELED (AF) | FOOTNOTES |
-----+-----+-----+-----+
| 13010.00 132.00| Subarea (UH) Added to Stream #2| 0.0 1796.2|
17.000 | | |
| 132.00 132.00| Flowby Basin Model: Stream #2| 1796.2 1531.5|
17.000 | | |
| 132.00 132.00| Flow-Through Basin: Stream #3| 264.7 106.4|
17.583 | 19.93| |
| 132.00 132.00| Split Hydrograph: Stream #3| 106.4 53.2|
17.583 | | |
| 132.00 132.00| Flow-Through Basin: Stream #3| 53.2 9.3|
18.250 | 2.40| |
-----+-----+-----+-----+
| 132.00 132.00| Stream #3 Added to: Stream #2| 1531.5 1531.5|
17.000 | | |
| 132.00 132.00| Zero Out: Stream #3| 9.3 0.0|
| | |
| 132.00 132.00| Flow-Through Basin: Stream #4| 53.2 7.6|
18.250 | 2.46| |
| 132.00 132.00| Stream #4 Added to: Stream #2| 1531.5 1531.5|
17.000 | | |
| 132.00 132.00| Zero Out: Stream #4| 7.6 0.0|
| | |
-----+-----+-----+-----+
| 132.00 13305.00| Convex Routing: Stream #2| 1531.5 1493.9|
17.250 | | |
| 31100.00 13305.00| Subarea (UH) Added to Stream #1| 0.0 399.9|
16.583 | | |
| 13305.00 13305.00| Stream #1 Added to: Stream #2| 1493.9 1591.4|
17.250 | | |
| 13305.00 13305.00| Zero Out: Stream #1| 399.9 0.0|
| | |
| 100.00 130.00| Subarea (UH) Added to Stream #1| 0.0 407.3|
16.333 | | |
-----+-----+-----+-----+
| 130.00 131.00| Flowby Basin Model: Stream #1| 407.3 308.9|
16.333 | | |
| 130.00 132.00| Flowby Basin Model: Stream #1| 308.9 39.4|
16.333 | | |
| 132.00 132.00| Flow-Through Basin: Stream #1| 39.4 25.0|
16.833 | 9.12| |
| 130.00 133.00| Flowby Basin Model: Stream #3| 269.5 69.1|
16.333 | | |
```

| 133.00	133.00	| Flow-Through Basin:	Stream #3	69.1	34.8
16.583	5.57	|	|		
+-----+					
| 130.00	9.00	| Flowby Basin Model:	Stream #4	200.4	200.4
16.333	|	|	|		
| 9.00	9.00	| Stream #2 Added to:	Stream #3	34.8	1606.7
17.250	|	|	|		
| 9.00	9.00	| Zero Out:	Stream #2	1591.4	0.0
| 130.00	134.00	| Flowby Basin Model:	Stream #4	200.4	23.7
16.333	|	|	|		
| 134.00	135.00	| Flow-Through Basin:	Stream #4	23.7	2.0
19.333	4.23	|	|		
+-----+					
| 132.00	135.00	| Stream #1 Added to:	Stream #4	2.0	27.0
16.833	|	|	|		
| 135.00	135.00	| Zero Out:	Stream #1	25.0	0.0
| 133.00	135.00	| Stream #3 Added to:	Stream #4	27.0	1632.4
17.250	|	|	|		
| 135.00	135.00	| Zero Out:	Stream #3	1606.7	0.0
| 130.00	136.00	| Pipe Flow Routing:	Stream #5	176.7	318.4
16.750	|	|	|		
+-----+					
| 136.00	137.00	| Flow-Through Basin:	Stream #5	318.4	71.7
17.000	3.85	|	|		
| 136.00	136.10	| Flowby Basin Model:	Stream #5	71.7	2.0
11.417	|	|	|		
| 137.00	138.00	| Flow-Through Basin:	Stream #3	69.7	53.3
17.417	2.18	|	|		
| 137.00	137.10	| Flowby Basin Model:	Stream #3	53.3	5.0
17.417	|	|	|		
| 138.00	139.00	| Flow-Through Basin:	Stream #1	48.2	41.5
17.917	2.49	|	|		
+-----+					
| 135.00	139.00	| Stream #5 Added to:	Stream #1	41.5	43.5
17.917	|	|	|		
| 139.00	139.00	| Zero Out:	Stream #5	2.0	0.0
| 139.00	139.00	| Stream #3 Added to:	Stream #1	43.5	46.4
17.917	|	|	|		
| 139.00	139.00	| Zero Out:	Stream #3	5.0	0.0
| 139.00	139.00	| Stream #4 Added to:	Stream #1	46.4	1656.0
17.250	|	|	|		
+-----+					
|Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT INTERVAL					
| 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF THE DESIGN STORM					
+-----+					

* AES FLOODSCx PROGRAM RESULTS SUMMARY *

| INPUT FILENAME: [EV10305C.DAT]

Page: 2 of |

UPSTREAM TIME (2) TO | NODE # PEAK (HR)	DOWNSTREAM | MAX. STORAGE | NODE # | MODELED (AF)	HYDROLOGIC/HYDRAULIC PROCESS | FOOTNOTES	UPSTREAM PEAK (CFS)	DOWNSTREAM PEAK (CFS)
| 139.00	| 13305.00	| Zero Out:	| Stream #4	| 1632.4 0.0
| 150.00	| 13305.00	| Subarea (UH) Added to Stream #3	| 0.0	| 41.0
16.417 |	|	|	|	|
| 13305.00	| 13305.00	| Stream #3 Added to:	| Stream #1	| 1656.0 1659.1
17.250 |	|	|	|	|
| 13305.00	| 13305.00	| Zero Out:	| Stream #3	| 41.0 0.0
| 13305.00	| 13305.00	| Stream #1 Added to:	| Stream #2	| 0.0 1659.1
17.250 |	|	|	|	|
| 13305.00	| 13305.00	| Zero Out:	| Stream #1	| 1659.1 0.0
| 13305.00	| 13305.00	| View:	| Stream #2	| 1659.1
17.250 |	| 538.56	| 3	|	|

|Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT
INTERVAL
|
| 3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF
THE DESIGN STORM
|

END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
(c) Copyright 1989-2013 Advanced Engineering Software (aes)
Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - COMPLEX UH *
* ULTIMATE CONDITION - LOCAL NODE 133T *
* 10-YR EV AUGUST 2018 ROKAMOTO *

FILE NAME: EV1033TC.DAT
TIME/DATE OF STUDY: 14:41 08/30/2018

FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

=====

(UNIT-HYDROGRAPH ADDED TO STREAM #2)

WATERSHED AREA = 4924.400 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.938 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244
LOW LOSS FRACTION = 0.727
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.26
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.59
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.78
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.31
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 1.81
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 3.03

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.744
30-MINUTE FACTOR = 0.744
1-HOUR FACTOR = 0.744
3-HOUR FACTOR = 0.959
6-HOUR FACTOR = 0.978
24-HOUR FACTOR = 0.986

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 8.884

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.508	302.338
2	1.523	604.819
3	2.819	771.800
4	4.716	1129.648
5	8.114	2023.451
6	12.597	2670.161
7	17.853	3130.103
8	23.366	3283.224
9	29.066	3394.346
10	35.795	4007.575
11	43.214	4418.483
12	51.431	4893.746
13	58.237	4053.149
14	65.724	4458.599
15	71.827	3634.834
16	76.932	3039.875
17	80.977	2408.986
18	84.732	2236.623
19	87.674	1751.966
20	89.859	1301.150
21	91.751	1126.819
22	93.468	1022.475
23	94.780	781.630
24	95.870	649.332
25	96.640	458.377
26	97.337	415.035
27	97.954	367.513
28	98.175	131.320
29	98.341	99.306
30	98.508	99.115
31	98.674	99.242
32	98.841	99.111
33	99.008	99.374
34	99.174	99.111
35	99.341	99.111
36	99.507	99.111
37	99.673	99.111
38	99.840	99.111
39	100.000	95.385

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 802.2755
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 424.1288

=====

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

=====

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	450.0	900.0	1350.0	1800.0
10.000	59.8701	106.25	. Q	V	.	.	.
10.083	60.6073	107.04	. Q	V	.	.	.
10.167	61.3501	107.85	. Q	V	.	.	.
10.250	62.0985	108.67	. Q	V	.	.	.
10.333	62.8528	109.52	. Q	V	.	.	.
10.417	63.6129	110.38	. Q	V	.	.	.
10.500	64.3792	111.26	. Q	V	.	.	.
10.583	65.1516	112.15	. Q	V	.	.	.
10.667	65.9303	113.07	. Q	V	.	.	.
10.750	66.7154	114.00	. Q	V	.	.	.
10.833	67.5071	114.96	. Q	V	.	.	.
10.917	68.3055	115.93	. Q	V	.	.	.
11.000	69.1109	116.93	. Q	V	.	.	.
11.083	69.9232	117.95	. Q	V	.	.	.
11.167	70.7428	119.00	. Q	V	.	.	.
11.250	71.5697	120.07	. Q	V	.	.	.
11.333	72.4042	121.17	. Q	V	.	.	.
11.417	73.2463	122.28	. Q	V	.	.	.
11.500	74.0965	123.44	. Q	V	.	.	.
11.583	74.9547	124.61	. Q	V	.	.	.
11.667	75.8213	125.83	. Q	V	.	.	.
11.750	76.6963	127.06	. Q	V	.	.	.
11.833	77.5802	128.34	. Q	V	.	.	.
11.917	78.4730	129.64	. Q	V	.	.	.
12.000	79.3752	130.99	. Q	V	.	.	.
12.083	80.2884	132.60	. Q	V	.	.	.
12.167	81.2148	134.51	. Q	V	.	.	.
12.250	82.1553	136.57	. Q	V	.	.	.
12.333	83.1125	138.98	. Q	V	.	.	.
12.417	84.0912	142.12	. Q	V	.	.	.
12.500	85.0957	145.84	. Q	V	.	.	.
12.583	86.1285	149.97	. Q	V	.	.	.
12.667	87.1911	154.29	. Q	V	.	.	.
12.750	88.2844	158.74	. Q	V	.	.	.
12.833	89.4123	163.76	. Q	V	.	.	.
12.917	90.5773	169.16	. Q	V	.	.	.
13.000	91.7827	175.02	. Q	V	.	.	.
13.083	93.0242	180.28	. Q	V	.	.	.
13.167	94.3049	185.95	. Q	V	.	.	.
13.250	95.6206	191.04	. Q	V	.	.	.
13.333	96.9688	195.76	. Q	V	.	.	.
13.417	98.3466	200.05	. Q	V	.	.	.
13.500	99.7538	204.33	. Q	V	.	.	.
13.583	101.1882	208.29	. Q	V	.	.	.
13.667	102.6485	212.03	. Q	V	.	.	.
13.750	104.1340	215.71	. Q	V	.	.	.
13.833	105.6454	219.45	. Q	V	.	.	.

13.917	107.1819	223.10	.	Q	V	.	.	.
14.000	108.7440	226.81	.	Q	V	.	.	.
14.083	110.3354	231.07	.	Q	V	.	.	.
14.167	111.9613	236.08	.	Q	V	.	.	.
14.250	113.6245	241.50	.	Q	V	.	.	.
14.333	115.3301	247.65	.	Q	V	.	.	.
14.417	117.0908	255.65	.	Q	.V	.	.	.
14.500	118.9169	265.16	.	Q	.V	.	.	.
14.583	120.8156	275.69	.	Q	.V	.	.	.
14.667	122.7906	286.76	.	Q	.V	.	.	.
14.750	124.8443	298.19	.	Q	.V	.	.	.
14.833	126.9872	311.15	.	Q	.V	.	.	.
14.917	129.2276	325.31	.	Q	.V	.	.	.
15.000	131.5762	341.01	.	Q	.V	.	.	.
15.083	134.0260	355.71	.	Q	.V	.	.	.
15.167	136.5901	372.31	.	Q	.V	.	.	.
15.250	139.2679	388.81	.	Q	.V	.	.	.
15.333	142.0638	405.97	.	Q	.V	.	.	.
15.417	144.9675	421.61	.	Q	.V	.	.	.
15.500	147.9752	436.73	.	Q	.V	.	.	.
15.583	151.0887	452.07	.	Q	.V	.	.	.
15.667	154.3021	466.59	.	Q	.V	.	.	.
15.750	157.5977	478.52	.	Q	.V	.	.	.
15.833	160.9795	491.04	.	Q	.V	.	.	.
15.917	164.4784	508.04	.	.Q	.V	.	.	.
16.000	168.1909	539.06	.	.Q	.V	.	.	.
16.083	172.4746	621.99	.	.	Q	.V	.	.
16.167	177.3590	709.22	.	.	.	Q	.V	.
16.250	182.7840	787.71	.	.	.	.	Q	.V
16.333	189.0035	903.07	.	.	.	.	.	Q
16.417	196.5571	1096.79	.	.	.	.	.	.
16.500	205.1119	1242.16	.	.	.	.	.	.
16.583	214.3759	1345.13	.	.	.	.	.	.
16.667	224.0591	1405.99	.	.	.	.	.	.
16.750	234.1733	1468.59	.	.	.	.	.	.
16.833	245.1945	1600.28	.	.	.	.	.	.
16.917	256.7736	1681.28	.	.	.	.	.	.
17.000	268.6923	1730.59	.	.	.	.	.	.
17.083	279.6056	1584.61	.	.	.	.	.	.
17.167	290.4689	1577.35	.	.	.	.	.	.
17.250	300.1081	1399.62	.	.	.	.	.	.
17.333	308.6975	1247.18	.	.	.	.	.	.
17.417	316.2471	1096.20	.	.	.	.	.	.
17.500	323.2238	1013.02	.	.	.	.	.	.
17.583	329.3343	887.24	.	.	.	.	.	.
17.667	334.6648	773.99	.	.	.	.	.	.
17.750	339.5183	704.72	.	.	.	.	.	.
17.833	343.9914	649.50	.	.	.	.	.	.
17.917	347.9600	576.24	.	.	.	.	.	.
18.000	351.5182	516.65	.	.	.	.	.	.
18.083	354.6688	457.47	.	.	.	.	.	.
18.167	357.5580	419.51	.	.	.	.	.	.
18.250	360.1895	382.11	.	.	.	.	.	.
18.333	362.4267	324.84	.	.	.	.	.	.
18.417	364.4924	299.94	.	.	.	.	.	.
18.500	366.4518	284.50	.	.	.	.	.	.
18.583	368.3200	271.27	.	.	.	.	.	.
18.667	370.1013	258.63	.	.	.	.	.	.

18.750	371.8032	247.12	.	Q	.	.	.	V	.
18.833	373.4288	236.04	.	Q	.	.	.	V	.
18.917	374.9836	225.77	.	Q	.	.	.	V	.
19.000	376.4653	215.13	.	Q	.	.	.	V	.
19.083	377.8802	205.44	.	Q	.	.	.	V	.
19.167	379.2184	194.31	.	Q	.	.	.	V	.
19.250	380.4720	182.02	.	Q	.	.	.	V	.
19.333	381.5731	159.89	.	Q	.	.	.	V	.
19.417	382.6252	152.75	.	Q	.	.	.	V	.
19.500	383.6414	147.56	.	Q	.	.	.	V	.
19.583	384.6267	143.06	.	Q	.	.	.	V	.
19.667	385.5799	138.40	.	Q	.	.	.	V	.
19.750	386.5042	134.22	.	Q	.	.	.	V	.
19.833	387.4023	130.41	.	Q	.	.	.	V	.
19.917	388.2772	127.03	.	Q	.	.	.	V	.
20.000	389.1308	123.94	.	Q	.	.	.	V	.

 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	380.0
20%	195.0
30%	120.0
40%	100.0
50%	80.0
60%	65.0
70%	55.0
80%	40.0
90%	25.0

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2

 >>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<<

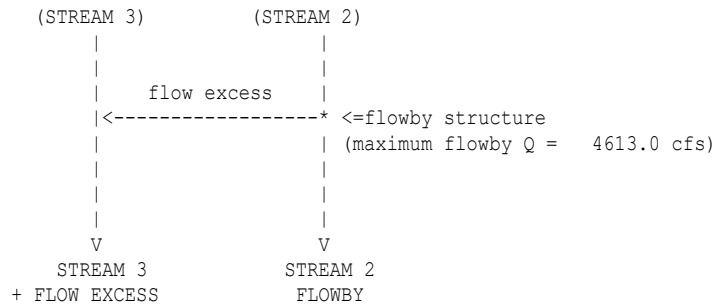
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
 FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
 THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.

DATA PAIR NUMBER	Qenter (CFS)	Qpass (CFS)
-	0.00	0.00
1	413.00	413.00
2	1897.00	1613.00
3	4682.00	3013.00
4	6819.00	4013.00
5	8100.00	4613.00

FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3

INFLOW

INFLOW



FLOWBY BASIN MODELING RESULTS:

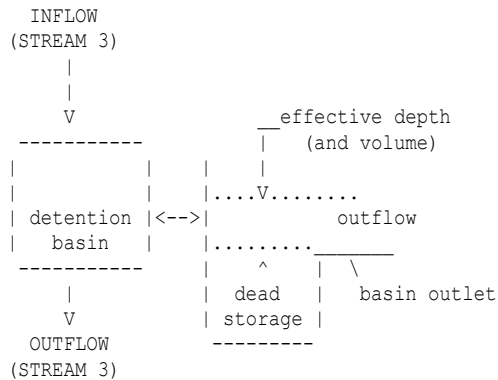
MODEL TIME (HRS)	INFLOW (STREAM 3) (CFS)	INFLOW (STREAM 2) (CFS)	OUTFLOW (STREAM 3) (CFS)	FLOWBY (STREAM 2) (CFS)
10.000	0.00	106.25	0.00	106.25
10.083	0.00	107.04	0.00	107.04
10.167	0.00	107.85	0.00	107.85
10.250	0.00	108.67	0.00	108.67
10.333	0.00	109.52	0.00	109.52
10.417	0.00	110.38	0.00	110.38
10.500	0.00	111.26	0.00	111.26
10.583	0.00	112.15	0.00	112.15
10.667	0.00	113.07	0.00	113.07
10.750	0.00	114.00	0.00	114.00
10.833	0.00	114.96	0.00	114.96
10.917	0.00	115.93	0.00	115.93
11.000	0.00	116.93	0.00	116.93
11.083	0.00	117.95	0.00	117.95
11.167	0.00	119.00	0.00	119.00
11.250	0.00	120.07	0.00	120.07
11.333	0.00	121.17	0.00	121.17
11.417	0.00	122.28	0.00	122.28
11.500	0.00	123.44	0.00	123.44
11.583	0.00	124.61	0.00	124.61
11.667	0.00	125.83	0.00	125.83
11.750	0.00	127.06	0.00	127.06
11.833	0.00	128.34	0.00	128.34
11.917	0.00	129.64	0.00	129.64
12.000	0.00	130.99	0.00	130.99
12.083	0.00	132.60	0.00	132.60
12.167	0.00	134.51	0.00	134.51
12.250	0.00	136.57	0.00	136.57
12.333	0.00	138.98	0.00	138.98
12.417	0.00	142.12	0.00	142.12
12.500	0.00	145.84	0.00	145.84
12.583	0.00	149.97	0.00	149.97
12.667	0.00	154.29	0.00	154.29
12.750	0.00	158.74	0.00	158.74
12.833	0.00	163.76	0.00	163.76
12.917	0.00	169.16	0.00	169.16
13.000	0.00	175.02	0.00	175.02

13.083	0.00	180.28	0.00	180.28
13.167	0.00	185.95	0.00	185.95
13.250	0.00	191.04	0.00	191.04
13.333	0.00	195.76	0.00	195.76
13.417	0.00	200.05	0.00	200.05
13.500	0.00	204.33	0.00	204.33
13.583	0.00	208.29	0.00	208.29
13.667	0.00	212.03	0.00	212.03
13.750	0.00	215.71	0.00	215.71
13.833	0.00	219.45	0.00	219.45
13.917	0.00	223.10	0.00	223.10
14.000	0.00	226.81	0.00	226.81
14.083	0.00	231.07	0.00	231.07
14.167	0.00	236.08	0.00	236.08
14.250	0.00	241.50	0.00	241.50
14.333	0.00	247.65	0.00	247.65
14.417	0.00	255.65	0.00	255.65
14.500	0.00	265.16	0.00	265.16
14.583	0.00	275.69	0.00	275.69
14.667	0.00	286.76	0.00	286.76
14.750	0.00	298.19	0.00	298.19
14.833	0.00	311.15	0.00	311.15
14.917	0.00	325.31	0.00	325.31
15.000	0.00	341.01	0.00	341.01
15.083	0.00	355.71	0.00	355.71
15.167	0.00	372.31	0.00	372.31
15.250	0.00	388.81	0.00	388.81
15.333	0.00	405.97	0.00	405.97
15.417	0.00	421.61	1.65	419.96
15.500	0.00	436.73	4.54	432.19
15.583	0.00	452.07	7.48	444.60
15.667	0.00	466.59	10.26	456.33
15.750	0.00	478.52	12.54	465.98
15.833	0.00	491.04	14.93	476.11
15.917	0.00	508.04	18.19	489.85
16.000	0.00	539.06	24.12	514.93
16.083	0.00	621.99	40.00	581.99
16.167	0.00	709.22	56.69	652.53
16.250	0.00	787.71	71.71	716.00
16.333	0.00	903.07	93.79	809.28
16.417	0.00	1096.79	130.86	965.93
16.500	0.00	1242.16	158.68	1083.48
16.583	0.00	1345.13	178.39	1166.75
16.667	0.00	1405.99	190.03	1215.96
16.750	0.00	1468.59	202.01	1266.57
16.833	0.00	1600.28	227.22	1373.07
16.917	0.00	1681.28	242.72	1438.56
17.000	0.00	1730.59	252.15	1478.44
17.083	0.00	1584.61	224.22	1360.39
17.167	0.00	1577.35	222.83	1354.52
17.250	0.00	1399.62	188.81	1210.80
17.333	0.00	1247.18	159.64	1087.54
17.417	0.00	1096.20	130.75	965.45
17.500	0.00	1013.02	114.83	898.19
17.583	0.00	887.24	90.76	796.48
17.667	0.00	773.99	69.08	704.90
17.750	0.00	704.72	55.83	648.90
17.833	0.00	649.50	45.26	604.24

17.917	0.00	576.24	31.24	545.00
18.000	0.00	516.65	19.84	496.81
18.083	0.00	457.47	8.51	448.96
18.167	0.00	419.51	1.25	418.26
18.250	0.00	382.11	0.00	382.11
18.333	0.00	324.84	0.00	324.84
18.417	0.00	299.94	0.00	299.94
18.500	0.00	284.50	0.00	284.50
18.583	0.00	271.27	0.00	271.27
18.667	0.00	258.63	0.00	258.63
18.750	0.00	247.12	0.00	247.12
18.833	0.00	236.04	0.00	236.04
18.917	0.00	225.77	0.00	225.77
19.000	0.00	215.13	0.00	215.13
19.083	0.00	205.44	0.00	205.44
19.167	0.00	194.31	0.00	194.31
19.250	0.00	182.02	0.00	182.02
19.333	0.00	159.89	0.00	159.89
19.417	0.00	152.75	0.00	152.75
19.500	0.00	147.56	0.00	147.56
19.583	0.00	143.06	0.00	143.06
19.667	0.00	138.40	0.00	138.40
19.750	0.00	134.22	0.00	134.22
19.833	0.00	130.41	0.00	130.41
19.917	0.00	127.03	0.00	127.03
20.000	0.00	123.94	0.00	123.94

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<



ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
 THROUGH A FLOW-THROUGH DETENTION BASIN
 SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
 DEAD STORAGE(AF) = 5.700
 SPECIFIED DEAD STORAGE(AF) FILLED = 5.700
 SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000

DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.50	0.01	0.001
3	2.00	0.02	1.900
4	4.00	0.03	16.100
5	4.30	0.04	18.200
6	5.00	314.00	23.200
7	6.00	1306.00	30.300
8	7.00	2847.00	39.100
9	8.00	4942.00	47.800

=====

MODIFIED-PULS BASIN ROUTING MODEL RESULTS(5-MINUTE COMPUTATION INTERVALS):
 (Note: Computed EFFECTIVE DEPTH and VOLUME are estimated at the clock time;
 MEAN OUTFLOW is the average value during the unit interval.)

CLOCK TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	LOSS (CFS)	MEAN EFFECTIVE DEPTH (FT)	MEAN OUTFLOW (CFS)	EFFECTIVE VOLUME (AF)
10.083	5.700	0.00	0.00	0.00	0.0	0.000
10.167	5.700	0.00	0.00	0.00	0.0	0.000
10.250	5.700	0.00	0.00	0.00	0.0	0.000
10.333	5.700	0.00	0.00	0.00	0.0	0.000
10.417	5.700	0.00	0.00	0.00	0.0	0.000
10.500	5.700	0.00	0.00	0.00	0.0	0.000
10.583	5.700	0.00	0.00	0.00	0.0	0.000
10.667	5.700	0.00	0.00	0.00	0.0	0.000
10.750	5.700	0.00	0.00	0.00	0.0	0.000
10.833	5.700	0.00	0.00	0.00	0.0	0.000
10.917	5.700	0.00	0.00	0.00	0.0	0.000
11.000	5.700	0.00	0.00	0.00	0.0	0.000
11.083	5.700	0.00	0.00	0.00	0.0	0.000
11.167	5.700	0.00	0.00	0.00	0.0	0.000
11.250	5.700	0.00	0.00	0.00	0.0	0.000
11.333	5.700	0.00	0.00	0.00	0.0	0.000
11.417	5.700	0.00	0.00	0.00	0.0	0.000
11.500	5.700	0.00	0.00	0.00	0.0	0.000
11.583	5.700	0.00	0.00	0.00	0.0	0.000
11.667	5.700	0.00	0.00	0.00	0.0	0.000
11.750	5.700	0.00	0.00	0.00	0.0	0.000
11.833	5.700	0.00	0.00	0.00	0.0	0.000
11.917	5.700	0.00	0.00	0.00	0.0	0.000
12.000	5.700	0.00	0.00	0.00	0.0	0.000
12.083	5.700	0.00	0.00	0.00	0.0	0.000
12.167	5.700	0.00	0.00	0.00	0.0	0.000
12.250	5.700	0.00	0.00	0.00	0.0	0.000
12.333	5.700	0.00	0.00	0.00	0.0	0.000
12.417	5.700	0.00	0.00	0.00	0.0	0.000
12.500	5.700	0.00	0.00	0.00	0.0	0.000
12.583	5.700	0.00	0.00	0.00	0.0	0.000

12.667	5.700	0.00	0.00	0.00	0.0	0.000
12.750	5.700	0.00	0.00	0.00	0.0	0.000
12.833	5.700	0.00	0.00	0.00	0.0	0.000
12.917	5.700	0.00	0.00	0.00	0.0	0.000
13.000	5.700	0.00	0.00	0.00	0.0	0.000
13.083	5.700	0.00	0.00	0.00	0.0	0.000
13.167	5.700	0.00	0.00	0.00	0.0	0.000
13.250	5.700	0.00	0.00	0.00	0.0	0.000
13.333	5.700	0.00	0.00	0.00	0.0	0.000
13.417	5.700	0.00	0.00	0.00	0.0	0.000
13.500	5.700	0.00	0.00	0.00	0.0	0.000
13.583	5.700	0.00	0.00	0.00	0.0	0.000
13.667	5.700	0.00	0.00	0.00	0.0	0.000
13.750	5.700	0.00	0.00	0.00	0.0	0.000
13.833	5.700	0.00	0.00	0.00	0.0	0.000
13.917	5.700	0.00	0.00	0.00	0.0	0.000
14.000	5.700	0.00	0.00	0.00	0.0	0.000
14.083	5.700	0.00	0.00	0.00	0.0	0.000
14.167	5.700	0.00	0.00	0.00	0.0	0.000
14.250	5.700	0.00	0.00	0.00	0.0	0.000
14.333	5.700	0.00	0.00	0.00	0.0	0.000
14.417	5.700	0.00	0.00	0.00	0.0	0.000
14.500	5.700	0.00	0.00	0.00	0.0	0.000
14.583	5.700	0.00	0.00	0.00	0.0	0.000
14.667	5.700	0.00	0.00	0.00	0.0	0.000
14.750	5.700	0.00	0.00	0.00	0.0	0.000
14.833	5.700	0.00	0.00	0.00	0.0	0.000
14.917	5.700	0.00	0.00	0.00	0.0	0.000
15.000	5.700	0.00	0.00	0.00	0.0	0.000
15.083	5.700	0.00	0.00	0.00	0.0	0.000
15.167	5.700	0.00	0.00	0.00	0.0	0.000
15.250	5.700	0.00	0.00	0.00	0.0	0.000
15.333	5.700	0.00	0.00	0.00	0.0	0.000
15.417	5.700	1.65	0.00	1.50	0.0	0.011
15.500	5.700	4.54	0.00	1.51	0.0	0.043
15.583	5.700	7.48	0.00	1.52	0.0	0.094
15.667	5.700	10.26	0.00	1.54	0.0	0.164
15.750	5.700	12.54	0.00	1.57	0.0	0.251
15.833	5.700	14.93	0.00	1.59	0.0	0.354
15.917	5.700	18.19	0.00	1.63	0.0	0.479
16.000	5.700	24.12	0.00	1.67	0.0	0.645
16.083	5.700	40.00	0.00	1.74	0.0	0.920
16.167	5.700	56.69	0.00	1.84	0.0	1.310
16.250	5.700	71.71	0.00	1.97	0.0	1.804
16.333	5.700	93.79	0.00	2.08	0.0	2.450
16.417	5.700	130.86	0.00	2.20	0.0	3.351
16.500	5.700	158.68	0.00	2.36	0.0	4.444
16.583	5.700	178.39	0.00	2.53	0.0	5.672
16.667	5.700	190.03	0.00	2.72	0.0	6.981
16.750	5.700	202.01	0.00	2.91	0.0	8.372
16.833	5.700	227.22	0.00	3.13	0.0	9.936
16.917	5.700	242.72	0.00	3.37	0.0	11.608
17.000	5.700	252.15	0.00	3.61	0.0	13.344
17.083	5.700	224.22	0.00	3.83	0.0	14.888
17.167	5.700	222.83	0.00	4.05	0.0	16.423
17.250	5.700	188.81	0.00	4.23	0.0	17.723
17.333	5.700	159.64	0.00	4.37	16.1	18.711
17.417	5.700	130.75	0.00	4.45	49.7	19.270

17.500	5.700	114.83	0.00	4.49	75.7	19.539
17.583	5.700	90.76	0.00	4.49	85.3	19.577
17.667	5.700	69.08	0.00	4.48	83.4	19.478
17.750	5.700	55.83	0.00	4.46	76.0	19.340
17.833	5.700	45.26	0.00	4.44	66.9	19.190
17.917	5.700	31.24	0.00	4.41	56.7	19.015
18.000	5.700	19.84	0.00	4.39	45.6	18.837
18.083	5.700	8.51	0.00	4.36	34.4	18.659
18.167	5.700	1.25	0.00	4.34	23.9	18.502
18.250	5.700	0.00	0.00	4.33	15.6	18.395
18.333	5.700	0.00	0.00	4.32	10.1	18.325
18.417	5.700	0.00	0.00	4.31	6.5	18.280
18.500	5.700	0.00	0.00	4.31	4.2	18.252
18.583	5.700	0.00	0.00	4.30	2.7	18.233
18.667	5.700	0.00	0.00	4.30	1.7	18.221
18.750	5.700	0.00	0.00	4.30	1.1	18.213
18.833	5.700	0.00	0.00	4.30	0.7	18.208
18.917	5.700	0.00	0.00	4.30	0.5	18.205
19.000	5.700	0.00	0.00	4.30	0.3	18.203
19.083	5.700	0.00	0.00	4.30	0.2	18.202
19.167	5.700	0.00	0.00	4.30	0.1	18.201
19.250	5.700	0.00	0.00	4.30	0.1	18.200
19.333	5.700	0.00	0.00	4.30	0.1	18.200
19.417	5.700	0.00	0.00	4.30	0.0	18.200
19.500	5.700	0.00	0.00	4.30	0.0	18.199
19.583	5.700	0.00	0.00	4.30	0.0	18.199
19.667	5.700	0.00	0.00	4.30	0.0	18.199
19.750	5.700	0.00	0.00	4.30	0.0	18.198
19.833	5.700	0.00	0.00	4.30	0.0	18.198
19.917	5.700	0.00	0.00	4.30	0.0	18.198

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 22.733 AF
BASIN STORAGE = 21.374 AF (WITH 5.700 AF INITIALLY FILLED)
OUTFLOW VOLUME = 7.057 AF
LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8

>>>>MODEL STREAM SPLITFLOW WHERE A CONSTANT PROPORTION
OF STREAM 3 IS ADDED TO STREAM 4<<<<<

=====

	INFLOW	INFLOW
	(STREAM 4)	(STREAM 3)
	| (.500) (STREAM 3) |	|
	|<-----* <= splitflow model	|
	V	V
	STREAM 4	(.500) (STREAM 3)
	+ (.500) (STREAM 3)	

STREAM NUMBER 3 IS SPLIT TOWARDS STREAM 4
 WHERE 0.50 (DECIMAL PERCENT) REMAINS IN STREAM 3
 AND 0.50 (DECIMAL PERCENT) IS ADDED TO STREAM 4

STREAM SPLITFLOW MODELING RESULTS:

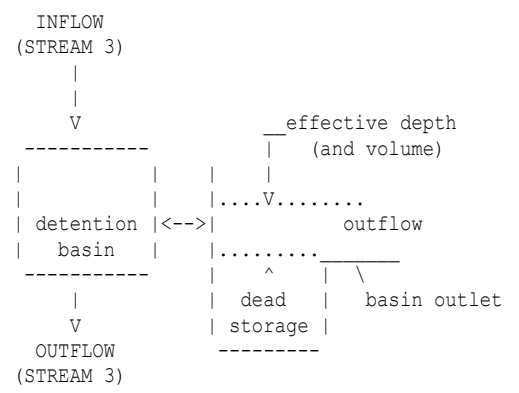
MODEL TIME (HRS)	INFLOW STREAM 4 (CFS)	INFLOW STREAM 3 (CFS)	OUTFLOW STREAM 4 (CFS)	OUTFLOW STREAM 3 (CFS)
10.000	0.00	0.00	0.00	0.00
10.083	0.00	0.00	0.00	0.00
10.167	0.00	0.00	0.00	0.00
10.250	0.00	0.00	0.00	0.00
10.333	0.00	0.00	0.00	0.00
10.417	0.00	0.00	0.00	0.00
10.500	0.00	0.00	0.00	0.00
10.583	0.00	0.00	0.00	0.00
10.667	0.00	0.00	0.00	0.00
10.750	0.00	0.00	0.00	0.00
10.833	0.00	0.00	0.00	0.00
10.917	0.00	0.00	0.00	0.00
11.000	0.00	0.00	0.00	0.00
11.083	0.00	0.00	0.00	0.00
11.167	0.00	0.00	0.00	0.00
11.250	0.00	0.00	0.00	0.00
11.333	0.00	0.00	0.00	0.00
11.417	0.00	0.00	0.00	0.00
11.500	0.00	0.00	0.00	0.00
11.583	0.00	0.00	0.00	0.00
11.667	0.00	0.00	0.00	0.00
11.750	0.00	0.00	0.00	0.00
11.833	0.00	0.00	0.00	0.00
11.917	0.00	0.00	0.00	0.00
12.000	0.00	0.00	0.00	0.00
12.083	0.00	0.00	0.00	0.00
12.167	0.00	0.00	0.00	0.00
12.250	0.00	0.00	0.00	0.00
12.333	0.00	0.00	0.00	0.00
12.417	0.00	0.00	0.00	0.00
12.500	0.00	0.00	0.00	0.00
12.583	0.00	0.00	0.00	0.00
12.667	0.00	0.00	0.00	0.00
12.750	0.00	0.00	0.00	0.00
12.833	0.00	0.00	0.00	0.00
12.917	0.00	0.00	0.00	0.00
13.000	0.00	0.00	0.00	0.00
13.083	0.00	0.00	0.00	0.00
13.167	0.00	0.00	0.00	0.00
13.250	0.00	0.00	0.00	0.00
13.333	0.00	0.00	0.00	0.00
13.417	0.00	0.00	0.00	0.00
13.500	0.00	0.00	0.00	0.00
13.583	0.00	0.00	0.00	0.00

13.667	0.00	0.00	0.00	0.00
13.750	0.00	0.00	0.00	0.00
13.833	0.00	0.00	0.00	0.00
13.917	0.00	0.00	0.00	0.00
14.000	0.00	0.00	0.00	0.00
14.083	0.00	0.00	0.00	0.00
14.167	0.00	0.00	0.00	0.00
14.250	0.00	0.00	0.00	0.00
14.333	0.00	0.00	0.00	0.00
14.417	0.00	0.00	0.00	0.00
14.500	0.00	0.00	0.00	0.00
14.583	0.00	0.00	0.00	0.00
14.667	0.00	0.00	0.00	0.00
14.750	0.00	0.00	0.00	0.00
14.833	0.00	0.00	0.00	0.00
14.917	0.00	0.00	0.00	0.00
15.000	0.00	0.00	0.00	0.00
15.083	0.00	0.00	0.00	0.00
15.167	0.00	0.00	0.00	0.00
15.250	0.00	0.00	0.00	0.00
15.333	0.00	0.00	0.00	0.00
15.417	0.00	0.01	0.00	0.00
15.500	0.00	0.01	0.01	0.01
15.583	0.00	0.01	0.01	0.01
15.667	0.00	0.01	0.01	0.01
15.750	0.00	0.01	0.01	0.01
15.833	0.00	0.01	0.01	0.01
15.917	0.00	0.01	0.01	0.01
16.000	0.00	0.01	0.01	0.01
16.083	0.00	0.02	0.01	0.01
16.167	0.00	0.02	0.01	0.01
16.250	0.00	0.02	0.01	0.01
16.333	0.00	0.02	0.01	0.01
16.417	0.00	0.02	0.01	0.01
16.500	0.00	0.02	0.01	0.01
16.583	0.00	0.02	0.01	0.01
16.667	0.00	0.03	0.01	0.01
16.750	0.00	0.03	0.01	0.01
16.833	0.00	0.03	0.01	0.01
16.917	0.00	0.03	0.01	0.01
17.000	0.00	0.03	0.02	0.02
17.083	0.00	0.03	0.02	0.02
17.167	0.00	0.03	0.02	0.02
17.250	0.00	0.04	0.02	0.02
17.333	0.00	16.09	8.05	8.05
17.417	0.00	49.67	24.84	24.84
17.500	0.00	75.67	37.84	37.84
17.583	0.00	85.31	42.66	42.66
17.667	0.00	83.40	41.70	41.70
17.750	0.00	75.95	37.98	37.98
17.833	0.00	66.92	33.46	33.46
17.917	0.00	56.72	28.36	28.36
18.000	0.00	45.64	22.82	22.82
18.083	0.00	34.45	17.22	17.22
18.167	0.00	23.93	11.97	11.97
18.250	0.00	15.65	7.82	7.82
18.333	0.00	10.08	5.04	5.04
18.417	0.00	6.50	3.25	3.25

18.500	0.00	4.19	2.09	2.09
18.583	0.00	2.70	1.35	1.35
18.667	0.00	1.74	0.87	0.87
18.750	0.00	1.12	0.56	0.56
18.833	0.00	0.72	0.36	0.36
18.917	0.00	0.47	0.23	0.23
19.000	0.00	0.30	0.15	0.15
19.083	0.00	0.19	0.10	0.10
19.167	0.00	0.12	0.06	0.06
19.250	0.00	0.08	0.04	0.04
19.333	0.00	0.05	0.03	0.03
19.417	0.00	0.04	0.02	0.02
19.500	0.00	0.04	0.02	0.02
19.583	0.00	0.04	0.02	0.02
19.667	0.00	0.04	0.02	0.02
19.750	0.00	0.04	0.02	0.02
19.833	0.00	0.04	0.02	0.02
19.917	0.00	0.04	0.02	0.02
20.000	0.00	0.04	0.02	0.02

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
=====



ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE(AF) = 0.000
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
-----------------	------------	---------------	--------------

1	0.00	0.00	0.000
2	0.99	2.90	0.900
3	1.99	11.38	2.900
4	3.99	19.63	10.300
5	5.99	25.19	20.700
6	7.99	29.71	31.700
7	9.99	33.62	43.500
8	10.99	35.49	49.700
9	11.99	313.46	56.400
10	12.99	894.27	63.100
11	13.99	1748.55	69.900
12	15.99	4306.91	84.100

=====

MODIFIED-PULS BASIN ROUTING MODEL RESULTS(5-MINUTE COMPUTATION INTERVALS):
(Note: Computed EFFECTIVE DEPTH and VOLUME are estimated at the clock time;
MEAN OUTFLOW is the average value during the unit interval.)

CLOCK TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	LOSS (CFS)	EFFECTIVE DEPTH (FT)	MEAN OUTFLOW (CFS)	EFFECTIVE VOLUME (AF)
10.083	0.000	0.00	0.00	0.00	0.0	0.000
10.167	0.000	0.00	0.00	0.00	0.0	0.000
10.250	0.000	0.00	0.00	0.00	0.0	0.000
10.333	0.000	0.00	0.00	0.00	0.0	0.000
10.417	0.000	0.00	0.00	0.00	0.0	0.000
10.500	0.000	0.00	0.00	0.00	0.0	0.000
10.583	0.000	0.00	0.00	0.00	0.0	0.000
10.667	0.000	0.00	0.00	0.00	0.0	0.000
10.750	0.000	0.00	0.00	0.00	0.0	0.000
10.833	0.000	0.00	0.00	0.00	0.0	0.000
10.917	0.000	0.00	0.00	0.00	0.0	0.000
11.000	0.000	0.00	0.00	0.00	0.0	0.000
11.083	0.000	0.00	0.00	0.00	0.0	0.000
11.167	0.000	0.00	0.00	0.00	0.0	0.000
11.250	0.000	0.00	0.00	0.00	0.0	0.000
11.333	0.000	0.00	0.00	0.00	0.0	0.000
11.417	0.000	0.00	0.00	0.00	0.0	0.000
11.500	0.000	0.00	0.00	0.00	0.0	0.000
11.583	0.000	0.00	0.00	0.00	0.0	0.000
11.667	0.000	0.00	0.00	0.00	0.0	0.000
11.750	0.000	0.00	0.00	0.00	0.0	0.000
11.833	0.000	0.00	0.00	0.00	0.0	0.000
11.917	0.000	0.00	0.00	0.00	0.0	0.000
12.000	0.000	0.00	0.00	0.00	0.0	0.000
12.083	0.000	0.00	0.00	0.00	0.0	0.000
12.167	0.000	0.00	0.00	0.00	0.0	0.000
12.250	0.000	0.00	0.00	0.00	0.0	0.000
12.333	0.000	0.00	0.00	0.00	0.0	0.000
12.417	0.000	0.00	0.00	0.00	0.0	0.000
12.500	0.000	0.00	0.00	0.00	0.0	0.000
12.583	0.000	0.00	0.00	0.00	0.0	0.000
12.667	0.000	0.00	0.00	0.00	0.0	0.000
12.750	0.000	0.00	0.00	0.00	0.0	0.000
12.833	0.000	0.00	0.00	0.00	0.0	0.000
12.917	0.000	0.00	0.00	0.00	0.0	0.000

13.000	0.000	0.00	0.00	0.00	0.0	0.000
13.083	0.000	0.00	0.00	0.00	0.0	0.000
13.167	0.000	0.00	0.00	0.00	0.0	0.000
13.250	0.000	0.00	0.00	0.00	0.0	0.000
13.333	0.000	0.00	0.00	0.00	0.0	0.000
13.417	0.000	0.00	0.00	0.00	0.0	0.000
13.500	0.000	0.00	0.00	0.00	0.0	0.000
13.583	0.000	0.00	0.00	0.00	0.0	0.000
13.667	0.000	0.00	0.00	0.00	0.0	0.000
13.750	0.000	0.00	0.00	0.00	0.0	0.000
13.833	0.000	0.00	0.00	0.00	0.0	0.000
13.917	0.000	0.00	0.00	0.00	0.0	0.000
14.000	0.000	0.00	0.00	0.00	0.0	0.000
14.083	0.000	0.00	0.00	0.00	0.0	0.000
14.167	0.000	0.00	0.00	0.00	0.0	0.000
14.250	0.000	0.00	0.00	0.00	0.0	0.000
14.333	0.000	0.00	0.00	0.00	0.0	0.000
14.417	0.000	0.00	0.00	0.00	0.0	0.000
14.500	0.000	0.00	0.00	0.00	0.0	0.000
14.583	0.000	0.00	0.00	0.00	0.0	0.000
14.667	0.000	0.00	0.00	0.00	0.0	0.000
14.750	0.000	0.00	0.00	0.00	0.0	0.000
14.833	0.000	0.00	0.00	0.00	0.0	0.000
14.917	0.000	0.00	0.00	0.00	0.0	0.000
15.000	0.000	0.00	0.00	0.00	0.0	0.000
15.083	0.000	0.00	0.00	0.00	0.0	0.000
15.167	0.000	0.00	0.00	0.00	0.0	0.000
15.250	0.000	0.00	0.00	0.00	0.0	0.000
15.333	0.000	0.00	0.00	0.00	0.0	0.000
15.417	0.000	0.00	0.00	0.00	0.0	0.000
15.500	0.000	0.01	0.00	0.00	0.0	0.000
15.583	0.000	0.01	0.00	0.00	0.0	0.000
15.667	0.000	0.01	0.00	0.00	0.0	0.000
15.750	0.000	0.01	0.00	0.00	0.0	0.000
15.833	0.000	0.01	0.00	0.00	0.0	0.000
15.917	0.000	0.01	0.00	0.00	0.0	0.000
16.000	0.000	0.01	0.00	0.00	0.0	0.000
16.083	0.000	0.01	0.00	0.00	0.0	0.000
16.167	0.000	0.01	0.00	0.00	0.0	0.000
16.250	0.000	0.01	0.00	0.00	0.0	0.000
16.333	0.000	0.01	0.00	0.00	0.0	0.001
16.417	0.000	0.01	0.00	0.00	0.0	0.001
16.500	0.000	0.01	0.00	0.00	0.0	0.001
16.583	0.000	0.01	0.00	0.00	0.0	0.001
16.667	0.000	0.01	0.00	0.00	0.0	0.001
16.750	0.000	0.01	0.00	0.00	0.0	0.001
16.833	0.000	0.01	0.00	0.00	0.0	0.001
16.917	0.000	0.01	0.00	0.00	0.0	0.001
17.000	0.000	0.02	0.00	0.00	0.0	0.001
17.083	0.000	0.02	0.00	0.00	0.0	0.001
17.167	0.000	0.02	0.00	0.00	0.0	0.001
17.250	0.000	0.02	0.00	0.00	0.0	0.001
17.333	0.000	8.05	0.00	0.06	0.1	0.056
17.417	0.000	24.84	0.00	0.25	0.5	0.224
17.500	0.000	37.84	0.00	0.52	1.1	0.477
17.583	0.000	42.66	0.00	0.83	2.0	0.757
17.667	0.000	41.70	0.00	1.05	2.9	1.024
17.750	0.000	37.98	0.00	1.17	3.9	1.258

17.833	0.000	33.46	0.00	1.27	4.8	1.456
17.917	0.000	28.36	0.00	1.35	5.6	1.612
18.000	0.000	22.82	0.00	1.40	6.2	1.727
18.083	0.000	17.22	0.00	1.44	6.6	1.801
18.167	0.000	11.97	0.00	1.46	6.8	1.836
18.250	0.000	7.82	0.00	1.46	6.9	1.843
18.333	0.000	5.04	0.00	1.46	6.9	1.830
18.417	0.000	3.25	0.00	1.44	6.8	1.806
18.500	0.000	2.09	0.00	1.43	6.7	1.774
18.583	0.000	1.35	0.00	1.41	6.5	1.738
18.667	0.000	0.87	0.00	1.39	6.4	1.701
18.750	0.000	0.56	0.00	1.37	6.2	1.662
18.833	0.000	0.36	0.00	1.35	6.0	1.622
18.917	0.000	0.23	0.00	1.33	5.9	1.584
19.000	0.000	0.15	0.00	1.31	5.7	1.545
19.083	0.000	0.10	0.00	1.29	5.6	1.508
19.167	0.000	0.06	0.00	1.28	5.4	1.471
19.250	0.000	0.04	0.00	1.26	5.2	1.435
19.333	0.000	0.03	0.00	1.24	5.1	1.400
19.417	0.000	0.02	0.00	1.22	4.9	1.366
19.500	0.000	0.02	0.00	1.21	4.8	1.333
19.583	0.000	0.02	0.00	1.19	4.7	1.301
19.667	0.000	0.02	0.00	1.18	4.5	1.270
19.750	0.000	0.02	0.00	1.16	4.4	1.240
19.833	0.000	0.02	0.00	1.15	4.3	1.211
19.917	0.000	0.02	0.00	1.13	4.2	1.182

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 3.528 AF
BASIN STORAGE = 0.005 AF (WITH 0.000 AF INITIALLY FILLED)
OUTFLOW VOLUME = 3.523 AF
LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<<
=====

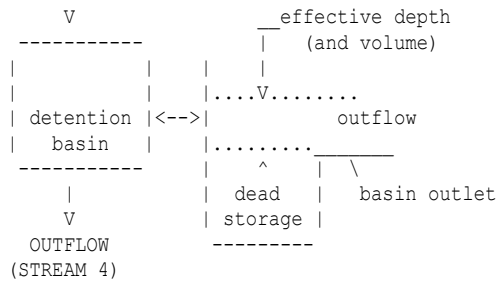
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<<
=====

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<<
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INFLOW
(STREAM 4)
|
|



ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
 THROUGH A FLOW-THROUGH DETENTION BASIN
 SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
 DEAD STORAGE(AF) = 0.000
 SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
 SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
 DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.48	0.70	0.400
3	1.48	6.50	1.800
4	3.48	18.11	8.500
5	5.48	23.99	17.900
6	7.48	28.68	27.800
7	9.48	32.70	38.300
8	10.48	34.50	43.900
9	11.48	36.29	49.400
10	12.48	314.07	55.900
11	13.48	895.00	62.300
12	15.48	2882.95	74.700

=====
 MODIFIED-PULS BASIN ROUTING MODEL RESULTS(5-MINUTE COMPUTATION INTERVALS):
 (Note: Computed EFFECTIVE DEPTH and VOLUME are estimated at the clock time;
 MEAN OUTFLOW is the average value during the unit interval.)

CLOCK TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	LOSS (CFS)	MEAN EFFECTIVE DEPTH (FT)	MEAN OUTFLOW (CFS)	MEAN EFFECTIVE VOLUME (AF)
10.083	0.000	0.00	0.00	0.00	0.0	0.000
10.167	0.000	0.00	0.00	0.00	0.0	0.000
10.250	0.000	0.00	0.00	0.00	0.0	0.000
10.333	0.000	0.00	0.00	0.00	0.0	0.000
10.417	0.000	0.00	0.00	0.00	0.0	0.000
10.500	0.000	0.00	0.00	0.00	0.0	0.000
10.583	0.000	0.00	0.00	0.00	0.0	0.000
10.667	0.000	0.00	0.00	0.00	0.0	0.000

10.750	0.000	0.00	0.00	0.00	0.0	0.000
10.833	0.000	0.00	0.00	0.00	0.0	0.000
10.917	0.000	0.00	0.00	0.00	0.0	0.000
11.000	0.000	0.00	0.00	0.00	0.0	0.000
11.083	0.000	0.00	0.00	0.00	0.0	0.000
11.167	0.000	0.00	0.00	0.00	0.0	0.000
11.250	0.000	0.00	0.00	0.00	0.0	0.000
11.333	0.000	0.00	0.00	0.00	0.0	0.000
11.417	0.000	0.00	0.00	0.00	0.0	0.000
11.500	0.000	0.00	0.00	0.00	0.0	0.000
11.583	0.000	0.00	0.00	0.00	0.0	0.000
11.667	0.000	0.00	0.00	0.00	0.0	0.000
11.750	0.000	0.00	0.00	0.00	0.0	0.000
11.833	0.000	0.00	0.00	0.00	0.0	0.000
11.917	0.000	0.00	0.00	0.00	0.0	0.000
12.000	0.000	0.00	0.00	0.00	0.0	0.000
12.083	0.000	0.00	0.00	0.00	0.0	0.000
12.167	0.000	0.00	0.00	0.00	0.0	0.000
12.250	0.000	0.00	0.00	0.00	0.0	0.000
12.333	0.000	0.00	0.00	0.00	0.0	0.000
12.417	0.000	0.00	0.00	0.00	0.0	0.000
12.500	0.000	0.00	0.00	0.00	0.0	0.000
12.583	0.000	0.00	0.00	0.00	0.0	0.000
12.667	0.000	0.00	0.00	0.00	0.0	0.000
12.750	0.000	0.00	0.00	0.00	0.0	0.000
12.833	0.000	0.00	0.00	0.00	0.0	0.000
12.917	0.000	0.00	0.00	0.00	0.0	0.000
13.000	0.000	0.00	0.00	0.00	0.0	0.000
13.083	0.000	0.00	0.00	0.00	0.0	0.000
13.167	0.000	0.00	0.00	0.00	0.0	0.000
13.250	0.000	0.00	0.00	0.00	0.0	0.000
13.333	0.000	0.00	0.00	0.00	0.0	0.000
13.417	0.000	0.00	0.00	0.00	0.0	0.000
13.500	0.000	0.00	0.00	0.00	0.0	0.000
13.583	0.000	0.00	0.00	0.00	0.0	0.000
13.667	0.000	0.00	0.00	0.00	0.0	0.000
13.750	0.000	0.00	0.00	0.00	0.0	0.000
13.833	0.000	0.00	0.00	0.00	0.0	0.000
13.917	0.000	0.00	0.00	0.00	0.0	0.000
14.000	0.000	0.00	0.00	0.00	0.0	0.000
14.083	0.000	0.00	0.00	0.00	0.0	0.000
14.167	0.000	0.00	0.00	0.00	0.0	0.000
14.250	0.000	0.00	0.00	0.00	0.0	0.000
14.333	0.000	0.00	0.00	0.00	0.0	0.000
14.417	0.000	0.00	0.00	0.00	0.0	0.000
14.500	0.000	0.00	0.00	0.00	0.0	0.000
14.583	0.000	0.00	0.00	0.00	0.0	0.000
14.667	0.000	0.00	0.00	0.00	0.0	0.000
14.750	0.000	0.00	0.00	0.00	0.0	0.000
14.833	0.000	0.00	0.00	0.00	0.0	0.000
14.917	0.000	0.00	0.00	0.00	0.0	0.000
15.000	0.000	0.00	0.00	0.00	0.0	0.000
15.083	0.000	0.00	0.00	0.00	0.0	0.000
15.167	0.000	0.00	0.00	0.00	0.0	0.000
15.250	0.000	0.00	0.00	0.00	0.0	0.000
15.333	0.000	0.00	0.00	0.00	0.0	0.000
15.417	0.000	0.00	0.00	0.00	0.0	0.000
15.500	0.000	0.01	0.00	0.00	0.0	0.000

15.583	0.000	0.01	0.00	0.00	0.0	0.000
15.667	0.000	0.01	0.00	0.00	0.0	0.000
15.750	0.000	0.01	0.00	0.00	0.0	0.000
15.833	0.000	0.01	0.00	0.00	0.0	0.000
15.917	0.000	0.01	0.00	0.00	0.0	0.000
16.000	0.000	0.01	0.00	0.00	0.0	0.000
16.083	0.000	0.01	0.00	0.00	0.0	0.000
16.167	0.000	0.01	0.00	0.00	0.0	0.000
16.250	0.000	0.01	0.00	0.00	0.0	0.000
16.333	0.000	0.01	0.00	0.00	0.0	0.001
16.417	0.000	0.01	0.00	0.00	0.0	0.001
16.500	0.000	0.01	0.00	0.00	0.0	0.001
16.583	0.000	0.01	0.00	0.00	0.0	0.001
16.667	0.000	0.01	0.00	0.00	0.0	0.001
16.750	0.000	0.01	0.00	0.00	0.0	0.001
16.833	0.000	0.01	0.00	0.00	0.0	0.001
16.917	0.000	0.01	0.00	0.00	0.0	0.001
17.000	0.000	0.02	0.00	0.00	0.0	0.001
17.083	0.000	0.02	0.00	0.00	0.0	0.001
17.167	0.000	0.02	0.00	0.00	0.0	0.001
17.250	0.000	0.02	0.00	0.00	0.0	0.001
17.333	0.000	8.05	0.00	0.07	0.1	0.057
17.417	0.000	24.84	0.00	0.27	0.2	0.226
17.500	0.000	37.84	0.00	0.54	0.7	0.482
17.583	0.000	42.66	0.00	0.74	1.6	0.764
17.667	0.000	41.70	0.00	0.93	2.8	1.032
17.750	0.000	37.98	0.00	1.10	3.8	1.268
17.833	0.000	33.46	0.00	1.24	4.7	1.466
17.917	0.000	28.36	0.00	1.35	5.4	1.624
18.000	0.000	22.82	0.00	1.44	6.0	1.739
18.083	0.000	17.22	0.00	1.48	6.4	1.814
18.167	0.000	11.97	0.00	1.50	6.6	1.851
18.250	0.000	7.82	0.00	1.50	6.6	1.860
18.333	0.000	5.04	0.00	1.49	6.6	1.849
18.417	0.000	3.25	0.00	1.49	6.6	1.826
18.500	0.000	2.09	0.00	1.48	6.5	1.796
18.583	0.000	1.35	0.00	1.45	6.4	1.761
18.667	0.000	0.87	0.00	1.43	6.3	1.724
18.750	0.000	0.56	0.00	1.40	6.1	1.685
18.833	0.000	0.36	0.00	1.37	5.9	1.647
18.917	0.000	0.23	0.00	1.34	5.8	1.609
19.000	0.000	0.15	0.00	1.32	5.6	1.571
19.083	0.000	0.10	0.00	1.29	5.5	1.534
19.167	0.000	0.06	0.00	1.26	5.3	1.498
19.250	0.000	0.04	0.00	1.24	5.2	1.462
19.333	0.000	0.03	0.00	1.21	5.0	1.428
19.417	0.000	0.02	0.00	1.19	4.9	1.394
19.500	0.000	0.02	0.00	1.17	4.8	1.362
19.583	0.000	0.02	0.00	1.14	4.6	1.330
19.667	0.000	0.02	0.00	1.12	4.5	1.299
19.750	0.000	0.02	0.00	1.10	4.4	1.270
19.833	0.000	0.02	0.00	1.08	4.2	1.240
19.917	0.000	0.02	0.00	1.06	4.1	1.212

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 3.528 AF
 BASIN STORAGE = 0.009 AF (WITH 0.000 AF INITIALLY FILLED)
 OUTFLOW VOLUME = 3.519 AF

LOSS VOLUME = 0.000 AF

 FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<

 FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<

 FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
 TO ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE
 INTERVALS(Reference: the National Engineering Handbook,
 Hydrology, Chapter 17, page 17-52, August,1972,
 U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:

BASEWIDTH(FT) = 50.00 CHANNEL Z = 3.00
 UPSTREAM ELEVATION(FT) = 427.51
 DOWNSTREAM ELEVATION(FT) = 315.00
 CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040
 CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:

MAXIMUM INFLOW(CFS) = 1478.45
 AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 1154.86
 CHANNEL NORMAL VELOCITY FOR Q = 1154.86 CFS = 7.15 FPS
 ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.808

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
 UNIT INTERVALS IS CSTAR = 0.572

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 2) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS
			LOSS (STREAM 2) (CFS)
10.000	106.25	102.93	102.93
10.083	107.04	103.65	103.65
10.167	107.85	104.40	104.40
10.250	108.67	105.16	105.16
10.333	109.52	105.93	105.93

10.417	110.38	106.72	106.72
10.500	111.26	107.52	107.52
10.583	112.15	108.34	108.34
10.667	113.07	109.17	109.17
10.750	114.00	110.03	110.03
10.833	114.96	110.90	110.90
10.917	115.93	111.78	111.78
11.000	116.93	112.69	112.69
11.083	117.95	113.62	113.62
11.167	119.00	114.57	114.57
11.250	120.07	115.53	115.53
11.333	121.17	116.52	116.52
11.417	122.28	117.54	117.54
11.500	123.44	118.57	118.57
11.583	124.61	119.63	119.63
11.667	125.83	120.72	120.72
11.750	127.06	121.83	121.83
11.833	128.34	122.97	122.97
11.917	129.64	124.13	124.13
12.000	130.99	125.33	125.33
12.083	132.60	126.56	126.56
12.167	134.51	127.82	127.82
12.250	136.57	129.11	129.11
12.333	138.98	130.49	130.49
12.417	142.12	132.05	132.05
12.500	145.84	133.84	133.84
12.583	149.97	135.85	135.85
12.667	154.29	138.22	138.22
12.750	158.74	141.14	141.14
12.833	163.76	144.60	144.60
12.917	169.16	148.48	148.48
13.000	175.02	152.63	152.63
13.083	180.28	157.06	157.06
13.167	185.95	161.90	161.90
13.250	191.04	167.14	167.14
13.333	195.76	172.63	172.63
13.417	200.05	178.06	178.06
13.500	204.33	183.52	183.52
13.583	208.29	188.70	188.70
13.667	212.03	193.54	193.54
13.750	215.71	198.06	198.06
13.833	219.45	202.38	202.38
13.917	223.10	206.46	206.46
14.000	226.81	210.33	210.33
14.083	231.07	214.10	214.10
14.167	236.08	217.84	217.84
14.250	241.50	221.54	221.54
14.333	247.65	225.35	225.35
14.417	255.65	229.55	229.55
14.500	265.16	234.30	234.30
14.583	275.69	239.56	239.56
14.667	286.76	245.67	245.67
14.750	298.19	253.15	253.15
14.833	311.15	261.98	261.98
14.917	325.31	271.88	271.88
15.000	341.01	282.52	282.52
15.083	355.71	293.90	293.90
15.167	372.31	306.40	306.40

15.250	388.81	320.14	320.14
15.333	405.97	334.81	334.81
15.417	419.96	349.86	349.86
15.500	432.19	365.77	365.77
15.583	444.60	382.14	382.14
15.667	456.33	398.38	398.38
15.750	465.98	413.00	413.00
15.833	476.11	426.29	426.29
15.917	489.85	438.94	438.94
16.000	514.93	450.69	450.69
16.083	582.00	461.32	461.32
16.167	652.53	472.34	472.34
16.250	716.00	487.02	487.02
16.333	809.28	515.45	515.45
16.417	965.93	566.63	566.63
16.500	1083.48	627.58	627.58
16.583	1166.75	695.51	695.51
16.667	1215.96	789.71	789.71
16.750	1266.58	912.39	912.39
16.833	1373.07	1025.77	1025.77
16.917	1438.57	1115.59	1115.59
17.000	1478.45	1182.43	1182.43
17.083	1360.40	1250.36	1250.36
17.167	1354.53	1332.75	1332.75
17.250	1210.81	1400.71	1400.71
17.333	1087.69	1423.27	1423.27
17.417	966.15	1386.20	1386.20
17.500	900.04	1341.38	1341.38
17.583	800.09	1243.79	1243.79
17.667	710.60	1131.88	1131.88
17.750	656.63	1024.76	1024.76
17.833	613.78	934.82	934.82
17.917	556.03	841.10	841.10
18.000	508.98	756.39	756.39
18.083	461.91	691.34	691.34
18.167	431.61	636.23	636.23
18.250	395.58	581.60	581.60
18.333	338.31	531.30	531.30
18.417	313.30	485.96	485.96
18.500	297.69	448.17	448.17
18.583	284.21	407.44	407.44
18.667	271.27	363.23	363.23
18.750	259.43	331.76	331.76
18.833	248.03	309.76	309.76
18.917	237.43	292.73	292.73
19.000	226.48	278.25	278.25
19.083	216.47	265.36	265.36
19.167	205.04	253.48	253.48
19.250	192.44	242.26	242.26
19.333	170.01	231.37	231.37
19.417	162.59	220.72	220.72
19.500	157.12	209.40	209.40
19.583	152.35	195.53	195.53
19.667	147.42	179.55	179.55
19.750	142.99	168.83	168.83
19.833	138.93	161.24	161.24
19.917	135.31	155.24	155.24
20.000	131.98	149.94	149.94

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PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 408.426 AF
OUTFLOW VOLUME = 408.425 AF
LOSS VOLUME = 0.000 AF

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FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2
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>>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<
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THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS(Reference: the National Engineering Handbook, Hydrology, Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:

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BASEWIDTH(FT) = 50.00 CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 315.00
DOWNSTREAM ELEVATION(FT) = 212.00
CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040
CONSTANT LOSS RATE(CFS) = 0.00

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CHANNEL ROUTING COEFFICIENT ESTIMATED:

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MAXIMUM INFLOW(CFS) = 1423.27
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 1123.14
CHANNEL NORMAL VELOCITY FOR Q = 1123.14 CFS = 7.72 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.820

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MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE UNIT INTERVALS IS CSTAR = 0.647

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 2) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS
			LOSS (STREAM 2) (CFS)
10.000	102.93	100.83	100.83
10.083	103.65	101.53	101.53
10.167	104.40	102.23	102.23
10.250	105.16	102.95	102.95
10.333	105.93	103.68	103.68
10.417	106.72	104.42	104.42
10.500	107.52	105.18	105.18
10.583	108.34	105.95	105.95
10.667	109.17	106.74	106.74
10.750	110.03	107.54	107.54
10.833	110.90	108.36	108.36
10.917	111.78	109.20	109.20
11.000	112.69	110.05	110.05
11.083	113.62	110.92	110.92
11.167	114.57	111.81	111.81

11.250	115.53	112.72	112.72
11.333	116.52	113.65	113.65
11.417	117.54	114.60	114.60
11.500	118.57	115.57	115.57
11.583	119.63	116.56	116.56
11.667	120.72	117.57	117.57
11.750	121.83	118.61	118.61
11.833	122.97	119.67	119.67
11.917	124.13	120.75	120.75
12.000	125.33	121.87	121.87
12.083	126.56	123.01	123.01
12.167	127.82	124.18	124.18
12.250	129.11	125.37	125.37
12.333	130.49	126.60	126.60
12.417	132.05	127.86	127.86
12.500	133.84	129.18	129.18
12.583	135.85	130.60	130.60
12.667	138.22	132.19	132.19
12.750	141.14	134.00	134.00
12.833	144.60	136.06	136.06
12.917	148.48	138.53	138.53
13.000	152.63	141.49	141.49
13.083	157.06	144.92	144.92
13.167	161.90	148.75	148.75
13.250	167.14	152.88	152.88
13.333	172.63	157.36	157.36
13.417	178.06	162.22	162.22
13.500	183.52	167.42	167.42
13.583	188.70	172.78	172.78
13.667	193.54	178.20	178.20
13.750	198.06	183.54	183.54
13.833	202.38	188.65	188.65
13.917	206.46	193.47	193.47
14.000	210.33	198.02	198.02
14.083	214.10	202.34	202.34
14.167	217.84	206.42	206.42
14.250	221.54	210.33	210.33
14.333	225.35	214.14	214.14
14.417	229.55	217.89	217.89
14.500	234.30	221.65	221.65
14.583	239.56	225.58	225.58
14.667	245.67	229.89	229.89
14.750	253.15	234.67	234.67
14.833	261.98	240.08	240.08
14.917	271.88	246.44	246.44
15.000	282.52	254.02	254.02
15.083	293.90	262.80	262.80
15.167	306.40	272.58	272.58
15.250	320.14	283.18	283.18
15.333	334.81	294.70	294.70
15.417	349.86	307.31	307.31
15.500	365.77	320.99	320.99
15.583	382.14	335.45	335.45
15.667	398.38	350.61	350.61
15.750	413.00	366.42	366.42
15.833	426.29	382.55	382.55
15.917	438.94	398.15	398.15
16.000	450.69	412.63	412.63

16.083	461.32	426.11	426.11
16.167	472.34	438.72	438.72
16.250	487.02	450.36	450.36
16.333	515.45	461.49	461.49
16.417	566.63	473.89	473.89
16.500	627.58	492.82	492.82
16.583	695.51	526.24	526.24
16.667	789.71	574.73	574.73
16.750	912.39	633.84	633.84
16.833	1025.77	708.29	708.29
16.917	1115.59	805.97	805.97
17.000	1182.43	916.40	916.40
17.083	1250.36	1020.09	1020.09
17.167	1332.75	1106.38	1106.38
17.250	1400.71	1180.49	1180.49
17.333	1423.27	1255.92	1255.92
17.417	1386.20	1330.55	1330.55
17.500	1341.38	1384.20	1384.20
17.583	1243.79	1395.86	1395.86
17.667	1131.88	1373.16	1373.16
17.750	1024.76	1316.79	1316.79
17.833	934.82	1228.51	1228.51
17.917	841.10	1126.71	1126.71
18.000	756.39	1027.77	1027.77
18.083	691.34	933.26	933.26
18.167	636.23	842.57	842.57
18.250	581.60	762.97	762.97
18.333	531.30	696.42	696.42
18.417	485.96	637.45	637.45
18.500	448.17	582.87	582.87
18.583	407.44	532.88	532.88
18.667	363.23	488.67	488.67
18.750	331.76	447.53	447.53
18.833	309.76	405.38	405.38
18.917	292.73	366.57	366.57
19.000	278.25	335.98	335.98
19.083	265.36	312.77	312.77
19.167	253.48	294.50	294.50
19.250	242.26	279.26	279.26
19.333	231.37	265.91	265.91
19.417	220.72	253.75	253.75
19.500	209.40	242.32	242.32
19.583	195.53	231.33	231.33
19.667	179.55	220.32	220.32
19.750	168.83	208.17	208.17
19.833	161.24	194.13	194.13
19.917	155.24	180.77	180.77
20.000	149.94	170.26	170.26

PROCESS SUMMARY OF STORAGE:
 INFLOW VOLUME = 408.425 AF
 OUTFLOW VOLUME = 408.424 AF
 LOSS VOLUME = 0.000 AF

 FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

(UNIT-HYDROGRAPH ADDED TO STREAM #3)

WATERSHED AREA = 1715.900 ACRES
 BASEFLOW = 0.000 CFS/SQUARE-MILE
 *USER ENTERED "LAG" TIME = 0.708 HOURS
 VALLEY(DEVELOPED) S-GRAPH SELECTED
 MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.224
 LOW LOSS FRACTION = 0.615
 HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL(INCH)= 0.26
 SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)= 0.59
 SPECIFIED PEAK 1-HOUR RAINFALL(INCH) = 0.78
 SPECIFIED PEAK 3-HOUR RAINFALL(INCH) = 1.31
 SPECIFIED PEAK 6-HOUR RAINFALL(INCH) = 1.81
 SPECIFIED PEAK 24-HOUR RAINFALL(INCH) = 3.03

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
 5-MINUTE FACTOR = 0.744
 30-MINUTE FACTOR = 0.744
 1-HOUR FACTOR = 0.744
 3-HOUR FACTOR = 0.959
 6-HOUR FACTOR = 0.978
 24-HOUR FACTOR = 0.986

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
 UNIT INTERVAL PERCENTAGE OF LAG-TIME = 11.770

RUNOFF HYDROGRAPH LISTING LIMITS:
 MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 10.00
 MODEL TIME(HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES(CFS)
1	0.673	139.573
2	2.110	298.324
3	4.321	458.820
4	8.727	914.272
5	15.011	1304.016
6	22.123	1475.966
7	29.848	1603.015
8	38.915	1881.434
9	49.494	2195.375
10	58.981	1968.799
11	68.299	1933.604
12	75.661	1527.765
13	81.210	1151.530
14	85.943	982.080

15	89.266	689.617
16	91.807	527.352
17	93.979	450.640
18	95.541	324.254
19	96.647	229.422
20	97.570	191.526
21	98.118	113.722
22	98.339	45.798
23	98.559	45.781
24	98.780	45.798
25	99.001	45.800
26	99.221	45.798
27	99.442	45.798
28	99.663	45.798
29	99.883	45.798
30	100.000	24.192

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 239.4737
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 187.8444

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2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H
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HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	200.0	400.0	600.0	800.0
10.000	30.4695	53.32	. Q	V	.	.	.
10.083	30.8395	53.73	. Q	V	.	.	.
10.167	31.2125	54.15	. Q	V	.	.	.
10.250	31.5883	54.58	. Q	V	.	.	.
10.333	31.9672	55.01	. Q	V	.	.	.
10.417	32.3492	55.46	. Q	V	.	.	.
10.500	32.7343	55.92	. Q	V	.	.	.
10.583	33.1226	56.38	. Q	V	.	.	.
10.667	33.5142	56.86	. Q	V	.	.	.
10.750	33.9092	57.35	. Q	V	.	.	.
10.833	34.3075	57.85	. Q	V	.	.	.
10.917	34.7094	58.36	. Q	V	.	.	.
11.000	35.1149	58.88	. Q	V	.	.	.
11.083	35.5241	59.41	. Q	V	.	.	.
11.167	35.9370	59.96	. Q	V	.	.	.
11.250	36.3538	60.52	. Q	V	.	.	.
11.333	36.7746	61.09	. Q	V	.	.	.
11.417	37.1994	61.68	. Q	V	.	.	.
11.500	37.6284	62.29	. Q	V	.	.	.
11.583	38.0616	62.91	. Q	V	.	.	.
11.667	38.4992	63.54	. Q	V	.	.	.
11.750	38.9413	64.20	. Q	V	.	.	.
11.833	39.3881	64.86	. Q	V	.	.	.
11.917	39.8396	65.56	. Q	V	.	.	.
12.000	40.2959	66.26	. Q	V	.	.	.
12.083	40.7584	67.15	. Q	V	.	.	.
12.167	41.2283	68.23	. Q	V	.	.	.
12.250	41.7071	69.52	. Q	V	.	.	.
12.333	42.1984	71.34	. Q	V	.	.	.
12.417	42.7055	73.62	. Q	V	.	.	.
12.500	43.2298	76.13	. Q	V	.	.	.
12.583	43.7725	78.80	. Q	V	.	.	.
12.667	44.3360	81.82	. Q	V	.	.	.
12.750	44.9230	85.23	. Q	V	.	.	.
12.833	45.5320	88.42	. Q	V	.	.	.
12.917	46.1630	91.62	. Q	V	.	.	.
13.000	46.8131	94.40	. Q	V	.	.	.
13.083	47.4798	96.80	. Q	V	.	.	.
13.167	48.1620	99.06	. Q	V	.	.	.
13.250	48.8579	101.04	. Q	V	.	.	.
13.333	49.5664	102.88	. Q	V	.	.	.
13.417	50.2873	104.68	. Q	V	.	.	.
13.500	51.0201	106.40	. Q	V	.	.	.
13.583	51.7643	108.07	. Q	.V	.	.	.
13.667	52.5201	109.74	. Q	.V	.	.	.
13.750	53.2874	111.40	. Q	.V	.	.	.
13.833	54.0659	113.05	. Q	.V	.	.	.

13.917	54.8563	114.77	.	Q	.V	.	.	.
14.000	55.6591	116.56	.	Q	.V	.	.	.
14.083	56.4775	118.83	.	Q	.V	.	.	.
14.167	57.3151	121.62	.	Q	.V	.	.	.
14.250	58.1757	124.96	.	Q	.V	.	.	.
14.333	59.0685	129.64	.	Q	.V	.	.	.
14.417	60.0019	135.52	.	Q	.V	.	.	.
14.500	60.9793	141.92	.	Q	.V	.	.	.
14.583	62.0038	148.76	.	Q	.V	.	.	.
14.667	63.0814	156.46	.	Q	.V	.	.	.
14.750	64.2187	165.15	.	Q	.V	.	.	.
14.833	65.4122	173.29	.	Q	.V	.	.	.
14.917	66.6620	181.48	.	Q	.V	.	.	.
15.000	67.9613	188.65	.	Q	.V	.	.	.
15.083	69.3040	194.96	.	Q	.V	.	.	.
15.167	70.6885	201.03	.	Q	.V	.	.	.
15.250	72.1119	206.68	.	Q	.V	.	.	.
15.333	73.5746	212.38	.	Q	.V	.	.	.
15.417	75.0729	217.56	.	Q	.V	.	.	.
15.500	76.6029	222.16	.	.Q	.V	.	.	.
15.583	78.1624	226.43	.	.Q	.V	.	.	.
15.667	79.7348	228.31	.	.Q	.V	.	.	.
15.750	81.3121	229.03	.	.Q	.V	.	.	.
15.833	82.9027	230.95	.	.Q	.V	.	.	.
15.917	84.5330	236.72	.	.Q	.V	.	.	.
16.000	86.2493	249.20	.	.Q	.V	.	.	.
16.083	88.2177	285.82	.	.Q	.V	.	.	.
16.167	90.5206	334.38	.	.Q	.V	.	.	.
16.250	93.2193	391.85	.	.Q	.V	.	.	.
16.333	96.6055	491.68	.	.Q	.V	.	.	.
16.417	100.5914	578.74	.	.Q	.V	.	.	.
16.500	104.9180	628.22	.	.Q	.V	.	.	.
16.583	109.5345	670.31	.	.Q	.V	.	.	.
16.667	114.5325	725.72	.	.Q	.V	.	.	.
16.750	119.8192	767.64	.	.Q	.V	.	.	.
16.833	124.7867	721.28	.	.Q	.V	.	.	.
16.917	129.4907	683.02	.	.Q	.V	.	.	.
17.000	133.5721	592.62	.	.Q	.V	.	.	.
17.083	137.0835	509.86	.	.Q	.V	.	.	.
17.167	140.2294	456.77	.	.Q	.V	.	.	.
17.250	142.9395	393.51	.	.Q	.V	.	.	.
17.333	145.3447	349.24	.	.Q	.V	.	.	.
17.417	147.5289	317.15	.	.Q	.V	.	.	.
17.500	149.4610	280.54	.	.Q	.V	.	.	.
17.583	151.1761	249.04	.	.Q	.V	.	.	.
17.667	152.7305	225.70	.	.Q	.V	.	.	.
17.750	154.0971	198.42	.	.Q	.V	.	.	.
17.833	155.3073	175.72	.	.Q	.V	.	.	.
17.917	156.4409	164.60	.	.Q	.V	.	.	.
18.000	157.5160	156.11	.	.Q	.V	.	.	.
18.083	158.5393	148.58	.	.Q	.V	.	.	.
18.167	159.5119	141.22	.	.Q	.V	.	.	.
18.250	160.4398	134.74	.	.Q	.V	.	.	.
18.333	161.3223	128.13	.	.Q	.V	.	.	.
18.417	162.1544	120.82	.	.Q	.V	.	.	.
18.500	162.9177	110.83	.	.Q	.V	.	.	.
18.583	163.6163	101.45	.	.Q	.V	.	.	.
18.667	164.2773	95.97	.	.Q	.V	.	.	.

18.750	164.9037	90.95	.	Q	.	.	.	V	.
18.833	165.4991	86.45	.	Q	.	.	.	V	.
18.917	166.0639	82.01	.	Q	.	.	.	V	.
19.000	166.6027	78.23	.	Q	.	.	.	V	.
19.083	167.1194	75.03	.	Q	.	.	.	V	.
19.167	167.6162	72.13	.	Q	.	.	.	V	.
19.250	168.0959	69.66	.	Q	.	.	.	V	.
19.333	168.5606	67.47	.	Q	.	.	.	V	.
19.417	169.0114	65.45	.	Q	.	.	.	V	.
19.500	169.4502	63.71	.	Q	.	.	.	V	.
19.583	169.8787	62.22	.	Q	.	.	.	V	.
19.667	170.2976	60.83	.	Q	.	.	.	V	.
19.750	170.7080	59.58	.	Q	.	.	.	V	.
19.833	171.1107	58.47	.	Q	.	.	.	V	.
19.917	171.5061	57.41	.	Q	.	.	.	V	.
20.000	171.8944	56.39	.	Q	.	.	.	V	.

 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	390.0
20%	205.0
30%	110.0
40%	80.0
50%	65.0
60%	50.0
70%	40.0
80%	30.0
90%	15.0

 FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
 =====

 FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
 =====

 FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
 =====

FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<

FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<

STREAM HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	425.0	850.0	1275.0	1700.0
10.000	85.0524	154.15	. Q V	.	.	.	.
10.083	86.1217	155.26	. Q V	.	.	.	.
10.167	87.1987	156.38	. Q V	.	.	.	.
10.250	88.2835	157.52	. Q V	.	.	.	.
10.333	89.3765	158.69	. Q V	.	.	.	.
10.417	90.4776	159.88	. Q V	.	.	.	.
10.500	91.5871	161.10	. Q V	.	.	.	.
10.583	92.7051	162.34	. Q V	.	.	.	.
10.667	93.8318	163.60	. Q V	.	.	.	.
10.750	94.9674	164.89	. Q V	.	.	.	.
10.833	96.1121	166.21	. Q V	.	.	.	.
10.917	97.2661	167.56	. Q V	.	.	.	.
11.000	98.4295	168.93	. Q V	.	.	.	.
11.083	99.6027	170.34	. Q V	.	.	.	.
11.167	100.7857	171.77	. Q V	.	.	.	.
11.250	101.9788	173.24	. Q V	.	.	.	.
11.333	103.1822	174.74	. Q V	.	.	.	.
11.417	104.3963	176.28	. Q V	.	.	.	.
11.500	105.6211	177.85	. Q V	.	.	.	.
11.583	106.8571	179.46	. Q V	.	.	.	.
11.667	108.1044	181.11	. Q V	.	.	.	.
11.750	109.3634	182.80	. Q V	.	.	.	.
11.833	110.6343	184.53	. Q V	.	.	.	.
11.917	111.9174	186.31	. Q V	.	.	.	.
12.000	113.2131	188.13	. Q V	.	.	.	.
12.083	114.5227	190.16	. Q V	.	.	.	.
12.167	115.8479	192.41	. Q V	.	.	.	.
12.250	117.1901	194.90	. Q V	.	.	.	.
12.333	118.5534	197.94	. Q V	.	.	.	.
12.417	119.9410	201.49	. Q V	.	.	.	.
12.500	121.3550	205.30	. Q V	.	.	.	.
12.583	122.7971	209.40	. Q V	.	.	.	.
12.667	124.2711	214.02	. Q V	.	.	.	.
12.750	125.7809	219.23	. Q V	.	.	.	.
12.833	127.3270	224.49	. Q V	.	.	.	.
12.917	128.9120	230.15	. Q V	.	.	.	.
13.000	130.5366	235.89	. Q V	.	.	.	.
13.083	132.2014	241.73	. Q V	.	.	.	.
13.167	133.9080	247.80	. Q V	.	.	.	.
13.250	135.6568	253.92	. Q V	.	.	.	.
13.333	137.4490	260.24	. Q V	.	.	.	.

13.417	139.2872	266.90	. Q V	.	.	.	.
13.500	141.1730	273.81	. Q V	.	.	.	.
13.583	143.1072	280.84	. Q V	.	.	.	.
13.667	145.0902	287.94	. Q V	.	.	.	.
13.750	147.1215	294.94	. Q V	.	.	.	.
13.833	149.1993	301.70	. Q V	.	.	.	.
13.917	151.3222	308.24	. Q V	.	.	.	.
14.000	153.4888	314.58	. Q V	.	.	.	.
14.083	155.7007	321.17	. Q V	.	.	.	.
14.167	157.9599	328.04	. Q V	.	.	.	.
14.250	160.2690	335.29	. Q V	.	.	.	.
14.333	162.6367	343.78	. Q V	.	.	.	.
14.417	165.0706	353.41	. Q V	.	.	.	.
14.500	167.5746	363.57	. Q V	.	.	.	.
14.583	170.1527	374.34	. Q V	.	.	.	.
14.667	172.8135	386.35	. Q V	.	.	.	.
14.750	175.5671	399.82	. Q V	.	.	.	.
14.833	178.4140	413.37	. Q V	.	.	.	.
14.917	181.3611	427.92	. Q V	.	.	.	.
15.000	184.4098	442.67	. Q V	.	.	.	.
15.083	187.5624	457.76	. Q V	.	.	.	.
15.167	190.8241	473.61	. QV	.	.	.	.
15.250	194.1979	489.87	. Q V	.	.	.	.
15.333	197.6902	507.08	. Q V	.	.	.	.
15.417	201.3049	524.87	. QV	.	.	.	.
15.500	205.0457	543.15	. QV	.	.	.	.
15.583	208.9154	561.88	. QV	.	.	.	.
15.667	212.9024	578.92	. QV	.	.	.	.
15.750	217.0033	595.45	. Q	.	.	.	.
15.833	221.2285	613.50	. Q	.	.	.	.
15.917	225.6009	634.87	. QV	.	.	.	.
16.000	230.1590	661.83	. Q	.	.	.	.
16.083	235.0621	711.93	. VQ	.	.	.	.
16.167	240.3864	773.10	. V Q	.	.	.	.
16.250	246.1868	842.21	. V Q	.	.	.	.
16.333	252.7513	953.17	. V . Q	.	.	.	.
16.417	260.0009	1052.64	. V . Q	.	.	.	.
16.500	267.7216	1121.04	. V . Q	.	.	.	.
16.583	275.9623	1196.55	. V . Q	.	.	.	.
16.667	284.9185	1300.44	. V . Q	.	.	.	.
16.750	294.5706	1401.47	. V . Q	.	.	.	.
16.833	304.4161	1429.57	. V . Q	.	.	.	.
16.917	314.6709	1488.99	. V . Q	.	.	.	.
17.000	325.0636	1509.02	. V . Q	.	.	.	.
17.083	335.6004	1529.95	. V . Q	.	.	.	.
17.167	346.3660	1563.15	. V . Q	.	.	.	.
17.250	357.2062	1574.00	. V . Q	.	.	.	.
17.333	368.2610	1605.15	. V . Q	.	.	.	.
17.417	379.6087	1647.69	. V . Q	.	.	.	.
17.500	391.0739	1664.74	. V . Q	.	.	.	.
17.583	402.4024	1644.90	. V . Q	.	.	.	.
17.667	413.4138	1598.86	. V . Q	.	.	.	.
17.750	423.8492	1515.21	. V . Q	.	.	.	.
17.833	433.5202	1404.23	. V Q	.	.	.	.
17.917	442.4135	1291.30	. VQ	.	.	.	.
18.000	450.5670	1183.88	. Q V	.	.	.	.
18.083	458.0176	1081.84	. Q V	.	.	.	.
18.167	464.7931	983.79	. Q .V	.	.	.	.

18.250	470.9757	897.71	.	.	.Q	.V	.
18.333	476.6544	824.56	.	.	Q.	.V	.
18.417	481.8766	758.26	.	.	Q	.V	.
18.500	486.6541	693.70	.	.	Q	.V	.
18.583	491.0228	634.33	.	.	Q	.V	.
18.667	495.0493	584.64	.	.	Q	.V	.
18.750	498.7578	538.48	.	.	Q	.V	.
18.833	502.1450	491.82	.	.	.Q	.V	.
18.917	505.2344	448.58	.	.	Q	.V	.
19.000	508.0872	414.21	.	.	Q.	.V	.
19.083	510.7580	387.80	.	.	Q.	.V	.
19.167	513.2830	366.63	.	.	Q	.V	.
19.250	515.6860	348.93	.	.	Q	.V	.
19.333	517.9821	333.39	.	.	Q	.V	.
19.417	520.1805	319.21	.	.	Q	.V	.
19.500	522.2882	306.04	.	.	Q	.V	.
19.583	524.3099	293.55	.	.	Q	.V	.
19.667	526.2461	281.14	.	.	Q	.V	.
19.750	528.0901	267.75	.	.	Q	.V	.
19.833	529.8298	252.60	.	.	Q	.V	.
19.917	531.4701	238.17	.	.	Q	.V	.
20.000	533.0311	226.65	.	.	Q	.V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	610.0
20%	310.0
30%	210.0
40%	150.0
50%	125.0
60%	105.0
70%	90.0
80%	70.0
90%	50.0

=====

END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - COMPLEX UH *
* ULTIMATE CONDITION - REGIONAL NODE 132C *
* 25-YR EV OCT 2016 DMALOTT *

FILE NAME: EV2532CC.DAT
TIME/DATE OF STUDY: 16:48 08/21/2017

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

=====

(UNIT-HYDROGRAPH ADDED TO STREAM #2)

WATERSHED AREA = 4924.400 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.856 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244
LOW LOSS FRACTION = 0.567
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.34
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.72
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.95
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.59
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.20
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 3.68

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.788
30-MINUTE FACTOR = 0.788
1-HOUR FACTOR = 0.788
3-HOUR FACTOR = 0.968
6-HOUR FACTOR = 0.984
24-HOUR FACTOR = 0.990

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 9.735

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.556	331.300
2	1.681	669.681
3	3.190	898.530
4	5.694	1491.595
5	9.996	2562.006
6	15.343	3184.527
7	21.165	3467.137
8	27.440	3736.834
9	34.550	4234.553
10	42.448	4703.686
11	51.437	5353.104
12	59.048	4532.599
13	66.996	4733.692
14	73.451	3844.114
15	78.519	3018.107
16	82.874	2593.681
17	86.545	2186.207
18	89.201	1581.784
19	91.334	1270.321
20	93.252	1141.972
21	94.739	886.011
22	95.921	703.742
23	96.748	492.799
24	97.512	454.687
25	98.060	326.543
26	98.248	112.074
27	98.431	108.729
28	98.613	108.666
29	98.796	108.729
30	98.978	108.607
31	99.161	108.966
32	99.344	108.607
33	99.526	108.607
34	99.708	108.607
35	99.891	108.607
36	100.000	65.051

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 762.7112
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 732.0699

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS(CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME(HRS)	VOLUME(AF)	Q(CFS)	0.	675.0	1350.0	2025.0	2700.0
10.000	116.7064	206.21	. Q	V .	.	.	.
10.083	118.1374	207.78	. Q	V .	.	.	.
10.167	119.5793	209.37	. Q	V .	.	.	.
10.250	121.0325	211.00	. Q	V .	.	.	.
10.333	122.4971	212.65	. Q	V .	.	.	.
10.417	123.9734	214.36	. Q	V .	.	.	.
10.500	125.4615	216.08	. Q	V .	.	.	.
10.583	126.9619	217.86	. Q	V .	.	.	.
10.667	128.4746	219.65	. Q	V .	.	.	.
10.750	130.0002	221.51	. Q	V .	.	.	.
10.833	131.5386	223.38	. Q	V .	.	.	.
10.917	133.0904	225.32	. Q	V .	.	.	.
11.000	134.6557	227.28	. Q	V .	.	.	.
11.083	136.2349	229.31	. Q	V .	.	.	.
11.167	137.8283	231.36	. Q	V .	.	.	.
11.250	139.4364	233.49	. Q	V .	.	.	.
11.333	141.0593	235.65	. Q	V .	.	.	.
11.417	142.6976	237.88	. Q	V .	.	.	.
11.500	144.3515	240.14	. Q	V .	.	.	.
11.583	146.0215	242.49	. Q	V .	.	.	.
11.667	147.7079	244.87	. Q	V .	.	.	.
11.750	149.4113	247.34	. Q	V .	.	.	.
11.833	151.1320	249.85	. Q	V .	.	.	.
11.917	152.8707	252.45	. Q	V .	.	.	.
12.000	154.6276	255.10	. Q	V .	.	.	.
12.083	156.4069	258.35	. Q	V .	.	.	.
12.167	158.2124	262.17	. Q	V .	.	.	.
12.250	160.0475	266.45	. Q	V .	.	.	.
12.333	161.9185	271.68	. Q	V .	.	.	.
12.417	163.8377	278.66	. Q	V .	.	.	.
12.500	165.8119	286.65	. Q	V .	.	.	.
12.583	167.8451	295.22	. Q	V .	.	.	.
12.667	169.9407	304.28	. Q	V .	.	.	.
12.750	172.1050	314.26	. Q	V .	.	.	.
12.833	174.3436	325.04	. Q	V .	.	.	.
12.917	176.6645	336.99	. Q	V .	.	.	.
13.000	179.0598	347.80	. Q	V .	.	.	.
13.083	181.5330	359.11	. Q	V .	.	.	.
13.167	184.0757	369.20	. Q	V .	.	.	.
13.250	186.6807	378.25	. Q	V .	.	.	.
13.333	189.3445	386.78	. Q	V .	.	.	.
13.417	192.0644	394.93	. Q	V .	.	.	.
13.500	194.8351	402.30	. Q	V .	.	.	.
13.583	197.6551	409.46	. Q	V .	.	.	.
13.667	200.5240	416.57	. Q	V .	.	.	.
13.750	203.4413	423.59	. Q	.V	.	.	.
13.833	206.4062	430.50	. Q	.V	.	.	.

13.917	209.4187	437.42	. Q	.V	.	.	.
14.000	212.4798	444.48	. Q	.V	.	.	.
14.083	215.5977	452.71	. Q	.V	.	.	.
14.167	218.7786	461.87	. Q	.V	.	.	.
14.250	222.0303	472.13	. Q	.V	.	.	.
14.333	225.3666	484.44	. Q	.V	.	.	.
14.417	228.8132	500.44	. Q	.V	.	.	.
14.500	232.3848	518.60	. Q	.V	.	.	.
14.583	236.0909	538.12	. Q	.V	.	.	.
14.667	239.9392	558.77	. Q	.V	.	.	.
14.750	243.9441	581.51	. Q	.V	.	.	.
14.833	248.1180	606.04	. Q	.V	.	.	.
14.917	252.4789	633.21	. Q.	.V	.	.	.
15.000	257.0127	658.30	. Q.	.V	.	.	.
15.083	261.7284	684.73	. Q	.V	.	.	.
15.167	266.6129	709.23	. Q	.V	.	.	.
15.250	271.6595	732.76	. Q	.V	.	.	.
15.333	276.8693	756.46	. .Q	.V	.	.	.
15.417	282.2281	778.10	. .Q	.V	.	.	.
15.500	287.7192	797.31	. .Q	.V	.	.	.
15.583	293.3472	817.19	. .Q	.V	.	.	.
15.667	299.0958	834.69	. .Q	.V	.	.	.
15.750	304.9315	847.34	. .Q	.V	.	.	.
15.833	310.8583	860.58	. .Q	.V	.	.	.
15.917	316.9466	884.02	. .Q	.V	.	.	.
16.000	323.3335	927.39	. .Q	.V	.	.	.
16.083	330.5617	1049.53	. .Q	.V	.	.	.
16.167	338.7055	1182.48	. .QV	.	.	.	.
16.250	347.7397	1311.76	. .Q.	.	.	.	.
16.333	358.3228	1536.67	. .V.	.Q	.	.	.
16.417	371.0200	1843.63	. .V	.Q	.	.	.
16.500	385.0994	2044.33	. .V	.Q	.	.	.
16.583	400.0253	2167.24	. .V	.Q	.	.	.
16.667	415.7552	2283.99	. .V	.Q	.	.	.
16.750	432.6277	2449.89	. .V	.Q	.	.	.
16.833	450.4196	2583.37	. .V	.Q	.	.	.
16.917	468.9674	2693.15	. .V	.Q	.	.	.
17.000	486.0839	2485.31	. .V	.Q	.	.	.
17.083	502.8346	2432.20	. .V	.Q	.	.	.
17.167	517.6788	2155.38	. .V	.Q	.	.	.
17.250	530.7520	1898.24	. .V	.Q	.	.	.
17.333	542.5989	1720.17	. .Q	.V	.	.	.
17.417	553.2944	1552.99	. .Q	.V	.	.	.
17.500	562.6240	1354.65	. .Q	.V	.	.	.
17.583	571.0385	1221.80	. .Q	.V	.	.	.
17.667	578.8353	1132.09	. .Q	.V	.	.	.
17.750	585.8581	1019.72	. .Q	.V	.	.	.
17.833	592.2009	920.98	. .Q	.V	.	.	.
17.917	597.8663	822.62	. .Q	.V	.	.	.
18.000	603.1239	763.40	. .Q	.V	.	.	.
18.083	607.8580	687.39	. .Q	.V	.	.	.
18.167	612.0210	604.47	. .Q	.V	.	.	.
18.250	615.9568	571.48	. .Q	.V	.	.	.
18.333	619.7154	545.75	. .Q	.V	.	.	.
18.417	623.3060	521.35	. .Q	.V	.	.	.
18.500	626.7321	497.46	. .Q	.V	.	.	.
18.583	630.0083	475.71	. .Q	.V	.	.	.
18.667	633.1396	454.67	. .Q	.V	.	.	.

18.750	636.1282	433.95	.	Q	.	.	.	V	.
18.833	638.9704	412.68	.	Q	.	.	.	V	.
18.917	641.6526	389.47	.	Q	.	.	.	V	.
19.000	644.1246	358.93	.	Q	.	.	.	V	.
19.083	646.3752	326.79	.	Q	.	.	.	V	.
19.167	648.5229	311.84	.	Q	.	.	.	V	.
19.250	650.5886	299.94	.	Q	.	.	.	V	.
19.333	652.5788	288.97	.	Q	.	.	.	V	.
19.417	654.4976	278.61	.	Q	.	.	.	V	.
19.500	656.3555	269.76	.	Q	.	.	.	V	.
19.583	658.1587	261.83	.	Q	.	.	.	V	.
19.667	659.9110	254.43	.	Q	.	.	.	V	.
19.750	661.6171	247.73	.	Q	.	.	.	V	.
19.833	663.2809	241.58	.	Q	.	.	.	V	.
19.917	664.9062	236.00	.	Q	.	.	.	V	.
20.000	666.4960	230.84	.	Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	435.0
20%	225.0
30%	145.0
40%	95.0
50%	75.0
60%	60.0
70%	50.0
80%	40.0
90%	25.0

 FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 2

>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<

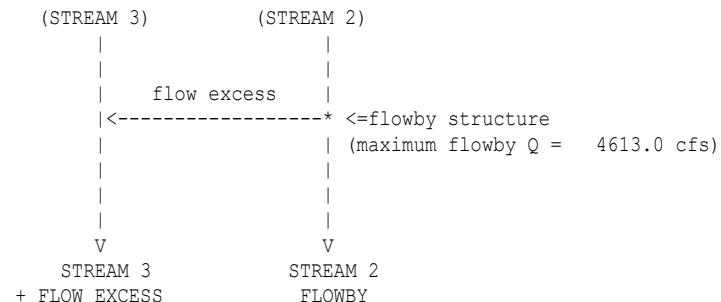
MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
 FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
 THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.

DATA PAIR NUMBER	Qcenter (CFS)	Qpass (CFS)
-	0.00	0.00
1	413.00	413.00
2	1897.00	1613.00
3	4682.00	3013.00
4	6819.00	4013.00
5	8100.00	4613.00

FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3

INFLOW

INFLOW



FLOWBY BASIN MODELING RESULTS:

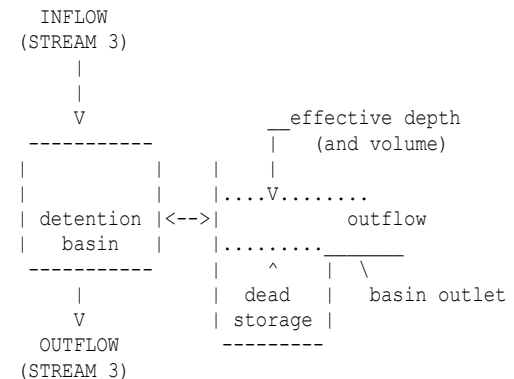
MODEL TIME (HRS)	INFLOW (STREAM 3) (CFS)	INFLOW (STREAM 2) (CFS)	OUTFLOW (STREAM 3) (CFS)	FLOWBY (STREAM 2) (CFS)
10.000	0.00	206.21	0.00	206.21
10.083	0.00	207.78	0.00	207.78
10.167	0.00	209.37	0.00	209.37
10.250	0.00	211.00	0.00	211.00
10.333	0.00	212.65	0.00	212.65
10.417	0.00	214.36	0.00	214.36
10.500	0.00	216.08	0.00	216.08
10.583	0.00	217.86	0.00	217.86
10.667	0.00	219.65	0.00	219.65
10.750	0.00	221.51	0.00	221.51
10.833	0.00	223.38	0.00	223.38
10.917	0.00	225.32	0.00	225.32
11.000	0.00	227.28	0.00	227.28
11.083	0.00	229.31	0.00	229.31
11.167	0.00	231.36	0.00	231.36
11.250	0.00	233.49	0.00	233.49
11.333	0.00	235.65	0.00	235.65
11.417	0.00	237.88	0.00	237.88
11.500	0.00	240.14	0.00	240.14
11.583	0.00	242.49	0.00	242.49
11.667	0.00	244.87	0.00	244.87
11.750	0.00	247.34	0.00	247.34
11.833	0.00	249.85	0.00	249.85
11.917	0.00	252.45	0.00	252.45
12.000	0.00	255.10	0.00	255.10
12.083	0.00	258.35	0.00	258.35
12.167	0.00	262.17	0.00	262.17
12.250	0.00	266.45	0.00	266.45
12.333	0.00	271.68	0.00	271.68
12.417	0.00	278.66	0.00	278.66
12.500	0.00	286.65	0.00	286.65
12.583	0.00	295.22	0.00	295.22
12.667	0.00	304.28	0.00	304.28
12.750	0.00	314.26	0.00	314.26
12.833	0.00	325.04	0.00	325.04
12.917	0.00	336.99	0.00	336.99
13.000	0.00	347.80	0.00	347.80

13.083	0.00	359.11	0.00	359.11
13.167	0.00	369.20	0.00	369.20
13.250	0.00	378.25	0.00	378.25
13.333	0.00	386.78	0.00	386.78
13.417	0.00	394.93	0.00	394.93
13.500	0.00	402.30	0.00	402.30
13.583	0.00	409.46	0.00	409.46
13.667	0.00	416.57	0.68	415.89
13.750	0.00	423.59	2.03	421.56
13.833	0.00	430.50	3.35	427.15
13.917	0.00	437.42	4.67	432.75
14.000	0.00	444.48	6.02	438.45
14.083	0.00	452.71	7.60	445.11
14.167	0.00	461.87	9.35	452.52
14.250	0.00	472.13	11.32	460.82
14.333	0.00	484.44	13.67	470.77
14.417	0.00	500.44	16.73	483.71
14.500	0.00	518.60	20.21	498.39
14.583	0.00	538.12	23.95	514.18
14.667	0.00	558.77	27.90	530.88
14.750	0.00	581.51	32.25	549.26
14.833	0.00	606.04	36.94	569.10
14.917	0.00	633.21	42.14	591.07
15.000	0.00	658.30	46.94	611.35
15.083	0.00	684.73	52.00	632.73
15.167	0.00	709.23	56.69	652.54
15.250	0.00	732.76	61.19	671.56
15.333	0.00	756.46	65.73	690.73
15.417	0.00	778.10	69.87	708.23
15.500	0.00	797.31	73.55	723.76
15.583	0.00	817.19	77.35	739.84
15.667	0.00	834.69	80.70	753.99
15.750	0.00	847.34	83.12	764.22
15.833	0.00	860.58	85.65	774.92
15.917	0.00	884.02	90.14	793.88
16.000	0.00	927.39	98.44	828.95
16.083	0.00	1049.53	121.82	927.72
16.167	0.00	1182.48	147.26	1035.22
16.250	0.00	1311.76	172.00	1139.76
16.333	0.00	1536.67	215.04	1321.63
16.417	0.00	1843.63	273.79	1569.85
16.500	0.00	2044.33	357.27	1687.06
16.583	0.00	2167.24	418.39	1748.85
16.667	0.00	2283.99	476.45	1807.54
16.750	0.00	2449.89	558.96	1890.93
16.833	0.00	2583.37	625.34	1958.03
16.917	0.00	2693.15	679.93	2013.22
17.000	0.00	2485.31	576.57	1908.74
17.083	0.00	2432.20	550.16	1882.04
17.167	0.00	2155.38	412.49	1742.89
17.250	0.00	1898.24	284.62	1613.62
17.333	0.00	1720.17	250.16	1470.01
17.417	0.00	1552.99	218.16	1334.82
17.500	0.00	1354.65	180.21	1174.44
17.583	0.00	1221.80	154.78	1067.01
17.667	0.00	1132.09	137.62	994.47
17.750	0.00	1019.72	116.11	903.61
17.833	0.00	920.98	97.21	823.76

17.917	0.00	822.62	78.39	744.23
18.000	0.00	763.40	67.06	696.34
18.083	0.00	687.39	52.51	634.88
18.167	0.00	604.47	36.64	567.83
18.250	0.00	571.48	30.33	541.15
18.333	0.00	545.75	25.40	520.34
18.417	0.00	521.35	20.74	500.61
18.500	0.00	497.46	16.16	481.30
18.583	0.00	475.71	12.00	463.71
18.667	0.00	454.67	7.97	446.70
18.750	0.00	433.95	4.01	429.94
18.833	0.00	412.68	0.00	412.68
18.917	0.00	389.47	0.00	389.47
19.000	0.00	358.93	0.00	358.93
19.083	0.00	326.79	0.00	326.79
19.167	0.00	311.84	0.00	311.84
19.250	0.00	299.94	0.00	299.94
19.333	0.00	288.97	0.00	288.97
19.417	0.00	278.61	0.00	278.61
19.500	0.00	269.76	0.00	269.76
19.583	0.00	261.83	0.00	261.83
19.667	0.00	254.43	0.00	254.43
19.750	0.00	247.73	0.00	247.73
19.833	0.00	241.58	0.00	241.58
19.917	0.00	236.00	0.00	236.00
20.000	0.00	230.84	0.00	230.84

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<



ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3

THROUGH A FLOW-THROUGH DETENTION BASIN

SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:

DEAD STORAGE(AF) = 5.700

SPECIFIED DEAD STORAGE(AF) FILLED = 5.700

SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000

DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.50	0.01	0.001
3	2.00	0.02	1.900
4	4.00	0.03	16.100
5	4.30	0.04	18.200
6	5.00	314.00	23.200
7	6.00	1306.00	30.300
8	7.00	2847.00	39.100
9	8.00	4942.00	47.800

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MODIFIED-PULS BASIN ROUTING MODEL RESULTS(5-MINUTE COMPUTATION INTERVALS):
 (Note: Computed EFFECTIVE DEPTH and VOLUME are estimated at the clock time;
 MEAN OUTFLOW is the average value during the unit interval.)

CLOCK TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	LOSS (CFS)	MEAN		
				EFFECTIVE DEPTH (FT)	OUTFLOW (CFS)	EFFECTIVE VOLUME (AF)
10.083	5.700	0.00	0.00	0.00	0.0	0.000
10.167	5.700	0.00	0.00	0.00	0.0	0.000
10.250	5.700	0.00	0.00	0.00	0.0	0.000
10.333	5.700	0.00	0.00	0.00	0.0	0.000
10.417	5.700	0.00	0.00	0.00	0.0	0.000
10.500	5.700	0.00	0.00	0.00	0.0	0.000
10.583	5.700	0.00	0.00	0.00	0.0	0.000
10.667	5.700	0.00	0.00	0.00	0.0	0.000
10.750	5.700	0.00	0.00	0.00	0.0	0.000
10.833	5.700	0.00	0.00	0.00	0.0	0.000
10.917	5.700	0.00	0.00	0.00	0.0	0.000
11.000	5.700	0.00	0.00	0.00	0.0	0.000
11.083	5.700	0.00	0.00	0.00	0.0	0.000
11.167	5.700	0.00	0.00	0.00	0.0	0.000
11.250	5.700	0.00	0.00	0.00	0.0	0.000
11.333	5.700	0.00	0.00	0.00	0.0	0.000
11.417	5.700	0.00	0.00	0.00	0.0	0.000
11.500	5.700	0.00	0.00	0.00	0.0	0.000
11.583	5.700	0.00	0.00	0.00	0.0	0.000
11.667	5.700	0.00	0.00	0.00	0.0	0.000
11.750	5.700	0.00	0.00	0.00	0.0	0.000
11.833	5.700	0.00	0.00	0.00	0.0	0.000
11.917	5.700	0.00	0.00	0.00	0.0	0.000
12.000	5.700	0.00	0.00	0.00	0.0	0.000
12.083	5.700	0.00	0.00	0.00	0.0	0.000
12.167	5.700	0.00	0.00	0.00	0.0	0.000
12.250	5.700	0.00	0.00	0.00	0.0	0.000
12.333	5.700	0.00	0.00	0.00	0.0	0.000
12.417	5.700	0.00	0.00	0.00	0.0	0.000
12.500	5.700	0.00	0.00	0.00	0.0	0.000
12.583	5.700	0.00	0.00	0.00	0.0	0.000

12.667	5.700	0.00	0.00	0.00	0.0	0.000
12.750	5.700	0.00	0.00	0.00	0.0	0.000
12.833	5.700	0.00	0.00	0.00	0.0	0.000
12.917	5.700	0.00	0.00	0.00	0.0	0.000
13.000	5.700	0.00	0.00	0.00	0.0	0.000
13.083	5.700	0.00	0.00	0.00	0.0	0.000
13.167	5.700	0.00	0.00	0.00	0.0	0.000
13.250	5.700	0.00	0.00	0.00	0.0	0.000
13.333	5.700	0.00	0.00	0.00	0.0	0.000
13.417	5.700	0.00	0.00	0.00	0.0	0.000
13.500	5.700	0.00	0.00	0.00	0.0	0.000
13.583	5.700	0.00	0.00	0.00	0.0	0.000
13.667	5.700	0.68	0.00	1.50	0.0	0.005
13.750	5.700	2.03	0.00	1.50	0.0	0.019
13.833	5.700	3.35	0.00	1.51	0.0	0.042
13.917	5.700	4.67	0.00	1.52	0.0	0.074
14.000	5.700	6.02	0.00	1.53	0.0	0.115
14.083	5.700	7.60	0.00	1.54	0.0	0.167
14.167	5.700	9.35	0.00	1.56	0.0	0.232
14.250	5.700	11.32	0.00	1.58	0.0	0.309
14.333	5.700	13.67	0.00	1.61	0.0	0.404
14.417	5.700	16.73	0.00	1.64	0.0	0.519
14.500	5.700	20.21	0.00	1.67	0.0	0.658
14.583	5.700	23.95	0.00	1.72	0.0	0.823
14.667	5.700	27.90	0.00	1.77	0.0	1.015
14.750	5.700	32.25	0.00	1.83	0.0	1.237
14.833	5.700	36.94	0.00	1.89	0.0	1.491
14.917	5.700	42.14	0.00	1.97	0.0	1.781
15.000	5.700	46.94	0.00	2.03	0.0	2.104
15.083	5.700	52.00	0.00	2.08	0.0	2.462
15.167	5.700	56.69	0.00	2.13	0.0	2.852
15.250	5.700	61.19	0.00	2.19	0.0	3.274
15.333	5.700	65.73	0.00	2.26	0.0	3.726
15.417	5.700	69.87	0.00	2.32	0.0	4.207
15.500	5.700	73.55	0.00	2.40	0.0	4.714
15.583	5.700	77.35	0.00	2.47	0.0	5.246
15.667	5.700	80.70	0.00	2.55	0.0	5.802
15.750	5.700	83.12	0.00	2.63	0.0	6.374
15.833	5.700	85.65	0.00	2.71	0.0	6.964
15.917	5.700	90.14	0.00	2.80	0.0	7.584
16.000	5.700	98.44	0.00	2.90	0.0	8.262
16.083	5.700	121.82	0.00	3.01	0.0	9.101
16.167	5.700	147.26	0.00	3.16	0.0	10.115
16.250	5.700	172.00	0.00	3.32	0.0	11.299
16.333	5.700	215.04	0.00	3.53	0.0	12.780
16.417	5.700	273.79	0.00	3.80	0.0	14.666
16.500	5.700	357.27	0.00	4.15	0.0	17.126
16.583	5.700	418.39	0.00	4.51	46.7	19.686
16.667	5.700	476.45	0.00	4.81	161.4	21.855
16.750	5.700	558.96	0.00	5.06	301.6	23.627
16.833	5.700	625.34	0.00	5.22	455.5	24.797
16.917	5.700	679.93	0.00	5.32	583.6	25.461
17.000	5.700	576.57	0.00	5.28	612.6	25.213
17.083	5.700	550.16	0.00	5.25	580.6	25.003
17.167	5.700	412.49	0.00	5.15	516.1	24.290
17.250	5.700	284.62	0.00	5.03	407.3	23.445
17.333	5.700	250.16	0.00	4.96	323.1	22.943
17.417	5.700	218.16	0.00	4.90	283.7	22.492

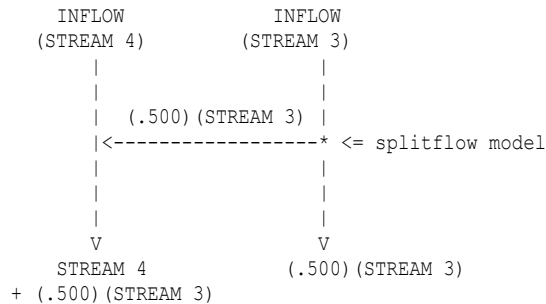
17.500	5.700	180.21	0.00	4.83	253.6	21.986
17.583	5.700	154.78	0.00	4.76	223.0	21.516
17.667	5.700	137.62	0.00	4.71	195.7	21.116
17.750	5.700	116.11	0.00	4.66	171.2	20.736
17.833	5.700	97.21	0.00	4.61	148.3	20.385
17.917	5.700	78.39	0.00	4.56	126.8	20.052
18.000	5.700	67.06	0.00	4.52	107.6	19.773
18.083	5.700	52.51	0.00	4.48	90.6	19.511
18.167	5.700	36.64	0.00	4.45	74.2	19.252
18.250	5.700	30.33	0.00	4.42	59.7	19.049
18.333	5.700	25.40	0.00	4.40	48.4	18.891
18.417	5.700	20.74	0.00	4.38	39.4	18.762
18.500	5.700	16.16	0.00	4.36	31.9	18.654
18.583	5.700	12.00	0.00	4.35	25.6	18.560
18.667	5.700	7.97	0.00	4.34	20.0	18.477
18.750	5.700	4.01	0.00	4.33	15.0	18.401
18.833	5.700	0.00	0.00	4.32	10.4	18.329
18.917	5.700	0.00	0.00	4.31	6.7	18.283
19.000	5.700	0.00	0.00	4.31	4.3	18.253
19.083	5.700	0.00	0.00	4.30	2.8	18.234
19.167	5.700	0.00	0.00	4.30	1.8	18.222
19.250	5.700	0.00	0.00	4.30	1.2	18.214
19.333	5.700	0.00	0.00	4.30	0.7	18.209
19.417	5.700	0.00	0.00	4.30	0.5	18.205
19.500	5.700	0.00	0.00	4.30	0.3	18.203
19.583	5.700	0.00	0.00	4.30	0.2	18.202
19.667	5.700	0.00	0.00	4.30	0.1	18.201
19.750	5.700	0.00	0.00	4.30	0.1	18.200
19.833	5.700	0.00	0.00	4.30	0.1	18.200
19.917	5.700	0.00	0.00	4.30	0.0	18.200

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 59.062 AF
BASIN STORAGE = 21.376 AF (WITH 5.700 AF INITIALLY FILLED)
OUTFLOW VOLUME = 43.383 AF
LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 8

>>>>MODEL STREAM SPLITFLOW WHERE A CONSTANT PROPORTION
OF STREAM 3 IS ADDED TO STREAM 4<<<<<



STREAM NUMBER 3 IS SPLIT TOWARDS STREAM 4
WHERE 0.50 (DECIMAL PERCENT) REMAINS IN STREAM 3
AND 0.50 (DECIMAL PERCENT) IS ADDED TO STREAM 4

STREAM SPLITFLOW MODELING RESULTS:

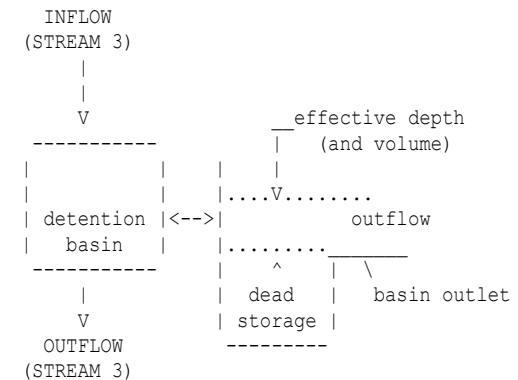
MODEL TIME (HRS)	INFLOW STREAM 4 (CFS)	INFLOW STREAM 3 (CFS)	OUTFLOW STREAM 4 (CFS)	OUTFLOW STREAM 3 (CFS)
10.000	0.00	0.00	0.00	0.00
10.083	0.00	0.00	0.00	0.00
10.167	0.00	0.00	0.00	0.00
10.250	0.00	0.00	0.00	0.00
10.333	0.00	0.00	0.00	0.00
10.417	0.00	0.00	0.00	0.00
10.500	0.00	0.00	0.00	0.00
10.583	0.00	0.00	0.00	0.00
10.667	0.00	0.00	0.00	0.00
10.750	0.00	0.00	0.00	0.00
10.833	0.00	0.00	0.00	0.00
10.917	0.00	0.00	0.00	0.00
11.000	0.00	0.00	0.00	0.00
11.083	0.00	0.00	0.00	0.00
11.167	0.00	0.00	0.00	0.00
11.250	0.00	0.00	0.00	0.00
11.333	0.00	0.00	0.00	0.00
11.417	0.00	0.00	0.00	0.00
11.500	0.00	0.00	0.00	0.00
11.583	0.00	0.00	0.00	0.00
11.667	0.00	0.00	0.00	0.00
11.750	0.00	0.00	0.00	0.00
11.833	0.00	0.00	0.00	0.00
11.917	0.00	0.00	0.00	0.00
12.000	0.00	0.00	0.00	0.00
12.083	0.00	0.00	0.00	0.00
12.167	0.00	0.00	0.00	0.00
12.250	0.00	0.00	0.00	0.00
12.333	0.00	0.00	0.00	0.00
12.417	0.00	0.00	0.00	0.00
12.500	0.00	0.00	0.00	0.00
12.583	0.00	0.00	0.00	0.00
12.667	0.00	0.00	0.00	0.00
12.750	0.00	0.00	0.00	0.00
12.833	0.00	0.00	0.00	0.00
12.917	0.00	0.00	0.00	0.00
13.000	0.00	0.00	0.00	0.00
13.083	0.00	0.00	0.00	0.00
13.167	0.00	0.00	0.00	0.00
13.250	0.00	0.00	0.00	0.00
13.333	0.00	0.00	0.00	0.00
13.417	0.00	0.00	0.00	0.00
13.500	0.00	0.00	0.00	0.00
13.583	0.00	0.00	0.00	0.00

13.667	0.00	0.01	0.00	0.00
13.750	0.00	0.01	0.01	0.01
13.833	0.00	0.01	0.01	0.01
13.917	0.00	0.01	0.01	0.01
14.000	0.00	0.01	0.01	0.01
14.083	0.00	0.01	0.01	0.01
14.167	0.00	0.01	0.01	0.01
14.250	0.00	0.01	0.01	0.01
14.333	0.00	0.01	0.01	0.01
14.417	0.00	0.01	0.01	0.01
14.500	0.00	0.01	0.01	0.01
14.583	0.00	0.02	0.01	0.01
14.667	0.00	0.02	0.01	0.01
14.750	0.00	0.02	0.01	0.01
14.833	0.00	0.02	0.01	0.01
14.917	0.00	0.02	0.01	0.01
15.000	0.00	0.02	0.01	0.01
15.083	0.00	0.02	0.01	0.01
15.167	0.00	0.02	0.01	0.01
15.250	0.00	0.02	0.01	0.01
15.333	0.00	0.02	0.01	0.01
15.417	0.00	0.02	0.01	0.01
15.500	0.00	0.02	0.01	0.01
15.583	0.00	0.02	0.01	0.01
15.667	0.00	0.02	0.01	0.01
15.750	0.00	0.03	0.01	0.01
15.833	0.00	0.03	0.01	0.01
15.917	0.00	0.03	0.01	0.01
16.000	0.00	0.03	0.01	0.01
16.083	0.00	0.03	0.01	0.01
16.167	0.00	0.03	0.01	0.01
16.250	0.00	0.03	0.01	0.01
16.333	0.00	0.03	0.01	0.01
16.417	0.00	0.03	0.02	0.02
16.500	0.00	0.04	0.02	0.02
16.583	0.00	46.69	23.34	23.34
16.667	0.00	161.45	80.72	80.72
16.750	0.00	301.64	150.82	150.82
16.833	0.00	455.45	227.73	227.73
16.917	0.00	583.56	291.78	291.78
17.000	0.00	612.59	306.30	306.30
17.083	0.00	580.61	290.30	290.30
17.167	0.00	516.11	258.05	258.05
17.250	0.00	407.25	203.63	203.63
17.333	0.00	323.06	161.53	161.53
17.417	0.00	283.70	141.85	141.85
17.500	0.00	253.65	126.82	126.82
17.583	0.00	223.02	111.51	111.51
17.667	0.00	195.70	97.85	97.85
17.750	0.00	171.23	85.61	85.61
17.833	0.00	148.27	74.13	74.13
17.917	0.00	126.77	63.38	63.38
18.000	0.00	107.55	53.78	53.78
18.083	0.00	90.57	45.28	45.28
18.167	0.00	74.21	37.11	37.11
18.250	0.00	59.73	29.87	29.87
18.333	0.00	48.40	24.20	24.20
18.417	0.00	39.40	19.70	19.70

18.500	0.00	31.95	15.97	15.97
18.583	0.00	25.60	12.80	12.80
18.667	0.00	20.05	10.02	10.02
18.750	0.00	15.05	7.52	7.52
18.833	0.00	10.41	5.21	5.21
18.917	0.00	6.71	3.35	3.35
19.000	0.00	4.32	2.16	2.16
19.083	0.00	2.79	1.39	1.39
19.167	0.00	1.80	0.90	0.90
19.250	0.00	1.16	0.58	0.58
19.333	0.00	0.75	0.37	0.37
19.417	0.00	0.48	0.24	0.24
19.500	0.00	0.31	0.15	0.15
19.583	0.00	0.20	0.10	0.10
19.667	0.00	0.13	0.06	0.06
19.750	0.00	0.08	0.04	0.04
19.833	0.00	0.05	0.03	0.03
19.917	0.00	0.04	0.02	0.02
20.000	0.00	0.04	0.02	0.02

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<



ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3

THROUGH A FLOW-THROUGH DETENTION BASIN

SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:

DEAD STORAGE(AF) = 0.000

SPECIFIED DEAD STORAGE(AF) FILLED = 0.000

SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000

DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
-----------------	------------	---------------	--------------

1	0.00	0.00	0.000
2	0.99	2.90	0.900
3	1.99	11.38	2.900
4	3.99	19.63	10.300
5	5.99	25.19	20.700
6	7.99	29.71	31.700
7	9.99	33.62	43.500
8	10.99	35.49	49.700
9	11.99	313.46	56.400
10	12.99	894.27	63.100
11	13.99	1748.55	69.900
12	15.99	4306.91	84.100

=====

MODIFIED-PULS BASIN ROUTING MODEL RESULTS(5-MINUTE COMPUTATION INTERVALS):
 (Note: Computed EFFECTIVE DEPTH and VOLUME are estimated at the clock time;
 MEAN OUTFLOW is the average value during the unit interval.)

CLOCK TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	LOSS (CFS)	MEAN		
				EFFECTIVE DEPTH(FT)	OUTFLOW (CFS)	EFFECTIVE VOLUME(AF)
10.083	0.000	0.00	0.00	0.00	0.0	0.000
10.167	0.000	0.00	0.00	0.00	0.0	0.000
10.250	0.000	0.00	0.00	0.00	0.0	0.000
10.333	0.000	0.00	0.00	0.00	0.0	0.000
10.417	0.000	0.00	0.00	0.00	0.0	0.000
10.500	0.000	0.00	0.00	0.00	0.0	0.000
10.583	0.000	0.00	0.00	0.00	0.0	0.000
10.667	0.000	0.00	0.00	0.00	0.0	0.000
10.750	0.000	0.00	0.00	0.00	0.0	0.000
10.833	0.000	0.00	0.00	0.00	0.0	0.000
10.917	0.000	0.00	0.00	0.00	0.0	0.000
11.000	0.000	0.00	0.00	0.00	0.0	0.000
11.083	0.000	0.00	0.00	0.00	0.0	0.000
11.167	0.000	0.00	0.00	0.00	0.0	0.000
11.250	0.000	0.00	0.00	0.00	0.0	0.000
11.333	0.000	0.00	0.00	0.00	0.0	0.000
11.417	0.000	0.00	0.00	0.00	0.0	0.000
11.500	0.000	0.00	0.00	0.00	0.0	0.000
11.583	0.000	0.00	0.00	0.00	0.0	0.000
11.667	0.000	0.00	0.00	0.00	0.0	0.000
11.750	0.000	0.00	0.00	0.00	0.0	0.000
11.833	0.000	0.00	0.00	0.00	0.0	0.000
11.917	0.000	0.00	0.00	0.00	0.0	0.000
12.000	0.000	0.00	0.00	0.00	0.0	0.000
12.083	0.000	0.00	0.00	0.00	0.0	0.000
12.167	0.000	0.00	0.00	0.00	0.0	0.000
12.250	0.000	0.00	0.00	0.00	0.0	0.000
12.333	0.000	0.00	0.00	0.00	0.0	0.000
12.417	0.000	0.00	0.00	0.00	0.0	0.000
12.500	0.000	0.00	0.00	0.00	0.0	0.000
12.583	0.000	0.00	0.00	0.00	0.0	0.000
12.667	0.000	0.00	0.00	0.00	0.0	0.000
12.750	0.000	0.00	0.00	0.00	0.0	0.000
12.833	0.000	0.00	0.00	0.00	0.0	0.000
12.917	0.000	0.00	0.00	0.00	0.0	0.000

13.000	0.000	0.00	0.00	0.00	0.0	0.000
13.083	0.000	0.00	0.00	0.00	0.0	0.000
13.167	0.000	0.00	0.00	0.00	0.0	0.000
13.250	0.000	0.00	0.00	0.00	0.0	0.000
13.333	0.000	0.00	0.00	0.00	0.0	0.000
13.417	0.000	0.00	0.00	0.00	0.0	0.000
13.500	0.000	0.00	0.00	0.00	0.0	0.000
13.583	0.000	0.00	0.00	0.00	0.0	0.000
13.667	0.000	0.00	0.00	0.00	0.0	0.000
13.750	0.000	0.01	0.00	0.00	0.0	0.000
13.833	0.000	0.01	0.00	0.00	0.0	0.000
13.917	0.000	0.01	0.00	0.00	0.0	0.000
14.000	0.000	0.01	0.00	0.00	0.0	0.000
14.083	0.000	0.01	0.00	0.00	0.0	0.000
14.167	0.000	0.01	0.00	0.00	0.0	0.000
14.250	0.000	0.01	0.00	0.00	0.0	0.000
14.333	0.000	0.01	0.00	0.00	0.0	0.000
14.417	0.000	0.01	0.00	0.00	0.0	0.000
14.500	0.000	0.01	0.00	0.00	0.0	0.000
14.583	0.000	0.01	0.00	0.00	0.0	0.000
14.667	0.000	0.01	0.00	0.00	0.0	0.000
14.750	0.000	0.01	0.00	0.00	0.0	0.001
14.833	0.000	0.01	0.00	0.00	0.0	0.001
14.917	0.000	0.01	0.00	0.00	0.0	0.001
15.000	0.000	0.01	0.00	0.00	0.0	0.001
15.083	0.000	0.01	0.00	0.00	0.0	0.001
15.167	0.000	0.01	0.00	0.00	0.0	0.001
15.250	0.000	0.01	0.00	0.00	0.0	0.001
15.333	0.000	0.01	0.00	0.00	0.0	0.001
15.417	0.000	0.01	0.00	0.00	0.0	0.001
15.500	0.000	0.01	0.00	0.00	0.0	0.001
15.583	0.000	0.01	0.00	0.00	0.0	0.001
15.667	0.000	0.01	0.00	0.00	0.0	0.001
15.750	0.000	0.01	0.00	0.00	0.0	0.001
15.833	0.000	0.01	0.00	0.00	0.0	0.001
15.917	0.000	0.01	0.00	0.00	0.0	0.001
16.000	0.000	0.01	0.00	0.00	0.0	0.001
16.083	0.000	0.01	0.00	0.00	0.0	0.001
16.167	0.000	0.01	0.00	0.00	0.0	0.002
16.250	0.000	0.01	0.00	0.00	0.0	0.002
16.333	0.000	0.01	0.00	0.00	0.0	0.002
16.417	0.000	0.02	0.00	0.00	0.0	0.002
16.500	0.000	0.02	0.00	0.00	0.0	0.002
16.583	0.000	23.34	0.00	0.18	0.3	0.161
16.667	0.000	80.72	0.00	0.78	1.4	0.707
16.750	0.000	150.82	0.00	1.40	4.3	1.716
16.833	0.000	227.73	0.00	2.08	9.0	3.222
16.917	0.000	291.78	0.00	2.60	12.8	5.143
17.000	0.000	306.30	0.00	3.14	15.0	7.150
17.083	0.000	290.30	0.00	3.65	17.2	9.031
17.167	0.000	258.05	0.00	4.06	19.0	10.677
17.250	0.000	203.63	0.00	4.31	20.2	11.940
17.333	0.000	161.53	0.00	4.49	20.8	12.910
17.417	0.000	141.85	0.00	4.65	21.2	13.740
17.500	0.000	126.82	0.00	4.79	21.7	14.465
17.583	0.000	111.51	0.00	4.91	22.0	15.081
17.667	0.000	97.85	0.00	5.01	22.3	15.601
17.750	0.000	85.61	0.00	5.09	22.6	16.035

17.833	0.000	74.13	0.00	5.16	22.8	16.389
17.917	0.000	63.38	0.00	5.21	23.0	16.667
18.000	0.000	53.78	0.00	5.26	23.1	16.879
18.083	0.000	45.28	0.00	5.28	23.2	17.031
18.167	0.000	37.11	0.00	5.30	23.3	17.126
18.250	0.000	29.87	0.00	5.31	23.3	17.171
18.333	0.000	24.20	0.00	5.31	23.3	17.178
18.417	0.000	19.70	0.00	5.31	23.3	17.153
18.500	0.000	15.97	0.00	5.30	23.3	17.102
18.583	0.000	12.80	0.00	5.28	23.2	17.030
18.667	0.000	10.02	0.00	5.27	23.2	16.940
18.750	0.000	7.52	0.00	5.25	23.2	16.832
18.833	0.000	5.21	0.00	5.22	23.1	16.709
18.917	0.000	3.35	0.00	5.20	23.0	16.573
19.000	0.000	2.16	0.00	5.17	22.9	16.430
19.083	0.000	1.39	0.00	5.14	22.9	16.282
19.167	0.000	0.90	0.00	5.11	22.8	16.132
19.250	0.000	0.58	0.00	5.08	22.7	15.979
19.333	0.000	0.37	0.00	5.05	22.6	15.826
19.417	0.000	0.24	0.00	5.02	22.5	15.672
19.500	0.000	0.15	0.00	4.99	22.5	15.519
19.583	0.000	0.10	0.00	4.96	22.4	15.365
19.667	0.000	0.06	0.00	4.93	22.3	15.212
19.750	0.000	0.04	0.00	4.91	22.2	15.060
19.833	0.000	0.03	0.00	4.88	22.1	14.907
19.917	0.000	0.02	0.00	4.85	22.1	14.756

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 21.692 AF
BASIN STORAGE = 0.005 AF (WITH 0.000 AF INITIALLY FILLED)
OUTFLOW VOLUME = 21.687 AF
LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<<
=====

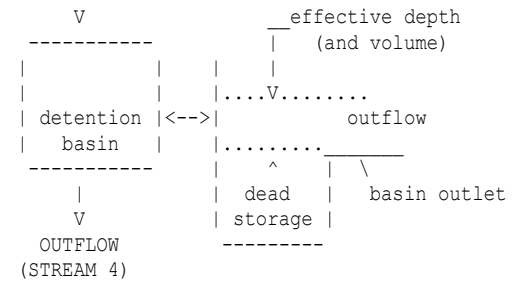
FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<<
=====

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<<
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INFLOW
(STREAM 4)
|
|



ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
THROUGH A FLOW-THROUGH DETENTION BASIN
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:

DEAD STORAGE(AF) = 0.000
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.48	0.70	0.400
3	1.48	6.50	1.800
4	3.48	18.11	8.500
5	5.48	23.99	17.900
6	7.48	28.68	27.800
7	9.48	32.70	38.300
8	10.48	34.50	43.900
9	11.48	36.29	49.400
10	12.48	314.07	55.900
11	13.48	895.00	62.300
12	15.48	2882.95	74.700

=====

MODIFIED-PULS BASIN ROUTING MODEL RESULTS(5-MINUTE COMPUTATION INTERVALS):
(Note: Computed EFFECTIVE DEPTH and VOLUME are estimated at the clock time;
MEAN OUTFLOW is the average value during the unit interval.)

CLOCK TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	LOSS (CFS)	EFFECTIVE DEPTH (FT)	MEAN OUTFLOW (CFS)	EFFECTIVE VOLUME (AF)
10.083	0.000	0.00	0.00	0.00	0.0	0.000
10.167	0.000	0.00	0.00	0.00	0.0	0.000
10.250	0.000	0.00	0.00	0.00	0.0	0.000
10.333	0.000	0.00	0.00	0.00	0.0	0.000
10.417	0.000	0.00	0.00	0.00	0.0	0.000
10.500	0.000	0.00	0.00	0.00	0.0	0.000
10.583	0.000	0.00	0.00	0.00	0.0	0.000
10.667	0.000	0.00	0.00	0.00	0.0	0.000

10.750	0.000	0.00	0.00	0.00	0.0	0.000
10.833	0.000	0.00	0.00	0.00	0.0	0.000
10.917	0.000	0.00	0.00	0.00	0.0	0.000
11.000	0.000	0.00	0.00	0.00	0.0	0.000
11.083	0.000	0.00	0.00	0.00	0.0	0.000
11.167	0.000	0.00	0.00	0.00	0.0	0.000
11.250	0.000	0.00	0.00	0.00	0.0	0.000
11.333	0.000	0.00	0.00	0.00	0.0	0.000
11.417	0.000	0.00	0.00	0.00	0.0	0.000
11.500	0.000	0.00	0.00	0.00	0.0	0.000
11.583	0.000	0.00	0.00	0.00	0.0	0.000
11.667	0.000	0.00	0.00	0.00	0.0	0.000
11.750	0.000	0.00	0.00	0.00	0.0	0.000
11.833	0.000	0.00	0.00	0.00	0.0	0.000
11.917	0.000	0.00	0.00	0.00	0.0	0.000
12.000	0.000	0.00	0.00	0.00	0.0	0.000
12.083	0.000	0.00	0.00	0.00	0.0	0.000
12.167	0.000	0.00	0.00	0.00	0.0	0.000
12.250	0.000	0.00	0.00	0.00	0.0	0.000
12.333	0.000	0.00	0.00	0.00	0.0	0.000
12.417	0.000	0.00	0.00	0.00	0.0	0.000
12.500	0.000	0.00	0.00	0.00	0.0	0.000
12.583	0.000	0.00	0.00	0.00	0.0	0.000
12.667	0.000	0.00	0.00	0.00	0.0	0.000
12.750	0.000	0.00	0.00	0.00	0.0	0.000
12.833	0.000	0.00	0.00	0.00	0.0	0.000
12.917	0.000	0.00	0.00	0.00	0.0	0.000
13.000	0.000	0.00	0.00	0.00	0.0	0.000
13.083	0.000	0.00	0.00	0.00	0.0	0.000
13.167	0.000	0.00	0.00	0.00	0.0	0.000
13.250	0.000	0.00	0.00	0.00	0.0	0.000
13.333	0.000	0.00	0.00	0.00	0.0	0.000
13.417	0.000	0.00	0.00	0.00	0.0	0.000
13.500	0.000	0.00	0.00	0.00	0.0	0.000
13.583	0.000	0.00	0.00	0.00	0.0	0.000
13.667	0.000	0.00	0.00	0.00	0.0	0.000
13.750	0.000	0.01	0.00	0.00	0.0	0.000
13.833	0.000	0.01	0.00	0.00	0.0	0.000
13.917	0.000	0.01	0.00	0.00	0.0	0.000
14.000	0.000	0.01	0.00	0.00	0.0	0.000
14.083	0.000	0.01	0.00	0.00	0.0	0.000
14.167	0.000	0.01	0.00	0.00	0.0	0.000
14.250	0.000	0.01	0.00	0.00	0.0	0.000
14.333	0.000	0.01	0.00	0.00	0.0	0.000
14.417	0.000	0.01	0.00	0.00	0.0	0.000
14.500	0.000	0.01	0.00	0.00	0.0	0.000
14.583	0.000	0.01	0.00	0.00	0.0	0.000
14.667	0.000	0.01	0.00	0.00	0.0	0.001
14.750	0.000	0.01	0.00	0.00	0.0	0.001
14.833	0.000	0.01	0.00	0.00	0.0	0.001
14.917	0.000	0.01	0.00	0.00	0.0	0.001
15.000	0.000	0.01	0.00	0.00	0.0	0.001
15.083	0.000	0.01	0.00	0.00	0.0	0.001
15.167	0.000	0.01	0.00	0.00	0.0	0.001
15.250	0.000	0.01	0.00	0.00	0.0	0.001
15.333	0.000	0.01	0.00	0.00	0.0	0.001
15.417	0.000	0.01	0.00	0.00	0.0	0.001
15.500	0.000	0.01	0.00	0.00	0.0	0.001

15.583	0.000	0.01	0.00	0.00	0.0	0.001
15.667	0.000	0.01	0.00	0.00	0.0	0.001
15.750	0.000	0.01	0.00	0.00	0.0	0.001
15.833	0.000	0.01	0.00	0.00	0.0	0.001
15.917	0.000	0.01	0.00	0.00	0.0	0.002
16.000	0.000	0.01	0.00	0.00	0.0	0.002
16.083	0.000	0.01	0.00	0.00	0.0	0.002
16.167	0.000	0.01	0.00	0.00	0.0	0.002
16.250	0.000	0.01	0.00	0.00	0.0	0.002
16.333	0.000	0.01	0.00	0.00	0.0	0.002
16.417	0.000	0.02	0.00	0.00	0.0	0.002
16.500	0.000	0.02	0.00	0.00	0.0	0.002
16.583	0.000	23.34	0.00	0.19	0.1	0.162
16.667	0.000	80.72	0.00	0.70	1.1	0.710
16.750	0.000	150.82	0.00	1.42	4.1	1.721
16.833	0.000	227.73	0.00	1.91	7.6	3.237
16.917	0.000	291.78	0.00	2.49	10.7	5.173
17.000	0.000	306.30	0.00	3.09	14.1	7.185
17.083	0.000	290.30	0.00	3.60	17.1	9.066
17.167	0.000	258.05	0.00	3.95	19.0	10.713
17.250	0.000	203.63	0.00	4.22	19.9	11.978
17.333	0.000	161.53	0.00	4.43	20.6	12.949
17.417	0.000	141.85	0.00	4.60	21.2	13.780
17.500	0.000	126.82	0.00	4.76	21.6	14.505
17.583	0.000	111.51	0.00	4.89	22.1	15.121
17.667	0.000	97.85	0.00	5.00	22.4	15.640
17.750	0.000	85.61	0.00	5.09	22.7	16.073
17.833	0.000	74.13	0.00	5.17	23.0	16.426
17.917	0.000	63.38	0.00	5.23	23.2	16.703
18.000	0.000	53.78	0.00	5.27	23.3	16.913
18.083	0.000	45.28	0.00	5.30	23.4	17.063
18.167	0.000	37.11	0.00	5.32	23.5	17.157
18.250	0.000	29.87	0.00	5.33	23.5	17.201
18.333	0.000	24.20	0.00	5.33	23.6	17.205
18.417	0.000	19.70	0.00	5.33	23.5	17.179
18.500	0.000	15.97	0.00	5.32	23.5	17.127
18.583	0.000	12.80	0.00	5.30	23.5	17.053
18.667	0.000	10.02	0.00	5.28	23.4	16.961
18.750	0.000	7.52	0.00	5.26	23.4	16.852
18.833	0.000	5.21	0.00	5.23	23.3	16.727
18.917	0.000	3.35	0.00	5.20	23.2	16.590
19.000	0.000	2.16	0.00	5.17	23.1	16.446
19.083	0.000	1.39	0.00	5.14	23.0	16.297
19.167	0.000	0.90	0.00	5.11	22.9	16.145
19.250	0.000	0.58	0.00	5.07	22.8	15.992
19.333	0.000	0.37	0.00	5.04	22.7	15.838
19.417	0.000	0.24	0.00	5.01	22.7	15.683
19.500	0.000	0.15	0.00	4.98	22.6	15.529
19.583	0.000	0.10	0.00	4.94	22.5	15.375
19.667	0.000	0.06	0.00	4.91	22.4	15.221
19.750	0.000	0.04	0.00	4.88	22.3	15.068
19.833	0.000	0.03	0.00	4.85	22.2	14.916
19.917	0.000	0.02	0.00	4.81	22.1	14.764

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 21.692 AF

BASIN STORAGE = 0.009 AF (WITH 0.000 AF INITIALLY FILLED)

OUTFLOW VOLUME = 21.682 AF

LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 2 HYDROGRAPH<<<<<

STREAM HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	525.0	1050.0	1575.0	2100.0
10.000	116.7064	206.21	. Q V .	.	.	.	.
10.083	118.1374	207.78	. Q V .	.	.	.	.
10.167	119.5793	209.37	. Q V .	.	.	.	.
10.250	121.0325	211.00	. Q V .	.	.	.	.
10.333	122.4971	212.65	. Q V .	.	.	.	.
10.417	123.9734	214.36	. Q V .	.	.	.	.
10.500	125.4615	216.08	. Q V .	.	.	.	.
10.583	126.9619	217.86	. Q V .	.	.	.	.
10.667	128.4746	219.65	. Q V .	.	.	.	.
10.750	130.0002	221.51	. Q V .	.	.	.	.
10.833	131.5386	223.38	. Q V .	.	.	.	.
10.917	133.0904	225.32	. Q V .	.	.	.	.
11.000	134.6557	227.28	. Q V .	.	.	.	.
11.083	136.2349	229.31	. Q V .	.	.	.	.
11.167	137.8283	231.36	. Q V .	.	.	.	.
11.250	139.4364	233.49	. Q V .	.	.	.	.
11.333	141.0593	235.65	. Q V .	.	.	.	.
11.417	142.6976	237.88	. Q V .	.	.	.	.
11.500	144.3515	240.14	. Q V .	.	.	.	.
11.583	146.0215	242.49	. Q V .	.	.	.	.
11.667	147.7079	244.87	. Q V .	.	.	.	.
11.750	149.4113	247.34	. Q V .	.	.	.	.
11.833	151.1320	249.85	. Q V .	.	.	.	.
11.917	152.8707	252.45	. Q V .	.	.	.	.
12.000	154.6276	255.10	. Q V .	.	.	.	.
12.083	156.4069	258.35	. Q V .	.	.	.	.
12.167	158.2124	262.17	. Q V .	.	.	.	.
12.250	160.0475	266.45	. Q V .	.	.	.	.
12.333	161.9185	271.68	. Q V .	.	.	.	.
12.417	163.8377	278.66	. Q V .	.	.	.	.

12.500	165.8119	286.65	. Q V .	.	.	.	.
12.583	167.8451	295.22	. Q V .	.	.	.	.
12.667	169.9407	304.28	. Q V .	.	.	.	.
12.750	172.1050	314.26	. Q V .	.	.	.	.
12.833	174.3436	325.04	. Q V .	.	.	.	.
12.917	176.6645	336.99	. Q V .	.	.	.	.
13.000	179.0598	347.80	. Q V .	.	.	.	.
13.083	181.5330	359.11	. Q V .	.	.	.	.
13.167	184.0757	369.20	. Q V .	.	.	.	.
13.250	186.6807	378.25	. Q V .	.	.	.	.
13.333	189.3445	386.78	. Q V .	.	.	.	.
13.417	192.0644	394.93	. Q V .	.	.	.	.
13.500	194.8351	402.30	. Q V .	.	.	.	.
13.583	197.6551	409.46	. Q .V .	.	.	.	.
13.667	200.5193	415.89	. Q .V .	.	.	.	.
13.750	203.4227	421.56	. Q .V .	.	.	.	.
13.833	206.3645	427.15	. Q .V .	.	.	.	.
13.917	209.3448	432.75	. Q .V .	.	.	.	.
14.000	212.3645	438.45	. Q .V .	.	.	.	.
14.083	215.4300	445.11	. Q . V .	.	.	.	.
14.167	218.5465	452.52	. Q . V .	.	.	.	.
14.250	221.7202	460.82	. Q . V .	.	.	.	.
14.333	224.9624	470.77	. Q . V .	.	.	.	.
14.417	228.2937	483.71	. Q . V .	.	.	.	.
14.500	231.7262	498.40	. Q . V .	.	.	.	.
14.583	235.2674	514.18	. Q . V .	.	.	.	.
14.667	238.9236	530.88	. Q V .	.	.	.	.
14.750	242.7064	549.27	. Q V .	.	.	.	.
14.833	246.6259	569.10	. Q V .	.	.	.	.
14.917	250.6966	591.07	. Q V .	.	.	.	.
15.000	254.9071	611.36	. Q V .	.	.	.	.
15.083	259.2647	632.73	. Q V .	.	.	.	.
15.167	263.7588	652.55	. Q V .	.	.	.	.
15.250	268.3839	671.57	. Q V .	.	.	.	.
15.333	273.1411	690.74	. Q V .	.	.	.	.
15.417	278.0187	708.23	. Q V .	.	.	.	.
15.500	283.0034	723.77	. Q V .	.	.	.	.
15.583	288.0987	739.84	. Q V .	.	.	.	.
15.667	293.2915	754.00	. Q V .	.	.	.	.
15.750	298.5547	764.22	. Q V .	.	.	.	.
15.833	303.8917	774.93	. Q V .	.	.	.	.
15.917	309.3593	793.88	. Q V .	.	.	.	.
16.000	315.0683	828.95	. Q V .	.	.	.	.
16.083	321.4576	927.72	. Q .	.	.	.	.
16.167	328.5872	1035.23	. VQ .	.	.	.	.
16.250	336.4369	1139.77	. V .Q .	.	.	.	.
16.333	345.5391	1321.64	. V . Q .	.	.	.	.
16.417	356.3508	1569.85	. V . Q .	.	.	.	.
16.500	367.9697	1687.07	. V . Q .	.	.	.	.
16.583	380.0169	1749.25	. V . Q .	.	.	.	.
16.667	392.4829	1810.07	. V . Q .	.	.	.	.
16.750	405.5637	1899.33	. V . Q .	.	.	.	.
16.833	419.1633	1974.66	. V . Q .	.	.	.	.
16.917	433.1902	2036.70	. V . Q .	.	.	.	.
17.000	446.5361	1937.83	. V . Q .	.	.	.	.
17.083	459.7341	1916.35	. V . Q .	.	.	.	.
17.167	471.9992	1780.89	. V . Q .	.	.	.	.
17.250	483.3882	1653.68	. V . Q .	.	.	.	.

17.333	493.7971	1511.37	.	.	.	vQ	.	.
17.417	503.2821	1377.22	.	.	.	Q V	.	.
17.500	511.6687	1217.74	.	.	.	Q V	.	.
17.583	519.3209	1111.09	.	.	.Q	V	.	.
17.667	526.4780	1039.21	.	.	.Q	V	.	.
17.750	533.0131	948.90	.	.	.Q	V	.	.
17.833	539.0015	869.51	.	.	.Q	V	.	.
17.917	544.4446	790.34	.	.	.Q	V	.	.
18.000	549.5599	742.74	.	.	.Q	V	.	.
18.083	554.2533	681.48	.	.	.Q	V	.	.
18.167	558.4859	614.58	.	.Q	.	.V	.	.
18.250	562.5353	587.98	.	.Q	.	.V	.	.
18.333	566.4417	567.20	.	.Q	.	.V	.	.
18.417	570.2121	547.46	.	.Q	.	.V	.	.
18.500	573.8492	528.10	.	.Q	.	.V	.	.
18.583	577.3646	510.44	.	.Q	.	.V	.	.
18.667	580.7622	493.33	.	.Q	.	.V	.	.
18.750	584.0436	476.46	.	.Q	.	.V	.	.
18.833	587.2051	459.06	.	.Q	.	.V	.	.
18.917	590.2058	435.70	.	.Q	.	.V	.	.
19.000	592.9951	405.00	.	.Q	.	.V	.	.
19.083	595.5618	372.69	.	.Q	.	.V	.	.
19.167	598.0244	357.57	.	.Q	.	.V	.	.
19.250	600.4038	345.49	.	.Q	.	.V	.	.
19.333	602.7064	334.34	.	.Q	.	.V	.	.
19.417	604.9365	323.81	.	.Q	.	.V	.	.
19.500	607.1044	314.78	.	.Q	.	.V	.	.
19.583	609.2164	306.67	.	.Q	.	.V	.	.
19.667	611.2762	299.09	.	.Q	.	.V	.	.
19.750	613.2888	292.21	.	.Q	.	.V	.	.
19.833	615.2577	285.89	.	.Q	.	.V	.	.
19.917	617.1870	280.13	.	.Q	.	.V	.	.
20.000	619.0794	274.79	.	.Q	.	.V	.	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	730.0
20%	325.0
30%	195.0
40%	115.0
50%	95.0
60%	70.0
70%	60.0
80%	50.0
90%	25.0

END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Analysis prepared by:

Michael Baker International
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***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - COMPLEX UH *
* ULTIMATE CONDITION - REGIONAL NODE 13305 *
* 25-YR EV SEPTEMBER 2018 CCHIU *

FILE NAME: EV25305C.DAT
TIME/DATE OF STUDY: 16:03 09/11/2018

FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

=====

(UNIT-HYDROGRAPH ADDED TO STREAM #2)

WATERSHED AREA = 4924.400 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.856 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244
LOW LOSS FRACTION = 0.567
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.35
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.73
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.97
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.62
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.24
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 3.75

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.754
30-MINUTE FACTOR = 0.754
1-HOUR FACTOR = 0.754
3-HOUR FACTOR = 0.961
6-HOUR FACTOR = 0.979
24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 9.735

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.556	331.300
2	1.681	669.681
3	3.190	898.530
4	5.694	1491.595
5	9.996	2562.006
6	15.343	3184.527
7	21.165	3467.137
8	27.440	3736.834
9	34.550	4234.553
10	42.448	4703.686
11	51.437	5353.104
12	59.048	4532.599
13	66.996	4733.692
14	73.451	3844.114
15	78.519	3018.107
16	82.874	2593.681
17	86.545	2186.207
18	89.201	1581.784
19	91.334	1270.321
20	93.252	1141.972
21	94.739	886.011
22	95.921	703.742
23	96.748	492.799
24	97.512	454.687
25	98.060	326.543
26	98.248	112.074
27	98.431	108.729
28	98.613	108.666
29	98.796	108.729
30	98.978	108.607
31	99.161	108.966
32	99.344	108.607
33	99.526	108.607
34	99.708	108.607
35	99.891	108.607
36	100.000	65.051

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 777.1218
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 740.2405

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)

(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	675.0	1350.0	2025.0	2700.0
10.000	118.6972	209.65	. Q	V	.	.	.
10.083	120.1520	211.25	. Q	V	.	.	.
10.167	121.6180	212.86	. Q	V	.	.	.
10.250	123.0954	214.52	. Q	V	.	.	.
10.333	124.5843	216.19	. Q	V	.	.	.
10.417	126.0852	217.92	. Q	V	.	.	.
10.500	127.5980	219.67	. Q	V	.	.	.
10.583	129.1233	221.47	. Q	V	.	.	.
10.667	130.6612	223.29	. Q	V	.	.	.
10.750	132.2120	225.18	. Q	V	.	.	.
10.833	133.7759	227.08	. Q	V	.	.	.
10.917	135.3534	229.05	. Q	V	.	.	.
11.000	136.9446	231.04	. Q	V	.	.	.
11.083	138.5500	233.10	. Q	V	.	.	.
11.167	140.1697	235.19	. Q	V	.	.	.
11.250	141.8044	237.35	. Q	V	.	.	.
11.333	143.4540	239.53	. Q	V	.	.	.
11.417	145.1193	241.80	. Q	V	.	.	.
11.500	146.8004	244.10	. Q	V	.	.	.
11.583	148.4979	246.48	. Q	V	.	.	.
11.667	150.2121	248.89	. Q	V	.	.	.
11.750	151.9435	251.40	. Q	V	.	.	.
11.833	153.6925	253.95	. Q	V	.	.	.
11.917	155.4596	256.59	. Q	V	.	.	.
12.000	157.2453	259.28	. Q	V	.	.	.
12.083	159.0538	262.60	. Q	V	.	.	.
12.167	160.8892	266.50	. Q	V	.	.	.
12.250	162.7547	270.88	. Q	V	.	.	.
12.333	164.6573	276.25	. Q	V	.	.	.
12.417	166.6093	283.44	. Q	V	.	.	.
12.500	168.6182	291.69	. Q	V	.	.	.
12.583	170.6880	300.53	. Q	V	.	.	.
12.667	172.8221	309.88	. Q	V	.	.	.
12.750	175.0273	320.18	. Q	V	.	.	.
12.833	177.3091	331.32	. Q	V	.	.	.
12.917	179.6759	343.67	. Q	V	.	.	.
13.000	182.1196	354.82	. Q	V	.	.	.
13.083	184.6437	366.51	. Q	V	.	.	.
13.167	187.2394	376.89	. Q	V	.	.	.
13.250	189.8992	386.21	. Q	V	.	.	.
13.333	192.6194	394.97	. Q	V	.	.	.
13.417	195.3971	403.33	. Q	V	.	.	.
13.500	198.2268	410.86	. Q	V	.	.	.
13.583	201.1068	418.18	. Q	V	.	.	.
13.667	204.0368	425.43	. Q	.V	.	.	.
13.750	207.0160	432.58	. Q	.V	.	.	.
13.833	210.0436	439.61	. Q	.V	.	.	.

13.917	213.1196	446.64	. Q	.V	.	.	.
14.000	216.2450	453.81	. Q	.V	.	.	.
14.083	219.4293	462.35	. Q	.V	.	.	.
14.167	222.6800	472.00	. Q	.V	.	.	.
14.250	226.0056	482.89	. Q	.V	.	.	.
14.333	229.4228	496.17	. Q	.V	.	.	.
14.417	232.9611	513.77	. Q	.V	.	.	.
14.500	236.6380	533.88	. Q	.V	.	.	.
14.583	240.4636	555.48	. Q	.V	.	.	.
14.667	244.4466	578.33	. Q	.V	.	.	.
14.750	248.6031	603.53	. Q	.V	.	.	.
14.833	252.9471	630.74	. Q	.V	.	.	.
14.917	257.4988	660.91	. Q	.V	.	.	.
15.000	262.2402	688.46	. Q	V	.	.	.
15.083	267.1827	717.64	. Q	V	.	.	.
15.167	272.3102	744.52	. .Q	V	.	.	.
15.250	277.6133	770.00	. .Q	V	.	.	.
15.333	283.0939	795.78	. .Q	V	.	.	.
15.417	288.7372	819.41	. .Q	V	.	.	.
15.500	294.5226	840.05	. .Q	V	.	.	.
15.583	300.4512	860.82	. .Q	V	.	.	.
15.667	306.5005	878.36	. .Q	V	.	.	.
15.750	312.6257	889.39	. .Q	V	.	.	.
15.833	318.8242	900.03	. .Q	V	.	.	.
15.917	325.1616	920.18	. .Q	V	.	.	.
16.000	331.7621	958.41	. .Q	V	.	.	.
16.083	339.1442	1071.87	. .Q	V	.	.	.
16.167	347.3674	1194.02	. .QV	.	.	.	.
16.250	356.3965	1311.02	. .Q	.	.	.	.
16.333	366.8802	1522.24	. .V	.Q	.	.	.
16.417	379.3676	1813.16	. .V	.Q	.	.	.
16.500	393.1582	2002.40	. .V	.Q	.	.	.
16.583	407.7425	2117.64	. .V	.Q	.	.	.
16.667	423.0942	2229.07	. .V	.Q	.	.	.
16.750	439.5580	2390.55	. .V	.Q	.	.	.
16.833	456.9329	2522.83	. .V	.Q	.	.	.
16.917	475.0670	2633.08	. .V	.Q	.	.	.
17.000	491.8355	2434.78	. .V	.Q	.	.	.
17.083	508.2825	2388.11	. .V	.Q	.	.	.
17.167	522.9138	2124.45	. .V	.Q	.	.	.
17.250	535.8694	1881.15	. .QV	.	.	.	.
17.333	547.6649	1712.70	. .Q	V	.	.	.
17.417	558.3666	1553.89	. .Q	V	.	.	.
17.500	567.7542	1363.08	. .Q	V	.	.	.
17.583	576.2567	1234.56	. .Q	.V	.	.	.
17.667	584.1554	1146.90	. .Q	.V	.	.	.
17.750	591.2943	1036.57	. .Q	.V	.	.	.
17.833	597.7584	938.59	. .Q	.V	.	.	.
17.917	603.5439	840.06	. .Q	.V	.	.	.
18.000	608.9161	780.04	. .Q	.V	.	.	.
18.083	613.7591	703.21	. .Q	.V	.	.	.
18.167	618.0289	619.97	. .Q	.V	.	.	.
18.250	622.0614	585.52	. .Q	.V	.	.	.
18.333	625.9070	558.39	. .Q	.V	.	.	.
18.417	629.5757	532.69	. .Q	.V	.	.	.
18.500	633.0715	507.58	. .Q	.V	.	.	.
18.583	636.4099	484.73	. .Q	.V	.	.	.
18.667	639.5970	462.77	. .Q	.V	.	.	.

18.750	642.6367	441.37	.	Q	.	.	.	V	.
18.833	645.5260	419.53	.	Q	.	.	.	V	.
18.917	648.2524	395.87	.	Q	.	.	.	V	.
19.000	650.7677	365.22	.	Q	.	.	.	V	.
19.083	653.0616	333.08	.	Q	.	.	.	V	.
19.167	655.2512	317.92	.	Q	.	.	.	V	.
19.250	657.3572	305.80	.	Q	.	.	.	V	.
19.333	659.3859	294.56	.	Q	.	.	.	V	.
19.417	661.3409	283.87	.	Q	.	.	.	V	.
19.500	663.2330	274.73	.	Q	.	.	.	V	.
19.583	665.0687	266.56	.	Q	.	.	.	V	.
19.667	666.8522	258.96	.	Q	.	.	.	V	.
19.750	668.5882	252.07	.	Q	.	.	.	V	.
19.833	670.2806	245.74	.	Q	.	.	.	V	.
19.917	671.9335	240.00	.	Q	.	.	.	V	.
20.000	673.5500	234.71	.	Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	450.0
20%	240.0
30%	160.0
40%	100.0
50%	75.0
60%	60.0
70%	50.0
80%	40.0
90%	25.0

 FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2

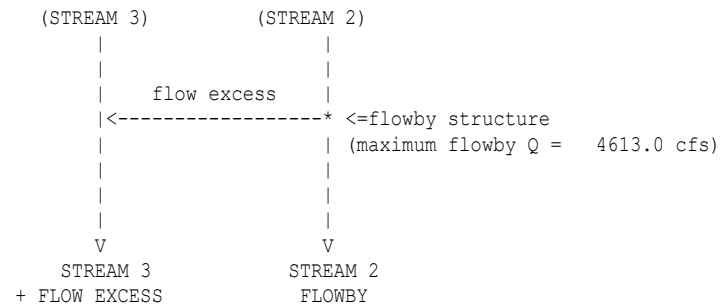
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<

MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
 FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
 THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.

DATA PAIR NUMBER	Qcenter (CFS)	Qpass (CFS)
-	0.00	0.00
1	413.00	413.00
2	1897.00	1613.00
3	4682.00	3013.00
4	6819.00	4013.00
5	8100.00	4613.00

FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3

INFLOW INFLOW



FLOWBY BASIN MODELING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 3) (CFS)	INFLOW (STREAM 2) (CFS)	OUTFLOW (STREAM 3) (CFS)	FLOWBY (STREAM 2) (CFS)
10.000	0.00	209.65	0.00	209.65
10.083	0.00	211.25	0.00	211.25
10.167	0.00	212.86	0.00	212.86
10.250	0.00	214.52	0.00	214.52
10.333	0.00	216.19	0.00	216.19
10.417	0.00	217.92	0.00	217.92
10.500	0.00	219.67	0.00	219.67
10.583	0.00	221.47	0.00	221.47
10.667	0.00	223.29	0.00	223.29
10.750	0.00	225.18	0.00	225.18
10.833	0.00	227.08	0.00	227.08
10.917	0.00	229.05	0.00	229.05
11.000	0.00	231.04	0.00	231.04
11.083	0.00	233.10	0.00	233.10
11.167	0.00	235.19	0.00	235.19
11.250	0.00	237.35	0.00	237.35
11.333	0.00	239.53	0.00	239.53
11.417	0.00	241.80	0.00	241.80
11.500	0.00	244.10	0.00	244.10
11.583	0.00	246.48	0.00	246.48
11.667	0.00	248.89	0.00	248.89
11.750	0.00	251.40	0.00	251.40
11.833	0.00	253.95	0.00	253.95
11.917	0.00	256.59	0.00	256.59
12.000	0.00	259.28	0.00	259.28
12.083	0.00	262.60	0.00	262.60
12.167	0.00	266.50	0.00	266.50
12.250	0.00	270.88	0.00	270.88
12.333	0.00	276.25	0.00	276.25
12.417	0.00	283.44	0.00	283.44
12.500	0.00	291.69	0.00	291.69
12.583	0.00	300.53	0.00	300.53
12.667	0.00	309.88	0.00	309.88
12.750	0.00	320.18	0.00	320.18
12.833	0.00	331.32	0.00	331.32
12.917	0.00	343.67	0.00	343.67
13.000	0.00	354.82	0.00	354.82

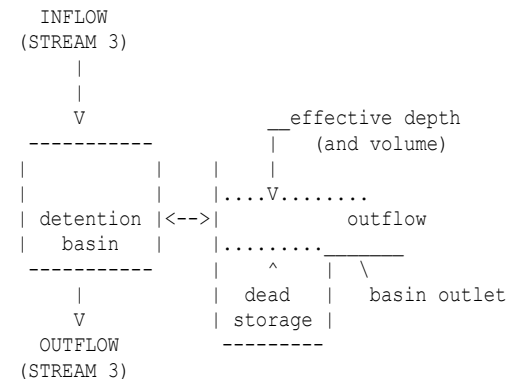
13.083	0.00	366.51	0.00	366.51
13.167	0.00	376.89	0.00	376.89
13.250	0.00	386.21	0.00	386.21
13.333	0.00	394.97	0.00	394.97
13.417	0.00	403.33	0.00	403.33
13.500	0.00	410.86	0.00	410.86
13.583	0.00	418.18	0.99	417.19
13.667	0.00	425.43	2.38	423.05
13.750	0.00	432.58	3.75	428.83
13.833	0.00	439.61	5.09	434.52
13.917	0.00	446.64	6.44	440.20
14.000	0.00	453.81	7.81	446.00
14.083	0.00	462.35	9.44	452.91
14.167	0.00	472.00	11.29	460.71
14.250	0.00	482.89	13.37	469.51
14.333	0.00	496.17	15.92	480.25
14.417	0.00	513.77	19.28	494.49
14.500	0.00	533.88	23.13	510.74
14.583	0.00	555.48	27.27	528.21
14.667	0.00	578.33	31.64	546.69
14.750	0.00	603.53	36.46	567.07
14.833	0.00	630.74	41.67	589.07
14.917	0.00	660.91	47.44	613.47
15.000	0.00	688.46	52.72	635.74
15.083	0.00	717.64	58.30	659.34
15.167	0.00	744.52	63.44	681.07
15.250	0.00	770.00	68.32	701.68
15.333	0.00	795.78	73.26	722.53
15.417	0.00	819.41	77.78	741.64
15.500	0.00	840.05	81.73	758.32
15.583	0.00	860.82	85.70	775.12
15.667	0.00	878.36	89.06	789.30
15.750	0.00	889.39	91.17	798.22
15.833	0.00	900.03	93.20	806.82
15.917	0.00	920.18	97.06	823.12
16.000	0.00	958.41	104.38	854.03
16.083	0.00	1071.87	126.09	945.78
16.167	0.00	1194.02	149.47	1044.55
16.250	0.00	1311.02	171.86	1139.16
16.333	0.00	1522.24	212.28	1309.96
16.417	0.00	1813.16	267.96	1545.21
16.500	0.00	2002.40	336.41	1665.98
16.583	0.00	2117.64	393.73	1723.91
16.667	0.00	2229.07	449.14	1779.93
16.750	0.00	2390.55	529.44	1861.10
16.833	0.00	2522.83	595.23	1927.60
16.917	0.00	2633.08	650.06	1983.02
17.000	0.00	2434.78	551.44	1883.34
17.083	0.00	2388.11	528.23	1859.88
17.167	0.00	2124.45	397.11	1727.34
17.250	0.00	1881.15	280.97	1600.19
17.333	0.00	1712.70	248.73	1463.97
17.417	0.00	1553.89	218.34	1335.55
17.500	0.00	1363.08	181.82	1181.26
17.583	0.00	1234.56	157.22	1077.33
17.667	0.00	1146.90	140.45	1006.45
17.750	0.00	1036.57	119.34	917.23
17.833	0.00	938.59	100.58	838.01

17.917	0.00	840.06	81.73	758.33
18.000	0.00	780.04	70.24	709.79
18.083	0.00	703.21	55.54	647.67
18.167	0.00	619.97	39.61	580.36
18.250	0.00	585.52	33.02	552.51
18.333	0.00	558.39	27.82	530.56
18.417	0.00	532.69	22.91	509.79
18.500	0.00	507.58	18.10	489.48
18.583	0.00	484.73	13.73	471.00
18.667	0.00	462.77	9.53	453.25
18.750	0.00	441.37	5.43	435.94
18.833	0.00	419.53	1.25	418.28
18.917	0.00	395.87	0.00	395.87
19.000	0.00	365.22	0.00	365.22
19.083	0.00	333.08	0.00	333.08
19.167	0.00	317.92	0.00	317.92
19.250	0.00	305.80	0.00	305.80
19.333	0.00	294.56	0.00	294.56
19.417	0.00	283.87	0.00	283.87
19.500	0.00	274.73	0.00	274.73
19.583	0.00	266.56	0.00	266.56
19.667	0.00	258.96	0.00	258.96
19.750	0.00	252.07	0.00	252.07
19.833	0.00	245.74	0.00	245.74
19.917	0.00	240.00	0.00	240.00
20.000	0.00	234.71	0.00	234.71

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<

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ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:

DEAD STORAGE(AF) = 5.700
SPECIFIED DEAD STORAGE(AF) FILLED = 5.700
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000

DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.50	0.01	0.002
3	2.00	0.02	1.900
4	4.00	0.03	16.100
5	4.30	0.05	18.200
6	5.00	314.00	23.200
7	6.00	1306.00	30.300
8	7.00	2847.00	39.100
9	8.00	4942.00	47.800

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MODIFIED-PULS BASIN ROUTING MODEL RESULTS(5-MINUTE COMPUTATION INTERVALS):
(Note: Computed EFFECTIVE DEPTH and VOLUME are estimated at the clock time;
MEAN OUTFLOW is the average value during the unit interval.)

CLOCK TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	MEAN			
			LOSS (CFS)	EFFECTIVE DEPTH (FT)	OUTFLOW (CFS)	EFFECTIVE VOLUME (AF)
10.083	5.700	0.00	0.00	0.00	0.0	0.000
10.167	5.700	0.00	0.00	0.00	0.0	0.000
10.250	5.700	0.00	0.00	0.00	0.0	0.000
10.333	5.700	0.00	0.00	0.00	0.0	0.000
10.417	5.700	0.00	0.00	0.00	0.0	0.000
10.500	5.700	0.00	0.00	0.00	0.0	0.000
10.583	5.700	0.00	0.00	0.00	0.0	0.000
10.667	5.700	0.00	0.00	0.00	0.0	0.000
10.750	5.700	0.00	0.00	0.00	0.0	0.000
10.833	5.700	0.00	0.00	0.00	0.0	0.000
10.917	5.700	0.00	0.00	0.00	0.0	0.000
11.000	5.700	0.00	0.00	0.00	0.0	0.000
11.083	5.700	0.00	0.00	0.00	0.0	0.000
11.167	5.700	0.00	0.00	0.00	0.0	0.000
11.250	5.700	0.00	0.00	0.00	0.0	0.000
11.333	5.700	0.00	0.00	0.00	0.0	0.000
11.417	5.700	0.00	0.00	0.00	0.0	0.000
11.500	5.700	0.00	0.00	0.00	0.0	0.000
11.583	5.700	0.00	0.00	0.00	0.0	0.000
11.667	5.700	0.00	0.00	0.00	0.0	0.000
11.750	5.700	0.00	0.00	0.00	0.0	0.000
11.833	5.700	0.00	0.00	0.00	0.0	0.000
11.917	5.700	0.00	0.00	0.00	0.0	0.000
12.000	5.700	0.00	0.00	0.00	0.0	0.000
12.083	5.700	0.00	0.00	0.00	0.0	0.000
12.167	5.700	0.00	0.00	0.00	0.0	0.000
12.250	5.700	0.00	0.00	0.00	0.0	0.000
12.333	5.700	0.00	0.00	0.00	0.0	0.000
12.417	5.700	0.00	0.00	0.00	0.0	0.000
12.500	5.700	0.00	0.00	0.00	0.0	0.000
12.583	5.700	0.00	0.00	0.00	0.0	0.000

12.667	5.700	0.00	0.00	0.00	0.0	0.000
12.750	5.700	0.00	0.00	0.00	0.0	0.000
12.833	5.700	0.00	0.00	0.00	0.0	0.000
12.917	5.700	0.00	0.00	0.00	0.0	0.000
13.000	5.700	0.00	0.00	0.00	0.0	0.000
13.083	5.700	0.00	0.00	0.00	0.0	0.000
13.167	5.700	0.00	0.00	0.00	0.0	0.000
13.250	5.700	0.00	0.00	0.00	0.0	0.000
13.333	5.700	0.00	0.00	0.00	0.0	0.000
13.417	5.700	0.00	0.00	0.00	0.0	0.000
13.500	5.700	0.00	0.00	0.00	0.0	0.000
13.583	5.700	0.99	0.00	1.50	0.0	0.007
13.667	5.700	2.38	0.00	1.51	0.0	0.023
13.750	5.700	3.75	0.00	1.51	0.0	0.049
13.833	5.700	5.09	0.00	1.52	0.0	0.084
13.917	5.700	6.44	0.00	1.53	0.0	0.128
14.000	5.700	7.81	0.00	1.55	0.0	0.182
14.083	5.700	9.44	0.00	1.56	0.0	0.247
14.167	5.700	11.29	0.00	1.58	0.0	0.324
14.250	5.700	13.37	0.00	1.61	0.0	0.416
14.333	5.700	15.92	0.00	1.64	0.0	0.526
14.417	5.700	19.28	0.00	1.67	0.0	0.659
14.500	5.700	23.13	0.00	1.71	0.0	0.818
14.583	5.700	27.27	0.00	1.76	0.0	1.006
14.667	5.700	31.64	0.00	1.82	0.0	1.223
14.750	5.700	36.46	0.00	1.89	0.0	1.474
14.833	5.700	41.67	0.00	1.96	0.0	1.761
14.917	5.700	47.44	0.00	2.03	0.0	2.088
15.000	5.700	52.72	0.00	2.08	0.0	2.451
15.083	5.700	58.30	0.00	2.13	0.0	2.852
15.167	5.700	63.44	0.00	2.20	0.0	3.289
15.250	5.700	68.32	0.00	2.26	0.0	3.759
15.333	5.700	73.26	0.00	2.33	0.0	4.264
15.417	5.700	77.78	0.00	2.41	0.0	4.799
15.500	5.700	81.73	0.00	2.49	0.0	5.362
15.583	5.700	85.70	0.00	2.57	0.0	5.952
15.667	5.700	89.06	0.00	2.66	0.0	6.565
15.750	5.700	91.17	0.00	2.75	0.0	7.193
15.833	5.700	93.20	0.00	2.84	0.0	7.834
15.917	5.700	97.06	0.00	2.93	0.0	8.503
16.000	5.700	104.38	0.00	3.03	0.0	9.221
16.083	5.700	126.09	0.00	3.15	0.0	10.090
16.167	5.700	149.47	0.00	3.30	0.0	11.119
16.250	5.700	171.86	0.00	3.47	0.0	12.302
16.333	5.700	212.28	0.00	3.67	0.0	13.764
16.417	5.700	267.96	0.00	3.93	0.0	15.609
16.500	5.700	336.41	0.00	4.26	0.0	17.926
16.583	5.700	393.73	0.00	4.58	63.0	20.204
16.667	5.700	449.14	0.00	4.84	183.3	22.034
16.750	5.700	529.44	0.00	5.05	304.3	23.585
16.833	5.700	595.23	0.00	5.20	441.7	24.643
16.917	5.700	650.06	0.00	5.29	559.2	25.268
17.000	5.700	551.44	0.00	5.26	586.2	25.029
17.083	5.700	528.23	0.00	5.23	556.1	24.837
17.167	5.700	397.11	0.00	5.14	495.4	24.160
17.250	5.700	280.97	0.00	5.03	393.8	23.383
17.333	5.700	248.73	0.00	4.96	317.6	22.908
17.417	5.700	218.34	0.00	4.90	281.9	22.470

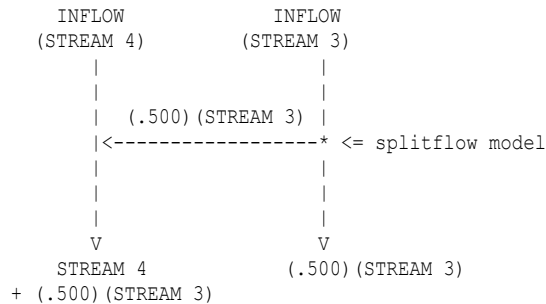
17.500	5.700	181.82	0.00	4.83	252.8	21.981
17.583	5.700	157.22	0.00	4.77	223.2	21.527
17.667	5.700	140.45	0.00	4.71	196.8	21.139
17.750	5.700	119.34	0.00	4.66	173.0	20.769
17.833	5.700	100.58	0.00	4.61	150.6	20.425
17.917	5.700	81.73	0.00	4.57	129.5	20.097
18.000	5.700	70.24	0.00	4.53	110.4	19.820
18.083	5.700	55.54	0.00	4.49	93.5	19.558
18.167	5.700	39.61	0.00	4.45	77.2	19.299
18.250	5.700	33.02	0.00	4.43	62.7	19.095
18.333	5.700	27.82	0.00	4.40	51.2	18.934
18.417	5.700	22.91	0.00	4.38	42.0	18.802
18.500	5.700	18.10	0.00	4.37	34.4	18.690
18.583	5.700	13.73	0.00	4.36	27.8	18.594
18.667	5.700	9.53	0.00	4.34	22.1	18.507
18.750	5.700	5.43	0.00	4.33	16.9	18.428
18.833	5.700	1.25	0.00	4.32	12.1	18.354
18.917	5.700	0.00	0.00	4.31	8.0	18.299
19.000	5.700	0.00	0.00	4.31	5.2	18.263
19.083	5.700	0.00	0.00	4.31	3.3	18.241
19.167	5.700	0.00	0.00	4.30	2.1	18.226
19.250	5.700	0.00	0.00	4.30	1.4	18.216
19.333	5.700	0.00	0.00	4.30	0.9	18.210
19.417	5.700	0.00	0.00	4.30	0.6	18.206
19.500	5.700	0.00	0.00	4.30	0.4	18.204
19.583	5.700	0.00	0.00	4.30	0.2	18.202
19.667	5.700	0.00	0.00	4.30	0.2	18.201
19.750	5.700	0.00	0.00	4.30	0.1	18.200
19.833	5.700	0.00	0.00	4.30	0.1	18.200
19.917	5.700	0.00	0.00	4.30	0.1	18.200

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 58.707 AF
BASIN STORAGE = 21.238 AF (WITH 5.700 AF INITIALLY FILLED)
OUTFLOW VOLUME = 43.163 AF
LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8

>>>>MODEL STREAM SPLITFLOW WHERE A CONSTANT PROPORTION
OF STREAM 3 IS ADDED TO STREAM 4<<<<<



STREAM NUMBER 3 IS SPLIT TOWARDS STREAM 4
WHERE 0.50 (DECIMAL PERCENT) REMAINS IN STREAM 3
AND 0.50 (DECIMAL PERCENT) IS ADDED TO STREAM 4

STREAM SPLITFLOW MODELING RESULTS:

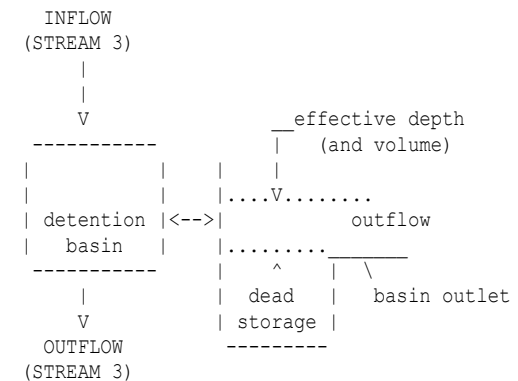
MODEL TIME (HRS)	INFLOW STREAM 4 (CFS)	INFLOW STREAM 3 (CFS)	OUTFLOW STREAM 4 (CFS)	OUTFLOW STREAM 3 (CFS)
10.000	0.00	0.00	0.00	0.00
10.083	0.00	0.00	0.00	0.00
10.167	0.00	0.00	0.00	0.00
10.250	0.00	0.00	0.00	0.00
10.333	0.00	0.00	0.00	0.00
10.417	0.00	0.00	0.00	0.00
10.500	0.00	0.00	0.00	0.00
10.583	0.00	0.00	0.00	0.00
10.667	0.00	0.00	0.00	0.00
10.750	0.00	0.00	0.00	0.00
10.833	0.00	0.00	0.00	0.00
10.917	0.00	0.00	0.00	0.00
11.000	0.00	0.00	0.00	0.00
11.083	0.00	0.00	0.00	0.00
11.167	0.00	0.00	0.00	0.00
11.250	0.00	0.00	0.00	0.00
11.333	0.00	0.00	0.00	0.00
11.417	0.00	0.00	0.00	0.00
11.500	0.00	0.00	0.00	0.00
11.583	0.00	0.00	0.00	0.00
11.667	0.00	0.00	0.00	0.00
11.750	0.00	0.00	0.00	0.00
11.833	0.00	0.00	0.00	0.00
11.917	0.00	0.00	0.00	0.00
12.000	0.00	0.00	0.00	0.00
12.083	0.00	0.00	0.00	0.00
12.167	0.00	0.00	0.00	0.00
12.250	0.00	0.00	0.00	0.00
12.333	0.00	0.00	0.00	0.00
12.417	0.00	0.00	0.00	0.00
12.500	0.00	0.00	0.00	0.00
12.583	0.00	0.00	0.00	0.00
12.667	0.00	0.00	0.00	0.00
12.750	0.00	0.00	0.00	0.00
12.833	0.00	0.00	0.00	0.00
12.917	0.00	0.00	0.00	0.00
13.000	0.00	0.00	0.00	0.00
13.083	0.00	0.00	0.00	0.00
13.167	0.00	0.00	0.00	0.00
13.250	0.00	0.00	0.00	0.00
13.333	0.00	0.00	0.00	0.00
13.417	0.00	0.00	0.00	0.00
13.500	0.00	0.00	0.00	0.00
13.583	0.00	0.01	0.00	0.00

13.667	0.00	0.01	0.01	0.01
13.750	0.00	0.01	0.01	0.01
13.833	0.00	0.01	0.01	0.01
13.917	0.00	0.01	0.01	0.01
14.000	0.00	0.01	0.01	0.01
14.083	0.00	0.01	0.01	0.01
14.167	0.00	0.01	0.01	0.01
14.250	0.00	0.01	0.01	0.01
14.333	0.00	0.01	0.01	0.01
14.417	0.00	0.01	0.01	0.01
14.500	0.00	0.02	0.01	0.01
14.583	0.00	0.02	0.01	0.01
14.667	0.00	0.02	0.01	0.01
14.750	0.00	0.02	0.01	0.01
14.833	0.00	0.02	0.01	0.01
14.917	0.00	0.02	0.01	0.01
15.000	0.00	0.02	0.01	0.01
15.083	0.00	0.02	0.01	0.01
15.167	0.00	0.02	0.01	0.01
15.250	0.00	0.02	0.01	0.01
15.333	0.00	0.02	0.01	0.01
15.417	0.00	0.02	0.01	0.01
15.500	0.00	0.02	0.01	0.01
15.583	0.00	0.02	0.01	0.01
15.667	0.00	0.03	0.01	0.01
15.750	0.00	0.03	0.01	0.01
15.833	0.00	0.03	0.01	0.01
15.917	0.00	0.03	0.01	0.01
16.000	0.00	0.03	0.01	0.01
16.083	0.00	0.03	0.01	0.01
16.167	0.00	0.03	0.01	0.01
16.250	0.00	0.03	0.01	0.01
16.333	0.00	0.03	0.02	0.02
16.417	0.00	0.03	0.02	0.02
16.500	0.00	0.04	0.02	0.02
16.583	0.00	62.96	31.48	31.48
16.667	0.00	183.34	91.67	91.67
16.750	0.00	304.30	152.15	152.15
16.833	0.00	441.67	220.83	220.83
16.917	0.00	559.24	279.62	279.62
17.000	0.00	586.21	293.10	293.10
17.083	0.00	556.08	278.04	278.04
17.167	0.00	495.40	247.70	247.70
17.250	0.00	393.82	196.91	196.91
17.333	0.00	317.60	158.80	158.80
17.417	0.00	281.94	140.97	140.97
17.500	0.00	252.83	126.42	126.42
17.583	0.00	223.21	111.61	111.61
17.667	0.00	196.77	98.38	98.38
17.750	0.00	172.99	86.49	86.49
17.833	0.00	150.58	75.29	75.29
17.917	0.00	129.45	64.73	64.73
18.000	0.00	110.44	55.22	55.22
18.083	0.00	93.53	46.77	46.77
18.167	0.00	77.19	38.60	38.60
18.250	0.00	62.66	31.33	31.33
18.333	0.00	51.20	25.60	25.60
18.417	0.00	42.01	21.01	21.01

18.500	0.00	34.36	17.18	17.18
18.583	0.00	27.80	13.90	13.90
18.667	0.00	22.05	11.03	11.03
18.750	0.00	16.87	8.43	8.43
18.833	0.00	12.06	6.03	6.03
18.917	0.00	7.99	4.00	4.00
19.000	0.00	5.15	2.58	2.58
19.083	0.00	3.32	1.66	1.66
19.167	0.00	2.14	1.07	1.07
19.250	0.00	1.38	0.69	0.69
19.333	0.00	0.89	0.44	0.44
19.417	0.00	0.57	0.29	0.29
19.500	0.00	0.37	0.18	0.18
19.583	0.00	0.24	0.12	0.12
19.667	0.00	0.15	0.08	0.08
19.750	0.00	0.10	0.05	0.05
19.833	0.00	0.06	0.03	0.03
19.917	0.00	0.05	0.03	0.03
20.000	0.00	0.05	0.03	0.03

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<



ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3

THROUGH A FLOW-THROUGH DETENTION BASIN

SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:

DEAD STORAGE(AF) = 0.000

SPECIFIED DEAD STORAGE(AF) FILLED = 0.000

SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000

DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
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1	0.00	0.00	0.000
2	0.99	2.90	0.900
3	1.99	11.38	2.900
4	3.99	19.63	10.300
5	5.99	25.19	20.700
6	7.99	29.71	31.700
7	9.99	33.62	43.500
8	10.99	35.49	49.700
9	11.99	313.46	56.400
10	12.99	894.27	63.100
11	13.99	1748.55	69.900
12	15.99	4306.91	84.100

=====

MODIFIED-PULS BASIN ROUTING MODEL RESULTS(5-MINUTE COMPUTATION INTERVALS):
 (Note: Computed EFFECTIVE DEPTH and VOLUME are estimated at the clock time;
 MEAN OUTFLOW is the average value during the unit interval.)

CLOCK TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	LOSS (CFS)	MEAN		
				EFFECTIVE DEPTH(FT)	OUTFLOW (CFS)	EFFECTIVE VOLUME(AF)
10.083	0.000	0.00	0.00	0.00	0.0	0.000
10.167	0.000	0.00	0.00	0.00	0.0	0.000
10.250	0.000	0.00	0.00	0.00	0.0	0.000
10.333	0.000	0.00	0.00	0.00	0.0	0.000
10.417	0.000	0.00	0.00	0.00	0.0	0.000
10.500	0.000	0.00	0.00	0.00	0.0	0.000
10.583	0.000	0.00	0.00	0.00	0.0	0.000
10.667	0.000	0.00	0.00	0.00	0.0	0.000
10.750	0.000	0.00	0.00	0.00	0.0	0.000
10.833	0.000	0.00	0.00	0.00	0.0	0.000
10.917	0.000	0.00	0.00	0.00	0.0	0.000
11.000	0.000	0.00	0.00	0.00	0.0	0.000
11.083	0.000	0.00	0.00	0.00	0.0	0.000
11.167	0.000	0.00	0.00	0.00	0.0	0.000
11.250	0.000	0.00	0.00	0.00	0.0	0.000
11.333	0.000	0.00	0.00	0.00	0.0	0.000
11.417	0.000	0.00	0.00	0.00	0.0	0.000
11.500	0.000	0.00	0.00	0.00	0.0	0.000
11.583	0.000	0.00	0.00	0.00	0.0	0.000
11.667	0.000	0.00	0.00	0.00	0.0	0.000
11.750	0.000	0.00	0.00	0.00	0.0	0.000
11.833	0.000	0.00	0.00	0.00	0.0	0.000
11.917	0.000	0.00	0.00	0.00	0.0	0.000
12.000	0.000	0.00	0.00	0.00	0.0	0.000
12.083	0.000	0.00	0.00	0.00	0.0	0.000
12.167	0.000	0.00	0.00	0.00	0.0	0.000
12.250	0.000	0.00	0.00	0.00	0.0	0.000
12.333	0.000	0.00	0.00	0.00	0.0	0.000
12.417	0.000	0.00	0.00	0.00	0.0	0.000
12.500	0.000	0.00	0.00	0.00	0.0	0.000
12.583	0.000	0.00	0.00	0.00	0.0	0.000
12.667	0.000	0.00	0.00	0.00	0.0	0.000
12.750	0.000	0.00	0.00	0.00	0.0	0.000
12.833	0.000	0.00	0.00	0.00	0.0	0.000
12.917	0.000	0.00	0.00	0.00	0.0	0.000

13.000	0.000	0.00	0.00	0.00	0.0	0.000
13.083	0.000	0.00	0.00	0.00	0.0	0.000
13.167	0.000	0.00	0.00	0.00	0.0	0.000
13.250	0.000	0.00	0.00	0.00	0.0	0.000
13.333	0.000	0.00	0.00	0.00	0.0	0.000
13.417	0.000	0.00	0.00	0.00	0.0	0.000
13.500	0.000	0.00	0.00	0.00	0.0	0.000
13.583	0.000	0.00	0.00	0.00	0.0	0.000
13.667	0.000	0.01	0.00	0.00	0.0	0.000
13.750	0.000	0.01	0.00	0.00	0.0	0.000
13.833	0.000	0.01	0.00	0.00	0.0	0.000
13.917	0.000	0.01	0.00	0.00	0.0	0.000
14.000	0.000	0.01	0.00	0.00	0.0	0.000
14.083	0.000	0.01	0.00	0.00	0.0	0.000
14.167	0.000	0.01	0.00	0.00	0.0	0.000
14.250	0.000	0.01	0.00	0.00	0.0	0.000
14.333	0.000	0.01	0.00	0.00	0.0	0.000
14.417	0.000	0.01	0.00	0.00	0.0	0.000
14.500	0.000	0.01	0.00	0.00	0.0	0.000
14.583	0.000	0.01	0.00	0.00	0.0	0.000
14.667	0.000	0.01	0.00	0.00	0.0	0.001
14.750	0.000	0.01	0.00	0.00	0.0	0.001
14.833	0.000	0.01	0.00	0.00	0.0	0.001
14.917	0.000	0.01	0.00	0.00	0.0	0.001
15.000	0.000	0.01	0.00	0.00	0.0	0.001
15.083	0.000	0.01	0.00	0.00	0.0	0.001
15.167	0.000	0.01	0.00	0.00	0.0	0.001
15.250	0.000	0.01	0.00	0.00	0.0	0.001
15.333	0.000	0.01	0.00	0.00	0.0	0.001
15.417	0.000	0.01	0.00	0.00	0.0	0.001
15.500	0.000	0.01	0.00	0.00	0.0	0.001
15.583	0.000	0.01	0.00	0.00	0.0	0.001
15.667	0.000	0.01	0.00	0.00	0.0	0.001
15.750	0.000	0.01	0.00	0.00	0.0	0.001
15.833	0.000	0.01	0.00	0.00	0.0	0.001
15.917	0.000	0.01	0.00	0.00	0.0	0.001
16.000	0.000	0.01	0.00	0.00	0.0	0.001
16.083	0.000	0.01	0.00	0.00	0.0	0.002
16.167	0.000	0.01	0.00	0.00	0.0	0.002
16.250	0.000	0.01	0.00	0.00	0.0	0.002
16.333	0.000	0.02	0.00	0.00	0.0	0.002
16.417	0.000	0.02	0.00	0.00	0.0	0.002
16.500	0.000	0.02	0.00	0.00	0.0	0.002
16.583	0.000	31.48	0.00	0.24	0.4	0.216
16.667	0.000	91.67	0.00	0.92	1.7	0.836
16.750	0.000	152.15	0.00	1.47	4.8	1.851
16.833	0.000	220.83	0.00	2.10	9.4	3.307
16.917	0.000	279.62	0.00	2.60	12.9	5.144
17.000	0.000	293.10	0.00	3.11	14.9	7.060
17.083	0.000	278.04	0.00	3.60	17.0	8.857
17.167	0.000	247.70	0.00	4.02	18.9	10.433
17.250	0.000	196.91	0.00	4.25	20.0	11.652
17.333	0.000	158.80	0.00	4.43	20.6	12.603
17.417	0.000	140.97	0.00	4.59	21.1	13.429
17.500	0.000	126.42	0.00	4.73	21.5	14.152
17.583	0.000	111.61	0.00	4.85	21.9	14.770
17.667	0.000	98.38	0.00	4.95	22.2	15.295
17.750	0.000	86.49	0.00	5.04	22.4	15.736

17.833	0.000	75.29	0.00	5.11	22.6	16.099
17.917	0.000	64.73	0.00	5.16	22.8	16.387
18.000	0.000	55.22	0.00	5.20	22.9	16.610
18.083	0.000	46.77	0.00	5.23	23.0	16.773
18.167	0.000	38.60	0.00	5.26	23.1	16.880
18.250	0.000	31.33	0.00	5.27	23.2	16.936
18.333	0.000	25.60	0.00	5.27	23.2	16.952
18.417	0.000	21.01	0.00	5.27	23.2	16.937
18.500	0.000	17.18	0.00	5.26	23.2	16.896
18.583	0.000	13.90	0.00	5.25	23.1	16.833
18.667	0.000	11.03	0.00	5.23	23.1	16.749
18.750	0.000	8.43	0.00	5.21	23.1	16.649
18.833	0.000	6.03	0.00	5.19	23.0	16.532
18.917	0.000	4.00	0.00	5.16	22.9	16.402
19.000	0.000	2.58	0.00	5.14	22.9	16.262
19.083	0.000	1.66	0.00	5.11	22.8	16.117
19.167	0.000	1.07	0.00	5.08	22.7	15.968
19.250	0.000	0.69	0.00	5.05	22.6	15.817
19.333	0.000	0.44	0.00	5.02	22.5	15.664
19.417	0.000	0.29	0.00	4.99	22.5	15.512
19.500	0.000	0.18	0.00	4.96	22.4	15.359
19.583	0.000	0.12	0.00	4.93	22.3	15.206
19.667	0.000	0.08	0.00	4.90	22.2	15.054
19.750	0.000	0.05	0.00	4.87	22.1	14.902
19.833	0.000	0.03	0.00	4.85	22.0	14.750
19.917	0.000	0.03	0.00	4.82	22.0	14.599

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 21.582 AF
BASIN STORAGE = 0.005 AF (WITH 0.000 AF INITIALLY FILLED)
OUTFLOW VOLUME = 21.577 AF
LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<<
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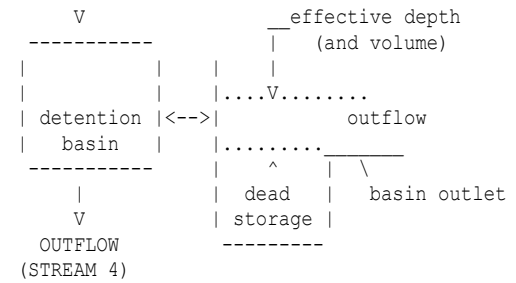
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<<
=====

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<<
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INFLOW
(STREAM 4)
|
|



ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
THROUGH A FLOW-THROUGH DETENTION BASIN
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:

DEAD STORAGE(AF) = 0.000
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.48	0.70	0.400
3	1.48	6.50	1.800
4	3.48	18.11	8.500
5	5.48	23.99	17.900
6	7.48	28.68	27.800
7	9.48	32.70	38.300
8	10.48	34.50	43.900
9	11.48	36.29	49.400
10	12.48	314.07	55.900
11	13.48	895.00	62.300
12	15.48	2882.95	74.700

=====

MODIFIED-PULS BASIN ROUTING MODEL RESULTS(5-MINUTE COMPUTATION INTERVALS):
(Note: Computed EFFECTIVE DEPTH and VOLUME are estimated at the clock time;
MEAN OUTFLOW is the average value during the unit interval.)

CLOCK TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	LOSS (CFS)	EFFECTIVE DEPTH (FT)	MEAN OUTFLOW (CFS)	EFFECTIVE VOLUME (AF)
10.083	0.000	0.00	0.00	0.00	0.0	0.000
10.167	0.000	0.00	0.00	0.00	0.0	0.000
10.250	0.000	0.00	0.00	0.00	0.0	0.000
10.333	0.000	0.00	0.00	0.00	0.0	0.000
10.417	0.000	0.00	0.00	0.00	0.0	0.000
10.500	0.000	0.00	0.00	0.00	0.0	0.000
10.583	0.000	0.00	0.00	0.00	0.0	0.000
10.667	0.000	0.00	0.00	0.00	0.0	0.000

10.750	0.000	0.00	0.00	0.00	0.0	0.000
10.833	0.000	0.00	0.00	0.00	0.0	0.000
10.917	0.000	0.00	0.00	0.00	0.0	0.000
11.000	0.000	0.00	0.00	0.00	0.0	0.000
11.083	0.000	0.00	0.00	0.00	0.0	0.000
11.167	0.000	0.00	0.00	0.00	0.0	0.000
11.250	0.000	0.00	0.00	0.00	0.0	0.000
11.333	0.000	0.00	0.00	0.00	0.0	0.000
11.417	0.000	0.00	0.00	0.00	0.0	0.000
11.500	0.000	0.00	0.00	0.00	0.0	0.000
11.583	0.000	0.00	0.00	0.00	0.0	0.000
11.667	0.000	0.00	0.00	0.00	0.0	0.000
11.750	0.000	0.00	0.00	0.00	0.0	0.000
11.833	0.000	0.00	0.00	0.00	0.0	0.000
11.917	0.000	0.00	0.00	0.00	0.0	0.000
12.000	0.000	0.00	0.00	0.00	0.0	0.000
12.083	0.000	0.00	0.00	0.00	0.0	0.000
12.167	0.000	0.00	0.00	0.00	0.0	0.000
12.250	0.000	0.00	0.00	0.00	0.0	0.000
12.333	0.000	0.00	0.00	0.00	0.0	0.000
12.417	0.000	0.00	0.00	0.00	0.0	0.000
12.500	0.000	0.00	0.00	0.00	0.0	0.000
12.583	0.000	0.00	0.00	0.00	0.0	0.000
12.667	0.000	0.00	0.00	0.00	0.0	0.000
12.750	0.000	0.00	0.00	0.00	0.0	0.000
12.833	0.000	0.00	0.00	0.00	0.0	0.000
12.917	0.000	0.00	0.00	0.00	0.0	0.000
13.000	0.000	0.00	0.00	0.00	0.0	0.000
13.083	0.000	0.00	0.00	0.00	0.0	0.000
13.167	0.000	0.00	0.00	0.00	0.0	0.000
13.250	0.000	0.00	0.00	0.00	0.0	0.000
13.333	0.000	0.00	0.00	0.00	0.0	0.000
13.417	0.000	0.00	0.00	0.00	0.0	0.000
13.500	0.000	0.00	0.00	0.00	0.0	0.000
13.583	0.000	0.00	0.00	0.00	0.0	0.000
13.667	0.000	0.01	0.00	0.00	0.0	0.000
13.750	0.000	0.01	0.00	0.00	0.0	0.000
13.833	0.000	0.01	0.00	0.00	0.0	0.000
13.917	0.000	0.01	0.00	0.00	0.0	0.000
14.000	0.000	0.01	0.00	0.00	0.0	0.000
14.083	0.000	0.01	0.00	0.00	0.0	0.000
14.167	0.000	0.01	0.00	0.00	0.0	0.000
14.250	0.000	0.01	0.00	0.00	0.0	0.000
14.333	0.000	0.01	0.00	0.00	0.0	0.000
14.417	0.000	0.01	0.00	0.00	0.0	0.000
14.500	0.000	0.01	0.00	0.00	0.0	0.000
14.583	0.000	0.01	0.00	0.00	0.0	0.001
14.667	0.000	0.01	0.00	0.00	0.0	0.001
14.750	0.000	0.01	0.00	0.00	0.0	0.001
14.833	0.000	0.01	0.00	0.00	0.0	0.001
14.917	0.000	0.01	0.00	0.00	0.0	0.001
15.000	0.000	0.01	0.00	0.00	0.0	0.001
15.083	0.000	0.01	0.00	0.00	0.0	0.001
15.167	0.000	0.01	0.00	0.00	0.0	0.001
15.250	0.000	0.01	0.00	0.00	0.0	0.001
15.333	0.000	0.01	0.00	0.00	0.0	0.001
15.417	0.000	0.01	0.00	0.00	0.0	0.001
15.500	0.000	0.01	0.00	0.00	0.0	0.001

15.583	0.000	0.01	0.00	0.00	0.0	0.001
15.667	0.000	0.01	0.00	0.00	0.0	0.001
15.750	0.000	0.01	0.00	0.00	0.0	0.001
15.833	0.000	0.01	0.00	0.00	0.0	0.002
15.917	0.000	0.01	0.00	0.00	0.0	0.002
16.000	0.000	0.01	0.00	0.00	0.0	0.002
16.083	0.000	0.01	0.00	0.00	0.0	0.002
16.167	0.000	0.01	0.00	0.00	0.0	0.002
16.250	0.000	0.01	0.00	0.00	0.0	0.002
16.333	0.000	0.02	0.00	0.00	0.0	0.002
16.417	0.000	0.02	0.00	0.00	0.0	0.002
16.500	0.000	0.02	0.00	0.00	0.0	0.002
16.583	0.000	31.48	0.00	0.26	0.2	0.218
16.667	0.000	91.67	0.00	0.79	1.4	0.839
16.750	0.000	152.15	0.00	1.50	4.6	1.855
16.833	0.000	220.83	0.00	1.93	7.9	3.322
16.917	0.000	279.62	0.00	2.49	10.7	5.174
17.000	0.000	293.10	0.00	3.06	14.0	7.096
17.083	0.000	278.04	0.00	3.56	17.0	8.894
17.167	0.000	247.70	0.00	3.90	18.8	10.470
17.250	0.000	196.91	0.00	4.16	19.7	11.690
17.333	0.000	158.80	0.00	4.36	20.4	12.643
17.417	0.000	140.97	0.00	4.54	21.0	13.470
17.500	0.000	126.42	0.00	4.69	21.4	14.193
17.583	0.000	111.61	0.00	4.82	21.9	14.811
17.667	0.000	98.38	0.00	4.93	22.2	15.335
17.750	0.000	86.49	0.00	5.03	22.5	15.776
17.833	0.000	75.29	0.00	5.11	22.8	16.138
17.917	0.000	64.73	0.00	5.17	23.0	16.425
18.000	0.000	55.22	0.00	5.21	23.1	16.646
18.083	0.000	46.77	0.00	5.25	23.3	16.808
18.167	0.000	38.60	0.00	5.27	23.3	16.913
18.250	0.000	31.33	0.00	5.28	23.4	16.968
18.333	0.000	25.60	0.00	5.28	23.4	16.983
18.417	0.000	21.01	0.00	5.28	23.4	16.966
18.500	0.000	17.18	0.00	5.27	23.4	16.923
18.583	0.000	13.90	0.00	5.26	23.4	16.858
18.667	0.000	11.03	0.00	5.24	23.3	16.774
18.750	0.000	8.43	0.00	5.22	23.3	16.672
18.833	0.000	6.03	0.00	5.19	23.2	16.553
18.917	0.000	4.00	0.00	5.17	23.1	16.422
19.000	0.000	2.58	0.00	5.14	23.0	16.281
19.083	0.000	1.66	0.00	5.10	22.9	16.135
19.167	0.000	1.07	0.00	5.07	22.8	15.985
19.250	0.000	0.69	0.00	5.04	22.7	15.833
19.333	0.000	0.44	0.00	5.01	22.6	15.680
19.417	0.000	0.29	0.00	4.97	22.6	15.526
19.500	0.000	0.18	0.00	4.94	22.5	15.373
19.583	0.000	0.12	0.00	4.91	22.4	15.220
19.667	0.000	0.08	0.00	4.88	22.3	15.067
19.750	0.000	0.05	0.00	4.84	22.2	14.915
19.833	0.000	0.03	0.00	4.81	22.1	14.763
19.917	0.000	0.03	0.00	4.78	22.0	14.612

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 21.582 AF
 BASIN STORAGE = 0.009 AF (WITH 0.000 AF INITIALLY FILLED)
 OUTFLOW VOLUME = 21.572 AF

LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 2 HYDROGRAPH<<<<<

STREAM HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	525.0	1050.0	1575.0	2100.0
10.000	118.6972	209.65	. Q V .	.	.	.	.
10.083	120.1520	211.25	. Q V .	.	.	.	.
10.167	121.6180	212.86	. Q V .	.	.	.	.
10.250	123.0954	214.52	. Q V .	.	.	.	.
10.333	124.5843	216.19	. Q V .	.	.	.	.
10.417	126.0852	217.92	. Q V .	.	.	.	.
10.500	127.5980	219.67	. Q V .	.	.	.	.
10.583	129.1233	221.47	. Q V .	.	.	.	.
10.667	130.6612	223.29	. Q V .	.	.	.	.
10.750	132.2120	225.18	. Q V .	.	.	.	.
10.833	133.7759	227.08	. Q V .	.	.	.	.
10.917	135.3534	229.05	. Q V .	.	.	.	.
11.000	136.9446	231.04	. Q V .	.	.	.	.
11.083	138.5500	233.10	. Q V .	.	.	.	.
11.167	140.1697	235.19	. Q V .	.	.	.	.
11.250	141.8044	237.35	. Q V .	.	.	.	.
11.333	143.4540	239.53	. Q V .	.	.	.	.
11.417	145.1193	241.80	. Q V .	.	.	.	.
11.500	146.8004	244.10	. Q V .	.	.	.	.
11.583	148.4979	246.48	. Q V .	.	.	.	.
11.667	150.2121	248.89	. Q V .	.	.	.	.
11.750	151.9435	251.40	. Q V .	.	.	.	.
11.833	153.6925	253.95	. Q V .	.	.	.	.
11.917	155.4596	256.59	. Q V .	.	.	.	.
12.000	157.2453	259.28	. Q V .	.	.	.	.
12.083	159.0538	262.60	. Q V .	.	.	.	.
12.167	160.8892	266.50	. Q V .	.	.	.	.
12.250	162.7547	270.88	. Q V .	.	.	.	.
12.333	164.6573	276.25	. Q V .	.	.	.	.
12.417	166.6093	283.44	. Q V .	.	.	.	.

12.500	168.6182	291.69	. Q V .	.	.	.	.
12.583	170.6880	300.53	. Q V .	.	.	.	.
12.667	172.8221	309.88	. Q V .	.	.	.	.
12.750	175.0273	320.18	. Q V .	.	.	.	.
12.833	177.3091	331.32	. Q V .	.	.	.	.
12.917	179.6759	343.67	. Q V .	.	.	.	.
13.000	182.1196	354.82	. Q V .	.	.	.	.
13.083	184.6437	366.51	. Q V .	.	.	.	.
13.167	187.2394	376.89	. Q V .	.	.	.	.
13.250	189.8992	386.21	. Q V .	.	.	.	.
13.333	192.6194	394.97	. Q V .	.	.	.	.
13.417	195.3971	403.33	. Q V .	.	.	.	.
13.500	198.2268	410.86	. Q V .	.	.	.	.
13.583	201.1000	417.19	. Q .V .	.	.	.	.
13.667	204.0135	423.05	. Q .V .	.	.	.	.
13.750	206.9669	428.83	. Q .V .	.	.	.	.
13.833	209.9595	434.52	. Q .V .	.	.	.	.
13.917	212.9912	440.20	. Q .V .	.	.	.	.
14.000	216.0628	446.00	. Q .V .	.	.	.	.
14.083	219.1820	452.91	. Q . V .	.	.	.	.
14.167	222.3550	460.71	. Q . V .	.	.	.	.
14.250	225.5885	469.51	. Q . V .	.	.	.	.
14.333	228.8961	480.25	. Q . V .	.	.	.	.
14.417	232.3016	494.49	. Q . V .	.	.	.	.
14.500	235.8192	510.75	. Q . V .	.	.	.	.
14.583	239.4570	528.21	. Q V .	.	.	.	.
14.667	243.2221	546.70	. Q V .	.	.	.	.
14.750	247.1275	567.07	. Q V .	.	.	.	.
14.833	251.1845	589.07	. Q V .	.	.	.	.
14.917	255.4095	613.47	. Q V .	.	.	.	.
15.000	259.7879	635.75	. Q V .	.	.	.	.
15.083	264.3289	659.35	. Q V .	.	.	.	.
15.167	269.0195	681.08	. Q V .	.	.	.	.
15.250	273.8521	701.68	. Q V .	.	.	.	.
15.333	278.8282	722.53	. Q V .	.	.	.	.
15.417	283.9359	741.64	. QV .	.	.	.	.
15.500	289.1586	758.33	. QV .	.	.	.	.
15.583	294.4969	775.13	. Q V .	.	.	.	.
15.667	299.9329	789.31	. QV .	.	.	.	.
15.750	305.4304	798.23	. QV .	.	.	.	.
15.833	310.9870	806.83	. Q V .	.	.	.	.
15.917	316.6559	823.12	. Q V .	.	.	.	.
16.000	322.5377	854.04	. QV .	.	.	.	.
16.083	329.0514	945.79	. Q .	.	.	.	.
16.167	336.2453	1044.56	. VQ .	.	.	.	.
16.250	344.0909	1139.17	. V .Q .	.	.	.	.
16.333	353.1127	1309.97	. V . Q .	.	.	.	.
16.417	363.7546	1545.22	. V . Q .	.	.	.	.
16.500	375.2284	1665.99	. V . Q .	.	.	.	.
16.583	387.1049	1724.46	. V . Q .	.	.	.	.
16.667	399.3850	1783.08	. V . Q .	.	.	.	.
16.750	412.2671	1870.47	. V . Q .	.	.	.	.
16.833	425.6613	1944.85	. V . Q .	.	.	.	.
16.917	439.4810	2006.62	. V . Q .	.	.	.	.
17.000	452.6511	1912.30	. V . Q .	.	.	.	.
17.083	465.6946	1893.92	. V . Q .	.	.	.	.
17.167	477.8506	1765.05	. V . Q .	.	.	.	.
17.250	489.1450	1639.94	. V . Q .	.	.	.	.

17.333	499.5099	1504.98	.	.	.	VQ	.
17.417	508.9974	1377.60	.	.	.	Q V	.
17.500	517.4286	1224.20	.	.	.	Q V	.
17.583	525.1493	1121.05	.	.	.	Q V	.
17.667	532.3864	1050.83	.	.	.	Q V	.
17.750	539.0130	962.18	.	.	.	Q V	.
17.833	545.0971	883.41	.	.	.	Q V	.
17.917	550.6351	804.12	.	.	.	Q V	.
18.000	555.8408	755.87	.	.	.	Q V	.
18.083	560.6202	693.97	.	.	.	Q V	.
18.167	564.9372	626.82	.	.	.	Q V	.
18.250	569.0629	599.06	.	.	.	Q V	.
18.333	573.0378	577.16	.	.	.	Q V	.
18.417	576.8697	556.38	.	.	.	Q V	.
18.500	580.5614	536.04	.	.	.	Q V	.
18.583	584.1254	517.50	.	.	.	Q V	.
18.667	587.5666	499.66	.	.	.	Q V	.
18.750	590.8879	482.25	.	.	.	Q V	.
18.833	594.0866	464.45	.	.	.	Q V	.
18.917	597.1301	441.91	.	.	.	Q V	.
19.000	599.9613	411.10	.	.	.	Q V	.
19.083	602.5701	378.79	.	.	.	Q V	.
19.167	605.0732	363.46	.	.	.	Q V	.
19.250	607.4917	351.16	.	.	.	Q V	.
19.333	609.8316	339.75	.	.	.	Q V	.
19.417	612.0966	328.88	.	.	.	Q V	.
19.500	614.2974	319.56	.	.	.	Q V	.
19.583	616.4407	311.21	.	.	.	Q V	.
19.667	618.5305	303.43	.	.	.	Q V	.
19.750	620.5717	296.37	.	.	.	Q V	.
19.833	622.5680	289.87	.	.	.	Q V	.
19.917	624.5236	283.95	.	.	.	Q V	.
20.000	626.4415	278.48	.	.	.	Q V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	770.0
20%	340.0
30%	200.0
40%	130.0
50%	95.0
60%	75.0
70%	60.0
80%	50.0
90%	25.0

FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<
=====

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:

BASEWIDTH(FT) = 50.00 CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 427.51
DOWNSTREAM ELEVATION(FT) = 315.00
CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040
CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:

MAXIMUM INFLOW(CFS) = 2006.62
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 1553.91
CHANNEL NORMAL VELOCITY FOR Q = 1553.91 CFS = 7.89 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.823

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
UNIT INTERVALS IS CSTAR = 0.600

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 2) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS
			LOSS (STREAM 2) (CFS)
10.000	209.65	203.55	203.55
10.083	211.25	205.01	205.01
10.167	212.86	206.51	206.51
10.250	214.52	208.03	208.03
10.333	216.19	209.59	209.59
10.417	217.92	211.17	211.17
10.500	219.67	212.79	212.79
10.583	221.47	214.44	214.44
10.667	223.29	216.12	216.12
10.750	225.18	217.84	217.84
10.833	227.08	219.60	219.60
10.917	229.05	221.39	221.39
11.000	231.04	223.22	223.22
11.083	233.10	225.09	225.09
11.167	235.19	227.01	227.01
11.250	237.35	228.96	228.96
11.333	239.53	230.96	230.96
11.417	241.80	233.01	233.01
11.500	244.10	235.11	235.11
11.583	246.48	237.25	237.25
11.667	248.89	239.45	239.45
11.750	251.40	241.70	241.70
11.833	253.95	244.01	244.01
11.917	256.59	246.37	246.37
12.000	259.28	248.80	248.80
12.083	262.60	251.29	251.29
12.167	266.50	253.85	253.85

12.250	270.88	256.48	256.48
12.333	276.25	259.37	259.37
12.417	283.44	262.73	262.73
12.500	291.69	266.59	266.59
12.583	300.53	271.13	271.13
12.667	309.88	276.83	276.83
12.750	320.18	283.81	283.81
12.833	331.32	291.77	291.77
12.917	343.67	300.45	300.45
13.000	354.82	309.88	309.88
13.083	366.51	320.13	320.13
13.167	376.89	331.36	331.36
13.250	386.21	342.83	342.83
13.333	394.97	354.30	354.30
13.417	403.33	365.42	365.42
13.500	410.86	375.71	375.71
13.583	417.19	385.21	385.21
13.667	423.05	394.12	394.12
13.750	428.83	402.40	402.40
13.833	434.52	409.79	409.79
13.917	440.20	416.38	416.38
14.000	446.00	422.50	422.50
14.083	452.91	428.38	428.38
14.167	460.71	434.14	434.14
14.250	469.51	439.90	439.90
14.333	480.25	446.09	446.09
14.417	494.49	453.03	453.03
14.500	510.75	460.86	460.86
14.583	528.21	469.98	469.98
14.667	546.70	481.35	481.35
14.750	567.07	495.18	495.18
14.833	589.07	510.91	510.91
14.917	613.47	528.05	528.05
15.000	635.75	546.69	546.69
15.083	659.35	566.97	566.97
15.167	681.08	589.15	589.15
15.250	701.68	611.89	611.89
15.333	722.53	634.84	634.84
15.417	741.64	657.49	657.49
15.500	758.33	679.18	679.18
15.583	775.13	700.31	700.31
15.667	789.31	720.64	720.64
15.750	798.23	739.34	739.34
15.833	806.83	756.88	756.88
15.917	823.12	773.02	773.02
16.000	854.04	786.06	786.06
16.083	945.79	796.51	796.51
16.167	1044.56	808.66	808.66
16.250	1139.17	828.64	828.64
16.333	1309.97	877.42	877.42
16.417	1545.22	954.57	954.57
16.500	1665.99	1043.17	1043.17
16.583	1724.46	1163.23	1163.23
16.667	1783.08	1337.30	1337.30
16.750	1870.47	1506.26	1506.26
16.833	1944.85	1623.52	1623.52
16.917	2006.62	1705.54	1705.54
17.000	1912.30	1784.03	1784.03

17.083	1893.92	1863.11	1863.11
17.167	1765.05	1934.76	1934.76
17.250	1639.94	1943.42	1943.42
17.333	1504.98	1918.02	1918.02
17.417	1377.60	1856.45	1856.45
17.500	1224.20	1755.85	1755.85
17.583	1121.05	1636.94	1636.94
17.667	1050.83	1511.16	1511.16
17.750	962.18	1374.91	1374.91
17.833	883.41	1246.74	1246.74
17.917	804.12	1145.62	1145.62
18.000	755.87	1056.31	1056.31
18.083	693.97	971.01	971.01
18.167	626.82	889.44	889.44
18.250	599.06	820.59	820.59
18.333	577.16	759.11	759.11
18.417	556.38	695.46	695.46
18.500	536.04	644.11	644.11
18.583	517.50	609.06	609.06
18.667	499.66	582.32	582.32
18.750	482.25	559.31	559.31
18.833	464.45	538.56	538.56
18.917	441.91	519.40	519.40
19.000	411.10	501.18	501.18
19.083	378.79	483.31	483.31
19.167	363.46	463.75	463.75
19.250	351.16	439.38	439.38
19.333	339.75	410.59	410.59
19.417	328.88	385.90	385.90
19.500	319.56	367.93	367.93
19.583	311.21	353.69	353.69
19.667	303.43	341.35	341.35
19.750	296.37	330.46	330.46
19.833	289.87	320.86	320.86
19.917	283.95	312.23	312.23
20.000	278.48	304.37	304.37

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PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 724.654 AF
 OUTFLOW VOLUME = 724.654 AF
 LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 100.00 TO NODE 13305.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

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(UNIT-HYDROGRAPH ADDED TO STREAM #1)

WATERSHED AREA = 510.200 ACRES
 BASEFLOW = 0.000 CFS/SQUARE-MILE
 *USER ENTERED "LAG" TIME = 0.283 HOURS
 CAUTION: LAG TIME IS LESS THAN 0.50 HOURS.
 THE 5-MINUTE PERIOD UH MODEL (USED IN THIS COMPUTER PROGRAM)
 MAY BE TOO LARGE FOR PEAK FLOW ESTIMATES.
 VALLEY (DEVELOPED) S-GRAPH SELECTED

MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.130
 LOW LOSS FRACTION = 0.316
 HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.35
 SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.73
 SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.97
 SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.62
 SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.24
 SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 3.75

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
 5-MINUTE FACTOR = 0.754
 30-MINUTE FACTOR = 0.754
 1-HOUR FACTOR = 0.754
 3-HOUR FACTOR = 0.961
 6-HOUR FACTOR = 0.979
 24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
 UNIT INTERVAL PERCENTAGE OF LAG-TIME = 29.446

RUNOFF HYDROGRAPH LISTING LIMITS:
 MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
 MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	1.828	112.770
2	10.526	536.736
3	28.125	1085.868
4	51.719	1455.788
5	73.613	1350.911
6	86.628	803.098
7	93.373	416.153
8	96.880	216.419
9	98.287	86.777
10	98.839	34.071
11	99.367	32.561
12	99.747	23.449
13	99.937	11.724
14	100.000	3.908

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 44.5362
 TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 112.6538

24 - HOUR STORM
 RUNOFF HYDROGRAPH

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
 (Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	150.0	300.0	450.0	600.0
10.000	21.1828	36.26	. Q	V	.	.	.
10.083	21.4345	36.56	. Q	V	.	.	.
10.167	21.6884	36.86	. Q	V	.	.	.
10.250	21.9444	37.17	. Q	V	.	.	.
10.333	22.2026	37.49	. Q	V	.	.	.
10.417	22.4631	37.82	. Q	V	.	.	.
10.500	22.7259	38.15	. Q	V	.	.	.
10.583	22.9910	38.50	. Q	V	.	.	.
10.667	23.2585	38.85	. Q	V	.	.	.
10.750	23.5285	39.21	. Q	V	.	.	.
10.833	23.8011	39.57	. Q	V	.	.	.
10.917	24.0762	39.95	. Q	V	.	.	.
11.000	24.3540	40.33	. Q	V	.	.	.
11.083	24.6345	40.73	. Q	V	.	.	.
11.167	24.9178	41.14	. Q	V	.	.	.
11.250	25.2040	41.55	. Q	V	.	.	.
11.333	25.4931	41.98	. Q	V	.	.	.
11.417	25.7852	42.42	. Q	V	.	.	.
11.500	26.0805	42.87	. Q	V	.	.	.
11.583	26.3789	43.34	. Q	V	.	.	.
11.667	26.6807	43.81	. Q	V	.	.	.
11.750	26.9858	44.31	. Q	V	.	.	.
11.833	27.2944	44.81	. Q	V	.	.	.
11.917	27.6066	45.33	. Q	V	.	.	.
12.000	27.9226	45.87	. Q	V	.	.	.
12.083	28.2442	46.71	. Q	V	.	.	.
12.167	28.5791	48.62	. Q	V	.	.	.
12.250	28.9367	51.92	. Q	V	.	.	.
12.333	29.3235	56.17	. Q	V	.	.	.
12.417	29.7381	60.19	. Q	V	.	.	.
12.500	30.1711	62.87	. Q	V	.	.	.
12.583	30.6161	64.62	. Q	V	.	.	.
12.667	31.0700	65.90	. Q	.V	.	.	.
12.750	31.5307	66.89	. Q	.V	.	.	.
12.833	31.9973	67.76	. Q	.V	.	.	.
12.917	32.4703	68.67	. Q	.V	.	.	.
13.000	32.9495	69.58	. Q	.V	.	.	.
13.083	33.4350	70.50	. Q	.V	.	.	.
13.167	33.9269	71.43	. Q	.V	.	.	.
13.250	34.4254	72.38	. Q	.V	.	.	.
13.333	34.9308	73.38	. Q	.V	.	.	.
13.417	35.4433	74.42	. Q	.V	.	.	.
13.500	35.9634	75.51	. Q	.V	.	.	.
13.583	36.4912	76.64	. Q	.V	.	.	.
13.667	37.0272	77.83	. Q	.V	.	.	.
13.750	37.5718	79.07	. Q	.V	.	.	.
13.833	38.1253	80.38	. Q	.V	.	.	.

13.917	38.6884	81.75	.	Q	.	V	.	.	.
14.000	39.2613	83.19	.	Q	.	V	.	.	.
14.083	39.8492	85.36	.	Q	.	V	.	.	.
14.167	40.4692	90.03	.	Q	.	V	.	.	.
14.250	41.1435	97.90	.	Q	.	V	.	.	.
14.333	41.8869	107.94	.	Q	.	V	.	.	.
14.417	42.6956	117.42	.	Q	.	V	.	.	.
14.500	43.5483	123.81	.	Q	.	V	.	.	.
14.583	44.4304	128.07	.	Q	.	V	.	.	.
14.667	45.3346	131.29	.	Q	.	V	.	.	.
14.750	46.2567	133.90	.	Q	.	V	.	.	.
14.833	47.1958	136.35	.	Q	.	V	.	.	.
14.917	48.1533	139.03	.	Q	.	V	.	.	.
15.000	49.1315	142.04	.	Q	.	V	.	.	.
15.083	50.1337	145.52	.	Q	.	V	.	.	.
15.167	51.1640	149.61	.	Q	.	V	.	.	.
15.250	52.2270	154.34	.	Q	.	V	.	.	.
15.333	53.3271	159.72	.	Q	.	V	.	.	.
15.417	54.4577	164.17	.	Q	.	V	.	.	.
15.500	55.5819	163.23	.	Q	.	V	.	.	.
15.583	56.6502	155.12	.	Q	.	V	.	.	.
15.667	57.6319	142.53	.	Q	.	V	.	.	.
15.750	58.5484	133.08	.	Q	.	V	.	.	.
15.833	59.4795	135.20	.	Q	.	V	.	.	.
15.917	60.5131	150.08	.	Q	.	V	.	.	.
16.000	61.7641	181.64	.	.	Q	.	V	.	.
16.083	63.5104	253.57	.	.	.	Q	.	V	.
16.167	66.1949	389.80	.	.	.	.	V	Q	.
16.250	69.8520	531.01	.	.	.	.	V	.	Q
16.333	73.9658	597.31	.	.	.	.	.	V	Q
16.417	77.6556	535.76	.	.	.	.	.	V	Q
16.500	80.2904	382.58	.	.	.	.	Q	V	.
16.583	82.1767	273.88	.	.	Q	.	.	V	.
16.667	83.6847	218.97	.	.	.	Q	.	V	.
16.750	84.9748	187.32	.	.	Q	.	.	V	.
16.833	86.1490	170.48	.	.	.	Q	.	V	.
16.917	87.2699	162.76	.	.	Q	.	.	V	.
17.000	88.3288	153.76	.	.	Q	.	.	V	.
17.083	89.3199	143.90	.	.	Q	.	.	V	.
17.167	90.2387	133.41	.	.	Q	.	.	V	.
17.250	91.0779	121.85	.	.	Q	.	.	V	.
17.333	91.8328	109.61	.	.	Q	.	.	V	.
17.417	92.5099	98.32	.	.	Q	.	.	V	.
17.500	93.1325	90.41	.	.	Q	.	.	V	.
17.583	93.7177	84.97	.	.	Q	.	.	V	.
17.667	94.2753	80.96	.	.	Q	.	.	V	.
17.750	94.8121	77.95	.	.	Q	.	.	V	.
17.833	95.3318	75.46	.	.	Q	.	.	V	.
17.917	95.8358	73.18	.	.	Q	.	.	V	.
18.000	96.3256	71.11	.	.	Q	.	.	V	.
18.083	96.8006	68.97	.	.	Q	.	.	V	.
18.167	97.2548	65.96	.	.	Q	.	.	V	.
18.250	97.6799	61.72	.	.	Q	.	.	V	.
18.333	98.0702	56.68	.	.	Q	.	.	V	.
18.417	98.4284	52.00	.	.	Q	.	.	V	.
18.500	98.7645	48.80	.	.	Q	.	.	V	.
18.583	99.0856	46.63	.	.	Q	.	.	V	.
18.667	99.3958	45.04	.	.	Q	.	.	V	.

18.750	99.6977	43.84	.	Q	.	.	.	.	V	.
18.833	99.9926	42.82	.	Q	.	.	.	.	V	.
18.917	100.2809	41.86	.	Q	.	.	.	.	V	.
19.000	100.5630	40.96	.	Q	.	.	.	.	V	.
19.083	100.8395	40.14	.	Q	.	.	.	.	V	.
19.167	101.1107	39.38	.	Q	.	.	.	.	V	.
19.250	101.3769	38.66	.	Q	.	.	.	.	V	.
19.333	101.6384	37.97	.	Q	.	.	.	.	V	.
19.417	101.8954	37.32	.	Q	.	.	.	.	V	.
19.500	102.1482	36.69	.	Q	.	.	.	.	V	.
19.583	102.3968	36.10	.	Q	.	.	.	.	V	.
19.667	102.6414	35.52	.	Q	.	.	.	.	V	.
19.750	102.8823	34.97	.	Q	.	.	.	.	V	.
19.833	103.1195	34.44	.	Q	.	.	.	.	V	.
19.917	103.3532	33.93	.	Q	.	.	.	.	V	.
20.000	103.5835	33.44	.	Q	.	.	.	.	V	.

 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	355.0
20%	170.0
30%	50.0
40%	35.0
50%	25.0
60%	25.0
70%	15.0
80%	15.0
90%	5.0

 FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 7

 >>>>STREAM NUMBER 1 ADDED TO STREAM NUMBER 2<<<<<
 =====

 FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6

 >>>>STREAM NUMBER 1 CLEARED AND SET TO ZERO<<<<<
 =====

 FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 1

 >>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<
 =====

(UNIT-HYDROGRAPH ADDED TO STREAM #3)

WATERSHED AREA = 810.600 ACRES
 BASEFLOW = 0.000 CFS/SQUARE-MILE
 *USER ENTERED "LAG" TIME = 0.509 HOURS
 VALLEY (DEVELOPED) S-GRAPH SELECTED
 MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.282
 LOW LOSS FRACTION = 0.465
 HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.35
 SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.73
 SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.97
 SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.62
 SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.24
 SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 3.75

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
 5-MINUTE FACTOR = 0.754
 30-MINUTE FACTOR = 0.754
 1-HOUR FACTOR = 0.754
 3-HOUR FACTOR = 0.961
 6-HOUR FACTOR = 0.979
 24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
 UNIT INTERVAL PERCENTAGE OF LAG-TIME = 16.372

RUNOFF HYDROGRAPH LISTING LIMITS:
 MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
 MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

=====

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.936	91.713
2	3.292	231.040
3	8.667	526.848
4	17.536	869.457
5	27.992	1025.079
6	40.492	1225.395
7	54.668	1389.647
8	67.691	1276.734
9	77.525	964.045
10	84.670	700.428
11	89.530	476.462
12	92.937	333.974
13	95.368	238.254
14	96.904	150.577
15	97.984	105.892
16	98.352	36.078
17	98.659	30.097
18	98.966	30.102
19	99.273	30.068

20	99.579	30.068
21	99.886	30.068
22	100.000	11.167

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 107.8742
 TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 141.8867

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)

(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	150.0	300.0	450.0	600.0
10.000	25.4454	44.05	. Q	V .	.	.	.
10.083	25.7513	44.40	. Q	V .	.	.	.
10.167	26.0595	44.76	. Q	V .	.	.	.
10.250	26.3703	45.13	. Q	V .	.	.	.
10.333	26.6837	45.50	. Q	V .	.	.	.
10.417	26.9997	45.88	. Q	V .	.	.	.
10.500	27.3184	46.27	. Q	V .	.	.	.
10.583	27.6398	46.67	. Q	V .	.	.	.
10.667	27.9641	47.08	. Q	V .	.	.	.
10.750	28.2912	47.50	. Q	V .	.	.	.
10.833	28.6213	47.93	. Q	V .	.	.	.
10.917	28.9544	48.36	. Q	V .	.	.	.
11.000	29.2906	48.81	. Q	V .	.	.	.
11.083	29.6299	49.27	. Q	V .	.	.	.
11.167	29.9725	49.74	. Q	V .	.	.	.
11.250	30.3184	50.22	. Q	V .	.	.	.
11.333	30.6677	50.72	. Q	V .	.	.	.
11.417	31.0205	51.23	. Q	V .	.	.	.
11.500	31.3769	51.75	. Q	V .	.	.	.
11.583	31.7370	52.28	. Q	V .	.	.	.
11.667	32.1008	52.83	. Q	V .	.	.	.
11.750	32.4686	53.40	. Q	V .	.	.	.
11.833	32.8404	53.98	. Q	V .	.	.	.
11.917	33.2163	54.58	. Q	V .	.	.	.
12.000	33.5964	55.20	. Q	V .	.	.	.
12.083	33.9821	56.01	. Q	V .	.	.	.
12.167	34.3755	57.11	. Q	V .	.	.	.
12.250	34.7806	58.82	. Q	V .	.	.	.
12.333	35.2022	61.21	. Q	V .	.	.	.
12.417	35.6425	63.94	. Q	V .	.	.	.
12.500	36.1045	67.08	. Q	V .	.	.	.
12.583	36.5906	70.58	. Q	V .	.	.	.
12.667	37.0995	73.89	. Q	V .	.	.	.
12.750	37.6272	76.62	. Q	V .	.	.	.
12.833	38.1704	78.88	. Q	V .	.	.	.
12.917	38.7264	80.73	. Q	V .	.	.	.
13.000	39.2934	82.34	. Q	.V	.	.	.
13.083	39.8706	83.80	. Q	.V	.	.	.
13.167	40.4568	85.12	. Q	.V	.	.	.
13.250	41.0519	86.40	. Q	.V	.	.	.
13.333	41.6551	87.59	. Q	.V	.	.	.
13.417	42.2667	88.81	. Q	.V	.	.	.
13.500	42.8871	90.07	. Q	.V	.	.	.
13.583	43.5164	91.39	. Q	.V	.	.	.
13.667	44.1553	92.76	. Q	.V	.	.	.
13.750	44.8039	94.19	. Q	.V	.	.	.
13.833	45.4626	95.64	. Q	.V	.	.	.

13.917	46.1316	97.14	. Q	. V	.	.	.
14.000	46.8115	98.72	. Q	. V	.	.	.
14.083	47.5056	100.78	. Q	. V	.	.	.
14.167	48.2187	103.55	. Q	. V	.	.	.
14.250	48.9606	107.72	. Q	. V	.	.	.
14.333	49.7423	113.51	. Q	. V	.	.	.
14.417	50.5692	120.07	. Q	. V	.	.	.
14.500	51.4480	127.60	. Q	. V	.	.	.
14.583	52.3843	135.95	. Q	. V	.	.	.
14.667	53.3751	143.87	. Q	. V	.	.	.
14.750	54.4115	150.49	. Q	. V	.	.	.
14.833	55.4861	156.04	. Q	. V	.	.	.
14.917	56.5931	160.73	. Q	. V	.	.	.
15.000	57.7292	164.95	. Q	. V	.	.	.
15.083	58.8927	168.94	. Q	. V	.	.	.
15.167	60.0824	172.76	. Q	. V	.	.	.
15.250	61.2990	176.64	. Q	. V	.	.	.
15.333	62.5422	180.51	. Q	. V	.	.	.
15.417	63.8085	183.87	. Q	. V	.	.	.
15.500	65.0921	186.37	. Q	. V	.	.	.
15.583	66.3777	186.68	. Q	. V	.	.	.
15.667	67.6486	184.53	. Q	. V	.	.	.
15.750	68.9030	182.15	. Q	. V	.	.	.
15.833	70.1392	179.49	. Q	. V	.	.	.
15.917	71.3706	178.80	. Q	. V	.	.	.
16.000	72.6508	185.89	. Q	. V	.	.	.
16.083	74.1742	221.20	. Q	. V	.	.	.
16.167	76.0821	277.03	. Q	. V	.	.	.
16.250	78.6071	366.63	. Q	. V	. Q	.	.
16.333	81.7679	458.95	. Q	. V	. Q	.	.
16.417	85.2764	509.42	. Q	. V	. Q	. Q	.
16.500	89.1208	558.21	. Q	. V	. Q	. Q	.
16.583	93.1355	582.93	. Q	. V	. Q	. Q	.
16.667	96.8568	540.34	. Q	. V	. Q	. Q	.
16.750	99.9824	453.84	. Q	. V	. Q	. Q	.
16.833	102.5946	379.29	. Q	. V	. Q	. Q	.
16.917	104.7928	319.18	. Q	. V	. Q	. Q	.
17.000	106.7135	278.88	. Q	. V	. Q	. Q	.
17.083	108.4254	248.57	. Q	. V	. Q	. Q	.
17.167	109.9442	220.53	. Q	. V	. Q	. Q	.
17.250	111.3221	200.08	. Q	. V	. Q	. Q	.
17.333	112.5323	175.72	. Q	. V	. Q	. Q	.
17.417	113.6660	164.61	. Q	. V	. Q	. Q	.
17.500	114.7296	154.44	. Q	. V	. Q	. Q	.
17.583	115.7203	143.84	. Q	. V	. Q	. Q	.
17.667	116.6384	133.31	. Q	. V	. Q	. Q	.
17.750	117.4918	123.91	. Q	. V	. Q	. Q	.
17.833	118.2667	112.51	. Q	. V	. Q	. Q	.
17.917	118.9858	104.42	. Q	. V	. Q	. Q	.
18.000	119.6729	99.75	. Q	. V	. Q	. Q	.
18.083	120.3324	95.77	. Q	. V	. Q	. Q	.
18.167	120.9661	92.01	. Q	. V	. Q	. Q	.
18.250	121.5723	88.02	. Q	. V	. Q	. Q	.
18.333	122.1499	83.87	. Q	. V	. Q	. Q	.
18.417	122.6983	79.63	. Q	. V	. Q	. Q	.
18.500	123.2160	75.17	. Q	. V	. Q	. Q	.
18.583	123.7018	70.53	. Q	. V	. Q	. Q	.
18.667	124.1580	66.25	. Q	. V	. Q	. Q	.

18.750	124.5898	62.70	. Q	.	.	.	V	.
18.833	125.0020	59.84	. Q	.	.	.	V	.
18.917	125.3985	57.57	. Q	.	.	.	V	.
19.000	125.7818	55.66	. Q	.	.	.	V	.
19.083	126.1538	54.02	. Q	.	.	.	V	.
19.167	126.5161	52.61	. Q	.	.	.	V	.
19.250	126.8697	51.34	. Q	.	.	.	V	.
19.333	127.2160	50.27	. Q	.	.	.	V	.
19.417	127.5553	49.27	. Q	.	.	.	V	.
19.500	127.8880	48.30	. Q	.	.	.	V	.
19.583	128.2143	47.39	. Q	.	.	.	V	.
19.667	128.5346	46.51	. Q	.	.	.	V	.
19.750	128.8491	45.66	. Q	.	.	.	V	.
19.833	129.1583	44.89	. Q	.	.	.	V	.
19.917	129.4625	44.18	. Q	.	.	.	V	.
20.000	129.7620	43.49	. Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	400.0
20%	205.0
30%	130.0
40%	60.0
50%	45.0
60%	40.0
70%	30.0
80%	20.0
90%	15.0

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
=====

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
=====

FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 2 HYDROGRAPH<<<<<
=====

STREAM HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	575.0	1150.0	1725.0	2300.0
-----	-----	-----	-----	-----	-----	-----	-----
10.000	159.5398	283.86	. Q V	.	.	.	.
10.083	161.5093	285.97	. Q V	.	.	.	.
10.167	163.4937	288.13	. QV	.	.	.	.
10.250	165.4933	290.34	. QV	.	.	.	.
10.333	167.5083	292.58	. QV	.	.	.	.
10.417	169.5392	294.88	. QV	.	.	.	.
10.500	171.5861	297.22	. Q V	.	.	.	.
10.583	173.6496	299.61	. Q V	.	.	.	.
10.667	175.7298	302.05	. Q V	.	.	.	.
10.750	177.8272	304.55	. Q V	.	.	.	.
10.833	179.9422	307.10	. Q V	.	.	.	.
10.917	182.0752	309.70	. Q V	.	.	.	.
11.000	184.2265	312.37	. Q V	.	.	.	.
11.083	186.3965	315.09	. Q V	.	.	.	.
11.167	188.5858	317.88	. Q V	.	.	.	.
11.250	190.7947	320.74	. Q V	.	.	.	.
11.333	193.0238	323.66	. Q V	.	.	.	.
11.417	195.2735	326.66	. Q V	.	.	.	.
11.500	197.5444	329.73	. Q V	.	.	.	.
11.583	199.8369	332.87	. Q V	.	.	.	.
11.667	202.1516	336.10	. Q V	.	.	.	.
11.750	204.4891	339.41	. Q V	.	.	.	.
11.833	206.8500	342.80	. Q V	.	.	.	.
11.917	209.2349	346.29	. Q V	.	.	.	.
12.000	211.6445	349.87	. Q V	.	.	.	.
12.083	214.0826	354.01	. Q V	.	.	.	.
12.167	216.5591	359.59	. Q V	.	.	.	.
12.250	219.0881	367.22	. Q V	.	.	.	.
12.333	221.6829	376.76	. Q V	.	.	.	.
12.417	224.3472	386.86	. Q V	.	.	.	.
12.500	227.0783	396.55	. Q V	.	.	.	.
12.583	229.8767	406.33	. Q V	.	.	.	.
12.667	232.7460	416.62	. Q V	.	.	.	.
12.750	235.6889	427.32	. Q V	.	.	.	.
12.833	238.7083	438.41	. Q V	.	.	.	.
12.917	241.8064	449.84	. Q V	.	.	.	.
13.000	244.9868	461.79	. Q V	.	.	.	.
13.083	248.2542	474.43	. Q V	.	.	.	.
13.167	251.6145	487.91	. Q V	.	.	.	.
13.250	255.0692	501.61	. Q V	.	.	.	.
13.333	258.6178	515.27	. Q V	.	.	.	.
13.417	262.2587	528.65	. QV	.	.	.	.
13.500	265.9866	541.29	. QV	.	.	.	.
13.583	269.7968	553.24	. Q.V	.	.	.	.
13.667	273.6860	564.71	. Q.V	.	.	.	.
13.750	277.6506	575.66	. QV	.	.	.	.
13.833	281.6852	585.81	. QV	.	.	.	.
13.917	285.7848	595.27	. QV	.	.	.	.
14.000	289.9474	604.40	. QV	.	.	.	.
14.083	294.1796	614.52	. Q V	.	.	.	.
14.167	298.5027	627.72	. Q V	.	.	.	.
14.250	302.9485	645.53	. QV	.	.	.	.
14.333	307.5458	667.54	. QV	.	.	.	.
14.417	312.3015	690.52	. Q	.	.	.	.
14.500	317.2070	712.27	. Q	.	.	.	.

14.583	322.2621	734.00	.	.	QV	.	.	.
14.667	327.4722	756.51	.	.	Q	.	.	.
14.750	332.8411	779.56	.	.	Q	.	.	.
14.833	338.3734	803.30	.	.	Q	.	.	.
14.917	344.0746	827.82	.	.	Q	.	.	.
15.000	349.9540	853.68	.	.	Q	.	.	.
15.083	356.0244	881.42	.	.	VQ	.	.	.
15.167	362.3021	911.52	.	.	VQ	.	.	.
15.250	368.7957	942.88	.	.	VQ	.	.	.
15.333	375.5111	975.08	.	.	VQ	.	.	.
15.417	382.4364	1005.54	.	.	V Q	.	.	.
15.500	389.5216	1028.78	.	.	V Q	.	.	.
15.583	396.6987	1042.11	.	.	V Q	.	.	.
15.667	403.9143	1047.70	.	.	V Q	.	.	.
15.750	411.1772	1054.57	.	.	V Q	.	.	.
15.833	418.5571	1071.57	.	.	VQ	.	.	.
15.917	426.1459	1101.90	.	.	V Q.	.	.	.
16.000	434.0907	1153.58	.	.	V Q	.	.	.
16.083	442.8460	1271.27	.	.	V . Q	.	.	.
16.167	453.0078	1475.49	.	.	V . Q	.	.	.
16.250	464.8967	1726.28	.	.	V . Q	.	.	.
16.333	478.2141	1933.69	.	.	V . Q	.	.	.
16.417	491.9865	1999.75	.	.	V . Q	.	.	.
16.500	505.6501	1983.96	.	.	V . Q	.	.	.
16.583	519.5623	2020.05	.	.	.V . Q	.	.	.
16.667	534.0018	2096.62	.	.	.V . Q	.	.	.
16.750	548.7912	2147.42	.	.	.V . Q	.	.	.
16.833	563.7588	2173.29	.	.	.V . Q	.	.	.
16.917	578.8240	2187.48	.	.	.V . Q	.	.	.
17.000	594.0903	2216.67	.	.	.V . Q	.	.	.
17.083	609.6246	2255.57	.	.	.V . Q	.	.	.
17.167	625.3870	2288.70	.	.	.V . Q	.	.	.
17.250	640.9885	2265.34	.	.	.V . Q	.	.	.
17.333	656.1630	2203.35	.	.	.V . Q	.	.	.
17.417	670.7593	2119.38	.	.	.V . Q	.	.	.
17.500	684.5381	2000.69	.	.	.V . Q	.	.	.
17.583	697.3876	1865.75	.	.	.V . Q	.	.	.
17.667	709.2708	1725.44	.	.	.V Q	.	.	.
17.750	720.1301	1576.78	.	.	Q V.	.	.	.
17.833	730.0110	1434.71	.	.	Q V.	.	.	.
17.917	739.1241	1323.22	.	.	Q V	.	.	.
18.000	747.5758	1227.18	.	.	.Q V	.	.	.
18.083	755.3978	1135.75	.	.	.Q V	.	.	.
18.167	762.6113	1047.41	.	.	.Q V	.	.	.
18.250	769.2940	970.32	.	.	.Q V	.	.	.
18.333	775.4900	899.66	.	.	.Q V	.	.	.
18.417	781.1863	827.10	.	.	.Q V	.	.	.
18.500	786.4761	768.07	.	.	.Q V	.	.	.
18.583	791.4777	726.23	.	.	.Q V	.	.	.
18.667	796.2546	693.61	.	.	.Q V	.	.	.
18.750	800.8403	665.84	.	.	.Q V	.	.	.
18.833	805.2565	641.23	.	.	.Q V	.	.	.
18.917	809.5184	618.83	.	.	.Q V	.	.	.
19.000	813.6355	597.81	.	.	.Q V	.	.	.
19.083	817.6125	577.47	.	.	.Q V	.	.	.
19.167	821.4399	555.73	.	.	.Q V	.	.	.
19.250	825.0858	529.38	.	.	.Q V	.	.	.
19.333	828.5214	498.84	.	.	.Q V	.	.	.

19.417	831.7754	472.49	.	.	Q .	.	.	V .
19.500	834.8948	452.93	.	.	Q .	.	.	V .
19.583	837.9056	437.18	.	.	Q .	.	.	V .
19.667	840.8215	423.38	.	.	Q .	.	.	V .
19.750	843.6527	411.09	.	.	Q .	.	.	V .
19.833	846.4089	400.20	.	.	Q .	.	.	V .
19.917	849.0972	390.34	.	.	Q .	.	.	V .
20.000	851.7233	381.30	.	.	Q .	.	.	V .

 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	995.0
20%	390.0
30%	260.0
40%	185.0
50%	125.0
60%	105.0
70%	90.0
80%	80.0
90%	50.0

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END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - COMPLEX UH *
* ULTIMATE CONDITION - LOCAL NODE 133T *
* 25-YR EV AUGUST 2018 ROKAMOTO *

FILE NAME: EV2533TC.DAT
TIME/DATE OF STUDY: 14:35 08/30/2018

FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

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(UNIT-HYDROGRAPH ADDED TO STREAM #2)

WATERSHED AREA = 4924.400 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.856 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244
LOW LOSS FRACTION = 0.567
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.34
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.72
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 0.95
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.59
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.20
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 3.68

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.744
30-MINUTE FACTOR = 0.744
1-HOUR FACTOR = 0.744
3-HOUR FACTOR = 0.959
6-HOUR FACTOR = 0.978
24-HOUR FACTOR = 0.986

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 9.735

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.556	331.300
2	1.681	669.681
3	3.190	898.530
4	5.694	1491.595
5	9.996	2562.006
6	15.343	3184.527
7	21.165	3467.137
8	27.440	3736.834
9	34.550	4234.553
10	42.448	4703.686
11	51.437	5353.104
12	59.048	4532.599
13	66.996	4733.692
14	73.451	3844.114
15	78.519	3018.107
16	82.874	2593.681
17	86.545	2186.207
18	89.201	1581.784
19	91.334	1270.321
20	93.252	1141.972
21	94.739	886.011
22	95.921	703.742
23	96.748	492.799
24	97.512	454.687
25	98.060	326.543
26	98.248	112.074
27	98.431	108.729
28	98.613	108.666
29	98.796	108.729
30	98.978	108.607
31	99.161	108.966
32	99.344	108.607
33	99.526	108.607
34	99.708	108.607
35	99.891	108.607
36	100.000	65.051

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 766.1984
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 723.1885

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)

(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	650.0	1300.0	1950.0	2600.0
10.000	116.6359	205.97	. Q	V .	.	.	.
10.083	118.0652	207.53	. Q	V .	.	.	.
10.167	119.5054	209.11	. Q	V .	.	.	.
10.250	120.9568	210.74	. Q	V .	.	.	.
10.333	122.4195	212.39	. Q	V .	.	.	.
10.417	123.8939	214.09	. Q	V .	.	.	.
10.500	125.3801	215.80	. Q	V .	.	.	.
10.583	126.8785	217.57	. Q	V .	.	.	.
10.667	128.3893	219.36	. Q	V .	.	.	.
10.750	129.9128	221.21	. Q	V .	.	.	.
10.833	131.4491	223.08	. Q	V .	.	.	.
10.917	132.9987	225.01	. Q	V .	.	.	.
11.000	134.5619	226.96	. Q	V .	.	.	.
11.083	136.1389	228.99	. Q	V .	.	.	.
11.167	137.7300	231.03	. Q	V .	.	.	.
11.250	139.3358	233.15	. Q	V .	.	.	.
11.333	140.9563	235.30	. Q	V .	.	.	.
11.417	142.5921	237.52	. Q	V .	.	.	.
11.500	144.2435	239.78	. Q	V .	.	.	.
11.583	145.9110	242.12	. Q	V .	.	.	.
11.667	147.5948	244.49	. Q	V .	.	.	.
11.750	149.2955	246.95	. Q	V .	.	.	.
11.833	151.0135	249.45	. Q	V .	.	.	.
11.917	152.7493	252.04	. Q	V .	.	.	.
12.000	154.5033	254.68	. Q	V .	.	.	.
12.083	156.2798	257.94	. Q	V .	.	.	.
12.167	158.0826	261.77	. Q	V .	.	.	.
12.250	159.9151	266.08	. Q	V .	.	.	.
12.333	161.7840	271.37	. Q	V .	.	.	.
12.417	163.7018	278.46	. Q	V .	.	.	.
12.500	165.6755	286.58	. Q	V .	.	.	.
12.583	167.7092	295.30	. Q	V .	.	.	.
12.667	169.8064	304.51	. Q	V .	.	.	.
12.750	171.9735	314.67	. Q	V .	.	.	.
12.833	174.2163	325.64	. Q	V .	.	.	.
12.917	176.5428	337.82	. Q	V .	.	.	.
13.000	178.9451	348.81	. Q	V .	.	.	.
13.083	181.4267	360.33	. Q	V .	.	.	.
13.167	183.9787	370.56	. Q	V .	.	.	.
13.250	186.5939	379.73	. Q	V .	.	.	.
13.333	189.2685	388.35	. Q	V .	.	.	.
13.417	191.9998	396.57	. Q	V .	.	.	.
13.500	194.7820	403.99	. Q	V .	.	.	.
13.583	197.6138	411.17	. Q	V .	.	.	.
13.667	200.4947	418.30	. Q	.V	.	.	.
13.750	203.4239	425.32	. Q	.V	.	.	.
13.833	206.4006	432.22	. Q	.V	.	.	.

13.917	209.4249	439.12	. Q	.V	.	.	.
14.000	212.4976	446.16	. Q	.V	.	.	.
14.083	215.6283	454.59	. Q	.V	.	.	.
14.167	218.8250	464.16	. Q	.V	.	.	.
14.250	222.0962	474.97	. Q	.V	.	.	.
14.333	225.4586	488.23	. Q	.V	.	.	.
14.417	228.9427	505.89	. Q	.V	.	.	.
14.500	232.5659	526.09	. Q	.V	.	.	.
14.583	236.3386	547.79	. Q	.V	.	.	.
14.667	240.2694	570.75	. Q	.V	.	.	.
14.750	244.3746	596.07	. Q	.V	.	.	.
14.833	248.6681	623.42	. Q	.V	.	.	.
14.917	253.1706	653.76	. Q	V	.	.	.
15.000	257.8629	681.33	. Q	V	.	.	.
15.083	262.7556	710.41	. Q	V	.	.	.
15.167	267.8312	736.99	. Q	V	.	.	.
15.250	273.0786	761.92	. Q	V	.	.	.
15.333	278.4975	786.83	. Q	V	.	.	.
15.417	284.0713	809.32	. Q	V	.	.	.
15.500	289.7781	828.63	. Q	V	.	.	.
15.583	295.6177	847.90	. Q	V	.	.	.
15.667	301.5674	863.89	. Q	V	.	.	.
15.750	307.5810	873.17	. Q	V	.	.	.
15.833	313.6531	881.67	. Q	V	.	.	.
15.917	319.8457	899.17	. Q	V	.	.	.
16.000	326.2773	933.88	. Q	V	.	.	.
16.083	333.4457	1040.84	. Q	V	.	.	.
16.167	341.4071	1156.00	. Q	V	.	.	.
16.250	350.1288	1266.39	. Q	V	.	.	.
16.333	360.2410	1468.29	. V	Q	.	.	.
16.417	372.2758	1747.45	. V	Q	.	.	.
16.500	385.5559	1928.27	. V	Q	.	.	.
16.583	399.5900	2037.75	. V	Q	.	.	.
16.667	414.3602	2144.64	. V	Q	.	.	.
16.750	430.2023	2300.27	. V	Q	.	.	.
16.833	446.9278	2428.55	. V	Q	.	.	.
16.917	464.3977	2536.63	. V	Q	.	.	.
17.000	480.5583	2346.51	. V	Q	.	.	.
17.083	496.4279	2304.27	. V	Q	.	.	.
17.167	510.5572	2051.58	. V	Q	.	.	.
17.250	523.0850	1819.03	. Q	V	.	.	.
17.333	534.5079	1658.62	. Q	V	.	.	.
17.417	544.8871	1507.05	. Q	V	.	.	.
17.500	554.0079	1324.34	. Q	V	.	.	.
17.583	562.2834	1201.60	. Q	V	.	.	.
17.667	569.9834	1118.04	. Q	V	.	.	.
17.750	576.9531	1012.01	. Q	V	.	.	.
17.833	583.2732	917.67	. Q	V	.	.	.
17.917	588.9367	822.34	. Q	V	.	.	.
18.000	594.2001	764.24	. Q	V	.	.	.
18.083	598.9486	689.49	. Q	V	.	.	.
18.167	603.1397	608.55	. Q	V	.	.	.
18.250	607.0992	574.92	. Q	V	.	.	.
18.333	610.8749	548.23	. Q	V	.	.	.
18.417	614.4762	522.92	. Q	V	.	.	.
18.500	617.9074	498.21	. Q	V	.	.	.
18.583	621.1838	475.73	. Q	V	.	.	.
18.667	624.3113	454.13	. Q	V	.	.	.

18.750	627.2940	433.09	.	Q	.	.	.	V	.
18.833	630.1290	411.64	.	Q	.	.	.	V	.
18.917	632.8044	388.47	.	Q	.	.	.	V	.
19.000	635.2737	358.54	.	Q	.	.	.	V	.
19.083	637.5272	327.20	.	Q	.	.	.	V	.
19.167	639.6784	312.36	.	Q	.	.	.	V	.
19.250	641.7476	300.45	.	Q	.	.	.	V	.
19.333	643.7409	289.42	.	Q	.	.	.	V	.
19.417	645.6619	278.94	.	Q	.	.	.	V	.
19.500	647.5212	269.97	.	Q	.	.	.	V	.
19.583	649.3251	261.94	.	Q	.	.	.	V	.
19.667	651.0776	254.46	.	Q	.	.	.	V	.
19.750	652.7833	247.67	.	Q	.	.	.	V	.
19.833	654.4462	241.44	.	Q	.	.	.	V	.
19.917	656.0701	235.79	.	Q	.	.	.	V	.
20.000	657.6581	230.58	.	Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	465.0
20%	240.0
30%	170.0
40%	100.0
50%	75.0
60%	60.0
70%	50.0
80%	40.0
90%	25.0

 FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2

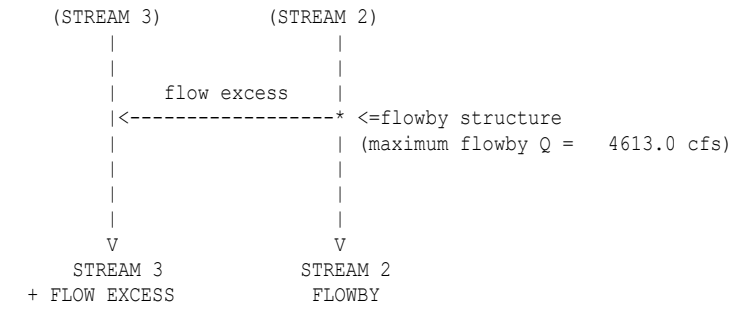
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<

MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
 FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
 THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.

DATA PAIR NUMBER	Qcenter (CFS)	Qpass (CFS)
-	0.00	0.00
1	413.00	413.00
2	1897.00	1613.00
3	4682.00	3013.00
4	6819.00	4013.00
5	8100.00	4613.00

FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3

INFLOW INFLOW



FLOWBY BASIN MODELING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 3) (CFS)	INFLOW (STREAM 2) (CFS)	OUTFLOW (STREAM 3) (CFS)	FLOWBY (STREAM 2) (CFS)
10.000	0.00	205.97	0.00	205.97
10.083	0.00	207.53	0.00	207.53
10.167	0.00	209.11	0.00	209.11
10.250	0.00	210.74	0.00	210.74
10.333	0.00	212.39	0.00	212.39
10.417	0.00	214.09	0.00	214.09
10.500	0.00	215.80	0.00	215.80
10.583	0.00	217.57	0.00	217.57
10.667	0.00	219.36	0.00	219.36
10.750	0.00	221.21	0.00	221.21
10.833	0.00	223.08	0.00	223.08
10.917	0.00	225.01	0.00	225.01
11.000	0.00	226.96	0.00	226.96
11.083	0.00	228.99	0.00	228.99
11.167	0.00	231.03	0.00	231.03
11.250	0.00	233.15	0.00	233.15
11.333	0.00	235.30	0.00	235.30
11.417	0.00	237.52	0.00	237.52
11.500	0.00	239.78	0.00	239.78
11.583	0.00	242.12	0.00	242.12
11.667	0.00	244.49	0.00	244.49
11.750	0.00	246.95	0.00	246.95
11.833	0.00	249.45	0.00	249.45
11.917	0.00	252.04	0.00	252.04
12.000	0.00	254.68	0.00	254.68
12.083	0.00	257.94	0.00	257.94
12.167	0.00	261.77	0.00	261.77
12.250	0.00	266.08	0.00	266.08
12.333	0.00	271.37	0.00	271.37
12.417	0.00	278.46	0.00	278.46
12.500	0.00	286.58	0.00	286.58
12.583	0.00	295.30	0.00	295.30
12.667	0.00	304.51	0.00	304.51
12.750	0.00	314.67	0.00	314.67
12.833	0.00	325.64	0.00	325.64
12.917	0.00	337.82	0.00	337.82
13.000	0.00	348.81	0.00	348.81

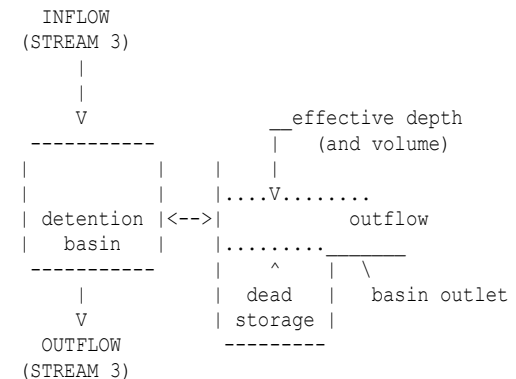
13.083	0.00	360.33	0.00	360.33
13.167	0.00	370.56	0.00	370.56
13.250	0.00	379.73	0.00	379.73
13.333	0.00	388.35	0.00	388.35
13.417	0.00	396.57	0.00	396.57
13.500	0.00	403.99	0.00	403.99
13.583	0.00	411.17	0.00	411.17
13.667	0.00	418.30	1.01	417.29
13.750	0.00	425.32	2.36	422.96
13.833	0.00	432.22	3.68	428.54
13.917	0.00	439.12	5.00	434.12
14.000	0.00	446.16	6.35	439.81
14.083	0.00	454.59	7.96	446.63
14.167	0.00	464.16	9.79	454.37
14.250	0.00	474.97	11.86	463.11
14.333	0.00	488.23	14.40	473.83
14.417	0.00	505.89	17.78	488.11
14.500	0.00	526.09	21.64	504.45
14.583	0.00	547.79	25.80	522.00
14.667	0.00	570.75	30.19	540.56
14.750	0.00	596.07	35.04	561.04
14.833	0.00	623.42	40.27	583.15
14.917	0.00	653.76	46.07	607.68
15.000	0.00	681.33	51.35	629.98
15.083	0.00	710.41	56.92	653.50
15.167	0.00	736.99	62.00	674.98
15.250	0.00	761.92	66.77	695.14
15.333	0.00	786.83	71.54	715.29
15.417	0.00	809.32	75.84	733.47
15.500	0.00	828.63	79.54	749.09
15.583	0.00	847.90	83.23	764.67
15.667	0.00	863.89	86.29	777.60
15.750	0.00	873.17	88.07	785.11
15.833	0.00	881.67	89.69	791.98
15.917	0.00	899.17	93.04	806.13
16.000	0.00	933.88	99.68	834.19
16.083	0.00	1040.84	120.15	920.69
16.167	0.00	1156.00	142.19	1013.81
16.250	0.00	1266.39	163.32	1103.08
16.333	0.00	1468.29	201.96	1266.33
16.417	0.00	1747.45	255.38	1492.07
16.500	0.00	1928.27	299.55	1628.72
16.583	0.00	2037.75	353.99	1683.75
16.667	0.00	2144.64	407.15	1737.49
16.750	0.00	2300.27	484.55	1815.72
16.833	0.00	2428.55	548.34	1880.21
16.917	0.00	2536.63	602.09	1934.54
17.000	0.00	2346.51	507.54	1838.96
17.083	0.00	2304.27	486.54	1817.73
17.167	0.00	2051.58	360.87	1690.71
17.250	0.00	1819.03	269.08	1549.95
17.333	0.00	1658.62	238.38	1420.24
17.417	0.00	1507.05	209.37	1297.68
17.500	0.00	1324.34	174.41	1149.93
17.583	0.00	1201.60	150.92	1050.68
17.667	0.00	1118.04	134.93	983.11
17.750	0.00	1012.01	114.64	897.37
17.833	0.00	917.67	96.58	821.09

17.917	0.00	822.34	78.34	744.00
18.000	0.00	764.24	67.22	697.02
18.083	0.00	689.49	52.91	636.57
18.167	0.00	608.55	37.42	571.12
18.250	0.00	574.92	30.99	543.94
18.333	0.00	548.23	25.88	522.35
18.417	0.00	522.92	21.03	501.88
18.500	0.00	498.21	16.31	481.90
18.583	0.00	475.73	12.01	463.73
18.667	0.00	454.13	7.87	446.26
18.750	0.00	433.09	3.84	429.24
18.833	0.00	411.64	0.00	411.64
18.917	0.00	388.47	0.00	388.47
19.000	0.00	358.54	0.00	358.54
19.083	0.00	327.20	0.00	327.20
19.167	0.00	312.36	0.00	312.36
19.250	0.00	300.45	0.00	300.45
19.333	0.00	289.42	0.00	289.42
19.417	0.00	278.94	0.00	278.94
19.500	0.00	269.97	0.00	269.97
19.583	0.00	261.94	0.00	261.94
19.667	0.00	254.46	0.00	254.46
19.750	0.00	247.67	0.00	247.67
19.833	0.00	241.44	0.00	241.44
19.917	0.00	235.79	0.00	235.79
20.000	0.00	230.58	0.00	230.58

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<

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ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3

THROUGH A FLOW-THROUGH DETENTION BASIN

SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:

DEAD STORAGE(AF) = 5.700

SPECIFIED DEAD STORAGE(AF) FILLED = 5.700

SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000

DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.50	0.01	0.001
3	2.00	0.02	1.900
4	4.00	0.03	16.100
5	4.30	0.04	18.200
6	5.00	314.00	23.200
7	6.00	1306.00	30.300
8	7.00	2847.00	39.100
9	8.00	4942.00	47.800

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MODIFIED-PULS BASIN ROUTING MODEL RESULTS (5-MINUTE COMPUTATION INTERVALS):
 (Note: Computed EFFECTIVE DEPTH and VOLUME are estimated at the clock time;
 MEAN OUTFLOW is the average value during the unit interval.)

CLOCK TIME (HRS)	DEAD-STORAGE FILLED (AF)	INFLOW (CFS)	LOSS (CFS)	MEAN		
				EFFECTIVE DEPTH (FT)	OUTFLOW (CFS)	EFFECTIVE VOLUME (AF)
10.083	5.700	0.00	0.00	0.00	0.0	0.000
10.167	5.700	0.00	0.00	0.00	0.0	0.000
10.250	5.700	0.00	0.00	0.00	0.0	0.000
10.333	5.700	0.00	0.00	0.00	0.0	0.000
10.417	5.700	0.00	0.00	0.00	0.0	0.000
10.500	5.700	0.00	0.00	0.00	0.0	0.000
10.583	5.700	0.00	0.00	0.00	0.0	0.000
10.667	5.700	0.00	0.00	0.00	0.0	0.000
10.750	5.700	0.00	0.00	0.00	0.0	0.000
10.833	5.700	0.00	0.00	0.00	0.0	0.000
10.917	5.700	0.00	0.00	0.00	0.0	0.000
11.000	5.700	0.00	0.00	0.00	0.0	0.000
11.083	5.700	0.00	0.00	0.00	0.0	0.000
11.167	5.700	0.00	0.00	0.00	0.0	0.000
11.250	5.700	0.00	0.00	0.00	0.0	0.000
11.333	5.700	0.00	0.00	0.00	0.0	0.000
11.417	5.700	0.00	0.00	0.00	0.0	0.000
11.500	5.700	0.00	0.00	0.00	0.0	0.000
11.583	5.700	0.00	0.00	0.00	0.0	0.000
11.667	5.700	0.00	0.00	0.00	0.0	0.000
11.750	5.700	0.00	0.00	0.00	0.0	0.000
11.833	5.700	0.00	0.00	0.00	0.0	0.000
11.917	5.700	0.00	0.00	0.00	0.0	0.000
12.000	5.700	0.00	0.00	0.00	0.0	0.000
12.083	5.700	0.00	0.00	0.00	0.0	0.000
12.167	5.700	0.00	0.00	0.00	0.0	0.000
12.250	5.700	0.00	0.00	0.00	0.0	0.000
12.333	5.700	0.00	0.00	0.00	0.0	0.000
12.417	5.700	0.00	0.00	0.00	0.0	0.000
12.500	5.700	0.00	0.00	0.00	0.0	0.000
12.583	5.700	0.00	0.00	0.00	0.0	0.000

12.667	5.700	0.00	0.00	0.00	0.0	0.000
12.750	5.700	0.00	0.00	0.00	0.0	0.000
12.833	5.700	0.00	0.00	0.00	0.0	0.000
12.917	5.700	0.00	0.00	0.00	0.0	0.000
13.000	5.700	0.00	0.00	0.00	0.0	0.000
13.083	5.700	0.00	0.00	0.00	0.0	0.000
13.167	5.700	0.00	0.00	0.00	0.0	0.000
13.250	5.700	0.00	0.00	0.00	0.0	0.000
13.333	5.700	0.00	0.00	0.00	0.0	0.000
13.417	5.700	0.00	0.00	0.00	0.0	0.000
13.500	5.700	0.00	0.00	0.00	0.0	0.000
13.583	5.700	0.00	0.00	0.00	0.0	0.000
13.667	5.700	1.01	0.00	1.50	0.0	0.007
13.750	5.700	2.36	0.00	1.51	0.0	0.023
13.833	5.700	3.68	0.00	1.51	0.0	0.048
13.917	5.700	5.00	0.00	1.52	0.0	0.083
14.000	5.700	6.35	0.00	1.53	0.0	0.126
14.083	5.700	7.96	0.00	1.55	0.0	0.181
14.167	5.700	9.79	0.00	1.57	0.0	0.248
14.250	5.700	11.86	0.00	1.59	0.0	0.330
14.333	5.700	14.40	0.00	1.61	0.0	0.429
14.417	5.700	17.78	0.00	1.64	0.0	0.551
14.500	5.700	21.64	0.00	1.68	0.0	0.700
14.583	5.700	25.80	0.00	1.73	0.0	0.878
14.667	5.700	30.19	0.00	1.79	0.0	1.086
14.750	5.700	35.04	0.00	1.85	0.0	1.327
14.833	5.700	40.27	0.00	1.92	0.0	1.604
14.917	5.700	46.07	0.00	2.00	0.0	1.921
15.000	5.700	51.35	0.00	2.05	0.0	2.275
15.083	5.700	56.92	0.00	2.11	0.0	2.667
15.167	5.700	62.00	0.00	2.17	0.0	3.093
15.250	5.700	66.77	0.00	2.23	0.0	3.553
15.333	5.700	71.54	0.00	2.30	0.0	4.046
15.417	5.700	75.84	0.00	2.38	0.0	4.568
15.500	5.700	79.54	0.00	2.45	0.0	5.116
15.583	5.700	83.23	0.00	2.53	0.0	5.689
15.667	5.700	86.29	0.00	2.62	0.0	6.283
15.750	5.700	88.07	0.00	2.70	0.0	6.889
15.833	5.700	89.69	0.00	2.79	0.0	7.507
15.917	5.700	93.04	0.00	2.88	0.0	8.147
16.000	5.700	99.68	0.00	2.98	0.0	8.833
16.083	5.700	120.15	0.00	3.09	0.0	9.661
16.167	5.700	142.19	0.00	3.23	0.0	10.640
16.250	5.700	163.32	0.00	3.39	0.0	11.764
16.333	5.700	201.96	0.00	3.59	0.0	13.155
16.417	5.700	255.38	0.00	3.83	0.0	14.914
16.500	5.700	299.55	0.00	4.13	0.0	16.976
16.583	5.700	353.99	0.00	4.44	31.4	19.198
16.667	5.700	407.15	0.00	4.71	124.0	21.149
16.750	5.700	484.55	0.00	4.95	238.4	22.844
16.833	5.700	548.34	0.00	5.13	365.8	24.101
16.917	5.700	602.09	0.00	5.23	492.6	24.855
17.000	5.700	507.54	0.00	5.21	533.0	24.680
17.083	5.700	486.54	0.00	5.19	509.6	24.521
17.167	5.700	360.87	0.00	5.10	453.8	23.881
17.250	5.700	269.08	0.00	5.00	363.6	23.230
17.333	5.700	238.38	0.00	4.94	303.0	22.784
17.417	5.700	209.37	0.00	4.88	273.9	22.340

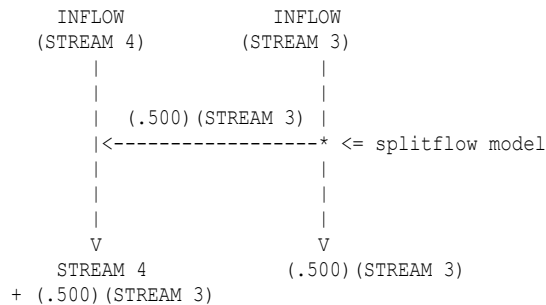
17.500	5.700	174.41	0.00	4.81	244.8	21.855
17.583	5.700	150.92	0.00	4.75	215.6	21.410
17.667	5.700	134.93	0.00	4.70	189.7	21.032
17.750	5.700	114.64	0.00	4.65	166.6	20.674
17.833	5.700	96.58	0.00	4.60	144.9	20.341
17.917	5.700	78.34	0.00	4.56	124.5	20.023
18.000	5.700	67.22	0.00	4.52	106.1	19.755
18.083	5.700	52.91	0.00	4.48	89.7	19.502
18.167	5.700	37.42	0.00	4.45	73.9	19.250
18.250	5.700	30.99	0.00	4.42	59.8	19.052
18.333	5.700	25.88	0.00	4.40	48.6	18.895
18.417	5.700	21.03	0.00	4.38	39.7	18.767
18.500	5.700	16.31	0.00	4.36	32.2	18.658
18.583	5.700	12.01	0.00	4.35	25.8	18.563
18.667	5.700	7.87	0.00	4.34	20.2	18.478
18.750	5.700	3.84	0.00	4.33	15.1	18.401
18.833	5.700	0.00	0.00	4.32	10.4	18.329
18.917	5.700	0.00	0.00	4.31	6.7	18.283
19.000	5.700	0.00	0.00	4.31	4.3	18.253
19.083	5.700	0.00	0.00	4.30	2.8	18.234
19.167	5.700	0.00	0.00	4.30	1.8	18.222
19.250	5.700	0.00	0.00	4.30	1.2	18.214
19.333	5.700	0.00	0.00	4.30	0.7	18.209
19.417	5.700	0.00	0.00	4.30	0.5	18.205
19.500	5.700	0.00	0.00	4.30	0.3	18.203
19.583	5.700	0.00	0.00	4.30	0.2	18.202
19.667	5.700	0.00	0.00	4.30	0.1	18.201
19.750	5.700	0.00	0.00	4.30	0.1	18.200
19.833	5.700	0.00	0.00	4.30	0.1	18.200
19.917	5.700	0.00	0.00	4.30	0.0	18.200

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 54.813 AF
BASIN STORAGE = 21.376 AF (WITH 5.700 AF INITIALLY FILLED)
OUTFLOW VOLUME = 39.135 AF
LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8

>>>>MODEL STREAM SPLITFLOW WHERE A CONSTANT PROPORTION
OF STREAM 3 IS ADDED TO STREAM 4<<<<<



STREAM NUMBER 3 IS SPLIT TOWARDS STREAM 4
WHERE 0.50 (DECIMAL PERCENT) REMAINS IN STREAM 3
AND 0.50 (DECIMAL PERCENT) IS ADDED TO STREAM 4

STREAM SPLITFLOW MODELING RESULTS:

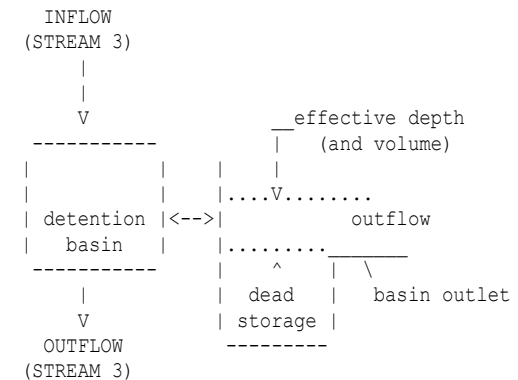
MODEL TIME (HRS)	INFLOW STREAM 4 (CFS)	INFLOW STREAM 3 (CFS)	OUTFLOW STREAM 4 (CFS)	OUTFLOW STREAM 3 (CFS)
10.000	0.00	0.00	0.00	0.00
10.083	0.00	0.00	0.00	0.00
10.167	0.00	0.00	0.00	0.00
10.250	0.00	0.00	0.00	0.00
10.333	0.00	0.00	0.00	0.00
10.417	0.00	0.00	0.00	0.00
10.500	0.00	0.00	0.00	0.00
10.583	0.00	0.00	0.00	0.00
10.667	0.00	0.00	0.00	0.00
10.750	0.00	0.00	0.00	0.00
10.833	0.00	0.00	0.00	0.00
10.917	0.00	0.00	0.00	0.00
11.000	0.00	0.00	0.00	0.00
11.083	0.00	0.00	0.00	0.00
11.167	0.00	0.00	0.00	0.00
11.250	0.00	0.00	0.00	0.00
11.333	0.00	0.00	0.00	0.00
11.417	0.00	0.00	0.00	0.00
11.500	0.00	0.00	0.00	0.00
11.583	0.00	0.00	0.00	0.00
11.667	0.00	0.00	0.00	0.00
11.750	0.00	0.00	0.00	0.00
11.833	0.00	0.00	0.00	0.00
11.917	0.00	0.00	0.00	0.00
12.000	0.00	0.00	0.00	0.00
12.083	0.00	0.00	0.00	0.00
12.167	0.00	0.00	0.00	0.00
12.250	0.00	0.00	0.00	0.00
12.333	0.00	0.00	0.00	0.00
12.417	0.00	0.00	0.00	0.00
12.500	0.00	0.00	0.00	0.00
12.583	0.00	0.00	0.00	0.00
12.667	0.00	0.00	0.00	0.00
12.750	0.00	0.00	0.00	0.00
12.833	0.00	0.00	0.00	0.00
12.917	0.00	0.00	0.00	0.00
13.000	0.00	0.00	0.00	0.00
13.083	0.00	0.00	0.00	0.00
13.167	0.00	0.00	0.00	0.00
13.250	0.00	0.00	0.00	0.00
13.333	0.00	0.00	0.00	0.00
13.417	0.00	0.00	0.00	0.00
13.500	0.00	0.00	0.00	0.00
13.583	0.00	0.00	0.00	0.00

13.667	0.00	0.01	0.00	0.00
13.750	0.00	0.01	0.01	0.01
13.833	0.00	0.01	0.01	0.01
13.917	0.00	0.01	0.01	0.01
14.000	0.00	0.01	0.01	0.01
14.083	0.00	0.01	0.01	0.01
14.167	0.00	0.01	0.01	0.01
14.250	0.00	0.01	0.01	0.01
14.333	0.00	0.01	0.01	0.01
14.417	0.00	0.01	0.01	0.01
14.500	0.00	0.01	0.01	0.01
14.583	0.00	0.02	0.01	0.01
14.667	0.00	0.02	0.01	0.01
14.750	0.00	0.02	0.01	0.01
14.833	0.00	0.02	0.01	0.01
14.917	0.00	0.02	0.01	0.01
15.000	0.00	0.02	0.01	0.01
15.083	0.00	0.02	0.01	0.01
15.167	0.00	0.02	0.01	0.01
15.250	0.00	0.02	0.01	0.01
15.333	0.00	0.02	0.01	0.01
15.417	0.00	0.02	0.01	0.01
15.500	0.00	0.02	0.01	0.01
15.583	0.00	0.02	0.01	0.01
15.667	0.00	0.03	0.01	0.01
15.750	0.00	0.03	0.01	0.01
15.833	0.00	0.03	0.01	0.01
15.917	0.00	0.03	0.01	0.01
16.000	0.00	0.03	0.01	0.01
16.083	0.00	0.03	0.01	0.01
16.167	0.00	0.03	0.01	0.01
16.250	0.00	0.03	0.01	0.01
16.333	0.00	0.03	0.02	0.02
16.417	0.00	0.03	0.02	0.02
16.500	0.00	0.03	0.02	0.02
16.583	0.00	31.38	15.69	15.69
16.667	0.00	123.96	61.98	61.98
16.750	0.00	238.41	119.21	119.21
16.833	0.00	365.77	182.89	182.89
16.917	0.00	492.59	246.30	246.30
17.000	0.00	533.02	266.51	266.51
17.083	0.00	509.64	254.82	254.82
17.167	0.00	453.81	226.91	226.91
17.250	0.00	363.61	181.81	181.81
17.333	0.00	303.02	151.51	151.51
17.417	0.00	273.94	136.97	136.97
17.500	0.00	244.77	122.38	122.38
17.583	0.00	215.57	107.79	107.79
17.667	0.00	189.74	94.87	94.87
17.750	0.00	166.64	83.32	83.32
17.833	0.00	144.94	72.47	72.47
17.917	0.00	124.50	62.25	62.25
18.000	0.00	106.11	53.06	53.06
18.083	0.00	89.74	44.87	44.87
18.167	0.00	73.89	36.95	36.95
18.250	0.00	59.78	29.89	29.89
18.333	0.00	48.63	24.32	24.32
18.417	0.00	39.68	19.84	19.84

18.500	0.00	32.21	16.11	16.11
18.583	0.00	25.79	12.90	12.90
18.667	0.00	20.15	10.08	10.08
18.750	0.00	15.07	7.54	7.54
18.833	0.00	10.40	5.20	5.20
18.917	0.00	6.70	3.35	3.35
19.000	0.00	4.32	2.16	2.16
19.083	0.00	2.78	1.39	1.39
19.167	0.00	1.79	0.90	0.90
19.250	0.00	1.16	0.58	0.58
19.333	0.00	0.74	0.37	0.37
19.417	0.00	0.48	0.24	0.24
19.500	0.00	0.31	0.15	0.15
19.583	0.00	0.20	0.10	0.10
19.667	0.00	0.13	0.06	0.06
19.750	0.00	0.08	0.04	0.04
19.833	0.00	0.05	0.03	0.03
19.917	0.00	0.04	0.02	0.02
20.000	0.00	0.04	0.02	0.02

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<



ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3

THROUGH A FLOW-THROUGH DETENTION BASIN

SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:

DEAD STORAGE(AF) = 0.000

SPECIFIED DEAD STORAGE(AF) FILLED = 0.000

SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000

DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
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1	0.00	0.00	0.000
2	0.99	2.90	0.900
3	1.99	11.38	2.900
4	3.99	19.63	10.300
5	5.99	25.19	20.700
6	7.99	29.71	31.700
7	9.99	33.62	43.500
8	10.99	35.49	49.700
9	11.99	313.46	56.400
10	12.99	894.27	63.100
11	13.99	1748.55	69.900
12	15.99	4306.91	84.100

=====

MODIFIED-PULS BASIN ROUTING MODEL RESULTS(5-MINUTE COMPUTATION INTERVALS):
 (Note: Computed EFFECTIVE DEPTH and VOLUME are estimated at the clock time;
 MEAN OUTFLOW is the average value during the unit interval.)

CLOCK TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	LOSS (CFS)	MEAN		
				EFFECTIVE DEPTH(FT)	OUTFLOW (CFS)	EFFECTIVE VOLUME(AF)
10.083	0.000	0.00	0.00	0.00	0.0	0.000
10.167	0.000	0.00	0.00	0.00	0.0	0.000
10.250	0.000	0.00	0.00	0.00	0.0	0.000
10.333	0.000	0.00	0.00	0.00	0.0	0.000
10.417	0.000	0.00	0.00	0.00	0.0	0.000
10.500	0.000	0.00	0.00	0.00	0.0	0.000
10.583	0.000	0.00	0.00	0.00	0.0	0.000
10.667	0.000	0.00	0.00	0.00	0.0	0.000
10.750	0.000	0.00	0.00	0.00	0.0	0.000
10.833	0.000	0.00	0.00	0.00	0.0	0.000
10.917	0.000	0.00	0.00	0.00	0.0	0.000
11.000	0.000	0.00	0.00	0.00	0.0	0.000
11.083	0.000	0.00	0.00	0.00	0.0	0.000
11.167	0.000	0.00	0.00	0.00	0.0	0.000
11.250	0.000	0.00	0.00	0.00	0.0	0.000
11.333	0.000	0.00	0.00	0.00	0.0	0.000
11.417	0.000	0.00	0.00	0.00	0.0	0.000
11.500	0.000	0.00	0.00	0.00	0.0	0.000
11.583	0.000	0.00	0.00	0.00	0.0	0.000
11.667	0.000	0.00	0.00	0.00	0.0	0.000
11.750	0.000	0.00	0.00	0.00	0.0	0.000
11.833	0.000	0.00	0.00	0.00	0.0	0.000
11.917	0.000	0.00	0.00	0.00	0.0	0.000
12.000	0.000	0.00	0.00	0.00	0.0	0.000
12.083	0.000	0.00	0.00	0.00	0.0	0.000
12.167	0.000	0.00	0.00	0.00	0.0	0.000
12.250	0.000	0.00	0.00	0.00	0.0	0.000
12.333	0.000	0.00	0.00	0.00	0.0	0.000
12.417	0.000	0.00	0.00	0.00	0.0	0.000
12.500	0.000	0.00	0.00	0.00	0.0	0.000
12.583	0.000	0.00	0.00	0.00	0.0	0.000
12.667	0.000	0.00	0.00	0.00	0.0	0.000
12.750	0.000	0.00	0.00	0.00	0.0	0.000
12.833	0.000	0.00	0.00	0.00	0.0	0.000
12.917	0.000	0.00	0.00	0.00	0.0	0.000

13.000	0.000	0.00	0.00	0.00	0.0	0.000
13.083	0.000	0.00	0.00	0.00	0.0	0.000
13.167	0.000	0.00	0.00	0.00	0.0	0.000
13.250	0.000	0.00	0.00	0.00	0.0	0.000
13.333	0.000	0.00	0.00	0.00	0.0	0.000
13.417	0.000	0.00	0.00	0.00	0.0	0.000
13.500	0.000	0.00	0.00	0.00	0.0	0.000
13.583	0.000	0.00	0.00	0.00	0.0	0.000
13.667	0.000	0.00	0.00	0.00	0.0	0.000
13.750	0.000	0.01	0.00	0.00	0.0	0.000
13.833	0.000	0.01	0.00	0.00	0.0	0.000
13.917	0.000	0.01	0.00	0.00	0.0	0.000
14.000	0.000	0.01	0.00	0.00	0.0	0.000
14.083	0.000	0.01	0.00	0.00	0.0	0.000
14.167	0.000	0.01	0.00	0.00	0.0	0.000
14.250	0.000	0.01	0.00	0.00	0.0	0.000
14.333	0.000	0.01	0.00	0.00	0.0	0.000
14.417	0.000	0.01	0.00	0.00	0.0	0.000
14.500	0.000	0.01	0.00	0.00	0.0	0.000
14.583	0.000	0.01	0.00	0.00	0.0	0.000
14.667	0.000	0.01	0.00	0.00	0.0	0.000
14.750	0.000	0.01	0.00	0.00	0.0	0.001
14.833	0.000	0.01	0.00	0.00	0.0	0.001
14.917	0.000	0.01	0.00	0.00	0.0	0.001
15.000	0.000	0.01	0.00	0.00	0.0	0.001
15.083	0.000	0.01	0.00	0.00	0.0	0.001
15.167	0.000	0.01	0.00	0.00	0.0	0.001
15.250	0.000	0.01	0.00	0.00	0.0	0.001
15.333	0.000	0.01	0.00	0.00	0.0	0.001
15.417	0.000	0.01	0.00	0.00	0.0	0.001
15.500	0.000	0.01	0.00	0.00	0.0	0.001
15.583	0.000	0.01	0.00	0.00	0.0	0.001
15.667	0.000	0.01	0.00	0.00	0.0	0.001
15.750	0.000	0.01	0.00	0.00	0.0	0.001
15.833	0.000	0.01	0.00	0.00	0.0	0.001
15.917	0.000	0.01	0.00	0.00	0.0	0.001
16.000	0.000	0.01	0.00	0.00	0.0	0.001
16.083	0.000	0.01	0.00	0.00	0.0	0.002
16.167	0.000	0.01	0.00	0.00	0.0	0.002
16.250	0.000	0.01	0.00	0.00	0.0	0.002
16.333	0.000	0.02	0.00	0.00	0.0	0.002
16.417	0.000	0.02	0.00	0.00	0.0	0.002
16.500	0.000	0.02	0.00	0.00	0.0	0.002
16.583	0.000	15.69	0.00	0.12	0.2	0.109
16.667	0.000	61.98	0.00	0.58	1.0	0.528
16.750	0.000	119.21	0.00	1.20	3.2	1.327
16.833	0.000	182.89	0.00	1.81	7.3	2.537
16.917	0.000	246.30	0.00	2.33	11.3	4.155
17.000	0.000	266.51	0.00	2.80	13.7	5.896
17.083	0.000	254.82	0.00	3.24	15.6	7.543
17.167	0.000	226.91	0.00	3.63	17.4	8.986
17.250	0.000	181.81	0.00	3.94	18.8	10.109
17.333	0.000	151.51	0.00	4.13	19.7	11.017
17.417	0.000	136.97	0.00	4.28	20.2	11.821
17.500	0.000	122.38	0.00	4.42	20.6	12.522
17.583	0.000	107.79	0.00	4.53	21.0	13.119
17.667	0.000	94.87	0.00	4.63	21.3	13.626
17.750	0.000	83.32	0.00	4.71	21.5	14.052

17.833	0.000	72.47	0.00	4.78	21.7	14.401
17.917	0.000	62.25	0.00	4.83	21.9	14.679
18.000	0.000	53.06	0.00	4.87	22.0	14.893
18.083	0.000	44.87	0.00	4.90	22.1	15.050
18.167	0.000	36.95	0.00	4.92	22.2	15.151
18.250	0.000	29.89	0.00	4.93	22.2	15.204
18.333	0.000	24.32	0.00	4.94	22.3	15.218
18.417	0.000	19.84	0.00	4.93	22.3	15.201
18.500	0.000	16.11	0.00	4.92	22.2	15.159
18.583	0.000	12.90	0.00	4.91	22.2	15.095
18.667	0.000	10.08	0.00	4.90	22.2	15.012
18.750	0.000	7.54	0.00	4.88	22.1	14.911
18.833	0.000	5.20	0.00	4.85	22.1	14.795
18.917	0.000	3.35	0.00	4.83	22.0	14.667
19.000	0.000	2.16	0.00	4.80	21.9	14.531
19.083	0.000	1.39	0.00	4.78	21.9	14.390
19.167	0.000	0.90	0.00	4.75	21.8	14.246
19.250	0.000	0.58	0.00	4.72	21.7	14.100
19.333	0.000	0.37	0.00	4.69	21.6	13.954
19.417	0.000	0.24	0.00	4.66	21.5	13.807
19.500	0.000	0.15	0.00	4.64	21.5	13.661
19.583	0.000	0.10	0.00	4.61	21.4	13.514
19.667	0.000	0.06	0.00	4.58	21.3	13.368
19.750	0.000	0.04	0.00	4.55	21.2	13.222
19.833	0.000	0.03	0.00	4.52	21.2	13.076
19.917	0.000	0.02	0.00	4.50	21.1	12.931

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 19.567 AF
BASIN STORAGE = 0.005 AF (WITH 0.000 AF INITIALLY FILLED)
OUTFLOW VOLUME = 19.562 AF
LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<<
=====

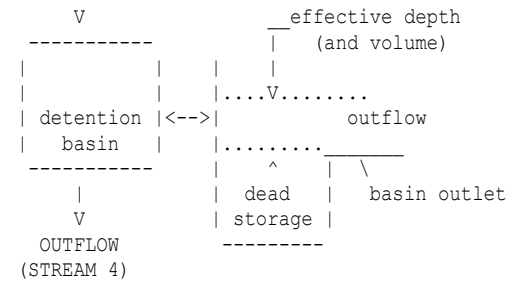
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<<
=====

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<<
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INFLOW
(STREAM 4)
|
|



ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
THROUGH A FLOW-THROUGH DETENTION BASIN
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:

DEAD STORAGE(AF) = 0.000
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.48	0.70	0.400
3	1.48	6.50	1.800
4	3.48	18.11	8.500
5	5.48	23.99	17.900
6	7.48	28.68	27.800
7	9.48	32.70	38.300
8	10.48	34.50	43.900
9	11.48	36.29	49.400
10	12.48	314.07	55.900
11	13.48	895.00	62.300
12	15.48	2882.95	74.700

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MODIFIED-PULS BASIN ROUTING MODEL RESULTS(5-MINUTE COMPUTATION INTERVALS):
(Note: Computed EFFECTIVE DEPTH and VOLUME are estimated at the clock time;
MEAN OUTFLOW is the average value during the unit interval.)

CLOCK TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	LOSS (CFS)	EFFECTIVE DEPTH (FT)	MEAN OUTFLOW (CFS)	EFFECTIVE VOLUME (AF)
10.083	0.000	0.00	0.00	0.00	0.0	0.000
10.167	0.000	0.00	0.00	0.00	0.0	0.000
10.250	0.000	0.00	0.00	0.00	0.0	0.000
10.333	0.000	0.00	0.00	0.00	0.0	0.000
10.417	0.000	0.00	0.00	0.00	0.0	0.000
10.500	0.000	0.00	0.00	0.00	0.0	0.000
10.583	0.000	0.00	0.00	0.00	0.0	0.000
10.667	0.000	0.00	0.00	0.00	0.0	0.000

LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<

FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS(Reference: the National Engineering Handbook, Hydrology, Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:

BASEWIDTH(FT) = 50.00 CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 427.51
DOWNSTREAM ELEVATION(FT) = 315.00
CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040
CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:

MAXIMUM INFLOW(CFS) = 1955.06
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 1512.14
CHANNEL NORMAL VELOCITY FOR Q = 1512.14 CFS = 7.81 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.821

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE

UNIT INTERVALS IS CSTAR = 0.597

CONVEX METHOD CHANNEL ROUTING RESULTS:

Table with 4 columns: MODEL TIME (HRS), INFLOW (STREAM 2) (CFS), ROUTED FLOW (CFS), and OUTFLOW LESS LOSS (STREAM 2) (CFS). Rows include data for times 10.000, 10.083, 10.167, 10.250, and 10.333.

Table with 4 columns of numerical data. Rows correspond to time intervals from 10.417 to 15.167.

15.250	695.15	605.18	605.18
15.333	715.29	628.11	628.11
15.417	733.48	650.69	650.69
15.500	749.09	672.16	672.16
15.583	764.68	692.84	692.84
15.667	777.61	712.53	712.53
15.750	785.11	730.43	730.43
15.833	791.99	746.96	746.96
15.917	806.14	762.01	762.01
16.000	834.20	773.91	773.91
16.083	920.70	782.98	782.98
16.167	1013.82	793.24	793.24
16.250	1103.08	810.63	810.63
16.333	1266.34	854.58	854.58
16.417	1492.08	926.22	926.22
16.500	1628.73	1009.36	1009.36
16.583	1684.03	1121.71	1121.71
16.667	1739.23	1286.03	1286.03
16.750	1821.83	1456.27	1456.27
16.833	1893.66	1578.35	1578.35
16.917	1955.06	1660.52	1660.52
17.000	1864.86	1736.05	1736.05
17.083	1848.46	1812.08	1812.08
17.167	1725.55	1882.00	1882.00
17.250	1587.53	1894.48	1894.48
17.333	1459.38	1871.13	1871.13
17.417	1337.87	1815.15	1815.15
17.500	1191.00	1713.98	1713.98
17.583	1092.50	1594.21	1594.21
17.667	1025.57	1471.73	1471.73
17.750	940.38	1341.07	1341.07
17.833	864.54	1217.44	1217.44
17.917	787.82	1119.72	1119.72
18.000	741.12	1034.07	1034.07
18.083	680.89	951.93	951.93
18.167	615.59	873.25	873.25
18.250	588.49	806.11	806.11
18.333	566.94	746.50	746.50
18.417	546.47	684.77	684.77
18.500	526.46	634.10	634.10
18.583	508.22	599.42	599.42
18.667	490.66	572.95	572.95
18.750	473.54	550.23	550.23
18.833	455.81	529.73	529.73
18.917	432.50	510.82	510.82
19.000	402.42	492.87	492.87
19.083	370.92	475.21	475.21
19.167	355.91	455.57	455.57
19.250	343.84	431.41	431.41
19.333	332.64	403.22	403.22
19.417	321.98	378.75	378.75
19.500	312.84	360.94	360.94
19.583	304.65	346.86	346.86
19.667	296.99	334.69	334.69
19.750	290.04	323.94	323.94
19.833	283.64	314.48	314.48
19.917	277.82	305.97	305.97
20.000	272.44	298.21	298.21

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PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 707.455 AF
OUTFLOW VOLUME = 707.454 AF
LOSS VOLUME = 0.000 AF

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FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2
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>>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<
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THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS(Reference: the National Engineering Handbook, Hydrology, Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:

BASEWIDTH(FT) = 50.00 CHANNEL Z = 3.00
 UPSTREAM ELEVATION(FT) = 315.00
 DOWNSTREAM ELEVATION(FT) = 212.00
 CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040
 CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:

MAXIMUM INFLOW(CFS) = 1894.48
 AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 1478.36
 CHANNEL NORMAL VELOCITY FOR Q = 1478.36 CFS = 8.46 FPS
 ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.833

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE UNIT INTERVALS IS CSTAR = 0.675

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 2) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS
			LOSS (STREAM 2) (CFS)
10.000	199.92	196.12	196.12
10.083	201.36	197.49	197.49
10.167	202.82	198.88	198.88
10.250	204.32	200.30	200.30
10.333	205.84	201.75	201.75
10.417	207.40	203.22	203.22
10.500	208.99	204.73	204.73
10.583	210.60	206.26	206.26
10.667	212.26	207.82	207.82
10.750	213.94	209.42	209.42
10.833	215.66	211.05	211.05
10.917	217.42	212.71	212.71
11.000	219.22	214.40	214.40
11.083	221.05	216.13	216.13
11.167	222.93	217.90	217.90

11.250	224.85	219.71	219.71
11.333	226.81	221.56	221.56
11.417	228.82	223.44	223.44
11.500	230.87	225.37	225.37
11.583	232.98	227.35	227.35
11.667	235.13	229.37	229.37
11.750	237.34	231.44	231.44
11.833	239.60	233.56	233.56
11.917	241.92	235.73	235.73
12.000	244.30	237.95	237.95
12.083	246.75	240.23	240.23
12.167	249.26	242.57	242.57
12.250	251.83	244.96	244.96
12.333	254.66	247.43	247.43
12.417	257.94	249.95	249.95
12.500	261.72	252.64	252.64
12.583	266.15	255.65	255.65
12.667	271.71	259.09	259.09
12.750	278.55	263.09	263.09
12.833	286.35	267.94	267.94
12.917	294.88	273.92	273.92
13.000	304.14	280.96	280.96
13.083	314.22	288.87	288.87
13.167	325.24	297.57	297.57
13.250	336.55	307.06	307.06
13.333	347.85	317.42	317.42
13.417	358.83	328.37	328.37
13.500	369.00	339.56	339.56
13.583	378.39	350.66	350.66
13.667	387.18	361.28	361.28
13.750	395.35	371.20	371.20
13.833	402.99	380.46	380.46
13.917	409.99	389.09	389.09
14.000	416.31	397.14	397.14
14.083	422.21	404.60	404.60
14.167	427.92	411.40	411.40
14.250	433.59	417.67	417.67
14.333	439.66	423.60	423.60
14.417	446.49	429.36	429.36
14.500	454.22	435.26	435.26
14.583	463.23	441.66	441.66
14.667	474.49	448.79	448.79
14.750	488.27	456.97	456.97
14.833	503.99	466.85	466.85
14.917	521.16	478.91	478.91
15.000	539.82	493.11	493.11
15.083	560.13	509.06	509.06
15.167	582.35	526.58	526.58
15.250	605.18	545.70	545.70
15.333	628.11	566.58	566.58
15.417	650.69	588.67	588.67
15.500	672.16	611.31	611.31
15.583	692.84	633.98	633.98
15.667	712.53	656.03	656.03
15.750	730.43	677.29	677.29
15.833	746.96	697.66	697.66
15.917	762.01	716.67	716.67
16.000	773.91	734.25	734.25

16.083	782.98	750.37	750.37
16.167	793.24	764.20	764.20
16.250	810.63	775.30	775.30
16.333	854.58	785.63	785.63
16.417	926.22	799.49	799.49
16.500	1009.36	829.05	829.05
16.583	1121.71	882.21	882.21
16.667	1286.03	953.60	953.60
16.750	1456.27	1047.58	1047.58
16.833	1578.35	1180.02	1180.02
16.917	1660.52	1336.94	1336.94
17.000	1736.05	1478.70	1478.70
17.083	1812.08	1587.17	1587.17
17.167	1882.00	1674.55	1674.55
17.250	1894.48	1754.19	1754.19
17.333	1871.13	1828.33	1828.33
17.417	1815.15	1870.81	1870.81
17.500	1713.98	1875.08	1875.08
17.583	1594.21	1844.34	1844.34
17.667	1471.73	1773.90	1773.90
17.750	1341.07	1673.40	1673.40
17.833	1217.44	1558.53	1558.53
17.917	1119.72	1434.42	1434.42
18.000	1034.07	1309.42	1309.42
18.083	951.93	1198.33	1198.33
18.167	873.25	1102.32	1102.32
18.250	806.11	1015.07	1015.07
18.333	746.50	933.00	933.00
18.417	684.77	859.00	859.00
18.500	634.10	793.41	793.41
18.583	599.42	730.79	730.79
18.667	572.95	674.32	674.32
18.750	550.23	629.78	629.78
18.833	529.73	596.02	596.02
18.917	510.82	569.05	569.05
19.000	492.87	546.07	546.07
19.083	475.21	525.56	525.56
19.167	455.57	506.61	506.61
19.250	431.41	488.48	488.48
19.333	403.22	469.68	469.68
19.417	378.75	448.04	448.04
19.500	360.94	422.68	422.68
19.583	346.86	397.27	397.27
19.667	334.69	375.84	375.84
19.750	323.94	358.72	358.72
19.833	314.48	344.61	344.61
19.917	305.97	332.53	332.53
20.000	298.21	321.99	321.99

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PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 707.454 AF
 OUTFLOW VOLUME = 707.454 AF
 LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1

(UNIT-HYDROGRAPH ADDED TO STREAM #3)

WATERSHED AREA = 1715.900 ACRES
 BASEFLOW = 0.000 CFS/SQUARE-MILE
 *USER ENTERED "LAG" TIME = 0.666 HOURS
 VALLEY(DEVELOPED) S-GRAPH SELECTED
 MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.224
 LOW LOSS FRACTION = 0.408
 HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL(INCH)= 0.34
 SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)= 0.72
 SPECIFIED PEAK 1-HOUR RAINFALL(INCH) = 0.95
 SPECIFIED PEAK 3-HOUR RAINFALL(INCH) = 1.59
 SPECIFIED PEAK 6-HOUR RAINFALL(INCH) = 2.20
 SPECIFIED PEAK 24-HOUR RAINFALL(INCH) = 3.68

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
 5-MINUTE FACTOR = 0.744
 30-MINUTE FACTOR = 0.744
 1-HOUR FACTOR = 0.744
 3-HOUR FACTOR = 0.959
 6-HOUR FACTOR = 0.978
 24-HOUR FACTOR = 0.986

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
 UNIT INTERVAL PERCENTAGE OF LAG-TIME = 12.513

RUNOFF HYDROGRAPH LISTING LIMITS:
 MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 10.00
 MODEL TIME(HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES(CFS)
1	0.715	148.375
2	2.280	324.748
3	4.843	531.959
4	9.998	1069.607
5	16.947	1442.074
6	24.727	1614.604
7	33.466	1813.479
8	43.761	2136.205
9	54.600	2249.286
10	64.825	2121.887
11	73.402	1779.971
12	79.760	1319.353
13	85.044	1096.584
14	88.842	788.042

15	91.601	572.643
16	93.931	483.508
17	95.593	344.911
18	96.743	238.486
19	97.706	199.941
20	98.169	95.961
21	98.403	48.702
22	98.638	48.668
23	98.872	48.686
24	99.107	48.686
25	99.342	48.686
26	99.576	48.686
27	99.811	48.686
28	100.000	39.245

 TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 196.1094
 TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 322.8288

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)

(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	275.0	550.0	825.0	1100.0
10.000	57.1939	99.86	. Q	V .	.	.	.
10.083	57.8870	100.64	. Q	V .	.	.	.
10.167	58.5856	101.43	. Q	V .	.	.	.
10.250	59.2897	102.24	. Q	V .	.	.	.
10.333	59.9995	103.06	. Q	V .	.	.	.
10.417	60.7151	103.91	. Q	V .	.	.	.
10.500	61.4367	104.77	. Q	V .	.	.	.
10.583	62.1643	105.65	. Q	V .	.	.	.
10.667	62.8981	106.55	. Q	V .	.	.	.
10.750	63.6382	107.47	. Q	V .	.	.	.
10.833	64.3849	108.41	. Q	V .	.	.	.
10.917	65.1381	109.37	. Q	V .	.	.	.
11.000	65.8982	110.36	. Q	V .	.	.	.
11.083	66.6652	111.37	. Q	V .	.	.	.
11.167	67.4393	112.40	. Q	V .	.	.	.
11.250	68.2207	113.46	. Q	V .	.	.	.
11.333	69.0096	114.55	. Q	V .	.	.	.
11.417	69.8062	115.66	. Q	V .	.	.	.
11.500	70.6106	116.80	. Q	V .	.	.	.
11.583	71.4231	117.97	. Q	V .	.	.	.
11.667	72.2439	119.18	. Q	V .	.	.	.
11.750	73.0732	120.41	. Q	V .	.	.	.
11.833	73.9112	121.68	. Q	V .	.	.	.
11.917	74.7583	122.99	. Q	V .	.	.	.
12.000	75.6146	124.33	. Q	V .	.	.	.
12.083	76.4825	126.03	. Q	V .	.	.	.
12.167	77.3651	128.15	. Q	V .	.	.	.
12.250	78.2656	130.75	. Q	V .	.	.	.
12.333	79.1922	134.55	. Q	V .	.	.	.
12.417	80.1508	139.19	. Q	V .	.	.	.
12.500	81.1444	144.26	. Q	V .	.	.	.
12.583	82.1761	149.81	. Q	V .	.	.	.
12.667	83.2513	156.12	. Q	V .	.	.	.
12.750	84.3721	162.74	. Q	V .	.	.	.
12.833	85.5371	169.16	. Q	V .	.	.	.
12.917	86.7418	174.92	. Q	V .	.	.	.
13.000	87.9800	179.78	. Q	V .	.	.	.
13.083	89.2489	184.25	. Q	.V	.	.	.
13.167	90.5447	188.14	. Q	.V	.	.	.
13.250	91.8646	191.66	. Q	.V	.	.	.
13.333	93.2081	195.08	. Q	.V	.	.	.
13.417	94.5738	198.29	. Q	.V	.	.	.
13.500	95.9607	201.38	. Q	.V	.	.	.
13.583	97.3690	204.49	. Q	.V	.	.	.
13.667	98.7980	207.49	. Q	.V	.	.	.
13.750	100.2478	210.51	. Q	.V	.	.	.
13.833	101.7192	213.65	. Q	.V	.	.	.

13.917	103.2133	216.93	. Q	. V	.	.	.
14.000	104.7309	220.37	. Q	. V	.	.	.
14.083	106.2785	224.71	. Q	. V	.	.	.
14.167	107.8633	230.11	. Q	. V	.	.	.
14.250	109.4937	236.73	. Q	. V	.	.	.
14.333	111.1896	246.24	. Q	. V	.	.	.
14.417	112.9645	257.72	. Q	. V	.	.	.
14.500	114.8257	270.25	. Q	. V	.	.	.
14.583	116.7813	283.95	. Q	. V	.	.	.
14.667	118.8439	299.48	. Q	. V	.	.	.
14.750	121.0186	315.78	. Q	. V	.	.	.
14.833	123.3026	331.63	. Q	. V	.	.	.
14.917	125.6853	345.98	. Q	. V	.	.	.
15.000	128.1528	358.28	. Q	. V	.	.	.
15.083	130.6995	369.77	. Q	. V	.	.	.
15.167	133.3172	380.10	. Q	. V	.	.	.
15.250	136.0018	389.79	. Q	. V	.	.	.
15.333	138.7537	399.58	. Q	. V	.	.	.
15.417	141.5618	407.75	. Q	. V	.	.	.
15.500	144.4153	414.32	. Q	. V	.	.	.
15.583	147.3047	419.54	. Q	. V	.	.	.
15.667	150.1967	419.91	. Q	. V	.	.	.
15.750	153.0763	418.11	. Q	. V	.	.	.
15.833	155.9497	417.23	. Q	. V	.	.	.
15.917	158.8396	419.61	. Q	. V	.	.	.
16.000	161.7921	428.70	. Q	. V	.	.	.
16.083	165.0457	472.42	. Q	. V	.	.	.
16.167	168.7161	532.95	. Q	. V	.	.	.
16.250	172.9439	613.87	. V	. Q	.	.	.
16.333	178.1580	757.08	. V	. Q	.	.	.
16.417	184.0889	861.17	. V	. Q	.	.	.
16.500	190.4493	923.53	. V	. Q	.	.	.
16.583	197.2435	986.51	. V	. Q	.	.	.
16.667	204.5442	1060.06	. V	. Q	.	.	.
16.750	211.9466	1074.83	. V	. Q	.	.	.
16.833	218.9894	1022.62	. V	. Q	.	.	.
16.917	225.3221	919.51	. V	. Q	.	.	.
17.000	230.8260	799.17	. V	. Q	.	.	.
17.083	235.8250	725.85	. Q	. V	.	.	.
17.167	240.2434	641.54	. Q	. V	.	.	.
17.250	244.2221	577.71	. Q	. V	.	.	.
17.333	247.9021	534.34	. Q	. V	.	.	.
17.417	251.2243	482.38	. Q	. V	.	.	.
17.500	254.2306	436.53	. Q	. V	.	.	.
17.583	257.0016	402.35	. Q	. V	.	.	.
17.667	259.4653	357.73	. Q	. V	.	.	.
17.750	261.7130	326.36	. Q	. V	.	.	.
17.833	263.8229	306.37	. Q	. V	.	.	.
17.917	265.8162	289.43	. Q	. V	.	.	.
18.000	267.7082	274.72	. Q	. V	.	.	.
18.083	269.5052	260.93	. Q	. V	.	.	.
18.167	271.2181	248.72	. Q	. V	.	.	.
18.250	272.8492	236.83	. Q	. V	.	.	.
18.333	274.3801	222.28	. Q	. V	.	.	.
18.417	275.7810	203.41	. Q	. V	.	.	.
18.500	277.1112	193.14	. Q	. V	.	.	.
18.583	278.3752	183.54	. Q	. V	.	.	.
18.667	279.5748	174.18	. Q	. V	.	.	.

18.750	280.7099	164.82	.	Q	.	.	.	V	.
18.833	281.7848	156.07	.	Q	.	.	.	V	.
18.917	282.8065	148.36	.	Q	.	.	.	V	.
19.000	283.7837	141.88	.	Q	.	.	.	V	.
19.083	284.7210	136.10	.	Q	.	.	.	V	.
19.167	285.6245	131.19	.	Q	.	.	.	V	.
19.250	286.4986	126.92	.	Q	.	.	.	V	.
19.333	287.3461	123.05	.	Q	.	.	.	V	.
19.417	288.1713	119.82	.	Q	.	.	.	V	.
19.500	288.9767	116.95	.	Q	.	.	.	V	.
19.583	289.7639	114.29	.	Q	.	.	.	V	.
19.667	290.5350	111.97	.	Q	.	.	.	V	.
19.750	291.2915	109.85	.	Q	.	.	.	V	.
19.833	292.0341	107.82	.	Q	.	.	.	V	.
19.917	292.7634	105.89	.	Q	.	.	.	V	.
20.000	293.4798	104.03	.	Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	545.0
20%	270.0
30%	180.0
40%	90.0
50%	65.0
60%	50.0
70%	45.0
80%	35.0
90%	20.0

FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<

STREAM HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	600.0	1200.0	1800.0	2400.0
10.000	164.3483	295.98	.	Q V	.	.	.
10.083	166.4015	298.13	.	Q V	.	.	.
10.167	168.4698	300.31	.	Q V	.	.	.
10.250	170.5534	302.54	.	Q V	.	.	.
10.333	172.6527	304.81	.	Q V	.	.	.
10.417	174.7679	307.13	.	Q V	.	.	.
10.500	176.8994	309.50	.	Q V	.	.	.
10.583	179.0476	311.91	.	Q V	.	.	.
10.667	181.2127	314.37	.	Q V	.	.	.
10.750	183.3951	316.89	.	Q V	.	.	.
10.833	185.5953	319.46	.	Q V	.	.	.
10.917	187.8134	322.08	.	Q V	.	.	.
11.000	190.0501	324.76	.	Q V	.	.	.
11.083	192.3056	327.50	.	Q V	.	.	.
11.167	194.5804	330.31	.	Q V	.	.	.
11.250	196.8750	333.17	.	Q V	.	.	.
11.333	199.1898	336.10	.	Q V	.	.	.
11.417	201.5252	339.10	.	Q V	.	.	.
11.500	203.8818	342.18	.	Q V	.	.	.
11.583	206.2601	345.32	.	Q V	.	.	.
11.667	208.6605	348.55	.	Q V	.	.	.
11.750	211.0838	351.85	.	Q V	.	.	.
11.833	213.5303	355.24	.	Q V	.	.	.
11.917	216.0008	358.72	.	Q V	.	.	.
12.000	218.4959	362.28	.	Q V	.	.	.
12.083	221.0184	366.26	.	Q V	.	.	.
12.167	223.5715	370.71	.	Q V	.	.	.
12.250	226.1591	375.71	.	Q V	.	.	.
12.333	228.7897	381.97	.	Q V	.	.	.
12.417	231.4698	389.14	.	Q V	.	.	.
12.500	234.2032	396.90	.	Q V	.	.	.
12.583	236.9957	405.46	.	Q V	.	.	.
12.667	239.8552	415.21	.	Q V	.	.	.
12.750	242.7879	425.82	.	Q V	.	.	.
12.833	245.7982	437.10	.	Q V	.	.	.
12.917	248.8894	448.84	.	Q V	.	.	.
13.000	252.0625	460.74	.	Q V	.	.	.
13.083	255.3210	473.12	.	Q V	.	.	.
13.167	258.6661	485.71	.	Q V	.	.	.
13.250	262.1008	498.72	.	Q V	.	.	.
13.333	265.6304	512.50	.	Q V	.	.	.

13.417	269.2575	526.66	.	Q	V	.	.	.
13.500	272.9830	540.94	.	QV	.	.	.	.
13.583	276.8064	555.15	.	QV	.	.	.	.
13.667	280.7235	568.77	.	QV	.	.	.	.
13.750	284.7297	581.70	.	Q.V	.	.	.	.
13.833	288.8214	594.11	.	Q.V	.	.	.	.
13.917	292.9951	606.02	.	QV	.	.	.	.
14.000	297.2480	617.51	.	QV	.	.	.	.
14.083	301.5820	629.30	.	QV	.	.	.	.
14.167	306.0002	641.51	.	QV	.	.	.	.
14.250	310.5071	654.41	.	Q	V	.	.	.
14.333	315.1203	669.84	.	.QV	.	.	.	.
14.417	319.8522	687.08	.	.QV	.	.	.	.
14.500	324.7111	705.50	.	.QV	.	.	.	.
14.583	329.7084	725.61	.	.	Q	.	.	.
14.667	334.8618	748.28	.	.	QV	.	.	.
14.750	340.1838	772.75	.	.	QV	.	.	.
14.833	345.6829	798.47	.	.	Q	.	.	.
14.917	351.3640	824.89	.	.	Q	.	.	.
15.000	357.2276	851.39	.	.	VQ	.	.	.
15.083	363.2802	878.84	.	.	Q	.	.	.
15.167	369.5246	906.69	.	.	VQ	.	.	.
15.250	375.9674	935.49	.	.	VQ	.	.	.
15.333	382.6214	966.16	.	.	V	Q	.	.
15.417	389.4838	996.42	.	.	VQ	.	.	.
15.500	396.5474	1025.64	.	.	V	Q	.	.
15.583	403.8030	1053.52	.	.	V	Q	.	.
15.667	411.2131	1075.94	.	.	V	Q	.	.
15.750	418.7572	1095.40	.	.	V	Q	.	.
15.833	426.4355	1114.89	.	.	V	Q	.	.
15.917	434.2611	1136.28	.	.	V	Q	.	.
16.000	442.2704	1162.94	.	.	V	Q.	.	.
16.083	450.6919	1222.80	.	.	V	Q	.	.
16.167	459.6254	1297.15	.	.	V	.Q	.	.
16.250	469.1927	1389.17	.	.	V	.	Q	.
16.333	479.8174	1542.71	.	.	V	.	Q	.
16.417	491.2545	1660.66	.	.	V.	.	Q	.
16.500	503.3246	1752.58	.	.	V.	.	Q.	.
16.583	516.1946	1868.72	.	.	V	.	.Q	.
16.667	530.0628	2013.67	.	.	V	.	Q	.
16.750	544.6799	2122.41	.	.	.V	.	Q	Q
16.833	559.8496	2202.64	.	.	.V	.	Q	Q
16.917	575.3899	2256.45	.	.	.V	.	Q	Q
17.000	591.0778	2277.87	.	.	.V	.	Q	Q
17.083	607.0076	2313.02	.	.	.V	.	Q	Q
17.167	622.9587	2316.10	.	.	.V	.	Q	Q
17.250	639.0186	2331.90	.	.	.V	.	Q	Q
17.333	655.2904	2362.67	.	.	.V	.	Q	Q
17.417	671.4969	2353.19	.	.	.V	.	Q	Q
17.500	687.4171	2311.60	.	.	.V	.	Q	Q
17.583	702.8901	2246.69	.	.	.V	.	Q	Q
17.667	717.5707	2131.64	.	.	.V	.	Q	Q
17.750	731.3431	1999.76	.	.	.V	.	Q	Q
17.833	744.1868	1864.90	.	.	.V	.	.Q	Q
17.917	756.0590	1723.85	.	.	.QV	.	.	Q
18.000	766.9691	1584.13	.	.	Q	.	V	.
18.083	777.0190	1459.26	.	.	Q	.	V	.
18.167	786.3237	1351.04	.	.	Q	.	V	.

18.250	794.9456	1251.90	.	.	Q	.	V	.
18.333	802.9020	1155.28	.	.	Q.	.	.V	.
18.417	810.2189	1062.41	.	.	Q	.	.V	.
18.500	817.0134	986.55	.	.	Q	.	.V	.
18.583	823.3104	914.33	.	.	Q	.	.V	.
18.667	829.1540	848.50	.	.	Q	.	.V	.
18.750	834.6265	794.60	.	.	Q	.	.V	.
18.833	839.8062	752.09	.	.	Q	.	.V	.
18.917	844.7470	717.41	.	.	.Q	.	.V	.
19.000	849.4849	687.95	.	.	.Q	.	.V	.
19.083	854.0419	661.67	.	.	.Q	.	.V	.
19.167	858.4344	637.80	.	.	Q	.	.V	.
19.250	862.6727	615.40	.	.	Q	.	.V	.
19.333	866.7548	592.72	.	.	Q.	.	.V	.
19.417	870.6657	567.86	.	.	Q.	.	.V	.
19.500	874.3822	539.63	.	.	Q	.	.V	.
19.583	877.9054	511.57	.	.	Q	.	.V	.
19.667	881.2650	487.81	.	.	Q	.	.V	.
19.750	884.4921	468.57	.	.	Q	.	.V	.
19.833	887.6080	452.44	.	.	Q	.	.V	.
19.917	890.6274	438.41	.	.	Q	.	.V	.
20.000	893.5614	426.02	.	.	Q	.	.V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	1025.0
20%	400.0
30%	265.0
40%	195.0
50%	135.0
60%	110.0
70%	95.0
80%	70.0
90%	55.0

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END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - COMPLEX UH *
* ULTIMATE CONDITION - REGIONAL NODE 132C *
* 50-YR EV AUG 2017 JMITAL *

FILE NAME: EV5032CC.DAT
TIME/DATE OF STUDY: 16:52 08/21/2017

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

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(UNIT-HYDROGRAPH ADDED TO STREAM #2)

WATERSHED AREA = 4924.400 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.821 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244
LOW LOSS FRACTION = 0.538
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.37
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.80
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 1.06
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.78
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.47
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 4.12

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.788
30-MINUTE FACTOR = 0.788
1-HOUR FACTOR = 0.788
3-HOUR FACTOR = 0.968
6-HOUR FACTOR = 0.984
24-HOUR FACTOR = 0.990

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 10.150

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.580	345.423
2	1.763	704.566
3	3.385	965.815
4	6.233	1696.091
5	10.947	2807.365
6	16.695	3423.111
7	22.920	3707.788
8	29.521	3930.894
9	37.286	4624.335
10	46.219	5319.988
11	54.738	5073.336
12	63.175	5024.953
13	70.521	4374.467
14	76.573	3604.496
15	81.238	2778.116
16	85.407	2483.066
17	88.495	1839.204
18	90.815	1381.282
19	92.862	1219.414
20	94.528	992.055
21	95.788	750.029
22	96.685	534.246
23	97.481	474.138
24	98.059	344.417
25	98.257	117.576
26	98.447	113.337
27	98.637	113.450
28	98.828	113.332
29	99.018	113.223
30	99.208	113.223
31	99.398	113.223
32	99.588	113.223
33	99.778	113.223
34	99.968	113.223
35	100.000	18.833

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 803.6531
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 869.8262

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)

(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	800.0	1600.0	2400.0	3200.0
10.000	139.5128	246.21	. Q	V	.	.	.
10.083	141.2214	248.09	. Q	V	.	.	.
10.167	142.9432	250.01	. Q	V	.	.	.
10.250	144.6785	251.96	. Q	V	.	.	.
10.333	146.4276	253.97	. Q	V	.	.	.
10.417	148.1906	256.00	. Q	V	.	.	.
10.500	149.9681	258.09	. Q	V	.	.	.
10.583	151.7602	260.21	. Q	V	.	.	.
10.667	153.5673	262.39	. Q	V	.	.	.
10.750	155.3897	264.61	. Q	V	.	.	.
10.833	157.2278	266.89	. Q	V	.	.	.
10.917	159.0818	269.21	. Q	V	.	.	.
11.000	160.9523	271.59	. Q	V	.	.	.
11.083	162.8395	274.02	. Q	V	.	.	.
11.167	164.7439	276.51	. Q	V	.	.	.
11.250	166.6658	279.06	. Q	V	.	.	.
11.333	168.6057	281.68	. Q	V	.	.	.
11.417	170.5640	284.35	. Q	V	.	.	.
11.500	172.5413	287.10	. Q	V	.	.	.
11.583	174.5380	289.91	. Q	V	.	.	.
11.667	176.5546	292.81	. Q	V	.	.	.
11.750	178.5916	295.77	. Q	V	.	.	.
11.833	180.6496	298.82	. Q	V	.	.	.
11.917	182.7291	301.94	. Q	V	.	.	.
12.000	184.8308	305.17	. Q	V	.	.	.
12.083	186.9597	309.13	. Q	V	.	.	.
12.167	189.1215	313.88	. Q	V	.	.	.
12.250	191.3200	319.23	. Q	V	.	.	.
12.333	193.5658	326.09	. Q	V	.	.	.
12.417	195.8742	335.18	. Q	V	.	.	.
12.500	198.2543	345.59	. Q	V	.	.	.
12.583	200.7107	356.67	. Q	V	.	.	.
12.667	203.2474	368.33	. Q	V	.	.	.
12.750	205.8745	381.46	. Q	V	.	.	.
12.833	208.6024	396.09	. Q	V	.	.	.
12.917	211.4290	410.41	. Q	V	.	.	.
13.000	214.3549	424.85	. Q	V	.	.	.
13.083	217.3729	438.21	. Q	V	.	.	.
13.167	220.4743	450.32	. Q	V	.	.	.
13.250	223.6494	461.03	. Q	V	.	.	.
13.333	226.8961	471.42	. Q	V	.	.	.
13.417	230.2072	480.77	. Q	V	.	.	.
13.500	233.5785	489.51	. Q	V	.	.	.
13.583	237.0092	498.15	. Q	V	.	.	.
13.667	240.4985	506.64	. Q	.V	.	.	.
13.750	244.0448	514.92	. Q	.V	.	.	.
13.833	247.6474	523.10	. Q	.V	.	.	.

13.917	251.3076	531.46	. Q	.V	.	.	.
14.000	255.0261	539.93	. Q	.V	.	.	.
14.083	258.8108	549.53	. Q	.V	.	.	.
14.167	262.6732	560.82	. Q	.V	.	.	.
14.250	266.6223	573.41	. Q	.V	.	.	.
14.333	270.6793	589.08	. Q	.V	.	.	.
14.417	274.8744	609.13	. Q	.V	.	.	.
14.500	279.2262	631.88	. Q	.V	.	.	.
14.583	283.7448	656.10	. Q	.V	.	.	.
14.667	288.4395	681.68	. Q	.V	.	.	.
14.750	293.3311	710.26	. Q	.V	.	.	.
14.833	298.4411	741.98	. Q	.V	.	.	.
14.917	303.7670	773.32	. Q	.V	.	.	.
15.000	309.3139	805.42	. Q	V	.	.	.
15.083	315.0744	836.42	. Q	V	.	.	.
15.167	321.0409	866.33	. Q	V	.	.	.
15.250	327.2085	895.54	. .Q	V	.	.	.
15.333	333.5912	926.77	. .Q	V	.	.	.
15.417	340.1692	955.12	. .Q	V	.	.	.
15.500	346.9292	981.56	. .Q	V	.	.	.
15.583	353.8773	1008.87	. .Q	V	.	.	.
15.667	360.9828	1031.72	. .Q	V	.	.	.
15.750	368.2032	1048.40	. .Q	V	.	.	.
15.833	375.5505	1066.82	. .Q	V	.	.	.
15.917	383.1097	1097.60	. .Q	V	.	.	.
16.000	391.0563	1153.85	. .Q	V	.	.	.
16.083	399.9898	1297.14	. .Q	V	.	.	.
16.167	410.0115	1455.15	. .Q	.	.	.	.
16.250	421.1897	1623.08	. .VQ	.	.	.	.
16.333	434.3109	1905.19	. .V	.Q	.	.	.
16.417	449.8767	2260.17	. .V	.Q	.	.	.
16.500	467.0224	2489.55	. .V	.Q	.	.	.
16.583	485.1437	2631.22	. .V	.Q	.	.	.
16.667	504.1861	2764.95	. .V	.Q	.	.	.
16.750	524.7488	2985.71	. .V	.Q	.	.	.
16.833	546.4779	3155.07	. .V	.Q	.	.	.
16.917	567.6077	3068.05	. .V	.Q	.	.	.
17.000	588.0260	2964.74	. .V	.Q	.	.	.
17.083	606.6608	2705.77	. .V	.Q	.	.	.
17.167	623.3058	2416.85	. .V	.Q	.	.	.
17.250	637.9421	2125.20	. .V	.Q	.	.	.
17.333	651.3724	1950.08	. .V	.Q	.	.	.
17.417	663.1564	1711.03	. .V	.Q	.	.	.
17.500	673.6295	1520.69	. .V	.Q	.	.	.
17.583	683.2654	1399.14	. .V	.Q	.	.	.
17.667	692.0244	1271.80	. .V	.Q	.	.	.
17.750	699.8815	1140.86	. .V	.Q	.	.	.
17.833	706.9141	1021.12	. .V	.Q	.	.	.
17.917	713.3902	940.34	. .V	.Q	.	.	.
18.000	719.2393	849.28	. .V	.Q	.	.	.
18.083	724.3970	748.91	. .V	.Q	.	.	.
18.167	729.2541	705.25	. .V	.Q	.	.	.
18.250	733.8919	673.41	. .V	.Q	.	.	.
18.333	738.3231	643.41	. .V	.Q	.	.	.
18.417	742.5458	613.13	. .V	.Q	.	.	.
18.500	746.5769	585.32	. .V	.Q	.	.	.
18.583	750.4222	558.34	. .V	.Q	.	.	.
18.667	754.0887	532.37	. .V	.Q	.	.	.

18.750	757.5652	504.80	.	Q	.	.	.	V	.
18.833	760.8341	474.64	.	Q	.	.	.	V	.
18.917	763.7784	427.50	.	Q	.	.	.	V	.
19.000	766.5316	399.76	.	Q	.	.	.	V	.
19.083	769.1556	381.02	.	Q	.	.	.	V	.
19.167	771.6710	365.24	.	Q	.	.	.	V	.
19.250	774.0864	350.71	.	Q	.	.	.	V	.
19.333	776.4095	337.31	.	Q	.	.	.	V	.
19.417	778.6536	325.85	.	Q	.	.	.	V	.
19.500	780.8289	315.85	.	Q	.	.	.	V	.
19.583	782.9404	306.59	.	Q	.	.	.	V	.
19.667	784.9938	298.15	.	Q	.	.	.	V	.
19.750	786.9945	290.51	.	Q	.	.	.	V	.
19.833	788.9475	283.58	.	Q	.	.	.	V	.
19.917	790.8579	277.39	.	Q	.	.	.	V	.
20.000	792.7296	271.77	.	Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	440.0
20%	235.0
30%	150.0
40%	100.0
50%	75.0
60%	65.0
70%	50.0
80%	35.0
90%	20.0

 FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 2

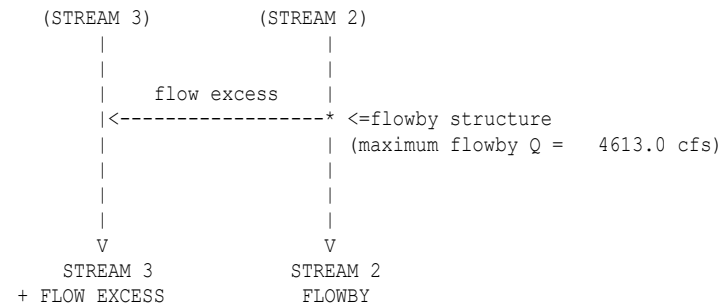
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<<

MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
 FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
 THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.

DATA PAIR NUMBER	Qcenter (CFS)	Qpass (CFS)
-	0.00	0.00
1	413.00	413.00
2	1897.00	1613.00
3	4682.00	3013.00
4	6819.00	4013.00
5	8100.00	4613.00

FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3

INFLOW INFLOW



FLOWBY BASIN MODELING RESULTS:

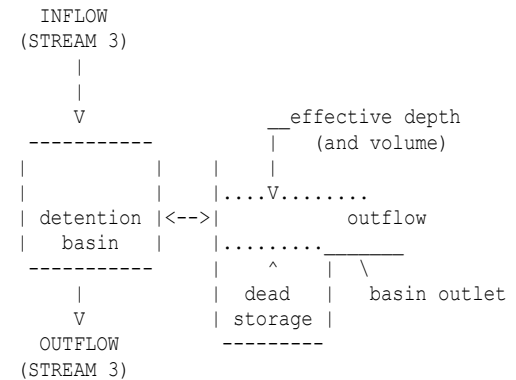
MODEL TIME (HRS)	INFLOW (STREAM 3) (CFS)	INFLOW (STREAM 2) (CFS)	OUTFLOW (STREAM 3) (CFS)	FLOWBY (STREAM 2) (CFS)
10.000	0.00	246.21	0.00	246.21
10.083	0.00	248.09	0.00	248.09
10.167	0.00	250.01	0.00	250.01
10.250	0.00	251.96	0.00	251.96
10.333	0.00	253.97	0.00	253.97
10.417	0.00	256.00	0.00	256.00
10.500	0.00	258.09	0.00	258.09
10.583	0.00	260.21	0.00	260.21
10.667	0.00	262.39	0.00	262.39
10.750	0.00	264.61	0.00	264.61
10.833	0.00	266.89	0.00	266.89
10.917	0.00	269.21	0.00	269.21
11.000	0.00	271.59	0.00	271.59
11.083	0.00	274.02	0.00	274.02
11.167	0.00	276.51	0.00	276.51
11.250	0.00	279.06	0.00	279.06
11.333	0.00	281.68	0.00	281.68
11.417	0.00	284.35	0.00	284.35
11.500	0.00	287.10	0.00	287.10
11.583	0.00	289.91	0.00	289.91
11.667	0.00	292.81	0.00	292.81
11.750	0.00	295.77	0.00	295.77
11.833	0.00	298.82	0.00	298.82
11.917	0.00	301.94	0.00	301.94
12.000	0.00	305.17	0.00	305.17
12.083	0.00	309.13	0.00	309.13
12.167	0.00	313.88	0.00	313.88
12.250	0.00	319.23	0.00	319.23
12.333	0.00	326.09	0.00	326.09
12.417	0.00	335.18	0.00	335.18
12.500	0.00	345.59	0.00	345.59
12.583	0.00	356.67	0.00	356.67
12.667	0.00	368.33	0.00	368.33
12.750	0.00	381.46	0.00	381.46
12.833	0.00	396.09	0.00	396.09
12.917	0.00	410.41	0.00	410.41
13.000	0.00	424.85	2.27	422.58

13.083	0.00	438.21	4.82	433.38
13.167	0.00	450.32	7.14	443.18
13.250	0.00	461.03	9.19	451.84
13.333	0.00	471.42	11.18	460.24
13.417	0.00	480.77	12.97	467.80
13.500	0.00	489.51	14.64	474.86
13.583	0.00	498.15	16.30	481.85
13.667	0.00	506.64	17.92	488.72
13.750	0.00	514.92	19.50	495.41
13.833	0.00	523.10	21.07	502.03
13.917	0.00	531.46	22.67	508.79
14.000	0.00	539.93	24.29	515.64
14.083	0.00	549.53	26.13	523.40
14.167	0.00	560.82	28.29	532.53
14.250	0.00	573.41	30.70	542.71
14.333	0.00	589.08	33.70	555.38
14.417	0.00	609.13	37.53	571.60
14.500	0.00	631.88	41.89	589.99
14.583	0.00	656.10	46.52	609.58
14.667	0.00	681.68	51.42	630.26
14.750	0.00	710.26	56.89	653.37
14.833	0.00	741.98	62.96	679.02
14.917	0.00	773.32	68.96	704.36
15.000	0.00	805.42	75.10	730.32
15.083	0.00	836.42	81.03	755.39
15.167	0.00	866.33	86.76	779.58
15.250	0.00	895.54	92.35	803.19
15.333	0.00	926.77	98.32	828.44
15.417	0.00	955.12	103.75	851.38
15.500	0.00	981.56	108.81	872.75
15.583	0.00	1008.87	114.03	894.83
15.667	0.00	1031.72	118.41	913.32
15.750	0.00	1048.40	121.60	926.80
15.833	0.00	1066.82	125.12	941.70
15.917	0.00	1097.60	131.01	966.58
16.000	0.00	1153.85	141.78	1012.07
16.083	0.00	1297.14	169.20	1127.94
16.167	0.00	1455.15	199.44	1255.71
16.250	0.00	1623.08	231.58	1391.50
16.333	0.00	1905.19	288.07	1617.12
16.417	0.00	2260.17	464.61	1795.56
16.500	0.00	2489.55	578.68	1910.87
16.583	0.00	2631.22	649.13	1982.09
16.667	0.00	2764.95	715.64	2049.31
16.750	0.00	2985.71	825.42	2160.28
16.833	0.00	3155.07	909.65	2245.42
16.917	0.00	3068.05	866.37	2201.68
17.000	0.00	2964.74	814.99	2149.74
17.083	0.00	2705.77	686.21	2019.56
17.167	0.00	2416.85	542.53	1874.33
17.250	0.00	2125.20	397.49	1727.71
17.333	0.00	1950.08	310.40	1639.68
17.417	0.00	1711.03	248.41	1462.62
17.500	0.00	1520.69	211.98	1308.71
17.583	0.00	1399.14	188.72	1210.42
17.667	0.00	1271.80	164.35	1107.45
17.750	0.00	1140.86	139.29	1001.56
17.833	0.00	1021.12	116.38	904.74

17.917	0.00	940.34	100.92	839.42
18.000	0.00	849.28	83.49	765.79
18.083	0.00	748.91	64.28	684.62
18.167	0.00	705.25	55.93	649.32
18.250	0.00	673.41	49.84	623.57
18.333	0.00	643.41	44.10	599.32
18.417	0.00	613.13	38.30	574.83
18.500	0.00	585.32	32.98	552.34
18.583	0.00	558.34	27.82	530.53
18.667	0.00	532.37	22.84	509.53
18.750	0.00	504.80	17.57	487.23
18.833	0.00	474.64	11.80	462.84
18.917	0.00	427.50	2.78	424.73
19.000	0.00	399.76	0.00	399.76
19.083	0.00	381.02	0.00	381.02
19.167	0.00	365.24	0.00	365.24
19.250	0.00	350.71	0.00	350.71
19.333	0.00	337.31	0.00	337.31
19.417	0.00	325.85	0.00	325.85
19.500	0.00	315.85	0.00	315.85
19.583	0.00	306.59	0.00	306.59
19.667	0.00	298.15	0.00	298.15
19.750	0.00	290.51	0.00	290.51
19.833	0.00	283.58	0.00	283.58
19.917	0.00	277.39	0.00	277.39
20.000	0.00	271.77	0.00	271.77

 FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 3.1

 >>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
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ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
 THROUGH A FLOW-THROUGH DETENTION BASIN
 SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
 DEAD STORAGE(AF) = 5.700
 SPECIFIED DEAD STORAGE(AF) FILLED = 5.700
 SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000

DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.50	0.01	0.001
3	2.00	0.02	1.900
4	4.00	0.03	16.100
5	4.30	0.04	18.200
6	5.00	314.00	23.200
7	6.00	1306.00	30.300
8	7.00	2847.00	39.100
9	8.00	4942.00	47.800

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MODIFIED-PULS BASIN ROUTING MODEL RESULTS (5-MINUTE COMPUTATION INTERVALS):
 (Note: Computed EFFECTIVE DEPTH and VOLUME are estimated at the clock time;
 MEAN OUTFLOW is the average value during the unit interval.)

CLOCK TIME (HRS)	DEAD-STORAGE FILLED (AF)	INFLOW (CFS)	LOSS (CFS)	EFFECTIVE DEPTH (FT)	MEAN OUTFLOW (CFS)	EFFECTIVE VOLUME (AF)
10.083	5.700	0.00	0.00	0.00	0.0	0.000
10.167	5.700	0.00	0.00	0.00	0.0	0.000
10.250	5.700	0.00	0.00	0.00	0.0	0.000
10.333	5.700	0.00	0.00	0.00	0.0	0.000
10.417	5.700	0.00	0.00	0.00	0.0	0.000
10.500	5.700	0.00	0.00	0.00	0.0	0.000
10.583	5.700	0.00	0.00	0.00	0.0	0.000
10.667	5.700	0.00	0.00	0.00	0.0	0.000
10.750	5.700	0.00	0.00	0.00	0.0	0.000
10.833	5.700	0.00	0.00	0.00	0.0	0.000
10.917	5.700	0.00	0.00	0.00	0.0	0.000
11.000	5.700	0.00	0.00	0.00	0.0	0.000
11.083	5.700	0.00	0.00	0.00	0.0	0.000
11.167	5.700	0.00	0.00	0.00	0.0	0.000
11.250	5.700	0.00	0.00	0.00	0.0	0.000
11.333	5.700	0.00	0.00	0.00	0.0	0.000
11.417	5.700	0.00	0.00	0.00	0.0	0.000
11.500	5.700	0.00	0.00	0.00	0.0	0.000
11.583	5.700	0.00	0.00	0.00	0.0	0.000
11.667	5.700	0.00	0.00	0.00	0.0	0.000
11.750	5.700	0.00	0.00	0.00	0.0	0.000
11.833	5.700	0.00	0.00	0.00	0.0	0.000
11.917	5.700	0.00	0.00	0.00	0.0	0.000
12.000	5.700	0.00	0.00	0.00	0.0	0.000
12.083	5.700	0.00	0.00	0.00	0.0	0.000
12.167	5.700	0.00	0.00	0.00	0.0	0.000
12.250	5.700	0.00	0.00	0.00	0.0	0.000
12.333	5.700	0.00	0.00	0.00	0.0	0.000
12.417	5.700	0.00	0.00	0.00	0.0	0.000
12.500	5.700	0.00	0.00	0.00	0.0	0.000
12.583	5.700	0.00	0.00	0.00	0.0	0.000

12.667	5.700	0.00	0.00	0.00	0.0	0.000
12.750	5.700	0.00	0.00	0.00	0.0	0.000
12.833	5.700	0.00	0.00	0.00	0.0	0.000
12.917	5.700	0.00	0.00	0.00	0.0	0.000
13.000	5.700	2.27	0.00	1.50	0.0	0.016
13.083	5.700	4.82	0.00	1.51	0.0	0.049
13.167	5.700	7.14	0.00	1.53	0.0	0.098
13.250	5.700	9.19	0.00	1.54	0.0	0.161
13.333	5.700	11.18	0.00	1.56	0.0	0.238
13.417	5.700	12.97	0.00	1.59	0.0	0.327
13.500	5.700	14.64	0.00	1.61	0.0	0.428
13.583	5.700	16.30	0.00	1.64	0.0	0.540
13.667	5.700	17.92	0.00	1.67	0.0	0.663
13.750	5.700	19.50	0.00	1.71	0.0	0.798
13.833	5.700	21.07	0.00	1.75	0.0	0.943
13.917	5.700	22.67	0.00	1.79	0.0	1.099
14.000	5.700	24.29	0.00	1.83	0.0	1.266
14.083	5.700	26.13	0.00	1.88	0.0	1.446
14.167	5.700	28.29	0.00	1.93	0.0	1.640
14.250	5.700	30.70	0.00	1.99	0.0	1.852
14.333	5.700	33.70	0.00	2.03	0.0	2.084
14.417	5.700	37.53	0.00	2.06	0.0	2.342
14.500	5.700	41.89	0.00	2.10	0.0	2.630
14.583	5.700	46.52	0.00	2.15	0.0	2.950
14.667	5.700	51.42	0.00	2.20	0.0	3.304
14.750	5.700	56.89	0.00	2.25	0.0	3.696
14.833	5.700	62.96	0.00	2.31	0.0	4.129
14.917	5.700	68.96	0.00	2.38	0.0	4.604
15.000	5.700	75.10	0.00	2.45	0.0	5.121
15.083	5.700	81.03	0.00	2.53	0.0	5.679
15.167	5.700	86.76	0.00	2.62	0.0	6.276
15.250	5.700	92.35	0.00	2.71	0.0	6.912
15.333	5.700	98.32	0.00	2.80	0.0	7.589
15.417	5.700	103.75	0.00	2.90	0.0	8.304
15.500	5.700	108.81	0.00	3.01	0.0	9.053
15.583	5.700	114.03	0.00	3.12	0.0	9.838
15.667	5.700	118.41	0.00	3.23	0.0	10.653
15.750	5.700	121.60	0.00	3.35	0.0	11.490
15.833	5.700	125.12	0.00	3.47	0.0	12.352
15.917	5.700	131.01	0.00	3.60	0.0	13.254
16.000	5.700	141.78	0.00	3.74	0.0	14.230
16.083	5.700	169.20	0.00	3.90	0.0	15.395
16.167	5.700	199.44	0.00	4.10	0.0	16.769
16.250	5.700	231.58	0.00	4.32	4.3	18.334
16.333	5.700	288.07	0.00	4.54	58.2	19.918
16.417	5.700	464.61	0.00	4.82	171.3	21.938
16.500	5.700	578.68	0.00	5.08	313.7	23.763
16.583	5.700	649.13	0.00	5.25	475.9	24.955
16.667	5.700	715.64	0.00	5.35	610.1	25.683
16.750	5.700	825.42	0.00	5.46	714.3	26.448
16.833	5.700	909.65	0.00	5.55	813.9	27.107
16.917	5.700	866.37	0.00	5.55	862.0	27.137
17.000	5.700	814.99	0.00	5.52	848.2	26.909
17.083	5.700	686.21	0.00	5.43	784.8	26.230
17.167	5.700	542.53	0.00	5.30	674.1	25.324
17.250	5.700	397.49	0.00	5.16	541.5	24.332
17.333	5.700	310.40	0.00	5.05	419.6	23.580
17.417	5.700	248.41	0.00	4.97	334.0	22.991

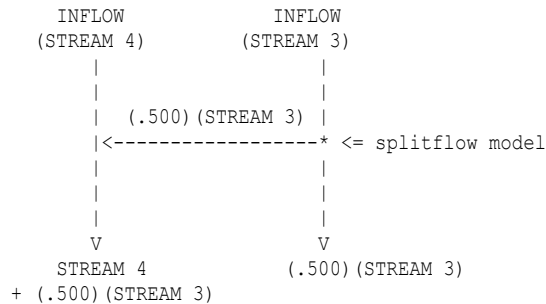
17.500	5.700	211.98	0.00	4.90	285.1	22.487
17.583	5.700	188.72	0.00	4.84	254.9	22.031
17.667	5.700	164.35	0.00	4.78	227.1	21.600
17.750	5.700	139.29	0.00	4.72	200.3	21.179
17.833	5.700	116.38	0.00	4.66	174.5	20.779
17.917	5.700	100.92	0.00	4.61	151.1	20.433
18.000	5.700	83.49	0.00	4.57	130.2	20.112
18.083	5.700	64.28	0.00	4.52	110.2	19.796
18.167	5.700	55.93	0.00	4.49	92.4	19.545
18.250	5.700	49.84	0.00	4.46	78.3	19.349
18.333	5.700	44.10	0.00	4.44	67.2	19.190
18.417	5.700	38.30	0.00	4.42	57.9	19.054
18.500	5.700	32.98	0.00	4.40	50.0	18.937
18.583	5.700	27.82	0.00	4.39	43.0	18.832
18.667	5.700	22.84	0.00	4.38	36.7	18.737
18.750	5.700	17.57	0.00	4.36	30.9	18.645
18.833	5.700	11.80	0.00	4.35	25.1	18.553
18.917	5.700	2.78	0.00	4.33	18.8	18.443
19.000	5.700	0.00	0.00	4.32	12.6	18.356
19.083	5.700	0.00	0.00	4.31	8.1	18.301
19.167	5.700	0.00	0.00	4.31	5.2	18.265
19.250	5.700	0.00	0.00	4.31	3.4	18.241
19.333	5.700	0.00	0.00	4.30	2.2	18.226
19.417	5.700	0.00	0.00	4.30	1.4	18.217
19.500	5.700	0.00	0.00	4.30	0.9	18.211
19.583	5.700	0.00	0.00	4.30	0.6	18.207
19.667	5.700	0.00	0.00	4.30	0.4	18.204
19.750	5.700	0.00	0.00	4.30	0.2	18.202
19.833	5.700	0.00	0.00	4.30	0.2	18.201
19.917	5.700	0.00	0.00	4.30	0.1	18.201

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 84.974 AF
BASIN STORAGE = 21.376 AF (WITH 5.700 AF INITIALLY FILLED)
OUTFLOW VOLUME = 69.300 AF
LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 8

>>>>MODEL STREAM SPLITFLOW WHERE A CONSTANT PROPORTION
OF STREAM 3 IS ADDED TO STREAM 4<<<<<



STREAM NUMBER 3 IS SPLIT TOWARDS STREAM 4
WHERE 0.50 (DECIMAL PERCENT) REMAINS IN STREAM 3
AND 0.50 (DECIMAL PERCENT) IS ADDED TO STREAM 4

STREAM SPLITFLOW MODELING RESULTS:

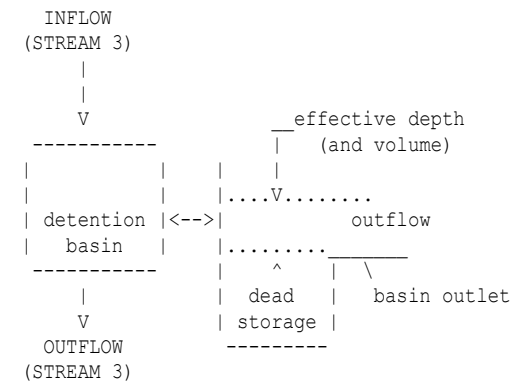
MODEL TIME (HRS)	INFLOW STREAM 4 (CFS)	INFLOW STREAM 3 (CFS)	OUTFLOW STREAM 4 (CFS)	OUTFLOW STREAM 3 (CFS)
10.000	0.00	0.00	0.00	0.00
10.083	0.00	0.00	0.00	0.00
10.167	0.00	0.00	0.00	0.00
10.250	0.00	0.00	0.00	0.00
10.333	0.00	0.00	0.00	0.00
10.417	0.00	0.00	0.00	0.00
10.500	0.00	0.00	0.00	0.00
10.583	0.00	0.00	0.00	0.00
10.667	0.00	0.00	0.00	0.00
10.750	0.00	0.00	0.00	0.00
10.833	0.00	0.00	0.00	0.00
10.917	0.00	0.00	0.00	0.00
11.000	0.00	0.00	0.00	0.00
11.083	0.00	0.00	0.00	0.00
11.167	0.00	0.00	0.00	0.00
11.250	0.00	0.00	0.00	0.00
11.333	0.00	0.00	0.00	0.00
11.417	0.00	0.00	0.00	0.00
11.500	0.00	0.00	0.00	0.00
11.583	0.00	0.00	0.00	0.00
11.667	0.00	0.00	0.00	0.00
11.750	0.00	0.00	0.00	0.00
11.833	0.00	0.00	0.00	0.00
11.917	0.00	0.00	0.00	0.00
12.000	0.00	0.00	0.00	0.00
12.083	0.00	0.00	0.00	0.00
12.167	0.00	0.00	0.00	0.00
12.250	0.00	0.00	0.00	0.00
12.333	0.00	0.00	0.00	0.00
12.417	0.00	0.00	0.00	0.00
12.500	0.00	0.00	0.00	0.00
12.583	0.00	0.00	0.00	0.00
12.667	0.00	0.00	0.00	0.00
12.750	0.00	0.00	0.00	0.00
12.833	0.00	0.00	0.00	0.00
12.917	0.00	0.00	0.00	0.00
13.000	0.00	0.01	0.00	0.00
13.083	0.00	0.01	0.01	0.01
13.167	0.00	0.01	0.01	0.01
13.250	0.00	0.01	0.01	0.01
13.333	0.00	0.01	0.01	0.01
13.417	0.00	0.01	0.01	0.01
13.500	0.00	0.01	0.01	0.01
13.583	0.00	0.01	0.01	0.01

13.667	0.00	0.01	0.01	0.01
13.750	0.00	0.02	0.01	0.01
13.833	0.00	0.02	0.01	0.01
13.917	0.00	0.02	0.01	0.01
14.000	0.00	0.02	0.01	0.01
14.083	0.00	0.02	0.01	0.01
14.167	0.00	0.02	0.01	0.01
14.250	0.00	0.02	0.01	0.01
14.333	0.00	0.02	0.01	0.01
14.417	0.00	0.02	0.01	0.01
14.500	0.00	0.02	0.01	0.01
14.583	0.00	0.02	0.01	0.01
14.667	0.00	0.02	0.01	0.01
14.750	0.00	0.02	0.01	0.01
14.833	0.00	0.02	0.01	0.01
14.917	0.00	0.02	0.01	0.01
15.000	0.00	0.02	0.01	0.01
15.083	0.00	0.02	0.01	0.01
15.167	0.00	0.03	0.01	0.01
15.250	0.00	0.03	0.01	0.01
15.333	0.00	0.03	0.01	0.01
15.417	0.00	0.03	0.01	0.01
15.500	0.00	0.03	0.01	0.01
15.583	0.00	0.03	0.01	0.01
15.667	0.00	0.03	0.01	0.01
15.750	0.00	0.03	0.01	0.01
15.833	0.00	0.03	0.01	0.01
15.917	0.00	0.03	0.02	0.02
16.000	0.00	0.03	0.02	0.02
16.083	0.00	0.03	0.02	0.02
16.167	0.00	0.03	0.02	0.02
16.250	0.00	4.26	2.13	2.13
16.333	0.00	58.18	29.09	29.09
16.417	0.00	171.31	85.65	85.65
16.500	0.00	313.67	156.83	156.83
16.583	0.00	475.94	237.97	237.97
16.667	0.00	610.06	305.03	305.03
16.750	0.00	714.31	357.16	357.16
16.833	0.00	813.86	406.93	406.93
16.917	0.00	862.03	431.02	431.02
17.000	0.00	848.16	424.08	424.08
17.083	0.00	784.78	392.39	392.39
17.167	0.00	674.07	337.03	337.03
17.250	0.00	541.49	270.75	270.75
17.333	0.00	419.65	209.82	209.82
17.417	0.00	333.97	166.98	166.98
17.500	0.00	285.06	142.53	142.53
17.583	0.00	254.94	127.47	127.47
17.667	0.00	227.06	113.53	113.53
17.750	0.00	200.31	100.16	100.16
17.833	0.00	174.54	87.27	87.27
17.917	0.00	151.11	75.56	75.56
18.000	0.00	130.17	65.08	65.08
18.083	0.00	110.16	55.08	55.08
18.167	0.00	92.36	46.18	46.18
18.250	0.00	78.32	39.16	39.16
18.333	0.00	67.17	33.59	33.59
18.417	0.00	57.94	28.97	28.97

18.500	0.00	50.01	25.00	25.00
18.583	0.00	43.04	21.52	21.52
18.667	0.00	36.74	18.37	18.37
18.750	0.00	30.86	15.43	15.43
18.833	0.00	25.11	12.55	12.55
18.917	0.00	18.77	9.39	9.39
19.000	0.00	12.59	6.30	6.30
19.083	0.00	8.11	4.06	4.06
19.167	0.00	5.23	2.61	2.61
19.250	0.00	3.37	1.68	1.68
19.333	0.00	2.17	1.09	1.09
19.417	0.00	1.40	0.70	0.70
19.500	0.00	0.90	0.45	0.45
19.583	0.00	0.58	0.29	0.29
19.667	0.00	0.37	0.19	0.19
19.750	0.00	0.24	0.12	0.12
19.833	0.00	0.16	0.08	0.08
19.917	0.00	0.10	0.05	0.05
20.000	0.00	0.06	0.03	0.03

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<



ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3

THROUGH A FLOW-THROUGH DETENTION BASIN

SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:

DEAD STORAGE(AF) = 0.000

SPECIFIED DEAD STORAGE(AF) FILLED = 0.000

SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000

DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
-----------------	------------	---------------	--------------

1	0.00	0.00	0.000
2	0.99	2.90	0.900
3	1.99	11.38	2.900
4	3.99	19.63	10.300
5	5.99	25.19	20.700
6	7.99	29.71	31.700
7	9.99	33.62	43.500
8	10.99	35.49	49.700
9	11.99	313.46	56.400
10	12.99	894.27	63.100
11	13.99	1748.55	69.900
12	15.99	4306.91	84.100

=====
MODIFIED-PULS BASIN ROUTING MODEL RESULTS(5-MINUTE COMPUTATION INTERVALS):
(Note: Computed EFFECTIVE DEPTH and VOLUME are estimated at the clock time;
MEAN OUTFLOW is the average value during the unit interval.)

CLOCK TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	LOSS (CFS)	EFFECTIVE DEPTH (FT)	MEAN OUTFLOW (CFS)	EFFECTIVE VOLUME (AF)
10.083	0.000	0.00	0.00	0.00	0.0	0.000
10.167	0.000	0.00	0.00	0.00	0.0	0.000
10.250	0.000	0.00	0.00	0.00	0.0	0.000
10.333	0.000	0.00	0.00	0.00	0.0	0.000
10.417	0.000	0.00	0.00	0.00	0.0	0.000
10.500	0.000	0.00	0.00	0.00	0.0	0.000
10.583	0.000	0.00	0.00	0.00	0.0	0.000
10.667	0.000	0.00	0.00	0.00	0.0	0.000
10.750	0.000	0.00	0.00	0.00	0.0	0.000
10.833	0.000	0.00	0.00	0.00	0.0	0.000
10.917	0.000	0.00	0.00	0.00	0.0	0.000
11.000	0.000	0.00	0.00	0.00	0.0	0.000
11.083	0.000	0.00	0.00	0.00	0.0	0.000
11.167	0.000	0.00	0.00	0.00	0.0	0.000
11.250	0.000	0.00	0.00	0.00	0.0	0.000
11.333	0.000	0.00	0.00	0.00	0.0	0.000
11.417	0.000	0.00	0.00	0.00	0.0	0.000
11.500	0.000	0.00	0.00	0.00	0.0	0.000
11.583	0.000	0.00	0.00	0.00	0.0	0.000
11.667	0.000	0.00	0.00	0.00	0.0	0.000
11.750	0.000	0.00	0.00	0.00	0.0	0.000
11.833	0.000	0.00	0.00	0.00	0.0	0.000
11.917	0.000	0.00	0.00	0.00	0.0	0.000
12.000	0.000	0.00	0.00	0.00	0.0	0.000
12.083	0.000	0.00	0.00	0.00	0.0	0.000
12.167	0.000	0.00	0.00	0.00	0.0	0.000
12.250	0.000	0.00	0.00	0.00	0.0	0.000
12.333	0.000	0.00	0.00	0.00	0.0	0.000
12.417	0.000	0.00	0.00	0.00	0.0	0.000
12.500	0.000	0.00	0.00	0.00	0.0	0.000
12.583	0.000	0.00	0.00	0.00	0.0	0.000
12.667	0.000	0.00	0.00	0.00	0.0	0.000
12.750	0.000	0.00	0.00	0.00	0.0	0.000
12.833	0.000	0.00	0.00	0.00	0.0	0.000
12.917	0.000	0.00	0.00	0.00	0.0	0.000

13.000	0.000	0.00	0.00	0.00	0.0	0.000
13.083	0.000	0.01	0.00	0.00	0.0	0.000
13.167	0.000	0.01	0.00	0.00	0.0	0.000
13.250	0.000	0.01	0.00	0.00	0.0	0.000
13.333	0.000	0.01	0.00	0.00	0.0	0.000
13.417	0.000	0.01	0.00	0.00	0.0	0.000
13.500	0.000	0.01	0.00	0.00	0.0	0.000
13.583	0.000	0.01	0.00	0.00	0.0	0.000
13.667	0.000	0.01	0.00	0.00	0.0	0.000
13.750	0.000	0.01	0.00	0.00	0.0	0.000
13.833	0.000	0.01	0.00	0.00	0.0	0.000
13.917	0.000	0.01	0.00	0.00	0.0	0.000
14.000	0.000	0.01	0.00	0.00	0.0	0.001
14.083	0.000	0.01	0.00	0.00	0.0	0.001
14.167	0.000	0.01	0.00	0.00	0.0	0.001
14.250	0.000	0.01	0.00	0.00	0.0	0.001
14.333	0.000	0.01	0.00	0.00	0.0	0.001
14.417	0.000	0.01	0.00	0.00	0.0	0.001
14.500	0.000	0.01	0.00	0.00	0.0	0.001
14.583	0.000	0.01	0.00	0.00	0.0	0.001
14.667	0.000	0.01	0.00	0.00	0.0	0.001
14.750	0.000	0.01	0.00	0.00	0.0	0.001
14.833	0.000	0.01	0.00	0.00	0.0	0.001
14.917	0.000	0.01	0.00	0.00	0.0	0.001
15.000	0.000	0.01	0.00	0.00	0.0	0.001
15.083	0.000	0.01	0.00	0.00	0.0	0.001
15.167	0.000	0.01	0.00	0.00	0.0	0.001
15.250	0.000	0.01	0.00	0.00	0.0	0.001
15.333	0.000	0.01	0.00	0.00	0.0	0.001
15.417	0.000	0.01	0.00	0.00	0.0	0.002
15.500	0.000	0.01	0.00	0.00	0.0	0.002
15.583	0.000	0.01	0.00	0.00	0.0	0.002
15.667	0.000	0.01	0.00	0.00	0.0	0.002
15.750	0.000	0.01	0.00	0.00	0.0	0.002
15.833	0.000	0.01	0.00	0.00	0.0	0.002
15.917	0.000	0.02	0.00	0.00	0.0	0.002
16.000	0.000	0.02	0.00	0.00	0.0	0.002
16.083	0.000	0.02	0.00	0.00	0.0	0.002
16.167	0.000	0.02	0.00	0.00	0.0	0.002
16.250	0.000	2.13	0.00	0.02	0.0	0.017
16.333	0.000	29.09	0.00	0.24	0.4	0.214
16.417	0.000	85.65	0.00	0.87	1.6	0.793
16.500	0.000	156.83	0.00	1.46	4.7	1.841
16.583	0.000	237.97	0.00	2.13	9.4	3.415
16.667	0.000	305.03	0.00	2.67	13.1	5.425
16.750	0.000	357.16	0.00	3.31	15.5	7.778
16.833	0.000	406.93	0.00	4.02	18.3	10.455
16.917	0.000	431.02	0.00	4.56	20.5	13.283
17.000	0.000	424.08	0.00	5.10	22.0	16.052
17.083	0.000	392.39	0.00	5.58	23.4	18.593
17.167	0.000	337.03	0.00	6.00	24.6	20.745
17.250	0.000	270.75	0.00	6.31	25.6	22.433
17.333	0.000	209.82	0.00	6.54	26.2	23.698
17.417	0.000	166.98	0.00	6.71	26.6	24.665
17.500	0.000	142.53	0.00	6.86	27.0	25.461
17.583	0.000	127.47	0.00	6.98	27.3	26.151
17.667	0.000	113.53	0.00	7.09	27.6	26.743
17.750	0.000	100.16	0.00	7.18	27.8	27.241

17.833	0.000	87.27	0.00	7.25	28.0	27.650
17.917	0.000	75.56	0.00	7.31	28.1	27.977
18.000	0.000	65.08	0.00	7.36	28.2	28.230
18.083	0.000	55.08	0.00	7.39	28.3	28.415
18.167	0.000	46.18	0.00	7.41	28.4	28.537
18.250	0.000	39.16	0.00	7.43	28.4	28.611
18.333	0.000	33.59	0.00	7.43	28.4	28.647
18.417	0.000	28.97	0.00	7.44	28.5	28.650
18.500	0.000	25.00	0.00	7.43	28.5	28.626
18.583	0.000	21.52	0.00	7.42	28.4	28.579
18.667	0.000	18.37	0.00	7.41	28.4	28.510
18.750	0.000	15.43	0.00	7.39	28.4	28.420
18.833	0.000	12.55	0.00	7.37	28.3	28.312
18.917	0.000	9.39	0.00	7.35	28.3	28.181
19.000	0.000	6.30	0.00	7.32	28.2	28.030
19.083	0.000	4.06	0.00	7.29	28.2	27.864
19.167	0.000	2.61	0.00	7.26	28.1	27.689
19.250	0.000	1.68	0.00	7.23	28.0	27.507
19.333	0.000	1.09	0.00	7.19	27.9	27.322
19.417	0.000	0.70	0.00	7.16	27.9	27.135
19.500	0.000	0.45	0.00	7.13	27.8	26.947
19.583	0.000	0.29	0.00	7.09	27.7	26.758
19.667	0.000	0.19	0.00	7.06	27.6	26.569
19.750	0.000	0.12	0.00	7.02	27.6	26.380
19.833	0.000	0.08	0.00	6.99	27.5	26.191
19.917	0.000	0.05	0.00	6.95	27.4	26.003

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 34.650 AF
BASIN STORAGE = 0.005 AF (WITH 0.000 AF INITIALLY FILLED)
OUTFLOW VOLUME = 34.645 AF
LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<<
=====

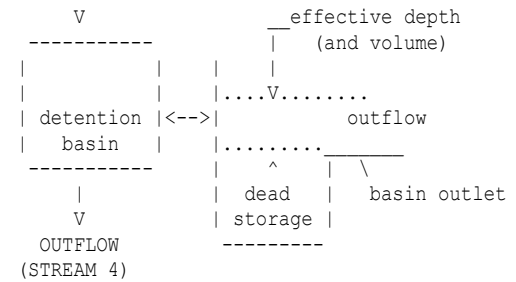
FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<<
=====

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<<
=====

INFLOW
(STREAM 4)
|
|



ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
THROUGH A FLOW-THROUGH DETENTION BASIN
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:

DEAD STORAGE(AF) = 0.000
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.48	0.70	0.400
3	1.48	6.50	1.800
4	3.48	18.11	8.500
5	5.48	23.99	17.900
6	7.48	28.68	27.800
7	9.48	32.70	38.300
8	10.48	34.50	43.900
9	11.48	36.29	49.400
10	12.48	314.07	55.900
11	13.48	895.00	62.300
12	15.48	2882.95	74.700

=====

MODIFIED-PULS BASIN ROUTING MODEL RESULTS(5-MINUTE COMPUTATION INTERVALS):
(Note: Computed EFFECTIVE DEPTH and VOLUME are estimated at the clock time;
MEAN OUTFLOW is the average value during the unit interval.)

CLOCK TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	LOSS (CFS)	EFFECTIVE DEPTH (FT)	MEAN OUTFLOW (CFS)	EFFECTIVE VOLUME (AF)
10.083	0.000	0.00	0.00	0.00	0.0	0.000
10.167	0.000	0.00	0.00	0.00	0.0	0.000
10.250	0.000	0.00	0.00	0.00	0.0	0.000
10.333	0.000	0.00	0.00	0.00	0.0	0.000
10.417	0.000	0.00	0.00	0.00	0.0	0.000
10.500	0.000	0.00	0.00	0.00	0.0	0.000
10.583	0.000	0.00	0.00	0.00	0.0	0.000
10.667	0.000	0.00	0.00	0.00	0.0	0.000

10.750	0.000	0.00	0.00	0.00	0.0	0.000
10.833	0.000	0.00	0.00	0.00	0.0	0.000
10.917	0.000	0.00	0.00	0.00	0.0	0.000
11.000	0.000	0.00	0.00	0.00	0.0	0.000
11.083	0.000	0.00	0.00	0.00	0.0	0.000
11.167	0.000	0.00	0.00	0.00	0.0	0.000
11.250	0.000	0.00	0.00	0.00	0.0	0.000
11.333	0.000	0.00	0.00	0.00	0.0	0.000
11.417	0.000	0.00	0.00	0.00	0.0	0.000
11.500	0.000	0.00	0.00	0.00	0.0	0.000
11.583	0.000	0.00	0.00	0.00	0.0	0.000
11.667	0.000	0.00	0.00	0.00	0.0	0.000
11.750	0.000	0.00	0.00	0.00	0.0	0.000
11.833	0.000	0.00	0.00	0.00	0.0	0.000
11.917	0.000	0.00	0.00	0.00	0.0	0.000
12.000	0.000	0.00	0.00	0.00	0.0	0.000
12.083	0.000	0.00	0.00	0.00	0.0	0.000
12.167	0.000	0.00	0.00	0.00	0.0	0.000
12.250	0.000	0.00	0.00	0.00	0.0	0.000
12.333	0.000	0.00	0.00	0.00	0.0	0.000
12.417	0.000	0.00	0.00	0.00	0.0	0.000
12.500	0.000	0.00	0.00	0.00	0.0	0.000
12.583	0.000	0.00	0.00	0.00	0.0	0.000
12.667	0.000	0.00	0.00	0.00	0.0	0.000
12.750	0.000	0.00	0.00	0.00	0.0	0.000
12.833	0.000	0.00	0.00	0.00	0.0	0.000
12.917	0.000	0.00	0.00	0.00	0.0	0.000
13.000	0.000	0.00	0.00	0.00	0.0	0.000
13.083	0.000	0.01	0.00	0.00	0.0	0.000
13.167	0.000	0.01	0.00	0.00	0.0	0.000
13.250	0.000	0.01	0.00	0.00	0.0	0.000
13.333	0.000	0.01	0.00	0.00	0.0	0.000
13.417	0.000	0.01	0.00	0.00	0.0	0.000
13.500	0.000	0.01	0.00	0.00	0.0	0.000
13.583	0.000	0.01	0.00	0.00	0.0	0.000
13.667	0.000	0.01	0.00	0.00	0.0	0.000
13.750	0.000	0.01	0.00	0.00	0.0	0.000
13.833	0.000	0.01	0.00	0.00	0.0	0.000
13.917	0.000	0.01	0.00	0.00	0.0	0.000
14.000	0.000	0.01	0.00	0.00	0.0	0.001
14.083	0.000	0.01	0.00	0.00	0.0	0.001
14.167	0.000	0.01	0.00	0.00	0.0	0.001
14.250	0.000	0.01	0.00	0.00	0.0	0.001
14.333	0.000	0.01	0.00	0.00	0.0	0.001
14.417	0.000	0.01	0.00	0.00	0.0	0.001
14.500	0.000	0.01	0.00	0.00	0.0	0.001
14.583	0.000	0.01	0.00	0.00	0.0	0.001
14.667	0.000	0.01	0.00	0.00	0.0	0.001
14.750	0.000	0.01	0.00	0.00	0.0	0.001
14.833	0.000	0.01	0.00	0.00	0.0	0.001
14.917	0.000	0.01	0.00	0.00	0.0	0.001
15.000	0.000	0.01	0.00	0.00	0.0	0.001
15.083	0.000	0.01	0.00	0.00	0.0	0.001
15.167	0.000	0.01	0.00	0.00	0.0	0.001
15.250	0.000	0.01	0.00	0.00	0.0	0.002
15.333	0.000	0.01	0.00	0.00	0.0	0.002
15.417	0.000	0.01	0.00	0.00	0.0	0.002
15.500	0.000	0.01	0.00	0.00	0.0	0.002

15.583	0.000	0.01	0.00	0.00	0.0	0.002
15.667	0.000	0.01	0.00	0.00	0.0	0.002
15.750	0.000	0.01	0.00	0.00	0.0	0.002
15.833	0.000	0.01	0.00	0.00	0.0	0.002
15.917	0.000	0.02	0.00	0.00	0.0	0.002
16.000	0.000	0.02	0.00	0.00	0.0	0.002
16.083	0.000	0.02	0.00	0.00	0.0	0.002
16.167	0.000	0.02	0.00	0.00	0.0	0.002
16.250	0.000	2.13	0.00	0.02	0.0	0.017
16.333	0.000	29.09	0.00	0.26	0.2	0.216
16.417	0.000	85.65	0.00	0.76	1.4	0.796
16.500	0.000	156.83	0.00	1.49	4.5	1.846
16.583	0.000	237.97	0.00	1.97	8.0	3.430
16.667	0.000	305.03	0.00	2.57	11.1	5.454
16.750	0.000	357.16	0.00	3.27	14.9	7.812
16.833	0.000	406.93	0.00	3.90	18.1	10.489
16.917	0.000	431.02	0.00	4.51	20.2	13.318
17.000	0.000	424.08	0.00	5.09	22.0	16.088
17.083	0.000	392.39	0.00	5.63	23.6	18.628
17.167	0.000	337.03	0.00	6.06	24.8	20.778
17.250	0.000	270.75	0.00	6.40	25.8	22.465
17.333	0.000	209.82	0.00	6.66	26.5	23.728
17.417	0.000	166.98	0.00	6.85	27.0	24.692
17.500	0.000	142.53	0.00	7.01	27.4	25.485
17.583	0.000	127.47	0.00	7.15	27.7	26.172
17.667	0.000	113.53	0.00	7.27	28.0	26.760
17.750	0.000	100.16	0.00	7.37	28.3	27.255
17.833	0.000	87.27	0.00	7.45	28.5	27.660
17.917	0.000	75.56	0.00	7.51	28.7	27.983
18.000	0.000	65.08	0.00	7.56	28.8	28.233
18.083	0.000	55.08	0.00	7.60	28.9	28.413
18.167	0.000	46.18	0.00	7.62	28.9	28.532
18.250	0.000	39.16	0.00	7.63	29.0	28.602
18.333	0.000	33.59	0.00	7.64	29.0	28.634
18.417	0.000	28.97	0.00	7.64	29.0	28.633
18.500	0.000	25.00	0.00	7.63	29.0	28.606
18.583	0.000	21.52	0.00	7.62	29.0	28.555
18.667	0.000	18.37	0.00	7.61	29.0	28.482
18.750	0.000	15.43	0.00	7.59	28.9	28.389
18.833	0.000	12.55	0.00	7.57	28.9	28.276
18.917	0.000	9.39	0.00	7.55	28.8	28.142
19.000	0.000	6.30	0.00	7.52	28.8	27.987
19.083	0.000	4.06	0.00	7.48	28.7	27.818
19.167	0.000	2.61	0.00	7.45	28.6	27.638
19.250	0.000	1.68	0.00	7.41	28.6	27.453
19.333	0.000	1.09	0.00	7.37	28.5	27.265
19.417	0.000	0.70	0.00	7.33	28.4	27.074
19.500	0.000	0.45	0.00	7.29	28.3	26.882
19.583	0.000	0.29	0.00	7.26	28.2	26.690
19.667	0.000	0.19	0.00	7.22	28.1	26.498
19.750	0.000	0.12	0.00	7.18	28.0	26.306
19.833	0.000	0.08	0.00	7.14	27.9	26.114
19.917	0.000	0.05	0.00	7.10	27.8	25.922

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 34.650 AF
 BASIN STORAGE = 0.009 AF (WITH 0.000 AF INITIALLY FILLED)
 OUTFLOW VOLUME = 34.641 AF

LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 2 HYDROGRAPH<<<<<

STREAM HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	575.0	1150.0	1725.0	2300.0
10.000	139.5128	246.21	. Q V .	.	.	.	.
10.083	141.2214	248.09	. Q V .	.	.	.	.
10.167	142.9432	250.01	. Q V .	.	.	.	.
10.250	144.6785	251.96	. Q V .	.	.	.	.
10.333	146.4276	253.97	. Q V .	.	.	.	.
10.417	148.1906	256.00	. Q V .	.	.	.	.
10.500	149.9681	258.09	. Q V .	.	.	.	.
10.583	151.7602	260.21	. Q V .	.	.	.	.
10.667	153.5673	262.39	. Q V .	.	.	.	.
10.750	155.3897	264.61	. Q V .	.	.	.	.
10.833	157.2278	266.89	. Q V .	.	.	.	.
10.917	159.0818	269.21	. Q V .	.	.	.	.
11.000	160.9523	271.59	. Q V .	.	.	.	.
11.083	162.8395	274.02	. Q V .	.	.	.	.
11.167	164.7439	276.51	. Q V .	.	.	.	.
11.250	166.6658	279.06	. Q V .	.	.	.	.
11.333	168.6057	281.68	. Q V .	.	.	.	.
11.417	170.5640	284.35	. Q V .	.	.	.	.
11.500	172.5413	287.10	. Q V .	.	.	.	.
11.583	174.5380	289.91	. Q V .	.	.	.	.
11.667	176.5546	292.81	. Q V .	.	.	.	.
11.750	178.5916	295.77	. Q V .	.	.	.	.
11.833	180.6496	298.82	. Q V .	.	.	.	.
11.917	182.7291	301.94	. Q V .	.	.	.	.
12.000	184.8308	305.17	. Q V .	.	.	.	.
12.083	186.9597	309.13	. Q V .	.	.	.	.
12.167	189.1215	313.88	. Q V .	.	.	.	.
12.250	191.3200	319.23	. Q V .	.	.	.	.
12.333	193.5658	326.09	. Q V .	.	.	.	.
12.417	195.8742	335.18	. Q V .	.	.	.	.

12.500	198.2543	345.59	. Q V .	.	.	.	.
12.583	200.7107	356.67	. Q V .	.	.	.	.
12.667	203.2474	368.33	. Q V .	.	.	.	.
12.750	205.8745	381.46	. Q V .	.	.	.	.
12.833	208.6024	396.09	. Q V .	.	.	.	.
12.917	211.4290	410.41	. Q V .	.	.	.	.
13.000	214.3393	422.58	. Q V .	.	.	.	.
13.083	217.3240	433.38	. Q V .	.	.	.	.
13.167	220.3762	443.18	. Q V .	.	.	.	.
13.250	223.4881	451.84	. Q V .	.	.	.	.
13.333	226.6578	460.24	. Q V .	.	.	.	.
13.417	229.8796	467.80	. Q V .	.	.	.	.
13.500	233.1500	474.87	. Q V .	.	.	.	.
13.583	236.4686	481.86	. Q V .	.	.	.	.
13.667	239.8344	488.72	. Q V .	.	.	.	.
13.750	243.2464	495.42	. Q V .	.	.	.	.
13.833	246.7039	502.04	. Q V .	.	.	.	.
13.917	250.2080	508.79	. Q V .	.	.	.	.
14.000	253.7592	515.64	. Q V .	.	.	.	.
14.083	257.3639	523.40	. Q V .	.	.	.	.
14.167	261.0315	532.53	. Q V .	.	.	.	.
14.250	264.7692	542.72	. Q V .	.	.	.	.
14.333	268.5941	555.38	. Q V .	.	.	.	.
14.417	272.5308	571.60	. Q V .	.	.	.	.
14.500	276.5941	590.00	. Q V .	.	.	.	.
14.583	280.7924	609.58	. Q V .	.	.	.	.
14.667	285.1330	630.26	. Q V .	.	.	.	.
14.750	289.6328	653.37	. Q V .	.	.	.	.
14.833	294.3093	679.02	. Q V .	.	.	.	.
14.917	299.1603	704.37	. Q V .	.	.	.	.
15.000	304.1901	730.32	. Q V .	.	.	.	.
15.083	309.3926	755.40	. QV .	.	.	.	.
15.167	314.7616	779.58	. QV .	.	.	.	.
15.250	320.2933	803.20	. Q V .	.	.	.	.
15.333	325.9989	828.45	. QV .	.	.	.	.
15.417	331.8624	851.38	. QV .	.	.	.	.
15.500	337.8732	872.76	. Q .	.	.	.	.
15.583	344.0360	894.84	. QV .	.	.	.	.
15.667	350.3261	913.32	. QV .	.	.	.	.
15.750	356.7090	926.81	. Q .	.	.	.	.
15.833	363.1946	941.71	. QV .	.	.	.	.
15.917	369.8516	966.59	. QV .	.	.	.	.
16.000	376.8218	1012.08	. Q .	.	.	.	.
16.083	384.5901	1127.95	. VQ .	.	.	.	.
16.167	393.2383	1255.72	. V Q .	.	.	.	.
16.250	402.8219	1391.55	. V . Q	.	.	.	.
16.333	413.9631	1617.69	. V . Q .	.	.	.	.
16.417	426.3497	1798.54	. V . Q .	.	.	.	.
16.500	439.5732	1920.05	. V . Q .	.	.	.	.
16.583	453.3436	1999.46	. V . Q .	.	.	.	.
16.667	467.6237	2073.47	. V . Q .	.	.	.	.
16.750	482.7109	2190.67	. V . Q .	.	.	.	.
16.833	498.4260	2281.83	. V . Q .	.	.	.	.
16.917	513.8694	2242.39	. V . Q .	.	.	.	.
17.000	528.9775	2193.70	. V . Q .	.	.	.	.
17.083	543.2099	2066.54	. V . Q .	.	.	.	.
17.167	556.4593	1923.81	. V . Q .	.	.	.	.
17.250	568.7115	1779.02	. V Q .	.	.	.	.

17.333	580.3664	1692.30	.	.	.	V Q.	.
17.417	590.8087	1516.22	.	.	.	QV	.
17.500	600.1963	1363.09	.	.	.	V	.
17.583	608.9116	1265.45	.	.	.	V	.
17.667	616.9216	1163.05	.	.	.	V	.
17.750	624.2056	1057.64	.	.	.	V.	.
17.833	630.8256	961.22	.	.	.	V.	.
17.917	636.9979	896.21	.	.	.	V.	.
18.000	642.6647	822.82	.	.	.	V	.
18.083	647.7737	741.82	.	.	.	V	.
18.167	652.6404	706.64	.	.	.	V	.
18.250	657.3303	680.97	.	.	.	V	.
18.333	661.8534	656.76	.	.	.	V	.
18.417	666.2080	632.29	.	.	.	V	.
18.500	670.4077	609.79	.	.	.	V	.
18.583	674.4568	587.95	.	.	.	V	.
18.667	678.3611	566.90	.	.	.	V	.
18.750	682.1113	544.53	.	.	.	V	.
18.833	685.6931	520.07	.	.	.	V	.
18.917	689.0116	481.86	.	.	.	V	.
19.000	692.1575	456.78	.	.	.	V	.
19.083	695.1733	437.91	.	.	.	V	.
19.167	698.0795	421.98	.	.	.	V	.
19.250	700.8846	407.29	.	.	.	V	.
19.333	703.5963	393.73	.	.	.	V	.
19.417	706.2278	382.10	.	.	.	V	.
19.500	708.7894	371.93	.	.	.	V	.
19.583	711.2860	362.51	.	.	.	V	.
19.667	713.7233	353.90	.	.	.	V	.
19.750	716.1068	346.09	.	.	.	V	.
19.833	718.4415	338.99	.	.	.	V	.
19.917	720.7323	332.63	.	.	.	V	.
20.000	722.9833	326.85	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	820.0
20%	345.0
30%	200.0
40%	135.0
50%	95.0
60%	75.0
70%	65.0
80%	45.0
90%	30.0

=====

END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Analysis prepared by:

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Santa Ana, CA 92707

***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - COMPLEX UH *
* ULTIMATE CONDITION - REGIONAL NODE 13305 *
* 50-YR EV SEPTEMBER 2018 CCHIU *

FILE NAME: EV50305C.DAT
TIME/DATE OF STUDY: 15:46 09/11/2018

FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<

(UNIT-HYDROGRAPH ADDED TO STREAM #2)

WATERSHED AREA = 4924.400 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.821 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244
LOW LOSS FRACTION = 0.538
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.38
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.82
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 1.08
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.81
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.52
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 4.20

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.754
30-MINUTE FACTOR = 0.754
1-HOUR FACTOR = 0.754
3-HOUR FACTOR = 0.961
6-HOUR FACTOR = 0.979
24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 10.150

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.580	345.423
2	1.763	704.566
3	3.385	965.815
4	6.233	1696.091
5	10.947	2807.365
6	16.695	3423.111
7	22.920	3707.788
8	29.521	3930.894
9	37.286	4624.335
10	46.219	5319.988
11	54.738	5073.336
12	63.175	5024.953
13	70.521	4374.467
14	76.573	3604.496
15	81.238	2778.116
16	85.407	2483.066
17	88.495	1839.204
18	90.815	1381.282
19	92.862	1219.414
20	94.528	992.055
21	95.788	750.029
22	96.685	534.246
23	97.481	474.138
24	98.059	344.417
25	98.257	117.576
26	98.447	113.337
27	98.637	113.450
28	98.828	113.332
29	99.018	113.223
30	99.208	113.223
31	99.398	113.223
32	99.588	113.223
33	99.778	113.223
34	99.968	113.223
35	100.000	18.833

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 818.5361
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 882.6972

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)

(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	775.0	1550.0	2325.0	3100.0
10.000	141.9690	250.49	. Q	V	.	.	.
10.083	143.7073	252.40	. Q	V	.	.	.
10.167	145.4590	254.36	. Q	V	.	.	.
10.250	147.2245	256.34	. Q	V	.	.	.
10.333	149.0040	258.38	. Q	V	.	.	.
10.417	150.7977	260.45	. Q	V	.	.	.
10.500	152.6061	262.57	. Q	V	.	.	.
10.583	154.4293	264.73	. Q	V	.	.	.
10.667	156.2678	266.95	. Q	V	.	.	.
10.750	158.1218	269.20	. Q	V	.	.	.
10.833	159.9918	271.52	. Q	V	.	.	.
10.917	161.8780	273.88	. Q	V	.	.	.
11.000	163.7808	276.30	. Q	V	.	.	.
11.083	165.7007	278.77	. Q	V	.	.	.
11.167	167.6381	281.31	. Q	V	.	.	.
11.250	169.5933	283.89	. Q	V	.	.	.
11.333	171.5668	286.56	. Q	V	.	.	.
11.417	173.5590	289.27	. Q	V	.	.	.
11.500	175.5705	292.07	. Q	V	.	.	.
11.583	177.6017	294.93	. Q	V	.	.	.
11.667	179.6532	297.87	. Q	V	.	.	.
11.750	181.7253	300.88	. Q	V	.	.	.
11.833	183.8189	303.98	. Q	V	.	.	.
11.917	185.9343	307.16	. Q	V	.	.	.
12.000	188.0723	310.43	. Q	V	.	.	.
12.083	190.2383	314.50	. Q	V	.	.	.
12.167	192.4382	319.43	. Q	V	.	.	.
12.250	194.6765	325.00	. Q	V	.	.	.
12.333	196.9644	332.20	. Q	V	.	.	.
12.417	199.3186	341.82	. Q	V	.	.	.
12.500	201.7487	352.86	. Q	V	.	.	.
12.583	204.2599	364.62	. Q	V	.	.	.
12.667	206.8564	377.01	. Q	V	.	.	.
12.750	209.5490	390.97	. Q	V	.	.	.
12.833	212.3491	406.56	. Q	V	.	.	.
12.917	215.2540	421.80	. Q	V	.	.	.
13.000	218.2647	437.15	. Q	V	.	.	.
13.083	221.3729	451.32	. Q	V	.	.	.
13.167	224.5693	464.10	. Q	V	.	.	.
13.250	227.8431	475.36	. Q	V	.	.	.
13.333	231.1919	486.24	. Q	V	.	.	.
13.417	234.6078	495.99	. Q	V	.	.	.
13.500	238.0860	505.04	. Q	V	.	.	.
13.583	241.6258	513.98	. Q	V	.	.	.
13.667	245.2259	522.73	. Q	.V	.	.	.
13.750	248.8844	531.22	. Q	.V	.	.	.
13.833	252.6006	539.59	. Q	.V	.	.	.

13.917	256.3755	548.12	. Q	.V	.	.	.
14.000	260.2099	556.75	. Q	.V	.	.	.
14.083	264.1125	566.66	. Q	.V	.	.	.
14.167	268.0964	578.46	. Q	.V	.	.	.
14.250	272.1715	591.70	. Q	.V	.	.	.
14.333	276.3616	608.41	. Q	.V	.	.	.
14.417	280.7011	630.10	. Q	.V	.	.	.
14.500	285.2107	654.79	. Q	.V	.	.	.
14.583	289.9012	681.07	. Q	.V	.	.	.
14.667	294.7826	708.78	. Q	.V	.	.	.
14.750	299.8781	739.87	. Q	.V	.	.	.
14.833	305.2125	774.56	. Q	.V	.	.	.
14.917	310.7835	808.90	. Q	V	.	.	.
15.000	316.5976	844.21	. Q	V	.	.	.
15.083	322.6472	878.40	. Q	V	.	.	.
15.167	328.9256	911.63	. Q	V	.	.	.
15.250	335.4282	944.17	. Q	V	.	.	.
15.333	342.1685	978.71	. Q	V	.	.	.
15.417	349.1207	1009.45	. Q	V	.	.	.
15.500	356.2663	1037.53	. Q	V	.	.	.
15.583	363.6085	1066.09	. Q	V	.	.	.
15.667	371.1069	1088.76	. Q	V	.	.	.
15.750	378.7010	1102.67	. Q	V	.	.	.
15.833	386.3903	1116.49	. Q	V	.	.	.
15.917	394.2493	1141.13	. Q	V	.	.	.
16.000	402.4414	1189.49	. Q	V	.	.	.
16.083	411.5414	1321.32	. Q	V	.	.	.
16.167	421.6372	1465.90	. Q	V	.	.	.
16.250	432.7947	1620.07	. Q	V	.	.	.
16.333	445.7873	1886.52	. V	Q	.	.	.
16.417	461.1223	2226.65	. V	Q	.	.	.
16.500	477.9621	2445.14	. V	Q	.	.	.
16.583	495.7269	2579.45	. V	Q	.	.	.
16.667	514.3811	2708.58	. V	Q	.	.	.
16.750	534.5400	2927.07	. V	Q	.	.	.
16.833	555.8719	3097.40	. V	Q	.	.	.
16.917	576.6458	3016.35	. V	Q	.	.	.
17.000	596.7566	2920.10	. V	Q	.	.	.
17.083	615.1635	2672.69	. V	Q	.	.	.
17.167	631.6719	2397.02	. V	Q	.	.	.
17.250	646.2631	2118.63	. Q	V	.	.	.
17.333	659.7236	1954.46	. Q	V	.	.	.
17.417	671.6060	1725.32	. Q	V	.	.	.
17.500	682.2197	1541.12	. Q	V	.	.	.
17.583	692.0198	1422.97	. Q	V	.	.	.
17.667	700.9589	1297.96	. Q	V	.	.	.
17.750	709.0013	1167.75	. Q	V	.	.	.
17.833	716.2164	1047.63	. Q	V	.	.	.
17.917	722.8692	965.99	. Q	V	.	.	.
18.000	728.8874	873.84	. Q	V	.	.	.
18.083	734.2081	772.57	. Q	V	.	.	.
18.167	739.2170	727.29	. Q	V	.	.	.
18.250	743.9980	694.20	. Q	V	.	.	.
18.333	748.5617	662.65	. Q	V	.	.	.
18.417	752.9053	630.68	. Q	V	.	.	.
18.500	757.0471	601.39	. Q	V	.	.	.
18.583	760.9933	572.99	. Q	V	.	.	.
18.667	764.7521	545.77	. Q	V	.	.	.

18.750	768.3138	517.16	.	Q	.	.	.	V	.
18.833	771.6610	486.01	.	Q	.	.	.	V	.
18.917	774.6793	438.26	.	Q	.	.	.	V	.
19.000	777.5007	409.67	.	Q	.	.	.	V	.
19.083	780.1886	390.28	.	Q	.	.	.	V	.
19.167	782.7637	373.90	.	Q	.	.	.	V	.
19.250	785.2343	358.73	.	Q	.	.	.	V	.
19.333	787.6082	344.70	.	Q	.	.	.	V	.
19.417	789.8995	332.69	.	Q	.	.	.	V	.
19.500	792.1187	322.22	.	Q	.	.	.	V	.
19.583	794.2715	312.60	.	Q	.	.	.	V	.
19.667	796.3641	303.84	.	Q	.	.	.	V	.
19.750	798.4021	295.92	.	Q	.	.	.	V	.
19.833	800.3908	288.76	.	Q	.	.	.	V	.
19.917	802.3356	282.39	.	Q	.	.	.	V	.
20.000	804.2408	276.63	.	Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	460.0
20%	245.0
30%	165.0
40%	100.0
50%	75.0
60%	65.0
70%	50.0
80%	35.0
90%	20.0

 FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2

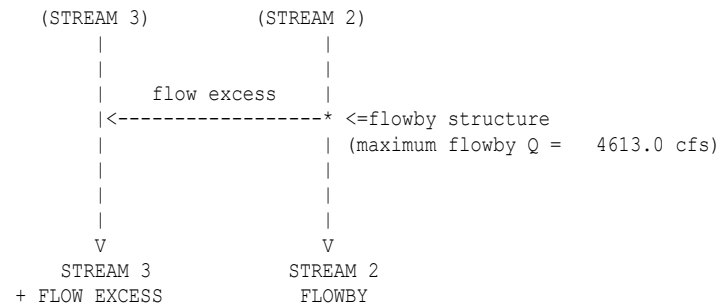
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<

MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
 FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
 THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.

DATA PAIR NUMBER	Qcenter (CFS)	Qpass (CFS)
-	0.00	0.00
1	413.00	413.00
2	1897.00	1613.00
3	4682.00	3013.00
4	6819.00	4013.00
5	8100.00	4613.00

FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3

INFLOW INFLOW



FLOWBY BASIN MODELING RESULTS:

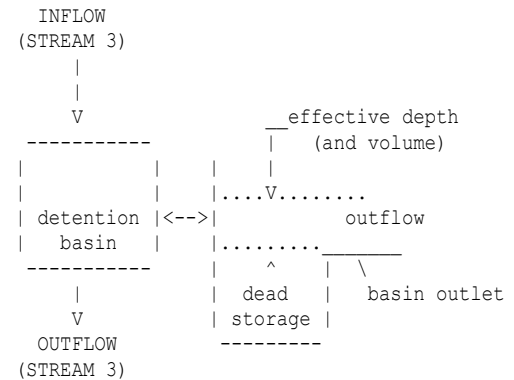
MODEL TIME (HRS)	INFLOW (STREAM 3) (CFS)	INFLOW (STREAM 2) (CFS)	OUTFLOW (STREAM 3) (CFS)	FLOWBY (STREAM 2) (CFS)
10.000	0.00	250.49	0.00	250.49
10.083	0.00	252.40	0.00	252.40
10.167	0.00	254.36	0.00	254.36
10.250	0.00	256.34	0.00	256.34
10.333	0.00	258.38	0.00	258.38
10.417	0.00	260.45	0.00	260.45
10.500	0.00	262.57	0.00	262.57
10.583	0.00	264.73	0.00	264.73
10.667	0.00	266.95	0.00	266.95
10.750	0.00	269.20	0.00	269.20
10.833	0.00	271.52	0.00	271.52
10.917	0.00	273.88	0.00	273.88
11.000	0.00	276.30	0.00	276.30
11.083	0.00	278.77	0.00	278.77
11.167	0.00	281.31	0.00	281.31
11.250	0.00	283.89	0.00	283.89
11.333	0.00	286.56	0.00	286.56
11.417	0.00	289.27	0.00	289.27
11.500	0.00	292.07	0.00	292.07
11.583	0.00	294.93	0.00	294.93
11.667	0.00	297.87	0.00	297.87
11.750	0.00	300.88	0.00	300.88
11.833	0.00	303.98	0.00	303.98
11.917	0.00	307.16	0.00	307.16
12.000	0.00	310.43	0.00	310.43
12.083	0.00	314.50	0.00	314.50
12.167	0.00	319.43	0.00	319.43
12.250	0.00	325.00	0.00	325.00
12.333	0.00	332.20	0.00	332.20
12.417	0.00	341.82	0.00	341.82
12.500	0.00	352.86	0.00	352.86
12.583	0.00	364.62	0.00	364.62
12.667	0.00	377.01	0.00	377.01
12.750	0.00	390.97	0.00	390.97
12.833	0.00	406.56	0.00	406.56
12.917	0.00	421.80	1.68	420.12
13.000	0.00	437.15	4.62	432.53

13.083	0.00	451.32	7.33	443.98
13.167	0.00	464.10	9.78	454.32
13.250	0.00	475.36	11.93	463.43
13.333	0.00	486.24	14.02	472.23
13.417	0.00	495.99	15.88	480.11
13.500	0.00	505.04	17.61	487.43
13.583	0.00	513.98	19.32	494.65
13.667	0.00	522.73	21.00	501.73
13.750	0.00	531.22	22.62	508.60
13.833	0.00	539.59	24.23	515.36
13.917	0.00	548.12	25.86	522.26
14.000	0.00	556.75	27.51	529.24
14.083	0.00	566.66	29.41	537.26
14.167	0.00	578.46	31.66	546.80
14.250	0.00	591.70	34.20	557.50
14.333	0.00	608.41	37.40	571.01
14.417	0.00	630.10	41.55	588.55
14.500	0.00	654.79	46.27	608.52
14.583	0.00	681.07	51.30	629.77
14.667	0.00	708.78	56.60	652.17
14.750	0.00	739.87	62.55	677.31
14.833	0.00	774.56	69.19	705.36
14.917	0.00	808.90	75.77	733.14
15.000	0.00	844.21	82.52	761.69
15.083	0.00	878.40	89.07	789.34
15.167	0.00	911.63	95.42	816.20
15.250	0.00	944.17	101.65	842.52
15.333	0.00	978.71	108.26	870.44
15.417	0.00	1009.45	114.15	895.31
15.500	0.00	1037.53	119.52	918.01
15.583	0.00	1066.09	124.99	941.11
15.667	0.00	1088.76	129.32	959.44
15.750	0.00	1102.67	131.98	970.68
15.833	0.00	1116.49	134.63	981.86
15.917	0.00	1141.13	139.34	1001.78
16.000	0.00	1189.49	148.60	1040.89
16.083	0.00	1321.32	173.83	1147.49
16.167	0.00	1465.90	201.50	1264.40
16.250	0.00	1620.07	231.00	1389.07
16.333	0.00	1886.52	281.99	1604.53
16.417	0.00	2226.65	447.94	1778.71
16.500	0.00	2445.14	556.59	1888.54
16.583	0.00	2579.45	623.39	1956.06
16.667	0.00	2708.58	687.61	2020.98
16.750	0.00	2927.07	796.26	2130.81
16.833	0.00	3097.40	880.97	2216.43
16.917	0.00	3016.35	840.66	2175.69
17.000	0.00	2920.10	792.79	2127.30
17.083	0.00	2672.69	669.75	2002.93
17.167	0.00	2397.02	532.66	1864.36
17.250	0.00	2118.63	394.22	1724.41
17.333	0.00	1954.46	312.58	1641.89
17.417	0.00	1725.32	251.14	1474.18
17.500	0.00	1541.12	215.89	1325.22
17.583	0.00	1422.97	193.28	1229.68
17.667	0.00	1297.96	169.36	1128.60
17.750	0.00	1167.75	144.44	1023.31
17.833	0.00	1047.63	121.45	926.18

17.917	0.00	965.99	105.83	860.16
18.000	0.00	873.84	88.19	785.65
18.083	0.00	772.57	68.81	703.76
18.167	0.00	727.29	60.15	667.14
18.250	0.00	694.20	53.81	640.39
18.333	0.00	662.65	47.78	614.87
18.417	0.00	630.68	41.66	589.03
18.500	0.00	601.39	36.05	565.34
18.583	0.00	572.99	30.62	542.37
18.667	0.00	545.77	25.41	520.36
18.750	0.00	517.16	19.93	497.23
18.833	0.00	486.01	13.97	472.04
18.917	0.00	438.26	4.83	433.42
19.000	0.00	409.67	0.00	409.67
19.083	0.00	390.28	0.00	390.28
19.167	0.00	373.90	0.00	373.90
19.250	0.00	358.73	0.00	358.73
19.333	0.00	344.70	0.00	344.70
19.417	0.00	332.69	0.00	332.69
19.500	0.00	322.22	0.00	322.22
19.583	0.00	312.60	0.00	312.60
19.667	0.00	303.84	0.00	303.84
19.750	0.00	295.92	0.00	295.92
19.833	0.00	288.76	0.00	288.76
19.917	0.00	282.39	0.00	282.39
20.000	0.00	276.63	0.00	276.63

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<



ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
 THROUGH A FLOW-THROUGH DETENTION BASIN
 SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
 DEAD STORAGE(AF) = 5.700
 SPECIFIED DEAD STORAGE(AF) FILLED = 5.700
 SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000

DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.50	0.01	0.002
3	2.00	0.02	1.900
4	4.00	0.03	16.100
5	4.30	0.05	18.200
6	5.00	314.00	23.200
7	6.00	1306.00	30.300
8	7.00	2847.00	39.100
9	8.00	4942.00	47.800

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MODIFIED-PULS BASIN ROUTING MODEL RESULTS (5-MINUTE COMPUTATION INTERVALS):
 (Note: Computed EFFECTIVE DEPTH and VOLUME are estimated at the clock time;
 MEAN OUTFLOW is the average value during the unit interval.)

CLOCK TIME (HRS)	DEAD-STORAGE FILLED (AF)	INFLOW (CFS)	LOSS (CFS)	EFFECTIVE DEPTH (FT)	MEAN OUTFLOW (CFS)	EFFECTIVE VOLUME (AF)
10.083	5.700	0.00	0.00	0.00	0.0	0.000
10.167	5.700	0.00	0.00	0.00	0.0	0.000
10.250	5.700	0.00	0.00	0.00	0.0	0.000
10.333	5.700	0.00	0.00	0.00	0.0	0.000
10.417	5.700	0.00	0.00	0.00	0.0	0.000
10.500	5.700	0.00	0.00	0.00	0.0	0.000
10.583	5.700	0.00	0.00	0.00	0.0	0.000
10.667	5.700	0.00	0.00	0.00	0.0	0.000
10.750	5.700	0.00	0.00	0.00	0.0	0.000
10.833	5.700	0.00	0.00	0.00	0.0	0.000
10.917	5.700	0.00	0.00	0.00	0.0	0.000
11.000	5.700	0.00	0.00	0.00	0.0	0.000
11.083	5.700	0.00	0.00	0.00	0.0	0.000
11.167	5.700	0.00	0.00	0.00	0.0	0.000
11.250	5.700	0.00	0.00	0.00	0.0	0.000
11.333	5.700	0.00	0.00	0.00	0.0	0.000
11.417	5.700	0.00	0.00	0.00	0.0	0.000
11.500	5.700	0.00	0.00	0.00	0.0	0.000
11.583	5.700	0.00	0.00	0.00	0.0	0.000
11.667	5.700	0.00	0.00	0.00	0.0	0.000
11.750	5.700	0.00	0.00	0.00	0.0	0.000
11.833	5.700	0.00	0.00	0.00	0.0	0.000
11.917	5.700	0.00	0.00	0.00	0.0	0.000
12.000	5.700	0.00	0.00	0.00	0.0	0.000
12.083	5.700	0.00	0.00	0.00	0.0	0.000
12.167	5.700	0.00	0.00	0.00	0.0	0.000
12.250	5.700	0.00	0.00	0.00	0.0	0.000
12.333	5.700	0.00	0.00	0.00	0.0	0.000
12.417	5.700	0.00	0.00	0.00	0.0	0.000
12.500	5.700	0.00	0.00	0.00	0.0	0.000
12.583	5.700	0.00	0.00	0.00	0.0	0.000

12.667	5.700	0.00	0.00	0.00	0.0	0.000
12.750	5.700	0.00	0.00	0.00	0.0	0.000
12.833	5.700	0.00	0.00	0.00	0.0	0.000
12.917	5.700	1.68	0.00	1.50	0.0	0.012
13.000	5.700	4.62	0.00	1.51	0.0	0.043
13.083	5.700	7.33	0.00	1.52	0.0	0.094
13.167	5.700	9.78	0.00	1.54	0.0	0.161
13.250	5.700	11.93	0.00	1.56	0.0	0.243
13.333	5.700	14.02	0.00	1.59	0.0	0.340
13.417	5.700	15.88	0.00	1.62	0.0	0.449
13.500	5.700	17.61	0.00	1.65	0.0	0.570
13.583	5.700	19.32	0.00	1.68	0.0	0.703
13.667	5.700	21.00	0.00	1.72	0.0	0.848
13.750	5.700	22.62	0.00	1.76	0.0	1.003
13.833	5.700	24.23	0.00	1.81	0.0	1.170
13.917	5.700	25.86	0.00	1.85	0.0	1.348
14.000	5.700	27.51	0.00	1.90	0.0	1.537
14.083	5.700	29.41	0.00	1.96	0.0	1.740
14.167	5.700	31.66	0.00	2.01	0.0	1.958
14.250	5.700	34.20	0.00	2.04	0.0	2.193
14.333	5.700	37.40	0.00	2.08	0.0	2.450
14.417	5.700	41.55	0.00	2.12	0.0	2.736
14.500	5.700	46.27	0.00	2.16	0.0	3.055
14.583	5.700	51.30	0.00	2.21	0.0	3.408
14.667	5.700	56.60	0.00	2.27	0.0	3.798
14.750	5.700	62.55	0.00	2.33	0.0	4.228
14.833	5.700	69.19	0.00	2.40	0.0	4.705
14.917	5.700	75.77	0.00	2.47	0.0	5.226
15.000	5.700	82.52	0.00	2.55	0.0	5.795
15.083	5.700	89.07	0.00	2.63	0.0	6.408
15.167	5.700	95.42	0.00	2.73	0.0	7.065
15.250	5.700	101.65	0.00	2.83	0.0	7.765
15.333	5.700	108.26	0.00	2.93	0.0	8.510
15.417	5.700	114.15	0.00	3.04	0.0	9.296
15.500	5.700	119.52	0.00	3.16	0.0	10.119
15.583	5.700	124.99	0.00	3.28	0.0	10.980
15.667	5.700	129.32	0.00	3.40	0.0	11.870
15.750	5.700	131.98	0.00	3.53	0.0	12.779
15.833	5.700	134.63	0.00	3.66	0.0	13.706
15.917	5.700	139.34	0.00	3.80	0.0	14.665
16.000	5.700	148.60	0.00	3.94	0.0	15.688
16.083	5.700	173.83	0.00	4.11	0.0	16.885
16.167	5.700	201.50	0.00	4.31	1.9	18.260
16.250	5.700	231.00	0.00	4.49	44.2	19.546
16.333	5.700	281.99	0.00	4.64	119.7	20.664
16.417	5.700	447.94	0.00	4.88	206.9	22.324
16.500	5.700	556.59	0.00	5.09	332.9	23.865
16.583	5.700	623.39	0.00	5.24	477.2	24.871
16.667	5.700	687.61	0.00	5.33	593.0	25.523
16.750	5.700	796.26	0.00	5.43	689.8	26.256
16.833	5.700	880.97	0.00	5.52	786.5	26.907
16.917	5.700	840.66	0.00	5.53	834.8	26.948
17.000	5.700	792.79	0.00	5.50	823.0	26.739
17.083	5.700	669.75	0.00	5.41	763.4	26.094
17.167	5.700	532.66	0.00	5.29	658.0	25.231
17.250	5.700	394.22	0.00	5.15	531.6	24.284
17.333	5.700	312.58	0.00	5.05	415.8	23.573
17.417	5.700	251.14	0.00	4.97	333.9	23.003

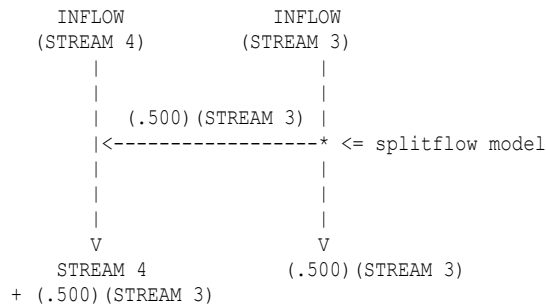
17.500	5.700	215.89	0.00	4.90	286.4	22.518
17.583	5.700	193.28	0.00	4.84	257.3	22.077
17.667	5.700	169.36	0.00	4.78	230.3	21.657
17.750	5.700	144.44	0.00	4.73	204.2	21.245
17.833	5.700	121.45	0.00	4.67	178.9	20.850
17.917	5.700	105.83	0.00	4.62	155.7	20.507
18.000	5.700	88.19	0.00	4.58	134.8	20.186
18.083	5.700	68.81	0.00	4.53	114.8	19.869
18.167	5.700	60.15	0.00	4.50	96.9	19.616
18.250	5.700	53.81	0.00	4.47	82.7	19.417
18.333	5.700	47.78	0.00	4.45	71.4	19.254
18.417	5.700	41.66	0.00	4.43	61.9	19.115
18.500	5.700	36.05	0.00	4.41	53.7	18.994
18.583	5.700	30.62	0.00	4.40	46.5	18.885
18.667	5.700	25.41	0.00	4.38	39.9	18.785
18.750	5.700	19.93	0.00	4.37	33.8	18.689
18.833	5.700	13.97	0.00	4.36	27.8	18.594
18.917	5.700	4.83	0.00	4.34	21.3	18.481
19.000	5.700	0.00	0.00	4.33	14.6	18.381
19.083	5.700	0.00	0.00	4.32	9.4	18.316
19.167	5.700	0.00	0.00	4.31	6.0	18.275
19.250	5.700	0.00	0.00	4.31	3.9	18.248
19.333	5.700	0.00	0.00	4.30	2.5	18.231
19.417	5.700	0.00	0.00	4.30	1.6	18.219
19.500	5.700	0.00	0.00	4.30	1.0	18.212
19.583	5.700	0.00	0.00	4.30	0.7	18.208
19.667	5.700	0.00	0.00	4.30	0.4	18.205
19.750	5.700	0.00	0.00	4.30	0.3	18.203
19.833	5.700	0.00	0.00	4.30	0.2	18.201
19.917	5.700	0.00	0.00	4.30	0.1	18.201

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 85.366 AF
BASIN STORAGE = 21.239 AF (WITH 5.700 AF INITIALLY FILLED)
OUTFLOW VOLUME = 69.825 AF
LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8

>>>>MODEL STREAM SPLITFLOW WHERE A CONSTANT PROPORTION
OF STREAM 3 IS ADDED TO STREAM 4<<<<<



STREAM NUMBER 3 IS SPLIT TOWARDS STREAM 4
WHERE 0.50 (DECIMAL PERCENT) REMAINS IN STREAM 3
AND 0.50 (DECIMAL PERCENT) IS ADDED TO STREAM 4

STREAM SPLITFLOW MODELING RESULTS:

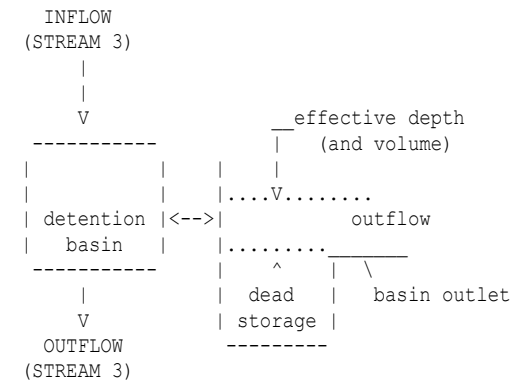
MODEL TIME (HRS)	INFLOW STREAM 4 (CFS)	INFLOW STREAM 3 (CFS)	OUTFLOW STREAM 4 (CFS)	OUTFLOW STREAM 3 (CFS)
10.000	0.00	0.00	0.00	0.00
10.083	0.00	0.00	0.00	0.00
10.167	0.00	0.00	0.00	0.00
10.250	0.00	0.00	0.00	0.00
10.333	0.00	0.00	0.00	0.00
10.417	0.00	0.00	0.00	0.00
10.500	0.00	0.00	0.00	0.00
10.583	0.00	0.00	0.00	0.00
10.667	0.00	0.00	0.00	0.00
10.750	0.00	0.00	0.00	0.00
10.833	0.00	0.00	0.00	0.00
10.917	0.00	0.00	0.00	0.00
11.000	0.00	0.00	0.00	0.00
11.083	0.00	0.00	0.00	0.00
11.167	0.00	0.00	0.00	0.00
11.250	0.00	0.00	0.00	0.00
11.333	0.00	0.00	0.00	0.00
11.417	0.00	0.00	0.00	0.00
11.500	0.00	0.00	0.00	0.00
11.583	0.00	0.00	0.00	0.00
11.667	0.00	0.00	0.00	0.00
11.750	0.00	0.00	0.00	0.00
11.833	0.00	0.00	0.00	0.00
11.917	0.00	0.00	0.00	0.00
12.000	0.00	0.00	0.00	0.00
12.083	0.00	0.00	0.00	0.00
12.167	0.00	0.00	0.00	0.00
12.250	0.00	0.00	0.00	0.00
12.333	0.00	0.00	0.00	0.00
12.417	0.00	0.00	0.00	0.00
12.500	0.00	0.00	0.00	0.00
12.583	0.00	0.00	0.00	0.00
12.667	0.00	0.00	0.00	0.00
12.750	0.00	0.00	0.00	0.00
12.833	0.00	0.00	0.00	0.00
12.917	0.00	0.01	0.00	0.00
13.000	0.00	0.01	0.01	0.01
13.083	0.00	0.01	0.01	0.01
13.167	0.00	0.01	0.01	0.01
13.250	0.00	0.01	0.01	0.01
13.333	0.00	0.01	0.01	0.01
13.417	0.00	0.01	0.01	0.01
13.500	0.00	0.01	0.01	0.01
13.583	0.00	0.01	0.01	0.01

13.667	0.00	0.02	0.01	0.01
13.750	0.00	0.02	0.01	0.01
13.833	0.00	0.02	0.01	0.01
13.917	0.00	0.02	0.01	0.01
14.000	0.00	0.02	0.01	0.01
14.083	0.00	0.02	0.01	0.01
14.167	0.00	0.02	0.01	0.01
14.250	0.00	0.02	0.01	0.01
14.333	0.00	0.02	0.01	0.01
14.417	0.00	0.02	0.01	0.01
14.500	0.00	0.02	0.01	0.01
14.583	0.00	0.02	0.01	0.01
14.667	0.00	0.02	0.01	0.01
14.750	0.00	0.02	0.01	0.01
14.833	0.00	0.02	0.01	0.01
14.917	0.00	0.02	0.01	0.01
15.000	0.00	0.02	0.01	0.01
15.083	0.00	0.03	0.01	0.01
15.167	0.00	0.03	0.01	0.01
15.250	0.00	0.03	0.01	0.01
15.333	0.00	0.03	0.01	0.01
15.417	0.00	0.03	0.01	0.01
15.500	0.00	0.03	0.01	0.01
15.583	0.00	0.03	0.01	0.01
15.667	0.00	0.03	0.01	0.01
15.750	0.00	0.03	0.02	0.02
15.833	0.00	0.03	0.02	0.02
15.917	0.00	0.03	0.02	0.02
16.000	0.00	0.03	0.02	0.02
16.083	0.00	0.04	0.02	0.02
16.167	0.00	1.92	0.96	0.96
16.250	0.00	44.20	22.10	22.10
16.333	0.00	119.68	59.84	59.84
16.417	0.00	206.90	103.45	103.45
16.500	0.00	332.94	166.47	166.47
16.583	0.00	477.20	238.60	238.60
16.667	0.00	593.03	296.52	296.52
16.750	0.00	689.77	344.88	344.88
16.833	0.00	786.47	393.23	393.23
16.917	0.00	834.77	417.38	417.38
17.000	0.00	823.05	411.52	411.52
17.083	0.00	763.43	381.71	381.71
17.167	0.00	658.04	329.02	329.02
17.250	0.00	531.61	265.81	265.81
17.333	0.00	415.83	207.92	207.92
17.417	0.00	333.90	166.95	166.95
17.500	0.00	286.40	143.20	143.20
17.583	0.00	257.31	128.66	128.66
17.667	0.00	230.29	115.15	115.15
17.750	0.00	204.20	102.10	102.10
17.833	0.00	178.86	89.43	89.43
17.917	0.00	155.67	77.84	77.84
18.000	0.00	134.82	67.41	67.41
18.083	0.00	114.79	57.40	57.40
18.167	0.00	96.90	48.45	48.45
18.250	0.00	82.71	41.35	41.35
18.333	0.00	71.36	35.68	35.68
18.417	0.00	61.89	30.94	30.94

18.500	0.00	53.70	26.85	26.85
18.583	0.00	46.46	23.23	23.23
18.667	0.00	39.90	19.95	19.95
18.750	0.00	33.77	16.89	16.89
18.833	0.00	27.79	13.90	13.90
18.917	0.00	21.25	10.63	10.63
19.000	0.00	14.56	7.28	7.28
19.083	0.00	9.38	4.69	4.69
19.167	0.00	6.05	3.02	3.02
19.250	0.00	3.90	1.95	1.95
19.333	0.00	2.51	1.26	1.26
19.417	0.00	1.62	0.81	0.81
19.500	0.00	1.04	0.52	0.52
19.583	0.00	0.67	0.34	0.34
19.667	0.00	0.43	0.22	0.22
19.750	0.00	0.28	0.14	0.14
19.833	0.00	0.18	0.09	0.09
19.917	0.00	0.12	0.06	0.06
20.000	0.00	0.07	0.04	0.04

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<



ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3

THROUGH A FLOW-THROUGH DETENTION BASIN

SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:

DEAD STORAGE(AF) = 0.000

SPECIFIED DEAD STORAGE(AF) FILLED = 0.000

SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000

DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
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1	0.00	0.00	0.000
2	0.99	2.90	0.900
3	1.99	11.38	2.900
4	3.99	19.63	10.300
5	5.99	25.19	20.700
6	7.99	29.71	31.700
7	9.99	33.62	43.500
8	10.99	35.49	49.700
9	11.99	313.46	56.400
10	12.99	894.27	63.100
11	13.99	1748.55	69.900
12	15.99	4306.91	84.100

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MODIFIED-PULS BASIN ROUTING MODEL RESULTS(5-MINUTE COMPUTATION INTERVALS):
 (Note: Computed EFFECTIVE DEPTH and VOLUME are estimated at the clock time;
 MEAN OUTFLOW is the average value during the unit interval.)

CLOCK TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	LOSS (CFS)	MEAN		
				EFFECTIVE DEPTH(FT)	OUTFLOW (CFS)	EFFECTIVE VOLUME(AF)
10.083	0.000	0.00	0.00	0.00	0.0	0.000
10.167	0.000	0.00	0.00	0.00	0.0	0.000
10.250	0.000	0.00	0.00	0.00	0.0	0.000
10.333	0.000	0.00	0.00	0.00	0.0	0.000
10.417	0.000	0.00	0.00	0.00	0.0	0.000
10.500	0.000	0.00	0.00	0.00	0.0	0.000
10.583	0.000	0.00	0.00	0.00	0.0	0.000
10.667	0.000	0.00	0.00	0.00	0.0	0.000
10.750	0.000	0.00	0.00	0.00	0.0	0.000
10.833	0.000	0.00	0.00	0.00	0.0	0.000
10.917	0.000	0.00	0.00	0.00	0.0	0.000
11.000	0.000	0.00	0.00	0.00	0.0	0.000
11.083	0.000	0.00	0.00	0.00	0.0	0.000
11.167	0.000	0.00	0.00	0.00	0.0	0.000
11.250	0.000	0.00	0.00	0.00	0.0	0.000
11.333	0.000	0.00	0.00	0.00	0.0	0.000
11.417	0.000	0.00	0.00	0.00	0.0	0.000
11.500	0.000	0.00	0.00	0.00	0.0	0.000
11.583	0.000	0.00	0.00	0.00	0.0	0.000
11.667	0.000	0.00	0.00	0.00	0.0	0.000
11.750	0.000	0.00	0.00	0.00	0.0	0.000
11.833	0.000	0.00	0.00	0.00	0.0	0.000
11.917	0.000	0.00	0.00	0.00	0.0	0.000
12.000	0.000	0.00	0.00	0.00	0.0	0.000
12.083	0.000	0.00	0.00	0.00	0.0	0.000
12.167	0.000	0.00	0.00	0.00	0.0	0.000
12.250	0.000	0.00	0.00	0.00	0.0	0.000
12.333	0.000	0.00	0.00	0.00	0.0	0.000
12.417	0.000	0.00	0.00	0.00	0.0	0.000
12.500	0.000	0.00	0.00	0.00	0.0	0.000
12.583	0.000	0.00	0.00	0.00	0.0	0.000
12.667	0.000	0.00	0.00	0.00	0.0	0.000
12.750	0.000	0.00	0.00	0.00	0.0	0.000
12.833	0.000	0.00	0.00	0.00	0.0	0.000
12.917	0.000	0.00	0.00	0.00	0.0	0.000

13.000	0.000	0.01	0.00	0.00	0.0	0.000
13.083	0.000	0.01	0.00	0.00	0.0	0.000
13.167	0.000	0.01	0.00	0.00	0.0	0.000
13.250	0.000	0.01	0.00	0.00	0.0	0.000
13.333	0.000	0.01	0.00	0.00	0.0	0.000
13.417	0.000	0.01	0.00	0.00	0.0	0.000
13.500	0.000	0.01	0.00	0.00	0.0	0.000
13.583	0.000	0.01	0.00	0.00	0.0	0.000
13.667	0.000	0.01	0.00	0.00	0.0	0.000
13.750	0.000	0.01	0.00	0.00	0.0	0.000
13.833	0.000	0.01	0.00	0.00	0.0	0.000
13.917	0.000	0.01	0.00	0.00	0.0	0.001
14.000	0.000	0.01	0.00	0.00	0.0	0.001
14.083	0.000	0.01	0.00	0.00	0.0	0.001
14.167	0.000	0.01	0.00	0.00	0.0	0.001
14.250	0.000	0.01	0.00	0.00	0.0	0.001
14.333	0.000	0.01	0.00	0.00	0.0	0.001
14.417	0.000	0.01	0.00	0.00	0.0	0.001
14.500	0.000	0.01	0.00	0.00	0.0	0.001
14.583	0.000	0.01	0.00	0.00	0.0	0.001
14.667	0.000	0.01	0.00	0.00	0.0	0.001
14.750	0.000	0.01	0.00	0.00	0.0	0.001
14.833	0.000	0.01	0.00	0.00	0.0	0.001
14.917	0.000	0.01	0.00	0.00	0.0	0.001
15.000	0.000	0.01	0.00	0.00	0.0	0.001
15.083	0.000	0.01	0.00	0.00	0.0	0.001
15.167	0.000	0.01	0.00	0.00	0.0	0.001
15.250	0.000	0.01	0.00	0.00	0.0	0.001
15.333	0.000	0.01	0.00	0.00	0.0	0.002
15.417	0.000	0.01	0.00	0.00	0.0	0.002
15.500	0.000	0.01	0.00	0.00	0.0	0.002
15.583	0.000	0.01	0.00	0.00	0.0	0.002
15.667	0.000	0.01	0.00	0.00	0.0	0.002
15.750	0.000	0.02	0.00	0.00	0.0	0.002
15.833	0.000	0.02	0.00	0.00	0.0	0.002
15.917	0.000	0.02	0.00	0.00	0.0	0.002
16.000	0.000	0.02	0.00	0.00	0.0	0.002
16.083	0.000	0.02	0.00	0.00	0.0	0.002
16.167	0.000	0.96	0.00	0.01	0.0	0.009
16.250	0.000	22.10	0.00	0.17	0.3	0.159
16.333	0.000	59.84	0.00	0.62	1.2	0.563
16.417	0.000	103.45	0.00	1.17	3.1	1.254
16.500	0.000	166.47	0.00	1.72	6.7	2.354
16.583	0.000	238.60	0.00	2.27	10.8	3.923
16.667	0.000	296.52	0.00	2.79	13.6	5.872
16.750	0.000	344.88	0.00	3.41	16.0	8.137
16.833	0.000	393.23	0.00	4.07	18.5	10.717
16.917	0.000	417.38	0.00	4.60	20.6	13.450
17.000	0.000	411.52	0.00	5.11	22.0	16.133
17.083	0.000	381.71	0.00	5.59	23.4	18.600
17.167	0.000	329.02	0.00	5.99	24.6	20.697
17.250	0.000	265.81	0.00	6.29	25.5	22.352
17.333	0.000	207.92	0.00	6.52	26.1	23.604
17.417	0.000	166.95	0.00	6.69	26.6	24.570
17.500	0.000	143.20	0.00	6.84	26.9	25.371
17.583	0.000	128.66	0.00	6.97	27.3	26.069
17.667	0.000	115.15	0.00	7.08	27.5	26.673
17.750	0.000	102.10	0.00	7.17	27.7	27.185

17.833	0.000	89.43	0.00	7.25	27.9	27.608
17.917	0.000	77.84	0.00	7.31	28.1	27.951
18.000	0.000	67.41	0.00	7.36	28.2	28.221
18.083	0.000	57.40	0.00	7.39	28.3	28.421
18.167	0.000	48.45	0.00	7.42	28.4	28.559
18.250	0.000	41.35	0.00	7.44	28.4	28.648
18.333	0.000	35.68	0.00	7.44	28.5	28.698
18.417	0.000	30.94	0.00	7.45	28.5	28.715
18.500	0.000	26.85	0.00	7.45	28.5	28.704
18.583	0.000	23.23	0.00	7.44	28.5	28.667
18.667	0.000	19.95	0.00	7.43	28.5	28.609
18.750	0.000	16.89	0.00	7.41	28.4	28.529
18.833	0.000	13.90	0.00	7.40	28.4	28.430
18.917	0.000	10.63	0.00	7.37	28.3	28.308
19.000	0.000	7.28	0.00	7.35	28.3	28.163
19.083	0.000	4.69	0.00	7.32	28.2	28.001
19.167	0.000	3.02	0.00	7.29	28.2	27.828
19.250	0.000	1.95	0.00	7.25	28.1	27.648
19.333	0.000	1.26	0.00	7.22	28.0	27.464
19.417	0.000	0.81	0.00	7.19	27.9	27.277
19.500	0.000	0.52	0.00	7.15	27.9	27.089
19.583	0.000	0.34	0.00	7.12	27.8	26.900
19.667	0.000	0.22	0.00	7.08	27.7	26.710
19.750	0.000	0.14	0.00	7.05	27.6	26.521
19.833	0.000	0.09	0.00	7.01	27.5	26.332
19.917	0.000	0.06	0.00	6.98	27.5	26.143

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 34.913 AF
BASIN STORAGE = 0.005 AF (WITH 0.000 AF INITIALLY FILLED)
OUTFLOW VOLUME = 34.908 AF
LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<<
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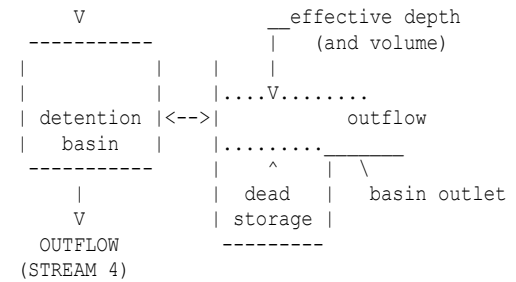
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<<
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FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<<
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INFLOW
(STREAM 4)
|
|



ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
THROUGH A FLOW-THROUGH DETENTION BASIN
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:

DEAD STORAGE(AF) = 0.000
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.48	0.70	0.400
3	1.48	6.50	1.800
4	3.48	18.11	8.500
5	5.48	23.99	17.900
6	7.48	28.68	27.800
7	9.48	32.70	38.300
8	10.48	34.50	43.900
9	11.48	36.29	49.400
10	12.48	314.07	55.900
11	13.48	895.00	62.300
12	15.48	2882.95	74.700

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MODIFIED-PULS BASIN ROUTING MODEL RESULTS(5-MINUTE COMPUTATION INTERVALS):
(Note: Computed EFFECTIVE DEPTH and VOLUME are estimated at the clock time;
MEAN OUTFLOW is the average value during the unit interval.)

CLOCK TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	LOSS (CFS)	EFFECTIVE DEPTH (FT)	MEAN OUTFLOW (CFS)	EFFECTIVE VOLUME (AF)
10.083	0.000	0.00	0.00	0.00	0.0	0.000
10.167	0.000	0.00	0.00	0.00	0.0	0.000
10.250	0.000	0.00	0.00	0.00	0.0	0.000
10.333	0.000	0.00	0.00	0.00	0.0	0.000
10.417	0.000	0.00	0.00	0.00	0.0	0.000
10.500	0.000	0.00	0.00	0.00	0.0	0.000
10.583	0.000	0.00	0.00	0.00	0.0	0.000
10.667	0.000	0.00	0.00	0.00	0.0	0.000

10.750	0.000	0.00	0.00	0.00	0.0	0.000
10.833	0.000	0.00	0.00	0.00	0.0	0.000
10.917	0.000	0.00	0.00	0.00	0.0	0.000
11.000	0.000	0.00	0.00	0.00	0.0	0.000
11.083	0.000	0.00	0.00	0.00	0.0	0.000
11.167	0.000	0.00	0.00	0.00	0.0	0.000
11.250	0.000	0.00	0.00	0.00	0.0	0.000
11.333	0.000	0.00	0.00	0.00	0.0	0.000
11.417	0.000	0.00	0.00	0.00	0.0	0.000
11.500	0.000	0.00	0.00	0.00	0.0	0.000
11.583	0.000	0.00	0.00	0.00	0.0	0.000
11.667	0.000	0.00	0.00	0.00	0.0	0.000
11.750	0.000	0.00	0.00	0.00	0.0	0.000
11.833	0.000	0.00	0.00	0.00	0.0	0.000
11.917	0.000	0.00	0.00	0.00	0.0	0.000
12.000	0.000	0.00	0.00	0.00	0.0	0.000
12.083	0.000	0.00	0.00	0.00	0.0	0.000
12.167	0.000	0.00	0.00	0.00	0.0	0.000
12.250	0.000	0.00	0.00	0.00	0.0	0.000
12.333	0.000	0.00	0.00	0.00	0.0	0.000
12.417	0.000	0.00	0.00	0.00	0.0	0.000
12.500	0.000	0.00	0.00	0.00	0.0	0.000
12.583	0.000	0.00	0.00	0.00	0.0	0.000
12.667	0.000	0.00	0.00	0.00	0.0	0.000
12.750	0.000	0.00	0.00	0.00	0.0	0.000
12.833	0.000	0.00	0.00	0.00	0.0	0.000
12.917	0.000	0.00	0.00	0.00	0.0	0.000
13.000	0.000	0.01	0.00	0.00	0.0	0.000
13.083	0.000	0.01	0.00	0.00	0.0	0.000
13.167	0.000	0.01	0.00	0.00	0.0	0.000
13.250	0.000	0.01	0.00	0.00	0.0	0.000
13.333	0.000	0.01	0.00	0.00	0.0	0.000
13.417	0.000	0.01	0.00	0.00	0.0	0.000
13.500	0.000	0.01	0.00	0.00	0.0	0.000
13.583	0.000	0.01	0.00	0.00	0.0	0.000
13.667	0.000	0.01	0.00	0.00	0.0	0.000
13.750	0.000	0.01	0.00	0.00	0.0	0.000
13.833	0.000	0.01	0.00	0.00	0.0	0.001
13.917	0.000	0.01	0.00	0.00	0.0	0.001
14.000	0.000	0.01	0.00	0.00	0.0	0.001
14.083	0.000	0.01	0.00	0.00	0.0	0.001
14.167	0.000	0.01	0.00	0.00	0.0	0.001
14.250	0.000	0.01	0.00	0.00	0.0	0.001
14.333	0.000	0.01	0.00	0.00	0.0	0.001
14.417	0.000	0.01	0.00	0.00	0.0	0.001
14.500	0.000	0.01	0.00	0.00	0.0	0.001
14.583	0.000	0.01	0.00	0.00	0.0	0.001
14.667	0.000	0.01	0.00	0.00	0.0	0.001
14.750	0.000	0.01	0.00	0.00	0.0	0.001
14.833	0.000	0.01	0.00	0.00	0.0	0.001
14.917	0.000	0.01	0.00	0.00	0.0	0.001
15.000	0.000	0.01	0.00	0.00	0.0	0.001
15.083	0.000	0.01	0.00	0.00	0.0	0.001
15.167	0.000	0.01	0.00	0.00	0.0	0.002
15.250	0.000	0.01	0.00	0.00	0.0	0.002
15.333	0.000	0.01	0.00	0.00	0.0	0.002
15.417	0.000	0.01	0.00	0.00	0.0	0.002
15.500	0.000	0.01	0.00	0.00	0.0	0.002

15.583	0.000	0.01	0.00	0.00	0.0	0.002
15.667	0.000	0.01	0.00	0.00	0.0	0.002
15.750	0.000	0.02	0.00	0.00	0.0	0.002
15.833	0.000	0.02	0.00	0.00	0.0	0.002
15.917	0.000	0.02	0.00	0.00	0.0	0.002
16.000	0.000	0.02	0.00	0.00	0.0	0.002
16.083	0.000	0.02	0.00	0.00	0.0	0.002
16.167	0.000	0.96	0.00	0.01	0.0	0.009
16.250	0.000	22.10	0.00	0.19	0.1	0.160
16.333	0.000	59.84	0.00	0.60	0.8	0.567
16.417	0.000	103.45	0.00	1.09	2.8	1.260
16.500	0.000	166.47	0.00	1.65	5.9	2.366
16.583	0.000	238.60	0.00	2.12	8.9	3.948
16.667	0.000	296.52	0.00	2.71	11.9	5.908
16.750	0.000	344.88	0.00	3.38	15.6	8.176
16.833	0.000	393.23	0.00	3.96	18.5	10.756
16.917	0.000	417.38	0.00	4.54	20.4	13.491
17.000	0.000	411.52	0.00	5.11	22.1	16.173
17.083	0.000	381.71	0.00	5.63	23.6	18.639
17.167	0.000	329.02	0.00	6.05	24.8	20.734
17.250	0.000	265.81	0.00	6.39	25.7	22.387
17.333	0.000	207.92	0.00	6.64	26.4	23.637
17.417	0.000	166.95	0.00	6.83	26.9	24.602
17.500	0.000	143.20	0.00	7.00	27.4	25.400
17.583	0.000	128.66	0.00	7.14	27.7	26.095
17.667	0.000	115.15	0.00	7.26	28.0	26.695
17.750	0.000	102.10	0.00	7.36	28.3	27.203
17.833	0.000	89.43	0.00	7.44	28.5	27.623
17.917	0.000	77.84	0.00	7.51	28.7	27.962
18.000	0.000	67.41	0.00	7.56	28.8	28.227
18.083	0.000	57.40	0.00	7.60	28.9	28.424
18.167	0.000	48.45	0.00	7.62	28.9	28.558
18.250	0.000	41.35	0.00	7.64	29.0	28.643
18.333	0.000	35.68	0.00	7.65	29.0	28.689
18.417	0.000	30.94	0.00	7.65	29.0	28.703
18.500	0.000	26.85	0.00	7.65	29.0	28.688
18.583	0.000	23.23	0.00	7.64	29.0	28.648
18.667	0.000	19.95	0.00	7.63	29.0	28.585
18.750	0.000	16.89	0.00	7.61	29.0	28.502
18.833	0.000	13.90	0.00	7.59	28.9	28.399
18.917	0.000	10.63	0.00	7.57	28.9	28.273
19.000	0.000	7.28	0.00	7.54	28.8	28.125
19.083	0.000	4.69	0.00	7.51	28.8	27.959
19.167	0.000	3.02	0.00	7.48	28.7	27.782
19.250	0.000	1.95	0.00	7.44	28.6	27.598
19.333	0.000	1.26	0.00	7.40	28.5	27.410
19.417	0.000	0.81	0.00	7.36	28.5	27.220
19.500	0.000	0.52	0.00	7.32	28.4	27.028
19.583	0.000	0.34	0.00	7.29	28.3	26.836
19.667	0.000	0.22	0.00	7.25	28.2	26.643
19.750	0.000	0.14	0.00	7.21	28.1	26.451
19.833	0.000	0.09	0.00	7.17	28.0	26.259
19.917	0.000	0.06	0.00	7.13	27.9	26.067

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 34.913 AF
 BASIN STORAGE = 0.009 AF (WITH 0.000 AF INITIALLY FILLED)
 OUTFLOW VOLUME = 34.903 AF

LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 2 HYDROGRAPH<<<<<

STREAM HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	575.0	1150.0	1725.0	2300.0
10.000	141.9690	250.49	. Q V .	.	.	.	.
10.083	143.7073	252.40	. Q V .	.	.	.	.
10.167	145.4590	254.36	. Q V .	.	.	.	.
10.250	147.2245	256.34	. Q V .	.	.	.	.
10.333	149.0040	258.38	. Q V .	.	.	.	.
10.417	150.7977	260.45	. Q V .	.	.	.	.
10.500	152.6061	262.57	. Q V .	.	.	.	.
10.583	154.4293	264.73	. Q V .	.	.	.	.
10.667	156.2678	266.95	. Q V .	.	.	.	.
10.750	158.1218	269.20	. Q V .	.	.	.	.
10.833	159.9918	271.52	. Q V .	.	.	.	.
10.917	161.8780	273.88	. Q V .	.	.	.	.
11.000	163.7808	276.30	. Q V .	.	.	.	.
11.083	165.7007	278.77	. Q V .	.	.	.	.
11.167	167.6381	281.31	. Q V .	.	.	.	.
11.250	169.5933	283.89	. Q V .	.	.	.	.
11.333	171.5668	286.56	. Q V .	.	.	.	.
11.417	173.5590	289.27	. Q V .	.	.	.	.
11.500	175.5705	292.07	. Q V .	.	.	.	.
11.583	177.6017	294.93	. Q V .	.	.	.	.
11.667	179.6532	297.87	. Q V .	.	.	.	.
11.750	181.7253	300.88	. Q V .	.	.	.	.
11.833	183.8189	303.98	. Q V .	.	.	.	.
11.917	185.9343	307.16	. Q V .	.	.	.	.
12.000	188.0723	310.43	. Q V .	.	.	.	.
12.083	190.2383	314.50	. Q V .	.	.	.	.
12.167	192.4382	319.43	. Q V .	.	.	.	.
12.250	194.6765	325.00	. Q V .	.	.	.	.
12.333	196.9644	332.20	. Q V .	.	.	.	.
12.417	199.3186	341.82	. Q V .	.	.	.	.

12.500	201.7487	352.86	. Q V .	.	.	.	.
12.583	204.2599	364.62	. Q V .	.	.	.	.
12.667	206.8564	377.01	. Q V .	.	.	.	.
12.750	209.5490	390.97	. Q V .	.	.	.	.
12.833	212.3491	406.56	. Q V .	.	.	.	.
12.917	215.2424	420.12	. Q V .	.	.	.	.
13.000	218.2213	432.53	. Q V .	.	.	.	.
13.083	221.2790	443.98	. Q V .	.	.	.	.
13.167	224.4080	454.32	. Q V .	.	.	.	.
13.250	227.5997	463.43	. Q V .	.	.	.	.
13.333	230.8519	472.23	. Q V .	.	.	.	.
13.417	234.1584	480.11	. Q V .	.	.	.	.
13.500	237.5154	487.43	. Q V .	.	.	.	.
13.583	240.9221	494.65	. Q V .	.	.	.	.
13.667	244.3775	501.73	. Q V .	.	.	.	.
13.750	247.8803	508.60	. Q V .	.	.	.	.
13.833	251.4296	515.37	. Q V .	.	.	.	.
13.917	255.0265	522.27	. Q V .	.	.	.	.
14.000	258.6714	529.24	. Q V .	.	.	.	.
14.083	262.3716	537.26	. Q V .	.	.	.	.
14.167	266.1374	546.80	. Q V .	.	.	.	.
14.250	269.9770	557.50	. Q V .	.	.	.	.
14.333	273.9096	571.01	. Q V .	.	.	.	.
14.417	277.9630	588.55	. Q V .	.	.	.	.
14.500	282.1539	608.52	. Q V .	.	.	.	.
14.583	286.4912	629.77	. Q V .	.	.	.	.
14.667	290.9828	652.18	. Q V .	.	.	.	.
14.750	295.6475	677.32	. Q V .	.	.	.	.
14.833	300.5054	705.37	. QV .	.	.	.	.
14.917	305.5546	733.14	. Q V .	.	.	.	.
15.000	310.8004	761.69	. QV .	.	.	.	.
15.083	316.2367	789.34	. QV .	.	.	.	.
15.167	321.8579	816.21	. Q .	.	.	.	.
15.250	327.6604	842.52	. QV .	.	.	.	.
15.333	333.6553	870.45	. Q .	.	.	.	.
15.417	339.8214	895.32	. Q .	.	.	.	.
15.500	346.1438	918.02	. Q .	.	.	.	.
15.583	352.6253	941.12	. Q .	.	.	.	.
15.667	359.2331	959.45	. Q .	.	.	.	.
15.750	365.9183	970.69	. Q .	.	.	.	.
15.833	372.6805	981.87	. Q .	.	.	.	.
15.917	379.5799	1001.79	. Q .	.	.	.	.
16.000	386.7486	1040.90	. VQ .	.	.	.	.
16.083	394.6515	1147.50	. VQ .	.	.	.	.
16.167	403.3597	1264.43	. V .Q .	.	.	.	.
16.250	412.9292	1389.49	. V . Q .	.	.	.	.
16.333	423.9934	1606.52	. V . Q .	.	.	.	.
16.417	436.2844	1784.65	. V . Q .	.	.	.	.
16.500	449.3777	1901.15	. V . Q .	.	.	.	.
16.583	462.9845	1975.71	. V . Q .	.	.	.	.
16.667	477.0789	2046.50	. V . Q .	.	.	.	.
16.750	491.9711	2162.35	. V . Q .	.	.	.	.
16.833	507.4911	2253.50	. V . Q .	.	.	.	.
16.917	522.7573	2216.65	. V . Q .	.	.	.	.
17.000	537.7119	2171.41	. V . Q .	.	.	.	.
17.083	551.8301	2049.97	. V . Q .	.	.	.	.
17.167	565.0107	1913.82	. V . Q .	.	.	.	.
17.250	577.2398	1775.67	. V Q .	.	.	.	.

17.333	588.9094	1694.42	.	.	.	V	Q.	.
17.417	599.4307	1527.69	.	.	.	QV	.	.
17.500	608.9316	1379.52	.	.	.	Q	V	.
17.583	617.7790	1284.64	.	.	.	Q	V	.
17.667	625.9342	1184.14	.	.	.	Q	V	.
17.750	633.3677	1079.34	.	.	.	Q	V	.
17.833	640.1350	982.62	.	.	.	Q	V	.
17.917	646.4500	916.93	.	.	.	Q	V	.
18.000	652.2535	842.67	.	.	.	Q	V	.
18.083	657.4943	760.96	.	.	.	Q	V	.
18.167	662.4838	724.48	.	.	.	Q	V	.
18.250	667.2896	697.81	.	.	.	Q	V	.
18.333	671.9201	672.35	.	.	.	Q	V	.
18.417	676.3728	646.53	.	.	.	Q	V	.
18.500	680.6624	622.84	.	.	.	Q	V	.
18.583	684.7936	599.86	.	.	.	Q	V	.
18.667	688.7729	577.81	.	.	.	Q	V	.
18.750	692.5926	554.61	.	.	.	Q	V	.
18.833	696.2383	529.36	.	.	.	Q	V	.
18.917	699.6174	490.65	.	.	.	Q	V	.
19.000	702.8322	466.79	.	.	.	Q	V	.
19.083	705.9126	447.28	.	.	.	Q	V	.
19.167	708.8793	430.76	.	.	.	Q	V	.
19.250	711.7404	415.44	.	.	.	Q	V	.
19.333	714.5038	401.24	.	.	.	Q	V	.
19.417	717.1833	389.07	.	.	.	Q	V	.
19.500	719.7897	378.44	.	.	.	Q	V	.
19.583	722.3286	368.65	.	.	.	Q	V	.
19.667	724.8059	359.72	.	.	.	Q	V	.
19.750	727.2276	351.63	.	.	.	Q	V	.
19.833	729.5988	344.30	.	.	.	Q	V	.
19.917	731.9249	337.76	.	.	.	Q	V	.
20.000	734.2103	331.84	.	.	.	Q	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	860.0
20%	355.0
30%	215.0
40%	150.0
50%	100.0
60%	80.0
70%	65.0
80%	45.0
90%	30.0

FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<
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THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:

BASEWIDTH(FT) = 50.00 CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 427.51
DOWNSTREAM ELEVATION(FT) = 315.00
CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040
CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:

MAXIMUM INFLOW(CFS) = 2253.50
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 1736.49
CHANNEL NORMAL VELOCITY FOR Q = 1736.49 CFS = 8.20 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.828

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
UNIT INTERVALS IS CSTAR = 0.611

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 2) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS
			LOSS (STREAM 2) (CFS)
10.000	250.49	243.36	243.36
10.083	252.40	245.13	245.13
10.167	254.36	246.94	246.94
10.250	256.34	248.78	248.78
10.333	258.38	250.66	250.66
10.417	260.45	252.58	252.58
10.500	262.57	254.53	254.53
10.583	264.73	256.52	256.52
10.667	266.95	258.56	258.56
10.750	269.20	260.64	260.64
10.833	271.52	262.76	262.76
10.917	273.88	264.93	264.93
11.000	276.30	267.14	267.14
11.083	278.77	269.41	269.41
11.167	281.31	271.72	271.72
11.250	283.89	274.09	274.09
11.333	286.56	276.52	276.52
11.417	289.27	279.00	279.00
11.500	292.07	281.53	281.53
11.583	294.93	284.13	284.13
11.667	297.87	286.80	286.80
11.750	300.88	289.53	289.53
11.833	303.98	292.32	292.32
11.917	307.16	295.20	295.20
12.000	310.43	298.14	298.14
12.083	314.50	301.16	301.16
12.167	319.43	304.27	304.27

12.250	325.00	307.46	307.46
12.333	332.20	311.05	311.05
12.417	341.82	315.31	315.31
12.500	352.86	320.25	320.25
12.583	364.62	326.29	326.29
12.667	377.01	334.09	334.09
12.750	390.97	343.62	343.62
12.833	406.56	354.39	354.39
12.917	420.12	366.03	366.03
13.000	432.53	378.82	378.82
13.083	443.98	393.03	393.03
13.167	454.32	407.20	407.20
13.250	463.43	420.49	420.49
13.333	472.23	432.83	432.83
13.417	480.11	444.15	444.15
13.500	487.43	454.33	454.33
13.583	494.65	463.72	463.72
13.667	501.73	472.35	472.35
13.750	508.60	480.28	480.28
13.833	515.37	487.79	487.79
13.917	522.27	495.06	495.06
14.000	529.24	502.13	502.13
14.083	537.26	509.03	509.03
14.167	546.80	515.90	515.90
14.250	557.50	522.83	522.83
14.333	571.01	530.24	530.24
14.417	588.55	538.68	538.68
14.500	608.52	548.30	548.30
14.583	629.77	559.80	559.80
14.667	652.18	574.29	574.29
14.750	677.32	591.70	591.70
14.833	705.37	611.23	611.23
14.917	733.14	632.31	632.31
15.000	761.69	655.39	655.39
15.083	789.34	681.00	681.00
15.167	816.21	707.98	707.98
15.250	842.52	735.78	735.78
15.333	870.45	763.65	763.65
15.417	895.32	791.04	791.04
15.500	918.02	817.87	817.87
15.583	941.12	845.09	845.09
15.667	959.45	871.41	871.41
15.750	970.69	895.90	895.90
15.833	981.87	919.47	919.47
15.917	1001.79	940.67	940.67
16.000	1040.90	957.04	957.04
16.083	1147.50	970.25	970.25
16.167	1264.43	986.02	986.02
16.250	1389.49	1012.68	1012.68
16.333	1606.52	1076.32	1076.32
16.417	1784.65	1170.71	1170.71
16.500	1901.15	1282.41	1282.41
16.583	1975.71	1442.30	1442.30
16.667	2046.50	1620.18	1620.18
16.750	2162.35	1771.38	1771.38
16.833	2253.50	1883.13	1883.13
16.917	2216.65	1970.51	1970.51
17.000	2171.41	2067.37	2067.37

17.083	2049.97	2165.08	2165.08
17.167	1913.82	2203.07	2203.07
17.250	1775.67	2191.68	2191.68
17.333	1694.42	2126.43	2126.43
17.417	1527.69	2020.45	2020.45
17.500	1379.52	1895.16	1895.16
17.583	1284.64	1786.78	1786.78
17.667	1184.14	1657.78	1657.78
17.750	1079.34	1513.80	1513.80
17.833	982.62	1390.45	1390.45
17.917	916.93	1282.05	1282.05
18.000	842.67	1176.61	1176.61
18.083	760.96	1075.07	1075.07
18.167	724.48	989.99	989.99
18.250	697.81	913.02	913.02
18.333	672.35	834.47	834.47
18.417	646.53	773.67	773.67
18.500	622.84	732.00	732.00
18.583	599.86	700.03	700.03
18.667	577.81	671.88	671.88
18.750	554.61	646.08	646.08
18.833	529.36	621.88	621.88
18.917	490.65	598.82	598.82
19.000	466.79	575.89	575.89
19.083	447.28	551.89	551.89
19.167	430.76	521.28	521.28
19.250	415.44	492.18	492.18
19.333	401.24	468.17	468.17
19.417	389.07	448.21	448.21
19.500	378.44	430.88	430.88
19.583	368.65	415.27	415.27
19.667	359.72	401.40	401.40
19.750	351.63	389.24	389.24
19.833	344.30	378.38	378.38
19.917	337.76	368.54	368.54
20.000	331.84	359.63	359.63

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PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 867.111 AF
 OUTFLOW VOLUME = 867.110 AF
 LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

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(UNIT-HYDROGRAPH ADDED TO STREAM #1)

WATERSHED AREA = 510.200 ACRES
 BASEFLOW = 0.000 CFS/SQUARE-MILE
 *USER ENTERED "LAG" TIME = 0.279 HOURS
 CAUTION: LAG TIME IS LESS THAN 0.50 HOURS.
 THE 5-MINUTE PERIOD UH MODEL (USED IN THIS COMPUTER PROGRAM)
 MAY BE TOO LARGE FOR PEAK FLOW ESTIMATES.
 VALLEY (DEVELOPED) S-GRAPH SELECTED

MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.130
 LOW LOSS FRACTION = 0.296
 HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.38
 SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.82
 SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 1.08
 SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.81
 SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.52
 SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 4.20

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
 5-MINUTE FACTOR = 0.754
 30-MINUTE FACTOR = 0.754
 1-HOUR FACTOR = 0.754
 3-HOUR FACTOR = 0.961
 6-HOUR FACTOR = 0.979
 24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
 UNIT INTERVAL PERCENTAGE OF LAG-TIME = 29.869

RUNOFF HYDROGRAPH LISTING LIMITS:
 MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
 MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	1.861	114.848
2	10.847	554.425
3	28.861	1111.516
4	52.993	1489.019
5	74.684	1338.352
6	87.332	780.424
7	93.820	400.334
8	97.123	203.774
9	98.354	75.984
10	98.914	34.554
11	99.419	31.144
12	99.768	21.514
13	99.942	10.757
14	100.000	3.586

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) =		46.3532
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) =		129.8859

24 - HOUR STORM
 RUNOFF HYDROGRAPH

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
 (Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	175.0	350.0	525.0	700.0
10.000	24.3263	41.68	. Q	V	.	.	.
10.083	24.6157	42.02	. Q	V	.	.	.
10.167	24.9076	42.38	. Q	V	.	.	.
10.250	25.2019	42.74	. Q	V	.	.	.
10.333	25.4988	43.11	. Q	V	.	.	.
10.417	25.7983	43.48	. Q	V	.	.	.
10.500	26.1004	43.87	. Q	V	.	.	.
10.583	26.4053	44.27	. Q	V	.	.	.
10.667	26.7129	44.67	. Q	V	.	.	.
10.750	27.0234	45.08	. Q	V	.	.	.
10.833	27.3368	45.51	. Q	V	.	.	.
10.917	27.6532	45.94	. Q	V	.	.	.
11.000	27.9727	46.39	. Q	V	.	.	.
11.083	28.2954	46.85	. Q	V	.	.	.
11.167	28.6212	47.32	. Q	V	.	.	.
11.250	28.9504	47.80	. Q	V	.	.	.
11.333	29.2830	48.29	. Q	V	.	.	.
11.417	29.6191	48.80	. Q	V	.	.	.
11.500	29.9587	49.32	. Q	V	.	.	.
11.583	30.3021	49.86	. Q	V	.	.	.
11.667	30.6493	50.41	. Q	V	.	.	.
11.750	31.0004	50.98	. Q	V	.	.	.
11.833	31.3555	51.56	. Q	V	.	.	.
11.917	31.7148	52.17	. Q	V	.	.	.
12.000	32.0783	52.79	. Q	V	.	.	.
12.083	32.4488	53.79	. Q	V	.	.	.
12.167	32.8360	56.21	. Q	V	.	.	.
12.250	33.2521	60.42	. Q	V	.	.	.
12.333	33.7056	65.85	. Q	V	.	.	.
12.417	34.1934	70.84	. Q	V	.	.	.
12.500	34.7037	74.10	. Q	V	.	.	.
12.583	35.2284	76.19	. Q	V	.	.	.
12.667	35.7635	77.69	. Q	.V	.	.	.
12.750	36.3063	78.82	. Q	.V	.	.	.
12.833	36.8562	79.85	. Q	.V	.	.	.
12.917	37.4133	80.90	. Q	.V	.	.	.
13.000	37.9778	81.96	. Q	.V	.	.	.
13.083	38.5495	83.02	. Q	.V	.	.	.
13.167	39.1287	84.09	. Q	. V	.	.	.
13.250	39.7155	85.20	. Q	. V	.	.	.
13.333	40.3102	86.36	. Q	. V	.	.	.
13.417	40.9132	87.56	. Q	. V	.	.	.
13.500	41.5249	88.82	. Q	. V	.	.	.
13.583	42.1456	90.13	. Q	. V	.	.	.
13.667	42.7758	91.50	. Q	. V	.	.	.
13.750	43.4159	92.94	. Q	. V	.	.	.
13.833	44.0663	94.45	. Q	. V	.	.	.

13.917	44.7277	96.03	.	Q	.	V	.	.	.
14.000	45.4006	97.70	.	Q	.	V	.	.	.
14.083	46.0905	100.18	.	Q	.	V	.	.	.
14.167	46.8173	105.52	.	Q	.	V	.	.	.
14.250	47.6055	114.45	.	Q	.	V	.	.	.
14.333	48.4720	125.81	.	Q	.	V	.	.	.
14.417	49.4104	136.27	.	Q	.	V	.	.	.
14.500	50.3971	143.26	.	Q	.	V	.	.	.
14.583	51.4160	147.95	.	Q	.	V	.	.	.
14.667	52.4597	151.54	.	Q	.	V	.	.	.
14.750	53.5243	154.58	.	Q	.	V	.	.	.
14.833	54.6107	157.75	.	Q	.	V	.	.	.
14.917	55.7222	161.39	.	Q	.	V	.	.	.
15.000	56.8622	165.53	.	Q	.	V	.	.	.
15.083	58.0337	170.10	.	Q	.	V	.	.	.
15.167	59.2398	175.13	.	Q	.	V	.	.	.
15.250	60.4841	180.66	.	Q	.	V	.	.	.
15.333	61.7707	186.82	.	Q	.	V	.	.	.
15.417	63.0912	191.73	.	Q	.	V	.	.	.
15.500	64.3994	189.96	.	Q	.	V	.	.	.
15.583	65.6361	179.57	.	Q	.	V	.	.	.
15.667	66.7642	163.80	.	Q	.	V	.	.	.
15.750	67.8157	152.67	.	Q	.	V	.	.	.
15.833	68.8909	156.13	.	Q	.	V	.	.	.
15.917	70.0974	175.18	.	Q	.	V	.	.	.
16.000	71.5716	214.05	.	.	Q	.	V	.	.
16.083	73.6219	297.70	.	.	.	Q	.	V	.
16.167	76.7389	452.60	.	.	.	.	V	Q	.
16.250	80.9305	608.62	.	.	.	.	V	.	Q
16.333	85.6072	679.05	.	.	.	.	.	V	Q
16.417	89.7246	597.84	.	.	.	.	.	V	Q
16.500	92.6530	425.20	.	.	.	.	Q	.	V
16.583	94.7628	306.35	.	.	.	Q	.	V	.
16.667	96.4667	247.40	.	.	.	Q	.	V	.
16.750	97.9393	213.83	.	.	Q	.	.	V	.
16.833	99.3009	197.70	.	.	Q	.	.	V	.
16.917	100.5982	188.37	.	.	Q	.	.	V	.
17.000	101.8213	177.58	.	.	Q	.	.	V	.
17.083	102.9646	166.01	.	.	Q	.	.	V	.
17.167	104.0243	153.87	.	.	Q	.	.	V	.
17.250	104.9926	140.60	.	.	Q	.	.	V	.
17.333	105.8644	126.59	.	.	Q	.	.	V	.
17.417	106.6496	114.00	.	.	Q	.	.	V	.
17.500	107.3744	105.25	.	.	Q	.	.	V	.
17.583	108.0577	99.21	.	.	Q	.	.	V	.
17.667	108.7101	94.74	.	.	Q	.	.	V	.
17.750	109.3394	91.37	.	.	Q	.	.	V	.
17.833	109.9490	88.51	.	.	Q	.	.	V	.
17.917	110.5406	85.90	.	.	Q	.	.	V	.
18.000	111.1160	83.54	.	.	Q	.	.	V	.
18.083	111.6742	81.06	.	.	Q	.	.	V	.
18.167	112.2071	77.37	.	.	Q	.	.	V	.
18.250	112.7036	72.09	.	.	Q	.	.	V	.
18.333	113.1564	65.75	.	.	Q	.	.	V	.
18.417	113.5698	60.02	.	.	Q	.	.	V	.
18.500	113.9566	56.16	.	.	Q	.	.	V	.
18.583	114.3258	53.60	.	.	Q	.	.	V	.
18.667	114.6821	51.75	.	.	Q	.	.	V	.

18.750	115.0290	50.37	.	Q	.	.	.	.	V	.
18.833	115.3678	49.19	.	Q	.	.	.	.	V	.
18.917	115.6989	48.07	.	Q	.	.	.	.	V	.
19.000	116.0228	47.04	.	Q	.	.	.	.	V	.
19.083	116.3403	46.10	.	Q	.	.	.	.	V	.
19.167	116.6517	45.22	.	Q	.	.	.	.	V	.
19.250	116.9574	44.39	.	Q	.	.	.	.	V	.
19.333	117.2577	43.60	.	Q	.	.	.	.	V	.
19.417	117.5528	42.85	.	Q	.	.	.	.	V	.
19.500	117.8430	42.13	.	Q	.	.	.	.	V	.
19.583	118.1284	41.44	.	Q	.	.	.	.	V	.
19.667	118.4092	40.78	.	Q	.	.	.	.	V	.
19.750	118.6857	40.15	.	Q	.	.	.	.	V	.
19.833	118.9580	39.54	.	Q	.	.	.	.	V	.
19.917	119.2263	38.95	.	Q	.	.	.	.	V	.
20.000	119.4907	38.39	.	Q	.	.	.	.	V	.

 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	355.0
20%	175.0
30%	50.0
40%	35.0
50%	25.0
60%	25.0
70%	15.0
80%	15.0
90%	5.0

 FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 7

 >>>>STREAM NUMBER 1 ADDED TO STREAM NUMBER 2<<<<<
 =====

 FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6

 >>>>STREAM NUMBER 1 CLEARED AND SET TO ZERO<<<<<
 =====

 FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 1

 >>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<
 =====

(UNIT-HYDROGRAPH ADDED TO STREAM #3)

WATERSHED AREA = 810.600 ACRES
 BASEFLOW = 0.000 CFS/SQUARE-MILE
 *USER ENTERED "LAG" TIME = 0.492 HOURS
 CAUTION: LAG TIME IS LESS THAN 0.50 HOURS.
 THE 5-MINUTE PERIOD UH MODEL (USED IN THIS COMPUTER PROGRAM)
 MAY BE TOO LARGE FOR PEAK FLOW ESTIMATES.
 VALLEY(DEVELOPED) S-GRAPH SELECTED
 MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.282
 LOW LOSS FRACTION = 0.434
 HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL(INCH)= 0.38
 SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)= 0.82
 SPECIFIED PEAK 1-HOUR RAINFALL(INCH) = 1.08
 SPECIFIED PEAK 3-HOUR RAINFALL(INCH) = 1.81
 SPECIFIED PEAK 6-HOUR RAINFALL(INCH) = 2.52
 SPECIFIED PEAK 24-HOUR RAINFALL(INCH) = 4.20

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
 5-MINUTE FACTOR = 0.754
 30-MINUTE FACTOR = 0.754
 1-HOUR FACTOR = 0.754
 3-HOUR FACTOR = 0.961
 6-HOUR FACTOR = 0.979
 24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
 UNIT INTERVAL PERCENTAGE OF LAG-TIME = 16.938

RUNOFF HYDROGRAPH LISTING LIMITS:
 MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 10.00
 MODEL TIME(HOURS) FOR END OF RESULTS = 20.00

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UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.968	94.882
2	3.478	246.083
3	9.331	573.781
4	18.774	925.696
5	29.800	1080.917
6	43.223	1315.896
7	57.678	1417.073
8	70.564	1263.157
9	79.793	904.803
10	86.540	661.402
11	90.843	421.792
12	94.028	312.220
13	96.118	204.958
14	97.495	134.923
15	98.199	69.024
16	98.516	31.138

17	98.834	31.132
18	99.152	31.144
19	99.469	31.132
20	99.787	31.132
21	100.000	20.910

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 112.6879
 TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 167.3389

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)

(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	175.0	350.0	525.0	700.0
10.000	30.0946	52.12	. Q	V .	.	.	.
10.083	30.4564	52.53	. Q	V .	.	.	.
10.167	30.8211	52.96	. Q	V .	.	.	.
10.250	31.1889	53.39	. Q	V .	.	.	.
10.333	31.5597	53.84	. Q	V .	.	.	.
10.417	31.9336	54.29	. Q	V .	.	.	.
10.500	32.3107	54.76	. Q	V .	.	.	.
10.583	32.6911	55.23	. Q	V .	.	.	.
10.667	33.0749	55.72	. Q	V .	.	.	.
10.750	33.4621	56.22	. Q	V .	.	.	.
10.833	33.8528	56.73	. Q	V .	.	.	.
10.917	34.2471	57.25	. Q	V .	.	.	.
11.000	34.6450	57.79	. Q	V .	.	.	.
11.083	35.0467	58.33	. Q	V .	.	.	.
11.167	35.4524	58.89	. Q	V .	.	.	.
11.250	35.8619	59.47	. Q	V .	.	.	.
11.333	36.2755	60.06	. Q	V .	.	.	.
11.417	36.6933	60.66	. Q	V .	.	.	.
11.500	37.1154	61.29	. Q	V .	.	.	.
11.583	37.5419	61.92	. Q	V .	.	.	.
11.667	37.9729	62.58	. Q	V .	.	.	.
11.750	38.4085	63.25	. Q	V .	.	.	.
11.833	38.8490	63.95	. Q	V .	.	.	.
11.917	39.2943	64.66	. Q	V .	.	.	.
12.000	39.7447	65.40	. Q	V .	.	.	.
12.083	40.2020	66.40	. Q	V .	.	.	.
12.167	40.6690	67.81	. Q	V .	.	.	.
12.250	41.1516	70.07	. Q	V .	.	.	.
12.333	41.6562	73.27	. Q	V .	.	.	.
12.417	42.1857	76.88	. Q	V .	.	.	.
12.500	42.7444	81.14	. Q	V .	.	.	.
12.583	43.3345	85.68	. Q	V .	.	.	.
12.667	43.9535	89.88	. Q	V .	.	.	.
12.750	44.5954	93.20	. Q	V .	.	.	.
12.833	45.2562	95.95	. Q	V .	.	.	.
12.917	45.9320	98.13	. Q	V .	.	.	.
13.000	46.6212	100.07	. Q	.V	.	.	.
13.083	47.3222	101.78	. Q	.V	.	.	.
13.167	48.0340	103.36	. Q	.V	.	.	.
13.250	48.7559	104.82	. Q	.V	.	.	.
13.333	49.4876	106.24	. Q	.V	.	.	.
13.417	50.2293	107.70	. Q	.V	.	.	.
13.500	50.9816	109.23	. Q	.V	.	.	.
13.583	51.7447	110.81	. Q	.V	.	.	.
13.667	52.5193	112.46	. Q	.V	.	.	.
13.750	53.3054	114.15	. Q	.V	.	.	.
13.833	54.1034	115.87	. Q	.V	.	.	.

13.917	54.9137	117.66	. Q	. V	.	.	.
14.000	55.7371	119.55	. Q	. V	.	.	.
14.083	56.5773	122.00	. Q	. V	.	.	.
14.167	57.4404	125.33	. Q	. V	.	.	.
14.250	58.3385	130.40	. Q	. V	.	.	.
14.333	59.2846	137.37	. Q	. V	.	.	.
14.417	60.2846	145.20	. Q	. V	.	.	.
14.500	61.3474	154.32	. Q	. V	.	.	.
14.583	62.4771	164.03	. Q	. V	.	.	.
14.667	63.6691	173.07	. Q	. V	.	.	.
14.750	64.9115	180.40	. Q	. V	.	.	.
14.833	66.1969	186.64	. Q	. V	.	.	.
14.917	67.5181	191.83	. Q	. V	.	.	.
15.000	68.8726	196.68	. Q	. V	.	.	.
15.083	70.2583	201.20	. Q	. V	.	.	.
15.167	71.6746	205.65	. Q	. V	.	.	.
15.250	73.1214	210.07	. Q	. V	.	.	.
15.333	74.6000	214.70	. Q	. V	.	.	.
15.417	76.1061	218.68	. Q	. V	.	.	.
15.500	77.6318	221.53	. Q	. V	.	.	.
15.583	79.1566	221.40	. Q	. V	.	.	.
15.667	80.6599	218.28	. Q	. V	.	.	.
15.750	82.1400	214.91	. Q	. V	.	.	.
15.833	83.5934	211.04	. Q	. V	.	.	.
15.917	85.0448	210.74	. Q	. V	.	.	.
16.000	86.5652	220.76	. Q	. V	.	.	.
16.083	88.3876	264.61	. Q	.V	.	.	.
16.167	90.6904	334.37	. Q	.V	.	.	.
16.250	93.7510	444.41	. Q	.V	.Q	.	.
16.333	97.5480	551.31	. Q	.V	.Q	.	.
16.417	101.7381	608.42	. Q	.V	.Q	.	.
16.500	106.3226	665.66	. Q	.V	.Q	.	.
16.583	110.9638	673.91	. Q	.V	.Q	.	.
16.667	115.1840	612.77	. Q	.V	.Q	.	.
16.750	118.6578	504.40	. Q	.V	.Q	.	.
16.833	121.5825	424.66	. Q	.V	.Q	.	.
16.917	124.0262	354.83	. Q	.V	.Q	.	.
17.000	126.2061	316.54	. Q	.V	.Q	.	.
17.083	128.1342	279.96	. Q	.V	.Q	.	.
17.167	129.8692	251.91	. Q	.V	.Q	.	.
17.250	131.4179	224.88	. Q	.V	.Q	.	.
17.333	132.8287	204.84	. Q	.V	.Q	.	.
17.417	134.1601	193.32	. Q	.V	.Q	.	.
17.500	135.4080	181.20	. Q	.V	.Q	.	.
17.583	136.5677	168.38	. Q	.V	.Q	.	.
17.667	137.6407	155.80	. Q	.V	.Q	.	.
17.750	138.6257	143.03	. Q	.V	.Q	.	.
17.833	139.5231	130.29	. Q	.V	.Q	.	.
17.917	140.3770	123.99	. Q	.V	.Q	.	.
18.000	141.1959	118.91	. Q	.V	.Q	.	.
18.083	141.9837	114.40	. Q	.V	.Q	.	.
18.167	142.7409	109.93	. Q	.V	.Q	.	.
18.250	143.4656	105.23	. Q	.V	.Q	.	.
18.333	144.1547	100.06	. Q	.V	.Q	.	.
18.417	144.8070	94.71	. Q	.V	.Q	.	.
18.500	145.4196	88.95	. Q	.V	.Q	.	.
18.583	145.9920	83.10	. Q	.V	.Q	.	.
18.667	146.5278	77.80	. Q	.V	.Q	.	.

18.750	147.0347	73.60	.	Q	.	.	.	V	.
18.833	147.5184	70.24	.	Q	.	.	.	V	.
18.917	147.9840	67.60	.	Q	.	.	.	V	.
19.000	148.4340	65.34	.	Q	.	.	.	V	.
19.083	148.8709	63.44	.	Q	.	.	.	V	.
19.167	149.2964	61.79	.	Q	.	.	.	V	.
19.250	149.7123	60.38	.	Q	.	.	.	V	.
19.333	150.1195	59.13	.	Q	.	.	.	V	.
19.417	150.5185	57.94	.	Q	.	.	.	V	.
19.500	150.9097	56.80	.	Q	.	.	.	V	.
19.583	151.2934	55.71	.	Q	.	.	.	V	.
19.667	151.6700	54.67	.	Q	.	.	.	V	.
19.750	152.0398	53.70	.	Q	.	.	.	V	.
19.833	152.4036	52.82	.	Q	.	.	.	V	.
19.917	152.7616	51.98	.	Q	.	.	.	V	.
20.000	153.1140	51.17	.	Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	410.0
20%	210.0
30%	135.0
40%	60.0
50%	45.0
60%	40.0
70%	30.0
80%	25.0
90%	20.0

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
=====

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
=====

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 2 HYDROGRAPH<<<<<
=====

STREAM HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	675.0	1350.0	2025.0	2700.0
10.000	189.7007	337.15	.	Q V	.	.	.
10.083	192.0401	339.69	.	QV	.	.	.
10.167	194.3974	342.28	.	QV	.	.	.
10.250	196.7728	344.91	.	QV	.	.	.
10.333	199.1668	347.61	.	QV	.	.	.
10.417	201.5797	350.35	.	QV	.	.	.
10.500	204.0119	353.16	.	Q V	.	.	.
10.583	206.4639	356.02	.	Q V	.	.	.
10.667	208.9360	358.95	.	Q V	.	.	.
10.750	211.4287	361.94	.	Q V	.	.	.
10.833	213.9425	365.00	.	Q V	.	.	.
10.917	216.4778	368.12	.	Q V	.	.	.
11.000	219.0350	371.32	.	Q V	.	.	.
11.083	221.6149	374.59	.	Q V	.	.	.
11.167	224.2177	377.93	.	Q V	.	.	.
11.250	226.8441	381.36	.	Q V	.	.	.
11.333	229.4947	384.87	.	Q V	.	.	.
11.417	232.1700	388.46	.	Q V	.	.	.
11.500	234.8707	392.14	.	Q V	.	.	.
11.583	237.5974	395.92	.	Q V	.	.	.
11.667	240.3508	399.79	.	Q V	.	.	.
11.750	243.1315	403.76	.	Q V	.	.	.
11.833	245.9403	407.84	.	Q V	.	.	.
11.917	248.7780	412.03	.	Q V	.	.	.
12.000	251.6453	416.33	.	Q V	.	.	.
12.083	254.5472	421.36	.	Q V	.	.	.
12.167	257.4968	428.29	.	Q V	.	.	.
12.250	260.5130	437.95	.	Q V	.	.	.
12.333	263.6133	450.16	.	Q V	.	.	.
12.417	266.8022	463.02	.	Q V	.	.	.
12.500	270.0768	475.48	.	Q V	.	.	.
12.583	273.4388	488.15	.	Q V	.	.	.
12.667	276.8937	501.66	.	Q V	.	.	.
12.750	280.4449	515.64	.	Q V	.	.	.
12.833	284.0963	530.18	.	Q V	.	.	.
12.917	287.8501	545.05	.	QV	.	.	.
13.000	291.7126	560.84	.	Q V	.	.	.
13.083	295.6922	577.83	.	Q V	.	.	.
13.167	299.7876	594.66	.	Q V	.	.	.
13.250	303.9922	610.52	.	QV	.	.	.
13.333	308.2996	625.43	.	QV	.	.	.
13.417	312.7032	639.41	.	QV	.	.	.
13.500	317.1962	652.37	.	QV	.	.	.
13.583	321.7737	664.65	.	Q.V	.	.	.
13.667	326.4315	676.31	.	QV	.	.	.
13.750	331.1653	687.36	.	QV	.	.	.
13.833	335.9732	698.11	.	QV	.	.	.
13.917	340.8545	708.75	.	QV	.	.	.
14.000	345.8088	719.38	.	QV	.	.	.
14.083	350.8447	731.21	.	Q V	.	.	.
14.167	355.9877	746.76	.	.QV	.	.	.
14.250	361.2747	767.68	.	.QV	.	.	.
14.333	366.7391	793.42	.	.QV	.	.	.
14.417	372.3875	820.14	.	.Q	.	.	.
14.500	378.2131	845.88	.	.Q	.	.	.

14.583	384.2171	871.78	.	.	QV	.	.	.
14.667	390.4079	898.91	.	.	Q	.	.	.
14.750	396.7900	926.67	.	.	Q	.	.	.
14.833	403.3714	955.62	.	.	VQ	.	.	.
14.917	410.1588	985.53	.	.	Q	.	.	.
15.000	417.1671	1017.60	.	.	VQ	.	.	.
15.083	424.4143	1052.30	.	.	VQ	.	.	.
15.167	431.9126	1088.76	.	.	V Q	.	.	.
15.250	439.6710	1126.52	.	.	VQ	.	.	.
15.333	447.6956	1165.17	.	.	V Q	.	.	.
15.417	455.9700	1201.45	.	.	V Q	.	.	.
15.500	464.4367	1229.37	.	.	V Q	.	.	.
15.583	473.0184	1246.06	.	.	V Q	.	.	.
15.667	481.6513	1253.49	.	.	V Q	.	.	.
15.750	490.3530	1263.49	.	.	V Q	.	.	.
15.833	499.2141	1286.64	.	.	V Q	.	.	.
15.917	508.3504	1326.59	.	.	V Q	.	.	.
16.000	517.9362	1391.86	.	.	V Q	.	.	.
16.083	528.4910	1532.55	.	.	V . Q	.	.	.
16.167	540.7016	1772.98	.	.	V .	Q	.	.
16.250	554.9282	2065.71	.	.	V.	Q	.	.
16.333	570.8145	2306.69	.	.	V.	.	Q	.
16.417	587.1848	2376.97	.	.	V	.	Q	.
16.500	603.5297	2373.27	.	.	V	.	Q	.
16.583	620.2140	2422.57	.	.	.V	.	Q	.
16.667	637.2963	2480.34	.	.	.V	.	Q	.
16.750	654.4423	2489.61	.	.	.V	.	Q	.
16.833	671.6978	2505.49	.	.	.V	.	Q	.
16.917	689.0098	2513.71	.	.	.V	.	Q	.
17.000	706.6509	2561.49	.	.	.V	.	Q	.
17.083	724.6334	2611.05	.	.	.V	.	Q	.
17.167	742.6006	2608.85	.	.	.V	.	Q	.
17.250	760.2119	2557.15	.	.	.V	.	Q	.
17.333	777.1393	2457.87	.	.	.V	.	Q	.
17.417	793.1708	2327.77	.	.	.V	.	Q	.
17.500	808.1957	2181.62	.	.	.V	.	Q	.
17.583	822.3443	2054.37	.	.	.V Q	.	.	.
17.667	835.4869	1908.31	.	.	.Q	.	.	.
17.750	847.5269	1748.20	.	.	.Q	V.	.	.
17.833	858.6099	1609.26	.	.	.Q	V.	.	.
17.917	868.8851	1491.95	.	.	.Q	V.	.	.
18.000	878.3827	1379.06	.	.	.Q	V	.	.
18.083	887.1329	1270.52	.	.	.Q	V	.	.
18.167	895.2409	1177.29	.	.	.Q	V	.	.
18.250	902.7502	1090.35	.	.	.Q	.V	.	.
18.333	909.6392	1000.29	.	.	.Q	.V	.	.
18.417	916.0332	928.40	.	.	.Q	.V	.	.
18.500	922.0740	877.12	.	.	.Q	.V	.	.
18.583	927.8366	836.73	.	.	.Q	.V	.	.
18.667	933.3561	801.43	.	.	.Q	.V	.	.
18.750	938.6594	770.05	.	.	.Q	.V	.	.
18.833	943.7648	741.30	.	.	.Q	.V	.	.
18.917	948.6856	714.50	.	.	.Q	.V	.	.
19.000	953.4258	688.27	.	.	.Q	.V	.	.
19.083	957.9811	661.43	.	.	.Q	.V	.	.
19.167	962.3081	628.28	.	.	.Q	.V	.	.
19.250	966.4193	596.95	.	.	.Q	.V	.	.
19.333	970.3511	570.90	.	.	.Q	.V	.	.

19.417	974.1321	549.00	.	.	Q	.	.	V	.
19.500	977.7809	529.81	.	.	Q	.	.	V	.
19.583	981.3100	512.42	.	.	Q	.	.	V	.
19.667	984.7319	496.85	.	.	Q	.	.	V	.
19.750	988.0589	483.09	.	.	Q	.	.	V	.
19.833	991.3009	470.74	.	.	Q	.	.	V	.
19.917	994.4653	459.48	.	.	Q	.	.	V	.
20.000	997.5589	449.19	.	.	Q	.	.	V	.

 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	1065.0
20%	405.0
30%	265.0
40%	195.0
50%	130.0
60%	105.0
70%	90.0
80%	75.0
90%	60.0

=====

END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - COMPLEX UH *
* ULTIMATE CONDITION - LOCAL NODE 133T *
* 50-YR EV AUGUST 2018 ROKAMOTO *

FILE NAME: EV5033TC.DAT
TIME/DATE OF STUDY: 14:28 08/30/2018

FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

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(UNIT-HYDROGRAPH ADDED TO STREAM #2)

WATERSHED AREA = 4924.400 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.821 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244
LOW LOSS FRACTION = 0.538
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.37
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.80
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 1.06
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.78
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.47
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 4.12

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.744
30-MINUTE FACTOR = 0.744
1-HOUR FACTOR = 0.744
3-HOUR FACTOR = 0.959
6-HOUR FACTOR = 0.978
24-HOUR FACTOR = 0.986

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 10.150

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.580	345.423
2	1.763	704.566
3	3.385	965.815
4	6.233	1696.091
5	10.947	2807.365
6	16.695	3423.111
7	22.920	3707.788
8	29.521	3930.894
9	37.286	4624.335
10	46.219	5319.988
11	54.738	5073.336
12	63.175	5024.953
13	70.521	4374.467
14	76.573	3604.496
15	81.238	2778.116
16	85.407	2483.066
17	88.495	1839.204
18	90.815	1381.282
19	92.862	1219.414
20	94.528	992.055
21	95.788	750.029
22	96.685	534.246
23	97.481	474.138
24	98.059	344.417
25	98.257	117.576
26	98.447	113.337
27	98.637	113.450
28	98.828	113.332
29	99.018	113.223
30	99.208	113.223
31	99.398	113.223
32	99.588	113.223
33	99.778	113.223
34	99.968	113.223
35	100.000	18.833

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 806.7413
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 860.6979

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)

(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	750.0	1500.0	2250.0	3000.0
10.000	139.4305	245.92	. Q	V .	.	.	.
10.083	141.1370	247.79	. Q	V .	.	.	.
10.167	142.8567	249.71	. Q	V .	.	.	.
10.250	144.5899	251.65	. Q	V .	.	.	.
10.333	146.3368	253.65	. Q	V .	.	.	.
10.417	148.0977	255.68	. Q	V .	.	.	.
10.500	149.8729	257.76	. Q	V .	.	.	.
10.583	151.6627	259.88	. Q	V .	.	.	.
10.667	153.4674	262.05	. Q	V .	.	.	.
10.750	155.2874	264.26	. Q	V .	.	.	.
10.833	157.1230	266.53	. Q	V .	.	.	.
10.917	158.9745	268.84	. Q	V .	.	.	.
11.000	160.8424	271.21	. Q	V .	.	.	.
11.083	162.7269	273.63	. Q	V .	.	.	.
11.167	164.6286	276.12	. Q	V .	.	.	.
11.250	166.5477	278.66	. Q	V .	.	.	.
11.333	168.4848	281.27	. Q	V .	.	.	.
11.417	170.4402	283.93	. Q	V .	.	.	.
11.500	172.4146	286.67	. Q	V .	.	.	.
11.583	174.4082	289.47	. Q	V .	.	.	.
11.667	176.4217	292.36	. Q	V .	.	.	.
11.750	178.4554	295.31	. Q	V .	.	.	.
11.833	180.5102	298.35	. Q	V .	.	.	.
11.917	182.5863	301.46	. Q	V .	.	.	.
12.000	184.6846	304.67	. Q	V .	.	.	.
12.083	186.8102	308.64	. Q	V .	.	.	.
12.167	188.9687	313.42	. Q	V .	.	.	.
12.250	191.1643	318.80	. Q	V .	.	.	.
12.333	193.4077	325.74	. Q	V .	.	.	.
12.417	195.7147	334.97	. Q	V .	.	.	.
12.500	198.0945	345.55	. Q	V .	.	.	.
12.583	200.5518	356.81	. Q	V .	.	.	.
12.667	203.0908	368.66	. Q	V .	.	.	.
12.750	205.7218	382.02	. Q	V .	.	.	.
12.833	208.4554	396.92	. Q	V .	.	.	.
12.917	211.2894	411.50	. Q	V .	.	.	.
13.000	214.2245	426.18	. Q	V .	.	.	.
13.083	217.2531	439.75	. Q	V .	.	.	.
13.167	220.3663	452.03	. Q	V .	.	.	.
13.250	223.5540	462.86	. Q	V .	.	.	.
13.333	226.8140	473.35	. Q	V .	.	.	.
13.417	230.1388	482.76	. Q	V .	.	.	.
13.500	233.5240	491.53	. Q	V .	.	.	.
13.583	236.9689	500.20	. Q	.V	.	.	.
13.667	240.4724	508.71	. Q	.V	.	.	.
13.750	244.0329	516.98	. Q	.V	.	.	.
13.833	247.6496	525.14	. Q	.V	.	.	.

13.917	251.3236	533.47	. Q	.V .	.	.	.
14.000	255.0558	541.90	. Q	.V .	.	.	.
14.083	258.8556	551.73	. Q	.V .	.	.	.
14.167	262.7367	563.54	. Q	.V .	.	.	.
14.250	266.7094	576.84	. Q	.V .	.	.	.
14.333	270.7990	593.80	. Q	.V .	.	.	.
14.417	275.0416	616.03	. Q	.V .	.	.	.
14.500	279.4590	641.40	. Q	.V .	.	.	.
14.583	284.0623	668.41	. Q	.V .	.	.	.
14.667	288.8618	696.88	. Q	.V .	.	.	.
14.750	293.8813	728.83	. Q	.V .	.	.	.
14.833	299.1464	764.49	. Q	.V .	.	.	.
14.917	304.6537	799.65	. Q	.V .	.	.	.
15.000	310.4084	835.59	. Q	.V .	.	.	.
15.083	316.4002	870.01	. Q	.V .	.	.	.
15.167	322.6195	903.05	. Q	.V .	.	.	.
15.250	329.0589	934.99	. Q	.V .	.	.	.
15.333	335.7300	968.65	. Q	.V .	.	.	.
15.417	342.6050	998.25	. Q	.V .	.	.	.
15.500	349.6638	1024.94	. Q	.V .	.	.	.
15.583	356.9091	1052.02	. Q	.V .	.	.	.
15.667	364.3008	1073.29	. Q	.V .	.	.	.
15.750	371.7784	1085.74	. Q	.V .	.	.	.
15.833	379.3387	1097.75	. Q	.V .	.	.	.
15.917	387.0522	1120.01	. Q	.V .	.	.	.
16.000	395.0710	1164.33	. Q	.V .	.	.	.
16.083	403.9389	1287.63	. QV	.	.	.	.
16.167	413.7368	1422.65	. QV	.	.	.	.
16.250	424.5288	1567.00	. VQ	.	.	.	.
16.333	437.0585	1819.32	. V	Q .	.	.	.
16.417	451.8102	2141.94	. V	Q .	.	.	.
16.500	467.9796	2347.79	. V	.Q .	.	.	.
16.583	485.0193	2474.18	. V	.Q .	.	.	.
16.667	502.9011	2596.44	. V	.Q .	.	.	.
16.750	522.2228	2805.51	. V	.Q .	.	.	.
16.833	542.6732	2969.40	. V	.Q .	.	.	.
16.917	562.6007	2893.48	. V	.Q .	.	.	.
17.000	581.9117	2803.95	. V	.Q .	.	.	.
17.083	599.6118	2570.06	. V	.Q .	.	.	.
17.167	615.5167	2309.38	. V	.Q .	.	.	.
17.250	629.6061	2045.78	. V	.Q .	.	.	.
17.333	642.6293	1890.97	. Q	.V .	.	.	.
17.417	654.1509	1672.93	. Q	.V .	.	.	.
17.500	664.4648	1497.58	. Q	.V .	.	.	.
17.583	674.0027	1384.91	. Q	.V .	.	.	.
17.667	682.7158	1265.13	. Q	.V .	.	.	.
17.750	690.5664	1139.90	. Q	.V .	.	.	.
17.833	697.6166	1023.69	. Q	.V .	.	.	.
17.917	704.1186	944.08	. Q	.V .	.	.	.
18.000	710.0010	854.12	. Q	.V .	.	.	.
18.083	715.2040	755.48	. Q	.V .	.	.	.
18.167	720.0988	710.72	. Q	.V .	.	.	.
18.250	724.7668	677.80	. Q	.V .	.	.	.
18.333	729.2186	646.39	. Q	.V .	.	.	.
18.417	733.4531	614.86	. Q	.V .	.	.	.
18.500	737.4894	586.07	. Q	.V .	.	.	.
18.583	741.3345	558.31	. Q	.V .	.	.	.
18.667	744.9970	531.79	. Q	.V .	.	.	.

18.750	748.4684	504.04	.	Q	.	.	.	V	.
18.833	751.7327	473.97	.	Q	.	.	.	V	.
18.917	754.6804	428.01	.	Q	.	.	.	V	.
19.000	757.4388	400.51	.	Q	.	.	.	V	.
19.083	760.0687	381.86	.	Q	.	.	.	V	.
19.167	762.5897	366.05	.	Q	.	.	.	V	.
19.250	765.0096	351.38	.	Q	.	.	.	V	.
19.333	767.3361	337.81	.	Q	.	.	.	V	.
19.417	769.5824	326.16	.	Q	.	.	.	V	.
19.500	771.7586	315.99	.	Q	.	.	.	V	.
19.583	773.8702	306.61	.	Q	.	.	.	V	.
19.667	775.9230	298.06	.	Q	.	.	.	V	.
19.750	777.9224	290.31	.	Q	.	.	.	V	.
19.833	779.8734	283.29	.	Q	.	.	.	V	.
19.917	781.7817	277.08	.	Q	.	.	.	V	.
20.000	783.6512	271.46	.	Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	475.0
20%	245.0
30%	170.0
40%	100.0
50%	80.0
60%	65.0
70%	50.0
80%	35.0
90%	20.0

 FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2

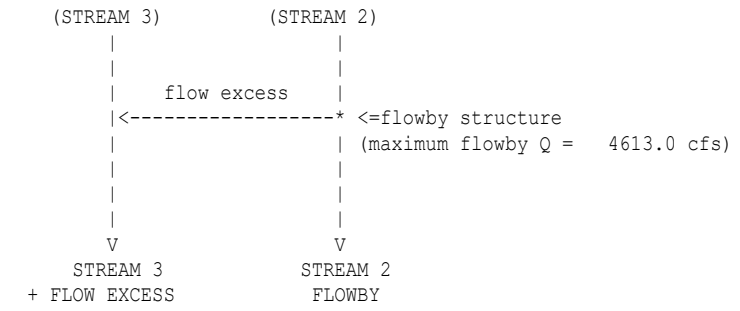
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<<

MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
 FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
 THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.

DATA PAIR NUMBER	Qcenter (CFS)	Qpass (CFS)
-	0.00	0.00
1	413.00	413.00
2	1897.00	1613.00
3	4682.00	3013.00
4	6819.00	4013.00
5	8100.00	4613.00

FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3

INFLOW INFLOW



FLOWBY BASIN MODELING RESULTS:

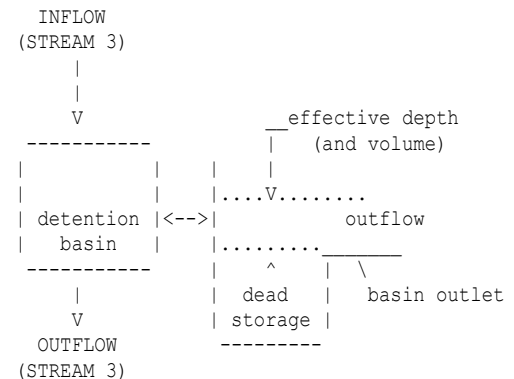
MODEL TIME (HRS)	INFLOW (STREAM 3) (CFS)	INFLOW (STREAM 2) (CFS)	OUTFLOW (STREAM 3) (CFS)	FLOWBY (STREAM 2) (CFS)
10.000	0.00	245.92	0.00	245.92
10.083	0.00	247.79	0.00	247.79
10.167	0.00	249.71	0.00	249.71
10.250	0.00	251.65	0.00	251.65
10.333	0.00	253.65	0.00	253.65
10.417	0.00	255.68	0.00	255.68
10.500	0.00	257.76	0.00	257.76
10.583	0.00	259.88	0.00	259.88
10.667	0.00	262.05	0.00	262.05
10.750	0.00	264.26	0.00	264.26
10.833	0.00	266.53	0.00	266.53
10.917	0.00	268.84	0.00	268.84
11.000	0.00	271.21	0.00	271.21
11.083	0.00	273.63	0.00	273.63
11.167	0.00	276.12	0.00	276.12
11.250	0.00	278.66	0.00	278.66
11.333	0.00	281.27	0.00	281.27
11.417	0.00	283.93	0.00	283.93
11.500	0.00	286.67	0.00	286.67
11.583	0.00	289.47	0.00	289.47
11.667	0.00	292.36	0.00	292.36
11.750	0.00	295.31	0.00	295.31
11.833	0.00	298.35	0.00	298.35
11.917	0.00	301.46	0.00	301.46
12.000	0.00	304.67	0.00	304.67
12.083	0.00	308.64	0.00	308.64
12.167	0.00	313.42	0.00	313.42
12.250	0.00	318.80	0.00	318.80
12.333	0.00	325.74	0.00	325.74
12.417	0.00	334.97	0.00	334.97
12.500	0.00	345.55	0.00	345.55
12.583	0.00	356.81	0.00	356.81
12.667	0.00	368.66	0.00	368.66
12.750	0.00	382.02	0.00	382.02
12.833	0.00	396.92	0.00	396.92
12.917	0.00	411.50	0.00	411.50
13.000	0.00	426.18	2.52	423.66

13.083	0.00	439.75	5.12	434.63
13.167	0.00	452.03	7.47	444.56
13.250	0.00	462.86	9.54	453.32
13.333	0.00	473.35	11.55	461.80
13.417	0.00	482.76	13.35	469.41
13.500	0.00	491.53	15.03	476.51
13.583	0.00	500.20	16.69	483.52
13.667	0.00	508.71	18.32	490.39
13.750	0.00	516.98	19.90	497.08
13.833	0.00	525.14	21.46	503.68
13.917	0.00	533.47	23.06	510.42
14.000	0.00	541.90	24.67	517.23
14.083	0.00	551.73	26.55	525.18
14.167	0.00	563.54	28.81	534.73
14.250	0.00	576.84	31.36	545.49
14.333	0.00	593.80	34.60	559.20
14.417	0.00	616.03	38.85	577.17
14.500	0.00	641.40	43.71	597.69
14.583	0.00	668.41	48.88	619.53
14.667	0.00	696.88	54.33	642.55
14.750	0.00	728.83	60.44	668.39
14.833	0.00	764.49	67.27	697.23
14.917	0.00	799.65	74.00	725.66
15.000	0.00	835.59	80.87	754.72
15.083	0.00	870.01	87.46	782.55
15.167	0.00	903.05	93.78	809.27
15.250	0.00	934.99	99.90	835.09
15.333	0.00	968.65	106.34	862.31
15.417	0.00	998.25	112.00	886.24
15.500	0.00	1024.94	117.11	907.83
15.583	0.00	1052.02	122.29	929.72
15.667	0.00	1073.29	126.36	946.93
15.750	0.00	1085.74	128.75	957.00
15.833	0.00	1097.75	131.04	966.71
15.917	0.00	1120.01	135.30	984.70
16.000	0.00	1164.33	143.79	1020.54
16.083	0.00	1287.63	167.38	1120.25
16.167	0.00	1422.65	193.22	1229.43
16.250	0.00	1567.00	220.85	1346.16
16.333	0.00	1819.32	269.13	1550.18
16.417	0.00	2141.94	405.81	1736.13
16.500	0.00	2347.79	508.18	1839.61
16.583	0.00	2474.18	571.03	1903.14
16.667	0.00	2596.44	631.83	1964.60
16.750	0.00	2805.51	735.81	2069.70
16.833	0.00	2969.40	817.31	2152.09
16.917	0.00	2893.48	779.56	2113.93
17.000	0.00	2803.95	735.03	2068.92
17.083	0.00	2570.06	618.72	1951.34
17.167	0.00	2309.38	489.08	1820.30
17.250	0.00	2045.78	357.99	1687.79
17.333	0.00	1890.97	282.85	1608.13
17.417	0.00	1672.93	241.12	1431.81
17.500	0.00	1497.58	207.56	1290.02
17.583	0.00	1384.91	186.00	1198.91
17.667	0.00	1265.13	163.08	1102.06
17.750	0.00	1139.90	139.11	1000.79
17.833	0.00	1023.69	116.87	906.82

17.917	0.00	944.08	101.64	842.45
18.000	0.00	854.12	84.42	769.70
18.083	0.00	755.48	65.54	689.94
18.167	0.00	710.72	56.98	653.74
18.250	0.00	677.80	50.68	627.12
18.333	0.00	646.39	44.67	601.73
18.417	0.00	614.86	38.63	576.23
18.500	0.00	586.07	33.12	552.95
18.583	0.00	558.31	27.81	530.50
18.667	0.00	531.79	22.73	509.06
18.750	0.00	504.04	17.42	486.62
18.833	0.00	473.97	11.67	462.31
18.917	0.00	428.01	2.87	425.14
19.000	0.00	400.51	0.00	400.51
19.083	0.00	381.86	0.00	381.86
19.167	0.00	366.05	0.00	366.05
19.250	0.00	351.38	0.00	351.38
19.333	0.00	337.81	0.00	337.81
19.417	0.00	326.16	0.00	326.16
19.500	0.00	315.99	0.00	315.99
19.583	0.00	306.61	0.00	306.61
19.667	0.00	298.06	0.00	298.06
19.750	0.00	290.31	0.00	290.31
19.833	0.00	283.29	0.00	283.29
19.917	0.00	277.08	0.00	277.08
20.000	0.00	271.46	0.00	271.46

 FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

 >>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
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ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
 THROUGH A FLOW-THROUGH DETENTION BASIN
 SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
 DEAD STORAGE(AF) = 5.700
 SPECIFIED DEAD STORAGE(AF) FILLED = 5.700
 SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 5.700

DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.50	0.01	0.001
3	2.00	0.02	1.900
4	4.00	0.03	16.100
5	4.30	0.04	18.200
6	5.00	314.00	23.200
7	6.00	1306.00	30.300
8	7.00	2847.00	39.100
9	8.00	4942.00	47.800

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MODIFIED-PULS BASIN ROUTING MODEL RESULTS (5-MINUTE COMPUTATION INTERVALS):
 (Note: Computed EFFECTIVE DEPTH and VOLUME are estimated at the clock time;
 MEAN OUTFLOW is the average value during the unit interval.)

CLOCK TIME (HRS)	DEAD-STORAGE FILLED (AF)	INFLOW (CFS)	LOSS (CFS)	MEAN		
				EFFECTIVE DEPTH (FT)	OUTFLOW (CFS)	EFFECTIVE VOLUME (AF)
10.083	5.700	0.00	0.00	2.53	0.0	5.679
10.167	5.700	0.00	0.00	2.53	0.0	5.679
10.250	5.700	0.00	0.00	2.53	0.0	5.679
10.333	5.700	0.00	0.00	2.53	0.0	5.679
10.417	5.700	0.00	0.00	2.53	0.0	5.678
10.500	5.700	0.00	0.00	2.53	0.0	5.678
10.583	5.700	0.00	0.00	2.53	0.0	5.678
10.667	5.700	0.00	0.00	2.53	0.0	5.678
10.750	5.700	0.00	0.00	2.53	0.0	5.678
10.833	5.700	0.00	0.00	2.53	0.0	5.678
10.917	5.700	0.00	0.00	2.53	0.0	5.677
11.000	5.700	0.00	0.00	2.53	0.0	5.677
11.083	5.700	0.00	0.00	2.53	0.0	5.677
11.167	5.700	0.00	0.00	2.53	0.0	5.677
11.250	5.700	0.00	0.00	2.53	0.0	5.677
11.333	5.700	0.00	0.00	2.53	0.0	5.677
11.417	5.700	0.00	0.00	2.53	0.0	5.676
11.500	5.700	0.00	0.00	2.53	0.0	5.676
11.583	5.700	0.00	0.00	2.53	0.0	5.676
11.667	5.700	0.00	0.00	2.53	0.0	5.676
11.750	5.700	0.00	0.00	2.53	0.0	5.676
11.833	5.700	0.00	0.00	2.53	0.0	5.676
11.917	5.700	0.00	0.00	2.53	0.0	5.675
12.000	5.700	0.00	0.00	2.53	0.0	5.675
12.083	5.700	0.00	0.00	2.53	0.0	5.675
12.167	5.700	0.00	0.00	2.53	0.0	5.675
12.250	5.700	0.00	0.00	2.53	0.0	5.675
12.333	5.700	0.00	0.00	2.53	0.0	5.675
12.417	5.700	0.00	0.00	2.53	0.0	5.674
12.500	5.700	0.00	0.00	2.53	0.0	5.674
12.583	5.700	0.00	0.00	2.53	0.0	5.674

12.667	5.700	0.00	0.00	2.53	0.0	5.674
12.750	5.700	0.00	0.00	2.53	0.0	5.674
12.833	5.700	0.00	0.00	2.53	0.0	5.674
12.917	5.700	0.00	0.00	2.53	0.0	5.673
13.000	5.700	2.52	0.00	2.53	0.0	5.691
13.083	5.700	5.12	0.00	2.54	0.0	5.726
13.167	5.700	7.47	0.00	2.55	0.0	5.777
13.250	5.700	9.54	0.00	2.56	0.0	5.842
13.333	5.700	11.55	0.00	2.57	0.0	5.922
13.417	5.700	13.35	0.00	2.58	0.0	6.014
13.500	5.700	15.03	0.00	2.59	0.0	6.117
13.583	5.700	16.69	0.00	2.61	0.0	6.232
13.667	5.700	18.32	0.00	2.63	0.0	6.358
13.750	5.700	19.90	0.00	2.65	0.0	6.494
13.833	5.700	21.46	0.00	2.67	0.0	6.642
13.917	5.700	23.06	0.00	2.69	0.0	6.801
14.000	5.700	24.67	0.00	2.71	0.0	6.970
14.083	5.700	26.55	0.00	2.74	0.0	7.153
14.167	5.700	28.81	0.00	2.77	0.0	7.351
14.250	5.700	31.36	0.00	2.80	0.0	7.567
14.333	5.700	34.60	0.00	2.83	0.0	7.805
14.417	5.700	38.85	0.00	2.87	0.0	8.073
14.500	5.700	43.71	0.00	2.91	0.0	8.373
14.583	5.700	48.88	0.00	2.96	0.0	8.710
14.667	5.700	54.33	0.00	3.01	0.0	9.084
14.750	5.700	60.44	0.00	3.07	0.0	9.500
14.833	5.700	67.27	0.00	3.14	0.0	9.963
14.917	5.700	74.00	0.00	3.21	0.0	10.472
15.000	5.700	80.87	0.00	3.29	0.0	11.029
15.083	5.700	87.46	0.00	3.37	0.0	11.631
15.167	5.700	93.78	0.00	3.46	0.0	12.277
15.250	5.700	99.90	0.00	3.56	0.0	12.965
15.333	5.700	106.34	0.00	3.66	0.0	13.697
15.417	5.700	112.00	0.00	3.77	0.0	14.468
15.500	5.700	117.11	0.00	3.88	0.0	15.274
15.583	5.700	122.29	0.00	4.00	0.0	16.116
15.667	5.700	126.36	0.00	4.13	0.0	16.986
15.750	5.700	128.75	0.00	4.25	0.0	17.873
15.833	5.700	131.04	0.00	4.37	14.9	18.673
15.917	5.700	135.30	0.00	4.45	48.5	19.271
16.000	5.700	143.79	0.00	4.51	80.9	19.704
16.083	5.700	167.38	0.00	4.57	107.4	20.117
16.167	5.700	193.22	0.00	4.63	133.3	20.529
16.250	5.700	220.85	0.00	4.69	159.5	20.951
16.333	5.700	269.13	0.00	4.76	189.9	21.497
16.417	5.700	405.81	0.00	4.92	242.4	22.622
16.500	5.700	508.18	0.00	5.08	337.6	23.797
16.583	5.700	571.03	0.00	5.20	453.8	24.604
16.667	5.700	631.83	0.00	5.28	549.7	25.170
16.750	5.700	735.81	0.00	5.37	636.8	25.851
16.833	5.700	817.31	0.00	5.46	727.6	26.469
16.917	5.700	779.56	0.00	5.47	773.6	26.510
17.000	5.700	735.03	0.00	5.44	763.0	26.317
17.083	5.700	618.72	0.00	5.35	707.1	25.709
17.167	5.700	489.08	0.00	5.24	607.6	24.893
17.250	5.700	357.99	0.00	5.11	488.0	23.998
17.333	5.700	282.85	0.00	5.02	379.1	23.335
17.417	5.700	241.12	0.00	4.95	312.2	22.845

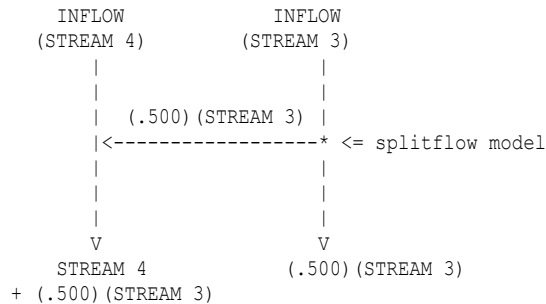
17.500	5.700	207.56	0.00	4.88	276.7	22.368
17.583	5.700	186.00	0.00	4.82	248.3	21.939
17.667	5.700	163.08	0.00	4.77	222.1	21.533
17.750	5.700	139.11	0.00	4.71	196.8	21.135
17.833	5.700	116.87	0.00	4.66	172.4	20.753
17.917	5.700	101.64	0.00	4.61	149.9	20.421
18.000	5.700	84.42	0.00	4.57	129.7	20.109
18.083	5.700	65.54	0.00	4.52	110.2	19.801
18.167	5.700	56.98	0.00	4.49	92.8	19.554
18.250	5.700	50.68	0.00	4.46	79.0	19.359
18.333	5.700	44.67	0.00	4.44	67.8	19.200
18.417	5.700	38.63	0.00	4.42	58.5	19.063
18.500	5.700	33.12	0.00	4.40	50.5	18.943
18.583	5.700	27.81	0.00	4.39	43.4	18.836
18.667	5.700	22.73	0.00	4.38	36.9	18.739
18.750	5.700	17.42	0.00	4.36	30.9	18.645
18.833	5.700	11.67	0.00	4.35	25.1	18.553
18.917	5.700	2.87	0.00	4.33	18.8	18.443
19.000	5.700	0.00	0.00	4.32	12.6	18.357
19.083	5.700	0.00	0.00	4.31	8.1	18.301
19.167	5.700	0.00	0.00	4.31	5.2	18.265
19.250	5.700	0.00	0.00	4.31	3.4	18.241
19.333	5.700	0.00	0.00	4.30	2.2	18.226
19.417	5.700	0.00	0.00	4.30	1.4	18.217
19.500	5.700	0.00	0.00	4.30	0.9	18.211
19.583	5.700	0.00	0.00	4.30	0.6	18.207
19.667	5.700	0.00	0.00	4.30	0.4	18.204
19.750	5.700	0.00	0.00	4.30	0.2	18.202
19.833	5.700	0.00	0.00	4.30	0.2	18.201
19.917	5.700	0.00	0.00	4.30	0.1	18.201

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 79.739 AF
BASIN STORAGE = 21.376 AF (WITH 11.400 AF INITIALLY FILLED)
OUTFLOW VOLUME = 69.766 AF
LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8

>>>>MODEL STREAM SPLITFLOW WHERE A CONSTANT PROPORTION
OF STREAM 3 IS ADDED TO STREAM 4<<<<<



STREAM NUMBER 3 IS SPLIT TOWARDS STREAM 4
WHERE 0.50 (DECIMAL PERCENT) REMAINS IN STREAM 3
AND 0.50 (DECIMAL PERCENT) IS ADDED TO STREAM 4

STREAM SPLITFLOW MODELING RESULTS:

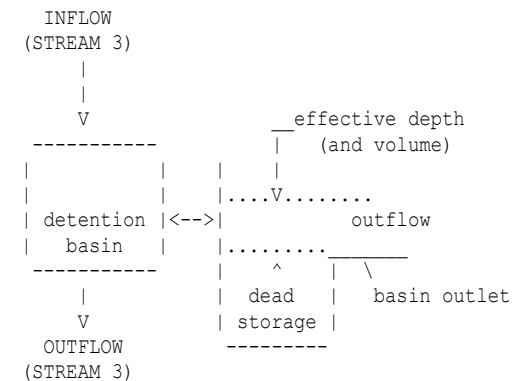
MODEL TIME (HRS)	INFLOW STREAM 4 (CFS)	INFLOW STREAM 3 (CFS)	OUTFLOW STREAM 4 (CFS)	OUTFLOW STREAM 3 (CFS)
10.000	0.00	0.02	0.01	0.01
10.083	0.00	0.02	0.01	0.01
10.167	0.00	0.02	0.01	0.01
10.250	0.00	0.02	0.01	0.01
10.333	0.00	0.02	0.01	0.01
10.417	0.00	0.02	0.01	0.01
10.500	0.00	0.02	0.01	0.01
10.583	0.00	0.02	0.01	0.01
10.667	0.00	0.02	0.01	0.01
10.750	0.00	0.02	0.01	0.01
10.833	0.00	0.02	0.01	0.01
10.917	0.00	0.02	0.01	0.01
11.000	0.00	0.02	0.01	0.01
11.083	0.00	0.02	0.01	0.01
11.167	0.00	0.02	0.01	0.01
11.250	0.00	0.02	0.01	0.01
11.333	0.00	0.02	0.01	0.01
11.417	0.00	0.02	0.01	0.01
11.500	0.00	0.02	0.01	0.01
11.583	0.00	0.02	0.01	0.01
11.667	0.00	0.02	0.01	0.01
11.750	0.00	0.02	0.01	0.01
11.833	0.00	0.02	0.01	0.01
11.917	0.00	0.02	0.01	0.01
12.000	0.00	0.02	0.01	0.01
12.083	0.00	0.02	0.01	0.01
12.167	0.00	0.02	0.01	0.01
12.250	0.00	0.02	0.01	0.01
12.333	0.00	0.02	0.01	0.01
12.417	0.00	0.02	0.01	0.01
12.500	0.00	0.02	0.01	0.01
12.583	0.00	0.02	0.01	0.01
12.667	0.00	0.02	0.01	0.01
12.750	0.00	0.02	0.01	0.01
12.833	0.00	0.02	0.01	0.01
12.917	0.00	0.02	0.01	0.01
13.000	0.00	0.02	0.01	0.01
13.083	0.00	0.02	0.01	0.01
13.167	0.00	0.02	0.01	0.01
13.250	0.00	0.03	0.01	0.01
13.333	0.00	0.03	0.01	0.01
13.417	0.00	0.03	0.01	0.01
13.500	0.00	0.03	0.01	0.01
13.583	0.00	0.03	0.01	0.01

13.667	0.00	0.03	0.01	0.01
13.750	0.00	0.03	0.01	0.01
13.833	0.00	0.03	0.01	0.01
13.917	0.00	0.03	0.01	0.01
14.000	0.00	0.03	0.01	0.01
14.083	0.00	0.03	0.01	0.01
14.167	0.00	0.03	0.01	0.01
14.250	0.00	0.03	0.01	0.01
14.333	0.00	0.03	0.01	0.01
14.417	0.00	0.03	0.01	0.01
14.500	0.00	0.03	0.01	0.01
14.583	0.00	0.03	0.01	0.01
14.667	0.00	0.03	0.01	0.01
14.750	0.00	0.03	0.01	0.01
14.833	0.00	0.03	0.01	0.01
14.917	0.00	0.03	0.01	0.01
15.000	0.00	0.03	0.01	0.01
15.083	0.00	0.03	0.01	0.01
15.167	0.00	0.03	0.01	0.01
15.250	0.00	0.03	0.02	0.02
15.333	0.00	0.03	0.02	0.02
15.417	0.00	0.03	0.02	0.02
15.500	0.00	0.03	0.02	0.02
15.583	0.00	0.03	0.02	0.02
15.667	0.00	0.04	0.02	0.02
15.750	0.00	0.04	0.02	0.02
15.833	0.00	14.89	7.44	7.44
15.917	0.00	48.50	24.25	24.25
16.000	0.00	80.87	40.44	40.44
16.083	0.00	107.44	53.72	53.72
16.167	0.00	133.35	66.67	66.67
16.250	0.00	159.55	79.77	79.77
16.333	0.00	189.93	94.96	94.96
16.417	0.00	242.39	121.19	121.19
16.500	0.00	337.58	168.79	168.79
16.583	0.00	453.83	226.92	226.92
16.667	0.00	549.73	274.86	274.86
16.750	0.00	636.84	318.42	318.42
16.833	0.00	727.61	363.81	363.81
16.917	0.00	773.62	386.81	386.81
17.000	0.00	763.02	381.51	381.51
17.083	0.00	707.05	353.53	353.53
17.167	0.00	607.55	303.78	303.78
17.250	0.00	488.00	244.00	244.00
17.333	0.00	379.13	189.56	189.56
17.417	0.00	312.25	156.12	156.12
17.500	0.00	276.73	138.37	138.37
17.583	0.00	248.31	124.15	124.15
17.667	0.00	222.08	111.04	111.04
17.750	0.00	196.84	98.42	98.42
17.833	0.00	172.36	86.18	86.18
17.917	0.00	149.92	74.96	74.96
18.000	0.00	129.69	64.85	64.85
18.083	0.00	110.24	55.12	55.12
18.167	0.00	92.82	46.41	46.41
18.250	0.00	78.96	39.48	39.48
18.333	0.00	67.83	33.92	33.92
18.417	0.00	58.52	29.26	29.26

18.500	0.00	50.47	25.24	25.24
18.583	0.00	43.36	21.68	21.68
18.667	0.00	36.93	18.46	18.46
18.750	0.00	30.94	15.47	15.47
18.833	0.00	25.11	12.55	12.55
18.917	0.00	18.77	9.38	9.38
19.000	0.00	12.60	6.30	6.30
19.083	0.00	8.12	4.06	4.06
19.167	0.00	5.23	2.62	2.62
19.250	0.00	3.37	1.69	1.69
19.333	0.00	2.17	1.09	1.09
19.417	0.00	1.40	0.70	0.70
19.500	0.00	0.90	0.45	0.45
19.583	0.00	0.58	0.29	0.29
19.667	0.00	0.38	0.19	0.19
19.750	0.00	0.24	0.12	0.12
19.833	0.00	0.16	0.08	0.08
19.917	0.00	0.10	0.05	0.05
20.000	0.00	0.06	0.03	0.03

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<



ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3

THROUGH A FLOW-THROUGH DETENTION BASIN

SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:

DEAD STORAGE(AF) = 0.000

SPECIFIED DEAD STORAGE(AF) FILLED = 0.000

SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000

DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
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1	0.00	0.00	0.000
2	0.99	2.90	0.900
3	1.99	11.38	2.900
4	3.99	19.63	10.300
5	5.99	25.19	20.700
6	7.99	29.71	31.700
7	9.99	33.62	43.500
8	10.99	35.49	49.700
9	11.99	313.46	56.400
10	12.99	894.27	63.100
11	13.99	1748.55	69.900
12	15.99	4306.91	84.100

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MODIFIED-PULS BASIN ROUTING MODEL RESULTS(5-MINUTE COMPUTATION INTERVALS):
 (Note: Computed EFFECTIVE DEPTH and VOLUME are estimated at the clock time;
 MEAN OUTFLOW is the average value during the unit interval.)

CLOCK TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	LOSS (CFS)	MEAN		
				EFFECTIVE DEPTH(FT)	OUTFLOW (CFS)	EFFECTIVE VOLUME(AF)
10.083	0.000	0.01	0.00	0.00	0.0	0.004
10.167	0.000	0.01	0.00	0.00	0.0	0.004
10.250	0.000	0.01	0.00	0.00	0.0	0.004
10.333	0.000	0.01	0.00	0.00	0.0	0.004
10.417	0.000	0.01	0.00	0.00	0.0	0.004
10.500	0.000	0.01	0.00	0.00	0.0	0.004
10.583	0.000	0.01	0.00	0.00	0.0	0.004
10.667	0.000	0.01	0.00	0.00	0.0	0.004
10.750	0.000	0.01	0.00	0.00	0.0	0.004
10.833	0.000	0.01	0.00	0.00	0.0	0.004
10.917	0.000	0.01	0.00	0.00	0.0	0.004
11.000	0.000	0.01	0.00	0.00	0.0	0.004
11.083	0.000	0.01	0.00	0.00	0.0	0.004
11.167	0.000	0.01	0.00	0.00	0.0	0.004
11.250	0.000	0.01	0.00	0.00	0.0	0.004
11.333	0.000	0.01	0.00	0.00	0.0	0.004
11.417	0.000	0.01	0.00	0.00	0.0	0.004
11.500	0.000	0.01	0.00	0.00	0.0	0.004
11.583	0.000	0.01	0.00	0.00	0.0	0.004
11.667	0.000	0.01	0.00	0.00	0.0	0.004
11.750	0.000	0.01	0.00	0.00	0.0	0.004
11.833	0.000	0.01	0.00	0.00	0.0	0.004
11.917	0.000	0.01	0.00	0.00	0.0	0.004
12.000	0.000	0.01	0.00	0.00	0.0	0.004
12.083	0.000	0.01	0.00	0.00	0.0	0.004
12.167	0.000	0.01	0.00	0.00	0.0	0.004
12.250	0.000	0.01	0.00	0.00	0.0	0.004
12.333	0.000	0.01	0.00	0.00	0.0	0.004
12.417	0.000	0.01	0.00	0.00	0.0	0.004
12.500	0.000	0.01	0.00	0.00	0.0	0.004
12.583	0.000	0.01	0.00	0.00	0.0	0.004
12.667	0.000	0.01	0.00	0.00	0.0	0.004
12.750	0.000	0.01	0.00	0.00	0.0	0.004
12.833	0.000	0.01	0.00	0.00	0.0	0.004
12.917	0.000	0.01	0.00	0.00	0.0	0.004

13.000	0.000	0.01	0.00	0.00	0.0	0.004
13.083	0.000	0.01	0.00	0.00	0.0	0.004
13.167	0.000	0.01	0.00	0.00	0.0	0.004
13.250	0.000	0.01	0.00	0.00	0.0	0.004
13.333	0.000	0.01	0.00	0.00	0.0	0.004
13.417	0.000	0.01	0.00	0.00	0.0	0.004
13.500	0.000	0.01	0.00	0.00	0.0	0.004
13.583	0.000	0.01	0.00	0.00	0.0	0.004
13.667	0.000	0.01	0.00	0.00	0.0	0.004
13.750	0.000	0.01	0.00	0.00	0.0	0.004
13.833	0.000	0.01	0.00	0.00	0.0	0.004
13.917	0.000	0.01	0.00	0.00	0.0	0.004
14.000	0.000	0.01	0.00	0.00	0.0	0.004
14.083	0.000	0.01	0.00	0.00	0.0	0.004
14.167	0.000	0.01	0.00	0.00	0.0	0.004
14.250	0.000	0.01	0.00	0.00	0.0	0.004
14.333	0.000	0.01	0.00	0.00	0.0	0.004
14.417	0.000	0.01	0.00	0.00	0.0	0.004
14.500	0.000	0.01	0.00	0.00	0.0	0.004
14.583	0.000	0.01	0.00	0.00	0.0	0.004
14.667	0.000	0.01	0.00	0.00	0.0	0.004
14.750	0.000	0.01	0.00	0.00	0.0	0.004
14.833	0.000	0.01	0.00	0.00	0.0	0.004
14.917	0.000	0.01	0.00	0.00	0.0	0.004
15.000	0.000	0.01	0.00	0.00	0.0	0.004
15.083	0.000	0.01	0.00	0.00	0.0	0.004
15.167	0.000	0.01	0.00	0.00	0.0	0.004
15.250	0.000	0.02	0.00	0.00	0.0	0.004
15.333	0.000	0.02	0.00	0.00	0.0	0.004
15.417	0.000	0.02	0.00	0.00	0.0	0.004
15.500	0.000	0.02	0.00	0.00	0.0	0.004
15.583	0.000	0.02	0.00	0.00	0.0	0.004
15.667	0.000	0.02	0.00	0.00	0.0	0.004
15.750	0.000	0.02	0.00	0.00	0.0	0.004
15.833	0.000	7.44	0.00	0.06	0.1	0.055
15.917	0.000	24.25	0.00	0.24	0.4	0.219
16.000	0.000	40.44	0.00	0.54	1.1	0.489
16.083	0.000	53.72	0.00	0.93	2.1	0.845
16.167	0.000	66.67	0.00	1.18	3.6	1.279
16.250	0.000	79.77	0.00	1.43	5.6	1.790
16.333	0.000	94.96	0.00	1.73	7.9	2.389
16.417	0.000	121.19	0.00	2.06	10.4	3.152
16.500	0.000	168.79	0.00	2.35	12.3	4.230
16.583	0.000	226.92	0.00	2.75	13.7	5.698
16.667	0.000	274.86	0.00	3.23	15.5	7.485
16.750	0.000	318.42	0.00	3.79	17.6	9.556
16.833	0.000	363.81	0.00	4.30	19.7	11.926
16.917	0.000	386.81	0.00	4.79	21.2	14.445
17.000	0.000	381.51	0.00	5.26	22.5	16.917
17.083	0.000	353.53	0.00	5.70	23.8	19.188
17.167	0.000	303.78	0.00	6.06	24.9	21.109
17.250	0.000	244.00	0.00	6.34	25.7	22.613
17.333	0.000	189.56	0.00	6.54	26.2	23.738
17.417	0.000	156.12	0.00	6.70	26.6	24.629
17.500	0.000	138.37	0.00	6.84	27.0	25.397
17.583	0.000	124.15	0.00	6.97	27.3	26.064
17.667	0.000	111.04	0.00	7.07	27.5	26.639
17.750	0.000	98.42	0.00	7.16	27.7	27.126

17.833	0.000	86.18	0.00	7.23	27.9	27.527
17.917	0.000	74.96	0.00	7.29	28.1	27.850
18.000	0.000	64.85	0.00	7.34	28.2	28.103
18.083	0.000	55.12	0.00	7.37	28.3	28.288
18.167	0.000	46.41	0.00	7.39	28.3	28.412
18.250	0.000	39.48	0.00	7.41	28.4	28.489
18.333	0.000	33.92	0.00	7.41	28.4	28.527
18.417	0.000	29.26	0.00	7.41	28.4	28.533
18.500	0.000	25.24	0.00	7.41	28.4	28.511
18.583	0.000	21.68	0.00	7.40	28.4	28.465
18.667	0.000	18.46	0.00	7.39	28.4	28.396
18.750	0.000	15.47	0.00	7.37	28.3	28.308
18.833	0.000	12.55	0.00	7.35	28.3	28.199
18.917	0.000	9.38	0.00	7.33	28.2	28.070
19.000	0.000	6.30	0.00	7.30	28.2	27.919
19.083	0.000	4.06	0.00	7.27	28.1	27.753
19.167	0.000	2.62	0.00	7.24	28.1	27.578
19.250	0.000	1.69	0.00	7.21	28.0	27.397
19.333	0.000	1.09	0.00	7.17	27.9	27.212
19.417	0.000	0.70	0.00	7.14	27.8	27.025
19.500	0.000	0.45	0.00	7.11	27.8	26.837
19.583	0.000	0.29	0.00	7.07	27.7	26.649
19.667	0.000	0.19	0.00	7.04	27.6	26.460
19.750	0.000	0.12	0.00	7.00	27.5	26.271
19.833	0.000	0.08	0.00	6.97	27.4	26.083
19.917	0.000	0.05	0.00	6.93	27.4	25.895

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 34.883 AF
BASIN STORAGE = 0.005 AF (WITH 0.000 AF INITIALLY FILLED)
OUTFLOW VOLUME = 34.878 AF
LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<<
=====

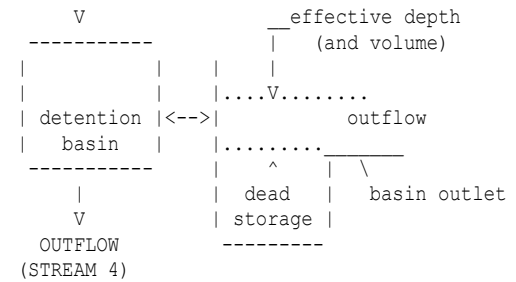
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<<
=====

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<<
=====

INFLOW
(STREAM 4)
|
|



ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
THROUGH A FLOW-THROUGH DETENTION BASIN
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:

DEAD STORAGE(AF) = 0.000
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.48	0.70	0.400
3	1.48	6.50	1.800
4	3.48	18.11	8.500
5	5.48	23.99	17.900
6	7.48	28.68	27.800
7	9.48	32.70	38.300
8	10.48	34.50	43.900
9	11.48	36.29	49.400
10	12.48	314.07	55.900
11	13.48	895.00	62.300
12	15.48	2882.95	74.700

=====

MODIFIED-PULS BASIN ROUTING MODEL RESULTS(5-MINUTE COMPUTATION INTERVALS):
(Note: Computed EFFECTIVE DEPTH and VOLUME are estimated at the clock time;
MEAN OUTFLOW is the average value during the unit interval.)

CLOCK TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	LOSS (CFS)	MEAN EFFECTIVE DEPTH (FT)	MEAN OUTFLOW (CFS)	EFFECTIVE VOLUME (AF)
10.083	0.000	0.01	0.00	0.01	0.0	0.005
10.167	0.000	0.01	0.00	0.01	0.0	0.005
10.250	0.000	0.01	0.00	0.01	0.0	0.006
10.333	0.000	0.01	0.00	0.01	0.0	0.006
10.417	0.000	0.01	0.00	0.01	0.0	0.006
10.500	0.000	0.01	0.00	0.01	0.0	0.006
10.583	0.000	0.01	0.00	0.01	0.0	0.006
10.667	0.000	0.01	0.00	0.01	0.0	0.006

10.750	0.000	0.01	0.00	0.01	0.0	0.006
10.833	0.000	0.01	0.00	0.01	0.0	0.006
10.917	0.000	0.01	0.00	0.01	0.0	0.006
11.000	0.000	0.01	0.00	0.01	0.0	0.006
11.083	0.000	0.01	0.00	0.01	0.0	0.006
11.167	0.000	0.01	0.00	0.01	0.0	0.006
11.250	0.000	0.01	0.00	0.01	0.0	0.006
11.333	0.000	0.01	0.00	0.01	0.0	0.006
11.417	0.000	0.01	0.00	0.01	0.0	0.006
11.500	0.000	0.01	0.00	0.01	0.0	0.006
11.583	0.000	0.01	0.00	0.01	0.0	0.006
11.667	0.000	0.01	0.00	0.01	0.0	0.006
11.750	0.000	0.01	0.00	0.01	0.0	0.006
11.833	0.000	0.01	0.00	0.01	0.0	0.006
11.917	0.000	0.01	0.00	0.01	0.0	0.006
12.000	0.000	0.01	0.00	0.01	0.0	0.006
12.083	0.000	0.01	0.00	0.01	0.0	0.006
12.167	0.000	0.01	0.00	0.01	0.0	0.006
12.250	0.000	0.01	0.00	0.01	0.0	0.006
12.333	0.000	0.01	0.00	0.01	0.0	0.006
12.417	0.000	0.01	0.00	0.01	0.0	0.006
12.500	0.000	0.01	0.00	0.01	0.0	0.006
12.583	0.000	0.01	0.00	0.01	0.0	0.006
12.667	0.000	0.01	0.00	0.01	0.0	0.006
12.750	0.000	0.01	0.00	0.01	0.0	0.006
12.833	0.000	0.01	0.00	0.01	0.0	0.006
12.917	0.000	0.01	0.00	0.01	0.0	0.006
13.000	0.000	0.01	0.00	0.01	0.0	0.006
13.083	0.000	0.01	0.00	0.01	0.0	0.006
13.167	0.000	0.01	0.00	0.01	0.0	0.006
13.250	0.000	0.01	0.00	0.01	0.0	0.006
13.333	0.000	0.01	0.00	0.01	0.0	0.006
13.417	0.000	0.01	0.00	0.01	0.0	0.006
13.500	0.000	0.01	0.00	0.01	0.0	0.006
13.583	0.000	0.01	0.00	0.01	0.0	0.006
13.667	0.000	0.01	0.00	0.01	0.0	0.006
13.750	0.000	0.01	0.00	0.01	0.0	0.006
13.833	0.000	0.01	0.00	0.01	0.0	0.006
13.917	0.000	0.01	0.00	0.01	0.0	0.006
14.000	0.000	0.01	0.00	0.01	0.0	0.006
14.083	0.000	0.01	0.00	0.01	0.0	0.006
14.167	0.000	0.01	0.00	0.01	0.0	0.006
14.250	0.000	0.01	0.00	0.01	0.0	0.006
14.333	0.000	0.01	0.00	0.01	0.0	0.006
14.417	0.000	0.01	0.00	0.01	0.0	0.006
14.500	0.000	0.01	0.00	0.01	0.0	0.006
14.583	0.000	0.01	0.00	0.01	0.0	0.006
14.667	0.000	0.01	0.00	0.01	0.0	0.006
14.750	0.000	0.01	0.00	0.01	0.0	0.006
14.833	0.000	0.01	0.00	0.01	0.0	0.006
14.917	0.000	0.01	0.00	0.01	0.0	0.006
15.000	0.000	0.01	0.00	0.01	0.0	0.006
15.083	0.000	0.01	0.00	0.01	0.0	0.006
15.167	0.000	0.01	0.00	0.01	0.0	0.006
15.250	0.000	0.02	0.00	0.01	0.0	0.006
15.333	0.000	0.02	0.00	0.01	0.0	0.007
15.417	0.000	0.02	0.00	0.01	0.0	0.007
15.500	0.000	0.02	0.00	0.01	0.0	0.007

15.583	0.000	0.02	0.00	0.01	0.0	0.007
15.667	0.000	0.02	0.00	0.01	0.0	0.007
15.750	0.000	0.02	0.00	0.01	0.0	0.007
15.833	0.000	7.44	0.00	0.07	0.1	0.058
15.917	0.000	24.25	0.00	0.27	0.2	0.223
16.000	0.000	40.44	0.00	0.55	0.7	0.496
16.083	0.000	53.72	0.00	0.80	1.8	0.854
16.167	0.000	66.67	0.00	1.11	3.5	1.289
16.250	0.000	79.77	0.00	1.48	5.4	1.801
16.333	0.000	94.96	0.00	1.66	7.0	2.406
16.417	0.000	121.19	0.00	1.89	8.2	3.184
16.500	0.000	168.79	0.00	2.22	9.8	4.279
16.583	0.000	226.92	0.00	2.66	12.1	5.759
16.667	0.000	274.86	0.00	3.20	14.9	7.549
16.750	0.000	318.42	0.00	3.72	17.6	9.620
16.833	0.000	363.81	0.00	4.22	19.6	11.991
16.917	0.000	386.81	0.00	4.76	21.1	14.510
17.000	0.000	381.51	0.00	5.28	22.6	16.982
17.083	0.000	353.53	0.00	5.75	24.0	19.251
17.167	0.000	303.78	0.00	6.14	25.1	21.170
17.250	0.000	244.00	0.00	6.44	25.9	22.672
17.333	0.000	189.56	0.00	6.67	26.5	23.795
17.417	0.000	156.12	0.00	6.85	27.0	24.685
17.500	0.000	138.37	0.00	7.01	27.4	25.449
17.583	0.000	124.15	0.00	7.14	27.7	26.113
17.667	0.000	111.04	0.00	7.25	28.0	26.685
17.750	0.000	98.42	0.00	7.35	28.3	27.168
17.833	0.000	86.18	0.00	7.43	28.5	27.565
17.917	0.000	74.96	0.00	7.50	28.6	27.884
18.000	0.000	64.85	0.00	7.54	28.8	28.133
18.083	0.000	55.12	0.00	7.58	28.8	28.314
18.167	0.000	46.41	0.00	7.60	28.9	28.435
18.250	0.000	39.48	0.00	7.61	28.9	28.507
18.333	0.000	33.92	0.00	7.62	29.0	28.541
18.417	0.000	29.26	0.00	7.62	29.0	28.543
18.500	0.000	25.24	0.00	7.62	29.0	28.518
18.583	0.000	21.68	0.00	7.61	28.9	28.468
18.667	0.000	18.46	0.00	7.59	28.9	28.396
18.750	0.000	15.47	0.00	7.58	28.9	28.303
18.833	0.000	12.55	0.00	7.55	28.9	28.191
18.917	0.000	9.38	0.00	7.53	28.8	28.057
19.000	0.000	6.30	0.00	7.50	28.7	27.903
19.083	0.000	4.06	0.00	7.47	28.7	27.733
19.167	0.000	2.62	0.00	7.43	28.6	27.554
19.250	0.000	1.69	0.00	7.39	28.5	27.369
19.333	0.000	1.09	0.00	7.35	28.4	27.181
19.417	0.000	0.70	0.00	7.32	28.3	26.991
19.500	0.000	0.45	0.00	7.28	28.3	26.799
19.583	0.000	0.29	0.00	7.24	28.2	26.607
19.667	0.000	0.19	0.00	7.20	28.1	26.415
19.750	0.000	0.12	0.00	7.16	28.0	26.223
19.833	0.000	0.08	0.00	7.12	27.9	26.032
19.917	0.000	0.05	0.00	7.08	27.8	25.841

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 34.883 AF
 BASIN STORAGE = 0.009 AF (WITH 0.000 AF INITIALLY FILLED)
 OUTFLOW VOLUME = 34.873 AF

LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<

FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS(Reference: the National Engineering Handbook, Hydrology, Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:

BASEWIDTH(FT) = 50.00 CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 427.51
DOWNSTREAM ELEVATION(FT) = 315.00
CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040
CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:

MAXIMUM INFLOW(CFS) = 2191.29
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 1695.05
CHANNEL NORMAL VELOCITY FOR Q = 1695.05 CFS = 8.12 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.827

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE

UNIT INTERVALS IS CSTAR = 0.609

CONVEX METHOD CHANNEL ROUTING RESULTS:

Table with 4 columns: MODEL TIME (HRS), INFLOW (STREAM 2) (CFS), ROUTED FLOW (CFS), OUTFLOW LESS LOSS (STREAM 2) (CFS). Rows include times from 10.000 to 10.333.

Table with 4 columns of numerical data. Rows correspond to the time intervals in the previous table, showing values for loss and flow.

15.250	835.12	727.43	727.43
15.333	862.34	755.71	755.71
15.417	886.27	783.25	783.25
15.500	907.85	809.92	809.92
15.583	929.75	836.66	836.66
15.667	946.95	862.31	862.31
15.750	957.02	885.93	885.93
15.833	966.86	908.45	908.45
15.917	985.39	928.62	928.62
16.000	1022.43	943.99	943.99
16.083	1124.23	956.04	956.04
16.167	1236.52	970.39	970.39
16.250	1357.19	995.04	995.04
16.333	1565.15	1054.36	1054.36
16.417	1754.79	1143.92	1143.92
16.500	1861.72	1250.83	1250.83
16.583	1928.90	1402.68	1402.68
16.667	1995.01	1581.00	1581.00
16.750	2104.98	1731.56	1731.56
16.833	2191.29	1838.92	1838.92
16.917	2156.18	1921.37	1921.37
17.000	2114.07	2012.26	2012.26
17.083	1999.14	2104.84	2104.84
17.167	1870.26	2142.74	2142.74
17.250	1739.35	2133.28	2133.28
17.333	1660.85	2073.44	2073.44
17.417	1485.42	1974.23	1974.23
17.500	1344.37	1856.11	1856.11
17.583	1253.89	1752.17	1752.17
17.667	1157.59	1623.10	1623.10
17.750	1056.79	1480.22	1480.22
17.833	963.21	1359.64	1359.64
17.917	899.15	1254.94	1254.94
18.000	826.64	1153.47	1153.47
18.083	747.05	1055.43	1055.43
18.167	710.98	972.47	972.47
18.250	684.43	897.47	897.47
18.333	659.08	821.02	821.02
18.417	633.60	760.89	760.89
18.500	610.31	719.40	719.40
18.583	587.84	687.50	687.50
18.667	566.35	659.53	659.53
18.750	543.84	633.99	633.99
18.833	519.45	610.17	610.17
18.917	482.19	587.57	587.57
19.000	457.45	565.23	565.23
19.083	438.66	541.99	541.99
19.167	422.70	512.66	512.66
19.250	407.88	483.75	483.75
19.333	394.14	459.87	459.87
19.417	382.33	440.28	440.28
19.500	371.99	423.37	423.37
19.583	362.44	408.19	408.19
19.667	353.72	394.69	394.69
19.750	345.81	382.84	382.84
19.833	338.62	372.24	372.24
19.917	332.24	362.62	362.62
20.000	326.45	353.89	353.89

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PROCESS SUMMARY OF STORAGE:
  INFLOW VOLUME = 850.665 AF
  OUTFLOW VOLUME = 850.665 AF
  LOSS VOLUME = 0.000 AF

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FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2
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>>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<
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THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) = 50.00 CHANNEL Z = 3.00
  UPSTREAM ELEVATION(FT) = 315.00
  DOWNSTREAM ELEVATION(FT) = 212.00
  CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040
  CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:
  MAXIMUM INFLOW(CFS) = 2142.74
  AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 1689.54
  CHANNEL NORMAL VELOCITY FOR Q = 1689.54 CFS = 8.87 FPS
  ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.839

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
UNIT INTERVALS IS CSTAR = 0.690

CONVEX METHOD CHANNEL ROUTING RESULTS:
                                     OUTFLOW LESS
MODEL      INFLOW      ROUTED      LOSS
TIME      (STREAM 2)      FLOW      (STREAM 2)
(HRS)      (CFS)      (CFS)      (CFS)
10.000     238.89      234.51      234.51
10.083     240.63      236.16      236.16
10.167     242.40      237.85      237.85
10.250     244.21      239.56      239.56
10.333     246.04      241.31      241.31
10.417     247.92      243.10      243.10
10.500     249.84      244.92      244.92
10.583     251.79      246.77      246.77
10.667     253.79      248.66      248.66
10.750     255.82      250.59      250.59
10.833     257.90      252.56      252.56
10.917     260.03      254.57      254.57
11.000     262.20      256.63      256.63
11.083     264.42      258.72      258.72
11.167     266.68      260.87      260.87

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11.250	269.00	263.06	263.06
11.333	271.38	265.29	265.29
11.417	273.81	267.58	267.58
11.500	276.29	269.92	269.92
11.583	278.84	272.32	272.32
11.667	281.45	274.77	274.77
11.750	284.12	277.28	277.28
11.833	286.86	279.85	279.85
11.917	289.67	282.48	282.48
12.000	292.55	285.18	285.18
12.083	295.52	287.95	287.95
12.167	298.56	290.79	290.79
12.250	301.68	293.71	293.71
12.333	305.17	296.70	296.70
12.417	309.30	299.77	299.77
12.500	314.07	303.09	303.09
12.583	319.87	306.89	306.89
12.667	327.32	311.29	311.29
12.750	336.42	316.53	316.53
12.833	346.70	323.11	323.11
12.917	357.83	331.23	331.23
13.000	370.03	340.71	340.71
13.083	383.59	351.23	351.23
13.167	397.82	362.78	362.78
13.250	411.25	375.55	375.55
13.333	423.41	389.26	389.26
13.417	434.41	402.87	402.87
13.500	444.27	415.62	415.62
13.583	453.34	427.30	427.30
13.667	461.69	437.86	437.86
13.750	469.38	447.48	447.48
13.833	476.67	456.31	456.31
13.917	483.73	464.43	464.43
14.000	490.60	472.02	472.02
14.083	497.32	479.27	479.27
14.167	504.03	486.29	486.29
14.250	510.79	493.12	493.12
14.333	518.05	499.86	499.86
14.417	526.41	506.61	506.61
14.500	535.99	513.66	513.66
14.583	547.53	521.48	521.48
14.667	562.18	530.37	530.37
14.750	579.91	540.86	540.86
14.833	599.90	553.86	553.86
14.917	621.50	569.77	569.77
15.000	645.15	588.22	588.22
15.083	671.39	608.66	608.66
15.167	699.04	631.08	631.08
15.250	727.43	655.83	655.83
15.333	755.71	682.42	682.42
15.417	783.25	710.16	710.16
15.500	809.92	738.29	738.29
15.583	836.66	766.10	766.10
15.667	862.31	793.22	793.22
15.750	885.93	820.07	820.07
15.833	908.45	846.22	846.22
15.917	928.62	870.86	870.86
16.000	943.99	894.17	894.17

16.083	956.04	915.58	915.58
16.167	970.39	933.39	933.39
16.250	995.04	947.61	947.61
16.333	1054.36	961.65	961.65
16.417	1143.92	981.81	981.81
16.500	1250.83	1024.94	1024.94
16.583	1402.68	1096.59	1096.59
16.667	1581.00	1190.53	1190.53
16.750	1731.56	1319.19	1319.19
16.833	1838.92	1479.03	1479.03
16.917	1921.37	1635.70	1635.70
17.000	2012.26	1763.38	1763.38
17.083	2104.84	1862.76	1862.76
17.167	2142.74	1955.30	1955.30
17.250	2133.28	2047.68	2047.68
17.333	2073.44	2108.84	2108.84
17.417	1974.23	2126.80	2126.80
17.500	1856.11	2096.96	2096.96
17.583	1752.17	2023.85	2023.85
17.667	1623.10	1921.90	1921.90
17.750	1480.22	1816.92	1816.92
17.833	1359.64	1698.25	1698.25
17.917	1254.94	1564.49	1564.49
18.000	1153.47	1437.22	1437.22
18.083	1055.43	1323.67	1323.67
18.167	972.47	1218.08	1218.08
18.250	897.47	1117.30	1117.30
18.333	821.02	1027.05	1027.05
18.417	760.89	946.40	946.40
18.500	719.40	868.82	868.82
18.583	687.50	801.37	801.37
18.667	659.53	749.66	749.66
18.750	633.99	710.49	710.49
18.833	610.17	678.59	678.59
18.917	587.57	650.80	650.80
19.000	565.23	625.55	625.55
19.083	541.99	601.98	601.98
19.167	512.66	579.23	579.23
19.250	483.75	556.25	556.25
19.333	459.87	529.60	529.60
19.417	440.28	501.34	501.34
19.500	423.37	475.52	475.52
19.583	408.19	453.49	453.49
19.667	394.69	434.69	434.69
19.750	382.84	418.18	418.18
19.833	372.24	403.55	403.55
19.917	362.62	390.64	390.64
20.000	353.89	379.18	379.18

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PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 850.665 AF
 OUTFLOW VOLUME = 850.664 AF
 LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1

(UNIT-HYDROGRAPH ADDED TO STREAM #3)

WATERSHED AREA = 1715.900 ACRES
 BASEFLOW = 0.000 CFS/SQUARE-MILE
 *USER ENTERED "LAG" TIME = 0.641 HOURS
 VALLEY(DEVELOPED) S-GRAPH SELECTED
 MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.224
 LOW LOSS FRACTION = 0.381
 HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL(INCH)= 0.37
 SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)= 0.80
 SPECIFIED PEAK 1-HOUR RAINFALL(INCH) = 1.06
 SPECIFIED PEAK 3-HOUR RAINFALL(INCH) = 1.78
 SPECIFIED PEAK 6-HOUR RAINFALL(INCH) = 2.47
 SPECIFIED PEAK 24-HOUR RAINFALL(INCH) = 4.12

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
 5-MINUTE FACTOR = 0.744
 30-MINUTE FACTOR = 0.744
 1-HOUR FACTOR = 0.744
 3-HOUR FACTOR = 0.959
 6-HOUR FACTOR = 0.978
 24-HOUR FACTOR = 0.986

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
 UNIT INTERVAL PERCENTAGE OF LAG-TIME = 13.001

RUNOFF HYDROGRAPH LISTING LIMITS:
 MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 10.00
 MODEL TIME(HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES(CFS)
1	0.743	154.161
2	2.394	342.714
3	5.226	587.533
4	10.852	1167.570
5	18.271	1539.488
6	26.502	1708.051
7	35.880	1946.244
8	47.200	2349.083
9	57.917	2223.836
10	68.233	2140.899
11	76.241	1661.777
12	82.248	1246.469
13	87.095	1005.905
14	90.348	675.074

15	92.996	549.479
16	94.985	412.717
17	96.389	291.247
18	97.412	212.466
19	98.101	142.896
20	98.347	51.067
21	98.591	50.567
22	98.834	50.537
23	99.079	50.662
24	99.322	50.537
25	99.566	50.537
26	99.809	50.537
27	100.000	39.614

 TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 204.8031
 TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 376.1744

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)

(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	325.0	650.0	975.0	1300.0
10.000	66.9000	116.75	. Q	V .	.	.	.
10.083	67.7103	117.66	. Q	V .	.	.	.
10.167	68.5271	118.60	. Q	V .	.	.	.
10.250	69.3504	119.55	. Q	V .	.	.	.
10.333	70.1805	120.52	. Q	V .	.	.	.
10.417	71.0174	121.51	. Q	V .	.	.	.
10.500	71.8612	122.53	. Q	V .	.	.	.
10.583	72.7122	123.56	. Q	V .	.	.	.
10.667	73.5706	124.63	. Q	V .	.	.	.
10.750	74.4363	125.71	. Q	V .	.	.	.
10.833	75.3097	126.82	. Q	V .	.	.	.
10.917	76.1910	127.95	. Q	V .	.	.	.
11.000	77.0802	129.12	. Q	V .	.	.	.
11.083	77.9776	130.30	. Q	V .	.	.	.
11.167	78.8835	131.53	. Q	V .	.	.	.
11.250	79.7979	132.77	. Q	V .	.	.	.
11.333	80.7211	134.06	. Q	V .	.	.	.
11.417	81.6534	135.37	. Q	V .	.	.	.
11.500	82.5950	136.72	. Q	V .	.	.	.
11.583	83.5460	138.10	. Q	V .	.	.	.
11.667	84.5069	139.52	. Q	V .	.	.	.
11.750	85.4778	140.97	. Q	V .	.	.	.
11.833	86.4591	142.48	. Q	V .	.	.	.
11.917	87.4509	144.01	. Q	V .	.	.	.
12.000	88.4537	145.61	. Q	V .	.	.	.
12.083	89.4705	147.64	. Q	V .	.	.	.
12.167	90.5051	150.23	. Q	V .	.	.	.
12.250	91.5623	153.50	. Q	V .	.	.	.
12.333	92.6530	158.37	. Q	V .	.	.	.
12.417	93.7844	164.27	. Q	V .	.	.	.
12.500	94.9600	170.70	. Q	V .	.	.	.
12.583	96.1846	177.81	. Q	V .	.	.	.
12.667	97.4661	186.08	. Q	V .	.	.	.
12.750	98.8028	194.08	. Q	V .	.	.	.
12.833	100.1937	201.97	. Q	V .	.	.	.
12.917	101.6309	208.68	. Q	V .	.	.	.
13.000	103.1075	214.40	. Q	V .	.	.	.
13.083	104.6196	219.56	. Q	.V	.	.	.
13.167	106.1621	223.97	. Q	.V	.	.	.
13.250	107.7333	228.13	. Q	.V	.	.	.
13.333	109.3315	232.06	. Q	.V	.	.	.
13.417	110.9551	235.76	. Q	.V	.	.	.
13.500	112.6038	239.38	. Q	.V	.	.	.
13.583	114.2769	242.93	. Q	.V	.	.	.
13.667	115.9738	246.39	. Q	.V	.	.	.
13.750	117.6954	249.97	. Q	.V	.	.	.
13.833	119.4428	253.73	. Q	.V	.	.	.

13.917	121.2170	257.62	. Q	. V	.	.	.
14.000	123.0195	261.72	. Q	. V	.	.	.
14.083	124.8575	266.88	. Q	. V	.	.	.
14.167	126.7404	273.39	. Q	. V	.	.	.
14.250	128.6790	281.49	. Q	. V	.	.	.
14.333	130.6978	293.14	. Q	. V	.	.	.
14.417	132.8132	307.15	. Q	. V	.	.	.
14.500	135.0335	322.39	. Q	. V	.	.	.
14.583	137.3696	339.20	. Q	. V	.	.	.
14.667	139.8394	358.63	. Q	. V	.	.	.
14.750	142.4393	377.50	. Q	. V	.	.	.
14.833	145.1677	396.16	. Q	. V	.	.	.
14.917	148.0067	412.23	. Q	. V	.	.	.
15.000	150.9421	426.22	. Q	. V	.	.	.
15.083	153.9666	439.15	. Q	. V	.	.	.
15.167	157.0701	450.64	. Q	. V	.	.	.
15.250	160.2512	461.89	. Q	. V	.	.	.
15.333	163.5091	473.04	. Q	. V	.	.	.
15.417	166.8309	482.33	. Q	. V	.	.	.
15.500	170.2048	489.89	. Q	. V	.	.	.
15.583	173.6155	495.23	. Q	. V	.	.	.
15.667	177.0225	494.69	. Q	. V	.	.	.
15.750	180.4113	492.05	. Q	. V	.	.	.
15.833	183.7924	490.94	. Q	. V	.	.	.
15.917	187.1919	493.61	. Q	. V	.	.	.
16.000	190.6631	504.02	. Q	. V	.	.	.
16.083	194.5027	557.50	. Q	. V	.	.	.
16.167	198.8585	632.45	. Q	. V	.	.	.
16.250	203.9308	736.50	. V	. Q	.	.	.
16.333	210.1730	906.38	. V	. Q	.	.	.
16.417	217.2253	1023.99	. V	. Q	.	.	.
16.500	224.7777	1096.60	. V	. Q	.	.	.
16.583	232.8515	1172.32	. V	. Q	.	.	.
16.667	241.5254	1259.45	. V	. Q	.	.	.
16.750	249.9221	1219.21	. V	. Q	.	.	.
16.833	257.9115	1160.05	. V	. Q	.	.	.
16.917	264.9088	1016.00	. V	. Q	.	.	.
17.000	271.0487	891.52	. V	. Q	.	.	.
17.083	276.5927	804.99	. Q	. V	.	.	.
17.167	281.4774	709.26	. Q	. V	.	.	.
17.250	285.9850	654.50	. Q	. V	.	.	.
17.333	290.0869	595.61	. Q	. V	.	.	.
17.417	293.8071	540.16	. Q	. V	.	.	.
17.500	297.1983	492.41	. Q	. V	.	.	.
17.583	300.2827	447.85	. Q	. V	.	.	.
17.667	303.0461	401.25	. Q	. V	.	.	.
17.750	305.6376	376.29	. Q	. V	.	.	.
17.833	308.0734	353.67	. Q	. V	.	.	.
17.917	310.3763	334.38	. Q	. V	.	.	.
18.000	312.5606	317.17	. Q	. V	.	.	.
18.083	314.6368	301.46	. Q	. V	.	.	.
18.167	316.6124	286.86	. Q	. V	.	.	.
18.250	318.4721	270.03	. Q	. V	.	.	.
18.333	320.1823	248.31	. Q	. V	.	.	.
18.417	321.8048	235.59	. Q	. V	.	.	.
18.500	323.3476	224.02	. Q	. V	.	.	.
18.583	324.8127	212.73	. Q	. V	.	.	.
18.667	326.1967	200.95	. Q	. V	.	.	.

18.750	327.5047	189.92	.	Q	.	.	.	V	.
18.833	328.7408	179.49	.	Q	.	.	.	V	.
18.917	329.9160	170.64	.	Q	.	.	.	V	.
19.000	331.0399	163.18	.	Q	.	.	.	V	.
19.083	332.1183	156.60	.	Q	.	.	.	V	.
19.167	333.1591	151.11	.	Q	.	.	.	V	.
19.250	334.1661	146.23	.	Q	.	.	.	V	.
19.333	335.1449	142.12	.	Q	.	.	.	V	.
19.417	336.0988	138.50	.	Q	.	.	.	V	.
19.500	337.0302	135.24	.	Q	.	.	.	V	.
19.583	337.9414	132.31	.	Q	.	.	.	V	.
19.667	338.8349	129.74	.	Q	.	.	.	V	.
19.750	339.7115	127.29	.	Q	.	.	.	V	.
19.833	340.5721	124.95	.	Q	.	.	.	V	.
19.917	341.4172	122.71	.	Q	.	.	.	V	.
20.000	342.2475	120.56	.	Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	540.0
20%	270.0
30%	175.0
40%	90.0
50%	70.0
60%	50.0
70%	45.0
80%	35.0
90%	20.0

FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<

STREAM HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	700.0	1400.0	2100.0	2800.0
10.000	195.4450	351.26	.	QV	.	.	.
10.083	197.8818	353.82	.	QV	.	.	.
10.167	200.3367	356.45	.	QV	.	.	.
10.250	202.8099	359.11	.	QV	.	.	.
10.333	205.3019	361.84	.	QV	.	.	.
10.417	207.8130	364.61	.	QV	.	.	.
10.500	210.3436	367.45	.	QV	.	.	.
10.583	212.8941	370.34	.	QV	.	.	.
10.667	215.4650	373.29	.	Q V	.	.	.
10.750	218.0566	376.30	.	Q V	.	.	.
10.833	220.6695	379.38	.	Q V	.	.	.
10.917	223.3040	382.53	.	Q V	.	.	.
11.000	225.9606	385.75	.	Q V	.	.	.
11.083	228.6399	389.03	.	Q V	.	.	.
11.167	231.3423	392.39	.	Q V	.	.	.
11.250	234.0684	395.83	.	Q V	.	.	.
11.333	236.8188	399.35	.	Q V	.	.	.
11.417	239.5939	402.95	.	Q V	.	.	.
11.500	242.3944	406.64	.	Q V	.	.	.
11.583	245.2210	410.41	.	Q V	.	.	.
11.667	248.0742	414.29	.	Q V	.	.	.
11.750	250.9547	418.25	.	Q V	.	.	.
11.833	253.8633	422.33	.	Q V	.	.	.
11.917	256.8007	426.50	.	Q V	.	.	.
12.000	259.7675	430.79	.	Q V	.	.	.
12.083	262.7675	435.59	.	Q V	.	.	.
12.167	265.8048	441.02	.	Q V	.	.	.
12.250	268.8847	447.21	.	Q V	.	.	.
12.333	272.0188	455.07	.	Q V	.	.	.
12.417	275.2147	464.04	.	Q V	.	.	.
12.500	278.4778	473.79	.	Q V	.	.	.
12.583	281.8159	484.71	.	Q V	.	.	.
12.667	285.2413	497.37	.	Q V	.	.	.
12.750	288.7580	510.62	.	Q V	.	.	.
12.833	292.3743	525.08	.	Q V	.	.	.
12.917	296.0927	539.91	.	Q V	.	.	.
13.000	299.9157	555.10	.	Q V	.	.	.
13.083	303.8467	570.79	.	QV	.	.	.
13.167	307.8877	586.75	.	Q V	.	.	.
13.250	312.0453	603.69	.	Q V	.	.	.
13.333	316.3243	621.31	.	Q V	.	.	.

13.417	320.7226	638.62	.	QV	.	.	.
13.500	325.2336	655.01	.	QV	.	.	.
13.583	329.8495	670.23	.	QV	.	.	.
13.667	334.5620	684.25	.	QV	.	.	.
13.750	339.3654	697.46	.	Q.V	.	.	.
13.833	344.2555	710.04	.	QV	.	.	.
13.917	349.2283	722.05	.	QV	.	.	.
14.000	354.2816	733.74	.	QV	.	.	.
14.083	359.4204	746.16	.	QV	.	.	.
14.167	364.6524	759.68	.	QV	.	.	.
14.250	369.9871	774.60	.	.QV	.	.	.
14.333	375.4485	793.00	.	.QV	.	.	.
14.417	381.0530	813.76	.	.QV	.	.	.
14.500	386.8109	836.05	.	.QV	.	.	.
14.583	392.7384	860.67	.	.Q	.	.	.
14.667	398.8610	889.00	.	.QV	.	.	.
14.750	405.1859	918.36	.	.Q	.	.	.
14.833	411.7287	950.02	.	.Q	.	.	.
14.917	418.4917	981.99	.	.VQ	.	.	.
15.000	425.4783	1014.44	.	.VQ	.	.	.
15.083	432.6946	1047.81	.	.Q	.	.	.
15.167	440.1445	1081.72	.	.VQ	.	.	.
15.250	447.8423	1117.72	.	.VQ	.	.	.
15.333	455.8000	1155.46	.	.V Q	.	.	.
15.417	464.0128	1192.49	.	.V Q	.	.	.
15.500	472.4713	1228.18	.	.V Q	.	.	.
15.583	481.1581	1261.33	.	.V Q	.	.	.
15.667	490.0281	1287.91	.	.V Q	.	.	.
15.750	499.0647	1312.12	.	.V Q	.	.	.
15.833	508.2738	1337.16	.	.V Q	.	.	.
15.917	517.6710	1364.48	.	.V Q	.	.	.
16.000	527.3004	1398.19	.	.V Q	.	.	.
16.083	537.4456	1473.09	.	.V .Q	.	.	.
16.167	548.2297	1565.84	.	.V .Q	.	.	.
16.250	559.8282	1684.11	.	.V .Q	.	.	.
16.333	572.6935	1868.03	.	.V .Q	.	.	.
16.417	586.5076	2005.80	.	.V .Q	.	.	.
16.500	601.1188	2121.55	.	.V .Q	.	.	.
16.583	616.7448	2268.90	.	.V .Q	.	.	.
16.667	633.6180	2449.99	.	.V .Q	.	.	.
16.750	651.1000	2538.40	.	.V .Q	.	.	.
16.833	669.2755	2639.08	.	.V .Q	.	.	.
16.917	687.5379	2651.70	.	.V .Q	.	.	.
17.000	705.8223	2654.90	.	.V .Q	.	.	.
17.083	724.1953	2667.75	.	.V .Q	.	.	.
17.167	742.5463	2664.56	.	.V .Q	.	.	.
17.250	761.1562	2702.17	.	.V .Q	.	.	.
17.333	779.7819	2704.45	.	.V .Q	.	.	.
17.417	798.1495	2666.97	.	.V .Q	.	.	.
17.500	815.9826	2589.37	.	.V .Q	.	.	.
17.583	833.0054	2471.70	.	.V .Q	.	.	.
17.667	849.0050	2323.15	.	.V .Q	.	.	.
17.750	864.1097	2193.21	.	.V .Q	.	.	.
17.833	878.2415	2051.93	.	.VQ.	.	.	.
17.917	891.3191	1898.87	.	.Q V.	.	.	.
18.000	903.4017	1754.39	.	.Q V.	.	.	.
18.083	914.5941	1625.13	.	.Q V.	.	.	.
18.167	924.9586	1504.93	.	.Q V	.	.	.

18.250	934.5132	1387.33	.	.	Q.	V	.
18.333	943.2967	1275.36	.	.	Q .	V	.
18.417	951.4371	1181.99	.	.	Q .	.V	.
18.500	958.9636	1092.84	.	.	Q .	.V	.
18.583	965.9478	1014.10	.	.	Q .	.V	.
18.667	972.4946	950.60	.	.	Q .	.V	.
18.750	978.6959	900.42	.	.	Q .	.V	.
18.833	984.6055	858.08	.	.	Q .	.V	.
18.917	990.2629	821.44	.	.	.Q .	.V	.
19.000	995.6948	788.72	.	.	.Q .	.V	.
19.083	1000.9192	758.58	.	.	Q .	.V	.
19.167	1005.9491	730.34	.	.	Q .	.V	.
19.250	1010.7871	702.48	.	.	Q .	.V	.
19.333	1015.4133	671.72	.	.	Q .	.V	.
19.417	1019.8199	639.84	.	.	Q .	.V	.
19.500	1024.0262	610.76	.	.	Q .	.V	.
19.583	1028.0607	585.80	.	.	Q .	.V	.
19.667	1031.9479	564.42	.	.	Q .	.V	.
19.750	1035.7046	545.47	.	.	Q .	.V	.
19.833	1039.3444	528.50	.	.	Q .	.V	.
19.917	1042.8798	513.35	.	.	Q .	.V	.
20.000	1046.3215	499.74	.	.	Q .	.V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	1085.0
20%	410.0
30%	275.0
40%	200.0
50%	145.0
60%	115.0
70%	95.0
80%	75.0
90%	60.0
=====	=====

END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Analysis prepared by:

***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - COMPLEX UH *
* ULTIMATE CONDITION - REGIONAL NODE 132C *
* 100-YR EV AUG 2017 JMITAL *

FILE NAME: EV0032CC.DAT
TIME/DATE OF STUDY: 16:53 08/21/2017

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

=====

(UNIT-HYDROGRAPH ADDED TO STREAM #2)

WATERSHED AREA = 4924.400 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.795 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244
LOW LOSS FRACTION = 0.515
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.40
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.87
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 1.15
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.94
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.71
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 4.49

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.788
30-MINUTE FACTOR = 0.788
1-HOUR FACTOR = 0.788
3-HOUR FACTOR = 0.968
6-HOUR FACTOR = 0.984
24-HOUR FACTOR = 0.990

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 10.482

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.599	356.720
2	1.831	733.770
3	3.556	1027.088
4	6.695	1869.576
5	11.711	2987.196
6	17.780	3614.240
7	24.320	3895.169
8	31.406	4219.920
9	39.536	4841.828
10	49.118	5706.248
11	57.463	4970.213
12	66.163	5181.218
13	73.208	4195.692
14	78.677	3256.871
15	83.329	2770.256
16	87.117	2255.902
17	89.790	1591.898
18	92.011	1323.059
19	93.944	1150.833
20	95.353	839.020
21	96.422	637.114
22	97.244	489.587
23	97.961	426.666
24	98.212	149.804
25	98.409	117.181
26	98.605	116.849
27	98.802	117.181
28	98.999	116.958
29	99.195	117.072
30	99.392	116.958
31	99.588	116.958
32	99.784	116.958
33	99.981	116.958
34	100.000	11.500

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 831.9361
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 991.8080

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)

(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	925.0	1850.0	2775.0	3700.0
10.000	158.4725	279.83	. Q	V	.	.	.
10.083	160.4145	281.98	. Q	V	.	.	.
10.167	162.3718	284.20	. Q	V	.	.	.
10.250	164.3446	286.44	. Q	V	.	.	.
10.333	166.3332	288.75	. Q	V	.	.	.
10.417	168.3379	291.09	. Q	V	.	.	.
10.500	170.3592	293.49	. Q	V	.	.	.
10.583	172.3973	295.93	. Q	V	.	.	.
10.667	174.4527	298.44	. Q	V	.	.	.
10.750	176.5257	300.99	. Q	V	.	.	.
10.833	178.6167	303.62	. Q	V	.	.	.
10.917	180.7261	306.28	. Q	V	.	.	.
11.000	182.8544	309.03	. Q	V	.	.	.
11.083	185.0020	311.82	. Q	V	.	.	.
11.167	187.1694	314.70	. Q	V	.	.	.
11.250	189.3569	317.63	. Q	V	.	.	.
11.333	191.5653	320.66	. Q	V	.	.	.
11.417	193.7948	323.73	. Q	V	.	.	.
11.500	196.0462	326.91	. Q	V	.	.	.
11.583	198.3199	330.14	. Q	V	.	.	.
11.667	200.6167	333.49	. Q	V	.	.	.
11.750	202.9369	336.89	. Q	V	.	.	.
11.833	205.2814	340.42	. Q	V	.	.	.
11.917	207.6506	344.02	. Q	V	.	.	.
12.000	210.0456	347.74	. Q	V	.	.	.
12.083	212.4727	352.42	. Q	V	.	.	.
12.167	214.9395	358.17	. Q	V	.	.	.
12.250	217.4514	364.73	. Q	V	.	.	.
12.333	220.0239	373.53	. Q	V	.	.	.
12.417	222.6767	385.18	. Q	V	.	.	.
12.500	225.4215	398.55	. Q	V	.	.	.
12.583	228.2641	412.75	. Q	V	.	.	.
12.667	231.2115	427.95	. Q	V	.	.	.
12.750	234.2751	444.83	. Q	V	.	.	.
12.833	237.4711	464.07	. Q	V	.	.	.
12.917	240.7884	481.66	. Q	V	.	.	.
13.000	244.2322	500.04	. Q	V	.	.	.
13.083	247.7870	516.17	. Q	V	.	.	.
13.167	251.4390	530.27	. Q	V	.	.	.
13.250	255.1811	543.35	. Q	V	.	.	.
13.333	259.0067	555.48	. Q	V	.	.	.
13.417	262.9059	566.17	. Q	V	.	.	.
13.500	266.8765	576.52	. Q	V	.	.	.
13.583	270.9170	586.68	. Q	V	.	.	.
13.667	275.0246	596.43	. Q	.V	.	.	.
13.750	279.1978	605.94	. Q	.V	.	.	.
13.833	283.4366	615.49	. Q	.V	.	.	.

13.917	287.7422	625.18	. Q	.V	.	.	.
14.000	292.1131	634.64	. Q	.V	.	.	.
14.083	296.5606	645.78	. Q	.V	.	.	.
14.167	301.0987	658.93	. Q	.V	.	.	.
14.250	305.7380	673.63	. Q	.V	.	.	.
14.333	310.5055	692.24	. Q	.V	.	.	.
14.417	315.4345	715.69	. Q	.V	.	.	.
14.500	320.5464	742.24	. Q	.V	.	.	.
14.583	325.8519	770.36	. Q	.V	.	.	.
14.667	331.3647	800.47	. Q	.V	.	.	.
14.750	337.1061	833.64	. Q	.V	.	.	.
14.833	343.1045	870.97	. Q	.V	.	.	.
14.917	349.3470	906.40	. Q	.V	.	.	.
15.000	355.8503	944.28	. Q	.V	.	.	.
15.083	362.6009	980.20	. Q	.V	.	.	.
15.167	369.5929	1015.23	. Q	.V	.	.	.
15.250	376.8350	1051.56	. Q	.V	.	.	.
15.333	384.3411	1089.88	. Q	.V	.	.	.
15.417	392.0867	1124.66	. Q	.V	.	.	.
15.500	400.0628	1158.13	. Q	.V	.	.	.
15.583	408.2728	1192.09	. Q	.V	.	.	.
15.667	416.6679	1218.97	. Q	.V	.	.	.
15.750	425.1917	1237.65	. Q	.V	.	.	.
15.833	433.8574	1258.27	. Q	.V	.	.	.
15.917	442.7566	1292.17	. Q	.V	.	.	.
16.000	452.0839	1354.32	. Q	.V	.	.	.
16.083	462.5210	1515.46	. Q	.V	.	.	.
16.167	474.1875	1693.99	. Q	.V	.	.	.
16.250	487.2400	1895.22	. Q	.V	.	.	.
16.333	502.6082	2231.46	. Q	.V	.	.	.
16.417	520.6853	2624.80	. Q	.V	.	.	.
16.500	540.5705	2887.33	. Q	.V	.	.	.
16.583	561.5244	3042.50	. Q	.V	.	.	.
16.667	583.6687	3215.36	. Q	.V	.	.	.
16.750	607.3161	3433.60	. Q	.V	.	.	.
16.833	632.3170	3630.12	. Q	.V	.	.	.
16.917	655.8015	3409.95	. Q	.V	.	.	.
17.000	678.7299	3329.20	. Q	.V	.	.	.
17.083	699.0954	2957.08	. Q	.V	.	.	.
17.167	717.0429	2605.98	. Q	.V	.	.	.
17.250	733.2759	2357.02	. Q	.V	.	.	.
17.333	747.8764	2119.99	. Q	.V	.	.	.
17.417	760.6566	1855.68	. Q	.V	.	.	.
17.500	772.2745	1686.92	. Q	.V	.	.	.
17.583	782.9455	1549.43	. Q	.V	.	.	.
17.667	792.4832	1384.87	. Q	.V	.	.	.
17.750	801.0815	1248.48	. Q	.V	.	.	.
17.833	808.8660	1130.31	. Q	.V	.	.	.
17.917	816.0209	1038.89	. Q	.V	.	.	.
18.000	822.2814	909.04	. Q	.V	.	.	.
18.083	828.1188	847.59	. Q	.V	.	.	.
18.167	833.6735	806.54	. Q	.V	.	.	.
18.250	838.9875	771.59	. Q	.V	.	.	.
18.333	844.0532	735.55	. Q	.V	.	.	.
18.417	848.8853	701.61	. Q	.V	.	.	.
18.500	853.4868	668.15	. Q	.V	.	.	.
18.583	857.8649	635.70	. Q	.V	.	.	.
18.667	862.0154	602.64	. Q	.V	.	.	.

18.750	865.9179	566.65	.	Q	.	.	.	V	.
18.833	869.4176	508.16	.	Q	.	.	.	V	.
18.917	872.6985	476.39	.	Q	.	.	.	V	.
19.000	875.8068	451.31	.	Q	.	.	.	V	.
19.083	878.7714	430.46	.	Q	.	.	.	V	.
19.167	881.6043	411.35	.	Q	.	.	.	V	.
19.250	884.3193	394.21	.	Q	.	.	.	V	.
19.333	886.9306	379.17	.	Q	.	.	.	V	.
19.417	889.4544	366.46	.	Q	.	.	.	V	.
19.500	891.8994	355.02	.	Q	.	.	.	V	.
19.583	894.2718	344.46	.	Q	.	.	.	V	.
19.667	896.5795	335.09	.	Q	.	.	.	V	.
19.750	898.8287	326.57	.	Q	.	.	.	V	.
19.833	901.0269	319.18	.	Q	.	.	.	V	.
19.917	903.1776	312.29	.	Q	.	.	.	V	.
20.000	905.2876	306.37	.	Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	435.0
20%	235.0
30%	155.0
40%	95.0
50%	75.0
60%	60.0
70%	50.0
80%	35.0
90%	20.0

 FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 2

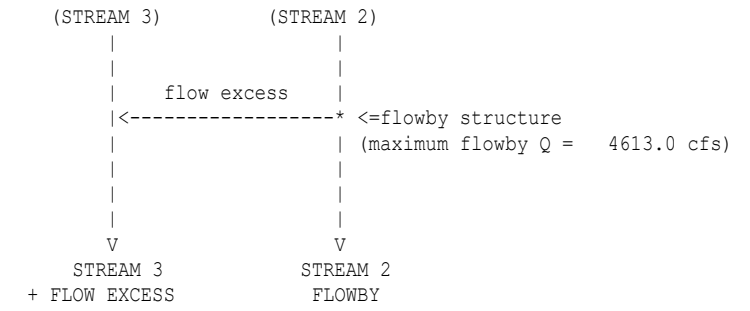
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<

MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
 FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
 THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.

DATA PAIR NUMBER	Qcenter (CFS)	Qpass (CFS)
-	0.00	0.00
1	413.00	413.00
2	1897.00	1613.00
3	4682.00	3013.00
4	6819.00	4013.00
5	8100.00	4613.00

FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3

INFLOW INFLOW



FLOWBY BASIN MODELING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 3) (CFS)	INFLOW (STREAM 2) (CFS)	OUTFLOW (STREAM 3) (CFS)	FLOWBY (STREAM 2) (CFS)
10.000	0.00	279.83	0.00	279.83
10.083	0.00	281.98	0.00	281.98
10.167	0.00	284.20	0.00	284.20
10.250	0.00	286.44	0.00	286.44
10.333	0.00	288.75	0.00	288.75
10.417	0.00	291.09	0.00	291.09
10.500	0.00	293.49	0.00	293.49
10.583	0.00	295.93	0.00	295.93
10.667	0.00	298.44	0.00	298.44
10.750	0.00	300.99	0.00	300.99
10.833	0.00	303.62	0.00	303.62
10.917	0.00	306.28	0.00	306.28
11.000	0.00	309.03	0.00	309.03
11.083	0.00	311.82	0.00	311.82
11.167	0.00	314.70	0.00	314.70
11.250	0.00	317.63	0.00	317.63
11.333	0.00	320.66	0.00	320.66
11.417	0.00	323.73	0.00	323.73
11.500	0.00	326.91	0.00	326.91
11.583	0.00	330.14	0.00	330.14
11.667	0.00	333.49	0.00	333.49
11.750	0.00	336.89	0.00	336.89
11.833	0.00	340.42	0.00	340.42
11.917	0.00	344.02	0.00	344.02
12.000	0.00	347.74	0.00	347.74
12.083	0.00	352.42	0.00	352.42
12.167	0.00	358.17	0.00	358.17
12.250	0.00	364.73	0.00	364.73
12.333	0.00	373.53	0.00	373.53
12.417	0.00	385.18	0.00	385.18
12.500	0.00	398.55	0.00	398.55
12.583	0.00	412.75	0.00	412.75
12.667	0.00	427.95	2.86	425.09
12.750	0.00	444.83	6.09	438.74
12.833	0.00	464.07	9.77	454.30
12.917	0.00	481.66	13.14	468.52
13.000	0.00	500.04	16.66	483.38

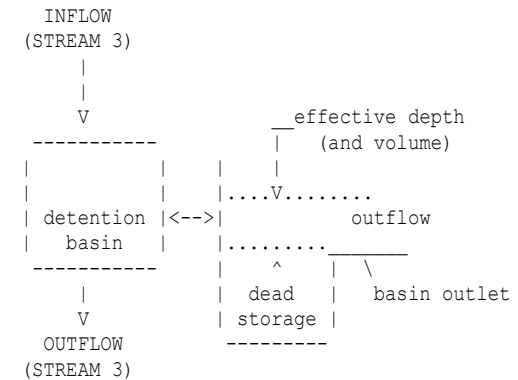
13.083	0.00	516.17	19.74	496.42
13.167	0.00	530.27	22.44	507.82
13.250	0.00	543.35	24.95	518.41
13.333	0.00	555.48	27.27	528.21
13.417	0.00	566.17	29.31	536.86
13.500	0.00	576.52	31.29	545.23
13.583	0.00	586.68	33.24	553.44
13.667	0.00	596.43	35.10	561.33
13.750	0.00	605.94	36.92	569.01
13.833	0.00	615.49	38.75	576.74
13.917	0.00	625.18	40.60	584.57
14.000	0.00	634.64	42.42	592.23
14.083	0.00	645.78	44.55	601.23
14.167	0.00	658.93	47.07	611.87
14.250	0.00	673.63	49.88	623.75
14.333	0.00	692.24	53.44	638.80
14.417	0.00	715.69	57.93	657.76
14.500	0.00	742.24	63.01	679.23
14.583	0.00	770.36	68.39	701.97
14.667	0.00	800.47	74.15	726.32
14.750	0.00	833.64	80.50	753.14
14.833	0.00	870.97	87.64	783.33
14.917	0.00	906.40	94.42	811.98
15.000	0.00	944.28	101.67	842.61
15.083	0.00	980.20	108.55	871.65
15.167	0.00	1015.23	115.25	899.98
15.250	0.00	1051.56	122.20	929.36
15.333	0.00	1089.88	129.54	960.34
15.417	0.00	1124.66	136.19	988.47
15.500	0.00	1158.13	142.60	1015.53
15.583	0.00	1192.09	149.10	1042.99
15.667	0.00	1218.97	154.24	1064.73
15.750	0.00	1237.65	157.82	1079.83
15.833	0.00	1258.27	161.76	1096.50
15.917	0.00	1292.17	168.25	1123.92
16.000	0.00	1354.32	180.15	1174.18
16.083	0.00	1515.46	210.98	1304.48
16.167	0.00	1693.99	245.15	1448.84
16.250	0.00	1895.22	283.66	1611.56
16.333	0.00	2231.46	450.33	1781.13
16.417	0.00	2624.80	645.94	1978.86
16.500	0.00	2887.33	776.50	2110.83
16.583	0.00	3042.50	853.66	2188.83
16.667	0.00	3215.36	939.63	2275.73
16.750	0.00	3433.60	1048.16	2385.44
16.833	0.00	3630.12	1145.90	2484.23
16.917	0.00	3409.95	1036.40	2373.55
17.000	0.00	3329.20	996.24	2332.95
17.083	0.00	2957.08	811.19	2145.89
17.167	0.00	2605.98	636.58	1969.40
17.250	0.00	2357.02	512.77	1844.25
17.333	0.00	2119.99	394.90	1725.10
17.417	0.00	1855.68	276.09	1579.59
17.500	0.00	1686.92	243.80	1443.13
17.583	0.00	1549.43	217.48	1331.95
17.667	0.00	1384.87	185.99	1198.88
17.750	0.00	1248.48	159.89	1088.59
17.833	0.00	1130.31	137.27	993.03

17.917	0.00	1038.89	119.78	919.11
18.000	0.00	909.04	94.93	814.11
18.083	0.00	847.59	83.17	764.42
18.167	0.00	806.54	75.31	731.23
18.250	0.00	771.59	68.62	702.96
18.333	0.00	735.55	61.73	673.82
18.417	0.00	701.61	55.23	646.38
18.500	0.00	668.15	48.83	619.32
18.583	0.00	635.70	42.62	593.08
18.667	0.00	602.64	36.29	566.35
18.750	0.00	566.65	29.40	537.24
18.833	0.00	508.16	18.21	489.95
18.917	0.00	476.39	12.13	464.26
19.000	0.00	451.31	7.33	443.98
19.083	0.00	430.46	3.34	427.12
19.167	0.00	411.35	0.00	411.35
19.250	0.00	394.21	0.00	394.21
19.333	0.00	379.17	0.00	379.17
19.417	0.00	366.46	0.00	366.46
19.500	0.00	355.02	0.00	355.02
19.583	0.00	344.46	0.00	344.46
19.667	0.00	335.09	0.00	335.09
19.750	0.00	326.57	0.00	326.57
19.833	0.00	319.18	0.00	319.18
19.917	0.00	312.29	0.00	312.29
20.000	0.00	306.37	0.00	306.37

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<

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ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3

THROUGH A FLOW-THROUGH DETENTION BASIN

SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:

DEAD STORAGE(AF) = 5.700

SPECIFIED DEAD STORAGE(AF) FILLED = 5.700

SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000

DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.50	0.01	0.001
3	2.00	0.02	1.900
4	4.00	0.03	16.100
5	4.30	0.04	18.200
6	5.00	314.00	23.200
7	6.00	1306.00	30.300
8	7.00	2847.00	39.100
9	8.00	4942.00	47.800

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MODIFIED-PULS BASIN ROUTING MODEL RESULTS(5-MINUTE COMPUTATION INTERVALS):
 (Note: Computed EFFECTIVE DEPTH and VOLUME are estimated at the clock time;
 MEAN OUTFLOW is the average value during the unit interval.)

CLOCK TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	LOSS (CFS)	MEAN		
				EFFECTIVE DEPTH (FT)	OUTFLOW (CFS)	EFFECTIVE VOLUME (AF)
10.083	5.700	0.00	0.00	0.00	0.0	0.000
10.167	5.700	0.00	0.00	0.00	0.0	0.000
10.250	5.700	0.00	0.00	0.00	0.0	0.000
10.333	5.700	0.00	0.00	0.00	0.0	0.000
10.417	5.700	0.00	0.00	0.00	0.0	0.000
10.500	5.700	0.00	0.00	0.00	0.0	0.000
10.583	5.700	0.00	0.00	0.00	0.0	0.000
10.667	5.700	0.00	0.00	0.00	0.0	0.000
10.750	5.700	0.00	0.00	0.00	0.0	0.000
10.833	5.700	0.00	0.00	0.00	0.0	0.000
10.917	5.700	0.00	0.00	0.00	0.0	0.000
11.000	5.700	0.00	0.00	0.00	0.0	0.000
11.083	5.700	0.00	0.00	0.00	0.0	0.000
11.167	5.700	0.00	0.00	0.00	0.0	0.000
11.250	5.700	0.00	0.00	0.00	0.0	0.000
11.333	5.700	0.00	0.00	0.00	0.0	0.000
11.417	5.700	0.00	0.00	0.00	0.0	0.000
11.500	5.700	0.00	0.00	0.00	0.0	0.000
11.583	5.700	0.00	0.00	0.00	0.0	0.000
11.667	5.700	0.00	0.00	0.00	0.0	0.000
11.750	5.700	0.00	0.00	0.00	0.0	0.000
11.833	5.700	0.00	0.00	0.00	0.0	0.000
11.917	5.700	0.00	0.00	0.00	0.0	0.000
12.000	5.700	0.00	0.00	0.00	0.0	0.000
12.083	5.700	0.00	0.00	0.00	0.0	0.000
12.167	5.700	0.00	0.00	0.00	0.0	0.000
12.250	5.700	0.00	0.00	0.00	0.0	0.000
12.333	5.700	0.00	0.00	0.00	0.0	0.000
12.417	5.700	0.00	0.00	0.00	0.0	0.000
12.500	5.700	0.00	0.00	0.00	0.0	0.000
12.583	5.700	0.00	0.00	0.00	0.0	0.000

12.667	5.700	2.86	0.00	1.50	0.0	0.020
12.750	5.700	6.09	0.00	1.52	0.0	0.062
12.833	5.700	9.77	0.00	1.53	0.0	0.129
12.917	5.700	13.14	0.00	1.56	0.0	0.219
13.000	5.700	16.66	0.00	1.59	0.0	0.334
13.083	5.700	19.74	0.00	1.62	0.0	0.470
13.167	5.700	22.44	0.00	1.66	0.0	0.624
13.250	5.700	24.95	0.00	1.71	0.0	0.796
13.333	5.700	27.27	0.00	1.76	0.0	0.984
13.417	5.700	29.31	0.00	1.81	0.0	1.185
13.500	5.700	31.29	0.00	1.87	0.0	1.401
13.583	5.700	33.24	0.00	1.93	0.0	1.629
13.667	5.700	35.10	0.00	1.99	0.0	1.871
13.750	5.700	36.92	0.00	2.03	0.0	2.125
13.833	5.700	38.75	0.00	2.07	0.0	2.392
13.917	5.700	40.60	0.00	2.11	0.0	2.671
14.000	5.700	42.42	0.00	2.15	0.0	2.963
14.083	5.700	44.55	0.00	2.19	0.0	3.270
14.167	5.700	47.07	0.00	2.24	0.0	3.594
14.250	5.700	49.88	0.00	2.29	0.0	3.937
14.333	5.700	53.44	0.00	2.34	0.0	4.305
14.417	5.700	57.93	0.00	2.39	0.0	4.704
14.500	5.700	63.01	0.00	2.46	0.0	5.138
14.583	5.700	68.39	0.00	2.52	0.0	5.609
14.667	5.700	74.15	0.00	2.59	0.0	6.119
14.750	5.700	80.50	0.00	2.67	0.0	6.673
14.833	5.700	87.64	0.00	2.76	0.0	7.277
14.917	5.700	94.42	0.00	2.85	0.0	7.927
15.000	5.700	101.67	0.00	2.95	0.0	8.627
15.083	5.700	108.55	0.00	3.05	0.0	9.374
15.167	5.700	115.25	0.00	3.16	0.0	10.168
15.250	5.700	122.20	0.00	3.28	0.0	11.009
15.333	5.700	129.54	0.00	3.41	0.0	11.901
15.417	5.700	136.19	0.00	3.54	0.0	12.839
15.500	5.700	142.60	0.00	3.68	0.0	13.821
15.583	5.700	149.10	0.00	3.82	0.0	14.848
15.667	5.700	154.24	0.00	3.97	0.0	15.910
15.750	5.700	157.82	0.00	4.13	0.0	16.996
15.833	5.700	161.76	0.00	4.29	0.0	18.110
15.917	5.700	168.25	0.00	4.42	27.6	19.079
16.000	5.700	180.15	0.00	4.52	77.4	19.786
16.083	5.700	210.98	0.00	4.61	119.4	20.417
16.167	5.700	245.15	0.00	4.69	158.1	21.016
16.250	5.700	283.66	0.00	4.78	195.9	21.621
16.333	5.700	450.33	0.00	4.97	256.7	22.954
16.417	5.700	645.94	0.00	5.20	405.0	24.614
16.500	5.700	776.50	0.00	5.37	597.6	25.846
16.583	5.700	853.66	0.00	5.48	738.9	26.636
16.667	5.700	939.63	0.00	5.58	841.4	27.313
16.750	5.700	1048.16	0.00	5.68	940.5	28.055
16.833	5.700	1145.90	0.00	5.78	1042.2	28.769
16.917	5.700	1036.40	0.00	5.75	1074.0	28.510
17.000	5.700	996.24	0.00	5.71	1036.5	28.233
17.083	5.700	811.19	0.00	5.57	950.2	27.275
17.167	5.700	636.58	0.00	5.41	803.2	26.128
17.250	5.700	512.77	0.00	5.27	654.7	25.150
17.333	5.700	394.90	0.00	5.15	524.2	24.259
17.417	5.700	276.09	0.00	5.03	401.6	23.395

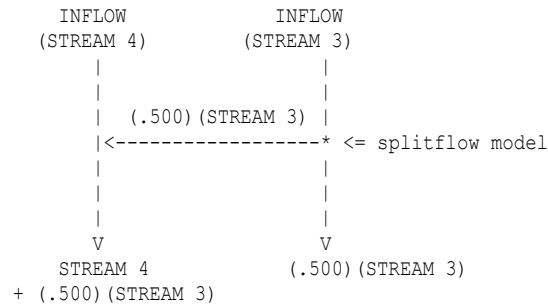
17.500	5.700	243.80	0.00	4.96	317.7	22.886
17.583	5.700	217.48	0.00	4.90	280.6	22.451
17.667	5.700	185.99	0.00	4.83	252.6	21.992
17.750	5.700	159.89	0.00	4.77	224.3	21.549
17.833	5.700	137.27	0.00	4.71	197.3	21.135
17.917	5.700	119.78	0.00	4.66	172.9	20.770
18.000	5.700	94.93	0.00	4.61	149.6	20.393
18.083	5.700	83.17	0.00	4.56	128.1	20.084
18.167	5.700	75.31	0.00	4.53	110.7	19.840
18.250	5.700	68.62	0.00	4.50	96.9	19.646
18.333	5.700	61.73	0.00	4.48	85.6	19.481
18.417	5.700	55.23	0.00	4.46	76.0	19.338
18.500	5.700	48.83	0.00	4.44	67.5	19.210
18.583	5.700	42.62	0.00	4.42	59.7	19.092
18.667	5.700	36.29	0.00	4.41	52.5	18.980
18.750	5.700	29.40	0.00	4.39	45.5	18.869
18.833	5.700	18.21	0.00	4.37	37.8	18.734
18.917	5.700	12.13	0.00	4.36	29.8	18.613
19.000	5.700	7.33	0.00	4.34	22.6	18.507
19.083	5.700	3.34	0.00	4.33	16.5	18.417
19.167	5.700	0.00	0.00	4.32	11.2	18.339
19.250	5.700	0.00	0.00	4.31	7.2	18.290
19.333	5.700	0.00	0.00	4.31	4.7	18.257
19.417	5.700	0.00	0.00	4.31	3.0	18.237
19.500	5.700	0.00	0.00	4.30	1.9	18.223
19.583	5.700	0.00	0.00	4.30	1.2	18.215
19.667	5.700	0.00	0.00	4.30	0.8	18.209
19.750	5.700	0.00	0.00	4.30	0.5	18.206
19.833	5.700	0.00	0.00	4.30	0.3	18.203
19.917	5.700	0.00	0.00	4.30	0.2	18.202

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 109.809 AF
BASIN STORAGE = 21.377 AF (WITH 5.700 AF INITIALLY FILLED)
OUTFLOW VOLUME = 94.136 AF
LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 8

>>>>MODEL STREAM SPLITFLOW WHERE A CONSTANT PROPORTION
OF STREAM 3 IS ADDED TO STREAM 4<<<<<



STREAM NUMBER 3 IS SPLIT TOWARDS STREAM 4
WHERE 0.50 (DECIMAL PERCENT) REMAINS IN STREAM 3
AND 0.50 (DECIMAL PERCENT) IS ADDED TO STREAM 4

STREAM SPLITFLOW MODELING RESULTS:

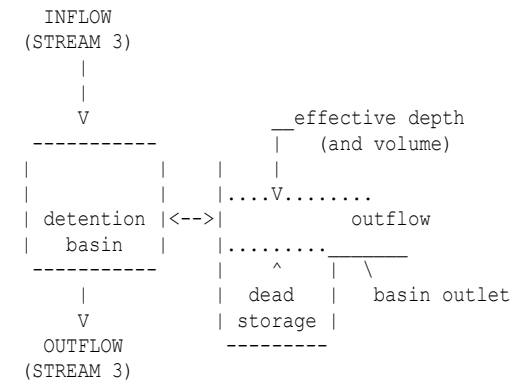
MODEL TIME (HRS)	INFLOW STREAM 4 (CFS)	INFLOW STREAM 3 (CFS)	OUTFLOW STREAM 4 (CFS)	OUTFLOW STREAM 3 (CFS)
10.000	0.00	0.00	0.00	0.00
10.083	0.00	0.00	0.00	0.00
10.167	0.00	0.00	0.00	0.00
10.250	0.00	0.00	0.00	0.00
10.333	0.00	0.00	0.00	0.00
10.417	0.00	0.00	0.00	0.00
10.500	0.00	0.00	0.00	0.00
10.583	0.00	0.00	0.00	0.00
10.667	0.00	0.00	0.00	0.00
10.750	0.00	0.00	0.00	0.00
10.833	0.00	0.00	0.00	0.00
10.917	0.00	0.00	0.00	0.00
11.000	0.00	0.00	0.00	0.00
11.083	0.00	0.00	0.00	0.00
11.167	0.00	0.00	0.00	0.00
11.250	0.00	0.00	0.00	0.00
11.333	0.00	0.00	0.00	0.00
11.417	0.00	0.00	0.00	0.00
11.500	0.00	0.00	0.00	0.00
11.583	0.00	0.00	0.00	0.00
11.667	0.00	0.00	0.00	0.00
11.750	0.00	0.00	0.00	0.00
11.833	0.00	0.00	0.00	0.00
11.917	0.00	0.00	0.00	0.00
12.000	0.00	0.00	0.00	0.00
12.083	0.00	0.00	0.00	0.00
12.167	0.00	0.00	0.00	0.00
12.250	0.00	0.00	0.00	0.00
12.333	0.00	0.00	0.00	0.00
12.417	0.00	0.00	0.00	0.00
12.500	0.00	0.00	0.00	0.00
12.583	0.00	0.00	0.00	0.00
12.667	0.00	0.01	0.00	0.00
12.750	0.00	0.01	0.01	0.01
12.833	0.00	0.01	0.01	0.01
12.917	0.00	0.01	0.01	0.01
13.000	0.00	0.01	0.01	0.01
13.083	0.00	0.01	0.01	0.01
13.167	0.00	0.01	0.01	0.01
13.250	0.00	0.02	0.01	0.01
13.333	0.00	0.02	0.01	0.01
13.417	0.00	0.02	0.01	0.01
13.500	0.00	0.02	0.01	0.01
13.583	0.00	0.02	0.01	0.01

13.667	0.00	0.02	0.01	0.01
13.750	0.00	0.02	0.01	0.01
13.833	0.00	0.02	0.01	0.01
13.917	0.00	0.02	0.01	0.01
14.000	0.00	0.02	0.01	0.01
14.083	0.00	0.02	0.01	0.01
14.167	0.00	0.02	0.01	0.01
14.250	0.00	0.02	0.01	0.01
14.333	0.00	0.02	0.01	0.01
14.417	0.00	0.02	0.01	0.01
14.500	0.00	0.02	0.01	0.01
14.583	0.00	0.02	0.01	0.01
14.667	0.00	0.03	0.01	0.01
14.750	0.00	0.03	0.01	0.01
14.833	0.00	0.03	0.01	0.01
14.917	0.00	0.03	0.01	0.01
15.000	0.00	0.03	0.01	0.01
15.083	0.00	0.03	0.01	0.01
15.167	0.00	0.03	0.01	0.01
15.250	0.00	0.03	0.01	0.01
15.333	0.00	0.03	0.01	0.01
15.417	0.00	0.03	0.02	0.02
15.500	0.00	0.03	0.02	0.02
15.583	0.00	0.03	0.02	0.02
15.667	0.00	0.03	0.02	0.02
15.750	0.00	0.04	0.02	0.02
15.833	0.00	0.04	0.02	0.02
15.917	0.00	27.63	13.81	13.81
16.000	0.00	77.42	38.71	38.71
16.083	0.00	119.43	59.71	59.71
16.167	0.00	158.06	79.03	79.03
16.250	0.00	195.87	97.93	97.93
16.333	0.00	256.72	128.36	128.36
16.417	0.00	405.04	202.52	202.52
16.500	0.00	597.58	298.79	298.79
16.583	0.00	738.88	369.44	369.44
16.667	0.00	841.38	420.69	420.69
16.750	0.00	940.47	470.23	470.23
16.833	0.00	1042.18	521.09	521.09
16.917	0.00	1073.99	537.00	537.00
17.000	0.00	1036.53	518.26	518.26
17.083	0.00	950.24	475.12	475.12
17.167	0.00	803.18	401.59	401.59
17.250	0.00	654.73	327.36	327.36
17.333	0.00	524.21	262.11	262.11
17.417	0.00	401.61	200.80	200.80
17.500	0.00	317.74	158.87	158.87
17.583	0.00	280.61	140.30	140.30
17.667	0.00	252.56	126.28	126.28
17.750	0.00	224.25	112.13	112.13
17.833	0.00	197.35	98.67	98.67
17.917	0.00	172.88	86.44	86.44
18.000	0.00	149.58	74.79	74.79
18.083	0.00	128.06	64.03	64.03
18.167	0.00	110.70	55.35	55.35
18.250	0.00	96.93	48.46	48.46
18.333	0.00	85.64	42.82	42.82
18.417	0.00	75.98	37.99	37.99

18.500	0.00	67.47	33.73	33.73
18.583	0.00	59.74	29.87	29.87
18.667	0.00	52.52	26.26	26.26
18.750	0.00	45.53	22.76	22.76
18.833	0.00	37.81	18.90	18.90
18.917	0.00	29.76	14.88	14.88
19.000	0.00	22.64	11.32	11.32
19.083	0.00	16.49	8.24	8.24
19.167	0.00	11.22	5.61	5.61
19.250	0.00	7.23	3.61	3.61
19.333	0.00	4.66	2.33	2.33
19.417	0.00	3.00	1.50	1.50
19.500	0.00	1.93	0.97	0.97
19.583	0.00	1.25	0.62	0.62
19.667	0.00	0.80	0.40	0.40
19.750	0.00	0.52	0.26	0.26
19.833	0.00	0.33	0.17	0.17
19.917	0.00	0.22	0.11	0.11
20.000	0.00	0.14	0.07	0.07

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<



ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:

DEAD STORAGE(AF) = 0.000
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
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1	0.00	0.00	0.000
2	0.99	2.90	0.900
3	1.99	11.38	2.900
4	3.99	19.63	10.300
5	5.99	25.19	20.700
6	7.99	29.71	31.700
7	9.99	33.62	43.500
8	10.99	35.49	49.700
9	11.99	313.46	56.400
10	12.99	894.27	63.100
11	13.99	1748.55	69.900
12	15.99	4306.91	84.100

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MODIFIED-PULS BASIN ROUTING MODEL RESULTS(5-MINUTE COMPUTATION INTERVALS):
(Note: Computed EFFECTIVE DEPTH and VOLUME are estimated at the clock time;
MEAN OUTFLOW is the average value during the unit interval.)

CLOCK TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	LOSS (CFS)	MEAN		
				EFFECTIVE DEPTH(FT)	OUTFLOW (CFS)	EFFECTIVE VOLUME(AF)
10.083	0.000	0.00	0.00	0.00	0.0	0.000
10.167	0.000	0.00	0.00	0.00	0.0	0.000
10.250	0.000	0.00	0.00	0.00	0.0	0.000
10.333	0.000	0.00	0.00	0.00	0.0	0.000
10.417	0.000	0.00	0.00	0.00	0.0	0.000
10.500	0.000	0.00	0.00	0.00	0.0	0.000
10.583	0.000	0.00	0.00	0.00	0.0	0.000
10.667	0.000	0.00	0.00	0.00	0.0	0.000
10.750	0.000	0.00	0.00	0.00	0.0	0.000
10.833	0.000	0.00	0.00	0.00	0.0	0.000
10.917	0.000	0.00	0.00	0.00	0.0	0.000
11.000	0.000	0.00	0.00	0.00	0.0	0.000
11.083	0.000	0.00	0.00	0.00	0.0	0.000
11.167	0.000	0.00	0.00	0.00	0.0	0.000
11.250	0.000	0.00	0.00	0.00	0.0	0.000
11.333	0.000	0.00	0.00	0.00	0.0	0.000
11.417	0.000	0.00	0.00	0.00	0.0	0.000
11.500	0.000	0.00	0.00	0.00	0.0	0.000
11.583	0.000	0.00	0.00	0.00	0.0	0.000
11.667	0.000	0.00	0.00	0.00	0.0	0.000
11.750	0.000	0.00	0.00	0.00	0.0	0.000
11.833	0.000	0.00	0.00	0.00	0.0	0.000
11.917	0.000	0.00	0.00	0.00	0.0	0.000
12.000	0.000	0.00	0.00	0.00	0.0	0.000
12.083	0.000	0.00	0.00	0.00	0.0	0.000
12.167	0.000	0.00	0.00	0.00	0.0	0.000
12.250	0.000	0.00	0.00	0.00	0.0	0.000
12.333	0.000	0.00	0.00	0.00	0.0	0.000
12.417	0.000	0.00	0.00	0.00	0.0	0.000
12.500	0.000	0.00	0.00	0.00	0.0	0.000
12.583	0.000	0.00	0.00	0.00	0.0	0.000
12.667	0.000	0.00	0.00	0.00	0.0	0.000
12.750	0.000	0.01	0.00	0.00	0.0	0.000
12.833	0.000	0.01	0.00	0.00	0.0	0.000
12.917	0.000	0.01	0.00	0.00	0.0	0.000

13.000	0.000	0.01	0.00	0.00	0.0	0.000
13.083	0.000	0.01	0.00	0.00	0.0	0.000
13.167	0.000	0.01	0.00	0.00	0.0	0.000
13.250	0.000	0.01	0.00	0.00	0.0	0.000
13.333	0.000	0.01	0.00	0.00	0.0	0.000
13.417	0.000	0.01	0.00	0.00	0.0	0.000
13.500	0.000	0.01	0.00	0.00	0.0	0.000
13.583	0.000	0.01	0.00	0.00	0.0	0.001
13.667	0.000	0.01	0.00	0.00	0.0	0.001
13.750	0.000	0.01	0.00	0.00	0.0	0.001
13.833	0.000	0.01	0.00	0.00	0.0	0.001
13.917	0.000	0.01	0.00	0.00	0.0	0.001
14.000	0.000	0.01	0.00	0.00	0.0	0.001
14.083	0.000	0.01	0.00	0.00	0.0	0.001
14.167	0.000	0.01	0.00	0.00	0.0	0.001
14.250	0.000	0.01	0.00	0.00	0.0	0.001
14.333	0.000	0.01	0.00	0.00	0.0	0.001
14.417	0.000	0.01	0.00	0.00	0.0	0.001
14.500	0.000	0.01	0.00	0.00	0.0	0.001
14.583	0.000	0.01	0.00	0.00	0.0	0.001
14.667	0.000	0.01	0.00	0.00	0.0	0.001
14.750	0.000	0.01	0.00	0.00	0.0	0.001
14.833	0.000	0.01	0.00	0.00	0.0	0.001
14.917	0.000	0.01	0.00	0.00	0.0	0.001
15.000	0.000	0.01	0.00	0.00	0.0	0.002
15.083	0.000	0.01	0.00	0.00	0.0	0.002
15.167	0.000	0.01	0.00	0.00	0.0	0.002
15.250	0.000	0.01	0.00	0.00	0.0	0.002
15.333	0.000	0.01	0.00	0.00	0.0	0.002
15.417	0.000	0.02	0.00	0.00	0.0	0.002
15.500	0.000	0.02	0.00	0.00	0.0	0.002
15.583	0.000	0.02	0.00	0.00	0.0	0.002
15.667	0.000	0.02	0.00	0.00	0.0	0.002
15.750	0.000	0.02	0.00	0.00	0.0	0.002
15.833	0.000	0.02	0.00	0.00	0.0	0.002
15.917	0.000	13.81	0.00	0.11	0.2	0.096
16.000	0.000	38.71	0.00	0.39	0.7	0.358
16.083	0.000	59.71	0.00	0.83	1.8	0.757
16.167	0.000	79.03	0.00	1.18	3.5	1.277
16.250	0.000	97.93	0.00	1.50	5.8	1.911
16.333	0.000	128.36	0.00	1.91	8.9	2.734
16.417	0.000	202.52	0.00	2.30	11.7	4.048
16.500	0.000	298.79	0.00	2.83	13.8	6.011
16.583	0.000	369.44	0.00	3.49	16.2	8.444
16.667	0.000	420.69	0.00	4.17	18.8	11.212
16.750	0.000	470.23	0.00	4.76	20.9	14.306
16.833	0.000	521.09	0.00	5.42	22.7	17.738
16.917	0.000	537.00	0.00	6.09	24.5	21.268
17.000	0.000	518.26	0.00	6.71	26.1	24.657
17.083	0.000	475.12	0.00	7.27	27.4	27.740
17.167	0.000	401.59	0.00	7.74	28.6	30.309
17.250	0.000	327.36	0.00	8.10	29.5	32.360
17.333	0.000	262.11	0.00	8.37	30.2	33.958
17.417	0.000	200.80	0.00	8.57	30.7	35.129
17.500	0.000	158.87	0.00	8.72	31.0	36.010
17.583	0.000	140.30	0.00	8.85	31.3	36.761
17.667	0.000	126.28	0.00	8.96	31.5	37.414
17.750	0.000	112.13	0.00	9.05	31.7	37.968

17.833	0.000	98.67	0.00	9.13	31.9	38.428
17.917	0.000	86.44	0.00	9.19	32.0	38.803
18.000	0.000	74.79	0.00	9.24	32.1	39.097
18.083	0.000	64.03	0.00	9.28	32.2	39.316
18.167	0.000	55.35	0.00	9.31	32.3	39.475
18.250	0.000	48.46	0.00	9.33	32.3	39.586
18.333	0.000	42.82	0.00	9.34	32.3	39.658
18.417	0.000	37.99	0.00	9.35	32.4	39.697
18.500	0.000	33.73	0.00	9.35	32.4	39.707
18.583	0.000	29.87	0.00	9.34	32.4	39.690
18.667	0.000	26.26	0.00	9.34	32.4	39.648
18.750	0.000	22.76	0.00	9.33	32.3	39.582
18.833	0.000	18.90	0.00	9.31	32.3	39.489
18.917	0.000	14.88	0.00	9.29	32.3	39.370
19.000	0.000	11.32	0.00	9.27	32.2	39.226
19.083	0.000	8.24	0.00	9.24	32.2	39.061
19.167	0.000	5.61	0.00	9.21	32.1	38.878
19.250	0.000	3.61	0.00	9.17	32.1	38.682
19.333	0.000	2.33	0.00	9.14	32.0	38.478
19.417	0.000	1.50	0.00	9.10	31.9	38.269
19.500	0.000	0.97	0.00	9.07	31.9	38.056
19.583	0.000	0.62	0.00	9.03	31.8	37.841
19.667	0.000	0.40	0.00	8.99	31.7	37.626
19.750	0.000	0.26	0.00	8.96	31.6	37.410
19.833	0.000	0.17	0.00	8.92	31.6	37.193
19.917	0.000	0.11	0.00	8.88	31.5	36.977

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 47.068 AF
BASIN STORAGE = 0.005 AF (WITH 0.000 AF INITIALLY FILLED)
OUTFLOW VOLUME = 47.063 AF
LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<<
=====

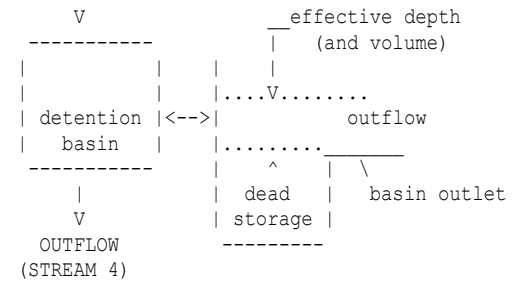
FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<<
=====

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<<
=====

INFLOW
(STREAM 4)
|
|



ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
THROUGH A FLOW-THROUGH DETENTION BASIN
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE(AF) = 0.000
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.48	0.70	0.400
3	1.48	6.50	1.800
4	3.48	18.11	8.500
5	5.48	23.99	17.900
6	7.48	28.68	27.800
7	9.48	32.70	38.300
8	10.48	34.50	43.900
9	11.48	36.29	49.400
10	12.48	314.07	55.900
11	13.48	895.00	62.300
12	15.48	2882.95	74.700

=====

MODIFIED-PULS BASIN ROUTING MODEL RESULTS(5-MINUTE COMPUTATION INTERVALS):
(Note: Computed EFFECTIVE DEPTH and VOLUME are estimated at the clock time;
MEAN OUTFLOW is the average value during the unit interval.)

CLOCK TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	LOSS (CFS)	EFFECTIVE DEPTH (FT)	MEAN OUTFLOW (CFS)	EFFECTIVE VOLUME (AF)
10.083	0.000	0.00	0.00	0.00	0.0	0.000
10.167	0.000	0.00	0.00	0.00	0.0	0.000
10.250	0.000	0.00	0.00	0.00	0.0	0.000
10.333	0.000	0.00	0.00	0.00	0.0	0.000
10.417	0.000	0.00	0.00	0.00	0.0	0.000
10.500	0.000	0.00	0.00	0.00	0.0	0.000
10.583	0.000	0.00	0.00	0.00	0.0	0.000
10.667	0.000	0.00	0.00	0.00	0.0	0.000

10.750	0.000	0.00	0.00	0.00	0.0	0.000
10.833	0.000	0.00	0.00	0.00	0.0	0.000
10.917	0.000	0.00	0.00	0.00	0.0	0.000
11.000	0.000	0.00	0.00	0.00	0.0	0.000
11.083	0.000	0.00	0.00	0.00	0.0	0.000
11.167	0.000	0.00	0.00	0.00	0.0	0.000
11.250	0.000	0.00	0.00	0.00	0.0	0.000
11.333	0.000	0.00	0.00	0.00	0.0	0.000
11.417	0.000	0.00	0.00	0.00	0.0	0.000
11.500	0.000	0.00	0.00	0.00	0.0	0.000
11.583	0.000	0.00	0.00	0.00	0.0	0.000
11.667	0.000	0.00	0.00	0.00	0.0	0.000
11.750	0.000	0.00	0.00	0.00	0.0	0.000
11.833	0.000	0.00	0.00	0.00	0.0	0.000
11.917	0.000	0.00	0.00	0.00	0.0	0.000
12.000	0.000	0.00	0.00	0.00	0.0	0.000
12.083	0.000	0.00	0.00	0.00	0.0	0.000
12.167	0.000	0.00	0.00	0.00	0.0	0.000
12.250	0.000	0.00	0.00	0.00	0.0	0.000
12.333	0.000	0.00	0.00	0.00	0.0	0.000
12.417	0.000	0.00	0.00	0.00	0.0	0.000
12.500	0.000	0.00	0.00	0.00	0.0	0.000
12.583	0.000	0.00	0.00	0.00	0.0	0.000
12.667	0.000	0.00	0.00	0.00	0.0	0.000
12.750	0.000	0.01	0.00	0.00	0.0	0.000
12.833	0.000	0.01	0.00	0.00	0.0	0.000
12.917	0.000	0.01	0.00	0.00	0.0	0.000
13.000	0.000	0.01	0.00	0.00	0.0	0.000
13.083	0.000	0.01	0.00	0.00	0.0	0.000
13.167	0.000	0.01	0.00	0.00	0.0	0.000
13.250	0.000	0.01	0.00	0.00	0.0	0.000
13.333	0.000	0.01	0.00	0.00	0.0	0.000
13.417	0.000	0.01	0.00	0.00	0.0	0.000
13.500	0.000	0.01	0.00	0.00	0.0	0.000
13.583	0.000	0.01	0.00	0.00	0.0	0.001
13.667	0.000	0.01	0.00	0.00	0.0	0.001
13.750	0.000	0.01	0.00	0.00	0.0	0.001
13.833	0.000	0.01	0.00	0.00	0.0	0.001
13.917	0.000	0.01	0.00	0.00	0.0	0.001
14.000	0.000	0.01	0.00	0.00	0.0	0.001
14.083	0.000	0.01	0.00	0.00	0.0	0.001
14.167	0.000	0.01	0.00	0.00	0.0	0.001
14.250	0.000	0.01	0.00	0.00	0.0	0.001
14.333	0.000	0.01	0.00	0.00	0.0	0.001
14.417	0.000	0.01	0.00	0.00	0.0	0.001
14.500	0.000	0.01	0.00	0.00	0.0	0.001
14.583	0.000	0.01	0.00	0.00	0.0	0.001
14.667	0.000	0.01	0.00	0.00	0.0	0.001
14.750	0.000	0.01	0.00	0.00	0.0	0.001
14.833	0.000	0.01	0.00	0.00	0.0	0.002
14.917	0.000	0.01	0.00	0.00	0.0	0.002
15.000	0.000	0.01	0.00	0.00	0.0	0.002
15.083	0.000	0.01	0.00	0.00	0.0	0.002
15.167	0.000	0.01	0.00	0.00	0.0	0.002
15.250	0.000	0.01	0.00	0.00	0.0	0.002
15.333	0.000	0.01	0.00	0.00	0.0	0.002
15.417	0.000	0.02	0.00	0.00	0.0	0.002
15.500	0.000	0.02	0.00	0.00	0.0	0.002

15.583	0.000	0.02	0.00	0.00	0.0	0.002
15.667	0.000	0.02	0.00	0.00	0.0	0.002
15.750	0.000	0.02	0.00	0.00	0.0	0.002
15.833	0.000	0.02	0.00	0.00	0.0	0.003
15.917	0.000	13.81	0.00	0.12	0.1	0.097
16.000	0.000	38.71	0.00	0.43	0.4	0.361
16.083	0.000	59.71	0.00	0.74	1.4	0.762
16.167	0.000	79.03	0.00	1.11	3.3	1.284
16.250	0.000	97.93	0.00	1.52	5.5	1.920
16.333	0.000	128.36	0.00	1.76	7.4	2.753
16.417	0.000	202.52	0.00	2.16	9.3	4.084
16.500	0.000	298.79	0.00	2.75	12.2	6.058
16.583	0.000	369.44	0.00	3.48	16.0	8.492
16.667	0.000	420.69	0.00	4.07	19.0	11.259
16.750	0.000	470.23	0.00	4.73	20.8	14.354
16.833	0.000	521.09	0.00	5.46	22.8	17.786
16.917	0.000	537.00	0.00	6.17	24.8	21.313
17.000	0.000	518.26	0.00	6.85	26.4	24.701
17.083	0.000	475.12	0.00	7.48	27.9	27.781
17.167	0.000	401.59	0.00	7.96	29.2	30.345
17.250	0.000	327.36	0.00	8.35	30.0	32.393
17.333	0.000	262.11	0.00	8.66	30.7	33.986
17.417	0.000	200.80	0.00	8.88	31.3	35.154
17.500	0.000	158.87	0.00	9.05	31.7	36.030
17.583	0.000	140.30	0.00	9.19	32.0	36.776
17.667	0.000	126.28	0.00	9.31	32.2	37.424
17.750	0.000	112.13	0.00	9.42	32.5	37.972
17.833	0.000	98.67	0.00	9.50	32.7	38.427
17.917	0.000	86.44	0.00	9.57	32.8	38.797
18.000	0.000	74.79	0.00	9.62	32.9	39.085
18.083	0.000	64.03	0.00	9.66	33.0	39.299
18.167	0.000	55.35	0.00	9.69	33.0	39.452
18.250	0.000	48.46	0.00	9.70	33.1	39.558
18.333	0.000	42.82	0.00	9.72	33.1	39.625
18.417	0.000	37.99	0.00	9.72	33.1	39.659
18.500	0.000	33.73	0.00	9.72	33.1	39.663
18.583	0.000	29.87	0.00	9.72	33.1	39.640
18.667	0.000	26.26	0.00	9.71	33.1	39.593
18.750	0.000	22.76	0.00	9.70	33.1	39.522
18.833	0.000	18.90	0.00	9.68	33.1	39.424
18.917	0.000	14.88	0.00	9.66	33.0	39.299
19.000	0.000	11.32	0.00	9.63	33.0	39.150
19.083	0.000	8.24	0.00	9.60	32.9	38.980
19.167	0.000	5.61	0.00	9.57	32.9	38.792
19.250	0.000	3.61	0.00	9.53	32.8	38.591
19.333	0.000	2.33	0.00	9.49	32.8	38.381
19.417	0.000	1.50	0.00	9.45	32.7	38.166
19.500	0.000	0.97	0.00	9.41	32.6	37.948
19.583	0.000	0.62	0.00	9.37	32.5	37.729
19.667	0.000	0.40	0.00	9.33	32.4	37.508
19.750	0.000	0.26	0.00	9.29	32.4	37.287
19.833	0.000	0.17	0.00	9.24	32.3	37.066
19.917	0.000	0.11	0.00	9.20	32.2	36.845

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 47.068 AF

BASIN STORAGE = 0.009 AF (WITH 0.000 AF INITIALLY FILLED)

OUTFLOW VOLUME = 47.058 AF

LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<

FLOW PROCESS FROM NODE 0.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 2 HYDROGRAPH<<<<<

STREAM HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	650.0	1300.0	1950.0	2600.0
10.000	158.4725	279.83	. Q V	.	.	.	.
10.083	160.4145	281.98	. Q V	.	.	.	.
10.167	162.3718	284.20	. Q V	.	.	.	.
10.250	164.3446	286.44	. Q V	.	.	.	.
10.333	166.3332	288.75	. Q V	.	.	.	.
10.417	168.3379	291.09	. Q V	.	.	.	.
10.500	170.3592	293.49	. Q V	.	.	.	.
10.583	172.3973	295.93	. Q V	.	.	.	.
10.667	174.4527	298.44	. Q V	.	.	.	.
10.750	176.5257	300.99	. Q V	.	.	.	.
10.833	178.6167	303.62	. Q V	.	.	.	.
10.917	180.7261	306.28	. Q V	.	.	.	.
11.000	182.8544	309.03	. Q V	.	.	.	.
11.083	185.0020	311.82	. Q V	.	.	.	.
11.167	187.1694	314.70	. Q V	.	.	.	.
11.250	189.3569	317.63	. Q V	.	.	.	.
11.333	191.5653	320.66	. Q V	.	.	.	.
11.417	193.7948	323.73	. Q V	.	.	.	.
11.500	196.0462	326.91	. Q V	.	.	.	.
11.583	198.3199	330.14	. Q V	.	.	.	.
11.667	200.6167	333.49	. Q V	.	.	.	.
11.750	202.9369	336.89	. Q V	.	.	.	.
11.833	205.2814	340.42	. Q V	.	.	.	.
11.917	207.6506	344.02	. Q V	.	.	.	.
12.000	210.0456	347.74	. Q V	.	.	.	.
12.083	212.4727	352.42	. Q V	.	.	.	.
12.167	214.9395	358.17	. Q V	.	.	.	.
12.250	217.4514	364.73	. Q V	.	.	.	.
12.333	220.0239	373.53	. Q V	.	.	.	.
12.417	222.6767	385.18	. Q V	.	.	.	.

12.500	225.4215	398.55	. Q V	.	.	.	.
12.583	228.2641	412.75	. Q V	.	.	.	.
12.667	231.1918	425.09	. Q V	.	.	.	.
12.750	234.2134	438.74	. Q V	.	.	.	.
12.833	237.3421	454.30	. Q V	.	.	.	.
12.917	240.5689	468.52	. Q V	.	.	.	.
13.000	243.8980	483.38	. Q V	.	.	.	.
13.083	247.3169	496.42	. Q V	.	.	.	.
13.167	250.8143	507.83	. Q V	.	.	.	.
13.250	254.3846	518.41	. Q V	.	.	.	.
13.333	258.0224	528.21	. Q V	.	.	.	.
13.417	261.7198	536.86	. Q V	.	.	.	.
13.500	265.4748	545.23	. Q V	.	.	.	.
13.583	269.2864	553.44	. Q V	.	.	.	.
13.667	273.1523	561.33	. Q V	.	.	.	.
13.750	277.0712	569.02	. Q V	.	.	.	.
13.833	281.0432	576.74	. Q V	.	.	.	.
13.917	285.0692	584.57	. Q V	.	.	.	.
14.000	289.1479	592.23	. Q V	.	.	.	.
14.083	293.2887	601.24	. Q V	.	.	.	.
14.167	297.5027	611.87	. Q V	.	.	.	.
14.250	301.7986	623.76	. Q V	.	.	.	.
14.333	306.1980	638.80	. Q V	.	.	.	.
14.417	310.7281	657.77	. Q V	.	.	.	.
14.500	315.4061	679.24	. Q V	.	.	.	.
14.583	320.2406	701.98	. Q V	.	.	.	.
14.667	325.2429	726.32	. Q V	.	.	.	.
14.750	330.4298	753.15	. Q V	.	.	.	.
14.833	335.8247	783.34	. QV	.	.	.	.
14.917	341.4169	811.98	. QV	.	.	.	.
15.000	347.2200	842.61	. Q V	.	.	.	.
15.083	353.2231	871.66	. QV	.	.	.	.
15.167	359.4214	899.99	. QV	.	.	.	.
15.250	365.8220	929.37	. Q	.	.	.	.
15.333	372.4360	960.35	. QV	.	.	.	.
15.417	379.2437	988.48	. Q	.	.	.	.
15.500	386.2377	1015.54	. Q	.	.	.	.
15.583	393.4209	1043.00	. Q	.	.	.	.
15.667	400.7538	1064.74	. Q	.	.	.	.
15.750	408.1908	1079.84	. Q	.	.	.	.
15.833	415.7425	1096.52	. QV	.	.	.	.
15.917	423.4847	1124.16	. Q	.	.	.	.
16.000	431.5791	1175.31	. VQ	.	.	.	.
16.083	440.5852	1307.69	. V Q	.	.	.	.
16.167	450.6100	1455.59	. V . Q	.	.	.	.
16.250	461.7872	1622.94	. V . Q	.	.	.	.
16.333	474.1666	1797.49	. V . Q	.	.	.	.
16.417	487.9396	1999.83	. V . Q	.	.	.	.
16.500	502.6555	2136.75	. V . Q	.	.	.	.
16.583	517.9518	2221.03	. V . Q	.	.	.	.
16.667	533.8853	2313.54	. V . Q	.	.	.	.
16.750	550.6015	2427.19	. V . Q	.	.	.	.
16.833	568.0241	2529.76	. V . Q	.	.	.	.
16.917	584.7103	2422.83	. V . Q	.	.	.	.
17.000	601.1392	2385.48	. V . Q	.	.	.	.
17.083	616.2996	2201.29	. V . Q	.	.	.	.
17.167	630.2608	2027.17	. V . Q	.	.	.	.
17.250	643.3726	1903.83	. V . Q	.	.	.	.

17.333	655.6731	1786.03	.	.	.	VQ	.	.
17.417	666.9783	1641.51	.	.	.	Q V	.	.
17.500	677.3487	1505.78	.	.	.	Q V	.	.
17.583	686.9574	1395.18	.	.	.	Q V	.	.
17.667	695.6531	1262.61	.	.	.	Q V	.	.
17.750	703.5922	1152.75	.	.	.	Q V	.	.
17.833	710.8756	1057.55	.	.	.	Q V	.	.
17.917	717.6519	983.91	.	.	.	Q V	.	.
18.000	723.7064	879.13	.	.	.	Q V	.	.
18.083	729.4200	829.61	.	.	.	Q V	.	.
18.167	734.9058	796.53	.	.	.	Q V	.	.
18.250	740.1974	768.36	.	.	.	Q V	.	.
18.333	745.2888	739.27	.	.	.	Q V	.	.
18.417	750.1915	711.86	.	.	.	Q V	.	.
18.500	754.9078	684.82	.	.	.	Q V	.	.
18.583	759.4435	658.58	.	.	.	Q V	.	.
18.667	763.7949	631.82	.	.	.	Q V	.	.
18.750	767.9456	602.68	.	.	.	Q V	.	.
18.833	771.7701	555.33	.	.	.	Q V	.	.
18.917	775.4174	529.57	.	.	.	Q V	.	.
19.000	778.9243	509.20	.	.	.	Q V	.	.
19.083	782.3143	492.24	.	.	.	Q V	.	.
19.167	785.5950	476.35	.	.	.	Q V	.	.
19.250	788.7568	459.09	.	.	.	Q V	.	.
19.333	791.8141	443.92	.	.	.	Q V	.	.
19.417	794.7829	431.07	.	.	.	Q V	.	.
19.500	797.6719	419.48	.	.	.	Q V	.	.
19.583	800.4871	408.77	.	.	.	Q V	.	.
19.667	803.2366	399.23	.	.	.	Q V	.	.
19.750	805.9265	390.56	.	.	.	Q V	.	.
19.833	808.5643	383.01	.	.	.	Q V	.	.
19.917	811.1536	375.97	.	.	.	Q V	.	.
20.000	813.7010	369.89	.	.	.	Q V	.	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	855.0
20%	355.0
30%	210.0
40%	145.0
50%	95.0
60%	75.0
70%	65.0
80%	45.0
90%	25.0

END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
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Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

Michael Baker International
5 Hutton Centre Drive, Suite 500
Santa Ana, CA 92707

***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - COMPLEX UH *
* ULTIMATE CONDITION - REGIONAL NODE 13305 *
* 100-YR EV SEPTEMBER 2018 CCHI *

FILE NAME: EV00305C.DAT
TIME/DATE OF STUDY: 15:13 09/06/2018

FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

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(UNIT-HYDROGRAPH ADDED TO STREAM #2)

WATERSHED AREA = 4924.400 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.795 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244
LOW LOSS FRACTION = 0.515
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.40
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.87
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 1.15
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.94
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.71
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 4.49

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:

5-MINUTE FACTOR = 0.754
30-MINUTE FACTOR = 0.754
1-HOUR FACTOR = 0.754
3-HOUR FACTOR = 0.961
6-HOUR FACTOR = 0.979
24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 10.482

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.599	356.720
2	1.831	733.770
3	3.556	1027.088
4	6.695	1869.576
5	11.711	2987.196
6	17.780	3614.240
7	24.320	3895.169
8	31.406	4219.920
9	39.536	4841.828
10	49.118	5706.248
11	57.463	4970.213
12	66.163	5181.218
13	73.208	4195.692
14	78.677	3256.871
15	83.329	2770.256
16	87.117	2255.902
17	89.790	1591.898
18	92.011	1323.059
19	93.944	1150.833
20	95.353	839.020
21	96.422	637.114
22	97.244	489.587
23	97.961	426.666
24	98.212	149.804
25	98.409	117.181
26	98.605	116.849
27	98.802	117.181
28	98.999	116.958
29	99.195	117.072
30	99.392	116.958
31	99.588	116.958
32	99.784	116.958
33	99.981	116.958
34	100.000	11.500

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 833.8148
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 984.8253

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)

(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	875.0	1750.0	2625.0	3500.0
10.000	158.4059	279.58	. Q	V	.	.	.
10.083	160.3462	281.73	. Q	V	.	.	.
10.167	162.3017	283.94	. Q	V	.	.	.
10.250	164.2726	286.18	. Q	V	.	.	.
10.333	166.2594	288.48	. Q	V	.	.	.
10.417	168.2622	290.81	. Q	V	.	.	.
10.500	170.2816	293.21	. Q	V	.	.	.
10.583	172.3177	295.65	. Q	V	.	.	.
10.667	174.3711	298.15	. Q	V	.	.	.
10.750	176.4420	300.69	. Q	V	.	.	.
10.833	178.5309	303.31	. Q	V	.	.	.
10.917	180.6381	305.97	. Q	V	.	.	.
11.000	182.7643	308.71	. Q	V	.	.	.
11.083	184.9095	311.50	. Q	V	.	.	.
11.167	187.0746	314.37	. Q	V	.	.	.
11.250	189.2598	317.29	. Q	V	.	.	.
11.333	191.4658	320.30	. Q	V	.	.	.
11.417	193.6928	323.37	. Q	V	.	.	.
11.500	195.9417	326.54	. Q	V	.	.	.
11.583	198.2128	329.76	. Q	V	.	.	.
11.667	200.5069	333.10	. Q	V	.	.	.
11.750	202.8243	336.50	. Q	V	.	.	.
11.833	205.1660	340.01	. Q	V	.	.	.
11.917	207.5324	343.60	. Q	V	.	.	.
12.000	209.9244	347.31	. Q	V	.	.	.
12.083	212.3486	352.00	. Q	V	.	.	.
12.167	214.8126	357.77	. Q	V	.	.	.
12.250	217.3221	364.37	. Q	V	.	.	.
12.333	219.8926	373.24	. Q	V	.	.	.
12.417	222.5442	385.02	. Q	V	.	.	.
12.500	225.2890	398.55	. Q	V	.	.	.
12.583	228.1328	412.91	. Q	V	.	.	.
12.667	231.0825	428.30	. Q	V	.	.	.
12.750	234.1499	445.39	. Q	V	.	.	.
12.833	237.3515	464.88	. Q	V	.	.	.
12.917	240.6758	482.68	. Q	V	.	.	.
13.000	244.1282	501.28	. Q	V	.	.	.
13.083	247.6928	517.58	. Q	V	.	.	.
13.167	251.3553	531.81	. Q	V	.	.	.
13.250	255.1087	545.00	. Q	V	.	.	.
13.333	258.9462	557.19	. Q	V	.	.	.
13.417	262.8575	567.93	. Q	V	.	.	.
13.500	266.8403	578.31	. Q	V	.	.	.
13.583	270.8932	588.48	. Q	.V	.	.	.
13.667	275.0132	598.23	. Q	.V	.	.	.
13.750	279.1986	607.72	. Q	.V	.	.	.
13.833	283.4496	617.24	. Q	.V	.	.	.

13.917	287.7672	626.90	. Q	.V	.	.	.
14.000	292.1495	636.32	. Q	.V	.	.	.
14.083	296.6101	647.67	. Q	.V	.	.	.
14.167	301.1644	661.29	. Q	.V	.	.	.
14.250	305.8246	676.66	. Q	.V	.	.	.
14.333	310.6216	696.52	. Q	.V	.	.	.
14.417	315.5942	722.02	. Q	.V	.	.	.
14.500	320.7664	751.01	. Q	.V	.	.	.
14.583	326.1503	781.74	. Q	.V	.	.	.
14.667	331.7613	814.71	. Q	.V	.	.	.
14.750	337.6245	851.34	. Q	.V	.	.	.
14.833	343.7737	892.86	. Q	.V	.	.	.
14.917	350.1935	932.16	. Q	.V	.	.	.
15.000	356.9045	974.44	. Q	.V	.	.	.
15.083	363.8904	1014.35	. Q	.V	.	.	.
15.167	371.1404	1052.69	. Q	.V	.	.	.
15.250	378.6600	1091.86	. Q	.V	.	.	.
15.333	386.4600	1132.55	. Q	.V	.	.	.
15.417	394.5098	1168.83	. Q	.V	.	.	.
15.500	402.7941	1202.88	. Q	.V	.	.	.
15.583	411.3086	1236.30	. Q	.V	.	.	.
15.667	419.9911	1260.70	. Q	.V	.	.	.
15.750	428.7668	1274.24	. Q	.V	.	.	.
15.833	437.6349	1287.63	. Q	.V	.	.	.
15.917	446.6735	1312.41	. Q	.V	.	.	.
16.000	456.0550	1362.19	. Q	.V	.	.	.
16.083	466.4172	1504.60	. Q	.V	.	.	.
16.167	477.8621	1661.79	. Q	.V	.	.	.
16.250	490.5461	1841.72	. Q	.V	.	.	.
16.333	505.3557	2150.36	. Q	.V	.	.	.
16.417	522.6807	2515.58	. Q	.V	.	.	.
16.500	541.6768	2758.23	. Q	.V	.	.	.
16.583	561.6540	2900.70	. Q	.V	.	.	.
16.667	582.7543	3063.76	. Q	.V	.	.	.
16.750	605.3081	3274.82	. Q	.V	.	.	.
16.833	629.1894	3467.57	. Q	.V	.	.	.
16.917	651.6658	3263.57	. Q	.V	.	.	.
17.000	673.6705	3195.08	. Q	.V	.	.	.
17.083	693.2985	2849.99	. Q	.V	.	.	.
17.167	710.6915	2525.46	. Q	.V	.	.	.
17.250	726.5149	2297.56	. Q	.V	.	.	.
17.333	740.8424	2080.35	. Q	.V	.	.	.
17.417	753.4707	1833.63	. Q	.V	.	.	.
17.500	765.0081	1675.22	. Q	.V	.	.	.
17.583	775.6459	1544.62	. Q	.V	.	.	.
17.667	785.1958	1386.64	. Q	.V	.	.	.
17.750	793.8279	1253.38	. Q	.V	.	.	.
17.833	801.6545	1136.43	. Q	.V	.	.	.
17.917	808.8544	1045.42	. Q	.V	.	.	.
18.000	815.1689	916.86	. Q	.V	.	.	.
18.083	821.0518	854.20	. Q	.V	.	.	.
18.167	826.6436	811.93	. Q	.V	.	.	.
18.250	831.9852	775.59	. Q	.V	.	.	.
18.333	837.0685	738.10	. Q	.V	.	.	.
18.417	841.9109	703.13	. Q	.V	.	.	.
18.500	846.5176	668.88	. Q	.V	.	.	.
18.583	850.8963	635.79	. Q	.V	.	.	.
18.667	855.0450	602.39	. Q	.V	.	.	.

18.750	858.9460	566.43	.	Q	.	.	.	V	.
18.833	862.4515	509.00	.	Q	.	.	.	V	.
18.917	865.7388	477.31	.	Q	.	.	.	V	.
19.000	868.8534	452.24	.	Q	.	.	.	V	.
19.083	871.8240	431.33	.	Q	.	.	.	V	.
19.167	874.6620	412.08	.	Q	.	.	.	V	.
19.250	877.3809	394.77	.	Q	.	.	.	V	.
19.333	879.9948	379.55	.	Q	.	.	.	V	.
19.417	882.5201	366.67	.	Q	.	.	.	V	.
19.500	884.9654	355.06	.	Q	.	.	.	V	.
19.583	887.3373	344.40	.	Q	.	.	.	V	.
19.667	889.6439	334.92	.	Q	.	.	.	V	.
19.750	891.8913	326.32	.	Q	.	.	.	V	.
19.833	894.0876	318.91	.	Q	.	.	.	V	.
19.917	896.2365	312.02	.	Q	.	.	.	V	.
20.000	898.3447	306.11	.	Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	455.0
20%	250.0
30%	170.0
40%	95.0
50%	75.0
60%	60.0
70%	50.0
80%	35.0
90%	20.0

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2

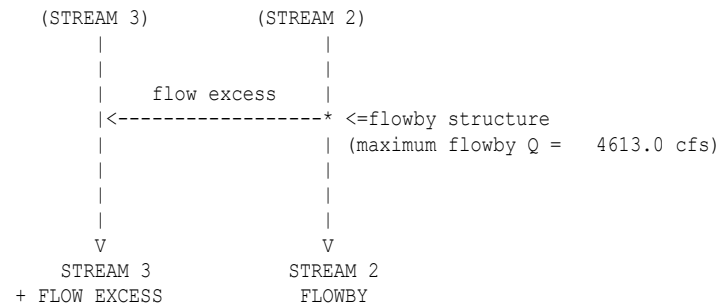
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<

MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
 FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
 THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.

DATA PAIR NUMBER	Qcenter (CFS)	Qpass (CFS)
-	0.00	0.00
1	413.00	413.00
2	1897.00	1613.00
3	4682.00	3013.00
4	6819.00	4013.00
5	8100.00	4613.00

FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3

INFLOW INFLOW



FLOWBY BASIN MODELING RESULTS:

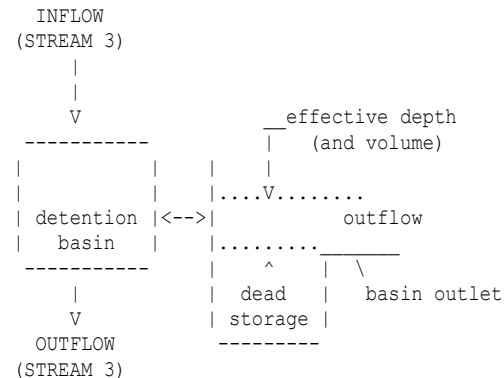
MODEL TIME (HRS)	INFLOW (STREAM 3) (CFS)	INFLOW (STREAM 2) (CFS)	OUTFLOW (STREAM 3) (CFS)	FLOWBY (STREAM 2) (CFS)
10.000	0.00	279.58	0.00	279.58
10.083	0.00	281.73	0.00	281.73
10.167	0.00	283.94	0.00	283.94
10.250	0.00	286.18	0.00	286.18
10.333	0.00	288.48	0.00	288.48
10.417	0.00	290.81	0.00	290.81
10.500	0.00	293.21	0.00	293.21
10.583	0.00	295.65	0.00	295.65
10.667	0.00	298.15	0.00	298.15
10.750	0.00	300.69	0.00	300.69
10.833	0.00	303.31	0.00	303.31
10.917	0.00	305.97	0.00	305.97
11.000	0.00	308.71	0.00	308.71
11.083	0.00	311.50	0.00	311.50
11.167	0.00	314.37	0.00	314.37
11.250	0.00	317.29	0.00	317.29
11.333	0.00	320.30	0.00	320.30
11.417	0.00	323.37	0.00	323.37
11.500	0.00	326.54	0.00	326.54
11.583	0.00	329.76	0.00	329.76
11.667	0.00	333.10	0.00	333.10
11.750	0.00	336.50	0.00	336.50
11.833	0.00	340.01	0.00	340.01
11.917	0.00	343.60	0.00	343.60
12.000	0.00	347.31	0.00	347.31
12.083	0.00	352.00	0.00	352.00
12.167	0.00	357.77	0.00	357.77
12.250	0.00	364.37	0.00	364.37
12.333	0.00	373.24	0.00	373.24
12.417	0.00	385.02	0.00	385.02
12.500	0.00	398.55	0.00	398.55
12.583	0.00	412.91	0.00	412.91
12.667	0.00	428.30	2.93	425.37
12.750	0.00	445.39	6.20	439.19
12.833	0.00	464.88	9.93	454.95
12.917	0.00	482.68	13.34	469.35
13.000	0.00	501.28	16.89	484.38

13.083	0.00	517.58	20.01	497.57
13.167	0.00	531.81	22.74	509.07
13.250	0.00	545.00	25.26	519.73
13.333	0.00	557.19	27.59	529.60
13.417	0.00	567.93	29.65	538.28
13.500	0.00	578.31	31.64	546.67
13.583	0.00	588.48	33.58	554.90
13.667	0.00	598.23	35.45	562.78
13.750	0.00	607.72	37.26	570.46
13.833	0.00	617.24	39.09	578.16
13.917	0.00	626.90	40.94	585.97
14.000	0.00	636.32	42.74	593.59
14.083	0.00	647.67	44.91	602.76
14.167	0.00	661.29	47.52	613.78
14.250	0.00	676.66	50.46	626.20
14.333	0.00	696.52	54.26	642.26
14.417	0.00	722.02	59.14	662.88
14.500	0.00	751.01	64.69	686.33
14.583	0.00	781.74	70.57	711.17
14.667	0.00	814.71	76.88	737.83
14.750	0.00	851.34	83.89	767.45
14.833	0.00	892.86	91.83	801.03
14.917	0.00	932.16	99.35	832.81
15.000	0.00	974.44	107.45	867.00
15.083	0.00	1014.35	115.08	899.27
15.167	0.00	1052.69	122.42	930.27
15.250	0.00	1091.86	129.92	961.94
15.333	0.00	1132.55	137.70	994.85
15.417	0.00	1168.83	144.65	1024.19
15.500	0.00	1202.88	151.16	1051.72
15.583	0.00	1236.30	157.56	1078.74
15.667	0.00	1260.70	162.23	1098.47
15.750	0.00	1274.24	164.82	1109.42
15.833	0.00	1287.63	167.38	1120.25
15.917	0.00	1312.41	172.12	1140.29
16.000	0.00	1362.19	181.65	1180.54
16.083	0.00	1504.60	208.90	1295.69
16.167	0.00	1661.79	238.99	1422.80
16.250	0.00	1841.72	273.42	1568.30
16.333	0.00	2150.36	410.00	1740.36
16.417	0.00	2515.58	591.62	1923.96
16.500	0.00	2758.23	712.30	2045.94
16.583	0.00	2900.70	783.15	2117.55
16.667	0.00	3063.76	864.24	2199.52
16.750	0.00	3274.82	969.20	2305.62
16.833	0.00	3467.57	1065.05	2402.51
16.917	0.00	3263.57	963.60	2299.96
17.000	0.00	3195.08	929.55	2265.54
17.083	0.00	2849.99	757.93	2092.06
17.167	0.00	2525.46	596.54	1928.92
17.250	0.00	2297.56	483.20	1814.36
17.333	0.00	2080.35	375.18	1705.17
17.417	0.00	1833.63	271.87	1561.75
17.500	0.00	1675.22	241.56	1433.66
17.583	0.00	1544.62	216.56	1328.05
17.667	0.00	1386.64	186.33	1200.31
17.750	0.00	1253.38	160.83	1092.55
17.833	0.00	1136.43	138.45	997.98

17.917	0.00	1045.42	121.03	924.39
18.000	0.00	916.86	96.43	820.44
18.083	0.00	854.20	84.44	769.77
18.167	0.00	811.93	76.35	735.59
18.250	0.00	775.59	69.39	706.20
18.333	0.00	738.10	62.22	675.88
18.417	0.00	703.13	55.52	647.60
18.500	0.00	668.88	48.97	619.91
18.583	0.00	635.79	42.64	593.16
18.667	0.00	602.39	36.24	566.14
18.750	0.00	566.43	29.36	537.07
18.833	0.00	509.00	18.37	490.63
18.917	0.00	477.31	12.31	465.00
19.000	0.00	452.24	7.51	444.73
19.083	0.00	431.33	3.51	427.83
19.167	0.00	412.08	0.00	412.08
19.250	0.00	394.77	0.00	394.77
19.333	0.00	379.55	0.00	379.55
19.417	0.00	366.67	0.00	366.67
19.500	0.00	355.06	0.00	355.06
19.583	0.00	344.40	0.00	344.40
19.667	0.00	334.92	0.00	334.92
19.750	0.00	326.32	0.00	326.32
19.833	0.00	318.91	0.00	318.91
19.917	0.00	312.02	0.00	312.02
20.000	0.00	306.11	0.00	306.11

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<



ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
 THROUGH A FLOW-THROUGH DETENTION BASIN
 SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
 DEAD STORAGE(AF) = 5.700
 SPECIFIED DEAD STORAGE(AF) FILLED = 5.700
 SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000

DETENTION BASIN CONSTANT LOSS RATE (CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.50	0.01	0.002
3	2.00	0.02	1.900
4	4.00	0.03	16.100
5	4.30	0.05	18.200
6	5.00	314.00	23.200
7	6.00	1306.00	30.300
8	7.00	2847.00	39.100
9	8.00	4942.00	47.800

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MODIFIED-PULS BASIN ROUTING MODEL RESULTS(5-MINUTE COMPUTATION INTERVALS):
 (Note: Computed EFFECTIVE DEPTH and VOLUME are estimated at the clock time;
 MEAN OUTFLOW is the average value during the unit interval.)

CLOCK TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	LOSS (CFS)	MEAN		
				EFFECTIVE DEPTH (FT)	OUTFLOW (CFS)	EFFECTIVE VOLUME (AF)
10.083	5.700	0.00	0.00	0.00	0.0	0.000
10.167	5.700	0.00	0.00	0.00	0.0	0.000
10.250	5.700	0.00	0.00	0.00	0.0	0.000
10.333	5.700	0.00	0.00	0.00	0.0	0.000
10.417	5.700	0.00	0.00	0.00	0.0	0.000
10.500	5.700	0.00	0.00	0.00	0.0	0.000
10.583	5.700	0.00	0.00	0.00	0.0	0.000
10.667	5.700	0.00	0.00	0.00	0.0	0.000
10.750	5.700	0.00	0.00	0.00	0.0	0.000
10.833	5.700	0.00	0.00	0.00	0.0	0.000
10.917	5.700	0.00	0.00	0.00	0.0	0.000
11.000	5.700	0.00	0.00	0.00	0.0	0.000
11.083	5.700	0.00	0.00	0.00	0.0	0.000
11.167	5.700	0.00	0.00	0.00	0.0	0.000
11.250	5.700	0.00	0.00	0.00	0.0	0.000
11.333	5.700	0.00	0.00	0.00	0.0	0.000
11.417	5.700	0.00	0.00	0.00	0.0	0.000
11.500	5.700	0.00	0.00	0.00	0.0	0.000
11.583	5.700	0.00	0.00	0.00	0.0	0.000
11.667	5.700	0.00	0.00	0.00	0.0	0.000
11.750	5.700	0.00	0.00	0.00	0.0	0.000
11.833	5.700	0.00	0.00	0.00	0.0	0.000
11.917	5.700	0.00	0.00	0.00	0.0	0.000
12.000	5.700	0.00	0.00	0.00	0.0	0.000
12.083	5.700	0.00	0.00	0.00	0.0	0.000
12.167	5.700	0.00	0.00	0.00	0.0	0.000
12.250	5.700	0.00	0.00	0.00	0.0	0.000
12.333	5.700	0.00	0.00	0.00	0.0	0.000
12.417	5.700	0.00	0.00	0.00	0.0	0.000
12.500	5.700	0.00	0.00	0.00	0.0	0.000
12.583	5.700	0.00	0.00	0.00	0.0	0.000

12.667	5.700	2.93	0.00	1.50	0.0	0.020
12.750	5.700	6.20	0.00	1.52	0.0	0.063
12.833	5.700	9.93	0.00	1.53	0.0	0.131
12.917	5.700	13.34	0.00	1.56	0.0	0.223
13.000	5.700	16.89	0.00	1.59	0.0	0.339
13.083	5.700	20.01	0.00	1.63	0.0	0.477
13.167	5.700	22.74	0.00	1.67	0.0	0.633
13.250	5.700	25.26	0.00	1.71	0.0	0.807
13.333	5.700	27.59	0.00	1.76	0.0	0.997
13.417	5.700	29.65	0.00	1.82	0.0	1.201
13.500	5.700	31.64	0.00	1.87	0.0	1.419
13.583	5.700	33.58	0.00	1.93	0.0	1.650
13.667	5.700	35.45	0.00	2.00	0.0	1.894
13.750	5.700	37.26	0.00	2.04	0.0	2.151
13.833	5.700	39.09	0.00	2.07	0.0	2.420
13.917	5.700	40.94	0.00	2.11	0.0	2.701
14.000	5.700	42.74	0.00	2.15	0.0	2.996
14.083	5.700	44.91	0.00	2.20	0.0	3.305
14.167	5.700	47.52	0.00	2.24	0.0	3.632
14.250	5.700	50.46	0.00	2.29	0.0	3.979
14.333	5.700	54.26	0.00	2.35	0.0	4.353
14.417	5.700	59.14	0.00	2.40	0.0	4.760
14.500	5.700	64.69	0.00	2.47	0.0	5.205
14.583	5.700	70.57	0.00	2.53	0.0	5.691
14.667	5.700	76.88	0.00	2.61	0.0	6.220
14.750	5.700	83.89	0.00	2.69	0.0	6.798
14.833	5.700	91.83	0.00	2.78	0.0	7.430
14.917	5.700	99.35	0.00	2.88	0.0	8.114
15.000	5.700	107.45	0.00	2.98	0.0	8.854
15.083	5.700	115.08	0.00	3.09	0.0	9.646
15.167	5.700	122.42	0.00	3.21	0.0	10.489
15.250	5.700	129.92	0.00	3.34	0.0	11.384
15.333	5.700	137.70	0.00	3.47	0.0	12.332
15.417	5.700	144.65	0.00	3.61	0.0	13.328
15.500	5.700	151.16	0.00	3.76	0.0	14.369
15.583	5.700	157.56	0.00	3.91	0.0	15.454
15.667	5.700	162.23	0.00	4.07	0.0	16.571
15.750	5.700	164.82	0.00	4.23	0.0	17.706
15.833	5.700	167.38	0.00	4.38	17.0	18.741
15.917	5.700	172.12	0.00	4.49	58.6	19.523
16.000	5.700	181.65	0.00	4.56	100.6	20.081
16.083	5.700	208.90	0.00	4.64	134.3	20.595
16.167	5.700	238.99	0.00	4.71	166.2	21.096
16.250	5.700	273.42	0.00	4.78	198.2	21.615
16.333	5.700	410.00	0.00	4.93	249.2	22.722
16.417	5.700	591.62	0.00	5.15	371.5	24.238
16.500	5.700	712.30	0.00	5.31	541.3	25.416
16.583	5.700	783.15	0.00	5.42	675.4	26.158
16.667	5.700	864.24	0.00	5.51	771.7	26.795
16.750	5.700	969.20	0.00	5.61	865.9	27.506
16.833	5.700	1065.05	0.00	5.70	964.2	28.201
16.917	5.700	963.60	0.00	5.67	996.8	27.972
17.000	5.700	929.55	0.00	5.64	964.2	27.734
17.083	5.700	757.93	0.00	5.51	885.9	26.853
17.167	5.700	596.54	0.00	5.37	750.3	25.793
17.250	5.700	483.20	0.00	5.24	613.6	24.895
17.333	5.700	375.18	0.00	5.12	493.8	24.078
17.417	5.700	271.87	0.00	5.02	383.2	23.312

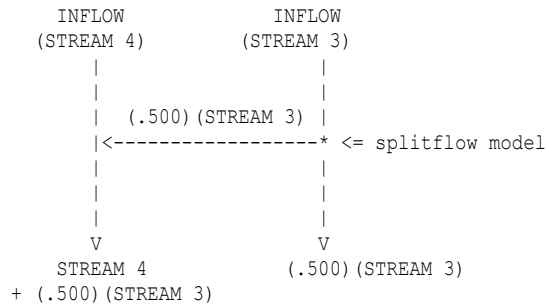
17.500	5.700	241.56	0.00	4.95	310.4	22.837
17.583	5.700	216.56	0.00	4.89	278.0	22.415
17.667	5.700	186.33	0.00	4.83	250.8	21.971
17.750	5.700	160.83	0.00	4.77	223.3	21.541
17.833	5.700	138.45	0.00	4.71	197.1	21.136
17.917	5.700	121.03	0.00	4.66	173.2	20.777
18.000	5.700	96.43	0.00	4.61	150.3	20.407
18.083	5.700	84.44	0.00	4.57	129.0	20.100
18.167	5.700	76.35	0.00	4.53	111.7	19.856
18.250	5.700	69.39	0.00	4.50	97.9	19.660
18.333	5.700	62.22	0.00	4.48	86.5	19.493
18.417	5.700	55.52	0.00	4.46	76.7	19.347
18.500	5.700	48.97	0.00	4.44	68.0	19.216
18.583	5.700	42.64	0.00	4.43	60.1	19.096
18.667	5.700	36.24	0.00	4.41	52.8	18.982
18.750	5.700	29.36	0.00	4.39	45.7	18.870
18.833	5.700	18.37	0.00	4.37	37.9	18.736
18.917	5.700	12.31	0.00	4.36	29.9	18.615
19.000	5.700	7.51	0.00	4.34	22.8	18.509
19.083	5.700	3.51	0.00	4.33	16.6	18.419
19.167	5.700	0.00	0.00	4.32	11.3	18.341
19.250	5.700	0.00	0.00	4.31	7.3	18.290
19.333	5.700	0.00	0.00	4.31	4.7	18.258
19.417	5.700	0.00	0.00	4.31	3.0	18.237
19.500	5.700	0.00	0.00	4.30	2.0	18.224
19.583	5.700	0.00	0.00	4.30	1.3	18.215
19.667	5.700	0.00	0.00	4.30	0.8	18.209
19.750	5.700	0.00	0.00	4.30	0.5	18.206
19.833	5.700	0.00	0.00	4.30	0.3	18.203
19.917	5.700	0.00	0.00	4.30	0.2	18.202

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 105.342 AF
BASIN STORAGE = 21.239 AF (WITH 5.700 AF INITIALLY FILLED)
OUTFLOW VOLUME = 89.800 AF
LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8

>>>>MODEL STREAM SPLITFLOW WHERE A CONSTANT PROPORTION
OF STREAM 3 IS ADDED TO STREAM 4<<<<<



STREAM NUMBER 3 IS SPLIT TOWARDS STREAM 4
WHERE 0.50 (DECIMAL PERCENT) REMAINS IN STREAM 3
AND 0.50 (DECIMAL PERCENT) IS ADDED TO STREAM 4

STREAM SPLITFLOW MODELING RESULTS:

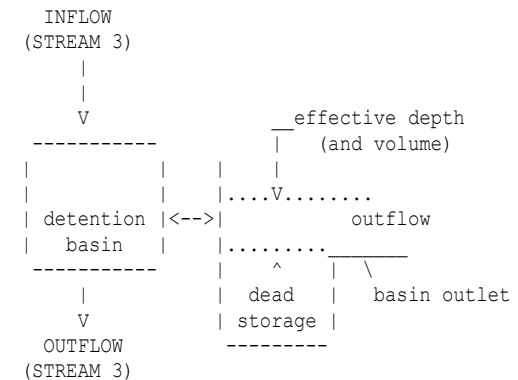
MODEL TIME (HRS)	INFLOW STREAM 4 (CFS)	INFLOW STREAM 3 (CFS)	OUTFLOW STREAM 4 (CFS)	OUTFLOW STREAM 3 (CFS)
10.000	0.00	0.00	0.00	0.00
10.083	0.00	0.00	0.00	0.00
10.167	0.00	0.00	0.00	0.00
10.250	0.00	0.00	0.00	0.00
10.333	0.00	0.00	0.00	0.00
10.417	0.00	0.00	0.00	0.00
10.500	0.00	0.00	0.00	0.00
10.583	0.00	0.00	0.00	0.00
10.667	0.00	0.00	0.00	0.00
10.750	0.00	0.00	0.00	0.00
10.833	0.00	0.00	0.00	0.00
10.917	0.00	0.00	0.00	0.00
11.000	0.00	0.00	0.00	0.00
11.083	0.00	0.00	0.00	0.00
11.167	0.00	0.00	0.00	0.00
11.250	0.00	0.00	0.00	0.00
11.333	0.00	0.00	0.00	0.00
11.417	0.00	0.00	0.00	0.00
11.500	0.00	0.00	0.00	0.00
11.583	0.00	0.00	0.00	0.00
11.667	0.00	0.00	0.00	0.00
11.750	0.00	0.00	0.00	0.00
11.833	0.00	0.00	0.00	0.00
11.917	0.00	0.00	0.00	0.00
12.000	0.00	0.00	0.00	0.00
12.083	0.00	0.00	0.00	0.00
12.167	0.00	0.00	0.00	0.00
12.250	0.00	0.00	0.00	0.00
12.333	0.00	0.00	0.00	0.00
12.417	0.00	0.00	0.00	0.00
12.500	0.00	0.00	0.00	0.00
12.583	0.00	0.00	0.00	0.00
12.667	0.00	0.01	0.00	0.00
12.750	0.00	0.01	0.01	0.01
12.833	0.00	0.01	0.01	0.01
12.917	0.00	0.01	0.01	0.01
13.000	0.00	0.01	0.01	0.01
13.083	0.00	0.01	0.01	0.01
13.167	0.00	0.01	0.01	0.01
13.250	0.00	0.02	0.01	0.01
13.333	0.00	0.02	0.01	0.01
13.417	0.00	0.02	0.01	0.01
13.500	0.00	0.02	0.01	0.01
13.583	0.00	0.02	0.01	0.01

13.667	0.00	0.02	0.01	0.01
13.750	0.00	0.02	0.01	0.01
13.833	0.00	0.02	0.01	0.01
13.917	0.00	0.02	0.01	0.01
14.000	0.00	0.02	0.01	0.01
14.083	0.00	0.02	0.01	0.01
14.167	0.00	0.02	0.01	0.01
14.250	0.00	0.02	0.01	0.01
14.333	0.00	0.02	0.01	0.01
14.417	0.00	0.02	0.01	0.01
14.500	0.00	0.02	0.01	0.01
14.583	0.00	0.02	0.01	0.01
14.667	0.00	0.03	0.01	0.01
14.750	0.00	0.03	0.01	0.01
14.833	0.00	0.03	0.01	0.01
14.917	0.00	0.03	0.01	0.01
15.000	0.00	0.03	0.01	0.01
15.083	0.00	0.03	0.01	0.01
15.167	0.00	0.03	0.01	0.01
15.250	0.00	0.03	0.01	0.01
15.333	0.00	0.03	0.01	0.01
15.417	0.00	0.03	0.02	0.02
15.500	0.00	0.03	0.02	0.02
15.583	0.00	0.03	0.02	0.02
15.667	0.00	0.03	0.02	0.02
15.750	0.00	0.04	0.02	0.02
15.833	0.00	17.03	8.52	8.52
15.917	0.00	58.57	29.29	29.29
16.000	0.00	100.64	50.32	50.32
16.083	0.00	134.29	67.14	67.14
16.167	0.00	166.17	83.08	83.08
16.250	0.00	198.18	99.09	99.09
16.333	0.00	249.21	124.61	124.61
16.417	0.00	371.50	185.75	185.75
16.500	0.00	541.29	270.65	270.65
16.583	0.00	675.40	337.70	337.70
16.667	0.00	771.74	385.87	385.87
16.750	0.00	865.93	432.96	432.96
16.833	0.00	964.16	482.08	482.08
16.917	0.00	996.75	498.38	498.38
17.000	0.00	964.15	482.08	482.08
17.083	0.00	885.92	442.96	442.96
17.167	0.00	750.34	375.17	375.17
17.250	0.00	613.60	306.80	306.80
17.333	0.00	493.80	246.90	246.90
17.417	0.00	383.18	191.59	191.59
17.500	0.00	310.43	155.22	155.22
17.583	0.00	277.96	138.98	138.98
17.667	0.00	250.76	125.38	125.38
17.750	0.00	223.32	111.66	111.66
17.833	0.00	197.12	98.56	98.56
17.917	0.00	173.16	86.58	86.58
18.000	0.00	150.25	75.13	75.13
18.083	0.00	128.98	64.49	64.49
18.167	0.00	111.70	55.85	55.85
18.250	0.00	97.90	48.95	48.95
18.333	0.00	86.48	43.24	43.24
18.417	0.00	76.67	38.33	38.33

18.500	0.00	67.98	33.99	33.99
18.583	0.00	60.10	30.05	30.05
18.667	0.00	52.75	26.38	26.38
18.750	0.00	45.66	22.83	22.83
18.833	0.00	37.91	18.96	18.96
18.917	0.00	29.89	14.94	14.94
19.000	0.00	22.78	11.39	11.39
19.083	0.00	16.64	8.32	8.32
19.167	0.00	11.35	5.67	5.67
19.250	0.00	7.31	3.66	3.66
19.333	0.00	4.71	2.36	2.36
19.417	0.00	3.04	1.52	1.52
19.500	0.00	1.96	0.98	0.98
19.583	0.00	1.26	0.63	0.63
19.667	0.00	0.81	0.41	0.41
19.750	0.00	0.52	0.26	0.26
19.833	0.00	0.34	0.17	0.17
19.917	0.00	0.22	0.11	0.11
20.000	0.00	0.14	0.07	0.07

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<



ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3

THROUGH A FLOW-THROUGH DETENTION BASIN

SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:

DEAD STORAGE(AF) = 0.000

SPECIFIED DEAD STORAGE(AF) FILLED = 0.000

SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000

DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
-----------------	------------	---------------	--------------

1	0.00	0.00	0.000
2	0.99	2.90	0.900
3	1.99	11.38	2.900
4	3.99	19.63	10.300
5	5.99	25.19	20.700
6	7.99	29.71	31.700
7	9.99	33.62	43.500
8	10.99	35.49	49.700
9	11.99	313.46	56.400
10	12.99	894.27	63.100
11	13.99	1748.55	69.900
12	15.99	4306.91	84.100

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MODIFIED-PULS BASIN ROUTING MODEL RESULTS(5-MINUTE COMPUTATION INTERVALS):
 (Note: Computed EFFECTIVE DEPTH and VOLUME are estimated at the clock time;
 MEAN OUTFLOW is the average value during the unit interval.)

CLOCK TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	LOSS (CFS)	MEAN		
				EFFECTIVE DEPTH(FT)	OUTFLOW (CFS)	EFFECTIVE VOLUME(AF)
10.083	0.000	0.00	0.00	0.00	0.0	0.000
10.167	0.000	0.00	0.00	0.00	0.0	0.000
10.250	0.000	0.00	0.00	0.00	0.0	0.000
10.333	0.000	0.00	0.00	0.00	0.0	0.000
10.417	0.000	0.00	0.00	0.00	0.0	0.000
10.500	0.000	0.00	0.00	0.00	0.0	0.000
10.583	0.000	0.00	0.00	0.00	0.0	0.000
10.667	0.000	0.00	0.00	0.00	0.0	0.000
10.750	0.000	0.00	0.00	0.00	0.0	0.000
10.833	0.000	0.00	0.00	0.00	0.0	0.000
10.917	0.000	0.00	0.00	0.00	0.0	0.000
11.000	0.000	0.00	0.00	0.00	0.0	0.000
11.083	0.000	0.00	0.00	0.00	0.0	0.000
11.167	0.000	0.00	0.00	0.00	0.0	0.000
11.250	0.000	0.00	0.00	0.00	0.0	0.000
11.333	0.000	0.00	0.00	0.00	0.0	0.000
11.417	0.000	0.00	0.00	0.00	0.0	0.000
11.500	0.000	0.00	0.00	0.00	0.0	0.000
11.583	0.000	0.00	0.00	0.00	0.0	0.000
11.667	0.000	0.00	0.00	0.00	0.0	0.000
11.750	0.000	0.00	0.00	0.00	0.0	0.000
11.833	0.000	0.00	0.00	0.00	0.0	0.000
11.917	0.000	0.00	0.00	0.00	0.0	0.000
12.000	0.000	0.00	0.00	0.00	0.0	0.000
12.083	0.000	0.00	0.00	0.00	0.0	0.000
12.167	0.000	0.00	0.00	0.00	0.0	0.000
12.250	0.000	0.00	0.00	0.00	0.0	0.000
12.333	0.000	0.00	0.00	0.00	0.0	0.000
12.417	0.000	0.00	0.00	0.00	0.0	0.000
12.500	0.000	0.00	0.00	0.00	0.0	0.000
12.583	0.000	0.00	0.00	0.00	0.0	0.000
12.667	0.000	0.00	0.00	0.00	0.0	0.000
12.750	0.000	0.01	0.00	0.00	0.0	0.000
12.833	0.000	0.01	0.00	0.00	0.0	0.000
12.917	0.000	0.01	0.00	0.00	0.0	0.000

13.000	0.000	0.01	0.00	0.00	0.0	0.000
13.083	0.000	0.01	0.00	0.00	0.0	0.000
13.167	0.000	0.01	0.00	0.00	0.0	0.000
13.250	0.000	0.01	0.00	0.00	0.0	0.000
13.333	0.000	0.01	0.00	0.00	0.0	0.000
13.417	0.000	0.01	0.00	0.00	0.0	0.000
13.500	0.000	0.01	0.00	0.00	0.0	0.000
13.583	0.000	0.01	0.00	0.00	0.0	0.001
13.667	0.000	0.01	0.00	0.00	0.0	0.001
13.750	0.000	0.01	0.00	0.00	0.0	0.001
13.833	0.000	0.01	0.00	0.00	0.0	0.001
13.917	0.000	0.01	0.00	0.00	0.0	0.001
14.000	0.000	0.01	0.00	0.00	0.0	0.001
14.083	0.000	0.01	0.00	0.00	0.0	0.001
14.167	0.000	0.01	0.00	0.00	0.0	0.001
14.250	0.000	0.01	0.00	0.00	0.0	0.001
14.333	0.000	0.01	0.00	0.00	0.0	0.001
14.417	0.000	0.01	0.00	0.00	0.0	0.001
14.500	0.000	0.01	0.00	0.00	0.0	0.001
14.583	0.000	0.01	0.00	0.00	0.0	0.001
14.667	0.000	0.01	0.00	0.00	0.0	0.001
14.750	0.000	0.01	0.00	0.00	0.0	0.001
14.833	0.000	0.01	0.00	0.00	0.0	0.001
14.917	0.000	0.01	0.00	0.00	0.0	0.001
15.000	0.000	0.01	0.00	0.00	0.0	0.002
15.083	0.000	0.01	0.00	0.00	0.0	0.002
15.167	0.000	0.01	0.00	0.00	0.0	0.002
15.250	0.000	0.01	0.00	0.00	0.0	0.002
15.333	0.000	0.01	0.00	0.00	0.0	0.002
15.417	0.000	0.02	0.00	0.00	0.0	0.002
15.500	0.000	0.02	0.00	0.00	0.0	0.002
15.583	0.000	0.02	0.00	0.00	0.0	0.002
15.667	0.000	0.02	0.00	0.00	0.0	0.002
15.750	0.000	0.02	0.00	0.00	0.0	0.002
15.833	0.000	8.52	0.00	0.07	0.1	0.060
15.917	0.000	29.29	0.00	0.28	0.5	0.258
16.000	0.000	50.32	0.00	0.65	1.4	0.595
16.083	0.000	67.14	0.00	1.06	2.7	1.039
16.167	0.000	83.08	0.00	1.33	4.6	1.579
16.250	0.000	99.09	0.00	1.65	7.1	2.213
16.333	0.000	124.61	0.00	2.02	10.0	3.002
16.417	0.000	185.75	0.00	2.34	12.2	4.198
16.500	0.000	270.65	0.00	2.82	13.8	5.967
16.583	0.000	337.70	0.00	3.42	16.0	8.182
16.667	0.000	385.87	0.00	4.07	18.6	10.712
16.750	0.000	432.96	0.00	4.62	20.6	13.552
16.833	0.000	482.08	0.00	5.22	22.2	16.719
16.917	0.000	498.38	0.00	5.85	23.9	19.986
17.000	0.000	482.08	0.00	6.43	25.5	23.131
17.083	0.000	442.96	0.00	6.95	26.8	25.997
17.167	0.000	375.17	0.00	7.39	27.9	28.389
17.250	0.000	306.80	0.00	7.74	28.7	30.304
17.333	0.000	246.90	0.00	8.01	29.4	31.802
17.417	0.000	191.59	0.00	8.20	29.9	32.915
17.500	0.000	155.22	0.00	8.34	30.3	33.775
17.583	0.000	138.98	0.00	8.47	30.5	34.522
17.667	0.000	125.38	0.00	8.58	30.8	35.174
17.750	0.000	111.66	0.00	8.67	31.0	35.730

17.833	0.000	98.56	0.00	8.75	31.1	36.194
17.917	0.000	86.58	0.00	8.82	31.3	36.575
18.000	0.000	75.13	0.00	8.87	31.4	36.877
18.083	0.000	64.49	0.00	8.91	31.5	37.104
18.167	0.000	55.85	0.00	8.93	31.5	37.272
18.250	0.000	48.95	0.00	8.95	31.6	37.391
18.333	0.000	43.24	0.00	8.97	31.6	37.471
18.417	0.000	38.33	0.00	8.98	31.6	37.518
18.500	0.000	33.99	0.00	8.98	31.6	37.534
18.583	0.000	30.05	0.00	8.98	31.6	37.523
18.667	0.000	26.38	0.00	8.97	31.6	37.487
18.750	0.000	22.83	0.00	8.96	31.6	37.426
18.833	0.000	18.96	0.00	8.95	31.6	37.339
18.917	0.000	14.94	0.00	8.93	31.6	37.225
19.000	0.000	11.39	0.00	8.90	31.5	37.086
19.083	0.000	8.32	0.00	8.88	31.5	36.927
19.167	0.000	5.67	0.00	8.85	31.4	36.749
19.250	0.000	3.66	0.00	8.81	31.4	36.559
19.333	0.000	2.36	0.00	8.78	31.3	36.359
19.417	0.000	1.52	0.00	8.75	31.2	36.155
19.500	0.000	0.98	0.00	8.71	31.2	35.947
19.583	0.000	0.63	0.00	8.67	31.1	35.737
19.667	0.000	0.41	0.00	8.64	31.0	35.526
19.750	0.000	0.26	0.00	8.60	30.9	35.315
19.833	0.000	0.17	0.00	8.57	30.9	35.104
19.917	0.000	0.11	0.00	8.53	30.8	34.892

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 44.900 AF
BASIN STORAGE = 0.005 AF (WITH 0.000 AF INITIALLY FILLED)
OUTFLOW VOLUME = 44.895 AF
LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<<
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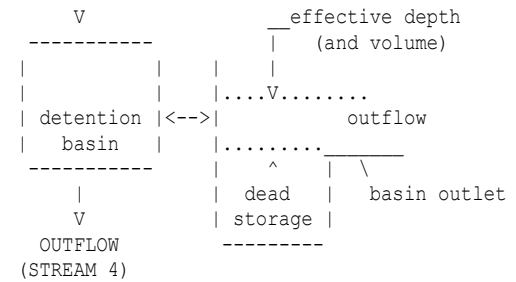
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<<
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FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<<
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INFLOW
(STREAM 4)
|
|



ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
THROUGH A FLOW-THROUGH DETENTION BASIN
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:

DEAD STORAGE(AF) = 0.000
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.48	0.70	0.400
3	1.48	6.50	1.800
4	3.48	18.11	8.500
5	5.48	23.99	17.900
6	7.48	28.68	27.800
7	9.48	32.70	38.300
8	10.48	34.50	43.900
9	11.48	36.29	49.400
10	12.48	314.07	55.900
11	13.48	895.00	62.300
12	15.48	2882.95	74.700

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MODIFIED-PULS BASIN ROUTING MODEL RESULTS(5-MINUTE COMPUTATION INTERVALS):
(Note: Computed EFFECTIVE DEPTH and VOLUME are estimated at the clock time;
MEAN OUTFLOW is the average value during the unit interval.)

CLOCK TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	LOSS (CFS)	EFFECTIVE DEPTH (FT)	MEAN OUTFLOW (CFS)	EFFECTIVE VOLUME (AF)
10.083	0.000	0.00	0.00	0.00	0.0	0.000
10.167	0.000	0.00	0.00	0.00	0.0	0.000
10.250	0.000	0.00	0.00	0.00	0.0	0.000
10.333	0.000	0.00	0.00	0.00	0.0	0.000
10.417	0.000	0.00	0.00	0.00	0.0	0.000
10.500	0.000	0.00	0.00	0.00	0.0	0.000
10.583	0.000	0.00	0.00	0.00	0.0	0.000
10.667	0.000	0.00	0.00	0.00	0.0	0.000

10.750	0.000	0.00	0.00	0.00	0.0	0.000
10.833	0.000	0.00	0.00	0.00	0.0	0.000
10.917	0.000	0.00	0.00	0.00	0.0	0.000
11.000	0.000	0.00	0.00	0.00	0.0	0.000
11.083	0.000	0.00	0.00	0.00	0.0	0.000
11.167	0.000	0.00	0.00	0.00	0.0	0.000
11.250	0.000	0.00	0.00	0.00	0.0	0.000
11.333	0.000	0.00	0.00	0.00	0.0	0.000
11.417	0.000	0.00	0.00	0.00	0.0	0.000
11.500	0.000	0.00	0.00	0.00	0.0	0.000
11.583	0.000	0.00	0.00	0.00	0.0	0.000
11.667	0.000	0.00	0.00	0.00	0.0	0.000
11.750	0.000	0.00	0.00	0.00	0.0	0.000
11.833	0.000	0.00	0.00	0.00	0.0	0.000
11.917	0.000	0.00	0.00	0.00	0.0	0.000
12.000	0.000	0.00	0.00	0.00	0.0	0.000
12.083	0.000	0.00	0.00	0.00	0.0	0.000
12.167	0.000	0.00	0.00	0.00	0.0	0.000
12.250	0.000	0.00	0.00	0.00	0.0	0.000
12.333	0.000	0.00	0.00	0.00	0.0	0.000
12.417	0.000	0.00	0.00	0.00	0.0	0.000
12.500	0.000	0.00	0.00	0.00	0.0	0.000
12.583	0.000	0.00	0.00	0.00	0.0	0.000
12.667	0.000	0.00	0.00	0.00	0.0	0.000
12.750	0.000	0.01	0.00	0.00	0.0	0.000
12.833	0.000	0.01	0.00	0.00	0.0	0.000
12.917	0.000	0.01	0.00	0.00	0.0	0.000
13.000	0.000	0.01	0.00	0.00	0.0	0.000
13.083	0.000	0.01	0.00	0.00	0.0	0.000
13.167	0.000	0.01	0.00	0.00	0.0	0.000
13.250	0.000	0.01	0.00	0.00	0.0	0.000
13.333	0.000	0.01	0.00	0.00	0.0	0.000
13.417	0.000	0.01	0.00	0.00	0.0	0.000
13.500	0.000	0.01	0.00	0.00	0.0	0.000
13.583	0.000	0.01	0.00	0.00	0.0	0.001
13.667	0.000	0.01	0.00	0.00	0.0	0.001
13.750	0.000	0.01	0.00	0.00	0.0	0.001
13.833	0.000	0.01	0.00	0.00	0.0	0.001
13.917	0.000	0.01	0.00	0.00	0.0	0.001
14.000	0.000	0.01	0.00	0.00	0.0	0.001
14.083	0.000	0.01	0.00	0.00	0.0	0.001
14.167	0.000	0.01	0.00	0.00	0.0	0.001
14.250	0.000	0.01	0.00	0.00	0.0	0.001
14.333	0.000	0.01	0.00	0.00	0.0	0.001
14.417	0.000	0.01	0.00	0.00	0.0	0.001
14.500	0.000	0.01	0.00	0.00	0.0	0.001
14.583	0.000	0.01	0.00	0.00	0.0	0.001
14.667	0.000	0.01	0.00	0.00	0.0	0.001
14.750	0.000	0.01	0.00	0.00	0.0	0.002
14.833	0.000	0.01	0.00	0.00	0.0	0.002
14.917	0.000	0.01	0.00	0.00	0.0	0.002
15.000	0.000	0.01	0.00	0.00	0.0	0.002
15.083	0.000	0.01	0.00	0.00	0.0	0.002
15.167	0.000	0.01	0.00	0.00	0.0	0.002
15.250	0.000	0.01	0.00	0.00	0.0	0.002
15.333	0.000	0.01	0.00	0.00	0.0	0.002
15.417	0.000	0.02	0.00	0.00	0.0	0.002
15.500	0.000	0.02	0.00	0.00	0.0	0.002

15.583	0.000	0.02	0.00	0.00	0.0	0.002
15.667	0.000	0.02	0.00	0.00	0.0	0.002
15.750	0.000	0.02	0.00	0.00	0.0	0.002
15.833	0.000	8.52	0.00	0.07	0.1	0.061
15.917	0.000	29.29	0.00	0.31	0.3	0.261
16.000	0.000	50.32	0.00	0.62	1.0	0.600
16.083	0.000	67.14	0.00	0.94	2.5	1.046
16.167	0.000	83.08	0.00	1.33	4.5	1.587
16.250	0.000	99.09	0.00	1.61	6.4	2.225
16.333	0.000	124.61	0.00	1.85	7.9	3.029
16.417	0.000	185.75	0.00	2.21	9.7	4.241
16.500	0.000	270.65	0.00	2.74	12.3	6.021
16.583	0.000	337.70	0.00	3.40	15.7	8.238
16.667	0.000	385.87	0.00	3.96	18.6	10.768
16.750	0.000	432.96	0.00	4.57	20.4	13.609
16.833	0.000	482.08	0.00	5.24	22.3	16.775
16.917	0.000	498.38	0.00	5.91	24.1	20.041
17.000	0.000	482.08	0.00	6.55	25.7	23.184
17.083	0.000	442.96	0.00	7.13	27.2	26.048
17.167	0.000	375.17	0.00	7.60	28.4	28.436
17.250	0.000	306.80	0.00	7.97	29.3	30.347
17.333	0.000	246.90	0.00	8.25	29.9	31.842
17.417	0.000	191.59	0.00	8.46	30.4	32.951
17.500	0.000	155.22	0.00	8.62	30.8	33.808
17.583	0.000	138.98	0.00	8.77	31.1	34.551
17.667	0.000	125.38	0.00	8.89	31.4	35.198
17.750	0.000	111.66	0.00	8.99	31.6	35.749
17.833	0.000	98.56	0.00	9.08	31.8	36.209
17.917	0.000	86.58	0.00	9.15	32.0	36.585
18.000	0.000	75.13	0.00	9.21	32.1	36.882
18.083	0.000	64.49	0.00	9.25	32.2	37.104
18.167	0.000	55.85	0.00	9.28	32.3	37.266
18.250	0.000	48.95	0.00	9.30	32.3	37.381
18.333	0.000	43.24	0.00	9.32	32.4	37.456
18.417	0.000	38.33	0.00	9.33	32.4	37.497
18.500	0.000	33.99	0.00	9.33	32.4	37.508
18.583	0.000	30.05	0.00	9.33	32.4	37.492
18.667	0.000	26.38	0.00	9.32	32.4	37.450
18.750	0.000	22.83	0.00	9.31	32.4	37.385
18.833	0.000	18.96	0.00	9.29	32.3	37.292
18.917	0.000	14.94	0.00	9.27	32.3	37.173
19.000	0.000	11.39	0.00	9.24	32.2	37.029
19.083	0.000	8.32	0.00	9.21	32.2	36.865
19.167	0.000	5.67	0.00	9.17	32.1	36.683
19.250	0.000	3.66	0.00	9.13	32.0	36.487
19.333	0.000	2.36	0.00	9.10	32.0	36.283
19.417	0.000	1.52	0.00	9.06	31.9	36.074
19.500	0.000	0.98	0.00	9.02	31.8	35.862
19.583	0.000	0.63	0.00	8.97	31.7	35.648
19.667	0.000	0.41	0.00	8.93	31.6	35.433
19.750	0.000	0.26	0.00	8.89	31.6	35.217
19.833	0.000	0.17	0.00	8.85	31.5	35.002
19.917	0.000	0.11	0.00	8.81	31.4	34.786

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 44.900 AF
 BASIN STORAGE = 0.009 AF (WITH 0.000 AF INITIALLY FILLED)
 OUTFLOW VOLUME = 44.891 AF

LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 2 HYDROGRAPH<<<<<

STREAM HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	625.0	1250.0	1875.0	2500.0
10.000	158.4059	279.58	. Q V	.	.	.	.
10.083	160.3462	281.73	. Q V	.	.	.	.
10.167	162.3017	283.94	. Q V	.	.	.	.
10.250	164.2726	286.18	. Q V	.	.	.	.
10.333	166.2594	288.48	. Q V	.	.	.	.
10.417	168.2622	290.81	. Q V	.	.	.	.
10.500	170.2816	293.21	. Q V	.	.	.	.
10.583	172.3177	295.65	. Q V	.	.	.	.
10.667	174.3711	298.15	. Q V	.	.	.	.
10.750	176.4420	300.69	. Q V	.	.	.	.
10.833	178.5309	303.31	. Q V	.	.	.	.
10.917	180.6381	305.97	. Q V	.	.	.	.
11.000	182.7643	308.71	. Q V	.	.	.	.
11.083	184.9095	311.50	. Q V	.	.	.	.
11.167	187.0746	314.37	. Q V	.	.	.	.
11.250	189.2598	317.29	. Q V	.	.	.	.
11.333	191.4658	320.30	. Q V	.	.	.	.
11.417	193.6928	323.37	. Q V	.	.	.	.
11.500	195.9417	326.54	. Q V	.	.	.	.
11.583	198.2128	329.76	. Q V	.	.	.	.
11.667	200.5069	333.10	. Q V	.	.	.	.
11.750	202.8243	336.50	. Q V	.	.	.	.
11.833	205.1660	340.01	. Q V	.	.	.	.
11.917	207.5324	343.60	. Q V	.	.	.	.
12.000	209.9244	347.31	. Q V	.	.	.	.
12.083	212.3486	352.00	. Q V	.	.	.	.
12.167	214.8126	357.77	. Q V	.	.	.	.
12.250	217.3221	364.37	. Q V	.	.	.	.
12.333	219.8926	373.24	. Q V	.	.	.	.
12.417	222.5442	385.02	. Q V	.	.	.	.

12.500	225.2890	398.55	. Q V	.	.	.	.
12.583	228.1328	412.91	. Q V	.	.	.	.
12.667	231.0623	425.37	. Q V	.	.	.	.
12.750	234.0871	439.19	. Q V	.	.	.	.
12.833	237.2203	454.95	. Q V	.	.	.	.
12.917	240.4528	469.35	. Q V	.	.	.	.
13.000	243.7888	484.39	. Q V	.	.	.	.
13.083	247.2155	497.57	. Q V	.	.	.	.
13.167	250.7215	509.07	. Q V	.	.	.	.
13.250	254.3010	519.74	. Q V	.	.	.	.
13.333	257.9484	529.60	. Q V	.	.	.	.
13.417	261.6555	538.28	. Q V	.	.	.	.
13.500	265.4205	546.67	. Q V	.	.	.	.
13.583	269.2421	554.90	. Q V	.	.	.	.
13.667	273.1180	562.78	. Q V	.	.	.	.
13.750	277.0468	570.46	. Q V	.	.	.	.
13.833	281.0286	578.16	. Q V	.	.	.	.
13.917	285.0642	585.97	. Q V	.	.	.	.
14.000	289.1523	593.59	. Q V	.	.	.	.
14.083	293.3036	602.77	. Q V	.	.	.	.
14.167	297.5307	613.78	. Q V	.	.	.	.
14.250	301.8434	626.20	. Q V	.	.	.	.
14.333	306.2668	642.27	. Q V	.	.	.	.
14.417	310.8321	662.88	. Q V	.	.	.	.
14.500	315.5589	686.33	. Q V	.	.	.	.
14.583	320.4568	711.17	. Q V	.	.	.	.
14.667	325.5383	737.84	. Q V	.	.	.	.
14.750	330.8239	767.46	. Q V	.	.	.	.
14.833	336.3406	801.04	. Q V	.	.	.	.
14.917	342.0763	832.81	. Q V	.	.	.	.
15.000	348.0474	867.01	. Q V	.	.	.	.
15.083	354.2407	899.28	. Q	.	.	.	.
15.167	360.6476	930.28	. Q	.	.	.	.
15.250	367.2726	961.95	. Q	.	.	.	.
15.333	374.1242	994.86	. Q	.	.	.	.
15.417	381.1779	1024.20	. VQ	.	.	.	.
15.500	388.4212	1051.73	. Q	.	.	.	.
15.583	395.8506	1078.75	. VQ	.	.	.	.
15.667	403.4160	1098.48	. VQ	.	.	.	.
15.750	411.0567	1109.43	. VQ	.	.	.	.
15.833	418.7730	1120.41	. Q	.	.	.	.
15.917	426.6317	1141.08	. VQ	.	.	.	.
16.000	434.7784	1182.91	. VQ	.	.	.	.
16.083	443.7374	1300.85	. V Q	.	.	.	.
16.167	453.5992	1431.93	. V . Q	.	.	.	.
16.250	464.4935	1581.85	. V . Q	.	.	.	.
16.333	476.6029	1758.28	. V . Q	.	.	.	.
16.417	490.0037	1945.80	. V . Q	.	.	.	.
16.500	504.2738	2072.02	. V . Q	.	.	.	.
16.583	519.0763	2149.32	. V . Q	.	.	.	.
16.667	534.4804	2236.67	. V . Q	.	.	.	.
16.750	550.6418	2346.64	. V . Q	.	.	.	.
16.833	567.4946	2447.02	. V . Q	.	.	.	.
16.917	583.6657	2348.04	. V . Q	.	.	.	.
17.000	599.6215	2316.78	. V . Q	.	.	.	.
17.083	614.4012	2146.01	. V . Q	.	.	.	.
17.167	628.0731	1985.16	. V . Q	.	.	.	.
17.250	640.9684	1872.39	. V . Q	.	.	.	.

17.333	653.1209	1764.55	.	.	.	V	Q	.	.
17.417	664.2925	1622.12	.	.	.	Q	V	.	.
17.500	674.5869	1494.74	.	.	.	.	V	.	.
17.583	684.1578	1389.70	.	.	.	Q	V	.	.
17.667	692.8524	1262.45	.	.	.	Q	V	.	.
17.750	700.8077	1155.12	.	.	.	Q	V	.	.
17.833	708.1143	1060.92	.	.	.	Q	V	.	.
17.917	714.9161	987.62	.	.	.	Q	V	.	.
18.000	721.0037	883.91	.	.	.	Q	V	.	.
18.083	726.7436	833.43	.	.	.	Q	V	.	.
18.167	732.2490	799.39	.	.	.	Q	V	.	.
18.250	737.5527	770.10	.	.	.	Q	V	.	.
18.333	742.6481	739.85	.	.	.	Q	V	.	.
18.417	747.5491	711.62	.	.	.	Q	V	.	.
18.500	752.2595	683.95	.	.	.	Q	V	.	.
18.583	756.7856	657.19	.	.	.	Q	V	.	.
18.667	761.1255	630.16	.	.	.	Q	V	.	.
18.750	765.2650	601.05	.	.	.	Q	V	.	.
18.833	769.0842	554.55	.	.	.	Q	V	.	.
18.917	772.7264	528.85	.	.	.	Q	V	.	.
19.000	776.2285	508.49	.	.	.	Q	V	.	.
19.083	779.6133	491.48	.	.	.	Q	V	.	.
19.167	782.8888	475.61	.	.	.	Q	V	.	.
19.250	786.0442	458.17	.	.	.	Q	V	.	.
19.333	789.0938	442.80	.	.	.	Q	V	.	.
19.417	792.0537	429.78	.	.	.	Q	V	.	.
19.500	794.9326	418.02	.	.	.	Q	V	.	.
19.583	797.7371	407.20	.	.	.	Q	V	.	.
19.667	800.4752	397.58	.	.	.	Q	V	.	.
19.750	803.1530	388.82	.	.	.	Q	V	.	.
19.833	805.7787	381.26	.	.	.	Q	V	.	.
19.917	808.3560	374.22	.	.	.	Q	V	.	.
20.000	810.8915	368.15	.	.	.	Q	V	.	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	900.0
20%	365.0
30%	225.0
40%	160.0
50%	100.0
60%	80.0
70%	65.0
80%	45.0
90%	25.0

FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<<
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THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:

BASEWIDTH(FT) = 50.00 CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 427.51
DOWNSTREAM ELEVATION(FT) = 315.00
CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040
CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:

MAXIMUM INFLOW(CFS) = 2447.02
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 1873.62
CHANNEL NORMAL VELOCITY FOR Q = 1873.62 CFS = 8.41 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.832

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
UNIT INTERVALS IS CSTAR = 0.619

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 2) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS
			LOSS (STREAM 2) (CFS)
10.000	279.58	271.71	271.71
10.083	281.73	273.71	273.71
10.167	283.94	275.75	275.75
10.250	286.18	277.83	277.83
10.333	288.48	279.95	279.95
10.417	290.81	282.12	282.12
10.500	293.21	284.33	284.33
10.583	295.65	286.59	286.59
10.667	298.15	288.89	288.89
10.750	300.69	291.24	291.24
10.833	303.31	293.64	293.64
10.917	305.97	296.09	296.09
11.000	308.71	298.59	298.59
11.083	311.50	301.16	301.16
11.167	314.37	303.78	303.78
11.250	317.29	306.46	306.46
11.333	320.30	309.20	309.20
11.417	323.37	312.01	312.01
11.500	326.54	314.88	314.88
11.583	329.76	317.83	317.83
11.667	333.10	320.84	320.84
11.750	336.50	323.94	323.94
11.833	340.01	327.11	327.11
11.917	343.60	330.36	330.36
12.000	347.31	333.70	333.70
12.083	352.00	337.13	337.13
12.167	357.77	340.65	340.65

12.250	364.37	344.27	344.27
12.333	373.24	348.42	348.42
12.417	385.02	353.43	353.43
12.500	398.55	359.31	359.31
12.583	412.91	366.73	366.73
12.667	425.37	376.45	376.45
12.750	439.19	388.29	388.29
12.833	454.95	401.58	401.58
12.917	469.35	414.62	414.62
13.000	484.39	427.95	427.95
13.083	497.57	442.52	442.52
13.167	509.07	457.17	457.17
13.250	519.74	471.98	471.98
13.333	529.60	486.03	486.03
13.417	538.28	498.73	498.73
13.500	546.67	510.28	510.28
13.583	554.90	520.90	520.90
13.667	562.78	530.48	530.48
13.750	570.46	539.36	539.36
13.833	578.16	547.86	547.86
13.917	585.97	556.03	556.03
14.000	593.59	563.92	563.92
14.083	602.77	571.69	571.69
14.167	613.78	579.47	579.47
14.250	626.20	587.18	587.18
14.333	642.27	595.58	595.58
14.417	662.88	605.35	605.35
14.500	686.33	616.57	616.57
14.583	711.17	630.30	630.30
14.667	737.84	647.67	647.67
14.750	767.46	668.42	668.42
14.833	801.04	691.51	691.51
14.917	832.81	716.57	716.57
15.000	867.01	744.05	744.05
15.083	899.28	774.77	774.77
15.167	930.28	806.38	806.38
15.250	961.95	839.27	839.27
15.333	994.86	872.03	872.03
15.417	1024.20	903.88	903.88
15.500	1051.73	935.52	935.52
15.583	1078.75	967.78	967.78
15.667	1098.48	998.72	998.72
15.750	1109.43	1027.79	1027.79
15.833	1120.41	1055.67	1055.67
15.917	1141.08	1079.49	1079.49
16.000	1182.91	1096.53	1096.53
16.083	1300.85	1109.82	1109.82
16.167	1431.93	1126.37	1126.37
16.250	1581.85	1155.70	1155.70
16.333	1758.28	1229.57	1229.57
16.417	1945.80	1337.06	1337.06
16.500	2072.02	1468.25	1468.25
16.583	2149.32	1623.84	1623.84
16.667	2236.67	1797.68	1797.68
16.750	2346.64	1950.34	1950.34
16.833	2447.02	2062.99	2062.99
16.917	2348.04	2158.63	2158.63
17.000	2316.78	2260.09	2260.09

17.083	2146.01	2362.17	2362.17
17.167	1985.16	2366.78	2366.78
17.250	1872.39	2340.07	2340.07
17.333	1764.55	2243.07	2243.07
17.417	1622.12	2105.25	2105.25
17.500	1494.74	1976.43	1976.43
17.583	1389.70	1859.93	1859.93
17.667	1262.45	1732.05	1732.05
17.750	1155.12	1602.45	1602.45
17.833	1060.92	1485.03	1485.03
17.917	987.62	1364.52	1364.52
18.000	883.91	1249.48	1249.48
18.083	833.43	1145.56	1145.56
18.167	799.39	1057.76	1057.76
18.250	770.10	964.22	964.22
18.333	739.85	890.13	890.13
18.417	711.62	838.60	838.60
18.500	683.95	800.18	800.18
18.583	657.19	766.95	766.95
18.667	630.16	736.53	736.53
18.750	601.05	707.74	707.74
18.833	554.55	680.08	680.08
18.917	528.85	652.85	652.85
19.000	508.49	624.74	624.74
19.083	491.48	587.60	587.60
19.167	475.61	554.73	554.73
19.250	458.17	528.88	528.88
19.333	442.80	508.04	508.04
19.417	429.78	490.12	490.12
19.500	418.02	472.71	472.71
19.583	407.20	456.28	456.28
19.667	397.58	441.65	441.65
19.750	388.82	428.62	428.62
19.833	381.26	416.83	416.83
19.917	374.22	406.22	406.22
20.000	368.15	396.64	396.64

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PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 969.226 AF
 OUTFLOW VOLUME = 969.226 AF
 LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 100.00 TO NODE 13305.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

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(UNIT-HYDROGRAPH ADDED TO STREAM #1)

WATERSHED AREA = 510.200 ACRES
 BASEFLOW = 0.000 CFS/SQUARE-MILE
 *USER ENTERED "LAG" TIME = 0.275 HOURS
 CAUTION: LAG TIME IS LESS THAN 0.50 HOURS.
 THE 5-MINUTE PERIOD UH MODEL (USED IN THIS COMPUTER PROGRAM)
 MAY BE TOO LARGE FOR PEAK FLOW ESTIMATES.
 VALLEY (DEVELOPED) S-GRAPH SELECTED

MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.130
 LOW LOSS FRACTION = 0.282
 HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.40
 SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.87
 SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 1.15
 SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.94
 SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.71
 SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 4.49

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
 5-MINUTE FACTOR = 0.754
 30-MINUTE FACTOR = 0.754
 1-HOUR FACTOR = 0.754
 3-HOUR FACTOR = 0.961
 6-HOUR FACTOR = 0.979
 24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
 UNIT INTERVAL PERCENTAGE OF LAG-TIME = 30.303

RUNOFF HYDROGRAPH LISTING LIMITS:
 MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
 MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	1.897	117.047
2	11.178	572.680
3	29.641	1139.210
4	54.278	1520.146
5	75.754	1325.101
6	88.015	756.576
7	94.253	384.898
8	97.340	190.424
9	98.423	66.864
10	98.992	35.062
11	99.460	28.892
12	99.784	19.998
13	99.946	9.999
14	100.000	3.333

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 47.0086
 TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 141.3940

24 - HOUR STORM
 RUNOFF HYDROGRAPH

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
 (Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	200.0	400.0	600.0	800.0
10.000	26.2849	45.12	. Q	V	.	.	.
10.083	26.5982	45.50	. Q	V	.	.	.
10.167	26.9142	45.88	. Q	V	.	.	.
10.250	27.2329	46.27	. Q	V	.	.	.
10.333	27.5544	46.68	. Q	V	.	.	.
10.417	27.8787	47.09	. Q	V	.	.	.
10.500	28.2059	47.51	. Q	V	.	.	.
10.583	28.5361	47.94	. Q	V	.	.	.
10.667	28.8693	48.38	. Q	V	.	.	.
10.750	29.2056	48.83	. Q	V	.	.	.
10.833	29.5452	49.30	. Q	V	.	.	.
10.917	29.8879	49.77	. Q	V	.	.	.
11.000	30.2341	50.26	. Q	V	.	.	.
11.083	30.5836	50.76	. Q	V	.	.	.
11.167	30.9367	51.27	. Q	V	.	.	.
11.250	31.2935	51.79	. Q	V	.	.	.
11.333	31.6539	52.34	. Q	V	.	.	.
11.417	32.0182	52.89	. Q	V	.	.	.
11.500	32.3863	53.46	. Q	V	.	.	.
11.583	32.7586	54.05	. Q	V	.	.	.
11.667	33.1349	54.65	. Q	V	.	.	.
11.750	33.5156	55.27	. Q	V	.	.	.
11.833	33.9007	55.91	. Q	V	.	.	.
11.917	34.2902	56.57	. Q	V	.	.	.
12.000	34.6845	57.25	. Q	V	.	.	.
12.083	35.0866	58.39	. Q	V	.	.	.
12.167	35.5084	61.24	. Q	V	.	.	.
12.250	35.9644	66.22	. Q	V	.	.	.
12.333	36.4647	72.65	. Q	V	.	.	.
12.417	37.0046	78.39	. Q	V	.	.	.
12.500	37.5698	82.07	. Q	V	.	.	.
12.583	38.1510	84.40	. Q	V	.	.	.
12.667	38.7437	86.05	. Q	V	.	.	.
12.750	39.3447	87.27	. Q	.V	.	.	.
12.833	39.9536	88.41	. Q	.V	.	.	.
12.917	40.5704	89.56	. Q	.V	.	.	.
13.000	41.1952	90.72	. Q	.V	.	.	.
13.083	41.8280	91.88	. Q	.V	.	.	.
13.167	42.4690	93.07	. Q	.V	.	.	.
13.250	43.1183	94.28	. Q	.V	.	.	.
13.333	43.7764	95.55	. Q	.V	.	.	.
13.417	44.4436	96.87	. Q	.V	.	.	.
13.500	45.1202	98.25	. Q	.V	.	.	.
13.583	45.8068	99.69	. Q	.V	.	.	.
13.667	46.5037	101.19	. Q	.V	.	.	.
13.750	47.2115	102.77	. Q	.V	.	.	.
13.833	47.9307	104.43	. Q	.V	.	.	.

13.917	48.6618	106.16	.	Q	.	V	.	.	.
14.000	49.4056	107.99	.	Q	.	V	.	.	.
14.083	50.1682	110.73	.	Q	.	V	.	.	.
14.167	50.9721	116.73	.	Q	.	V	.	.	.
14.250	51.8450	126.74	.	Q	.	V	.	.	.
14.333	52.8054	139.45	.	Q	.	V	.	.	.
14.417	53.8442	150.84	.	Q	.	V	.	.	.
14.500	54.9348	158.35	.	Q	.	V	.	.	.
14.583	56.0604	163.44	.	Q	.	V	.	.	.
14.667	57.2140	167.50	.	Q	.	V	.	.	.
14.750	58.3923	171.10	.	Q	.	V	.	.	.
14.833	59.5974	174.98	.	Q	.	V	.	.	.
14.917	60.8318	179.23	.	Q	.	V	.	.	.
15.000	62.0979	183.85	.	Q	.	V	.	.	.
15.083	63.3982	188.80	.	Q	.	V	.	.	.
15.167	64.7356	194.19	.	Q	.	V	.	.	.
15.250	66.1136	200.08	.	Q	.	V	.	.	.
15.333	67.5366	206.63	.	Q	.	V	.	.	.
15.417	68.9948	211.72	.	Q	.	V	.	.	.
15.500	70.4358	209.23	.	Q	.	V	.	.	.
15.583	71.7934	197.13	.	Q	.	V	.	.	.
15.667	73.0273	179.15	.	Q	.	V	.	.	.
15.750	74.1784	167.15	.	Q	.	V	.	.	.
15.833	75.3591	171.44	.	Q	.	V	.	.	.
15.917	76.6855	192.59	.	Q	.	V	.	.	.
16.000	78.3056	235.24	.	.Q	.	V	.	.	.
16.083	80.5476	325.54	.	.	Q	V	.	.	.
16.167	83.9412	492.75	.	.	.	VQ	.	.	.
16.250	88.4726	657.96	.	.	.	V	.	Q	.
16.333	93.4973	729.58	.	.	.	V	.	Q	.
16.417	97.8498	631.99	.	.	.	V	.	.Q	.
16.500	100.9319	447.52	.	.	.	Q	V	.	.
16.583	103.1708	325.08	.	.	Q	.	V	.	.
16.667	104.9966	265.12	.	.	Q	.	V	.	.
16.750	106.5925	231.72	.	.	.Q	.	V	.	.
16.833	108.0877	217.10	.	.	Q	.	V	.	.
16.917	109.5114	206.72	.	.	Q	.	V	.	.
17.000	110.8562	195.27	.	.	Q	.	V	.	.
17.083	112.1151	182.80	.	.	Q	.	V	.	.
17.167	113.2822	169.46	.	.	Q	.	V	.	.
17.250	114.3471	154.62	.	.	Q	.	V	.	.
17.333	115.3039	138.92	.	.	Q	.	V	.	.
17.417	116.1658	125.15	.	.	Q	.	V	.	.
17.500	116.9626	115.70	.	.	Q	.	V	.	.
17.583	117.7147	109.20	.	.	Q	.	V	.	.
17.667	118.4337	104.40	.	.	Q	.	V	.	.
17.750	119.1279	100.79	.	.	Q	.	V	.	.
17.833	119.8005	97.67	.	.	Q	.	V	.	.
17.917	120.4537	94.84	.	.	Q	.	V	.	.
18.000	121.0892	92.28	.	.	Q	.	V	.	.
18.083	121.7058	89.53	.	.	Q	.	V	.	.
18.167	122.2933	85.30	.	.	Q	.	V	.	.
18.250	122.8383	79.15	.	.	Q	.	V	.	.
18.333	123.3324	71.73	.	.	Q	.	V	.	.
18.417	123.7813	65.18	.	.	Q	.	V	.	.
18.500	124.2005	60.87	.	.	Q	.	V	.	.
18.583	124.6002	58.03	.	.	Q	.	V	.	.
18.667	124.9859	56.01	.	.	Q	.	V	.	.

18.750	125.3614	54.52	.	Q	.	.	.	V	.
18.833	125.7279	53.22	.	Q	.	.	.	V	.
18.917	126.0862	52.01	.	Q	.	.	.	V	.
19.000	126.4367	50.89	.	Q	.	.	.	V	.
19.083	126.7801	49.86	.	Q	.	.	.	V	.
19.167	127.1169	48.91	.	Q	.	.	.	V	.
19.250	127.4476	48.01	.	Q	.	.	.	V	.
19.333	127.7723	47.15	.	Q	.	.	.	V	.
19.417	128.0914	46.33	.	Q	.	.	.	V	.
19.500	128.4051	45.55	.	Q	.	.	.	V	.
19.583	128.7137	44.80	.	Q	.	.	.	V	.
19.667	129.0173	44.09	.	Q	.	.	.	V	.
19.750	129.3162	43.40	.	Q	.	.	.	V	.
19.833	129.6105	42.74	.	Q	.	.	.	V	.
19.917	129.9005	42.10	.	Q	.	.	.	V	.
20.000	130.1862	41.49	.	Q	.	.	.	V	.

 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	355.0
20%	175.0
30%	50.0
40%	35.0
50%	25.0
60%	25.0
70%	15.0
80%	15.0
90%	10.0

 FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 7

>>>>STREAM NUMBER 1 ADDED TO STREAM NUMBER 2<<<<<
 =====

 FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6

>>>>STREAM NUMBER 1 CLEARED AND SET TO ZERO<<<<<
 =====

 FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<
 =====

(UNIT-HYDROGRAPH ADDED TO STREAM #3)

WATERSHED AREA = 810.600 ACRES
 BASEFLOW = 0.000 CFS/SQUARE-MILE
 *USER ENTERED "LAG" TIME = 0.483 HOURS
 CAUTION: LAG TIME IS LESS THAN 0.50 HOURS.
 THE 5-MINUTE PERIOD UH MODEL (USED IN THIS COMPUTER PROGRAM)
 MAY BE TOO LARGE FOR PEAK FLOW ESTIMATES.
 VALLEY(DEVELOPED) S-GRAPH SELECTED
 MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.282
 LOW LOSS FRACTION = 0.411
 HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL(INCH)= 0.40
 SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)= 0.87
 SPECIFIED PEAK 1-HOUR RAINFALL(INCH) = 1.15
 SPECIFIED PEAK 3-HOUR RAINFALL(INCH) = 1.94
 SPECIFIED PEAK 6-HOUR RAINFALL(INCH) = 2.71
 SPECIFIED PEAK 24-HOUR RAINFALL(INCH) = 4.49

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
 5-MINUTE FACTOR = 0.754
 30-MINUTE FACTOR = 0.754
 1-HOUR FACTOR = 0.754
 3-HOUR FACTOR = 0.961
 6-HOUR FACTOR = 0.979
 24-HOUR FACTOR = 0.987

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
 UNIT INTERVAL PERCENTAGE OF LAG-TIME = 17.253

RUNOFF HYDROGRAPH LISTING LIMITS:
 MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 10.00
 MODEL TIME(HOURS) FOR END OF RESULTS = 20.00

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UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.986	96.650
2	3.586	254.878
3	9.709	600.252
4	19.478	957.719
5	30.804	1110.285
6	44.773	1369.416
7	59.329	1426.970
8	72.078	1249.752
9	80.980	872.704
10	87.450	634.235
11	91.534	400.390
12	94.563	296.964
13	96.475	187.426
14	97.763	126.229
15	98.284	51.149
16	98.608	31.710

17	98.931	31.706
18	99.255	31.716
19	99.578	31.706
20	99.902	31.706
21	100.000	9.630

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 114.1522
 TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 185.2001

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)

(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	200.0	400.0	600.0	800.0
10.000	33.2025	57.59	. Q	V	.	.	.
10.083	33.6023	58.05	. Q	V	.	.	.
10.167	34.0054	58.53	. Q	V	.	.	.
10.250	34.4118	59.01	. Q	V	.	.	.
10.333	34.8216	59.51	. Q	V	.	.	.
10.417	35.2349	60.01	. Q	V	.	.	.
10.500	35.6518	60.53	. Q	V	.	.	.
10.583	36.0723	61.06	. Q	V	.	.	.
10.667	36.4966	61.60	. Q	V	.	.	.
10.750	36.9247	62.16	. Q	V	.	.	.
10.833	37.3567	62.73	. Q	V	.	.	.
10.917	37.7927	63.31	. Q	V	.	.	.
11.000	38.2328	63.90	. Q	V	.	.	.
11.083	38.6771	64.51	. Q	V	.	.	.
11.167	39.1257	65.14	. Q	V	.	.	.
11.250	39.5788	65.78	. Q	V	.	.	.
11.333	40.0363	66.44	. Q	V	.	.	.
11.417	40.4986	67.11	. Q	V	.	.	.
11.500	40.9656	67.81	. Q	V	.	.	.
11.583	41.4375	68.52	. Q	V	.	.	.
11.667	41.9145	69.26	. Q	V	.	.	.
11.750	42.3966	70.01	. Q	V	.	.	.
11.833	42.8841	70.79	. Q	V	.	.	.
11.917	43.3771	71.58	. Q	V	.	.	.
12.000	43.8757	72.40	. Q	V	.	.	.
12.083	44.3822	73.54	. Q	V	.	.	.
12.167	44.9001	75.19	. Q	V	.	.	.
12.250	45.4367	77.92	. Q	V	.	.	.
12.333	45.9999	81.77	. Q	V	.	.	.
12.417	46.5930	86.12	. Q	V	.	.	.
12.500	47.2218	91.31	. Q	V	.	.	.
12.583	47.8878	96.70	. Q	V	.	.	.
12.667	48.5877	101.61	. Q	V	.	.	.
12.750	49.3137	105.41	. Q	V	.	.	.
12.833	50.0612	108.55	. Q	V	.	.	.
12.917	50.8257	111.00	. Q	V	.	.	.
13.000	51.6053	113.20	. Q	.V	.	.	.
13.083	52.3980	115.10	. Q	.V	.	.	.
13.167	53.2030	116.88	. Q	.V	.	.	.
13.250	54.0189	118.47	. Q	.V	.	.	.
13.333	54.8458	120.07	. Q	.V	.	.	.
13.417	55.6841	121.72	. Q	.V	.	.	.
13.500	56.5342	123.44	. Q	.V	.	.	.
13.583	57.3966	125.22	. Q	.V	.	.	.
13.667	58.2718	127.08	. Q	.V	.	.	.
13.750	59.1599	128.94	. Q	.V	.	.	.
13.833	60.0612	130.88	. Q	.V	.	.	.

13.917	60.9764	132.88	. Q	. V	.	.	.
14.000	61.9062	135.00	. Q	. V	.	.	.
14.083	62.8550	137.76	. Q	. V	.	.	.
14.167	63.8298	141.55	. Q	. V	.	.	.
14.250	64.8450	147.40	. Q	. V	.	.	.
14.333	65.9152	155.40	. Q	. V	.	.	.
14.417	67.0471	164.35	. Q	. V	.	.	.
14.500	68.2516	174.89	. Q	. V	.	.	.
14.583	69.5314	185.83	. Q	. V	.	.	.
14.667	70.8804	195.88	. Q	. V	.	.	.
14.750	72.2846	203.88	. Q	. V	.	.	.
14.833	73.7358	210.71	. Q	. V	.	.	.
14.917	75.2259	216.36	. Q	. V	.	.	.
15.000	76.7526	221.68	. Q	. V	.	.	.
15.083	78.3132	226.60	. Q	. V	.	.	.
15.167	79.9076	231.51	. Q	. V	.	.	.
15.250	81.5351	236.30	. Q	. V	.	.	.
15.333	83.1979	241.44	. Q	. V	.	.	.
15.417	84.8910	245.83	. Q	. V	.	.	.
15.500	86.6051	248.89	. Q	. V	.	.	.
15.583	88.3159	248.40	. Q	. V	.	.	.
15.667	90.0002	244.57	. Q	. V	.	.	.
15.750	91.6561	240.44	. Q	. V	.	.	.
15.833	93.2786	235.58	. Q	. V	.	.	.
15.917	94.8990	235.27	. Q	. V	.	.	.
16.000	96.5986	246.78	. Q	. V	.	.	.
16.083	98.3324	295.32	. Q	. V	.	.	.
16.167	101.2012	372.99	. Q	. V	.	.	.
16.250	104.6068	494.49	. Q	. V	. Q	.	.
16.333	108.8037	609.40	. Q	. V	. Q	.	.
16.417	113.4125	669.20	. Q	. V	. Q	.	.
16.500	118.4536	731.97	. Q	. V	. Q	.	.
16.583	123.4672	727.97	. Q	. V	. Q	.	.
16.667	127.9836	655.78	. Q	. V	. Q	.	.
16.750	131.6786	536.51	. Q	. V	. Q	.	.
16.833	134.8046	453.90	. Q	. V	. Q	.	.
16.917	137.4352	381.96	. Q	. V	. Q	.	.
17.000	139.7977	343.05	. Q	. V	. Q	.	.
17.083	141.8913	303.99	. Q	. V	. Q	.	.
17.167	143.7926	276.07	. Q	. V	. Q	.	.
17.250	145.4848	245.70	. Q	. V	. Q	.	.
17.333	147.0571	228.30	. Q	. V	. Q	.	.
17.417	148.5409	215.46	. Q	. V	. Q	.	.
17.500	149.9299	201.67	. Q	. V	. Q	.	.
17.583	151.2172	186.93	. Q	. V	. Q	.	.
17.667	152.4068	172.72	. Q	. V	. Q	.	.
17.750	153.4850	156.56	. Q	. V	. Q	.	.
17.833	154.4873	145.53	. Q	. V	. Q	.	.
17.917	155.4436	138.84	. Q	. V	. Q	.	.
18.000	156.3619	133.34	. Q	. V	. Q	.	.
18.083	157.2455	128.30	. Q	. V	. Q	.	.
18.167	158.0949	123.33	. Q	. V	. Q	.	.
18.250	158.9077	118.03	. Q	. V	. Q	.	.
18.333	159.6791	112.00	. Q	. V	. Q	.	.
18.417	160.4073	105.74	. Q	. V	. Q	.	.
18.500	161.0885	98.90	. Q	. V	. Q	.	.
18.583	161.7226	92.07	. Q	. V	. Q	.	.
18.667	162.3146	85.95	. Q	. V	. Q	.	.

18.750	162.8742	81.26	.	Q	.	.	.	V	.
18.833	163.4078	77.48	.	Q	.	.	.	V	.
18.917	163.9212	74.54	.	Q	.	.	.	V	.
19.000	164.4171	72.01	.	Q	.	.	.	V	.
19.083	164.8986	69.91	.	Q	.	.	.	V	.
19.167	165.3675	68.09	.	Q	.	.	.	V	.
19.250	165.8260	66.57	.	Q	.	.	.	V	.
19.333	166.2749	65.18	.	Q	.	.	.	V	.
19.417	166.7147	63.85	.	Q	.	.	.	V	.
19.500	167.1457	62.59	.	Q	.	.	.	V	.
19.583	167.5684	61.38	.	Q	.	.	.	V	.
19.667	167.9832	60.22	.	Q	.	.	.	V	.
19.750	168.3907	59.17	.	Q	.	.	.	V	.
19.833	168.7915	58.20	.	Q	.	.	.	V	.
19.917	169.1859	57.27	.	Q	.	.	.	V	.
20.000	169.5742	56.38	.	Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	415.0
20%	215.0
30%	145.0
40%	65.0
50%	50.0
60%	40.0
70%	30.0
80%	25.0
90%	15.0

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
=====

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
=====

FLOW PROCESS FROM NODE 13305.00 TO NODE 13305.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 2 HYDROGRAPH<<<<<
=====

STREAM HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	725.0	1450.0	2175.0	2900.0
-----	-----	-----	-----	-----	-----	-----	-----
10.000	210.5957	374.41	.	QV	.	.	.
10.083	213.1939	377.26	.	QV	.	.	.
10.167	215.8121	380.16	.	QV	.	.	.
10.250	218.4506	383.12	.	QV	.	.	.
10.333	221.1100	386.14	.	QV	.	.	.
10.417	223.7906	389.22	.	QV	.	.	.
10.500	226.4929	392.37	.	QV	.	.	.
10.583	229.2173	395.59	.	Q V	.	.	.
10.667	231.9644	398.87	.	Q V	.	.	.
10.750	234.7345	402.23	.	Q V	.	.	.
10.833	237.5283	405.66	.	Q V	.	.	.
10.917	240.3463	409.17	.	Q V	.	.	.
11.000	243.1890	412.76	.	Q V	.	.	.
11.083	246.0570	416.43	.	Q V	.	.	.
11.167	248.9508	420.19	.	Q V	.	.	.
11.250	251.8712	424.03	.	Q V	.	.	.
11.333	254.8187	427.98	.	Q V	.	.	.
11.417	257.7940	432.01	.	Q V	.	.	.
11.500	260.7978	436.15	.	Q V	.	.	.
11.583	263.8308	440.40	.	Q V	.	.	.
11.667	266.8938	444.75	.	Q V	.	.	.
11.750	269.9876	449.21	.	Q V	.	.	.
11.833	273.1130	453.80	.	Q V	.	.	.
11.917	276.2708	458.51	.	Q V	.	.	.
12.000	279.4619	463.35	.	Q V	.	.	.
12.083	282.6923	469.06	.	Q V	.	.	.
12.167	285.9779	477.08	.	Q V	.	.	.
12.250	289.3416	488.40	.	Q V	.	.	.
12.333	292.8047	502.84	.	Q V	.	.	.
12.417	296.3717	517.94	.	Q V	.	.	.
12.500	300.0403	532.68	.	Q V	.	.	.
12.583	303.8133	547.83	.	Q V	.	.	.
12.667	307.6983	564.11	.	Q V	.	.	.
12.750	311.6996	580.98	.	QV	.	.	.
12.833	315.8217	598.54	.	QV	.	.	.
12.917	320.0585	615.18	.	QV	.	.	.
13.000	324.4103	631.88	.	Q V	.	.	.
13.083	328.8835	649.51	.	Q V	.	.	.
13.167	333.4780	667.12	.	QV	.	.	.
13.250	338.1938	684.73	.	QV	.	.	.
13.333	343.0261	701.65	.	QV	.	.	.
13.417	347.9663	717.32	.	QV	.	.	.
13.500	353.0074	731.98	.	Q	.	.	.
13.583	358.1438	745.81	.	QV	.	.	.
13.667	363.3694	758.76	.	QV	.	.	.
13.750	368.6799	771.08	.	QV	.	.	.
13.833	374.0736	783.17	.	QV	.	.	.
13.917	379.5493	795.07	.	QV	.	.	.
14.000	385.1066	806.92	.	.Q	.	.	.
14.083	390.7552	820.18	.	.QV	.	.	.
14.167	396.5248	837.75	.	.QV	.	.	.
14.250	402.4567	861.31	.	.QV	.	.	.
14.333	408.5892	890.43	.	.Q	.	.	.
14.417	414.9290	920.54	.	.Q	.	.	.
14.500	421.4704	949.82	.	.Q	.	.	.

14.583	428.2167	979.57	.	.	Q	.	.	.
14.667	435.1799	1011.05	.	.	Q	.	.	.
14.750	442.3658	1043.41	.	.	VQ	.	.	.
14.833	449.7846	1077.20	.	.	VQ	.	.	.
14.917	457.4441	1112.16	.	.	VQ	.	.	.
15.000	465.3613	1149.58	.	.	VQ	.	.	.
15.083	473.5581	1190.17	.	.	V Q	.	.	.
15.167	482.0435	1232.09	.	.	V Q	.	.	.
15.250	490.8290	1275.65	.	.	V Q	.	.	.
15.333	499.9207	1320.10	.	.	V Q	.	.	.
15.417	509.2969	1361.43	.	.	V Q	.	.	.
15.500	518.8951	1393.65	.	.	V Q	.	.	.
15.583	528.6287	1413.32	.	.	V Q	.	.	.
15.667	538.4251	1422.44	.	.	V Q	.	.	.
15.750	548.3106	1435.38	.	.	V Q	.	.	.
15.833	558.3842	1462.69	.	.	V Q	.	.	.
15.917	568.7654	1507.35	.	.	V Q	.	.	.
16.000	579.6370	1578.56	.	.	V .Q	.	.	.
16.083	591.5562	1730.67	.	.	V . Q	.	.	.
16.167	605.2760	1992.11	.	.	V . Q	.	.	.
16.250	621.1723	2308.15	.	.	V . .Q	.	.	.
16.333	638.8621	2568.55	.	.	V . . Q	.	.	.
16.417	657.0318	2638.24	.	.	V . . Q	.	.	.
16.500	675.2669	2647.74	.	.	V . . Q	.	.	.
16.583	693.7028	2676.89	.	.	.V . . Q	.	.	.
16.667	712.4258	2718.59	.	.	.V . . Q	.	.	.
16.750	731.1487	2718.57	.	.	.V . . Q	.	.	.
16.833	749.9778	2733.99	.	.	.V . . Q	.	.	.
16.917	768.8987	2747.31	.	.	.V . . Q	.	.	.
17.000	788.1714	2798.40	.	.	.V . . Q	.	.	.
17.083	807.7924	2848.96	.	.	.V . . Q	.	.	.
17.167	827.1609	2812.31	.	.	.V . . Q	.	.	.
17.250	846.0341	2740.40	.	.	.V . . Q	.	.	.
17.333	864.0114	2610.29	.	.	.V . . Q	.	.	.
17.417	880.8561	2445.85	.	.	.V . . Q	.	.	.
17.500	896.6536	2293.81	.	.	.V .Q	.	.	.
17.583	911.5024	2156.05	.	.	.VQ .	.	.	.
17.667	925.3397	2009.18	.	.	.QV .	.	.	.
17.750	938.1483	1859.80	.	.	.Q V .	.	.	.
17.833	950.0507	1728.23	.	.	.Q V .	.	.	.
17.917	961.0576	1598.21	.	.	.Q V .	.	.	.
18.000	971.2167	1475.10	.	.	.Q V .	.	.	.
18.083	980.6064	1363.38	.	.	.Q V .	.	.	.
18.167	989.3281	1266.39	.	.	.Q V .	.	.	.
18.250	997.3267	1161.39	.	.	.Q V .	.	.	.
18.333	1004.7225	1073.87	.	.	.Q V .	.	.	.
18.417	1011.6751	1009.52	.	.	.Q V .	.	.	.
18.500	1018.2863	959.95	.	.	.Q V .	.	.	.
18.583	1024.6021	917.05	.	.	.Q V .	.	.	.
18.667	1030.6523	878.50	.	.	.Q V .	.	.	.
18.750	1036.4618	843.52	.	.	.Q V .	.	.	.
18.833	1042.0458	810.79	.	.	.Q V .	.	.	.
18.917	1047.4136	779.40	.	.	.Q V .	.	.	.
19.000	1052.5626	747.64	.	.	.Q V .	.	.	.
19.083	1057.4343	707.37	.	.	.Q V .	.	.	.
19.167	1062.0605	671.72	.	.	.Q V .	.	.	.
19.250	1066.4921	643.45	.	.	.Q V .	.	.	.
19.333	1070.7645	620.37	.	.	.Q V .	.	.	.

19.417	1074.8989	600.31	.	.	Q .	.	.	V .
19.500	1078.8993	580.85	.	.	Q .	.	.	V .
19.583	1082.7731	562.46	.	.	Q .	.	.	V .
19.667	1086.5331	545.95	.	.	Q .	.	.	V .
19.750	1090.1914	531.19	.	.	Q .	.	.	V .
19.833	1093.7573	517.77	.	.	Q .	.	.	V .
19.917	1097.2394	505.59	.	.	Q .	.	.	V .
20.000	1100.6450	494.50	.	.	Q .	.	.	V .

 TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	1080.0
20%	410.0
30%	270.0
40%	200.0
50%	140.0
60%	110.0
70%	90.0
80%	80.0
90%	65.0
=====	=====

END OF FLOODSCx ROUTING ANALYSIS

FLOOD ROUTING ANALYSIS
USING COUNTY HYDROLOGY MANUAL OF ORANGE (1986)
(c) Copyright 1989-2013 Advanced Engineering Software (aes)
Ver. 20.0 Release Date: 06/01/2013 License ID 1264

Analysis prepared by:

Michael Baker International
5 Hutton Centre Drive Suite 500
Santa Ana, CA 92707

***** DESCRIPTION OF STUDY *****
* RANCHO MISSION VIEJO - COMPLEX UH *
* ULTIMATE CONDITION - LOCAL NODE 133T *
* 100-YR EV AUGUST 2018 ROKAMOTO *

FILE NAME: EV0033TC.DAT
TIME/DATE OF STUDY: 09:34 02/08/2019

FLOW PROCESS FROM NODE 13010.00 TO NODE 132.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

=====

(UNIT-HYDROGRAPH ADDED TO STREAM #2)

WATERSHED AREA = 4924.400 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.795 HOURS
VALLEY (DEVELOPED) S-GRAPH SELECTED
MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.244
LOW LOSS FRACTION = 0.515
HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.40
SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.87
SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 1.15
SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.94
SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.71
SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 4.49

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.744
30-MINUTE FACTOR = 0.744
1-HOUR FACTOR = 0.744
3-HOUR FACTOR = 0.959
6-HOUR FACTOR = 0.978
24-HOUR FACTOR = 0.986

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 10.482

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.599	356.720
2	1.831	733.770
3	3.556	1027.088
4	6.695	1869.576
5	11.711	2987.196
6	17.780	3614.240
7	24.320	3895.169
8	31.406	4219.920
9	39.536	4841.828
10	49.118	5706.248
11	57.463	4970.213
12	66.163	5181.218
13	73.208	4195.692
14	78.677	3256.871
15	83.329	2770.256
16	87.117	2255.902
17	89.790	1591.898
18	92.011	1323.059
19	93.944	1150.833
20	95.353	839.020
21	96.422	637.114
22	97.244	489.587
23	97.961	426.666
24	98.212	149.804
25	98.409	117.181
26	98.605	116.849
27	98.802	117.181
28	98.999	116.958
29	99.195	117.072
30	99.392	116.958
31	99.588	116.958
32	99.784	116.958
33	99.981	116.958
34	100.000	11.500

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 834.1907
TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 982.9713

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)

(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	875.0	1750.0	2625.0	3500.0
10.000	158.3863	279.51	. Q	V	.	.	.
10.083	160.3261	281.66	. Q	V	.	.	.
10.167	162.2811	283.87	. Q	V	.	.	.
10.250	164.2515	286.10	. Q	V	.	.	.
10.333	166.2377	288.40	. Q	V	.	.	.
10.417	168.2400	290.73	. Q	V	.	.	.
10.500	170.2588	293.13	. Q	V	.	.	.
10.583	172.2944	295.56	. Q	V	.	.	.
10.667	174.3472	298.07	. Q	V	.	.	.
10.750	176.4174	300.60	. Q	V	.	.	.
10.833	178.5057	303.22	. Q	V	.	.	.
10.917	180.6123	305.88	. Q	V	.	.	.
11.000	182.7378	308.62	. Q	V	.	.	.
11.083	184.8824	311.40	. Q	V	.	.	.
11.167	187.0468	314.27	. Q	V	.	.	.
11.250	189.2313	317.19	. Q	V	.	.	.
11.333	191.4365	320.20	. Q	V	.	.	.
11.417	193.6629	323.26	. Q	V	.	.	.
11.500	195.9110	326.43	. Q	V	.	.	.
11.583	198.1813	329.65	. Q	V	.	.	.
11.667	200.4746	332.98	. Q	V	.	.	.
11.750	202.7913	336.38	. Q	V	.	.	.
11.833	205.1322	339.89	. Q	V	.	.	.
11.917	207.4977	343.48	. Q	V	.	.	.
12.000	209.8888	347.19	. Q	V	.	.	.
12.083	212.3122	351.88	. Q	V	.	.	.
12.167	214.7754	357.66	. Q	V	.	.	.
12.250	217.2841	364.27	. Q	V	.	.	.
12.333	219.8541	373.16	. Q	V	.	.	.
12.417	222.5054	384.97	. Q	V	.	.	.
12.500	225.2502	398.55	. Q	V	.	.	.
12.583	228.0943	412.96	. Q	V	.	.	.
12.667	231.0448	428.40	. Q	V	.	.	.
12.750	234.1133	445.55	. Q	V	.	.	.
12.833	237.3165	465.11	. Q	V	.	.	.
12.917	240.6429	482.98	. Q	V	.	.	.
13.000	244.0977	501.64	. Q	V	.	.	.
13.083	247.6651	517.99	. Q	V	.	.	.
13.167	251.3308	532.25	. Q	V	.	.	.
13.250	255.0874	545.47	. Q	V	.	.	.
13.333	258.9283	557.69	. Q	V	.	.	.
13.417	262.8431	568.43	. Q	V	.	.	.
13.500	266.8295	578.82	. Q	V	.	.	.
13.583	270.8860	589.00	. Q	.V	.	.	.
13.667	275.0096	598.75	. Q	.V	.	.	.
13.750	279.1985	608.24	. Q	.V	.	.	.
13.833	283.4530	617.75	. Q	.V	.	.	.

13.917	287.7739	627.40	. Q	.V	.	.	.
14.000	292.1597	636.81	. Q	.V	.	.	.
14.083	296.6240	648.22	. Q	.V	.	.	.
14.167	301.1831	661.98	. Q	.V	.	.	.
14.250	305.8494	677.55	. Q	.V	.	.	.
14.333	310.6551	697.79	. Q	.V	.	.	.
14.417	315.6405	723.88	. Q	.V	.	.	.
14.500	320.8307	753.61	. Q	.V	.	.	.
14.583	326.2381	785.16	. Q	.V	.	.	.
14.667	331.8792	819.09	. Q	.V	.	.	.
14.750	337.7802	856.82	. Q	.V	.	.	.
14.833	343.9770	899.76	. Q	.V	.	.	.
14.917	350.4540	940.47	. Q	.V	.	.	.
15.000	357.2327	984.26	. Q	.V	.	.	.
15.083	364.2949	1025.43	. Q	.V	.	.	.
15.167	371.6282	1064.80	. Q	.V	.	.	.
15.250	379.2377	1104.90	. Q	.V	.	.	.
15.333	387.1335	1146.46	. Q	.V	.	.	.
15.417	395.2814	1183.09	. Q	.V	.	.	.
15.500	403.6644	1217.21	. Q	.V	.	.	.
15.583	412.2751	1250.27	. Q	.V	.	.	.
15.667	421.0470	1273.68	. Q	.V	.	.	.
15.750	429.9008	1285.57	. Q	.V	.	.	.
15.833	438.8315	1296.74	. Q	.V	.	.	.
15.917	447.9140	1318.79	. Q	.V	.	.	.
16.000	457.3148	1365.00	. Q	.V	.	.	.
16.083	467.6592	1502.01	. Q	.V	.	.	.
16.167	479.0436	1653.01	. Q	.V	.	.	.
16.250	491.6247	1826.78	. Q	.V	.	.	.
16.333	506.2769	2127.49	. V	.Q	.	.	.
16.417	523.3890	2484.68	. V	.Q	.	.	.
16.500	542.1318	2721.44	. V	.Q	.	.	.
16.583	561.8303	2860.23	. V	.Q	.	.	.
16.667	582.6315	3020.33	. V	.Q	.	.	.
16.750	604.8709	3229.17	. V	.Q	.	.	.
16.833	628.4299	3420.77	. V	.Q	.	.	.
16.917	650.6158	3221.39	. V	.Q	.	.	.
17.000	672.3541	3156.40	. V	.Q	.	.	.
17.083	691.7697	2819.14	. V	.Q	.	.	.
17.167	709.0032	2502.31	. Q	.V	.	.	.
17.250	724.7092	2280.51	. Q	.V	.	.	.
17.333	738.9586	2069.02	. Q	.V	.	.	.
17.417	751.5439	1827.39	. Q	.V	.	.	.
17.500	763.0594	1672.05	. Q	.V	.	.	.
17.583	773.6892	1543.44	. Q	.V	.	.	.
17.667	783.2442	1387.38	. Q	.V	.	.	.
17.750	791.8876	1255.03	. Q	.V	.	.	.
17.833	799.7278	1138.40	. Q	.V	.	.	.
17.917	806.9418	1047.47	. Q	.V	.	.	.
18.000	813.2729	919.27	. Q	.V	.	.	.
18.083	819.1698	856.23	. Q	.V	.	.	.
18.167	824.7730	813.58	. Q	.V	.	.	.
18.250	830.1231	776.83	. Q	.V	.	.	.
18.333	835.2120	738.91	. Q	.V	.	.	.
18.417	840.0578	703.61	. Q	.V	.	.	.
18.500	844.6661	669.13	. Q	.V	.	.	.
18.583	849.0452	635.85	. Q	.V	.	.	.
18.667	853.1935	602.33	. Q	.V	.	.	.

18.750	857.0942	566.38	.	Q	.	.	.	V	.
18.833	860.6014	509.25	.	Q	.	.	.	V	.
18.917	863.8904	477.57	.	Q	.	.	.	V	.
19.000	867.0070	452.52	.	Q	.	.	.	V	.
19.083	869.9794	431.59	.	Q	.	.	.	V	.
19.167	872.8188	412.29	.	Q	.	.	.	V	.
19.250	875.5388	394.94	.	Q	.	.	.	V	.
19.333	878.1536	379.67	.	Q	.	.	.	V	.
19.417	880.6794	366.74	.	Q	.	.	.	V	.
19.500	883.1248	355.08	.	Q	.	.	.	V	.
19.583	885.4966	344.38	.	Q	.	.	.	V	.
19.667	887.8029	334.88	.	Q	.	.	.	V	.
19.750	890.0498	326.24	.	Q	.	.	.	V	.
19.833	892.2456	318.83	.	Q	.	.	.	V	.
19.917	894.3940	311.94	.	Q	.	.	.	V	.
20.000	896.5016	306.03	.	Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	465.0
20%	250.0
30%	170.0
40%	100.0
50%	75.0
60%	65.0
70%	50.0
80%	35.0
90%	20.0

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 2

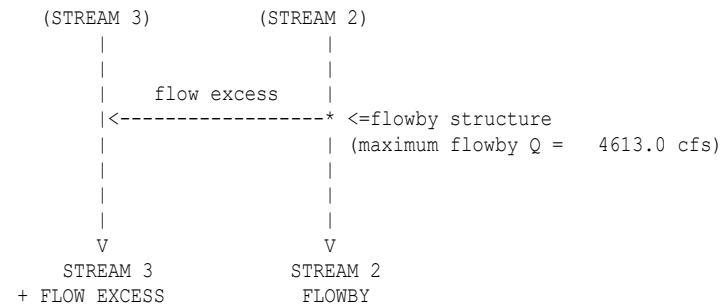
>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<<
=====

MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.

DATA PAIR NUMBER	Qcenter (CFS)	Qpass (CFS)
-	0.00	0.00
1	413.00	413.00
2	1897.00	1613.00
3	4682.00	3013.00
4	6819.00	4013.00
5	8100.00	4613.00

FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3

INFLOW INFLOW



FLOWBY BASIN MODELING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 3) (CFS)	INFLOW (STREAM 2) (CFS)	OUTFLOW (STREAM 3) (CFS)	FLOWBY (STREAM 2) (CFS)
10.000	0.00	279.51	0.00	279.51
10.083	0.00	281.66	0.00	281.66
10.167	0.00	283.87	0.00	283.87
10.250	0.00	286.10	0.00	286.10
10.333	0.00	288.40	0.00	288.40
10.417	0.00	290.73	0.00	290.73
10.500	0.00	293.13	0.00	293.13
10.583	0.00	295.56	0.00	295.56
10.667	0.00	298.07	0.00	298.07
10.750	0.00	300.60	0.00	300.60
10.833	0.00	303.22	0.00	303.22
10.917	0.00	305.88	0.00	305.88
11.000	0.00	308.62	0.00	308.62
11.083	0.00	311.40	0.00	311.40
11.167	0.00	314.27	0.00	314.27
11.250	0.00	317.19	0.00	317.19
11.333	0.00	320.20	0.00	320.20
11.417	0.00	323.26	0.00	323.26
11.500	0.00	326.43	0.00	326.43
11.583	0.00	329.65	0.00	329.65
11.667	0.00	332.98	0.00	332.98
11.750	0.00	336.38	0.00	336.38
11.833	0.00	339.89	0.00	339.89
11.917	0.00	343.48	0.00	343.48
12.000	0.00	347.19	0.00	347.19
12.083	0.00	351.88	0.00	351.88
12.167	0.00	357.66	0.00	357.66
12.250	0.00	364.27	0.00	364.27
12.333	0.00	373.16	0.00	373.16
12.417	0.00	384.97	0.00	384.97
12.500	0.00	398.55	0.00	398.55
12.583	0.00	412.96	0.00	412.96
12.667	0.00	428.40	2.95	425.45
12.750	0.00	445.55	6.23	439.32
12.833	0.00	465.11	9.97	455.14
12.917	0.00	482.98	13.39	469.59
13.000	0.00	501.64	16.96	484.68

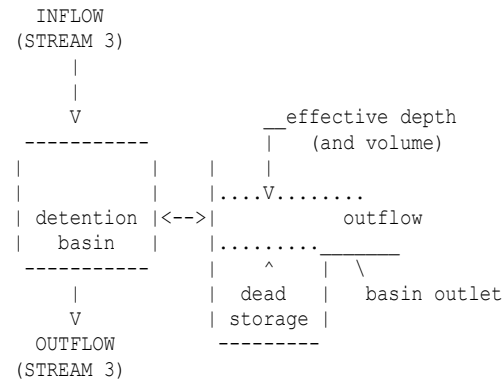
13.083	0.00	517.99	20.09	497.90
13.167	0.00	532.25	22.82	509.43
13.250	0.00	545.47	25.35	520.12
13.333	0.00	557.69	27.69	530.00
13.417	0.00	568.43	29.75	538.69
13.500	0.00	578.82	31.73	547.09
13.583	0.00	589.00	33.68	555.32
13.667	0.00	598.75	35.55	563.20
13.750	0.00	608.24	37.36	570.87
13.833	0.00	617.75	39.18	578.57
13.917	0.00	627.40	41.03	586.37
14.000	0.00	636.81	42.83	593.98
14.083	0.00	648.22	45.02	603.20
14.167	0.00	661.98	47.65	614.33
14.250	0.00	677.55	50.63	626.92
14.333	0.00	697.79	54.50	643.29
14.417	0.00	723.88	59.50	664.39
14.500	0.00	753.61	65.18	688.42
14.583	0.00	785.16	71.22	713.94
14.667	0.00	819.09	77.72	741.37
14.750	0.00	856.82	84.94	771.89
14.833	0.00	899.76	93.15	806.61
14.917	0.00	940.47	100.94	839.53
15.000	0.00	984.26	109.33	874.94
15.083	0.00	1025.43	117.20	908.23
15.167	0.00	1064.80	124.74	940.06
15.250	0.00	1104.90	132.41	972.49
15.333	0.00	1146.46	140.37	1006.09
15.417	0.00	1183.09	147.37	1035.71
15.500	0.00	1217.21	153.91	1063.31
15.583	0.00	1250.27	160.23	1090.04
15.667	0.00	1273.68	164.71	1108.97
15.750	0.00	1285.57	166.99	1118.58
15.833	0.00	1296.74	169.12	1127.61
15.917	0.00	1318.79	173.34	1145.44
16.000	0.00	1365.00	182.19	1182.81
16.083	0.00	1502.01	208.41	1293.60
16.167	0.00	1653.01	237.31	1415.71
16.250	0.00	1826.78	270.56	1556.22
16.333	0.00	2127.49	398.63	1728.87
16.417	0.00	2484.68	576.26	1908.42
16.500	0.00	2721.44	694.00	2027.44
16.583	0.00	2860.23	763.02	2097.21
16.667	0.00	3020.33	842.64	2177.69
16.750	0.00	3229.17	946.50	2282.67
16.833	0.00	3420.77	1041.78	2378.99
16.917	0.00	3221.39	942.63	2278.76
17.000	0.00	3156.40	910.31	2246.09
17.083	0.00	2819.14	742.59	2076.55
17.167	0.00	2502.31	585.02	1917.28
17.250	0.00	2280.51	474.72	1805.79
17.333	0.00	2069.02	369.54	1699.47
17.417	0.00	1827.39	270.68	1556.72
17.500	0.00	1672.05	240.95	1431.10
17.583	0.00	1543.44	216.34	1327.10
17.667	0.00	1387.38	186.47	1200.91
17.750	0.00	1255.03	161.14	1093.88
17.833	0.00	1138.40	138.82	999.57

17.917	0.00	1047.47	121.42	926.05
18.000	0.00	919.27	96.89	822.39
18.083	0.00	856.23	84.82	771.41
18.167	0.00	813.58	76.66	736.92
18.250	0.00	776.83	69.63	707.20
18.333	0.00	738.91	62.37	676.54
18.417	0.00	703.61	55.62	648.00
18.500	0.00	669.13	49.02	620.11
18.583	0.00	635.85	42.65	593.20
18.667	0.00	602.33	36.23	566.10
18.750	0.00	566.38	29.35	537.02
18.833	0.00	509.25	18.42	490.83
18.917	0.00	477.57	12.36	465.22
19.000	0.00	452.52	7.56	444.95
19.083	0.00	431.59	3.56	428.03
19.167	0.00	412.29	0.00	412.29
19.250	0.00	394.94	0.00	394.94
19.333	0.00	379.67	0.00	379.67
19.417	0.00	366.74	0.00	366.74
19.500	0.00	355.08	0.00	355.08
19.583	0.00	344.38	0.00	344.38
19.667	0.00	334.88	0.00	334.88
19.750	0.00	326.24	0.00	326.24
19.833	0.00	318.83	0.00	318.83
19.917	0.00	311.94	0.00	311.94
20.000	0.00	306.03	0.00	306.03

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<

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ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
 THROUGH A FLOW-THROUGH DETENTION BASIN
 SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
 DEAD STORAGE(AF) = 5.700
 SPECIFIED DEAD STORAGE(AF) FILLED = 5.700
 SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000

DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.50	0.01	0.001
3	2.00	0.02	1.900
4	4.00	0.03	16.100
5	4.30	0.04	18.200
6	5.00	314.00	23.200
7	6.00	1306.00	30.300
8	7.00	2847.00	39.100
9	8.00	4942.00	47.800

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MODIFIED-PULS BASIN ROUTING MODEL RESULTS(5-MINUTE COMPUTATION INTERVALS):
 (Note: Computed EFFECTIVE DEPTH and VOLUME are estimated at the clock time;
 MEAN OUTFLOW is the average value during the unit interval.)

CLOCK TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	LOSS (CFS)	MEAN		
				EFFECTIVE DEPTH (FT)	OUTFLOW (CFS)	EFFECTIVE VOLUME (AF)
10.083	5.700	0.00	0.00	0.00	0.0	0.000
10.167	5.700	0.00	0.00	0.00	0.0	0.000
10.250	5.700	0.00	0.00	0.00	0.0	0.000
10.333	5.700	0.00	0.00	0.00	0.0	0.000
10.417	5.700	0.00	0.00	0.00	0.0	0.000
10.500	5.700	0.00	0.00	0.00	0.0	0.000
10.583	5.700	0.00	0.00	0.00	0.0	0.000
10.667	5.700	0.00	0.00	0.00	0.0	0.000
10.750	5.700	0.00	0.00	0.00	0.0	0.000
10.833	5.700	0.00	0.00	0.00	0.0	0.000
10.917	5.700	0.00	0.00	0.00	0.0	0.000
11.000	5.700	0.00	0.00	0.00	0.0	0.000
11.083	5.700	0.00	0.00	0.00	0.0	0.000
11.167	5.700	0.00	0.00	0.00	0.0	0.000
11.250	5.700	0.00	0.00	0.00	0.0	0.000
11.333	5.700	0.00	0.00	0.00	0.0	0.000
11.417	5.700	0.00	0.00	0.00	0.0	0.000
11.500	5.700	0.00	0.00	0.00	0.0	0.000
11.583	5.700	0.00	0.00	0.00	0.0	0.000
11.667	5.700	0.00	0.00	0.00	0.0	0.000
11.750	5.700	0.00	0.00	0.00	0.0	0.000
11.833	5.700	0.00	0.00	0.00	0.0	0.000
11.917	5.700	0.00	0.00	0.00	0.0	0.000
12.000	5.700	0.00	0.00	0.00	0.0	0.000
12.083	5.700	0.00	0.00	0.00	0.0	0.000
12.167	5.700	0.00	0.00	0.00	0.0	0.000
12.250	5.700	0.00	0.00	0.00	0.0	0.000
12.333	5.700	0.00	0.00	0.00	0.0	0.000
12.417	5.700	0.00	0.00	0.00	0.0	0.000
12.500	5.700	0.00	0.00	0.00	0.0	0.000
12.583	5.700	0.00	0.00	0.00	0.0	0.000

12.667	5.700	2.95	0.00	1.51	0.0	0.020
12.750	5.700	6.23	0.00	1.52	0.0	0.063
12.833	5.700	9.97	0.00	1.53	0.0	0.132
12.917	5.700	13.39	0.00	1.56	0.0	0.224
13.000	5.700	16.96	0.00	1.59	0.0	0.341
13.083	5.700	20.09	0.00	1.63	0.0	0.479
13.167	5.700	22.82	0.00	1.67	0.0	0.636
13.250	5.700	25.35	0.00	1.71	0.0	0.810
13.333	5.700	27.69	0.00	1.76	0.0	1.001
13.417	5.700	29.75	0.00	1.82	0.0	1.206
13.500	5.700	31.73	0.00	1.87	0.0	1.424
13.583	5.700	33.68	0.00	1.94	0.0	1.656
13.667	5.700	35.55	0.00	2.00	0.0	1.901
13.750	5.700	37.36	0.00	2.04	0.0	2.158
13.833	5.700	39.18	0.00	2.07	0.0	2.428
13.917	5.700	41.03	0.00	2.11	0.0	2.710
14.000	5.700	42.83	0.00	2.16	0.0	3.005
14.083	5.700	45.02	0.00	2.20	0.0	3.315
14.167	5.700	47.65	0.00	2.25	0.0	3.643
14.250	5.700	50.63	0.00	2.29	0.0	3.991
14.333	5.700	54.50	0.00	2.35	0.0	4.366
14.417	5.700	59.50	0.00	2.41	0.0	4.776
14.500	5.700	65.18	0.00	2.47	0.0	5.225
14.583	5.700	71.22	0.00	2.54	0.0	5.715
14.667	5.700	77.72	0.00	2.61	0.0	6.250
14.750	5.700	84.94	0.00	2.70	0.0	6.835
14.833	5.700	93.15	0.00	2.79	0.0	7.476
14.917	5.700	100.94	0.00	2.88	0.0	8.171
15.000	5.700	109.33	0.00	2.99	0.0	8.924
15.083	5.700	117.20	0.00	3.10	0.0	9.731
15.167	5.700	124.74	0.00	3.22	0.0	10.590
15.250	5.700	132.41	0.00	3.35	0.0	11.502
15.333	5.700	140.37	0.00	3.49	0.0	12.468
15.417	5.700	147.37	0.00	3.63	0.0	13.483
15.500	5.700	153.91	0.00	3.78	0.0	14.543
15.583	5.700	160.23	0.00	3.94	0.0	15.646
15.667	5.700	164.71	0.00	4.10	0.0	16.780
15.750	5.700	166.99	0.00	4.26	0.0	17.930
15.833	5.700	169.12	0.00	4.40	23.1	18.935
15.917	5.700	173.34	0.00	4.50	68.8	19.655
16.000	5.700	182.19	0.00	4.58	107.6	20.169
16.083	5.700	208.41	0.00	4.64	138.8	20.649
16.167	5.700	237.31	0.00	4.71	168.7	21.122
16.250	5.700	270.56	0.00	4.78	199.0	21.615
16.333	5.700	398.63	0.00	4.92	247.2	22.658
16.417	5.700	576.26	0.00	5.13	362.1	24.132
16.500	5.700	694.00	0.00	5.29	525.4	25.294
16.583	5.700	763.02	0.00	5.40	657.4	26.021
16.667	5.700	842.64	0.00	5.49	751.9	26.646
16.750	5.700	946.50	0.00	5.58	844.6	27.348
16.833	5.700	1041.78	0.00	5.68	941.7	28.037
16.917	5.700	942.63	0.00	5.65	974.5	27.818
17.000	5.700	910.31	0.00	5.62	943.3	27.590
17.083	5.700	742.59	0.00	5.50	867.4	26.731
17.167	5.700	585.02	0.00	5.35	735.1	25.697
17.250	5.700	474.72	0.00	5.23	601.8	24.822
17.333	5.700	369.54	0.00	5.12	485.1	24.027
17.417	5.700	270.68	0.00	5.01	377.9	23.288

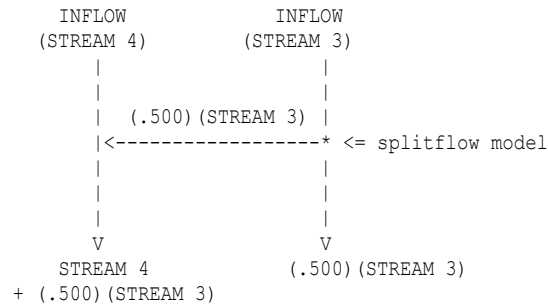
17.500	5.700	240.95	0.00	4.95	308.4	22.824
17.583	5.700	216.34	0.00	4.89	277.2	22.405
17.667	5.700	186.47	0.00	4.83	250.3	21.965
17.750	5.700	161.14	0.00	4.77	223.1	21.539
17.833	5.700	138.82	0.00	4.71	197.1	21.137
17.917	5.700	121.42	0.00	4.66	173.3	20.780
18.000	5.700	96.89	0.00	4.61	150.5	20.411
18.083	5.700	84.82	0.00	4.57	129.3	20.105
18.167	5.700	76.66	0.00	4.53	112.0	19.862
18.250	5.700	69.63	0.00	4.51	98.2	19.665
18.333	5.700	62.37	0.00	4.48	86.7	19.497
18.417	5.700	55.62	0.00	4.46	76.9	19.350
18.500	5.700	49.02	0.00	4.44	68.1	19.219
18.583	5.700	42.65	0.00	4.43	60.2	19.098
18.667	5.700	36.23	0.00	4.41	52.8	18.983
18.750	5.700	29.35	0.00	4.39	45.7	18.871
18.833	5.700	18.42	0.00	4.38	37.9	18.736
18.917	5.700	12.36	0.00	4.36	29.9	18.615
19.000	5.700	7.56	0.00	4.34	22.8	18.510
19.083	5.700	3.56	0.00	4.33	16.7	18.420
19.167	5.700	0.00	0.00	4.32	11.4	18.341
19.250	5.700	0.00	0.00	4.31	7.3	18.291
19.333	5.700	0.00	0.00	4.31	4.7	18.258
19.417	5.700	0.00	0.00	4.31	3.0	18.237
19.500	5.700	0.00	0.00	4.30	2.0	18.224
19.583	5.700	0.00	0.00	4.30	1.3	18.215
19.667	5.700	0.00	0.00	4.30	0.8	18.209
19.750	5.700	0.00	0.00	4.30	0.5	18.206
19.833	5.700	0.00	0.00	4.30	0.3	18.204
19.917	5.700	0.00	0.00	4.30	0.2	18.202

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 104.090 AF
BASIN STORAGE = 21.377 AF (WITH 5.700 AF INITIALLY FILLED)
OUTFLOW VOLUME = 88.416 AF
LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 8

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>>>>MODEL STREAM SPLITFLOW WHERE A CONSTANT PROPORTION
OF STREAM 3 IS ADDED TO STREAM 4<<<<<



STREAM NUMBER 3 IS SPLIT TOWARDS STREAM 4
WHERE 0.50 (DECIMAL PERCENT) REMAINS IN STREAM 3
AND 0.50 (DECIMAL PERCENT) IS ADDED TO STREAM 4

STREAM SPLITFLOW MODELING RESULTS:

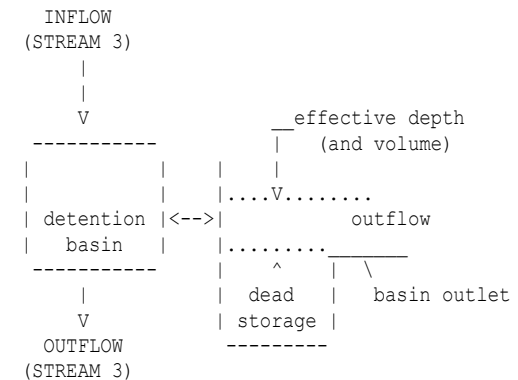
MODEL TIME (HRS)	INFLOW STREAM 4 (CFS)	INFLOW STREAM 3 (CFS)	OUTFLOW STREAM 4 (CFS)	OUTFLOW STREAM 3 (CFS)
10.000	0.00	0.00	0.00	0.00
10.083	0.00	0.00	0.00	0.00
10.167	0.00	0.00	0.00	0.00
10.250	0.00	0.00	0.00	0.00
10.333	0.00	0.00	0.00	0.00
10.417	0.00	0.00	0.00	0.00
10.500	0.00	0.00	0.00	0.00
10.583	0.00	0.00	0.00	0.00
10.667	0.00	0.00	0.00	0.00
10.750	0.00	0.00	0.00	0.00
10.833	0.00	0.00	0.00	0.00
10.917	0.00	0.00	0.00	0.00
11.000	0.00	0.00	0.00	0.00
11.083	0.00	0.00	0.00	0.00
11.167	0.00	0.00	0.00	0.00
11.250	0.00	0.00	0.00	0.00
11.333	0.00	0.00	0.00	0.00
11.417	0.00	0.00	0.00	0.00
11.500	0.00	0.00	0.00	0.00
11.583	0.00	0.00	0.00	0.00
11.667	0.00	0.00	0.00	0.00
11.750	0.00	0.00	0.00	0.00
11.833	0.00	0.00	0.00	0.00
11.917	0.00	0.00	0.00	0.00
12.000	0.00	0.00	0.00	0.00
12.083	0.00	0.00	0.00	0.00
12.167	0.00	0.00	0.00	0.00
12.250	0.00	0.00	0.00	0.00
12.333	0.00	0.00	0.00	0.00
12.417	0.00	0.00	0.00	0.00
12.500	0.00	0.00	0.00	0.00
12.583	0.00	0.00	0.00	0.00
12.667	0.00	0.01	0.00	0.00
12.750	0.00	0.01	0.01	0.01
12.833	0.00	0.01	0.01	0.01
12.917	0.00	0.01	0.01	0.01
13.000	0.00	0.01	0.01	0.01
13.083	0.00	0.01	0.01	0.01
13.167	0.00	0.01	0.01	0.01
13.250	0.00	0.02	0.01	0.01
13.333	0.00	0.02	0.01	0.01
13.417	0.00	0.02	0.01	0.01
13.500	0.00	0.02	0.01	0.01
13.583	0.00	0.02	0.01	0.01

13.667	0.00	0.02	0.01	0.01
13.750	0.00	0.02	0.01	0.01
13.833	0.00	0.02	0.01	0.01
13.917	0.00	0.02	0.01	0.01
14.000	0.00	0.02	0.01	0.01
14.083	0.00	0.02	0.01	0.01
14.167	0.00	0.02	0.01	0.01
14.250	0.00	0.02	0.01	0.01
14.333	0.00	0.02	0.01	0.01
14.417	0.00	0.02	0.01	0.01
14.500	0.00	0.02	0.01	0.01
14.583	0.00	0.02	0.01	0.01
14.667	0.00	0.03	0.01	0.01
14.750	0.00	0.03	0.01	0.01
14.833	0.00	0.03	0.01	0.01
14.917	0.00	0.03	0.01	0.01
15.000	0.00	0.03	0.01	0.01
15.083	0.00	0.03	0.01	0.01
15.167	0.00	0.03	0.01	0.01
15.250	0.00	0.03	0.01	0.01
15.333	0.00	0.03	0.01	0.01
15.417	0.00	0.03	0.02	0.02
15.500	0.00	0.03	0.02	0.02
15.583	0.00	0.03	0.02	0.02
15.667	0.00	0.03	0.02	0.02
15.750	0.00	0.04	0.02	0.02
15.833	0.00	23.13	11.57	11.57
15.917	0.00	68.82	34.41	34.41
16.000	0.00	107.56	53.78	53.78
16.083	0.00	138.76	69.38	69.38
16.167	0.00	168.66	84.33	84.33
16.250	0.00	198.98	99.49	99.49
16.333	0.00	247.20	123.60	123.60
16.417	0.00	362.11	181.05	181.05
16.500	0.00	525.40	262.70	262.70
16.583	0.00	657.36	328.68	328.68
16.667	0.00	751.87	375.93	375.93
16.750	0.00	844.58	422.29	422.29
16.833	0.00	941.74	470.87	470.87
16.917	0.00	974.53	487.26	487.26
17.000	0.00	943.31	471.65	471.65
17.083	0.00	867.39	433.69	433.69
17.167	0.00	735.12	367.56	367.56
17.250	0.00	601.78	300.89	300.89
17.333	0.00	485.07	242.53	242.53
17.417	0.00	377.90	188.95	188.95
17.500	0.00	308.35	154.18	154.18
17.583	0.00	277.22	138.61	138.61
17.667	0.00	250.26	125.13	125.13
17.750	0.00	223.08	111.54	111.54
17.833	0.00	197.09	98.54	98.54
17.917	0.00	173.28	86.64	86.64
18.000	0.00	150.48	75.24	75.24
18.083	0.00	129.28	64.64	64.64
18.167	0.00	112.02	56.01	56.01
18.250	0.00	98.20	49.10	49.10
18.333	0.00	86.75	43.37	43.37
18.417	0.00	76.88	38.44	38.44

18.500	0.00	68.15	34.07	34.07
18.583	0.00	60.21	30.11	30.11
18.667	0.00	52.83	26.41	26.41
18.750	0.00	45.70	22.85	22.85
18.833	0.00	37.95	18.97	18.97
18.917	0.00	29.93	14.96	14.96
19.000	0.00	22.83	11.41	11.41
19.083	0.00	16.69	8.34	8.34
19.167	0.00	11.39	5.69	5.69
19.250	0.00	7.34	3.67	3.67
19.333	0.00	4.73	2.36	2.36
19.417	0.00	3.05	1.52	1.52
19.500	0.00	1.96	0.98	0.98
19.583	0.00	1.27	0.63	0.63
19.667	0.00	0.82	0.41	0.41
19.750	0.00	0.53	0.26	0.26
19.833	0.00	0.34	0.17	0.17
19.917	0.00	0.22	0.11	0.11
20.000	0.00	0.14	0.07	0.07

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<



ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3

THROUGH A FLOW-THROUGH DETENTION BASIN

SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:

DEAD STORAGE(AF) = 0.000

SPECIFIED DEAD STORAGE(AF) FILLED = 0.000

SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000

DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
-----------------	------------	---------------	--------------

1	0.00	0.00	0.000
2	0.99	2.90	0.900
3	1.99	11.38	2.900
4	3.99	19.63	10.300
5	5.99	25.19	20.700
6	7.99	29.71	31.700
7	9.99	33.62	43.500
8	10.99	35.49	49.700
9	11.99	313.46	56.400
10	12.99	894.27	63.100
11	13.99	1748.55	69.900
12	15.99	4306.91	84.100

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MODIFIED-PULS BASIN ROUTING MODEL RESULTS(5-MINUTE COMPUTATION INTERVALS):
 (Note: Computed EFFECTIVE DEPTH and VOLUME are estimated at the clock time;
 MEAN OUTFLOW is the average value during the unit interval.)

CLOCK TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	LOSS (CFS)	MEAN		
				EFFECTIVE DEPTH(FT)	OUTFLOW (CFS)	EFFECTIVE VOLUME(AF)
10.083	0.000	0.00	0.00	0.00	0.0	0.000
10.167	0.000	0.00	0.00	0.00	0.0	0.000
10.250	0.000	0.00	0.00	0.00	0.0	0.000
10.333	0.000	0.00	0.00	0.00	0.0	0.000
10.417	0.000	0.00	0.00	0.00	0.0	0.000
10.500	0.000	0.00	0.00	0.00	0.0	0.000
10.583	0.000	0.00	0.00	0.00	0.0	0.000
10.667	0.000	0.00	0.00	0.00	0.0	0.000
10.750	0.000	0.00	0.00	0.00	0.0	0.000
10.833	0.000	0.00	0.00	0.00	0.0	0.000
10.917	0.000	0.00	0.00	0.00	0.0	0.000
11.000	0.000	0.00	0.00	0.00	0.0	0.000
11.083	0.000	0.00	0.00	0.00	0.0	0.000
11.167	0.000	0.00	0.00	0.00	0.0	0.000
11.250	0.000	0.00	0.00	0.00	0.0	0.000
11.333	0.000	0.00	0.00	0.00	0.0	0.000
11.417	0.000	0.00	0.00	0.00	0.0	0.000
11.500	0.000	0.00	0.00	0.00	0.0	0.000
11.583	0.000	0.00	0.00	0.00	0.0	0.000
11.667	0.000	0.00	0.00	0.00	0.0	0.000
11.750	0.000	0.00	0.00	0.00	0.0	0.000
11.833	0.000	0.00	0.00	0.00	0.0	0.000
11.917	0.000	0.00	0.00	0.00	0.0	0.000
12.000	0.000	0.00	0.00	0.00	0.0	0.000
12.083	0.000	0.00	0.00	0.00	0.0	0.000
12.167	0.000	0.00	0.00	0.00	0.0	0.000
12.250	0.000	0.00	0.00	0.00	0.0	0.000
12.333	0.000	0.00	0.00	0.00	0.0	0.000
12.417	0.000	0.00	0.00	0.00	0.0	0.000
12.500	0.000	0.00	0.00	0.00	0.0	0.000
12.583	0.000	0.00	0.00	0.00	0.0	0.000
12.667	0.000	0.00	0.00	0.00	0.0	0.000
12.750	0.000	0.01	0.00	0.00	0.0	0.000
12.833	0.000	0.01	0.00	0.00	0.0	0.000
12.917	0.000	0.01	0.00	0.00	0.0	0.000

13.000	0.000	0.01	0.00	0.00	0.0	0.000
13.083	0.000	0.01	0.00	0.00	0.0	0.000
13.167	0.000	0.01	0.00	0.00	0.0	0.000
13.250	0.000	0.01	0.00	0.00	0.0	0.000
13.333	0.000	0.01	0.00	0.00	0.0	0.000
13.417	0.000	0.01	0.00	0.00	0.0	0.000
13.500	0.000	0.01	0.00	0.00	0.0	0.000
13.583	0.000	0.01	0.00	0.00	0.0	0.001
13.667	0.000	0.01	0.00	0.00	0.0	0.001
13.750	0.000	0.01	0.00	0.00	0.0	0.001
13.833	0.000	0.01	0.00	0.00	0.0	0.001
13.917	0.000	0.01	0.00	0.00	0.0	0.001
14.000	0.000	0.01	0.00	0.00	0.0	0.001
14.083	0.000	0.01	0.00	0.00	0.0	0.001
14.167	0.000	0.01	0.00	0.00	0.0	0.001
14.250	0.000	0.01	0.00	0.00	0.0	0.001
14.333	0.000	0.01	0.00	0.00	0.0	0.001
14.417	0.000	0.01	0.00	0.00	0.0	0.001
14.500	0.000	0.01	0.00	0.00	0.0	0.001
14.583	0.000	0.01	0.00	0.00	0.0	0.001
14.667	0.000	0.01	0.00	0.00	0.0	0.001
14.750	0.000	0.01	0.00	0.00	0.0	0.001
14.833	0.000	0.01	0.00	0.00	0.0	0.001
14.917	0.000	0.01	0.00	0.00	0.0	0.001
15.000	0.000	0.01	0.00	0.00	0.0	0.002
15.083	0.000	0.01	0.00	0.00	0.0	0.002
15.167	0.000	0.01	0.00	0.00	0.0	0.002
15.250	0.000	0.01	0.00	0.00	0.0	0.002
15.333	0.000	0.01	0.00	0.00	0.0	0.002
15.417	0.000	0.02	0.00	0.00	0.0	0.002
15.500	0.000	0.02	0.00	0.00	0.0	0.002
15.583	0.000	0.02	0.00	0.00	0.0	0.002
15.667	0.000	0.02	0.00	0.00	0.0	0.002
15.750	0.000	0.02	0.00	0.00	0.0	0.002
15.833	0.000	11.57	0.00	0.09	0.1	0.081
15.917	0.000	34.41	0.00	0.34	0.6	0.313
16.000	0.000	53.78	0.00	0.74	1.6	0.673
16.083	0.000	69.38	0.00	1.10	3.0	1.130
16.167	0.000	84.33	0.00	1.38	5.0	1.676
16.250	0.000	99.49	0.00	1.69	7.5	2.309
16.333	0.000	123.60	0.00	2.04	10.2	3.090
16.417	0.000	181.05	0.00	2.36	12.2	4.253
16.500	0.000	262.70	0.00	2.82	13.8	5.967
16.583	0.000	328.68	0.00	3.40	16.0	8.120
16.667	0.000	375.93	0.00	4.04	18.5	10.582
16.750	0.000	422.29	0.00	4.58	20.5	13.349
16.833	0.000	470.87	0.00	5.17	22.1	16.440
16.917	0.000	487.26	0.00	5.78	23.8	19.632
17.000	0.000	471.65	0.00	6.35	25.3	22.706
17.083	0.000	433.69	0.00	6.86	26.6	25.509
17.167	0.000	367.56	0.00	7.29	27.6	27.850
17.250	0.000	300.89	0.00	7.63	28.5	29.726
17.333	0.000	242.53	0.00	7.90	29.2	31.196
17.417	0.000	188.95	0.00	8.09	29.7	32.292
17.500	0.000	154.18	0.00	8.24	30.0	33.147
17.583	0.000	138.61	0.00	8.36	30.3	33.893
17.667	0.000	125.13	0.00	8.47	30.5	34.544
17.750	0.000	111.54	0.00	8.57	30.7	35.101

17.833	0.000	98.54	0.00	8.65	30.9	35.567
17.917	0.000	86.64	0.00	8.71	31.1	35.949
18.000	0.000	75.24	0.00	8.76	31.2	36.253
18.083	0.000	64.64	0.00	8.80	31.3	36.483
18.167	0.000	56.01	0.00	8.83	31.3	36.653
18.250	0.000	49.10	0.00	8.85	31.4	36.775
18.333	0.000	43.37	0.00	8.86	31.4	36.857
18.417	0.000	38.44	0.00	8.87	31.4	36.906
18.500	0.000	34.07	0.00	8.88	31.4	36.924
18.583	0.000	30.11	0.00	8.87	31.4	36.915
18.667	0.000	26.41	0.00	8.87	31.4	36.880
18.750	0.000	22.85	0.00	8.86	31.4	36.821
18.833	0.000	18.97	0.00	8.84	31.4	36.736
18.917	0.000	14.96	0.00	8.82	31.4	36.623
19.000	0.000	11.41	0.00	8.80	31.3	36.486
19.083	0.000	8.34	0.00	8.77	31.3	36.328
19.167	0.000	5.69	0.00	8.74	31.2	36.152
19.250	0.000	3.67	0.00	8.71	31.2	35.963
19.333	0.000	2.36	0.00	8.68	31.1	35.765
19.417	0.000	1.52	0.00	8.64	31.0	35.562
19.500	0.000	0.98	0.00	8.61	31.0	35.355
19.583	0.000	0.63	0.00	8.57	30.9	35.147
19.667	0.000	0.41	0.00	8.54	30.8	34.937
19.750	0.000	0.26	0.00	8.50	30.7	34.727
19.833	0.000	0.17	0.00	8.47	30.7	34.517
19.917	0.000	0.11	0.00	8.43	30.6	34.307

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 44.208 AF
BASIN STORAGE = 0.005 AF (WITH 0.000 AF INITIALLY FILLED)
OUTFLOW VOLUME = 44.203 AF
LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<<
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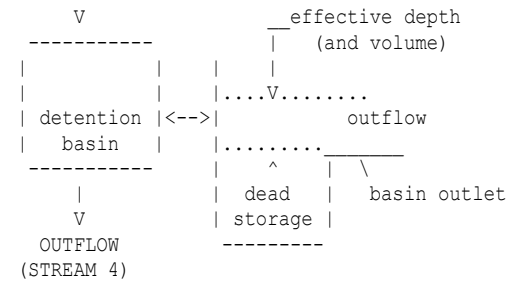
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<<
=====

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<<
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INFLOW
(STREAM 4)
|
|



ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
THROUGH A FLOW-THROUGH DETENTION BASIN
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:

DEAD STORAGE(AF) = 0.000
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.48	0.70	0.400
3	1.48	6.50	1.800
4	3.48	18.11	8.500
5	5.48	23.99	17.900
6	7.48	28.68	27.800
7	9.48	32.70	38.300
8	10.48	34.50	43.900
9	11.48	36.29	49.400
10	12.48	314.07	55.900
11	13.48	895.00	62.300
12	15.48	2882.95	74.700

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MODIFIED-PULS BASIN ROUTING MODEL RESULTS(5-MINUTE COMPUTATION INTERVALS):
(Note: Computed EFFECTIVE DEPTH and VOLUME are estimated at the clock time;
MEAN OUTFLOW is the average value during the unit interval.)

CLOCK TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	LOSS (CFS)	EFFECTIVE DEPTH (FT)	MEAN OUTFLOW (CFS)	EFFECTIVE VOLUME (AF)
10.083	0.000	0.00	0.00	0.00	0.0	0.000
10.167	0.000	0.00	0.00	0.00	0.0	0.000
10.250	0.000	0.00	0.00	0.00	0.0	0.000
10.333	0.000	0.00	0.00	0.00	0.0	0.000
10.417	0.000	0.00	0.00	0.00	0.0	0.000
10.500	0.000	0.00	0.00	0.00	0.0	0.000
10.583	0.000	0.00	0.00	0.00	0.0	0.000
10.667	0.000	0.00	0.00	0.00	0.0	0.000

10.750	0.000	0.00	0.00	0.00	0.0	0.000
10.833	0.000	0.00	0.00	0.00	0.0	0.000
10.917	0.000	0.00	0.00	0.00	0.0	0.000
11.000	0.000	0.00	0.00	0.00	0.0	0.000
11.083	0.000	0.00	0.00	0.00	0.0	0.000
11.167	0.000	0.00	0.00	0.00	0.0	0.000
11.250	0.000	0.00	0.00	0.00	0.0	0.000
11.333	0.000	0.00	0.00	0.00	0.0	0.000
11.417	0.000	0.00	0.00	0.00	0.0	0.000
11.500	0.000	0.00	0.00	0.00	0.0	0.000
11.583	0.000	0.00	0.00	0.00	0.0	0.000
11.667	0.000	0.00	0.00	0.00	0.0	0.000
11.750	0.000	0.00	0.00	0.00	0.0	0.000
11.833	0.000	0.00	0.00	0.00	0.0	0.000
11.917	0.000	0.00	0.00	0.00	0.0	0.000
12.000	0.000	0.00	0.00	0.00	0.0	0.000
12.083	0.000	0.00	0.00	0.00	0.0	0.000
12.167	0.000	0.00	0.00	0.00	0.0	0.000
12.250	0.000	0.00	0.00	0.00	0.0	0.000
12.333	0.000	0.00	0.00	0.00	0.0	0.000
12.417	0.000	0.00	0.00	0.00	0.0	0.000
12.500	0.000	0.00	0.00	0.00	0.0	0.000
12.583	0.000	0.00	0.00	0.00	0.0	0.000
12.667	0.000	0.00	0.00	0.00	0.0	0.000
12.750	0.000	0.01	0.00	0.00	0.0	0.000
12.833	0.000	0.01	0.00	0.00	0.0	0.000
12.917	0.000	0.01	0.00	0.00	0.0	0.000
13.000	0.000	0.01	0.00	0.00	0.0	0.000
13.083	0.000	0.01	0.00	0.00	0.0	0.000
13.167	0.000	0.01	0.00	0.00	0.0	0.000
13.250	0.000	0.01	0.00	0.00	0.0	0.000
13.333	0.000	0.01	0.00	0.00	0.0	0.000
13.417	0.000	0.01	0.00	0.00	0.0	0.000
13.500	0.000	0.01	0.00	0.00	0.0	0.000
13.583	0.000	0.01	0.00	0.00	0.0	0.001
13.667	0.000	0.01	0.00	0.00	0.0	0.001
13.750	0.000	0.01	0.00	0.00	0.0	0.001
13.833	0.000	0.01	0.00	0.00	0.0	0.001
13.917	0.000	0.01	0.00	0.00	0.0	0.001
14.000	0.000	0.01	0.00	0.00	0.0	0.001
14.083	0.000	0.01	0.00	0.00	0.0	0.001
14.167	0.000	0.01	0.00	0.00	0.0	0.001
14.250	0.000	0.01	0.00	0.00	0.0	0.001
14.333	0.000	0.01	0.00	0.00	0.0	0.001
14.417	0.000	0.01	0.00	0.00	0.0	0.001
14.500	0.000	0.01	0.00	0.00	0.0	0.001
14.583	0.000	0.01	0.00	0.00	0.0	0.001
14.667	0.000	0.01	0.00	0.00	0.0	0.001
14.750	0.000	0.01	0.00	0.00	0.0	0.002
14.833	0.000	0.01	0.00	0.00	0.0	0.002
14.917	0.000	0.01	0.00	0.00	0.0	0.002
15.000	0.000	0.01	0.00	0.00	0.0	0.002
15.083	0.000	0.01	0.00	0.00	0.0	0.002
15.167	0.000	0.01	0.00	0.00	0.0	0.002
15.250	0.000	0.01	0.00	0.00	0.0	0.002
15.333	0.000	0.01	0.00	0.00	0.0	0.002
15.417	0.000	0.02	0.00	0.00	0.0	0.002
15.500	0.000	0.02	0.00	0.00	0.0	0.002

15.583	0.000	0.02	0.00	0.00	0.0	0.002
15.667	0.000	0.02	0.00	0.00	0.0	0.002
15.750	0.000	0.02	0.00	0.00	0.0	0.002
15.833	0.000	11.57	0.00	0.10	0.1	0.082
15.917	0.000	34.41	0.00	0.38	0.3	0.316
16.000	0.000	53.78	0.00	0.68	1.2	0.678
16.083	0.000	69.38	0.00	1.01	2.8	1.137
16.167	0.000	84.33	0.00	1.40	4.9	1.684
16.250	0.000	99.49	0.00	1.64	6.7	2.323
16.333	0.000	123.60	0.00	1.87	8.1	3.118
16.417	0.000	181.05	0.00	2.23	9.8	4.298
16.500	0.000	262.70	0.00	2.74	12.3	6.022
16.583	0.000	328.68	0.00	3.38	15.7	8.178
16.667	0.000	375.93	0.00	3.94	18.5	10.639
16.750	0.000	422.29	0.00	4.52	20.3	13.408
16.833	0.000	470.87	0.00	5.18	22.1	16.498
16.917	0.000	487.26	0.00	5.84	24.0	19.689
17.000	0.000	471.65	0.00	6.46	25.6	22.761
17.083	0.000	433.69	0.00	7.03	27.0	25.562
17.167	0.000	367.56	0.00	7.50	28.2	27.900
17.250	0.000	300.89	0.00	7.86	29.1	29.772
17.333	0.000	242.53	0.00	8.13	29.7	31.237
17.417	0.000	188.95	0.00	8.34	30.2	32.331
17.500	0.000	154.18	0.00	8.51	30.6	33.182
17.583	0.000	138.61	0.00	8.65	30.9	33.924
17.667	0.000	125.13	0.00	8.77	31.1	34.571
17.750	0.000	111.54	0.00	8.87	31.4	35.123
17.833	0.000	98.54	0.00	8.96	31.6	35.584
17.917	0.000	86.64	0.00	9.03	31.7	35.963
18.000	0.000	75.24	0.00	9.09	31.9	36.261
18.083	0.000	64.64	0.00	9.13	32.0	36.486
18.167	0.000	56.01	0.00	9.17	32.0	36.652
18.250	0.000	49.10	0.00	9.19	32.1	36.769
18.333	0.000	43.37	0.00	9.20	32.1	36.846
18.417	0.000	38.44	0.00	9.21	32.2	36.889
18.500	0.000	34.07	0.00	9.21	32.2	36.903
18.583	0.000	30.11	0.00	9.21	32.2	36.888
18.667	0.000	26.41	0.00	9.20	32.2	36.849
18.750	0.000	22.85	0.00	9.19	32.1	36.785
18.833	0.000	18.97	0.00	9.17	32.1	36.695
18.917	0.000	14.96	0.00	9.15	32.1	36.577
19.000	0.000	11.41	0.00	9.12	32.0	36.435
19.083	0.000	8.34	0.00	9.09	32.0	36.272
19.167	0.000	5.69	0.00	9.06	31.9	36.092
19.250	0.000	3.67	0.00	9.02	31.8	35.898
19.333	0.000	2.36	0.00	8.98	31.7	35.696
19.417	0.000	1.52	0.00	8.94	31.7	35.488
19.500	0.000	0.98	0.00	8.90	31.6	35.277
19.583	0.000	0.63	0.00	8.86	31.5	35.065
19.667	0.000	0.41	0.00	8.82	31.4	34.851
19.750	0.000	0.26	0.00	8.78	31.3	34.637
19.833	0.000	0.17	0.00	8.74	31.3	34.423
19.917	0.000	0.11	0.00	8.70	31.2	34.209

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 44.208 AF
BASIN STORAGE = 0.009 AF (WITH 0.000 AF INITIALLY FILLED)
OUTFLOW VOLUME = 44.199 AF

LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 7

>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 6

>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<

FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 2 HYDROGRAPH<<<<<

STREAM HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	625.0	1250.0	1875.0	2500.0
10.000	158.3863	279.51	. Q V .	.	.	.	.
10.083	160.3261	281.66	. Q V .	.	.	.	.
10.167	162.2811	283.87	. Q V .	.	.	.	.
10.250	164.2515	286.10	. Q V .	.	.	.	.
10.333	166.2377	288.40	. Q V .	.	.	.	.
10.417	168.2400	290.73	. Q V .	.	.	.	.
10.500	170.2588	293.13	. Q V .	.	.	.	.
10.583	172.2944	295.56	. Q V .	.	.	.	.
10.667	174.3472	298.07	. Q V .	.	.	.	.
10.750	176.4174	300.60	. Q V .	.	.	.	.
10.833	178.5057	303.22	. Q V .	.	.	.	.
10.917	180.6123	305.88	. Q V .	.	.	.	.
11.000	182.7378	308.62	. Q V .	.	.	.	.
11.083	184.8824	311.40	. Q V .	.	.	.	.
11.167	187.0468	314.27	. Q V .	.	.	.	.
11.250	189.2313	317.19	. Q V .	.	.	.	.
11.333	191.4365	320.20	. Q V .	.	.	.	.
11.417	193.6629	323.26	. Q V .	.	.	.	.
11.500	195.9110	326.43	. Q V .	.	.	.	.
11.583	198.1813	329.65	. Q V .	.	.	.	.
11.667	200.4746	332.98	. Q V .	.	.	.	.
11.750	202.7913	336.38	. Q V .	.	.	.	.
11.833	205.1322	339.89	. Q V .	.	.	.	.
11.917	207.4977	343.48	. Q V .	.	.	.	.
12.000	209.8888	347.19	. Q V .	.	.	.	.
12.083	212.3122	351.88	. Q V .	.	.	.	.
12.167	214.7754	357.66	. Q V .	.	.	.	.
12.250	217.2841	364.27	. Q V .	.	.	.	.
12.333	219.8541	373.16	. Q V .	.	.	.	.
12.417	222.5054	384.97	. Q V .	.	.	.	.

12.500	225.2502	398.55	. Q V .	.	.	.	.
12.583	228.0943	412.96	. Q V .	.	.	.	.
12.667	231.0245	425.45	. Q V .	.	.	.	.
12.750	234.0501	439.32	. Q V .	.	.	.	.
12.833	237.1847	455.14	. Q V .	.	.	.	.
12.917	240.4187	469.59	. Q V .	.	.	.	.
13.000	243.7567	484.68	. Q V .	.	.	.	.
13.083	247.1858	497.90	. Q V .	.	.	.	.
13.167	250.6943	509.43	. Q V .	.	.	.	.
13.250	254.2764	520.12	. Q V .	.	.	.	.
13.333	257.9265	530.00	. Q V .	.	.	.	.
13.417	261.6365	538.69	. Q V .	.	.	.	.
13.500	265.4044	547.09	. Q V .	.	.	.	.
13.583	269.2289	555.32	. Q V .	.	.	.	.
13.667	273.1077	563.20	. Q V .	.	.	.	.
13.750	277.0393	570.88	. Q V .	.	.	.	.
13.833	281.0240	578.57	. Q V .	.	.	.	.
13.917	285.0623	586.38	. Q V .	.	.	.	.
14.000	289.1531	593.98	. Q V .	.	.	.	.
14.083	293.3075	603.21	. Q V .	.	.	.	.
14.167	297.5385	614.34	. Q V .	.	.	.	.
14.250	301.8561	626.92	. Q V .	.	.	.	.
14.333	306.2865	643.29	. Q V .	.	.	.	.
14.417	310.8622	664.39	. Q V .	.	.	.	.
14.500	315.6035	688.43	. Q V .	.	.	.	.
14.583	320.5204	713.95	. Q V .	.	.	.	.
14.667	325.6264	741.38	. Q V .	.	.	.	.
14.750	330.9424	771.89	. Q V .	.	.	.	.
14.833	336.4977	806.62	. Q V .	.	.	.	.
14.917	342.2796	839.53	. Q V .	.	.	.	.
15.000	348.3054	874.95	. Q V .	.	.	.	.
15.083	354.5604	908.24	. Q V .	.	.	.	.
15.167	361.0347	940.07	. Q V .	.	.	.	.
15.250	367.7324	972.50	. Q V .	.	.	.	.
15.333	374.6614	1006.10	. Q V .	.	.	.	.
15.417	381.7945	1035.72	. Q V .	.	.	.	.
15.500	389.1176	1063.32	. Q V .	.	.	.	.
15.583	396.6248	1090.05	. Q V .	.	.	.	.
15.667	404.2624	1108.98	. Q V .	.	.	.	.
15.750	411.9662	1118.59	. Q V .	.	.	.	.
15.833	419.7336	1127.82	. Q V .	.	.	.	.
15.917	427.6291	1146.43	. Q V .	.	.	.	.
16.000	435.7944	1185.60	. Q V .	.	.	.	.
16.083	444.7436	1299.42	. Q V .	.	.	.	.
16.167	454.5620	1425.62	. Q V .	.	.	.	.
16.250	465.3778	1570.46	. Q V .	.	.	.	.
16.333	477.4108	1747.20	. Q V .	.	.	.	.
16.417	490.7061	1930.47	. Q V .	.	.	.	.
16.500	504.8494	2053.61	. Q V .	.	.	.	.
16.583	519.5112	2128.89	. Q V .	.	.	.	.
16.667	534.7638	2214.68	. Q V .	.	.	.	.
16.750	550.7659	2323.51	. Q V .	.	.	.	.
16.833	567.4548	2423.22	. Q V .	.	.	.	.
16.917	583.4775	2326.50	. Q V .	.	.	.	.
17.000	599.2969	2296.97	. Q V .	.	.	.	.
17.083	613.9670	2130.10	. Q V .	.	.	.	.
17.167	627.5559	1973.10	. Q V .	.	.	.	.
17.250	640.3891	1863.38	. Q V .	.	.	.	.

17.333	652.4992	1758.39	.	.	.	V	Q	.	.
17.417	663.6330	1616.63	.	.	.	Q	V	.	.
17.500	673.9066	1491.72	.	.	.	.	V	.	.
17.583	683.4678	1388.30	.	.	.	Q	V	.	.
17.667	692.1635	1262.60	.	.	.	Q	V	.	.
17.750	700.1249	1156.01	.	.	.	Q	V	.	.
17.833	707.4394	1062.06	.	.	.	Q	V	.	.
17.917	714.2496	988.84	.	.	.	Q	V	.	.
18.000	720.3475	885.42	.	.	.	Q	V	.	.
18.083	726.0956	834.63	.	.	.	Q	V	.	.
18.167	731.6072	800.28	.	.	.	Q	V	.	.
18.250	736.9148	770.66	.	.	.	Q	V	.	.
18.333	742.0117	740.07	.	.	.	Q	V	.	.
18.417	746.9123	711.58	.	.	.	Q	V	.	.
18.500	751.6211	683.71	.	.	.	Q	V	.	.
18.583	756.1445	656.80	.	.	.	Q	V	.	.
18.667	760.4812	629.68	.	.	.	Q	V	.	.
18.750	764.6174	600.57	.	.	.	Q	V	.	.
18.833	768.4351	554.32	.	.	.	Q	V	.	.
18.917	772.0758	528.64	.	.	.	Q	V	.	.
19.000	775.5764	508.28	.	.	.	Q	V	.	.
19.083	778.9597	491.26	.	.	.	Q	V	.	.
19.167	782.2338	475.40	.	.	.	Q	V	.	.
19.250	785.3875	457.91	.	.	.	Q	V	.	.
19.333	788.4350	442.50	.	.	.	Q	V	.	.
19.417	791.3925	429.42	.	.	.	Q	V	.	.
19.500	794.2686	417.62	.	.	.	Q	V	.	.
19.583	797.0701	406.77	.	.	.	Q	V	.	.
19.667	799.8050	397.11	.	.	.	Q	V	.	.
19.750	802.4794	388.33	.	.	.	Q	V	.	.
19.833	805.1018	380.77	.	.	.	Q	V	.	.
19.917	807.6757	373.72	.	.	.	Q	V	.	.
20.000	810.2078	367.66	.	.	.	Q	V	.	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	915.0
20%	370.0
30%	225.0
40%	165.0
50%	100.0
60%	80.0
70%	65.0
80%	45.0
90%	25.0

FLOW PROCESS FROM NODE 132.00 TO NODE 13305.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<
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THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:

BASEWIDTH(FT) = 50.00 CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 427.51
DOWNSTREAM ELEVATION(FT) = 315.00
CHANNEL LENGTH(FT) = 9760.05 MANNING'S FACTOR = 0.040
CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:

MAXIMUM INFLOW(CFS) = 2423.22
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 1861.24
CHANNEL NORMAL VELOCITY FOR Q = 1861.24 CFS = 8.40 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.832

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
UNIT INTERVALS IS CSTAR = 0.618

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 2) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS
			LOSS (STREAM 2) (CFS)
10.000	279.51	271.63	271.63
10.083	281.66	273.63	273.63
10.167	283.87	275.67	275.67
10.250	286.10	277.75	277.75
10.333	288.40	279.87	279.87
10.417	290.73	282.04	282.04
10.500	293.13	284.24	284.24
10.583	295.56	286.50	286.50
10.667	298.07	288.79	288.79
10.750	300.60	291.14	291.14
10.833	303.22	293.54	293.54
10.917	305.88	295.99	295.99
11.000	308.62	298.49	298.49
11.083	311.40	301.06	301.06
11.167	314.27	303.67	303.67
11.250	317.19	306.35	306.35
11.333	320.20	309.09	309.09
11.417	323.26	311.90	311.90
11.500	326.43	314.76	314.76
11.583	329.65	317.71	317.71
11.667	332.98	320.72	320.72
11.750	336.38	323.81	323.81
11.833	339.89	326.98	326.98
11.917	343.48	330.23	330.23
12.000	347.19	333.56	333.56
12.083	351.88	336.99	336.99
12.167	357.66	340.51	340.51

12.250	364.27	344.13	344.13
12.333	373.16	348.27	348.27
12.417	384.97	353.28	353.28
12.500	398.55	359.16	359.16
12.583	412.96	366.59	366.59
12.667	425.45	376.32	376.32
12.750	439.32	388.19	388.19
12.833	455.14	401.52	401.52
12.917	469.59	414.59	414.59
13.000	484.68	427.97	427.97
13.083	497.90	442.58	442.58
13.167	509.43	457.29	457.29
13.250	520.12	472.14	472.14
13.333	530.00	486.24	486.24
13.417	538.69	498.99	498.99
13.500	547.09	510.58	510.58
13.583	555.32	521.22	521.22
13.667	563.20	530.82	530.82
13.750	570.88	539.72	539.72
13.833	578.57	548.23	548.23
13.917	586.38	556.40	556.40
14.000	593.98	564.29	564.29
14.083	603.21	572.06	572.06
14.167	614.34	579.83	579.83
14.250	626.92	587.53	587.53
14.333	643.29	595.95	595.95
14.417	664.39	605.78	605.78
14.500	688.43	617.12	617.12
14.583	713.95	631.04	631.04
14.667	741.38	648.75	648.75
14.750	771.89	669.97	669.97
14.833	806.62	693.64	693.64
14.917	839.53	719.37	719.37
15.000	874.95	747.63	747.63
15.083	908.24	779.31	779.31
15.167	940.07	812.00	812.00
15.250	972.50	846.03	846.03
15.333	1006.10	879.90	879.90
15.417	1035.72	912.71	912.71
15.500	1063.32	945.20	945.20
15.583	1090.05	978.22	978.22
15.667	1108.98	1009.68	1009.68
15.750	1118.59	1039.03	1039.03
15.833	1127.82	1066.88	1066.88
15.917	1146.43	1090.30	1090.30
16.000	1185.60	1106.46	1106.46
16.083	1299.42	1118.39	1118.39
16.167	1425.62	1133.16	1133.16
16.250	1570.46	1160.18	1160.18
16.333	1747.20	1230.58	1230.58
16.417	1930.47	1333.76	1333.76
16.500	2053.61	1460.12	1460.12
16.583	2128.89	1613.23	1613.23
16.667	2214.68	1784.08	1784.08
16.750	2323.51	1933.72	1933.72
16.833	2423.22	2043.98	2043.98
16.917	2326.50	2137.68	2137.68
17.000	2296.97	2237.55	2237.55

17.083	2130.10	2338.58	2338.58
17.167	1973.10	2344.42	2344.42
17.250	1863.38	2319.16	2319.16
17.333	1758.39	2225.27	2225.27
17.417	1616.63	2091.02	2091.02
17.500	1491.72	1965.43	1965.43
17.583	1388.30	1851.91	1851.91
17.667	1262.60	1726.00	1726.00
17.750	1156.01	1598.39	1598.39
17.833	1062.06	1482.78	1482.78
17.917	988.84	1363.99	1363.99
18.000	885.42	1250.12	1250.12
18.083	834.63	1146.82	1146.82
18.167	800.28	1059.26	1059.26
18.250	770.66	966.05	966.05
18.333	740.07	891.81	891.81
18.417	711.58	839.97	839.97
18.500	683.71	801.21	801.21
18.583	656.80	767.63	767.63
18.667	629.68	736.91	736.91
18.750	600.57	707.87	707.87
18.833	554.32	680.01	680.01
18.917	528.64	652.64	652.64
19.000	508.28	624.46	624.46
19.083	491.26	587.48	587.48
19.167	475.40	554.65	554.65
19.250	457.91	528.79	528.79
19.333	442.50	507.94	507.94
19.417	429.42	490.01	490.01
19.500	417.62	472.58	472.58
19.583	406.77	456.11	456.11
19.667	397.11	441.42	441.42
19.750	388.33	428.33	428.33
19.833	380.77	416.50	416.50
19.917	373.72	405.85	405.85
20.000	367.66	396.23	396.23

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PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 967.210 AF
 OUTFLOW VOLUME = 967.209 AF
 LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 13305.00 TO NODE 133.00 IS CODE = 5.2

>>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<

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THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS(Reference: the National Engineering Handbook, Hydrology, Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:

BASEWIDTH(FT) = 50.00 CHANNEL Z = 3.00

UPSTREAM ELEVATION(FT) = 315.00
 DOWNSTREAM ELEVATION(FT) = 212.00
 CHANNEL LENGTH(FT) = 6877.24 MANNING'S FACTOR = 0.040
 CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:

MAXIMUM INFLOW(CFS) = 2344.42
 AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 1825.32
 CHANNEL NORMAL VELOCITY FOR Q = 1825.32 CFS = 9.08 FPS
 ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.842

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 5-MINUTE
 UNIT INTERVALS IS CSTAR = 0.697

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 2) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS
			LOSS (STREAM 2) (CFS)
10.000	271.63	266.69	266.69
10.083	273.63	268.60	268.60
10.167	275.67	270.54	270.54
10.250	277.75	272.52	272.52
10.333	279.87	274.54	274.54
10.417	282.04	276.59	276.59
10.500	284.24	278.69	278.69
10.583	286.50	280.83	280.83
10.667	288.79	283.01	283.01
10.750	291.14	285.24	285.24
10.833	293.54	287.51	287.51
10.917	295.99	289.84	289.84
11.000	298.49	292.20	292.20
11.083	301.06	294.63	294.63
11.167	303.67	297.10	297.10
11.250	306.35	299.63	299.63
11.333	309.09	302.21	302.21
11.417	311.90	304.86	304.86
11.500	314.76	307.56	307.56
11.583	317.71	310.33	310.33
11.667	320.72	313.17	313.17
11.750	323.81	316.07	316.07
11.833	326.98	319.04	319.04
11.917	330.23	322.09	322.09
12.000	333.56	325.22	325.22
12.083	336.99	328.42	328.42
12.167	340.51	331.71	331.71
12.250	344.13	335.09	335.09
12.333	348.27	338.55	338.55
12.417	353.28	342.12	342.12
12.500	359.16	346.04	346.04
12.583	366.59	350.64	350.64
12.667	376.32	356.06	356.06
12.750	388.19	362.74	362.74
12.833	401.52	371.34	371.34
12.917	414.59	382.03	382.03
13.000	427.97	394.43	394.43

13.083	442.58	407.32	407.32
13.167	457.29	420.53	420.53
13.250	472.14	434.61	434.61
13.333	486.24	449.11	449.11
13.417	498.99	463.84	463.84
13.500	510.58	478.20	478.20
13.583	521.22	491.56	491.56
13.667	530.82	503.79	503.79
13.750	539.72	515.00	515.00
13.833	548.23	525.18	525.18
13.917	556.40	534.52	534.52
14.000	564.29	543.32	543.32
14.083	572.06	551.71	551.71
14.167	579.83	559.78	559.78
14.250	587.53	567.65	567.65
14.333	595.95	575.45	575.45
14.417	605.78	583.19	583.19
14.500	617.12	591.34	591.34
14.583	631.04	600.53	600.53
14.667	648.75	611.09	611.09
14.750	669.97	623.76	623.76
14.833	693.64	639.61	639.61
14.917	719.37	658.89	658.89
15.000	747.63	681.01	681.01
15.083	779.31	705.47	705.47
15.167	812.00	732.35	732.35
15.250	846.03	762.27	762.27
15.333	879.90	794.04	794.04
15.417	912.71	827.26	827.26
15.500	945.20	860.94	860.94
15.583	978.22	894.11	894.11
15.667	1009.68	926.84	926.84
15.750	1039.03	959.72	959.72
15.833	1066.88	991.75	991.75
15.917	1090.30	1022.10	1022.10
16.000	1106.46	1050.85	1050.85
16.083	1118.39	1076.27	1076.27
16.167	1133.16	1095.88	1095.88
16.250	1160.18	1110.51	1110.51
16.333	1230.58	1124.99	1124.99
16.417	1333.76	1147.12	1147.12
16.500	1460.12	1199.05	1199.05
16.583	1613.23	1283.79	1283.79
16.667	1784.08	1395.49	1395.49
16.750	1933.72	1533.68	1533.68
16.833	2043.98	1693.06	1693.06
16.917	2137.68	1847.53	1847.53
17.000	2237.55	1974.68	1974.68
17.083	2338.58	2079.98	2079.98
17.167	2344.42	2180.95	2180.95
17.250	2319.16	2281.86	2281.86
17.333	2225.27	2324.95	2324.95
17.417	2091.02	2323.16	2323.16
17.500	1965.43	2263.26	2263.26
17.583	1851.91	2155.11	2155.11
17.667	1726.00	2034.04	2034.04
17.750	1598.39	1917.16	1917.16
17.833	1482.78	1795.09	1795.09

17.917	1363.99	1669.31	1669.31
18.000	1250.12	1549.55	1549.55
18.083	1146.82	1430.75	1430.75
18.167	1059.26	1314.95	1314.95
18.250	966.05	1206.92	1206.92
18.333	891.81	1111.76	1111.76
18.417	839.97	1018.46	1018.46
18.500	801.21	936.77	936.77
18.583	767.63	873.90	873.90
18.667	736.91	826.67	826.67
18.750	707.87	788.50	788.50
18.833	680.01	755.26	755.26
18.917	652.64	724.80	724.80
19.000	624.46	696.05	696.05
19.083	587.48	668.22	668.22
19.167	554.65	640.22	640.22
19.250	528.79	606.74	606.74
19.333	507.94	573.34	573.34
19.417	490.01	544.58	544.58
19.500	472.58	520.89	520.89
19.583	456.11	500.96	500.96
19.667	441.42	482.72	482.72
19.750	428.33	465.63	465.63
19.833	416.50	450.06	450.06
19.917	405.85	436.07	436.07
20.000	396.23	423.48	423.48

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PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 967.209 AF
 OUTFLOW VOLUME = 967.210 AF
 LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 132.00 TO NODE 133.00 IS CODE = 1

>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

(UNIT-HYDROGRAPH ADDED TO STREAM #3)

WATERSHED AREA = 1715.900 ACRES
 BASEFLOW = 0.000 CFS/SQUARE-MILE
 *USER ENTERED "LAG" TIME = 0.629 HOURS
 VALLEY (DEVELOPED) S-GRAPH SELECTED
 MAXIMUM WATERSHED LOSS RATE (INCH/HOUR) = 0.224
 LOW LOSS FRACTION = 0.362
 HYDROGRAPH MODEL #1 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL (INCH) = 0.40
 SPECIFIED PEAK 30-MINUTES RAINFALL (INCH) = 0.87
 SPECIFIED PEAK 1-HOUR RAINFALL (INCH) = 1.15
 SPECIFIED PEAK 3-HOUR RAINFALL (INCH) = 1.94
 SPECIFIED PEAK 6-HOUR RAINFALL (INCH) = 2.71
 SPECIFIED PEAK 24-HOUR RAINFALL (INCH) = 4.49

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
 5-MINUTE FACTOR = 0.744

30-MINUTE FACTOR = 0.744
 1-HOUR FACTOR = 0.744
 3-HOUR FACTOR = 0.959
 6-HOUR FACTOR = 0.978
 24-HOUR FACTOR = 0.986

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES
 UNIT INTERVAL PERCENTAGE OF LAG-TIME = 13.249

RUNOFF HYDROGRAPH LISTING LIMITS:

MODEL TIME (HOURS) FOR BEGINNING OF RESULTS = 10.00
 MODEL TIME (HOURS) FOR END OF RESULTS = 20.00

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UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES (CFS)
1	0.757	157.102
2	2.453	352.006
3	5.430	617.801
4	11.308	1219.602
5	18.960	1588.021
6	27.400	1751.449
7	37.181	2029.745
8	48.857	2422.859
9	59.671	2244.095
10	69.817	2105.425
11	77.547	1604.241
12	83.457	1226.282
13	87.977	937.981
14	91.069	641.685
15	93.627	530.864
16	95.462	380.801
17	96.714	259.760
18	97.726	209.986
19	98.189	96.198
20	98.438	51.564
21	98.686	51.548
22	98.935	51.548
23	99.183	51.548
24	99.431	51.548
25	99.680	51.548
26	99.928	51.548
27	100.000	14.911

TOTAL SOIL-LOSS VOLUME (ACRE-FEET) = 211.6761
 TOTAL STORM RUNOFF VOLUME (ACRE-FEET) = 421.4705

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)

(Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	375.0	750.0	1125.0	1500.0
10.000	74.4572	130.14	. Q	V .	.	.	.
10.083	75.3605	131.16	. Q	V .	.	.	.
10.167	76.2711	132.22	. Q	V .	.	.	.
10.250	77.1891	133.29	. Q	V .	.	.	.
10.333	78.1146	134.38	. Q	V .	.	.	.
10.417	79.0478	135.50	. Q	V .	.	.	.
10.500	79.9888	136.65	. Q	V .	.	.	.
10.583	80.9379	137.81	. Q	V .	.	.	.
10.667	81.8953	139.01	. Q	V .	.	.	.
10.750	82.8610	140.22	. Q	V .	.	.	.
10.833	83.8354	141.48	. Q	V .	.	.	.
10.917	84.8185	142.75	. Q	V .	.	.	.
11.000	85.8107	144.07	. Q	V .	.	.	.
11.083	86.8121	145.40	. Q	V .	.	.	.
11.167	87.8229	146.78	. Q	V .	.	.	.
11.250	88.8435	148.18	. Q	V .	.	.	.
11.333	89.8740	149.63	. Q	V .	.	.	.
11.417	90.9146	151.10	. Q	V .	.	.	.
11.500	91.9658	152.63	. Q	V .	.	.	.
11.583	93.0277	154.18	. Q	V .	.	.	.
11.667	94.1006	155.79	. Q	V .	.	.	.
11.750	95.1849	157.43	. Q	V .	.	.	.
11.833	96.2808	159.13	. Q	V .	.	.	.
11.917	97.3886	160.86	. Q	V .	.	.	.
12.000	98.5089	162.66	. Q	V .	.	.	.
12.083	99.6453	165.01	. Q	V .	.	.	.
12.167	100.8029	168.09	. Q	V .	.	.	.
12.250	101.9881	172.09	. Q	V .	.	.	.
12.333	103.2151	178.16	. Q	V .	.	.	.
12.417	104.4928	185.52	. Q	V .	.	.	.
12.500	105.8255	193.51	. Q	V .	.	.	.
12.583	107.2201	202.49	. Q	V .	.	.	.
12.667	108.6862	212.89	. Q	V .	.	.	.
12.750	110.2204	222.76	. Q	V .	.	.	.
12.833	111.8203	232.31	. Q	V .	.	.	.
12.917	113.4751	240.27	. Q	V .	.	.	.
13.000	115.1769	247.11	. Q	V .	.	.	.
13.083	116.9198	253.07	. Q	.V	.	.	.
13.167	118.6980	258.19	. Q	.V	.	.	.
13.250	120.5094	263.02	. Q	.V	.	.	.
13.333	122.3518	267.51	. Q	.V	.	.	.
13.417	124.2229	271.69	. Q	.V	.	.	.
13.500	126.1229	275.87	. Q	.V	.	.	.
13.583	128.0497	279.78	. Q	.V	.	.	.
13.667	130.0038	283.73	. Q	.V	.	.	.
13.750	131.9859	287.80	. Q	.V	.	.	.
13.833	133.9975	292.08	. Q	.V	.	.	.

13.917	136.0396	296.51	. Q	. V	.	.	.
14.000	138.1138	301.18	. Q	. V	.	.	.
14.083	140.2283	307.03	. Q	. V	.	.	.
14.167	142.3936	314.40	. Q	. V	.	.	.
14.250	144.6219	323.55	. Q	. V	.	.	.
14.333	146.9416	336.81	. Q	. V	.	.	.
14.417	149.3701	352.62	. Q	. V	.	.	.
14.500	151.9165	369.74	. Q	. V	.	.	.
14.583	154.5944	388.83	. Q	. V	.	.	.
14.667	157.4231	410.73	. Q	. V	.	.	.
14.750	160.3960	431.66	. Q	. V	.	.	.
14.833	163.5090	452.01	. Q	. V	.	.	.
14.917	166.7416	469.38	. Q	. V	.	.	.
15.000	170.0801	484.75	. Q	. V	.	.	.
15.083	173.5142	498.63	. Q	. V	.	.	.
15.167	177.0349	511.21	. Q	. V	.	.	.
15.250	180.6411	523.62	. Q	. V	.	.	.
15.333	184.3316	535.87	. Q	. V	.	.	.
15.417	188.0916	545.95	. Q	. V	.	.	.
15.500	191.9082	554.17	. Q	. V	.	.	.
15.583	195.7599	559.27	. Q	. V	.	.	.
15.667	199.6006	557.66	. Q	. V	.	.	.
15.750	203.4141	553.73	. Q	. V	.	.	.
15.833	207.2149	551.86	. Q	. V	.	.	.
15.917	211.0299	553.94	. Q	. V	.	.	.
16.000	214.9233	565.32	. Q	. V	.	.	.
16.083	219.2346	626.00	. Q	. V	.	.	.
16.167	224.1430	712.70	. Q	. V	.	.	.
16.250	229.8899	834.45	. V	. Q	.	.	.
16.333	236.9565	1026.07	. V	. Q	.	.	.
16.417	244.9183	1156.05	. V	. Q	.	.	.
16.500	253.4304	1235.96	. V	. Q	.	.	.
16.583	262.5575	1325.25	. V	. Q	.	.	.
16.667	272.2877	1412.83	. V	. Q	.	.	.
16.750	281.5949	1351.40	. V	. Q	.	.	.
16.833	290.3408	1269.90	. V	. Q	.	.	.
16.917	297.9705	1107.84	. V	. Q	.	.	.
17.000	304.7163	979.48	. Q	. V	.	.	.
17.083	310.7469	875.65	. Q	. V	.	.	.
17.167	316.1149	779.42	. Q	. V	.	.	.
17.250	321.0875	722.03	. Q	. V	.	.	.
17.333	325.5986	655.01	. Q	. V	.	.	.
17.417	329.6896	594.01	. Q	. V	.	.	.
17.500	333.4590	547.32	. Q	. V	.	.	.
17.583	336.8372	490.51	. Q	. V	.	.	.
17.667	339.9371	450.10	. Q	. V	.	.	.
17.750	342.8512	423.13	. Q	. V	.	.	.
17.833	345.5977	398.79	. Q	. V	.	.	.
17.917	348.1959	377.26	. Q	. V	.	.	.
18.000	350.6638	358.35	. Q	. V	.	.	.
18.083	353.0110	340.81	. Q	. V	.	.	.
18.167	355.2423	323.98	. Q	. V	.	.	.
18.250	357.3098	300.20	. Q	. V	.	.	.
18.333	359.2498	281.69	. Q	. V	.	.	.
18.417	361.0917	267.45	. Q	. V	.	.	.
18.500	362.8407	253.96	. Q	. V	.	.	.
18.583	364.4965	240.42	. Q	. V	.	.	.
18.667	366.0543	226.19	. Q	. V	.	.	.

18.750	367.5214	213.02	.	Q	.	.	.	V	.
18.833	368.9038	200.72	.	Q	.	.	.	V	.
18.917	370.2153	190.43	.	Q	.	.	.	V	.
19.000	371.4668	181.72	.	Q	.	.	.	V	.
19.083	372.6668	174.24	.	Q	.	.	.	V	.
19.167	373.8238	167.99	.	Q	.	.	.	V	.
19.250	374.9435	162.57	.	Q	.	.	.	V	.
19.333	376.0313	157.95	.	Q	.	.	.	V	.
19.417	377.0914	153.92	.	Q	.	.	.	V	.
19.500	378.1259	150.22	.	Q	.	.	.	V	.
19.583	379.1387	147.06	.	Q	.	.	.	V	.
19.667	380.1317	144.18	.	Q	.	.	.	V	.
19.750	381.1057	141.43	.	Q	.	.	.	V	.
19.833	382.0617	138.80	.	Q	.	.	.	V	.
19.917	383.0003	136.28	.	Q	.	.	.	V	.
20.000	383.9222	133.87	.	Q	.	.	.	V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
 (Note: 100% of Peak Flow Rate estimate assumed to have an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1205.0
10%	540.0
20%	280.0
30%	180.0
40%	90.0
50%	70.0
60%	50.0
70%	40.0
80%	30.0
90%	15.0

 FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<

 FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

 FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 7

>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<

FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 6

>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<

 FLOW PROCESS FROM NODE 133.00 TO NODE 133.00 IS CODE = 11

>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<

STREAM HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS (CFS)
 (Note: Time indicated is at END of Each Unit Intervals)

TIME (HRS)	VOLUME (AF)	Q (CFS)	0.	775.0	1550.0	2325.0	3100.0
10.000	220.7757	396.83	.	QV	.	.	.
10.083	223.5288	399.76	.	QV	.	.	.
10.167	226.3027	402.76	.	QV	.	.	.
10.250	229.0975	405.80	.	QV	.	.	.
10.333	231.9137	408.92	.	QV	.	.	.
10.417	234.7518	412.09	.	QV	.	.	.
10.500	237.6122	415.34	.	QV	.	.	.
10.583	240.4954	418.64	.	QV	.	.	.
10.667	243.4019	422.02	.	Q V	.	.	.
10.750	246.3321	425.46	.	Q V	.	.	.
10.833	249.2866	428.99	.	Q V	.	.	.
10.917	252.2658	432.59	.	Q V	.	.	.
11.000	255.2704	436.27	.	Q V	.	.	.
11.083	258.3009	440.03	.	Q V	.	.	.
11.167	261.3579	443.88	.	Q V	.	.	.
11.250	264.4420	447.81	.	Q V	.	.	.
11.333	267.5539	451.85	.	Q V	.	.	.
11.417	270.6942	455.96	.	Q V	.	.	.
11.500	273.8635	460.20	.	Q V	.	.	.
11.583	277.0627	464.52	.	Q V	.	.	.
11.667	280.2924	468.96	.	Q V	.	.	.
11.750	283.5534	473.50	.	Q V	.	.	.
11.833	286.8466	478.17	.	Q V	.	.	.
11.917	290.1728	482.95	.	Q V	.	.	.
12.000	293.5328	487.88	.	Q V	.	.	.
12.083	296.9311	493.44	.	Q V	.	.	.
12.167	300.3733	499.80	.	Q V	.	.	.
12.250	303.8662	507.17	.	Q V	.	.	.
12.333	307.4249	516.72	.	Q V	.	.	.
12.417	311.0587	527.63	.	Q V	.	.	.
12.500	314.7746	539.55	.	Q V	.	.	.
12.583	318.5841	553.13	.	Q V	.	.	.
12.667	322.5024	568.94	.	Q V	.	.	.
12.750	326.5348	585.50	.	Q V	.	.	.
12.833	330.6922	603.65	.	Q V	.	.	.
12.917	334.9780	622.30	.	QV	.	.	.
13.000	339.3963	641.54	.	QV	.	.	.
13.083	343.9445	660.39	.	QV	.	.	.
13.167	348.6188	678.71	.	Q V	.	.	.
13.250	353.4234	697.63	.	QV	.	.	.
13.333	358.3588	716.62	.	QV	.	.	.

13.417	363.4245	735.54	.	QV	.	.	.
13.500	368.6178	754.08	.	QV	.	.	.
13.583	373.9301	771.34	.	QV	.	.	.
13.667	379.3538	787.52	.	Q	.	.	.
13.750	384.8827	802.80	.	QV	.	.	.
13.833	390.5112	817.26	.	QV	.	.	.
13.917	396.2346	831.03	.	QV	.	.	.
14.000	402.0507	844.50	.	QV	.	.	.
14.083	407.9649	858.74	.	.Q	.	.	.
14.167	413.9854	874.18	.	.Q	.	.	.
14.250	420.1232	891.20	.	.QV	.	.	.
14.333	426.4060	912.26	.	.QV	.	.	.
14.417	432.8510	935.81	.	.Q	.	.	.
14.500	439.4699	961.08	.	.Q	.	.	.
14.583	446.2837	989.36	.	.Q	.	.	.
14.667	453.3210	1021.82	.	.Q	.	.	.
14.750	460.5898	1055.42	.	.Q	.	.	.
14.833	468.1078	1091.62	.	.VQ	.	.	.
14.917	475.8782	1128.27	.	.VQ	.	.	.
15.000	483.9069	1165.75	.	.V Q	.	.	.
15.083	492.1996	1204.10	.	.VQ	.	.	.
15.167	500.7640	1243.56	.	.V Q	.	.	.
15.250	509.6200	1285.89	.	.V Q	.	.	.
15.333	518.7791	1329.90	.	.V Q	.	.	.
15.417	528.2365	1373.20	.	.V Q	.	.	.
15.500	537.9824	1415.12	.	.V Q	.	.	.
15.583	547.9919	1453.39	.	.V Q	.	.	.
15.667	558.2158	1484.50	.	.V Q	.	.	.
15.750	568.6390	1513.45	.	.V Q	.	.	.
15.833	579.2700	1543.62	.	.V Q	.	.	.
15.917	590.1243	1576.04	.	.V Q	.	.	.
16.000	601.2549	1616.17	.	.V Q	.	.	.
16.083	612.9785	1702.27	.	.V .Q	.	.	.
16.167	625.4343	1808.58	.	.V .Q	.	.	.
16.250	638.8294	1944.96	.	.V .Q	.	.	.
16.333	653.6439	2151.06	.	.V .Q	.	.	.
16.417	669.5059	2303.17	.	.V .Q	.	.	.
16.500	686.2759	2435.01	.	.V .Q	.	.	.
16.583	704.2446	2609.04	.	.V .Q	.	.	.
16.667	723.5856	2808.32	.	.V .Q	.	.	.
16.750	743.4553	2885.08	.	.V .Q	.	.	.
16.833	763.8614	2962.96	.	.V .Q	.	.	.
16.917	784.2152	2955.37	.	.V .Q	.	.	.
17.000	804.5607	2954.17	.	.V .Q	.	.	.
17.083	824.9163	2955.64	.	.V .Q	.	.	.
17.167	845.3046	2960.38	.	.V .Q	.	.	.
17.250	865.9926	3003.89	.	.V .Q	.	.	.
17.333	886.5157	2979.97	.	.V .Q	.	.	.
17.417	906.6064	2917.17	.	.V .Q	.	.	.
17.500	925.9631	2810.58	.	.V .Q	.	.	.
17.583	944.1837	2645.63	.	.V .Q	.	.	.
17.667	961.2921	2484.14	.	.V .Q	.	.	.
17.750	977.4098	2340.29	.	.V .Q	.	.	.
17.833	992.5191	2193.87	.	.V .Q	.	.	.
17.917	1006.6139	2046.56	.	.V .Q	.	.	.
18.000	1019.7537	1907.90	.	.V .Q	.	.	.
18.083	1031.9545	1771.56	.	.V .Q	.	.	.
18.167	1043.2418	1638.93	.	.V .Q	.	.	.

18.250	1053.6215	1507.12	.	.Q	.	V	.
18.333	1063.2181	1393.45	.	.Q	.	V	.
18.417	1072.0742	1285.91	.	.Q	.	V	.
18.500	1080.2748	1190.73	.	.Q	.	.V	.
18.583	1087.9491	1114.32	.	.Q	.	.V	.
18.667	1095.2002	1052.86	.	.Q	.	.V	.
18.750	1102.0978	1001.52	.	.Q	.	.V	.
18.833	1108.6816	955.98	.	.Q	.	.V	.
18.917	1114.9849	915.24	.	.Q	.	.V	.
19.000	1121.0302	877.77	.	.Q	.	.V	.
19.083	1126.8322	842.46	.	.Q	.	.V	.
19.167	1132.3983	808.21	.	.Q	.	.V	.
19.250	1137.6967	769.31	.	.Q	.	.V	.
19.333	1142.7332	731.30	.	.Q	.	.V	.
19.417	1147.5438	698.50	.	.Q	.	.V	.
19.500	1152.1658	671.11	.	.Q	.	.V	.
19.583	1156.6287	648.01	.	.Q	.	.V	.
19.667	1160.9462	626.90	.	.Q	.	.V	.
19.750	1165.1271	607.06	.	.Q	.	.V	.
19.833	1169.1826	588.86	.	.Q	.	.V	.
19.917	1173.1245	572.36	.	.Q	.	.V	.
20.000	1176.9630	557.35	.	.Q	.	.V	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1205.0
10%	1100.0
20%	420.0
30%	280.0
40%	205.0
50%	155.0
60%	115.0
70%	95.0
80%	75.0
90%	55.0
=====	=====

END OF FLOODSCx ROUTING ANALYSIS