

SECTION CC-1
 DOWNSTREAM CHANNEL VALLEY 1.390.
 UPSTREAM CHANNEL VALLEY AREA, SQ MI 2.82
 DRAINAGE VALLEY AREA, SQ MI 1390.
 'N' VALUE BY SEGMENTS NO. 1 NO. 2 NO. 3 NO. 4 NO. 5 NO. 6
 0.085 0.065 0.085 0.085 0.085 0.085

DISTANCES		KD VALUES		TOTAL		END AREA	
ELEVATION	CHANNEL	VALLEY	CHANNEL	VALLEY	SQ. FT.	SQ. FT.	SQ. FT.
293.00	73915.4	3270934.0	3344849.0	27146.99			
292.00	69710.7	3020633.5	3090344.0	25694.61			
291.00	65620.5	2781965.5	2847586.0	24273.70			
290.00	61626.8	2552816.5	2614443.0	22878.83			
289.00	57697.5	2330014.5	2387712.0	21501.33			
288.00	53932.5	2122903.0	2176835.5	20167.23			
287.00	50234.6	1922004.5	1972239.0	18850.50			
286.00	46637.5	1730426.2	1777063.5	17559.81			
285.00	43169.1	1550402.2	1593571.2	16301.67			
284.00	39794.5	1378625.2	1418419.7	15066.87			
283.00	36512.3	1214886.7	1251399.0	13854.85			
282.00	33387.5	1064494.2	1097881.7	12680.82			
281.00	30359.6	922100.1	952459.7	11529.58			
280.00	27427.2	787519.6	814946.7	10400.58			
279.00	24618.0	662864.5	687482.5	9299.79			
278.00	21954.9	549731.3	571686.2	8231.57			
277.00	19412.0	446324.5	465736.5	7189.72			
276.00	16992.0	352844.8	369836.8	6176.48			
275.00	14692.5	268748.6	283441.1	5191.66			
274.00	12535.9	195327.9	207863.9	4239.98			
273.00	10518.8	132346.7	142865.5	3319.84			
272.00	8646.2	83536.3	92182.5	2453.86			
271.00	6917.5	50072.8	56990.3	1691.57			
270.00	5348.7	26675.6	32024.4	1074.48			
269.00	3938.1	11388.5	15326.7	594.04			
268.00	2720.8	3582.1	6303.0	270.19			
267.00	1678.0	356.6	2034.6	77.31			
266.00	879.6	5.5	885.2	26.77			
265.00	333.4	0.0	333.4	13.74			
264.00	30.5	0.0	30.5	3.00			
263.40	1.6	0.0	1.6	0.33			

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
4.59	0.73	264.32	7.47	0.86	264.54	12.18	1.02	264.84
19.82	1.19	265.24	32.28	1.40	265.76	52.56	1.56	266.40
85.58	1.20	266.92	139.36	1.06	267.34	226.92	1.03	267.79
369.53	1.06	268.28	601.70	1.13	268.81	979.75	1.24	269.43
1595.35	1.36	270.17	2597.78	1.51	271.04	4230.00	1.68	272.06

DISTANCES

SECTION	DOWNSTREAM		UPSTREAM		DRAINAGE AREA, SQ MI	'N' VALUE BY SEGMENTS					
	CHANNEL	VALLEY	CHANNEL	VALLEY		NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
CC-2	1390.	1390.	1350.	1350.	2.77	0.085	0.065	0.085			

KD VALUES

ELEVATION	CHANNEL	VALLEY	TOTAL	END AREA SQ. FT.
296.00	122104.4	2566653.0	2688757.0	22544.10
295.00	115088.7	2363135.0	2478223.5	21261.42
294.00	108344.1	2174658.5	2283002.5	20029.51
293.00	101706.8	1991883.7	2093590.5	18817.29
292.00	95230.4	1817661.7	1912892.0	17634.62
291.00	88973.2	1654586.7	1743560.0	16491.33
290.00	82826.8	1497614.7	1580441.5	15368.07
289.00	76904.6	1353909.7	1430814.2	14285.51
288.00	71143.5	1218509.7	1289653.2	13233.82
287.00	65541.3	1091005.7	1156547.0	12212.34
286.00	60144.5	972939.6	1033084.1	11229.41
285.00	54958.1	856348.0	911306.1	10280.31
284.00	49932.3	743355.3	793287.6	9351.47
283.00	45068.5	635209.0	680277.5	8440.34
282.00	40462.1	536999.5	577461.6	7556.21
281.00	36051.1	446328.6	482379.8	6692.07
280.00	31839.8	364004.6	395844.5	5850.10
279.00	27832.8	290064.5	317897.3	5032.08
278.00	24030.4	225700.5	249730.9	4246.02
277.00	20470.5	175869.5	196340.0	3527.05
276.00	17143.1	130067.0	147210.1	2873.75
275.00	14056.4	90858.7	104915.2	2264.93
274.00	11215.1	58469.7	69684.8	1700.03
273.00	8646.5	33275.6	41922.1	1183.87
272.00	6343.4	14800.3	21143.7	714.95
271.00	4321.4	3742.0	8063.5	321.25
270.00	2677.0	333.8	3010.9	92.10
269.00	1441.0	0.0	1441.0	40.57
268.00	584.8	0.0	584.8	22.16
267.00	74.1	0.0	74.1	6.00
266.20	1.8	0.0	1.8	0.37

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
4.53	2.65	266.62*	7.36	0.70	267.29	12.00	0.86	267.51
19.53	1.03	267.81	31.82	1.20	268.25	51.80	1.39	268.83
84.35	1.64	269.49	137.36	1.16	270.16	223.66	1.08	270.58
364.22	1.10	271.02	593.05	1.12	271.54	965.67	1.26	272.11
1572.43	1.44	272.80	2560.45	1.67	273.67	4169.22	1.95	274.76

* INDICATES CRITICAL FLOW

SECTION	DISTANCES		DRAINAGE		'M' VALUE BY SEGMENTS						
	CHANNEL	VALLEY	CHANNEL	VALLEY	AREA, SQ MI	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
CC-3	1350.	1350.	1250.	1250.	1.75	0.085	0.065	0.085			

ELEVATION	KD VALUES			TOTAL	END AREA SQ. FT.
	CHANNEL	VALLEY	VALLEY		
293.00	60710.9	630149.3	690860.2	8027.62	
292.00	55681.8	552112.3	607794.2	7289.06	
291.00	50794.5	479034.9	529829.5	6577.84	
290.00	46058.9	410725.2	456784.1	5895.03	
289.00	41556.0	345930.6	387486.6	5250.02	
288.00	37225.8	286016.8	323242.6	4626.78	
287.00	33087.0	231526.3	264613.4	4027.23	
286.00	29137.8	182352.8	211490.7	3450.62	
285.00	25382.7	138724.4	164107.1	2897.69	
284.00	21852.1	103304.5	125156.6	2377.12	
283.00	18534.5	73670.1	92204.6	1897.21	
282.00	15441.0	49671.1	65112.1	1459.64	
281.00	12578.0	31548.6	44126.6	1074.08	
280.00	9955.0	18220.9	28176.0	745.52	
279.00	7581.4	9127.7	16709.2	477.87	
278.00	5487.3	3710.2	9197.5	276.39	
277.00	3666.5	931.0	4597.6	135.57	
276.00	2146.8	27.0	2173.8	56.97	
275.00	1120.0	0.0	1120.0	33.68	
274.00	461.8	0.0	461.8	17.91	
273.00	88.1	0.0	88.1	5.68	
272.00	0.8	0.0	0.8	0.18	
271.90	0.8	0.0	0.8	0.18	

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
3.09	2.86	272.38*	5.03	0.90	272.99	8.20	1.07	273.19
13.35	1.26	273.44	21.75	1.47	273.77	35.41	1.70	274.20
57.66	1.94	274.76	93.90	2.25	275.44	152.90	2.42	276.15
248.99	2.19	276.81	405.43	2.15	277.45	660.16	2.18	278.16
1074.96	2.31	278.94	1750.40	2.51	279.84	2850.20	2.75	280.90

* INDICATES CRITICAL FLOW

-----DISTANCES-----

SECTION	DOWNSTREAM		UPSTREAM		DRAINAGE AREA, SQ MI	'N' VALUE BY SEGMENTS					
	CHANNEL	VALLEY	CHANNEL	VALLEY		NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
CC-4	1250.	1250.	2220.	2220.	1.71	0.090	0.065	0.090			

-----KD VALUES-----

ELEVATION	CHANNEL	VALLEY	TOTAL	END AREA SQ. FT.
307.00	121817.7	2770506.0	2892323.5	27398.18
306.00	114768.3	2547193.5	2661961.5	25710.19
305.00	107797.4	2330424.0	2438221.0	24048.30
304.00	101103.7	2157686.0	2258789.5	22486.33
303.00	94523.2	1981719.2	2076242.5	20969.53
302.00	88112.7	1800908.2	1889020.7	19520.46
301.00	81933.8	1625303.5	1707237.2	18130.41
300.00	75868.3	1451577.2	1527445.5	16763.86
299.00	70025.0	1280158.0	1350183.0	15432.31
298.00	64394.1	1121559.0	1185953.0	14130.47
297.00	58924.9	971728.3	1030653.2	12852.01
296.00	53618.8	830244.3	883863.1	11597.49
295.00	48591.7	703017.3	751609.1	10382.90
294.00	43724.3	585569.2	629293.6	9195.28
293.00	39064.3	477481.3	518545.6	8044.77
292.00	34607.8	383194.0	417801.8	6932.80
291.00	30359.1	297065.1	327424.3	5860.24
290.00	26378.4	223339.4	249717.8	4840.46
289.00	22600.6	160746.6	183347.2	3866.86
288.00	19064.4	111894.2	130958.7	2982.75
287.00	15773.4	83564.8	99338.3	2287.09
286.00	12737.2	55618.1	68355.4	1726.13
285.00	9945.0	31095.6	41040.6	1213.75
284.00	7471.0	15041.2	22512.3	758.57
283.00	5282.7	6015.3	11298.0	409.20
282.00	3379.1	1710.1	5089.2	174.19
281.00	1892.2	425.3	2317.5	76.23
280.00	801.2	44.2	845.5	32.96
279.00	151.4	0.0	151.4	9.30
278.00	1.3	0.0	1.3	0.26
277.80	1.2	0.0	1.2	0.26

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
3.03	2.62	278.21*	4.93	0.84	278.73	8.04	0.98	278.91
13.09	1.13	279.13	21.33	1.32	279.38	34.73	1.47	279.69
56.54	1.62	280.05	92.08	1.72	280.53	149.93	1.85	281.08
244.15	1.80	281.69	397.56	1.68	282.31	647.34	1.61	282.97
1054.09	1.69	283.65	1716.42	1.83	284.41	2794.86	2.05	285.29

* INDICATES CRITICAL FLOW

SECTION	DOWNSTREAM		UPSTREAM		DRAINAGE AREA, SQ MI	'N' VALUE BY SEGMENTS					
	CHANNEL	VALLEY	CHANNEL	VALLEY		NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
CC-5	2220.	2220.	1190.	1190.	1.53	0.090	0.065	0.090			

ELEVATION	KD VALUES		TOTAL	END AREA SQ. FT.
	CHANNEL	VALLEY		
331.00	96197.1	184373.8	280570.9	2546.47
330.00	90532.7	167186.0	257718.7	2374.51
329.00	85050.7	151645.7	236696.5	2212.68
328.00	79656.6	136862.7	216519.3	2055.65
327.00	74420.3	123418.9	197839.3	1907.22
326.00	69345.5	111257.9	180603.4	1767.39
325.00	64361.8	99688.8	164050.7	1632.23
324.00	59577.1	88498.3	148075.4	1506.02
323.00	54940.0	78013.9	132953.9	1384.69
322.00	50431.0	68168.1	118599.2	1267.50
321.00	46073.3	59106.2	105179.5	1155.12
320.00	41914.8	51005.3	92920.2	1048.90
319.00	37884.1	43483.7	81367.9	946.55
318.00	34018.8	36683.5	70702.4	849.15
317.00	30314.2	30543.1	60857.3	756.44
316.00	26794.6	25112.9	51907.5	669.03
315.00	23465.5	20355.4	43820.9	586.90
314.00	20297.7	16126.2	36424.0	509.14
313.00	17321.4	12481.2	29802.7	436.41
312.00	14537.3	9371.2	23908.6	368.58
311.00	11952.3	6764.9	18717.2	305.65
310.00	9559.4	4599.3	14158.7	247.27
309.00	7397.4	2906.2	10303.7	194.13
308.00	5473.0	1637.1	7110.2	146.09
307.00	3768.9	713.9	4482.9	102.50
306.00	2344.2	226.9	2571.1	65.66
305.00	1192.9	30.7	1223.7	37.21
304.00	389.2	0.4	389.6	17.23
303.00	25.2	0.0	25.2	2.68
302.70	11.5	0.0	11.5	1.63

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
2.76	1.69	302.80	4.49	1.10	303.13	7.32	1.27	303.26
11.91	1.50	303.41	19.40	1.76	303.62	31.58	2.11	303.86
51.42	2.50	304.19	83.74	2.98	304.58	136.35	3.48	305.09
222.04	3.90	305.73	361.55	4.30	306.52	588.72	4.83	307.46
958.63	5.44	308.63	1560.98	6.22	310.06	2541.76	7.09	311.84

-----DISTANCES-----

SECTION	DOWNSTREAM		UPSTREAM		DRAINAGE AREA, SQ MI	'N' VALUE BY SEGMENTS					
	CHANNEL	VALLEY	CHANNEL	VALLEY		NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
CC-6	1190.	1190.	125.	125.	1.45	0.090	0.065	0.090			

-----KD VALUES-----

ELEVATION	CHANNEL	VALLEY	TOTAL	END AREA SQ. FT.
330.00	61385.0	397739.0	459124.0	7182.56
329.00	55543.4	324927.8	380471.3	6194.81
328.00	49912.1	261850.0	311762.1	5286.43
327.00	44519.1	205091.9	249611.0	4450.00
326.00	39365.8	153470.7	192836.5	3670.91
325.00	34457.5	109857.9	144315.5	2944.75
324.00	29832.5	75537.8	105370.3	2287.15
323.00	25475.7	48763.9	74239.6	1705.39
322.00	21401.0	29097.4	50498.4	1205.26
321.00	17615.6	15797.8	33413.5	800.01
320.00	14131.2	8372.5	22503.8	516.54
319.00	10958.5	3732.6	14691.2	334.56
318.00	8133.7	1270.2	9403.9	207.57
317.00	5704.4	225.9	5930.3	124.76
316.00	3701.7	0.0	3701.7	80.30
315.00	2188.1	0.0	2188.1	56.18
314.00	1017.7	0.0	1017.7	33.87
313.00	242.8	0.0	242.8	13.41
312.00	2.3	0.0	2.3	0.47
311.90	2.3	0.0	2.3	0.47

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
2.63	2.36	312.19*	4.28	0.90	312.53	6.98	1.02	312.65
11.37	1.17	312.81	18.52	1.41	312.98	30.15	1.75	313.19
49.10	2.12	313.49	79.96	2.53	313.89	130.20	2.98	314.45
212.02	3.52	315.17	345.23	4.17	316.09	562.14	4.11	317.18
915.35	3.95	318.24	1490.50	3.73	319.39	2427.00	3.45	320.69

* INDICATES CRITICAL FLOW

BRIDGE SECTION CC-7

COEFFICIENTS
 OPENING=0.700, ORIFICE=0.600, ROADWAY=0.800

-----DISTANCES-----

DOWNSTREAM			UPSTREAM	
CHANNEL			CHANNEL	VALLEY
125.0			210.0	210.0
ELEVATION	OPENING END AREA	Q CRIT.	ROADWAY	
			ELEVATION	Q IN CFS
314.2299	0.00	0.00	321.4000	0.00
314.3406	0.35	0.66	321.9349	183.06
314.4513	0.70	1.89	322.4698	794.01
314.5620	1.06	3.47	323.0048	1896.45
314.6727	1.45	5.37	323.5397	3498.64
314.7834	2.16	8.26	324.0746	5698.49
314.8941	2.87	11.87	324.6096	8543.82
315.0048	3.58	16.05	325.1445	11957.84
315.1155	4.29	20.70	325.6794	16044.93
315.2262	5.00	25.78	326.2144	20849.95
315.3369	5.70	31.24	326.7493	26090.07
315.4476	6.41	37.07	327.2842	32036.78
315.5583	7.12	43.24	327.8192	38711.08
315.6690	7.83	49.72	328.3541	45673.83
315.7797	8.54	56.52	328.8890	52863.64
315.8904	9.25	63.60	329.4240	60572.61
316.0011	9.95	70.97	329.9589	69061.34
316.1118	10.66	78.60	330.4938	78224.04
316.2225	11.37	86.50	331.0287	87968.45
316.3332	12.08	94.65	331.5637	96784.98
316.4439	12.79	103.03	332.0986	105779.93
316.5546	13.50	111.66	332.6335	115161.45
316.6653	14.21	120.52	333.1685	124932.75
316.7760	14.91	129.60	333.7034	135093.90
316.8867	15.62	138.91	334.2383	145648.43
316.9974	16.33	148.42	334.7733	156600.09
317.1081	17.04	158.15	335.3082	167948.68
317.2188	17.75	168.08	335.8431	179698.25
317.3295	18.46	178.21	336.3781	191852.71
317.4402	19.16	188.54	336.9130	204412.00
317.5509	19.87	199.06	337.4479	217380.25
317.6616	20.58	209.77	337.9828	230760.15
317.7723	21.29	220.67	338.5178	244555.96
317.8830	22.00	231.75	339.0527	258673.15
317.9937	22.71	243.01	339.5876	273091.62
318.1044	23.42	254.45	340.1226	287916.06
318.2151	24.12	266.07	340.6575	303145.25
318.3258	24.76	278.04	341.1924	318783.31
318.4365	25.22	291.11	341.7274	334834.87
318.5472	25.50	305.73	342.2623	351298.43
318.6600	25.60	322.59	342.8000	368267.81

THE HEAD-LOSS IS REFLECTED BETWEEN THE EXIT AND APPROACH SECTIONS. A RATING CURVE IS NOT DEVELOPED SEPERATELY FOR THE BRIDGE. NORMAL PROFILES ARE COMPUTED WHEN THE BRIDGE DOES NOT CONTROL THE FLOW.

-----DISTANCES-----											
SECTION	DOWNSTREAM		UPSTREAM		DRAINAGE AREA, SQ MI	'N' VALUE BY SEGMENTS					
	CHANNEL	VALLEY	CHANNEL	VALLEY		NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
CC-8	210.	210.	1175.	1175.	1.43	0.090	0.065	0.090			

-----KD VALUES-----					END AREA
ELEVATION	CHANNEL	VALLEY	TOTAL	SQ. FT.	
336.00	66177.9	823949.1	890127.0	10386.69	
335.00	60760.9	732098.6	792859.5	9486.00	
334.00	55494.6	645910.7	701405.3	8625.82	
333.00	50389.7	565203.0	615592.6	7807.15	
332.00	45532.1	489286.4	534818.6	7039.28	
331.00	40858.1	419015.7	459873.8	6303.17	
330.00	36387.3	354128.1	390515.3	5601.28	
329.00	32117.9	293529.7	325647.6	4929.69	
328.00	28054.4	236708.5	264763.0	4283.70	
327.00	24229.1	186029.9	210259.0	3664.36	
326.00	20629.6	140981.7	161611.3	3069.44	
325.00	17267.6	101717.4	118985.0	2499.44	
324.00	14149.3	68816.2	82965.6	1954.41	
323.00	11284.9	46849.7	58134.6	1468.99	
322.00	8683.5	30192.8	38876.4	1062.84	
321.00	6376.5	17919.5	24296.0	731.94	
320.00	4356.5	8726.8	13083.4	456.07	
319.00	2644.9	2777.6	5422.5	229.94	
318.00	1414.5	302.2	1716.7	72.30	
317.00	639.5	0.0	639.5	22.59	
316.00	173.5	0.0	173.5	9.07	
315.00	2.2	0.0	2.2	0.44	
314.90	2.2	0.0	2.2	0.44	

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
2.60	2.37	315.20*	4.23	1.11	315.51\$	6.90	1.31	315.65\$
11.23	1.52	315.85\$	18.30	1.85	316.07\$	29.80	2.17	316.37\$
48.52	2.55	316.76\$	79.00	2.99	317.24\$	128.64	2.21	317.87\$
209.49	1.91	318.29\$	341.11	0.37	321.57	555.44	0.51	322.02
904.44	0.75	322.35	1472.74	1.10	322.69	2398.08	1.57	323.11

* INDICATES CRITICAL FLOW
 \$ BRIDGE DID NOT CONTROL FLOW

-----DISTANCES-----

SECTION	DOWNSTREAM		UPSTREAM		DRAINAGE AREA, SQ MI	'N' VALUE BY SEGMENTS					
	CHANNEL	VALLEY	CHANNEL	VALLEY		NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
CC-9	1175.	1175.	2625.	2625.	1.33	0.100	0.070	0.100			

-----KD VALUES-----

ELEVATION	CHANNEL	VALLEY	TOTAL	END AREA SQ. FT.
351.00	108930.0	992910.5	1101840.5	10643.73
350.00	102387.6	914887.6	1017275.2	10043.29
349.00	96078.2	842072.5	938150.6	9464.86
348.00	89873.9	771481.3	861355.2	8896.20
347.00	83854.6	704729.1	788583.7	8344.63
346.00	78024.5	641341.7	719366.2	7809.46
345.00	72301.4	579903.3	652204.7	7283.47
344.00	66811.5	523026.9	589838.5	6776.83
343.00	61494.9	467285.4	528780.3	6282.57
342.00	56328.7	413093.9	469422.6	5797.39
341.00	51340.0	361383.9	412723.9	5321.01
340.00	46585.4	313603.2	360188.6	4855.77
339.00	41981.0	268305.5	310286.5	4397.52
338.00	37571.2	226202.3	263773.5	3948.21
337.00	33350.4	187526.3	220876.7	3508.01
336.00	29347.5	155577.4	184924.9	3082.94
335.00	25569.2	124548.2	150117.4	2677.36
334.00	21981.3	96152.1	118133.4	2281.60
333.00	18619.7	71816.2	90435.9	1899.40
332.00	15485.5	51029.0	66514.5	1534.22
331.00	12587.3	33515.8	46103.1	1187.02
330.00	9917.3	19113.3	29030.6	856.55
329.00	7522.7	8551.1	16073.8	546.76
328.00	5412.3	2739.5	8151.8	286.70
327.00	3567.1	365.0	3932.1	117.42
326.00	2092.7	2.2	2095.0	56.62
325.00	1019.7	0.0	1019.7	34.86
324.00	289.7	0.0	289.7	15.44
323.00	6.6	0.0	6.6	1.00
322.70	1.8	0.0	1.8	0.39

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
2.44	2.39	323.00*	3.97	0.81	323.39	6.48	0.94	323.53
10.55	1.06	323.70	17.19	1.31	323.87	27.98	1.56	324.13
45.56	1.88	324.46	74.19	2.24	324.91	120.81	2.66	325.51
196.73	3.15	326.24	320.34	2.10	327.27	521.61	1.91	327.93
849.36	1.99	328.57	1383.05	2.23	329.24	2252.04	2.59	330.03

* INDICATES CRITICAL FLOW

-----DISTANCES-----											
SECTION	DOWNSTREAM		UPSTREAM		DRAINAGE AREA, SQ MI	'N' VALUE BY SEGMENTS					
	CHANNEL	VALLEY	CHANNEL	VALLEY		NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
CC-10	2625.	2625.	1700.	1700.	1.20	0.100	0.070	0.100			

-----KD VALUES-----				END AREA
ELEVATION	CHANNEL	VALLEY	TOTAL	SQ. FT.
382.00	110922.2	424780.1	535702.5	5880.46
381.00	104691.1	383681.6	488372.6	5452.09
380.00	98584.4	345112.3	443696.7	5040.37
379.00	92602.2	309072.4	401674.6	4645.30
378.00	86835.3	277149.0	363984.3	4278.46
377.00	81165.6	247068.0	328233.6	3924.43
376.00	75666.9	220218.5	295885.4	3592.94
375.00	70343.0	196235.5	266578.5	3284.31
374.00	65118.1	173845.5	238963.6	2988.54
373.00	60108.9	154734.8	214843.7	2720.32
372.00	55260.0	137665.8	192925.9	2471.74
371.00	50550.3	121708.7	172259.1	2239.12
370.00	46004.8	106303.9	152308.8	2024.06
369.00	41676.2	91760.0	133436.2	1823.60
368.00	37486.6	78189.4	115676.0	1631.93
367.00	33477.3	65833.2	99310.6	1451.01
366.00	29643.1	54409.4	84052.6	1279.55
365.00	26011.0	44302.8	70313.9	1118.18
364.00	22587.4	35450.3	58037.7	966.90
363.00	19340.5	27588.2	46928.8	823.95
362.00	16303.9	20828.2	37132.1	690.61
361.00	13478.8	15087.3	28566.1	566.63
360.00	10873.5	10318.1	21191.6	451.98
359.00	8481.0	6413.9	14895.0	346.03
358.00	6345.9	3464.4	9810.4	250.08
357.00	4477.2	1450.6	5927.9	164.32
356.00	2858.1	339.9	3198.0	92.88
355.00	1560.6	23.2	1583.9	48.36
354.00	697.5	0.0	697.5	26.11
353.00	207.7	0.0	207.7	11.08
352.00	5.5	0.0	5.5	0.83
351.70	1.5	0.0	1.5	0.33

CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
2.23	2.42	352.02*	3.63	1.03	352.35	5.92	1.24	352.47
9.64	1.41	352.65	15.71	1.71	352.85	25.57	2.00	353.13
41.64	2.34	353.48	67.81	2.71	353.93	110.42	3.10	354.51
179.82	3.39	355.15	292.80	3.53	355.83	476.76	3.62	356.59
776.33	3.85	357.45	1264.13	4.28	358.47	2058.39	4.87	359.73

* INDICATES CRITICAL FLOW

SECTION	DISTANCE		DRAINAGE		'N' VALUE BY SEGMENTS						
	CHANNEL	VALLEY	CHANNEL	VALLEY	AREA, SQ MI	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
CC-11	1700.	1700.	1.	1.	0.71	0.100	0.070	0.100			

ELEVATION	KD VALUES		TOTAL	END AREA SQ. FT.
	CHANNEL	VALLEY		
405.00	75843.0	440056.5	515899.5	6000.38
404.00	71625.2	406682.4	478307.6	5606.37
403.00	67407.5	373308.4	440715.9	5212.36
402.00	63189.7	339934.4	403124.1	4818.35
401.00	58972.0	306560.3	365532.3	4424.33
400.00	54754.2	273186.3	327940.5	4030.32
399.00	50536.5	239812.2	290348.8	3636.31
398.00	46831.1	214028.2	260859.3	3324.06
397.00	43467.2	193304.6	236771.9	3066.33
396.00	40103.4	172581.0	212684.5	2808.60
395.00	36739.6	151857.5	188597.1	2550.86
394.00	33375.8	131133.9	164509.7	2293.13
393.00	30012.0	110410.3	140422.3	2035.40
392.00	26648.2	89686.7	116335.0	1777.67
391.00	23656.0	73100.5	96756.5	1551.58
390.00	21221.3	62721.2	83942.5	1372.98
389.00	18786.5	52341.9	71128.5	1194.38
388.00	16351.8	41962.6	58314.4	1015.78
387.00	13917.1	31583.2	45500.4	837.17
386.00	11482.4	21203.9	32686.4	658.57
385.00	9047.7	10824.6	19872.4	479.97
384.00	7726.8	9133.3	16860.1	408.31
383.00	6405.9	7441.9	13847.8	336.65
382.00	5084.9	5750.6	10835.5	264.99
381.00	3764.0	4059.2	7823.3	193.33
380.00	2443.1	2367.9	4811.0	121.67
379.00	1122.2	676.5	1798.7	50.01
378.00	538.1	0.0	538.1	19.34
377.00	445.3	0.0	445.3	16.01
376.00	352.5	0.0	352.5	12.67
375.00	259.7	0.0	259.7	9.34
374.00	167.0	0.0	167.0	6.00
373.00	74.2	0.0	74.2	2.66
372.00	0.0	0.0	0.0	0.00
371.00	0.0	0.0	0.0	0.00
370.00	0.0	0.0	0.0	0.00
369.00	0.0	0.0	0.0	0.00
368.00	0.0	0.0	0.0	0.00
367.00	0.0	0.0	0.0	0.00
366.00	0.0	0.0	0.0	0.00
365.00	0.0	0.0	0.0	0.00
364.00	0.0	0.0	0.0	0.00
363.00	0.0	0.0	0.0	0.00
362.00	0.0	0.0	0.0	0.00
361.00	0.0	0.0	0.0	0.00
360.00	0.0	0.0	0.0	0.00

359.00	0.0	0.0	0.0	0.00
358.00	0.0	0.0	0.0	0.00
357.00	0.0	0.0	0.0	0.00
356.00	0.0	0.0	0.0	0.00
355.00	0.0	0.0	0.0	0.00
354.00	0.0	0.0	0.0	0.00
353.00	0.0	0.0	0.0	0.00
352.00	0.0	0.0	0.0	0.00
351.00	0.0	0.0	0.0	0.00
350.00	0.0	0.0	0.0	0.00
349.00	0.0	0.0	0.0	0.00
348.00	0.0	0.0	0.0	0.00
347.00	0.0	0.0	0.0	0.00
346.00	0.0	0.0	0.0	0.00
345.00	0.0	0.0	0.0	0.00
344.00	0.0	0.0	0.0	0.00
343.00	0.0	0.0	0.0	0.00
342.00	0.0	0.0	0.0	0.00
341.00	0.0	0.0	0.0	0.00
340.00	0.0	0.0	0.0	0.00
339.00	0.0	0.0	0.0	0.00
338.00	0.0	0.0	0.0	0.00
337.00	0.0	0.0	0.0	0.00
336.00	0.0	0.0	0.0	0.00
335.00	0.0	0.0	0.0	0.00
334.00	0.0	0.0	0.0	0.00
333.00	0.0	0.0	0.0	0.00
332.00	0.0	0.0	0.0	0.00
331.00	0.0	0.0	0.0	0.00
330.00	0.0	0.0	0.0	0.00
329.00	0.0	0.0	0.0	0.00
328.00	0.0	0.0	0.0	0.00
327.00	0.0	0.0	0.0	0.00
326.00	0.0	0.0	0.0	0.00
325.00	0.0	0.0	0.0	0.00
324.00	0.0	0.0	0.0	0.00
323.00	0.0	0.0	0.0	0.00
322.00	0.0	0.0	0.0	0.00
321.00	0.0	0.0	0.0	0.00
320.00	0.0	0.0	0.0	0.00
319.00	0.0	0.0	0.0	0.00
318.00	0.0	0.0	0.0	0.00
317.00	0.0	0.0	0.0	0.00
316.00	0.0	0.0	0.0	0.00
315.00	0.0	0.0	0.0	0.00
314.00	0.0	0.0	0.0	0.00
313.00	0.0	0.0	0.0	0.00
312.00	0.0	0.0	0.0	0.00
311.00	0.0	0.0	0.0	0.00
310.00	0.0	0.0	0.0	0.00
309.00	0.0	0.0	0.0	0.00
308.00	0.0	0.0	0.0	0.00
307.00	0.0	0.0	0.0	0.00
306.00	0.0	0.0	0.0	0.00
305.00	0.0	0.0	0.0	0.00

	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.	CFS	VELOCITY	ELEV.
304.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
303.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
302.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
301.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
299.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
298.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
297.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
296.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
295.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
294.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
293.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
292.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
291.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
289.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
288.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
287.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
286.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
285.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
284.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
283.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
282.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
281.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
279.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
278.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
277.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
276.20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	1.39	7.28	372.26*	2.26	7.28	372.29*	3.69	7.28	372.35*	15.94	7.28	372.86*
	6.01	7.28	372.45*	9.79	7.28	372.60*	68.82	7.28	375.03*	297.13	1.14	381.92
	25.95	7.28	373.27*	42.26	7.28	373.94*	1282.85	2.67	385.00			
	112.07	7.28	376.81*	182.48	7.68	378.63*						
	483.83	1.41	383.06	787.84	1.86	384.20						

* INDICATES CRITICAL FLOW

WSPIN DURHAM CO. FLOOD INSURANCE STUDY 100 YEAR CABIN CREEK

A SECTION CC-1

BANKS ARE AT 1369. 1382.

STAGE	FLOODWAY STA		*-----WIDTHS-----*			TOTAL	ELEV	AREA	V AVE
	LEFT	RIGHT	LEFT	CHANNEL	RIGHT				
0.0	778.	1406.	591.	13.	24.	628.	270.6	1417.	1.53
0.5	1163.	1391.	206.		9.	228.	271.1	968.	2.24
1.0	1210.	1388.	159.		6.	178.	271.6	882.	2.46
2.0	1260.	1384.	109.		2.	124.	272.6	769.	2.82

B SECTION CC-2

BANKS ARE AT 870. 891.

STAGE	FLOODWAY STA		*-----WIDTHS-----*			TOTAL	ELEV	AREA	V AVE
	LEFT	RIGHT	LEFT	CHANNEL	RIGHT				
0.0	650.	1158.	220.	21.	267.	508.	273.3	1330.	1.61
0.5	786.	1064.	84.		173.	278.	273.8	1078.	1.99
1.0	812.	1026.	58.		135.	214.	274.3	976.	2.19
2.0	837.	983.	33.		92.	146.	275.3	842.	2.54

C SECTION CC-3

BANKS ARE AT 671. 691.

STAGE	FLOODWAY STA		*-----WIDTHS-----*			TOTAL	ELEV	AREA	V AVE
	LEFT	RIGHT	LEFT	CHANNEL	RIGHT				
0.0	441.	715.	230.	20.	24.	273.	279.6	628.	2.55
0.5	595.	699.	76.		8.	104.	280.1	451.	3.56
1.0	615.	695.	56.		4.	80.	280.6	409.	3.92
2.0	639.	691.	32.			52.	281.6	342.	4.69

NO KD NEEDED IN RGHT FLOODPLAIN

WSPIN DURHAM CO. FLOOD INSURANCE STUDY 100 YEAR CABIN CREEK

D SECTION CC-4

BANKS ARE AT 1480. 1501.

STAGE	FLOODWAY STA		*-----WIDTHS-----*			TOTAL	ELEV	AREA	V AVE
	LEFT	RIGHT	LEFT	CHANNEL	RIGHT				
0.0	1281.	1755.	199.	21.	254.	474.	284.5	973.	1.63
0.5	1399.	1562.	81.		61.	163.	285.0	659.	2.40
1.0	1420.	1542.	60.		41.	122.	285.5	593.	2.67
2.0	1444.	1526.	36.		25.	82.	286.5	510.	3.10

E SECTION CC-5

BANKS ARE AT 80. 97.

STAGE	FLOODWAY STA		*-----WIDTHS-----*			TOTAL	ELEV	AREA	V AVE
	LEFT	RIGHT	LEFT	CHANNEL	RIGHT				
0.0	67.	122.	13.	17.	25.	55.	309.8	236.	6.24
0.5	76.	110.	4.		13.	34.	310.3	211.	6.98
NO KD NEEDED IN LEFT FLOODPLAIN									
1.0	80.	106.	0.		9.	26.	310.8	186.	7.92
CHANNEL WILL CARRY FLOW W/O FRICTION BUT WONT WITH									
2.0	80.	97.	0.		0.	17.	311.8	150.	9.85

F SECTION CC-6

BANKS ARE AT 938. 964.

STAGE	FLOODWAY STA		*-----WIDTHS-----*			TOTAL	ELEV	AREA	V AVE
	LEFT	RIGHT	LEFT	CHANNEL	RIGHT				
0.0	911.	1073.	27.	26.	109.	162.	319.2	364.	3.91
NO KD NEEDED IN LEFT FLOODPLAIN									
0.5	938.	990.	0.		26.	52.	319.7	261.	5.46
NO KD NEEDED IN LEFT FLOODPLAIN									
1.0	938.	973.	0.		9.	35.	320.2	225.	6.34
CHANNEL WILL CARRY FLOW W/O FRICTION BUT WONT WITH									
2.0	938.	964.	0.		0.	26.	321.2	215.	6.63

WSPIN DURHAM CO. FLOOD INSURANCE STUDY 100 YEAR CABIN CREEK

A SECTION CC-8

BANKS ARE AT 994. 1015.

STAGE	FLOODWAY STA		*-----WIDTHS-----*			TOTAL	ELEV	AREA	V AVE
	LEFT	RIGHT	LEFT	CHANNEL	RIGHT				
0.0	614.	1026.	380.	21.	11.	412.	322.6	1294.	1.09
NO KD NEEDED IN	RGHT	FLOODPLAIN							
0.5	841.	1015.	153.		0.	174.	323.1	936.	1.51
NO KD NEEDED IN	RGHT	FLOODPLAIN							
1.0	869.	1015.	125.		0.	146.	323.6	873.	1.62
NO KD NEEDED IN	RGHT	FLOODPLAIN							
2.0	902.	1015.	92.		0.	113.	324.6	788.	1.79

I SECTION CC-9

BANKS ARE AT 360. 382.

STAGE	FLOODWAY STA		*-----WIDTHS-----*			TOTAL	ELEV	AREA	V AVE
	LEFT	RIGHT	LEFT	CHANNEL	RIGHT				
0.0	195.	501.	165.	22.	119.	306.	329.2	606.	2.23
0.5	294.	413.	66.		31.	119.	329.7	435.	3.10
1.0	316.	399.	44.		17.	83.	330.2	377.	3.58
2.0	337.	388.	23.		6.	51.	331.2	313.	4.31

J SECTION CC-10

BANKS ARE AT 315. 335.

STAGE	FLOODWAY STA		*-----WIDTHS-----*			TOTAL	ELEV	AREA	V AVE
	LEFT	RIGHT	LEFT	CHANNEL	RIGHT				
0.0	274.	370.	41.	20.	35.	96.	358.5	297.	4.26
0.5	299.	350.	16.		15.	51.	359.0	244.	5.18
1.0	305.	344.	10.		9.	39.	359.5	221.	5.71
NO KD NEEDED IN	RGHT	FLOODPLAIN							
2.0	314.	335.	1.		0.	21.	360.5	161.	7.85

WSPIN DURHAM CO. FLOOD INSURANCE STUDY 100 YEAR CABIN CREEK

SECTION CC-11

BANKS ARE AT 228. 243.

STAGE	FLOODWAY STA		*-----WIDTHS-----*			TOTAL	ELEV	AREA	V AVE
	LEFT	RIGHT	LEFT	CHANNEL	RIGHT				
0.0	151.	282.	77.	15.	39.	131.	384.4	397.	2.28
0.5	201.	258.	27.		15.	57.	384.9	309.	2.94
1.0	208.	254.	20.		11.	46.	385.4	289.	3.14
2.0	216.	248.	12.		5.	32.	386.4	251.	3.62

IHC9001 EXECUTION TERMINATING DUE TO ERROR COUNT FOR ERROR NUMBER 217

IHC2171 FIDCS - END OF DATA SET ON UNIT 5

TRACEBACK ROUTINE CALLED FROM ISN REG. 14 REG. 15 REG. 0 REG. 1

IBCOM 0016E300 00173F68 00000033 0016E010

HUD15 000279E0 0116D390 F0000008 0017B7F8

ENTRY POINT= 0116D390

NOCC	NOCC	NOCC	NOCC	END	JOB 553	5.56.49 AM 11 MAR 76	ORG RJ007	SCSF2791	NC-HUD15	NOCC	NOC
NOCC	NOCC	NOCC	NOCC	END	JOB 553	5.56.49 AM 11 MAR 76	ORG RJ007	SCSF2791	NC-HUD15	NOCC	NOC
NOCC	NOCC	NOCC	NOCC	END	JOB 553	5.56.49 AM 11 MAR 76	ORG RJ007	SCSF2791	NC-HUD15	NOCC	NOC
NOCC	NOCC	NOCC	NOCC	END	JOB 553	5.56.49 AM 11 MAR 76	ORG RJ007	SCSF2791	NC-HUD15	NOCC	NOC
NOCC	NOCC	NOCC	NOCC	END	JOB 553	5.56.49 AM 11 MAR 76	ORG RJ007	SCSF2791	NC-HUD15	NOCC	NOC