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WATER SURFACE PROFILE FOR: ROCKY KNOR 10,50,100,500 YR FLOODS DUM 1-0

PAGE 1 OF 1

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	SECID	AT	DISTANCE	LENGTH	DISCHARGE	AREA	CONVEYANCE	ALPHA	LEW	NEW						
	HS	ELEV	HV	HF	HE	EG	V	FM	ACG	ID						
DUM 1	AT	2370	/	0	/	960	/	238	/	11093	/	1.03	/	15	/	144
		3109.00	/	0.26	/		/	3109.26	/	4.03	/	0.54	/		/	*10*
DUM 2	AT	2590	/	210	/	960	/	215	/	9405	/	1.04	/	17	/	143
		3110.82	/	0.32	/	1.84	/	0.03	/	3111.14	/	4.47	/	0.52	/	0.009
DUM 3	AT	2790	/	210	/	960	/	223	/	10039	/	1.03	/	15	/	144
		3112.88	/	0.30	/	2.03	/	0.0	/	3113.18	/	4.30	/	0.59	/	0.018
A	AT	3000	/	210	/	960	/	219	/	9788	/	1.04	/	16	/	144
		3114.05	/	0.31	/	1.97	/	0.01	/	3115.16	/	4.38	/	0.50	/	0.006
B	AT	3440	/	440	/	960	/	237	/	16203	/	1.05	/	25	/	176
		3118.95	/	0.27	/	4.05	/	0.0	/	3119.22	/	4.05	/	0.55	/	0.002
C	AT	3790	/	350	/	960	/	208	/	8742	/	1.13	/	36	/	185
		3122.52	/	0.39	/	3.62	/	0.05	/	3122.91	/	4.61	/	0.65	/	0.011
D	AT	4150	/	350	/	960	/	257	/	11706	/	1.04	/	20	/	178
		3125.93	/	0.23	/	3.24	/	0.0	/	3126.15	/	3.74	/	0.52	/	0.001

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END OF THIS PROFILE

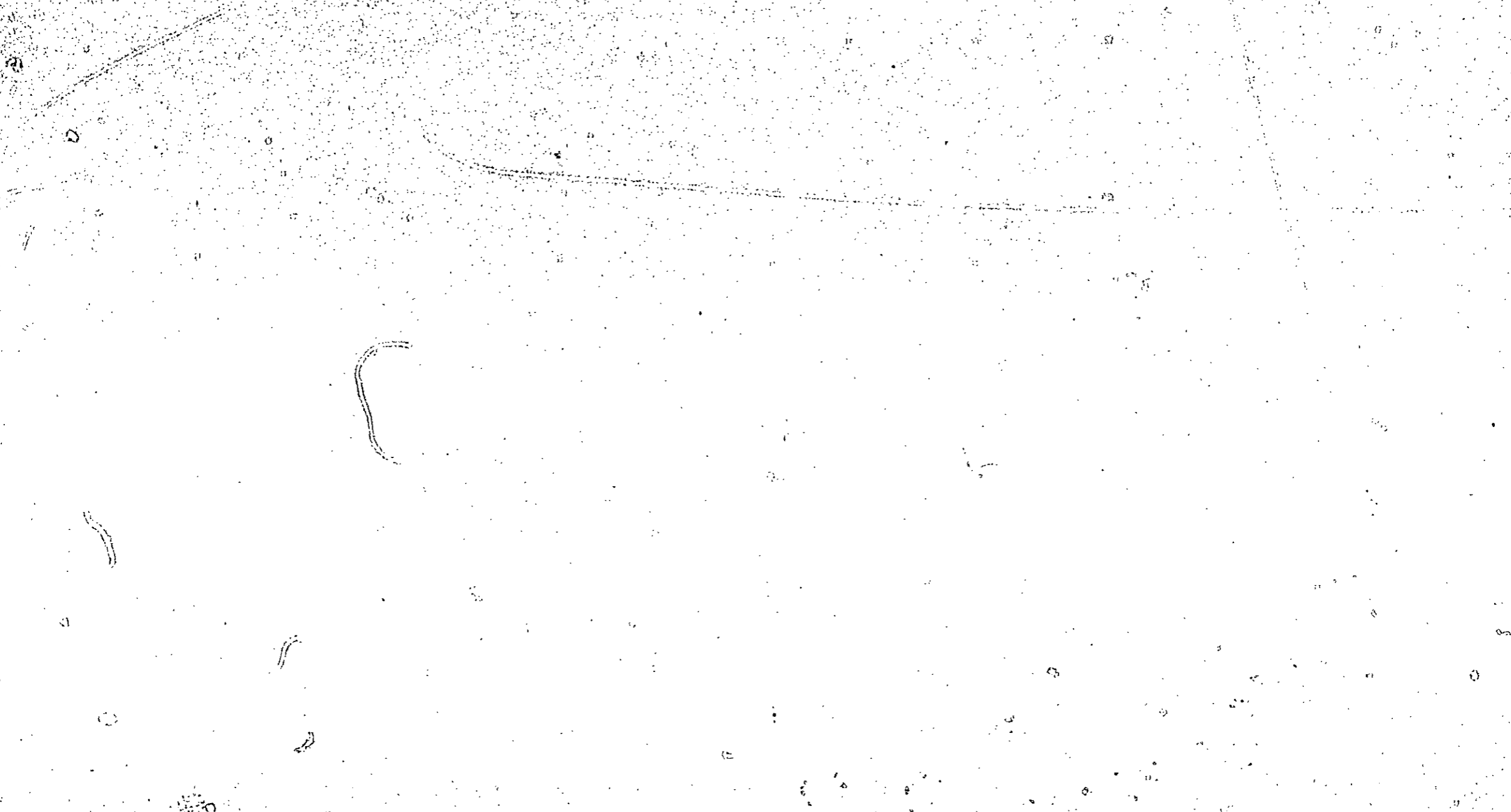
USGS STEP-BACKWATER PROGRAM - VERSION 76.170 \*\*\* PAGE COUNT= 19. DATE= 4/ 5/77

PAGE 1 OF PROFILE NOTES FOR: ROCKY KNDR 10, 50, 100, 500 YR FLOODS DUM 1-0  
INITIAL VALUES ARE: Q = 960. H = 3109.40

SECTID, ERROR OR WARNING MESSAGE, INTERMEDIATE RESULTS (IF ANY), ACTION TAKEN

DUM 2, KU/KD < 0.7 OR > 1.4

USED COMPUTED WSU



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WATER-SURFACE PROFILE FOR: ROCKY KNOP      10,50,100, & 500 YR FLOODS  DUM 1-D
PAGE 1 OF 1
=====
SECID AT DISTANCE/ LENGTH/DISCHARGE/ AREA /CONVEYANCE/ ALPHA/ LFW / REW
MS ELEV / HV / HF / HE / EG / V / FN / ACC MID*
=====
DUM 1 AT 2370 / 0 / 960. / 290. / 15128. / 1.01 / 13. / 145.
3109.40 / 0.17 / / 3109.57 / 3.30 / 0.41 / #IS*
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DUM 2 AT 2580 / 210 / 960. / 206. / 8939. / 1.04 / 17. / 143.
3110.75 / 0.35 / 1.43 / 0.09 / 3111.10 / 4.65 / 0.53 / 0.010 *XS*
-----
DUM 3 AT 2790 / 210 / 960. / 228. / 10357. / 1.03 / 16. / 144.
3112.92 / 0.29 / 2.09 / 0.0 / 3113.20 / 4.22 / 0.57 / 0.011 *XS*
-----
A AT 3000 / 210 / 960. / 218. / 9703. / 1.04 / 16. / 144.
3114.84 / 0.31 / 1.93 / 0.01 / 3115.16 / 4.40 / 0.61 / 0.012 *XS*
-----
B AT 3440 / 440 / 960. / 238. / 10266. / 1.06 / 26. / 176.
3118.96 / 0.27 / 4.07 / 0.0 / 3119.23 / 4.03 / 0.58 / 0.002 *XS*
-----
C AT 3790 / 350 / 960. / 208. / 8704. / 1.18 / 36. / 185.
3122.52 / 0.39 / 3.61 / 0.06 / 3122.91 / 4.62 / 0.65 / 0.008 *XS*
-----
D AT 4150 / 360 / 960. / 257. / 11743. / 1.04 / 28. / 179.
3125.93 / 0.22 / 3.25 / 0.0 / 3126.16 / 3.73 / 0.52 / 0.002 *XS*
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END OF THIS PROFILE

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WATER-SURFACE PROFILE FOR: ROCKY KNOB 10,50,100,500 YR FLOODS DUM 1-D

PAGE 1 OF 1

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SECID AT DISTANCE/ LENGTH/DISCHARGE/ AREA /CONVEYANCE/ ALPHA/ LEW / REW

WS ELEV / HV / HF / HE / EG / V / FM / ACC \*TD\*

=====

DUM 1 AT 2370 / 0 / 1580. / 290. / 15128. / 1.01 / 13. / 145.

3109.40 / 0.46 / / / 3109.86 / 5.44 / 0.57 / \*TS\*

-----

DUM 2 AT 2580 / 210 / 1580. / 309. / 16656. / 1.01 / 12. / 145.

3111.54 / 0.41 / 2.08 / 0.0 / 3111.95 / 5.12 / 0.52 / 0.003 \*XS\*

-----

DUM 3 AT 2790 / 210 / 1580. / 302. / 16107. / 1.01 / 12. / 145.

3113.49 / 0.43 / 1.95 / 0.01 / 3113.92 / 5.23 / 0.54 / 0.005 \*XS\*

-----

A AT 3000 / 210 / 1580. / 304. / 16224. / 1.01 / 12. / 145.

3115.50 / 0.42 / 2.01 / 0.0 / 3115.92 / 5.20 / 0.63 / 0.000 \*XS\*

-----

B AT 3440 / 440 / 1580. / 330. / 16969. / 1.03 / 21. / 191.

3119.55 / 0.37 / 3.99 / 0.0 / 3119.92 / 4.79 / 0.60 / 0.008 \*XS\*

-----

C AT 3790 / 350 / 1580. / 290. / 14424. / 1.14 / 27. / 188.

3123.05 / 0.53 / 3.57 / 0.08 / 3123.87 / 5.45 / 0.69 / 0.003 \*XS\*

-----

D AT 4150 / 350 / 1580. / 354. / 18465. / 1.03 / 18. / 182.

3126.55 / 0.32 / 3.30 / 0.0 / 3126.87 / 4.45 / 0.56 / -0.011 \*XS\*

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END OF THIS PROFILE

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WATER-SURFACE PROFILE FOR: ROCKY KNOB 10.50, 100, 1500 YR FLOODS DUM 1-0

PAGE 1 OF 1

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SECTION AT DISTANCE/ LENGTH/DISCHARGE/ AREA /CONVEYANCE/ ALPHA/ LEW / BEW  
 WS ELEV / HV / HF / HF / FG / V / FN / ACC #10#

DUM 1 AT 2370 / 0 / 1580. / 324. / 18009. / 1.01 / 12. / 0146.  
 3109.65 / 0.37 / / / 3110.02 / 4.88 / 0.58 / \*TS\*

DUM 2 AT 2580 / 210 / 1580. / 295. / 15812. / 1.01 / 13. / 145.  
 3111.46 / 0.44 / 1.84 / 0.03 / 3111.90 / 5.22 / 0.65 / 0.004 \*XS\*

DUM 3 AT 2790 / 210 / 1580. / 395. / 16349. / 1.01 / 12. / 145.  
 3113.51 / 0.42 / 2.03 / 0.0 / 3113.93 / 5.15 / 0.63 / 0.001 \*XS\*

A AT 3000 / 210 / 1580. / 303. / 16164. / 1.01 / 12. / 145.  
 3115.49 / 0.43 / 1.98 / 0.00 / 3115.92 / 5.21 / 0.64 / 0.002 \*XS\*

B AT 3440 / 440 / 1580. / 330. / 17011. / 1.03 / 21. / 181.  
 3119.56 / 0.37 / 3.99 / 0.0 / 3119.92 / 4.70 / 0.80 / 0.008 \*XS\*

C AT 3790 / 350 / 1580. / 290. / 14409. / 1.14 / 27. / 188.  
 3123.05 / 0.53 / 3.56 / 0.00 / 3123.57 / 5.45 / 0.69 / 0.004 \*XS\*

D AT 4150 / 350 / 1580. / 354. / 19350. / 1.03 / 18. / 182.  
 3126.55 / 0.32 / 3.31 / 0.0 / 3126.86 / 4.46 / 0.56 / -0.013 \*XS\*

END OF THIS PROFILE



PAGE 1 OF PROFILE NOTES FOR: ROCKY KNOR 10, 50, 100, 500 YR FLOODS - DUM 1-0  
INITIAL VALUES ARE: 0 = 390. H = 3108.15

SECID, ERROR OR WARNING MESSAGE, INTERMEDIATE RESULTS (IF ANY), ACTION TAKEN

D .KUZKD < 0.7 OR > 1.4

.USED COMPUTED WSH

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WATER SURFACE PROFILE FOR: ROCKY KNOR 10.50,100,1500 YR FLOODS DUM 1-6  
 PAGE 1 OF 1

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SECTION	AT	DISTANCE	LENGTH	DISCHARGE	AREA	CONVEYANCE	ALPHA	LEW	RFW
95 ELEV	HV	HF	HE	EG	V	FN	ACC	*TS*	
DUM 1	AT	2370	0	960.	206.	8929.	1.04	17.	143.
3108.75		0.35			3109.10	4.65	0.53		*TS*
DUM 2	AT	2580	210	960.	228.	10361.	1.03	16.	144.
3110.92		0.29	2.09	0.0	3111.20	4.21	0.57	0.010	*XS*
DUM 3	AT	2790	210	960.	218.	9700.	1.04	16.	144.
3112.84		0.31	1.93	0.01	3113.16	4.40	0.61	0.012	*XS*
A	AT	3000	210	960.	221.	9913.	1.04	16.	144.
3114.87		0.30	2.01	0.0	3115.17	4.34	0.59	0.003	*XS*
B	AT	3440	440	960.	236.	10113.	1.06	26.	176.
3118.95		0.27	4.04	0.0	3119.22	4.07	0.58	0.003	*XS*
C	AT	3790	350	960.	209.	9799.	1.18	25.	185.
3122.53		0.39	3.63	0.06	3122.91	4.59	0.65	0.013	*XS*
D	AT	4150	360	960.	256.	11454.	1.04	28.	218.
3125.02		0.23	3.24	0.0	3125.15	3.75	0.63	0.001	*XS*

END OF THIS PROFILE



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WATER-SURFACE PROFILE FOR: ROCKY KNOR 10.50.100.8500 YR FLOODS DUM 1.0.  
 PAGE 1 OF 1

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SECTION	AT	DISTANCE	LENGTH	DISCHARGE	AREA	CONVEYANCE	ALPHA	LEW	V	REF
NO		FEET	FEET	CU FT / SEC	SQ FT	CU FT / SEC		FEET	FEET	FEET
DUM 1	AT	2770	0	760.	206.	8027.	1.04	17.	143.	
		3108.75	0.22		3108.97	3.63	0.42			*XS*
DUM 2	AT	2580	210	760.	182.	7427.	1.06	19.	142.	
		3110.56	0.29	1.83	0.03	3110.86	4.17	0.50	0.011	*XS*
DUM 3	AT	2790	210	760.	192.	8025.	1.05	18.	142.	
		3112.64	0.26	2.04	0.0	3112.89	3.36	0.47	0.013	*XS*
A	AT	3000	210	760.	187.	7723.	1.06	19.	142.	
		3114.60	0.27	1.96	0.01	3114.87	4.06	0.48	0.010	*XS*
B	AT	3440	440	760.	201.	8058.	1.09	27.	172.	
		3118.71	0.24	4.08	0.0	3118.95	3.77	0.57	0.003	*XS*
C	AT	3790	350	760.	176.	6909.	1.21	40.	181.	
		3122.30	0.35	3.63	0.06	3122.65	4.32	0.54	0.010	*XS*
D	AT	4150	360	760.	221.	9335.	1.05	32.	177.	
		3125.68	0.19	3.22	0.0	3125.88	3.44	0.51	0.002	*XS*

END OF THIS PROFILE

PAGE 1 OF PROFILE NOTES FOR: ROCKY KNOB 10, 50, 100, 1500 YR FLOODS DUM-1-0  
INITIAL VALUES ARE: 0 = 950. H = 3108.35

SECID, ERROR OR WARNING MESSAGE, INTERMEDIATE RESULTS (IF ANY), ACTION TAKEN

DUM 2, KHZKD < 0.7 OR > 1.4

•USED COMPUTED WSU

DUM 3, KHZKD < 0.7 OR > 1.4

•USED COMPUTED WSU

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WATER-SURFACE PROFILE FOR: ROCKY KNOS 10.50,100,5500 YR FLOODS DUM 1-D

PAGE 1 OF 1

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SECTION	AT	WSE ELEV	HW	HF	HF	AREA	CONVEYANCE	ALPHA	LEW	REW	ACC	STD
DUM 1	AT	2370 /	0 /	960. /	157. /	5978. /	1.10 /	21. /	140.			
		3108.35 /	0.64 /	0 /	3108.99 /	6.11 /	0.78 /					*IS*
DUM 2	AT	2580 /	210 /	960. /	268. /	13324. /	1.02 /	14. /	145.			
		3111.23 /	0.20 /	2.43 /	0.0 /	3111.43 /	3.58 /	0.46 /	0.015			*XS*
DUM 3	AT	2790 /	210 /	960. /	208. /	9060. /	1.04 /	17. /	143.			
		3112.77 /	0.34 /	1.60 /	0.07 /	3113.11 /	4.61 /	0.54 /	0.005			*XS*
A	AT	3000 /	210 /	960. /	227. /	10285. /	1.03 /	15. /	144.			
		3114.91 /	0.29 /	2.08 /	0.0 /	3115.20 /	4.24 /	0.58 /	0.011			*XS*
B	AT	3440 /	440 /	960. /	232. /	9857. /	1.06 /	26. /	175.			
		3118.92 /	0.28 /	4.00 /	0.0 /	3119.20 /	6.14 /	0.40 /	0.004			*XS*
C	AT	3790 /	350 /	960. /	211. /	8921. /	1.18 /	35. /	195.			
		3122.54 /	0.38 /	3.67 /	0.05 /	3122.92 /	4.55 /	0.54 /	0.001			*XS*
D	AT	4150 /	360 /	960. /	254. /	11540. /	1.04 /	28. /	179.			
		3125.91 /	0.23 /	3.22 /	0.0 /	3126.14 /	3.77 /	0.43 /	0.001			*XS*

END OF THIS PROFILE

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WATER-SURFACE PROFILE FOR: ROCKY KNOB 10,50,100,2500 YR FLOODS DUM 1-0

PAGE 1 OF 1

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SECID AT DISTANCE/ LENGTH/DISCHARGE/ AREA /CONVEYANCE/ ALPHA/ LEW / DEW

WS ELEV / HV / HF / HE / FG / V / FN / ACC \*ID\*

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DUM 1 AT 2370 / 0 / 960. / 206. / 8920. / 1.04 / 17. / 143.

3109.75 / 0.35 / / 3109.10 / 4.65 / 0.53 / \*IS\*

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DUM 2 AT 2550 / 210 / 960. / 229. / 10361. / 1.03 / 16. / 144.

3110.92 / 0.29 / 2.09 / 0.0 / 3111.20 / 4.21 / 0.57 / 0.010 \*XS\*

-----

DUM 3 AT 2790 / 210 / 960. / 218. / 9703. / 1.04 / 16. / 144.

3112.64 / 0.31 / 1.93 / 0.01 / 3113.16 / 4.40 / 0.51 / 0.012 \*XS\*

-----

A AT 3000 / 210 / 960. / 221. / 9913. / 1.04 / 16. / 144.

3114.97 / 0.30 / 2.01 / 0.0 / 3115.17 / 4.34 / 0.50 / 0.003 \*XS\*

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B AT 3440 / 440 / 960. / 236. / 10113. / 1.06 / 25. / 176.

3118.95 / 0.27 / 4.04 / 0.0 / 3119.22 / 4.07 / 0.58 / 0.003 \*XS\*

-----

C AT 3790 / 350 / 960. / 209. / 8799. / 1.18 / 35. / 185.

3122.53 / 0.39 / 3.63 / 0.06 / 3122.91 / 4.59 / 0.55 / 0.013 \*XS\*

-----

D AT 4150 / 360 / 960. / 256. / 11654. / 1.04 / 29. / 178.

3125.92 / 0.23 / 3.24 / 0.0 / 3125.15 / 3.75 / 0.53 / 0.001 \*XS\*

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END OF THIS PROFILE

CROSS-SECTION PROPERTIES FOR: ROCKY KNOR 100-YEAR FLOODWAY E-G  
 SECID=F AT DISTANCE= 4267 PART 1 OF 1  
 \*\*\* FLOODWAY ANALYSIS \*\*\* 100-YEAR DISCHARGE

WS	A	K	ALPHA	B	P	LEW	REW	QC
3125.0	33	1279	1.00	15	18	81	96	283
3125.5	41	1702	1.00	17	19	80	97	370
3126.0	50	2199	1.00	19	21	80	98	451
3126.5	60	2706	1.00	21	24	78	99	572
3127.0	71	3370	1.00	24	27	76	100	701
3127.5	83	4200	1.00	25	30	75	100	857
3128.0	97	5142	1.00	27	32	73	100	1032
3128.5	111	6200	1.00	29	34	71	100	1225
3129.0	126	7381	1.00	31	37	69	100	1438
3129.5	142	8773	1.00	32	39	68	100	1689
3130.0	158	10391	1.00	32	40	68	100	1983
3130.5	174	12098	1.00	32	41	68	100	2293
3131.0	190	13888	1.00	32	42	68	100	2617
3131.5	206	16956	1.00	32	43	68	100	2956
3132.0	222	20921	1.00	32	44	68	100	3307
3132.5	238	23647	1.00	32	45	68	100	3672
3133.0	254	26137	1.00	32	46	68	100	4049

CROSS-SECTION PROPERTIES FOR: ROCKY KNOR 100-YEAR FLOODWAY E-G  
 SECID=F AT DISTANCE= 4720 PART 1 OF 1  
 \*\*\* FLOODWAY ANALYSIS \*\*\* 100-YEAR DISCHARGE

WS	A	K	ALPHA	B	P	LEW	REW	QC
3128.0	17	453	1.00	14	16	127	141	106
3128.5	26	716	1.00	22	23	126	140	165
3129.0	38	1236	1.02	32	34	117	149	234
3129.5	65	2172	1.17	62	64	89	150	349
3130.0	96	3710	1.07	63	65	89	151	652
3130.5	127	5699	1.02	64	67	89	152	1016
3131.0	159	8079	1.00	65	69	89	153	1421
3131.5	192	10814	1.00	66	70	89	154	1863
3132.0	225	13877	1.01	67	72	89	155	2341
3132.5	259	17813	1.00	67	73	89	156	2870
3133.0	292	22679	1.00	67	74	89	156	3452
3133.5	326	27297	1.00	67	75	89	156	4065
3133.9	353	30934	1.00	67	76	89	156	4580

CROSS-SECTION PROPERTIES FOR: ROCKY KNOR 100-YEAR FLOODWAY E-6  
 SECID=G AT DISTANCE= 5175 PART 1 OF 1  
 \*\*\* FLOODWAY ANALYSIS \*\*\* 100-YEAR DISCHARGE

WS	A	K	ALPHA	B	P	LEW	REW	QC
3132.0	19	569	1.00	12	14	12	24	133
3132.5	25	781	1.00	16	18	12	28	180
3133.0	34	1157	1.00	19	22	11	31	260
3133.5	45	1652	1.00	22	25	11	33	362
3134.0	56	2258	1.00	25	28	10	35	484
3134.5	69	3062	1.00	25	29	10	35	647
3135.0	82	3952	1.00	26	30	9	35	825
3135.5	95	4923	1.00	26	31	9	35	1020
3136.0	108	5972	1.00	27	33	8	35	1230
3136.5	122	7095	1.00	27	34	8	35	1454
3137.0	135	8289	1.00	28	35	7	35	1693
3137.5	149	10145	1.00	28	36	7	35	1958
3138.0	163	12685	1.00	28	37	7	35	2239
3138.4	175	14422	1.00	28	38	7	35	2473

USGS STEP-BACKWATER PROGRAM - VERSION 77.091 \*\*\* PAGE COUNT= 9, DATE= 6/15/77

PAGE 1 OF PROFILE NOTES FOR: ROCKY KNOB 100-YEAR FLOODWAY E-G  
PROFILE NUMBER 1, UPSTREAM COMPUTATIONS

SECID; ERROR(WARNING) MESSAGE; INTERMEDIATE RESULTS(IF ANY); ACTION TAKEN

F ; KU/KD < 0.7 OR > 1.4

ALERTED USER

G ; KU/KD < 0.7 OR > 1.4

ALERTED USER

USGS STEP-BACKWATER PROGRAM - VERSION 77.091 \*\*\* PAGE COUNT= 10,DATE= 6/15/77

WATER-SURFACE PROFILE FOR: ROCKY KNOB 100-YEAR FLOODWAY E-G

PAGE 1 OF 1, PROFILE NUMBER 1, UPSTREAM COMPUTATIONS

\*\*\* FLOODWAY ANALYSIS \*\*\* 100-YEAR DISCHARGE

SECID	AT	DISTANCE	LENGTH	DISCHARGE	AREA	CONVEYANCE	ALPHA	LEW	REW
WS ELEV	HV	HF	HE	EG	V	FN	ACC	ID	
E	AT	4267	0	960.	171.	11819.	1.00	68.	100.
3130.42		0.49		3130.91	5.61	0.43		*IS*	
F	AT	4720	453	880.	261.	18085.	1.00	89.	156.
3132.50		0.18	1.79	0.0	3132.71	3.38	0.33	0.004	*XS*
G	AT	5175	455	880.	100.	5310.	1.00	8.	35.
3135.69		1.21	3.67	0.52	3136.90	8.92	0.80	0.005	*XS*

END OF THIS PROFILE



SUMMARY OF ENCROACHMENTS FOR: ROCKY KNOB 100-YEAR FLOODWAY E-6  
 RESULTS OF THE FLOODWAY ANALYSIS ENTITLED 100-YEAR DISCHARGE (PROFILE  
 NUMBER 1, UPSTREAM COMPUTATIONS) ARE COMPARED TO THE RESULTS OF THE  
 BASE PROFILE (PROFILE NUMBER 1, UPSTREAM COMPUTATIONS). PAGE 1 OF 1

SECID	CARD 3 SEQUENCE	TYPE	FW OPTION	ENCROACHMENT		SURCHARGE		CHANNEL WIDTH	
				LEFT	RIGHT	IDEAL	ACTUAL	NATURAL	FLOODWAY
F	100	1	VHD	CONS	YES	1.00	1.00	*****	32
F	110	1	VHD	YES	CONS	1.00	1.04	*****	67
G	120	0	VHD	CONS	CONS	1.00	0.67	*****	27

\*\*\* INPUT CARD PRINTOUT \*\*\*

	1	2	3	4	5	6	7	8
5	0	5	0	5	0	5	0	5
9	10005	100	VHD	100	68	100	312942	
9	10006	110	VHD	100	126	156	313149	
9	10007	120	VHD	100	7	35	313502	
9	10008	END					100-YEAR DISCHARGE	

\*\*\* INPUT CARD PRINTOUT \*\*\*

	1	2	3	4	5	6	7	8
1	1	ROCKY KNOB	100-YEAR FLOODWAY	A-D	4	1	02	05 12
2	2	311585						
3	40	A	1	14	3	3111	3000	99 99
4	41	960						
5	43	0	1	31178	15	1	31150	35 1 31127 48 2 31127 50 2 31096
5	44	53	2	31096	56	2	31103	60 2 31123 64 2 31126 70 3 31136
5	45	100	3	31133	135	3	31135	144 3 31149 150 3 31175
6	47	1	2	045 045	4	5	060 050	1 2 045 045
3	50	B	0	14	3	3115	3440	99 99
5	53	0	1	31221	25	1	31191	30 1 31183 50 2 31175 60 2 31153
5	54	61	2	31143	64	2	31139	68 2 31139 69 3 31177 100 3 31168
5	55	140	3	31176	153	3	31182	175 3 31188 200 3 31221
6	57	2	3	045 035	4	5	060 050	2 3 045 035
3	60	C	0	13	3	3119	3790	99 99
5	63	0	1	31251	30	1	31228	60 1 31213 89 2 31202 91 2 31186
5	64	92	2	31172	95	2	31174	97 2 31177 101 3 31205 130 3 31213
5	65	160	3	31216	184	3	31224	200 3 31251
6	67	1	2	045 045	4	5	060 050	1 2 045 045
3	70	D	0	12	3	3122	4150	99 99
5	73	0	1	31276	30	1	31258	60 1 31240 87 2 31249 91 2 31207
5	74	93	2	31201	96	2	31206	98 3 31247 103 3 31240 130 3 31239
5	75	170	3	31244	200	3	31298	
6	77	1	2	045 045	5	6	060 050	1 2 045 045

USGS STEP-BACKWATER PROGRAM - VERSION 77.091 \*\*\* PAGE COUNT= 2 DATE= 6/15/77

INPUT SUMMARY FOR: ROCKY KNOR 100-YEAR FLOODWAY A-D

4 CROSS SECTIONS SPECIFIED (OR ASSUMED)

FOUND 4 TYPE 3 CARDS

KEPT 4 CROSS SECTIONS FOR EDITING

4 " " VALID FOR PROPERTY COMPUTATIONS

4 " " " " PROFILE " "

CROSS-SECTION PROPERTIES FOR: ROCKY KNOR 100-YEAR FLOODWAY A-D  
 SECID=A AT DISTANCE= 3000 PART 1 OF 1

WS	A	K	ALPHA	B	P	LEW	RFW	QC
3111.0	8	198	1.00	8	9	49	57	49
3111.5	13	358	1.00	10	11	49	58	85
3112.0	18	568	1.00	11	13	49	59	132
3112.5	24	767	1.00	15	17	48	63	176
3113.0	37	1153	1.10	34	36	32	66	207
3113.5	61	1927	1.20	96	99	28	135	252
3114.0	116	3910	1.19	116	117	24	138	609
3114.5	175	7014	1.07	122	125	19	141	1151
3115.0	238	11093	1.03	129	132	15	144	1910
3115.5	304	16226	1.01	133	136	12	145	2592
3116.0	371	22700	1.01	137	140	10	147	3447
3116.5	441	30406	1.03	141	144	7	148	4368
3117.0	512	38436	1.02	145	148	4	149	5403
3117.5	585	47165	1.02	148	152	2	150	6528
3117.8	630	52876	1.02	150	154	0	150	7256

CROSS-SECTION PROPERTIES FOR: ROCKY KNOR 100-YEAR FLOODWAY A-D  
 SECID=B AT DISTANCE= 3440 PART 1 OF 1

WS	A	K	ALPHA	B	P	LEW	RFW	QC
3115.0	8	164	1.00	8	9	60	62	41
3115.5	12	304	1.00	9	11	59	68	75
3116.0	17	484	1.00	12	14	57	69	116
3116.5	23	731	1.00	14	17	55	69	172
3117.0	33	1067	1.07	33	36	52	110	178
3117.5	61	1804	1.29	78	82	50	135	268
3118.0	110	3628	1.19	111	115	37	149	567
3118.5	171	6499	1.11	135	139	29	164	1040
3119.0	244	10653	1.05	151	155	26	177	1713
3119.5	321	16269	1.03	159	162	22	180	2554
3120.0	403	24444	1.03	167	170	17	184	3492
3120.5	488	35629	1.04	175	178	13	188	4528
3121.0	577	48663	1.05	183	186	9	192	5672
3121.5	670	64268	1.05	190	195	5	195	6977
3122.0	768	75541	1.04	198	203	1	199	8415
3122.1	798	78608	1.03	200	204	0	200	8718

CROSS-SECTION PROPERTIES FOR: ROCKY KNOR 100-YEAR FLOODWAY A-D  
 SECID=C AT DISTANCE= 3790 PART 1 OF 1

WS	A	K	ALPHA	B	P	LEW	RFW	QC
3119.0	10	272	1.00	8	10	90	99	66
3119.5	15	446	1.00	10	11	90	100	105
3120.0	20	668	1.00	11	13	89	100	154
3120.5	27	972	1.06	20	22	81	101	174
3121.0	45	1571	1.31	51	53	68	119	208
3121.5	80	2724	1.45	94	96	56	150	345
3122.0	136	4989	1.30	126	128	46	172	702
3122.5	205	8554	1.18	149	151	36	185	1256
3123.0	283	13850	1.14	160	163	27	188	1990
3123.5	365	20441	1.12	170	172	21	191	2868
3124.0	452	27924	1.08	179	182	14	193	3918
3124.5	544	36561	1.06	189	191	8	196	5090
3125.0	641	46359	1.05	198	201	1	199	6385
3125.1	661	48462	1.05	200	203	0	200	6659

CROSS-SECTION PROPERTIES FOR: ROCKY KNOR 100-YEAR FLOODWAY A-D  
 SECID=D AT DISTANCE= 4150 PART 1 OF 1

WS	A	K	ALPHA	B	P	LEW	RFW	QC
3122.0	9	252	1.00	7	8	90	97	63
3122.5	13	396	1.00	8	10	89	97	97
3123.0	17	569	1.00	8	11	89	97	138
3123.5	21	774	1.00	9	12	88	97	187
3124.0	22	1019	1.11	45	48	88	132	119
3124.5	67	1912	1.51	105	109	52	171	246
3125.0	127	4154	1.18	130	135	43	173	653
3125.5	194	7733	1.07	141	146	35	176	1253
3126.0	260	12445	1.04	152	157	27	179	1977
3126.5	347	19263	1.03	163	168	18	182	2820
3127.0	431	25400	1.03	174	179	10	184	3783
3127.5	521	33910	1.04	186	190	2	187	4861
3128.0	615	43909	1.03	190	195	0	190	6195
3128.5	711	54983	1.02	193	199	0	193	7681
3129.0	808	67121	1.01	196	202	0	196	9271
3129.5	907	80286	1.01	198	205	0	198	10961
3129.8	966	88662	1.00	200	207	0	200	12022

\*\*\* INPUT CARD PRINTOUT \*\*\*

1 2 3 4 5 6 7 8  
5 0 5 0 5 0 5 0 5 0 5 0 5 0  
7 10000  
8 10001





CROSS-SECTION PROPERTIES FOR: ROCKY KNOB 100-YEAR FLOODWAY A-D  
 SECID=A AT DISTANCE= 3000 PART 1 OF 1  
 \*\*\* FLOODWAY ANALYSIS \*\*\* 100-YEAR DISCHARGE

WS	A	K	ALPHA	B	P	LEW	PEW	QC
3111.0	8	198	1.00	8	9	49	57	49
3111.5	13	358	1.00	10	11	49	58	95
3112.0	18	568	1.00	11	13	48	59	132
3112.5	24	767	1.00	15	17	48	63	176
3113.0	33	1083	1.00	18	21	48	66	245
3113.5	45	1539	1.07	43	46	48	101	251
3114.0	71	2549	1.13	53	57	48	101	435
3114.5	97	4022	1.05	53	58	48	101	728
3115.0	124	5829	1.01	57	59	48	101	1065
3115.5	150	7920	1.00	59	60	48	101	1434
3116.0	177	10695	1.00	53	61	48	101	1830
3116.5	203	14045	1.01	53	62	48	101	2251
3117.0	230	17140	1.00	53	63	48	101	2710
3117.5	257	20323	1.00	53	64	48	101	3197
3117.8	273	22320	1.00	53	65	48	101	3500

CROSS-SECTION PROPERTIES FOR: ROCKY KNOB 100-YEAR FLOODWAY A-D  
 SECID=B AT DISTANCE= 3440 PART 1 OF 1  
 \*\*\* FLOODWAY ANALYSIS \*\*\* 100-YEAR DISCHARGE

WS	A	K	ALPHA	B	P	LEW	PEW	QC
3115.0	8	164	1.00	8	9	60	68	41
3115.5	12	304	1.00	9	11	59	68	75
3116.0	17	484	1.00	12	14	57	69	116
3116.5	23	731	1.00	14	17	55	69	172
3117.0	31	1055	1.00	19	22	52	93	229
3117.5	45	1541	1.11	38	42	50	76	266
3118.0	67	2489	1.11	45	50	50	95	444
3118.5	90	3800	1.04	45	51	50	95	707
3119.0	113	5372	1.01	45	52	50	95	1003
3119.5	135	7368	1.00	45	53	50	95	1325
3120.0	158	10465	1.01	45	54	50	95	1665
3120.5	180	14063	1.02	45	55	50	95	2024
3121.0	203	16981	1.03	45	56	50	95	2405
3121.5	225	20083	1.04	45	57	50	95	2805
3122.0	248	23354	1.05	45	58	50	95	3224
3122.1	252	24027	1.05	45	59	50	95	3310

CROSS-SECTION PROPERTIES FOR: ROCKY KNOB 100-YEAR FLOODWAY A-D  
 SECID=C AT DISTANCE= 3790 PART 1 OF 1  
 \*\*\* FLOODWAY ANALYSIS \*\*\* 100-YEAR DISCHARGE

WS	A	K	ALPHA	B	P	LEW	REW	QC
3119.0	10	272	1.00	8	10	90	99	66
3119.5	15	446	1.00	10	11	90	100	105
3120.0	20	668	1.00	11	13	89	100	154
3120.5	26	948	1.00	12	14	89	101	216
3121.0	36	1371	1.15	30	33	89	119	212
3121.5	53	2095	1.13	32	36	89	121	358
3122.0	69	3051	1.05	32	37	89	121	555
3122.5	85	4258	1.02	32	38	89	121	774
3123.0	101	5852	1.02	32	39	89	121	1006
3123.5	117	7604	1.02	32	40	89	121	1258
3124.0	134	9240	1.01	32	41	89	121	1534
3124.5	150	10982	1.00	32	42	89	121	1825
3125.0	166	12820	1.00	32	43	69	121	2131
125.1	169	13198	1.00	32	44	89	121	2194

CROSS-SECTION PROPERTIES FOR: ROCKY KNOB 100-YEAR FLOODWAY A-D  
 SECID=D AT DISTANCE= 4150 PART 1 OF 1  
 \*\*\* FLOODWAY ANALYSIS \*\*\* 100-YEAR DISCHARGE

WS	A	K	ALPHA	B	P	LEW	REW	QC
3122.0	9	252	1.00	7	8	90	97	63
3122.5	13	396	1.00	8	10	89	97	97
3123.0	17	569	1.00	8	11	89	97	138
3123.5	21	774	1.00	9	12	88	97	187
3124.0	28	1019	1.11	45	48	89	138	119
3124.5	51	1709	1.24	49	54	87	138	268
3125.0	77	2907	1.07	51	56	87	138	515
3125.5	102	4518	1.01	51	57	87	138	815
3126.0	127	6442	1.00	51	58	87	138	1143
3126.5	153	8641	1.01	51	59	87	138	1497
3127.0	178	11277	1.01	51	60	87	138	1884
3127.5	204	14354	1.00	51	61	87	138	2307
3128.0	229	17468	1.00	51	62	87	138	2750
3128.5	254	20632	1.01	51	63	87	138	3214
3129.0	280	23977	1.01	51	64	87	138	3698
3129.5	305	27490	1.02	51	65	87	138	4203
3129.8	320	29674	1.02	51	66	87	138	4515

USGS STEP-BACKWATER PROGRAM - VERSION 77.091 \*\*\* PAGE COUNT= 9. DATE 6/15/77

PAGE 1 OF PROFILE NOTES FOR: ROCKY KNOB 100-YEAR FLOODWAY A-D  
PROFILE NUMBER 1, UPSTREAM COMPUTATIONS

SECID: ERROR (WARNING) MESSAGE: INTERMEDIATE RESULTS (IF ANY): ACTION TAKEN:

0 : KU/KD < 0.7 OR > 1.4

ALERTED USER

USGS STEP-BACKWATER PROGRAM - VERSION 77.091 \*\*\* PAGE COUNT= 10, DATE= 6/15/77

WATER-SURFACE PROFILE FOR: ROCKY KNOB 100-YEAR FLOODWAY A-0  
PAGE 1 OF 1, PROFILE NUMBER 1. UPSTREAM COMPUTATIONS  
\*\*\* FLOODWAY ANALYSIS \*\*\* 100-YEAR DISCHARGE

SECID	AT	DISTANCE	LENGTH	DISCHARGE	AREA	CONVEYANCE	ALPHA	LEW	BEW	WS ELEV	HV	HF	HE	EG	VE	FN	ACC	RID#
A	AT	3000	0	960	169	9794	1.00	48	101	3115.85	0.50			3116.35	5.68	0.49		815*
B	AT	3440	440	960	155	10040	1.01	50	95	3119.94	0.60	4.12	0.05	3120.54	6.20	0.49	0.014	*XS*
C	AT	3790	350	960	124	8210	1.01	29	121	3123.69	0.95	3.91	0.17	3124.64	7.77	0.63	0.011	*XS*
D	AT	4150	360	960	195	13218	1.00	87	138	3127.32	0.30	3.06	0.0	3127.70	4.94	0.49	0.007	*XS*

END OF THIS PROFILE

SUMMARY OF ENCROACHMENTS FOR: ROCKY KNOR 100-YEAR FLOODWAY A-D  
 RESULTS OF THE FLOODWAY ANALYSIS ENTITLED 100-YEAR DISCHARGE (PROFILE  
 NUMBER 1, UPSTREAM COMPUTATIONS) ARE COMPARED TO THE RESULTS OF THE  
 BASE PROFILE (PROFILE NUMBER 1, UPSTREAM COMPUTATIONS). PAGE 1 OF 1

CARD	SEQUENCE	TYPE	FW	ENCROACHMENT		SURCHARGE		CHANNEL WIDTH	
				OPTION	LEFT	RIGHT	IDEAL	ACTUAL	NATURAL
A	40	1	VHD	CONS	YES	1.00	1.00	*****	53
B	50	0	VHD	CONS	YES	1.00	0.99	*****	45
C	60	0	VHD	YES	YES	1.00	1.17	*****	32
D	70	0	VHD	YES	YES	1.00	1.39	*****	51

\*\*\* INPUT CARD PRINTOUT \*\*\*

	1	2	3	4	5	6	7	8
1	1	ROCKY KNOR	100-YEAR FLOODWAY	E-6	3	1	02	05 12
2	2	313042						
3	100 F	1	16	3 3125	4 67 99 99			
4	101	960						
5	103	0	1 31316	30 1 31319	68 2 31293	80 2 31250	82 2 31237	
5	104	83	2 31227	88 2 31217	92 2 31219	93 2 31237	100 3 31268	
5	105	117	3 31279	145 3 31284	150 3 31285	175 3 31295	200 3 31311	
5	106	225	3 31330					
6	109	1	2 045 045	6 7 060 050	1 2 045 045			
3	110 F	1	12	3 31280	4 720 99 99			
4	111	880						
5	112	0	1 31339	10 1 31318	50 1 31290	100 1 31292	126 2 31289	
5	113	129	2 31262	133 2 31259	135 2 31261	138 2 31278	148 2 31284	
5	114	156	3 31324	200 3 31332				
6	117	1	2 045 045	4 5 060 050	1 2 045 045			
3	120 G	0	14	2 3132	5175 99 99			
5	123	0	1 31379	7 1 31371	11 1 31333	14 1 31301	14 1 31297	
5	124	19	1 31302	22 1 31304	24 1 31321	29 1 31326	35 2 31346	
5	125	77	2 31344	110 2 31356	150 2 31371	200 2 31384		
6	127	5	6 060 050	2 3 050 05				

USGS STEP-BACKWATER PROGRAM -- VERSION 77.091 \*\*\* PAGE COUNT= 2 DATE= 6/15/77

INPUT SUMMARY FOR: ROCKY KNOB 100-YEAR FLOODWAY E-6

3 CROSS SECTIONS SPECIFIED (OR ASSUMED)

FOUND 3 TYPE 3 CARDS

KEPT 3 CROSS SECTIONS FOR EDITING

3 " " VALID FOR PROPERTY COMPUTATIONS

3 " " " " PROFILE " "



CROSS-SECTION PROPERTIES FOR: ROCKY KNOB 100-YEAR FLOODWAY E-G  
 SECID=E AT DISTANCE= 4267 PART 1 OF 1

WS	A	K	ALPHA	B	P	LEW	REW	QC
3128.0	33	1279	1.00	15	18	81	66	283
3125.5	41	1702	1.00	17	19	80	97	370
3126.0	50	2199	1.00	18	21	80	98	471
3126.5	60	2706	1.00	21	24	78	99	572
3127.0	72	3372	1.01	27	30	76	103	661
3127.5	87	4262	1.05	36	40	75	111	750
3128.0	108	5378	1.10	50	53	73	123	860
3128.5	140	6893	1.19	79	83	71	150	972
3129.0	184	9196	1.18	93	97	69	153	1344
3129.5	234	12307	1.15	110	114	65	175	1807
3130.0	293	16516	1.12	125	129	58	183	2398
3130.5	359	21591	1.11	140	144	50	191	3096
3131.0	433	27605	1.10	155	159	43	198	3911
3131.5	514	35965	1.13	169	173	36	205	4787
3132.0	610	45997	1.22	212	216	0	212	5314
3132.5	717	56876	1.21	218	223	0	218	6709
3133.0	828	68788	1.18	225	230	0	225	8299

CROSS-SECTION PROPERTIES FOR: ROCKY KNOB 100-YEAR FLOODWAY E-G  
 SECID=F AT DISTANCE= 4720 PART 1 OF 1

WS	A	K	ALPHA	B	P	LEW	REW	QC
3128.0	17	453	1.00	14	16	127	141	106
3128.5	26	716	1.00	22	23	126	148	165
3129.0	38	1236	1.02	32	34	117	140	234
3129.5	83	2497	1.31	107	109	43	150	362
3130.0	139	4951	1.10	115	117	36	151	821
3130.5	199	8361	1.03	124	126	29	152	1406
3131.0	262	12663	1.01	132	134	21	153	2092
3131.5	330	17839	1.00	140	142	14	154	2877
3132.0	402	24054	1.00	146	149	9	155	3784
3132.5	476	31962	1.00	155	157	7	162	4737
3133.0	561	41601	1.03	185	187	4	189	5471
3133.5	659	52088	1.06	198	201	2	200	6628
3133.9	738	61198	1.06	200	203	0	200	7810



CROSS-SECTION PROPERTIES FOR: ROCKY KNOB  
 SECID=6 AT DISTANCE= 5175

100-YEAR FLOODWAY F-6  
 PART 1 OF 1

WS	A	GK	ALPHA	B	P	LEW	REW	QC
3132.0	19	569	1.00	12	14	12	24	133
3132.5	25	781	1.00	16	18	12	28	180
3133.0	34	1157	1.00	19	22	11	31	260
3133.5	45	1652	1.00	22	25	11	35	362
3134.0	56	2258	1.00	25	28	10	35	484
3134.5	82	3264	1.20	69	72	10	79	460
3135.0	110	4905	1.22	77	80	9	86	750
3135.5	158	7096	1.17	85	88	9	94	1136
3136.0	203	9826	1.12	93	97	8	101	1605
3136.5	251	13109	1.09	101	105	8	109	2156
3137.0	309	15938	1.16	135	139	7	142	2462
3137.5	384	19997	1.12	162	166	3	165	3173
3138.0	471	25430	1.07	185	189	0	185	4118
3138.4	548	31748	1.07	200	205	0	200	4972

\*\*\* INPUT CARD PRINTOUT \*\*\*

	1	2	3	4	5	6	7	8	9	10
7	10000									
8	10001			1						

\*\*\* INPUT CARD PRINTOUT \*\*\*

	1	2	3	4	5	6	7	8
9 10005	100	VHD	100	68	100	312942		
9 10006	110	VHD	100	126	156	313142		
9 10007	120	VHD	100	7	35	313502		
9 10008	END					100-YEAR DISCHARGE		

\*\*\* INPUT CARD PRINTOUT \*\*\*

1	2	3	4	5	6	7	8
1	1	ROCKY KNOR	FLOOD PROFILES	J-K	2	4	02 05 15
2	2	313876	314149	314179	314231		
3	150	J	1	20	3	3138	5537 99 99
4	151		300	610	780	1300	
5	153		-40	1	31450	-40	1
5	154		125	1	31385	135	2
5	155		150	2	31337	157	2
5	156		225	3	31407	250	3
6	158	1	2	030 030	1	2	045 045
3	160	K	0	16	3	3140	5850 99 99
5	163		-22	1	31500	0	1
5	164		100	1	31415	150	1
5	165		176	2	31387	179	3
5	166		282	3	31500		
6	167	1	2	040 040	1	2	050 050

*Rocky Knor*  
*Not used*

*Don't use*

INPUT SUMMARY FOR: ROCKY KNOR FLOOD PROFILES J-K

2 CROSS SECTIONS SPECIFIED (OR ASSUMED)

FOUND 2 TYPE 3 CARDS

KEPT 2 CROSS SECTIONS FOR EDITING

2 " " VALID FOR PROPERTY COMPUTATIONS

2 " " " " PROFILE "

CROSS-SECTION PROPERTIES FOR: ROCKY KNOB FLOOD PROFILES J-K  
 SECID=J AT DISTANCE= 5539 PART 1 OF 1

WS	A	K	ALPHA	B	P	LEW	REW	QC
3138.0	75	4633	1.01	30	33	131	161	664
3138.5	92	6093	1.04	36	39	125	161	810
3139.0	116	7895	1.13	62	65	100	162	850
3139.5	155	10518	1.22	93	97	69	162	1025
3140.0	210	14609	1.23	127	131	44	172	1379
3140.5	281	20494	1.21	158	162	29	187	1938
3141.0	281	28250	1.26	239	243	15	254	2426
3141.5	506	39023	1.25	260	264	0	260	3577
3142.0	641	52492	1.21	280	284	-12	267	5000
3142.5	786	68531	1.17	300	304	-26	273	6664
3143.0	941	87177	1.14	320	324	-39	280	8559
3143.5	1101	111309	1.11	320	325	-39	280	10982
3144.0	1261	137966	1.09	320	326	-39	280	13569
3144.5	1421	167004	1.08	320	327	-39	280	16310
3145.0	1581	198303	1.08	320	328	-39	280	19197

CROSS-SECTION PROPERTIES FOR: ROCKY KNOB FLOOD PROFILES J-K  
 SECID=K AT DISTANCE= 5850 PART 1 OF 1

WS	A	K	ALPHA	B	P	LEW	REW	QC
3140.0	7	211	1.00	5	7	172	177	47
3140.5	10	331	1.00	6	9	173	178	74
3141.0	13	478	1.01	9	12	170	178	91
3141.5	24	772	1.44	45	49	157	203	85
3142.0	81	2143	1.62	157	161	50	207	259
3142.5	167	5694	1.14	187	191	25	212	840
3143.0	266	11421	1.03	203	207	13	217	1497
3143.5	370	19175	1.01	211	214	11	221	2756
3144.0	477	28645	1.01	218	222	8	226	3971
3144.5	588	39754	1.02	225	229	5	230	5337
3145.0	702	52526	1.02	232	236	3	235	6851
3145.5	820	66844	1.03	238	243	1	239	8503
3146.0	941	82618	1.03	245	249	-1	244	10283
3146.5	1065	99847	1.04	252	257	-3	248	12193
3147.0	1193	118525	1.04	260	264	-6	253	14225
3147.5	1325	138661	1.04	267	271	-8	258	16381
3148.0	1460	160287	1.05	274	279	-11	263	18666
3148.5	1599	183408	1.05	282	286	-13	267	21081
3149.0	1742	208028	1.05	289	294	-16	272	23625
3149.5	1888	234156	1.06	297	301	-18	277	26300
3150.0	2038	261804	1.06	304	309	-21	282	29105

PAGE 1 OF PROFILE NOTES FOR: ROCKY KNOB FLOOD PROFILES J-K  
INITIAL VALUES ARE: Q = 300. H = 3138.76

SECID, ERROR OR WARNING MESSAGE, INTERMEDIATE RESULTS (IF ANY), ACTION TAKEN

K, KU/KD < 0.7 OR > 1.4

USED COMPUTED WSU

=====

WATER-SURFACE PROFILE FOR: ROCKY KNOB FLOOD PROFILES J-K

PAGE 1 OF 1

=====

SECID AT DISTANCE/ LENGTH/DISCHARGE/ AREA /CONVEYANCE/ ALPHA/ LEW / REW

WS ELEV / HV / HF / HE / EG / V / EN / ACC #ID#

=====

J AT 5539 / 0 / 300. / 103. / 6941. / 1.09 / 112. / 161.

3138.76 / 0.14 / / 3138.90 / 2.92 / 0.29 / #IS#

=====

K AT 5850 / 311 / 390. / 42. / 1100. / 1.94 / 78. / 205.

3141.72 / 1.55 / 3.67 / 0.71 / 3143.28 / 7.17 / 1.28 / -0.001 #XS#

=====

Critical =  
3142.03

Super-Critical

USE Sequent Depth  
= 3142.59

END OF THIS PROFILE

1.2



PAGE 1 OF PROFILE NOTES FOR: ROCKY KNOR FLOW PROFILES J-K  
INITIAL VALUES ARE: Q = 610, H = 3141.49

SECID, ERROR OR WARNING MESSAGE, INTERMEDIATE RESULTS (IF ANY), ACTION TAKEN

K, FRDN FAILURE, WS = 3141.83 FN = 2.02, USED HIGHER WS  
K, KU/KD < 0.7 OR > 1.4, USED COMPUTED WSU

=====
   
WATER-SURFACE PROFILE FOR: ROCKY KNOB FLOOD PROFILES J-K
   
PAGE 1 OF 1
   
=====

SECID	AT	DISTANCE	LENGTH	DISCHARGE	AREA	CONVEYANCE	ALPHA	LFW	REW
WS ELEV	HV	HF	HE	FG	V	FN	ACC	*TD*	
J	AT	5539	0	610	503	38773	1.25	0	260
3141.49	0.03				3141.52	1.21	0.95		*IS*

Critical =	K	AT	5850	311	610	103	2929	1.40	43	209
3142.30		3142.14	0.76	1.02	0.37	3142.90	5.91	1.21	-0.006	*XS*
		Super-Critical								

USE Sequent Depth  
= 3142.80'

END OF THIS PROFILE

USGS STEP-BACKWATER PROGRAM - VERSION 76.170 \*\*\* PAGE COUNT= R,DATE= 6/ 6/77

PAGE 1 OF PROFILE NOTES FOR: ROCKY KNOP FLOOD PROFILES J-K  
INITIAL VALUES ARE: Q = 790. H = 3141.79

SECID, ERROR OR WARNING MESSAGE, INTERMEDIATE RESULTS (IF ANY), ACTION TAKEN

K, FRDN FAILURE

WS = 3141.84 FN = 2.54

•USED HIGHER WS

K, KU/KD < 0.7 OR > 1.4

•USED COMPUTED WSU

=====

WATER SURFACE PROFILE FOR ROCKY KNOB FLOOD PROFILES J-K

PAGE 1 OF 1

=====

SECID	AT	DISTANCE	LENGTH	DISCHARGE	AREA	CONVEYANCE	ALPHA	LEW	REW
WS ELEV	HV	HF	HE	EG	V	FN	ACC	#ID#	
J	AT	5539	0	780	583	4518	1.23	-8	264
3141.79		0.03			3141.82	1.34	0.17		#IS#

Critical =

K	AT	5850	311	780	149	4834	.18	30	211
3142.45		0.51	0.84	0.24	3142.91	5.24	0.99	0.004	#XS#

END OF THIS PROFILE

PAGE 1 OF PROFILE NOTES FOR: ROCKY KNOB FLOOD PROFILES J-K  
INITIAL VALUES ARE: O = 1300. H = 3142.31

SECID, ERROR OR WARNING MESSAGE, INTERMEDIATE RESULTS (IF ANY), ACTION TAKEN

K, KU/KD < 0.7 OR > 1.4

USED COMPUTED WSU

=====

WATER-SURFACE PROFILE FOR: ROCKY KNOB FLOOD PROFILES J-K

PAGE 1 OF 1

=====

SECTID	AT	DISTANCE	LENGTH	DISCHARGE	AREA	CONVEYANCE	ALPHA	LEW	REW
WS ELEV	HV	HE	HE	EG	V	FN	ACC	ID#	
U	WT	5539	0	1300.	729.	62126.	1.18	-22.	271.
3142.31		0.06			3142.37	1.78	0.21		*IS*

OK K

Critical =

	AT	5850	311	1300.	253.	10546.	1.04	14.	216.
3142.77		0.43	0.80	0.18	3143.36	5.14	0.83	0.008	*XS*

END OF THIS PROFILE

$$h_c = \frac{1}{2}(h_u + h_d)$$

$$h_c = \frac{1}{2}(4.3 - .06) = 2.12$$

HASP-II\*A\*RM89.PRI.....END JOB 4146.....7.57.29 AM 7 JUN 77.....BOX 0BU.....AG40BURS.....STYRON .....RM89.PRI\*A\*HASP-II  
HASP-II\*A\*RM89.PRI.....END JOB 4146.....7.57.29 AM 7 JUN 77.....BOX 0BU.....AG40BURS.....STYRON .....RM89.PRI\*A\*HASP-II  
HASP-II\*A\*RM89.PRI.....END JOB 4146.....7.57.29 AM 7 JUN 77.....BOX 0BU.....AG40BURS.....STYRON .....RM89.PRI\*A\*HASP-II  
HASP-II\*A\*RM89.PRI.....END JOB 4146.....7.57.29 AM 7 JUN 77.....BOX 0BU.....AG40BURS.....STYRON .....RM89.PRI\*A\*HASP-II  
HASP-II\*A\*RM89.PRI.....END JOB 4146.....7.57.29 AM 7 JUN 77.....BOX 0BU.....AG40BURS.....STYRON .....RM89.PRI\*A\*HASP-II

\*\*\* INPUT CARD PRINTOUT \*\*\*

	1	2	3	4	5	6	7	8
	.....5.....0.....5.....0.....5.....0.....5.....0.....5.....0.....5.....0.....5.....0.....5.....0							
1	1	ROCKY	KNOB	100-YEAR	FLOODWAY	F-G	2	1 02 05 12
2	2	313242						
3	110	F	1 12	3 3128	4720 99 99			
4	111	880						
5	112	0	1 31339	10 1 31318	50 1 31290	100 1 31292	126 2 31289	
5	113	129	2 31262	133 2 31259	135 2 31261	138 2 31278	148 2 31284	
5	114	156	3 31324	200 3 31332				
6	117	1	2 045 045	4 5 060 050	1 2 045 045			
3	120	G	0 14	2 3132	5175 99 99			
5	123	0	1 31379	7 1 31371	11 1 31333	14 1 31301	14 1 31297	
5	124	19	1 31302	22 1 31304	24 1 31321	29 1 31326	35 2 31340	
5	125	77	2 31344	110 2 31366	150 2 31371	200 2 31384		
6	127	5	6 060 050	2 3 050 045				



INPUT SUMMARY FOR: ROCKY KNOB 100-YEAR FLOODWAY F-6

2 CROSS SECTIONS SPECIFIED (OR ASSUMED)

FOUND 2 TYPE 3 CARDS

KEPT 2 CROSS SECTIONS FOR EDITING

2 " " VALID FOR PROPERTY COMPUTATIONS

2 " " " " PROFILE "

CROSS-SECTION PROPERTIES FOR: ROCKY KNOB  
 SECID=F AT DISTANCE= 4720

100-YEAR FLOODWAY F-G  
 PART 1 OF 1

WS	A	K	ALPHA	B	P	LEW	REW	QC
3128.0	17	453	1.00	14	16	127	141	106
3128.5	26	716	1.00	22	23	126	148	165
3129.0	38	1236	1.02	32	34	117	149	234
3129.5	83	2497	1.31	107	109	43	150	362
3130.0	139	4951	1.10	115	117	36	151	821
3130.5	199	8361	1.03	124	126	29	152	1406
3131.0	262	12663	1.01	132	134	21	153	2092
3131.5	330	17839	1.00	140	142	14	154	2871
3132.0	402	24054	1.00	146	149	9	155	3784
3132.5	476	31962	1.00	155	157	7	162	4737
3133.0	561	41601	1.03	185	187	4	189	5471
3133.5	659	52088	1.06	198	201	2	200	6628
3133.9	738	61198	1.06	200	203	0	200	7810

CROSS-SECTION PROPERTIES FOR: ROCKY KNOB  
 SECID=G AT DISTANCE= 5175

100-YEAR FLOODWAY F-G  
 PART 1 OF 1

WS	A	K	ALPHA	B	P	LEW	REW	QC
3132.0	19	569	1.00	12	14	12	24	133
3132.5	25	781	1.00	16	18	12	28	180
3133.0	34	1157	1.00	19	22	11	33	260
3133.5	45	1652	1.00	22	25	11	38	362
3134.0	56	2258	1.00	25	28	10	43	484
3134.5	82	3264	1.20	69	72	10	49	660
3135.0	118	4905	1.22	77	80	9	54	886
3135.5	158	7096	1.17	85	88	9	60	1136
3136.0	203	9826	1.12	93	97	8	66	1405
3136.5	251	13109	1.09	101	105	8	72	1695
3137.0	309	15938	1.16	135	139	7	78	2095
3137.5	384	19997	1.12	162	166	3	84	2462
3138.0	471	25430	1.07	185	189	0	90	2871
3138.4	548	31748	1.07	200	205	0	96	3173

\*\*\* INPUT CARD PRINTOUT \*\*\*

.....5.....<sup>1</sup>0.....<sup>2</sup>5.....<sup>3</sup>0.....<sup>4</sup>5.....<sup>5</sup>0.....<sup>6</sup>5.....<sup>7</sup>0.....<sup>8</sup>5.....0

7 10000  
8 10001

1  
1

\*\*\* INPUT CARD PRINTOUT \*\*\*

1 2 3 4 5 6 7 8  
.....5.....0.....5.....0.....5.....0.....5.....0.....5.....0.....5.....0

9 10005 110 HOR 80 154 313149  
9 10007 120 HOR 9 86 313502  
9 10008 END 100-YEAR DISCHARGE

CROSS-SECTION PROPERTIES FOR: ROCKY KNOB 100-YEAR FLOODWAY F-6  
 SECID=F AT DISTANCE= 4720 PART 1 OF 1  
 \*\*\* FLOODWAY ANALYSIS \*\*\* 100-YEAR DISCHARGE

WS	A	K	ALPHA	B	P	LEW	REW	QC
3128.0	17	453	1.00	14	16	127	141	106
3128.5	26	716	1.00	22	23	126	148	165
3129.0	38	1236	1.02	32	34	117	149	234
3129.5	68	2225	1.21	70	72	80	150	346
3130.0	103	3935	1.08	71	74	80	151	682
3130.5	139	6180	1.02	72	76	80	152	1088
3131.0	176	8888	1.00	73	77	80	153	1542
3131.5	212	12031	1.00	74	79	80	154	2042
3132.0	249	15772	1.00	74	80	80	154	2596
3132.5	286	20511	1.00	74	81	80	154	3197
3133.0	323	25693	1.00	74	82	80	154	3833
3133.5	360	30508	1.00	74	83	80	154	4512
3133.9	390	34563	1.00	74	84	80	154	5080

CROSS-SECTION PROPERTIES FOR: ROCKY KNOB 100-YEAR FLOODWAY F-6  
 SECID=G AT DISTANCE= 5175 PART 1 OF 1  
 \*\*\* FLOODWAY ANALYSIS \*\*\* 100-YEAR DISCHARGE

WS	A	K	ALPHA	B	P	LEW	REW	QC
3132.0	19	569	1.00	12	14	12	24	133
3132.5	25	781	1.00	16	18	12	28	180
3133.0	34	1157	1.00	19	22	11	31	260
3133.5	45	1652	1.00	22	25	11	33	362
3134.0	56	2258	1.00	25	28	10	35	484
3134.5	82	3264	1.20	69	72	10	79	460
3135.0	118	4905	1.22	77	80	9	86	750
3135.5	157	7180	1.13	77	81	9	86	1189
3136.0	195	9924	1.07	77	82	9	86	1701
3136.5	234	13192	1.03	77	83	9	86	2274
3137.0	272	17392	1.01	77	84	9	86	2890
3137.5	311	22775	1.01	77	85	9	86	3524
3138.0	349	28313	1.01	77	86	9	86	4190
3138.4	380	32327	1.01	77	87	9	86	4769

PAGE 1 OF PROFILE NOTES FOR: ROCKY KNOB 100-YEAR FLOODWAY F-6  
PROFILE NUMBER 1, UPSTREAM COMPUTATIONS

SECID; ERROR (WARNING) MESSAGE; INTERMEDIATE RESULTS (IF ANY); ACTION TAKEN

G ; KU/KD < 0.7 OR > 1.4 ;

ALERTED USER

WATER-SURFACE PROFILE FOR: ROCKY KNOB 100-YEAR FLOODWAY F-6  
PAGE 1 OF 1, PROFILE NUMBER: 1, UPSTREAM COMPUTATIONS  
\*\*\* FLOODWAY ANALYSIS \*\*\* 100-YEAR DISCHARGE

SECID	AT	DISTANCE	LENGTH	DISCHARGE	AREA	CONVEYANCE	ALPHA	LEW	REW
WS ELEV	HV	HF	HE	EG	V	FN	ACC	ID*	
F	AT	4720	0	880.	281.	19703.	1.00	80.	154.
		3132.42	0.15		3132.57	3.14	0.30		*IS*
G	AT	5175	455	880.	134.	5766.	1.19	9.	86.
		3135.20	0.80	3.10	0.32	3136.00	6.58	0.75	0.005 *XS*

END OF THIS PROFILE

SUMMARY OF ENCROACHMENTS FOR: ROCKY KNOB 100-YEAR FLOODWAY F-6  
 RESULTS OF THE FLOODWAY ANALYSIS ENTITLED 100-YEAR DISCHARGE (PROFILE  
 NUMBER 1, UPSTREAM COMPUTATIONS) ARE COMPARED TO THE RESULTS OF THE  
 BASE PROFILE (PROFILE NUMBER 1, UPSTREAM COMPUTATIONS). PAGE 1 OF 1

SECID	CARD 3 SEQUENCE	TYPE	FW OPTION	ENCROACHMENT		SURCHARGE		CHANNEL WIDTH	
				LEFT	RIGHT	IDEAL	ACTUAL	NATURAL	FLOODWAY
F	110	1	HOR	YES	YES	*****	0.93	*****	74
G	120	0	HOR	YES	YES	*****	0.18	*****	77



SUMMARY OF ENCROACHMENTS FOR: ROCKY KNOB 100-YEAR FLOODWAY T-G  
 RESULTS OF THE FLOODWAY ANALYSIS ENTITLED 100-YEAR DISCHARGE (PROFILE  
 NUMBER 1, UPSTREAM COMPUTATIONS) ARE COMPARED TO THE RESULTS OF THE  
 BASE PROFILE (PROFILE NUMBER 1, UPSTREAM COMPUTATIONS). PAGE 1 OF 1

SECID	CARD 3 SEQUENCE	TYPE	FW OPTION	ENCROACHMENT		SURCHARGE		CHANNEL WIDTH	
				LEFT	RIGHT	IDEAL	ACTUAL	NATURAL	FLOODWAY
E	100	1	VHD	CONS	YES	1.00	1.00	*****	32
F	110	1	HOR	YES	YES	*****	0.93	*****	74
G	120	0	HOR	YES	YES	*****	0.46	*****	26

WATER-SURFACE PROFILE FOR: ROCKY KNOB 100-YEAR FLOODWAY E-G  
PAGE 1 OF 1, PROFILE NUMBER 1. UPSTREAM COMPUTATIONS

\*\*\* FLOODWAY ANALYSIS \*\*\* 100-YEAR DISCHARGE

SECID	AT	DISTANCE	LENGTH	DISCHARGE	AREA	CONVEYANCE	ALPHA	LEW	REW
WS ELEV	HV	HF	HE	EG	V	FN	ACC	ID	
E	AT	4267	0	960.	171.	11819.	1.00	68.	100.
3130.42		0.49			3130.91	5.61	0.43		*IS*
F	AT	4720	453	880.	281.	19703.	1.00	80.	154.
3132.42		0.15	1.65	0.0	3132.57	3.14	0.30	0.016	*XS*
G	AT	5175	455	880.	94.	4890.	1.00	9.	35.
3135.48		1.36	3.66	0.60	3136.84	9.34	0.87	0.004	*XS*

END OF THIS PROFILE

USGS STEP-BACKWATER PROGRAM - VERSION 77.091 \*\*\* PAGE COUNT= 9, DATE= 6/16/77

PAGE 1 OF PROFILE NOTES FOR: ROCKY KNOB 100-YEAR FLOODWAY E-6  
PROFILE NUMBER 1, UPSTREAM COMPUTATIONS

SECID: ERROR(WARNING) MESSAGE: INTERMEDIATE RESULTS(IF ANY); ACTION TAKEN

F : KU/KD < 0.7 OR > 1.4

ALERTED USER

G : KU/KD < 0.7 OR > 1.4

ALERTED USER

CROSS-SECTION PROPERTIES FOR: ROCKY KNOB 100-YEAR FLOODWAY E-6  
 SECID=8 AT DISTANCE= 5175 PART 1 OF 1  
 \*\*\* FLOODWAY ANALYSIS \*\*\* 100-YEAR DISCHARGE

WS	A	K	ALPHA	B	P	LEW	REW	QC
3132.0	19	569	1.00	12	14	12	24	133
3132.5	25	781	1.00	16	18	12	28	180
3133.0	34	1157	1.00	19	22	11	31	260
3133.5	45	1652	1.00	22	25	11	33	362
3134.0	56	2258	1.00	25	28	10	35	484
3134.5	69	3062	1.00	25	29	10	35	647
3135.0	82	3952	1.00	26	30	9	35	825
3135.5	95	4934	1.00	26	31	9	35	1026
3136.0	108	5986	1.00	26	32	9	35	1244
3136.5	121	7091	1.00	26	33	9	35	1476
3137.0	134	8446	1.00	26	34	9	35	1720
3137.5	147	10573	1.00	26	35	9	35	1977
3138.0	160	12808	1.00	26	36	9	35	2245
3138.4	170	14021	1.00	26	37	9	35	2468

CROSS-SECTION PROPERTIES FOR: ROCKY KNOB 100-YEAR FLOODWAY E-G  
 SECID=E AT DISTANCE= 4267 PART 1 OF 1  
 \*\*\* FLOODWAY ANALYSIS \*\*\* 100-YEAR DISCHARGE

WS	A	K	ALPHA	B	P	LEW	REW	QC
3125.0	33	1279	1.00	15	18	81	96	283
3125.5	41	1702	1.00	17	19	80	97	370
3126.0	50	2199	1.00	18	21	80	98	471
3126.5	60	2706	1.00	21	24	78	99	572
3127.0	71	3370	1.00	24	27	76	100	701
3127.5	83	4200	1.00	25	30	75	100	857
3128.0	97	5142	1.00	27	32	73	100	1032
3128.5	111	6200	1.00	29	34	71	100	1225
3129.0	126	7381	1.00	31	37	69	100	1438
3129.5	142	8773	1.00	32	39	68	100	1689
3130.0	158	10391	1.00	32	40	68	100	1983
3130.5	174	12098	1.00	32	41	68	100	2293
3131.0	190	13888	1.00	32	42	68	100	2617
3131.5	206	16956	1.00	32	43	68	100	2956
3132.0	222	20921	1.00	32	44	68	100	3307
3132.5	238	23647	1.00	32	45	68	100	3672
3133.0	254	26137	1.00	32	46	68	100	4049

CROSS-SECTION PROPERTIES FOR: ROCKY KNOB 100-YEAR FLOODWAY E-G  
 SECID=F AT DISTANCE= 4720 PART 1 OF 1  
 \*\*\* FLOODWAY ANALYSIS \*\*\* 100-YEAR DISCHARGE

WS	A	K	ALPHA	B	P	LEW	REW	QC
3128.0	17	453	1.00	14	16	127	141	106
3128.5	26	716	1.00	22	23	126	148	165
3129.0	38	1236	1.02	32	34	117	149	234
3129.5	68	2225	1.21	70	72	80	150	346
3130.0	103	3935	1.08	71	74	80	151	682
3130.5	139	6180	1.02	72	76	80	152	1088
3131.0	176	8888	1.00	73	77	80	153	1542
3131.5	212	12031	1.00	74	79	80	154	2042
3132.0	249	15772	1.00	74	80	80	154	2596
3132.5	286	20511	1.00	74	81	80	154	3197
3133.0	323	25693	1.00	74	82	80	154	3833
3133.5	360	30508	1.00	74	83	80	154	4512
3133.9	390	34563	1.00	74	84	80	154	5080

\*\*\* INPUT CARD PRINTOUT \*\*\*

```
.....5.....0.....5.....0.....5.....0.....5.....0.....5.....0.....5.....0.....5.....0.....  
9 10005 100 VHD 100 68 100 312942  
9 10006 110 HOR 100 80 154 313149  
9 10007 120 HOR 100 9 35 313502  
9 10008 END 100-YEAR DISCHARGE
```

\*\*\* INPUT CARD PRINTOUT \*\*\*

.....5.....0.....5.....0.....5.....0.....5.....0.....5.....0.....5.....0.....5.....0.....5.....0.....5.....0.....

7 10000  
8 10001

1  
1

CROSS-SECTION PROPERTIES FOR: ROCKY KNOB  
 SECID=G AT DISTANCE= 5175 100-YEAR FLOODWAY PART 1 OF 1 E-6

WS	A	K	ALPHA	B	P	LEW	REW	QC
3132.0	19	569	1.00	12	14	12	24	133
3132.5	25	781	1.00	16	18	12	28	180
3133.0	34	1157	1.00	1	22	11	31	260
3133.5	45	1652	1.00	22	25	11	33	362
3134.0	56	2258	1.00	25	28	10	35	484
3134.5	82	3264	1.20	69	72	10	79	460
3135.0	118	4905	1.22	77	80	9	86	750
3135.5	158	7096	1.17	85	88	9	94	1136
3136.0	203	9826	1.12	93	97	8	101	1605
3136.5	251	13109	1.09	101	105	8	109	2156
3137.0	309	15938	1.16	135	139	7	142	2462
3137.5	384	19997	1.12	162	166	3	165	3173
3138.0	471	25430	1.07	185	189	0	185	4118
3138.4	548	31748	1.07	200	205	0	200	4972





CROSS-SECTION PROPERTIES FOR: ROCKY KNOB  
 SECID=E AT DISTANCE= 4267 100-YEAR FLOODWAY PART 1 OF 1 E-G

WS	A	K	ALPHA	B	P	LEW	REW	QC
3125.0	33	1279	1.00	15	18	81	96	283
3125.5	41	1702	1.00	17	19	80	97	370
3126.0	50	2199	1.00	18	21	80	98	471
3126.5	60	2706	1.00	21	24	78	99	572
3127.0	72	3372	1.01	27	30	76	103	661
3127.5	87	4262	1.05	36	40	75	111	750
3128.0	108	5378	1.10	50	53	73	123	860
3128.5	140	6893	1.19	79	83	71	150	972
3129.0	184	9196	1.18	93	97	69	163	1344
3129.5	234	12307	1.15	110	114	65	175	1807
3130.0	293	16516	1.12	125	129	58	183	2398
3130.5	359	21591	1.11	140	144	50	191	3096
3131.0	433	27605	1.10	155	159	43	198	3911
3131.5	514	35965	1.13	169	173	36	205	4787
3132.0	610	45997	1.22	212	216	0	212	5314
3132.5	717	56876	1.21	218	223	0	218	6709
3133.0	828	68788	1.18	225	230	0	225	8299

CROSS-SECTION PROPERTIES FOR: ROCKY KNOB  
 SECID=F AT DISTANCE= 4720 100-YEAR FLOODWAY PART 1 OF 1 E-G

WS	A	K	ALPHA	B	P	LEW	REW	QC
3128.0	17	453	1.00	14	16	127	141	106
3128.5	26	716	1.00	22	23	126	148	165
3129.0	38	1236	1.02	32	34	117	149	234
3129.5	83	2497	1.31	107	109	43	150	362
3130.0	139	4951	1.10	115	117	36	151	821
3130.5	199	8361	1.03	124	126	29	152	1406
3131.0	262	12663	1.01	132	134	21	153	2092
3131.5	330	17839	1.00	140	142	14	154	2877
3132.0	402	24054	1.00	146	149	9	155	3784
3132.5	476	31962	1.00	155	157	7	162	4737
3133.0	561	41601	1.03	185	187	4	189	5471
3133.5	659	52088	1.06	198	201	?	200	6628
3133.9	738	61198	1.06	200	203	0	200	7810

USGS STEP-BACKWATER PROGRAM - VERSION 77.C91 \*\*\* PAGE COUNT= 2, DATE= 6/16/77

INPUT SUMMARY FOR: ROCKY KNOB 100-YEAR FLOODWAY E-6

3 CROSS SECTIONS SPECIFIED (OR ASSUMED)

FOUND 3 TYPE 3 CARDS

KEPT 3 CROSS SECTIONS FOR EDITING

3 " " VALID FOR PROPERTY COMPUTATIONS

3 " " " " PROFILE "

\*\*\* INPUT CARD PRINTOUT \*\*\*

```

.....5.....0.....5.....0.....5.....0.....5.....0.....5.....0.....5.....0.....5.....0.....5.....0
 1      1 ROCKY KNOB          100-YEAR FLOODWAY          E-G      3 1 02 05 12
 2      2 313042
 3      100 E      1 16 3 3125      4267 99 99
 4      101      960
 5      103      0 1 31316      30 1 31319      68 2 31293      80 2 31260      82 2 31237
 5      104      83 2 31227      88 2 31217      92 2 31219      93 2 31237      100 3 31268
 5      105      117 3 31279      145 3 31284      150 3 31285      175 3 31295      200 3 31311
 5      106      225 3 31330
 6      109 1 2 045 045      6 7 060 050      1 2 045 045
 3      110 F      1 12 3 3128      4720 99 99
 4      111      880
 5      112      0 1 31339      10 1 31318      50 1 31290      100 1 31292      126 2 31289
 5      113      129 2 31262      133 2 31259      135 2 31261      138 2 31278      148 2 31284
 5      114      156 3 31324      200 3 31332
 6      117 1 2 045 045      4 5 060 050      1 2 045 045
 3      120 G      0 14 2 3132      5175 99 99
 5      123      0 1 31379      7 1 31371      11 1 31333      14 1 31301      14 1 31297
 5      124      19 1 31302      22 1 31304      24 1 31321      29 1 31326      35 2 31340
 5      125      77 2 31344      110 2 31366      150 2 31371      200 2 31384
 6      127 5 6 060 050      2 3 050 045
    
```

SUMMARY OF ENCROACHMENTS FOR: ROCKY KNOB 100-YEAR FLOODWAY A-D  
 RESULTS OF THE FLOODWAY ANALYSIS ENTITLED 100-YEAR DISCHARGE (PROFILE  
 NUMBER 1, UPSTREAM COMPUTATIONS) ARE COMPARED TO THE RESULTS OF THE  
 BASE PROFILE (PROFILE NUMBER 1, UPSTREAM COMPUTATIONS). PAGE 1 OF 1

SECID	CARD 3 SEQUENCE	TYPE	FW OPTION	ENCROACHMENT		SURCHARGE		CHANNEL WIDTH	
				LEFT	RIGHT	IDEAL	ACTUAL	NATURAL	FLOODWAY
A	40	1	VHD	CONS	YES	1.00	1.00	*****	53
B	50	0	VHD	CONS	YES	1.00	0.99	*****	45
C	60	0	HOR	YES	YES	*****	0.77	*****	45
D	70	0	HOR	YES	YES	*****	0.37	*****	68

USGS STEP-BACKWATER PROGRAM - VERSION 77.091 \*\*\* PAGE COUNT= 9 DATE= 6/16/77

WATER-SURFACE PROFILE FOR: ROCKY KNOB 100-YEAR FLOODWAY A-D

PAGE 1 OF 1, PROFILE NUMBER 1, UPSTREAM COMPUTATIONS

\*\*\* FLOODWAY ANALYSIS \*\*\* 100-YEAR DISCHARGE

```
=====
SECID AT DISTANCE/ LENGTH/DISCHARGE/ AREA /CONVEYANCE/ ALPHA/ LEW / REV
WS-ELEV / HV / HF / HE / EG / V / FN / ACC *ID*
=====
A AT 3000 / 0 / 960. / 169. / 9794. / 1.00 / 48. / 101.
3115.85 / 0.50 / / 3116.35 / 5.68 / 0.49 / *IS*
-----
B AT 3440 / 440 / 160. / 155. / 10040. / 1.01 / 50. / 95.
3119.94 / 0.60 / 4.12 / 0.05 / 3120.54 / 6.20 / 0.49 / 0.014 *XS*
-----
C AT 3790 / 350 / 960. / 145. / 9405. / 1.07 / 80. / 125.
3123.29 / 0.73 / 3.42 / 0.07 / 3124.01 / 6.63 / 0.62 / 0.000 *XS*
-----
D AT 4150 / 360 / 960. / 199. / 11599. / 1.02 / 70. / 138.
3126.70 / 0.37 / 3.04 / 0.0 / 3127.07 / 4.83 / 0.55 / 0.003 *XS*
=====
```

END OF THIS PROFILE

CROSS-SECTION PROPERTIES FOR: ROCKY KNOB 100-YEAR FLOODWAY A-D  
 SECTID=C AT DISTANCE= 3790 PART 1 OF 1  
 \*\*\* FLOODWAY ANALYSIS \*\*\* 100-YEAR DISCHARGE

WS	A	K	ALPHA	B	P	LEW	REW	QC
3119.0	10	272	1.00	8	10	90	99	66
3119.5	15	446	1.00	10	11	90	100	105
3120.0	20	668	1.00	11	13	89	100	154
3120.5	27	972	1.06	20	22	81	101	174
3121.0	42	1553	1.21	39	42	80	119	225
3121.5	64	2558	1.18	45	49	80	125	401
3122.0	87	3933	1.08	45	50	80	125	655
3122.5	109	5667	1.05	45	51	80	125	942
3123.0	132	7913	1.06	45	52	80	125	1243
3123.5	154	10414	1.06	45	53	80	125	1568
3124.0	177	12848	1.05	45	54	80	125	1936
3124.5	199	15462	1.04	45	55	80	125	2326
3125.0	222	18242	1.04	45	56	80	125	2737
3125.1	226	18816	1.04	45	56	80	125	2821

CROSS-SECTION PROPERTIES FOR: ROCKY KNOB 100-YEAR FLOODWAY A-D  
 SECTID=D AT DISTANCE= 4150 PART 1 OF 1  
 \*\*\* FLOODWAY ANALYSIS \*\*\* 100-YEAR DISCHARGE

WS	A	K	ALPHA	B	P	LEW	REW	QC
3122.0	9	252	1.00	7	8	90	97	63
3122.5	13	396	1.00	8	10	89	97	97
3123.0	17	569	1.00	8	11	89	97	138
3123.5	21	774	1.00	9	12	88	97	187
3124.0	28	1019	1.11	45	48	88	138	119
3124.5	52	1714	1.25	54	59	75	138	257
3125.0	83	3032	1.13	68	74	70	138	491
3125.5	117	5020	1.05	68	75	70	138	850
3126.0	151	7483	1.03	68	76	70	138	1263
3126.5	185	10353	1.02	68	77	70	138	1719
3127.0	219	13794	1.01	68	78	70	138	2216
3127.5	253	17808	1.02	68	79	70	138	2750
3128.0	287	21947	1.02	68	80	70	138	3323
3128.5	321	26210	1.01	68	81	70	138	3933
3129.0	355	30737	1.01	68	82	70	138	4576
3129.5	389	35509	1.01	68	83	70	138	5250
3129.8	410	38483	1.01	68	84	70	138	5667

CROSS-SECTION PROPERTIES FOR: ROCKY KNOB 100-YEAR FLOODWAY A-D  
 SECID=A AT DISTANCE= 3000 PART 1 OF 1  
 \*\*\* FLOODWAY ANALYSIS \*\*\* 100-YEAR DISCHARGE

WS	A	K	ALPHA	B	P	LEW	REW	QC
3111.0	8	198	1.00	8	9	49	57	49
3111.5	13	358	1.00	10	11	49	58	85
3112.0	18	568	1.00	11	13	48	59	132
3112.5	24	767	1.00	15	17	48	63	176
3113.0	33	1083	1.00	18	21	48	66	245
3113.5	45	1539	1.07	43	46	48	101	251
3114.0	71	2549	1.13	53	57	48	101	435
3114.5	97	4022	1.05	53	58	48	101	728
3115.0	124	5829	1.01	53	59	48	101	1065
3115.5	150	7920	1.00	53	60	48	101	1434
3116.0	177	10695	1.00	53	61	48	101	1830
3116.5	203	14045	1.01	53	62	48	101	2251
3117.0	230	17140	1.00	53	63	48	101	2710
3117.5	257	20323	1.00	53	64	48	101	3197
3117.8	273	22320	1.00	53	65	48	101	3500

CROSS-SECTION PROPERTIES FOR: ROCKY KNOB 100-YEAR FLOODWAY A-D  
 SECID=B AT DISTANCE= 3440 PART 1 OF 1  
 \*\*\* FLOODWAY ANALYSIS \*\*\* 100-YEAR DISCHARGE

WS	A	K	ALPHA	B	P	LEW	REW	QC
3115.0	8	164	1.00	8	9	60	68	41
3115.5	12	304	1.00	9	11	59	68	75
3116.0	17	484	1.00	12	14	57	69	116
3116.5	23	731	1.00	14	17	55	69	172
3117.0	31	1055	1.00	19	22	52	93	228
3117.5	45	1541	1.11	38	42	50	76	266
3118.0	67	2489	1.11	45	50	50	95	444
3118.5	90	3800	1.04	45	51	50	95	707
3119.0	113	5372	1.01	45	52	50	95	1003
3119.5	135	7368	1.00	45	53	50	95	1325
3120.0	158	10465	1.01	45	54	50	95	1665
3120.5	180	14063	1.02	45	55	50	95	2024
3121.0	203	16981	1.03	45	56	50	95	2405
3121.5	225	20083	1.04	45	57	50	95	2805
3122.0	248	23354	1.05	45	58	50	95	3224
3122.1	252	24027	1.05	45	59	50	95	3310

\*\*\* INPUT CARD PRINTOUT \*\*\*

	1	2	3	4	5	6	7	8
9 10005	40	VHD	100	48	70	311485		
9 10006	50	VHD	100	50	69	311895		
9 10007	60	HOR	100	80	125	312772		
9 10008	70	HOR	100	70	138	312593		
9 10009	END						100-YEAR DISCHARGE	



\*\*\* INPUT CARD PRINTOUT \*\*\*

	1	2	3	4	5	6	7	8
.....5.....0.....5.....0.....5.....0.....5.....0.....5.....0.....5.....0.....5.....0.....								

7 10000  
8 10001

1  
1

CROSS-SECTION PROPERTIES FOR: ROCKY KNOB 100-YEAR FLOODWAY A-D  
 SECID=C AT DISTANCE= 3790 PART 1 OF 1

WS	A	K	ALPHA	B	P	LEW	REW	QC
3119.0	10	272	1.00	8	10	90	99	66
3119.5	15	446	1.00	10	11	90	100	105
3120.0	20	668	1.00	11	13	89	100	154
3120.5	27	972	1.06	20	22	81	101	174
3121.0	45	1571	1.31	51	53	68	119	208
3121.5	80	2724	1.45	94	96	56	150	345
3122.0	136	4989	1.30	126	128	46	172	702
3122.5	205	8554	1.18	149	151	36	185	1256
3123.0	283	13850	1.14	160	163	27	188	1990
3123.5	365	20441	1.12	170	172	21	191	2868
3124.0	452	27924	1.08	179	182	14	193	3918
3124.5	544	36561	1.06	189	191	8	196	5090
3125.0	641	46359	1.05	198	201	1	199	6385
3125.1	661	48462	1.05	200	203	0	200	6659

CROSS-SECTION PROPERTIES FOR: ROCKY KNOB 100-YEAR FLOODWAY A-D  
 SECID=D AT DISTANCE= 4150 PART 1 OF 1

WS	A	K	ALPHA	B	P	LEW	REW	QC
3122.0	9	252	1.00	7	8	90	97	63
3122.5	13	396	1.00	8	10	89	97	97
3123.0	17	569	1.00	8	11	89	97	138
3123.5	21	774	1.00	9	12	88	97	187
3124.0	28	1019	1.11	45	48	88	138	119
3124.5	67	1912	1.51	105	109	52	171	246
3125.0	127	4154	1.18	130	135	43	173	653
3125.5	194	7733	1.07	141	146	35	176	1253
3126.0	268	12445	1.04	152	157	27	179	1977
3126.5	347	18263	1.03	163	168	18	182	2820
3127.0	431	25409	1.03	174	179	10	184	3783
3127.5	521	33910	1.04	186	190	2	187	4861
3128.0	615	43909	1.03	190	195	0	190	6195
3128.5	711	54983	1.02	193	199	0	193	7681
3129.0	808	67121	1.01	196	202	0	196	9271
3129.5	907	80286	1.01	198	205	0	198	10961
3129.8	966	88662	1.00	200	207	0	200	12022

CROSS-SECTION PROPERTIES FOR: ROCKY KNOB 100-YEAR FLOODWAY A-D  
 SECID=A AT DISTANCE= 3000 PART 1 OF 1

WS	A	K	ALPHA	B	P	LEW	REW	QC
3111.0	8	198	1.00	8	9	49	57	49
3111.5	13	358	1.00	10	11	49	58	85
3112.0	18	568	1.00	11	13	48	59	132
3112.5	24	767	1.00	15	17	48	63	176
3113.0	37	1153	1.10	34	36	32	66	207
3113.5	61	1927	1.20	96	99	28	135	252
3114.0	116	3910	1.19	115	117	24	138	609
3114.5	175	7014	1.07	122	125	19	141	1151
3115.0	238	11093	1.03	129	132	15	144	1810
3115.5	304	16226	1.01	133	136	12	145	2592
3116.0	371	22700	1.01	137	140	10	147	3447
3116.5	441	30406	1.03	141	144	7	148	4368
3117.0	512	38435	1.02	145	148	4	149	5403
3117.5	585	47165	1.02	148	152	2	150	6528
3117.8	630	52876	1.02	150	154	0	150	7256

CROSS-SECTION PROPERTIES FOR: ROCKY KNOB 100-YEAR FLOODWAY A-D  
 SECID=B AT DISTANCE= 3440 PART 1 OF 1

WS	A	K	ALPHA	B	P	LEW	REW	QC
3115.0	8	164	1.00	8	9	60	68	41
3115.5	12	304	1.00	9	11	59	68	75
3116.0	17	484	1.00	12	14	57	69	116
3116.5	23	731	1.00	14	17	55	69	172
3117.0	33	1067	1.07	33	36	52	110	178
3117.5	61	1804	1.29	78	82	50	135	268
3118.0	110	3628	1.19	111	115	37	149	567
3118.5	171	6499	1.11	139	139	29	164	1040
3119.0	244	10653	1.05	151	155	26	177	1713
3119.5	321	16269	1.03	159	162	22	180	2554
3120.0	403	24444	1.03	167	170	17	184	3492
3120.5	488	35629	1.04	175	178	13	188	4528
3121.0	577	48663	1.05	183	186	9	192	5672
3121.5	670	61268	1.05	190	195	5	195	6977
3122.0	768	75541	1.04	198	203	1	199	8415
3122.1	788	78608	1.03	200	204	0	200	8718

USGS STEP-BACKWATER PROGRAM - VERSION 77.091 \*\*\* PAGE COUNT= 2, DATE= 6/16/77

INPUT SUMMARY FOR: ROCKY KNOB 100-YEAR FLOODWAY A-D

4 CROSS SECTIONS SPECIFIED (OR ASSUMED)

FOUND 4 TYPE 3 CARDS

KEPT 4 CROSS SECTIONS FOR EDITING

4 " " VALID FOR PROPERTY COMPUTATIONS

4 " " " " PROFILE "

\*\*\* INPUT CARD PRINTOUT \*\*\*

	1	2	3	4	5	6	7	8
.....5.....0.....5.....0.....5.....0.....5.....0.....5.....0.....5.....0.....5.....0.....								
1	1	ROCKY KNOB	100-YEAR FLOODWAY	A-0	4	1	02	01 12
2	2	311585						
3	40	A	1 14	3 3111	3000	99	99	
4	41	960						
5	43	0	1 31178	15 1 31150	35 1 31127	48 2 31127	50 2 31096	
5	44	53	2 31096	56 2 31103	60 2 31123	64 2 31126	70 3 31136	
5	45	100	3 31133	135 3 31135	144 3 31149	150 3 31175		
6	47	1	2 045 045	4 5 060 050	1 2 045 045			
3	50	B	0 14	3 3115	3440	99	99	
5	53	0	1 31221	25 1 31191	30 1 31183	50 2 31175	60 2 31153	
5	54	61	2 31143	64 2 31139	68 2 31139	69 3 31177	100 3 31168	
5	55	140	3 31176	153 3 31182	175 3 31188	200 3 31221		
6	57	2	3 045 035	4 5 060 050	2 3 045 035			
3	60	C	0 13	3 3119	3790	99	99	
5	63	0	1 31251	30 1 31228	60 1 31213	80 2 31202	91 2 31186	
5	64	92	2 31172	95 2 31174	97 2 31177	101 3 31205	130 3 31213	
5	65	160	3 31216	184 3 31224	200 3 31251			
6	67	1	2 045 045	4 5 060 050	1 2 045 045			
3	70	D	0 12	3 3122	4150	99	99	
5	73	0	1 31276	30 1 31258	60 1 31240	87 2 31249	91 2 31207	
5	74	93	2 31201	96 2 31206	98 3 31247	103 3 31240	130 3 31239	
5	75	170	3 31244	200 3 31298				
6	77	1	2 045 045	5 6 060 050	1 2 045 045			

USGS STEP-BACKWATER PROGRAM - VERSION 77.091 \*\*\* PAGE COUNT= 13 DATE= 6/16/77

WATER-SURFACE PROFILE FOR: ROCKY KNOB FLOOD PROFILES J-K  
PAGE 1 OF 1, PROFILE NUMBER 4, UPSTREAM COMPUTATIONS

SECID	AT	DISTANCE	LENGTH	DISCHARGE	AREA	CONVEYANCE	ALPHA	LEW	REW
WS ELEV		HV	HF	HE	EG	V	FN	ACC	ID*
J	AT	5539	0	1300.	729.	62126.	1.18	-22.	271.
3142.31		0.06			3142.37	1.78	0.21		*IS*
J+0.1	AT	5550	11	1300.	701.	58987.	1.19	-19.	270.
3142.31		0.06	0.01	0.00	3142.37	1.85	0.22	-0.004	*XS*
K-2.7	AT	5666	116	1300.	721.	54795.	1.02	3.	236.
3142.38		0.05	0.06	0.0	3142.43	1.80	0.19	-0.000	*XS*
K-1FT	AT	5782	116	1300.	369.	19141.	1.01	11.	221.
3142.50		0.20	0.19	0.07	3142.69	3.52	0.49	0.000	*XS*
K	AT	5850	68	1300.	256.	10727.	1.04	14.	216.
3142.95		0.42	0.56	0.11	3143.37	5.08	0.01	0.002	*XS*

END OF THIS PROFILE

PAGE 1 OF PROFILE NOTES FOR: ROCKY KNOB FLOOD PROFILES J-K  
PROFILE NUMBER 4, UPSTREAM COMPUTATIONS

SECID: ERROR(WARNING) MESSAGE: INTERMEDIATE RESULTS(IF ANY): ACTION TAKEN

K-1FT: KU/KD < 0.7 OR > 1.4

ALERTED USER

K : KU/KD < 0.7 OR > 1.4

ALERTED USER

WATER-SURFACE PROFILE FOR: ROCKY KNOB FLOOD PROFILES J-K  
PAGE 1 OF 1, PROFILE NUMBER 3, UPSTREAM COMPUTATIONS

SECID	AT	DISTANCE / WS ELEV	LENGTH / HV	DISCHARGE / HF	AREA / HE	CONVEYANCE / EG	ALPHA / V	LEW / FN	REW / ACC	ID
J	AT	5539 / 3141.79	0 / 0.03	780. /	583. / 3141.82	46518. / 1.34	1.23 / 0.17	-8. /	264. /	*IS*
J+0.1	AT	5550 / 3141.79	11 / 0.04	780. / 0.00	557. / 3141.83	43874. / 1.40	1.24 / 0.17	-5. / -0.003	263. /	*XS*
K-2.7	AT	5666 / 3141.84	116 / 0.03	780. / 0.04	597. / 3141.87	40736. / 1.31	1.02 / 0.15	5. / 0.000	231. /	*XS*
K-1FT	AT	5782 / 3141.94	116 / 0.15	780. / 0.16	254. / 3142.09	10627. / 3.07	1.04 / 0.49	14. / 0.000	216. /	*XS*
K	AT	5850 / 3142.51	68 / 0.38	780. / 0.67	169. / 3142.89	5771. / 4.62	1.14 / 0.85	25. / 0.005	212. /	*XS*

END OF THIS PROFILE



USGS STEP-BACKWATER PROGRAM - VERSIDN 77.091 \*\*\* PAGE COUNT= 10,DATE= 6/16/77

PAGE 1 OF PROFILE NOTES FOR: ROCKY KNOB FLOOD PROFILES J-K  
PROFILE NUMBER 3, UPSTREAM COMPUTATIONS

SECID; ERROR(WARNING) MESSAGE; INTERMEDIATE RESULTS(IF ANY); ACTION TAKEN

K-1FT; KU/KD < 0.7 OR > 1.4

K ; FRDN FAILURE

ALERTED USER

; WS = 3141.85 & FR = 2.60;

USED HIGHER WS

K ; KU/KD < 0.7 OR > 1.4

ALERTED USER

WATER-SURFACE PROFILE FOR: ROCKY KNOB FLOOD PROFILES J-K  
 PAGE 1 OF 1, PROFILE NUMBER 2, UPSTREAM COMPUTATIONS

SEID	AT	WS ELEV	HV	HF	HE	EG	V	FN	ACC	REW	ID
J		3141.49	0.03	0	610.	503.	38773.	1.25	0.	260.	*IS*
						3141.52	1.21	0.15			
J+0.1	AT	3141.49	0.03	0.00	610.	478.	36445.	1.26	3.	259.	*XS*
				0.00		3141.52	1.28	0.16	-0.002		
K-2.7	AT	3141.54	0.02	0.04	610.	529.	33701.	1.02	6.	228.	*XS*
				0.04	0.0	3141.56	1.15	0.14	0.000		
K-1FT	AT	3141.64	0.17	0.18	610.	195.	7063.	1.10	18.	213.	*XS*
				0.18	0.07	3141.81	3.13	0.55	-0.001		
K	AT	3142.36	0.35	0.80	610.	141.	4502.	1.20	32.	211.	*XS*
				0.80	0.09	3142.71	4.32	0.83	0.010		

END OF THIS PROFILE

USGS STEP-BACKWATER PROGRAM VERSION 77.091 \*\*\* PAGE COUNT= 8 DATE= 6/16/77

PAGE 1 OF PROFILE NOTES FOR: ROCKY KNOB FLOOD PROFILES J-K  
PROFILE NUMBER 2: UPSTREAM COMPUTATIONS

SECID: ERROR (WARNING) MESSAGE: INTERMEDIATE RESULTS (IF ANY): ACTION TAKEN:

K-1FT: KU/KD < 0.7 OR > 1.4

K : FRDN FAILURE

ALERTED USER

WS = 3141.74 & FR = 2.63

K : KU/KD < 0.7 OR > 1.4

USED HIGHER WS

ALERTED USER

WATER-SURFACE PROFILE FOR: ROCKY KNOB FLOOD PROFILES J-K  
 PAGE 1 OF 1, PROFILE NUMBER 1, UPSTREAM COMPUTATIONS

SECID	AT	DISTANCE	LENGTH	DISCHARGE	AREA	CONVEYANCE	ALPHA	LEW	REW
WS ELEV	HV	HF	HE	EQ	V	FN	ACC	ID	
J	AT	5539	0	300.	103.	6941.	1.09	112.	161.
3138.76	0.14			3138.90	2.92	0.29		*IS*	
J+0.1	AT	5550	11	300.	98.	6608.	1.07	117.	161.
3138.76	0.16	0.02	0.01	3138.92	3.06	0.30	-0.020	*XS*	
K-2.7	AT	5666	116	300.	91.	2466.	1.51	47.	208.
3139.36	0.26	0.64	0.05	3139.62	3.31	0.69	0.009	*XS*	
K-1FT	AT	5782	116	300.	92.	2506.	1.50	47.	208.
3141.07	0.25	1.69	0.0	3141.32	3.27	0.68	0.010	*XS*	
K	AT	5850	68	300.	90.	2456.	1.51	47.	208.
3142.06	0.26	0.99	0.01	3142.32	3.33	0.69	0.001	*XS*	

END OF THIS PROFILE

USGS STEP-BACKWATER PROGRAM - VERSION 77.091 \*\*\* PAGE COUNT= 6, DATE= 6/16/77

PAGE 1 OF PROFILE NOTES FOR: ROCKY KNOB FLOOD PROFILES J-K  
PROFILE NUMBER 1, UPSTREAM COMPUTATIONS

SECTION: ERROR(WARNING) MESSAGE; INTERMEDIATE RESULTS( IF ANY); ACTION TAKEN

K-2.7; KU/KD < 0.7 OR > 1.4

ALERTED USER

CROSS-SECTION PROPERTIES FOR: ROCKY KNOB  
SECID=K-1FT AT DISTANCE= 5782

FLOOD PROFILES

J-K  
PART 2 OF 2

WS	A	K	ALPHA	B	P	LEW	REW	QC
3147.0	1460	160287	1.05	274	279	-11	263	18666
3147.5	1599	183408	1.05	282	286	-13	267	21081
3148.0	1742	208028	1.05	289	294	-16	272	23625
3148.5	1888	234156	1.06	297	301	-18	277	26300
3149.0	2038	261804	1.06	304	309	-21	282	29105

CROSS-SECTION PROPERTIES FOR: ROCKY KNOB  
SECID=K AT DISTANCE= 5850

FLOOD PROFILES:

J-K  
PART 1 OF 1

WS	A	K	ALPHA	B	P	LEW	REW	QC
3140.0	7	211	1.00	5	7	172	177	47
3140.5	10	331	1.00	6	9	172	178	74
3141.0	13	478	1.01	9	12	170	178	91
3141.5	24	772	1.44	45	49	157	203	85
3142.0	81	2143	1.62	157	161	50	207	259
3142.5	167	5694	1.14	187	191	25	212	840
3143.0	266	11421	1.03	203	207	13	217	1697
3143.5	370	19175	1.01	211	214	11	221	2756
3144.0	477	28645	1.01	218	222	8	226	3971
3144.5	588	39754	1.02	225	229	5	230	5337
3145.0	702	52526	1.02	232	236	3	235	6851
3145.5	820	66844	1.03	236	243	1	239	8503
3146.0	941	82618	1.03	245	249	-1	244	10283
3146.5	1065	99847	1.04	252	257	-3	248	12193
3147.0	1193	118525	1.04	260	264	-6	253	14225
3147.5	1325	138661	1.04	267	271	-8	258	16381
3148.0	1460	160287	1.05	274	279	-11	263	18666
3148.5	1599	183408	1.05	282	286	-13	267	21081
3149.0	1742	208028	1.05	289	294	-16	272	23625
3149.5	1888	234156	1.06	297	301	-18	277	26300
3150.0	2038	261804	1.06	304	309	-21	282	29105

CROSS-SECTION PROPERTIES FOR: ROCKY KNOB  
SECID=K-2.7 AT DISTANCE= 5666

FLOOD PROFILES

J-K  
PART 1 OF 1

WS	A	K	ALPHA	B	P	LEW	REW	QC
3136.0	1	15	1.00	4	4	172	176	4
3136.5	3	71	1.00	5	6	172	177	16
3137.0	6	153	1.00	5	7	172	177	35
3137.5	8	259	1.00	6	8	172	178	58
3138.0	11	388	1.00	6	9	172	178	87
3138.5	16	563	1.09	14	17	165	179	90
3139.0	40	1057	1.92	106	109	80	205	100
3139.5	114	3341	1.32	169	173	40	209	460
3140.0	206	7653	1.08	199	213	15	214	1142
3140.5	307	14319	1.02	206	210	12	219	2104
3141.0	412	22771	1.01	214	218	9	223	3226
3141.5	521	32905	1.02	221	225	7	228	4503
3142.0	633	44685	1.02	228	232	4	232	5929
3142.5	749	58080	1.02	235	239	2	237	7498
3143.0	868	73008	1.03	241	245	0	241	9204
3143.5	990	89341	1.03	248	252	-2	246	11034
3144.0	1116	107165	1.04	255	259	-4	250	12997
3144.5	1245	126406	1.04	263	267	-7	255	15074
3145.0	1378	147136	1.05	270	274	-9	260	17282
3145.5	1515	169358	1.05	277	282	-12	265	19619
3146.0	1656	193076	1.05	285	289	-14	269	22085
3146.5	1800	218297	1.05	292	297	-17	274	24682
3147.0	1948	245029	1.06	300	304	-19	279	27408
3147.3	2038	261801	1.06	304	309	-21	282	29108

CROSS-SECTION PROPERTIES FOR: ROCKY KNOB  
SECID=K-1FT AT DISTANCE= 5782

FLOOD PROFILES

J-K  
PART 1 OF 2

WS	A	K	ALPHA	B	P	LEW	REW	QC
3140.0	13	478	1.01	9	12	170	178	91
3140.5	24	772	1.44	45	49	157	203	85
3141.0	81	2143	1.62	157	161	50	207	259
3141.5	167	5694	1.14	187	191	25	212	840
3142.0	266	11421	1.03	203	207	13	217	1697
3142.5	370	19175	1.01	211	214	11	221	2756
3143.0	477	28548	1.01	218	222	8	226	3971
3143.5	588	39754	1.02	225	229	5	230	5337
3144.0	702	52526	1.02	232	236	3	235	6851
3144.5	820	66544	1.03	238	243	1	239	8503
3145.0	941	82518	1.03	245	249	-1	244	10283
3145.5	1065	99847	1.04	252	257	-3	248	12193
3146.0	1193	118525	1.04	260	264	-6	253	14225
3146.5	1325	138661	1.04	267	271	-8	258	16381

CROSS-SECTION PROPERTIES FOR: ROCKY KNOB FLOOD PROFILES J-K  
 SECID=J AT DISTANCE= 5539 PART 1 OF 1

WS	A	K	ALPHA	B	P	LEW	REW	QC
3138.0	75	4633	1.01	30	33	131	161	664
3138.5	92	6093	1.04	36	39	125	161	810
3139.0	116	7895	1.13	62	65	100	162	850
3139.5	155	10510	1.22	93	97	69	162	1025
3140.0	210	14609	1.23	127	131	44	172	1379
3140.5	281	20494	1.21	158	162	29	187	1938
3141.0	381	28250	1.26	239	243	15	254	2426
3141.5	506	39023	1.25	260	264	0	260	3577
3142.0	641	52492	1.21	280	284	-12	267	5000
3142.5	786	68531	1.17	300	304	-26	273	6664
3143.0	941	87177	1.14	320	324	-39	280	8559
3143.5	1101	111309	1.11	320	325	-39	280	10982
3144.0	1261	137966	1.09	320	326	-39	280	13569
3144.5	1421	167004	1.08	320	327	-39	280	16310
3145.0	1581	198303	1.08	320	328	-39	280	19197

CROSS-SECTION PROPERTIES FOR: ROCKY KNOB FLOOD PROFILES J-K  
 SECID=J+0.1 AT DISTANCE= 5550 PART 1 OF 1

WS	A	K	ALPHA	B	P	LEW	REW	QC
3138.0	72	4386	1.01	29	32	132	161	641
3138.5	88	5792	1.04	35	38	126	161	780
3139.0	110	7493	1.11	56	60	105	161	829
3139.5	146	9922	1.20	87	90	75	162	977
3140.0	198	13643	1.23	121	125	47	168	1289
3140.5	266	19203	1.21	152	156	32	184	1815
3141.0	357	26439	1.25	235	239	18	253	2231
3141.5	480	36676	1.26	257	261	3	260	3322
3142.0	614	49648	1.22	277	281	-10	266	4699
3142.5	757	65211	1.18	296	300	-23	272	6324
3143.0	910	83375	1.15	316	320	-36	279	8183
3143.5	1070	106441	1.12	320	325	-39	280	10509
3144.0	1230	132623	1.10	320	326	-39	280	13066
3144.5	1390	161212	1.08	320	327	-39	280	15779
3145.0	1550	192084	1.08	320	328	-39	280	18638
3145.1	1582	198513	1.08	320	328	-39	280	19226



USGS STEP-BACKWATER PROGRAM - VERSION 77.091 \*\*\* PAGE COUNT= 2, DATE= 6/16/77

INPUT SUMMARY FOR: ROCKY KNOB FLOOD PROFILES J-K

5 CROSS SECTIONS SPECIFIED (OR ASSUMED)

FOUND 5 TYPE 3 CARDS

KEPT 5 CROSS SECTIONS FOR EDITING

5 " " VALID FOR PROPERTY COMPUTATIONS

5 " " " " PROFILE "

\*\*\* INPUT CARD PRINTOUT \*\*\*

	1	2	3	4	5	6	7	8
1	1	ROCKY KNOB	FLOOD PROFILES	J-K	5	4	02	05 12
2	2	313876	314149	314179	314231			
3	150	J	1 20	3 3138	5539	99	99	
4	151	300	610	780	1300			
5	153	-40	1 31450	-40	1 31430	0	1 31415	50 1 31398 100 1 31390
5	154	125	1 31385	135	2 31376	140	2 31360	147 2 31352 149 2 31340
5	155	150	2 31337	157	2 31336	158	2 31340	162 3 31397 200 3 31409
5	156	225	3 31407	250	3 31407	260	3 31415	280 3 31430 280 3 31450
6	158	1	2 030 030	1	2 045 045	1	2 040 040	
3	159	J+0.1	0 20	3 3138	5550	99	99	08
5	160	-40	1 31450	-40	1 31431	0	1 31416	50 1 31399 100 1 31391
5	161	125	1 31386	135	2 31377	140	2 31361	147 2 31353 149 2 31340
5	162	150	2 31338	157	2 31337	158	2 31341	162 3 31398 200 3 31410
5	163	225	3 31408	250	3 31408	261	3 31416	280 3 31431 280 3 31451
6	165	1	2 030 030	1	2 045 045	1	2 040 040	
3	180	K-2.7	0 16	3 3136	5666	99	99	
5	181	-22	1 31473	0	1 31430	5	1 31418	15 1 31400 50 1 31393
5	182	100	1 31388	150	1 31391	172	2 31382	172 2 31358 174 2 31355
5	183	176	2 31360	179	3 31388	200	3 31385	225 3 31412 250 3 31440
5	184	282	3 31473					
6	185	1	2 040 040	1	2 050 050	1	2 045 045	
3	200	K-1FT	0 16	3 3140	5782	99	99	
5	201	-22	1 31490	0	1 31447	5	1 31435	15 1 31417 50 1 31410
5	202	100	1 31405	150	1 31408	172	2 31399	172 2 31376 174 2 31372
5	203	176	2 31377	179	3 31405	200	3 31402	225 3 31429 250 3 31457
5	204	282	3 31490					
6	205	1	2 040 040	1	2 050 050	1	2 045 045	
3	260	K	0 16	3 3140	5850	99	99	
5	263	-22	1 31500	0	1 31457	5	1 31445	15 1 31427 50 1 31420
5	264	100	1 31415	150	1 31418	172	2 31409	172 2 31386 174 2 31382
5	265	176	2 31387	179	3 31415	200	3 31412	225 3 31439 250 3 31467
5	266	282	3 31500					
6	267	1	2 040 040	1	2 050 050	1	2 045 045	

ROCKY KNOB

CULVERT I-J

BASE ELEVATION = 33.00

Z = 0.40

Q	ELEV H1	ELEV H4	D2	D3	TYPE	C	C ADJUSTED
300.0	38.79	*****	4.57	3.30	2	0.96	0.97
300.0	38.76	37.15	4.59	4.15	3	0.96	0.97
300.0	40.71	39.70	6.50	6.50	4	0.87	0.87
610.0	TYPE.. 2	ENERGY EQUATIONS NOT BALANCED					
610.0	43.88	39.70	6.50	6.50	4	0.87	0.87
780.0	TYPE.. 2	ENERGY EQUATIONS NOT BALANCED					
780.0	45.36	*****	*****	*****	5	0.52	0.52
780.0	45.18	*****	*****	*****	6	0.87	0.87
780.0	46.53	39.70	6.50	6.50	4	0.87	0.87
1300.0	58.29	*****	*****	*****	5	0.60	0.60
1300.0	56.35	*****	*****	*****	6	0.87	0.87
1300.0	58.68	39.70	6.50	6.50	4	0.87	0.87

$h_4 = 4.15$   
 $h_1 = 3.30$   
 Type = 4 pipe

ROCKY KNOB

CULVERT I-3

BASE ELEVATION = 33.00

Z = 0.40

BARREL DEPTH	AREA	CONVEYANCE	TOP WIDTH	WETTED PERIMETER
0.0	0.0	0.0	0.0	5.57
0.260	0.96	13.8	5.53	7.89
0.520	2.71	61.8	7.79	9.20
0.780	4.92	150.6	8.99	9.96
1.040	7.34	277.8	9.55	10.59
1.300	9.87	437.1	9.89	11.15
1.560	12.47	623.8	10.11	11.68
1.820	15.11	833.3	10.22	12.92
2.080	17.77	1020.8	10.21	13.45
2.340	20.42	1253.1	10.15	13.97
2.600	23.05	1494.6	10.07	14.51
2.860	25.66	1742.4	9.96	15.04
3.120	28.23	1993.9	9.81	15.59
3.380	30.76	2246.4	9.64	16.15
3.640	33.24	2497.2	9.44	16.72
3.900	35.66	2743.7	9.20	17.31
4.160	38.02	2983.1	8.93	17.92
4.420	40.30	3212.6	8.61	18.55
4.680	42.49	3429.2	8.25	19.21
4.940	44.59	3629.6	7.85	20.66
5.200	46.57	3810.2	7.38	21.48
5.460	48.42	3966.8	6.84	22.39
5.720	50.12	4094.2	6.21	23.46
5.980	51.64	4185.3	5.46	24.82
6.240	52.94	4229.5	4.53	
6.500	53.96	4204.8	3.26	

ROCKY MOUNTAIN CULVERT I-J BASE ELEVATION = 33.00 Z = 0.40

APPROACH ELEVATION	AREA	CONVEYANCE	ALPHA	TOP WIDTH	QC
33.40	0.0	0.0	0.0	0.0	0.0
33.95	2.4	32.4	1.000	8.7	6.96
34.50	7.6	200.1	1.000	10.2	37.22
35.05	13.6	475.1	1.000	11.5	83.56
35.60	20.8	789.8	1.000	15.6	136.16
36.15	30.8	1288.2	1.000	20.0	216.54
36.70	42.3	2040.0	1.000	22.1	332.47
37.25	55.0	2961.9	1.000	24.2	471.21
37.80	69.1	4118.6	1.005	27.9	617.03
38.35	86.2	5621.9	1.033	34.4	774.61
38.90	110.0	7473.6	1.112	56.4	871.68
39.45	150.0	10201.1	1.209	89.9	1099.08
40.00	209.7	14597.0	1.228	127.4	1527.28
40.55	289.0	21161.8	1.205	161.0	2197.78
41.10	404.7	30169.9	1.266	243.2	2961.78
41.65	544.7	42758.0	1.238	266.0	4423.71
42.20	697.1	58555.0	1.193	288.0	6154.18
42.75	861.5	77475.8	1.156	310.0	8150.03
43.30	1036.3	101287.6	1.122	320.0	10581.93
43.85	1212.3	129649.0	1.098	320.0	13389.13
44.40	1388.3	160941.3	1.085	320.0	16408.13
44.95	1564.3	194997.6	1.078	320.0	19625.34
45.50	1740.3	231677.8	1.074	320.0	23028.90
46.05	1916.3	270861.9	1.071	320.0	26609.25
46.60	2092.3	312443.8	1.070	320.0	30358.00

CROSS-SECTION PROPERTIES FOR: ROCKY KNOB X-SECTION PROPERTIES  
 SECID=J AT DISTANCE= 5539 PART 2 OF 2

WS	A	K	ALPHA	B	P	LEW	REW	QC
3142.5	786	68531	1.17	300	304	-26	273	6664
3142.6	816	72044	1.16	304	308	-28	275	7024
3142.7	846	75671	1.16	308	312	-31	276	7394
3142.8	877	79394	1.15	312	316	-34	277	7773
3142.9	909	83233	1.15	316	320	-36	279	8162
3143.0	941	87177	1.14	320	324	-39	280	8559
3143.1	973	91787	1.13	320	324	-39	280	9029
3143.2	1005	96514	1.13	320	324	-39	280	9508
3143.3	1037	101334	1.12	320	325	-39	280	9992
3143.4	1069	106270	1.12	320	325	-39	280	10483
3143.5	1101	111309	1.11	320	325	-39	280	10982
3143.6	1133	116435	1.11	320	325	-39	280	11486
3143.7	1165	121675	1.10	320	325	-39	280	11992
3143.8	1197	126999	1.10	320	326	-39	280	12515
3143.9	1229	132434	1.10	320	326	-39	280	13039
3144.0	1261	137966	1.09	320	326	-39	280	13569
3144.1	1293	143579	1.09	320	326	-39	280	14105
3144.2	1325	149299	1.09	320	326	-39	280	14647
3144.3	1357	155099	1.09	320	327	-39	280	15195
3144.4	1389	161006	1.09	320	327	-39	280	15750
3144.5	1421	167004	1.08	320	327	-39	280	16310
3144.6	1453	173077	1.08	320	327	-39	280	16875
3144.7	1485	179255	1.08	320	327	-39	280	17447
3144.8	1517	185507	1.08	320	328	-39	280	18024
3144.9	1549	191861	1.08	320	328	-39	280	18607
3145.0	1581	198303	1.08	320	328	-39	280	19197

CROSS-SECTION PROPERTIES FOR: ROCKY KNOB X-SECTION PROPERTIES  
 SECID=J AT DISTANCE= 5539 PART 1 OF 2

WS	A	K	ALPHA	B	P	LEW	REW	QC
3138.0	75	4633	1.01	30	33	131	161	664
3138.1	78	4903	1.02	31	34	129	161	690
3138.2	81	5183	1.03	33	36	128	161	718
3138.3	85	5474	1.03	34	37	127	161	747
3138.4	88	5777	1.04	35	38	126	161	777
3138.5	92	6093	1.04	36	39	125	161	810
3138.6	95	6396	1.06	41	44	120	161	800
3138.7	100	6730	1.08	46	50	115	161	801
3138.8	105	7089	1.09	51	55	110	161	810
3138.9	110	7477	1.11	56	60	105	161	827
3139.0	116	7895	1.13	62	65	100	162	850
3139.1	122	8336	1.15	68	71	94	162	870
3139.2	130	8817	1.17	74	78	88	162	898
3139.3	137	9338	1.19	80	84	81	162	933
3139.4	146	9905	1.20	87	90	75	162	975
3139.5	155	10518	1.22	93	97	69	162	1025
3139.6	164	11180	1.22	99	103	63	162	1082
3139.7	174	11896	1.23	106	110	56	162	1145
3139.8	186	12698	1.24	115	119	50	165	1201
3139.9	197	13623	1.23	121	125	47	168	1287
3140.0	210	14609	1.23	127	131	44	172	1379
3140.1	223	15654	1.22	133	137	41	175	1478
3140.2	237	16764	1.22	140	143	38	178	1583
3140.3	251	17938	1.21	146	149	35	181	1694
3140.4	266	19182	1.21	152	156	32	184	1813
3140.5	281	20494	1.21	158	162	29	187	1938
3140.6	297	21875	1.20	164	168	26	190	2070
3140.7	314	23331	1.20	170	174	24	194	2209
3140.8	334	24756	1.23	215	219	21	251	2131
3140.9	357	26416	1.25	235	239	18	252	2230
3141.0	381	28250	1.26	239	243	15	254	2426
3141.1	405	30189	1.27	243	247	12	255	2633
3141.2	429	32239	1.27	247	251	9	256	2852
3141.3	454	34389	1.26	252	255	6	257	3082
3141.4	480	36650	1.26	256	260	3	259	3324
3141.5	506	39023	1.25	260	264	0	260	3577
3141.6	532	41508	1.24	264	268	-2	261	3841
3141.7	558	44102	1.23	268	272	-4	263	4116
3141.8	585	46792	1.23	272	276	-7	264	4400
3141.9	613	49591	1.22	276	280	-10	265	4695
3142.0	641	52492	1.21	280	284	-12	267	5000
3142.1	669	55489	1.20	284	288	-15	268	5313
3142.2	697	58596	1.19	288	292	-18	269	5637
3142.3	726	61799	1.19	292	296	-20	271	5969
3142.4	756	65113	1.18	296	300	-23	272	6312

ROCKY KNOB

CULVERT H-I

BASE ELEVATION = 31.50

Z = 0.50

Q	ELEV H1	ELEV H4	D2	D3	TYPE	C	C ADJUSTED
300.0	37.15	*****	4.02	3.40	2	0.96	0.97
300.0	38.50	37.59	5.83	6.09	3	0.93	0.94
300.0	38.77	37.84	6.10	6.34	3	0.93	0.93
300.0	40.40	39.34	6.35	6.35	4	0.87	0.87
610.0	TYPE.. 2 ENERGY EQUATIONS NOT BALANCED						
TYPE.. 5 H NOT IN THE RANGE OF H5...H= 10.0250							
610.0	42.13	*****	*****	*****	5	0.49	0.49
610.0	43.74	39.34	6.35	6.35	4	0.87	0.87
780.0	TYPE.. 2 ENERGY EQUATIONS NOT BALANCED						
TYPE.. 5 H NOT IN THE RANGE OF H5...H= 10.0250							
780.0	45.43	*****	*****	*****	5	0.55	0.55
780.0	43.74	*****	*****	*****	6	0.87	0.87
780.0	46.54	39.34	6.35	6.35	4	0.87	0.87
1300.0	TYPE.. 2 ENERGY EQUATIONS NOT BALANCED						
TYPE.. 5 H NOT IN THE RANGE OF H5...H= 10.0250							
1300.0	61.44	*****	*****	*****	5	0.61	0.61
1300.0	55.25	*****	*****	*****	6	0.87	0.87
1300.0	59.33	39.34	6.35	6.35	4	0.87	0.87



ROCKY KNOB

CULVERT H-1

BASE ELEVATION = 31.50

Z = 0.50

BARREL DEPTH	AREA	CONVEYANCE	TOP WIDTH	WETTED PERIMETER
0.0	0.0	0.0	0.0	
0.254	0.93	15.6	5.46	5.49
0.508	2.61	69.8	7.61	7.71
0.762	4.67	169.5	8.47	8.71
1.016	6.89	307.8	8.95	9.41
1.270	9.20	479.0	9.25	10.00
1.524	11.58	678.1	9.44	10.54
1.778	13.99	900.3	9.53	11.06
2.032	16.41	1109.4	9.52	12.05
2.286	18.82	1356.3	9.47	12.56
2.540	21.22	1612.4	9.39	13.08
2.794	23.59	1874.5	9.28	13.59
3.048	25.93	2139.7	9.14	14.12
3.302	28.23	2405.0	8.97	14.66
3.556	30.48	2667.6	8.77	15.20
3.810	32.68	2924.4	8.53	15.76
4.064	34.81	3172.5	8.26	16.34
4.318	36.87	3408.5	7.94	16.94
4.572	38.85	3629.0	7.58	17.57
4.826	40.72	3830.3	7.16	18.22
5.080	42.48	4007.9	6.68	18.92
5.334	44.10	4156.7	6.12	19.68
5.588	45.58	4270.0	5.45	20.52
5.842	46.86	4337.9	4.63	21.48
6.096	47.91	4343.1	3.57	22.66
6.350	48.62	4232.5	1.86	24.45

ROCKY KNOB

CULVERT H-I

BASE ELEVATION = 31.50

Z = 0.50

APPROACH ELEVATION	AREA	CONVEYANCE	ALPHA	TOP WIDTH	QC
32.00	0.0	0.0	0.0	0.0	0.0
32.53	4.0	92.0	1.000	10.1	14.48
33.06	9.9	361.4	1.000	11.8	51.13
33.59	16.6	776.2	1.000	13.5	104.19
34.12	24.2	1334.7	1.000	15.1	173.14
34.65	32.6	2041.8	1.000	16.7	258.23
35.18	41.9	2899.8	1.000	18.3	359.40
35.71	52.0	3914.8	1.000	19.9	477.09
36.24	63.0	5093.7	1.000	21.5	611.79
36.77	74.8	6443.5	1.000	23.1	764.01
37.30	87.5	7971.5	1.000	24.7	934.30
37.83	101.0	9684.7	1.000	26.3	1123.16
38.36	121.6	12713.6	1.000	33.0	1599.27
38.89	179.8	18182.1	1.000	45.4	2316.72
39.42	287.1	27467.6	1.000	63.9	3477.34
39.95	431.3	41337.2	1.000	96.6	5250.75
40.48	600.4	56915.9	1.000	141.6	7316.84
41.01	788.9	75287.6	1.000	199.2	9944.22
41.54	991.8	97277.9	1.000	276.1	13204.54
42.07	1208.9	122913.8	1.000	373.1	17595.21
42.60	1440.2	152318.5	1.000	499.8	23622.74
43.13	1685.2	166958.6	1.000	570.0	26107.93
43.66	1934.3	209772.2	1.000	570.0	22267.70
44.19	2183.4	256321.2	1.000	470.0	26704.73
44.72	2432.5	306435.7	1.000	470.0	31402.64

CROSS-SECTION PROPERTIES FOR: ROCKY KNOB X-SECTION PROPERTIES  
 SECID=I-APP AT DISTANCE= 5372 PART 2 OF 2

WS	A	K	ALPHA	B	P	LEW	REW	QC
3139.5	267	11672	1.00	253	257	76	328	1556
3139.6	293	13228	1.00	264	268	66	330	1742
3139.7	320	14910	1.00	275	279	56	331	1955
3139.8	348	16803	1.00	284	288	49	333	2188
3139.9	377	18821	1.00	292	296	42	334	2424
3140.0	406	20960	1.00	301	305	35	336	2678
3140.1	437	23216	1.00	309	313	28	337	2944
3140.2	468	25602	1.00	318	322	21	339	3223
3140.3	500	28108	1.00	326	330	14	340	3514
3140.4	533	30748	1.00	335	339	7	342	3819
3140.5	567	33521	1.00	343	347	0	343	4137
3140.6	602	36634	1.00	348	352	-7	345	4469
3140.7	637	39882	1.00	353	357	-6	346	4811
3140.8	673	43251	1.00	359	362	-10	348	5225
3140.9	709	46756	1.00	364	367	-13	349	5612
3141.0	745	50391	1.00	369	372	-17	351	5971
3141.1	782	54145	1.00	374	378	-21	352	6321
3141.2	820	58039	1.00	379	383	-24	354	6644
3141.3	858	62052	1.00	384	388	-28	355	7278
3141.4	897	66205	1.00	389	393	-31	357	7724
3141.5	936	70489	1.00	394	398	-35	358	8183
3141.6	976	74894	1.00	399	403	-39	360	8652
3141.7	1016	79441	1.00	404	408	-42	361	9134
3141.8	1057	84109	1.00	409	413	-46	363	9627
3141.9	1098	88921	1.00	414	418	-49	364	10134
3142.0	1140	93867	1.00	420	423	-53	366	10652
3142.1	1182	98944	1.00	425	428	-57	367	11182
3142.2	1224	104165	1.00	430	433	-60	368	11725
3142.3	1268	109507	1.00	435	439	-64	370	12278
3142.4	1311	114999	1.00	440	444	-67	371	12845
3142.5	1356	120627	1.00	445	449	-71	373	13424
3142.6	1400	126378	1.00	450	454	-75	374	14014
3142.7	1446	132281	1.00	455	459	-78	376	14617
3142.8	1491	138308	1.00	460	464	-82	377	15231
3142.9	1538	144489	1.00	465	469	-85	379	15859
3143.0	1584	150812	1.00	470	474	-89	380	16499
3143.1	1631	158286	1.00	470	474	-89	380	17238
3143.2	1678	165920	1.00	470	474	-89	380	17989
3143.3	1725	173675	1.00	470	474	-89	380	18748
3143.4	1772	181590	1.00	470	475	-89	380	19520
3143.5	1819	189641	1.00	470	475	-89	380	20303
3143.6	1866	197809	1.00	470	475	-89	380	21093
3143.7	1913	206131	1.00	470	475	-89	380	21896
3143.8	1960	214566	1.00	470	475	-89	380	22707
3143.9	2007	223155	1.00	470	476	-89	380	23529

CROSS-SECTION PROPERTIES FOR: ROCKY KNOB X-SECTION PROPERTIES I-APP  
 SECID=I-APP AT DISTANCE= 5372 PART 1 OF 2

WS	A	K	ALPHA	B	P	LEW	REW	QC
3135.0	24	1316	1.00	15	16	124	139	171
3135.1	26	1436	1.00	16	17	124	139	185
3135.2	27	1562	1.00	16	17	124	140	200
3135.3	29	1693	1.00	16	18	124	140	216
3135.4	30	1830	1.00	17	18	124	140	233
3135.5	32	1973	1.00	17	18	123	140	250
3135.6	34	2121	1.00	17	19	123	141	267
3135.7	35	2275	1.00	18	19	123	141	285
3135.8	37	2434	1.00	18	20	123	141	304
3135.9	39	2599	1.00	18	20	123	141	324
3136.0	41	2771	1.00	19	20	123	142	344
3136.1	43	2948	1.00	19	21	123	142	364
3136.2	45	3131	1.00	19	21	123	142	386
3136.3	47	3320	1.00	20	22	123	142	408
3136.4	49	3515	1.00	20	22	122	142	430
3136.5	51	3717	1.00	20	22	122	143	453
3136.6	53	3925	1.00	21	23	122	143	477
3136.7	55	4139	1.00	21	23	122	143	502
3136.8	57	4359	1.00	21	24	122	143	527
3136.9	59	4586	1.00	22	24	122	144	553
3137.0	61	4819	1.00	22	24	122	144	579
3137.1	63	5059	1.00	22	25	122	144	606
3137.2	66	5305	1.00	23	25	122	144	634
3137.3	68	5558	1.00	23	26	121	145	662
3137.4	70	5818	1.00	23	26	121	145	692
3137.5	73	6085	1.00	24	26	121	145	722
3137.6	75	6357	1.00	24	27	121	145	752
3137.7	78	6638	1.00	24	27	121	145	783
3137.8	80	6925	1.00	25	28	121	146	815
3137.9	83	7219	1.00	25	28	121	146	848
3138.0	85	7521	1.00	25	28	121	146	881
3138.1	88	7829	1.00	26	29	121	146	915
3138.2	91	7103	1.00	33	36	120	215	849
3138.3	94	6706	1.00	41	44	120	220	815
3138.4	99	6523	1.00	48	51	120	225	804
3138.5	106	5201	1.00	83	86	120	258	682
3138.6	115	5320	1.00	99	102	120	271	706
3138.7	126	5599	1.00	115	118	120	285	749
3138.8	138	6216	1.00	123	127	120	291	828
3138.9	151	6693	1.00	139	142	120	297	894
3139.0	166	7288	1.00	154	158	120	303	974
3139.1	182	7996	1.00	170	173	119	309	1068
3139.2	200	8822	1.00	185	189	119	315	1176
3139.3	220	9353	1.00	216	220	95	321	1257
3139.4	242	10380	1.00	237	240	85	327	1392

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WATER-SURFACE PROFILE FOR: ROCKY KNDB      10,50,100,&500 YR FLOODS  DUM 1-D
PAGE 1 OF 1
=====
SECID AT DISTANCE/ LENGTH/DISCHARGE/ AREA /CONVEYANCE/ ALPHA/ LEW / REW
  WS ELEV /   HV /   HF /   HE /   EG /   V /   FN /   ACC  *ID*
=====
DUM 1 AT  2370 /    0 /  1580. /   324. /  18008. / 1.01 /  12. /  146.
          3109.65 /  0.37 /           / 3110.02 /  4.88 /  0.58/      *IS*
-----
DUM 2 AT  2580 /  210 /  1580. /   299. /  15812. / 1.01 /  13. /  145.
          3111.46 /  0.44 /  1.84 /  0.03 / 3111.90 /  5.29 /  0.65 /  0.004 *XS*
-----
DUM 3 AT  2790 /  210 /  1580. /   305. /  16349. / 1.01 /  12. /  145.
          3113.51 /  0.42 /  2.03 /  0.0 / 3113.93 /  5.18 /  0.63 /  0.001 *XS*
-----
A   AT  3000 /  210 /  1580. /   303. /  16164. / 1.01 /  12. /  145.
          3115.49 /  0.43 /  1.98 /  0.00 / 3115.92 /  5.21 /  0.64 /  0.002 *XS*
-----
B   AT  3440 /  440 /  1580. /   330. /  17011. / 1.03 /  21. /  181.
          3119.56 /  0.37 /  3.99 /  0.0 / 3119.92 /  4.78 /  0.60 /  0.008 *XS*
-----
C   AT  3790 /  350 /  1580. /   290. /  14409. / 1.14 /  27. /  188.
          3123.05 /  0.53 /  3.56 /  0.08 / 3123.57 /  5.45 /  0.69 /  0.004 *XS*
-----
D   AT  4150 /  350 /  1580. /   354. /  18850. / 1.03 /  18. /  182.
          3126.55 /  0.32 /  3.31 /  0.0 / 3126.86 /  4.46 /  0.56 / -0.018 *XS*
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END OF THIS PROFILE

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WATER-SURFACE PROFILE FOR: ROCKY KNOB 10,50,100,&500 YR FLOODS DUM 1-D

PAGE 1 OF 1

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SECID	AT	DISTANCE	LENGTH	DISCHARGE	AREA	CONVEYANCE	ALPHA	LEW	REW
WS ELEV	HV	HF	HE	EG	V	FN	ACC	ID*	
DUM 1	AT	2370	0	1580.	290.	15128.	1.01	13.	145.
3109.40		0.46			3109.86	5.44	0.67		*IS*
DUM 2	AT	2580	210	1580.	309.	16656.	1.01	12.	145.
3111.54		0.41	2.08	0.0	3111.95	5.12	0.62	0.003	*XS*
DUM 3	AT	2790	210	1580.	302.	16107.	1.01	12.	145.
3113.49		0.43	1.95	0.01	3113.92	5.23	0.64	0.006	*XS*
A	AT	3000	210	1580.	304.	16224.	1.01	12.	145.
3115.50		0.42	2.01	0.0	3115.92	5.20	0.63	0.000	*XS*
B	AT	3440	440	1580.	330.	16969.	1.03	21.	181.
3119.35		0.37	3.99	0.0	3119.92	4.79	0.60	0.008	*XS*
C	AT	3790	350	1580.	290.	14424.	1.14	27.	188.
3123.05		0.53	3.57	0.08	3123.57	5.45	0.69	0.003	*XS*
D	AT	4150	360	1580.	354.	18865.	1.03	18.	182.
3126.55		0.32	3.30	0.0	3126.87	4.46	0.56	-0.011	*XS*

END OF THIS PROFILE

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WATER-SURFACE PROFILE FOR: ROCKY KNOB 10,50,100, & 500 YR FLOODS DUM 1-0
   
PAGE 1 OF 1
   
=====

SECID	AT	DISTANCE	LENGTH	DISCHARGE	AREA	CONVEYANCE	ALPHA	LEW	REW
WS ELEV	HV	HF	HE	EG	V	FN	ACC	ID*	
DUM 1	AT	2370	0	960.	290.	15128.	1.01	13.	143.
3109.40	0.17			3109.57	3.30	0.41			*IS*
DUM 2	AT	2580	210	960.	206.	8939.	1.04	17.	143.
3110.75	0.35	1.43	0.09	3111.10	4.65	0.53	0.010		*XS*
DUM 3	AT	2790	210	960.	228.	10357.	1.03	16.	144.
3112.92	0.29	2.09	0.0	3113.20	4.22	0.57	0.011		*XS*
A	AT	3000	210	960.	218.	9703.	1.04	16.	144.
3114.84	0.31	1.93	0.01	3115.16	4.40	0.61	0.012		*XS*
B	AT	3440	440	960.	238.	10266.	1.06	26.	176.
3118.96		4.07	0.0	3119.23	4.03	0.58	0.002		*XS*
C	AT	3790	350	960.	208.	8704.	1.18	36.	185.
3122.52	0.39	3.61	0.06	3122.91	4.62	0.65	0.008		*XS*
D	AT	4150	360	960.	257.	11743.	1.04	28.	179.
3125.93	0.22	3.25	0.0	3126.16	3.73	0.52	0.002		*XS*

END OF THIS PROFILE



USGS STEP-BACKWATER PROGRAM - VERSION 76.170 \*\*\* PAGE COUNT= 19, DATE= 4/ 5/77

PAGE 1 OF PROFILE NOTES FOR: ROCKY KNOB 10, 50, 100, & 500 YR FLOODS DUM 1-D  
INITIAL VALUES ARE: Q = 960, H = 3109.40

SECID, ERROR OR WARNING MESSAGE, INTERMEDIATE RESULTS (IF ANY), ACTION TAKEN

DUM 2, KU/KD < 0.7 OR > 1.4

USED COMPUTED WSU

41  
61

41  
61



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WATER-SURFACE PROFILE FOR: ROCKY KNOB 10,50,100,6500 YR FLOODS DUM 1-D
   
PAGE 1 OF 1
   
=====

SECID	AT	DISTANCE	LENGTH	DISCHARGE	AREA	CONVEYANCE	ALPHA	LEW	REW							
WS ELEV	HV	HF	HE	EG	V	FN	ACC	ID*								
DUM 1	AT	2370	/	0	/	960.	/	238.	/	11093.	/	1.03	/	15.	/	144.
		3109.00	/	0.26	/		/	3109.26	/	4.03	/	0.54	/		/	*IS*
DUM 2	AT	2580	/	210	/	960.	/	215.	/	9485.	/	1.04	/	17.	/	143.
		3110.82	/	0.32	/	1.84	/	0.03	/	3111.14	/	4.47	/	0.62	/	0.009 *XS*
DUM 3	AT	2790	/	210	/	960.	/	223.	/	10039.	/	1.03	/	16.	/	144.
		3112.88	/	0.30	/	2.03	/	0.0	/	3113.18	/	4.30	/	0.59	/	0.008 *XS*
A	AT	3000	/	210	/	960.	/	219.	/	9788.	/	1.04	/	16.	/	144.
		3114.85	/	0.31	/	1.97	/	0.01	/	3115.16	/	4.38	/	0.60	/	0.006 *XS*
B	AT	3440	/	440	/	960.	/	237.	/	10203.	/	1.06	/	26.	/	176.
		3118.95	/	0.27	/	4.06	/	0.0	/	3119.22	/	4.05	/	0.58	/	0.002 *XS*
C	AT	3790	/	350	/	960.	/	208.	/	8742.	/	1.15	/	36.	/	185.
		3122.52	/	0.39	/	3.62	/	0.06	/	3122.91	/	4.61	/	0.65	/	0.010 *XS*
D	AT	4150	/	360	/	960.	/	257.	/	11706.	/	1.04	/	28.	/	178.
		3125.93	/	0.23	/	3.24	/	0.0	/	3126.15	/	3.74	/	0.52	/	0.001 *XS*

END OF THIS PROFILE

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WATER-SURFACE PROFILE FOR: ROCKY KNOB 10,50,100, & 500 YR FLOODS. DUM 1-D
PAGE 1 OF 1
=====
SECID AT DISTANCE/ LENGTH/DISCHARGE/ AREA /CONVEYANCE/ ALPHA/ LEW / REW
WS ELEV / HV / HF / HE / EG / V / FN / ACC *ID*
=====
DUM 1 AT 2370 / 0 / 960. / 206. / 8929. / 1.04 / 17. / 143.
3108.75 / 0.35 / / 3109.10 / 4.65 / 0.53/ *IS*
-----
DUM 2 AT 2580 / 210 / 960. / 228. / 10361. / 1.03 / 16. / 144.
3110.92 / 0.29 / 2.09 / 0.0 / 3111.20 / 4.21 / 0.57 / 0.010 *XS*
-----
DUM 3 AT 2790 / 210 / 960. / 218. / 9703. / 1.04 / 16. / 144.
3112.84 / 0.31 / 1.93 / 0.01 / 3113.16 / 4.40 / 0.61 / 0.012 *XS*
-----
A AT 3000 / 210 / 960. / 221. / 9913. / 1.04 / 16. / 144.
3114.87 / 0.30 / 2.01 / 0.0 / 3115.17 / 4.34 / 0.59 / 0.003 *XS*
-----
B AT 3440 / 440 / 960. / 236. / 10113. / 1.06 / 26. / 176.
3118.95 / 0.27 / 4.04 / 0.0 / 3119.22 / 4.07 / 0.58 / 0.003 *XS*
-----
C AT 3790 / 350 / 960. / 209. / 8799. / 1.18 / 35. / 185.
3122.53 / 0.39 / 3.63 / 0.06 / 3122.91 / 4.59 / 0.65 / 0.013 *XS*
-----
D AT 4150 / 360 / 960. / 256. / 11654. / 1.04 / 28. / 178.
3125.92 / 0.23 / 3.24 / 0.0 / 3126.15 / 3.75 / 0.53 / 0.001 *XS*
=====

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END OF THIS PROFILE

=====
   
WATER-SURFACE PROFILE FOR: ROCKY KNOB 10,50,100,&500 YR FLOODS DUM 1-D.
   
PAGE 1 OF 1
   
=====

	SECID	AT	DISTANCE	LENGTH	DISCHARGE	AREA	CONVEYANCE	ALPHA	LEW	REW						
	WS ELEV		HV	HF	HE	EG	V	FN	ACC	*ID*						
DUM 1	AT	2370	/	0	/	960.	/	157.	/	5978.	/	1.10	/	21.	/	140.
		3108.35	/	0.64	/		/	3108.99	/	6.11	/	0.78	/		/	*IS*
DUM 2	AT	2580	/	210	/	960.	/	268.	/	13324.	/	1.02	/	14.	/	145.
		3111.23	/	0.20	/	2.43	/	0.0	/	3111.43	/	3.58	/	0.46	/	0.015 *XS*
DUM 3	AT	2790	/	210	/	960.	/	208.	/	9060.	/	1.04	/	17.	/	143.
		3112.77	/	0.34	/	1.60	/	0.07	/	3113.11	/	4.61	/	0.64	/	0.005 *XS*
A	AT	3000	/	210	/	960.	/	227.	/	10285.	/	1.03	/	16.	/	144.
		3114.91	/	0.29	/	2.08	/	0.0	/	3115.20	/	4.24	/	0.58	/	0.011 *XS*
B	AT	3440	/	440	/	960.	/	232.	/	9857.	/	1.06	/	26.	/	176.
		3118.92	/	0.28	/	4.00	/	0.0	/	3119.20	/	4.14	/	0.60	/	0.004 *XS*
C	AT	3790	/	350	/	960.	/	211.	/	8921.	/	1.18	/	35.	/	185.
		3122.54	/	0.38	/	3.67	/	0.05	/	3122.92	/	4.55	/	0.64	/	0.001 *XS*
D	AT	4150	/	360	/	960.	/	254.	/	11540.	/	1.04	/	28.	/	178.
		3125.91	/	0.23	/	3.22	/	0.0	/	3126.14	/	3.77	/	0.53	/	0.001 *XS*

=====
   
END OF THIS PROFILE
   
=====

USGS STEP-BACKWATER PROGRAM - VERSION 76.170 \*\*\* PAGE COUNT= 14, DATE= 4/ 5/77

PAGE 1 OF PROFILE NOTES FOR: ROCKY KNOB 10, 50, 100, & 500 YR FLOODS DUM 1-D  
INITIAL VALUES ARE: Q = 960. H = 3108.35

SECID, ERROR OR WARNING MESSAGE, INTERMEDIATE RESULTS (IF ANY), ACTION TAKEN

DUM 2, KU/KD < 0.7 OR > 1.4

,USED COMPUTED WSU

DUM 3, KU/KD < 0.7 OR > 1.4

,USED COMPUTED WSU

=====
   
WATER-SURFACE PROFILE FOR: ROCKY KNOB 10,50,100,&500 YR FLOODS DUM 1-D
   
PAGE 1 OF 1
   
=====

	SECID	AT	DISTANCE	LENGTH	DISCHARGE	AREA	CONVEYANCE	ALPHA	LEW	REW	
	WS	ELEV	HV	HF	HE	EG	V	FN	ACC	ID	
DUM 1	AT	2370	0	760.	206.	8929.	1.04	17.	143.		
		3108.75	0.22		3108.97	3.68	0.42				*IS*
DUM 2	AT	2580	210	760.	182.	7427.	1.06	19.	142.		
		3110.56	0.29	1.83	0.03	3110.84	4.17	0.50	0.011		*XS*
DUM 3	AT	2790	210	760.	192.	8025.	1.05	18.	142.		
		3112.64	0.26	2.04	0.0	3112.89	3.96	0.47	0.013		*XS*
A	AT	3000	210	760.	187.	7723.	1.06	19.	142.		
		3114.60	0.27	1.96	0.01	3114.87	4.06	0.48	0.010		*XS*
B	AT	3440	440	760.	201.	8058.	1.09	27.	172.		
		3118.71	0.24	4.08	0.0	3118.95	3.77	0.57	0.003		*XS*
C	AT	3790	350	760.	176.	6909.	1.21	40.	181.		
		3122.30	0.35	3.63	0.06	3122.65	4.32	0.54	0.010		*XS*
D	AT	4150	360	760.	221.	9335.	1.05	32.	177.		
		3125.68	0.19	3.22	0.0	3125.88	3.44	0.51	0.002		*XS*

END OF THIS PROFILE

=====
   
WATER-SURFACE PROFILE FOR: ROCKY KNOB 10,50,100,&500 YR FLOODS DUM 1-D
   
PAGE 1 OF 1
   
=====

SECID	AT	DISTANCE	LENGTH	DISCHARGE	AREA	CONVEYANCE	ALPHA	LEW	REW
WS ELEV	HV	HF	HE	EG	V	FN	ACC	*ID*	
DUM 1	AT	2370	0	760.	175.	7014.	1.07	19.	141.
3108.50		0.31			3108.81	4.34	0.53		*IS*
DUM 2	AT	2580	210	760.	196.	8288.	1.05	18.	143.
3110.67		0.25	2.09	0.0	3110.91	3.87	0.45	0.015	*XS*
DUM 3	AT	2790	210	760.	186.	7646.	1.06	19.	142.
3112.59		0.28	1.91	0.02	3112.86	4.09	0.49	0.017	*XS*
A	AT	3000	210	760.	190.	7882.	1.06	18.	142.
3114.62		0.26	2.01	0.0	3114.88	4.01	0.48	0.006	*XS*
B	AT	3440	440	760.	199.	7941.	1.09	28.	171.
3118.70		0.25	4.06	0.0	3118.95	3.81	0.57	0.003	*XS*
C	AT	3790	350	760.	177.	6977.	1.21	40.	181.
3122.31		0.35	3.65	0.05	3122.66	4.28	0.54	0.011	*XS*
D	AT	4150	360	760.	220.	9271.	1.05	32.	177.
3125.68		0.20	3.21	0.0	3125.87	3.46	0.51	0.002	*XS*

END OF THIS PROFILE

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=====
WATER-SURFACE PROFILE FOR: ROCKY KNOB 10,50,100, & 500 YR FLOODS DUM 1-D
PAGE 1 OF 1
=====
SECID AT DISTANCE/ LENGTH/DISCHARGE/ AREA /CONVEYANCE/ ALPHA/ LEW / REW
WS ELEV / HV / HF / HE / EG / V / FN / ACC *ID*
=====
DUM 1 AT 2370 / 0 / 390. / 123. / 4736. / 1.14 / 22. / 139.
3108.15 / 0.15 / / 3108.30 / 2.92 / 0.39/ *IS*
-----
DUM 2 AT 2580 / 210 / 390. / 111. / 3692. / 1.20 / 24. / 138.
3109.96 / 0.23 / 1.83 / 0.04 / 3110.19 / 3.51 / 0.50 / 0.019 *XS*
-----
DUM 3 AT 2790 / 210 / 390. / 123. / 4214. / 1.17 / 23. / 139.
3112.06 / 0.18 / 2.05 / 0.0 / 3112.24 / 3.18 / 0.44 / 0.001 *XS*
-----
A AT 3000 / 210 / 390. / 116. / 3889. / 1.19 / 24. / 138.
3114.00 / 0.21 / 1.95 / 0.01 / 3114.21 / 3.37 / 0.48 / 0.003 *XS*
-----
B AT 3440 / 440 / 390. / 123. / 4212. / 1.16 / 35. / 151.
3118.12 / 0.18 / 4.09 / 0.0 / 3118.30 / 3.17 / 0.43 / 0.005 *XS*
-----
C AT 3790 / 350 / 390. / 100. / 3472. / 1.42 / 52. / 163.
3121.70 / 0.33 / 3.64 / 0.08 / 3122.03 / 3.89 / 0.54 / 0.019 *XS*
-----
D AT 4150 / 360 / 390. / 142. / 4905. / 1.14 / 41. / 174.
3125.12 / 0.13 / 3.21 / 0.0 / 3125.25 / 2.74 / 0.46 / 0.004 *XS*
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END OF THIS PROFILE

USGS STEP-BACKWATER PROGRAM - VERSION 76.170 \*\*\* PAGE COUNT= 9, DATE= 4/ 5/77

PAGE 1 OF PROFILE NOTES FOR: ROCKY-KNOR 10,50,100, & 500 YR FLOODS DUM 1-D  
INITIAL VALUES ARE: Q = 390. H = 3108.15

SECID, ERROR OR WARNING MESSAGE, INTERMEDIATE RESULTS (IF ANY), ACTION TAKEN

D .KU/KD < 0.7 OR > 1.4

.USED COMPUTED WSU



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=====
WATER-SURFACE PROFILE FOR: ROCKY KNOB      10,50,100,&500 YR FLOODS  DUM 1-0
PAGE 1 OF 1
=====
SECID AT DISTANCE/ LENGTH/DISCHARGE/ AREA /CONVEYANCE/ ALPHA/ LEW / REW
WS ELEV / HV / HF / HE / EG / V / FN / ACC *ID*
=====
DUM 1 AT 2370 / 0 / 390. / 105. / 3412. / 1.22 / 25. / 138.
3107.90 / 0.26 / / 3108.16 / 3.72 / 0.54 / *IS*
-----
DUM 2 AT 2580 / 210 / 390. / 128. / 4480. / 1.15 / 23. / 139.
3110.11 / 0.17 / 2.09 / 0.0 / 3110.27 / 3.04 / 0.42 / 0.018 *XS*
-----
DUM 3 AT 2790 / 210 / 390. / 113. / 3766. / 1.20 / 24. / 138.
3111.97 / 0.22 / 1.89 / 0.03 / 3112.19 / 3.45 / 0.49 / 0.001 *XS*
-----
A AT 3000 / 210 / 390. / 121. / 4157. / 1.17 / 23. / 139.
3114.05 / 0.19 / 2.04 / 0.0 / 3114.23 / 3.21 / 0.45 / 0.000 *XS*
-----
B AT 3440 / 440 / 390. / 118. / 3995. / 1.17 / 36. / 150.
3118.07 / 0.20 / 4.03 / 0.01 / 3118.27 / 3.30 / 0.45 / 0.003 *XS*
-----
C AT 3790 / 350 / 390. / 104. / 3602. / 1.41 / 51. / 164.
3121.73 / 0.31 / 3.70 / 0.06 / 3122.04 / 3.77 / 0.52 / 0.010 *XS*
-----
D AT 4150 / 360 / 390. / 139. / 4760. / 1.14 / 42. / 174.
3125.10 / 0.14 / 3.19 / 0.0 / 3125.24 / 2.80 / 0.48 / 0.004 *XS*
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END OF THIS PROFILE

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WATER-SURFACE PROFILE FOR: ROCKY KNOB 10,50,100,&500 YR FLOODS DUM 1-D

PAGE 1 OF 1

=====

	SECID	AT	DISTANCE / WS ELEV	LENGTH / HV	DISCHARGE / HF	AREA / HE	CONVEYANCE / EG	ALPHA / V	LEW / FN	REW / ACC	*ID*
DUM 1		AT	2370 / 3109.53	0 / 0.41	1580. /	308. / 3109.94	16560. / 5.13	1.01 / 0.62	12. /	145. /	*IS*
DUM 2		AT	2580 / 3111.49	210 / 0.43	1580. / 1.96	303. / 3111.92	16126. / 5.22	1.01 / 0.64	12. /	145. / 0.005	*XS*
DUM 3		AT	2790 / 3113.49	210 / 0.43	1580. / 2.02	303. / 3113.92	16126. / 5.22	1.01 / 0.64	12. /	145. / -0.016	*XS*
A		AT	3000 / 3115.49	210 / 0.43	1580. / 2.02	303. / 3115.92	16126. / 5.22	1.01 / 0.64	12. /	145. / -0.016	*XS*
B		AT	3440 / 3119.56	440 / 0.37	1580. / 4.00	331. / 3119.93	17041. / 4.78	1.03 / 0.60	21. /	181. / 0.009	*XS*
C		AT	3790 / 3123.04	350 / 0.53	1580. / 3.55	290. / 3123.57	14400. / 5.45	1.14 / 0.69	27. /	188. / 0.006	*XS*
D		AT	4150 / 3126.55	360 / 0.32	1580. / 3.30	355. / 3126.87	18938. / 4.45	1.03 / 0.56	17. /	182. / 0.001	*XS*

END OF THIS PROFILE

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=====
WATER-SURFACE PROFILE FOR: ROCKY KNOB      10.50,100,&500 YR FLOODS  DUM 1-0
PAGE 1 OF 1
=====
SECID AT DISTANCE/ LENGTH/DISCHARGE/ APEA /CONVEYANCE/ ALPHA/ LEW / REW
  WS ELEV /   HV /   HF /   HE /   EG /   V /   FN /   ACC  *ID*
=====
DUM 1 AT   2370 /    0 /   960. /   223. /  10016. / 1.03 /   16. /  144.
  3108.88 /   0.30 /           / 3109.18 /   4.31 /   0.59/           *IS*
-----
DUM 2 AT   2580 /   210 /   960. /   219. /   9795. / 1.04 /   16. /  144.
  3110.85 /   0.31 /   1.97 /   0.00 / 3111.16 /   4.38 /   0.60 /  0.006 *XS*
-----
DUM 3 AT   2790 /   210 /   960. /   219. /   9795. / 1.04 /   16. /  144.
  3112.85 /   0.31 /   2.02 /   0.0 / 3113.16 /   4.38 /   0.60 / -0.018 *XS*
-----
A   AT   3000 /   210 /   960. /   219. /   9795. / 1.04 /   16. /  144.
  3114.85 /   0.31 /   2.02 /   0.0 / 3115.16 /   4.38 /   0.60 / -0.018 *XS*
-----
B   AT   3440 /   440 /   960. /   237. /  10199. / 1.06 /   26. /  176.
  3118.95 /   0.27 /   4.06 /   0.0 / 3119.22 /   4.05 /   0.58 /  0.002 *XS*
-----
C   AT   3790 /   350 /   960. /   208. /   8747. / 1.18 /   36. /  185.
  3122.52 /   0.39 /   3.62 /   0.06 / 3122.91 /   4.61 /   0.65 /  0.011 *XS*
-----
D   AT   4150 /   360 /   960. /   257. /  11701. / 1.04 /   28. /  178.
  3125.93 /   0.23 /   3.24 /   0.0 / 3126.15 /   3.74 /   0.52 /  0.001 *XS*
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END OF THIS PROFILE

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=====
WATER-SURFACE PROFILE FOR: ROCKY KNOB      10,50,100, & 500 YR FLOODS  DUM 1-D
PAGE 1 OF 1
=====
SECID AT DISTANCE/ LENGTH/DISCHARGE/ AREA /CONVEYANCE/ ALPHA/ LFW / RFW
  WS ELEV /   HV /   HF /   HE /   EG /   V /   FN /   ACC *ID*
=====
DUM 1 AT  2370 /    0 /   760. /   191. /   7979. / 1.06 /  18. / 142.
          3108.63 / 0.26 /           / 3108.89 /   3.97 /  0.47/      *IS*
-----
DUM 2 AT  2580 /   210 /   760. /   187. /   7736. / 1.06 /  18. / 142.
          3110.60 / 0.27 /   1.97 /   0.01 / 3110.87 /  4.06 /  0.48 / 0.009 *XS*
-----
DUM 3 AT  2790 /   210 /   760. /   189. /   7823. / 1.06 /  18. / 142.
          3112.61 / 0.27 /   2.00 /   0.0 / 3112.88 /  4.03 /  0.48 / 0.002 *XS*
-----
A   AT  3000 /   210 /   760. /   189. /   7823. / 1.06 /  18. / 142.
          3114.61 / 0.27 /   1.98 /   0.0 / 3114.88 /  4.03 /  0.48 / 0.018 *XS*
-----
B   AT  3440 /   440 /   760. /   200. /   7984. / 1.09 /  27. / 172.
          3118.70 / 0.24 /   4.07 /   0.0 / 3118.95 /  3.80 /  0.57 / 0.003 *XS*
-----
C   AT  3790 /   350 /   760. /   177. /   6953. / 1.21 /  40. / 181.
          3122.31 / 0.35 /   3.64 /   0.05 / 3122.65 /  4.30 /  0.54 / 0.012 *XS*
-----
D   AT  4150 /   360 /   760. /   220. /   9293. / 1.05 /  32. / 177.
          3125.68 / 0.20 /   3.22 /   0.0 / 3125.87 /  3.45 /  0.51 / 0.001 *XS*
=====

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END OF THIS PROFILE

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=====
WATER-SURFACE PROFILE FOR: ROCKY KNOB      10,50,100,500 YR FLOODS DUM 1-D
PAGE 1 OF 1
=====
SECID AT DISTANCE/ LENGTH/DISCHARGE/ AREA /CONVEYANCE/ ALPHA/ LEW / REW
 WS ELEV /   HV /   HF /   HE /   EG /   V /   FN /   ACC  *ID*
=====
DUM 1 AT  2370 /    0 /   390. /  120. /  4067. / 1.18 /  23. / 138.
 3108.03 /  0.19 /           /    / 3108.22 /  3.26 /  0.46/   *IS*
-----
DUM 2 AT  2580 /  210 /   390. /  117. /  3973. / 1.18 /  24. / 138.
 3110.01 /  0.20 /  1.98 /  0.00 / 3110.21 /  3.32 /  0.47 / 0.009 *XS*
-----
DUM 3 AT  2790 /  210 /   390. /  118. /  4016. / 1.18 /  24. / 138.
 3112.02 /  0.20 /  2.00 /  0.0 / 3112.22 /  3.29 /  0.46 / 0.003 *XS*
-----
A   AT  3000 /  210 /   390. /  118. /  4016. / 1.18 /  24. / 138.
 3114.02 /  0.20 /  1.98 /  0.0 / 3114.22 /  3.29 /  0.46 / 0.020 *XS*
-----
B   AT  3440 /  440 /   390. /  121. /  4104. / 1.17 /  35. / 151.
 3118.10 /  0.19 /  4.06 /  0.0 / 3118.28 /  3.24 /  0.44 / 0.006 *XS*
-----
C   AT  3790 /  350 /   390. /  102. /  3535. / 1.42 /  52. / 163.
 3121.71 /  0.32 /  3.67 /  0.07 / 3122.04 /  3.83 /  0.53 / 0.015 *XS*
-----
D   AT  4150 /  360 /   390. /  141. /  4833. / 1.14 /  42. / 174.
 3125.11 /  0.14 /  3.20 /  0.0 / 3125.24 /  2.77 /  0.47 / 0.004 *XS*
=====

```

END OF THIS PROFILE

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2)

CROSS-SECTION PROPERTIES FOR: ROCKY MOUNTAIN 10,50,100, & 500 YR FLOODS DUM 1-5  
 SECID=0 AT DISTANCE= 4150 PART 1 OF 1

WS	A	K	ALPHA	B	P	LEW	REW	QC
3122.0	9	252	1.00	7	8	90	97	63
3122.5	13	396	1.00	8	10	89	97	97
3123.0	17	569	1.00	8	11	89	97	138
3123.5	21	774	1.00	9	12	88	97	187
3124.0	28	1019	1.11	45	48	88	138	119
3124.5	67	1912	1.51	105	109	52	171	246
3125.0	127	4154	1.18	130	135	43	173	653
3125.5	194	7733	1.07	141	146	35	176	1253
3126.0	268	12445	1.04	152	157	27	179	1977
3126.5	347	18263	1.03	163	168	18	182	2820
3127.0	431	25400	1.03	174	179	10	184	3783
3127.5	521	33910	1.04	186	190	2	187	4861
3128.0	615	43909	1.03	190	195	0	190	6195
3128.5	711	54983	1.02	193	199	0	193	7681
3129.0	808	67121	1.01	196	202	0	196	9271
3129.5	907	80286	1.01	198	205	0	198	10961
3129.8	966	88662	1.00	200	207	0	200	12022

CROSS-SECTION PROPERTIES FOR: ROCKY KNOB 10.50,100,&500 YR FLOODS DUM 1-D  
 SECID=B AT DISTANCE= 3440 PART 1 OF 1

WS	A	K	ALPHA	B	P	LEW	RFW	QC
3115.0	8	164	1.00	8	9	60	68	41
3115.5	12	304	1.00	9	11	59	68	75
3116.0	17	484	1.00	12	14	57	69	116
3116.5	23	731	1.00	14	17	55	69	172
3117.0	33	1067	1.07	33	36	52	110	178
3117.5	61	1804	1.29	78	82	50	135	268
3118.0	110	3628	1.19	111	115	37	149	567
3118.5	171	6495	1.11	135	139	29	164	1040
3119.0	244	10653	1.05	151	155	26	177	1713
3119.5	321	16269	1.03	159	162	22	180	2554
3120.0	403	24444	1.03	167	170	17	184	3492
3120.5	488	35629	1.04	175	178	13	188	4528
3121.0	577	48663	1.05	183	186	9	192	5672
3121.5	670	61268	1.05	190	195	5	195	6977
3122.0	768	75541	1.04	198	203	1	199	8415
3122.1	788	78608	1.03	200	204	0	200	8718

CROSS-SECTION PROPERTIES FOR: ROCKY KNOB 10.50,100,&500 YR FLOODS DUM 1-D  
 SECID=C AT DISTANCE= 3790 PART 1 OF 1

WS	A	K	ALPHA	B	P	LEW	RFW	QC
3119.0	10	272	1.00	8	10	90	99	66
3119.5	15	446	1.00	10	11	90	100	105
3120.0	20	668	1.00	11	13	89	100	154
3120.5	27	972	1.06	20	22	81	101	174
3121.0	45	1571	1.31	51	53	68	119	208
3121.5	80	2724	1.45	94	96	56	150	345
3122.0	136	4989	1.30	126	128	46	172	702
3122.5	205	8554	1.18	149	151	36	185	1256
3123.0	283	13850	1.14	160	163	27	188	1990
3123.5	365	20441	1.12	170	172	21	191	2868
3124.0	452	27924	1.08	179	182	14	193	3918
3124.5	544	36561	1.06	189	191	8	196	5090
3125.0	641	46359	1.05	198	201	1	199	6385
3125.1	661	48462	1.05	200	203	0	200	6659

CROSS-SECTION PROPERTIES FOR: ROCKY KNOB 10,50,100,&500 YR FLOODS DUM 1-D  
 SECID=DUM 3 AT DISTANCE= 2790 PART 1 OF 1

WS	A	K	ALPHA	B	P	LEW	RFW	QC
3109.0	8	198	1.00	8	9	49	57	49
3109.5	13	358	1.00	10	11	49	58	85
3110.0	18	568	1.00	11	13	48	59	132
3110.5	24	767	1.00	15	17	48	63	176
3111.0	37	1153	1.10	34	36	32	66	207
3111.5	61	1927	1.20	96	99	28	135	252
3112.0	116	3910	1.19	115	117	24	138	609
3112.5	175	7014	1.07	122	125	19	141	1151
3113.0	238	11093	1.03	129	132	15	144	1810
3113.5	304	16226	1.01	133	136	12	145	2592
3114.0	371	22700	1.01	137	140	10	147	3447
3114.5	441	30403	1.03	141	144	7	148	4368
3115.0	512	38436	1.02	145	148	4	149	5403
3115.5	585	47165	1.02	148	152	2	150	6528
3115.8	630	52876	1.02	150	154	0	150	7256

CROSS-SECTION PROPERTIES FOR: ROCKY KNOB 10,50,100,&500 YR FLOODS DUM 1-D  
 SECID=A AT DISTANCE= 3000 PART 1 OF 1

WS	A	K	ALPHA	B	P	LEW	RFW	QC
3111.0	8	198	1.00	8	9	49	57	49
3111.5	13	358	1.00	10	11	49	58	85
3112.0	18	568	1.00	11	13	48	59	132
3112.5	24	767	1.00	15	17	48	63	176
3113.0	37	1153	1.10	34	36	32	66	207
3113.5	61	1927	1.20	96	99	28	135	252
3114.0	116	3910	1.19	115	117	24	138	609
3114.5	175	7014	1.07	122	125	19	141	1151
3115.0	238	11093	1.03	129	132	15	144	1810
3115.5	304	16226	1.01	133	136	12	145	2592
3116.0	371	22700	1.01	137	140	10	147	3447
3116.5	441	30406	1.03	141	144	7	148	4368
3117.0	512	38436	1.02	145	148	4	149	5403
3117.5	585	47165	1.02	148	152	2	150	6528
3117.8	630	52876	1.02	150	154	0	150	7256



CROSS-SECTION PROPERTIES FOR: ROCKY KNOB 10,50,100,&500 YR FLOODS DUM 1-0  
 SECID=DUM 1 AT DISTANCE= 2370 PART 1 OF 1

WS	A	K	ALPHA	B	P	LEW	REW	QC
3105.0	8	198	1.00	8	9	49	57	49
3105.5	13	358	1.00	10	11	49	58	85
3106.0	18	568	1.00	11	13	48	59	132
3106.5	24	767	1.00	15	17	48	63	176
3107.0	37	1153	1.10	34	36	32	66	207
3107.5	61	1927	1.20	96	99	28	135	252
3108.0	116	3910	1.19	115	117	24	138	609
3108.5	175	7014	1.07	122	125	19	141	1151
3109.0	238	11093	1.03	129	132	15	144	1810
3109.5	304	16226	1.01	133	136	12	145	2592
3110.0	371	22700	1.01	137	140	10	147	3447
3110.5	441	30406	1.03	141	144	7	148	4368
3111.0	512	38436	1.02	145	148	4	149	5403
3111.5	585	47165	1.02	148	152	2	150	6528
3111.8	630	52876	1.02	150	154	0	150	7256

CROSS-SECTION PROPERTIES FOR: ROCKY KNOB 10,50,100,&500 YR FLOODS DUM 1-0  
 SECID=DUM 2 AT DISTANCE= 2580 PART 1 OF 1

WS	A	K	ALPHA	B	P	LEW	REW	QC
3107.0	8	198	1.00	8	9	49	57	49
3107.5	13	358	1.00	10	11	49	58	85
3108.0	18	568	1.00	11	13	48	59	132
3108.5	24	767	1.00	15	17	48	63	176
3109.0	37	1153	1.10	34	36	32	66	207
3109.5	61	1927	1.20	96	99	28	135	252
3110.0	116	3910	1.19	115	117	24	138	609
3110.5	175	7014	1.07	122	125	19	141	1151
3111.0	238	11093	1.03	129	132	15	144	1810
3111.5	304	16226	1.01	133	136	12	145	2592
3112.0	371	22700	1.01	137	140	10	147	3447
3112.5	441	30406	1.03	141	144	7	148	4368
3113.0	512	38436	1.02	145	148	4	149	5403
3113.5	585	47165	1.02	148	152	2	150	6528
3113.8	630	52876	1.02	150	154	0	150	7256

CROSS-SECTION PROPERTIES FOR: ROCKY KNOB 10,50,100,&500 YR FLOODS DUM 1-D  
 SECID=DUM 1 AT DISTANCE= 2370 PART 1 OF 1

WS	A	K	ALPHA	B	P	LEW	RFW	QC
3105.0	8	198	1.00	8	9	49	57	49
3105.5	13	358	1.00	10	11	49	58	85
3106.0	18	568	1.00	11	13	48	59	132
3106.5	24	767	1.00	15	17	48	63	176
3107.0	37	1153	1.10	34	36	32	66	207
3107.5	61	1927	1.20	96	99	28	135	252
3108.0	116	3910	1.19	115	117	24	138	609
3108.5	175	7014	1.07	122	125	19	141	1151
3109.0	238	11093	1.03	129	132	15	144	1810
3109.5	304	16226	1.01	133	136	12	145	2592
3110.0	371	22700	1.01	137	140	10	147	3447
3110.5	441	30406	1.03	141	144	7	148	4368
3111.0	512	38436	1.02	145	148	4	149	5403
3111.5	585	47165	1.02	148	152	2	150	6528
3111.8	630	52876	1.02	150	154	0	150	7256

CROSS-SECTION PROPERTIES FOR: ROCKY KNOB 10,50,100,&500 YR FLOODS DUM 1-D  
 SECID=DUM 2 AT DISTANCE= 2580 PART 1 OF 1

WS	A	K	ALPHA	B	P	LEW	RFW	QC
3107.0	8	198	1.00	8	9	49	57	49
3107.5	13	358	1.00	10	11	49	58	85
3108.0	18	568	1.00	11	13	48	59	132
3108.5	24	767	1.00	15	17	48	63	176
3109.0	37	1153	1.10	34	36	32	66	207
3109.5	61	1927	1.20	96	99	28	135	252

USGS STEP-BACKWATER PROGRAM - VERSION 76.170 \*\*\* PAGE COUNT= 2 DATE= 4/ 5/77

INPUT SUMMARY FOR: ROCKY KNOB 10,50,100, & 500 YR FLOODS DUM 1-D

7 CROSS SECTIONS SPECIFIED (OR ASSUMED)

FOUND 7 TYPE 3 CARDS

KEPT 7 CROSS SECTIONS FOR EDITING

7 " " VALID FOR PROPERTY COMPUTATIONS

7 " " " " PROFILE "

\*\*\* INPUT CARD PRINTOUT \*\*\*

	1	2	3	4	5	6	7	8
1	1	POCKY KNOR	10,50,100,1500 YR FLOODS	DUM 1-0	7	14	02	05 15
2	2	310790	310803	310815	310850	310863	310875	310888 310900
2	3	310940	310940	310953	310965			
3	5	DUM 1	1 14	3 3105	2370	99	99	
4	6	390	390	390	760	760	760	960 960 960 960
4	7	960	1580	1580	1580			
5	8	0	1 31118	15 1 31090	35	1 31067	48 2 31067	50 2 31036
5	9	53	2 31036	56 2 31043	60 2 31063	64 2 31066	70 3 31076	
5	10	100	3 31073	135 3 31075	144 3 31089	150 3 31115		
6	12	1	2 045 045	4 5 060 050	1 2 045 045			
3	20	DUM 2	0 14	3 3107	2580	99	99	
5	23	0	1 31138	15 1 31110	35	1 31087	48 2 31087	50 2 31056
5	24	53	2 31056	56 2 31063	60 2 31083	64 2 31086	70 3 31096	
5	25	100	3 31093	135 3 31095	144 3 31109	150 3 31135		
6	27	1	2 045 045	4 5 060 050	1 2 045 045			
3	30	DUM 3	0 14	3 3109	2790	99	99	
5	33	0	1 31158	15 1 31130	35	1 31107	48 2 31107	50 2 31076
5	34	53	2 31076	56 2 31083	60 2 31103	64 2 31106	70 3 31116	
5	35	100	3 31113	135 3 31115	144 3 31129	150 3 31155		
6	37	1	2 045 045	4 5 060 050	1 2 045 045			
3	40	A	0 14	3 3111	3000	99	99	
5	43	0	1 31178	15 1 31150	35	1 31127	48 2 31127	50 2 31096
5	44	53	2 31096	56 2 31103	60 2 31123	64 2 31126	70 3 31136	
5	45	100	3 31133	135 3 31135	144 3 31149	150 3 31175		
6	47	1	2 045 045	4 5 060 050	1 2 045 045			
3	50	R	0 14	3 3115	3440	99	99	
5	53	0	1 31221	25 1 31191	30	1 31183	50 2 31175	60 2 31153
5	54	61	2 31143	64 2 31139	68 2 31139	69 3 31177	100 3 31168	
5	55	140	3 31176	153 3 31182	175 3 31188	200 3 31221		
6	57	2	3 045 035	4 5 060 050	2 3 045 035			
3	60	C	0 13	3 3112	3790	99	99	
5	63	0	1 31251	30 1 31228	60	1 31213	89 2 31202	91 2 31186
5	64	92	2 31172	95 2 31174	97 2 31177	101 3 31205	130 3 31213	
5	65	160	3 31216	184 3 31224	200 3 31251			
6	67	1	2 045 045	4 5 060 050	1 2 045 045			
3	70	D	0 12	3 3122	4150	99	99	
5	73	0	1 31276	30 1 31258	60	1 31240	87 2 31249	91 2 31207
5	74	93	2 31201	96 2 31206	98 3 31247	103 3 31240	130 3 31239	
5	75	170	3 31244	200 3 31298				
6	77	1	2 045 045	5 6 060 050	1 2 045 045			

*Rocky Knor*  
*Carlsbad*