

JOB NO. 126.09
STRN DODSON-89/013

TECHNICAL APPENDIX

COMPREHENSIVE FLOOD PROTECTION PLAN
FOR
SOUTHERN MONTGOMERY COUNTY, TEXAS

San Jacinto River Watershed

by

Dodson & Associates, Inc.
5629 FM 1960 West, Suite 314
Houston, Texas 77069
(713)440-3787

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LINE	ID.....	1.....	2.....	3.....	4.....	5.....	6.....	7.....	8.....	9.....	10
1	ID	SOUTHERN MONTGOMERY COUNTY FLOOD PROTECTION STUDY									
2	ID	DODSON & ASSOCIATES, INC. SEPTEMBER, 1989									
3	ID	SAN JACINTO RIVER WATERSHED									
4	ID	100-YEAR, 48-HOUR STORM EVENT REVISED EXISTING CONDITIONS									
5	ID	FILENAME = SJREX.IH1									
	*										
6	ID	MODEL BASED ON COE LAKE CREEK RESERVOIR STUDY									
7	ID	COE MODEL OF SAN JACINTO RIVER WATERSHED U/S OF BUFFALO BAYOU									
8	ID	DATA FOR PLAN 2 = 1986 CONDITIONS WITH LAKE CONROE AND LAKE HOUSTON									
	*										
9	IT	60	21AUG89	0000	200						
10	IO	5									
11	KK	41									
12	KM	BEGIN WEST FORK SAN JACINTO RIVER									
13	IN	120	21AUG89	0000							
14	PB	12.95									
15	PI	.12	.13	.14	.15	.17	.19	.28	.33	.38	.62
16	PI	.82	1.58	4.29	1.03	.70	.43	.35	.30	.20	.18
17	PI	.16	.15	.14	.13						
18	BA	184									
19	LU	1.0	.10	1.4							
20	UC	16.7	7.6								
21	KK	42									
22	KM	ROUTE FROM 41 TO 42									
23	KM	FOR PLAN 2,3, AND 4 USE 2/3 OF SV TO SHOW LAKE EFFECTS ON TRAVEL TIME									
24	RS	4	FLOW	-1							
25	SV	0	1001	2020	3937	9038	14746	20380	30337	39187	47642
26	SV	65518	81246	134065	174074	209945					
27	SQ	0	1000	2500	5000	10000	15000	20000	30000	40000	50000
28	SQ	75000	100000	200000	300000	400000					
29	KK	42									
30	KM	COMPUTE RUNOFF FROM AREA 420 AT 42									
31	BA	267									
32	LU	1.0	.10	16.4							
33	UC	16.7	7.6								
34	KK	42									
35	KM	COMBINE TWO AT 42									
36	HC	2									
37	KK	42									
38	KM	LAKE CONROE ROUTING									
39	RS	1	STOR	409500							
40	SV	0	370	65000	175000	430260	440000	445000	450000	465000	475000
41	SV	490000	500000	510000	532000	545000	567000	595000	620000	650000	
42	SQ	0	0	0	0	0	1000	1500	2000	2500	6100
43	SQ	11500	13300	17200	144000	148000	155000	162000	169000	177000	

LINE	ID	1	2	3	4	5	6	7	8	9	10
44	KK	44									
45	KM	ROUTE FROM 42 TO 44									
46	RS	4	FLOW	-1							
47	SV	0	716	1385	2619	5913	9491	13046	18801	23792	29018
48	SV	39227	48121	77587	99273	118263					
49	SQ	0	1000	2500	5000	10000	15000	20000	30000	40000	50000
50	SQ	75000	100000	200000	300000	400000					
51	KK	44									
52	KM	COMPUTE RUNOFF FROM AREA 440 AT 44									
53	BA	35									
54	LU	1.0	.10	4.2							
55	UC	6.6	4.0								
56	KK	44									
57	KM	COMBINE TWO AT 44									
58	HC	2									
59	KK	31									
60	KM	BEGIN LAKE CREEK									
61	KM	COMPUTE RUNOFF FROM AREA 310 AT 31									
62	BA	115									
63	LU	1.0	.10	0.3							
64	UC	31.8	11.0								
65	KK	32									
66	KM	ROUTE FROM 31 TO 32									
67	RS	4	FLOW	-1							
68	SV	0	712	1165	1914	3205	4675	5919	7719	10794	14701
69	SV	19244	22967	26390	34122	40927					
70	SQ	0	500	1000	2000	4000	7000	10000	15000	25000	40000
71	SQ	60000	80000	100000	150000	200000					
72	KK	32									
73	KM	COMPUTE RUNOFF FROM AREA 320 AT 32									
74	BA	116									
75	LU	1.0	.10	0.4							
76	UC	25.5	9.5								
77	KK	32									
78	KM	COMBINE TWO AT 32									
79	HC	2									
80	KK	33									
81	KM	ROUTE FROM 32 TO 33									
82	RS	6	FLOW	-1							
83	SV	0	830	1366	2798	6692	12162	16568	22897	33449	46415
84	SV	61386	75246	88324	118287	145466					
85	SQ	0	500	1000	2000	4000	7000	10000	15000	25000	40000
86	SQ	60000	80000	100000	150000	200000					

LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

129 KK 49

130 KM ROUTE FROM 45 TO 49

131 RS 2 FLOW -1

132 SV 0 253 520 865 1806 3332 4869 7729 10276 12522

133 SV 17278 21363 36567 49065 60324

134 SQ 0 1000 2500 5000 10000 15000 20000 30000 40000 50000

135 SQ 75000 100000 200000 300000 400000

136 KK 49

137 KM COMPUTE RUNOFF FROM 490 AT 49

138 BA 43

139 LU 1.0 .10 10

140 UC 6.2 4.1

141 KK 49

142 KM COMBINE TWO AT 49

143 HC 2

*
*
* *****
* WOODLANDS TRADE CENTER DITCH WATERSHED
* *****
*

144 KK F132A

145 KM WOODLANDS TRADE CENTER DITCH: SUB-AREA A RUNOFF HYDROGRAPH

146 BA 0.97

147 LE 0.2 2.5 2.0 0.55 2

148 UC 6.01 2.65

149 KK F132#1

150 KM ROUTE FROM IH-45 TO MOUTH OF WOODLANDS TRADE CENTER DITCH

151 RS 2 STOR -1

152 SV 0 25 41 54 68 82 97

153 SQ 0 130 270 400 540 670 800

154 KK F132B

155 KM WOODLANDS TRADE CENTER DITCH: SUB-AREA B RUNOFF HYDROGRAPH

156 BA 1.68

157 LE 0.2 2.5 2.0 0.55 26

158 UC 3.46 2.44

159 KK F132#1

160 KM COMBINED HYDROGRAPH AT MOUTH OF WOODLANDS TRADE CENTER DITCH

161 HC 2

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*
* *****
* GLENEAGLES DIVERSION DITCH WATERSHED
* *****
*

LINE	ID	1	2	3	4	5	6	7	8	9	10
195	KK	F12102A									
196	KM	HARPER'S HORSEPEN BRANCH: SUB-AREA A RUNOFF HYDROGRAPH									
197	BA	2.38									
198	LE	0.2	2.5	2.0	0.55	3					
199	UC	7.45	4.63								
200	KK	F12102#1									
201	KM	ROUTE HARPER'S HORSEPEN BR. SUB-AREA A HYD. TO CONF. WITH F121-02-01									
202	RS	11	STOR	-1							
203	SV	0	224	419	652	949	1300	1465			
204	SQ	0	260	510	770	1020	1280	1540			
205	KK	F12102B									
206	KM	HARPER'S HORSEPEN BRANCH: SUB-AREA B RUNOFF HYDROGRAPH									
207	BA	1.55									
208	LE	0.2	2.5	2.0	0.55	6					
209	UC	8.34	8.82								
210	KK	F12102#1									
211	KM	COMBINED HARPER'S HORSEPEN BR. HYDROGRAPH ABOVE CONF. WITH F121-02-01									
212	HC	2									
213	KK	F1210201A									
214	KM	HARPER'S HORSEPEN BRANCH - TRIBUTARY F121-02-01: RUNOFF HYDROGRAPH									
215	BA	1.72									
216	LE	0.2	2.5	2.0	0.55	7					
217	UC	8.74	5.93								
218	KK	F12102#1									
219	KM	COMBINED HARPER'S HORSEPEN BR. HYDROGRAPH BELOW CONF. WITH F121-02-01									
220	HC	2									
221	KK	F121#1									
222	KM	ROUTE COMBINED HARPER'S HORSEPEN BR. HYD. TO CONF. WITH WHITE OAK CREEK									
223	RS	10	STOR	-1							
224	SV	0	329	555	770	1000	1208	1397			
225	SQ	0	310	620	930	1240	1550	1860			
226	KK	F12102C									
227	KM	HARPER'S HORSEPEN BRANCH: SUB-AREA C RUNOFF HYDROGRAPH									
228	BA	1.28									
229	LE	0.2	2.5	2.0	0.55	2					
230	UC	8.99	14.67								
231	KK	F121#1									
232	KM	COMBINED HARPERS HORSEPEN BRANCH HYDROGRAPH AT WHITE OAK CREEK									
233	HC	2									
234	KK	F121#1									
235	KM	COMBINED WHITE OAK CR. HYDROGRAPH BELOW CONF. WITH HARPER'S HORSEPEN BR.									
236	HC	2									

LINE	ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
237	KK F121#2
238	KM ROUTE COMBINED HYDROGRAPH TO MOUTH OF WHITE OAK CREEK
239	RS 3 STOR -1
240	SV 0 106 209 310 410 511 615
241	SQ 0 420 840 1260 1680 2100 2520
242	KK F121B
243	KM WHITE OAK CREEK: SUB-AREA B RUNOFF HYDROGRAPH
244	BA 1.17
245	LE 0.2 2.5 2.0 0.55 2
246	UC 8.30 4.62
247	KK F121#2
248	KM COMBINED WHITE OAK CREEK HYDROGRAPH AT MOUTH
249	HC 2
250	KK 46
251	KM COMBINE THREE AT 46
252	HC 3
253	KK 47
254	KM ROUTE FROM 46 TO 47
255	RS 6 FLOW -1
256	SV 0 1680 3290 5428 9787 14365 18713 27319 37105 47302
257	SV 71126 93029 173233 240575 303803
258	SQ 0 1000 2500 5000 10000 15000 20000 30000 40000 50000
259	SQ 75000 100000 200000 300000 400000
260	KK 47
261	KM COMPUTE RUNOFF FROM AREA 470 AT 47
262	BA 44
263	LU 1.0 .10 3.3
264	UC 11.3 6.0
265	KK 47-WE2
266	KM COMBINE TWO AT 47.TOTAL FLOW FROM WEST FORK U/S OF SPRING CR
267	HC 2
	*
	* *****
	* WOODSON'S GULLY - TAN TROUGH GULLY WATERSHED
	* *****
	*
268	KK F109A
269	KM WOODSON'S GULLY: SUB-AREA A RUNOFF HYDROGRAPH
270	BA 2.80
271	LE 0.2 2.5 2.0 0.55 2
272	UC 8.61 11.73

LINE	ID.....	1.....	2.....	3.....	4.....	5.....	6.....	7.....	8.....	9.....	10
317	KK	F109#3									
318	KM	COMBINED HYDROGRAPH AT MOUTH OF WOODSON'S GULLY									
319	HC	2									
320	KK	47-WE2									
321	KM	COMBINE TWO AT 47.TOTAL FLOW FROM WEST FORK U/S OF SPRING CR									
322	HC	2									
323	KK	9									
324	KM	BEGIN CYPRESS CREEK									
325	KM	COMPUTE RUNOFF FROM AREA 90 AT 9									
326	BA	101									
327	LU	1.0	.10	1.3							
328	UC	19.3	8.4								
329	KK	9									
330	KM	DIVERT FLOW TO SOUTHERN DIVIDE									
331	DT	DIVERT									
332	DI	0	5000	9500	16700	41971	77291	180000			
333	DQ	0	0	2500	6700	26971	57291	150000			
334	KK	10									
335	KM	ROUTE FROM 9 TO 10									
336	RS	4	FLOW	-1							
337	SV	0	5578	8644	13147	20330	26239	36269	45645	54538	
338	SQ	0	5000	8000	12000	18000	25000	40000	55000	70000	
339	KK	10									
340	KM	COMPUTE RUNOFF FROM AREA 100 AT 10									
341	BA	39									
342	LU	1.0	.10	1.3							
343	UC	10.7	5.3								
344	KK	10									
345	KM	COMBINE TWO AT 10									
346	HC	2									
347	KK	10									
348	KM	DIVERT FLOW									
349	DT	DIVERT									
350	DI	0	15000	80650							
351	DQ	0	0	60650							
352	KK	11									
353	KM	ROUTE FROM 10 TO 11									
354	RS	4	FLOW	-1							
355	SV	0	3616	5439	7763	10678	13877	20525	27030	33491	56419
356	SQ	0	5000	8000	12000	18000	25000	40000	55000	70000	130000

LINE	ID	1	2	3	4	5	6	7	8	9	10
398	KK	13									
399	KM	COMBINE TWO AT 13									
400	HC	2									
401	KK	26									
402	KM	ROUTE FROM 13 TO 26									
403	RS	4	FLOW	-1							
404	SV	0	2284	3584	5651	8890	12515	19488	26013	31925	53479
405	SQ	0	5000	8000	12000	18000	25000	40000	55000	70000	130000
406	KK	26									
407	KM	COMPUTE RUNOFF FROM 140 AT 26									
408	BA	35									
409	LU	1.0	.10	7.1							
410	UC	6.5	4.2								
411	KK	26									
412	KM	COMBINE TWO AT 26 (TOTAL FLOW FROM CYPRESS CR)									
413	HC	2									
414	KK	21									
415	KM	BEGIN SPRINGCREEK WATERSHED									
416	KM	COMPUTE RUNOFF FROM AREA 210 AT 21									
417	BA	109									
418	LU	1.0	.10	1.1							
419	UC	19.6	8.4								
420	KK	21									
421	KM	COMPUTE RUNOFF FROM 220 AT 21									
422	BA	95									
423	LU	1.0	.10	1.9							
424	UC	19.5	8.8								
425	KK	21									
426	KM	COMBINE TWO AT 21									
427	HC	2									
428	KK	22									
429	KM	ROUTE FROM 21 TO 22									
430	RS	4	FLOW	-1							
431	SV	0	501	997	1923	3536	5545	7309	9966	14642	20841
432	SV	29522	35897	41809	55713	68044					
433	SQ	0	500	1000	2000	4000	7000	10000	15000	25000	40000
434	SQ	60000	80000	100000	150000	200000					
435	KK	23									
436	KM	ROUTE FROM 22 TO 23									
437	RS	4	FLOW	-1							
438	SV	0	1072	1983	3915	7666	12607	16829	23005	33697	47762
439	SV	66552	84312	100630	137064	169932					
440	SQ	0	500	1000	2000	4000	7000	10000	15000	25000	40000
441	SQ	60000	80000	100000	150000	200000					

LINE	ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
476	KK A110A
477	KM SAM BELL GULLY: RUNOFF HYDROGRAPH
478	BA 0.88
479	LE 0.2 2.5 2.0 0.55 15
480	UC 5.20 3.08
	*
	*

	DRAINAGE DISTRICT #6 CHANNEL III - SPRING OAKS CHANNEL WATERSHED

	*
	*
481	KK A109A
482	KM DRAINAGE DISTRICT #6 CHANNEL III: SUB-AREA A RUNOFF HYDROGRAPH
483	BA 1.36
484	LE 0.2 2.5 2.0 0.55 22
485	UC 3.37 2.20
486	KK A10903A
487	KM SPRING OAKS CHANNEL: RUNOFF HYDROGRAPH
488	BA 2.47
489	LE 0.2 2.5 2.0 0.55 27
490	UC 2.57 1.96
491	KK A109#1
492	KM COMBINED DD#6 CHANNEL III HYD. BELOW CONFLUENCE WITH SPRING OAKS CHANNEL
493	HC 2
494	KK A109#2
495	KM ROUTE COMBINED DD#6 CHANNEL III HYDROGRAPH TO RAYFORD ROAD
496	RS 1 STOR -1
497	SV 0 100 158 208 274 489 866
498	SQ 0 800 1600 2400 3200 4000 4800
499	KK A109B
500	KM DRAINAGE DISTRICT #6 CHANNEL III: SUB-AREA B RUNOFF HYDROGRAPH
501	BA 2.06
502	LE 0.2 2.5 2.0 0.55 16
503	UC 3.01 4.92
504	KK A109#2
505	KM COMBINED DD#6 CHANNEL III HYDROGRAPH AT RAYFORD ROAD
506	HC 2
507	KK A109#3
508	KM ROUTE COMBINED DD#6 CHANNEL III HYDROGRAPH TO MOUTH
509	RS 1 STOR -1
510	SV 0 93 152 204 253 319 426
511	SQ 0 960 1920 2880 3840 4800 5760

 *
 * FLOOD HYDROGRAPH PACKAGE (HEC-1) *
 * BY THE COE IN FEBRUARY 1981 *
 * REVISED 02 AUG 88 *
 *
 * RUN DATE 09/01/1989 TIME 14:48:08 *
 *

 *
 * DODSON AND ASSOCIATES, INC. *
 * HYDROLOGIST AND CIVIL ENGINEERS *
 * 7015 W TIDWELL SUITE 107 *
 * HOUSTON, TEXAS 77092 *
 * (713) 895-8322 *
 *

SOUTHERN MONTGOMERY COUNTY FLOOD PROTECTION STUDY
 DODSON & ASSOCIATES, INC. SEPTEMBER, 1989
 SAN JACINTO RIVER WATERSHED
 100-YEAR, 48-HOUR STORM EVENT REVISED EXISTING CONDITIONS
 FILENAME = SJREX.IH1
 MODEL BASED ON COE LAKE CREEK RESERVOIR STUDY
 COE MODEL OF SAN JACINTO RIVER WATERSHED U/S OF BUFFALO BAYOU
 DATA FOR PLAN 2 = 1986 CONDITIONS WITH LAKE CONROE AND LAKE HOUSTON

10 IO OUTPUT CONTROL VARIABLES
 IPRNT 5 PRINT CONTROL
 IPLOT 0 PLOT CONTROL
 QSCAL 0. HYDROGRAPH PLOT SCALE

IT HYDROGRAPH TIME DATA
 NMIN 60 MINUTES IN COMPUTATION INTERVAL
 IDATE 21AUG89 STARTING DATE
 ITIME 0000 STARTING TIME
 NQ 200 NUMBER OF HYDROGRAPH ORDINATES
 NDDATE 29AUG89 ENDING DATE
 NDTIME 0700 ENDING TIME
 ICENT 19 CENTURY MARK

COMPUTATION INTERVAL 1.00 HOURS
 TOTAL TIME BASE 199.00 HOURS

ENGLISH UNITS
 DRAINAGE AREA SQUARE MILES
 PRECIPITATION DEPTH INCHES
 LENGTH, ELEVATION FEET
 FLOW CUBIC FEET PER SECOND
 STORAGE VOLUME ACRE-FEET
 SURFACE AREA ACRES
 TEMPERATURE DEGREES FAHRENHEIT

RUNOFF SUMMARY
 FLOW IN CUBIC FEET PER SECOND
 TIME IN HOURS, AREA IN SQUARE MILES

OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD			BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
				6-HOUR	24-HOUR	72-HOUR			
HYDROGRAPH AT	41	53475.	38.00	51926.	36502.	14317.	184.00		
ROUTED TO	42	42474.	48.00	41473.	32469.	14305.	184.00		
HYDROGRAPH AT	42	80088.	38.00	77836.	55395.	22291.	267.00		
2 COMBINED AT	42	99158.	40.00	97316.	80166.	36519.	451.00		
ROUTED TO	42	77927.	48.00	74989.	51285.	25150.	451.00		
ROUTED TO	44	70043.	55.00	67405.	48574.	24994.	451.00		
HYDROGRAPH AT	44	17998.	30.00	15956.	7926.	2761.	35.00		
2 COMBINED AT	44	70099.	55.00	67470.	48625.	25322.	486.00		
HYDROGRAPH AT	31	20942.	48.00	20742.	17947.	8841.	115.00		
ROUTED TO	32	20727.	52.00	20527.	17718.	8771.	115.00		
HYDROGRAPH AT	32	25187.	44.00	24829.	20157.	8972.	116.00		
2 COMBINED AT	32	43216.	47.00	42635.	35853.	17619.	231.00		
ROUTED TO	33	39780.	58.00	39290.	33102.	17374.	231.00		
HYDROGRAPH AT	33	26228.	39.00	25564.	18497.	7383.	95.00		
2 COMBINED AT	33	44424.	56.00	43861.	37572.	23879.	326.00		
ROUTED TO	44	43930.	58.00	43370.	37424.	23839.	326.00		
HYDROGRAPH AT	44	5199.	29.00	4287.	1834.	622.	8.00		
2 COMBINED AT	44	43930.	58.00	43371.	37426.	24233.	334.00		
2 COMBINED AT	44	111815.	56.00	109240.	86014.	49555.	820.00		
ROUTED TO	45	108261.	59.00	105340.	84766.	49228.	820.00		
HYDROGRAPH AT	45	5661.	28.00	4413.	1855.	631.	8.00		
2 COMBINED AT	45	108261.	59.00	105340.	84767.	49395.	828.00		
ROUTED TO	49	106420.	61.00	103673.	84103.	49259.	828.00		
HYDROGRAPH AT	49	22530.	30.00	19798.	9886.	3491.	43.00		
2 COMBINED AT	49	106440.	61.00	103696.	84126.	51237.	871.00		
HYDROGRAPH AT	F132A	546.	30.00	471.	217.	77.	.97		

ROUTED TO	F132#1	529.	31.00	460.	216.	77.	.97
HYDROGRAPH AT	F132B	1167.	28.00	911.	404.	148.	1.68
2 COMBINED AT	F132#1	1511.	28.00	1304.	616.	225.	2.65
HYDROGRAPH AT	F131A	772.	28.00	661.	336.	124.	1.46
3 COMBINED AT	49	106445.	61.00	103702.	84132.	51499.	875.11
ROUTED TO	46	104711.	63.00	102296.	83492.	51264.	875.11
HYDROGRAPH AT	46	16513.	37.00	15928.	10782.	4154.	53.00
2 COMBINED AT	46	105456.	63.00	102963.	84024.	54963.	928.11
HYDROGRAPH AT	F128A	756.	31.00	687.	394.	148.	1.82
HYDROGRAPH AT	F121A	1190.	31.00	1077.	599.	223.	2.70
HYDROGRAPH AT	F12102	1044.	31.00	945.	518.	189.	2.38
ROUTED TO	F12102	803.	43.00	779.	504.	189.	2.38
HYDROGRAPH AT	F12102	488.	33.00	461.	307.	125.	1.55
2 COMBINED AT	F12102	1051.	41.00	1032.	780.	314.	3.93
HYDROGRAPH AT	F12102	655.	32.00	609.	368.	139.	1.72
2 COMBINED AT	F12102	1396.	36.00	1384.	1131.	454.	5.65
ROUTED TO	F121#1	1363.	46.00	1348.	1088.	454.	5.65
HYDROGRAPH AT	F12102	289.	34.00	277.	212.	100.	1.28
2 COMBINED AT	F121#1	1543.	45.00	1524.	1250.	553.	6.93
2 COMBINED AT	F121#1	1796.	43.00	1773.	1590.	774.	9.63
ROUTED TO	F121#2	1776.	45.00	1757.	1575.	774.	9.63
HYDROGRAPH AT	F121B	497.	32.00	456.	254.	93.	1.17
2 COMBINED AT	F121#2	1868.	44.00	1853.	1747.	866.	10.80
3 COMBINED AT	46	106122.	63.00	103572.	84554.	55903.	940.73
ROUTED TO	47	94704.	75.00	93457.	80881.	55238.	940.73
HYDROGRAPH AT	47	16404.	34.00	15526.	9417.	3455.	44.00
2 COMBINED AT	47-WE2	94706.	75.00	93459.	80887.	56476.	984.73
HYDROGRAPH AT	F109A	734.	33.00	700.	505.	221.	2.80
ROUTED TO	F109#1	710.	37.00	682.	496.	221.	2.80
HYDROGRAPH AT	F109B	863.	32.00	816.	555.	229.	2.90

2 COMBINED AT	F109#1	1457.	35.00	1411.	1024.	449.	5.70
ROUTED TO	F109#2	1369.	43.00	1318.	981.	449.	5.70
HYDROGRAPH AT	F109C	411.	35.00	393.	277.	116.	1.46
2 COMBINED AT	F109#2	1630.	42.00	1574.	1171.	561.	7.16
HYDROGRAPH AT	F10902	581.	33.00	549.	388.	166.	2.10
2 COMBINED AT	F109#2	1983.	42.00	1910.	1472.	726.	9.26
ROUTED TO	F109#3	1912.	45.00	1855.	1462.	725.	9.26
HYDROGRAPH AT	F109D	578.	32.00	541.	340.	132.	1.66
2 COMBINED AT	F109#3	2099.	45.00	2046.	1686.	854.	10.92
2 COMBINED AT	47-WE2	95064.	75.00	93818.	81196.	57203.	995.65
HYDROGRAPH AT	9	26455.	40.00	25858.	19215.	7855.	101.00
DIVERSION TO	DIVERT	14525.	40.00	14046.	9036.	3124.	101.00
HYDROGRAPH AT	9	11930.	40.00	11812.	10179.	4730.	101.00
ROUTED TO	10	10397.	53.00	10305.	9151.	4711.	101.00
HYDROGRAPH AT	10	15465.	33.00	14529.	8458.	3033.	39.00
2 COMBINED AT	10	17385.	34.00	16574.	13443.	7700.	140.00
DIVERSION TO	DIVERT	2203.	34.00	1473.	379.	126.	140.00
HYDROGRAPH AT	10	15182.	34.00	15101.	13064.	7574.	140.00
ROUTED TO	11	14362.	42.00	14091.	12548.	7537.	140.00
HYDROGRAPH AT	11	6741.	33.00	6333.	3687.	1322.	17.00
2 COMBINED AT	11	17423.	40.00	17068.	14417.	8798.	157.00
DIVERSION TO	DIVERT	398.	40.00	239.	60.	20.	157.00
HYDROGRAPH AT	11	17025.	40.00	16829.	14357.	8778.	157.00
ROUTED TO	12	16717.	44.00	16438.	14097.	8753.	157.00
HYDROGRAPH AT	12	23358.	38.00	22654.	15897.	6265.	80.00
2 COMBINED AT	12	36996.	40.00	35671.	27654.	14872.	237.00
DIVERSION TO	DIVERT	0.	40.00	0.	0.	0.	237.00
HYDROGRAPH AT	12	36996.	40.00	35671.	27654.	14872.	237.00
ROUTED TO	13	32295.	49.00	31692.	25820.	14716.	237.00
HYDROGRAPH AT	13	27466.	29.00	23632.	11173.	3912.	48.00

2 COMBINED AT	13	32781.	48.00	32169.	26497.	17979.	285.00
ROUTED TO	26	31287.	54.00	30769.	26166.	17893.	285.00
HYDROGRAPH AT	26	17793.	30.00	15804.	7964.	2800.	35.00
2 COMBINED AT	26	32187.	33.00	31274.	27056.	20373.	320.00
HYDROGRAPH AT	21	28343.	40.00	27717.	20675.	8468.	109.00
HYDROGRAPH AT	21	24374.	40.00	23839.	17864.	7408.	95.00
2 COMBINED AT	21	52717.	40.00	51556.	38539.	15875.	204.00
ROUTED TO	22	50275.	45.00	49186.	37364.	15847.	204.00
ROUTED TO	23	40475.	57.00	39746.	31937.	15574.	204.00
HYDROGRAPH AT	23	24063.	44.00	23707.	19194.	8724.	112.00
HYDROGRAPH AT	23	21623.	34.00	20466.	12414.	4555.	58.00
3 COMBINED AT	23	53841.	54.00	53109.	45492.	28065.	374.00
ROUTED TO	25	52613.	57.00	51952.	45228.	27827.	374.00
HYDROGRAPH AT	25	18729.	33.00	17474.	10084.	3667.	46.00
2 COMBINED AT	25	53092.	57.00	52446.	46610.	31110.	420.00
HYDROGRAPH AT	A111A	740.	27.00	496.	199.	73.	.80
HYDROGRAPH AT	A110A	506.	29.00	428.	204.	74.	.88
HYDROGRAPH AT	A109A	976.	28.00	752.	324.	118.	1.36
HYDROGRAPH AT	A10903	1915.	27.00	1424.	598.	219.	2.47
2 COMBINED AT	A109#1	2815.	27.00	2176.	922.	337.	3.83
ROUTED TO	A109#2	2646.	28.00	2113.	919.	337.	3.83
HYDROGRAPH AT	A109B	1043.	28.00	893.	467.	174.	2.06
2 COMBINED AT	A109#2	3689.	28.00	3006.	1385.	511.	5.89
ROUTED TO	A109#3	3596.	29.00	2930.	1381.	511.	5.89
HYDROGRAPH AT	A109C	827.	28.00	652.	296.	107.	1.27
2 COMBINED AT	A109#3	4333.	29.00	3574.	1675.	618.	7.16
4 COMBINED AT	25	53132.	57.00	52493.	46848.	31776.	428.84
ROUTED TO	26	50853.	66.00	50398.	46397.	31552.	428.84
HYDROGRAPH AT	26	9876.	32.00	9063.	4913.	1754.	22.00
2 COMBINED AT	26	50858.	66.00	50403.	46486.	32672.	450.84

2 COMBINED AT	26	74299.	61.00	74226.	72336.	52825.	770.84
ROUTED TO	47	74264.	63.00	74198.	72174.	52668.	770.84
HYDROGRAPH AT	47	3440.	28.00	2748.	1151.	390.	5.00
2 COMBINED AT	47	74264.	63.00	74198.	72174.	52854.	775.84
2 COMBINED AT	47	157780.	73.00	156109.	140098.	109253.	1771.49
HYDROGRAPH AT	71	75015.	42.00	73688.	57861.	25506.	325.00
ROUTED TO	72	60695.	57.00	59814.	50393.	25173.	325.00
HYDROGRAPH AT	72	18821.	37.00	18183.	12369.	4771.	61.00
2 COMBINED AT	72	62701.	57.00	61866.	52701.	29336.	386.00
HYDROGRAPH AT	51	29711.	38.00	28884.	20607.	8230.	105.00
ROUTED TO	52	24097.	51.00	23650.	18801.	8213.	105.00
HYDROGRAPH AT	52	24868.	36.00	23971.	16124.	6207.	79.00
2 COMBINED AT	52	31296.	46.00	31190.	29214.	14371.	184.00
HYDROGRAPH AT	61	32725.	38.00	31830.	22852.	9191.	117.00
ROUTED TO	52	30283.	44.00	29503.	21999.	9187.	117.00
HYDROGRAPH AT	52	17688.	33.00	16563.	9560.	3441.	44.00
2 COMBINED AT	52	35177.	42.00	34647.	28699.	12618.	161.00
2 COMBINED AT	52	66241.	42.00	65798.	57544.	26986.	345.00
ROUTED TO	72	65986.	44.00	65478.	57187.	26980.	345.00
HYDROGRAPH AT	72	12124.	32.00	11183.	6196.	2218.	28.00
2 COMBINED AT	72	68571.	42.00	68149.	60812.	29179.	373.00
2 COMBINED AT	72	111904.	52.00	110884.	100981.	58269.	759.00
HYDROGRAPH AT	81	31855.	38.00	30970.	22025.	8737.	112.00
ROUTED TO	82	22219.	56.00	21869.	18008.	8631.	112.00
HYDROGRAPH AT	82	31463.	39.00	30705.	22492.	9097.	117.00
2 COMBINED AT	82	34520.	42.00	34066.	31546.	17547.	229.00
3 COMBINED AT	82	264559.	52.00	262562.	244473.	183475.	2759.49
ROUTED TO	82	257197.	59.00	255791.	241253.	177718.	2759.49
HYDROGRAPH AT	91	43634.	32.00	40125.	22203.	8086.	98.00
2 COMBINED AT	91	257533.	59.00	256163.	241832.	178991.	2857.49

ROUTED TO	91	255692.	61.00	254299.	239247.	171298.	2857.49
ROUTED TO	92	254063.	64.00	252506.	236860.	170367.	2857.49
HYDROGRAPH AT	92	5912.	28.00	4561.	1891.	651.	8.00
2 COMBINED AT	92-SJ1	254063.	64.00	252506.	236860.	170367.	2865.49
ROUTED TO	93	250312.	70.00	248615.	233230.	166819.	2865.49
HYDROGRAPH AT	93	25055.	32.00	23071.	12953.	4761.	57.00
2 COMBINED AT	93	250327.	70.00	248627.	233241.	166830.	2922.49

*** NORMAL END OF HEC-1 ***

LINE	ID	1	2	3	4	5	6	7	8	9	10
1	ID	SOUTHERN MONTGOMERY COUNTY FLOOD PROTECTION STUDY									
2	ID	DODSON & ASSOCIATES, INC. SEPTEMBER, 1989									
3	ID	SAN JACINTO RIVER WATERSHED									
4	ID	100-YEAR, 48-HOUR STORM EVENT INTERIM CONDITIONS IN STUDY AREA									
5	ID	FILENAME = SJRINT.IH1									
	*										
6	ID	MODEL BASED ON COE LAKE CREEK RESERVOIR STUDY									
7	ID	COE MODEL OF SAN JACINTO RIVER WATERSHED U/S OF BUFFALO BAYOU									
8	ID	DATA FOR PLAN 2 = 1986 CONDITIONS WITH LAKE CONROE AND LAKE HOUSTON									
	*										
9	IT	60	21AUG89	0000	200						
10	IO	5									
11	KK	41									
12	KM	BEGIN WEST FORK SAN JACINTO RIVER									
13	IN	120	21AUG89	0000							
14	PB	12.95									
15	PI	.12	.13	.14	.15	.17	.19	.28	.33	.38	.62
16	PI	.82	1.58	4.29	1.03	.70	.43	.35	.30	.20	.18
17	PI	.16	.15	.14	.13						
18	BA	184									
19	LU	1.0	.10	1.4							
20	UC	16.7	7.6								
21	KK	42									
22	KM	ROUTE FROM 41 TO 42									
23	KM	FOR PLAN 2,3, AND 4 USE 2/3 OF SV TO SHOW LAKE EFFECTS ON TRAVEL TIME									
24	RS	4	FLOW	-1							
25	SV	0	1001	2020	3937	9038	14746	20380	30337	39187	47642
26	SV	65518	81246	134065	174074	209945					
27	SQ	0	1000	2500	5000	10000	15000	20000	30000	40000	50000
28	SQ	75000	100000	200000	300000	400000					
29	KK	42									
30	KM	COMPUTE RUNOFF FROM AREA 420 AT 42									
31	BA	267									
32	LU	1.0	.10	16.4							
33	UC	16.7	7.6								
34	KK	42									
35	KM	COMBINE TWO AT 42									
36	HC	2									
37	KK	42									
38	KM	LAKE CONROE ROUTING									
39	RS	1	STOR	409500							
40	SV	0	370	65000	175000	430260	440000	445000	450000	465000	475000
41	SV	490000	500000	510000	532000	545000	567000	595000	620000	650000	
42	SQ	0	0	0	0	0	1000	1500	2000	2500	6100
43	SQ	11500	13300	17200	144000	148000	155000	162000	169000	177000	

LINE	ID	.....1	.....2	.....3	.....4	.....5	.....6	.....7	.....8	.....9	.....10
44	KK	44									
45	KM	ROUTE FROM 42 TO 44									
46	RS	4	FLOW	-1							
47	SV	0	716	1385	2619	5913	9491	13046	18801	23792	29018
48	SV	39227	48121	77587	99273	118263					
49	SQ	0	1000	2500	5000	10000	15000	20000	30000	40000	50000
50	SQ	75000	100000	200000	300000	400000					
51	KK	44									
52	KM	COMPUTE RUNOFF FROM AREA 440 AT 44									
53	BA	35									
54	LU	1.0	.10	4.2							
55	UC	6.6	4.0								
56	KK	44									
57	KM	COMBINE TWO AT 44									
58	HC	2									
59	KK	31									
60	KM	BEGIN LAKE CREEK									
61	KM	COMPUTE RUNOFF FROM AREA 310 AT 31									
62	BA	115									
63	LU	1.0	.10	0.3							
64	UC	31.8	11.0								
65	KK	32									
66	KM	ROUTE FROM 31 TO 32									
67	RS	4	FLOW	-1							
68	SV	0	712	1165	1914	3205	4675	5919	7719	10794	14701
69	SV	19244	22967	26390	34122	40927					
70	SQ	0	500	1000	2000	4000	7000	10000	15000	25000	40000
71	SQ	60000	80000	100000	150000	200000					
72	KK	32									
73	KM	COMPUTE RUNOFF FROM AREA 320 AT 32									
74	BA	116									
75	LU	1.0	.10	0.4							
76	UC	25.5	9.5								
77	KK	32									
78	KM	COMBINE TWO AT 32									
79	HC	2									
80	KK	33									
81	KM	ROUTE FROM 32 TO 33									
82	RS	6	FLOW	-1							
83	SV	0	830	1366	2798	6692	12162	16568	22897	33449	46415
84	SV	61386	75246	88324	118287	145466					
85	SQ	0	500	1000	2000	4000	7000	10000	15000	25000	40000
86	SQ	60000	80000	100000	150000	200000					

LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

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162      KK  F131A
163      KM          GLENEAGLES DIVERSION DITCH:  RUNOFF HYDROGRAPH
164      BA    1.46
165      LE    0.2    2.5    2.0    0.55    18
166      UC    3.39    4.39

167      KK    49
168      KM          COMBINE THREE AT 49
169      HC    3

170      KK    46
171      KM          ROUTE FROM 49 TO 46
172      RS    2    FLOW    -1
173      SV    0    253    520    865    1806    3332    4869    7729    10276    12522
174      SV  17278  21363  36567  49065  60324
175      SQ    0    1000    2500    5000    10000    15000    20000    30000    40000    50000
176      SQ  75000  100000  200000  300000  400000

177      KK    46
178      KM          COMPUTE RUNOFF FROM 460 AT 46
179      BA    53
180      LU    1.0    .10    2.9
181      UC    14.7    7.3

182      KK    46
183      KM          COMBINE TWO AT 46
184      HC    2
      *
      * *****
      * CARTER'S SLOUGH WATERSHED
      * *****
      *

185      KK  F128A
186      KM          CARTER'S SLOUGH:  RUNOFF HYDROGRAPH
187      BA    1.82
188      LE    0.2    2.5    2.0    0.55    7
189      UC    6.96    5.56
      *
      * *****
      * HARPER'S HORSEPEN BRANCH WATERSHED
      * *****
      *

190      KK  F126A
191      KM          HARPER'S HORSEPEN BRANCH:  SUB-AREA A RUNOFF HYDROGRAPH
192      BA    2.38
193      LE    0.2    2.5    2.0    0.55    3
194      UC    7.45    4.63
    
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LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

195 KK F126#1
196 KM ROUTE HARPER'S HORSEPEN BR. SUB-AREA A HYD. TO CONF. WITH F126-01-00
197 RS 45 STOR -1
198 SV 0 224 419 652 949 1300 1465
199 SQ 0 260 510 770 1020 1280 1540

200 KK F126B
201 KM HARPER'S HORSEPEN BRANCH: SUB-AREA B RUNOFF HYDROGRAPH
202 BA 1.55
203 LE 0.2 2.5 2.0 0.55 6
204 UC 8.34 8.82

205 KK F126#1
206 KM COMBINED HARPER'S HORSEPEN BR. HYDROGRAPH ABOVE CONF. WITH F126-01-00
207 HC 2

208 KK F12601A
209 KM HARPER'S HORSEPEN BRANCH - TRIBUTARY F126-01-00: RUNOFF HYDROGRAPH
210 BA 1.72
211 LE 0.2 2.5 2.0 0.55 7
212 UC 8.74 5.93

213 KK F126#1
214 KM COMBINED HARPER'S HORSEPEN BR. HYDROGRAPH BELOW CONF. WITH F126-01-00
215 HC 2

216 KK F126#2
217 KM ROUTE COMBINED HARPER'S HORSEPEN BR. HYD. TO CONF. WITH WEST FORK SJR
218 RM 5 1.1 0.2

219 KK F126C
220 KM HARPER'S HORSEPEN BRANCH: SUB-AREA C RUNOFF HYDROGRAPH
221 BA .87
222 LE 0.2 2.5 2.0 0.55 2
223 UC 4.59 4.05

224 KK F126#2
225 KM COMBINED HARPER'S HORSEPEN BR. HYDROGRAPH AT WEST FORK SAN JACINTO R.
226 HC 2
*
* *****
* WHITE OAK CREEK WATERSHED
* *****
*

227 KK F121A
228 KM WHITE OAK CREEK: SUB-AREA A RUNOFF HYDROGRAPH
229 BA 2.70
230 LE 0.2 2.5 2.0 0.55 11
231 UC 3.42 2.51

LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

232 KK F12102A

233 KM TRIBUTARY F121-02-00: RUNOFF HYDROGRAPH

234 BA 0.99

235 LE 0.2 2.5 2.0 0.55 2

236 UC 8.99 14.67

237 KK F121#1

238 KM COMBINED WHITE OAK CR. HYDROGRAPH BELOW CONF. WITH F121-02-00

239 HC 2

240 KK F121#2

241 KM ROUTE COMBINED HYDROGRAPH TO MOUTH OF WHITE OAK CREEK

242 RM 4 1.0 0.2

243 KK F121B

244 KM WHITE OAK CREEK: SUB-AREA B RUNOFF HYDROGRAPH

245 BA 1.17

246 LE 0.2 2.5 2.0 0.55 2

247 UC 3.79 2.11

248 KK F121#2

249 KM COMBINED WHITE OAK CREEK HYDROGRAPH AT MOUTH

250 HC 2

251 KK 46

252 KM COMBINE FOUR AT 46

253 HC 4

254 KK 47

255 KM ROUTE FROM 46 TO 47

256 RS 6 FLOW -1

257 SV 0 1680 3290 5428 9787 14365 18713 27319 37105 47302

258 SV 71126 93029 173233 240575 303803

259 SQ 0 1000 2500 5000 10000 15000 20000 30000 40000 50000

260 SQ 75000 100000 200000 300000 400000

261 KK 47

262 KM COMPUTE RUNOFF FROM AREA 470 AT 47

263 BA 43.4

264 LU 1.0 .10 3.3

265 UC 11.3 6.0

266 KK 47-WE2

267 KM COMBINE TWO AT 47.TOTAL FLOW FROM WEST FORK U/S OF SPRING CR

268 HC 2

*
* *****
* WOODSON'S GULLY - TAN TROUGH GULLY WATERSHED
* *****
*

LINE	ID	1	2	3	4	5	6	7	8	9	10
269	KK	F109A									
270	KM	WOODSON'S GULLY: SUB-AREA A RUNOFF HYDROGRAPH									
271	BA	2.80									
272	LE	0.2	2.5	2.0	0.55	2					
273	UC	8.61	11.73								
274	KK	F109#1									
275	KM	ROUTE TO CONFLUENCE WITH F109-03-00 (BELOW RILEY-FUSSEL ROAD)									
276	RS	5	STOR	-1							
277	SV	0	94	148	202	255	303	349			
278	SQ	0	200	400	600	800	1000	1200			
279	KK	F109B									
280	KM	WOODSON'S GULLY: SUB-AREA B RUNOFF HYDROGRAPH									
281	BA	2.90									
282	LE	0.2	2.5	2.0	0.55	2					
283	UC	7.84	9.70								
284	KK	F109#1									
285	KM	COMBINED WOODSON'S GULLY HYDROGRAPH BELOW CONFLUENCE WITH F109-03-00									
286	HC	2									
287	KK	F109#2									
288	KM	ROUTE COMBINED HYD. TO CONFLUENCE WITH TAN TROUGH GULLY (F109-02-00)									
289	RS	10	STOR	-1							
290	SV	0	383	689	945	1178	1384	1579			
291	SQ	0	380	770	1150	1540	1920	2300			
292	KK	F109C									
293	KM	WOODSON'S GULLY: SUB-AREA C RUNOFF HYDROGRAPH									
294	BA	1.46									
295	LE	0.2	2.5	2.0	0.55	2					
296	UC	11.53	9.44								
297	KK	F109#2									
298	KM	COMBINED WOODSON'S GULLY HYDROGRAPH ABOVE CONF. WITH TAN TROUGH GULLY									
299	HC	2									
300	KK	F10902A									
301	KM	TAN TROUGH GULLY: RUNOFF HYDROGRAPH									
302	BA	2.10									
303	LE	0.2	2.5	2.0	0.55	2					
304	UC	8.37	10.85								
305	KK	F109#2									
306	KM	COMBINED WOODSON'S GULLY HYDROGRAPH BELOW CONF. WITH TAN TROUGH GULLY									
307	HC	2									
308	KK	F109#3									
309	KM	ROUTE COMBINED HYDROGRAPH TO MOUTH OF WOODSON'S GULLY									
310	RS	3	STOR	-1							
311	SV	0	179	309	436	568	699	822			
312	SQ	0	530	1050	1580	2100	2630	3160			

LINE	ID	1	2	3	4	5	6	7	8	9	10
313	KK	F109D									
314	KM	WOODSON'S GULLY: SUB-AREA D RUNOFF HYDROGRAPH									
315	BA	1.66									
316	LE	0.2	2.5	2.0	0.55	2					
317	UC	8.46	7.09								
318	KK	F109#3									
319	KM	COMBINED HYDROGRAPH AT MOUTH OF WOODSON'S GULLY									
320	HC	2									
321	KK	47-WE2									
322	KM	COMBINE TWO AT 47. TOTAL FLOW FROM WEST FORK U/S OF SPRING CR									
323	HC	2									
324	KK	9									
325	KM	BEGIN CYPRESS CREEK									
326	KM	COMPUTE RUNOFF FROM AREA 90 AT 9									
327	BA	101									
328	LU	1.0	.10	1.3							
329	UC	19.3	8.4								
330	KK	9									
331	KM	DIVERT FLOW TO SOUTHERN DIVIDE									
332	DT	DIVERT									
333	DI	0	5000	9500	16700	41971	77291	180000			
334	DQ	0	0	2500	6700	26971	57291	150000			
335	KK	10									
336	KM	ROUTE FROM 9 TO 10									
337	RS	4	FLOW	-1							
338	SV	0	5578	8644	13147	20330	26239	36269	45645	54538	
339	SQ	0	5000	8000	12000	18000	25000	40000	55000	70000	
340	KK	10									
341	KM	COMPUTE RUNOFF FROM AREA 100 AT 10									
342	BA	39									
343	LU	1.0	.10	1.3							
344	UC	10.7	5.3								
345	KK	10									
346	KM	COMBINE TWO AT 10									
347	HC	2									
348	KK	10									
349	KM	DIVERT FLOW									
350	DT	DIVERT									
351	DI	0	15000	80650							
352	DQ	0	0	60650							

LINE	ID	1	2	3	4	5	6	7	8	9	10
353	KK	11									
354	KM		ROUTE FROM 10 TO 11								
355	RS	4	FLOW	-1							
356	SV	0	3616	5439	7763	10678	13877	20525	27030	33491	56419
357	SQ	0	5000	8000	12000	18000	25000	40000	55000	70000	130000
358	KK	11									
359	KM		COMPUTE RUNOFF FROM AREA 110 AT 11								
360	BA	17									
361	LU	1.0	.10	1.3							
362	UC	10.7	5.3								
363	KK	11									
364	KM		COMBINE TWO HYDROGRAPHS AT 11								
365	HC	2									
366	KK	11									
367	KM		DIVERT FLOW TO SOUTH								
368	DT	DIVERT									
369	DI	0	16600	19311	32755	78724	134000	194683			
370	DQ	0	0	1311	7756	38724	78592	124700			
371	KK	12									
372	KM		ROUTE FROM 11 TO 12								
373	RS	4	FLOW	-1							
374	SV	0	2184	5328	7294	9784	15182	19861	24171	39302	
375	SQ	0	5000	12000	18000	25000	40000	55000	70000	130000	
376	KK	12									
377	KM		COMPUTE RUNOFF FROM AREA 120 AT 12								
378	BA	80									
379	LU	1.0	.10	2.7							
380	UC	16.2	7.8								
381	KK	12									
382	KM		COMBINE TWO AT 12								
383	HC	2									
384	KK	12									
385	KM		DIVERT FLOW TO SOUTH								
386	DT	DIVERT									
387	DI	0	54000	55643	77371	250937					
388	DQ	0	0	643	7371	120900					
389	KK	13									
390	KM		ROUTE FROM 12 TO 13								
391	RS	4	FLOW	-1							
392	SV	0	4497	11014	15983	21234	31034	39068	46371	56051	73268
393	SQ	0	5000	12000	18000	25000	40000	55000	70000	100000	130000

LINE	ID	1	2	3	4	5	6	7	8	9	10
394	KK	13									
395	KM	COMPUTE RUNOFF FROM AREA 130 AT 13									
396	BA	48									
397	LU	1.0	.10	11.0							
398	UC	5.2	3.6								
399	KK	13									
400	KM	COMBINE TWO AT 13									
401	HC	2									
402	KK	26									
403	KM	ROUTE FROM 13 TO 26									
404	RS	4	FLOW	-1							
405	SV	0	2284	3584	5651	8890	12515	19488	26013	31925	53479
406	SQ	0	5000	8000	12000	18000	25000	40000	55000	70000	130000
407	KK	26									
408	KM	COMPUTE RUNOFF FROM 140 AT 26									
409	BA	35									
410	LU	1.0	.10	7.1							
411	UC	6.5	4.2								
412	KK	26									
413	KM	COMBINE TWO AT 26 (TOTAL FLOW FROM CYPRESS CR)									
414	HC	2									
415	KK	21									
416	KM	BEGIN SPRINGCREEK WATERSHED									
417	KM	COMPUTE RUNOFF FROM AREA 210 AT 21									
418	BA	109									
419	LU	1.0	.10	1.1							
420	UC	19.6	8.4								
421	KK	21									
422	KM	COMPUTE RUNOFF FROM 220 AT 21									
423	BA	95									
424	LU	1.0	.10	1.9							
425	UC	19.5	8.8								
426	KK	21									
427	KM	COMBINE TWO AT 21									
428	HC	2									
429	KK	22									
430	KM	ROUTE FROM 21 TO 22									
431	RS	4	FLOW	-1							
432	SV	0	501	997	1923	3536	5545	7309	9966	14642	20841
433	SV	29522	35897	41809	55713	68044					
434	SQ	0	500	1000	2000	4000	7000	10000	15000	25000	40000
435	SQ	60000	80000	100000	150000	200000					

LINE	ID	1	2	3	4	5	6	7	8	9	10
436	KK	23									
437	KM		ROUTE FROM 22 TO 23								
438	RS	4	FLOW	-1							
439	SV	0	1072	1983	3915	7666	12607	16829	23005	33697	47762
440	SV	66552	84312	100630	137064	169932					
441	SQ	0	500	1000	2000	4000	7000	10000	15000	25000	40000
442	SQ	60000	80000	100000	150000	200000					
443	KK	23									
444	KM		COMPUTE RUNOFF FROM 230 AT 23								
445	BA	112									
446	LU	1.0	.10	2.3							
447	UC	24.3	10.6								
448	KK	23									
449	KM		COMPUTE RUNOFF FROM 240 AT 23								
450	BA	58									
451	LU	1.0	.10	3.3							
452	UC	11.3	6.0								
453	KK	23									
454	KM		COMBINE HYDROGRAPHS AT 23								
455	HC	3									
456	KK	25									
457	KM		ROUTE FROM 23 TO 25								
458	RS	2	FLOW	-1							
459	SV	0	256	482	1076	2344	4050	5606	7720	11276	15761
460	SV	21200	27461	32844	44172	54042					
461	SQ	0	500	1000	2000	4000	7000	10000	15000	25000	40000
462	SQ	60000	80000	100000	150000	200000					
463	KK	25									
464	KM		COMPUTE RUNOFF FROM 250 AT 25								
465	BA	46									
466	LU	1.0	.10	6.4							
467	UC	9.5	5.6								
468	KK	25									
469	KM		COMBINE TWO AT 25								
470	KM		SPRING CREEK NEAR SPRING 08068520								
471	HC	2									
	*										
	*		*****								
	*		DRAINAGE DISTRICT #6 CHANNEL II WATERSHED								
	*		*****								
	*										
472	KK	A111A									
473	KM		DRAINAGE DISTRICT #6 CHANNEL II: RUNOFF HYDROGRAPH								
474	BA	0.80									
475	LE	0.2	2.5	2.0	0.55	35					
476	UC	2.14	1.33								
	*										
	*		*****								

* SAM BELL GULLY WATERSHED
* *****
*

LINE	ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
477	KK A110A
478	KM SAM BELL GULLY: RUNOFF HYDROGRAPH
479	BA 0.88
480	LE 0.2 2.5 2.0 0.55 15
481	UC 5.20 3.08
	*
	*

	DRAINAGE DISTRICT #6 CHANNEL III - SPRING OAKS CHANNEL WATERSHED

	*
	*
482	KK A109A
483	KM DRAINAGE DISTRICT #6 CHANNEL III: SUB-AREA A RUNOFF HYDROGRAPH
484	BA 1.36
485	LE 0.2 2.5 2.0 0.55 22
486	UC 2.78 1.82
487	KK A10903A
488	KM SPRING OAKS CHANNEL: RUNOFF HYDROGRAPH
489	BA 2.47
490	LE 0.2 2.5 2.0 0.55 27
491	UC 2.06 1.58
492	KK A109#1
493	KM COMBINED DD#6 CHANNEL III HYD. BELOW CONFLUENCE WITH SPRING OAKS CHANNEL
494	HC 2
495	KK A109#2
496	KM ROUTE COMBINED DD#6 CHANNEL III HYDROGRAPH TO RAYFORD ROAD
497	RM 4 0.9 0.2
498	KK A109B
499	KM DRAINAGE DISTRICT #6 CHANNEL III: SUB-AREA B RUNOFF HYDROGRAPH
500	BA 2.06
501	LE 0.2 2.5 2.0 0.55 16
502	UC 2.60 4.24
503	KK A109#2
504	KM COMBINED DD#6 CHANNEL III HYDROGRAPH AT RAYFORD ROAD
505	HC 2
506	KK A109#3
507	KM ROUTE COMBINED DD#6 CHANNEL III HYDROGRAPH TO MOUTH
508	RM 3 0.8 0.2
509	KK A109C
510	KM DRAINAGE DISTRICT #6 CHANNEL III: SUB-AREA C RUNOFF HYDROGRAPH
511	BA 1.27
512	LE 0.2 2.5 2.0 0.55 16
513	UC 2.96 2.76

LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

514 KK A109#3
 515 KM COMBINED DRAINAGE DISTRICT #6 CHANNEL III HYDROGRAPH AT MOUTH
 516 HC 2

517 KK 25
 518 KM COMBINE FOUR AT 25
 519 KM SPRING CREEK NEAR SPRING 08068520
 520 HC 4

521 KK 26
 522 KM ROUTE FROM 25 TO 26
 523 RS 6 FLOW -1
 524 SV 0 770 1234 1997 3460 5689 8191 12609 21745 34597
 525 SV 49655 63411 76786 111955 144558
 526 SQ 0 500 1000 2000 4000 7000 10000 15000 25000 40000
 527 SQ 60000 80000 100000 150000 200000

528 KK 26
 529 KM COMPUTE RUNOFF FROM AREA 260 AT 26
 530 BA 22
 531 LU 1.0 .10 6.3
 532 UC 8.2 4.9

533 KK 26
 534 KM COMBINE HYDROGRAPHS TOTAL SPRING FLOW U/S OF CYPRESS
 535 HC 2

536 KK 26
 537 KM COMBINE HYDROGRAPHS AT 26 SPRING + CYPRESS
 538 HC 2

539 KK 47
 540 KM ROUTE FLOW FROM 26 TO 47
 541 RS 2 FLOW -1
 542 SV 0 295 438 698 1282 2075 2833 4095 6345 9255
 543 SV 12615 15725 18728 26200 32823
 544 SQ 0 500 1000 2000 4000 7000 10000 15000 25000 40000
 545 SQ 60000 80000 100000 150000 200000

546 KK 47
 547 KM COMPUTE RUNOFF FROM AREA 270 AT 47
 548 BA 5
 549 LU 1.0 .10 1.5
 550 UC 4.0 2.5

551 KK 47
 552 KM COMBINE TWO AT 47.(TOTAL FLOW FROM SPRING CR)
 553 HC 2

 *
 * FLOOD HYDROGRAPH PACKAGE (HEC-1) *
 * BY THE COE IN FEBRUARY 1981 *
 * REVISED 02 AUG 88 *
 *
 * RUN DATE 09/01/1989 TIME 15:21:14 *
 *

 *
 * DODSON AND ASSOCIATES, INC. *
 * HYDROLOGIST AND CIVIL ENGINEERS *
 * 7015 W TIDWELL SUITE 107 *
 * HOUSTON, TEXAS 77092 *
 * (713) 895-8322 *
 *

SOUTHERN MONTGOMERY COUNTY FLOOD PROTECTION STUDY
 DODSON & ASSOCIATES, INC. SEPTEMBER, 1989
 SAN JACINTO RIVER WATERSHED
 100-YEAR, 48-HOUR STORM EVENT INTERIM CONDITIONS IN STUDY AREA
 FILENAME = SJRINT.IH1
 MODEL BASED ON COE LAKE CREEK RESERVOIR STUDY
 COE MODEL OF SAN JACINTO RIVER WATERSHED U/S OF BUFFALO BAYOU
 DATA FOR PLAN 2 = 1986 CONDITIONS WITH LAKE CONROE AND LAKE HOUSTON

10 IO OUTPUT CONTROL VARIABLES

IPRNT 5 PRINT CONTROL
 IPLOT 0 PLOT CONTROL
 QSCAL 0. HYDROGRAPH PLOT SCALE

IT HYDROGRAPH TIME DATA

NMIN 60 MINUTES IN COMPUTATION INTERVAL
 IDATE 21AUG89 STARTING DATE
 ITIME 0000 STARTING TIME
 NQ 200 NUMBER OF HYDROGRAPH ORDINATES
 NDDATE 29AUG89 ENDING DATE
 NDTIME 0700 ENDING TIME
 ICENT 19 CENTURY MARK

COMPUTATION INTERVAL 1.00 HOURS
 TOTAL TIME BASE 199.00 HOURS

ENGLISH UNITS

DRAINAGE AREA SQUARE MILES
 PRECIPITATION DEPTH INCHES
 LENGTH, ELEVATION FEET
 FLOW CUBIC FEET PER SECOND
 STORAGE VOLUME ACRE-FEET
 SURFACE AREA ACRES
 TEMPERATURE DEGREES FAHRENHEIT

RUNOFF SUMMARY
 FLOW IN CUBIC FEET PER SECOND
 TIME IN HOURS, AREA IN SQUARE MILES

OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD			BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
				6-HOUR	24-HOUR	72-HOUR			
HYDROGRAPH AT	41	53475.	38.00	51926.	36502.	14317.	184.00		
ROUTED TO	42	42474.	48.00	41473.	32469.	14305.	184.00		
HYDROGRAPH AT	42	80088.	38.00	77836.	55395.	22291.	267.00		
2 COMBINED AT	42	99158.	40.00	97316.	80166.	36519.	451.00		
ROUTED TO	42	77927.	48.00	74989.	51285.	25150.	451.00		
ROUTED TO	44	70043.	55.00	67405.	48574.	24994.	451.00		
HYDROGRAPH AT	44	17998.	30.00	15956.	7926.	2761.	35.00		
2 COMBINED AT	44	70099.	55.00	67470.	48625.	25322.	486.00		
HYDROGRAPH AT	31	20942.	48.00	20742.	17947.	8841.	115.00		
ROUTED TO	32	20727.	52.00	20527.	17718.	8771.	115.00		
HYDROGRAPH AT	32	25187.	44.00	24829.	20157.	8972.	116.00		
2 COMBINED AT	32	43216.	47.00	42635.	35853.	17619.	231.00		
ROUTED TO	33	39780.	58.00	39290.	33102.	17374.	231.00		
HYDROGRAPH AT	33	26228.	39.00	25564.	18497.	7383.	95.00		
2 COMBINED AT	33	44424.	56.00	43861.	37572.	23879.	326.00		
ROUTED TO	44	43930.	58.00	43370.	37424.	23839.	326.00		
HYDROGRAPH AT	44	5199.	29.00	4287.	1834.	622.	8.00		
2 COMBINED AT	44	43930.	58.00	43371.	37426.	24233.	334.00		
2 COMBINED AT	44	111815.	56.00	109240.	86014.	49555.	820.00		
ROUTED TO	45	108261.	59.00	105340.	84766.	49228.	820.00		
HYDROGRAPH AT	45	5661.	28.00	4413.	1855.	631.	8.00		
2 COMBINED AT	45	108261.	59.00	105340.	84767.	49395.	828.00		
ROUTED TO	49	106420.	61.00	103673.	84103.	49259.	828.00		
HYDROGRAPH AT	49	22530.	30.00	19798.	9886.	3491.	43.00		
2 COMBINED AT	49	106440.	61.00	103696.	84126.	51237.	871.00		
HYDROGRAPH AT	F132A	546.	30.00	471.	217.	77.	.97		

ROUTED TO	F132#1	529.	31.00	460.	216.	77.	.97
HYDROGRAPH AT	F132B	1167.	28.00	911.	404.	148.	1.68
2 COMBINED AT	F132#1	1511.	28.00	1304.	616.	225.	2.65
HYDROGRAPH AT	F131A	772.	28.00	661.	336.	124.	1.46
3 COMBINED AT	49	106445.	61.00	103702.	84132.	51499.	875.11
ROUTED TO	46	104711.	63.00	102296.	83492.	51264.	875.11
HYDROGRAPH AT	46	16513.	37.00	15928.	10782.	4154.	53.00
2 COMBINED AT	46	105456.	63.00	102963.	84024.	54963.	928.11
HYDROGRAPH AT	F128A	756.	31.00	687.	394.	148.	1.82
HYDROGRAPH AT	F126A	1044.	31.00	945.	518.	189.	2.38
ROUTED TO	F126#1	915.	45.00	864.	515.	189.	2.38
HYDROGRAPH AT	F126B	488.	33.00	461.	307.	125.	1.55
2 COMBINED AT	F126#1	1114.	45.00	1088.	786.	314.	3.93
HYDROGRAPH AT	F12601	655.	32.00	609.	368.	139.	1.72
2 COMBINED AT	F126#1	1379.	39.00	1369.	1139.	454.	5.65
ROUTED TO	F126#2	1380.	39.00	1369.	1138.	454.	5.65
HYDROGRAPH AT	F126C	447.	29.00	383.	192.	69.	.87
2 COMBINED AT	F126#2	1517.	34.00	1503.	1300.	523.	6.52
HYDROGRAPH AT	F121A	1813.	28.00	1413.	622.	223.	2.70
HYDROGRAPH AT	F12102	224.	34.00	215.	164.	77.	.99
2 COMBINED AT	F121#1	1922.	28.00	1546.	760.	298.	3.69
ROUTED TO	F121#2	1897.	29.00	1537.	759.	298.	3.69
HYDROGRAPH AT	F121B	804.	28.00	621.	263.	93.	1.17
2 COMBINED AT	F121#2	2633.	29.00	2134.	1018.	391.	4.86
4 COMBINED AT	46	105642.	63.00	103128.	84162.	55812.	941.31
ROUTED TO	47	94221.	75.00	92963.	80442.	55148.	941.31
HYDROGRAPH AT	47	16180.	34.00	15314.	9289.	3408.	43.40
2 COMBINED AT	47-WE2	94223.	75.00	92965.	80448.	56425.	984.71
HYDROGRAPH AT	F109A	734.	33.00	700.	505.	221.	2.80
ROUTED TO	F109#1	710.	37.00	682.	496.	221.	2.80

HYDROGRAPH AT	F109B	863.	32.00	816.	555.	229.	2.90
2 COMBINED AT	F109#1	1457.	35.00	1411.	1024.	449.	5.70
ROUTED TO	F109#2	1369.	43.00	1318.	981.	449.	5.70
HYDROGRAPH AT	F109C	411.	35.00	393.	277.	116.	1.46
2 COMBINED AT	F109#2	1630.	42.00	1574.	1171.	561.	7.16
HYDROGRAPH AT	F10902	581.	33.00	549.	388.	166.	2.10
2 COMBINED AT	F109#2	1983.	42.00	1910.	1472.	726.	9.26
ROUTED TO	F109#3	1912.	45.00	1855.	1462.	725.	9.26
HYDROGRAPH AT	F109D	578.	32.00	541.	340.	132.	1.66
2 COMBINED AT	F109#3	2099.	45.00	2046.	1686.	854.	10.92
2 COMBINED AT	47-WE2	94580.	75.00	93324.	80756.	57166.	995.63
HYDROGRAPH AT	9	26455.	40.00	25858.	19215.	7855.	101.00
DIVERSION TO	DIVERT	14525.	40.00	14046.	9036.	3124.	101.00
HYDROGRAPH AT	9	11930.	40.00	11812.	10179.	4730.	101.00
ROUTED TO	10	10397.	53.00	10305.	9151.	4711.	101.00
HYDROGRAPH AT	10	15465.	33.00	14529.	8458.	3033.	39.00
2 COMBINED AT	10	17385.	34.00	16574.	13443.	7700.	140.00
DIVERSION TO	DIVERT	2203.	34.00	1473.	379.	126.	140.00
HYDROGRAPH AT	10	15182.	34.00	15101.	13064.	7574.	140.00
ROUTED TO	11	14362.	42.00	14091.	12548.	7537.	140.00
HYDROGRAPH AT	11	6741.	33.00	6333.	3687.	1322.	17.00
2 COMBINED AT	11	17423.	40.00	17068.	14417.	8798.	157.00
DIVERSION TO	DIVERT	398.	40.00	239.	60.	20.	157.00
HYDROGRAPH AT	11	17025.	40.00	16829.	14357.	8778.	157.00
ROUTED TO	12	16717.	44.00	16438.	14097.	8753.	157.00
HYDROGRAPH AT	12	23358.	38.00	22654.	15897.	6265.	80.00
2 COMBINED AT	12	36996.	40.00	35671.	27654.	14872.	237.00
DIVERSION TO	DIVERT	0.	40.00	0.	0.	0.	237.00
HYDROGRAPH AT	12	36996.	40.00	35671.	27654.	14872.	237.00
ROUTED TO	13	32295.	49.00	31692.	25820.	14716.	237.00

HYDROGRAPH AT	13	27466.	29.00	23632.	11173.	3912.	48.00
2 COMBINED AT	13	32781.	48.00	32169.	26497.	17979.	285.00
ROUTED TO	26	31287.	54.00	30769.	26166.	17893.	285.00
HYDROGRAPH AT	26	17793.	30.00	15804.	7964.	2800.	35.00
2 COMBINED AT	26	32187.	33.00	31274.	27056.	20373.	320.00
HYDROGRAPH AT	21	28343.	40.00	27717.	20675.	8468.	109.00
HYDROGRAPH AT	21	24374.	40.00	23839.	17864.	7408.	95.00
2 COMBINED AT	21	52717.	40.00	51556.	38539.	15875.	204.00
ROUTED TO	22	50275.	45.00	49186.	37364.	15847.	204.00
ROUTED TO	23	40475.	57.00	39746.	31937.	15574.	204.00
HYDROGRAPH AT	23	24063.	44.00	23707.	19194.	8724.	112.00
HYDROGRAPH AT	23	21623.	34.00	20466.	12414.	4555.	58.00
3 COMBINED AT	23	53841.	54.00	53109.	45492.	28065.	374.00
ROUTED TO	25	52613.	57.00	51952.	45228.	27827.	374.00
HYDROGRAPH AT	25	18729.	33.00	17474.	10084.	3667.	46.00
2 COMBINED AT	25	53092.	57.00	52446.	46610.	31110.	420.00
HYDROGRAPH AT	A111A	740.	27.00	496.	199.	73.	.80
HYDROGRAPH AT	A110A	506.	29.00	428.	204.	74.	.88
HYDROGRAPH AT	A109A	1051.	27.00	785.	325.	118.	1.36
HYDROGRAPH AT	A10903	2160.	27.00	1479.	600.	219.	2.47
2 COMBINED AT	A109#1	3212.	27.00	2248.	925.	337.	3.83
ROUTED TO	A109#2	3128.	28.00	2245.	925.	337.	3.83
HYDROGRAPH AT	A109B	1133.	28.00	947.	473.	174.	2.06
2 COMBINED AT	A109#2	4261.	28.00	3177.	1395.	511.	5.89
ROUTED TO	A109#3	4181.	29.00	3177.	1394.	511.	5.89
HYDROGRAPH AT	A109C	843.	28.00	663.	297.	107.	1.27
2 COMBINED AT	A109#3	4915.	29.00	3833.	1690.	618.	7.16
4 COMBINED AT	25	53111.	57.00	52469.	46802.	31762.	428.84
ROUTED TO	26	50830.	66.00	50374.	46352.	31539.	428.84
HYDROGRAPH AT	26	9876.	32.00	9063.	4913.	1754.	22.00

2 COMBINED AT	26	50834.	66.00	50379.	46441.	32668.	450.84
2 COMBINED AT	26	74257.	61.00	74180.	72273.	52824.	770.84
ROUTED TO	47	74222.	63.00	74152.	72111.	52667.	770.84
HYDROGRAPH AT	47	3440.	28.00	2748.	1151.	390.	5.00
2 COMBINED AT	47	74222.	63.00	74153.	72112.	52853.	775.84
2 COMBINED AT	47	157178.	73.00	155496.	139504.	109249.	1771.47
HYDROGRAPH AT	71	75015.	42.00	73688.	57861.	25506.	325.00
ROUTED TO	72	60695.	57.00	59814.	50393.	25173.	325.00
HYDROGRAPH AT	72	18821.	37.00	18183.	12369.	4771.	61.00
2 COMBINED AT	72	62701.	57.00	61866.	52701.	29336.	386.00
HYDROGRAPH AT	51	29711.	38.00	28884.	20607.	8230.	105.00
ROUTED TO	52	24097.	51.00	23650.	18801.	8213.	105.00
HYDROGRAPH AT	52	24868.	36.00	23971.	16124.	6207.	79.00
2 COMBINED AT	52	31296.	46.00	31190.	29214.	14371.	184.00
HYDROGRAPH AT	61	32725.	38.00	31830.	22852.	9191.	117.00
ROUTED TO	52	30283.	44.00	29503.	21999.	9187.	117.00
HYDROGRAPH AT	52	17688.	33.00	16563.	9560.	3441.	44.00
2 COMBINED AT	52	35177.	42.00	34647.	28699.	12618.	161.00
2 COMBINED AT	52	66241.	42.00	65798.	57544.	26986.	345.00
ROUTED TO	72	65986.	44.00	65478.	57187.	26980.	345.00
HYDROGRAPH AT	72	12124.	32.00	11183.	6196.	2218.	28.00
2 COMBINED AT	72	68571.	42.00	68149.	60812.	29179.	373.00
2 COMBINED AT	72	111904.	52.00	110884.	100981.	58269.	759.00
HYDROGRAPH AT	81	31855.	38.00	30970.	22025.	8737.	112.00
ROUTED TO	82	22219.	56.00	21869.	18008.	8631.	112.00
HYDROGRAPH AT	82	31463.	39.00	30705.	22492.	9097.	117.00
2 COMBINED AT	82	34520.	42.00	34066.	31546.	17547.	229.00
3 COMBINED AT	82	264633.	52.00	262641.	244527.	183480.	2759.47
ROUTED TO	82	257340.	59.00	255907.	241219.	177711.	2759.47
HYDROGRAPH AT	91	43634.	32.00	40125.	22203.	8086.	98.00

2 COMBINED AT	91	257675.	59.00	256310.	241798.	178990.	2857.47
ROUTED TO	91	255842.	61.00	254374.	239095.	171272.	2857.47
ROUTED TO	92	254190.	64.00	252605.	236652.	170336.	2857.47
HYDROGRAPH AT	92	5912.	28.00	4561.	1891.	651.	8.00
2 COMBINED AT	92-SJ1	254190.	64.00	252605.	236652.	170337.	2865.47
ROUTED TO	93	250391.	70.00	248637.	233014.	166765.	2865.47
HYDROGRAPH AT	93	25055.	32.00	23071.	12953.	4761.	57.00
2 COMBINED AT	93	250405.	70.00	248654.	233025.	166776.	2922.47

*** NORMAL END OF HEC-1 ***



LINE	ID	1	2	3	4	5	6	7	8	9	10
1	ID	SOUTH MONTGOMERY COUNTY FLOOD PROTECTION STUDY									
2	ID	DODSON & ASSOCIATES, INC. SEPTEMBER, 1989									
3	ID	SAN JACINTO RIVER WATERSHED									
4	ID	100-YEAR, 48-HOUR STORM EVENT ULTIMATE CONDITIONS IN STUDY AREA									
5	ID	FILENAME = SJRULT.IH1									
	*										
6	ID	MODEL BASED ON COE LAKE CREEK RESERVOIR STUDY									
7	ID	COE MODEL OF SAN JACINTO RIVER WATERSHED U/S OF BUFFALO BAYOU									
8	ID	DATA FOR PLAN 2 = 1986 CONDITIONS WITH LAKE CONROE AND LAKE HOUSTON									
	*										
9	IT	60	21AUG89	0000	200						
10	IO	5									
11	KK	41									
12	KM	BEGIN WEST FORK SAN JACINTO RIVER									
13	IN	120	21AUG89	0000							
14	PB	12.95									
15	PI	.12	.13	.14	.15	.17	.19	.28	.33	.38	.62
16	PI	.82	1.58	4.29	1.03	.70	.43	.35	.30	.20	.18
17	PI	.16	.15	.14	.13						
18	BA	184									
19	LU	1.0	.10	1.4							
20	UC	16.7	7.6								
21	KK	42									
22	KM	ROUTE FROM 41 TO 42									
23	KM	FOR PLAN 2,3, AND 4 USE 2/3 OF SV TO SHOW LAKE EFFECTS ON TRAVEL TIME									
24	RS	4	FLOW	-1							
25	SV	0	1001	2020	3937	9038	14746	20380	30337	39187	47642
26	SV	65518	81246	134065	174074	209945					
27	SQ	0	1000	2500	5000	10000	15000	20000	30000	40000	50000
28	SQ	75000	100000	200000	300000	400000					
29	KK	42									
30	KM	COMPUTE RUNOFF FROM AREA 420 AT 42									
31	BA	267									
32	LU	1.0	.10	16.4							
33	UC	16.7	7.6								
34	KK	42									
35	KM	COMBINE TWO AT 42									
36	HC	2									
37	KK	42									
38	KM	LAKE CONROE ROUTING									
39	RS	1	STOR	409500							
40	SV	0	370	65000	175000	430260	440000	445000	450000	465000	475000
41	SV	490000	500000	510000	532000	545000	567000	595000	620000	650000	
42	SQ	0	0	0	0	0	1000	1500	2000	2500	6100
43	SQ	11500	13300	17200	144000	148000	155000	162000	169000	177000	

LINE	ID	1	2	3	4	5	6	7	8	9	10
44	KK	44									
45	KM	ROUTE FROM 42 TO 44									
46	RS	4	FLOW	-1							
47	SV	0	716	1385	2619	5913	9491	13046	18801	23792	29018
48	SV	39227	48121	77587	99273	118263					
49	SQ	0	1000	2500	5000	10000	15000	20000	30000	40000	50000
50	SQ	75000	100000	200000	300000	400000					
51	KK	44									
52	KM	COMPUTE RUNOFF FROM AREA 440 AT 44									
53	BA	35									
54	LU	1.0	.10	4.2							
55	UC	6.6	4.0								
56	KK	44									
57	KM	COMBINE TWO AT 44									
58	HC	2									
59	KK	31									
60	KM	BEGIN LAKE CREEK									
61	KM	COMPUTE RUNOFF FROM AREA 310 AT 31									
62	BA	115									
63	LU	1.0	.10	0.3							
64	UC	31.8	11.0								
65	KK	32									
66	KM	ROUTE FROM 31 TO 32									
67	RS	4	FLOW	-1							
68	SV	0	712	1165	1914	3205	4675	5919	7719	10794	14701
69	SV	19244	22967	26390	34122	40927					
70	SQ	0	500	1000	2000	4000	7000	10000	15000	25000	40000
71	SQ	60000	80000	100000	150000	200000					
72	KK	32									
73	KM	COMPUTE RUNOFF FROM AREA 320 AT 32									
74	BA	116									
75	LU	1.0	.10	0.4							
76	UC	25.5	9.5								
77	KK	32									
78	KM	COMBINE TWO AT 32									
79	HC	2									
80	KK	33									
81	KM	ROUTE FROM 32 TO 33									
82	RS	6	FLOW	-1							
83	SV	0	830	1366	2798	6692	12162	16568	22897	33449	46415
84	SV	61386	75246	88324	118287	145466					
85	SQ	0	500	1000	2000	4000	7000	10000	15000	25000	40000
86	SQ	60000	80000	100000	150000	200000					

LINE	ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
129	KK 49
130	KM ROUTE FROM 45 TO 49
131	RS 2 FLOW -1
132	SV 0 253 520 865 1806 3332 4869 7729 10276 12522
133	SV 17278 21363 36567 49065 60324
134	SQ 0 1000 2500 5000 10000 15000 20000 30000 40000 50000
135	SQ 75000 100000 200000 300000 400000
136	KK 49
137	KM COMPUTE RUNOFF FROM 490 AT 49
138	BA 43
139	LU 1.0 .10 10
140	UC 6.2 4.1
141	KK 49
142	KM COMBINE TWO AT 49
143	HC 2
	* * ***** * WOODLANDS TRADE CENTER DITCH WATERSHED * ***** *
144	KK F132A1
145	KM WOODLANDS TRADE CENTER DITCH: SUB-AREA A-1 RUNOFF HYDROGRAPH
146	BA 0.65
147	LE 0.2 2.5 2.0 0.55 2
148	UC 4.05 2.32
149	KK F132#1
150	KM ROUTE FROM IH-45 TO MOUTH OF WOODLANDS TRADE CENTER DITCH
151	RM 1 .7 .2
152	KK F132A2
153	KM WOODLANDS TRADE CENTER DITCH: SUB-AREA A-2 RUNOFF HYDROGRAPH
154	BA 2.30
155	LE 0.2 2.5 2.0 0.55 64
156	UC .94 .49
157	KK F132#1
158	KM COMBINED HYDROGRAPH AT INTERSTATE HIGHWAY 45
159	HC 2
160	KK F132#2
161	KM ROUTE FROM IH-45 TO MOUTH OF WOODLANDS TRADE CENTER DITCH
162	RM 1 .9 .2
163	KK F132B
164	KM WOODLANDS TRADE CENTER DITCH: SUB-AREA B RUNOFF HYDROGRAPH
165	BA 1.99
166	LE 0.2 2.5 2.0 0.55 67
167	UC 1.05 .84

LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

168 KK F132#1
 169 KM COMBINED HYDROGRAPH AT MOUTH OF WOODLANDS TRADE CENTER DITCH
 170 HC 2

*
 * *****
 * GLENEAGLES DIVERSION DITCH WATERSHED
 * *****
 *

171 KK F131A
 172 KM GLENEAGLES DIVERSION DITCH: RUNOFF HYDROGRAPH
 173 BA 1.01
 174 LE 0.2 2.5 2.0 0.55 42
 175 UC 1.18 1.46

176 KK 49
 177 KM COMBINE THREE AT 49
 178 HC 3

179 KK 46
 180 KM ROUTE FROM 49 TO 46
 181 RS 2 FLOW -1
 182 SV 0 253 520 865 1806 3332 4869 7729 10276 12522
 183 SV 17278 21363 36567 49065 60324
 184 SQ 0 1000 2500 5000 10000 15000 20000 30000 40000 50000
 185 SQ 75000 100000 200000 300000 400000

186 KK 46
 187 KM COMPUTE RUNOFF FROM 460 AT 46
 188 BA 53
 189 LU 1.0 .10 2.9
 190 UC 14.7 7.3

191 KK 46
 192 KM COMBINE TWO AT 46
 193 HC 2

*
 * *****
 * CARTER'S SLOUGH WATERSHED
 * *****
 *

194 KK F128A
 195 KM CARTER'S SLOUGH: RUNOFF HYDROGRAPH
 196 BA 1.96
 197 LE 0.2 2.5 2.0 0.55 32
 198 UC 2.38 1.91

*
 * *****
 * HARPER'S HORSEPEN BRANCH WATERSHED
 * *****
 *

LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

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199      KK  F126A
200      KM           HARPER'S HORSEPEN BRANCH:  SUB-AREA A RUNOFF HYDROGRAPH
201      BA    1.97
202      LE    0.2    2.5    2.0    0.55    64
203      UC    1.18    1.04

204      KK  F12601A
205      KM           HARPER'S HORSEPEN BRANCH - TRIBUTARY F126-01-00:  RUNOFF HYDROGRAPH
206      BA    1.47
207      LE    0.2    2.5    2.0    0.55    61
208      UC    1.02    .70

209      KK  F126#1
210      KM           COMBINED HARPER'S HORSEPEN BR. HYDROGRAPH BELOW CONF. WITH F126-01-00
211      HC    2

212      KK  F126#2
213      KM           ROUTE FROM F126#1 TO F126#2
214      RM    1      .7      .2

215      KK  F126B
216      KM           HARPER'S HORSEPEN BRANCH:  SUB-AREA B RUNOFF HYDROGRAPH
217      BA    1.44
218      LE    0.2    2.5    2.0    0.55    47
219      UC    1.20    1.96

220      KK  F126#2
221      KM           COMBINED HARPERS HORSEPEN BRANCH HYDROGRAPH AT F126#2
222      HC    2

223      KK  F126#3
224      KM           ROUTE FROM F126#2 TO F126#3
225      RM    1      .5      .2

226      KK  F126C
227      KM           HARPER'S HORSEPEN BRANCH:  SUB-AREA C RUNOFF HYDROGRAPH
228      BA    0.80
229      LE    0.2    2.5    2.0    0.55    19
230      UC    2.62    2.09

231      KK  F121#3
232      KM           COMBINED HARPERS HORSEPEN BRANCH HYDROGRAPH AT MOUTH
233      HC    2
      *
      * *****
      * DITCH F124-00-00 WATERSHED
      * *****
      *
  
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LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

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234 KK F124A
235 KM DITCH A124-00-00 WATERSHED: RUNOFF HYDROGRAPH
236 BA 0.80
237 LE 0.2 2.5 2.0 0.55 23
238 UC 1.91 1.19
*
* *****
* WHITE OAK CREEK WATERSHED
* *****
*

239 KK F121A
240 KM WHITE OAK CREEK: SUB-AREA A RUNOFF HYDROGRAPH
241 BA 3.19
242 LE 0.2 2.5 2.0 0.55 43
243 UC 2.06 1.51

244 KK F121#1
245 KM ROUTE COMBINED HYDROGRAPH TO MOUTH OF WHITE OAK CREEK
246 RM 1 .8 .2

247 KK F121B
248 KM WHITE OAK CREEK: SUB-AREA B RUNOFF HYDROGRAPH
249 BA 1.50
250 LE 0.2 2.5 2.0 0.55 33
251 UC 2.50 1.39

252 KK F121#1
253 KM COMBINED WHITE OAK CREEK HYDROGRAPH AT MOUTH
254 HC 2

255 KK 46
256 KM COMBINE FIVE AT 46
257 HC 5

258 KK 47
259 KM ROUTE FROM 46 TO 47
260 RS 6 FLOW -1
261 SV 0 1680 3290 5428 9787 14365 18713 27319 37105 47302
262 SV 71126 93029 173233 240575 303803
263 SQ 0 1000 2500 5000 10000 15000 20000 30000 40000 50000
264 SQ 75000 100000 200000 300000 400000

265 KK 47
266 KM COMPUTE RUNOFF FROM AREA 470 AT 47
267 BA 40.6
268 LU 1.0 .10 3.3
269 UC 11.3 6.0
    
```


LINE	ID.....	1.....	2.....	3.....	4.....	5.....	6.....	7.....	8.....	9.....	10
308	KK	F109#3									
309	KM	COMBINED WOODSON'S GULLY HYDROGRAPH ABOVE CONF. WITH TANTROUGH GULLY									
310	HC	2									
311	KK	F10902A									
312	KM	TANTROUGH GULLY: RUNOFF HYDROGRAPH									
313	BA	2.16									
314	LE	0.2	2.5	2.0	0.55	51					
315	UC	1.23	1.59								
316	KK	F109#3									
317	KM	COMBINED WOODSON'S GULLY HYDROGRAPH BELOW CONF. WITH TANTROUGH GULLY									
318	HC	2									
319	KK	F109#4									
320	KM	ROUTE COMBINED HYDROGRAPH TO MOUTH OF WOODSON'S GULLY									
321	RM	1	.7	.2							
322	KK	F109E									
323	KM	WOODSON'S GULLY: SUB-AREA E RUNOFF HYDROGRAPH									
324	BA	1.36									
325	LE	0.2	2.5	2.0	0.55	30					
326	UC	2.62	2.20								
327	KK	F109#4									
328	KM	COMBINED HYDROGRAPH AT MOUTH OF WOODSON'S GULLY									
329	HC	2									
330	KK	47-WE2									
331	KM	COMBINE TWO AT 47.TOTAL FLOW FROM WEST FORK U/S OF SPRING CR									
332	HC	2									
333	KK	9									
334	KM	BEGIN CYPRESS CREEK									
335	KM	COMPUTE RUNOFF FROM AREA 90 AT 9									
336	BA	101									
337	LU	1.0	.10	1.3							
338	UC	19.3	8.4								
339	KK	9									
340	KM	DIVERT FLOW TO SOUTHERN DIVIDE									
341	DT	DIVERT									
342	DI	0	5000	9500	16700	41971	77291	180000			
343	DQ	0	0	2500	6700	26971	57291	150000			
344	KK	10									
345	KM	ROUTE FROM 9 TO 10									
346	RS	4	FLOW	-1							
347	SV	0	5578	8644	13147	20330	26239	36269	45645	54538	
348	SQ	0	5000	8000	12000	18000	25000	40000	55000	70000	

LINE	ID	1	2	3	4	5	6	7	8	9	10
430	KK	21									
431	KM	COMPUTE RUNOFF FROM 220 AT 21									
432	BA	95									
433	LU	1.0	.10	1.9							
434	UC	19.5	8.8								
435	KK	21									
436	KM	COMBINE TWO AT 21									
437	HC	2									
438	KK	22									
439	KM	ROUTE FROM 21 TO 22									
440	RS	4	FLOW	-1							
441	SV	0	501	997	1923	3536	5545	7309	9966	14642	20841
442	SV	29522	35897	41809	55713	68044					
443	SQ	0	500	1000	2000	4000	7000	10000	15000	25000	40000
444	SQ	60000	80000	100000	150000	200000					
445	KK	23									
446	KM	ROUTE FROM 22 TO 23									
447	RS	4	FLOW	-1							
448	SV	0	1072	1983	3915	7666	12607	16829	23005	33697	47762
449	SV	66552	84312	100630	137064	169932					
450	SQ	0	500	1000	2000	4000	7000	10000	15000	25000	40000
451	SQ	60000	80000	100000	150000	200000					
452	KK	23									
453	KM	COMPUTE RUNOFF FROM 230 AT 23									
454	BA	112									
455	LU	1.0	.10	2.3							
456	UC	24.3	10.6								
457	KK	23									
458	KM	COMPUTE RUNOFF FROM 240 AT 23									
459	BA	58									
460	LU	1.0	.10	3.3							
461	UC	11.3	6.0								
462	KK	23									
463	KM	COMBINE HYDROGRAPHS AT 23									
464	HC	3									
465	KK	25									
466	KM	ROUTE FROM 23 TO 25									
467	RS	2	FLOW	-1							
468	SV	0	256	482	1076	2344	4050	5606	7720	11276	15761
469	SV	21200	27461	32844	44172	54042					
470	SQ	0	500	1000	2000	4000	7000	10000	15000	25000	40000
471	SQ	60000	80000	100000	150000	200000					

LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

472 KK 25
 473 KM COMPUTE RUNOFF FROM 250 AT 25
 474 BA 46
 475 LU 1.0 .10 6.4
 476 UC 9.5 5.6

477 KK 25
 478 KM COMBINE TWO AT 25
 479 KM SPRING CREEK NEAR SPRING 08068520
 480 HC 2

*
 * *****
 * DRAINAGE DISTRICT #6 CHANNEL II WATERSHED
 * *****
 *

481 KK A111A
 482 KM DRAINAGE DISTRICT #6 CHANNEL II: RUNOFF HYDROGRAPH
 483 BA .93
 484 LE 0.2 2.5 2.0 0.55 53
 485 UC 1.09 .68

*
 * *****
 * SAM BELL GULLY WATERSHED
 * *****
 *

486 KK A110A
 487 KM SAM BELL GULLY: RUNOFF HYDROGRAPH
 488 BA 1.11
 489 LE 0.2 2.5 2.0 0.55 25
 490 UC 1.73 1.03

*
 * *****
 * DRAINAGE DISTRICT #6 CHANNEL III - SPRING OAKS CHANNEL WATERSHED
 * *****
 *

491 KK A109A
 492 KM DRAINAGE DISTRICT #6 CHANNEL III: SUB-AREA A RUNOFF HYDROGRAPH
 493 BA 1.62
 494 LE 0.2 2.5 2.0 0.55 58
 495 UC 1.22 .80

496 KK A10903A
 497 KM SPRING OAKS CHANNEL: RUNOFF HYDROGRAPH
 498 BA 2.44
 499 LE 0.2 2.5 2.0 0.55 32
 500 UC 1.84 1.41

LINE	ID	1	2	3	4	5	6	7	8	9	10
501	KK	A109#1									
502	KM	COMBINED DD#6 CHANNEL III HYD. BELOW CONFLUENCE WITH SPRING OAKS CHANNEL									
503	HC	2									
504	KK	A109#2									
505	KM	ROUTE COMBINED DD#6 CHANNEL III HYDROGRAPH TO RAYFORD ROAD									
506	RM	1	.9	.2							
507	KK	A109B									
508	KM	DRAINAGE DISTRICT #6 CHANNEL III: SUB-AREA B RUNOFF HYDROGRAPH									
509	BA	2.40									
510	LE	0.2	2.5	2.0	0.55	48					
511	UC	1.25	2.03								
512	KK	A109#2									
513	KM	COMBINED DD#6 CHANNEL III HYDROGRAPH AT RAYFORD ROAD									
514	HC	2									
515	KK	A109#3									
516	KM	ROUTE COMBINED DD#6 CHANNEL III HYDROGRAPH TO MOUTH									
517	RM	1	.7	.2							
518	KK	A109C									
519	KM	DRAINAGE DISTRICT #6 CHANNEL III: SUB-AREA C RUNOFF HYDROGRAPH									
520	BA	1.42									
521	LE	0.2	2.5	2.0	0.55	57					
522	UC	1.15	1.07								
523	KK	A109#3									
524	KM	COMBINED DRAINAGE DISTRICT #6 CHANNEL III HYDROGRAPH AT MOUTH									
525	HC	2									
526	KK	25									
527	KM	COMBINE FOUR AT 25									
528	KM	SPRING CREEK NEAR SPRING 08068520									
529	HC	4									
530	KK	26									
531	KM	ROUTE FROM 25 TO 26									
532	RS	6	FLOW	-1							
533	SV	0	770	1234	1997	3460	5689	8191	12609	21745	34597
534	SV	49655	63411	76786	111955	144558					
535	SQ	0	500	1000	2000	4000	7000	10000	15000	25000	40000
536	SQ	60000	80000	100000	150000	200000					
537	KK	26									
538	KM	COMPUTE RUNOFF FROM AREA 260 AT 26									
539	BA	22									
540	LU	1.0	.10	6.3							
541	UC	8.2	4.9								

 *
 * FLOOD HYDROGRAPH PACKAGE (HEC-1) *
 * BY THE COE IN FEBRUARY 1981 *
 * REVISED 02 AUG 88 *
 *
 * RUN DATE 09/01/1989 TIME 15:44:21 *
 *

 *
 * DODSON AND ASSOCIATES, INC. *
 * HYDROLOGIST AND CIVIL ENGINEERS *
 * 7015 W TIDWELL SUITE 107 *
 * HOUSTON, TEXAS 77092 *
 * (713) 895-8322 *
 *

SOUTH MONTGOMERY COUNTY FLOOD PROTECTION STUDY
 DODSON & ASSOCIATES, INC. SEPTEMBER, 1989
 SAN JACINTO RIVER WATERSHED
 100-YEAR, 48-HOUR STORM EVENT ULTIMATE CONDITIONS IN STUDY AREA
 FILENAME = SJRULT.IH1
 MODEL BASED ON COE LAKE CREEK RESERVOIR STUDY
 COE MODEL OF SAN JACINTO RIVER WATERSHED U/S OF BUFFALO BAYOU
 DATA FOR PLAN 2 = 1986 CONDITIONS WITH LAKE CONROE AND LAKE HOUSTON

10 IO OUTPUT CONTROL VARIABLES
 IPRNT 5 PRINT CONTROL
 IPLOT 0 PLOT CONTROL
 QSCAL 0. HYDROGRAPH PLOT SCALE

IT HYDROGRAPH TIME DATA
 NMIN 60 MINUTES IN COMPUTATION INTERVAL
 IDATE 21AUG89 STARTING DATE
 ITIME 0000 STARTING TIME
 NQ 200 NUMBER OF HYDROGRAPH ORDINATES
 NDDATE 29AUG89 ENDING DATE
 NDTIME 0700 ENDING TIME
 ICENT 19 CENTURY MARK

COMPUTATION INTERVAL 1.00 HOURS
 TOTAL TIME BASE 199.00 HOURS

ENGLISH UNITS
 DRAINAGE AREA SQUARE MILES
 PRECIPITATION DEPTH INCHES
 LENGTH, ELEVATION FEET
 FLOW CUBIC FEET PER SECOND
 STORAGE VOLUME ACRE-FEET
 SURFACE AREA ACRES
 TEMPERATURE DEGREES FAHRENHEIT

RUNOFF SUMMARY
 FLOW IN CUBIC FEET PER SECOND
 TIME IN HOURS, AREA IN SQUARE MILES

OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD			BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
				6-HOUR	24-HOUR	72-HOUR			
HYDROGRAPH AT	41	53475.	38.00	51926.	36502.	14317.	184.00		
ROUTED TO	42	42474.	48.00	41473.	32469.	14305.	184.00		
HYDROGRAPH AT	42	80088.	38.00	77836.	55395.	22291.	267.00		
2 COMBINED AT	42	99158.	40.00	97316.	80166.	36519.	451.00		
ROUTED TO	42	77927.	48.00	74989.	51285.	25150.	451.00		
ROUTED TO	44	70043.	55.00	67405.	48574.	24994.	451.00		
HYDROGRAPH AT	44	17998.	30.00	15956.	7926.	2761.	35.00		
2 COMBINED AT	44	70099.	55.00	67470.	48625.	25322.	486.00		
HYDROGRAPH AT	31	20942.	48.00	20742.	17947.	8841.	115.00		
ROUTED TO	32	20727.	52.00	20527.	17718.	8771.	115.00		
HYDROGRAPH AT	32	25187.	44.00	24829.	20157.	8972.	116.00		
2 COMBINED AT	32	43216.	47.00	42635.	35853.	17619.	231.00		
ROUTED TO	33	39780.	58.00	39290.	33102.	17374.	231.00		
HYDROGRAPH AT	33	26228.	39.00	25564.	18497.	7383.	95.00		
2 COMBINED AT	33	44424.	56.00	43861.	37572.	23879.	326.00		
ROUTED TO	44	43930.	58.00	43370.	37424.	23839.	326.00		
HYDROGRAPH AT	44	5199.	29.00	4287.	1834.	622.	8.00		
2 COMBINED AT	44	43930.	58.00	43371.	37426.	24233.	334.00		
2 COMBINED AT	44	111815.	56.00	109240.	86014.	49555.	820.00		
ROUTED TO	45	108261.	59.00	105340.	84766.	49228.	820.00		
HYDROGRAPH AT	45	5661.	28.00	4413.	1855.	631.	8.00		
2 COMBINED AT	45	108261.	59.00	105340.	84767.	49395.	828.00		
ROUTED TO	49	106420.	61.00	103673.	84103.	49259.	828.00		
HYDROGRAPH AT	49	22530.	30.00	19798.	9886.	3491.	43.00		
2 COMBINED AT	49	106440.	61.00	103696.	84126.	51237.	871.00		
HYDROGRAPH AT	F132A1	425.	28.00	338.	146.	52.	.65		

ROUTED TO	F132#1	417.	29.00	335.	146.	52.	.65
HYDROGRAPH AT	F132A2	3042.	26.00	1584.	623.	236.	2.30
2 COMBINED AT	F132#1	3236.	26.00	1799.	763.	288.	2.95
ROUTED TO	F132#2	2790.	27.00	1781.	762.	288.	2.95
HYDROGRAPH AT	F132B	2354.	26.00	1358.	542.	206.	1.99
2 COMBINED AT	F132#1	4677.	26.00	3103.	1302.	494.	4.94
HYDROGRAPH AT	F131A	940.	26.00	631.	256.	95.	1.01
3 COMBINED AT	49	106440.	61.00	103697.	84127.	51504.	876.95
ROUTED TO	46	104706.	63.00	102291.	83485.	51286.	876.95
HYDROGRAPH AT	46	16513.	37.00	15928.	10782.	4154.	53.00
2 COMBINED AT	46	105451.	63.00	102958.	84018.	55024.	929.95
HYDROGRAPH AT	F128A	1579.	27.00	1145.	482.	177.	1.96
HYDROGRAPH AT	F126A	2130.	26.00	1315.	531.	201.	1.97
HYDROGRAPH AT	F12601	1812.	26.00	999.	394.	149.	1.47
2 COMBINED AT	F126#1	3941.	26.00	2314.	925.	350.	3.44
ROUTED TO	F126#2	3615.	27.00	2294.	924.	350.	3.44
HYDROGRAPH AT	F126B	1197.	27.00	872.	369.	138.	1.44
2 COMBINED AT	F126#2	4813.	27.00	3167.	1293.	488.	4.88
ROUTED TO	F126#3	4558.	27.00	3138.	1293.	488.	4.88
HYDROGRAPH AT	F126C	593.	27.00	450.	189.	68.	.80
2 COMBINED AT	F121#3	5151.	27.00	3576.	1481.	557.	5.68
HYDROGRAPH AT	F124A	744.	27.00	492.	192.	70.	.80
HYDROGRAPH AT	F121A	2895.	27.00	1978.	810.	301.	3.19
ROUTED TO	F121#1	2679.	28.00	1955.	809.	301.	3.19
HYDROGRAPH AT	F121B	1328.	27.00	915.	370.	136.	1.50
2 COMBINED AT	F121#1	3831.	28.00	2860.	1180.	437.	4.69
5 COMBINED AT	46	105451.	63.00	102958.	84018.	55624.	943.08
ROUTED TO	47	94014.	75.00	92747.	80228.	54991.	943.08
HYDROGRAPH AT	47	15136.	34.00	14326.	8690.	3188.	40.60
2 COMBINED AT	47-WE2	94016.	75.00	92749.	80233.	56358.	983.68

HYDROGRAPH AT	F109A	578.	26.00	380.	154.	57.	.61
ROUTED TO	F109#1	513.	27.00	372.	154.	57.	.61
HYDROGRAPH AT	F109B	1498.	26.00	939.	382.	145.	1.44
2 COMBINED AT	F109#1	1874.	26.00	1302.	536.	202.	2.05
ROUTED TO	F109#2	1758.	27.00	1278.	535.	202.	2.05
HYDROGRAPH AT	F109C	2858.	26.00	2028.	838.	314.	3.23
2 COMBINED AT	F109#2	4604.	27.00	3288.	1373.	516.	5.28
ROUTED TO	F109#3	4278.	28.00	3238.	1372.	516.	5.28
HYDROGRAPH AT	F109D	1914.	27.00	1313.	533.	199.	2.07
2 COMBINED AT	F109#3	5969.	27.00	4497.	1904.	715.	7.35
HYDROGRAPH AT	F10902	1946.	26.00	1358.	560.	210.	2.16
2 COMBINED AT	F109#3	7869.	27.00	5793.	2465.	926.	9.51
ROUTED TO	F109#4	7537.	28.00	5769.	2464.	926.	9.51
HYDROGRAPH AT	F109E	1005.	27.00	773.	332.	122.	1.36
2 COMBINED AT	F109#4	8518.	28.00	6541.	2795.	1047.	10.87
2 COMBINED AT	47-WE2	94016.	75.00	92749.	80233.	56514.	994.55
HYDROGRAPH AT	9	26455.	40.00	25858.	19215.	7855.	101.00
DIVERSION TO	DIVERT	14525.	40.00	14046.	9036.	3124.	101.00
HYDROGRAPH AT	9	11930.	40.00	11812.	10179.	4730.	101.00
ROUTED TO	10	10397.	53.00	10305.	9151.	4711.	101.00
HYDROGRAPH AT	10	15465.	33.00	14529.	8458.	3033.	39.00
2 COMBINED AT	10	17385.	34.00	16574.	13443.	7700.	140.00
DIVERSION TO	DIVERT	2203.	34.00	1473.	379.	126.	140.00
HYDROGRAPH AT	10	15182.	34.00	15101.	13064.	7574.	140.00
ROUTED TO	11	14362.	42.00	14091.	12548.	7537.	140.00
HYDROGRAPH AT	11	6741.	33.00	6333.	3687.	1322.	17.00
2 COMBINED AT	11	17423.	40.00	17068.	14417.	8798.	157.00
DIVERSION TO	DIVERT	398.	40.00	239.	60.	20.	157.00
HYDROGRAPH AT	11	17025.	40.00	16829.	14357.	8778.	157.00
ROUTED TO	12	16717.	44.00	16438.	14097.	8753.	157.00

HYDROGRAPH AT	12	23358.	38.00	22654.	15897.	6265.	80.00
2 COMBINED AT	12	36996.	40.00	35671.	27654.	14872.	237.00
DIVERSION TO	DIVERT	0.	40.00	0.	0.	0.	237.00
HYDROGRAPH AT	12	36996.	40.00	35671.	27654.	14872.	237.00
ROUTED TO	13	32295.	49.00	31692.	25820.	14716.	237.00
HYDROGRAPH AT	13	27466.	29.00	23632.	11173.	3912.	48.00
2 COMBINED AT	13	32781.	48.00	32169.	26497.	17979.	285.00
ROUTED TO	26	31287.	54.00	30769.	26166.	17893.	285.00
HYDROGRAPH AT	26	17793.	30.00	15804.	7964.	2800.	35.00
2 COMBINED AT	26	32187.	33.00	31274.	27056.	20373.	320.00
HYDROGRAPH AT	21	28343.	40.00	27717.	20675.	8468.	109.00
HYDROGRAPH AT	21	24374.	40.00	23839.	17864.	7408.	95.00
2 COMBINED AT	21	52717.	40.00	51556.	38539.	15875.	204.00
ROUTED TO	22	50275.	45.00	49186.	37364.	15847.	204.00
ROUTED TO	23	40475.	57.00	39746.	31937.	15574.	204.00
HYDROGRAPH AT	23	24063.	44.00	23707.	19194.	8724.	112.00
HYDROGRAPH AT	23	21623.	34.00	20466.	12414.	4555.	58.00
3 COMBINED AT	23	53841.	54.00	53109.	45492.	28065.	374.00
ROUTED TO	25	52613.	57.00	51952.	45228.	27827.	374.00
HYDROGRAPH AT	25	18729.	33.00	17474.	10084.	3667.	46.00
2 COMBINED AT	25	53092.	57.00	52446.	46610.	31110.	420.00
HYDROGRAPH AT	A111A	1130.	26.00	624.	244.	91.	.93
HYDROGRAPH AT	A110A	1046.	27.00	691.	269.	98.	1.11
HYDROGRAPH AT	A109A	1857.	26.00	1089.	430.	162.	1.62
HYDROGRAPH AT	A10903	2207.	27.00	1499.	601.	221.	2.44
2 COMBINED AT	A109#1	3830.	26.00	2563.	1031.	383.	4.06
ROUTED TO	A109#2	3586.	27.00	2513.	1030.	383.	4.06
HYDROGRAPH AT	A109B	1980.	27.00	1446.	617.	231.	2.40
2 COMBINED AT	A109#2	5567.	27.00	3951.	1647.	614.	6.46
ROUTED TO	A109#3	5300.	28.00	3932.	1647.	614.	6.46

HYDROGRAPH AT	A109C	1516.	26.00	935.	375.	141.	1.42
2 COMBINED AT	A109#3	6159.	27.00	4784.	2020.	756.	7.88
4 COMBINED AT	25	53094.	57.00	52450.	46780.	31836.	429.92
ROUTED TO	26	50810.	66.00	50354.	46324.	31602.	429.92
HYDROGRAPH AT	26	9876.	32.00	9063.	4913.	1754.	22.00
2 COMBINED AT	26	50814.	66.00	50359.	46412.	32794.	451.92
2 COMBINED AT	26	74225.	61.00	74151.	72224.	52985.	771.92
ROUTED TO	47	74192.	63.00	74124.	72063.	52822.	771.92
HYDROGRAPH AT	47	3440.	28.00	2748.	1151.	390.	5.00
2 COMBINED AT	47	74192.	63.00	74124.	72064.	53016.	776.92
2 COMBINED AT	47	156480.	73.00	154785.	138611.	108957.	1771.47
HYDROGRAPH AT	71	75015.	42.00	73688.	57861.	25506.	325.00
ROUTED TO	72	60695.	57.00	59814.	50393.	25173.	325.00
HYDROGRAPH AT	72	18821.	37.00	18183.	12369.	4771.	61.00
2 COMBINED AT	72	62701.	57.00	61866.	52701.	29336.	386.00
HYDROGRAPH AT	51	29711.	38.00	28884.	20607.	8230.	105.00
ROUTED TO	52	24097.	51.00	23650.	18801.	8213.	105.00
HYDROGRAPH AT	52	24868.	36.00	23971.	16124.	6207.	79.00
2 COMBINED AT	52	31296.	46.00	31190.	29214.	14371.	184.00
HYDROGRAPH AT	61	32725.	38.00	31830.	22852.	9191.	117.00
ROUTED TO	52	30283.	44.00	29503.	21999.	9187.	117.00
HYDROGRAPH AT	52	17688.	33.00	16563.	9560.	3441.	44.00
2 COMBINED AT	52	35177.	42.00	34647.	28699.	12618.	161.00
2 COMBINED AT	52	66241.	42.00	65798.	57544.	26986.	345.00
ROUTED TO	72	65986.	44.00	65478.	57187.	26980.	345.00
HYDROGRAPH AT	72	12124.	32.00	11183.	6196.	2218.	28.00
2 COMBINED AT	72	68571.	42.00	68149.	60812.	29179.	373.00
2 COMBINED AT	72	111904.	52.00	110884.	100981.	58269.	759.00
HYDROGRAPH AT	81	31855.	38.00	30970.	22025.	8737.	112.00
ROUTED TO	82	22219.	56.00	21869.	18008.	8631.	112.00

HYDROGRAPH AT	82	31463.	39.00	30705.	22492.	9097.	117.00
2 COMBINED AT	82	34520.	42.00	34066.	31546.	17547.	229.00
3 COMBINED AT	82	261858.	52.00	259937.	242669.	183523.	2759.47
ROUTED TO	82	254924.	59.00	253562.	239517.	177830.	2759.47
HYDROGRAPH AT	91	43634.	32.00	40125.	22203.	8086.	98.00
2 COMBINED AT	91	255259.	59.00	253965.	240096.	179203.	2857.47
ROUTED TO	91	253587.	61.00	252226.	237649.	171415.	2857.47
ROUTED TO	92	252049.	64.00	250607.	235362.	170467.	2857.47
HYDROGRAPH AT	92	5912.	28.00	4561.	1891.	651.	8.00
2 COMBINED AT	92-SJ1	252049.	64.00	250607.	235363.	170468.	2865.47
ROUTED TO	93	248505.	70.00	246940.	231808.	166926.	2865.47
HYDROGRAPH AT	93	25055.	32.00	23071.	12953.	4761.	57.00
2 COMBINED AT	93	248519.	70.00	246957.	231819.	166940.	2922.47

*** NORMAL END OF HEC-1 ***

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LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
1         ID      SOUTHERN MONTGOMERY COUNTY FLOOD PROTECTION STUDY
2         ID      DODSON & ASSOCIATES, INC.      SEPTEMBER, 1989
3         ID      100-YEAR STORM EVENT          EXISTING WATERSHED CONDITIONS
4         ID      FILENAME = SMCEX100.IH1
5         IT      15 01JAN89    0000    300
6         IO      5
7         JD      12.2    .01
8         PH      1          0.9    2.0    4.5    5.9    6.7    8.3    10.3    12.2
9         JD      10
10        JD      25
*
*      *****
*      WOODLANDS TRADE CENTER DITCH WATERSHED
*      *****
*
11        KK      F132A
12        KM      WOODLANDS TRADE CENTER DITCH:  SUB-AREA A RUNOFF HYDROGRAPH
13        BA      0.97
14        LE      0.2    2.5    2.0    0.55    2
15        UC      6.01    2.65

16        KK      F132#1
17        KM      ROUTE FROM IH-45 TO MOUTH OF WOODLANDS TRADE CENTER DITCH
18        RS      8    STOR    -1
19        SV      0    25    41    54    68    82    97
20        SQ      0    130    270    400    540    670    800

21        KK      F132B
22        KM      WOODLANDS TRADE CENTER DITCH:  SUB-AREA B RUNOFF HYDROGRAPH
23        BA      1.68
24        LE      0.2    2.5    2.0    0.55    26
25        UC      3.46    2.44

26        KK      F132#1
27        KM      COMBINED HYDROGRAPH AT MOUTH OF WOODLANDS TRADE CENTER DITCH
28        HC      2
*
*      *****
*      GLENEAGLES DIVERSION DITCH WATERSHED
*      *****
*
29        KK      F131A
30        KM      GLENEAGLES DIVERSION DITCH:  RUNOFF HYDROGRAPH
31        BA      1.46
32        LE      0.2    2.5    2.0    0.55    18
33        UC      3.39    4.39
*
*      *****
*      CARTER'S SLOUGH WATERSHED
*      *****
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LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

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34 KK F128A
35 KM CARTER'S SLOUGH: RUNOFF HYDROGRAPH
36 BA 1.82
37 LE 0.2 2.5 2.0 0.55 7
38 UC 6.96 5.56
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* *****
* WHITE OAK CREEK - HARPER'S HORSEPEN BRANCH WATERSHED
* *****
*

39 KK F121A
40 KM WHITE OAK CREEK: SUB-AREA A RUNOFF HYDROGRAPH
41 BA 2.70
42 LE 0.2 2.5 2.0 0.55 11
43 UC 6.83 5.01

44 KK F12102A
45 KM HARPER'S HORSEPEN BRANCH: SUB-AREA A RUNOFF HYDROGRAPH
46 BA 2.38
47 LE 0.2 2.5 2.0 0.55 3
48 UC 7.45 4.63

49 KK F12102#1
50 KM ROUTE HARPER'S HORSEPEN BR. SUB-AREA A HYD. TO CONF. WITH F121-02-01
51 RS 45 STOR -1
52 SV 0 224 419 652 949 1300 1465
53 SQ 0 260 510 770 1020 1280 1540

54 KK F12102B
55 KM HARPER'S HORSEPEN BRANCH: SUB-AREA B RUNOFF HYDROGRAPH
56 BA 1.55
57 LE 0.2 2.5 2.0 0.55 6
58 UC 8.34 8.82

59 KK F12102#1
60 KM COMBINED HARPER'S HORSEPEN BR. HYDROGRAPH ABOVE CONF. WITH F121-02-01
61 HC 2

62 KK F1210201A
63 KM HARPER'S HORSEPEN BRANCH - TRIBUTARY F121-02-01: RUNOFF HYDROGRAPH
64 BA 1.72
65 LE 0.2 2.5 2.0 0.55 7
66 UC 8.74 5.93

67 KK F12102#1
68 KM COMBINED HARPER'S HORSEPEN BR. HYDROGRAPH BELOW CONF. WITH F121-02-01
69 HC 2
    
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LINE	ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
70	KK F121#1
71	KM ROUTE COMBINED HARPER'S HORSEPEN BR. HYD. TO CONF. WITH WHITE OAK CREEK
72	RS 38 STOR -1
73	SV 0 329 555 770 1000 1208 1397
74	SQ 0 310 620 930 1240 1550 1860
75	KK F12102C
76	KM HARPER'S HORSEPEN BRANCH: SUB-AREA C RUNOFF HYDROGRAPH
77	BA 1.28
78	LE 0.2 2.5 2.0 0.55 2
79	UC 8.99 14.67
80	KK F121#1
81	KM COMBINED HARPERS HORSEPEN BRANCH HYDROGRAPH AT WHITE OAK CREEK
82	HC 2
83	KK F121#1
84	KM COMBINED WHITE OAK CR. HYDROGRAPH BELOW CONF. WITH HARPER'S HORSEPEN BR.
85	HC 2
86	KK F121#2
87	KM ROUTE COMBINED HYDROGRAPH TO MOUTH OF WHITE OAK CREEK
88	RS 10 STOR -1
89	SV 0 106 209 310 410 511 615
90	SQ 0 420 840 1260 1680 2100 2520
91	KK F121B
92	KM WHITE OAK CREEK: SUB-AREA B RUNOFF HYDROGRAPH
93	BA 1.17
94	LE 0.2 2.5 2.0 0.55 2
95	UC 8.30 4.62
96	KK F121#2
97	KM COMBINED WHITE OAK CREEK HYDROGRAPH AT MOUTH
98	HC 2
	*
	*

	WOODSON'S GULLY - TANTROUGH GULLY WATERSHED

	*
	*
99	KK F109A
100	KM WOODSON'S GULLY: SUB-AREA A RUNOFF HYDROGRAPH
101	BA 2.80
102	LE 0.2 2.5 2.0 0.55 2
103	UC 8.61 11.73
104	KK F109#1
105	KM ROUTE TO CONFLUENCE WITH F109-03-00 (BELOW RILEY-FUSSEL ROAD)
106	RS 18 STOR -1
107	SV 0 94 148 202 255 303 349
108	SQ 0 200 400 600 800 1000 1200

LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

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109 KK F109B
110 KM WOODSON'S GULLY: SUB-AREA B RUNOFF HYDROGRAPH
111 BA 2.90
112 LE 0.2 2.5 2.0 0.55 2
113 UC 7.84 9.70

114 KK F109#1
115 KM COMBINED WOODSON'S GULLY HYDROGRAPH BELOW CONFLUENCE WITH F109-03-00
116 HC 2

117 KK F109#2
118 KM ROUTE COMBINED HYD. TO CONFLUENCE WITH TANTROUGH GULLY (F109-02-00)
119 RS 39 STOR -1
120 SV 0 383 689 945 1178 1384 1579
121 SQ 0 380 770 1150 1540 1920 2300

122 KK F109C
123 KM WOODSON'S GULLY: SUB-AREA C RUNOFF HYDROGRAPH
124 BA 1.46
125 LE 0.2 2.5 2.0 0.55 2
126 UC 11.53 9.44

127 KK F109#2
128 KM COMBINED WOODSON'S GULLY HYDROGRAPH ABOVE CONF. WITH TANTROUGH GULLY
129 HC 2

130 KK F10902A
131 KM TANTROUGH GULLY: RUNOFF HYDROGRAPH
132 BA 2.10
133 LE 0.2 2.5 2.0 0.55 2
134 UC 8.37 10.85

135 KK F109#2
136 KM COMBINED WOODSON'S GULLY HYDROGRAPH BELOW CONF. WITH TANTROUGH GULLY
137 HC 2

138 KK F109#3
139 KM ROUTE COMBINED HYDROGRAPH TO MOUTH OF WOODSON'S GULLY
140 RS 13 STOR -1
141 SV 0 179 309 436 568 699 822
142 SQ 0 530 1050 1580 2100 2630 3160

143 KK F109D
144 KM WOODSON'S GULLY: SUB-AREA D RUNOFF HYDROGRAPH
145 BA 1.66
146 LE 0.2 2.5 2.0 0.55 2
147 UC 8.46 7.09

148 KK F109#3
149 KM COMBINED HYDROGRAPH AT MOUTH OF WOODSON'S GULLY
150 HC 2

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*
* *****
* DRAINAGE DISTRICT #6 CHANNEL II WATERSHED
* *****

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LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

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151 KK A111A
152 KM DRAINAGE DISTRICT #6 CHANNEL II: RUNOFF HYDROGRAPH
153 BA 0.80
154 LE 0.2 2.5 2.0 0.55 35
155 UC 2.14 1.33
*
* *****
* SAM BELL GULLY WATERSHED
* *****
*

156 KK A110A
157 KM SAM BELL GULLY: RUNOFF HYDROGRAPH
158 BA 0.88
159 LE 0.2 2.5 2.0 0.55 15
160 UC 5.20 3.08
*
* *****
* DRAINAGE DISTRICT #6 CHANNEL III - SPRING OAKS CHANNEL WATERSHED
* *****
*

161 KK A109A
162 KM DRAINAGE DISTRICT #6 CHANNEL III: SUB-AREA A RUNOFF HYDROGRAPH
163 BA 1.36
164 LE 0.2 2.5 2.0 0.55 22
165 UC 3.37 2.20

166 KK A10903A
167 KM SPRING OAKS CHANNEL: RUNOFF HYDROGRAPH
168 BA 2.47
169 LE 0.2 2.5 2.0 0.55 27
170 UC 2.57 1.96

171 KK A109#1
172 KM COMBINED DD#6 CHANNEL III HYD. BELOW CONFLUENCE WITH SPRING OAKS CHANNEL
173 HC 2

174 KK A109#2
175 KM ROUTE COMBINED DD#6 CHANNEL III HYDROGRAPH TO RAYFORD ROAD
176 RS 5 STOR -1
177 SV 0 100 158 208 274 489 866
178 SQ 0 800 1600 2400 3200 4000 4800

179 KK A109B
180 KM DRAINAGE DISTRICT #6 CHANNEL III: SUB-AREA B RUNOFF HYDROGRAPH
181 BA 2.06
182 LE 0.2 2.5 2.0 0.55 16
183 UC 3.01 4.92
    
```

LINE	ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
184	KK A109#2
185	KM COMBINED DD#6 CHANNEL III HYDROGRAPH AT RAYFORD ROAD
186	HC 2
187	KK A109#3
188	KM ROUTE COMBINED DD#6 CHANNEL III HYDROGRAPH TO MOUTH
189	RS 4 STOR -1
190	SV 0 93 152 204 253 319 426
191	SQ 0 960 1920 2880 3840 4800 5760
192	KK A109C
193	KM DRAINAGE DISTRICT #6 CHANNEL III: SUB-AREA C RUNOFF HYDROGRAPH
194	BA 1.27
195	LE 0.2 2.5 2.0 0.55 16
196	UC 3.10 2.89
197	KK A109#3
198	KM COMBINED DRAINAGE DISTRICT #6 CHANNEL III HYDROGRAPH AT MOUTH
199	HC 2
200	ZZ

 *
 * FLOOD HYDROGRAPH PACKAGE (HEC-1) *
 * BY THE COE IN FEBRUARY 1981 *
 * REVISED 02 AUG 88 *
 *
 * RUN DATE 09/01/1989 TIME 14:53:30 *
 *

 *
 * DODSON AND ASSOCIATES, INC. *
 * HYDROLOGIST AND CIVIL ENGINEERS *
 * 7015 W TIDWELL SUITE 107 *
 * HOUSTON, TEXAS 77092 *
 * (713) 895-8322 *
 *

SOUTHERN MONTGOMERY COUNTY FLOOD PROTECTION STUDY
 DODSON & ASSOCIATES, INC. SEPTEMBER, 1989
 100-YEAR STORM EVENT EXISTING WATERSHED CONDITIONS
 FILENAME = SMCEX100.IH1

6 IO OUTPUT CONTROL VARIABLES
 IPRNT 5 PRINT CONTROL
 IPLOT 0 PLOT CONTROL
 QSCAL 0. HYDROGRAPH PLOT SCALE

IT HYDROGRAPH TIME DATA
 NMIN 15 MINUTES IN COMPUTATION INTERVAL
 IDATE 1JAN89 STARTING DATE
 ITIME 0000 STARTING TIME
 NQ 300 NUMBER OF HYDROGRAPH ORDINATES
 NDDATE 4JAN89 ENDING DATE
 NDTIME 0245 ENDING TIME
 ICENT 19 CENTURY MARK

COMPUTATION INTERVAL .25 HOURS
 TOTAL TIME BASE 74.75 HOURS

ENGLISH UNITS
 DRAINAGE AREA SQUARE MILES
 PRECIPITATION DEPTH INCHES
 LENGTH, ELEVATION FEET
 FLOW CUBIC FEET PER SECOND
 STORAGE VOLUME ACRE-FEET
 SURFACE AREA ACRES
 TEMPERATURE DEGREES FAHRENHEIT

7 JD INDEX STORM NO. 1
 STRM 12.20 PRECIPITATION DEPTH
 TRDA .01 TRANSPOSITION DRAINAGE AREA

8 PI PRECIPITATION PATTERN

.03	.03	.03	.03	.03	.03	.03	.04	.04	.04
.04	.04	.04	.04	.04	.04	.04	.04	.04	.05
.05	.05	.05	.05	.07	.07	.07	.07	.08	.08
.08	.09	.09	.09	.10	.10	.11	.12	.12	.13
.14	.16	.18	.21	.30	.36	.58	1.22	2.00	.69
.41	.33	.22	.19	.17	.15	.14	.13	.12	.11
.11	.10	.10	.09	.09	.08	.08	.08	.08	.07
.07	.07	.05	.05	.05	.05	.05	.05	.04	.04
.04	.04	.04	.04	.04	.04	.04	.04	.04	.03
.03	.03	.03	.03	.03	.03				

9 JD

INDEX STORM NO. 2

STRM	12.05	PRECIPITATION DEPTH
TRDA	10.00	TRANSPOSITION DRAINAGE AREA

8 PI

PRECIPITATION PATTERN

.03	.03	.03	.03	.03	.03	.03	.04	.04	.04
.04	.04	.04	.04	.04	.04	.04	.04	.05	.05
.05	.05	.05	.05	.07	.07	.07	.07	.08	.08
.08	.09	.09	.09	.10	.10	.11	.12	.12	.13
.15	.16	.18	.21	.30	.36	.58	1.14	1.87	.69
.41	.33	.22	.19	.17	.15	.14	.13	.12	.11
.11	.10	.10	.09	.09	.08	.08	.08	.08	.07
.07	.07	.05	.05	.05	.05	.05	.05	.04	.04
.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
.03	.03	.03	.03	.03	.03				

10 JD

INDEX STORM NO. 3

STRM	11.86	PRECIPITATION DEPTH
TRDA	25.00	TRANSPOSITION DRAINAGE AREA

8 PI

PRECIPITATION PATTERN

.03	.03	.03	.03	.03	.03	.04	.04	.04	.04
.04	.04	.04	.04	.04	.04	.04	.04	.05	.05
.05	.05	.05	.05	.07	.07	.07	.08	.08	.08
.08	.09	.09	.10	.10	.10	.11	.12	.13	.13
.15	.16	.19	.21	.31	.36	.58	1.04	1.70	.68
.41	.33	.23	.20	.17	.15	.14	.13	.12	.11
.11	.10	.10	.09	.09	.09	.08	.08	.08	.07
.07	.07	.05	.05	.05	.05	.05	.05	.05	.04
.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
.04	.03	.03	.03	.03	.03				

RUNOFF SUMMARY
 FLOW IN CUBIC FEET PER SECOND
 TIME IN HOURS, AREA IN SQUARE MILES

OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD			BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
				6-HOUR	24-HOUR	72-HOUR			
HYDROGRAPH AT	F132A	673.	17.00	559.	228.	76.	.97		
ROUTED TO	F132#1	665.	18.25	555.	228.	76.	.97		
HYDROGRAPH AT	F132B	1509.	15.00	1106.	427.	144.	1.68		
2 COMBINED AT	F132#1	1871.	15.50	1550.	650.	220.	2.65		
HYDROGRAPH AT	F131A	957.	15.25	780.	355.	122.	1.46		
HYDROGRAPH AT	F128A	881.	18.25	788.	416.	146.	1.82		
HYDROGRAPH AT	F121A	1395.	18.25	1239.	632.	219.	2.70		
HYDROGRAPH AT	F12102	1222.	18.50	1090.	546.	188.	2.38		
ROUTED TO	F12102	1045.	33.50	979.	543.	188.	2.38		
HYDROGRAPH AT	F12102	555.	20.00	515.	325.	124.	1.55		
2 COMBINED AT	F12102	1220.	32.75	1181.	826.	311.	3.93		
HYDROGRAPH AT	F12102	756.	19.75	694.	389.	138.	1.72		
2 COMBINED AT	F12102	1451.	26.25	1427.	1199.	448.	5.65		
ROUTED TO	F121#1	1437.	34.00	1419.	1176.	448.	5.65		
HYDROGRAPH AT	F12102	320.	21.00	306.	223.	99.	1.28		
2 COMBINED AT	F121#1	1606.	33.00	1589.	1335.	547.	6.93		
2 COMBINED AT	F121#1	1901.	28.00	1847.	1638.	765.	9.63		
ROUTED TO	F121#2	1879.	31.00	1839.	1633.	764.	9.63		
HYDROGRAPH AT	F121B	579.	19.00	524.	268.	92.	1.17		
2 COMBINED AT	F121#2	2101.	20.75	1934.	1806.	854.	10.80		
HYDROGRAPH AT	F109A	821.	20.50	774.	532.	219.	2.80		
ROUTED TO	F109#1	809.	23.50	767.	526.	218.	2.80		
HYDROGRAPH AT	F109B	977.	19.50	910.	586.	228.	2.90		
2 COMBINED AT	F109#1	1626.	22.25	1568.	1075.	445.	5.70		
ROUTED TO	F109#2	1602.	29.00	1537.	1056.	439.	5.70		
HYDROGRAPH AT	F109C	459.	22.50	436.	292.	115.	1.46		

2 COMBINED AT	F109#2	1909.	28.50	1818.	1231.	553.	7.16
HYDROGRAPH AT	F10902	652.	20.25	612.	410.	165.	2.10
2 COMBINED AT	F109#2	2304.	28.25	2183.	1536.	717.	9.26
ROUTED TO	F109#3	2267.	31.50	2153.	1534.	712.	9.26
HYDROGRAPH AT	F109D	664.	19.75	611.	360.	131.	1.66
2 COMBINED AT	F109#3	2461.	31.25	2329.	1769.	841.	10.92
HYDROGRAPH AT	A111A	1064.	13.75	605.	211.	71.	.80
HYDROGRAPH AT	A110A	624.	16.50	511.	215.	73.	.88
HYDROGRAPH AT	A109A	1280.	15.00	913.	342.	115.	1.36
HYDROGRAPH AT	A10903	2635.	14.25	1732.	632.	213.	2.47
2 COMBINED AT	A109#1	3842.	14.50	2635.	972.	327.	3.83
ROUTED TO	A109#2	3371.	16.75	2612.	971.	327.	3.83
HYDROGRAPH AT	A109B	1270.	15.00	1048.	493.	171.	2.06
2 COMBINED AT	A109#2	4487.	16.25	3652.	1458.	497.	5.89
ROUTED TO	A109#3	4478.	16.75	3628.	1457.	497.	5.89
HYDROGRAPH AT	A109C	1062.	15.00	790.	312.	105.	1.27
2 COMBINED AT	A109#3	5310.	16.00	4367.	1766.	602.	7.16

*** NORMAL END OF HEC-1 ***

LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

```

34      KK  F128A
35      KM      CARTER'S SLOUGH:  RUNOFF HYDROGRAPH
36      BA      1.82
37      LE      0.2    2.5    2.0    0.55    7
38      UC      6.96   5.56
      *
      *
      * *****
      * HARPER'S HORSEPEN BRANCH WATERSHED
      * *****
      *
39      KK  F126A
40      KM      HARPER'S HORSEPEN BRANCH:  SUB-AREA A RUNOFF HYDROGRAPH
41      BA      2.38
42      LE      0.2    2.5    2.0    0.55    3
43      UC      7.45   4.63
44      KK  F126#1
45      KM      ROUTE HARPER'S HORSEPEN BR. SUB-AREA A HYD. TO CONF. WITH F126-01-00
46      RS      45    STOR    -1
47      SV      0    224    419    652    949    1300    1465
48      SQ      0    260    510    770    1020    1280    1540
49      KK  F126B
50      KM      HARPER'S HORSEPEN BRANCH:  SUB-AREA B RUNOFF HYDROGRAPH
51      BA      1.55
52      LE      0.2    2.5    2.0    0.55    6
53      UC      8.34   8.82
54      KK  F126#1
55      KM      COMBINED HARPER'S HORSEPEN BR. HYDROGRAPH ABOVE CONF. WITH F126-01-00
56      HC      2
57      KK  F12601A
58      KM      HARPER'S HORSEPEN BRANCH - TRIBUTARY F126-01-00:  RUNOFF HYDROGRAPH
59      BA      1.72
60      LE      0.2    2.5    2.0    0.55    7
61      UC      8.74   5.93
62      KK  F126#1
63      KM      COMBINED HARPER'S HORSEPEN BR. HYDROGRAPH BELOW CONF. WITH F126-01-00
64      HC      2
65      KK  F126#2
66      KM      ROUTE COMBINED HARPER'S HORSEPEN BR. HYD. TO CONF. WITH WEST FORK SJR
67      RM      5    1.1    0.2
68      KK  F126C
69      KM      HARPER'S HORSEPEN BRANCH:  SUB-AREA C RUNOFF HYDROGRAPH
70      BA      .87
71      LE      0.2    2.5    2.0    0.55    2
72      UC      4.59   4.05
    
```

LINE	ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
73	KK F126#2
74	KM COMBINED HARPER'S HORSEPEN BR. HYDROGRAPH AT WEST FORK SAN JACINTO R.
75	HC 2
	*
	*

	WHITE OAK CREEK WATERSHED
	*

	*
76	KK F121A
77	KM WHITE OAK CREEK: SUB-AREA A RUNOFF HYDROGRAPH
78	BA 2.70
79	LE 0.2 2.5 2.0 0.55 11
80	UC 3.42 2.51
81	KK F12102A
82	KM TRIBUTARY F121-02-00: RUNOFF HYDROGRAPH
83	BA 0.99
84	LE 0.2 2.5 2.0 0.55 2
85	UC 8.99 14.67
86	KK F121#1
87	KM COMBINED WHITE OAK CR. HYDROGRAPH BELOW CONF. WITH F121-02-00
88	HC 2
89	KK F121#2
90	KM ROUTE COMBINED HYDROGRAPH TO MOUTH OF WHITE OAK CREEK
91	RM 4 1.0 0.2
92	KK F121B
93	KM WHITE OAK CREEK: SUB-AREA B RUNOFF HYDROGRAPH
94	BA 1.17
95	LE 0.2 2.5 2.0 0.55 2
96	UC 3.79 2.11
97	KK F121#2
98	KM COMBINED WHITE OAK CREEK HYDROGRAPH AT MOUTH
99	HC 2
	*
	*

	WOODSON'S GULLY - TAN TROUGH GULLY WATERSHED
	*

	*
100	KK F109A
101	KM WOODSON'S GULLY: SUB-AREA A RUNOFF HYDROGRAPH
102	BA 2.80
103	LE 0.2 2.5 2.0 0.55 2
104	UC 8.61 11.73

LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

149 KK F109#3

150 KM COMBINED HYDROGRAPH AT MOUTH OF WOODSON'S GULLY

151 HC 2

*

*

* DRAINAGE DISTRICT #6 CHANNEL II WATERSHED

* *****

*

152 KK A111A

153 KM DRAINAGE DISTRICT #6 CHANNEL II: RUNOFF HYDROGRAPH

154 BA 0.80

155 LE 0.2 2.5 2.0 0.55 35

156 UC 2.14 1.33

*

*

* SAM BELL GULLY WATERSHED

* *****

*

157 KK A110A

158 KM SAM BELL GULLY: RUNOFF HYDROGRAPH

159 BA 0.88

160 LE 0.2 2.5 2.0 0.55 15

161 UC 5.20 3.08

*

*

* DRAINAGE DISTRICT #6 CHANNEL III - SPRING OAKS CHANNEL WATERSHED

* *****

*

162 KK A109A

163 KM DRAINAGE DISTRICT #6 CHANNEL III: SUB-AREA A RUNOFF HYDROGRAPH

164 BA 1.36

165 LE 0.2 2.5 2.0 0.55 22

166 UC 2.78 1.82

167 KK A10903A

168 KM SPRING OAKS CHANNEL: RUNOFF HYDROGRAPH

169 BA 2.47

170 LE 0.2 2.5 2.0 0.55 27

171 UC 2.06 1.58

172 KK A109#1

173 KM COMBINED DD#6 CHANNEL III HYD. BELOW CONFLUENCE WITH SPRING OAKS CHANNEL

174 HC 2

175 KK A109#2

176 KM ROUTE COMBINED DD#6 CHANNEL III HYDROGRAPH TO RAYFORD ROAD

177 RM 4 0.9 0.2

 *
 * FLOOD HYDROGRAPH PACKAGE (HEC-1) *
 * BY THE COE IN FEBRUARY 1981 *
 * REVISED 02 AUG 88 *
 *
 * RUN DATE 09/01/1989 TIME 15:25:27 *
 *

 *
 * DODSON AND ASSOCIATES, INC. *
 * HYDROLOGIST AND CIVIL ENGINEERS *
 * 7015 W TIDWELL SUITE 107 *
 * HOUSTON, TEXAS 77092 *
 * (713) 895-8322 *
 *

SOUTHERN MONTGOMERY COUNTY FLOOD PROTECTION STUDY
 DODSON & ASSOCIATES, INC. SEPTEMBER, 1989
 100-YEAR STORM EVENT INTERIM WATERSHED CONDITIONS
 FILENAME = SMCIN100.IH1

6 IO OUTPUT CONTROL VARIABLES
 IPRNT 5 PRINT CONTROL
 IPLOT 0 PLOT CONTROL
 QSCAL 0. HYDROGRAPH PLOT SCALE

IT HYDROGRAPH TIME DATA
 NMIN 15 MINUTES IN COMPUTATION INTERVAL
 IDATE 1JAN89 STARTING DATE
 ITIME 0000 STARTING TIME
 NQ 300 NUMBER OF HYDROGRAPH ORDINATES
 NDDATE 4JAN89 ENDING DATE
 NDTIME 0245 ENDING TIME
 ICENT 19 CENTURY MARK

COMPUTATION INTERVAL .25 HOURS
 TOTAL TIME BASE 74.75 HOURS

ENGLISH UNITS
 DRAINAGE AREA SQUARE MILES
 PRECIPITATION DEPTH INCHES
 LENGTH, ELEVATION FEET
 FLOW CUBIC FEET PER SECOND
 STORAGE VOLUME ACRE-FEET
 SURFACE AREA ACRES
 TEMPERATURE DEGREES FAHRENHEIT

7 JD INDEX STORM NO. 1
 STRM 12.20 PRECIPITATION DEPTH
 TRDA .01 TRANSPOSITION DRAINAGE AREA

8 PI PRECIPITATION PATTERN

.03	.03	.03	.03	.03	.03	.03	.04	.04	.04
.04	.04	.04	.04	.04	.04	.04	.04	.04	.05
.05	.05	.05	.05	.07	.07	.07	.07	.08	.08
.08	.09	.09	.09	.10	.10	.11	.12	.12	.13
.14	.16	.18	.21	.30	.36	.58	1.22	2.00	.69
.41	.33	.22	.19	.17	.15	.14	.13	.12	.11
.11	.10	.10	.09	.09	.08	.08	.08	.08	.07
.07	.07	.05	.05	.05	.05	.05	.05	.04	.04
.04	.04	.04	.04	.04	.04	.04	.04	.04	.03
.03	.03	.03	.03	.03	.03	.03			

9 JD

INDEX STORM NO. 2

STRM	12.05	PRECIPITATION DEPTH
TRDA	10.00	TRANSPOSITION DRAINAGE AREA

8 PI

PRECIPITATION PATTERN

.03	.03	.03	.03	.03	.03	.03	.04	.04	.04
.04	.04	.04	.04	.04	.04	.04	.04	.05	.05
.05	.05	.05	.05	.07	.07	.07	.07	.08	.08
.08	.09	.09	.09	.10	.10	.11	.12	.12	.13
.15	.16	.18	.21	.30	.36	.58	1.14	1.87	.69
.41	.33	.22	.19	.17	.15	.14	.13	.12	.11
.11	.10	.10	.09	.09	.08	.08	.08	.08	.07
.07	.07	.05	.05	.05	.05	.05	.05	.05	.04
.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
.03	.03	.03	.03	.03	.03				

10 JD

INDEX STORM NO. 3

STRM	11.86	PRECIPITATION DEPTH
TRDA	25.00	TRANSPOSITION DRAINAGE AREA

8 PI

PRECIPITATION PATTERN

.03	.03	.03	.03	.03	.03	.04	.04	.04	.04
.04	.04	.04	.04	.04	.04	.04	.04	.05	.05
.05	.05	.05	.05	.07	.07	.07	.08	.08	.08
.08	.09	.09	.10	.10	.10	.11	.12	.13	.13
.15	.16	.19	.21	.31	.36	.58	1.04	1.70	.68
.41	.33	.23	.20	.17	.15	.14	.13	.12	.11
.11	.10	.10	.09	.09	.09	.08	.08	.08	.07
.07	.07	.05	.05	.05	.05	.05	.05	.05	.04
.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
.04	.03	.03	.03	.03	.03				

RUNOFF SUMMARY
 FLOW IN CUBIC FEET PER SECOND
 TIME IN HOURS, AREA IN SQUARE MILES

OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD			BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
				6-HOUR	24-HOUR	72-HOUR			
HYDROGRAPH AT	F132A	673.	17.00	559.	228.	76.	.97		
ROUTED TO	F132#1	665.	18.25	555.	228.	76.	.97		
HYDROGRAPH AT	F132B	1509.	15.00	1106.	427.	144.	1.68		
2 COMBINED AT	F132#1	1871.	15.50	1550.	650.	220.	2.65		
HYDROGRAPH AT	F131A	957.	15.25	780.	355.	122.	1.46		
HYDROGRAPH AT	F128A	881.	18.25	788.	416.	146.	1.82		
HYDROGRAPH AT	F126A	1222.	18.50	1090.	546.	188.	2.38		
ROUTED TO	F126#1	1045.	33.50	979.	543.	188.	2.38		
HYDROGRAPH AT	F126B	555.	20.00	515.	325.	124.	1.55		
2 COMBINED AT	F126#1	1220.	32.75	1181.	826.	311.	3.93		
HYDROGRAPH AT	F12601	756.	19.75	694.	389.	138.	1.72		
2 COMBINED AT	F126#1	1451.	26.25	1427.	1199.	448.	5.65		
ROUTED TO	F126#2	1449.	27.25	1426.	1198.	448.	5.65		
HYDROGRAPH AT	F126C	547.	16.25	453.	202.	69.	.87		
2 COMBINED AT	F126#2	1623.	20.50	1573.	1369.	516.	6.52		
HYDROGRAPH AT	F121A	2338.	15.00	1713.	653.	219.	2.70		
HYDROGRAPH AT	F12102	248.	21.00	237.	173.	77.	.99		
2 COMBINED AT	F121#1	2426.	15.00	1839.	799.	296.	3.69		
ROUTED TO	F121#2	2370.	16.00	1826.	798.	296.	3.69		
HYDROGRAPH AT	F121B	1047.	15.25	757.	276.	92.	1.17		
2 COMBINED AT	F121#2	3322.	15.75	2539.	1069.	387.	4.86		
HYDROGRAPH AT	F109A	821.	20.50	774.	532.	219.	2.80		
ROUTED TO	F109#1	809.	23.50	767.	526.	218.	2.80		
HYDROGRAPH AT	F109B	977.	19.50	910.	586.	228.	2.90		
2 COMBINED AT	F109#1	1626.	22.25	1568.	1075.	445.	5.70		
ROUTED TO	F109#2	1602.	29.00	1537.	1056.	439.	5.70		

HYDROGRAPH AT	F109C	459.	22.50	436.	292.	115.	1.46
2 COMBINED AT	F109#2	1909.	28.50	1818.	1231.	553.	7.16
HYDROGRAPH AT	F10902	652.	20.25	612.	410.	165.	2.10
2 COMBINED AT	F109#2	2304.	28.25	2183.	1536.	717.	9.26
ROUTED TO	F109#3	2267.	31.50	2153.	1534.	712.	9.26
HYDROGRAPH AT	F109D	664.	19.75	611.	360.	131.	1.66
2 COMBINED AT	F109#3	2461.	31.25	2329.	1769.	841.	10.92
HYDROGRAPH AT	A111A	1064.	13.75	605.	211.	71.	.80
HYDROGRAPH AT	A110A	624.	16.50	511.	215.	73.	.88
HYDROGRAPH AT	A109A	1463.	14.50	957.	343.	115.	1.36
HYDROGRAPH AT	A10903	3038.	14.00	1801.	633.	213.	2.47
2 COMBINED AT	A109#1	4417.	14.00	2746.	974.	327.	3.83
ROUTED TO	A109#2	4252.	15.00	2731.	973.	327.	3.83
HYDROGRAPH AT	A109B	1417.	14.75	1127.	498.	171.	2.06
2 COMBINED AT	A109#2	5631.	15.00	3850.	1464.	497.	5.89
ROUTED TO	A109#3	5482.	15.75	3827.	1464.	497.	5.89
HYDROGRAPH AT	A109C	1100.	14.75	803.	312.	105.	1.27
2 COMBINED AT	A109#3	6424.	15.75	4591.	1774.	602.	7.16

*** NORMAL END OF HEC-1 ***


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LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
1         ID          SOUTHERN MONTGOMERY COUNTY FLOOD PROTECTION STUDY
2         ID          DODSON & ASSOCIATES, INC.          SEPTEMBER, 1989
3         ID          100-YEAR STORM EVENT                ULTIMATE WATERSHED CONDITIONS
4         ID          FILENAME = SMCUL100.IH1
5         IT          15 01JAN89    0000    300
6         IO          5
7         JD          12.2    .01
8         PH          1          0.9    2.0    4.5    5.9    6.7    8.3    10.3    12.2
9         JD          10
10        JD          25
*
*          *****
*          WOODLANDS TRADE CENTER DITCH WATERSHED
*          *****
*
11        KK          F132A1
12        KM          WOODLANDS TRADE CENTER DITCH:  SUB-AREA A-1 RUNOFF HYDROGRAPH
13        BA          0.65
14        LE          0.2    2.5    2.0    0.55    2
15        UC          4.05    2.32

16        KK          F132#1
17        KM          ROUTE FROM IH-45 TO MOUTH OF WOODLANDS TRADE CENTER DITCH
18        RM          3    .7    .2

19        KK          F132A2
20        KM          WOODLANDS TRADE CENTER DITCH:  SUB-AREA A-2 RUNOFF HYDROGRAPH
21        BA          2.30
22        LE          0.2    2.5    2.0    0.55    64
23        UC          .94    .49

24        KK          F132#1
25        KM          COMBINED HYDROGRAPH AT INTERSTATE HIGHWAY 45
26        HC          2

27        KK          F132#2
28        KM          ROUTE FROM IH-45 TO MOUTH OF WOODLANDS TRADE CENTER DITCH
29        RM          4    .9    .2

30        KK          F132B
31        KM          WOODLANDS TRADE CENTER DITCH:  SUB-AREA B RUNOFF HYDROGRAPH
32        BA          1.99
33        LE          0.2    2.5    2.0    0.55    67
34        UC          1.05    .84

35        KK          F132#1
36        KM          COMBINED HYDROGRAPH AT MOUTH OF WOODLANDS TRADE CENTER DITCH
37        HC          2
*
*          *****
*          GLENEAGLES DIVERSION DITCH WATERSHED
*          *****
*

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LINE	ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
38	KK F131A
39	KM GLENEAGLES DIVERSION DITCH: RUNOFF HYDROGRAPH
40	BA 1.01
41	LE 0.2 2.5 2.0 0.55 42
42	UC 1.18 1.46
	*
	* *****
	* CARTER'S SLOUGH WATERSHED
	* *****
	*
43	KK F128A
44	KM CARTER'S SLOUGH: RUNOFF HYDROGRAPH
45	BA 1.96
46	LE 0.2 2.5 2.0 0.55 32
47	UC 2.38 1.91
	*
	* *****
	* HARPER'S HORSEPEN BRANCH WATERSHED
	* *****
	*
48	KK F126A
49	KM HARPER'S HORSEPEN BRANCH: SUB-AREA A RUNOFF HYDROGRAPH
50	BA 1.97
51	LE 0.2 2.5 2.0 0.55 64
52	UC 1.18 1.04
53	KK F12601A
54	KM HARPER'S HORSEPEN BRANCH - TRIBUTARY F126-01-00: RUNOFF HYDROGRAPH
55	BA 1.47
56	LE 0.2 2.5 2.0 0.55 61
57	UC 1.02 .70
58	KK F126#1
59	KM COMBINED HARPER'S HORSEPEN BR. HYDROGRAPH BELOW CONF. WITH F126-01-00
60	HC 2
61	KK F126#2
62	KM ROUTE FROM F126#1 TO F126#2
63	RM 3 .7 .2
64	KK F126B
65	KM HARPER'S HORSEPEN BRANCH: SUB-AREA B RUNOFF HYDROGRAPH
66	BA 1.44
67	LE 0.2 2.5 2.0 0.55 47
68	UC 1.20 1.96
69	KK F126#2
70	KM COMBINED HARPERS HORSEPEN BRANCH HYDROGRAPH AT F126#2
71	HC 2

LINE	ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
72	KK F126#3
73	KM ROUTE FROM F126#2 TO F126#3
74	RM 2 .5 .2
75	KK F126C
76	KM HARPER'S HORSEPEN BRANCH: SUB-AREA C RUNOFF HYDROGRAPH
77	BA 0.80
78	LE 0.2 2.5 2.0 0.55 19
79	UC 2.62 2.09
80	KK F121#3
81	KM COMBINED HARPERS HORSEPEN BRANCH HYDROGRAPH AT MOUTH
82	HC 2
	*
	*

	DITCH F124-00-00 WATERSHED

	*
83	KK F124A
84	KM DITCH A124-00-00 WATERSHED: RUNOFF HYDROGRAPH
85	BA 0.80
86	LE 0.2 2.5 2.0 0.55 23
87	UC 1.91 1.19
	*
	*

	WHITE OAK CREEK WATERSHED

	*
88	KK F121A
89	KM WHITE OAK CREEK: SUB-AREA A RUNOFF HYDROGRAPH
90	BA 3.19
91	LE 0.2 2.5 2.0 0.55 43
92	UC 2.06 1.51
93	KK F121#1
94	KM ROUTE COMBINED HYDROGRAPH TO MOUTH OF WHITE OAK CREEK
95	RM 3 .8 .2
96	KK F121B
97	KM WHITE OAK CREEK: SUB-AREA B RUNOFF HYDROGRAPH
98	BA 1.50
99	LE 0.2 2.5 2.0 0.55 33
100	UC 2.50 1.39
101	KK F121#1
102	KM COMBINED WHITE OAK CREEK HYDROGRAPH AT MOUTH
103	HC 2
	*
	*

	WOODSON'S GULLY - TAN TROUGH GULLY WATERSHED

	*

LINE	ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
147	KK F109#3
148	KM COMBINED WOODSON'S GULLY HYDROGRAPH BELOW CONF. WITH TANTROUGH GULLY
149	HC 2
150	KK F109#4
151	KM ROUTE COMBINED HYDROGRAPH TO MOUTH OF WOODSON'S GULLY
152	RM 3 .7 .2
153	KK F109E
154	KM WOODSON'S GULLY: SUB-AREA E RUNOFF HYDROGRAPH
155	BA 1.36
156	LE 0.2 2.5 2.0 0.55 30
157	UC 2.62 2.20
158	KK F109#4
159	KM COMBINED HYDROGRAPH AT MOUTH OF WOODSON'S GULLY
160	HC 2
	* * ***** * DRAINAGE DISTRICT #6 CHANNEL II WATERSHED * ***** *
161	KK A111A
162	KM DRAINAGE DISTRICT #6 CHANNEL II: RUNOFF HYDROGRAPH
163	BA .93
164	LE 0.2 2.5 2.0 0.55 53
165	UC 1.09 .68
	* * ***** * SAM BELL GULLY WATERSHED * ***** *
166	KK A110A
167	KM SAM BELL GULLY: RUNOFF HYDROGRAPH
168	BA 1.11
169	LE 0.2 2.5 2.0 0.55 25
170	UC 1.73 1.03
	* * ***** * DRAINAGE DISTRICT #6 CHANNEL III - SPRING OAKS CHANNEL WATERSHED * ***** *
171	KK A109A
172	KM DRAINAGE DISTRICT #6 CHANNEL III: SUB-AREA A RUNOFF HYDROGRAPH
173	BA 1.62
174	LE 0.2 2.5 2.0 0.55 58
175	UC 1.22 .80

LINE	ID	1	2	3	4	5	6	7	8	9	10
176	KK	A10903A									
177	KM	SPRING OAKS CHANNEL: RUNOFF HYDROGRAPH									
178	BA	2.44									
179	LE	0.2	2.5	2.0	0.55	32					
180	UC	1.84	1.41								
181	KK	A109#1									
182	KM	COMBINED DD#6 CHANNEL III HYD. BELOW CONFLUENCE WITH SPRING OAKS CHANNEL									
183	HC	2									
184	KK	A109#2									
185	KM	ROUTE COMBINED DD#6 CHANNEL III HYDROGRAPH TO RAYFORD ROAD									
186	RM	4	.9	.2							
187	KK	A109B									
188	KM	DRAINAGE DISTRICT #6 CHANNEL III: SUB-AREA B RUNOFF HYDROGRAPH									
189	BA	2.40									
190	LE	0.2	2.5	2.0	0.55	48					
191	UC	1.25	2.03								
192	KK	A109#2									
193	KM	COMBINED DD#6 CHANNEL III HYDROGRAPH AT RAYFORD ROAD									
194	HC	2									
195	KK	A109#3									
196	KM	ROUTE COMBINED DD#6 CHANNEL III HYDROGRAPH TO MOUTH									
197	RM	3	.7	.2							
198	KK	A109C									
199	KM	DRAINAGE DISTRICT #6 CHANNEL III: SUB-AREA C RUNOFF HYDROGRAPH									
200	BA	1.42									
201	LE	0.2	2.5	2.0	0.55	57					
202	UC	1.15	1.07								
203	KK	A109#3									
204	KM	COMBINED DRAINAGE DISTRICT #6 CHANNEL III HYDROGRAPH AT MOUTH									
205	HC	2									
206	ZZ										

 *
 * FLOOD HYDROGRAPH PACKAGE (HEC-1) *
 * BY THE COE IN FEBRUARY 1981 *
 * REVISED 02 AUG 88 *
 *
 * RUN DATE 09/01/1989 TIME 15:48:05 *
 *

 *
 * DODSON AND ASSOCIATES, INC. *
 * HYDROLOGIST AND CIVIL ENGINEERS *
 * 7015 W TIDWELL SUITE 107 *
 * HOUSTON, TEXAS 77092 *
 * (713) 895-8322 *
 *

SOUTHERN MONTGOMERY COUNTY FLOOD PROTECTION STUDY
 DODSON & ASSOCIATES, INC. SEPTEMBER, 1989
 100-YEAR STORM EVENT ULTIMATE WATERSHED CONDITIONS
 FILENAME = SMCUL100.IH1

6 IO OUTPUT CONTROL VARIABLES
 IPRNT 5 PRINT CONTROL
 IPLOT 0 PLOT CONTROL
 QSCAL 0. HYDROGRAPH PLOT SCALE

IT HYDROGRAPH TIME DATA
 NMIN 15 MINUTES IN COMPUTATION INTERVAL
 IDATE 1JAN89 STARTING DATE
 ITIME 0000 STARTING TIME
 NQ 300 NUMBER OF HYDROGRAPH ORDINATES
 NDDATE 4JAN89 ENDING DATE
 NDTIME 0245 ENDING TIME
 ICENT 19 CENTURY MARK

COMPUTATION INTERVAL .25 HOURS
 TOTAL TIME BASE 74.75 HOURS

ENGLISH UNITS
 DRAINAGE AREA SQUARE MILES
 PRECIPITATION DEPTH INCHES
 LENGTH, ELEVATION FEET
 FLOW CUBIC FEET PER SECOND
 STORAGE VOLUME ACRE-FEET
 SURFACE AREA ACRES
 TEMPERATURE DEGREES FAHRENHEIT

7 JD INDEX STORM NO. 1
 STRM 12.20 PRECIPITATION DEPTH
 TRDA .01 TRANSPOSITION DRAINAGE AREA

8 PI PRECIPITATION PATTERN

.03	.03	.03	.03	.03	.03	.03	.04	.04	.04
.04	.04	.04	.04	.04	.04	.04	.04	.04	.05
.05	.05	.05	.05	.07	.07	.07	.07	.08	.08
.08	.09	.09	.09	.10	.10	.11	.12	.12	.13
.14	.16	.18	.21	.30	.36	.58	1.22	2.00	.69
.41	.33	.22	.19	.17	.15	.14	.13	.12	.11
.11	.10	.10	.09	.09	.08	.08	.08	.08	.07
.07	.07	.05	.05	.05	.05	.05	.05	.04	.04
.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
.03	.03	.03	.03	.03	.03	.03	.04	.04	.03

9 JD

INDEX STORM NO. 2

STRM 12.05 PRECIPITATION DEPTH
TRDA 10.00 TRANSPOSITION DRAINAGE AREA

8 PI

PRECIPITATION PATTERN

.03	.03	.03	.03	.03	.03	.03	.04	.04	.04
.04	.04	.04	.04	.04	.04	.04	.04	.05	.05
.05	.05	.05	.05	.07	.07	.07	.07	.08	.08
.08	.09	.09	.09	.10	.10	.11	.12	.12	.13
.15	.16	.18	.21	.30	.36	.58	1.14	1.87	.69
.41	.33	.22	.19	.17	.15	.14	.13	.12	.11
.11	.10	.10	.09	.09	.08	.08	.08	.08	.07
.07	.07	.05	.05	.05	.05	.05	.05	.04	.04
.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
.03	.03	.03	.03	.03	.03				

10 JD

INDEX STORM NO. 3

STRM 11.86 PRECIPITATION DEPTH
TRDA 25.00 TRANSPOSITION DRAINAGE AREA

8 PI

PRECIPITATION PATTERN

.03	.03	.03	.03	.03	.03	.04	.04	.04	.04
.04	.04	.04	.04	.04	.04	.04	.04	.05	.05
.05	.05	.05	.05	.07	.07	.07	.08	.08	.08
.08	.09	.09	.10	.10	.10	.11	.12	.13	.13
.15	.16	.19	.21	.31	.36	.58	1.04	1.70	.68
.41	.33	.23	.20	.17	.15	.14	.13	.12	.11
.11	.10	.10	.09	.09	.09	.08	.08	.08	.07
.07	.07	.05	.05	.05	.05	.05	.05	.05	.04
.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
.04	.03	.03	.03	.03	.03				

RUNOFF SUMMARY
 FLOW IN CUBIC FEET PER SECOND
 TIME IN HOURS, AREA IN SQUARE MILES

OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD			BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
				6-HOUR	24-HOUR	72-HOUR			
HYDROGRAPH AT	F132A1	549.	15.50	410.	153.	51.	.65		
ROUTED TO	F132#1	542.	16.25	408.	153.	51.	.65		
HYDROGRAPH AT	F132A2	5348.	12.75	1891.	668.	224.	2.30		
2 COMBINED AT	F132#1	5445.	12.75	2164.	813.	274.	2.95		
ROUTED TO	F132#2	4786.	13.75	2156.	813.	274.	2.95		
HYDROGRAPH AT	F132B	3845.	13.00	1630.	581.	195.	1.99		
2 COMBINED AT	F132#1	7577.	13.50	3738.	1391.	469.	4.94		
HYDROGRAPH AT	F131A	1455.	13.25	769.	273.	92.	1.01		
HYDROGRAPH AT	F128A	2171.	14.25	1398.	510.	172.	1.96		
HYDROGRAPH AT	F126A	3371.	13.25	1591.	570.	191.	1.97		
HYDROGRAPH AT	F12601	3043.	13.00	1199.	422.	141.	1.47		
2 COMBINED AT	F126#1	6346.	13.00	2778.	991.	332.	3.44		
ROUTED TO	F126#2	5838.	13.75	2773.	990.	332.	3.44		
HYDROGRAPH AT	F126B	1778.	13.25	1062.	393.	133.	1.44		
2 COMBINED AT	F126#2	7480.	13.75	3824.	1381.	464.	4.88		
ROUTED TO	F126#3	7174.	14.25	3816.	1381.	464.	4.88		
HYDROGRAPH AT	F126C	818.	14.50	548.	200.	67.	.80		
2 COMBINED AT	F121#3	7977.	14.25	4357.	1579.	531.	5.68		
HYDROGRAPH AT	F124A	1130.	13.75	599.	203.	68.	.80		
HYDROGRAPH AT	F121A	4086.	13.75	2400.	861.	290.	3.19		
ROUTED TO	F121#1	3909.	14.75	2389.	861.	290.	3.19		
HYDROGRAPH AT	F121B	1870.	14.25	1119.	393.	132.	1.50		
2 COMBINED AT	F121#1	5657.	14.50	3485.	1251.	421.	4.69		
HYDROGRAPH AT	F109A	883.	13.25	464.	164.	55.	.61		
ROUTED TO	F109#1	812.	14.25	462.	164.	55.	.61		
HYDROGRAPH AT	F109B	2333.	13.00	1142.	410.	138.	1.44		

2 COMBINED AT	F109#1	2656.	13.25	1585.	572.	193.	2.05
ROUTED TO	F109#2	2549.	14.25	1578.	572.	193.	2.05
HYDROGRAPH AT	F109C	4406.	13.25	2458.	893.	301.	3.23
2 COMBINED AT	F109#2	6387.	13.75	4009.	1463.	493.	5.28
ROUTED TO	F109#3	6165.	14.75	3992.	1462.	493.	5.28
HYDROGRAPH AT	F109D	2938.	13.50	1594.	569.	191.	2.07
2 COMBINED AT	F109#3	8283.	14.50	5517.	2027.	683.	7.35
HYDROGRAPH AT	F10902	2991.	13.25	1648.	598.	201.	2.16
2 COMBINED AT	F109#3	10517.	14.25	7122.	2621.	883.	9.51
ROUTED TO	F109#4	10313.	15.00	7095.	2621.	883.	9.51
HYDROGRAPH AT	F109E	1379.	14.50	939.	351.	118.	1.36
2 COMBINED AT	F109#4	11585.	14.75	7997.	2965.	1000.	10.87
HYDROGRAPH AT	A111A	1911.	13.00	750.	261.	87.	.93
HYDROGRAPH AT	A110A	1705.	13.50	841.	284.	95.	1.11
HYDROGRAPH AT	A109A	3028.	13.00	1310.	461.	155.	1.62
HYDROGRAPH AT	A10903	3266.	13.75	1820.	636.	214.	2.44
2 COMBINED AT	A109#1	5963.	13.25	3104.	1094.	368.	4.06
ROUTED TO	A109#2	5621.	14.25	3095.	1094.	368.	4.06
HYDROGRAPH AT	A109B	2884.	13.25	1758.	656.	222.	2.40
2 COMBINED AT	A109#2	7997.	14.25	4835.	1747.	588.	6.46
ROUTED TO	A109#3	7739.	15.00	4817.	1747.	588.	6.46
HYDROGRAPH AT	A109C	2389.	13.25	1134.	403.	135.	1.42
2 COMBINED AT	A109#3	8829.	14.75	5851.	2144.	723.	7.88

*** NORMAL END OF HEC-1 ***

THIS RUN EXECUTED 9/ 1/89 16:19: 0

HEC2 RELEASE DATED SEPT 88

T1 SOUTHERN MONTGOMERY COUNTY FLOOD PROTECTION STUDY
T2 DODSON AND ASSOCIATES, INC. SEPTEMBER, 1989
T3 A109-00-00 DD 6 CHANNEL III
T4 100-YEAR STORM FREQUENCY EXISTING CONDITIONS
T5 FILENAME = A109RVEX.IH2

J1 ICHECK INQ NINW IDIR STRT METRIC HVINS Q WSEL FQ
2 .0011 99.8
J2 NPROF IPLOT PRFVS XSECV XSECH FN ALLDC IBW CHNIM ITRACE
-1 -1

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

38 43 1 23 24 42 26 3 39 4
37 30 65

J5 LPRNT NUMSEC *****REQUESTED SECTION NUMBERS*****

-10 -10

J6 IHLEQ ICOPY SUBDIV STRTDS RMLE

1

NC .15 .15 .06 .1 .3
QT 1 5260
X1 500.00 8 933.0 1075.0 500.0 500.0 500.0
X3 10.
GR 100.2 896.0 100.20 933.0 87.40 973.0 85.90 .00 .00
GR 85.0 1012.0 87.10 1036.0 100.60 1075.0 988.0 81.90 1000.0

X1 3900.0 13 940.0 1069.0 3400 3400 3400
GR 105.0 600 102.8 915.0 103.40 940.0 95.60 960.0 91.80 976.0
GR 90.40 993.0 85.6 1000.0 89.50 1007.0 91.50 1038.0 102.30 1069.0
GR 103.00 1169.0 103.2 1199.0 105.0 2100

QT	1	4890								
X1	5035.0	15	905.2	1026.7	1135.0	1135.0	1135.0			
GR	110	100	103.2	872.0	102.85	878.1	105.65	905.2	96.45	927.9
GR	89.35	955.9	89.0	976.0	87.95	983.9	88.75	990.0	92.55	1004.8
GR	98.85	1011.8	104.1	1026.7	103.25	1114.1	102.45	1201.5	110	2400
NC	.15	.15	.05							
X1	6170.0	15	910.0	1049.0	1135.0	1135.0	1135.0			
GR	110	700	105.5	872.0	105.20	879.0	108.00	910.0	98.80	936.0
GR	91.70	968.0	91.3	991.0	90.30	1000.0	91.10	1007.0	94.90	1024.0
GR	101.20	1032.0	106.4	1049.0	105.60	1149.0	104.80	1249.0	110	1350
QT	1	4600								
X1	9275.0	14	905.0	1082.0	3105	3105	3105.0			
GR	123.6	825.0	117.60	881.0	117.00	905.0	101.70	921.0	99.90	940.0
GR	96.3	981.0	95.30	1000.0	96.60	1019.0	98.30	1037.0	104.70	1049.0
GR	108.9	1065.0	114.70	1082.0	114.50	1101.0	114.30	1201.0		
X1	9869.0	10	935.6	1100.7	594.0	594.0	594.0			
GR	110.3	922.0	110.30	935.6	100.50	961.6	98.10	1006.6	94.40	1028.4
GR	98.3	1050.2	102.90	1076.1	104.00	1085.7	109.50	1100.7	110.20	1126.6
X1	10463.	10	932.0	1053.0	594.0	594.0	594.0			
GR	109.4	922.0	109.40	932.0	99.60	951.0	97.20	984.0	93.50	1000.0
GR	97.4	1016.0	102.00	1035.0	103.10	1042.0	108.60	1053.0	109.30	1072.0
NC	.15	.15	.03	.3	.5					
QT	1	4510								
RAYFORD ROAD STA. 105+56 - 17 DEGREE SKEW										
X1	10556.	22	939.0	1047.0	93.0	93.0	93.0			
X3	10.									
GR	111.6	522.0	111.90	617.0	111.70	713.0	111.40	809.0	111.30	904.0
GR	111.3	916.0	106.80	916.0	106.80	939.0	99.60	951.0	97.20	984.0
GR	93.5	1000.0	97.40	1016.0	102.00	1035.0	103.10	1042.0	106.80	1047.0
GR	106.8	1060.0	111.20	1060.0	111.20	1096.0	110.80	1191.0	110.50	1287.0
GR	110.3	1383.0	110.20	1478.0						
SB	1.250	1.56	3.00	.00	30.00	5.36	815.00	2.700	93.50	93.50
X1	10647.	22	939.0	1047.0	91.0	91.0	91.0			
X2	0.	.00	1.	106.80	110.20	.00				
X3	10.							.000		.000
BT	-18	522.0	111.60	.00	617.0	111.90	.00	111.30	110.20	
BT	0	809.0	111.40	.00	904.0	111.30	.00	713.0	111.70	.00
BT	0	916.0	114.70	.00	937.0	114.70	.00	916.0	111.30	.00
BT	0	1039.0	113.50	.00	1039.0	114.60	.00	937.0	113.50	.00
BT	0	1060.0	111.20	.00	1096.0	111.20	.00	1060.0	114.60	.00
BT	0	1287.0	110.50	.00	1383.0	110.30	.00	1191.0	110.80	.00
GR	111.6	522.0	111.90	617.0	111.70	713.0	111.40	809.0	110.20	.00
GR	111.3	916.0	106.80	916.0	106.80	939.0	99.60	951.0	111.30	904.0
GR	93.5	1000.0	97.40	1016.0	102.00	1035.0	103.10	1042.0	106.80	1047.0
GR	106.8	1060.0	111.20	1060.0	111.20	1096.0	110.80	1191.0	110.50	1287.0
GR	110.3	1383.0	110.20	1478.0						

NC	.12	.15	.04							
X1	10750.	12	932.0	1053.0	103.0	103.0	103.0			
GR	111.7	100.0	109.40	922.0	109.40	932.0	99.60	951.0	97.20	984.0
GR	93.5	1000.0	97.40	1016.0	102.00	1035.0	103.10	1042.0	108.60	1053.0
GR	109.3	1072.0	111.2	1096						
NC				.1	.3					
QT	1	4400								
X1	12300.	13	937.0	1059.0	1550.0	1650	1550.0			
GR	115	700	108.50	917.0	109.20	937.0	99.70	954.0	97.20	980.0
GR	95.7	1000.0	98.20	1020.0	100.50	1041.0	108.80	1059.0	108.20	1077.0
GR	109.8	1177.0	110	1700	112.2	3400				
X1	14550.	15	2030	2141	2400	2300	2250.0			
GR	113.0	400	109.70	2007	109.10	2030	100.90	2047	99.10	2066
GR	98.6	2094	97.40	2100	98.70	2106	100.70	2124	108.40	2141
GR	109.7	2168	109.20	2268	110	2600	110	3250	115	4300
QT	1	4190								
X1	16295.	15	978.3	1102.2	1800	1300	1745.0			
GR	113.7	.0	111.65	723.1	110.65	826.4	111.45	929.7	111.05	978.3
GR	102.3	1007.2	100.05	1020.6	98.75	1033.0	99.65	1045.4	101.95	1068.1
GR	111.1	1102.2	111.75	1136.3	110.85	1239.6	111.45	1342.9	113.65	2375.9
X1	18040.	15	947.0	1067.0	1800	1300	1745.0			
GR	115.0	.0	113.00	700.0	112.00	800.0	112.80	900.0	112.40	947.0
GR	103.7	975.0	101.40	988.0	100.10	1000.0	101.00	1012.0	103.30	1034.0
GR	112.4	1067.0	113.10	1100.0	112.20	1200.0	112.80	1300.0	115.00	2400
NC	.12	.12	.03	.3	.5					
QT	1	4080								
W WELSFORD ROAD STA. 180+90										
X1	18090.	17	962.0	1052.0	50.0	50.0	50.0			
X3	10.									
GR	115.0	.0	113.00	700.0	112.00	800.0	112.80	111.70	111.80	
GR	107.7	962.0	103.70	975.0	101.40	988.0	100.10	900.0	112.80	962.0
GR	103.3	1034.0	108.10	1052.0	112.90	1052.0	113.10	1000.0	101.00	1012.0
GR	112.8	1300.0	115.00	2400				1100.0	112.20	1200.0
SB	1.250	1.56	3.00	.00	36.00	2.33	714.00	2.390	100.10	100.10
X1	18127.	17	962.0	1052.0	37.0	37.0	37.0			
X2	0.	.00	1.	111.40	112.00	.00				
X3	10.							112.00	112.20	.000
BT	-13	.0	115.00	.00	700.0	113.00	.00	800.0	112.00	.00
BT	0	900.0	112.80	.00	962.0	112.80	.00	962.0	113.40	.00
BT	0	1007.0	113.80	.00	1052.0	113.50	.00	1052.0	112.90	.00
BT	0	1100.0	113.10	.00	1200.0	112.20	.00	1300.0	112.80	.00
BT	0	2300.0	115.00	.00						
GR	115.0	.0	113.00	700.0	112.00	800.0	112.80	900.0	112.80	962.0
GR	107.7	962.0	103.70	975.0	101.40	988.0	100.10	1000.0	101.00	1012.0
GR	103.3	1034.0	108.10	1052.0	112.90	1052.0	113.10	1100.0	112.20	1200.0
GR	112.8	1300.0	115.00	2400						

NC	.12	.12	.04							
X1	18177.	15	947.0	1067.0	50.0	50.0	50.0			
GR	115.0	.0	113.00	700.0	112.00	800.0	112.80	900.0	112.40	947.0
GR	103.7	975.0	101.40	988.0	100.10	1000.0	101.00	1012.0	103.30	1034.0
GR	112.4	1067.0	113.10	1100.0	112.20	1200.0	112.80	1300.0	115.00	2400
NC				.1	.3					
QT	1	3910								
X1	21000.	16	2940.0	3043.0	2823	2823	2823.0			
GR	120.0	500	115.00	1500	115.00	1700.0	115.20	2817.0	116.70	2917.0
GR	115.3	2929.0	115.90	2940.0	105.60	2966.0	103.80	2985.0	99.00	3000.0
GR	102.9	3015.0	116.01	3043.0	117.00	3068.0	115.60	3138.0	118.20	3178.0
GR	120	5800								
X1	21700.	14	2674.5	2770.0	680	700.0	700.0			
GR	118.9	400.0	113.35	2529.8	114.65	2619.1	112.55	2659.3	114.05	2674.5
GR	103.8	2695.9	100.95	2719.1	100.05	2721.8	100.95	2724.5	104.75	2747.7
GR	114.3	2770.0	112.85	2783.4	113.85	2791.5	120	5222		
X1	22400.	14	2947.0	3054.0	680	700.0	700.0			
GR	120.0	600	114.40	2785.0	115.70	2885.0	113.60	2930.0	115.10	2947.0
GR	104.9	2971.0	102.00	2997.0	101.10	3000.0	102.00	3003.0	105.80	3029.0
GR	115.3	3054.0	113.90	3069.0	114.90	3078.0	120.00	4400		
QT	1	3840								
X1	22673.	14	2954.7	3059.9	170	450	273.0			
GR	119.3	600.0	113.95	2934.7	112.85	2945.7	114.45	2954.7	105.65	2978.7
GR	103.0	2996.8	101.75	3004.8	103.55	3012.8	106.85	3034.9	109.95	3046.9
GR	116.2	3059.9	115.25	3070.9	117.05	3091.0	118.45	4507.8		
NC	.15	.15	.04							
QT	1	1280								
X1	22947.	14	2950.0	3055.0	170	450	274.0			
GR	120.0	600.0	114.60	2930.0	113.50	2941.0	115.10	2950.0	106.30	2974.0
GR	103.7	2992.0	102.40	3000.0	104.20	3008.0	107.50	3030.0	110.60	3042.0
GR	116.8	3055.0	115.90	3066.0	117.70	3086.0	119.10	4500.0		
X1	25347.	17	957.0	1047.0	2200	2400.0	2400.0			
GR	125.0	300.0	120.00	400.0	115.20	927.0	114.10	948.0	116.10	957.0
GR	108.2	972.0	107.00	990.0	106.50	1000.0	107.20	1010.0	109.20	1035.0
GR	115.5	1047.0	114.20	1057.0	115.50	1067.0	115.90	1167.0	116.70	1197.0
GR	120.0	1700.0	125	2000						
QT	1	1180								
X1	26222.	15	1026.5	1125.5	875.0	875.0	875.0			
GR	123.2	.0	116.70	994.2	115.50	1015.7	117.70	1026.5	110.80	1042.6
GR	107.9	1063.1	107.30	1076.0	108.10	1088.9	110.90	1105.1	120.70	1125.5
GR	117.0	1141.6	117.60	1163.2	117.70	1270.8	119.20	1560.2	124.20	1721.6

NC	.12	.12	.04	.1	.3					
X1	27097.	15	954.0	1046.0	875	875	875			
GR	124.0	.0	117.50	924.0	116.30	944.0	118.50	954.0	111.60	969.0
GR	108.7	988.0	108.10	1000.0	108.90	1012.0	111.70	1027.0	121.50	1046.0
GR	117.8	1061.0	118.40	1081.0	118.50	1181.0	120.00	1450.0	125.00	1600.0
QT	1	1120								
X1	28362.	17	2083.0	2158.5	1200	1260.0	1265.0			
GR	118.4	700.0	117.20	2050.1	117.10	2053.4	116.80	2067.7	118.50	2083.0
GR	112.4	2093.9	110.50	2118.0	109.70	2123.5	111.10	2129.0	112.90	2146.5
GR	117.5	2158.5	115.50	2170.6	116.40	2187.0	117.50	2215.5	118.40	2671.0
GR	118.4	2835.3	123.40	2999.5						
X1	29627.	17	1963.0	2032.0	1200	1260.0	1265.0			
GR	120.0	700.0	118.80	1933.0	118.70	1936.0	118.40	1949.0	120.10	1963.0
GR	114.0	1973.0	112.10	1995.0	111.30	2000.0	112.70	2005.0	114.50	2021.0
GR	119.1	2032.0	117.10	2043.0	118.00	2058.0	119.10	2084.0	120.00	2500.0
GR	120.0	2650.0	125.00	2800.0						
NC	.12	.12	.024	.3	.5					
QT	1	1090								
ROBINSON ROAD STA. 296+67 - 3 9'x 6' B.C.										
CULVERTS ARE ASSUMED TO HAVE 1.7 FEET OF SILT										
X1	29667.	18	1983.0	2013.0	40.0	40.0	40.0			
X3	10.									
GR	120.0	700.0	119.40	1498.0	119.50	1598.0	119.20	118.30	118.50	
GR	119.5	1898.0	119.60	1983.0	111.40	1983.0	111.40	1698.0	119.40	1798.0
GR	119.5	2098.0	119.70	2198.0	119.80	2298.0	119.90	2013.0	119.60	2013.0
GR	120.0	2500.0	120.00	2650.0	125.00	2800.0		2398.0	120.10	2498.0
SB	1.250	1.56	3.00	.00	30.00	1.40	123.00	.010	113.10	113.10
X1	29731.	18	1983.0	2013.0	64.0	64.0	64.0			
X2	0.	.00	1.	117.40	119.20	.00				
X3	10.							.000		.000
BT	-16	700.0	120.00	.00	1498.0	119.40	.00	119.5	119.50	
BT	0	1698.0	119.20	.00	1798.0	119.40	.00	1598.0	119.50	.00
BT	0	1983.0	119.60	.00	2013.0	119.60	.00	1898.0	119.50	.00
BT	0	2198.0	119.70	.00	2298.0	119.80	.00	2098.0	119.50	.00
BT	0	2498.0	120.10	.00	2500.0	120.00	.00	2398.0	119.90	.00
BT	0	2800.0	125.00	.00			.00	2650.0	120.00	.00
GR	120.0	700.0	119.40	1498.0	119.50	1598.0	119.20	1698.0	119.40	1798.0
GR	119.5	1898.0	119.60	1983.0	111.40	1983.0	111.40	2013.0	119.60	2013.0
GR	119.5	2098.0	119.70	2198.0	119.80	2298.0	119.90	2398.0	120.10	2498.0
GR	120.0	2500.0	120.00	2650.0	125.00	2800.0				
X1	29831	15	1967.0	2040.0	100	100	100			
GR	120.0	700.0	119.20	1883.0	119.80	1933.0	118.20	1954.0	120.60	1967.0
GR	112.4	1990.0	110.90	2000.0	112.10	2010.0	114.30	2028.0	120.40	2040.0
GR	117.6	2051.0	118.70	2069.0	120.00	2500.0	120.00	2650.0	125.00	2800.0

NC	.15	.15	.04							
X1	33257.	9	963.0	1039.0	30.0	30.0	30.0			
GR	132.2	926.0	130.90	942.0	132.70	963.0	123.50	990.0	122.50	1000.0
GR	123.6	1010.0	132.70	1039.0	130.80	1057.0	133.40	1089.0		
NC				.1	.3					
X1	33327.	9	963.0	1039.0	70.0	70.0	70.0			
GR	132.2	926.0	130.90	942.0	132.70	963.0	123.50	990.0	122.50	1000.0
GR	123.6	1010.0	132.70	1039.0	130.80	1057.0	133.40	1089.0		
X1	34135.	15	1960.0	2044.0	808.0	808.0	808.0			
GR	140.0	700.0	133.80	1944.0	133.10	1950.0	133.40	1960.0	130.00	1972.0
GR	123.4	1987.0	123.30	2000.0	123.30	2013.0	130.90	2033.0	133.40	2044.0
GR	132.9	2053.0	133.30	2077.0	135.00	4000.0	135.00	4600.0	140.00	4800.0
NC	.15	.15	.024	.3	.5					
QT	1	990								
X1	34185.	57	988.0	1012.0	50.0	50.0	50.0			
X3	10.							134.50	134.50	
GR	134.4	500.0	134.40	600.0	134.20	700.0	134.30	800.0	134.30	900.0
GR	133.8	944.0	133.10	950.0	133.40	960.0	130.00	972.0	126.30	988.0
GR	125.5	988.1	124.80	988.4	124.18	988.9	123.70	989.5	123.40	990.2
GR	123.3	991.0	123.40	991.8	123.70	992.5	124.18	993.1	124.80	993.6
GR	125.5	993.9	126.30	994.0	126.30	997.0	125.52	997.1	124.80	997.4
GR	124.2	997.9	123.70	998.5	123.40	999.2	123.30	1000.0	123.40	1000.8
GR	123.7	1001.5	124.18	1002.1	124.80	1002.6	125.52	1002.9	126.30	1003.0
GR	126.3	1006.0	125.52	1006.1	124.80	1006.4	124.18	1006.9	123.70	1007.5
GR	123.4	1008.2	123.30	1009.0	123.40	1009.8	123.70	1010.5	124.18	1011.1
GR	124.8	1011.6	125.52	1011.9	126.30	1012.0	130.90	1033.0	133.40	1044.0
GR	132.9	1053.0	133.30	1077.0	135.10	1100.0	137.20	1200.0	139.60	1300.0
GR	139.9	1400.0	138.70	1500.0						
HANNA ROAD STA. 341+86 - 3 72" RCP										
X1	34186.	57	988.0	1012.0	1.0	1.0	1.0			
X3	10.							134.50	134.50	
BT	-57	500.0	139.80	134.40	600.0	139.70	134.40	700.0	139.70	134.20
BT	0	800.0	139.70	134.30	900.0	139.70	134.30	944.0	139.60	133.80
BT	0	950.0	139.60	133.10	960.0	139.60	133.40	972.0	139.60	130.00
BT	0	988.0	139.60	126.30	988.1	139.60	127.08	988.4	139.60	127.80
BT	0	988.9	139.60	128.42	989.5	139.60	128.90	990.2	139.60	129.20
BT	0	991.0	139.60	129.30	991.8	139.60	129.20	992.5	139.60	128.90
BT	0	993.1	139.60	128.42	993.6	139.60	127.80	993.9	139.60	127.08
BT	0	994.0	139.60	126.30	997.0	139.60	126.30	997.1	139.60	127.08
BT	0	997.4	139.60	127.80	997.9	139.60	128.42	998.5	139.60	128.90
BT	0	999.2	139.60	129.20	1000.0	139.60	129.30	1000.8	139.60	129.20
BT	0	1001.5	139.60	128.90	1002.1	139.60	128.42	1002.6	139.60	127.80
BT	0	1002.9	139.60	127.08	1003.0	139.60	126.30	1006.0	139.60	126.30
BT	0	1006.1	139.60	127.08	1006.4	139.60	127.80	1006.9	139.60	128.42
BT	0	1007.5	139.60	128.90	1008.2	139.60	129.20	1009.0	139.60	129.30
BT	0	1009.8	139.60	129.20	1010.5	139.60	128.90	1011.1	139.60	128.42
BT	0	1011.6	139.60	127.80	1011.9	139.60	127.08	1012.0	139.60	126.30
BT	0	1033.0	139.60	130.90	1044.0	139.60	133.40	1053.0	139.60	132.90
BT	0	1077.0	139.60	133.30	1100.0	139.60	135.10	1200.0	139.70	137.20

BT	0	1300.0	139.70	139.60	1400.0	139.90	139.90	1500.0	139.70	138.70
GR	134.4	500.0	134.40	600.0	134.20	700.0	134.30	800.0	134.30	900.0
GR	133.8	944.0	133.10	950.0	133.40	960.0	130.00	972.0	126.30	988.0
GR	125.5	988.1	124.80	988.4	124.18	988.9	123.70	989.5	123.40	990.2
GR	123.3	991.0	123.40	991.8	123.70	992.5	124.18	993.1	124.80	993.6
GR	125.5	993.9	126.30	994.0	126.30	997.0	125.52	997.1	124.80	997.4
GR	124.2	997.9	123.70	998.5	123.40	999.2	123.30	1000.0	123.40	1000.8
GR	123.7	1001.5	124.18	1002.1	124.80	1002.6	125.52	1002.9	126.30	1003.0
GR	126.3	1006.0	125.52	1006.1	124.80	1006.4	124.18	1006.9	123.70	1007.5
GR	123.4	1008.2	123.30	1009.0	123.40	1009.8	123.70	1010.5	124.18	1011.1
GR	124.8	1011.6	125.52	1011.9	126.30	1012.0	130.90	1033.0	133.40	1044.0
GR	132.9	1053.0	133.30	1077.0	135.10	1100.0	137.20	1200.0	139.60	1300.0
GR	139.9	1400.0	138.70	1500.0						
X1	34361.	58	988.0	1012.0	175	175	175			
X3	10.							139.60	139.60	
BT	-58	500	139.8	139.8	600	139.7	139.7	700	139.7	139.7
BT		800	139.7	139.7	900	139.7	139.7	929	139.7	134.5
BT		948	139.6	133.2	956	139.6	135.3	968	139.6	132
BT		988	139.6	128.3	988.1	139.6	129.08	988.4	139.6	129.8
BT		988.88	139.6	130.42	989.5	139.6	130.9	990.22	139.6	131.2
BT		991	139.6	131.3	991.78	139.6	131.2	992.5	139.6	130.9
BT		993.12	139.6	130.42	993.6	139.6	129.8	993.9	139.6	129.08
BT		994	139.6	128.3	997	139.6	128.3	997.1	139.6	129.08
BT		997.4	139.6	129.8	997.88	139.6	130.42	998.5	139.6	130.9
BT		999.22	139.6	131.2	1000	139.6	131.3	1000.7	139.6	131.2
BT		1001.5	139.6	130.9	1002.1	139.6	130.42	1002.6	139.6	129.8
BT		1002.9	139.6	129.08	1003	139.6	128.3	1006	139.6	128.3
BT		1006.1	139.6	129.08	1006.4	139.6	129.8	1006.8	139.6	130.42
BT		1007.5	139.6	130.9	1008.2	139.6	131.2	1009	139.6	131.3
BT		1009.7	139.6	131.2	1010.5	139.6	130.9	1011.1	139.6	130.42
BT		1011.6	139.6	129.8	1011.9	139.6	129.08	1012	139.6	128.3
BT		1033	139.6	132.6	1038	139.6	135	1050	139.6	134.1
BT		1062	139.6	135.1	1100	139.6	139.6	1200	139.6	139.6
BT		1300	139.7	139.7	1400	139.7	139.7	1500	139.7	139.7
BT		2350	140	140						
GR	139.8	500	139.7	600	139.7	700	139.7	800	139.7	900
GR	134.50	929.0	133.20	948.0	135.30	956.0	132.00	968.0	128.3	988
GR	127.52	988.1	126.8	988.4	126.18	988.88	125.7	989.5	125.4	990.22
GR	125.3	991	125.4	991.78	125.7	992.5	126.18	993.12	126.8	993.6
GR	127.52	993.9	128.3	994	128.3	997	127.52	997.1	126.8	997.4
GR	126.18	997.88	125.7	998.5	125.4	999.22	125.3	1000	125.4	1000.7
GR	125.7	1001.5	126.18	1002.1	126.8	1002.6	127.52	1002.9	128.3	1003
GR	128.3	1006	127.52	1006.1	126.8	1006.4	126.18	1006.8	125.7	1007.5
GR	125.4	1008.2	125.3	1009	125.4	1009.7	125.7	1010.5	126.18	1011.1
GR	126.8	1011.6	127.52	1011.9	128.3	1012	132.60	1033.0	135.00	1038.0
GR	134.1	1050.0	135.10	1062.0	139.6	1100	139.6	1200	139.7	1300
GR	139.7	1400	139.7	1500	140.00	2350.0				

QT	1	455									
X1	37277.	11	969.0	1034.0	292	292	292.0				
GR	145.0	500.0	142.90	957.0	142.40	963.0	142.90	969.0	133.10	995.0	
GR	132.5	1000.0	133.50	1005.0	142.50	1034.0	141.70	1044.0	142.00	1047.0	
GR	145.0	1850.0									
X1	37902.	9	909.2	961.2	625.0	625.0	625.0				
GR	144.1	100.0	140.05	893.4	141.65	909.2	133.85	928.7	133.45	935.2	
GR	134.3	941.7	140.85	961.2	140.05	977.9	144.05	1956.0			
QT	1	440									
X1	38527.	9	972.0	1028.0	625.0	625.0	625.0				
GR	145.0	100.0	141.00	955.0	142.60	972.0	134.80	993.0	134.40	1000.0	
GR	135.2	1007.0	141.80	1028.0	141.00	1046.0	145.00	2100.0			
X1	38757.	12	1912.1	1960.9	230.0	230.0	230.0				
GR	144.3	500.0	140.63	1895.8	140.33	1902.5	141.33	1912.1	135.23	1929.3	
GR	134.7	1937.0	135.33	1944.7	141.03	1960.9	140.03	1972.4	140.93	1985.9	
GR	139.3	2320.2	144.33	2607.6							
X1	38987.	12	2006.4	2058.6	230.0	230.0	230.0				
GR	145.3	500.0	141.63	1989.1	141.33	1996.2	142.33	2006.4	136.23	2024.8	
GR	135.7	2033.0	136.33	2041.2	142.03	2058.6	141.03	2070.8	141.93	2085.1	
GR	140.3	2441.8	145.33	2748.4							
QT	1	430									
X1	39217.	12	1974.0	2025.0	230.0	230.0	230.0				
GR	145.0	500.0	141.30	1957.0	141.00	1964.0	142.00	1974.0	135.90	1992.0	
GR	135.4	2000.0	136.00	2008.0	141.70	2025.0	140.70	2037.0	141.60	2051.0	
GR	140.0	2400.0	145.00	2700.0							

IHLQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

THIS RUN EXECUTED 9/ 1/89 16:19:53

 HEC2 RELEASE DATED SEPT 88

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

A109-00-00

SUMMARY PRINTOUT

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
500.000	5260.00	99.90	100.20	100.60	81.90	3.75	100.12	.00	139.06	.00	.01	.00
3900.000	5260.00	103.83	103.40	102.30	85.60	3.93	104.06	3400.00	744.51	34.48	.01	.00
5035.000	4890.00	105.03	105.65	104.10	87.95	3.44	105.20	1135.00	939.67	56.42	.01	.00
6170.000	4890.00	105.92	108.00	106.40	90.30	3.73	106.14	1135.00	324.49	72.89	.01	.00
9275.000	4600.00	108.28	117.00	114.70	95.30	3.40	108.46	3105.00	148.51	89.75	.01	.00
9869.000	4600.00	108.72	110.30	109.50	94.40	3.42	108.90	594.00	158.79	91.85	.01	.00
10463.000	4600.00	109.19	109.40	108.60	93.50	4.00	109.44	594.00	136.29	93.86	.01	.00
* 10556.000	4510.00	109.23	106.80	106.80	93.50	4.02	109.48	93.00	108.00	94.12	.01	.00
10647.000	4510.00	109.74	106.80	106.80	93.50	3.83	109.97	91.00	108.00	94.35	.01	.00
10750.000	4510.00	109.80	109.40	108.60	93.50	3.68	110.01	103.00	301.03	94.83	.01	.00
12300.000	4400.00	110.48	109.20	108.80	95.70	3.28	110.64	1550.00	1219.50	123.07	.01	.00
14550.000	4400.00	111.30	109.10	108.40	97.40	3.31	111.45	2250.00	2296.74	216.79	.01	.00
16295.000	4190.00	112.10	111.05	111.10	98.75	3.80	112.31	1745.00	1079.35	275.34	.01	.00
18040.000	4190.00	113.24	112.40	112.40	100.10	4.07	113.49	1745.00	899.88	310.38	.01	.00
18090.000	4080.00	113.24	112.80	112.90	100.10	4.36	113.53	50.00	907.85	311.41	.01	.00
18127.000	4080.00	113.24	112.80	112.90	100.10	4.36	113.53	37.00	907.64	312.18	.01	.00
18177.000	4080.00	113.35	112.40	112.40	100.10	3.87	113.58	50.00	1000.66	313.28	.01	.00

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
21000.000	3910.00	115.29	115.90	116.01	99.00	4.27	115.57	2823.00	1481.56	393.71	.01	.00
21700.000	3910.00	115.79	114.05	114.30	100.05	3.34	115.94	700.00	1966.55	420.85	.01	.00
22400.000	3910.00	116.07	115.10	115.30	101.10	3.61	116.26	700.00	1248.33	446.25	.01	.00
22673.000	3840.00	116.21	114.45	116.20	101.75	3.61	116.40	273.00	1132.32	452.27	.01	.00
22947.000	1280.00	116.42	115.10	116.80	102.40	1.33	116.45	274.00	922.38	456.63	.01	.00
* 25347.000	1280.00	116.69	116.10	115.50	106.50	1.78	116.74	2400.00	432.59	491.67	.01	.00
26222.000	1180.00	116.85	117.70	120.70	107.30	2.00	116.92	875.00	140.68	497.43	.01	.00
27097.000	1180.00	117.10	118.50	121.50	108.10	2.34	117.19	875.00	97.45	499.82	.01	.00
28362.000	1120.00	117.71	118.50	117.50	109.70	2.76	117.83	1265.00	841.96	512.99	.01	.00
29627.000	1120.00	118.78	120.10	119.10	111.30	3.48	118.97	1265.00	126.73	526.58	.01	.00
29667.000	1090.00	118.72	119.60	119.60	111.40	4.96	119.10	40.00	30.00	526.65	.01	.00
29731.000	1090.00	119.37	119.60	119.60	111.40	4.56	119.69	64.00	30.00	526.69	.01	.00
* 29831.000	1090.00	119.68	120.60	120.40	110.90	2.75	119.79	100.00	1187.49	528.09	.01	.00
* 30380.000	1090.00	119.91	120.90	122.80	112.00	3.05	120.05	549.00	65.93	536.44	.01	.00
* 30963.000	1090.00	121.10	125.30	127.20	116.40	4.89	121.47	583.00	71.62	537.36	.01	.00
* 31546.000	1090.00	122.43	125.30	127.20	116.40	3.41	122.61	583.00	75.71	538.35	.01	.00
* 32127.000	1020.00	122.93	124.20	126.10	115.30	2.46	123.02	581.00	75.70	539.36	.01	.00
33077.000	1020.00	123.50	130.60	133.00	116.10	2.92	123.63	950.00	71.13	540.96	.01	.00
33157.000	1020.00	123.56	130.60	133.00	116.10	2.89	123.69	80.00	71.38	541.09	.01	.00
33207.000	1000.00	123.47	124.60	124.60	116.80	5.00	123.85	50.00	30.00	541.15	.01	.00
* 33227.000	1000.00	129.77	131.00	131.00	122.80	10.44	131.47	20.00	30.00	541.16	.01	.00
* 33257.000	1000.00	131.87	132.70	132.70	122.50	2.56	131.97	30.00	117.45	541.22	.01	.00
33327.000	1000.00	131.91	132.70	132.70	122.50	2.55	132.01	70.00	119.42	541.41	.01	.00
34135.000	1000.00	132.29	133.40	133.40	123.30	2.30	132.37	808.00	75.16	543.21	.01	.00
* 34185.000	990.00	132.12	126.30	126.30	123.30	5.45	132.59	50.00	24.00	543.27	.01	.00
* 34186.000	990.00	131.28	126.30	126.30	123.30	11.81	133.44	1.00	24.00	543.27	.01	.00

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
34361.000	990.00	135.03	128.30	128.30	125.30	11.80	137.19	175.00	24.00	543.36	.01	.00
* 34362.000	990.00	137.79	135.30	135.00	125.30	1.53	137.83	1.00	82.00	543.37	.01	.00
34412.000	990.00	137.82	135.30	135.00	125.20	1.03	137.84	50.00	1461.28	544.25	.01	.00
* 35234.000	990.00	137.88	135.40	135.30	127.80	1.61	137.92	822.00	245.00	560.35	.01	.00
* 35264.000	950.00	137.86	130.70	130.70	127.80	3.04	137.95	30.00	844.36	560.73	.01	.00
35327.000	950.00	137.86	130.70	130.70	127.80	3.04	137.95	63.00	842.83	561.95	.01	.00
* 35377.000	950.00	137.94	135.40	135.30	127.80	1.51	137.97	50.00	660.10	562.81	.01	.00
* 35957.000	950.00	138.03	138.20	137.70	127.80	2.27	138.11	580.00	709.95	571.93	.01	.00
36017.000	465.00	138.05	132.30	132.30	127.80	2.18	138.12	60.00	723.32	572.92	.01	.00
* 36027.000	465.00	137.65	137.30	137.30	131.30	6.64	138.33	10.00	24.70	573.00	.01	.00
* 36103.000	465.00	138.50	139.80	140.00	131.50	2.52	138.60	76.00	238.46	573.23	.01	.00
36397.000	465.00	138.74	142.15	141.75	131.80	2.57	138.84	294.00	47.05	574.20	.01	.00
36691.000	465.00	139.04	143.15	142.75	132.80	3.18	139.20	294.00	41.94	574.50	.01	.00
36985.000	465.00	139.45	143.15	142.75	132.80	2.84	139.57	294.00	44.29	574.79	.01	.00
37277.000	455.00	139.74	142.90	142.50	132.50	2.40	139.83	292.00	47.71	575.09	.01	.00
37902.000	455.00	140.19	141.65	140.85	133.45	2.46	140.28	625.00	109.78	576.22	.01	.00
38527.000	440.00	140.67	142.60	141.80	134.40	2.48	140.76	625.00	47.18	577.35	.01	.00
38757.000	440.00	140.86	141.33	141.03	134.70	2.10	140.92	230.00	571.14	578.98	.01	.00
* 38987.000	440.00	141.02	142.33	142.03	135.70	2.84	141.14	230.00	246.03	581.14	.01	.00
39217.000	430.00	141.28	142.00	141.70	135.40	2.22	141.35	230.00	428.58	582.92	.01	.00

SUMMARY OF ERRORS AND SPECIAL NOTES

WARNING SECNO= 10556.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 25347.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 29831.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 30380.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 30963.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 31546.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 32127.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
CAUTION SECNO= 33227.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 33227.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL
WARNING SECNO= 33257.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 34185.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 34186.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 34362.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 35234.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 35264.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 35377.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 35957.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 36027.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 36103.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 38987.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

THIS RUN EXECUTED 9/ 1/89 16:59:56

 HEC2 RELEASE DATED SEPT 88

T1 SOUTHERN MONTGOMERY COUNTY FLOOD PROTECTION STUDY
 T2 DODSON AND ASSOCIATES, INC. SEPTEMBER, 1989
 T3 A109-00-00 DD 6 CHANNEL III
 T4 100-YEAR STORM FREQUENCY INTERIM CONDITIONS
 T5 FILENAME = A109INT.IH2

J1 ICHECK INQ NINV IDIR STRT METRIC HVINS Q WSEL FQ
 2 .0005 100

J2 NPROF IPLOT PRFVS XSECV XSECH FN ALLDC IBW CHNIM ITRACE
 -1 -1

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

38 43 1 23 24 42 26 3 39 4
 37 30 65

J5 LPRNT NUMSEC *****REQUESTED SECTION NUMBERS*****

-10 -10

J6 IHLEQ ICOPY SUBDIV STRTDS RMILE

1

NC	.15	.15	.04	.1	.3						
QT	1	6400									
X1	500.00	9	933.0	1075.0	500.0	500.0	500.0				
CI	-1	81.9	0.04	4	4	20					
GR	100.2	896.0	100.20	933.0	87.40	973.0	85.90	988.0	81.90	1000.0	
GR	85.0	1012.0	87.10	1036.0	100.60	1075.0	100.6	1100			
QT	1	6100									
X1	3900.0	13	940.0	1069.0	3400	3400	3400				
CI	-1	83.60	0.04	4	4	20					
GR	105.0	600	102.8	915.0	103.40	940.0	95.60	960.0	91.80	976.0	
GR	90.40	993.0	85.6	1000.0	89.50	1007.0	91.50	1038.0	102.30	1069.0	
GR	103.00	1169.0	103.2	1199.0	105.0	2100					

QT	1	6000									
X1	5035.0	15	905.2	1026.7	1135.0	1135.0	1135.0				
CI	-1	84.17	0.04	4	4	20					
GR	110	100	103.2	872.0	102.85	878.1	105.65	905.2	96.45	927.9	
GR	89.35	955.9	89.0	976.0	87.95	983.9	88.75	990.0	92.55	1004.8	
GR	98.85	1011.8	104.1	1026.7	103.25	1114.1	102.45	1201.5	110	2400	
X1	5135	15	905.2	1026.7	100	100	100				
CI	-1	84.22	0.04	4	4	20					
GR	110	100	103.2	872.0	102.85	878.1	105.65	905.2	96.45	927.9	
GR	89.35	955.9	89.0	976.0	87.95	983.9	88.75	990.0	92.55	1004.8	
GR	98.85	1011.8	104.1	1026.7	103.25	1114.1	102.45	1201.5	110	2400	
QT	1	5900									
NC	.15	.15	.04								
X1	6170.0	15	910.0	1049.0	1035	1035	1035				
CI	-1	84.74	0.04	4	4	20					
GR	110	700	105.5	872.0	105.20	879.0	108.00	910.0	98.80	936.0	
GR	91.70	968.0	91.3	991.0	90.30	1000.0	91.10	1007.0	94.90	1024.0	
GR	101.20	1032.0	106.4	1049.0	105.60	1149.0	104.80	1249.0	110	1350	
QT	1	5700									
X1	9275.0	15	905.0	1082.0	3105	3105	3105.0				
CI	-1	86.29	0.04	4	4	20					
GR	123.6	800	123.6	825.0	117.60	881.0	117.00	905.0	101.70	921.0	
GR	99.90	940.0	96.3	981.0	95.30	1000.0	96.60	1019.0	98.30	1037.0	
GR	104.70	1049.0	108.9	1065.0	114.70	1082.0	114.50	1101.0	114.30	1201.0	
X1	9869.0	12	935.6	1100.7	594.0	594.0	594.0				
CI	-1	86.58	0.04	4	4	20					
GR	110.3	900	110.3	922.0	110.30	935.6	100.50	961.6	98.10	1006.6	
GR	94.40	1028.4	98.3	1050.2	102.90	1076.1	104.00	1085.7	109.50	1100.7	
GR	110.20	1126.6	110.2	1150							
X1	10463.	12	932.0	1053.0	594.0	594.0	594.0				
CI	-1	86.88	0.04	4	4	20					
GR	109.4	880	109.4	922.0	109.40	932.0	99.60	951.0	97.20	984.0	
GR	93.50	1000.0	97.4	1016.0	102.00	1035.0	103.10	1042.0	108.60	1053.0	
GR	109.30	1072.0	109.3	1120							
NC	.15	.15	.03	.3	.5						
QT	1	5630									
RAYFORD ROAD STA. 105+56											
X1	10556.	22	939.0	1047.0	93.0	93.0	93.0				
CI	988	86.93	0.04	2.8	2.8	10					
X3	10.							110.8	109.7		
GR	111.6	522.0	111.90	617.0	111.70	713.0	111.40	809.0	111.30	904.0	
GR	111.3	916.0	106.80	916.0	106.80	939.0	99.60	951.0	97.20	984.0	
GR	93.5	1000.0	97.40	1016.0	102.00	1035.0	103.10	1042.0	106.80	1047.0	
GR	106.8	1060.0	111.20	1060.0	111.20	1096.0	110.80	1191.0	110.50	1287.0	
GR	110.3	1383.0	110.20	1478.0							

SB	1.250	1.56	3.00	.00	10	5.36	1190	2.8	86.97	86.93
X1	10647.	22	939.0	1047.0	91.0	91.0	91.0			
CI	990	86.97	0.04	2.8	2.8	10				
X2	0.	.00	1.	106.80	110.20	.00				
X3	10.							.000		.000
BT	-18	522.0	111.60	.00	617.0	111.90	.00	111.30	110.20	
BT	0	809.0	111.40	.00	904.0	111.30	.00	713.0	111.70	.00
BT	0	916.0	114.70	.00	937.0	114.70	.00	916.0	111.30	.00
BT	0	1039.0	113.50	.00	1039.0	114.60	.00	937.0	113.50	.00
BT	0	1060.0	111.20	.00	1096.0	111.20	.00	1060.0	114.60	.00
BT	0	1287.0	110.50	.00	1383.0	110.30	.00	1191.0	110.80	.00
GR	111.6	522.0	111.90	617.0	111.70	713.0	111.40	1478.0	110.20	.00
GR	111.3	916.0	106.80	916.0	106.80	939.0	99.60	809.0	111.30	904.0
GR	93.5	1000.0	97.40	1016.0	102.00	1035.0	103.10	951.0	97.20	984.0
GR	106.8	1060.0	111.20	1060.0	111.20	1096.0	110.80	1042.0	106.80	1047.0
GR	110.3	1383.0	110.20	1478.0				1191.0	110.50	1287.0
NC	.12	.15	.04							
X1	10750.	13	932.0	1053.0	103.0	103.0	103.0			
CI	-1	87.03	0.04	4	4	10				
GR	111.7	100.0	109.40	922.0	109.40	932.0	99.60	951.0	97.20	984.0
GR	93.5	1000.0	97.40	1016.0	102.00	1035.0	103.10	1042.0	108.60	1053.0
GR	109.3	1072.0	111.2	1096	111.2	1150				
NC				.1	.3					
QT	1	5400								
X1	12300.	13	937.0	1059.0	1550.0	1650	1550.0			
CI	-1	87.80	0.04	4	4	10				
GR	115	700	108.50	917.0	109.20	937.0	99.70	954.0	97.20	980.0
GR	95.7	1000.0	98.20	1020.0	100.50	1041.0	108.80	1059.0	108.20	1077.0
GR	109.8	1177.0	110	1700	112.2	3400				
QT	1	5200								
X1	14550.	15	2030	2141	2400	2300	2250.0			
CI	-1	88.93	0.04	4	4	10				
GR	113.0	400	109.70	2007	109.10	2030	100.90	2047	99.10	2066
GR	98.6	2094	97.40	2100	98.70	2106	100.70	2124	108.40	2141
GR	109.7	2168	109.20	2268	110	2600	110	3250	115	4300
X1	14650	15	2030	2141	100	100	100			
CI	-1	88.98	0.04	4	4	10				
GR	113.0	400	109.70	2007	109.10	2030	100.90	2047	99.10	2066
GR	98.6	2094	97.40	2100	98.70	2106	100.70	2124	108.40	2141
GR	109.7	2168	109.20	2268	110	2600	110	3250	115	4300
QT	1	5000								
X1	16295.	15	978.3	1102.2	1700	1200	1645			
CI	-1	89.80	0.04	4	4	10				
GR	113.7	.0	111.65	723.1	110.65	826.4	111.45	929.7	111.05	978.3
GR	102.3	1007.2	100.05	1020.6	98.75	1033.0	99.65	1045.4	101.95	1068.1
GR	111.1	1102.2	111.75	1136.3	110.85	1239.6	111.45	1342.9	113.65	2375.9

QT	1	4800								
X1	18040.	15	947.0	1067.0	1800	1300	1745.0			
CI	-1	90.67	0.04	4	4	10				
GR	115.0	.0	113.00	700.0	112.00	800.0	112.80	900.0	112.40	947.0
GR	103.7	975.0	101.40	988.0	100.10	1000.0	101.00	1012.0	103.30	1034.0
GR	112.4	1067.0	113.10	1100.0	112.20	1200.0	112.80	1300.0	115.00	2400

DROP STRUCTURE

X1	18041	15	947.0	1067.0	1	1	1			
CI	-1	94.70	0.04	4	4	40				
GR	115.0	.0	113.00	700.0	112.00	800.0	112.80	900.0	112.40	947.0
GR	103.7	975.0	101.40	988.0	100.10	1000.0	101.00	1012.0	103.30	1034.0
GR	112.4	1067.0	113.10	1100.0	112.20	1200.0	112.80	1300.0	115.00	2400

NC	.12	.12	.03	.3	.5					
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W WELSFORD ROAD STA. 180+90

X1	18090.	17	962.0	1052.0	49	49	49			
CI	1006	94.72	0.04	3	3	10				
X3	10.							111.70	111.80	
GR	115.0	.0	113.00	700.0	112.00	800.0	112.80	900.0	112.80	962.0
GR	107.7	962.0	103.70	975.0	101.40	988.0	100.10	1000.0	101.00	1012.0
GR	103.3	1034.0	108.10	1052.0	112.90	1052.0	113.10	1100.0	112.20	1200.0
GR	112.8	1300.0	115.00	2400						

SB	1.250	1.56	3.00	.00	10	2.33	960	3	94.74	94.72
X1	18127.	17	962.0	1052.0	37.0	37.0	37.0			
CI	1006	94.74	0.04	3	3	10				
X2	0.	.00	1.	111.40	112.00	.00				
X3	10.							.000		.000
BT	-13	.0	115.00	.00	700.0	113.00	.00	112.00	112.20	
BT	0	900.0	112.80	.00	962.0	112.80	.00	800.0	112.00	.00
BT	0	1007.0	113.80	.00	1052.0	113.50	.00	962.0	113.40	.00
BT	0	1100.0	113.10	.00	1200.0	112.20	.00	1052.0	112.90	.00
BT	0	2300.0	115.00	.00			.00	1300.0	112.80	.00
GR	115.0	.0	113.00	700.0	112.00	800.0	112.80	900.0	112.80	962.0
GR	107.7	962.0	103.70	975.0	101.40	988.0	100.10	1000.0	101.00	1012.0
GR	103.3	1034.0	108.10	1052.0	112.90	1052.0	113.10	1100.0	112.20	1200.0
GR	112.8	1300.0	115.00	2400						

NC	.12	.12	.04							
X1	18177.	15	947.0	1067.0	50.0	50.0	50.0			
CI	-1	94.77	0.04	4	4	40				
GR	115.0	.0	113.00	700.0	112.00	800.0	112.80	900.0	112.40	947.0
GR	103.7	975.0	101.40	988.0	100.10	1000.0	101.00	1012.0	103.30	1034.0
GR	112.4	1067.0	113.10	1100.0	112.20	1200.0	112.80	1300.0	115.00	2400

NC				.1	.3					
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QT	1	4500								
X1	21000.	16	2940.0	3043.0	2823	2823	2823.0			
CI	-1	96.18	0.04	4	4	40				
GR	120.0	500	115.00	1500	115.00	1700.0	115.20	2817.0	116.70	2917.0
GR	115.3	2929.0	115.90	2940.0	105.60	2966.0	103.80	2985.0	99.00	3000.0
GR	102.9	3015.0	116.01	3043.0	117.00	3068.0	115.60	3138.0	118.20	3178.0

GR	120	5800								
X1	21700.	14	2674.5	2770.0	680	700.0	700.0			
CI	-1	96.53	0.04	4	4	40				
GR	118.9	400.0	113.35	2529.8	114.65	2619.1	112.55	2659.3	114.05	2674.5
GR	103.8	2695.9	100.95	2719.1	100.05	2721.8	100.95	2724.5	104.75	2747.7
GR	114.3	2770.0	112.85	2783.4	113.85	2791.5	120	5222		
QT	1	4420								
X1	22400.	14	2947.0	3054.0	680	700.0	700.0			
CI	-1	96.88	0.04	4	4	40				
GR	120.0	600	114.40	2785.0	115.70	2885.0	113.60	2930.0	115.10	2947.0
GR	104.9	2971.0	102.00	2997.0	101.10	3000.0	102.00	3003.0	105.80	3029.0
GR	115.3	3054.0	113.90	3069.0	114.90	3078.0	120.00	4400		
DROP STRUCTURE										
X1	22401	14	2947.0	3054.0	1	1	1			
CI	-1	100.90	0.04	3	3	40				
GR	120.0	600	114.40	2785.0	115.70	2885.0	113.60	2930.0	115.10	2947.0
GR	104.9	2971.0	102.00	2997.0	101.10	3000.0	102.00	3003.0	105.80	3029.0
GR	115.3	3054.0	113.90	3069.0	114.90	3078.0	120.00	4400		
QT	1	1460								
X1	22673.	14	2954.7	3059.9	170	450	272			
CI	-1	101.17	0.04	3	3	20				
GR	119.3	600.0	113.95	2934.7	112.85	2945.7	114.45	2954.7	105.65	2978.7
GR	103.0	2996.8	101.75	3004.8	103.55	3012.8	106.85	3034.9	109.95	3046.9
GR	116.2	3059.9	115.25	3070.9	117.05	3091.0	118.45	4507.8		
NC	.15	.15	.04							
QT	1	1440								
X1	22947.	14	2950.0	3055.0	170	450	274			
CI	-1	101.45	0.04	3	3	20				
GR	120.0	600.0	114.60	2930.0	113.50	2941.0	115.10	2950.0	106.30	2974.0
GR	103.7	2992.0	102.40	3000.0	104.20	3008.0	107.50	3030.0	110.60	3042.0
GR	116.8	3055.0	115.90	3066.0	117.70	3086.0	119.10	4500.0		
QT	1	1360								
X1	25347.	17	957.0	1047.0	2200	2400.0	2400			
CI	-1	103.85	0.04	3	3	20				
GR	125.0	300.0	120.00	400.0	115.20	927.0	114.10	948.0	116.10	957.0
GR	108.2	972.0	107.00	990.0	106.50	1000.0	107.20	1010.0	109.20	1035.0
GR	115.5	1047.0	114.20	1057.0	115.50	1067.0	115.90	1167.0	116.70	1197.0
GR	120.0	1700.0	125	2000						
QT	1	1320								
X1	26222.	15	1026.5	1125.5	875.0	875.0	875.0			
CI	-1	104.72	0.04	3	3	20				
GR	123.2	.0	116.70	994.2	115.50	1015.7	117.70	1026.5	110.80	1042.6
GR	107.9	1063.1	107.30	1076.0	108.10	1088.9	110.90	1105.1	120.70	1125.5
GR	117.0	1141.6	117.60	1163.2	117.70	1270.8	119.20	1560.2	124.20	1721.6

QT	1	1290								
NC	.12	.12	.04	.1	.3					
X1	27097.	15	954.0	1046.0	875	875	875			
CI	-1	105.60	0.04	3	3	20				
GR	124.0	.0	117.50	924.0	116.30	944.0	118.50	954.0	111.60	969.0
GR	108.7	988.0	108.10	1000.0	108.90	1012.0	111.70	1027.0	121.50	1046.0
GR	117.8	1061.0	118.40	1081.0	118.50	1181.0	120.00	1450.0	125.00	1600.0

QT	1	1250								
X1	28362.	17	2083.0	2158.5	1200	1260.0	1265.0			
CI	-1	106.86	0.04	3	3	20				
GR	118.4	700.0	117.20	2050.1	117.10	2053.4	116.80	2067.7	118.50	2083.0
GR	112.4	2093.9	110.50	2118.0	109.70	2123.5	111.10	2129.0	112.90	2146.5
GR	117.5	2158.5	115.50	2170.6	116.40	2187.0	117.50	2215.5	118.40	2671.0
GR	118.4	2835.3	123.40	2999.5						

QT	1	1200								
X1	29627.	17	1963.0	2032.0	1200	1260.0	1265.0			
CI	-1	108.13	0.04	3	3	20				
GR	120.0	700.0	118.80	1933.0	118.70	1936.0	118.40	1949.0	120.10	1963.0
GR	114.0	1973.0	112.10	1995.0	111.30	2000.0	112.70	2005.0	114.50	2021.0
GR	119.1	2032.0	117.10	2043.0	118.00	2058.0	119.10	2084.0	120.00	2500.0
GR	120.0	2650.0	125.00	2800.0						

DROP STRUCTURE

X1	29628	17	1963.0	2032.0	1	1	1			
CI						.01				
GR	120.0	700.0	118.80	1933.0	118.70	1936.0	118.40	1949.0	120.10	1963.0
GR	114.0	1973.0	112.10	1995.0	111.30	2000.0	112.70	2005.0	114.50	2021.0
GR	119.1	2032.0	117.10	2043.0	118.00	2058.0	119.10	2084.0	120.00	2500.0
GR	120.0	2650.0	125.00	2800.0						

NC .12 .12 .015 .3 .5

ROBINSON ROAD STA. 296+67

X1	29667.	18	1983.0	2013.0	39	39	39			
X3	10.							118.30	118.50	
GR	120.0	700.0	119.40	1498.0	119.50	1598.0	119.20	1698.0	119.40	1798.0
GR	119.5	1898.0	119.60	1983.0	111.40	1983.0	111.40	2013.0	119.60	2013.0
GR	119.5	2098.0	119.70	2198.0	119.80	2298.0	119.90	2398.0	120.10	2498.0
GR	120.0	2500.0	120.00	2650.0	125.00	2800.0				
SB	1.250	1.56	3.00	.00	30.00	1.40	162	0	111.4	111.4
X1	29731.	18	1983.0	2013.0	64.0	64.0	64.0			
X2	0.	.00	1.	117.40	119.20	.00		.000		.000
X3	10.							119.5	119.50	
BT	-16	700.0	120.00	.00	1498.0	119.40	.00	1598.0	119.50	.00
BT	0	1698.0	119.20	.00	1798.0	119.40	.00	1898.0	119.50	.00
BT	0	1983.0	119.60	.00	2013.0	119.60	.00	2098.0	119.50	.00
BT	0	2198.0	119.70	.00	2298.0	119.80	.00	2398.0	119.90	.00
BT	0	2498.0	120.10	.00	2500.0	120.00	.00	2650.0	120.00	.00
BT	0	2800.0	125.00	.00						
GR	120.0	700.0	119.40	1498.0	119.50	1598.0	119.20	1698.0	119.40	1798.0
GR	119.5	1898.0	119.60	1983.0	111.40	1983.0	111.40	2013.0	119.60	2013.0

GR	119.5	2098.0	119.70	2198.0	119.80	2298.0	119.90	2398.0	120.10	2498.0
GR	120.0	2500.0	120.00	2650.0	125.00	2800.0				
X1	29831	15	1967.0	2040.0	100	100	100			
CI	-1	111.55	0.04	3	3	30				
X3		111.55								
GR	120.0	700.0	119.20	1883.0	119.80	1933.0	118.20	1954.0	120.60	1967.0
GR	112.4	1990.0	110.90	2000.0	112.10	2010.0	114.30	2028.0	120.40	2040.0
GR	117.6	2051.0	118.70	2069.0	120.00	2500.0	120.00	2650.0	125.00	2800.0
NC	.12	.12	.04	.10000	.30000					
QT	1	1180								
X1	30380.	11	950.5	1018.4	600.0	550	549			
CI	-1	112.40	0.04	3	3	30				
X3		112.40								
GR	123.2	917.0	119.70	939.1	120.90	950.5	115.60	956.3	112.90	975.9
GR	112.0	984.9	112.70	993.9	114.30	1006.2	122.80	1018.4	121.20	1027.4
GR	123.1	1047.9								
QT	1	1170								
X1	30963.	11	961.0	1050.2	600.0	550	583.0			
CI	-1	113.30	0.04	3	3	30				
GR	127.6	917.0	124.10	946.0	125.30	961.0	120.00	968.6	117.30	994.3
GR	116.4	1006.1	117.10	1018.0	118.70	1034.1	127.20	1050.2	125.60	1062.0
GR	127.5	1088.8								
QT	1	1150								
X1	31546.	11	960.8	1049.6	600.0	550	583.0			
CI	-1	114.20	0.04	3	3	30				
GR	127.6	917.0	124.10	945.9	125.30	960.8	120.00	968.3	117.30	994.0
GR	116.4	1005.7	117.10	1017.5	118.70	1033.5	127.20	1049.6	125.60	1061.3
GR	127.5	1088.0								
NC	.15	.15	.04							
QT	1	1130								
X1	32127.	11	958.0	1041.0	600.0	550	581.0			
CI	-1	115.10	0.04	3	3	30				
GR	126.5	917.0	123.00	944.0	124.20	958.0	118.90	965.0	116.20	989.0
GR	115.3	1000.0	116.00	1011.0	117.60	1026.0	126.10	1041.0	124.50	1052.0
GR	126.4	1077.0								
QT	1	1100								
X1	33077.	12	956.0	1064.0	950.0	950.0	950.0			
CI	-1	116.57	0.04	3	3	30				
GR	130.7	931.0	129.60	940.0	130.60	956.0	123.50	969.0	118.80	984.0
GR	116.1	1000.0	116.90	1016.0	117.80	1027.0	125.60	1045.0	133.00	1064.0
GR	132.2	1074.0	134.90	1092.0						
X1	33157.	12	956.0	1064.0	80.0	80.0	80.0			
CI	-1	116.69	0.04	3	3	30				
GR	130.7	931.0	129.60	940.0	130.60	956.0	123.50	969.0	118.80	984.0
GR	116.1	1000.0	116.90	1016.0	117.80	1027.0	125.60	1045.0	133.00	1064.0
GR	132.2	1074.0	134.90	1092.0						

DROP STRUCTURE

X1	33207.	13	989	1021.0	50.0	50.0	50.0			
CI	-1	116.77	0.04	3	3	30				
GR	130.7	931.0	129.60	940.0	130.60	956.0	124.60	989	124.60	990
GR	116.8	990	116.80	1020.0	124.60	1020.0	124.60	1021.0	133.00	1064.0
GR	132.2	1074.0	134.90	1092.0	134.9	1200				
X1	33226	13	989	1021	19	19	19			
CI	-1	116.80	0.04	3	3	30				
GR	130.7	931.0	129.60	940.0	130.60	956.0	124.60	989	124.60	990
GR	116.8	990	116.80	1020.0	124.60	1020.0	124.60	1021.0	133.00	1064.0
GR	132.2	1074.0	134.90	1092.0	134.9	1200				
X1	33227.	16	984	1016	1	1	1			
CI	-1	121.9	0.04	3	3	30				
X5	-1	6.5								
GR	132.2	926.0	130.90	942.0	132.70	963.0	131.00	984	131.00	985
GR	127.0	985	127.00	998.5	122.80	998.5	122.80	1001.5	127.00	1001.5
GR	127.0	1015	131.00	1015	131.00	1016	132.70	1039.0	130.80	1057.0
GR	133.4	1089.0								
NC	.15	.15	.04							
X1	33257.	9	963.0	1039.0	30.0	30.0	30.0			
CI	-1	121.95	0.04	3	3	30				
GR	132.2	926.0	130.90	942.0	132.70	963.0	123.50	990.0	122.50	1000.0
GR	123.6	1010.0	132.70	1039.0	130.80	1057.0	133.40	1089.0		
NC			.1	.3						
X1	33327.	9	963.0	1039.0	70.0	70.0	70.0			
CI	-1	122.05	0.04	3	3	30				
GR	132.2	926.0	130.90	942.0	132.70	963.0	123.50	990.0	122.50	1000.0
GR	123.6	1010.0	132.70	1039.0	130.80	1057.0	133.40	1089.0		
QT	1	1080								
X1	34135.	15	1960.0	2044.0	808.0	808.0	808.0			
CI	-1	123.26	0.04	3	3	30				
GR	140.0	700.0	133.80	1944.0	133.10	1950.0	133.40	1960.0	130.00	1972.0
GR	123.4	1987.0	123.30	2000.0	123.30	2013.0	130.90	2033.0	133.40	2044.0
GR	132.9	2053.0	133.30	2077.0	135.00	4000.0	135.00	4600.0	140.00	4800.0
NC	.15	.15	.024	.3	.5					
X1	34185.	83	960	1044	50.0	50.0	50.0			
CI						.01				
X3	10.							134.50	134.50	
GR	134.4	500.0	134.40	600.0	134.20	700.0	134.30	800.0	134.30	900.0
GR	133.8	944.0	133.10	950.0	133.40	960.0	130.00	972.0	126.3	979
GR	125.52	979.1	124.8	979.4	124.18	979.88	123.7	980.5	123.4	981.22
GR	123.3	982	123.4	982.78	123.7	983.5	124.18	984.12	124.8	984.6
GR	125.52	984.9	126.3	985	126.30	988.0	125.5	988.1	124.80	988.4
GR	124.18	988.9	123.70	989.5	123.40	990.2	123.3	991.0	123.40	991.8
GR	123.70	992.5	124.18	993.1	124.80	993.6	125.5	993.9	126.30	994.0
GR	126.30	997.0	125.52	997.1	124.80	997.4	124.2	997.9	123.70	998.5
GR	123.40	999.2	123.30	1000.0	123.40	1000.8	123.7	1001.5	124.18	1002.1

GR	124.80	1002.6	125.52	1002.9	126.30	1003.0	126.3	1006.0	125.52	1006.1
GR	124.80	1006.4	124.18	1006.9	123.70	1007.5	123.4	1008.2	123.30	1009.0
GR	123.40	1009.8	123.70	1010.5	124.18	1011.1	124.8	1011.6	125.52	1011.9
GR	126.30	1012.0	126.3	1015	125.52	1015.1	124.8	1015.4	124.18	1015.88
GR	123.7	1016.5	123.4	1017.22	123.3	1018	123.4	1018.78	123.7	1019.5
GR	124.18	1020.12	124.8	1020.6	125.52	1020.9	126.3	1021	130.90	1033.0
GR	133.40	1044.0	132.9	1053.0	133.30	1077.0	135.10	1100.0	137.20	1200.0
GR	139.60	1300.0	139.9	1400.0	138.70	1500.0				

HANNA ROAD STA. 341+86

X1	34186.	83	979	1021	1.0	1.0	1.0			
X3	10.							134.50	134.50	
BT	-83	500.0	139.80	134.40	600.0	139.70	134.40	700.0	139.70	134.20
BT		800.0	139.70	134.30	900.0	139.70	134.30	944.0	139.60	133.80
BT		950.0	139.60	133.10	960.0	139.60	133.40	972.0	139.60	130.00
BT		979	139.6	126.3	979.1	139.6	127.08	979.4	139.6	127.8
BT		979.88	139.6	128.42	980.5	139.6	128.9	981.22	139.6	129.2
BT		982	139.6	129.3	982.78	139.6	129.2	983.5	139.6	128.9
BT		984.12	139.6	128.42	984.6	139.6	127.8	984.9	139.6	127.08
BT		985	139.6	126.3	988.0	139.60	126.30	988.1	139.60	127.08
BT		988.4	139.60	127.80	988.9	139.60	128.42	989.5	139.60	128.90
BT		990.2	139.60	129.20	991.0	139.60	129.30	991.8	139.60	129.20
BT		992.5	139.60	128.90	993.1	139.60	128.42	993.6	139.60	127.80
BT		993.9	139.60	127.08	994.0	139.60	126.30	997.0	139.60	126.30
BT		997.1	139.60	127.08	997.4	139.60	127.80	997.9	139.60	128.42
BT		998.5	139.60	128.90	999.2	139.60	129.20	1000.0	139.60	129.30
BT		1000.8	139.60	129.20	1001.5	139.60	128.90	1002.1	139.60	128.42
BT		1002.6	139.60	127.80	1002.9	139.60	127.08	1003.0	139.60	126.30
BT		1006.0	139.60	126.30	1006.1	139.60	127.08	1006.4	139.60	127.80
BT		1006.9	139.60	128.42	1007.5	139.60	128.90	1008.2	139.60	129.20
BT		1009.0	139.60	129.30	1009.8	139.60	129.20	1010.5	139.60	128.90
BT		1011.1	139.60	128.42	1011.6	139.60	127.80	1011.9	139.60	127.08
BT		1012.0	139.60	126.30	1015	139.60	126.30	1015.1	139.60	127.08
BT		1015.4	139.60	127.80	1015.9	139.60	128.42	1016.5	139.60	128.90
BT		1017.2	139.60	129.20	1018	139.60	129.30	1018.8	139.60	129.20
BT		1019.5	139.60	128.90	1020.1	139.60	128.42	1020.6	139.60	127.80
BT		1020.9	139.60	127.08	1021	139.60	126.30	1033.0	139.60	130.90
BT		1044.0	139.60	133.40	1053.0	139.60	132.90	1077.0	139.60	133.30
BT		1100.0	139.60	135.10	1200.0	139.70	137.20	1300.0	139.70	139.60
BT		1400.0	139.90	139.90	1500.0	139.70	138.70			
GR	134.4	500.0	134.40	600.0	134.20	700.0	134.30	800.0	134.30	900.0
GR	133.8	944.0	133.10	950.0	133.40	960.0	130.00	972.0	126.3	979
GR	125.52	979.1	124.8	979.4	124.18	979.88	123.7	980.5	123.4	981.22
GR	123.3	982	123.4	982.78	123.7	983.5	124.18	984.12	124.8	984.6
GR	125.52	984.9	126.3	985	126.30	988.0	125.5	988.1	124.80	988.4
GR	124.18	988.9	123.70	989.5	123.40	990.2	123.3	991.0	123.40	991.8
GR	123.70	992.5	124.18	993.1	124.80	993.6	125.5	993.9	126.30	994.0
GR	126.30	997.0	125.52	997.1	124.80	997.4	124.2	997.9	123.70	998.5
GR	123.40	999.2	123.30	1000.0	123.40	1000.8	123.7	1001.5	124.18	1002.1
GR	124.80	1002.6	125.52	1002.9	126.30	1003.0	126.3	1006.0	125.52	1006.1
GR	124.80	1006.4	124.18	1006.9	123.70	1007.5	123.4	1008.2	123.30	1009.0
GR	123.40	1009.8	123.70	1010.5	124.18	1011.1	124.8	1011.6	125.52	1011.9
GR	126.30	1012.0	126.3	1015	125.52	1015.1	124.8	1015.4	124.18	1015.9
GR	123.7	1016.5	123.4	1017.2	123.3	1018	123.4	1018.8	123.7	1019.5

GR	124.18	1020.1	124.8	1020.6	125.52	1020.9	126.3	1021	130.90	1033.0
GR	133.40	1044.0	132.9	1053.0	133.30	1077.0	135.10	1100.0	137.20	1200.0
GR	139.60	1300.0	139.9	1400.0	138.70	1500.0				
X1	34361.	84	979	1021	175	175	175			
X3	10.							139.60	139.60	
BT	-84	500	139.8	139.8	600	139.7	139.7	700	139.7	139.7
BT		800	139.7	139.7	900	139.7	139.7	929	139.7	134.5
BT		948	139.6	133.2	956	139.6	135.3	968	139.6	132
BT		979	139.6	128.3	979.1	139.6	129.08	979.4	139.6	129.8
BT		979.88	139.6	130.42	980.5	139.6	130.9	981.22	139.6	131.2
BT		982	139.6	131.3	982.78	139.6	131.2	983.5	139.6	130.9
BT		984.12	139.6	130.42	984.6	139.6	129.8	984.9	139.6	129.08
BT		985	139.6	128.3	988	139.6	128.3	988.1	139.6	129.08
BT		988.4	139.6	129.8	988.88	139.6	130.42	989.5	139.6	130.9
BT		990.22	139.6	131.2	991	139.6	131.3	991.78	139.6	131.2
BT		992.5	139.6	130.9	993.12	139.6	130.42	993.6	139.6	129.8
BT		993.9	139.6	129.08	994	139.6	128.3	997	139.6	128.3
BT		997.1	139.6	129.08	997.4	139.6	129.8	997.88	139.6	130.42
BT		998.5	139.6	130.9	999.22	139.6	131.2	1000	139.6	131.3
BT		1000.7	139.6	131.2	1001.5	139.6	130.9	1002.1	139.6	130.42
BT		1002.6	139.6	129.8	1002.9	139.6	129.08	1003	139.6	128.3
BT		1006	139.6	128.3	1006.1	139.6	129.08	1006.4	139.6	129.8
BT		1006.8	139.6	130.42	1007.5	139.6	130.9	1008.2	139.6	131.2
BT		1009	139.6	131.3	1009.7	139.6	131.2	1010.5	139.6	130.9
BT		1011.1	139.6	130.42	1011.6	139.6	129.8	1011.9	139.6	129.08
BT		1012	139.6	128.3	1015	139.6	128.3	1015.1	139.6	129.08
BT		1015.4	139.6	129.8	1015.9	139.6	130.42	1016.5	139.6	130.9
BT		1017.2	139.6	131.2	1018	139.6	131.3	1018.8	139.6	131.2
BT		1019.5	139.6	130.9	1020.1	139.6	130.42	1020.6	139.6	129.8
BT		1020.9	139.6	129.08	1021	139.6	128.3	1033	139.6	132.6
BT		1038	139.6	135	1050	139.6	134.1	1062	139.6	135.1
BT		1100	139.6	139.6	1200	139.6	139.6	1300	139.7	139.7
BT		1400	139.7	139.7	1500	139.7	139.7	2350	140	140
GR	139.8	500	139.7	600	139.7	700	139.7	800	139.7	900
GR	134.50	929.0	133.20	948.0	135.30	956.0	132.00	968.0	128.3	979
GR	127.52	979.1	126.8	979.4	126.18	979.88	125.7	980.5	125.4	981.22
GR	125.3	982	125.4	982.78	125.7	983.5	126.18	984.12	126.8	984.6
GR	127.52	984.9	128.3	985	128.3	988	127.52	988.1	126.8	988.4
GR	126.18	988.88	125.7	989.5	125.4	990.22	125.3	991	125.4	991.78
GR	125.7	992.5	126.18	993.12	126.8	993.6	127.52	993.9	128.3	994
GR	128.3	997	127.52	997.1	126.8	997.4	126.18	997.88	125.7	998.5
GR	125.4	999.22	125.3	1000	125.4	1000.7	125.7	1001.5	126.18	1002.1
GR	126.8	1002.6	127.52	1002.9	128.3	1003	128.3	1006	127.52	1006.1
GR	126.8	1006.4	126.18	1006.8	125.7	1007.5	125.4	1008.2	125.3	1009
GR	125.4	1009.7	125.7	1010.5	126.18	1011.1	126.8	1011.6	127.52	1011.9
GR	128.3	1012	128.3	1015	127.52	1015.1	126.8	1015.4	126.18	1015.9
GR	125.7	1016.5	125.4	1017.2	125.3	1018	125.4	1018.8	125.7	1019.5
GR	126.18	1020.1	126.8	1020.6	127.52	1020.9	128.3	1021	132.60	1033.0
GR	135.00	1038.0	134.1	1050.0	135.10	1062.0	139.6	1100	139.6	1200
GR	139.7	1300	139.7	1400	139.7	1500	140.00	2350.0		

X1	34362	84	956.0	1038	1	1	1			
X3	10.							139.60	139.60	
GR	139.8	500	139.7	600	139.7	700	139.7	800	139.7	900
GR	134.50	929.0	133.20	948.0	135.30	956.0	132.00	968.0	128.3	979
GR	127.52	979.1	126.8	979.4	126.18	979.88	125.7	980.5	125.4	981.22
GR	125.3	982	125.4	982.78	125.7	983.5	126.18	984.12	126.8	984.6
GR	127.52	984.9	128.3	985	128.3	988	127.52	988.1	126.8	988.4
GR	126.18	988.88	125.7	989.5	125.4	990.22	125.3	991	125.4	991.78
GR	125.7	992.5	126.18	993.12	126.8	993.6	127.52	993.9	128.3	994
GR	128.3	997	127.52	997.1	126.8	997.4	126.18	997.88	125.7	998.5
GR	125.4	999.22	125.3	1000	125.4	1000.7	125.7	1001.5	126.18	1002.1
GR	126.8	1002.6	127.52	1002.9	128.3	1003	128.3	1006	127.52	1006.1
GR	126.8	1006.4	126.18	1006.8	125.7	1007.5	125.4	1008.2	125.3	1009
GR	125.4	1009.7	125.7	1010.5	126.18	1011.1	126.8	1011.6	127.52	1011.9
GR	128.3	1012	128.3	1015	127.52	1015.1	126.8	1015.4	126.18	1015.8
GR	125.7	1016.5	125.4	1017.2	125.3	1018	125.4	1018.7	125.7	1019.5
GR	126.18	1020.12	126.8	1020.6	127.52	1020.9	128.3	1021	132.60	1033.0
GR	135.00	1038.0	134.1	1050.0	135.10	1062.0	139.6	1100	139.6	1200
GR	139.7	1300	139.7	1400	139.7	1500	140.00	2350.0		
NC	.12	.15	.04							
X1	34412	13	956.0	1038.0	50.0	50.0	50.0			
CI	-1	-1	.04	3	3	30				
GR	139.0	100.0	134.50	929.0	133.20	948.0	135.30	956.0	132.00	968.0
GR	125.4	988.0	125.30	1000.0	125.20	1012.0	132.60	1033.0	135.00	1038.0
GR	134.1	1050.0	135.10	1062.0	140.00	2350.0				
NC				.1	.3					
QT	1	1030								
X1	35234.	12	961.0	1039.0	822	822	822			
CI	-1	126.62	.04	3	3	30				
GR	137.0	846.0	136.40	871.0	136.90	931.0	133.60	947.0	135.40	961.0
GR	127.9	989.0	127.80	1000.0	128.00	1011.0	135.30	1039.0	133.20	1056.0
GR	136.3	1072.0	137.30	1091.0						
NC	.12	.15	.04	.3	.5					
WOODSON ROAD STA. 352+64										
X1	35264.	16	991.0	1009	30.0	30.0	30.0			
CI	1000	126.66	.04	3	3	30				
X3	10.							137.00	137.00	
GR	139.0	700.0	136.70	800.0	136.60	900.0	136.70	931.0	133.60	947.0
GR	135.4	961.0	130.70	991.0	127.8	991.0	127.8	1009	130.70	1009
GR	135.3	1039.0	133.20	1056.0	136.30	1072.0	136.80	1100.0	137.00	1200.0
GR	140.0	2550.0								
SB	1.250	1.56	3.00	.00	30	1.0	440	3	126.76	126.66
X1	35327.	16	991.0	1009	63.0	63.0	63.0			
CI	1000	126.76	.04	3	3	30				
X2			1.	135	136.60					
X3	10.							137.40	137.40	
BT	-10	650.0	140.50	.00	700.0	137.90	.00	800.0	136.70	.00
BT	0	900.0	136.60	.00	1000.0	137.00	.00	1100.0	136.80	.00
BT	0	1200.0	137.00	.00	1300.0	136.90	.00	1400.0	136.80	.00

BT	0	1500.0	136.90	.00						
GR	139.0	700.0	136.70	800.0	136.60	900.0	136.70	931.0	133.60	947.0
GR	135.4	961.0	130.70	991.0	127.8	991.0	127.8	1009	130.70	1009
GR	135.3	1039.0	133.20	1056.0	136.30	1072.0	136.80	1100.0	137.00	1200.0
GR	140.0	2550.0								

NC	.12	.15	.04							
X1	35377.	14	961.0	1039.0	50.0	50.0	50.0			
CI	-1	126.83	.04	3	3	30				
GR	139.0	700.0	137.00	846.0	136.40	871.0	136.90	931.0	133.60	947.0
GR	135.4	961.0	127.90	989.0	127.80	1000.0	128.00	1011.0	135.30	1039.0
GR	133.2	1056.0	136.30	1072.0	137.30	1091.0	140.00	2550.0		

QT	1	530								
NC				.1	.3					
X1	35957.	14	963.0	1031.0	580.0	580.0	580.0			
CI	-1	127.71	.04	3	3	30				
GR	142.0	350.0	139.00	350.0	137.50	935.0	136.90	949.0	138.20	963.0
GR	133.0	979.0	128.80	991.0	127.80	1000.0	128.80	1009.0	133.00	1020.0
GR	137.7	1031.0	136.80	1043.0	137.30	1048.0	140.00	2500.0		

X1	36017.	15	991	1009	60.0	60.0	60.0			
CI	-1	127.8	.04	3	3	6				
GR	142.0	350.0	139.00	350.0	137.50	935.0	136.90	949.0	138.20	963.0
GR	132.3	987	132.30	991	127.80	991	127.80	1009	132.30	1009
GR	132.3	1013	137.70	1031.0	136.80	1043.0	137.30	1048.0	140.00	2500.0

DROP STRUCTURE

X1	36027.	19	991	1009	10.0	10.0	10.0			
CI	-1	130.6	.04	3	3	6				
X5	-1	3.0								
GR	142.0	350.0	139.00	350.0	138.30	956.0	137.80	963.0	139.80	976.0
GR	137.3	987	137.30	991	134.30	991	134.30	998.5	131.30	998.5
GR	131.3	1001.5	134.30	1001.5	134.30	1009	137.30	1009	137.30	1013
GR	140.0	1031.0	138.80	1042.0	139.10	1048.0	140.00	2500.0		

NC	.12	.15	.04							
X1	36103.	12	976.0	1031.0	76.0	76.0	76.0			
CI	1002	130.71	.04	3	3	6				
GR	142.0	350.0	139.00	350.0	138.30	956.0	137.80	963.0	139.80	976.0
GR	131.8	996.0	131.50	1000.0	131.90	1004.0	140.00	1031.0	138.80	1042.0
GR	139.1	1048.0	140.00	2500.0						

NC				.1	.3					
X1	36397.	11	977.0	1043.1	294	294	294.0			
CI	1009	131.16	.04	3	3	6				
GR	144.3	500.0	142.15	964.8	141.65	970.9	142.15	977.0	132.35	1003.4
GR	131.8	1008.5	132.75	1013.6	141.75	1043.1	140.95	1053.2	141.25	1056.3
GR	144.3	1872.9								

X1	36691.	11	966.2	1030.8	294	294	294.0			
CI	-1	131.60	.04	3	3	6				
GR	145.3	500.0	143.15	954.3	142.65	960.2	143.15	966.2	133.35	992.0
GR	132.8	997.0	133.75	1002.0	142.75	1030.8	141.95	1040.7	142.25	1043.7
GR	145.3	1841.9								
QT	1	490								
X1	36985.	11	966.2	1030.8	294	294	294.0			
CI	-1	132.04	.04	3	3	6				
GR	145.3	500.0	143.15	954.3	142.65	960.2	143.15	966.2	133.35	992.0
GR	132.8	997.0	133.75	1002.0	142.75	1030.8	141.95	1040.7	142.25	1043.7
GR	145.3	1841.9								
X1	37277.	11	969.0	1034.0	292	292	292.0			
CI						.01				
GR	145.0	500.0	142.90	957.0	142.40	963.0	142.90	969.0	133.10	995.0
GR	132.5	1000.0	133.50	1005.0	142.50	1034.0	141.70	1044.0	142.00	1047.0
GR	145.0	1850.0								
QT	1	450								
X1	37902.	9	909.2	961.2	625.0	625.0	625.0			
GR	144.1	100.0	140.05	893.4	141.65	909.2	133.85	928.7	133.45	935.2
GR	134.3	941.7	140.85	961.2	140.05	977.9	144.05	1956.0		
QT	1	430								
X1	38527.	9	972.0	1028.0	625.0	625.0	625.0			
GR	145.0	100.0	141.00	955.0	142.60	972.0	134.80	993.0	134.40	1000.0
GR	135.2	1007.0	141.80	1028.0	141.00	1046.0	145.00	2100.0		
X1	38757.	12	1912.1	1960.9	230.0	230.0	230.0			
X3	10									
GR	144.3	500.0	140.63	1895.8	140.33	1902.5	141.33	1912.1	135.23	1929.3
GR	134.7	1937.0	135.33	1944.7	141.03	1960.9	140.03	1972.4	140.93	1985.9
GR	139.3	2320.2	144.33	2607.6						
X1	38987.	12	2006.4	2058.6	230.0	230.0	230.0			
X3	10									
GR	145.3	500.0	141.63	1989.1	141.33	1996.2	142.33	2006.4	136.23	2024.8
GR	135.7	2033.0	136.33	2041.2	142.03	2058.6	141.03	2070.8	141.93	2085.1
GR	140.3	2441.8	145.33	2748.4						
QT	1	400								
X1	39217.	12	1974.0	2025.0	230.0	230.0	230.0			
X3	10									
GR	145.0	500.0	141.30	1957.0	141.00	1964.0	142.00	1974.0	135.90	1992.0
GR	135.4	2000.0	136.00	2008.0	141.70	2025.0	140.70	2037.0	141.60	2051.0
GR	140.0	2400.0	145.00	2700.0						

IHLEQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

THIS RUN EXECUTED 9/ 1/89 17: 0:45

 HEC2 RELEASE DATED SEPT 88

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

A109-00-00

SUMMARY PRINTOUT

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
500.000	6400.00	100.00	100.20	100.60	81.90	3.83	100.23	.00	164.80	.00	20.00	.00
3900.000	6100.00	101.65	102.86	102.45	83.60	3.67	101.86	3400.00	164.40	12.85	20.00	59.20
5035.000	6000.00	102.17	103.08	103.83	84.17	3.62	102.38	1135.00	164.02	17.13	20.00	89.89
5135.000	6000.00	102.22	103.09	103.83	84.22	3.62	102.42	100.00	163.99	17.50	20.00	92.80
6170.000	5900.00	102.69	105.77	106.19	84.74	3.58	102.89	1035.00	163.56	21.39	20.00	125.99
9275.000	5700.00	104.05	121.86	114.47	86.29	3.52	104.25	3105.00	162.19	33.00	20.00	270.48
9869.000	5700.00	104.31	110.30	110.08	86.58	3.53	104.50	594.00	161.87	35.21	20.00	299.88
10463.000	5700.00	104.57	109.40	109.30	86.88	3.55	104.77	594.00	161.51	37.42	20.00	326.32
* 10556.000	5630.00	104.51	111.30	111.20	86.93	5.38	104.96	93.00	110.13	37.71	10.00	329.32
10647.000	5630.00	104.60	106.80	111.20	86.97	5.37	105.05	91.00	108.74	37.94	10.00	330.83
* 10750.000	5630.00	104.96	109.47	110.99	87.03	3.84	105.19	103.00	153.46	38.25	10.00	333.69
12300.000	5400.00	105.79	108.73	108.33	87.80	3.66	106.00	1550.00	153.94	43.72	10.00	388.69
14550.000	5200.00	106.89	109.72	109.67	88.93	3.54	107.08	2250.00	153.65	51.66	10.00	463.54
14650.000	5200.00	106.93	109.72	109.67	88.98	3.54	107.13	100.00	153.63	52.01	10.00	466.98
16295.000	5000.00	107.69	111.29	111.68	89.80	3.43	107.87	1645.00	153.10	57.80	10.00	528.49
18040.000	4800.00	108.44	112.68	113.09	90.67	3.33	108.62	1745.00	152.19	63.92	10.00	603.12
18041.000	4800.00	108.42	112.67	113.09	94.70	3.69	108.63	1.00	149.73	63.92	40.00	603.16

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
* 18090.000	4800.00	108.20	112.80	112.96	94.72	7.06	108.97	49.00	91.43	64.06	10.00	604.39
18127.000	4800.00	108.30	112.80	112.96	94.74	6.97	109.06	37.00	91.69	64.14	10.00	604.77
* 18177.000	4800.00	109.09	112.67	113.10	94.77	3.45	109.27	50.00	154.54	64.28	40.00	606.01
21000.000	4500.00	110.38	116.31	116.50	96.18	3.27	110.55	2823.00	153.59	74.26	40.00	735.67
21700.000	4500.00	110.68	113.95	113.90	96.53	3.29	110.85	700.00	153.25	76.73	40.00	767.95
22400.000	4420.00	110.99	114.54	114.96	96.88	3.25	111.15	700.00	152.81	79.19	40.00	795.95
* 22401.000	4420.00	110.64	114.47	114.59	100.90	6.56	111.30	1.00	98.43	79.19	40.00	795.98
22673.000	1460.00	111.46	114.45	116.03	101.17	2.60	111.56	272.00	87.16	79.77	20.00	797.62
22947.000	1440.00	111.57	115.10	116.57	101.45	2.70	111.69	274.00	84.42	80.31	20.00	798.44
25347.000	1360.00	112.86	115.87	115.50	103.85	2.91	112.99	2400.00	78.82	84.81	20.00	807.06
26222.000	1320.00	113.45	117.70	119.55	104.72	3.16	113.61	875.00	75.78	86.36	20.00	810.95
27097.000	1290.00	114.15	118.14	119.84	105.60	3.25	114.31	875.00	72.19	87.84	20.00	815.84
28362.000	1250.00	115.23	117.90	117.04	106.86	3.31	115.40	1265.00	70.24	89.91	20.00	823.99
29627.000	1200.00	116.35	119.08	118.11	108.13	3.27	116.52	1265.00	69.35	91.94	20.00	833.93
* 29628.000	1200.00	115.66	120.10	119.10	111.30	9.06	116.94	1.00	53.50	91.94	.01	833.93
* 29667.000	1200.00	115.77	119.60	119.60	111.40	9.15	117.07	39.00	30.00	91.98	.01	833.93
* 29731.000	1200.00	116.10	119.60	119.60	111.40	8.52	117.22	64.00	30.00	92.02	.01	833.93
29831.000	1200.00	117.34	119.93	119.67	111.55	4.36	117.64	100.00	64.75	92.13	30.00	834.51
30380.000	1180.00	118.41	120.38	121.38	112.40	4.01	118.66	549.00	66.07	92.96	30.00	835.90
30963.000	1170.00	119.38	124.89	126.03	113.30	3.99	119.63	583.00	66.50	93.84	30.00	839.37
31546.000	1150.00	120.35	125.05	126.27	114.20	3.83	120.58	583.00	70.82	94.76	30.00	843.96
32127.000	1130.00	121.20	124.15	125.44	115.10	3.50	121.39	581.00	70.86	95.71	30.00	846.32
33077.000	1100.00	122.45	130.44	132.34	116.10	3.63	122.65	950.00	70.27	97.25	30.00	849.08
33157.000	1100.00	122.56	130.46	132.36	116.10	3.59	122.76	80.00	70.57	97.37	30.00	849.39
33207.000	1100.00	122.61	130.21	132.70	116.77	3.96	122.85	50.00	65.04	97.45	30.00	849.84
33226.000	1100.00	122.64	130.21	132.70	116.80	3.96	122.89	19.00	65.03	97.48	30.00	850.11

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
* 33227.000	1100.00	129.14	131.99	132.03	121.90	2.94	129.28	1.00	73.45	97.48	30.00	850.12
33257.000	1100.00	129.16	132.07	131.96	121.95	2.95	129.30	30.00	73.33	97.53	30.00	850.49
33327.000	1100.00	129.21	132.09	131.98	122.05	2.98	129.35	70.00	73.00	97.65	30.00	851.03
34135.000	1080.00	129.91	133.31	133.24	123.26	3.25	130.08	808.00	69.91	98.98	30.00	855.43
34185.000	1080.00	129.90	133.40	133.40	123.30	4.32	130.19	50.00	58.20	99.05	.01	855.43
* 34186.000	1080.00	129.58	126.30	126.30	123.30	7.73	130.51	1.00	42.00	99.05	.01	855.43
34361.000	1080.00	131.07	128.30	128.30	125.30	7.81	132.02	175.00	42.00	99.22	.01	855.43
* 34362.000	1080.00	131.97	135.30	135.00	125.30	4.11	132.23	1.00	63.12	99.22	.01	855.43
34412.000	1080.00	132.16	134.67	134.79	125.20	3.05	132.31	50.00	71.78	99.30	30.00	855.58
35234.000	1030.00	132.94	135.18	135.12	126.62	3.33	133.11	822.00	67.93	100.62	30.00	858.48
35264.000	1030.00	132.97	135.19	135.13	126.66	3.34	133.15	30.00	67.86	100.66	30.00	858.66
35327.000	1030.00	132.98	135.22	135.15	126.76	3.40	133.16	63.00	67.33	100.76	30.00	859.15
35377.000	1030.00	133.04	135.24	135.17	126.83	3.41	133.22	50.00	67.26	100.84	30.00	859.43
35957.000	530.00	133.53	137.29	137.03	127.71	1.92	133.58	580.00	64.89	101.72	30.00	862.78
* 36017.000	530.00	133.49	135.58	137.60	127.80	3.70	133.71	60.00	40.16	101.79	6.00	863.06
* 36027.000	530.00	136.49	139.11	139.98	130.60	3.80	136.72	10.00	41.36	101.80	6.00	863.09
36103.000	530.00	136.66	139.35	139.85	130.71	3.74	136.88	76.00	41.68	101.87	6.00	863.37
36397.000	530.00	137.26	141.89	141.71	131.16	3.57	137.46	294.00	42.63	102.16	6.00	863.94
36691.000	530.00	137.80	142.79	142.48	131.60	3.47	137.99	294.00	43.22	102.45	6.00	864.76
36985.000	490.00	138.30	142.88	142.57	132.04	3.16	138.45	294.00	43.53	102.74	6.00	865.66
37277.000	490.00	138.73	142.90	142.50	132.50	3.39	138.91	292.00	41.81	103.02	.01	865.66
37902.000	450.00	139.61	141.65	140.85	133.45	2.82	139.74	625.00	43.23	103.63	.01	865.66
38527.000	430.00	140.28	142.60	141.80	134.40	2.69	140.39	625.00	44.92	104.27	.01	865.66
38757.000	430.00	140.51	141.33	141.03	134.70	2.64	140.62	230.00	45.07	104.50	.01	865.66
38987.000	430.00	140.77	142.33	142.03	135.70	3.08	140.92	230.00	43.66	104.74	.01	865.66
39217.000	400.00	141.08	142.00	141.70	135.40	2.43	141.17	230.00	46.44	104.98	.01	865.66

SUMMARY OF ERRORS AND SPECIAL NOTES

WARNING SECNO= 10556.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 10750.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 18090.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 18177.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 22401.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO= 29628.000 PROFILE= 1 CRITICAL DEPTH ASSUMED

CAUTION SECNO= 29628.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 29628.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL

WARNING SECNO= 29667.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO= 29731.000 PROFILE= 1 HYDRAULIC JUMP D.S.

NOTE SECNO= 33227.000 PROFILE= 1 WSEL BASED ON X5 CARD

WARNING SECNO= 33227.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 34186.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 34362.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 36017.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

NOTE SECNO= 36027.000 PROFILE= 1 WSEL BASED ON X5 CARD

THIS RUN EXECUTED 9/ 4/89 9: 6:22

HEC2 RELEASE DATED SEPT 88

T1 SOUTHERN MONTGOMERY COUNTY FLOOD PROTECTION STUDY
 T2 DODSON AND ASSOCIATES, INC. SEPTEMBER, 1989
 T3 A109-00-00 DD 6 CHANNEL III
 T4 100-YEAR STORM FREQUENCY ULTIMATE CONDITIONS
 T5 FILENAME = A109ULT.IH2

J1 ICHECK INQ NINV IDIR STRT METRIC HVINS Q WSEL FQ
 2 .0005 100

J2 NPROF IPLOT PRFVS XSECV XSECH FN ALLDC IBW CHNIM ITRACE
 -1 -1

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

38 43 1 23 24 42 26 3 39 4
 37 30 65

J5 LPRNT NUMSEC *****REQUESTED SECTION NUMBERS*****

-10 -10

J6 IHLEQ ICOPY SUBDIV STRTDS RMILE

1

NC	.15	.15	.04	.1	.3					
QT	1	8790								
X1	500.00	9	933.0	1075.0	500.0	500.0	500.0			
CI	-1	81.9	0.04	4	4	50				
GR	100.2	896.0	100.20	933.0	87.40	973.0	85.90	988.0	81.90	1000.0
GR	85.0	1012.0	87.10	1036.0	100.60	1075.0	100.6	1100		
QT	1	8510								
X1	3900.0	13	940.0	1069.0	3400	3400	3400			
CI	-1	83.60	0.04	4	4	50				
GR	105.0	600	102.8	915.0	103.40	940.0	95.60	960.0	91.80	976.0
GR	90.40	993.0	85.6	1000.0	89.50	1007.0	91.50	1038.0	102.30	1069.0
CR	103.00	1169.0	103.2	1199.0	105.0	2100				

QT	1	8420								
X1	5035.0	15	905.2	1026.7	1135.0	1135.0	1135.0			
CI	-1	84.17	0.04	4	4	50				
GR	110	100	103.2	872.0	102.85	878.1	105.65	905.2	96.45	927.9
GR	89.35	955.9	89.0	976.0	87.95	983.9	88.75	990.0	92.55	1004.8
GR	98.85	1011.8	104.1	1026.7	103.25	1114.1	102.45	1201.5	110	2400
X1	5135	15	905.2	1026.7	100	100	100			
CI	-1	84.22	0.04	4	4	40				
GR	110	100	103.2	872.0	102.85	878.1	105.65	905.2	96.45	927.9
GR	89.35	955.9	89.0	976.0	87.95	983.9	88.75	990.0	92.55	1004.8
GR	98.85	1011.8	104.1	1026.7	103.25	1114.1	102.45	1201.5	110	2400
QT	1	8340								
NC	.15	.15	.04							
X1	6170.0	15	910.0	1049.0	1035	1035	1035			
CI	-1	84.74	0.04	4	4	40				
GR	110	700	105.5	872.0	105.20	879.0	108.00	910.0	98.80	936.0
GR	91.70	968.0	91.3	991.0	90.30	1000.0	91.10	1007.0	94.90	1024.0
GR	101.20	1032.0	106.4	1049.0	105.60	1149.0	104.80	1249.0	110	1350
QT	1	8100								
X1	9275.0	15	905.0	1082.0	3105	3105	3105.0			
CI	-1	86.29	0.04	4	4	40				
GR	123.6	800	123.6	825.0	117.60	881.0	117.00	905.0	101.70	921.0
GR	99.90	940.0	96.3	981.0	95.30	1000.0	96.60	1019.0	98.30	1037.0
GR	104.70	1049.0	108.9	1065.0	114.70	1082.0	114.50	1101.0	114.30	1201.0
X1	9869.0	12	935.6	1100.7	594.0	594.0	594.0			
CI	-1	86.58	0.04	4	4	40				
GR	110.3	900	110.3	922.0	110.30	935.6	100.50	961.6	98.10	1006.6
GR	94.40	1028.4	98.3	1050.2	102.90	1076.1	104.00	1085.7	109.50	1100.7
GR	110.20	1126.6	110.2	1150						
X1	10463.	12	932.0	1053.0	594.0	594.0	594.0			
CI	-1	86.88	0.04	4	4	40				
GR	109.4	880	109.4	922.0	109.40	932.0	99.60	951.0	97.20	984.0
GR	93.50	1000.0	97.4	1016.0	102.00	1035.0	103.10	1042.0	108.60	1053.0
GR	109.30	1072.0	109.3	1120						
NC	.15	.15	.03	.3	.5					
QT	1	8000								
RAYFORD ROAD STA. 105+56										
X1	10556.	22	939.0	1047.0	93.0	93.0	93.0			
CI	988	86.93	0.04	2.3	2.3	30				
X3	10.							110.8	109.7	
GR	111.6	522.0	111.90	617.0	111.70	713.0	111.40	809.0	111.30	904.0
GR	111.3	916.0	106.80	916.0	106.80	939.0	99.60	951.0	97.20	984.0
GR	93.5	1000.0	97.40	1016.0	102.00	1035.0	103.10	1042.0	106.80	1047.0
GR	106.8	1060.0	111.20	1060.0	111.20	1096.0	110.80	1191.0	110.50	1287.0
GR	110.3	1383.0	110.20	1478.0						

SB	1.250	1.56	3.00	.00	30	5.36	1380	2.3	86.97	86.93
X1	10647.	22	939.0	1047.0	91.0	91.0	91.0			
CI	990	86.97	0.04	2.3	2.3	30				
X2	0.	.00	1.	106.80	110.20	.00		.000		.000
X3	10.							111.30	110.20	
BT	-18	522.0	111.60	.00	617.0	111.90	.00	713.0	111.70	.00
BT	0	809.0	111.40	.00	904.0	111.30	.00	916.0	111.30	.00
BT	0	916.0	114.70	.00	937.0	114.70	.00	937.0	113.50	.00
BT	0	1039.0	113.50	.00	1039.0	114.60	.00	1060.0	114.60	.00
BT	0	1060.0	111.20	.00	1096.0	111.20	.00	1191.0	110.80	.00
BT	0	1287.0	110.50	.00	1383.0	110.30	.00	1478.0	110.20	.00
GR	111.6	522.0	111.90	617.0	111.70	713.0	111.40	809.0	111.30	904.0
GR	111.3	916.0	106.80	916.0	106.80	939.0	99.60	951.0	97.20	984.0
GR	93.5	1000.0	97.40	1016.0	102.00	1035.0	103.10	1042.0	106.80	1047.0
GR	106.8	1060.0	111.20	1060.0	111.20	1096.0	110.80	1191.0	110.50	1287.0
GR	110.3	1383.0	110.20	1478.0						
NC	.12	.15	.04							
X1	10750.	13	932.0	1053.0	103.0	103.0	103.0			
CI	-1	87.03	0.04	4	4	30				
GR	111.7	100.0	109.40	922.0	109.40	932.0	99.60	951.0	97.20	984.0
GR	93.5	1000.0	97.40	1016.0	102.00	1035.0	103.10	1042.0	108.60	1053.0
GR	109.3	1072.0	111.2	1096	111.2	1150				
NC				.1	.3					
QT	1	7660								
X1	12300.	13	937.0	1059.0	1550.0	1650	1550.0			
CI	-1	87.80	0.04	4	4	30				
GR	115	700	108.50	917.0	109.20	937.0	99.70	954.0	97.20	980.0
GR	95.7	1000.0	98.20	1020.0	100.50	1041.0	108.80	1059.0	108.20	1077.0
GR	109.8	1177.0	110	1700	112.2	3400				
QT	1	7250								
X1	14550.	15	2030	2141	2400	2300	2250.0			
CI	-1	88.93	0.04	4	4	30				
GR	113.0	400	109.70	2007	109.10	2030	100.90	2047	99.10	2066
GR	98.6	2094	97.40	2100	98.70	2106	100.70	2124	108.40	2141
GR	109.7	2168	109.20	2268	110	2600	110	3250	115	4300
X1	14650	15	2030	2141	100	100	100			
CI	-1	88.98	0.04	4	4	20				
GR	113.0	400	109.70	2007	109.10	2030	100.90	2047	99.10	2066
GR	98.6	2094	97.40	2100	98.70	2106	100.70	2124	108.40	2141
GR	109.7	2168	109.20	2268	110	2600	110	3250	115	4300
QT	1	6950								
X1	16295.	15	978.3	1102.2	1700	1200	1645			
CI	-1	89.80	0.04	4	4	20				
GR	113.7	.0	111.65	723.1	110.65	826.4	111.45	929.7	111.05	978.3
GR	102.3	1007.2	100.05	1020.6	98.75	1033.0	99.65	1045.4	101.95	1068.1
GR	111.1	1102.2	111.75	1136.3	110.85	1239.6	111.45	1342.9	113.65	2375.9

X1	21700.	14	2674.5	2770.0	680	700.0	700.0			
CI	-1	92.50	0.04	4	4	20				
GR	118.9	400.0	113.35	2529.8	114.65	2619.1	112.55	2659.3	114.05	2674.5
GR	103.8	2695.9	100.95	2719.1	100.05	2721.8	100.95	2724.5	104.75	2747.7
GR	114.3	2770.0	112.85	2783.4	113.85	2791.5	120	5222		
QT	1	5980								
X1	22400.	14	2947.0	3054.0	680	700.0	700.0			
CI	-1	92.85	0.04	4	4	20				
GR	120.0	600	114.40	2785.0	115.70	2885.0	113.60	2930.0	115.10	2947.0
GR	104.9	2971.0	102.00	2997.0	101.10	3000.0	102.00	3003.0	105.80	3029.0
GR	115.3	3054.0	113.90	3069.0	114.90	3078.0	120.00	4400		
DROP STRUCTURE										
X1	22401	14	2947.0	3054.0	1	1	1			
CI	-1	98.50	0.04	4	4	20				
GR	120.0	600	114.40	2785.0	115.70	2885.0	113.60	2930.0	115.10	2947.0
GR	104.9	2971.0	102.00	2997.0	101.10	3000.0	102.00	3003.0	105.80	3029.0
GR	115.3	3054.0	113.90	3069.0	114.90	3078.0	120.00	4400		
QT	1	2990								
X1	22673.	14	2954.7	3059.9	170	450	272			
CI	-1	98.77	0.04	4	4	20				
GR	119.3	600.0	113.95	2934.7	112.85	2945.7	114.45	2954.7	105.65	2978.7
GR	103.0	2996.8	101.75	3004.8	103.55	3012.8	106.85	3034.9	109.95	3046.9
GR	116.2	3059.9	115.25	3070.9	117.05	3091.0	118.45	4507.8		
NC	.15	.15	.04							
QT	1	2920								
X1	22947.	14	2950.0	3055.0	170	450	274			
CI	-1	99.05	0.04	4	4	20				
GR	120.0	600.0	114.60	2930.0	113.50	2941.0	115.10	2950.0	106.30	2974.0
GR	103.7	2992.0	102.40	3000.0	104.20	3008.0	107.50	3030.0	110.60	3042.0
GR	116.8	3055.0	115.90	3066.0	117.70	3086.0	119.10	4500.0		
QT	1	2380								
X1	25347.	17	957.0	1047.0	2200	2400.0	2400			
CI	-1	101.45	0.04	4	4	20				
GR	125.0	300.0	120.00	400.0	115.20	927.0	114.10	948.0	116.10	957.0
GR	108.2	972.0	107.00	990.0	106.50	1000.0	107.20	1010.0	109.20	1035.0
GR	115.5	1047.0	114.20	1057.0	115.50	1067.0	115.90	1167.0	116.70	1197.0
GR	120.0	1700.0	125	2000						
QT	1	2210								
X1	26222.	15	1026.5	1125.5	875.0	875.0	875.0			
CI	-1	102.32	0.04	4	4	20				
GR	123.2	.0	116.70	994.2	115.50	1015.7	117.70	1026.5	110.80	1042.6
GR	107.9	1063.1	107.30	1076.0	108.10	1088.9	110.90	1105.1	120.70	1125.5
GR	117.0	1141.6	117.60	1163.2	117.70	1270.8	119.20	1560.2	124.20	1721.6

QT	1	2050								
NC	.12	.12	.04	.1	.3					
X1	27097.	15	954.0	1046.0	875	875	875			
CI	-1	103.20	0.04	4	4	20				
GR	124.0	.0	117.50	924.0	116.30	944.0	118.50	954.0	111.60	969.0
GR	108.7	988.0	108.10	1000.0	108.90	1012.0	111.70	1027.0	121.50	1046.0
GR	117.8	1061.0	118.40	1081.0	118.50	1181.0	120.00	1450.0	125.00	1600.0

QT	1	1850								
X1	28362.	17	2083.0	2158.5	1200	1260.0	1265.0			
CI	-1	104.46	0.04	4	4	20				
GR	118.4	700.0	117.20	2050.1	117.10	2053.4	116.80	2067.7	118.50	2083.0
GR	112.4	2093.9	110.50	2118.0	109.70	2123.5	111.10	2129.0	112.90	2146.5
GR	117.5	2158.5	115.50	2170.6	116.40	2187.0	117.50	2215.5	118.40	2671.0
GR	118.4	2835.3	123.40	2999.5						

QT	1	1660								
X1	29627.	17	1963.0	2032.0	1200	1260.0	1265.0			
CI	-1	105.73	0.04	4	4	20				
GR	120.0	700.0	118.80	1933.0	118.70	1936.0	118.40	1949.0	120.10	1963.0
GR	114.0	1973.0	112.10	1995.0	111.30	2000.0	112.70	2005.0	114.50	2021.0
GR	119.1	2032.0	117.10	2043.0	118.00	2058.0	119.10	2084.0	120.00	2500.0
GR	120.0	2650.0	125.00	2800.0						

DROP STRUCTURE

X1	29628	17	1963.0	2032.0	1	1	1			
CI						.01				
GR	120.0	700.0	118.80	1933.0	118.70	1936.0	118.40	1949.0	120.10	1963.0
GR	114.0	1973.0	112.10	1995.0	111.30	2000.0	112.70	2005.0	114.50	2021.0
GR	119.1	2032.0	117.10	2043.0	118.00	2058.0	119.10	2084.0	120.00	2500.0
GR	120.0	2650.0	125.00	2800.0						

NC	.12	.12	.015	.3	.5					
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ROBINSON ROAD STA. 296+67

X1	29667.	18	1983.0	2013.0	39	39	39			
X3	10.							118.30	118.50	
GR	120.0	700.0	119.40	1498.0	119.50	1598.0	119.20	1698.0	119.40	1798.0
GR	119.5	1898.0	119.60	1983.0	111.40	1983.0	111.40	2013.0	119.60	2013.0
GR	119.5	2098.0	119.70	2198.0	119.80	2298.0	119.90	2398.0	120.10	2498.0
GR	120.0	2500.0	120.00	2650.0	125.00	2800.0				

SB	1.250	1.56	3.00	.00	30.00	1.40	162	0	111.4	111.4
X1	29731.	18	1983.0	2013.0	64.0	64.0	64.0			
X2	0.	.00	1.	117.40	119.20	.00		.000		.000
X3	10.							119.5	119.50	
BT	-16	700.0	120.00	.00	1498.0	119.40	.00	1598.0	119.50	.00
BT	0	1698.0	119.20	.00	1798.0	119.40	.00	1898.0	119.50	.00
BT	0	1983.0	119.60	.00	2013.0	119.60	.00	2098.0	119.50	.00
BT	0	2198.0	119.70	.00	2298.0	119.80	.00	2398.0	119.90	.00
BT	0	2498.0	120.10	.00	2500.0	120.00	.00	2650.0	120.00	.00
BT	0	2800.0	125.00	.00						
GR	120.0	700.0	119.40	1498.0	119.50	1598.0	119.20	1698.0	119.40	1798.0
GR	119.5	1898.0	119.60	1983.0	111.40	1983.0	111.40	2013.0	119.60	2013.0

GR	119.5	2098.0	119.70	2198.0	119.80	2298.0	119.90	2398.0	120.10	2498.0
GR	120.0	2500.0	120.00	2650.0	125.00	2800.0				
X1	29831	15	1967.0	2040.0	100	100	100			
CI	-1	111.55	0.04	4	4	40				
X3		111.55								
GR	120.0	700.0	119.20	1883.0	119.80	1933.0	118.20	1954.0	120.60	1967.0
GR	112.4	1990.0	110.90	2000.0	112.10	2010.0	114.30	2028.0	120.40	2040.0
GR	117.6	2051.0	118.70	2069.0	120.00	2500.0	120.00	2650.0	125.00	2800.0
NC	.12	.12	.04	.10000	.30000					
QT	1	1560								
X1	30380.	11	950.5	1018.4	600.0	550	549			
CI	-1	112.40	0.04	4	4	40				
X3		112.40								
GR	123.2	917.0	119.70	939.1	120.90	950.5	115.60	956.3	112.90	975.9
GR	112.0	984.9	112.70	993.9	114.30	1006.2	122.80	1018.4	121.20	1027.4
GR	123.1	1047.9								
QT	1	1480								
X1	30963.	11	961.0	1050.2	600.0	550	583.0			
CI	-1	113.30	0.04	4	4	40				
GR	127.6	917.0	124.10	946.0	125.30	961.0	120.00	968.6	117.30	994.3
GR	116.4	1006.1	117.10	1018.0	118.70	1034.1	127.20	1050.2	125.60	1062.0
GR	127.5	1088.8								
QT	1	1410								
X1	31546.	11	960.8	1049.6	600.0	550	583.0			
CI	-1	114.20	0.04	4	4	40				
GR	127.6	917.0	124.10	945.9	125.30	960.8	120.00	968.3	117.30	994.0
GR	116.4	1005.7	117.10	1017.5	118.70	1033.5	127.20	1049.6	125.60	1061.3
GR	127.5	1088.0								
NC	.15	.15	.04							
QT	1	1340								
X1	32127.	11	958.0	1041.0	600.0	550	581.0			
CI	-1	115.10	0.04	4	4	40				
GR	126.5	917.0	123.00	944.0	124.20	958.0	118.90	965.0	116.20	989.0
GR	115.3	1000.0	116.00	1011.0	117.60	1026.0	126.10	1041.0	124.50	1052.0
GR	126.4	1077.0								
QT	1	1240								
X1	33077.	12	956.0	1064.0	950.0	950.0	950.0			
CI	-1	116.57	0.04	4	4	40				
GR	130.7	931.0	129.60	940.0	130.60	956.0	123.50	969.0	118.80	984.0
GR	116.1	1000.0	116.90	1016.0	117.80	1027.0	125.60	1045.0	133.00	1064.0
GR	132.2	1074.0	134.90	1092.0						
X1	33157.	12	956.0	1064.0	80.0	80.0	80.0			
CI	-1	116.69	0.04	4	4	40				
GR	130.7	931.0	129.60	940.0	130.60	956.0	123.50	969.0	118.80	984.0
GR	116.1	1000.0	116.90	1016.0	117.80	1027.0	125.60	1045.0	133.00	1064.0
GR	132.2	1074.0	134.90	1092.0						

DROP STRUCTURE

X1	33207.	13	989	1021.0	50.0	50.0	50.0			
CI	-1	116.77	0.04	4	4	40				
GR	130.7	931.0	129.60	940.0	130.60	956.0	124.60	989	124.60	990
GR	116.8	990	116.80	1020.0	124.60	1020.0	124.60	1021.0	133.00	1064.0
GR	132.2	1074.0	134.90	1092.0	134.9	1200				
X1	33226	13	989	1021	19	19	19			
CI	-1	116.80	0.04	4	4	40				
GR	130.7	931.0	129.60	940.0	130.60	956.0	124.60	989	124.60	990
GR	116.8	990	116.80	1020.0	124.60	1020.0	124.60	1021.0	133.00	1064.0
GR	132.2	1074.0	134.90	1092.0	134.9	1200				
X1	33227.	16	984	1016	1	1	1			
CI	-1	121.9	0.04	3	3	30				
X5	-1	6.5								
GR	132.2	926.0	130.90	942.0	132.70	963.0	131.00	984	131.00	985
GR	127.0	985	127.00	998.5	122.80	998.5	122.80	1001.5	127.00	1001.5
GR	127.0	1015	131.00	1015	131.00	1016	132.70	1039.0	130.80	1057.0
GR	133.4	1089.0								
NC	.15	.15	.04							
X1	33257.	9	963.0	1039.0	30.0	30.0	30.0			
CI	-1	121.95	0.04	3	3	30				
GR	132.2	926.0	130.90	942.0	132.70	963.0	123.50	990.0	122.50	1000.0
GR	123.6	1010.0	132.70	1039.0	130.80	1057.0	133.40	1089.0		
NC			.1	.3						
X1	33327.	9	963.0	1039.0	70.0	70.0	70.0			
CI	-1	122.05	0.04	3	3	30				
GR	132.2	926.0	130.90	942.0	132.70	963.0	123.50	990.0	122.50	1000.0
GR	123.6	1010.0	132.70	1039.0	130.80	1057.0	133.40	1089.0		
QT	1	1130								
X1	34135.	15	1960.0	2044.0	808.0	808.0	808.0			
CI	-1	123.26	0.04	3	3	30				
GR	140.0	700.0	133.80	1944.0	133.10	1950.0	133.40	1960.0	130.00	1972.0
GR	123.4	1987.0	123.30	2000.0	123.30	2013.0	130.90	2033.0	133.40	2044.0
GR	132.9	2053.0	133.30	2077.0	135.00	4000.0	135.00	4600.0	140.00	4800.0
NC	.15	.15	.024	.3	.5					
X1	34185.	83	960	1044	50.0	50.0	50.0			
CI						.01				
X3	10.							134.50	134.50	
GR	134.4	500.0	134.40	600.0	134.20	700.0	134.30	800.0	134.30	900.0
GR	133.8	944.0	133.10	950.0	133.40	960.0	130.00	972.0	126.3	979
GR	125.52	979.1	124.8	979.4	124.18	979.88	123.7	980.5	123.4	981.22
GR	123.3	982	123.4	982.78	123.7	983.5	124.18	984.12	124.8	984.6
GR	125.52	984.9	126.3	985	126.30	988.0	125.5	988.1	124.80	988.4
GR	124.18	988.9	123.70	989.5	123.40	990.2	123.3	991.0	123.40	991.8
GR	123.70	992.5	124.18	993.1	124.80	993.6	125.5	993.9	126.30	994.0
GR	126.30	997.0	125.52	997.1	124.80	997.4	124.2	997.9	123.70	998.5
GR	123.40	999.2	123.30	1000.0	123.40	1000.8	123.7	1001.5	124.18	1002.1

GR	124.80	1002.6	125.52	1002.9	126.30	1003.0	126.3	1006.0	125.52	1006.1
GR	124.80	1006.4	124.18	1006.9	123.70	1007.5	123.4	1008.2	123.30	1009.0
GR	123.40	1009.8	123.70	1010.5	124.18	1011.1	124.8	1011.6	125.52	1011.9
GR	126.30	1012.0	126.3	1015	125.52	1015.1	124.8	1015.4	124.18	1015.88
GR	123.7	1016.5	123.4	1017.22	123.3	1018	123.4	1018.78	123.7	1019.5
GR	124.18	1020.12	124.8	1020.6	125.52	1020.9	126.3	1021	130.90	1033.0
GR	133.40	1044.0	132.9	1053.0	133.30	1077.0	135.10	1100.0	137.20	1200.0
GR	139.60	1300.0	139.9	1400.0	138.70	1500.0				

HANNA ROAD STA. 341+86

X1	34186.	83	979	1021	1.0	1.0	1.0			
X3	10.									
BT	-83	500.0	139.80	134.40	600.0	139.70	134.40	134.50	134.50	
BT		800.0	139.70	134.30	900.0	139.70	134.30	700.0	139.70	134.20
BT		950.0	139.60	133.10	960.0	139.60	133.40	944.0	139.60	133.80
BT		979	139.6	126.3	979.1	139.6	127.08	972.0	139.60	130.00
BT		979.88	139.6	128.42	980.5	139.6	128.9	979.4	139.6	127.8
BT		982	139.6	129.3	982.78	139.6	129.2	981.22	139.6	129.2
BT		984.12	139.6	128.42	984.6	139.6	127.8	983.5	139.6	128.9
BT		985	139.6	126.3	988.0	139.60	126.30	984.9	139.6	127.08
BT		988.4	139.60	127.80	988.9	139.60	128.42	988.1	139.60	127.08
BT		990.2	139.60	129.20	991.0	139.60	129.30	989.5	139.60	128.90
BT		992.5	139.60	128.90	993.1	139.60	128.42	991.8	139.60	129.20
BT		993.9	139.60	127.08	994.0	139.60	126.30	993.6	139.60	127.80
BT		997.1	139.60	127.08	997.4	139.60	127.80	997.0	139.60	126.30
BT		998.5	139.60	128.90	999.2	139.60	129.20	997.9	139.60	128.42
BT		1000.8	139.60	129.20	1001.5	139.60	128.90	1000.0	139.60	129.30
BT		1002.6	139.60	127.80	1002.9	139.60	127.08	1002.1	139.60	128.42
BT		1006.0	139.60	126.30	1006.1	139.60	127.08	1003.0	139.60	126.30
BT		1006.9	139.60	128.42	1007.5	139.60	128.90	1006.4	139.60	127.80
BT		1009.0	139.60	129.30	1009.8	139.60	129.20	1008.2	139.60	129.20
BT		1011.1	139.60	128.42	1011.6	139.60	127.80	1010.5	139.60	128.90
BT		1012.0	139.60	126.30	1015	139.60	126.30	1011.9	139.60	127.08
BT		1015.4	139.60	127.80	1015.9	139.60	128.42	1015.1	139.60	127.08
BT		1017.2	139.60	129.20	1018	139.60	129.30	1016.5	139.60	128.90
BT		1019.5	139.60	128.90	1020.1	139.60	128.42	1018.8	139.60	129.20
BT		1020.9	139.60	127.08	1021	139.60	126.30	1020.6	139.60	127.80
BT		1044.0	139.60	133.40	1053.0	139.60	132.90	1033.0	139.60	130.90
BT		1100.0	139.60	135.10	1200.0	139.70	137.20	1077.0	139.60	133.30
BT		1400.0	139.90	139.90	1500.0	139.70	138.70	1300.0	139.70	139.60
GR	134.4	500.0	134.40	600.0	134.20	700.0	134.30	800.0	134.30	900.0
GR	133.8	944.0	133.10	950.0	133.40	960.0	130.00	972.0	126.3	979
GR	125.52	979.1	124.8	979.4	124.18	979.88	123.7	980.5	123.4	981.22
GR	123.3	982	123.4	982.78	123.7	983.5	124.18	984.12	124.8	984.6
GR	125.52	984.9	126.3	985	126.30	988.0	125.5	988.1	124.80	988.4
GR	124.18	988.9	123.70	989.5	123.40	990.2	123.3	991.0	123.40	991.8
GR	123.70	992.5	124.18	993.1	124.80	993.6	125.5	993.9	126.30	994.0
GR	126.30	997.0	125.52	997.1	124.80	997.4	124.2	997.9	123.70	998.5
GR	123.40	999.2	123.30	1000.0	123.40	1000.8	123.7	1001.5	124.18	1002.1
GR	124.80	1002.6	125.52	1002.9	126.30	1003.0	126.3	1006.0	125.52	1006.1
GR	124.80	1006.4	124.18	1006.9	123.70	1007.5	123.4	1008.2	123.30	1009.0
GR	123.40	1009.8	123.70	1010.5	124.18	1011.1	124.8	1011.6	125.52	1011.9
GR	126.30	1012.0	126.3	1015	125.52	1015.1	124.8	1015.4	124.18	1015.9
GR	123.7	1016.5	123.4	1017.2	123.3	1018	123.4	1018.8	123.7	1019.5

GR	124.18	1020.1	124.8	1020.6	125.52	1020.9	126.3	1021	130.90	1033.0
GR	133.40	1044.0	132.9	1053.0	133.30	1077.0	135.10	1100.0	137.20	1200.0
GR	139.60	1300.0	139.9	1400.0	138.70	1500.0				
X1	34361.	84	979	1021	175	175	175			
X3	10.									
BT	-84	500	139.8	139.8	600	139.7	139.7	139.60	139.60	
BT		800	139.7	139.7	900	139.7	139.7	700	139.7	139.7
BT		948	139.6	133.2	956	139.6	135.3	929	139.7	134.5
BT		979	139.6	128.3	979.1	139.6	129.08	968	139.6	132
BT		979.88	139.6	130.42	980.5	139.6	130.9	979.4	139.6	129.8
BT		982	139.6	131.3	982.78	139.6	131.2	981.22	139.6	131.2
BT		984.12	139.6	130.42	984.6	139.6	129.8	983.5	139.6	130.9
BT		985	139.6	128.3	988	139.6	128.3	984.9	139.6	129.08
BT		988.4	139.6	129.8	988.88	139.6	130.42	988.1	139.6	129.08
BT		990.22	139.6	131.2	991	139.6	131.3	989.5	139.6	130.9
BT		992.5	139.6	130.9	993.12	139.6	130.42	991.78	139.6	131.2
BT		993.9	139.6	129.08	994	139.6	128.3	993.6	139.6	129.8
BT		997.1	139.6	129.08	997.4	139.6	129.8	997	139.6	128.3
BT		998.5	139.6	130.9	999.22	139.6	131.2	997.88	139.6	130.42
BT		1000.7	139.6	131.2	1001.5	139.6	130.9	1000	139.6	131.3
BT		1002.6	139.6	129.8	1002.9	139.6	129.08	1002.1	139.6	130.42
BT		1006	139.6	128.3	1006.1	139.6	129.08	1003	139.6	128.3
BT		1006.8	139.6	130.42	1007.5	139.6	130.9	1006.4	139.6	129.8
BT		1009	139.6	131.3	1009.7	139.6	131.2	1008.2	139.6	131.2
BT		1011.1	139.6	130.42	1011.6	139.6	129.8	1010.5	139.6	130.9
BT		1012	139.6	128.3	1015	139.6	128.3	1011.9	139.6	129.08
BT		1015.4	139.6	129.8	1015.9	139.6	130.42	1015.1	139.6	129.08
BT		1017.2	139.6	131.2	1018	139.6	131.3	1016.5	139.6	130.9
BT		1019.5	139.6	130.9	1020.1	139.6	130.42	1018.8	139.6	131.2
BT		1020.9	139.6	129.08	1021	139.6	128.3	1020.6	139.6	129.8
BT		1038	139.6	135	1050	139.6	134.1	1033	139.6	132.6
BT		1100	139.6	139.6	1200	139.6	139.6	1062	139.6	135.1
BT		1400	139.7	139.7	1500	139.7	139.7	1300	139.7	139.7
GR	139.8	500	139.7	600	139.7	700	139.7	2350	140	140
GR	134.50	929.0	133.20	948.0	135.30	956.0	132.00	800	139.7	900
GR	127.52	979.1	126.8	979.4	126.18	979.88	125.7	968.0	128.3	979
GR	125.3	982	125.4	982.78	125.7	983.5	126.18	980.5	125.4	981.22
GR	127.52	984.9	128.3	985	128.3	988	127.52	984.12	126.8	984.6
GR	126.18	988.88	125.7	989.5	125.4	990.22	125.3	988.1	126.8	988.4
GR	125.7	992.5	126.18	993.12	126.8	993.6	127.52	991	125.4	991.78
GR	128.3	997	127.52	997.1	126.8	997.4	126.18	993.9	128.3	994
GR	125.4	999.22	125.3	1000	125.4	1000.7	125.7	997.88	125.7	998.5
GR	126.8	1002.6	127.52	1002.9	128.3	1003	128.3	1001.5	126.18	1002.1
GR	126.8	1006.4	126.18	1006.8	125.7	1007.5	125.4	1006	127.52	1006.1
GR	125.4	1009.7	125.7	1010.5	126.18	1011.1	126.8	1008.2	125.3	1009
GR	128.3	1012	128.3	1015	127.52	1015.1	126.8	1011.6	127.52	1011.9
GR	125.7	1016.5	125.4	1017.2	125.3	1018	125.4	1015.4	126.18	1015.9
GR	126.18	1020.1	126.8	1020.6	127.52	1020.9	128.3	1018.8	125.7	1019.5
GR	135.00	1038.0	134.1	1050.0	135.10	1062.0	139.6	1021	132.60	1033.0
GR	139.7	1300	139.7	1400	139.7	1500	140.00	1100	139.6	1200
								2350.0		

X1	34362	84	956.0	1038	1	1	1			
X3	10.									
GR	139.8	500	139.7	600	139.7	700	139.7	139.60	139.60	
GR	134.50	929.0	133.20	948.0	135.30	956.0	132.00	800	139.7	900
GR	127.52	979.1	126.8	979.4	126.18	979.88	125.7	968.0	128.3	979
GR	125.3	982	125.4	982.78	125.7	983.5	126.18	980.5	125.4	981.22
GR	127.52	984.9	128.3	985	128.3	988	127.52	984.12	126.8	984.6
GR	126.18	988.88	125.7	989.5	125.4	990.22	125.3	988.1	126.8	988.4
GR	125.7	992.5	126.18	993.12	126.8	993.6	127.52	991	125.4	991.78
GR	128.3	997	127.52	997.1	126.8	997.4	126.18	993.9	128.3	994
GR	125.4	999.22	125.3	1000	125.4	1000.7	125.7	997.88	125.7	998.5
GR	126.8	1002.6	127.52	1002.9	128.3	1003	128.3	1001.5	126.18	1002.1
GR	126.8	1006.4	126.18	1006.8	125.7	1007.5	125.4	1006	127.52	1006.1
GR	125.4	1009.7	125.7	1010.5	126.18	1011.1	126.8	1008.2	125.3	1009
GR	128.3	1012	128.3	1015	127.52	1015.1	126.8	1011.6	127.52	1011.9
GR	125.7	1016.5	125.4	1017.2	125.3	1018	125.4	1015.4	126.18	1015.8
GR	126.18	1020.12	126.8	1020.6	127.52	1020.9	128.3	1018.7	125.7	1019.5
GR	135.00	1038.0	134.1	1050.0	135.10	1062.0	139.6	1021	132.60	1033.0
GR	139.7	1300	139.7	1400	139.7	1500	140.00	1100	139.6	1200
								2350.0		
NC	.12	.15	.04							
X1	34412	13	956.0	1038.0	50.0	50.0	50.0			
CI	-1	-1	.04	3	3	30				
GR	139.0	100.0	134.50	929.0	133.20	948.0	135.30	956.0	132.00	968.0
GR	125.4	988.0	125.30	1000.0	125.20	1012.0	132.60	1033.0	135.00	1038.0
GR	134.1	1050.0	135.10	1062.0	140.00	2350.0				
NC				.1	.3					
QT	1	1030								
X1	35234.	12	961.0	1039.0	822	822	822			
CI	-1	126.62	.04	3	3	30				
GR	137.0	846.0	136.40	871.0	136.90	931.0	133.60	947.0	135.40	961.0
GR	127.9	989.0	127.80	1000.0	128.00	1011.0	135.30	1039.0	133.20	1056.0
GR	136.3	1072.0	137.30	1091.0						
NC	.12	.15	.04	.3	.5					
WOODSON ROAD STA. 352+64										
X1	35264.	16	991.0	1009	30.0	30.0	30.0			
CI	1000	126.66	.04	3	3	30				
X3	10.									
GR	139.0	700.0	136.70	800.0	136.60	900.0	136.70	137.00	137.00	
GR	135.4	961.0	130.70	991.0	127.8	991.0	127.8	931.0	133.60	947.0
GR	135.3	1039.0	133.20	1056.0	136.30	1072.0	136.80	1009	130.70	1009
GR	140.0	2550.0						1100.0	137.00	1200.0
SB	1.250	1.56	3.00	.00	30	1.0	440	3	126.76	126.66
X1	35327.	16	991.0	1009	63.0	63.0	63.0			
CI	1000	126.76	.04	3	3	30				
X2			1.	135	136.60					
X3	10.									
BT	-10	650.0	140.50	.00	700.0	137.90	.00	137.40	137.40	
BT	0	900.0	136.60	.00	1000.0	137.00	.00	800.0	136.70	.00
BT	0	1200.0	137.00	.00	1300.0	136.90	.00	1100.0	136.80	.00
								1400.0	136.80	.00

THIS RUN EXECUTED 9/ 4/89 9: 7:12

HEC2 RELEASE DATED SEPT 88

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

A109-00-00

SUMMARY PRINTOUT

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
500.000	8790.00	99.59	100.20	99.65	81.90	4.11	99.86	.00	191.55	.00	50.00	.00
3900.000	8510.00	101.28	102.89	102.55	83.60	3.99	101.53	3400.00	191.44	14.95	50.00	130.00
5035.000	8420.00	101.82	103.27	103.69	84.17	3.95	102.06	1135.00	191.28	19.93	50.00	184.87
5135.000	8420.00	101.84	103.22	103.74	84.22	4.33	102.13	100.00	180.97	20.36	40.00	189.56
6170.000	8340.00	102.45	105.27	106.11	84.74	4.25	102.73	1035.00	181.67	24.67	40.00	238.18
9275.000	8100.00	104.15	123.60	114.45	86.29	4.07	104.40	3105.00	182.85	37.66	40.00	444.07
9869.000	8100.00	104.45	110.30	110.20	86.58	4.06	104.71	594.00	183.03	40.15	40.00	485.78
10463.000	8100.00	104.76	109.40	109.30	86.88	4.06	105.01	594.00	183.01	42.65	40.00	522.38
* 10556.000	8000.00	104.64	106.80	106.80	86.93	6.37	105.27	93.00	111.83	42.97	30.00	526.49
10647.000	8000.00	104.76	106.80	111.20	86.97	6.34	105.39	91.00	111.85	43.20	30.00	528.66
* 10750.000	8000.00	105.29	109.50	111.20	87.03	4.25	105.57	103.00	176.10	43.54	30.00	532.78
12300.000	7660.00	106.16	109.07	108.50	87.80	4.03	106.42	1550.00	176.92	49.82	30.00	613.13
14550.000	7250.00	107.29	109.74	109.62	88.93	3.82	107.51	2250.00	176.85	58.96	30.00	722.66
14650.000	7250.00	107.30	109.73	109.65	88.98	4.24	107.58	100.00	166.58	59.35	20.00	727.26
16295.000	6950.00	108.27	111.33	111.74	89.80	4.01	108.52	1645.00	167.77	65.66	20.00	801.69
18040.000	6650.00	109.18	112.73	113.04	90.67	3.82	109.41	1745.00	168.18	72.39	20.00	890.52
* 18090.000	6650.00	108.96	112.80	112.94	90.70	7.00	109.72	50.00	94.01	72.54	10.00	892.28

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
18127.000	6650.00	109.05	112.80	112.94	90.71	6.94	109.80	37.00	94.38	72.62	10.00	892.92
* 18177.000	6650.00	109.80	112.72	113.04	90.74	3.63	110.00	50.00	172.45	72.78	20.00	894.67
21000.000	6180.00	110.96	116.22	116.39	92.15	3.45	111.14	2823.00	170.44	83.89	20.00	1064.04
21700.000	6180.00	111.23	114.35	113.92	92.50	3.47	111.42	700.00	169.92	86.62	20.00	1106.07
22400.000	5980.00	111.51	114.89	114.98	92.85	3.39	111.69	700.00	169.23	89.35	20.00	1143.47
* 22401.000	5980.00	111.15	113.61	114.52	98.50	6.69	111.85	1.00	121.23	89.35	20.00	1143.51
22673.000	2990.00	111.97	113.64	116.97	98.77	3.11	112.12	272.00	125.59	90.12	20.00	1148.70
22947.000	2920.00	112.10	114.55	117.70	99.05	3.10	112.25	274.00	124.42	90.91	20.00	1154.45
25347.000	2380.00	113.30	114.54	115.50	101.45	2.98	113.43	2400.00	114.77	97.50	20.00	1201.23
26222.000	2210.00	113.74	115.67	117.10	102.32	2.95	113.88	875.00	111.33	99.77	20.00	1218.09
27097.000	2050.00	114.20	116.81	118.05	103.20	2.91	114.33	875.00	107.95	101.97	20.00	1237.46
28362.000	1850.00	114.88	116.94	115.80	104.46	2.88	115.01	1265.00	103.34	105.04	20.00	1264.38
29627.000	1660.00	115.58	118.71	117.89	105.73	2.84	115.71	1265.00	98.80	107.97	20.00	1291.11
* 29628.000	1660.00	116.32	120.10	119.10	111.30	9.84	117.83	1.00	56.17	107.97	.01	1291.11
* 29667.000	1660.00	116.21	119.60	119.60	111.40	11.49	118.26	39.00	30.00	108.01	.01	1291.11
* 29731.000	1660.00	117.47	119.60	119.60	111.40	9.11	118.76	64.00	30.00	108.06	.01	1291.11
29831.000	1660.00	119.03	118.51	118.02	111.55	3.17	119.19	100.00	236.64	108.36	40.00	1292.59
30380.000	1560.00	119.48	121.36	123.00	112.40	3.22	119.65	549.00	96.68	110.47	40.00	1296.91
30963.000	1480.00	120.03	124.94	126.87	113.30	3.29	120.20	583.00	93.84	111.75	40.00	1304.92
31546.000	1410.00	120.63	124.17	126.55	114.20	3.34	120.80	583.00	91.42	112.99	40.00	1314.79
32127.000	1340.00	121.27	123.25	125.06	115.10	3.36	121.44	581.00	89.35	114.19	40.00	1321.14
33077.000	1240.00	122.38	130.11	132.07	116.10	3.35	122.55	950.00	86.46	116.11	40.00	1332.50
33157.000	1240.00	122.47	129.99	132.19	116.10	3.36	122.65	80.00	86.25	116.27	40.00	1333.82
33207.000	1240.00	122.53	130.27	134.90	116.77	3.41	122.71	50.00	86.11	116.37	40.00	1334.93
33226.000	1240.00	122.55	130.30	134.90	116.80	3.42	122.74	19.00	86.03	116.41	40.00	1335.47
* 33227.000	1240.00	129.05	131.99	132.03	121.90	3.37	129.23	1.00	72.93	116.41	30.00	1335.49

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
33257.000	1240.00	129.08	132.07	131.96	121.95	3.38	129.26	30.00	72.83	116.46	30.00	1335.85
33327.000	1240.00	129.15	132.09	131.98	122.05	3.40	129.33	70.00	72.62	116.57	30.00	1336.39
34135.000	1130.00	129.99	133.31	133.24	123.26	3.34	130.16	808.00	70.39	117.90	30.00	1340.79
34185.000	1130.00	129.98	133.40	133.40	123.30	4.44	130.28	50.00	58.55	117.97	.01	1340.79
* 34186.000	1130.00	129.63	126.30	126.30	123.30	8.09	130.64	1.00	42.00	117.98	.01	1340.79
34361.000	1130.00	131.38	128.30	128.30	125.30	8.08	132.40	175.00	42.00	118.14	.01	1340.79
* 34362.000	1130.00	132.40	135.30	135.00	125.30	3.89	132.63	1.00	65.88	118.15	.01	1340.79
34412.000	1130.00	132.57	134.67	134.79	125.20	2.94	132.70	50.00	74.20	118.23	30.00	1340.94
35234.000	1030.00	133.24	135.18	135.12	126.62	3.12	133.39	822.00	70.17	119.59	30.00	1343.84
35264.000	1030.00	133.26	135.19	135.13	126.66	3.13	133.42	30.00	69.60	119.64	30.00	1344.03
35327.000	1030.00	133.27	135.22	135.15	126.76	3.19	133.43	63.00	69.06	119.74	30.00	1344.51
35377.000	1030.00	133.32	135.24	135.17	126.83	3.21	133.48	50.00	70.50	119.82	30.00	1344.79
35957.000	530.00	133.74	137.29	137.03	127.71	1.83	133.79	580.00	66.17	120.73	30.00	1348.15
* 36017.000	530.00	133.71	135.58	137.60	127.80	3.48	133.90	60.00	41.45	120.80	6.00	1348.42
* 36027.000	530.00	136.71	139.11	139.98	130.60	3.57	136.91	10.00	42.65	120.81	6.00	1348.46
36103.000	530.00	136.85	139.35	139.85	130.71	3.54	137.05	76.00	42.83	120.88	6.00	1348.73
36397.000	530.00	137.38	141.89	141.71	131.16	3.45	137.56	294.00	43.34	121.18	6.00	1349.30
36691.000	530.00	137.87	142.79	142.48	131.60	3.40	138.05	294.00	43.64	121.47	6.00	1350.12
36985.000	490.00	138.34	142.88	142.57	132.04	3.12	138.49	294.00	43.82	121.76	6.00	1351.03
37277.000	490.00	138.77	142.90	142.50	132.50	3.35	138.94	292.00	42.04	122.05	.01	1351.03
37902.000	450.00	139.63	141.65	140.85	133.45	2.81	139.75	625.00	43.31	122.66	.01	1351.03
38527.000	430.00	140.29	142.60	141.80	134.40	2.69	140.40	625.00	44.97	123.30	.01	1351.03
38757.000	430.00	140.52	141.33	141.03	134.70	2.63	140.63	230.00	45.11	123.54	.01	1351.03
38987.000	430.00	140.78	142.33	142.03	135.70	3.07	140.92	230.00	43.69	123.77	.01	1351.03
39217.000	400.00	141.08	142.00	141.70	135.40	2.43	141.18	230.00	46.46	124.01	.01	1351.03

SUMMARY OF ERRORS AND SPECIAL NOTES

WARNING SECNO= 10556.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 10750.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 18090.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 18177.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 22401.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
CAUTION SECNO= 29628.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 29628.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 29628.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL
WARNING SECNO= 29667.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
CAUTION SECNO= 29731.000 PROFILE= 1 HYDRAULIC JUMP D.S.
WARNING SECNO= 29731.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
NOTE SECNO= 33227.000 PROFILE= 1 WSEL BASED ON X5 CARD
WARNING SECNO= 34186.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 34362.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 36017.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
NOTE SECNO= 36027.000 PROFILE= 1 WSEL BASED ON X5 CARD

THIS RUN EXECUTED 9/ 1/89 16:21:55

HEC2 RELEASE DATED SEPT 88

T1 SOUTHERN MONTGOMERY COUNTY FLOOD PROTECTION STUDY
 T2 DODSON AND ASSOCIATES, INC. SEPTEMBER, 1989
 T3 A109-03-00 SPRING OAKS CHANNEL
 T4 100-YEAR STORM FREQUENCY EXISTING CONDITIONS
 T5 FILENAME = A10903EX.IH2

J1 ICHECK INQ NINV IDIR STRT METRIC HVINS Q WSEL FQ
 6 .0003 114

J2 NPROF IPLOT PRFVS XSECV XSECH FN ALLDC IBW CHNIM ITRACE
 -1 -1

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

38 43 1 23 24 42 26 3 39 4
 37 30 65

J5 LPRNT NUMSEC *****REQUESTED SECTION NUMBERS*****

-10 -10

J6 IHLEQ ICOPY SUBDIV STRTDS RMILE

1

NC	.15	.15	.04	.1	.3						
QT	5	920	1380	1710	2070	2640					
X1	120	11	9937.5	10051.5	120	120	120				
GR	117	9885.5	114.2	9911.5	114.5	9937.5	106.6	9961.5	103.5	9987.5	
GR	102.7	10000	103.6	10012.5	107.9	10033.5	115.9	10051.5	114.5	10067.5	
GR	120.7	10106.5									
QT	5	820	1230	1480	1800	2390					
X1	1520	12	9944	10050	1400	1400	1400				
GR	117.6	9800	115	9900	115.2	9944	108.1	9965	107.3	9975	
GR	104.2	9995	102.7	10000	105.3	10005	108.6	10019	115.3	10050	
GR	116.1	10100	116.3	10200							

NC				.3	.5					
MISSOURI PACIFIC RAILROAD										
X1	1574	12	9957	10037	54	54	54			
X3	10									
GR	117.6	9800	115	9900	117.6	9957	116.6	9957	120	120.3
GR	106.1	9994	102.5	9999	106.3	10004	113.7	10037	107.9	9981
GR	116.1	10100	116.3	10200					117.6	10037
SB	1.05	1.56	3.0		6	4	591	2.45	102.5	102.5
X1	1586	12	9957	10037	12	12	12			
X2			1	117.6	122.4					
X3	10									
BT	-11	9500	122.4	0	9600	122.4	0	9700	122.9	0
BT		9800	122.6	0	9900	122.8	0	10000	122.5	0
BT		10100	123.1	0	10200	123.1	0	10300	122.9	0
BT		10400	123	0	10500	122.9	0		123.1	0
GR	117.6	9800	115	9900	117.6	9957	116.6	9957	10300	0
GR	106.1	9994	102.5	9999	106.3	10004	113.7	10037	107.9	9981
GR	116.1	10100	116.3	10200					117.6	10037
X1	1636	12	9944	10050	50	50	50			
GR	117.6	9800	115	9900	115.2	9944	108.1	9965	107.3	9975
GR	104.2	9995	103.1	10000	105.3	10005	108.6	10019	115.3	10050
GR	116.1	10100	116.3	10200						
NC			.03	.1	.3					
QT	5	720	1070	1310	1620	2080				
X1	3528	12	9975	10025	1892	1892	1892			
GR	122	8650	120	8650	120	9700	118.8	9974	115.9	9975
GR	104.1	9995	104.1	10000	104.1	10005	116.2	10025	117.6	10026
GR	120	11400	125	12000						
SLOPING DROP										
X1	3538				10	10	10			
X1	3543	12	9975	10025	5	5	5			
GR	122	8650	120	8650	120	9700	118.8	9974	115.9	9975
GR	109.4	9995	109.4	10000	109.4	10005	116.2	10025	117.6	10026
GR	120	11400	125	12000						
X1	3553				10	10	10			
X1	3921	11	9974	10026	368	368	368			
GR	125	8300	120	9300	118.8	9974	115.7	9981	110.4	9992
GR	109.8	10000	110.4	10008	115.6	10020	117.6	10026	120	10900
GR	125	11400								
NC				.3	.5					
X1	3961	17	9977	10023	40	40	40			
X3	10									
GR	125	8300	120	9300	117.3	9700	117.7	9800	117.1	117.3
GR	116.8	9977	115.3	9977	110.4	9989	109.8	10000	118.1	9900
GR	115.3	10023	116.8	10023	118.0	10100	117.7	10200	110.4	10009
									118.0	10300

GR 120 10900 125 11400

SPRING PINES ROAD - 41 DEGREE SKEW

X1	3962				1	1	1			
X3	10									
BT	-11	9700	117.3	117.3	9800	117.7	117.7	117.1	117.3	
BT		9977	118.7	116.8	9989	118.7	116.8	9900	118.1	118.1
BT		10009	118.7	116.8	10023	118.7	116.8	10000	118.7	116.8
BT		10200	117.7	117.7	10300	118	118	10100	118	118
X1	3994				32	32	32			
X2										
X3	10								1	
								117.3	117.7	
X1	3995				1	1	1			
X3	10									
								117.3	117.7	
X1	4035	11	9974	10026	40	40	40			
GR	125	8300	120	9300	118.8	9974	115.7	9981	110.4	9992
GR	109.8	10000	110.4	10008	115.6	10020	117.6	10026	120	10900
GR	125	11400								
NC				.1	.3					
QT	5	670	990	1220	1510	1930				
X1	4558	11	9974.5	10024.5	523	523	523			
GR	125	9200	120	9700	119.5	9974.5	118.4	9978.5	111	9991.5
GR	110.1	10000	111	10008.5	116.7	10018.5	118.7	10024.5	120	10500
GR	125	11100								
NC				.3	.5					
X1	4608	11	9976	10023	50	50	50			
X3	10									
GR	125	9200	120	9700	119.4	9976	116	118.5	118.5	
GR	110.1	10000	111	10008.5	116	10023	119.4	9976	111	9991.5
GR	125	11100						10023	120	10500

BASSWOOD ROAD - 32 DEGREE SKEW

X1	4609				1	1	1			
X3	10									
BT	-5	9976	119.4	117.5	9991.5	119.4	117.5	118.5	118.5	
BT		10008.5	119.4	117.5	10023	119.4	117.5	10000	119.4	117.5
X1	4639				30	30	30			
X2										
X3	10								1	
								119.4	119.4	
X1	4640				1	1	1			
X3	10									
								119.4	119.4	

X1	4690	11	9974.5	10024.5	50	50	50			
GR	125	9200	120	9700	119.5	9974.5	118.4	9978.5	111	9991.5
GR	110.1	10000	111	10008.5	116.7	10018.5	118.7	10024.5	120	10500
GR	125	11100								

NC			.1	.3						
QT	5	610	900	1100	1380	1780				
X1	5868	9	9973	10024	1178	1178	1178			
GR	125	9550	120.7	9973	120.3	9981	113.1	9991	113.0	10000
GR	112.8	10009	119.0	10019	120.2	10024	125	10480		

QT	5	600	880	1080	1340	1720				
X1	6124	36	1055	1100	256	256	256			
GR	124.7	0	122.5	99	121.4	198	120.5	297	120.5	310
GR	120.2	396	119.9	495	119.9	594	119.6	629	120.8	634
GR	115.3	642	115.3	645	115.3	649	121.3	657	121.0	700
GR	119.5	800	119.2	900	119.6	1000	120.8	1055	113.0	1067
GR	113.0	1075	113.0	1087	121.2	1100	119.0	1200	118.8	1300
GR	119.1	1400	119.4	1500	120.3	1600	120.5	1700	121.9	1800
GR	122.9	1900	123.1	2000	123.8	2100	123.8	2200	124.3	2231
GR	123.5	2300								

NC			.015	.3	.5					
X1	6125	36	1055	1100	1	1	1			
GR	124.7	0	122.5	99	121.4	198	120.5	297	120.5	310
GR	120.2	396	119.9	495	119.9	594	119.6	629	120.8	634
GR	115.3	642	115.3	645	115.3	649	121.3	657	121.0	700
GR	119.5	800	119.2	900	119.6	1000	120.8	1055	114.5	1066
GR	114.5	1075	114.5	1088	121.2	1100	119.0	1200	118.8	1300
GR	119.1	1400	119.4	1500	120.3	1600	120.5	1700	121.9	1800
GR	122.9	1900	123.1	2000	123.8	2100	123.8	2200	124.3	2231
GR	123.5	2300								

X1	6153	36	1053	1098	28	28	28			
X3	10							120	120	
GR	124.7	0	122.5	99	121.4	198	120.5	297	120.5	310
GR	120.2	396	119.9	495	119.9	594	119.6	629	120.8	634
GR	115.3	642	115.3	645	115.3	649	121.3	657	121.0	700
GR	119.5	800	119.2	900	119.6	1000	119.4	1053	114.6	1064
GR	114.6	1075	114.6	1087	119.5	1098	119.0	1200	118.8	1300
GR	119.1	1400	119.4	1500	120.3	1600	120.5	1700	121.9	1800
GR	122.9	1900	123.1	2000	123.8	2100	123.8	2200	124.3	2231
GR	123.5	2300								

MAPLEWOOD DRIVE

X1	6154	36	1053	1098	1	1	1			
X3	10							120	120	
BT	-36	0	125.0	124.7	99	122.7	122.5	198	121.7	121.4
BT		297	120.5	120.5	310	120.5	120.5	396	120.5	120.2
BT		495	120.4	119.9	594	120.4	119.9	629	120.7	119.6
BT		634	120.8	120.8	642	120.8	115.3	645	120.8	115.3
BT		649	120.8	115.3	657	121.3	121.3	700	121.0	121.0
BT		800	120.7	119.5	900	121.0	119.2	1000	121.4	119.6

BT		1053	121.3	119.4	1053	123.7	119.4	1098	123.7	119.5
BT		1098	121.3	119.5	1098	121.3	119.5	1200	121.2	119.0
BT		1300	120.6	118.8	1400	120.7	119.1	1500	121.1	119.4
BT		1600	121.7	120.3	1700	122.1	120.5	1800	123.3	121.9
BT		1900	123.7	122.9	2000	124.3	123.1	2100	124.7	123.8
BT		2200	124.7	123.8	2231	124.9	124.3	2300	124.5	123.5
GR	124.7	0	122.5	99	121.4	198	120.5	297	120.5	310
GR	120.2	396	119.9	495	119.9	594	119.6	629	120.8	634
GR	115.3	642	115.3	645	115.3	649	121.3	657	121.0	700
GR	119.5	800	119.2	900	119.6	1000	119.4	1053	114.6	1064
GR	114.6	1075	114.6	1087	119.5	1098	119.0	1200	118.8	1300
GR	119.1	1400	119.4	1500	120.3	1600	120.5	1700	121.9	1800
GR	122.9	1900	123.1	2000	123.8	2100	123.8	2200	124.3	2231
GR	123.5	2300								
X1	6182	34	1053	1098	28	28	28			
X3	10									
BT	-33	0	125.0	125.0	99	122.7	122.5	198	121.7	121.7
BT		297	120.5	120.1	396	120.5	120.4	495	120.4	120.1
BT		594	120.4	120.2	608	120.5	120.2	642	120.8	120.0
BT		655	120.8	119.9	700	120.7	119.6	800	120.7	119.8
BT		900	121.0	119.9	1000	121.4	120.3	1053	121.3	119.4
BT		1053	123.7	119.4	1098	123.7	119.5	1098	121.3	119.5
BT		1100	121.3	119.6	1200	121.2	120.1	1300	120.6	119.7
BT		1400	120.7	120.1	1500	121.1	119.9	1600	121.7	120.8
BT		1700	122.1	121.2	1800	123.3	122.7	1806	123.3	122.7
BT		1900	123.7	122.6	2000	124.3	123.1	2100	124.7	123.8
BT		2200	124.7	123.7	2231	124.9	124.5	2300	124.5	123.6
GR	125.0	0	122.5	99	121.7	198	120.1	297	120.4	396
GR	120.1	495	120.2	594	120.2	608	120.0	642	119.9	655
GR	119.6	700	119.8	800	119.9	900	120.3	1000	119.4	1053
GR	114.7	1064	114.7	1075	114.7	1087	119.5	1098	119.6	1100
GR	120.1	1200	119.7	1300	120.1	1400	119.9	1500	120.8	1600
GR	121.2	1700	122.7	1800	122.7	1806	122.6	1900	123.1	2000
GR	123.8	2100	123.7	2200	124.5	2231	123.6	2300		
X1	6183	33	1053	1098	1	1	1			
X3	10									
GR	125.0	0	122.5	99	121.7	198	120.1	297	120.4	396
GR	120.1	495	120.2	594	120.2	608	120.0	642	119.6	700
GR	119.8	800	119.9	900	120.3	1000	119.4	1053	114.7	1064
GR	114.7	1075	114.7	1087	119.5	1098	119.6	1100	120.1	1200
GR	119.7	1300	120.1	1400	119.9	1500	120.8	1600	121.2	1700
GR	122.7	1800	122.7	1806	122.6	1900	123.1	2000	123.8	2100
GR	123.7	2200	124.5	2231	123.6	2300				
X1	6233	33	1053	1098	50	50	50			
GR	125.0	0	122.5	99	121.7	198	120.1	297	120.4	396
GR	120.1	495	120.2	594	120.2	608	120.0	642	119.6	700
GR	119.8	800	119.9	900	120.3	1000	119.4	1053	114.7	1064
GR	114.7	1075	114.7	1087	119.5	1098	119.6	1100	120.1	1200
GR	119.7	1300	120.1	1400	119.9	1500	120.8	1600	121.2	1700
GR	122.7	1800	122.7	1806	122.6	1900	123.1	2000	123.8	2100
GR	123.7	2200	124.5	2231	123.6	2300				

NC				.1	.3					
QT	5	530	770	950	1190	1520				
X1	7360	19	609	639	1127	1127	1127			
GR	125.3	0	121.2	344	120.2	400	120.5	431	120.8	500
GR	122.7	606	122.2	609	116.5	619	116.5	625	116.5	631
GR	121.1	639	121.0	700	121.0	800	120.4	900	122.1	1185
GR	122.4	1217	123.4	1300	124.4	1400	125.8	1500		
QT	5	470	680	840	1050	1340				
X1	8560	21	665	687	1200	1200	1200			
GR	128.3	0	126.5	25	126.4	118	126.3	125	126.0	225
GR	123.9	325	123.8	332	124.2	425	124.2	525	122.9	625
GR	121.8	665	117.7	673	117.7	682	121.8	687	122.8	725
GR	123.0	825	123.2	925	124.0	1025	125.8	1125	127.2	1190
GR	128.4	1240								
QT	5	400	580	710	890	1130				
X1	10100	25	1581	1600	1540	1540	1540			
GR	129.9	0	128.7	100	127.8	200	127.0	300	126.2	400
GR	126.1	500	125.9	600	125.8	700	126.4	800	127.6	900
GR	128.6	1000	128.4	1100	128.8	1200	128.3	1300	127.8	1400
GR	128.7	1500	129.6	1581	121.5	1586	121.5	1594	129.8	1600
GR	130.2	1605	128.5	1700	128.5	1800	129.2	1900	130.2	2000
NC				.3	.5					
X1	10199	25	1581	1600	99	99	99			
X3	10									
GR	129.9	0	128.7	100	127.8	200	127.0	300	126.2	400
GR	126.1	500	125.9	600	125.8	700	126.4	800	127.6	900
GR	128.6	1000	128.4	1100	128.8	1200	128.3	1300	127.8	1400
GR	128.7	1500	129.6	1581	121.5	1586	121.5	1594	129.8	1600
GR	130.2	1605	128.5	1700	128.5	1800	129.2	1900	130.2	2000
RIDGEWOOD DRIVE										
X1	10200	29	1581	1600	1	1	1			
X3	10									
BT	-27	0	130.6	129.9	100	129.1	128.7	200	128.2	127.8
BT		300	127.1	127.0	400	126.4	126.2	484	126.9	126.1
BT		500	126.9	126.1	600	126.5	125.9	700	126.4	125.8
BT		800	127.2	126.4	900	128.5	127.6	1000	130.2	128.6
BT		1100	129.9	128.4	1200	130.0	128.8	1300	129.4	128.3
BT		1374	127.9	127.9	1400	129.6	127.8	1500	130.4	128.7
BT		1581	130.7	129.6	1582	130.7	128.5	1599	130.7	128.5
BT		1600	130.7	129.8	1605	130.7	130.2	1700	130.3	128.5
BT		1800	130.0	128.5	1900	129.9	129.2	2000	130.4	130.2
GR	129.9	0	128.7	100	127.8	200	127.0	300	126.2	400
GR	126.1	484	126.1	500	125.9	600	125.8	700	126.4	800
GR	127.6	900	128.6	1000	128.4	1100	128.8	1200	128.3	1300
GR	127.9	1374	127.8	1400	128.7	1500	129.6	1581	128.5	1582
GR	121.5	1586	121.5	1594	128.5	1599	129.8	1600	130.2	1605
GR	128.5	1700	128.5	1800	129.2	1900	130.2	2000		

NC				.3	.5					
X1	11149	38	1544	1559	49	49	49			
X3	10									
GR	130.2	0	130.5	100	131.1	200	130.6	128	130.2	
GR	130.3	400	129.7	500	129.8	600	129.6	266	130.4	300
GR	129.8	900	129.8	1000	130.3	1100	129.7	700	129.6	800
GR	130.7	1400	131.5	1500	131.6	1535	125.6	1200	130.2	1300
GR	124.2	1545.5	124.0	1546.5	124.0	1547.5	124.0	1544.0	124.6	1544.5
GR	124.6	1550.5	125.6	1551	125.6	1552	124.6	1548.5	124.0	1549.5
GR	124.0	1554.5	124.0	1555.5	124.0	1556.5	124.2	1552.5	124.2	1553.5
GR	125.6	1559	130.6	1568	132.2	1600		1557.5	124.6	1558.5

NC			.024							
ROBINSON ROAD										
X1	11150	38	1544	1559	1	1	1			
X3	10									
BT	-38	0	132.0	130.2	100	131.7	130.5	128	130.2	
BT		266	131.4	130.6	300	131.3	130.4	200	131.7	131.1
BT		500	130.6	129.7	600	130.5	129.8	400	130.8	130.3
BT		800	130.3	129.6	900	130.1	129.8	700	130.3	129.6
BT		1100	130.3	130.3	1200	130.1	129.8	1000	130.0	129.8
BT		1400	131.0	130.7	1500	130.1	129.7	1300	130.6	130.2
BT		1544	132.3	125.6	1544.5	132.1	131.5	1535	132.3	131.6
BT		1546.5	132.3	128.6	1547.5	132.3	127.0	1545.5	132.3	128.1
BT		1549.5	132.3	128.1	1550.5	132.3	128.8	1548.5	132.3	128.6
BT		1552	132.3	125.6	1552.5	132.3	127.0	1551	132.3	125.6
BT		1554.5	132.3	128.6	1555.5	132.3	127.0	1553.5	132.3	128.1
BT		1557.5	132.3	128.1	1558.5	132.3	128.8	1556.5	132.3	128.6
BT		1568	132.3	130.6	1600	132.3	127.0	1559	132.3	125.6
GR	130.2	0	130.5	100	131.1	200	130.6	132.2	132.2	
GR	130.3	400	129.7	500	129.8	600	129.6	266	130.4	300
GR	129.8	900	129.8	1000	130.3	1100	129.6	700	129.6	800
GR	130.7	1400	131.5	1500	131.6	1535	129.7	1200	130.2	1300
GR	124.2	1545.5	124.0	1546.5	124.0	1547.5	125.6	1544.0	124.6	1544.5
GR	124.6	1550.5	125.6	1551	125.6	1552	124.0	1548.5	124.0	1549.5
GR	124.0	1554.5	124.0	1555.5	124.0	1556.5	124.6	1552.5	124.2	1553.5
GR	125.6	1559	130.6	1568	132.2	1600	124.2	1557.5	124.6	1558.5

X1	11215	38	1548	1563	65	65	65			
X3	10									
BT	-38	0	132.0	130.3	100	131.7	131.3	130	132.2	
BT		266	131.4	131.1	300	131.3	131.2	200	131.7	130.8
BT		500	130.6	130.5	600	130.5	130.1	400	130.8	130.5
BT		800	130.3	129.9	900	130.1	130.1	700	130.3	129.9
BT		1100	130.3	130.3	1200	130.1	129.3	1000	130.0	129.8
BT		1400	131.0	130.5	1500	130.1	130.1	1300	130.6	130.3
BT		1548	132.3	126.2	1548.5	132.1	131.4	1543	132.3	130.0
BT		1550.5	132.3	129.2	1551.5	132.3	127.6	1549.5	132.3	128.7
BT		1553.5	132.3	128.7	1554.5	132.3	129.4	1552.5	132.3	129.2
BT		1556	132.3	126.2	1556.5	132.3	127.6	1555	132.3	126.2
BT		1558.5	132.3	129.2	1559.5	132.3	127.6	1557.5	132.3	128.7
BT		1561.5	132.3	128.7	1562.5	132.3	129.4	1560.5	132.3	129.2
BT		1568	132.3	130.7	1600	132.2	127.6	1563	132.3	126.2

GR	130.3	0	131.3	100	130.8	200	131.1	266	131.2	300
GR	130.5	400	130.5	500	130.1	600	129.9	700	129.9	800
GR	129.3	900	129.8	1000	130.3	1100	130.1	1200	130.3	1300
GR	130.5	1400	131.4	1500	130.0	1543	126.2	1548	125.2	1548.5
GR	124.8	1549.5	124.6	1550.5	124.6	1551.5	124.6	1552.5	124.8	1553.5
GR	125.2	1554.5	126.2	1555	126.2	1556	125.2	1556.5	124.8	1557.5
GR	124.6	1558.5	124.6	1559.5	124.6	1560.5	124.8	1561.5	125.2	1562.5
GR	126.2	1563	130.7	1568	132.2	1600				
NC			.015							
X1	11216	38	1548	1563	1	1	1			
X3	10									
GR	130.3	0	131.3	100	130.8	200	131.1	266	131.2	300
GR	130.5	400	130.5	500	130.1	600	129.9	700	129.9	800
GR	129.3	900	129.8	1000	130.3	1100	130.1	1200	130.3	1300
GR	130.5	1400	131.4	1500	130.0	1543	126.2	1548	125.2	1548.5
GR	124.8	1549.5	124.6	1550.5	124.6	1551.5	124.6	1552.5	124.8	1553.5
GR	125.2	1554.5	126.2	1555	126.2	1556	125.2	1556.5	124.8	1557.5
GR	124.6	1558.5	124.6	1559.5	124.6	1560.5	124.8	1561.5	125.2	1562.5
GR	126.2	1563	130.7	1568	132.2	1600				
X1	11250	21	1543	1568	34	34	34			
GR	130.3	0	131.3	100	130.8	200	131.2	300	130.5	400
GR	130.5	500	130.1	600	129.9	700	129.9	800	129.3	900
GR	129.8	1000	130.3	1100	130.1	1200	130.3	1300	130.5	1400
GR	131.4	1500	130.0	1543	124.6	1553	124.6	1559	130.7	1568
GR	132.2	1600								
NC			.1	.3						
X1	11750	24	1688	1712	500	500	500			
GR	133.5	0	132.4	100	132.4	200	132.8	300	133.2	400
GR	133.6	500	133.9	600	133.4	700	133.1	800	132.7	900
GR	131.9	1000	131.4	1100	130.9	1161	130.6	1200	130.9	1300
GR	131.2	1400	132.0	1500	131.9	1600	130.8	1688	125.2	1697
GR	125.2	1703	130.2	1712	133.1	1737	151.1	1737		
QT	5	320	460	560	710	890				
X1	12350	25	1721	1745	600	600	600			
GR	136.7	0	136.7	100	136.1	200	136.1	300	137.1	400
GR	137.6	500	137.6	600	137.3	700	136.5	800	136.9	900
GR	137.5	1000	137.7	1100	136.6	1200	135.6	1267	135.1	1300
GR	134.1	1400	133.8	1500	134.6	1600	132.6	1721	125.5	1730
GR	125.5	1736	132.1	1745	133.9	1750	134.4	1771	148.4	1771

IHLQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

THIS RUN EXECUTED 9/ 1/89 16:22:46

HEC2 RELEASE DATED SEPT 88

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

A109-03-00

SUMMARY PRINTOUT

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
120.000	2640.00	115.61	114.50	115.90	102.70	2.68	115.72	.00	171.98	.00	.01	.00
* 1520.000	2390.00	116.13	115.20	115.30	102.70	3.09	116.28	1400.00	260.82	6.96	.01	.00
* 1574.000	2390.00	116.09	117.60	117.60	102.50	4.51	116.41	54.00	78.60	7.17	.01	.00
1586.000	2390.00	116.14	117.60	117.60	102.50	4.48	116.45	12.00	78.73	7.19	.01	.00
* 1636.000	2390.00	116.40	115.20	115.30	103.10	2.97	116.54	50.00	354.00	7.44	.01	.00
3528.000	2080.00	117.29	115.90	116.20	104.10	4.95	117.67	1892.00	51.25	16.24	.01	.00
3538.000	2080.00	117.30	115.90	116.20	104.10	4.94	117.68	10.00	51.26	16.25	.01	.00
* 3543.000	2080.00	116.70	115.90	116.20	109.40	8.96	117.95	5.00	50.64	16.25	.01	.00
3553.000	2080.00	116.80	115.90	116.20	109.40	8.77	118.00	10.00	50.74	16.27	.01	.00
3921.000	2080.00	118.36	118.80	117.60	109.80	7.50	119.22	368.00	327.83	17.86	.01	.00
* 3961.000	2080.00	119.13	116.80	116.80	109.80	4.93	119.44	40.00	1207.88	18.57	.01	.00
* 3962.000	2080.00	119.27	116.80	116.80	109.80	4.63	119.47	1.00	1278.08	18.60	.01	.00
3994.000	2080.00	119.44	116.80	116.80	109.80	4.19	119.59	32.00	1350.95	19.56	.01	.00
* 3995.000	2080.00	119.40	116.80	116.80	109.80	4.50	119.64	1.00	1330.47	19.59	.01	.00
* 4035.000	2080.00	119.31	118.80	117.60	109.80	5.87	119.80	40.00	963.31	20.65	.01	.00
4558.000	1930.00	120.01	119.50	118.70	110.10	5.92	120.52	523.00	801.23	31.24	.01	.00
4608.000	1930.00	120.24	119.40	119.40	110.10	5.05	120.62	50.00	851.95	32.19	.01	.00

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
* 4609.000	1930.00	120.13	119.40	119.40	110.10	6.51	120.73	1.00	828.10	32.21	.01	.00
* 4639.000	1930.00	120.69	119.40	119.40	110.10	4.90	120.98	30.00	952.01	32.82	.01	.00
* 4640.000	1930.00	120.70	119.40	119.40	110.10	4.48	120.98	1.00	953.83	32.84	.01	.00
4690.000	1930.00	120.73	119.50	118.70	110.10	4.73	121.02	50.00	957.78	33.94	.01	.00
* 5868.000	1780.00	121.90	120.70	120.20	112.80	5.81	122.41	1178.00	329.37	51.35	.01	.00
* 6124.000	1720.00	122.49	120.80	121.20	113.00	2.22	122.53	256.00	1759.96	57.48	.01	.00
6125.000	1720.00	122.47	120.80	121.20	114.50	3.29	122.56	1.00	1754.44	57.53	.01	.00
6153.000	1720.00	122.47	119.40	119.50	114.60	3.20	122.56	28.00	1755.15	58.65	.01	.00
* 6154.000	1720.00	122.44	119.40	119.50	114.60	4.74	122.60	1.00	1748.95	58.69	.01	.00
6182.000	1720.00	122.50	119.40	119.50	114.70	4.52	122.63	28.00	1687.11	59.80	.01	.00
* 6183.000	1720.00	122.51	119.40	119.50	114.70	3.57	122.64	1.00	1688.20	59.84	.01	.00
6233.000	1720.00	122.52	119.40	119.50	114.70	3.54	122.64	50.00	1691.05	61.78	.01	.00
* 7360.000	1520.00	122.73	122.20	121.10	116.50	7.03	123.23	1127.00	1028.39	96.96	.01	.00
* 8560.000	1340.00	124.37	121.80	121.80	117.70	9.16	125.44	1200.00	742.83	121.35	.01	.00
* 10100.000	1130.00	127.77	129.60	129.80	121.50	8.58	128.43	1540.00	729.25	147.37	.01	.00
* 10199.000	1130.00	128.36	129.60	129.80	121.50	6.21	128.65	99.00	1030.15	149.37	.01	.00
* 10200.000	1130.00	128.51	129.60	129.80	121.50	6.28	128.81	1.00	1194.99	149.40	.01	.00
10225.000	1130.00	128.41	129.90	129.80	121.70	7.93	128.98	25.00	811.95	149.97	.01	.00
* 10226.000	1130.00	128.94	129.90	129.80	121.70	4.99	129.10	1.00	874.05	149.99	.01	.00
10300.000	1130.00	128.99	129.90	129.80	121.70	4.85	129.14	74.00	880.79	151.48	.01	.00
* 10800.000	1130.00	128.47	132.00	132.30	121.10	9.78	129.95	500.00	163.35	157.48	.01	.00
* 11100.000	1010.00	130.51	131.60	130.60	124.00	7.12	131.18	300.00	1211.08	162.21	.01	.00
* 11149.000	1010.00	130.78	125.60	125.60	124.00	7.90	131.51	49.00	1349.80	163.65	.01	.00
* 11150.000	1010.00	131.67	125.60	125.60	124.00	3.84	131.71	1.00	1589.35	163.68	.01	.00
11215.000	1010.00	131.83	126.20	126.20	124.60	3.24	131.86	65.00	1563.00	166.04	.01	.00
* 11216.000	1010.00	131.72	126.20	126.20	124.60	5.36	131.96	1.00	1563.00	166.07	.01	.00

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
11250.000	1010.00	131.86	130.00	130.70	124.60	4.13	132.00	34.00	1592.87	167.30	.01	.00
* 11750.000	1010.00	131.60	130.80	130.20	125.20	8.93	132.75	500.00	488.69	179.25	.01	.00
12350.000	890.00	132.41	132.60	132.10	125.50	8.54	133.54	600.00	24.61	182.78	.01	.00

SUMMARY OF ERRORS AND SPECIAL NOTES

WARNING SECNO= 1520.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 1574.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 1636.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 3543.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 3961.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 3962.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 3995.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 4035.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 4609.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 4639.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 4640.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 5868.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 6124.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 6154.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 6183.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 7360.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
CAUTION SECNO= 8560.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 8560.000 PROFILE= 1 MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 10100.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 10100.000 PROFILE= 1 MINIMUM SPECIFIC ENERGY
WARNING SECNO= 10199.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
CAUTION SECNO= 10200.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 10200.000 PROFILE= 1 MINIMUM SPECIFIC ENERGY
WARNING SECNO= 10226.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 10800.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
CAUTION SECNO= 11100.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 11100.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 11100.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 11149.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 11149.000 PROFILE= 1 MINIMUM SPECIFIC ENERGY

WARNING SECNO= 11150.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 11216.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO= 11750.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 11750.000 PROFILE= 1 MINIMUM SPECIFIC ENERGY

THIS RUN EXECUTED 9/ 1/89 17: 5:58

 HEC2 RELEASE DATED SEPT 88

T1 SOUTHERN MONTGOMERY COUNTY FLOOD PROTECTION STUDY
 T2 DODSON AND ASSOCIATES, INC. SEPTEMBER, 1989
 T3 A109-03-00 SPRING OAKS CHANNEL
 T4 100-YEAR STORM FREQUENCY INTERIM CONDITIONS
 T5 FILENAME = A10903IN.IH2

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
		2			.0006				113	
J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	-1		-1							

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

38	43	1	23	24	42	26	3	39	4
37	30	65							

J5 LPRNT NUMSEC *****REQUESTED SECTION NUMBERS*****
 -10 -10

J6 IHLEQ ICOPY SUBDIV STRTDS RMILE
 1

NC	.15	.15	.04	.1	.3					
QT	1	3040								
X1	120	11	9937.5	10051.5	120	120	120			
CI	-1	101.9	.04	4	4	30				
GR	117	9885.5	114.2	9911.5	114.5	9937.5	106.6	9961.5	103.5	9987.5
GR	102.7	10000	103.6	10012.5	107.9	10033.5	115.9	10051.5	114.5	10067.5
GR	120.7	10106.5								
QT	1	2760								
X1	1520	12	9944	10050	1400	1400	1400			
CI	-1	102.7	.04	4	4	30				
GR	117.6	9800	115	9900	115.2	9944	108.1	9965	107.3	9975
GR	104.2	9995	102.7	10000	105.3	10005	108.6	10019	115.3	10050
GR	116.1	10100	116.3	10200						

NC			.015	.3	.5					
X1	3961	17	9977	10023	40	40	40			
CI	-1	107.92	.015	1.5	1.5	24				
X3	10							117.1	117.3	
GR	125	8300	120	9300	117.3	9700	117.7	9800	118.1	9900
GR	116.8	9977	115.3	9977	110.4	9989	109.8	10000	110.4	10009
GR	115.3	10023	116.8	10023	118.0	10100	117.7	10200	118.0	10300
GR	120	10900	125	11400						

SPRING PINES ROAD

X1	3962	17	9977	10023	1	1	1			
CI						.01				
X3	10							117.1	117.3	
BT	-11	9700	117.3	117.3	9800	117.7	117.7	9900	118.1	118.1
BT		9977	118.7	116.8	9988	118.7	116.8	10000	118.7	116.8
BT		10012	118.7	116.8	10023	118.7	116.8	10100	118	118
BT		10200	117.7	117.7	10300	118	118			
GR	125	8300	120	9300	117.3	9700	117.7	9800	118.1	9900
GR	116.8	9977	115.3	9977	107.92	9988	107.92	10000	107.92	10012
GR	115.3	10023	116.8	10023	118.0	10100	117.7	10200	118.0	10300
GR	120	10900	125	11400						

X1	3994				32	32	32			
X2							1			
X3	10							117.3	117.7	
X1	3995	17	9977	10023	1	1	1			
CI	-1	107.92	.015	1.5	1.5	24				
X3	10							117.3	117.7	
GR	125	8300	120	9300	117.3	9700	117.7	9800	118.1	9900
GR	116.8	9977	115.3	9977	110.4	9989	109.8	10000	110.4	10009
GR	115.3	10023	116.8	10023	118.0	10100	117.7	10200	118.0	10300
GR	120	10900	125	11400						

X1	4035	11	9974	10026	40	40	40			
CI	-1	107.99	.015	1.5	1.5	24				
GR	125	8300	120	9300	118.8	9974	115.7	9981	110.4	9992
GR	109.8	10000	110.4	10008	115.6	10020	117.6	10026	120	10900
GR	125	11400								

NC				.1	.3					
QT	1	2240								
X1	4558	11	9974.5	10024.5	523	523	523			
CI	-1	108.52	.015	1.5	1.5	24				
GR	125	9200	120	9700	119.5	9974.5	118.4	9978.5	111	9991.5
GR	110.1	10000	111	10008.5	116.7	10018.5	118.7	10024.5	120	10500
GR	125	11100								

NC				.3	.5					
X1	4608	11	9976	10023	50	50	50			
CI	-1	108.57	.015	1.5	1.5	24				
X3	10							118.5	118.5	
GR	125	9200	120	9700	119.4	9976	116	9976	111	9991.5
GR	110.1	10000	111	10008.5	116	10023	119.4	10023	120	10500
GR	125	11100								
BASSWOOD										
X1	4609	11	9976	10023	1	1	1			
CI						.01				
X3	10							118.5	118.5	
BT	-5	9976	119.4	117.5	9988	119.4	117.5	10000	119.4	117.5
BT		10012	119.4	117.5	10023	119.4	117.5			
GR	125	9200	120	9700	119.4	9976	116	9976	108.57	9988
GR	108.57	10000	108.57	10012	116	10023	119.4	10023	120	10500
GR	125	11100								
X1	4639				30	30	30			
X2							1			
X3	10							119.4	119.4	
X1	4640	11	9976	10023	1	1	1			
CI	-1	108.57	.015	1.5	1.5	24				
X3	10							119.4	119.4	
GR	125	9200	120	9700	119.4	9976	116	9976	111	9991.5
GR	110.1	10000	111	10008.5	116	10023	119.4	10023	120	10500
GR	125	11100								
CONTROL STRUCTURE										
X1	4690	11	9974.5	10024.5	50	50	50			
CI	-1	108.65	.015	1.5	1.5	20				
X5	-2	0.5	0.5							
GR	125	9200	120	9700	119.5	9974.5	118.4	9978.5	111	9991.5
GR	110.1	10000	111	10008.5	116.7	10018.5	118.7	10024.5	120	10500
GR	125	11100								
X1	4740	11	9974.5	10024.5	50	50	50			
CI	-1	108.70	.015	1.5	1.5	20				
GR	125	9200	120	9700	119.5	9974.5	118.4	9978.5	111	9991.5
GR	110.1	10000	111	10008.5	116.7	10018.5	118.7	10024.5	120	10500
GR	125	11100								
NC				.1	.3					
QT	1	2050								
X1	5868	9	9973	10024	1128	1128	1128			
CI	-1	109.83	.015	1.5	1.5	20				
GR	125	9550	120.7	9973	120.3	9981	113.1	9991	113.0	10000
GR	112.8	10009	119.0	10019	120.2	10024	125	10480		

QT	1	2010								
X1	6124	36	1055	1100	256	256	256			
CI	-1	110.08	.015	1.5	1.5	20				
X3	10									
GR	124.7	0	122.5	99	121.4	198	120.5	297	120.5	310
GR	120.2	396	119.9	495	119.9	594	119.6	629	120.8	634
GR	115.3	642	115.3	645	115.3	649	121.3	657	121.0	700
GR	119.5	800	119.2	900	119.6	1000	120.8	1055	113.0	1067
GR	113.0	1075	113.0	1087	121.2	1100	119.0	1200	118.8	1300
GR	119.1	1400	119.4	1500	120.3	1600	120.5	1700	121.9	1800
GR	122.9	1900	123.1	2000	123.8	2100	123.8	2200	124.3	2231
GR	123.5	2300								

NC			.015	.3	.5					
X1	6125	36	1055	1100	1	1	1			
CI	-1	110.08	.015	1.5	1.5	20				
X3	10									
GR	124.7	0	122.5	99	121.4	198	120.5	297	120.5	310
GR	120.2	396	119.9	495	119.9	594	119.6	629	120.8	634
GR	115.3	642	115.3	645	115.3	649	121.3	657	121.0	700
GR	119.5	800	119.2	900	119.6	1000	120.8	1055	114.5	1066
GR	114.5	1075	114.5	1088	121.2	1100	119.0	1200	118.8	1300
GR	119.1	1400	119.4	1500	120.3	1600	120.5	1700	121.9	1800
GR	122.9	1900	123.1	2000	123.8	2100	123.8	2200	124.3	2231
GR	123.5	2300								

X1	6153	36	1053	1098	28	28	28			
CI	-1	110.11	.015	1.35	1.35	20				
X3	10							120	120	
GR	124.7	0	122.5	99	121.4	198	120.5	297	120.5	310
GR	120.2	396	119.9	495	119.9	594	119.6	629	120.8	634
GR	115.3	642	115.3	645	115.3	649	121.3	657	121.0	700
GR	119.5	800	119.2	900	119.6	1000	119.4	1053	114.6	1064
GR	114.6	1075	114.6	1087	119.5	1098	119.0	1200	118.8	1300
GR	119.1	1400	119.4	1500	120.3	1600	120.5	1700	121.9	1800
GR	122.9	1900	123.1	2000	123.8	2100	123.8	2200	124.3	2231
GR	123.5	2300								

MAPLEWOOD DRIVE

X1	6154	36	1053	1098	1	1	1			
CI	-1	110.11	.015	1.35	1.35	20				
X2										
X3	10							120	120	
BT	-36	0	125.0	124.7	99	122.7	122.5	198	121.7	121.4
BT		297	120.5	120.5	310	120.5	120.5	396	120.5	120.2
BT		495	120.4	119.9	594	120.4	119.9	629	120.7	119.6
BT		634	120.8	120.8	642	120.8	115.3	645	120.8	115.3
BT		649	120.8	115.3	657	121.3	121.3	700	121.0	121.0
BT		800	120.7	119.5	900	121.0	119.2	1000	121.4	119.6
BT		1053	121.3	119.4	1053	123.7	119.4	1098	123.7	119.5
BT		1098	121.3	119.5	1098	121.3	119.5	1200	121.2	119.0
BT		1300	120.6	118.8	1400	120.7	119.1	1500	121.1	119.4
BT		1600	121.7	120.3	1700	122.1	120.5	1800	123.3	121.9

BT		1900	123.7	122.9	2000	124.3	123.1	2100	124.7	123.8
BT		2200	124.7	123.8	2231	124.9	124.3	2300	124.5	123.5
GR	124.7	0	122.5	99	121.4	198	120.5	297	120.5	310
GR	120.2	396	119.9	495	119.9	594	119.6	629	120.8	634
GR	115.3	642	115.3	645	115.3	649	121.3	657	121.0	700
GR	119.5	800	119.2	900	119.6	1000	119.4	1053	114.6	1064
GR	114.6	1075	114.6	1087	119.5	1098	119.0	1200	118.8	1300
GR	119.1	1400	119.4	1500	120.3	1600	120.5	1700	121.9	1800
GR	122.9	1900	123.1	2000	123.8	2100	123.8	2200	124.3	2231
GR	123.5	2300								
X1	6182	34	1053	1098	28	28	28			
CI	-1	110.14	.015	1.35	1.35	20				
X2										
X3	10									
BT	-33	0	125.0	125.0	99	122.7	122.5	198	121.7	121.7
BT		297	120.5	120.1	396	120.5	120.4	495	120.4	120.1
BT		594	120.4	120.2	608	120.5	120.2	642	120.8	120.0
BT		655	120.8	119.9	700	120.7	119.6	800	120.7	119.8
BT		900	121.0	119.9	1000	121.4	120.3	1053	121.3	119.4
BT		1053	123.7	119.4	1098	123.7	119.5	1098	121.3	119.5
BT		1100	121.3	119.6	1200	121.2	120.1	1300	120.6	119.7
BT		1400	120.7	120.1	1500	121.1	119.9	1600	121.7	120.8
BT		1700	122.1	121.2	1800	123.3	122.7	1806	123.3	122.7
BT		1900	123.7	122.6	2000	124.3	123.1	2100	124.7	123.8
BT		2200	124.7	123.7	2231	124.9	124.5	2300	124.5	123.6
GR	125.0	0	122.5	99	121.7	198	120.1	297	120.4	396
GR	120.1	495	120.2	594	120.2	608	120.0	642	119.9	655
GR	119.6	700	119.8	800	119.9	900	120.3	1000	119.4	1053
GR	114.7	1064	114.7	1075	114.7	1087	119.5	1098	119.6	1100
GR	120.1	1200	119.7	1300	120.1	1400	119.9	1500	120.8	1600
GR	121.2	1700	122.7	1800	122.7	1806	122.6	1900	123.1	2000
GR	123.8	2100	123.7	2200	124.5	2231	123.6	2300		
X1	6183	33	1053	1098	1	1	1			
CI	-1	110.14	.015	1.35	1.35	20				
X3	10									
GR	125.0	0	122.5	99	121.7	198	120.1	297	120.4	396
GR	120.1	495	120.2	594	120.2	608	120.0	642	119.6	700
GR	119.8	800	119.9	900	120.3	1000	119.4	1053	114.7	1064
GR	114.7	1075	114.7	1087	119.5	1098	119.6	1100	120.1	1200
GR	119.7	1300	120.1	1400	119.9	1500	120.8	1600	121.2	1700
GR	122.7	1800	122.7	1806	122.6	1900	123.1	2000	123.8	2100
GR	123.7	2200	124.5	2231	123.6	2300				
X1	6208	33	1053	1098	25	25	25			
CI	-1	110.19	.015	1.5	1.5	20				
GR	125.0	0	122.5	99	121.7	198	120.1	297	120.4	396
GR	120.1	495	120.2	594	120.2	608	120.0	642	119.6	700
GR	119.8	800	119.9	900	120.3	1000	119.4	1053	114.7	1064
GR	114.7	1075	114.7	1087	119.5	1098	119.6	1100	120.1	1200
GR	119.7	1300	120.1	1400	119.9	1500	120.8	1600	121.2	1700
GR	122.7	1800	122.7	1806	122.6	1900	123.1	2000	123.8	2100
GR	123.7	2200	124.5	2231	123.6	2300				

QT	1	1320								
X1	10099	25	1581	1600	999	999	999			
CI	1590	117.10	.015	1.5	1.5	12				
GR	129.9	0	128.7	100	127.8	200	127.0	300	126.2	400
GR	126.1	500	125.9	600	125.8	700	126.4	800	127.6	900
GR	128.6	1000	128.4	1100	128.8	1200	128.3	1300	127.8	1400
GR	128.7	1500	129.6	1581	121.5	1586	121.5	1594	129.8	1600
GR	130.2	1605	128.5	1700	128.5	1800	129.2	1900	130.2	2000

DROP STRUCTURE

X1	10100	25	1581	1600	1	1	1			
CI	1590	120.10	.015	1.5	1.5	8				
X3	10									
X5	-2	3.5	3.5							
GR	129.9	0	128.7	100	127.8	200	127.0	300	126.2	400
GR	126.1	500	125.9	600	125.8	700	126.4	800	127.6	900
GR	128.6	1000	128.4	1100	128.8	1200	128.3	1300	127.8	1400
GR	128.7	1500	129.6	1581	121.5	1586	121.5	1594	129.8	1600
GR	130.2	1605	128.5	1700	128.5	1800	129.2	1900	130.2	2000

NC			.3	.5						
X1	10199	25	1581	1600	99	99	99			
CI	1590	120.20	.015	1.5	1.5	8				
X3	10									
GR	129.9	0	128.7	100	127.8	200	127.0	300	126.2	400
GR	126.1	500	125.9	600	125.8	700	126.4	800	127.6	900
GR	128.6	1000	128.4	1100	128.8	1200	128.3	1300	127.8	1400
GR	128.7	1500	129.6	1581	121.5	1586	121.5	1594	129.8	1600
GR	130.2	1605	128.5	1700	128.5	1800	129.2	1900	130.2	2000

LANE LANE - EXISTING BRIDGE REPLACED

X1	10200	29	1581	1600	1	1	1			
CI	1590	120.20	.015	1.5	1.5	8				
X3	10									
GR	129.9	0	128.7	100	127.8	200	127.0	300	126.2	400
GR	126.1	484	126.1	500	125.9	600	125.8	700	126.4	800
GR	127.6	900	128.6	1000	128.4	1100	128.8	1200	128.3	1300
GR	127.9	1374	127.8	1400	128.7	1500	129.6	1581	128.5	1582
GR	121.5	1586	121.5	1594	128.5	1599	129.8	1600	130.2	1605
GR	128.5	1700	128.5	1800	129.2	1900	130.2	2000		

X1	10225	29	1581	1600	25	25	25			
CI	1590	120.22	.015	1.5	1.5	8				
X3	10									
GR	130.4	0	128.7	100	127.5	200	126.6	300	126.2	400
GR	126.5	484	126.5	500	126.3	600	125.6	700	126.8	800
GR	128.0	900	130.2	1000	129.9	1100	130.0	1200	129.3	1300
GR	129.2	1374	129.1	1400	129.9	1500	129.9	1581	128.7	1582
GR	121.7	1586	121.7	1594	128.7	1599	129.8	1600	130.3	1605
GR	129.7	1700	129.3	1800	129.7	1900	130.2	2000		

X1	10226	25	1581	1600	1	1	1			
CI	1590	120.22	.015	1.5	1.5	8				
X3	10									
GR	130.4	0	128.7	100	127.5	200	126.6	300	126.2	400
GR	126.5	500	126.3	600	125.6	700	126.8	800	128.0	900
GR	130.2	1000	129.9	1100	130.0	1200	129.3	1300	129.1	1400
GR	129.9	1500	129.9	1581	121.7	1586	121.7	1594	129.8	1600
GR	130.3	1605	129.7	1700	129.3	1800	129.7	1900	130.2	2000
X1	10300	25	1581	1600	74	74	74			
CI	1590	120.30	.015	1.5	1.5	8				
X3	10									
GR	130.4	0	128.7	100	127.5	200	126.6	300	126.2	400
GR	126.5	500	126.3	600	125.6	700	126.8	800	128.0	900
GR	130.2	1000	129.9	1100	130.0	1200	129.3	1300	129.1	1400
GR	129.9	1500	129.9	1581	121.7	1586	121.7	1594	129.8	1600
GR	130.3	1605	129.7	1700	129.3	1800	129.7	1900	130.2	2000
QT	1	1230								
NC				.1	.3					
X1	10800	23	1573	1606	500	500	500			
CI	1584	120.80	.015	1.5	1.5	8				
X3	10									
GR	130.9	0	130.3	100	129.6	200	129.1	300	129.1	400
GR	129.1	425	128.6	500	128.3	600	128.5	700	128.7	800
GR	128.7	900	129.4	1000	129.6	1100	129.7	1200	130.2	1300
GR	131.1	1369	130.9	1400	131.9	1500	132.0	1573	121.1	1586
GR	121.1	1593	132.3	1606	136.6	1616				
QT	1	1190								
X1	11100	21	1535	1568	300	300	300			
CI	1550	121.10	.015	1.5	1.5	8				
X3	10									
GR	130.2	0	130.5	100	131.1	200	130.4	300	130.3	400
GR	129.7	500	129.8	600	129.6	700	129.6	800	129.8	900
GR	129.8	1000	130.3	1100	129.7	1200	130.2	1300	130.7	1400
GR	131.5	1500	131.6	1535	124.0	1547	124.0	1553	130.6	1568
GR	132.2	1600								
X1	11149	22	1535	1568	49	49	49			
CI	1550	121.15	.015	1.5	1.5	8				
X3	10									
GR	130.2	0	130.5	100	131.1	200	130.6	266	130.4	300
GR	130.3	400	129.7	500	129.8	600	129.6	700	129.6	800
GR	129.8	900	129.8	1000	130.3	1100	129.7	1200	130.2	1300
GR	130.7	1400	131.5	1500	131.6	1535	124.0	1547	124.0	1553
GR	130.6	1568	132.2	1600						

ROBINSON ROAD - EXISTING BRIDGE REPLACED

X1	11150	22	1535	1568	1	1	1			
CI	1550	121.15	.015	1.5	1.5	8				
X3	10									
GR	130.2	0	130.5	100	131.1	200	130.6	266	130.4	300
GR	130.3	400	129.7	500	129.8	600	129.6	700	129.6	800
GR	129.8	900	129.8	1000	130.3	1100	129.7	1200	130.2	1300
GR	130.7	1400	131.5	1500	131.6	1535	124.0	1547	124.0	1553
GR	130.6	1568	132.2	1600						
X1	11215	22	1543	1568	65	65	65			
CI	1556	121.22	.015	1.5	1.5	8				
X3	10									
GR	130.3	0	131.3	100	130.8	200	131.1	266	131.2	300
GR	130.5	400	130.5	500	130.1	600	129.9	700	129.9	800
GR	129.3	900	129.8	1000	130.3	1100	130.1	1200	130.3	1300
GR	130.5	1400	131.4	1500	130.0	1543	124.6	1553	124.6	1559
GR	130.7	1568	132.2	1600						
X1	11216	22	1543	1568	1	1	1			
CI	1556	121.22	.015	1.5	1.5	8				
X3	10									
GR	130.3	0	131.3	100	130.8	200	131.1	266	131.2	300
GR	130.5	400	130.5	500	130.1	600	129.9	700	129.9	800
GR	129.3	900	129.8	1000	130.3	1100	130.1	1200	130.3	1300
GR	130.5	1400	131.4	1500	130.0	1543	124.6	1553	124.6	1559
GR	130.7	1568	132.2	1600						
X1	11250	21	1543	1568	34	34	34			
CI	1556	121.25	.015	1.5	1.5	8				
X3	10									
GR	130.3	0	131.3	100	130.8	200	131.2	300	130.5	400
GR	130.5	500	130.1	600	129.9	700	129.9	800	129.3	900
GR	129.8	1000	130.3	1100	130.1	1200	130.3	1300	130.5	1400
GR	131.4	1500	130.0	1543	124.6	1553	124.6	1559	130.7	1568
GR	132.2	1600								
QT	1	1120								
X1	11750	23	1688	1712	500	500	500			
CI	-1	121.75	.015	1.5	1.5	8				
GR	133.5	0	132.4	100	132.4	200	132.8	300	133.2	400
GR	133.6	500	133.9	600	133.4	700	133.1	800	132.7	900
GR	131.9	1000	131.4	1100	130.9	1161	130.6	1200	130.9	1300
GR	131.2	1400	132.0	1500	131.9	1600	130.8	1688	125.2	1697
GR	125.2	1703	130.2	1712	133.1	1737				
QT	1	1050								
X1	12350	24	1721	1745	600	600	600			
CI	-1	122.35	.015	1.5	1.5	8				
GR	136.7	0	136.7	100	136.1	200	136.1	300	137.1	400
GR	137.6	500	137.6	600	137.3	700	136.5	800	136.9	900
GR	137.5	1000	137.7	1100	136.6	1200	135.6	1267	135.1	1300
GR	134.1	1400	133.8	1500	134.6	1600	132.6	1721	125.5	1730

9/ 1/89 17: 5:58

PAGE 11

GR 125.5 1736 132.1 1745 133.9 1750 134.4 1771

IHLEQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

THIS RUN EXECUTED 9/ 1/89 17: 6:29

 HEC2 RELEASE DATED SEPT 88

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

A109-03-00

SUMMARY PRINTOUT

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
120.000	3040.00	113.62	114.41	114.99	101.90	3.37	113.80	.00	123.79	.00	30.00	.00
1520.000	2760.00	114.42	115.15	115.51	102.70	3.06	114.57	1400.00	123.76	3.98	30.00	12.94
1574.000	2760.00	114.45	116.27	116.85	102.50	3.05	114.59	54.00	124.00	4.13	30.00	13.93
1636.000	2760.00	114.47	115.15	115.51	102.80	3.08	114.62	50.00	123.38	4.27	30.00	14.82
3528.000	2400.00	115.39	119.01	117.68	104.10	2.83	115.51	1892.00	120.31	9.57	30.00	52.66
3538.000	2400.00	115.39	119.01	117.68	104.10	2.83	115.52	10.00	120.35	9.59	30.00	52.94
* 3543.000	2400.00	115.49	118.81	117.60	107.50	8.34	116.57	5.00	47.98	9.60	24.00	53.02
3553.000	2400.00	115.50	118.81	117.60	107.50	8.33	116.58	10.00	48.00	9.61	24.00	53.07
3921.000	2330.00	115.83	118.80	117.60	107.88	8.16	116.86	368.00	47.85	10.02	24.00	54.86
3961.000	2330.00	115.85	116.84	116.84	107.92	8.18	116.89	40.00	47.81	10.06	24.00	55.03
3962.000	2330.00	115.85	116.80	116.80	107.92	8.21	116.90	1.00	46.00	10.06	.01	55.03
3994.000	2330.00	115.88	116.80	116.80	107.92	8.18	116.92	32.00	46.00	10.10	.01	55.03
3995.000	2330.00	115.91	116.84	116.84	107.92	8.11	116.93	1.00	47.97	10.10	24.00	55.04
4035.000	2330.00	115.93	118.80	117.60	107.99	8.16	116.96	40.00	47.84	10.14	24.00	55.21
4558.000	2240.00	116.34	119.51	118.71	108.52	8.02	117.34	523.00	47.46	10.72	24.00	58.07
4608.000	2240.00	116.37	119.41	119.41	108.57	8.03	117.37	50.00	47.41	10.77	24.00	58.31
4609.000	2240.00	116.41	119.40	119.40	108.57	7.91	117.38	1.00	47.00	10.77	.01	58.31

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
4639.000	2240.00	116.44	119.40	119.40	108.57	7.88	117.41	30.00	47.00	10.80	.01	58.31
4640.000	2240.00	116.43	119.41	119.41	108.57	7.94	117.41	1.00	47.61	10.80	24.00	58.32
* 4690.000	2240.00	116.93	119.50	118.70	108.65	8.34	118.01	50.00	44.85	10.86	20.00	58.52
4740.000	2240.00	116.97	119.50	118.70	108.70	8.36	118.05	50.00	44.81	10.91	20.00	58.72
5868.000	2050.00	117.91	120.71	120.20	109.83	7.90	118.88	1128.00	44.24	12.06	20.00	64.29
6124.000	2010.00	118.11	120.72	121.11	110.08	7.83	119.06	256.00	44.05	12.32	20.00	65.70
6125.000	2010.00	118.11	120.72	121.11	110.08	7.82	119.06	1.00	44.08	12.32	20.00	65.71
6153.000	2010.00	118.08	119.40	119.50	110.11	8.19	119.13	28.00	41.53	12.35	20.00	65.87
6154.000	2010.00	118.08	119.40	119.50	110.11	8.19	119.13	1.00	41.53	12.35	20.00	65.88
6182.000	2010.00	118.10	119.40	119.51	110.14	8.21	119.15	28.00	41.51	12.38	20.00	66.02
6183.000	2010.00	118.10	119.40	119.51	110.14	8.21	119.15	1.00	41.50	12.38	20.00	66.03
6208.000	2010.00	118.27	119.42	119.58	110.19	7.74	119.20	25.00	44.25	12.40	20.00	66.16
6233.000	2010.00	118.28	120.88	119.38	110.24	7.78	119.22	25.00	44.15	12.43	20.00	66.34
7360.000	1780.00	119.15	122.56	121.08	111.32	7.16	119.95	1127.00	43.49	13.56	20.00	76.64
* 7410.000	1780.00	119.65	122.60	121.09	111.37	7.56	120.54	50.00	40.84	13.61	16.00	77.08
8560.000	1570.00	120.50	122.07	122.14	112.52	7.03	121.27	1150.00	39.94	14.68	16.00	86.36
9099.000	1480.00	120.85	124.13	124.20	113.06	6.87	121.59	539.00	39.35	15.17	16.00	91.38
* 9100.000	1480.00	123.35	123.94	124.02	116.10	8.92	124.59	1.00	33.76	15.17	12.00	91.39
10099.000	1320.00	124.67	129.43	130.01	117.10	7.46	125.54	999.00	34.72	15.95	12.00	98.80
* 10100.000	1320.00	128.17	129.50	130.13	120.10	8.13	129.20	1.00	32.22	15.95	8.00	98.81
10199.000	1320.00	128.27	129.50	130.13	120.20	8.15	129.30	99.00	32.18	16.03	8.00	99.19
10200.000	1320.00	128.27	129.50	130.13	120.20	8.14	129.30	1.00	32.20	16.03	8.00	99.19
10225.000	1320.00	128.30	129.90	130.27	120.22	8.13	129.32	25.00	32.22	16.05	8.00	99.29
10226.000	1320.00	128.30	129.90	130.27	120.22	8.12	129.33	1.00	32.23	16.05	8.00	99.30
10300.000	1320.00	128.37	129.90	130.27	120.30	8.14	129.40	74.00	32.21	16.10	8.00	99.59
10800.000	1230.00	129.15	131.99	132.30	120.80	6.24	129.76	500.00	34.88	16.49	8.00	101.42

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
11100.000	1190.00	129.18	131.59	130.61	121.10	7.32	130.01	300.00	32.24	16.72	8.00	102.44
11149.000	1190.00	129.21	131.59	130.61	121.15	7.35	130.05	49.00	32.18	16.75	8.00	102.61
11150.000	1190.00	129.21	131.59	130.61	121.15	7.34	130.05	1.00	32.19	16.76	8.00	102.61
11215.000	1190.00	129.26	130.14	131.01	121.22	7.37	130.10	65.00	32.13	16.80	8.00	102.85
11216.000	1190.00	129.26	130.14	131.01	121.22	7.38	130.11	1.00	32.12	16.80	8.00	102.85
11250.000	1190.00	129.29	130.14	131.01	121.25	7.38	130.13	34.00	32.11	16.83	8.00	102.99
11750.000	1120.00	129.75	130.87	130.86	121.75	7.00	130.51	500.00	32.00	17.20	8.00	105.00
12350.000	1050.00	130.22	132.73	134.01	122.35	6.73	130.93	600.00	31.62	17.63	8.00	107.72

SUMMARY OF ERRORS AND SPECIAL NOTES

NOTE SECNO= 3543.000 PROFILE= 1 WSEL BASED ON X5 CARD
NOTE SECNO= 4690.000 PROFILE= 1 WSEL BASED ON X5 CARD
NOTE SECNO= 7410.000 PROFILE= 1 WSEL BASED ON X5 CARD
NOTE SECNO= 9100.000 PROFILE= 1 WSEL BASED ON X5 CARD
NOTE SECNO= 10100.000 PROFILE= 1 WSEL BASED ON X5 CARD

THIS RUN EXECUTED 9/ 4/89 8:52: 1

HEC2 RELEASE DATED SEPT 88

T1 SOUTHERN MONTGOMERY COUNTY FLOOD PROTECTION STUDY
 T2 DODSON AND ASSOCIATES, INC. SEPTEMBER, 1989
 T3 A109-03-00 SPRING OAKS CHANNEL
 T4 100-YEAR STORM FREQUENCY ULTIMATE CONDITIONS
 T5 FILENAME = A10903UL.IH2

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
		2			.0006				113	

J2	NPROF	IPL0T	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	-1		-1							

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

38	43	1	23	24	42	26	3	39	4
37	30	65							

J5 LPRNT NUMSEC *****REQUESTED SECTION NUMBERS*****

-10 -10

J6 IHLEQ ICOPY SUBDIV STRTDS RMLE

1

NC	.15	.15	.04	.1	.3					
QT	1	3240								
X1	120	11	9937.5	10051.5	120	120	120			
CI	-1	101.9	.04	4	4	30				
GR	117	9885.5	114.2	9911.5	114.5	9937.5	106.6	9961.5	103.5	9987.5
GR	102.7	10000	103.6	10012.5	107.9	10033.5	115.9	10051.5	114.5	10067.5
GR	120.7	10106.5								

QT	1	2920								
X1	1520	12	9944	10050	1400	1400	1400			
CI	-1	102.7	.04	4	4	30				
GR	117.6	9800	115	9900	115.2	9944	108.1	9965	107.3	9975
GR	104.2	9995	102.7	10000	105.3	10005	108.6	10019	115.3	10050
GR	116.1	10100	116.3	10200						

NC			.015	.3	.5					
X1	3961	17	9977	10023	40	40	40			
CI	-1	107.92	.015	1.5	1.5	24				
X3	10							117.1	117.3	
GR	125	8300	120	9300	117.3	9700	117.7	9800	118.1	9900
GR	116.8	9977	115.3	9977	110.4	9989	109.8	10000	110.4	10009
GR	115.3	10023	116.8	10023	118.0	10100	117.7	10200	118.0	10300
GR	120	10900	125	11400						

SPRING PINES ROAD

X1	3962	17	9977	10023	1	1	1			
CI						.01				
X3	10							117.1	117.3	
BT	-11	9700	117.3	117.3	9800	117.7	117.7	9900	118.1	118.1
BT		9977	118.7	116.8	9988	118.7	116.8	10000	118.7	116.8
BT		10012	118.7	116.8	10023	118.7	116.8	10100	118	118
BT		10200	117.7	117.7	10300	118	118			
GR	125	8300	120	9300	117.3	9700	117.7	9800	118.1	9900
GR	116.8	9977	115.3	9977	107.92	9988	107.92	10000	107.92	10012
GR	115.3	10023	116.8	10023	118.0	10100	117.7	10200	118.0	10300
GR	120	10900	125	11400						

X1	3994				32	32	32			
X2							1			
X3	10							117.3	117.7	

X1	3995	17	9977	10023	1	1	1			
CI	-1	107.92	.015	1.5	1.5	24				
X3	10							117.3	117.7	
GR	125	8300	120	9300	117.3	9700	117.7	9800	118.1	9900
GR	116.8	9977	115.3	9977	110.4	9989	109.8	10000	110.4	10009
GR	115.3	10023	116.8	10023	118.0	10100	117.7	10200	118.0	10300
GR	120	10900	125	11400						

X1	4035	11	9974	10026	40	40	40			
CI	-1	107.99	.015	1.5	1.5	24				
GR	125	8300	120	9300	118.8	9974	115.7	9981	110.4	9992
GR	109.8	10000	110.4	10008	115.6	10020	117.6	10026	120	10900
GR	125	11400								

NC				.1	.3					
QT	1	2330								
X1	4558	11	9974.5	10024.5	523	523	523			
CI	-1	108.52	.015	1.5	1.5	24				
GR	125	9200	120	9700	119.5	9974.5	118.4	9978.5	111	9991.5
GR	110.1	10000	111	10008.5	116.7	10018.5	118.7	10024.5	120	10500
GR	125	11100								

NC				.3	.5					
X1	4608	11	9976	10023	50	50	50			
CI	-1	108.57	.015	1.5	1.5	24				
X3	10							118.5	118.5	
GR	125	9200	120	9700	119.4	9976	116	9976	111	9991.5
GR	110.1	10000	111	10008.5	116	10023	119.4	10023	120	10500
GR	125	11100								

BASSWOOD

X1	4609	11	9976	10023	1	1	1			
CI						.01				
X3	10							118.5	118.5	
BT	-5	9976	119.4	117.5	9988	119.4	117.5	10000	119.4	117.5
BT		10012	119.4	117.5	10023	119.4	117.5			
GR	125	9200	120	9700	119.4	9976	116	9976	108.57	9988
GR	108.57	10000	108.57	10012	116	10023	119.4	10023	120	10500
GR	125	11100								

X1	4639				30	30	30			
X2							1			
X3	10							119.4	119.4	

X1	4640	11	9976	10023	1	1	1			
CI	-1	108.57	.015	1.5	1.5	24				
X3	10							119.4	119.4	
GR	125	9200	120	9700	119.4	9976	116	9976	111	9991.5
GR	110.1	10000	111	10008.5	116	10023	119.4	10023	120	10500
GR	125	11100								

CONTROL STRUCTURE

X1	4690	11	9974.5	10024.5	50	50	50			
CI	-1	108.65	.015	1.5	1.5	20				
X5	-2	0.5	0.5							
GR	125	9200	120	9700	119.5	9974.5	118.4	9978.5	111	9991.5
GR	110.1	10000	111	10008.5	116.7	10018.5	118.7	10024.5	120	10500
GR	125	11100								

X1	4740	11	9974.5	10024.5	50	50	50			
CI	-1	108.70	.015	1.5	1.5	20				
GR	125	9200	120	9700	119.5	9974.5	118.4	9978.5	111	9991.5
GR	110.1	10000	111	10008.5	116.7	10018.5	118.7	10024.5	120	10500
GR	125	11100								

NC				.1	.3					
QT	1	2110								
X1	5868	9	9973	10024	1128	1128	1128			
CI	-1	109.83	.015	1.5	1.5	20				
GR	125	9550	120.7	9973	120.3	9981	113.1	9991	113.0	10000
GR	112.8	10009	119.0	10019	120.2	10024	125	10480		

QT	1	2070								
X1	6124	36	1055	1100	256	256	256			
CI	-1	110.08	.015	1.5	1.5	20				
X3	10									
GR	124.7	0	122.5	99	121.4	198	120.5	297	120.5	310
GR	120.2	396	119.9	495	119.9	594	119.6	629	120.8	634
GR	115.3	642	115.3	645	115.3	649	121.3	657	121.0	700
GR	119.5	800	119.2	900	119.6	1000	120.8	1055	113.0	1067
GR	113.0	1075	113.0	1087	121.2	1100	119.0	1200	118.8	1300
GR	119.1	1400	119.4	1500	120.3	1600	120.5	1700	121.9	1800
GR	122.9	1900	123.1	2000	123.8	2100	123.8	2200	124.3	2231
GR	123.5	2300								

NC			.015	.3	.5					
X1	6125	36	1055	1100	1	1	1			
CI	-1	110.08	.015	1.5	1.5	20				
X3	10									
GR	124.7	0	122.5	99	121.4	198	120.5	297	120.5	310
GR	120.2	396	119.9	495	119.9	594	119.6	629	120.8	634
GR	115.3	642	115.3	645	115.3	649	121.3	657	121.0	700
GR	119.5	800	119.2	900	119.6	1000	120.8	1055	114.5	1066
GR	114.5	1075	114.5	1088	121.2	1100	119.0	1200	118.8	1300
GR	119.1	1400	119.4	1500	120.3	1600	120.5	1700	121.9	1800
GR	122.9	1900	123.1	2000	123.8	2100	123.8	2200	124.3	2231
GR	123.5	2300								

X1	6153	36	1053	1098	28	28	28			
CI	-1	110.11	.015	1.35	1.35	20				
X3	10							120	120	
GR	124.7	0	122.5	99	121.4	198	120.5	297	120.5	310
GR	120.2	396	119.9	495	119.9	594	119.6	629	120.8	634
GR	115.3	642	115.3	645	115.3	649	121.3	657	121.0	700
GR	119.5	800	119.2	900	119.6	1000	119.4	1053	114.6	1064
GR	114.6	1075	114.6	1087	119.5	1098	119.0	1200	118.8	1300
GR	119.1	1400	119.4	1500	120.3	1600	120.5	1700	121.9	1800
GR	122.9	1900	123.1	2000	123.8	2100	123.8	2200	124.3	2231
GR	123.5	2300								

MAPLEWOOD DRIVE

X1	6154	36	1053	1098	1	1	1			
CI	-1	110.11	.015	1.35	1.35	20				
X2										
X3	10							120	120	
BT	-36	0	125.0	124.7	99	122.7	122.5	198	121.7	121.4
BT		297	120.5	120.5	310	120.5	120.5	396	120.5	120.2
BT		495	120.4	119.9	594	120.4	119.9	629	120.7	119.6
BT		634	120.8	120.8	642	120.8	115.3	645	120.8	115.3
BT		649	120.8	115.3	657	121.3	121.3	700	121.0	121.0
BT		800	120.7	119.5	900	121.0	119.2	1000	121.4	119.6
BT		1053	121.3	119.4	1053	123.7	119.4	1098	123.7	119.5
BT		1098	121.3	119.5	1098	121.3	119.5	1200	121.2	119.0
BT		1300	120.6	118.8	1400	120.7	119.1	1500	121.1	119.4
BT		1600	121.7	120.3	1700	122.1	120.5	1800	123.3	121.9

BT		1900	123.7	122.9	2000	124.3	123.1	2100	124.7	123.8
BT		2200	124.7	123.8	2231	124.9	124.3	2300	124.5	123.5
GR	124.7	0	122.5	99	121.4	198	120.5	297	120.5	310
GR	120.2	396	119.9	495	119.9	594	119.6	629	120.8	634
GR	115.3	642	115.3	645	115.3	649	121.3	657	121.0	700
GR	119.5	800	119.2	900	119.6	1000	119.4	1053	114.6	1064
GR	114.6	1075	114.6	1087	119.5	1098	119.0	1200	118.8	1300
GR	119.1	1400	119.4	1500	120.3	1600	120.5	1700	121.9	1800
GR	122.9	1900	123.1	2000	123.8	2100	123.8	2200	124.3	2231
GR	123.5	2300								
X1	6182	34	1053	1098	28	28	28			
CI	-1	110.14	.015	1.35	1.35	20				
X2										
X3	10							120.0	120.0	
BT	-33	0	125.0	125.0	99	122.7	122.5	198	121.7	121.7
BT		297	120.5	120.1	396	120.5	120.4	495	120.4	120.1
BT		594	120.4	120.2	608	120.5	120.2	642	120.8	120.0
BT		655	120.8	119.9	700	120.7	119.6	800	120.7	119.8
BT		900	121.0	119.9	1000	121.4	120.3	1053	121.3	119.4
BT		1053	123.7	119.4	1098	123.7	119.5	1098	121.3	119.5
BT		1100	121.3	119.6	1200	121.2	120.1	1300	120.6	119.7
BT		1400	120.7	120.1	1500	121.1	119.9	1600	121.7	120.8
BT		1700	122.1	121.2	1800	123.3	122.7	1806	123.3	122.7
BT		1900	123.7	122.6	2000	124.3	123.1	2100	124.7	123.8
BT		2200	124.7	123.7	2231	124.9	124.5	2300	124.5	123.6
GR	125.0	0	122.5	99	121.7	198	120.1	297	120.4	396
GR	120.1	495	120.2	594	120.2	608	120.0	642	119.9	655
GR	119.6	700	119.8	800	119.9	900	120.3	1000	119.4	1053
GR	114.7	1064	114.7	1075	114.7	1087	119.5	1098	119.6	1100
GR	120.1	1200	119.7	1300	120.1	1400	119.9	1500	120.8	1600
GR	121.2	1700	122.7	1800	122.7	1806	122.6	1900	123.1	2000
GR	123.8	2100	123.7	2200	124.5	2231	123.6	2300		
X1	6183	33	1053	1098	1	1	1			
CI	-1	110.14	.015	1.35	1.35	20				
X3	10							120.4	120.6	
GR	125.0	0	122.5	99	121.7	198	120.1	297	120.4	396
GR	120.1	495	120.2	594	120.2	608	120.0	642	119.6	700
GR	119.8	800	119.9	900	120.3	1000	119.4	1053	114.7	1064
GR	114.7	1075	114.7	1087	119.5	1098	119.6	1100	120.1	1200
GR	119.7	1300	120.1	1400	119.9	1500	120.8	1600	121.2	1700
GR	122.7	1800	122.7	1806	122.6	1900	123.1	2000	123.8	2100
GR	123.7	2200	124.5	2231	123.6	2300				
X1	6208	33	1053	1098	25	25	25			
CI	-1	110.19	.015	1.5	1.5	20				
GR	125.0	0	122.5	99	121.7	198	120.1	297	120.4	396
GR	120.1	495	120.2	594	120.2	608	120.0	642	119.6	700
GR	119.8	800	119.9	900	120.3	1000	119.4	1053	114.7	1064
GR	114.7	1075	114.7	1087	119.5	1098	119.6	1100	120.1	1200
GR	119.7	1300	120.1	1400	119.9	1500	120.8	1600	121.2	1700
GR	122.7	1800	122.7	1806	122.6	1900	123.1	2000	123.8	2100
GR	123.7	2200	124.5	2231	123.6	2300				

QT	1	1260								
X1	10099	25	1581	1600	999	999	999			
CI	1590	117.10	.015	1.5	1.5	12				
GR	129.9	0	128.7	100	127.8	200	127.0	300	126.2	400
GR	126.1	500	125.9	600	125.8	700	126.4	800	127.6	900
GR	128.6	1000	128.4	1100	128.8	1200	128.3	1300	127.8	1400
GR	128.7	1500	129.6	1581	121.5	1586	121.5	1594	129.8	1600
GR	130.2	1605	128.5	1700	128.5	1800	129.2	1900	130.2	2000

DROP STRUCTURE

X1	10100	25	1581	1600	1	1	1			
CI	1590	120.10	.015	1.5	1.5	8				
X3	10									
X5	-2	3.5	3.5							
GR	129.9	0	128.7	100	127.8	200	127.0	300	126.2	400
GR	126.1	500	125.9	600	125.8	700	126.4	800	127.6	900
GR	128.6	1000	128.4	1100	128.8	1200	128.3	1300	127.8	1400
GR	128.7	1500	129.6	1581	121.5	1586	121.5	1594	129.8	1600
GR	130.2	1605	128.5	1700	128.5	1800	129.2	1900	130.2	2000

NC				.3	.5					
X1	10199	25	1581	1600	99	99	99			
CI	1590	120.20	.015	1.5	1.5	8				
X3	10									
GR	129.9	0	128.7	100	127.8	200	127.0	300	126.2	400
GR	126.1	500	125.9	600	125.8	700	126.4	800	127.6	900
GR	128.6	1000	128.4	1100	128.8	1200	128.3	1300	127.8	1400
GR	128.7	1500	129.6	1581	121.5	1586	121.5	1594	129.8	1600
GR	130.2	1605	128.5	1700	128.5	1800	129.2	1900	130.2	2000

LANE LANE - EXISTING BRIDGE REPLACED

X1	10200	29	1581	1600	1	1	1			
CI	1590	120.20	.015	1.5	1.5	8				
X3	10									
GR	129.9	0	128.7	100	127.8	200	127.0	300	126.2	400
GR	126.1	484	126.1	500	125.9	600	125.8	700	126.4	800
GR	127.6	900	128.6	1000	128.4	1100	128.8	1200	128.3	1300
GR	127.9	1374	127.8	1400	128.7	1500	129.6	1581	128.5	1582
GR	121.5	1586	121.5	1594	128.5	1599	129.8	1600	130.2	1605
GR	128.5	1700	128.5	1800	129.2	1900	130.2	2000		

X1	10225	29	1581	1600	25	25	25			
CI	1590	120.22	.015	1.5	1.5	8				
X3	10									
GR	130.4	0	128.7	100	127.5	200	126.6	300	126.2	400
GR	126.5	484	126.5	500	126.3	600	125.6	700	126.8	800
GR	128.0	900	130.2	1000	129.9	1100	130.0	1200	129.3	1300
GR	129.2	1374	129.1	1400	129.9	1500	129.9	1581	128.7	1582
GR	121.7	1586	121.7	1594	128.7	1599	129.8	1600	130.3	1605
GR	129.7	1700	129.3	1800	129.7	1900	130.2	2000		

X1	10226	25	1581	1600	1	1	1			
CI	1590	120.22	.015	1.5	1.5	8				
X3	10									
GR	130.4	0	128.7	100	127.5	200	126.6	300	126.2	400
GR	126.5	500	126.3	600	125.6	700	126.8	800	128.0	900
GR	130.2	1000	129.9	1100	130.0	1200	129.3	1300	129.1	1400
GR	129.9	1500	129.9	1581	121.7	1586	121.7	1594	129.8	1600
GR	130.3	1605	129.7	1700	129.3	1800	129.7	1900	130.2	2000
X1	10300	25	1581	1600	74	74	74			
CI	1590	120.30	.015	1.5	1.5	8				
X3	10									
GR	130.4	0	128.7	100	127.5	200	126.6	300	126.2	400
GR	126.5	500	126.3	600	125.6	700	126.8	800	128.0	900
GR	130.2	1000	129.9	1100	130.0	1200	129.3	1300	129.1	1400
GR	129.9	1500	129.9	1581	121.7	1586	121.7	1594	129.8	1600
GR	130.3	1605	129.7	1700	129.3	1800	129.7	1900	130.2	2000
QT	1	1150								
NC				.1	.3					
X1	10800	23	1573	1606	500	500	500			
CI	1584	120.80	.015	1.5	1.5	8				
X3	10									
GR	130.9	0	130.3	100	129.6	200	129.1	300	129.1	400
GR	129.1	425	128.6	500	128.3	600	128.5	700	128.7	800
GR	128.7	900	129.4	1000	129.6	1100	129.7	1200	130.2	1300
GR	131.1	1369	130.9	1400	131.9	1500	132.0	1573	121.1	1586
GR	121.1	1593	132.3	1606	136.6	1616				
QT	1	1110								
X1	11100	21	1535	1568	300	300	300			
CI	1550	121.10	.015	1.5	1.5	8				
X3	10									
GR	130.2	0	130.5	100	131.1	200	130.4	300	130.3	400
GR	129.7	500	129.8	600	129.6	700	129.6	800	129.8	900
GR	129.8	1000	130.3	1100	129.7	1200	130.2	1300	130.7	1400
GR	131.5	1500	131.6	1535	124.0	1547	124.0	1553	130.6	1568
GR	132.2	1600								
X1	11149	22	1535	1568	49	49	49			
CI	1550	121.15	.015	1.5	1.5	8				
X3	10									
GR	130.2	0	130.5	100	131.1	200	130.6	266	130.4	300
GR	130.3	400	129.7	500	129.8	600	129.6	700	129.6	800
GR	129.8	900	129.8	1000	130.3	1100	129.7	1200	130.2	1300
GR	130.7	1400	131.5	1500	131.6	1535	124.0	1547	124.0	1553
GR	130.6	1568	132.2	1600						

ROBINSON ROAD - EXISTING BRIDGE REPLACED

X1	11150	22	1535	1568	1	1	1			
CI	1550	121.15	.015	1.5	1.5	8				
X3	10									
GR	130.2	0	130.5	100	131.1	200	130.6	266	130.4	300
GR	130.3	400	129.7	500	129.8	600	129.6	700	129.6	800
GR	129.8	900	129.8	1000	130.3	1100	129.7	1200	130.2	1300
GR	130.7	1400	131.5	1500	131.6	1535	124.0	1547	124.0	1553
GR	130.6	1568	132.2	1600						
X1	11215	22	1543	1568	65	65	65			
CI	1556	121.22	.015	1.5	1.5	8				
X3	10									
GR	130.3	0	131.3	100	130.8	200	131.1	266	131.2	300
GR	130.5	400	130.5	500	130.1	600	129.9	700	129.9	800
GR	129.3	900	129.8	1000	130.3	1100	130.1	1200	130.3	1300
GR	130.5	1400	131.4	1500	130.0	1543	124.6	1553	124.6	1559
GR	130.7	1568	132.2	1600						
X1	11216	22	1543	1568	1	1	1			
CI	1556	121.22	.015	1.5	1.5	8				
X3	10									
GR	130.3	0	131.3	100	130.8	200	131.1	266	131.2	300
GR	130.5	400	130.5	500	130.1	600	129.9	700	129.9	800
GR	129.3	900	129.8	1000	130.3	1100	130.1	1200	130.3	1300
GR	130.5	1400	131.4	1500	130.0	1543	124.6	1553	124.6	1559
GR	130.7	1568	132.2	1600						
X1	11250	21	1543	1568	34	34	34			
CI	1556	121.25	.015	1.5	1.5	8				
X3	10									
GR	130.3	0	131.3	100	130.8	200	131.2	300	130.5	400
GR	130.5	500	130.1	600	129.9	700	129.9	800	129.3	900
GR	129.8	1000	130.3	1100	130.1	1200	130.3	1300	130.5	1400
GR	131.4	1500	130.0	1543	124.6	1553	124.6	1559	130.7	1568
GR	132.2	1600								
QT	1	1020								
X1	11750	23	1688	1712	500	500	500			
CI	-1	121.75	.015	1.5	1.5	8				
GR	133.5	0	132.4	100	132.4	200	132.8	300	133.2	400
GR	133.6	500	133.9	600	133.4	700	133.1	800	132.7	900
GR	131.9	1000	131.4	1100	130.9	1161	130.6	1200	130.9	1300
GR	131.2	1400	132.0	1500	131.9	1600	130.8	1688	125.2	1697
GR	125.2	1703	130.2	1712	133.1	1737				
QT	1	950								
X1	12350	24	1721	1745	600	600	600			
CI	-1	122.35	.015	1.5	1.5	8				
GR	136.7	0	136.7	100	136.1	200	136.1	300	137.1	400
GR	137.6	500	137.6	600	137.3	700	136.5	800	136.9	900
GR	137.5	1000	137.7	1100	136.6	1200	135.6	1267	135.1	1300
GR	134.1	1400	133.8	1500	134.6	1600	132.6	1721	125.5	1730

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GR 125.5 1736 132.1 1745 133.9 1750 134.4 1771

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IHLQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

THIS RUN EXECUTED 9/ 4/89 8:52:32

 HEC2 RELEASE DATED SEPT 88

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

A109-03-00

SUMMARY PRINTOUT

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
120.000	3240.00	113.97	114.41	114.99	101.90	3.43	114.15	.00	126.56	.00	30.00	.00
1520.000	2920.00	114.76	115.15	115.51	102.70	3.09	114.91	1400.00	126.51	4.07	30.00	12.94
1574.000	2920.00	114.79	116.27	116.85	102.50	3.08	114.94	54.00	126.75	4.22	30.00	13.93
1636.000	2920.00	114.81	115.15	115.51	102.80	3.11	114.96	50.00	126.13	4.37	30.00	14.82
3528.000	2520.00	115.72	119.01	117.68	104.10	2.84	115.84	1892.00	122.93	9.78	30.00	52.66
3538.000	2520.00	115.72	119.01	117.68	104.10	2.84	115.85	10.00	122.97	9.81	30.00	52.94
* 3543.000	2520.00	115.82	118.81	117.60	107.50	8.30	116.89	5.00	49.24	9.82	24.00	53.02
3553.000	2520.00	115.83	118.81	117.60	107.50	8.29	116.90	10.00	49.26	9.83	24.00	53.07
3921.000	2440.00	116.14	118.80	117.60	107.88	8.11	117.17	368.00	48.79	10.24	24.00	54.86
3961.000	2440.00	116.17	116.84	116.84	107.92	8.13	117.20	40.00	48.76	10.29	24.00	55.03
3962.000	2440.00	116.16	116.80	116.80	107.92	8.18	117.20	1.00	46.00	10.29	.01	55.03
3994.000	2440.00	116.19	116.80	116.80	107.92	8.16	117.23	32.00	46.00	10.32	.01	55.03
3995.000	2440.00	116.23	116.84	116.84	107.92	8.06	117.23	1.00	48.92	10.32	24.00	55.04
4035.000	2440.00	116.25	118.80	117.60	107.99	8.11	117.27	40.00	48.79	10.37	24.00	55.21
4558.000	2330.00	116.65	119.51	118.71	108.52	7.92	117.62	523.00	48.38	10.95	24.00	58.07
4608.000	2330.00	116.68	119.41	119.41	108.57	7.94	117.66	50.00	48.33	11.01	24.00	58.31
4609.000	2330.00	116.71	119.40	119.40	108.57	7.84	117.66	1.00	47.00	11.01	.01	58.31

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
4639.000	2330.00	116.73	119.40	119.40	108.57	7.82	117.68	30.00	47.00	11.04	.01	58.31
4640.000	2330.00	116.73	119.41	119.41	108.57	7.87	117.69	1.00	48.50	11.04	24.00	58.32
* 4690.000	2330.00	117.23	119.50	118.70	108.65	8.26	118.29	50.00	45.74	11.09	20.00	58.52
4740.000	2330.00	117.26	119.50	118.70	108.70	8.28	118.33	50.00	45.69	11.15	20.00	58.72
5868.000	2110.00	118.17	120.71	120.20	109.83	7.79	119.11	1128.00	45.01	12.32	20.00	64.29
6124.000	2070.00	118.35	120.72	121.11	110.08	7.73	119.28	256.00	44.79	12.59	20.00	65.70
6125.000	2070.00	118.35	120.72	121.11	110.08	7.73	119.28	1.00	44.80	12.59	20.00	65.71
6153.000	2070.00	118.32	119.40	119.50	110.11	8.11	119.34	28.00	42.17	12.61	20.00	65.87
6154.000	2070.00	118.32	119.40	119.50	110.11	8.11	119.34	1.00	42.17	12.62	20.00	65.88
6182.000	2070.00	118.34	119.40	119.51	110.14	8.12	119.37	28.00	42.15	12.64	20.00	66.02
6183.000	2070.00	118.34	119.40	119.51	110.14	8.12	119.37	1.00	42.14	12.64	20.00	66.03
6208.000	2070.00	118.50	119.42	119.58	110.19	7.67	119.42	25.00	44.94	12.67	20.00	66.16
6233.000	2070.00	118.51	120.88	119.38	110.24	7.71	119.44	25.00	48.10	12.70	20.00	66.34
7360.000	1780.00	119.37	122.56	121.08	111.32	6.89	120.11	1127.00	44.16	13.89	20.00	76.64
* 7410.000	1780.00	119.87	122.60	121.09	111.37	7.28	120.69	50.00	41.50	13.94	16.00	77.08
8560.000	1530.00	120.66	122.07	122.14	112.52	6.67	121.35	1150.00	40.41	15.02	16.00	86.36
9099.000	1430.00	120.97	124.13	124.20	113.06	6.49	121.63	539.00	39.71	15.51	16.00	91.38
* 9100.000	1430.00	123.47	123.94	124.02	116.10	8.41	124.57	1.00	34.12	15.52	12.00	91.39
10099.000	1260.00	124.63	129.43	130.01	117.10	7.17	125.43	999.00	34.61	16.30	12.00	98.80
* 10100.000	1260.00	128.13	129.50	130.13	120.10	7.83	129.08	1.00	32.09	16.30	8.00	98.81
10199.000	1260.00	128.21	129.50	130.13	120.20	7.86	129.17	99.00	32.03	16.38	8.00	99.19
10200.000	1260.00	128.22	129.50	130.13	120.20	7.85	129.17	1.00	32.04	16.38	8.00	99.19
10225.000	1260.00	128.24	129.90	130.27	120.22	7.84	129.20	25.00	32.06	16.40	8.00	99.29
10226.000	1260.00	128.24	129.90	130.27	120.22	7.84	129.20	1.00	32.07	16.40	8.00	99.30
10300.000	1260.00	128.31	129.90	130.27	120.30	7.86	129.27	74.00	32.03	16.45	8.00	99.59
10800.000	1150.00	129.06	131.99	132.30	120.80	5.93	129.60	500.00	34.62	16.83	8.00	101.42

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SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
11100.000	1110.00	129.08	131.59	130.61	121.10	6.96	129.83	300.00	31.95	17.06	8.00	102.44
11149.000	1110.00	129.11	131.59	130.61	121.15	6.99	129.87	49.00	31.88	17.10	8.00	102.61
11150.000	1110.00	129.11	131.59	130.61	121.15	6.99	129.87	1.00	31.89	17.10	8.00	102.61
11215.000	1110.00	129.15	130.14	131.01	121.22	7.02	129.92	65.00	31.82	17.15	8.00	102.85
11216.000	1110.00	129.15	130.14	131.01	121.22	7.03	129.92	1.00	31.81	17.15	8.00	102.85
11250.000	1110.00	129.18	130.14	131.01	121.25	7.04	129.95	34.00	31.79	17.17	8.00	102.99
11750.000	1020.00	129.63	130.87	130.86	121.75	6.53	130.29	500.00	31.64	17.54	8.00	105.00
12350.000	950.00	130.04	132.73	134.01	122.35	6.34	130.66	600.00	31.04	17.97	8.00	107.72

SUMMARY OF ERRORS AND SPECIAL NOTES

NOTE SECNO= 3543.000 PROFILE= 1 WSEL BASED ON X5 CARD
NOTE SECNO= 4690.000 PROFILE= 1 WSEL BASED ON X5 CARD
NOTE SECNO= 7410.000 PROFILE= 1 WSEL BASED ON X5 CARD
NOTE SECNO= 9100.000 PROFILE= 1 WSEL BASED ON X5 CARD
NOTE SECNO= 10100.000 PROFILE= 1 WSEL BASED ON X5 CARD

THIS RUN EXECUTED 9/ 1/89 16:17:24

HEC2 RELEASE DATED SEPT 88

T1 SOUTHERN MONTGOMERY COUNTY FLOOD PROTECTION STUDY
T2 DODSON AND ASSOCIATES, INC. SEPTEMBER, 1989
T3 A110-00-00 SAM BELL GULLY
T4 100-YEAR STORM FREQUENCY EXISTING CONDITIONS
T5 FILENAME = A110RVEX.IH2

J1 ICHECK INQ NINV IDIR STRT METRIC HVINS Q WSEL FQ
2 .0012 96.1
J2 NPROF IPLOT PRFVS XSECV XSECH FN ALLDC IBW CHNIM ITRACE
-1 -1

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

38 43 1 23 24 42 26 3 39 4
37 30 65

J5 LPRNT NUMSEC *****REQUESTED SECTION NUMBERS*****

-10 -10

J6 IHLEQ ICOPY SUBDIV STRIDS RMILE

1

NC	.12	.12	.1	.1	.3					
QT	1	400								
X1	2035	17	789	815						
GR	106	0	105	500	100	585	97.3	590	95	700
GR	94.3	789	88.5	790	87.75	795	87.5	800	88.25	805
GR	92	810	94.5	815	95	900	100.5	1000	100	1200
GR	105	1300	110	1400						
QT	1	250								
X1	4102	24	1088	1115	2067	2067	2067			
GR	105	0	103	690	102	700	103.2	705	103.6	735
GR	102.3	800	99.8	895	97.5	1000	96.7	1088	91.1	1090
GR	90.4	1092	90	1100	90.5	1105	94.6	1112	97	1115
GR	97.6	1200	102.9	1300	105.7	1395	107	1495	104.4	1595
GR	105.6	1690	105.5	1795	105.8	1830	110	2100		

THIS RUN EXECUTED 9/ 4/89 9: 7:12

 HEC2 RELEASE DATED SEPT 88

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

A109-00-00

SUMMARY PRINTOUT

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
500.000	8790.00	99.59	100.20	99.65	81.90	4.11	99.86	.00	191.55	.00	50.00	.00
3900.000	8510.00	101.28	102.89	102.55	83.60	3.99	101.53	3400.00	191.44	14.95	50.00	130.00
5035.000	8420.00	101.82	103.27	103.69	84.17	3.95	102.06	1135.00	191.28	19.93	50.00	184.87
5135.000	8420.00	101.84	103.22	103.74	84.22	4.33	102.13	100.00	180.97	20.36	40.00	189.56
6170.000	8340.00	102.45	105.27	106.11	84.74	4.25	102.73	1035.00	181.67	24.67	40.00	238.18
9275.000	8100.00	104.15	123.60	114.45	86.29	4.07	104.40	3105.00	182.85	37.66	40.00	444.07
9869.000	8100.00	104.45	110.30	110.20	86.58	4.06	104.71	594.00	183.03	40.15	40.00	485.78
10463.000	8100.00	104.76	109.40	109.30	86.88	4.06	105.01	594.00	183.01	42.65	40.00	522.38
* 10556.000	8000.00	104.64	106.80	106.80	86.93	6.37	105.27	93.00	111.83	42.97	30.00	526.49
10647.000	8000.00	104.76	106.80	111.20	86.97	6.34	105.39	91.00	111.85	43.20	30.00	528.66
* 10750.000	8000.00	105.29	109.50	111.20	87.03	4.25	105.57	103.00	176.10	43.54	30.00	532.78
12300.000	7660.00	106.16	109.07	108.50	87.80	4.03	106.42	1550.00	176.92	49.82	30.00	613.13
14550.000	7250.00	107.29	109.74	109.62	88.93	3.82	107.51	2250.00	176.85	58.96	30.00	722.66
14650.000	7250.00	107.30	109.73	109.65	88.98	4.24	107.58	100.00	166.58	59.35	20.00	727.26
16295.000	6950.00	108.27	111.33	111.74	89.80	4.01	108.52	1645.00	167.77	65.66	20.00	801.69
18040.000	6650.00	109.18	112.73	113.04	90.67	3.82	109.41	1745.00	168.18	72.39	20.00	890.52
* 18090.000	6650.00	108.96	112.80	112.94	90.70	7.00	109.72	50.00	94.01	72.54	10.00	892.28

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
18127.000	6650.00	109.05	112.80	112.94	90.71	6.94	109.80	37.00	94.38	72.62	10.00	892.92
* 18177.000	6650.00	109.80	112.72	113.04	90.74	3.63	110.00	50.00	172.45	72.78	20.00	894.67
21000.000	6180.00	110.96	116.22	116.39	92.15	3.45	111.14	2823.00	170.44	83.89	20.00	1064.04
21700.000	6180.00	111.23	114.35	113.92	92.50	3.47	111.42	700.00	169.92	86.62	20.00	1106.07
22400.000	5980.00	111.51	114.89	114.98	92.85	3.39	111.69	700.00	169.23	89.35	20.00	1143.47
* 22401.000	5980.00	111.15	113.61	114.52	98.50	6.69	111.85	1.00	121.23	89.35	20.00	1143.51
22673.000	2990.00	111.97	113.64	116.97	98.77	3.11	112.12	272.00	125.59	90.12	20.00	1148.70
22947.000	2920.00	112.10	114.55	117.70	99.05	3.10	112.25	274.00	124.42	90.91	20.00	1154.45
25347.000	2380.00	113.30	114.54	115.50	101.45	2.98	113.43	2400.00	114.77	97.50	20.00	1201.23
26222.000	2210.00	113.74	115.67	117.10	102.32	2.95	113.88	875.00	111.33	99.77	20.00	1218.09
27097.000	2050.00	114.20	116.81	118.05	103.20	2.91	114.33	875.00	107.95	101.97	20.00	1237.46
28362.000	1850.00	114.88	116.94	115.80	104.46	2.88	115.01	1265.00	103.34	105.04	20.00	1264.38
29627.000	1660.00	115.58	118.71	117.89	105.73	2.84	115.71	1265.00	98.80	107.97	20.00	1291.11
* 29628.000	1660.00	116.32	120.10	119.10	111.30	9.84	117.83	1.00	56.17	107.97	.01	1291.11
* 29667.000	1660.00	116.21	119.60	119.60	111.40	11.49	118.26	39.00	30.00	108.01	.01	1291.11
* 29731.000	1660.00	117.47	119.60	119.60	111.40	9.11	118.76	64.00	30.00	108.06	.01	1291.11
29831.000	1660.00	119.03	118.51	118.02	111.55	3.17	119.19	100.00	236.64	108.36	40.00	1292.59
30380.000	1560.00	119.48	121.36	123.00	112.40	3.22	119.65	549.00	96.68	110.47	40.00	1296.91
30963.000	1480.00	120.03	124.94	126.87	113.30	3.29	120.20	583.00	93.84	111.75	40.00	1304.92
31546.000	1410.00	120.63	124.17	126.55	114.20	3.34	120.80	583.00	91.42	112.99	40.00	1314.79
32127.000	1340.00	121.27	123.25	125.06	115.10	3.36	121.44	581.00	89.35	114.19	40.00	1321.14
33077.000	1240.00	122.38	130.11	132.07	116.10	3.35	122.55	950.00	86.46	116.11	40.00	1332.50
33157.000	1240.00	122.47	129.99	132.19	116.10	3.36	122.65	80.00	86.25	116.27	40.00	1333.82
33207.000	1240.00	122.53	130.27	134.90	116.77	3.41	122.71	50.00	86.11	116.37	40.00	1334.93
33226.000	1240.00	122.55	130.30	134.90	116.80	3.42	122.74	19.00	86.03	116.41	40.00	1335.47
* 33227.000	1240.00	129.05	131.99	132.03	121.90	3.37	129.23	1.00	72.93	116.41	30.00	1335.49

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
33257.000	1240.00	129.08	132.07	131.96	121.95	3.38	129.26	30.00	72.83	116.46	30.00	1335.85
33327.000	1240.00	129.15	132.09	131.98	122.05	3.40	129.33	70.00	72.62	116.57	30.00	1336.39
34135.000	1130.00	129.99	133.31	133.24	123.26	3.34	130.16	808.00	70.39	117.90	30.00	1340.79
34185.000	1130.00	129.98	133.40	133.40	123.30	4.44	130.28	50.00	58.55	117.97	.01	1340.79
* 34186.000	1130.00	129.63	126.30	126.30	123.30	8.09	130.64	1.00	42.00	117.98	.01	1340.79
34361.000	1130.00	131.38	128.30	128.30	125.30	8.08	132.40	175.00	42.00	118.14	.01	1340.79
* 34362.000	1130.00	132.40	135.30	135.00	125.30	3.89	132.63	1.00	65.88	118.15	.01	1340.79
34412.000	1130.00	132.57	134.67	134.79	125.20	2.94	132.70	50.00	74.20	118.23	30.00	1340.94
35234.000	1030.00	133.24	135.18	135.12	126.62	3.12	133.39	822.00	70.17	119.59	30.00	1343.84
35264.000	1030.00	133.26	135.19	135.13	126.66	3.13	133.42	30.00	69.60	119.64	30.00	1344.03
35327.000	1030.00	133.27	135.22	135.15	126.76	3.19	133.43	63.00	69.06	119.74	30.00	1344.51
35377.000	1030.00	133.32	135.24	135.17	126.83	3.21	133.48	50.00	70.50	119.82	30.00	1344.79
35957.000	530.00	133.74	137.29	137.03	127.71	1.83	133.79	580.00	66.17	120.73	30.00	1348.15
* 36017.000	530.00	133.71	135.58	137.60	127.80	3.48	133.90	60.00	41.45	120.80	6.00	1348.42
* 36027.000	530.00	136.71	139.11	139.98	130.60	3.57	136.91	10.00	42.65	120.81	6.00	1348.46
36103.000	530.00	136.85	139.35	139.85	130.71	3.54	137.05	76.00	42.83	120.88	6.00	1348.73
36397.000	530.00	137.38	141.89	141.71	131.16	3.45	137.56	294.00	43.34	121.18	6.00	1349.30
36691.000	530.00	137.87	142.79	142.48	131.60	3.40	138.05	294.00	43.64	121.47	6.00	1350.12
36985.000	490.00	138.34	142.88	142.57	132.04	3.12	138.49	294.00	43.82	121.76	6.00	1351.03
37277.000	490.00	138.77	142.90	142.50	132.50	3.35	138.94	292.00	42.04	122.05	.01	1351.03
37902.000	450.00	139.63	141.65	140.85	133.45	2.81	139.75	625.00	43.31	122.66	.01	1351.03
38527.000	430.00	140.29	142.60	141.80	134.40	2.69	140.40	625.00	44.97	123.30	.01	1351.03
38757.000	430.00	140.52	141.33	141.03	134.70	2.63	140.63	230.00	45.11	123.54	.01	1351.03
38987.000	430.00	140.78	142.33	142.03	135.70	3.07	140.92	230.00	43.69	123.77	.01	1351.03
39217.000	400.00	141.08	142.00	141.70	135.40	2.43	141.18	230.00	46.46	124.01	.01	1351.03

SUMMARY OF ERRORS AND SPECIAL NOTES

WARNING SECNO= 10556.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 10750.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 18090.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 18177.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 22401.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
CAUTION SECNO= 29628.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 29628.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 29628.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL
WARNING SECNO= 29667.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
CAUTION SECNO= 29731.000 PROFILE= 1 HYDRAULIC JUMP D.S.
WARNING SECNO= 29731.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
NOTE SECNO= 33227.000 PROFILE= 1 WSEL BASED ON X5 CARD
WARNING SECNO= 34186.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 34362.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 36017.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
NOTE SECNO= 36027.000 PROFILE= 1 WSEL BASED ON X5 CARD

THIS RUN EXECUTED 9/ 1/89 16:21:55

HEC2 RELEASE DATED SEPT 88

T1 SOUTHERN MONTGOMERY COUNTY FLOOD PROTECTION STUDY
 T2 DODSON AND ASSOCIATES, INC. SEPTEMBER, 1989
 T3 A109-03-00 SPRING OAKS CHANNEL
 T4 100-YEAR STORM FREQUENCY EXISTING CONDITIONS
 T5 FILENAME = A10903EX.IH2

J1 ICHECK INQ NINV IDIR STRT METRIC HVINS Q WSEL FQ
 6 .0003 114

J2 NPROF IPLOT PRFVS XSECV XSECH FN ALLDC IBW CHNIM ITRACE
 -1 -1

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

38 43 1 23 24 42 26 3 39 4
 37 30 65

J5 LPRNT NUMSEC *****REQUESTED SECTION NUMBERS*****

-10 -10

J6 IHLEQ ICOPY SUBDIV STRTDS RMILE

1

NC .15 .15 .04 .1 .3
 QT 5 920 1380 1710 2070 2640
 X1 120 11 9937.5 10051.5 120 120 120
 GR 117 9885.5 114.2 9911.5 114.5 9937.5 106.6 9961.5 103.5 9987.5
 GR 102.7 10000 103.6 10012.5 107.9 10033.5 115.9 10051.5 114.5 10067.5
 GR 120.7 10106.5

QT 5 820 1230 1480 1800 2390
 X1 1520 12 9944 10050 1400 1400 1400
 GR 117.6 9800 115 9900 115.2 9944 108.1 9965 107.3 9975
 GR 104.2 9995 102.7 10000 105.3 10005 108.6 10019 115.3 10050
 GR 116.1 10100 116.3 10200

NC				.3	.5					
MISSOURI PACIFIC RAILROAD										
X1	1574	12	9957	10037	54	54	54			
X3	10									
GR	117.6	9800	115	9900	117.6	9957	116.6	120	120.3	
GR	106.1	9994	102.5	9999	106.3	10004	113.7	9957	107.9	9981
GR	116.1	10100	116.3	10200				10037	117.6	10037
SB	1.05	1.56	3.0		6	4	591	2.45	102.5	102.5
X1	1586	12	9957	10037	12	12	12			
X2			1	117.6	122.4					
X3	10							122.4	122.9	
BT	-11	9500	122.4	0	9600	122.4	0	9700	122.5	0
BT		9800	122.6	0	9900	122.8	0	10000	122.9	0
BT		10100	123.1	0	10200	123.1	0	10300	123.1	0
BT		10400	123	0	10500	122.9	0			
GR	117.6	9800	115	9900	117.6	9957	116.6	9957	107.9	9981
GR	106.1	9994	102.5	9999	106.3	10004	113.7	10037	117.6	10037
GR	116.1	10100	116.3	10200						
X1	1636	12	9944	10050	50	50	50			
GR	117.6	9800	115	9900	115.2	9944	108.1	9965	107.3	9975
GR	104.2	9995	103.1	10000	105.3	10005	108.6	10019	115.3	10050
GR	116.1	10100	116.3	10200						
NC			.03	.1	.3					
QT	5	720	1070	1310	1620	2080				
X1	3528	12	9975	10025	1892	1892	1892			
GR	122	8650	120	8650	120	9700	118.8	9974	115.9	9975
GR	104.1	9995	104.1	10000	104.1	10005	116.2	10025	117.6	10026
GR	120	11400	125	12000						
SLOPING DROP										
X1	3538				10	10	10			
X1	3543	12	9975	10025	5	5	5			
GR	122	8650	120	8650	120	9700	118.8	9974	115.9	9975
GR	109.4	9995	109.4	10000	109.4	10005	116.2	10025	117.6	10026
GR	120	11400	125	12000						
X1	3553				10	10	10			
X1	3921	11	9974	10026	368	368	368			
GR	125	8300	120	9300	118.8	9974	115.7	9981	110.4	9992
GR	109.8	10000	110.4	10008	115.6	10020	117.6	10026	120	10900
GR	125	11400								
NC				.3	.5					
X1	3961	17	9977	10023	40	40	40			
X3	10									
GR	125	8300	120	9300	117.3	9700	117.7	117.1	117.3	
GR	116.8	9977	115.3	9977	110.4	9989	109.8	9800	118.1	9900
GR	115.3	10023	116.8	10023	118.0	10100	117.7	10000	110.4	10009
								10200	118.0	10300

GR 120 10900 125 11400

SPRING PINES ROAD - 41 DEGREE SKEW

X1	3962				1	1	1			
X3	10									
BT	-11	9700	117.3	117.3	9800	117.7	117.7	117.1	117.3	
BT		9977	118.7	116.8	9989	118.7	116.8	9900	118.1	118.1
BT		10009	118.7	116.8	10023	118.7	116.8	10000	118.7	116.8
BT		10200	117.7	117.7	10300	118	118	10100	118	118
X1	3994				32	32	32			
X2										
X3	10									
								117.3	117.7	
X1	3995				1	1	1			
X3	10									
								117.3	117.7	
X1	4035	11	9974	10026	40	40	40			
GR	125	8300	120	9300	118.8	9974	115.7	9981	110.4	9992
GR	109.8	10000	110.4	10008	115.6	10020	117.6	10026	120	10900
GR	125	11400								
NC				.1	.3					
QT	5	670	990	1220	1510	1930				
X1	4558	11	9974.5	10024.5	523	523	523			
GR	125	9200	120	9700	119.5	9974.5	118.4	9978.5	111	9991.5
GR	110.1	10000	111	10008.5	116.7	10018.5	118.7	10024.5	120	10500
GR	125	11100								
NC				.3	.5					
X1	4608	11	9976	10023	50	50	50			
X3	10									
GR	125	9200	120	9700	119.4	9976	116	118.5	118.5	
GR	110.1	10000	111	10008.5	116	10023	119.4	9976	111	9991.5
GR	125	11100						10023	120	10500

BASSWOOD ROAD - 32 DEGREE SKEW

X1	4609				1	1	1			
X3	10									
BT	-5	9976	119.4	117.5	9991.5	119.4	117.5	118.5	118.5	
BT		10008.5	119.4	117.5	10023	119.4	117.5	10000	119.4	117.5
X1	4639				30	30	30			
X2										
X3	10									
								119.4	119.4	
X1	4640				1	1	1			
X3	10									
								119.4	119.4	

X1	4690	11	9974.5	10024.5	50	50	50			
GR	125	9200	120	9700	119.5	9974.5	118.4	9978.5	111	9991.5
GR	110.1	10000	111	10008.5	116.7	10018.5	118.7	10024.5	120	10500
GR	125	11100								

NC				.1	.3					
QT	5	610	900	1100	1380	1780				
X1	5868	9	9973	10024	1178	1178	1178			
GR	125	9550	120.7	9973	120.3	9981	113.1	9991	113.0	10000
GR	112.8	10009	119.0	10019	120.2	10024	125	10480		

QT	5	600	880	1080	1340	1720				
X1	6124	36	1055	1100	256	256	256			
GR	124.7	0	122.5	99	121.4	198	120.5	297	120.5	310
GR	120.2	396	119.9	495	119.9	594	119.6	629	120.8	634
GR	115.3	642	115.3	645	115.3	649	121.3	657	121.0	700
GR	119.5	800	119.2	900	119.6	1000	120.8	1055	113.0	1067
GR	113.0	1075	113.0	1087	121.2	1100	119.0	1200	118.8	1300
GR	119.1	1400	119.4	1500	120.3	1600	120.5	1700	121.9	1800
GR	122.9	1900	123.1	2000	123.8	2100	123.8	2200	124.3	2231
GR	123.5	2300								

NC			.015	.3	.5					
X1	6125	36	1055	1100	1	1	1			
GR	124.7	0	122.5	99	121.4	198	120.5	297	120.5	310
GR	120.2	396	119.9	495	119.9	594	119.6	629	120.8	634
GR	115.3	642	115.3	645	115.3	649	121.3	657	121.0	700
GR	119.5	800	119.2	900	119.6	1000	120.8	1055	114.5	1066
GR	114.5	1075	114.5	1088	121.2	1100	119.0	1200	118.8	1300
GR	119.1	1400	119.4	1500	120.3	1600	120.5	1700	121.9	1800
GR	122.9	1900	123.1	2000	123.8	2100	123.8	2200	124.3	2231
GR	123.5	2300								

X1	6153	36	1053	1098	28	28	28			
X3	10							120	120	
GR	124.7	0	122.5	99	121.4	198	120.5	297	120.5	310
GR	120.2	396	119.9	495	119.9	594	119.6	629	120.8	634
GR	115.3	642	115.3	645	115.3	649	121.3	657	121.0	700
GR	119.5	800	119.2	900	119.6	1000	119.4	1053	114.6	1064
GR	114.6	1075	114.6	1087	119.5	1098	119.0	1200	118.8	1300
GR	119.1	1400	119.4	1500	120.3	1600	120.5	1700	121.9	1800
GR	122.9	1900	123.1	2000	123.8	2100	123.8	2200	124.3	2231
GR	123.5	2300								

MAPLEWOOD DRIVE

X1	6154	36	1053	1098	1	1	1			
X3	10							120	120	
BT	-36	0	125.0	124.7	99	122.7	122.5	198	121.7	121.4
BT		297	120.5	120.5	310	120.5	120.5	396	120.5	120.2
BT		495	120.4	119.9	594	120.4	119.9	629	120.7	119.6
BT		634	120.8	120.8	642	120.8	115.3	645	120.8	115.3
BT		649	120.8	115.3	657	121.3	121.3	700	121.0	121.0
BT		800	120.7	119.5	900	121.0	119.2	1000	121.4	119.6

BT		1053	121.3	119.4	1053	123.7	119.4	1098	123.7	119.5
BT		1098	121.3	119.5	1098	121.3	119.5	1200	121.2	119.0
BT		1300	120.6	118.8	1400	120.7	119.1	1500	121.1	119.4
BT		1600	121.7	120.3	1700	122.1	120.5	1800	123.3	121.9
BT		1900	123.7	122.9	2000	124.3	123.1	2100	124.7	123.8
BT		2200	124.7	123.8	2231	124.9	124.3	2300	124.5	123.5
GR	124.7	0	122.5	99	121.4	198	120.5	297	120.5	310
GR	120.2	396	119.9	495	119.9	594	119.6	629	120.8	634
GR	115.3	642	115.3	645	115.3	649	121.3	657	121.0	700
GR	119.5	800	119.2	900	119.6	1000	119.4	1053	114.6	1064
GR	114.6	1075	114.6	1087	119.5	1098	119.0	1200	118.8	1300
GR	119.1	1400	119.4	1500	120.3	1600	120.5	1700	121.9	1800
GR	122.9	1900	123.1	2000	123.8	2100	123.8	2200	124.3	2231
GR	123.5	2300								
X1	6182	34	1053	1098	28	28	28			
X3	10									
BT	-33	0	125.0	125.0	99	122.7	122.5	198	121.7	121.7
BT		297	120.5	120.1	396	120.5	120.4	495	120.4	120.1
BT		594	120.4	120.2	608	120.5	120.2	642	120.8	120.0
BT		655	120.8	119.9	700	120.7	119.6	800	120.7	119.8
BT		900	121.0	119.9	1000	121.4	120.3	1053	121.3	119.4
BT		1053	123.7	119.4	1098	123.7	119.5	1098	121.3	119.5
BT		1100	121.3	119.6	1200	121.2	120.1	1300	120.6	119.7
BT		1400	120.7	120.1	1500	121.1	119.9	1600	121.7	120.8
BT		1700	122.1	121.2	1800	123.3	122.7	1806	123.3	122.7
BT		1900	123.7	122.6	2000	124.3	123.1	2100	124.7	123.8
BT		2200	124.7	123.7	2231	124.9	124.5	2300	124.5	123.6
GR	125.0	0	122.5	99	121.7	198	120.1	297	120.4	396
GR	120.1	495	120.2	594	120.2	608	120.0	642	119.9	655
GR	119.6	700	119.8	800	119.9	900	120.3	1000	119.4	1053
GR	114.7	1064	114.7	1075	114.7	1087	119.5	1098	119.6	1100
GR	120.1	1200	119.7	1300	120.1	1400	119.9	1500	120.8	1600
GR	121.2	1700	122.7	1800	122.7	1806	122.6	1900	123.1	2000
GR	123.8	2100	123.7	2200	124.5	2231	123.6	2300		
X1	6183	33	1053	1098	1	1	1			
X3	10									
GR	125.0	0	122.5	99	121.7	198	120.1	297	120.4	396
GR	120.1	495	120.2	594	120.2	608	120.0	642	119.6	700
GR	119.8	800	119.9	900	120.3	1000	119.4	1053	114.7	1064
GR	114.7	1075	114.7	1087	119.5	1098	119.6	1100	120.1	1200
GR	119.7	1300	120.1	1400	119.9	1500	120.8	1600	121.2	1700
GR	122.7	1800	122.7	1806	122.6	1900	123.1	2000	123.8	2100
GR	123.7	2200	124.5	2231	123.6	2300				
X1	6233	33	1053	1098	50	50	50			
GR	125.0	0	122.5	99	121.7	198	120.1	297	120.4	396
GR	120.1	495	120.2	594	120.2	608	120.0	642	119.6	700
GR	119.8	800	119.9	900	120.3	1000	119.4	1053	114.7	1064
GR	114.7	1075	114.7	1087	119.5	1098	119.6	1100	120.1	1200
GR	119.7	1300	120.1	1400	119.9	1500	120.8	1600	121.2	1700
GR	122.7	1800	122.7	1806	122.6	1900	123.1	2000	123.8	2100
GR	123.7	2200	124.5	2231	123.6	2300				

NC				.1	.3					
QT	5	530	770	950	1190	1520				
X1	7360	19	609	639	1127	1127	1127			
GR	125.3	0	121.2	344	120.2	400	120.5	431	120.8	500
GR	122.7	606	122.2	609	116.5	619	116.5	625	116.5	631
GR	121.1	639	121.0	700	121.0	800	120.4	900	122.1	1185
GR	122.4	1217	123.4	1300	124.4	1400	125.8	1500		
QT	5	470	680	840	1050	1340				
X1	8560	21	665	687	1200	1200	1200			
GR	128.3	0	126.5	25	126.4	118	126.3	125	126.0	225
GR	123.9	325	123.8	332	124.2	425	124.2	525	122.9	625
GR	121.8	665	117.7	673	117.7	682	121.8	687	122.8	725
GR	123.0	825	123.2	925	124.0	1025	125.8	1125	127.2	1190
GR	128.4	1240								
QT	5	400	580	710	890	1130				
X1	10100	25	1581	1600	1540	1540	1540			
GR	129.9	0	128.7	100	127.8	200	127.0	300	126.2	400
GR	126.1	500	125.9	600	125.8	700	126.4	800	127.6	900
GR	128.6	1000	128.4	1100	128.8	1200	128.3	1300	127.8	1400
GR	128.7	1500	129.6	1581	121.5	1586	121.5	1594	129.8	1600
GR	130.2	1605	128.5	1700	128.5	1800	129.2	1900	130.2	2000
NC				.3	.5					
X1	10199	25	1581	1600	99	99	99			
X3	10									
GR	129.9	0	128.7	100	127.8	200	127.0	300	126.2	400
GR	126.1	500	125.9	600	125.8	700	126.4	800	127.6	900
GR	128.6	1000	128.4	1100	128.8	1200	128.3	1300	127.8	1400
GR	128.7	1500	129.6	1581	121.5	1586	121.5	1594	129.8	1600
GR	130.2	1605	128.5	1700	128.5	1800	129.2	1900	130.2	2000
RIDGEWOOD DRIVE										
X1	10200	29	1581	1600	1	1	1			
X3	10									
BT	-27	0	130.6	129.9	100	129.1	128.7	200	128.2	127.8
BT		300	127.1	127.0	400	126.4	126.2	484	126.9	126.1
BT		500	126.9	126.1	600	126.5	125.9	700	126.4	125.8
BT		800	127.2	126.4	900	128.5	127.6	1000	130.2	128.6
BT		1100	129.9	128.4	1200	130.0	128.8	1300	129.4	128.3
BT		1374	127.9	127.9	1400	129.6	127.8	1500	130.4	128.7
BT		1581	130.7	129.6	1582	130.7	128.5	1599	130.7	128.5
BT		1600	130.7	129.8	1605	130.7	130.2	1700	130.3	128.5
BT		1800	130.0	128.5	1900	129.9	129.2	2000	130.4	130.2
GR	129.9	0	128.7	100	127.8	200	127.0	300	126.2	400
GR	126.1	484	126.1	500	125.9	600	125.8	700	126.4	800
GR	127.6	900	128.6	1000	128.4	1100	128.8	1200	128.3	1300
GR	127.9	1374	127.8	1400	128.7	1500	129.6	1581	128.5	1582
GR	121.5	1586	121.5	1594	128.5	1599	129.8	1600	130.2	1605
GR	128.5	1700	128.5	1800	129.2	1900	130.2	2000		

NC				.3	.5					
X1	11149	38	1544	1559	49	49	49			
X3	10									
GR	130.2	0	130.5	100	131.1	200	130.6	128	130.2	
GR	130.3	400	129.7	500	129.8	600	129.6	266	130.4	300
GR	129.8	900	129.8	1000	130.3	1100	129.7	700	129.6	800
GR	130.7	1400	131.5	1500	131.6	1535	125.6	1200	130.2	1300
GR	124.2	1545.5	124.0	1546.5	124.0	1547.5	124.0	1544.0	124.6	1544.5
GR	124.6	1550.5	125.6	1551	125.6	1552	124.6	1548.5	124.0	1549.5
GR	124.0	1554.5	124.0	1555.5	124.0	1556.5	124.2	1552.5	124.2	1553.5
GR	125.6	1559	130.6	1568	132.2	1600		1557.5	124.6	1558.5

NC			.024							
ROBINSON ROAD										
X1	11150	38	1544	1559	1	1	1			
X3	10									
BT	-38	0	132.0	130.2	100	131.7	130.5	128	130.2	
BT		266	131.4	130.6	300	131.3	130.4	200	131.7	131.1
BT		500	130.6	129.7	600	130.5	129.8	400	130.8	130.3
BT		800	130.3	129.6	900	130.1	129.8	700	130.3	129.6
BT		1100	130.3	130.3	1200	130.1	129.8	1000	130.0	129.8
BT		1400	131.0	130.7	1500	130.1	129.7	1300	130.6	130.2
BT		1544	132.3	125.6	1544.5	132.1	131.5	1535	132.3	131.6
BT		1546.5	132.3	128.6	1547.5	132.3	127.0	1545.5	132.3	128.1
BT		1549.5	132.3	128.1	1550.5	132.3	128.8	1548.5	132.3	128.6
BT		1552	132.3	125.6	1552.5	132.3	127.0	1551	132.3	125.6
BT		1554.5	132.3	128.6	1555.5	132.3	127.0	1553.5	132.3	128.1
BT		1557.5	132.3	128.1	1558.5	132.3	128.8	1556.5	132.3	128.6
BT		1568	132.3	130.6	1600	132.3	127.0	1559	132.3	125.6
GR	130.2	0	130.5	100	131.1	200	130.6	132.2	132.2	
GR	130.3	400	129.7	500	129.8	600	129.6	266	130.4	300
GR	129.8	900	129.8	1000	130.3	1100	129.6	700	129.6	800
GR	130.7	1400	131.5	1500	131.6	1535	129.7	1200	130.2	1300
GR	124.2	1545.5	124.0	1546.5	124.0	1547.5	125.6	1544.0	124.6	1544.5
GR	124.6	1550.5	125.6	1551	125.6	1552	124.0	1548.5	124.0	1549.5
GR	124.0	1554.5	124.0	1555.5	124.0	1556.5	124.6	1552.5	124.2	1553.5
GR	125.6	1559	130.6	1568	132.2	1600	124.2	1557.5	124.6	1558.5

X1	11215	38	1548	1563	65	65	65			
X3	10									
BT	-38	0	132.0	130.3	100	131.7	131.3	130	132.2	
BT		266	131.4	131.1	300	131.3	131.2	200	131.7	130.8
BT		500	130.6	130.5	600	130.5	130.1	400	130.8	130.5
BT		800	130.3	129.9	900	130.1	130.1	700	130.3	129.9
BT		1100	130.3	130.3	1200	130.1	129.3	1000	130.0	129.8
BT		1400	131.0	130.5	1500	130.1	130.1	1300	130.6	130.3
BT		1548	132.3	126.2	1548.5	132.1	131.4	1543	132.3	130.0
BT		1550.5	132.3	129.2	1551.5	132.3	127.6	1549.5	132.3	128.7
BT		1553.5	132.3	128.7	1554.5	132.3	129.4	1552.5	132.3	129.2
BT		1556	132.3	126.2	1556.5	132.3	127.6	1555	132.3	126.2
BT		1558.5	132.3	129.2	1559.5	132.3	127.6	1557.5	132.3	128.7
BT		1561.5	132.3	128.7	1562.5	132.3	129.4	1560.5	132.3	129.2
BT		1568	132.3	130.7	1600	132.2	127.6	1563	132.3	126.2

GR	130.3	0	131.3	100	130.8	200	131.1	266	131.2	300
GR	130.5	400	130.5	500	130.1	600	129.9	700	129.9	800
GR	129.3	900	129.8	1000	130.3	1100	130.1	1200	130.3	1300
GR	130.5	1400	131.4	1500	130.0	1543	126.2	1548	125.2	1548.5
GR	124.8	1549.5	124.6	1550.5	124.6	1551.5	124.6	1552.5	124.8	1553.5
GR	125.2	1554.5	126.2	1555	126.2	1556	125.2	1556.5	124.8	1557.5
GR	124.6	1558.5	124.6	1559.5	124.6	1560.5	124.8	1561.5	125.2	1562.5
GR	126.2	1563	130.7	1568	132.2	1600				
NC			.015							
X1	11216	38	1548	1563	1	1	1			
X3	10									
GR	130.3	0	131.3	100	130.8	200	131.1	266	131.2	300
GR	130.5	400	130.5	500	130.1	600	129.9	700	129.9	800
GR	129.3	900	129.8	1000	130.3	1100	130.1	1200	130.3	1300
GR	130.5	1400	131.4	1500	130.0	1543	126.2	1548	125.2	1548.5
GR	124.8	1549.5	124.6	1550.5	124.6	1551.5	124.6	1552.5	124.8	1553.5
GR	125.2	1554.5	126.2	1555	126.2	1556	125.2	1556.5	124.8	1557.5
GR	124.6	1558.5	124.6	1559.5	124.6	1560.5	124.8	1561.5	125.2	1562.5
GR	126.2	1563	130.7	1568	132.2	1600				
X1	11250	21	1543	1568	34	34	34			
GR	130.3	0	131.3	100	130.8	200	131.2	300	130.5	400
GR	130.5	500	130.1	600	129.9	700	129.9	800	129.3	900
GR	129.8	1000	130.3	1100	130.1	1200	130.3	1300	130.5	1400
GR	131.4	1500	130.0	1543	124.6	1553	124.6	1559	130.7	1568
GR	132.2	1600								
NC			.1	.3						
X1	11750	24	1688	1712	500	500	500			
GR	133.5	0	132.4	100	132.4	200	132.8	300	133.2	400
GR	133.6	500	133.9	600	133.4	700	133.1	800	132.7	900
GR	131.9	1000	131.4	1100	130.9	1161	130.6	1200	130.9	1300
GR	131.2	1400	132.0	1500	131.9	1600	130.8	1688	125.2	1697
GR	125.2	1703	130.2	1712	133.1	1737	151.1	1737		
QT	5	320	460	560	710	890				
X1	12350	25	1721	1745	600	600	600			
GR	136.7	0	136.7	100	136.1	200	136.1	300	137.1	400
GR	137.6	500	137.6	600	137.3	700	136.5	800	136.9	900
GR	137.5	1000	137.7	1100	136.6	1200	135.6	1267	135.1	1300
GR	134.1	1400	133.8	1500	134.6	1600	132.6	1721	125.5	1730
GR	125.5	1736	132.1	1745	133.9	1750	134.4	1771	148.4	1771

IHLQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

THIS RUN EXECUTED 9/ 1/89 16:22:46

HEC2 RELEASE DATED SEPT 88

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

A109-03-00

SUMMARY PRINTOUT

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
120.000	2640.00	115.61	114.50	115.90	102.70	2.68	115.72	.00	171.98	.00	.01	.00
* 1520.000	2390.00	116.13	115.20	115.30	102.70	3.09	116.28	1400.00	260.82	6.96	.01	.00
* 1574.000	2390.00	116.09	117.60	117.60	102.50	4.51	116.41	54.00	78.60	7.17	.01	.00
1586.000	2390.00	116.14	117.60	117.60	102.50	4.48	116.45	12.00	78.73	7.19	.01	.00
* 1636.000	2390.00	116.40	115.20	115.30	103.10	2.97	116.54	50.00	354.00	7.44	.01	.00
3528.000	2080.00	117.29	115.90	116.20	104.10	4.95	117.67	1892.00	51.25	16.24	.01	.00
3538.000	2080.00	117.30	115.90	116.20	104.10	4.94	117.68	10.00	51.26	16.25	.01	.00
* 3543.000	2080.00	116.70	115.90	116.20	109.40	8.96	117.95	5.00	50.64	16.25	.01	.00
3553.000	2080.00	116.80	115.90	116.20	109.40	8.77	118.00	10.00	50.74	16.27	.01	.00
3921.000	2080.00	118.36	118.80	117.60	109.80	7.50	119.22	368.00	327.83	17.86	.01	.00
* 3961.000	2080.00	119.13	116.80	116.80	109.80	4.93	119.44	40.00	1207.88	18.57	.01	.00
* 3962.000	2080.00	119.27	116.80	116.80	109.80	4.63	119.47	1.00	1278.08	18.60	.01	.00
3994.000	2080.00	119.44	116.80	116.80	109.80	4.19	119.59	32.00	1350.95	19.56	.01	.00
* 3995.000	2080.00	119.40	116.80	116.80	109.80	4.50	119.64	1.00	1330.47	19.59	.01	.00
* 4035.000	2080.00	119.31	118.80	117.60	109.80	5.87	119.80	40.00	963.31	20.65	.01	.00
4558.000	1930.00	120.01	119.50	118.70	110.10	5.92	120.52	523.00	801.23	31.24	.01	.00
4608.000	1930.00	120.24	119.40	119.40	110.10	5.05	120.62	50.00	851.95	32.19	.01	.00

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
* 4609.000	1930.00	120.13	119.40	119.40	110.10	6.51	120.73	1.00	828.10	32.21	.01	.00
* 4639.000	1930.00	120.69	119.40	119.40	110.10	4.90	120.98	30.00	952.01	32.82	.01	.00
* 4640.000	1930.00	120.70	119.40	119.40	110.10	4.48	120.98	1.00	953.83	32.84	.01	.00
4690.000	1930.00	120.73	119.50	118.70	110.10	4.73	121.02	50.00	957.78	33.94	.01	.00
* 5868.000	1780.00	121.90	120.70	120.20	112.80	5.81	122.41	1178.00	329.37	51.35	.01	.00
* 6124.000	1720.00	122.49	120.80	121.20	113.00	2.22	122.53	256.00	1759.96	57.48	.01	.00
6125.000	1720.00	122.47	120.80	121.20	114.50	3.29	122.56	1.00	1754.44	57.53	.01	.00
6153.000	1720.00	122.47	119.40	119.50	114.60	3.20	122.56	28.00	1755.15	58.65	.01	.00
* 6154.000	1720.00	122.44	119.40	119.50	114.60	4.74	122.60	1.00	1748.95	58.69	.01	.00
6182.000	1720.00	122.50	119.40	119.50	114.70	4.52	122.63	28.00	1687.11	59.80	.01	.00
* 6183.000	1720.00	122.51	119.40	119.50	114.70	3.57	122.64	1.00	1688.20	59.84	.01	.00
6233.000	1720.00	122.52	119.40	119.50	114.70	3.54	122.64	50.00	1691.05	61.78	.01	.00
* 7360.000	1520.00	122.73	122.20	121.10	116.50	7.03	123.23	1127.00	1028.39	96.96	.01	.00
* 8560.000	1340.00	124.37	121.80	121.80	117.70	9.16	125.44	1200.00	742.83	121.35	.01	.00
* 10100.000	1130.00	127.77	129.60	129.80	121.50	8.58	128.43	1540.00	729.25	147.37	.01	.00
* 10199.000	1130.00	128.36	129.60	129.80	121.50	6.21	128.65	99.00	1030.15	149.37	.01	.00
* 10200.000	1130.00	128.51	129.60	129.80	121.50	6.28	128.81	1.00	1194.99	149.40	.01	.00
10225.000	1130.00	128.41	129.90	129.80	121.70	7.93	128.98	25.00	811.95	149.97	.01	.00
* 10226.000	1130.00	128.94	129.90	129.80	121.70	4.99	129.10	1.00	874.05	149.99	.01	.00
10300.000	1130.00	128.99	129.90	129.80	121.70	4.85	129.14	74.00	880.79	151.48	.01	.00
* 10800.000	1130.00	128.47	132.00	132.30	121.10	9.78	129.95	500.00	163.35	157.48	.01	.00
* 11100.000	1010.00	130.51	131.60	130.60	124.00	7.12	131.18	300.00	1211.08	162.21	.01	.00
* 11149.000	1010.00	130.78	125.60	125.60	124.00	7.90	131.51	49.00	1349.80	163.65	.01	.00
* 11150.000	1010.00	131.67	125.60	125.60	124.00	3.84	131.71	1.00	1589.35	163.68	.01	.00
11215.000	1010.00	131.83	126.20	126.20	124.60	3.24	131.86	65.00	1563.00	166.04	.01	.00
* 11216.000	1010.00	131.72	126.20	126.20	124.60	5.36	131.96	1.00	1563.00	166.07	.01	.00

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
11250.000	1010.00	131.86	130.00	130.70	124.60	4.13	132.00	34.00	1592.87	167.30	.01	.00
* 11750.000	1010.00	131.60	130.80	130.20	125.20	8.93	132.75	500.00	488.69	179.25	.01	.00
12350.000	890.00	132.41	132.60	132.10	125.50	8.54	133.54	600.00	24.61	182.78	.01	.00

SUMMARY OF ERRORS AND SPECIAL NOTES

WARNING SECNO= 1520.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 1574.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 1636.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 3543.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 3961.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 3962.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 3995.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 4035.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 4609.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 4639.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 4640.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 5868.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 6124.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 6154.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 6183.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 7360.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
CAUTION SECNO= 8560.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 8560.000 PROFILE= 1 MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 10100.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 10100.000 PROFILE= 1 MINIMUM SPECIFIC ENERGY
WARNING SECNO= 10199.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
CAUTION SECNO= 10200.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 10200.000 PROFILE= 1 MINIMUM SPECIFIC ENERGY
WARNING SECNO= 10226.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 10800.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
CAUTION SECNO= 11100.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 11100.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 11100.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 11149.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 11149.000 PROFILE= 1 MINIMUM SPECIFIC ENERGY

WARNING SECNO= 11150.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 11216.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO= 11750.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 11750.000 PROFILE= 1 MINIMUM SPECIFIC ENERGY

THIS RUN EXECUTED 9/ 1/89 17: 5:58

 HEC2 RELEASE DATED SEPT 88

T1 SOUTHERN MONTGOMERY COUNTY FLOOD PROTECTION STUDY
 T2 DODSON AND ASSOCIATES, INC. SEPTEMBER, 1989
 T3 A109-03-00 SPRING OAKS CHANNEL
 T4 100-YEAR STORM FREQUENCY INTERIM CONDITIONS
 T5 FILENAME = A10903IN.IH2

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
		2			.0006				113	
J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	-1		-1							

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

38	43	1	23	24	42	26	3	39	4
37	30	65							

J5 LPRNT NUMSEC *****REQUESTED SECTION NUMBERS*****
 -10 -10

J6 IHLEQ ICOPY SUBDIV STRTDS RMILE
 1

NC	.15	.15	.04	.1	.3					
QT	1	3040								
X1	120	11	9937.5	10051.5	120	120	120			
CI	-1	101.9	.04	4	4	30				
GR	117	9885.5	114.2	9911.5	114.5	9937.5	106.6	9961.5	103.5	9987.5
GR	102.7	10000	103.6	10012.5	107.9	10033.5	115.9	10051.5	114.5	10067.5
GR	120.7	10106.5								
QT	1	2760								
X1	1520	12	9944	10050	1400	1400	1400			
CI	-1	102.7	.04	4	4	30				
GR	117.6	9800	115	9900	115.2	9944	108.1	9965	107.3	9975
GR	104.2	9995	102.7	10000	105.3	10005	108.6	10019	115.3	10050
GR	116.1	10100	116.3	10200						

NC			.015	.3	.5					
X1	3961	17	9977	10023	40	40	40			
CI	-1	107.92	.015	1.5	1.5	24				
X3	10							117.1	117.3	
GR	125	8300	120	9300	117.3	9700	117.7	9800	118.1	9900
GR	116.8	9977	115.3	9977	110.4	9989	109.8	10000	110.4	10009
GR	115.3	10023	116.8	10023	118.0	10100	117.7	10200	118.0	10300
GR	120	10900	125	11400						

SPRING PINES ROAD

X1	3962	17	9977	10023	1	1	1			
CI						.01				
X3	10							117.1	117.3	
BT	-11	9700	117.3	117.3	9800	117.7	117.7	9900	118.1	118.1
BT		9977	118.7	116.8	9988	118.7	116.8	10000	118.7	116.8
BT		10012	118.7	116.8	10023	118.7	116.8	10100	118	118
BT		10200	117.7	117.7	10300	118	118			
GR	125	8300	120	9300	117.3	9700	117.7	9800	118.1	9900
GR	116.8	9977	115.3	9977	107.92	9988	107.92	10000	107.92	10012
GR	115.3	10023	116.8	10023	118.0	10100	117.7	10200	118.0	10300
GR	120	10900	125	11400						

X1	3994				32	32	32			
X2							1			
X3	10							117.3	117.7	
X1	3995	17	9977	10023	1	1	1			
CI	-1	107.92	.015	1.5	1.5	24				
X3	10							117.3	117.7	
GR	125	8300	120	9300	117.3	9700	117.7	9800	118.1	9900
GR	116.8	9977	115.3	9977	110.4	9989	109.8	10000	110.4	10009
GR	115.3	10023	116.8	10023	118.0	10100	117.7	10200	118.0	10300
GR	120	10900	125	11400						

X1	4035	11	9974	10026	40	40	40			
CI	-1	107.99	.015	1.5	1.5	24				
GR	125	8300	120	9300	118.8	9974	115.7	9981	110.4	9992
GR	109.8	10000	110.4	10008	115.6	10020	117.6	10026	120	10900
GR	125	11400								

NC				.1	.3					
QT	1	2240								
X1	4558	11	9974.5	10024.5	523	523	523			
CI	-1	108.52	.015	1.5	1.5	24				
GR	125	9200	120	9700	119.5	9974.5	118.4	9978.5	111	9991.5
GR	110.1	10000	111	10008.5	116.7	10018.5	118.7	10024.5	120	10500
GR	125	11100								

NC				.3	.5					
X1	4608	11	9976	10023	50	50	50			
CI	-1	108.57	.015	1.5	1.5	24				
X3	10							118.5	118.5	
GR	125	9200	120	9700	119.4	9976	116	9976	111	9991.5
GR	110.1	10000	111	10008.5	116	10023	119.4	10023	120	10500
GR	125	11100								
BASSWOOD										
X1	4609	11	9976	10023	1	1	1			
CI						.01				
X3	10							118.5	118.5	
BT	-5	9976	119.4	117.5	9988	119.4	117.5	10000	119.4	117.5
BT		10012	119.4	117.5	10023	119.4	117.5			
GR	125	9200	120	9700	119.4	9976	116	9976	108.57	9988
GR	108.57	10000	108.57	10012	116	10023	119.4	10023	120	10500
GR	125	11100								
X1	4639				30	30	30			
X2							1			
X3	10							119.4	119.4	
X1	4640	11	9976	10023	1	1	1			
CI	-1	108.57	.015	1.5	1.5	24				
X3	10							119.4	119.4	
GR	125	9200	120	9700	119.4	9976	116	9976	111	9991.5
GR	110.1	10000	111	10008.5	116	10023	119.4	10023	120	10500
GR	125	11100								
CONTROL STRUCTURE										
X1	4690	11	9974.5	10024.5	50	50	50			
CI	-1	108.65	.015	1.5	1.5	20				
X5	-2	0.5	0.5							
GR	125	9200	120	9700	119.5	9974.5	118.4	9978.5	111	9991.5
GR	110.1	10000	111	10008.5	116.7	10018.5	118.7	10024.5	120	10500
GR	125	11100								
X1	4740	11	9974.5	10024.5	50	50	50			
CI	-1	108.70	.015	1.5	1.5	20				
GR	125	9200	120	9700	119.5	9974.5	118.4	9978.5	111	9991.5
GR	110.1	10000	111	10008.5	116.7	10018.5	118.7	10024.5	120	10500
GR	125	11100								
NC				.1	.3					
QT	1	2050								
X1	5868	9	9973	10024	1128	1128	1128			
CI	-1	109.83	.015	1.5	1.5	20				
GR	125	9550	120.7	9973	120.3	9981	113.1	9991	113.0	10000
GR	112.8	10009	119.0	10019	120.2	10024	125	10480		

QT	1	2010								
X1	6124	36	1055	1100	256	256	256			
CI	-1	110.08	.015	1.5	1.5	20				
X3	10									
GR	124.7	0	122.5	99	121.4	198	120.5	297	120.5	310
GR	120.2	396	119.9	495	119.9	594	119.6	629	120.8	634
GR	115.3	642	115.3	645	115.3	649	121.3	657	121.0	700
GR	119.5	800	119.2	900	119.6	1000	120.8	1055	113.0	1067
GR	113.0	1075	113.0	1087	121.2	1100	119.0	1200	118.8	1300
GR	119.1	1400	119.4	1500	120.3	1600	120.5	1700	121.9	1800
GR	122.9	1900	123.1	2000	123.8	2100	123.8	2200	124.3	2231
GR	123.5	2300								

NC			.015	.3	.5					
X1	6125	36	1055	1100	1	1	1			
CI	-1	110.08	.015	1.5	1.5	20				
X3	10									
GR	124.7	0	122.5	99	121.4	198	120.5	297	120.5	310
GR	120.2	396	119.9	495	119.9	594	119.6	629	120.8	634
GR	115.3	642	115.3	645	115.3	649	121.3	657	121.0	700
GR	119.5	800	119.2	900	119.6	1000	120.8	1055	114.5	1066
GR	114.5	1075	114.5	1088	121.2	1100	119.0	1200	118.8	1300
GR	119.1	1400	119.4	1500	120.3	1600	120.5	1700	121.9	1800
GR	122.9	1900	123.1	2000	123.8	2100	123.8	2200	124.3	2231
GR	123.5	2300								

X1	6153	36	1053	1098	28	28	28			
CI	-1	110.11	.015	1.35	1.35	20				
X3	10							120	120	
GR	124.7	0	122.5	99	121.4	198	120.5	297	120.5	310
GR	120.2	396	119.9	495	119.9	594	119.6	629	120.8	634
GR	115.3	642	115.3	645	115.3	649	121.3	657	121.0	700
GR	119.5	800	119.2	900	119.6	1000	119.4	1053	114.6	1064
GR	114.6	1075	114.6	1087	119.5	1098	119.0	1200	118.8	1300
GR	119.1	1400	119.4	1500	120.3	1600	120.5	1700	121.9	1800
GR	122.9	1900	123.1	2000	123.8	2100	123.8	2200	124.3	2231
GR	123.5	2300								

MAPLEWOOD DRIVE

X1	6154	36	1053	1098	1	1	1			
CI	-1	110.11	.015	1.35	1.35	20				
X2										
X3	10							120	120	
BT	-36	0	125.0	124.7	99	122.7	122.5	198	121.7	121.4
BT		297	120.5	120.5	310	120.5	120.5	396	120.5	120.2
BT		495	120.4	119.9	594	120.4	119.9	629	120.7	119.6
BT		634	120.8	120.8	642	120.8	115.3	645	120.8	115.3
BT		649	120.8	115.3	657	121.3	121.3	700	121.0	121.0
BT		800	120.7	119.5	900	121.0	119.2	1000	121.4	119.6
BT		1053	121.3	119.4	1053	123.7	119.4	1098	123.7	119.5
BT		1098	121.3	119.5	1098	121.3	119.5	1200	121.2	119.0
BT		1300	120.6	118.8	1400	120.7	119.1	1500	121.1	119.4
BT		1600	121.7	120.3	1700	122.1	120.5	1800	123.3	121.9

BT		1900	123.7	122.9	2000	124.3	123.1	2100	124.7	123.8
BT		2200	124.7	123.8	2231	124.9	124.3	2300	124.5	123.5
GR	124.7	0	122.5	99	121.4	198	120.5	297	120.5	310
GR	120.2	396	119.9	495	119.9	594	119.6	629	120.8	634
GR	115.3	642	115.3	645	115.3	649	121.3	657	121.0	700
GR	119.5	800	119.2	900	119.6	1000	119.4	1053	114.6	1064
GR	114.6	1075	114.6	1087	119.5	1098	119.0	1200	118.8	1300
GR	119.1	1400	119.4	1500	120.3	1600	120.5	1700	121.9	1800
GR	122.9	1900	123.1	2000	123.8	2100	123.8	2200	124.3	2231
GR	123.5	2300								
X1	6182	34	1053	1098	28	28	28			
CI	-1	110.14	.015	1.35	1.35	20				
X2										
X3	10									
BT	-33	0	125.0	125.0	99	122.7	122.5	198	121.7	121.7
BT		297	120.5	120.1	396	120.5	120.4	495	120.4	120.1
BT		594	120.4	120.2	608	120.5	120.2	642	120.8	120.0
BT		655	120.8	119.9	700	120.7	119.6	800	120.7	119.8
BT		900	121.0	119.9	1000	121.4	120.3	1053	121.3	119.4
BT		1053	123.7	119.4	1098	123.7	119.5	1098	121.3	119.5
BT		1100	121.3	119.6	1200	121.2	120.1	1300	120.6	119.7
BT		1400	120.7	120.1	1500	121.1	119.9	1600	121.7	120.8
BT		1700	122.1	121.2	1800	123.3	122.7	1806	123.3	122.7
BT		1900	123.7	122.6	2000	124.3	123.1	2100	124.7	123.8
BT		2200	124.7	123.7	2231	124.9	124.5	2300	124.5	123.6
GR	125.0	0	122.5	99	121.7	198	120.1	297	120.4	396
GR	120.1	495	120.2	594	120.2	608	120.0	642	119.9	655
GR	119.6	700	119.8	800	119.9	900	120.3	1000	119.4	1053
GR	114.7	1064	114.7	1075	114.7	1087	119.5	1098	119.6	1100
GR	120.1	1200	119.7	1300	120.1	1400	119.9	1500	120.8	1600
GR	121.2	1700	122.7	1800	122.7	1806	122.6	1900	123.1	2000
GR	123.8	2100	123.7	2200	124.5	2231	123.6	2300		
X1	6183	33	1053	1098	1	1	1			
CI	-1	110.14	.015	1.35	1.35	20				
X3	10									
GR	125.0	0	122.5	99	121.7	198	120.1	297	120.4	396
GR	120.1	495	120.2	594	120.2	608	120.0	642	119.6	700
GR	119.8	800	119.9	900	120.3	1000	119.4	1053	114.7	1064
GR	114.7	1075	114.7	1087	119.5	1098	119.6	1100	120.1	1200
GR	119.7	1300	120.1	1400	119.9	1500	120.8	1600	121.2	1700
GR	122.7	1800	122.7	1806	122.6	1900	123.1	2000	123.8	2100
GR	123.7	2200	124.5	2231	123.6	2300				
X1	6208	33	1053	1098	25	25	25			
CI	-1	110.19	.015	1.5	1.5	20				
GR	125.0	0	122.5	99	121.7	198	120.1	297	120.4	396
GR	120.1	495	120.2	594	120.2	608	120.0	642	119.6	700
GR	119.8	800	119.9	900	120.3	1000	119.4	1053	114.7	1064
GR	114.7	1075	114.7	1087	119.5	1098	119.6	1100	120.1	1200
GR	119.7	1300	120.1	1400	119.9	1500	120.8	1600	121.2	1700
GR	122.7	1800	122.7	1806	122.6	1900	123.1	2000	123.8	2100
GR	123.7	2200	124.5	2231	123.6	2300				

QT	1	1320								
X1	10099	25	1581	1600	999	999	999			
CI	1590	117.10	.015	1.5	1.5	12				
GR	129.9	0	128.7	100	127.8	200	127.0	300	126.2	400
GR	126.1	500	125.9	600	125.8	700	126.4	800	127.6	900
GR	128.6	1000	128.4	1100	128.8	1200	128.3	1300	127.8	1400
GR	128.7	1500	129.6	1581	121.5	1586	121.5	1594	129.8	1600
GR	130.2	1605	128.5	1700	128.5	1800	129.2	1900	130.2	2000

DROP STRUCTURE

X1	10100	25	1581	1600	1	1	1			
CI	1590	120.10	.015	1.5	1.5	8				
X3	10									
X5	-2	3.5	3.5							
GR	129.9	0	128.7	100	127.8	200	127.0	300	126.2	400
GR	126.1	500	125.9	600	125.8	700	126.4	800	127.6	900
GR	128.6	1000	128.4	1100	128.8	1200	128.3	1300	127.8	1400
GR	128.7	1500	129.6	1581	121.5	1586	121.5	1594	129.8	1600
GR	130.2	1605	128.5	1700	128.5	1800	129.2	1900	130.2	2000

NC			.3	.5						
X1	10199	25	1581	1600	99	99	99			
CI	1590	120.20	.015	1.5	1.5	8				
X3	10									
GR	129.9	0	128.7	100	127.8	200	127.0	300	126.2	400
GR	126.1	500	125.9	600	125.8	700	126.4	800	127.6	900
GR	128.6	1000	128.4	1100	128.8	1200	128.3	1300	127.8	1400
GR	128.7	1500	129.6	1581	121.5	1586	121.5	1594	129.8	1600
GR	130.2	1605	128.5	1700	128.5	1800	129.2	1900	130.2	2000

LANE LANE - EXISTING BRIDGE REPLACED

X1	10200	29	1581	1600	1	1	1			
CI	1590	120.20	.015	1.5	1.5	8				
X3	10									
GR	129.9	0	128.7	100	127.8	200	127.0	300	126.2	400
GR	126.1	484	126.1	500	125.9	600	125.8	700	126.4	800
GR	127.6	900	128.6	1000	128.4	1100	128.8	1200	128.3	1300
GR	127.9	1374	127.8	1400	128.7	1500	129.6	1581	128.5	1582
GR	121.5	1586	121.5	1594	128.5	1599	129.8	1600	130.2	1605
GR	128.5	1700	128.5	1800	129.2	1900	130.2	2000		

X1	10225	29	1581	1600	25	25	25			
CI	1590	120.22	.015	1.5	1.5	8				
X3	10									
GR	130.4	0	128.7	100	127.5	200	126.6	300	126.2	400
GR	126.5	484	126.5	500	126.3	600	125.6	700	126.8	800
GR	128.0	900	130.2	1000	129.9	1100	130.0	1200	129.3	1300
GR	129.2	1374	129.1	1400	129.9	1500	129.9	1581	128.7	1582
GR	121.7	1586	121.7	1594	128.7	1599	129.8	1600	130.3	1605
GR	129.7	1700	129.3	1800	129.7	1900	130.2	2000		

X1	10226	25	1581	1600	1	1	1			
CI	1590	120.22	.015	1.5	1.5	8				
X3	10									
GR	130.4	0	128.7	100	127.5	200	126.6	300	126.2	400
GR	126.5	500	126.3	600	125.6	700	126.8	800	128.0	900
GR	130.2	1000	129.9	1100	130.0	1200	129.3	1300	129.1	1400
GR	129.9	1500	129.9	1581	121.7	1586	121.7	1594	129.8	1600
GR	130.3	1605	129.7	1700	129.3	1800	129.7	1900	130.2	2000
X1	10300	25	1581	1600	74	74	74			
CI	1590	120.30	.015	1.5	1.5	8				
X3	10									
GR	130.4	0	128.7	100	127.5	200	126.6	300	126.2	400
GR	126.5	500	126.3	600	125.6	700	126.8	800	128.0	900
GR	130.2	1000	129.9	1100	130.0	1200	129.3	1300	129.1	1400
GR	129.9	1500	129.9	1581	121.7	1586	121.7	1594	129.8	1600
GR	130.3	1605	129.7	1700	129.3	1800	129.7	1900	130.2	2000
QT	1	1230								
NC				.1	.3					
X1	10800	23	1573	1606	500	500	500			
CI	1584	120.80	.015	1.5	1.5	8				
X3	10									
GR	130.9	0	130.3	100	129.6	200	129.1	300	129.1	400
GR	129.1	425	128.6	500	128.3	600	128.5	700	128.7	800
GR	128.7	900	129.4	1000	129.6	1100	129.7	1200	130.2	1300
GR	131.1	1369	130.9	1400	131.9	1500	132.0	1573	121.1	1586
GR	121.1	1593	132.3	1606	136.6	1616				
QT	1	1190								
X1	11100	21	1535	1568	300	300	300			
CI	1550	121.10	.015	1.5	1.5	8				
X3	10									
GR	130.2	0	130.5	100	131.1	200	130.4	300	130.3	400
GR	129.7	500	129.8	600	129.6	700	129.6	800	129.8	900
GR	129.8	1000	130.3	1100	129.7	1200	130.2	1300	130.7	1400
GR	131.5	1500	131.6	1535	124.0	1547	124.0	1553	130.6	1568
GR	132.2	1600								
X1	11149	22	1535	1568	49	49	49			
CI	1550	121.15	.015	1.5	1.5	8				
X3	10									
GR	130.2	0	130.5	100	131.1	200	130.6	266	130.4	300
GR	130.3	400	129.7	500	129.8	600	129.6	700	129.6	800
GR	129.8	900	129.8	1000	130.3	1100	129.7	1200	130.2	1300
GR	130.7	1400	131.5	1500	131.6	1535	124.0	1547	124.0	1553
GR	130.6	1568	132.2	1600						

ROBINSON ROAD - EXISTING BRIDGE REPLACED

X1	11150	22	1535	1568	1	1	1			
CI	1550	121.15	.015	1.5	1.5	8				
X3	10									
GR	130.2	0	130.5	100	131.1	200	130.6	266	130.4	300
GR	130.3	400	129.7	500	129.8	600	129.6	700	129.6	800
GR	129.8	900	129.8	1000	130.3	1100	129.7	1200	130.2	1300
GR	130.7	1400	131.5	1500	131.6	1535	124.0	1547	124.0	1553
GR	130.6	1568	132.2	1600						
X1	11215	22	1543	1568	65	65	65			
CI	1556	121.22	.015	1.5	1.5	8				
X3	10									
GR	130.3	0	131.3	100	130.8	200	131.1	266	131.2	300
GR	130.5	400	130.5	500	130.1	600	129.9	700	129.9	800
GR	129.3	900	129.8	1000	130.3	1100	130.1	1200	130.3	1300
GR	130.5	1400	131.4	1500	130.0	1543	124.6	1553	124.6	1559
GR	130.7	1568	132.2	1600						
X1	11216	22	1543	1568	1	1	1			
CI	1556	121.22	.015	1.5	1.5	8				
X3	10									
GR	130.3	0	131.3	100	130.8	200	131.1	266	131.2	300
GR	130.5	400	130.5	500	130.1	600	129.9	700	129.9	800
GR	129.3	900	129.8	1000	130.3	1100	130.1	1200	130.3	1300
GR	130.5	1400	131.4	1500	130.0	1543	124.6	1553	124.6	1559
GR	130.7	1568	132.2	1600						
X1	11250	21	1543	1568	34	34	34			
CI	1556	121.25	.015	1.5	1.5	8				
X3	10									
GR	130.3	0	131.3	100	130.8	200	131.2	300	130.5	400
GR	130.5	500	130.1	600	129.9	700	129.9	800	129.3	900
GR	129.8	1000	130.3	1100	130.1	1200	130.3	1300	130.5	1400
GR	131.4	1500	130.0	1543	124.6	1553	124.6	1559	130.7	1568
GR	132.2	1600								
QT	1	1120								
X1	11750	23	1688	1712	500	500	500			
CI	-1	121.75	.015	1.5	1.5	8				
GR	133.5	0	132.4	100	132.4	200	132.8	300	133.2	400
GR	133.6	500	133.9	600	133.4	700	133.1	800	132.7	900
GR	131.9	1000	131.4	1100	130.9	1161	130.6	1200	130.9	1300
GR	131.2	1400	132.0	1500	131.9	1600	130.8	1688	125.2	1697
GR	125.2	1703	130.2	1712	133.1	1737				
QT	1	1050								
X1	12350	24	1721	1745	600	600	600			
CI	-1	122.35	.015	1.5	1.5	8				
GR	136.7	0	136.7	100	136.1	200	136.1	300	137.1	400
GR	137.6	500	137.6	600	137.3	700	136.5	800	136.9	900
GR	137.5	1000	137.7	1100	136.6	1200	135.6	1267	135.1	1300
GR	134.1	1400	133.8	1500	134.6	1600	132.6	1721	125.5	1730

9/ 1/89 17: 5:58

PAGE 11

GR 125.5 1736 132.1 1745 133.9 1750 134.4 1771

IHLEQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

THIS RUN EXECUTED 9/ 1/89 17: 6:29

 HEC2 RELEASE DATED SEPT 88

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

A109-03-00

SUMMARY PRINTOUT

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
120.000	3040.00	113.62	114.41	114.99	101.90	3.37	113.80	.00	123.79	.00	30.00	.00
1520.000	2760.00	114.42	115.15	115.51	102.70	3.06	114.57	1400.00	123.76	3.98	30.00	12.94
1574.000	2760.00	114.45	116.27	116.85	102.50	3.05	114.59	54.00	124.00	4.13	30.00	13.93
1636.000	2760.00	114.47	115.15	115.51	102.80	3.08	114.62	50.00	123.38	4.27	30.00	14.82
3528.000	2400.00	115.39	119.01	117.68	104.10	2.83	115.51	1892.00	120.31	9.57	30.00	52.66
3538.000	2400.00	115.39	119.01	117.68	104.10	2.83	115.52	10.00	120.35	9.59	30.00	52.94
* 3543.000	2400.00	115.49	118.81	117.60	107.50	8.34	116.57	5.00	47.98	9.60	24.00	53.02
3553.000	2400.00	115.50	118.81	117.60	107.50	8.33	116.58	10.00	48.00	9.61	24.00	53.07
3921.000	2330.00	115.83	118.80	117.60	107.88	8.16	116.86	368.00	47.85	10.02	24.00	54.86
3961.000	2330.00	115.85	116.84	116.84	107.92	8.18	116.89	40.00	47.81	10.06	24.00	55.03
3962.000	2330.00	115.85	116.80	116.80	107.92	8.21	116.90	1.00	46.00	10.06	.01	55.03
3994.000	2330.00	115.88	116.80	116.80	107.92	8.18	116.92	32.00	46.00	10.10	.01	55.03
3995.000	2330.00	115.91	116.84	116.84	107.92	8.11	116.93	1.00	47.97	10.10	24.00	55.04
4035.000	2330.00	115.93	118.80	117.60	107.99	8.16	116.96	40.00	47.84	10.14	24.00	55.21
4558.000	2240.00	116.34	119.51	118.71	108.52	8.02	117.34	523.00	47.46	10.72	24.00	58.07
4608.000	2240.00	116.37	119.41	119.41	108.57	8.03	117.37	50.00	47.41	10.77	24.00	58.31
4609.000	2240.00	116.41	119.40	119.40	108.57	7.91	117.38	1.00	47.00	10.77	.01	58.31

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
4639.000	2240.00	116.44	119.40	119.40	108.57	7.88	117.41	30.00	47.00	10.80	.01	58.31
4640.000	2240.00	116.43	119.41	119.41	108.57	7.94	117.41	1.00	47.61	10.80	24.00	58.32
* 4690.000	2240.00	116.93	119.50	118.70	108.65	8.34	118.01	50.00	44.85	10.86	20.00	58.52
4740.000	2240.00	116.97	119.50	118.70	108.70	8.36	118.05	50.00	44.81	10.91	20.00	58.72
5868.000	2050.00	117.91	120.71	120.20	109.83	7.90	118.88	1128.00	44.24	12.06	20.00	64.29
6124.000	2010.00	118.11	120.72	121.11	110.08	7.83	119.06	256.00	44.05	12.32	20.00	65.70
6125.000	2010.00	118.11	120.72	121.11	110.08	7.82	119.06	1.00	44.08	12.32	20.00	65.71
6153.000	2010.00	118.08	119.40	119.50	110.11	8.19	119.13	28.00	41.53	12.35	20.00	65.87
6154.000	2010.00	118.08	119.40	119.50	110.11	8.19	119.13	1.00	41.53	12.35	20.00	65.88
6182.000	2010.00	118.10	119.40	119.51	110.14	8.21	119.15	28.00	41.51	12.38	20.00	66.02
6183.000	2010.00	118.10	119.40	119.51	110.14	8.21	119.15	1.00	41.50	12.38	20.00	66.03
6208.000	2010.00	118.27	119.42	119.58	110.19	7.74	119.20	25.00	44.25	12.40	20.00	66.16
6233.000	2010.00	118.28	120.88	119.38	110.24	7.78	119.22	25.00	44.15	12.43	20.00	66.34
7360.000	1780.00	119.15	122.56	121.08	111.32	7.16	119.95	1127.00	43.49	13.56	20.00	76.64
* 7410.000	1780.00	119.65	122.60	121.09	111.37	7.56	120.54	50.00	40.84	13.61	16.00	77.08
8560.000	1570.00	120.50	122.07	122.14	112.52	7.03	121.27	1150.00	39.94	14.68	16.00	86.36
9099.000	1480.00	120.85	124.13	124.20	113.06	6.87	121.59	539.00	39.35	15.17	16.00	91.38
* 9100.000	1480.00	123.35	123.94	124.02	116.10	8.92	124.59	1.00	33.76	15.17	12.00	91.39
10099.000	1320.00	124.67	129.43	130.01	117.10	7.46	125.54	999.00	34.72	15.95	12.00	98.80
* 10100.000	1320.00	128.17	129.50	130.13	120.10	8.13	129.20	1.00	32.22	15.95	8.00	98.81
10199.000	1320.00	128.27	129.50	130.13	120.20	8.15	129.30	99.00	32.18	16.03	8.00	99.19
10200.000	1320.00	128.27	129.50	130.13	120.20	8.14	129.30	1.00	32.20	16.03	8.00	99.19
10225.000	1320.00	128.30	129.90	130.27	120.22	8.13	129.32	25.00	32.22	16.05	8.00	99.29
10226.000	1320.00	128.30	129.90	130.27	120.22	8.12	129.33	1.00	32.23	16.05	8.00	99.30
10300.000	1320.00	128.37	129.90	130.27	120.30	8.14	129.40	74.00	32.21	16.10	8.00	99.59
10800.000	1230.00	129.15	131.99	132.30	120.80	6.24	129.76	500.00	34.88	16.49	8.00	101.42

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
11100.000	1190.00	129.18	131.59	130.61	121.10	7.32	130.01	300.00	32.24	16.72	8.00	102.44
11149.000	1190.00	129.21	131.59	130.61	121.15	7.35	130.05	49.00	32.18	16.75	8.00	102.61
11150.000	1190.00	129.21	131.59	130.61	121.15	7.34	130.05	1.00	32.19	16.76	8.00	102.61
11215.000	1190.00	129.26	130.14	131.01	121.22	7.37	130.10	65.00	32.13	16.80	8.00	102.85
11216.000	1190.00	129.26	130.14	131.01	121.22	7.38	130.11	1.00	32.12	16.80	8.00	102.85
11250.000	1190.00	129.29	130.14	131.01	121.25	7.38	130.13	34.00	32.11	16.83	8.00	102.99
11750.000	1120.00	129.75	130.87	130.86	121.75	7.00	130.51	500.00	32.00	17.20	8.00	105.00
12350.000	1050.00	130.22	132.73	134.01	122.35	6.73	130.93	600.00	31.62	17.63	8.00	107.72

SUMMARY OF ERRORS AND SPECIAL NOTES

NOTE SECNO= 3543.000 PROFILE= 1 WSEL BASED ON X5 CARD
NOTE SECNO= 4690.000 PROFILE= 1 WSEL BASED ON X5 CARD
NOTE SECNO= 7410.000 PROFILE= 1 WSEL BASED ON X5 CARD
NOTE SECNO= 9100.000 PROFILE= 1 WSEL BASED ON X5 CARD
NOTE SECNO= 10100.000 PROFILE= 1 WSEL BASED ON X5 CARD

THIS RUN EXECUTED 9/ 4/89 8:52: 1

HEC2 RELEASE DATED SEPT 88

T1 SOUTHERN MONTGOMERY COUNTY FLOOD PROTECTION STUDY
 T2 DODSON AND ASSOCIATES, INC. SEPTEMBER, 1989
 T3 A109-03-00 SPRING OAKS CHANNEL
 T4 100-YEAR STORM FREQUENCY ULTIMATE CONDITIONS
 T5 FILENAME = A10903UL.IH2

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
		2			.0006				113	

J2	NPROF	IPL0T	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	-1		-1							

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

38	43	1	23	24	42	26	3	39	4
37	30	65							

J5 LPRNT NUMSEC *****REQUESTED SECTION NUMBERS*****

-10 -10

J6 IHLEQ ICOPY SUBDIV STRTDS RMLE

1

NC	.15	.15	.04	.1	.3					
QT	1	3240								
X1	120	11	9937.5	10051.5	120	120	120			
CI	-1	101.9	.04	4	4	30				
GR	117	9885.5	114.2	9911.5	114.5	9937.5	106.6	9961.5	103.5	9987.5
GR	102.7	10000	103.6	10012.5	107.9	10033.5	115.9	10051.5	114.5	10067.5
GR	120.7	10106.5								
QT	1	2920								
X1	1520	12	9944	10050	1400	1400	1400			
CI	-1	102.7	.04	4	4	30				
GR	117.6	9800	115	9900	115.2	9944	108.1	9965	107.3	9975
GR	104.2	9995	102.7	10000	105.3	10005	108.6	10019	115.3	10050
GR	116.1	10100	116.3	10200						

NC			.015	.3	.5					
X1	3961	17	9977	10023	40	40	40			
CI	-1	107.92	.015	1.5	1.5	24				
X3	10							117.1	117.3	
GR	125	8300	120	9300	117.3	9700	117.7	9800	118.1	9900
GR	116.8	9977	115.3	9977	110.4	9989	109.8	10000	110.4	10009
GR	115.3	10023	116.8	10023	118.0	10100	117.7	10200	118.0	10300
GR	120	10900	125	11400						

SPRING PINES ROAD

X1	3962	17	9977	10023	1	1	1			
CI						.01				
X3	10							117.1	117.3	
BT	-11	9700	117.3	117.3	9800	117.7	117.7	9900	118.1	118.1
BT		9977	118.7	116.8	9988	118.7	116.8	10000	118.7	116.8
BT		10012	118.7	116.8	10023	118.7	116.8	10100	118	118
BT		10200	117.7	117.7	10300	118	118			
GR	125	8300	120	9300	117.3	9700	117.7	9800	118.1	9900
GR	116.8	9977	115.3	9977	107.92	9988	107.92	10000	107.92	10012
GR	115.3	10023	116.8	10023	118.0	10100	117.7	10200	118.0	10300
GR	120	10900	125	11400						

X1	3994				32	32	32			
X2							1			
X3	10							117.3	117.7	

X1	3995	17	9977	10023	1	1	1			
CI	-1	107.92	.015	1.5	1.5	24				
X3	10							117.3	117.7	
GR	125	8300	120	9300	117.3	9700	117.7	9800	118.1	9900
GR	116.8	9977	115.3	9977	110.4	9989	109.8	10000	110.4	10009
GR	115.3	10023	116.8	10023	118.0	10100	117.7	10200	118.0	10300
GR	120	10900	125	11400						

X1	4035	11	9974	10026	40	40	40			
CI	-1	107.99	.015	1.5	1.5	24				
GR	125	8300	120	9300	118.8	9974	115.7	9981	110.4	9992
GR	109.8	10000	110.4	10008	115.6	10020	117.6	10026	120	10900
GR	125	11400								

NC				.1	.3					
QT	1	2330								
X1	4558	11	9974.5	10024.5	523	523	523			
CI	-1	108.52	.015	1.5	1.5	24				
GR	125	9200	120	9700	119.5	9974.5	118.4	9978.5	111	9991.5
GR	110.1	10000	111	10008.5	116.7	10018.5	118.7	10024.5	120	10500
GR	125	11100								

NC				.3	.5					
X1	4608	11	9976	10023	50	50	50			
CI	-1	108.57	.015	1.5	1.5	24				
X3	10							118.5	118.5	
GR	125	9200	120	9700	119.4	9976	116	9976	111	9991.5
GR	110.1	10000	111	10008.5	116	10023	119.4	10023	120	10500
GR	125	11100								

BASSWOOD

X1	4609	11	9976	10023	1	1	1			
CI						.01				
X3	10							118.5	118.5	
BT	-5	9976	119.4	117.5	9988	119.4	117.5	10000	119.4	117.5
BT		10012	119.4	117.5	10023	119.4	117.5			
GR	125	9200	120	9700	119.4	9976	116	9976	108.57	9988
GR	108.57	10000	108.57	10012	116	10023	119.4	10023	120	10500
GR	125	11100								

X1	4639				30	30	30			
X2							1			
X3	10							119.4	119.4	

X1	4640	11	9976	10023	1	1	1			
CI	-1	108.57	.015	1.5	1.5	24				
X3	10							119.4	119.4	
GR	125	9200	120	9700	119.4	9976	116	9976	111	9991.5
GR	110.1	10000	111	10008.5	116	10023	119.4	10023	120	10500
GR	125	11100								

CONTROL STRUCTURE

X1	4690	11	9974.5	10024.5	50	50	50			
CI	-1	108.65	.015	1.5	1.5	20				
X5	-2	0.5	0.5							
GR	125	9200	120	9700	119.5	9974.5	118.4	9978.5	111	9991.5
GR	110.1	10000	111	10008.5	116.7	10018.5	118.7	10024.5	120	10500
GR	125	11100								

X1	4740	11	9974.5	10024.5	50	50	50			
CI	-1	108.70	.015	1.5	1.5	20				
GR	125	9200	120	9700	119.5	9974.5	118.4	9978.5	111	9991.5
GR	110.1	10000	111	10008.5	116.7	10018.5	118.7	10024.5	120	10500
GR	125	11100								

NC				.1	.3					
QT	1	2110								
X1	5868	9	9973	10024	1128	1128	1128			
CI	-1	109.83	.015	1.5	1.5	20				
GR	125	9550	120.7	9973	120.3	9981	113.1	9991	113.0	10000
GR	112.8	10009	119.0	10019	120.2	10024	125	10480		

QT	1	2070								
X1	6124	36	1055	1100	256	256	256			
CI	-1	110.08	.015	1.5	1.5	20				
X3	10									
GR	124.7	0	122.5	99	121.4	198	120.5	297	120.5	310
GR	120.2	396	119.9	495	119.9	594	119.6	629	120.8	634
GR	115.3	642	115.3	645	115.3	649	121.3	657	121.0	700
GR	119.5	800	119.2	900	119.6	1000	120.8	1055	113.0	1067
GR	113.0	1075	113.0	1087	121.2	1100	119.0	1200	118.8	1300
GR	119.1	1400	119.4	1500	120.3	1600	120.5	1700	121.9	1800
GR	122.9	1900	123.1	2000	123.8	2100	123.8	2200	124.3	2231
GR	123.5	2300								

NC			.015	.3	.5					
X1	6125	36	1055	1100	1	1	1			
CI	-1	110.08	.015	1.5	1.5	20				
X3	10									
GR	124.7	0	122.5	99	121.4	198	120.5	297	120.5	310
GR	120.2	396	119.9	495	119.9	594	119.6	629	120.8	634
GR	115.3	642	115.3	645	115.3	649	121.3	657	121.0	700
GR	119.5	800	119.2	900	119.6	1000	120.8	1055	114.5	1066
GR	114.5	1075	114.5	1088	121.2	1100	119.0	1200	118.8	1300
GR	119.1	1400	119.4	1500	120.3	1600	120.5	1700	121.9	1800
GR	122.9	1900	123.1	2000	123.8	2100	123.8	2200	124.3	2231
GR	123.5	2300								

X1	6153	36	1053	1098	28	28	28			
CI	-1	110.11	.015	1.35	1.35	20				
X3	10							120	120	
GR	124.7	0	122.5	99	121.4	198	120.5	297	120.5	310
GR	120.2	396	119.9	495	119.9	594	119.6	629	120.8	634
GR	115.3	642	115.3	645	115.3	649	121.3	657	121.0	700
GR	119.5	800	119.2	900	119.6	1000	119.4	1053	114.6	1064
GR	114.6	1075	114.6	1087	119.5	1098	119.0	1200	118.8	1300
GR	119.1	1400	119.4	1500	120.3	1600	120.5	1700	121.9	1800
GR	122.9	1900	123.1	2000	123.8	2100	123.8	2200	124.3	2231
GR	123.5	2300								

MAPLEWOOD DRIVE

X1	6154	36	1053	1098	1	1	1			
CI	-1	110.11	.015	1.35	1.35	20				
X2										
X3	10							120	120	
BT	-36	0	125.0	124.7	99	122.7	122.5	198	121.7	121.4
BT		297	120.5	120.5	310	120.5	120.5	396	120.5	120.2
BT		495	120.4	119.9	594	120.4	119.9	629	120.7	119.6
BT		634	120.8	120.8	642	120.8	115.3	645	120.8	115.3
BT		649	120.8	115.3	657	121.3	121.3	700	121.0	121.0
BT		800	120.7	119.5	900	121.0	119.2	1000	121.4	119.6
BT		1053	121.3	119.4	1053	123.7	119.4	1098	123.7	119.5
BT		1098	121.3	119.5	1098	121.3	119.5	1200	121.2	119.0
BT		1300	120.6	118.8	1400	120.7	119.1	1500	121.1	119.4
BT		1600	121.7	120.3	1700	122.1	120.5	1800	123.3	121.9

BT		1900	123.7	122.9	2000	124.3	123.1	2100	124.7	123.8
BT		2200	124.7	123.8	2231	124.9	124.3	2300	124.5	123.5
GR	124.7	0	122.5	99	121.4	198	120.5	297	120.5	310
GR	120.2	396	119.9	495	119.9	594	119.6	629	120.8	634
GR	115.3	642	115.3	645	115.3	649	121.3	657	121.0	700
GR	119.5	800	119.2	900	119.6	1000	119.4	1053	114.6	1064
GR	114.6	1075	114.6	1087	119.5	1098	119.0	1200	118.8	1300
GR	119.1	1400	119.4	1500	120.3	1600	120.5	1700	121.9	1800
GR	122.9	1900	123.1	2000	123.8	2100	123.8	2200	124.3	2231
GR	123.5	2300								
X1	6182	34	1053	1098	28	28	28			
CI	-1	110.14	.015	1.35	1.35	20				
X2										
X3	10							120.0	120.0	
BT	-33	0	125.0	125.0	99	122.7	122.5	198	121.7	121.7
BT		297	120.5	120.1	396	120.5	120.4	495	120.4	120.1
BT		594	120.4	120.2	608	120.5	120.2	642	120.8	120.0
BT		655	120.8	119.9	700	120.7	119.6	800	120.7	119.8
BT		900	121.0	119.9	1000	121.4	120.3	1053	121.3	119.4
BT		1053	123.7	119.4	1098	123.7	119.5	1098	121.3	119.5
BT		1100	121.3	119.6	1200	121.2	120.1	1300	120.6	119.7
BT		1400	120.7	120.1	1500	121.1	119.9	1600	121.7	120.8
BT		1700	122.1	121.2	1800	123.3	122.7	1806	123.3	122.7
BT		1900	123.7	122.6	2000	124.3	123.1	2100	124.7	123.8
BT		2200	124.7	123.7	2231	124.9	124.5	2300	124.5	123.6
GR	125.0	0	122.5	99	121.7	198	120.1	297	120.4	396
GR	120.1	495	120.2	594	120.2	608	120.0	642	119.9	655
GR	119.6	700	119.8	800	119.9	900	120.3	1000	119.4	1053
GR	114.7	1064	114.7	1075	114.7	1087	119.5	1098	119.6	1100
GR	120.1	1200	119.7	1300	120.1	1400	119.9	1500	120.8	1600
GR	121.2	1700	122.7	1800	122.7	1806	122.6	1900	123.1	2000
GR	123.8	2100	123.7	2200	124.5	2231	123.6	2300		
X1	6183	33	1053	1098	1	1	1			
CI	-1	110.14	.015	1.35	1.35	20				
X3	10							120.4	120.6	
GR	125.0	0	122.5	99	121.7	198	120.1	297	120.4	396
GR	120.1	495	120.2	594	120.2	608	120.0	642	119.6	700
GR	119.8	800	119.9	900	120.3	1000	119.4	1053	114.7	1064
GR	114.7	1075	114.7	1087	119.5	1098	119.6	1100	120.1	1200
GR	119.7	1300	120.1	1400	119.9	1500	120.8	1600	121.2	1700
GR	122.7	1800	122.7	1806	122.6	1900	123.1	2000	123.8	2100
GR	123.7	2200	124.5	2231	123.6	2300				
X1	6208	33	1053	1098	25	25	25			
CI	-1	110.19	.015	1.5	1.5	20				
GR	125.0	0	122.5	99	121.7	198	120.1	297	120.4	396
GR	120.1	495	120.2	594	120.2	608	120.0	642	119.6	700
GR	119.8	800	119.9	900	120.3	1000	119.4	1053	114.7	1064
GR	114.7	1075	114.7	1087	119.5	1098	119.6	1100	120.1	1200
GR	119.7	1300	120.1	1400	119.9	1500	120.8	1600	121.2	1700
GR	122.7	1800	122.7	1806	122.6	1900	123.1	2000	123.8	2100
GR	123.7	2200	124.5	2231	123.6	2300				

QT	1	1260								
X1	10099	25	1581	1600	999	999	999			
CI	1590	117.10	.015	1.5	1.5	12				
GR	129.9	0	128.7	100	127.8	200	127.0	300	126.2	400
GR	126.1	500	125.9	600	125.8	700	126.4	800	127.6	900
GR	128.6	1000	128.4	1100	128.8	1200	128.3	1300	127.8	1400
GR	128.7	1500	129.6	1581	121.5	1586	121.5	1594	129.8	1600
GR	130.2	1605	128.5	1700	128.5	1800	129.2	1900	130.2	2000

DROP STRUCTURE

X1	10100	25	1581	1600	1	1	1			
CI	1590	120.10	.015	1.5	1.5	8				
X3	10									
X5	-2	3.5	3.5							
GR	129.9	0	128.7	100	127.8	200	127.0	300	126.2	400
GR	126.1	500	125.9	600	125.8	700	126.4	800	127.6	900
GR	128.6	1000	128.4	1100	128.8	1200	128.3	1300	127.8	1400
GR	128.7	1500	129.6	1581	121.5	1586	121.5	1594	129.8	1600
GR	130.2	1605	128.5	1700	128.5	1800	129.2	1900	130.2	2000

NC				.3	.5					
X1	10199	25	1581	1600	99	99	99			
CI	1590	120.20	.015	1.5	1.5	8				
X3	10									
GR	129.9	0	128.7	100	127.8	200	127.0	300	126.2	400
GR	126.1	500	125.9	600	125.8	700	126.4	800	127.6	900
GR	128.6	1000	128.4	1100	128.8	1200	128.3	1300	127.8	1400
GR	128.7	1500	129.6	1581	121.5	1586	121.5	1594	129.8	1600
GR	130.2	1605	128.5	1700	128.5	1800	129.2	1900	130.2	2000

LANE LANE - EXISTING BRIDGE REPLACED

X1	10200	29	1581	1600	1	1	1			
CI	1590	120.20	.015	1.5	1.5	8				
X3	10									
GR	129.9	0	128.7	100	127.8	200	127.0	300	126.2	400
GR	126.1	484	126.1	500	125.9	600	125.8	700	126.4	800
GR	127.6	900	128.6	1000	128.4	1100	128.8	1200	128.3	1300
GR	127.9	1374	127.8	1400	128.7	1500	129.6	1581	128.5	1582
GR	121.5	1586	121.5	1594	128.5	1599	129.8	1600	130.2	1605
GR	128.5	1700	128.5	1800	129.2	1900	130.2	2000		

X1	10225	29	1581	1600	25	25	25			
CI	1590	120.22	.015	1.5	1.5	8				
X3	10									
GR	130.4	0	128.7	100	127.5	200	126.6	300	126.2	400
GR	126.5	484	126.5	500	126.3	600	125.6	700	126.8	800
GR	128.0	900	130.2	1000	129.9	1100	130.0	1200	129.3	1300
GR	129.2	1374	129.1	1400	129.9	1500	129.9	1581	128.7	1582
GR	121.7	1586	121.7	1594	128.7	1599	129.8	1600	130.3	1605
GR	129.7	1700	129.3	1800	129.7	1900	130.2	2000		

X1	10226	25	1581	1600	1	1	1			
CI	1590	120.22	.015	1.5	1.5	8				
X3	10									
GR	130.4	0	128.7	100	127.5	200	126.6	300	126.2	400
GR	126.5	500	126.3	600	125.6	700	126.8	800	128.0	900
GR	130.2	1000	129.9	1100	130.0	1200	129.3	1300	129.1	1400
GR	129.9	1500	129.9	1581	121.7	1586	121.7	1594	129.8	1600
GR	130.3	1605	129.7	1700	129.3	1800	129.7	1900	130.2	2000
X1	10300	25	1581	1600	74	74	74			
CI	1590	120.30	.015	1.5	1.5	8				
X3	10									
GR	130.4	0	128.7	100	127.5	200	126.6	300	126.2	400
GR	126.5	500	126.3	600	125.6	700	126.8	800	128.0	900
GR	130.2	1000	129.9	1100	130.0	1200	129.3	1300	129.1	1400
GR	129.9	1500	129.9	1581	121.7	1586	121.7	1594	129.8	1600
GR	130.3	1605	129.7	1700	129.3	1800	129.7	1900	130.2	2000
QT	1	1150								
NC				.1	.3					
X1	10800	23	1573	1606	500	500	500			
CI	1584	120.80	.015	1.5	1.5	8				
X3	10									
GR	130.9	0	130.3	100	129.6	200	129.1	300	129.1	400
GR	129.1	425	128.6	500	128.3	600	128.5	700	128.7	800
GR	128.7	900	129.4	1000	129.6	1100	129.7	1200	130.2	1300
GR	131.1	1369	130.9	1400	131.9	1500	132.0	1573	121.1	1586
GR	121.1	1593	132.3	1606	136.6	1616				
QT	1	1110								
X1	11100	21	1535	1568	300	300	300			
CI	1550	121.10	.015	1.5	1.5	8				
X3	10									
GR	130.2	0	130.5	100	131.1	200	130.4	300	130.3	400
GR	129.7	500	129.8	600	129.6	700	129.6	800	129.8	900
GR	129.8	1000	130.3	1100	129.7	1200	130.2	1300	130.7	1400
GR	131.5	1500	131.6	1535	124.0	1547	124.0	1553	130.6	1568
GR	132.2	1600								
X1	11149	22	1535	1568	49	49	49			
CI	1550	121.15	.015	1.5	1.5	8				
X3	10									
GR	130.2	0	130.5	100	131.1	200	130.6	266	130.4	300
GR	130.3	400	129.7	500	129.8	600	129.6	700	129.6	800
GR	129.8	900	129.8	1000	130.3	1100	129.7	1200	130.2	1300
GR	130.7	1400	131.5	1500	131.6	1535	124.0	1547	124.0	1553
GR	130.6	1568	132.2	1600						

ROBINSON ROAD - EXISTING BRIDGE REPLACED

X1	11150	22	1535	1568	1	1	1			
CI	1550	121.15	.015	1.5	1.5	8				
X3	10									
GR	130.2	0	130.5	100	131.1	200	130.6	266	130.4	300
GR	130.3	400	129.7	500	129.8	600	129.6	700	129.6	800
GR	129.8	900	129.8	1000	130.3	1100	129.7	1200	130.2	1300
GR	130.7	1400	131.5	1500	131.6	1535	124.0	1547	124.0	1553
GR	130.6	1568	132.2	1600						
X1	11215	22	1543	1568	65	65	65			
CI	1556	121.22	.015	1.5	1.5	8				
X3	10									
GR	130.3	0	131.3	100	130.8	200	131.1	266	131.2	300
GR	130.5	400	130.5	500	130.1	600	129.9	700	129.9	800
GR	129.3	900	129.8	1000	130.3	1100	130.1	1200	130.3	1300
GR	130.5	1400	131.4	1500	130.0	1543	124.6	1553	124.6	1559
GR	130.7	1568	132.2	1600						
X1	11216	22	1543	1568	1	1	1			
CI	1556	121.22	.015	1.5	1.5	8				
X3	10									
GR	130.3	0	131.3	100	130.8	200	131.1	266	131.2	300
GR	130.5	400	130.5	500	130.1	600	129.9	700	129.9	800
GR	129.3	900	129.8	1000	130.3	1100	130.1	1200	130.3	1300
GR	130.5	1400	131.4	1500	130.0	1543	124.6	1553	124.6	1559
GR	130.7	1568	132.2	1600						
X1	11250	21	1543	1568	34	34	34			
CI	1556	121.25	.015	1.5	1.5	8				
X3	10									
GR	130.3	0	131.3	100	130.8	200	131.2	300	130.5	400
GR	130.5	500	130.1	600	129.9	700	129.9	800	129.3	900
GR	129.8	1000	130.3	1100	130.1	1200	130.3	1300	130.5	1400
GR	131.4	1500	130.0	1543	124.6	1553	124.6	1559	130.7	1568
GR	132.2	1600								
QT	1	1020								
X1	11750	23	1688	1712	500	500	500			
CI	-1	121.75	.015	1.5	1.5	8				
GR	133.5	0	132.4	100	132.4	200	132.8	300	133.2	400
GR	133.6	500	133.9	600	133.4	700	133.1	800	132.7	900
GR	131.9	1000	131.4	1100	130.9	1161	130.6	1200	130.9	1300
GR	131.2	1400	132.0	1500	131.9	1600	130.8	1688	125.2	1697
GR	125.2	1703	130.2	1712	133.1	1737				
QT	1	950								
X1	12350	24	1721	1745	600	600	600			
CI	-1	122.35	.015	1.5	1.5	8				
GR	136.7	0	136.7	100	136.1	200	136.1	300	137.1	400
GR	137.6	500	137.6	600	137.3	700	136.5	800	136.9	900
GR	137.5	1000	137.7	1100	136.6	1200	135.6	1267	135.1	1300
GR	134.1	1400	133.8	1500	134.6	1600	132.6	1721	125.5	1730

9/ 4/89

8:52: 1

GR 125.5 1736 132.1 1745 133.9 1750 134.4 1771

IHLQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

THIS RUN EXECUTED 9/ 4/89 8:52:32

HEC2 RELEASE DATED SEPT 88

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

A109-03-00

SUMMARY PRINTOUT

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
120.000	3240.00	113.97	114.41	114.99	101.90	3.43	114.15	.00	126.56	.00	30.00	.00
1520.000	2920.00	114.76	115.15	115.51	102.70	3.09	114.91	1400.00	126.51	4.07	30.00	12.94
1574.000	2920.00	114.79	116.27	116.85	102.50	3.08	114.94	54.00	126.75	4.22	30.00	13.93
1636.000	2920.00	114.81	115.15	115.51	102.80	3.11	114.96	50.00	126.13	4.37	30.00	14.82
3528.000	2520.00	115.72	119.01	117.68	104.10	2.84	115.84	1892.00	122.93	9.78	30.00	52.66
3538.000	2520.00	115.72	119.01	117.68	104.10	2.84	115.85	10.00	122.97	9.81	30.00	52.94
* 3543.000	2520.00	115.82	118.81	117.60	107.50	8.30	116.89	5.00	49.24	9.82	24.00	53.02
3553.000	2520.00	115.83	118.81	117.60	107.50	8.29	116.90	10.00	49.26	9.83	24.00	53.07
3921.000	2440.00	116.14	118.80	117.60	107.88	8.11	117.17	368.00	48.79	10.24	24.00	54.86
3961.000	2440.00	116.17	116.84	116.84	107.92	8.13	117.20	40.00	48.76	10.29	24.00	55.03
3962.000	2440.00	116.16	116.80	116.80	107.92	8.18	117.20	1.00	46.00	10.29	.01	55.03
3994.000	2440.00	116.19	116.80	116.80	107.92	8.16	117.23	32.00	46.00	10.32	.01	55.03
3995.000	2440.00	116.23	116.84	116.84	107.92	8.06	117.23	1.00	48.92	10.32	24.00	55.04
4035.000	2440.00	116.25	118.80	117.60	107.99	8.11	117.27	40.00	48.79	10.37	24.00	55.21
4558.000	2330.00	116.65	119.51	118.71	108.52	7.92	117.62	523.00	48.38	10.95	24.00	58.07
4608.000	2330.00	116.68	119.41	119.41	108.57	7.94	117.66	50.00	48.33	11.01	24.00	58.31
4609.000	2330.00	116.71	119.40	119.40	108.57	7.84	117.66	1.00	47.00	11.01	.01	58.31

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
4639.000	2330.00	116.73	119.40	119.40	108.57	7.82	117.68	30.00	47.00	11.04	.01	58.31
4640.000	2330.00	116.73	119.41	119.41	108.57	7.87	117.69	1.00	48.50	11.04	24.00	58.32
* 4690.000	2330.00	117.23	119.50	118.70	108.65	8.26	118.29	50.00	45.74	11.09	20.00	58.52
4740.000	2330.00	117.26	119.50	118.70	108.70	8.28	118.33	50.00	45.69	11.15	20.00	58.72
5868.000	2110.00	118.17	120.71	120.20	109.83	7.79	119.11	1128.00	45.01	12.32	20.00	64.29
6124.000	2070.00	118.35	120.72	121.11	110.08	7.73	119.28	256.00	44.79	12.59	20.00	65.70
6125.000	2070.00	118.35	120.72	121.11	110.08	7.73	119.28	1.00	44.80	12.59	20.00	65.71
6153.000	2070.00	118.32	119.40	119.50	110.11	8.11	119.34	28.00	42.17	12.61	20.00	65.87
6154.000	2070.00	118.32	119.40	119.50	110.11	8.11	119.34	1.00	42.17	12.62	20.00	65.88
6182.000	2070.00	118.34	119.40	119.51	110.14	8.12	119.37	28.00	42.15	12.64	20.00	66.02
6183.000	2070.00	118.34	119.40	119.51	110.14	8.12	119.37	1.00	42.14	12.64	20.00	66.03
6208.000	2070.00	118.50	119.42	119.58	110.19	7.67	119.42	25.00	44.94	12.67	20.00	66.16
6233.000	2070.00	118.51	120.88	119.38	110.24	7.71	119.44	25.00	48.10	12.70	20.00	66.34
7360.000	1780.00	119.37	122.56	121.08	111.32	6.89	120.11	1127.00	44.16	13.89	20.00	76.64
* 7410.000	1780.00	119.87	122.60	121.09	111.37	7.28	120.69	50.00	41.50	13.94	16.00	77.08
8560.000	1530.00	120.66	122.07	122.14	112.52	6.67	121.35	1150.00	40.41	15.02	16.00	86.36
9099.000	1430.00	120.97	124.13	124.20	113.06	6.49	121.63	539.00	39.71	15.51	16.00	91.38
* 9100.000	1430.00	123.47	123.94	124.02	116.10	8.41	124.57	1.00	34.12	15.52	12.00	91.39
10099.000	1260.00	124.63	129.43	130.01	117.10	7.17	125.43	999.00	34.61	16.30	12.00	98.80
* 10100.000	1260.00	128.13	129.50	130.13	120.10	7.83	129.08	1.00	32.09	16.30	8.00	98.81
10199.000	1260.00	128.21	129.50	130.13	120.20	7.86	129.17	99.00	32.03	16.38	8.00	99.19
10200.000	1260.00	128.22	129.50	130.13	120.20	7.85	129.17	1.00	32.04	16.38	8.00	99.19
10225.000	1260.00	128.24	129.90	130.27	120.22	7.84	129.20	25.00	32.06	16.40	8.00	99.29
10226.000	1260.00	128.24	129.90	130.27	120.22	7.84	129.20	1.00	32.07	16.40	8.00	99.30
10300.000	1260.00	128.31	129.90	130.27	120.30	7.86	129.27	74.00	32.03	16.45	8.00	99.59
10800.000	1150.00	129.06	131.99	132.30	120.80	5.93	129.60	500.00	34.62	16.83	8.00	101.42

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8:52: 1

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SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
11100.000	1110.00	129.08	131.59	130.61	121.10	6.96	129.83	300.00	31.95	17.06	8.00	102.44
11149.000	1110.00	129.11	131.59	130.61	121.15	6.99	129.87	49.00	31.88	17.10	8.00	102.61
11150.000	1110.00	129.11	131.59	130.61	121.15	6.99	129.87	1.00	31.89	17.10	8.00	102.61
11215.000	1110.00	129.15	130.14	131.01	121.22	7.02	129.92	65.00	31.82	17.15	8.00	102.85
11216.000	1110.00	129.15	130.14	131.01	121.22	7.03	129.92	1.00	31.81	17.15	8.00	102.85
11250.000	1110.00	129.18	130.14	131.01	121.25	7.04	129.95	34.00	31.79	17.17	8.00	102.99
11750.000	1020.00	129.63	130.87	130.86	121.75	6.53	130.29	500.00	31.64	17.54	8.00	105.00
12350.000	950.00	130.04	132.73	134.01	122.35	6.34	130.66	600.00	31.04	17.97	8.00	107.72

SUMMARY OF ERRORS AND SPECIAL NOTES

NOTE SECNO= 3543.000 PROFILE= 1 WSEL BASED ON X5 CARD
NOTE SECNO= 4690.000 PROFILE= 1 WSEL BASED ON X5 CARD
NOTE SECNO= 7410.000 PROFILE= 1 WSEL BASED ON X5 CARD
NOTE SECNO= 9100.000 PROFILE= 1 WSEL BASED ON X5 CARD
NOTE SECNO= 10100.000 PROFILE= 1 WSEL BASED ON X5 CARD

THIS RUN EXECUTED 9/ 1/89 16:17:24

HEC2 RELEASE DATED SEPT 88

T1 SOUTHERN MONTGOMERY COUNTY FLOOD PROTECTION STUDY
T2 DODSON AND ASSOCIATES, INC. SEPTEMBER, 1989
T3 A110-00-00 SAM BELL GULLY
T4 100-YEAR STORM FREQUENCY EXISTING CONDITIONS
T5 FILENAME = A110RVEX.IH2

J1 ICHECK INQ NINV IDIR STRT METRIC HVINS Q WSEL FQ
2 .0012 96.1
J2 NPROF IPLOT PRFVS XSECV XSECH FN ALLDC IBW CHNIM ITRACE
-1 -1

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

38 43 1 23 24 42 26 3 39 4
37 30 65

J5 LPRNT NUMSEC *****REQUESTED SECTION NUMBERS*****

-10 -10

J6 IHLEQ ICOPY SUBDIV STRIDS RMILE

1

NC	.12	.12	.1	.1	.3					
QT	1	400								
X1	2035	17	789	815						
GR	106	0	105	500	100	585	97.3	590	95	700
GR	94.3	789	88.5	790	87.75	795	87.5	800	88.25	805
GR	92	810	94.5	815	95	900	100.5	1000	100	1200
GR	105	1300	110	1400						
QT	1	250								
X1	4102	24	1088	1115	2067	2067	2067			
GR	105	0	103	690	102	700	103.2	705	103.6	735
GR	102.3	800	99.8	895	97.5	1000	96.7	1088	91.1	1090
GR	90.4	1092	90	1100	90.5	1105	94.6	1112	97	1115
GR	97.6	1200	102.9	1300	105.7	1395	107	1495	104.4	1595
GR	105.6	1690	105.5	1795	105.8	1830	110	2100		

9/ 1/89 16:17:24

PAGE 4

IHLQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

THIS RUN EXECUTED 9/ 1/89 16:17:31

HEC2 RELEASE DATED SEPT 88

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

A110-00-00

SUMMARY PRINTOUT

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
2035.000	400.00	96.06	94.30	94.50	87.50	1.55	96.09	.00	269.91	.00	.01	.00
4102.000	250.00	98.00	96.70	97.00	90.00	1.22	98.02	2067.00	231.12	11.89	.01	.00
4151.000	250.00	98.04	96.50	96.50	90.00	1.13	98.06	49.00	233.75	12.15	.01	.00
* 4152.000	250.00	98.05	96.50	96.50	90.00	1.17	98.06	1.00	233.20	12.15	.01	.00
4177.000	250.00	98.12	96.50	96.50	90.00	1.10	98.13	25.00	238.00	12.29	.01	.00
* 4178.000	250.00	98.12	96.50	96.50	90.00	1.09	98.13	1.00	238.18	12.29	.01	.00
4202.000	250.00	98.13	96.70	97.00	90.00	1.15	98.15	24.00	238.89	12.43	.01	.00
* 5422.000	190.00	99.28	100.40	99.50	91.80	1.38	99.31	1220.00	26.00	16.14	.01	.00
5472.000	190.00	99.34	101.90	101.90	91.80	1.36	99.37	50.00	26.11	16.17	.01	.00
5522.000	190.00	99.40	100.40	99.50	91.80	1.35	99.43	50.00	26.22	16.20	.01	.00
* 6789.000	140.00	101.45	102.90	100.20	94.00	1.55	101.48	1267.00	93.64	17.94	.01	.00
* 8059.000	140.00	102.40	100.50	101.40	98.00	.49	102.40	1270.00	683.48	29.27	.01	.00

SUMMARY OF ERRORS AND SPECIAL NOTES

WARNING SECNO= 4152.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 4178.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 5422.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 6789.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 8059.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

THIS RUN EXECUTED 9/ 4/89 9: 8:16

HEC2 RELEASE DATED SEPT 88

T1 SOUTHERN MONTGOMERY COUNTY FLOOD PROTECTION STUDY
T2 DODSON AND ASSOCIATES, INC. SEPTEMBER, 1989
T3 A110-00-00 SAM BELL GULLY
T4 100-YEAR STORM FREQUENCY ULTIMATE CONDITIONS
T5 FILENAME = A110ULT.IH2

J1 ICHECK INQ NINV IDIR STRT METRIC HVINS Q WSEL FQ
2 .0015 92
J2 NPROF IPLOT PRFVS XSECV XSECH FN ALLDC IBW CHNIM ITRACE
-1 -1

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

38 43 1 23 24 42 26 3 39 4
37 30 65

J5 LPRNT NUMSEC *****REQUESTED SECTION NUMBERS*****

-10 -10

J6 IHLEQ ICOPIY SUBDIV STRTDS RMILE

1

NC .12 .12 .04 .1 .3
QT 1 1700
X1 100 17 789 815
CI -1 82.0 0.04 3 3 10 -2.0
GR 106 0 105 500 100 585 97.3 590 95 700
GR 94.3 789 88.5 790 87.75 795 87.5 800 88.25 805
GR 92 810 94.5 815 95 900 100.5 1000 100 1200
GR 105 1300 110 1400

QT 1 1640
SPRING CREEK DRIVE

X1 600 17 789 815 500 500 500 -1.3
CI -1 82.75 0.04 3 3 10
GR 106 0 105 500 100 585 97.3 590 95 700
GR 94.3 789 88.5 790 87.75 795 87.5 800 88.25 805
GR 92 810 94.5 815 95 900 100.5 1000 100 1200

GR

105

1300

110

1400

X1	660	17	789	815	60	60	60				
CI	-1	82.84	0.04	3	3	10				-1.3	
GR	106	0	105	500	100	585	97.3	590	95	700	
GR	94.3	789	88.5	790	87.75	795	87.5	800	88.25	805	
GR	92	810	94.5	815	95	900	100.5	1000	100	1200	
GR	105	1300	110	1400							
QT	1	1550									
X1	1470	17	789	815	810	810	810				
CI	-1	84.06	0.04	3	3	10					
GR	106	0	105	500	100	585	97.3	590	95	700	
GR	94.3	789	88.5	790	87.75	795	87.5	800	88.25	805	
GR	92	810	94.5	815	95	900	100.5	1000	100	1200	
GR	105	1300	110	1400							
QT	1	1460									
X1	2350	17	789	815	880	880	880			1.3	
CI	-1	85.38	0.04	3	3	10					
GR	106	0	105	500	100	585	97.3	590	95	700	
GR	94.3	789	88.5	790	87.75	795	87.5	800	88.25	805	
GR	92	810	94.5	815	95	900	100.5	1000	100	1200	
GR	105	1300	110	1400							
QT	1	900									
X1	2450	17	789	815	100	100	100			1.3	
CI	-1	85.53	0.04	3	3	6					
GR	106	0	105	500	100	585	97.3	590	95	700	
GR	94.3	789	88.5	790	87.75	795	87.5	800	88.25	805	
GR	92	810	94.5	815	95	900	100.5	1000	100	1200	
GR	105	1300	110	1400							
QT	1	880									
X1	3200	24	1088	1115	750	750	750				
CI	-1	86.65	0.04	3	3	6					
GR	105	0	103	690	102	700	103.2	705	103.6	735	
GR	102.3	800	99.8	895	97.5	1000	96.7	1088	91.1	1090	
GR	90.4	1092	90	1100	90.5	1105	94.6	1112	97	1115	
GR	97.6	1200	102.9	1300	105.7	1395	107	1495	104.4	1595	
GR	105.6	1690	105.5	1795	105.8	1830	110	2100			
DROP STRUCTURE											
X1	3210	24	1088	1115	10	10	10				
CI	-1	88.20	0.04	3	3	6					
GR	105	0	103	690	102	700	103.2	705	103.6	735	
GR	102.3	800	99.8	895	97.5	1000	96.7	1088	91.1	1090	
GR	90.4	1092	90	1100	90.5	1105	94.6	1112	97	1115	
GR	97.6	1200	102.9	1300	105.7	1395	107	1495	104.4	1595	
GR	105.6	1690	105.5	1795	105.8	1830	110	2100			

PLUM CREEK DRIVE

X1	3230	24	1088	1115	20	20	20			
CI	-1	88.23	0.04	3	3	6				
GR	105	0	103	690	102	700	103.2	705	103.6	735
GR	102.3	800	99.8	895	97.5	1000	96.5	1088	91.1	1090
GR	90.4	1092	90	1100	90.5	1105	94.6	1112	96.5	1115
GR	97.6	1200	102.9	1300	105.7	1395	107	1495	104.4	1595
GR	105.6	1690	105.5	1795	105.8	1830	110	2100		
X1	3290	24	1088	1115	60	60	60			
CI	-1	88.32	0.04	3	3	6				
X5	-1	1.1								
GR	105	0	103	690	102	700	103.2	705	103.6	735
GR	102.3	800	99.8	895	97.5	1000	96.5	1088	91.1	1090
GR	90.4	1092	90	1100	90.5	1105	94.6	1112	96.5	1115
GR	97.6	1200	102.9	1300	105.7	1395	107	1495	104.4	1595
GR	105.6	1690	105.5	1795	105.8	1830	110	2100		
X1	3310	24	1088	1115	20	20	20			
CI	-1	88.35	0.04	3	3	6				
GR	105	0	103	690	102	700	103.2	705	103.6	735
GR	102.3	800	99.8	895	97.5	1000	96.7	1088	91.1	1090
GR	90.4	1092	90	1100	90.5	1105	94.6	1112	97	1115
GR	97.6	1200	102.9	1300	105.7	1395	107	1495	104.4	1595
GR	105.6	1690	105.5	1795	105.8	1830	110	2100		
QT	1	450								
X1	4570	24	885	912	1260	1260	1260			
CI	-1	90.24	0.04	3	3	6				
GR	105	0	104.6	620	103.5	630	105	650	103.2	682
GR	103.6	710	101.2	810	100.4	885	93	890	91.8	900
GR	93	905	99.5	912	99.6	1018	100.1	1115	100.5	1155
GR	99.8	1160	101.2	1175	101.7	1195	99.9	1210	103.3	1215
GR	105	1250	110	1400	115	2400	115	4000		
DROP STRUCTURE										
X1	4580	24	885	912	10	10	10			
CI	-1	91.8	0.04	3	3	6				
GR	105	0	104.6	620	103.5	630	105	650	103.2	682
GR	103.6	710	101.2	810	100.4	885	93	890	91.8	900
GR	93	905	99.5	912	99.6	1018	100.1	1115	100.5	1155
GR	99.8	1160	101.2	1175	101.7	1195	99.9	1210	103.3	1215
GR	105	1250	110	1400	115	2400	115	4000		
UNNAMED ROAD										
X1	4600	20	885	912	20	20	20			
CI	-1	-1	0.04	3	3	6				
GR	105	0	104.6	620	103.5	630	105	650	103.2	682
GR	103.6	710	101.9	781	101.9	885	100.4	885	93	890
GR	91.8	900	93	905	99.5	912	101.9	912	101.9	1213
GR	103.3	1215	105	1250	110	1400	115	2400	115	4000

9/ 4/89

9: 8:16

PAGE 5

IHLEQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

THIS RUN EXECUTED 9/ 4/89 9: 8:27

HEC2 RELEASE DATED SEPT 88

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

A110-00-00

SUMMARY PRINTOUT

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
100.000	1700.00	91.76	92.48	92.64	82.00	4.43	92.07	.00	68.59	.00	10.00	.00
600.000	1640.00	92.52	93.18	93.34	82.75	4.27	92.80	500.00	68.65	.79	10.00	5.60
660.000	1640.00	92.60	93.18	93.34	82.84	4.27	92.89	60.00	68.61	.88	10.00	6.26
1470.000	1550.00	93.73	94.48	94.64	84.06	4.10	93.99	810.00	68.08	2.15	10.00	15.17
2350.000	1460.00	94.89	95.78	95.94	85.38	3.99	95.13	880.00	67.04	3.52	10.00	24.92
2450.000	900.00	95.12	95.76	95.92	85.53	2.70	95.23	100.00	63.52	3.67	6.00	25.93
3200.000	880.00	95.64	96.88	97.15	86.65	2.97	95.77	750.00	59.91	4.73	6.00	32.67
* 3210.000	880.00	95.55	96.84	97.11	88.20	4.27	95.83	10.00	50.09	4.74	6.00	32.74
3230.000	880.00	95.59	96.67	96.69	88.23	4.26	95.87	20.00	50.13	4.77	6.00	32.84
* 3290.000	880.00	96.69	96.67	96.69	88.32	3.38	96.87	60.00	58.72	4.84	6.00	33.12
3310.000	880.00	96.71	96.84	97.11	88.35	3.37	96.89	20.00	56.25	4.87	6.00	33.22
4570.000	450.00	97.72	100.62	99.52	90.24	2.12	97.79	1260.00	50.87	6.42	6.00	40.71
* 4580.000	450.00	97.67	100.57	99.51	91.80	3.22	97.83	10.00	41.22	6.43	6.00	40.76
4600.000	450.00	97.70	101.90	101.90	91.80	3.20	97.86	20.00	41.38	6.45	6.00	40.85
* 4660.000	450.00	99.30	101.90	101.90	91.80	2.09	99.37	60.00	51.02	6.51	6.00	41.21
4680.000	450.00	99.31	100.57	99.51	91.80	2.08	99.38	20.00	51.14	6.53	6.00	41.30
* 5910.000	230.00	99.89	103.11	101.12	94.00	1.65	99.94	1230.00	41.37	7.84	6.00	47.05

9/ 4/89

9: 8:16

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	SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
*	7210.000	120.00	100.49	100.53	101.31	96.20	1.49	100.52	1300.00	31.70	8.93	6.00	52.51

SUMMARY OF ERRORS AND SPECIAL NOTES

WARNING SECNO= 3210.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

NOTE SECNO= 3290.000 PROFILE= 1 WSEL BASED ON X5 CARD

WARNING SECNO= 4580.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

NOTE SECNO= 4660.000 PROFILE= 1 WSEL BASED ON X5 CARD

WARNING SECNO= 4660.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 5910.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 7210.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

THIS RUN EXECUTED 9/ 1/89 16:15:39

 HEC2 RELEASE DATED SEPT 88

T1 SOUTHERN MONTGOMERY COUNTY FLOOD PROTECTION STUDY
 T2 DODSON AND ASSOCIATES, INC. SEPTEMBER, 1989
 T3 A111-00-00 DD 6 CHANNEL II
 T4 100-YEAR STORM FREQUENCY EXISTING CONDITIONS
 T5 FILENAME = A111RVEX.IH2

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
		2			.0048				81.2	
J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	-1		-1							

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

38	43	1	23	24	42	26	3	39	4
37	30	65							

J5 LPRNT NUMSEC *****REQUESTED SECTION NUMBERS*****

-10 -10

J6 IHLEQ ICOPY SUBDIV STRTDS RMILE

1

NC	.15	.15	.08	.1	.3					
QT	1	1060								
X1	80	10	9962	10026	80	80	80			
GR	90.8	9841	87.7	9941	85.2	9962	75.3	9978	74.7	9990
GR	73.6	10000	75.3	10010	81.3	10023	85.1	10026	91.5	10049
X1	126	14	9965	10057	46	46	46			
GR	90.3	9715	90.5	9765	90.7	9815	90.5	9865	91.4	9915
GR	89.7	9965	74.6	9983	75.1	9989	74.2	10000	74.4	10011
GR	78.6	10019	86.9	10033	91.2	10057	92.8	10107		
X1	220	12	9953	10024	94	94	94			
GR	91.6	9929	90.3	9935	91.2	9941	89.1	9953	78.3	9964
GR	77.9	9990	74.9	9993	74.4	10000	75.4	10007	87.5	10024
GR	90.5	10039	90.8	10089						

X1	505	13	9973	10025	285	285	285			
GR	87.1	9944	84.5	9955	86	9961	85.7	9973	83.9	9982
GR	78.3	9990	77.1	9995	75.7	10000	76.5	10005	84.4	10017
GR	86.2	10025	85	10043	85.8	10053				
NC				.3	.5					
NH	5	.15	9974	.015	9995.3	.024	10004.7	.015	10026	.15
NH	10326									
QT	1	1010								
X1	599	24	9995.3	10004.7	94	94	94			
X3	10									
GR	93.6	9724	92	9774	91.1	9824	89.9	84.5	84.5	
GR	87.9	9974	79.82	9995.3	78.24	9996	77.65	9874	88.4	9924
GR	77.24	9999	77.19	10000	77.24	10001	77.39	9997	77.39	9998
GR	78.24	10004	79.82	10004.7	88.0	10026	90.7	10002	77.65	10003
GR	91.3	10176	91.2	10226	91.5	10276	91.6	10076	90.9	10126
								10326		
NH	5	.15	9974	.015	9995.3	.024	10004.7	.015	10026	.15
NH	10326									
LOW WATER CROSSING										
X1	600				1	1	1			
X3	10									
BT	-24	9724	93.6	93.6	9774	92	92	84.5	84.5	
BT		9874	89.9	89.9	9924	88.4	88.4	9824	91.1	91.1
BT		9995.3	85.6	79.82	9996	85.6	81.31	9974	87.9	87.9
BT		9998	85.6	83.01	9999	85.6	83.34	9997	85.6	82.39
BT		10001	85.6	83.34	10002	85.6	83.01	10000	85.6	83.44
BT		10004	85.6	81.31	10004.7	85.6	79.82	10003	85.6	82.39
BT		10076	90.7	90.7	10126	90.9	90.9	10026	88.0	88.0
BT		10226	91.2	91.2	10276	91.5	91.5	10176	91.3	91.3
								10326	91.6	91.6
NH	5	.15	9974	.015	9995.3	.024	10004.7	.015	10026	.15
NH	10326									
X1	631				31	31	31			
X2										
X3	10									
								85.6	85.6	
NH	5	.15	9974	.015	9995.3	.024	10004.7	.015	10026	.15
NH	10326									
X1	632				1	1	1			
X3	10									
								85.6	85.6	
NC	.15	.15	.08							
X1	682	19	9973	10025	50	50	50			
GR	93.6	9724	92	9774	91.1	9824	89.9	9874	88.4	9924
GR	87.4	9973	85.6	9982	80.0	9990	78.8	9995	77.4	10000
GR	78.2	10005	86.1	10017	87.9	10025	90.7	10076	90.9	10126
GR	91.3	10176	91.2	10226	91.5	10276	91.6	10326		

NC				.1		.3					
X1	1690	12	9969	10027		1076	1076	1076			
GR	94.6	9951	93.2	9961		93.9	9969	92.6	9976	86.1	9983
GR	82.3	9996	81.7	10000		82.3	10004	85.7	10010	90.7	10015
GR	93.5	10027	93.7	10043							
NC			.015		.3		.5				
	BEGIN SLOPING DROP										
X1	1860	11	9979	10020.5		170	170	170			
GR	105	9730	94.6	9951		95.1	9979	90.4	9993	87.4	9997.5
GR	87.4	10002	90.4	10006.5		95.1	10020.5	93.7	10043	95	10300
GR	100	10480									
X1	1880	11	9982	10017.5		20	20	20			
GR	105	9730	94.6	9951		95.1	9982	90.7	9993	87.5	9997.5
GR	87.5	10002	90.7	10006.5		95.1	10017.5	93.7	10043	95	10300
GR	100	10480									
X1	1886	14	9983	10016.5		6	6	6			
GR	105	9730	95.9	9928		95.2	9962	95.1	9983	92.1	9993
GR	89.1	9997.5	89.1	10002		92.1	10006.5	95.1	10016.5	95.8	10044
GR	95.2	10064	96.1	10094		95	10300	100	10480		
X1	1896	14	9983	10016.5		10	10	10			
GR	105	9730	95.9	9928		95.2	9962	95.1	9983	92.1	9993
GR	89.1	9997.5	89.1	10002		92.1	10006.5	95.1	10016.5	95.8	10044
GR	95.2	10064	96.1	10094		95	10300	100	10480		
NC			.08		.1		.3				
QT	1	940									
X1	1950	16	9973	10020		54	54	54			
GR	105	9730	95.9	9928		95.2	9962	96.2	9973	92.4	9987
GR	91.9	9992	90.2	9996		88.1	10000	90.5	10004	91.8	10008
GR	95.5	10020	95.8	10044		95.2	10064	96.1	10094	95	10300
GR	100	10480									
X1	2650	15	9979	10024		700	700	700			
GR	104	9913	100.8	9925		98.9	9955	99.7	9979	95.6	9993
GR	92.9	9997	92.3	10000		92.9	10003	95.8	10010	99.5	10024
GR	98.2	10040	98.8	10065		100	10165	100	10365	105	10435
NC				.3		.5					
NH	5	.15	9977	.015	9994.5	.024	10005.5	.015	10023		.15
NH	10435										
X1	2689	51	9977	10023		39	39	39			
X3	10										
GR	104	9913	100.8	9925		98.9	9955	99.5	9977	96.1	96.1
GR	94.2	9994.5	93.81	9994.55		93.45	9994.7	93.14	9994.94	97.1	9992
GR	92.75	9995.61	92.7	9996		92.75	9996.39	92.9	9996.75	92.9	9995.25
GR	93.45	9997.3	93.81	9997.45		94.2	9997.5	94.2	9998.5	93.14	9997.06
GR	93.45	9998.7	93.14	9998.94		92.9	9999.25	92.75	9999.61	93.81	9998.55
GR	92.75	10000.39	92.9	10000.75		93.14	10001.06	93.45	10001.3	92.7	10000
GR	94.2	10001.5	94.2	10002.5		93.81	10002.55	93.45	10002.7	93.81	10001.45
										93.14	10002.94

QT	1	810								
X1	4530	17	9960	10045	980	980	980			
GR	110	8199	104.4	9549	104.9	9649	105.3	9749	105.8	9849
GR	105.5	9949	106.4	9960	96.7	9993	95.5	10000	96.3	10007
GR	107	10045	105.2	10065	106.8	10079	108.1	10179	108.7	10279
GR	108.1	10379	107.4	10479						
NC			.015	.3	.5					
	RICHARD ROAD									
X1	4574	17	9949	10045	44	44	44			
X3	10									
GR	110	8199	104.4	9549	104.9	9649	105.3	102.0	102.4	
GR	106.6	9949	99.6	9992	94.6	9992	94.6	9749	105.8	9849
GR	106.2	10045	105.2	10065	106.8	10079	108.1	10009	99.6	10009
GR	108.1	10379	107.4	10479				10179	108.7	10279
SB	1.25	1.56	3.0		17	1	80	.01	94.6	94.6
X1	4619				45	45	45			
X2			1	99.6	104.4					
X3	10									
BT	-13	9549	104.4	0	9649	104.9	0	104.4	105.2	
BT		9849	105.8	0	9949	106.6	0	9749	105.3	0
BT		10045	106.2	0	10065	105.2	0	10000	106.2	0
BT		10179	108.1	0	10279	108.7	0	10079	106.8	0
BT		10479	107.4	0			0	10379	108.1	0
X1	4660	17	9960	10045	41	41	41			
GR	110	8199	104.4	9549	104.9	9649	105.3	9749	105.8	9849
GR	105.5	9949	106.4	9960	96.7	9993	95.5	10000	96.3	10007
GR	107	10045	105.2	10065	106.8	10079	108.1	10179	108.7	10279
GR	108.1	10379	107.4	10479						
NC			.04	.1	.3					
QT	1	760								
X1	5750	17	9959	10047	1090	1090	1090			
GR	105.9	9695	107	9745	106.9	9795	110	9845	107.9	9895
GR	107.2	9945	106.3	9950	108.2	9959	97.2	9994	96.5	10000
GR	97.1	10006	110.1	10047	107.8	10064	108.5	10079	109.9	10129
GR	110	10179	111.5	10229						
NC			.03	.3	.5					
X1	5947	18	9959	10047	197	197	197			
GR	105.9	9695	107	9745	106.9	9795	110	9845	107.9	9895
GR	107.2	9945	106.3	9950	108.2	9959	102	9980	96	9998
GR	96	10002	102	10020	110.1	10047	107.8	10064	108.5	10079
GR	109.9	10129	110	10179	111.5	10229				
X1	5969	18	9959	10047	22	22	22			
GR	105.9	9695	107	9745	106.9	9795	110	9845	107.9	9895
GR	107.2	9945	106.3	9950	108.2	9959	102	9980	96	9998
GR	96	10002	102	10020	110.1	10047	107.8	10064	108.5	10079
GR	109.9	10129	110	10179	111.5	10229				

BEGIN SLOPING DROP

X1	5976	9	9970	10026	7	7	7			
GR	109.4	9902	110.2	9962	110.6	9970	103.7	9984	99	9998
GR	99	10002	103.7	10016	107.9	10026	112.2	10063		
X1	5997	9	9970	10026	21	21	21			
GR	109.4	9902	110.2	9962	110.6	9970	103.7	9984	99	9998
GR	99	10002	103.7	10016	107.9	10026	112.2	10063		
NC			.04	.1	.3					
QT	1	730								
X1	6400	8	9970	10026	403	403	403			
GR	109.4	9902	110.2	9962	110.6	9970	102	9994	100.4	10000
GR	101.6	10006	107.9	10026	112.2	10063				

IHQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

THIS RUN EXECUTED 9/ 1/89 16:16:21

 HEC2 RELEASE DATED SEPT 88

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

A111-00-00

SUMMARY PRINTOUT

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
80.000	1060.00	81.31	85.20	85.10	73.60	3.73	81.52	.00	54.71	.00	.01	.00
126.000	1060.00	81.52	89.70	91.20	74.20	3.91	81.76	46.00	49.20	.05	.01	.00
220.000	1060.00	82.07	89.10	87.50	74.40	4.07	82.32	94.00	56.20	.17	.01	.00
505.000	1060.00	84.50	85.70	86.20	75.70	5.49	84.97	285.00	38.42	.48	.01	.00
* 599.000	1010.00	84.53	79.82	79.82	77.19	8.75	85.60	94.00	34.13	.56	.01	.00
* 600.000	1010.00	88.25	79.82	79.82	77.19	6.71	89.09	1.00	91.95	.56	.01	.00
* 631.000	1010.00	88.97	79.82	79.82	77.19	4.44	89.32	31.00	139.01	.64	.01	.00
* 632.000	1010.00	89.30	79.82	79.82	77.19	2.80	89.39	1.00	156.15	.64	.01	.00
* 682.000	1010.00	89.34	87.40	87.90	77.40	2.77	89.46	50.00	158.88	.82	.01	.00
1690.000	1010.00	92.35	93.90	93.50	81.70	3.52	92.54	1076.00	45.83	3.35	.01	.00
* 1860.000	1010.00	93.62	95.10	95.10	87.40	9.98	95.16	170.00	32.66	3.51	.01	.00
* 1880.000	1010.00	93.94	95.10	95.10	87.50	10.20	95.56	20.00	82.52	3.53	.01	.00
* 1886.000	1010.00	95.31	95.10	95.10	89.10	9.63	96.75	6.00	145.55	3.55	.01	.00
* 1896.000	1010.00	96.35	95.10	95.10	89.10	6.70	97.00	10.00	430.51	3.61	.01	.00
* 1950.000	940.00	97.07	96.20	95.50	88.10	2.60	97.14	54.00	472.00	4.17	.01	.00
* 2650.000	940.00	100.35	99.70	99.50	92.30	3.83	100.52	700.00	437.75	11.48	.01	.00
* 2689.000	940.00	100.30	99.50	99.50	92.70	5.37	100.71	39.00	436.25	11.87	.01	.00

	SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
*	2690.000	940.00	100.25	99.50	99.50	92.70	6.02	100.75	1.00	434.96	11.88	.01	.00
	2711.000	940.00	100.40	99.50	99.50	92.70	5.60	100.82	21.00	439.41	12.10	.01	.00
*	2712.000	940.00	100.50	99.50	99.50	92.70	4.95	100.84	1.00	442.44	12.11	.01	.00
	2762.000	940.00	100.82	99.70	99.50	92.30	3.37	100.95	50.00	451.66	12.62	.01	.00
	3550.000	860.00	101.87	104.40	102.10	93.70	3.62	102.07	788.00	243.78	18.91	.01	.00
	4530.000	810.00	103.20	106.40	107.00	95.50	3.15	103.35	980.00	60.62	22.33	.01	.00
*	4574.000	810.00	103.19	106.60	106.20	94.60	3.67	103.40	44.00	58.67	22.39	.01	.00
*	4619.000	810.00	105.03	106.60	106.20	94.60	2.31	105.11	45.00	362.69	22.61	.01	.00
	4660.000	810.00	105.05	106.40	107.00	95.50	2.12	105.12	41.00	362.94	22.95	.01	.00
*	5750.000	760.00	105.35	108.20	110.10	96.50	2.41	105.44	1090.00	63.94	28.29	.01	.00
	5947.000	760.00	105.43	108.20	110.10	96.00	2.47	105.52	197.00	62.96	28.58	.01	.00
	5969.000	760.00	105.43	108.20	110.10	96.00	2.46	105.53	22.00	63.08	28.61	.01	.00
*	5976.000	760.00	105.26	110.60	107.90	99.00	5.43	105.72	7.00	38.89	28.62	.01	.00
	5997.000	760.00	105.33	110.60	107.90	99.00	5.33	105.77	21.00	39.20	28.64	.01	.00
*	6400.000	730.00	106.65	110.60	107.90	100.40	5.31	107.09	403.00	41.06	29.01	.01	.00

SUMMARY OF ERRORS AND SPECIAL NOTES

WARNING SECNO= 599.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO= 600.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 600.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 600.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL

WARNING SECNO= 631.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 632.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 682.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO= 1860.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 1860.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 1860.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 1880.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 1880.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 1880.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 1886.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 1886.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 1886.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 1896.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL
WARNING SECNO= 1896.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 1950.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 2650.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 2689.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 2690.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 2712.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 4574.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 4619.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 5750.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 5976.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 6400.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

THIS RUN EXECUTED 9/ 4/89 9: 9:35

HEC2 RELEASE DATED SEPT 88

T1 SOUTHERN MONTGOMERY COUNTY FLOOD PROTECTION STUDY
 T2 DODSON AND ASSOCIATES, INC. SEPTEMBER, 1989
 T3 A111-00-00 DD 6 CHANNEL II
 T4 100-YEAR STORM FREQUENCY ULTIMATE CONDITIONS
 T5 FILENAME = A111ULT.IH2

J1 ICHECK INQ NINV IDIR STRT METRIC HVINS Q WSEL FQ
 2 .001 85
 J2 NPROF IPLOT PRFVS XSECV XSECH FN ALLDC IBW CHNIM ITRACE
 -1 -1

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

38 43 1 23 24 42 26 3 39 4
 37 30 65

J5 LPRNT NUMSEC *****REQUESTED SECTION NUMBERS*****

-10 -10

J6 IHLEQ ICOPY SUBDIV STRTDS RMILE

1

NC	.15	.15	.05	.1	.3					
QT	1	1900								
X1	80	10	9962	10026	80	80	80			
GR	90.8	9841	87.7	9941	85.2	9962	75.3	9978	74.7	9990
GR	73.6	10000	75.3	10010	81.3	10023	85.1	10026	91.5	10049
X1	126	14	9965	10057	46	46	46			
GR	90.3	9715	90.5	9765	90.7	9815	90.5	9865	91.4	9915
GR	89.7	9965	74.6	9983	75.1	9989	74.2	10000	74.4	10011
GR	78.6	10019	86.9	10033	91.2	10057	92.8	10107		
X1	220	12	9953	10024	94	94	94			
GR	91.6	9929	90.3	9935	91.2	9941	89.1	9953	78.3	9964
GR	77.9	9990	74.9	9993	74.4	10000	75.4	10007	87.5	10024
GR	90.5	10039	90.8	10089						

NC	.15	.15	.04	.1	.3					
X1	270	12	9953	10024	50	50	50			
CI	10000	-1	0.04	3	3	-10				
GR	91.6	9929	90.3	9935	91.2	9941	89.1	9953	78.3	9964
GR	77.9	9990	74.9	9993	74.4	10000	75.4	10007	87.5	10024
GR	90.5	10039	90.8	10089						
QT	1	1830								
X1	505	13	9973	10025	235	235	235			
CI	10000	74.69	0.04	3	3	10				
GR	87.1	9944	84.5	9955	86	9961	85.7	9973	83.9	9982
GR	78.3	9990	77.1	9995	75.7	10000	76.5	10005	84.4	10017
GR	86.2	10025	85	10043	85.8	10053				

SPRING CREEK DRIVE

X1	585	24	9974	10026	80	80	80			
CI	-1	74.77	0.04	3	3	10				
GR	93.6	9724	92	9774	91.1	9824	89.9	9874	88.4	9924
GR	87.9	9974	79.82	9995.3	78.24	9996	77.65	9997	77.39	9998
GR	77.24	9999	77.19	10000	77.24	10001	77.39	10002	77.65	10003
GR	78.24	10004	79.82	10004.7	88.0	10026	90.7	10076	90.9	10126
GR	91.3	10176	91.2	10226	91.5	10276	91.6	10326		

X1	645	24	9974	10026	60	60	60			
CI	-1	74.83	0.04	3	3	10				
X5	-1	1.9								
GR	93.6	9724	92	9774	91.1	9824	89.9	9874	88.4	9924
GR	87.9	9974	79.82	9995.3	78.24	9996	77.65	9997	77.39	9998
GR	77.24	9999	77.19	10000	77.24	10001	77.39	10002	77.65	10003
GR	78.24	10004	79.82	10004.7	88.0	10026	90.7	10076	90.9	10126
GR	91.3	10176	91.2	10226	91.5	10276	91.6	10326		

X1	682	19	9973	10025	37	37	37			
CI	-1	74.86	0.04	3	3	10				
GR	93.6	9724	92	9774	91.1	9824	89.9	9874	88.4	9924
GR	87.4	9973	85.6	9982	80.0	9990	78.8	9995	77.4	10000
GR	78.2	10005	86.1	10017	87.9	10025	90.7	10076	90.9	10126
GR	91.3	10176	91.2	10226	91.5	10276	91.6	10326		

QT	1	1750								
X1	1100	19	9973	10025	418	418	418		1.7	
CI	-1	75.28	0.04	3	3	10				
GR	93.6	9724	92	9774	91.1	9824	89.9	9874	88.4	9924
GR	87.4	9973	85.6	9982	80.0	9990	78.8	9995	77.4	10000
GR	78.2	10005	86.1	10017	87.9	10025	90.7	10076	90.9	10126
GR	91.3	10176	91.2	10226	91.5	10276	91.6	10326		

DROP STRUCTURE

X1	1101	19	9973	10025	1	1	1		1.7	
CI	-1	78.3	0.04	3	3	10				
X5	-1	1.5								
GR	93.6	9724	92	9774	91.1	9824	89.9	9874	88.4	9924
GR	87.4	9973	85.6	9982	80.0	9990	78.8	9995	77.4	10000

GR	78.2	10005	86.1	10017	87.9	10025	90.7	10076	90.9	10126
GR	91.3	10176	91.2	10226	91.5	10276	91.6	10326		
QT	1	1660								
X1	1690	14	9969	10027	589	589	589			
CI	-1	78.89	0.04	3	3	10				
GR	94.6	9900	94.6	9951	93.2	9961	93.9	9969	92.6	9976
GR	86.1	9983	82.3	9996	81.7	10000	82.3	10004	85.7	10010
GR	90.7	10015	93.5	10027	93.7	10043	93.7	10100		
X1	1860	11	9979	10020.5	170	170	170			
CI	-1	79.06	0.04	3	3	10				
GR	105	9730	94.6	9951	95.1	9979	90.4	9993	87.4	9997.5
GR	87.4	10002	90.4	10006.5	95.1	10020.5	93.7	10043	95	10300
GR	100	10480								
X1	1880	11	9982	10017.5	20	20	20			
CI	-1	79.08	0.04	3	3	10				
GR	105	9730	94.6	9951	95.1	9982	90.7	9993	87.5	9997.5
GR	87.5	10002	90.7	10006.5	95.1	10017.5	93.7	10043	95	10300
GR	100	10480								
DROP STRUCTURE										
X1	1886	14	9983	10016.5	6	6	6			
CI	-1	83.1	0.04	3	3	10				
X5	-1	4.5								
GR	105	9730	95.9	9928	95.2	9962	95.1	9983	92.1	9993
GR	89.1	9997.5	89.1	10002	92.1	10006.5	95.1	10016.5	95.8	10044
GR	95.2	10064	96.1	10094	95	10300	100	10480		
X1	1896	14	9983	10016.5	10	10	10			
CI	-1	83.11	0.04	3	3	10				
GR	105	9730	95.9	9928	95.2	9962	95.1	9983	92.1	9993
GR	89.1	9997.5	89.1	10002	92.1	10006.5	95.1	10016.5	95.8	10044
GR	95.2	10064	96.1	10094	95	10300	100	10480		
QT	1	1630								
X1	1950	16	9973	10020	54	54	54			
CI	-1	83.16	0.04	3	3	10				
GR	105	9730	95.9	9928	95.2	9962	96.2	9973	92.4	9987
GR	91.9	9992	90.2	9996	88.1	10000	90.5	10004	91.8	10008
GR	95.5	10020	95.8	10044	95.2	10064	96.1	10094	95	10300
GR	100	10480								
QT	1	1540								
X1	2650	15	9979	10024	700	700	700			
CI	-1	83.86	0.04	3	3	10				
GR	104	9913	100.8	9925	98.9	9955	99.7	9979	95.6	9993
GR	92.9	9997	92.3	10000	92.9	10003	95.8	10010	99.5	10024
GR	98.2	10040	98.8	10065	100	10165	100	10365	105	10435

DROP STRUCTURE

X1	3551	21	9964	10033	1	1	1			
CI	-1	90.80	0.04	3	3	10				
X5	-1	2.8								
GR	109.8	9816	106.5	9866	105.2	9916	103.6	9951	104.4	9964
GR	95.3	9996	93.7	10000	95.1	10004	102.1	10033	101.4	10040
GR	101.6	10066	101.2	10116	101.2	10166	101.8	10216	102.6	10266
GR	103.4	10316	104.4	10366	104.7	10416	105.3	10466	105.7	10516
GR	106.3	10566								

QT	1	1320								
X1	4530	17	9960	10045	979	979	979			
CI	-1	91.78	0.04	3	3	10				
GR	110	8199	104.4	9549	104.9	9649	105.3	9749	105.8	9849
GR	105.5	9949	106.4	9960	96.7	9993	95.5	10000	96.3	10007
GR	107	10045	105.2	10065	106.8	10079	108.1	10179	108.7	10279
GR	108.1	10379	107.4	10479						

DROP STRUCTURE

X1	4531	17	9960	10045	1	1	1			
CI	10000	94.6	0.04	3	3	10				
GR	110	8199	104.4	9549	104.9	9649	105.3	9749	105.8	9849
GR	105.5	9949	106.4	9960	96.7	9993	95.5	10000	96.3	10007
GR	107	10045	105.2	10065	106.8	10079	108.1	10179	108.7	10279
GR	108.1	10379	107.4	10479						

NC			.015	.3	.5					
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RICHARD ROAD

X1	4574	17	9949	10045	44	44	44			
CI						.01				
X3	10									
GR	110	8199	104.4	9549	104.9	9649	105.3	102.0	102.4	
GR	106.6	9949	99.6	9992	94.6	9992	94.6	9749	105.8	9849
GR	106.2	10045	105.2	10065	106.8	10079	108.1	10009	99.6	10009
GR	108.1	10379	107.4	10479				10179	108.7	10279

SB	1.25	1.56	3.0		26	2	120	0	94.6	94.6
X1	4619				45	45	45			
X2			1	99.6	104.4					
X3	10									
BT	-13	9549	104.4	0	9649	104.9	0	104.4	105.2	
BT		9849	105.8	0	9949	106.6	0	9749	105.3	0
BT		10045	106.2	0	10065	105.2	0	10000	106.2	0
BT		10179	108.1	0	10279	108.7	0	10079	106.8	0
BT		10479	107.4	0			0	10379	108.1	0

X1	4660	17	9960	10045	41	41	41			
CI	10000	94.64	0.04	3	3	10				
GR	110	8199	104.4	9549	104.9	9649	105.3	9749	105.8	9849
GR	105.5	9949	106.4	9960	96.7	9993	95.5	10000	96.3	10007
GR	107	10045	105.2	10065	106.8	10079	108.1	10179	108.7	10279
GR	108.1	10379	107.4	10479						

NC			.04	.1	.3					
QT	1	1190								
X1	5750	17	9959	10047	1090	1090	1090			
CI	10000	95.77	0.04	3	3	10				
GR	105.9	9695	107	9745	106.9	9795	110	9845	107.9	9895
GR	107.2	9945	106.3	9950	108.2	9959	97.2	9994	96.5	10000
GR	97.1	10006	110.1	10047	107.8	10064	108.5	10079	109.9	10129
GR	110	10179	111.5	10229						
X1	5947	18	9959	10047	197	197	197			
CI	10000	95.98	0.04	3	3	10				
GR	105.9	9695	107	9745	106.9	9795	110	9845	107.9	9895
GR	107.2	9945	106.3	9950	108.2	9959	102	9980	96	9998
GR	96	10002	102	10020	110.1	10047	107.8	10064	108.5	10079
GR	109.9	10129	110	10179	111.5	10229				
X1	5969	18	9959	10047	22	22	22			
CI	10000	96.00	0.04	3	3	10				
GR	105.9	9695	107	9745	106.9	9795	110	9845	107.9	9895
GR	107.2	9945	106.3	9950	108.2	9959	102	9980	96	9998
GR	96	10002	102	10020	110.1	10047	107.8	10064	108.5	10079
GR	109.9	10129	110	10179	111.5	10229				
DROP STRUCTURE										
X1	5976	9	9970	10026	7	7	7			
CI	10000	99.00	0.04	3	3	10				
X5	-1	3.0								
GR	109.4	9902	110.2	9962	110.6	9970	103.7	9984	99	9998
GR	99	10002	103.7	10016	107.9	10026	112.2	10063		
X1	5997	9	9970	10026	21	21	21			
CI	10000	99.02	0.04	3	3	10				
GR	109.4	9902	110.2	9962	110.6	9970	103.7	9984	99	9998
GR	99	10002	103.7	10016	107.9	10026	112.2	10063		
QT	1	1130								
X1	6400	8	9970	10026	403	403	403			
CI	10000	99.42	0.04	3	3	10				
GR	109.4	9902	110.2	9962	110.6	9970	102	9994	100.4	10000
GR	101.6	10006	107.9	10026	112.2	10063				

IHLQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

THIS RUN EXECUTED 9/ 4/89 9: 9:54

 HEC2 RELEASE DATED SEPT 88

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

A111-00-00

SUMMARY PRINTOUT

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
80.000	1900.00	85.34	85.20	85.10	73.60	3.62	85.54	.00	66.05	.00	.01	.00
126.000	1900.00	85.37	89.70	91.20	74.20	3.95	85.61	46.00	60.25	.07	.01	.00
220.000	1900.00	85.49	89.10	87.50	74.40	4.07	85.75	94.00	64.48	.20	.01	.00
270.000	1900.00	85.57	89.87	90.59	74.40	3.91	85.81	50.00	76.99	.28	10.00	.00
505.000	1830.00	85.82	86.00	85.39	74.69	3.79	86.04	235.00	102.22	.77	10.00	1.43
585.000	1830.00	85.89	88.09	89.20	74.77	3.79	86.11	80.00	76.75	.93	10.00	2.36
* 645.000	1830.00	87.79	88.09	89.19	74.83	2.89	87.92	60.00	87.77	1.04	10.00	3.24
682.000	1830.00	87.81	87.76	89.09	74.86	2.89	87.94	37.00	90.34	1.12	10.00	3.76
1100.000	1750.00	88.00	89.54	91.04	75.28	2.86	88.13	418.00	86.33	1.97	10.00	10.50
* 1101.000	1750.00	89.50	89.35	90.45	78.30	3.58	89.70	1.00	84.42	1.97	10.00	10.51
1690.000	1660.00	90.00	94.60	93.70	78.89	3.45	90.18	589.00	76.66	3.06	10.00	17.91
1860.000	1660.00	90.13	94.76	93.73	79.06	3.47	90.32	170.00	76.47	3.36	10.00	21.67
1880.000	1660.00	90.15	94.75	93.73	79.08	3.47	90.34	20.00	76.42	3.39	10.00	22.23
* 1886.000	1660.00	94.65	95.28	95.77	83.10	3.22	94.81	6.00	79.30	3.40	10.00	22.36
1896.000	1660.00	94.66	95.28	95.77	83.11	3.22	94.82	10.00	79.28	3.42	10.00	22.53
1950.000	1630.00	94.70	95.35	95.74	83.16	3.17	94.85	54.00	79.19	3.52	10.00	23.44
2650.000	1540.00	95.15	99.18	98.45	83.86	3.11	95.30	700.00	77.74	4.78	10.00	38.36

	SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
*	2651.000	1540.00	97.65	99.07	98.21	86.90	3.39	97.83	1.00	74.48	4.78	10.00	38.38
	2690.000	1540.00	97.68	99.00	98.28	86.94	3.40	97.86	39.00	74.41	4.85	10.00	39.02
	2711.000	1540.00	97.69	99.01	98.28	86.96	3.40	97.87	21.00	74.41	4.88	10.00	39.38
	2762.000	1540.00	97.73	99.08	98.20	87.01	3.40	97.91	50.00	74.35	4.97	10.00	40.20
	3550.000	1430.00	98.36	103.86	101.43	87.80	3.25	98.52	788.00	73.40	6.31	10.00	54.38
*	3551.000	1430.00	101.16	103.81	101.76	90.80	3.36	101.34	1.00	72.17	6.31	10.00	54.40
	4530.000	1320.00	101.95	105.98	106.42	91.78	3.21	102.11	979.00	71.01	7.92	10.00	64.86
*	4531.000	1320.00	101.67	106.37	107.00	94.60	5.97	102.23	1.00	52.46	7.92	10.00	64.87
	4574.000	1320.00	101.30	106.60	106.20	94.60	10.10	102.88	44.00	36.72	7.96	.01	64.87
*	4619.000	1320.00	103.83	106.60	106.20	94.60	5.05	104.23	45.00	66.16	8.02	.01	64.87
*	4660.000	1320.00	104.12	106.38	107.00	94.64	3.61	104.32	41.00	68.21	8.08	10.00	64.95
	5750.000	1190.00	105.20	108.03	110.00	95.77	3.29	105.37	1090.00	66.60	9.77	10.00	67.34
	5947.000	1190.00	105.38	108.11	110.07	95.98	3.31	105.55	197.00	66.43	10.07	10.00	67.81
	5969.000	1190.00	105.39	108.12	110.07	96.00	3.32	105.57	22.00	66.37	10.10	10.00	67.86
*	5976.000	1190.00	108.39	110.19	108.92	99.00	3.32	108.57	7.00	66.37	10.11	10.00	67.88
	5997.000	1190.00	108.41	110.19	108.91	99.00	3.32	108.58	21.00	66.36	10.14	10.00	67.95
	6400.000	1130.00	108.77	110.23	108.69	99.42	3.17	108.93	403.00	66.57	10.76	10.00	69.60

SUMMARY OF ERRORS AND SPECIAL NOTES

NOTE SECNO= 645.000 PROFILE= 1 WSEL BASED ON X5 CARD
WARNING SECNO= 645.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

NOTE SECNO= 1101.000 PROFILE= 1 WSEL BASED ON X5 CARD

NOTE SECNO= 1886.000 PROFILE= 1 WSEL BASED ON X5 CARD

NOTE SECNO= 2651.000 PROFILE= 1 WSEL BASED ON X5 CARD

NOTE SECNO= 3551.000 PROFILE= 1 WSEL BASED ON X5 CARD

WARNING SECNO= 4531.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 4619.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 4660.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

NOTE SECNO= 5976.000 PROFILE= 1 WSEL BASED ON X5 CARD

THIS RUN EXECUTED 9/ 1/89 16:14:28

HEC2 RELEASE DATED SEPT 88

T1 SOUTHERN MONTGOMERY COUNTY FLOOD PROTECTION STUDY
 T2 DODSON AND ASSOCIATES, INC. SEPTEMBER, 1989
 T3 F109-00-00 WOODSON'S GULLY
 T4 100-YEAR STORM FREQUENCY EXISTING CONDITIONS
 T5 FILENAME = F109RVEX.IH2

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
		3			.0026				71.6	
J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	-1		-1							

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

38	43	1	23	24	42	26	3	39	4
37	30	65							

J5 LPRNT NUMSEC *****REQUESTED SECTION NUMBERS*****
 -10 -10

J6 IHLEQ ICOPY SUBDIV STRTDS RMILE
 1

NC	.15	.15	.1	.1	.3					
QT	2	1710	2410							
X1	3540	22	9940	10040						
GR	73.8	8800	73.8	9080	72	9320	71.7	9510	70	9790
GR	68	9940	62.9	10000	68	10040	70	10200	72	10320
GR	74	10450	76	10560	76.9	10880	76	11190	74	11220
GR	74	11420	76	11460	78	11500	80	11540	82	11570
GR	82.3	12070	83.7	12460						
QT	2	1690	2380							
X1	6960	29	1250	1345	3200	3440	3420			
GR	83	0	81.4	200	78.5	400	77.7	600	78.7	800
GR	77.6	1000	75.3	1250	75.3	1258	74.4	1266	74.6	1285
GR	71.9	1292	71.7	1297	72.6	1301	73.9	1321	74.8	1331
GR	76.1	1345	75.9	1368	76.8	1650	84.1	1770	85.9	1850
GR	86.3	2050	84.6	2250	84.9	2450	85.6	2660	86.1	2860

GR 87.6 3060 88.7 3260 86.7 3460 89.1 3650

QT	2	1670	2330							
X1	9320	24	2420	2448	2960	2000	2360			
GR	86.2	0	85.5	280	85	560	85.2	835	84.4	1120
GR	84.4	1400	84.4	1680	85.1	1960	85.1	2190	83.4	2305
GR	80.6	2390	80.3	2409	79.4	2420	78.1	2425	77.8	2430
GR	78.1	2433	78.1	2445	79.9	2448	80.8	2464	80.6	2472
GR	82.5	2570	85.1	2760	86	3080	85.6	3300		
QT	2	1660	2310							
X1	10320	20	9600	10770	800	1100	1000			
GR	89.5	5420	88.5	5740	88	5910	87.6	6340	87.4	6800
GR	98	7510	98	7710	85.8	7950	85.5	8940	84	9600
GR	79.0	10000	84	10550	86	10770	88	10830	90	10860
GR	92	10920	94	10960	96	11050	98	12000	98.3	12170
QT	2	1650	2300							
X1	13480	26	9440	10280	2700	3100	3160			
GR	89.5	7440	88.5	7770	88	8000	87.6	8360	87.4	8810
GR	86.8	9440	82.8	10000	88	10280	90	10380	90	10510
GR	90.5	10760	90	11000	88	11030	88	11150	90	11180
GR	92	11200	92.3	11230	92	11290	91	11560	90	11650
GR	88	11700	88	11790	90	11830	92	11850	94	11910
GR	96	11980								
QT	2	1360	1880							
X1	15180	21	9310	10470	1800	1600	1700			
GR	89.9	7880	89.6	8550	88	9180	88	9310	84.9	10000
GR	88	10470	90	10690	92	10860	94	10930	94	11180
GR	94	11290	94.5	11400	94	11600	94	11710	95.5	11760
GR	94	11820	93.5	12520	94	12770	96	12910	97	12960
GR	98	13130								
QT	2	1320	1810							
X1	18520	23	4241	4724	2600	3360	3340			
GR	92.4	2547	92.4	2693	90.1	2829	90.7	3039	91	3285
GR	91.4	3510	89.5	3565	91.5	3711	91.5	3882	90.5	4046
GR	90.5	4153	91.2	4196	91.1	4241	88.9	4304	88.9	4472
GR	89.2	4524	90	4584	91.6	4724	95.4	4956	97.2	5101
GR	98.9	5255	98.4	5392	98.4	5527				
QT	2	1260	1700							
X1	24500	24	9760	10210	6200	5900	5980			
GR	97.5	7220	96.0	7270	94.0	7330	94.0	7980	95.6	8510
GR	94	8680	94	8900	95.8	9070	94	9110	96	9140
GR	94	9180	94	9250	95	9330	94	9410	93.8	9760
GR	92.0	10000	94	10210	96	10450	96	10570	96	10620
GR	98	10830	100	10920	100.1	11380	101.1	11820		

QT	2	1210	1630							
X1	28640	24	9850	10220	4100	4200	4140			
GR	107.5	7590	106	7750	104	8150	104	8250	105.5	8450
GR	104	8520	102	8830	102	8880	102	8990	101.7	9100
GR	100	9270	99	9660	98	9730	96	9850	94	9970
GR	94	10170	96	10220	98	10300	100	10380	102	10600
GR	104	10700	104.2	10760	104	10820	103	11210		

NC				.1	.3					
QT	2	1050	1410							
X1	31569	51	1500	1838	3000	3100	2929			
GR	108.7	800	107.8	800.1	106.1	1000	106.3	1100	105.1	1145
GR	105.3	1300	104	1400	102.4	1500	99.2	1588	98.7	1600
GR	98.8	1638	98.7	1663	97.7	1671	95.8	1672	95.8	1672.6
GR	95.8	1673.4	95.7	1674.2	95.7	1675	95.7	1675.8	95.85	1676.6
GR	95.95	1677.4	96.2	1680	97.7	1683	97.7	1702	99.12	1720.2
GR	100.5	1738	100.7	1800	102.1	1838	104	2038	103.6	2238
GR	103.4	2438	102.4	2638	100.2	2738	98.8	2938	98	2953
GR	98.7	2983	99.3	2986	97.3	2989	97.2	2991	97.6	2995
GR	98.3	3000	98.3	3022	99	3153	99.2	3353	101.6	3553
GR	104	3753	105.4	3953	104	4112	104.8	4153	106.2	4353
GR	108.7	4753								

NC			.024	.3	.5					
X1	31669	51	1500	1838	100	100	100			
X3	10									
GR	108.7	800	107.8	800.1	106.1	1000	106.3	99.2	99.2	
GR	105.3	1300	104	1400	102.4	1500	99.2	1100	105.1	1145
GR	98.8	1638	98.7	1663	97.7	1671	95.8	1588	98.7	1600
GR	95.8	1673.4	95.7	1674.2	95.7	1675	95.8	1672	95.8	1672.6
GR	95.95	1677.4	96.2	1680	97.7	1675	95.7	1675.8	95.85	1676.6
GR	100.5	1738	100.7	1800	97.7	1683	97.7	1702	99.12	1720.2
GR	103.4	2438	102.4	2638	102.1	1838	104	2038	103.6	2238
GR	98.7	2983	99.3	2986	100.2	2738	98.8	2938	98	2953
GR	98.3	3000	98.3	2986	97.3	2989	97.2	2991	97.6	2995
GR	104	3753	105.4	3022	99	3153	99.2	3353	101.6	3553
GR	108.7	4753		3953	104	4112	104.8	4153	106.2	4353

RILEY FUSSELL ROAD

X1	31670	51	1638	1738	1	1	1			
X3	10									
BT	-17	1588	99.2	99.2	1600	99.2	98.7	99.2	99.2	
BT		1663	99.2	98.7	1671	99.2	97.7	1638	99.2	98.8
BT		1672.6	99.2	95.8	1673.4	99.2	98.1	1672	99.2	95.8
BT		1675	99.2	98.7	1675.8	99.2	98.5	1674.2	99.2	98.5
BT		1677.4	99.2	96.0	1680	99.2	96.2	1676.6	99.2	98.1
BT		1702	99.2	97.7	1720.2	99.2	99.1	1683	99.2	97.7
GR	108.7	800	107.8	800.1	106.1	1000	106.3	1100	105.1	1145
GR	105.3	1300	104	1400	102.4	1500	99.2	1588	98.7	1600
GR	98.8	1638	98.7	1663	97.7	1671	95.8	1672	95.8	1672.6
GR	95.8	1673.4	95.7	1674.2	95.7	1675	95.7	1675.8	95.85	1676.6
GR	95.95	1677.4	96.2	1680	97.7	1683	97.7	1702	99.12	1720.2
GR	100.5	1738	100.7	1800	102.1	1838	104	2038	103.6	2238

QT	2	660	870							
X1	39500	11	775	2340	3360	3300	3520			
GR	110.1	0	109.1	385	106.4	775	105.3	1170	105.2	1565
GR	104.8	1945	112.7	2340	108.1	2730	112.5	3115	113	3505
GR	110.2	3900								
QT	2	540	710							
X1	42040	14	8430	9490	2440	2560	2540			
GR	111.6	7800	110	8060	108	8430	107.7	8910	108	9490
GR	108	9880	108	10080	110	10350	110	10440	110	10730
GR	111.6	10950	110	11020	110	11580	112	11700		
X1	44080	15	9860	10120	2080	2040	2040			
GR	115	9320	113.9	9610	112	9820	110	9860	108	9920
GR	107.7	10000	108	10080	110	10120	112	10170	113.9	10250
GR	112	10300	112	10400	114	10460	116	10660	116.6	10690
QT	2	410	530							
X1	46200	19	2300	3045	2040	2160	2120			
GR	115	872	113.9	1135	110.9	1305	109.5	1395	109	1675
GR	110.2	1740	111.5	2178	111.5	2300	110	2505	109.5	2610
GR	108.8	2875	111.7	3045	112.7	3365	113.1	3420	112.5	3480
GR	113	3915	113.7	4060	116.2	4220	116.1	4350		

THLEQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

 HEC2 RELEASE DATED SEPT 88

THIS RUN EXECUTED 9/ 1/89 16:14:45

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

F109-00-00

SUMMARY PRINTOUT

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
3540.000	2410.00	71.54	68.00	68.00	62.90	2.54	71.61	.00	756.92	.00	.01	.00
6960.000	2380.00	79.07	75.30	76.10	71.70	1.88	79.09	3420.00	1326.50	78.66	.01	.00
9320.000	2330.00	85.20	79.40	79.90	77.80	2.96	85.25	2360.00	2353.61	195.22	.01	.00
* 10320.000	2310.00	85.67	84.00	86.00	79.00	.54	85.68	1000.00	2364.78	242.42	.01	.00
* 13480.000	2300.00	87.72	86.80	88.00	82.80	.96	87.74	3160.00	2011.29	388.38	.01	.00
15180.000	1880.00	88.94	88.00	88.00	84.90	.63	88.95	1700.00	1765.57	463.90	.01	.00
* 18520.000	1810.00	92.00	91.10	91.60	88.90	.97	92.01	3340.00	2032.67	592.33	.01	.00
* 24500.000	1700.00	95.77	93.80	94.00	92.00	.59	95.77	5980.00	3135.60	956.96	.01	.00
* 28640.000	1630.00	98.25	96.00	96.00	94.00	1.10	98.27	4140.00	598.12	1133.40	.01	.00
31569.000	1410.00	101.39	102.40	102.10	95.70	.78	101.39	2929.00	1141.99	1193.87	.01	.00
* 31669.000	1410.00	101.42	102.40	102.10	95.70	1.62	101.45	100.00	1148.30	1196.50	.01	.00
* 31670.000	1410.00	101.42	98.80	100.50	95.70	2.50	101.46	1.00	1148.45	1196.52	.01	.00
31693.000	1410.00	101.43	98.80	100.50	95.70	2.50	101.47	23.00	1149.28	1197.13	.01	.00
31694.000	1410.00	101.42	100.20	101.20	99.10	3.02	101.49	1.00	1434.45	1197.16	.01	.00
31747.000	1410.00	101.55	99.80	99.70	95.40	.95	101.56	53.00	1141.06	1198.73	.01	.00
33880.000	1220.00	103.46	102.00	102.00	97.90	1.06	103.48	2133.00	916.31	1248.33	.01	.00
35980.000	1220.00	105.44	102.80	101.90	100.30	1.17	105.45	2100.00	702.15	1285.91	.01	.00

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
39500.000	870.00	107.15	106.40	112.70	104.80	.39	107.15	3520.00	1395.91	1369.09	.01	.00
* 42040.000	710.00	108.88	108.00	108.00	107.70	.49	108.88	2540.00	1932.82	1465.99	.01	.00
44080.000	710.00	111.06	110.00	110.00	107.70	.98	111.07	2040.00	307.70	1518.54	.01	.00
* 46200.000	530.00	111.60	111.50	111.70	108.80	.25	111.60	2120.00	1774.95	1568.26	.01	.00

SUMMARY OF ERRORS AND SPECIAL NOTES

WARNING SECNO= 10320.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 13480.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 18520.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 24500.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 28640.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 31669.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 31670.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 42040.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 46200.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

THIS RUN EXECUTED 9/ 4/89 8:50:33

HEC2 RELEASE DATED SEPT 88

T1 SOUTHERN MONTGOMERY COUNTY FLOOD PROTECTION STUDY
 T2 DODSON AND ASSOCIATES, INC. SEPTEMBER, 1989
 T3 F109-00-00 WOODSON'S GULLY
 T4 100-YEAR STORM FREQUENCY ULTIMATE CONDITIONS
 T5 FILENAME = F109ULT.IH2

J1 ICHECK INQ NINV IDIR STRT METRIC HVINS Q WSEL FQ
 2 .0005 72

J2 NPROF IPLOT PRFVS XSECV XSECH FN ALLDC IBW CHNIM ITRACE
 -1 -1

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

38 43 1 23 24 42 26 3 39 4
 37 30 65

J5 LPRNT NUMSEC *****REQUESTED SECTION NUMBERS*****
 -10 -10

J6 IHLEQ ICOPIY SUBDIV STRTDS RMILE
 1

NC	.15	.15	.04	.1	.3					
QT	1	11580								
X1	100	22	9940	10040						-6.0
CI	-1	56.0	0.04	4	4	60				
GR	73.8	8800	73.8	9080	72	9320	71.7	9510	70	9790
GR	68	9940	62.9	10000	68	10040	70	10200	72	10320
GR	74	10450	76	10560	76.9	10880	76	11190	74	11220
GR	74	11420	76	11460	78	11500	80	11540	82	11570
GR	82.3	12070	83.7	12460						

QT	1	11390								
X1	2110	22	9940	10040	2010	2010	2010			
CI	-1	57.01	0.04	4	4	60				
GR	73.8	8800	73.8	9080	72	9320	71.7	9510	70	9790
GR	68	9940	62.9	10000	68	10040	70	10200	72	10320
GR	74	10450	76	10560	76.9	10880	76	11190	74	11220

GR

74

11420

76

11460

78

11500

80

11540

82

11570

GR	82.3	12070	83.7	12460						
QT	1	11090								
X1	5400	29	1250	1345	3290	3290	3290			
CI	-1	58.65	0.04	4	4	60				
GR	83	0	81.4	200	78.5	400	77.7	600	78.7	800
GR	77.6	1000	75.3	1250	75.3	1258	74.4	1266	74.6	1285
GR	71.9	1292	71.7	1297	72.6	1301	73.9	1321	74.8	1331
GR	76.1	1345	75.9	1368	76.8	1650	84.1	1770	85.9	1850
GR	86.3	2050	84.6	2250	84.9	2450	85.6	2660	86.1	2860
GR	87.6	3060	88.7	3260	86.7	3460	89.1	3650		
QT	1	10900								
X1	7570	24	2420	2448	2170	2170	2170			
CI	-1	59.74	0.04	4	4	60				
GR	86.2	0	85.5	280	85	560	85.2	835	84.4	1120
GR	84.4	1400	84.4	1680	85.1	1960	85.1	2190	83.4	2305
GR	80.6	2390	80.3	2409	79.4	2420	78.1	2425	77.8	2430
GR	78.1	2433	78.1	2445	79.9	2448	80.8	2464	80.6	2472
GR	82.5	2570	85.1	2760	86	3080	85.6	3300		
QT	1	10800								
X1	8680	22	9990	10010	1110	1110	1110			
CI	10000	60.29	0.04	4	4	60				
GR	89.5	5420	88.5	5740	88	5910	87.6	6340	87.4	6800
GR	98	7510	98	7710	85.8	7950	85.5	8940	84	9600
GR	79.0	9990	79.0	10000	79.0	10010	84	10550	86	10770
GR	88	10830	90	10860	92	10920	94	10960	96	11050
GR	98	12000	98.3	12170						
QT	1	10520								
X1	11860	28	9990	10010	3180	3180	3180			
CI	10000	61.88	0.04	4	4	60				
GR	89.5	7440	88.5	7770	88	8000	87.6	8360	87.4	8810
GR	86.8	9440	82.8	9990	82.8	10000	82.8	10010	88	10280
GR	90	10380	90	10510	90.5	10760	90	11000	88	11030
GR	88	11150	90	11180	92	11200	92.3	11230	92	11290
GR	91	11560	90	11650	88	11700	88	11790	90	11830
GR	92	11850	94	11910	96	11980				
QT	1	8270								
X1	11960	28	9990	10010	100	100	100			
CI	-1	61.93	0.04	4	4	60				
GR	89.5	7440	88.5	7770	88	8000	87.6	8360	87.4	8810
GR	86.8	9440	82.8	9990	82.8	10000	82.8	10010	88	10280
GR	90	10380	90	10510	90.5	10760	90	11000	88	11030
GR	88	11150	90	11180	92	11200	92.3	11230	92	11290
GR	91	11560	90	11650	88	11700	88	11790	90	11830
GR	92	11850	94	11910	96	11980				

DROP STRUCTURE

X1	11961	28	9990	10010	1	1	1			
CI	-1	65.90	0.04	4	4	60				
X5	-1	3.0								
GR	89.5	7440	88.5	7770	88	8000	87.6	8360	87.4	8810
GR	86.8	9440	82.8	9990	82.8	10000	82.8	10010	88	10280
GR	90	10380	90	10510	90.5	10760	90	11000	88	11030
GR	88	11150	90	11180	92	11200	92.3	11230	92	11290
GR	91	11560	90	11650	88	11700	88	11790	90	11830
GR	92	11850	94	11910	96	11980				

QT	1	8000								
X1	13550	23	9990	10010	1590	1590	1590			
CI	10000	66.70	0.04	4	4	60				
GR	89.9	7880	89.6	8550	88	9180	88	9310	84.9	9990
GR	84.9	10000	84.9	10010	88	10470	90	10690	92	10860
GR	94	10930	94	11180	94	11290	94.5	11400	94	11600
GR	94	11710	95.5	11760	94	11820	93.5	12520	94	12770
GR	96	12910	97	12960	98	13130				

QT	1	7460								
X1	16810	23	4304	4472	3260	3260	3260			
CI	-1	68.33	0.04	4	4	60				
GR	92.4	2547	92.4	2693	90.1	2829	90.7	3039	91	3285
GR	91.4	3510	89.5	3565	91.5	3711	91.5	3882	90.5	4046
GR	90.5	4153	91.2	4196	91.1	4241	88.9	4304	88.9	4472
GR	89.2	4524	90	4584	91.6	4724	95.4	4956	97.2	5101
GR	98.9	5255	98.4	5392	98.4	5527				

QT	1	7180								
X1	18600	26	9990	10010	1790	1790	1790			
CI	-1	69.22	0.04	4	4	60				
GR	97.5	7220	96.0	7270	94.0	7330	94.0	7980	95.6	8510
GR	94	8680	94	8900	95.8	9070	94	9110	96	9140
GR	94	9180	94	9250	95	9330	94	9410	93.8	9760
GR	92	9990	92.0	10000	92	10010	94	10210	96	10450
GR	96	10570	96	10620	98	10830	100	10920	100.1	11380
GR	101.1	11820								

DROP STRUCTURE

X1	18601	26	9990	10010	1	1	1			
CI	-1	74.20	0.04	4	4	40				
X5	-1	6.0								
GR	97.5	7220	96.0	7270	94.0	7330	94.0	7980	95.6	8510
GR	94	8680	94	8900	95.8	9070	94	9110	96	9140
GR	94	9180	94	9250	95	9330	94	9410	93.8	9760
GR	92	9990	92.0	10000	92	10010	94	10210	96	10450
GR	96	10570	96	10620	98	10830	100	10920	100.1	11380
GR	101.1	11820								

QT	1	6790								
X1	21260	25	9970	10030	2659	2659	2659			
CI	10070	75.53	0.04	4	4	40				
GR	107.5	7590	106	7750	104	8150	104	8250	105.5	8450
GR	104	8520	102	8830	102	8880	102	8990	101.7	9100
GR	100	9270	99	9660	98	9730	96	9850	94	9970
GR	94	10030	94	10170	96	10220	98	10300	100	10380
GR	102	10600	104	10700	104.2	10760	104	10820	103	11210

QT	1	6400								
X1	24030	51	1671	1683	2770	2770	2770			
CI	-1	76.91	0.04	4	4	40				
GR	108.7	800	107.8	800.1	106.1	1000	106.3	1100	105.1	1145
GR	105.3	1300	104	1400	102.4	1500	99.2	1588	98.7	1600
GR	98.8	1638	98.7	1663	97.7	1671	95.8	1672	95.8	1672.6
GR	95.8	1673.4	95.7	1674.2	95.7	1675	95.7	1675.8	95.85	1676.6
GR	95.95	1677.4	96.2	1680	97.7	1683	97.7	1702	99.12	1720.2
GR	100.5	1738	100.7	1800	102.1	1838	104	2038	103.6	2238
GR	103.4	2438	102.4	2638	100.2	2738	98.8	2938	98	2953
GR	98.7	2983	99.3	2986	97.3	2989	97.2	2991	97.6	2995
GR	98.3	3000	98.3	3022	99	3153	99.2	3353	101.6	3553
GR	104	3753	105.4	3953	104	4112	104.8	4153	106.2	4353
GR	108.7	4753								

DROP STRUCTURE

X1	24031	51	1671	1683	1	1	1			
CI	-1	81.90	0.04	4	4	40				
X5	-1	4.5								
GR	108.7	800	107.8	800.1	106.1	1000	106.3	1100	105.1	1145
GR	105.3	1300	104	1400	102.4	1500	99.2	1588	98.7	1600
GR	98.8	1638	98.7	1663	97.7	1671	95.8	1672	95.8	1672.6
GR	95.8	1673.4	95.7	1674.2	95.7	1675	95.7	1675.8	95.85	1676.6
GR	95.95	1677.4	96.2	1680	97.7	1683	97.7	1702	99.12	1720.2
GR	100.5	1738	100.7	1800	102.1	1838	104	2038	103.6	2238
GR	103.4	2438	102.4	2638	100.2	2738	98.8	2938	98	2953
GR	98.7	2983	99.3	2986	97.3	2989	97.2	2991	97.6	2995
GR	98.3	3000	98.3	3022	99	3153	99.2	3353	101.6	3553
GR	104	3753	105.4	3953	104	4112	104.8	4153	106.2	4353
GR	108.7	4753								

RILEY FUSSEL ROAD

X1	24130	51	1671	1683	99	99	99			
CI	-1	81.95	0.04	4	4	40				
GR	108.7	800	107.8	800.1	106.1	1000	106.3	1100	105.1	1145
GR	105.3	1300	104	1400	102.4	1500	99.2	1588	98.7	1600
GR	98.8	1638	98.7	1663	97.7	1671	95.8	1672	95.8	1672.6
GR	95.8	1673.4	95.7	1674.2	95.7	1675	95.7	1675.8	95.85	1676.6
GR	95.95	1677.4	96.2	1680	97.7	1683	97.7	1702	99.12	1720.2
GR	100.5	1738	100.7	1800	102.1	1838	104	2038	103.6	2238
GR	103.4	2438	102.4	2638	100.2	2738	98.8	2938	98	2953
GR	98.7	2983	99.3	2986	97.3	2989	97.2	2991	97.6	2995
GR	98.3	3000	98.3	3022	99	3153	99.2	3353	101.6	3553
GR	104	3753	105.4	3953	104	4112	104.8	4153	106.2	4353

9/ 4/89

8:50:33

PAGE 7

IHLEQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

THIS RUN EXECUTED 9/ 4/89 8:50:52

 HEC2 RELEASE DATED SEPT 88

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

F109-00-00

SUMMARY PRINTOUT

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
100.000	11580.00	70.40	62.06	62.05	56.00	4.56	70.58	.00	2317.66	.00	60.00	.00
* 2110.000	11390.00	71.66	68.34	68.32	57.01	6.42	72.28	2010.00	784.01	71.56	60.00	42.61
5400.000	11090.00	75.20	75.77	75.99	58.65	5.31	75.64	3290.00	192.40	108.43	60.00	221.54
7570.000	10900.00	76.98	83.23	82.19	59.74	4.90	77.35	2170.00	197.89	118.16	60.00	426.71
8680.000	10800.00	77.76	80.28	79.91	60.29	4.76	78.11	1110.00	199.77	123.22	60.00	543.69
11860.000	10520.00	79.75	83.58	84.96	61.88	4.48	80.06	3180.00	202.99	137.92	60.00	884.37
11960.000	8270.00	79.93	83.58	84.96	61.93	3.48	80.12	100.00	204.01	138.39	60.00	896.04
* 11961.000	8270.00	82.93	83.46	84.63	65.90	3.79	83.15	1.00	196.25	138.39	60.00	896.14
13550.000	8000.00	83.62	85.33	85.54	66.70	3.70	83.83	1590.00	195.32	145.54	60.00	1035.48
16810.000	7460.00	84.94	90.05	89.07	68.33	3.55	85.14	3260.00	192.91	160.07	60.00	1362.21
18600.000	7180.00	85.64	92.90	93.16	69.22	3.48	85.83	1790.00	191.36	167.96	60.00	1577.74
* 18601.000	7180.00	91.64	92.66	92.85	74.20	3.75	91.86	1.00	179.52	167.97	40.00	1577.84
21260.000	6790.00	92.81	94.00	94.00	75.53	3.60	93.01	2659.00	178.22	178.89	40.00	1781.88
24030.000	6400.00	93.95	100.06	100.67	76.91	3.47	94.13	2770.00	176.30	190.16	40.00	2036.02
* 24031.000	6400.00	98.45	99.21	100.61	81.90	3.64	98.65	1.00	262.30	190.16	40.00	2036.11
24130.000	6400.00	98.49	99.20	100.61	81.95	3.64	98.70	99.00	272.68	190.77	40.00	2042.78
24155.000	6400.00	98.50	100.78	101.10	81.96	3.64	98.71	25.00	172.34	190.90	40.00	2044.56

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
24208.000	6400.00	98.53	99.99	100.07	81.99	3.64	98.73	53.00	312.50	191.19	40.00	2048.27
26350.000	5170.00	99.39	100.73	100.73	83.06	3.01	99.53	2142.00	170.60	203.07	40.00	2184.72
26450.000	5170.00	99.40	100.57	100.57	83.11	3.34	99.57	100.00	160.31	203.45	30.00	2190.69
28460.000	4230.00	100.14	103.38	101.97	84.11	2.81	100.26	2010.00	158.13	210.80	30.00	2313.94
31680.000	3110.00	100.95	104.89	106.70	85.72	2.25	101.02	3220.00	151.80	222.25	30.00	2546.77
* 31681.000	3110.00	104.45	104.87	106.15	90.70	3.02	104.59	1.00	129.96	222.26	20.00	2546.83
34190.000	2400.00	105.37	107.74	107.73	91.95	2.43	105.46	2509.00	127.33	229.67	20.00	2659.75
34290.000	2400.00	105.38	107.74	107.73	92.00	2.82	105.50	100.00	117.04	229.95	10.00	2664.29
36340.000	1870.00	106.13	107.93	107.93	93.03	2.29	106.21	2050.00	114.73	235.40	10.00	2746.49
36440.000	1870.00	106.15	107.92	107.92	93.08	2.45	106.25	100.00	110.64	235.66	6.00	2750.14
38720.000	1420.00	106.83	108.95	109.86	94.22	1.99	106.89	2280.00	106.90	241.35	6.00	2831.48

SUMMARY OF ERRORS AND SPECIAL NOTES

WARNING SECNO= 2110.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

NOTE SECNO= 11961.000 PROFILE= 1 WSEL BASED ON X5 CARD

NOTE SECNO= 18601.000 PROFILE= 1 WSEL BASED ON X5 CARD

NOTE SECNO= 24031.000 PROFILE= 1 WSEL BASED ON X5 CARD

NOTE SECNO= 31681.000 PROFILE= 1 WSEL BASED ON X5 CARD

WARNING SECNO= 31681.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

THIS RUN EXECUTED 9/ 1/89 16:13:24

HEC2 RELEASE DATED SEPT 88

T1 SOUTHERN MONTGOMERY COUNTY FLOOD PROTECTION STUDY
 T2 DODSON AND ASSOCIATES, INC. SEPTEMBER, 1989
 T3 F121-00-00 WHITE OAK CREEK
 T4 100-YEAR STORM FREQUENCY EXISTING CONDITIONS
 T5 FILENAME = F121RVEK.IH2

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
		2			.002				87.2	

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	-1		-1							

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

38	43	1	23	24	42	26	3	39	4
37	30	65							

J5 LPRNT NUMSEC *****REQUESTED SECTION NUMBERS*****

-10 -10

J6 IHLEQ ICOPY SUBDIV STRTDS RMILE

1

NC	.15	.15	.1	.1	.3					
QT	1	2100								
X1	120	17	9970	10030	120	120	120			
GR	89.7	9070	88	9300	88.5	9370	88	9430	86	9780
GR	84	9800	84	9930	84	9970	82	9980	74.3	10000
GR	82	10030	84	10050	86	10100	87.5	10480	88	10830
GR	90	10880	91.7	11000						
X1	2220	11	6730	6800	1600	1840	2100			
GR	91.5	6300	90.2	6700	89.4	6730	79.4	6760	92.3	6800
GR	92.7	7400	95.5	7500	92.7	7600	91.6	8100	94.4	8400
GR	108.4	8900								

QT	1	2010								
X1	4500	24	9980	10010	2040	2000	2400			
GR	101.5	8630	100	9070	98	9140	98	9300	100	9390
GR	100.5	9520	100	9670	98	9925	96	9940	94	9960
GR	92	9980	85.3	10000	92	10010	94	10060	96	10290
GR	98	10400	100	10530	100.5	10660	100	11060	102	11100
GR	104	11120	106	11140	108	11170	110	11200		
X1	5940	32	9990	10020	1420	1300	1440			
GR	114	7550	114	7700	112	7900	111.2	8170	112.5	8550
GR	112.1	8760	112	8900	113	9120	112	9220	110	9320
GR	108	9550	106	9650	104	9710	102	9770	100	9800
GR	100	9910	98	9970	96	9990	88.8	10000	96	10020
GR	98	10050	100	10160	102	10220	104	10290	106	10340
GR	108	10410	110	10480	112	10550	112	10730	114	10870
GR	116	11210	117	11420						
QT	1	1990								
X1	7760	26	9980	10020	1760	1700	1820			
GR	113	9260	112	9430	112	9520	112.5	9580	112	9630
GR	110	9670	108	9690	106	9700	104	9730	102	9770
GR	101	9880	100	9980	98	9990	93.2	10000	98	10010
GR	100	10020	102	10070	104	10120	106	10150	108	10190
GR	110	10260	111.7	10500	110	10660	110	10780	112	10850
GR	113	11120								
NC	.15	.15	.1							
X1	9460	28	1531	1564	1440	1680	1700			
GR	114.2	855	113.3	915	113.5	990	112.7	1080	112.3	1150
GR	112	1205	112.1	1265	113.8	1310	111.3	1365	103.9	1510
GR	103.8	1531	98.8	1538	97.6	1541	97.1	1545	97.4	1551
GR	100.7	1554	105.3	1564	105	1585	105.4	1680	103.3	1740
GR	105.3	1765	103.4	1810	105.7	1825	105.6	1940	108.5	2035
GR	112.1	2130	113.1	2250	114.2	2355				
QT	1	1910								
X1	11740	20	9980	10030	2520	2000	2280			
GR	114	8510	112	9080	110	9280	110	9570	108	9660
GR	106	9980	104	9990	101.8	10000	104	10010	106	10030
GR	108	10050	110	10180	112	10250	112.8	10300	112	10340
GR	110.5	10530	111	10870	112	11200	114	11380	114.4	11570
QT	1	1900								
X1	13260	19	9980	10020	1360	1500	1520			
GR	113.5	8500	112.5	8850	112	9140	111.3	9340	112	9560
GR	112.7	9630	112	9700	110	9870	108	9980	104.9	10000
GR	108	10020	110	10070	111.7	10130	112	10400	114	10650
GR	113.1	11060	114	11230	116	11330	116.6	11690		

NC	.15	.15	.08							
QT	1	1210								
X1	15140	25	1742	1757	2100	1580	1880			
GR	116	300	114	560	112.2	1000	112.5	1265	111.6	1380
GR	111	1485	110.4	1610	111.7	1695	111.2	1730	111.4	1742
GR	109.1	1745	108.7	1747	109.1	1749	110.1	1750	112.6	1757
GR	111.8	1777	111.5	1850	111.9	1975	112.1	2110	112.3	2230
GR	113.2	2365	113.4	2460	113.7	2560	114.2	2630	115.2	2725

QT	1	950								
CHATEAU WOODS PARKWAY										
X1	17920	23	1175	1250	1900	2700	2780			
GR	117	760	116.4	835	115.4	935	115.2	965	115.1	980
GR	115	1020	114	1090	113.8	1175	113.8	1200	109.4	1200.01
GR	113.8	1200.02	113.8	1250	115.5	1300	114.3	1340	114	1410
GR	114.5	1485	114	1560	114.9	1605	115.3	1725	116.1	1825
GR	116.4	1925	117.8	2055	119.8	2180				

IHLEQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

THIS RUN EXECUTED 9/ 1/89 16:13:31

 HEC2 RELEASE DATED SEPT 88

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

F121-00-00

SUMMARY PRINTOUT

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
120.000	2100.00	87.14	84.00	82.00	74.30	2.64	87.21	.00	807.76	.00	.01	.00
2220.000	2100.00	92.30	89.40	92.30	79.40	3.12	92.42	2100.00	896.02	34.12	.01	.00
4500.000	2010.00	98.04	92.00	92.00	85.30	2.77	98.10	2400.00	646.81	70.29	.01	.00
5940.000	2010.00	101.62	96.00	96.00	88.80	3.54	101.72	1440.00	432.95	87.11	.01	.00
* 7760.000	1990.00	105.33	100.00	100.00	93.20	2.19	105.37	1820.00	430.08	104.38	.01	.00
9460.000	1990.00	108.08	103.80	105.30	97.10	2.40	108.12	1700.00	593.34	123.10	.01	.00
11740.000	1910.00	110.98	106.00	106.00	101.80	1.62	111.00	2280.00	1426.44	175.12	.01	.00
13260.000	1900.00	112.88	108.00	108.00	104.90	2.11	112.90	1520.00	1792.12	227.24	.01	.00
15140.000	1210.00	114.12	111.40	112.60	108.70	.82	114.12	1880.00	2073.33	312.21	.01	.00
* 17920.000	950.00	116.14	113.80	113.80	109.40	1.33	116.15	2780.00	977.49	392.97	.01	.00

SUMMARY OF ERRORS AND SPECIAL NOTES

WARNING SECNO= 7760.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 17920.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE



THIS RUN EXECUTED 9/ 1/89 16:56: 2

HEC2 RELEASE DATED SEPT 88

T1 SOUTHERN MONTGOMERY COUNTY FLOOD PROTECTION STUDY
T2 DODSON AND ASSOCIATES, INC. SEPTEMBER, 1989
T3 F121-00-00 WHITE OAK CREEK
T4 100-YEAR STORM FREQUENCY INTERIM CONDITIONS
T5 FILENAME = F121INT.IH2

J1 ICHECK INQ NINV IDIR STRT METRIC HVINS Q WSEL FQ
2 .0006 90
J2 NPROF IPLOT PRFVS XSECV XSECH FN ALLDC IBW CHNIM ITRACE
-1 -1

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

38 43 1 23 24 42 26 3 39 4
37 30 65

J5 LPRNT NUMSEC *****REQUESTED SECTION NUMBERS*****
-10 -10

J6 IHLEQ ICOPIY SUBDIV STRTDS RMILE
1

NC .15 .15 0.04 .1 .3
QT 1 3310
X1 120 17 9970 10030 120 120 120
CI -1 -1 0.04 4 4 20
GR 89.7 9070 88 9300 88.5 9370 88 9430 86 9780
GR 84 9800 84 9930 84 9970 82 9980 74.3 10000
GR 82 10030 84 10050 86 10100 87.5 10480 88 10830
GR 90 10880 91.7 11000

QT 1 3150
X1 1980 11 6730 6800 1860 1860 1860
CI -1 75.42 0.04 4 4 20
GR 91.5 6300 90.2 6700 89.4 6730 79.4 6760 92.3 6800
GR 92.7 7400 95.5 7500 92.7 7600 91.6 8100 94.4 8400
GR 108.4 8900

X1	2500	11	6730	6800	520	520	520		1.6	
CI	-1	75.73	0.04	4	4	20				
GR	91.5	6300	90.2	6700	89.4	6730	79.4	6760	92.3	6800
GR	92.7	7400	95.5	7500	92.7	7600	91.6	8100	94.4	8400
GR	108.4	8900								

DROP STRUCTURE

X1	2501	11	6730	6800	1	1	1		1.6	
CI	-1	79.70	0.04	4	4	30				
X5	-1	3.0								
GR	91.5	6300	90.2	6700	89.4	6730	79.4	6760	92.3	6800
GR	92.7	7400	95.5	7500	92.7	7600	91.6	8100	94.4	8400
GR	108.4	8900								

QT	1	3000								
X1	3870	24	9980	10010	1369	1369	1369			
CI	-1	81.07	0.04	4	4	30				
GR	101.5	8630	100	9070	98	9140	98	9300	100	9390
GR	100.5	9520	100	9670	98	9925	96	9940	94	9960
GR	92	9980	85.3	10000	92	10010	94	10060	96	10290
GR	98	10400	100	10530	100.5	10660	100	11060	102	11100
GR	104	11120	106	11140	108	11170	110	11200		

QT	1	2900								
X1	5220	32	9990	10020	1350	1350	1350			
CI	-1	82.42	0.04	4	4	30				
GR	114	7550	114	7700	112	7900	111.2	8170	112.5	8550
GR	112.1	8760	112	8900	113	9120	112	9220	110	9320
GR	108	9550	106	9650	104	9710	102	9770	100	9800
GR	100	9910	98	9970	96	9990	88.8	10000	96	10020
GR	98	10050	100	10160	102	10220	104	10290	106	10340
GR	108	10410	110	10480	112	10550	112	10730	114	10870
GR	116	11210	117	11420						

DROP STRUCTURE

X1	5221	32	9990	10020	1	1	1			
CI	-1	86.40	0.04	4	4	30				
X5	-1	4.0								
GR	114	7550	114	7700	112	7900	111.2	8170	112.5	8550
GR	112.1	8760	112	8900	113	9120	112	9220	110	9320
GR	108	9550	106	9650	104	9710	102	9770	100	9800
GR	100	9910	98	9970	96	9990	88.8	10000	96	10020
GR	98	10050	100	10160	102	10220	104	10290	106	10340
GR	108	10410	110	10480	112	10550	112	10730	114	10870
GR	116	11210	117	11420						

QT	1	2790								
X1	6920	26	9980	10020	1699	1699	1699			
CI	-1	88.10	0.04	4	4	30				
GR	113	9260	112	9430	112	9520	112.5	9580	112	9630
GR	110	9670	108	9690	106	9700	104	9730	102	9770
GR	101	9880	100	9980	98	9990	93.2	10000	98	10010
GR	100	10020	102	10070	104	10120	106	10150	108	10190

GR	110	10260	111.7	10500	110	10660	110	10780	112	10850
GR	113	11120								
QT	1	2690								
X1	8480	28	1531	1564	1560	1560	1560			
CI	-1	89.66	0.04	4	4	30				
GR	114.2	855	113.3	915	113.5	990	112.7	1080	112.3	1150
GR	112	1205	112.1	1265	113.8	1310	111.3	1365	103.9	1510
GR	103.8	1531	98.8	1538	97.6	1541	97.1	1545	97.4	1551
GR	100.7	1554	105.3	1564	105	1585	105.4	1680	103.3	1740
GR	105.3	1765	103.4	1810	105.7	1825	105.6	1940	108.5	2035
GR	112.1	2130	113.1	2250	114.2	2355				

DROP STRUCTURE

X1	8481	28	1531	1564	1	1	1			
CI	-1	93.70	0.04	4	4	30				
X3	10									
X5	-1	4.5								
GR	114.2	855	113.3	915	113.5	990	112.7	1080	112.3	1150
GR	112	1205	112.1	1265	113.8	1310	111.3	1365	103.9	1510
GR	103.8	1531	98.8	1538	97.6	1541	97.1	1545	97.4	1551
GR	100.7	1554	105.3	1564	105	1585	105.4	1680	103.3	1740
GR	105.3	1765	103.4	1810	105.7	1825	105.6	1940	108.5	2035
GR	112.1	2130	113.1	2250	114.2	2355				

QT	1	2550								
X1	10620	20	9980	10030	2139	2139	2139			
CI	-1	95.84	0.04	4	4	30				
GR	114	8510	112	9080	110	9280	110	9570	108	9660
GR	106	9980	104	9990	101.8	10000	104	10010	106	10030
GR	108	10050	110	10180	112	10250	112.8	10300	112	10340
GR	110.5	10530	111	10870	112	11200	114	11380	114.4	11570

QT	1	2470								
X1	12120	19	9980	10020	1500	1500	1500			
CI	-1	97.34	0.04	4	4	30				
GR	113.5	8500	112.5	8850	112	9140	111.3	9340	112	9560
GR	112.7	9630	112	9700	110	9870	108	9980	104.9	10000
GR	108	10020	110	10070	111.7	10130	112	10400	114	10650
GR	113.1	11060	114	11230	116	11330	116.6	11690		

QT	1	2430								
X1	12500	19	9980	10020	380	380	380		.6	
CI	-1	97.72	0.04	4	4	30				
GR	113.5	8500	112.5	8850	112	9140	111.3	9340	112	9560
GR	112.7	9630	112	9700	110	9870	108	9980	104.9	10000
GR	108	10020	110	10070	111.7	10130	112	10400	114	10650
GR	113.1	11060	114	11230	116	11330	116.6	11690		

DROP STRUCTURE

X1	12501	19	9980	10020	1	1	1		.6	
CI	-1	99.72	0.04	4	4	30				
X5	-1	1.5								
GR	113.5	8500	112.5	8850	112	9140	111.3	9340	112	9560
GR	112.7	9630	112	9700	110	9870	108	9980	104.9	10000
GR	108	10020	110	10070	111.7	10130	112	10400	114	10650
GR	113.1	11060	114	11230	116	11330	116.6	11690		
QT	1	2310								
X1	12700	19	9980	10020	199	199	199		1.0	
CI	-1	99.92	0.04	4	4	30				
GR	113.5	8500	112.5	8850	112	9140	111.3	9340	112	9560
GR	112.7	9630	112	9700	110	9870	108	9980	104.9	10000
GR	108	10020	110	10070	111.7	10130	112	10400	114	10650
GR	113.1	11060	114	11230	116	11330	116.6	11690		
QT	1	1920								
X1	14400	25	1742	1757	1700	1700	1700			
CI	-1	101.62	0.04	4	4	30				
X3	10									
GR	116	300	114	560	112.2	1000	112.5	1265	111.6	1380
GR	111	1485	110.4	1610	111.7	1695	111.2	1730	111.4	1742
GR	109.1	1745	108.7	1747	109.1	1749	110.1	1750	112.6	1757
GR	111.8	1777	111.5	1850	111.9	1975	112.1	2110	112.3	2230
GR	113.2	2365	113.4	2460	113.7	2560	114.2	2630	115.2	2725
X1	14500	25	1742	1757	100	100	100			
CI	-1	101.72	0.04	4	4	20				
X3	10									
GR	116	300	114	560	112.2	1000	112.5	1265	111.6	1380
GR	111	1485	110.4	1610	111.7	1695	111.2	1730	111.4	1742
GR	109.1	1745	108.7	1747	109.1	1749	110.1	1750	112.6	1757
GR	111.8	1777	111.5	1850	111.9	1975	112.1	2110	112.3	2230
GR	113.2	2365	113.4	2460	113.7	2560	114.2	2630	115.2	2725
QT	1	1520								
CHATEAU WOODS PARKWAY										
X1	16410	23	1175	1250	1910	1910	1910			
CI	1200	103.63	0.04	4	4	20				
GR	117	760	116.4	835	115.4	935	115.2	965	115.1	980
GR	115	1020	114	1090	113.8	1175	113.8	1200	109.4	1200.01
GR	113.8	1200.02	113.8	1250	115.5	1300	114.3	1340	114	1410
GR	114.5	1485	114	1560	114.9	1605	115.3	1725	116.1	1825
GR	116.4	1925	117.8	2055	119.8	2180				
X1	16450	23	1175	1250	40	40	40			
CI	1200	103.67	0.04	4	4	20				
GR	117	760	116.4	835	115.4	935	115.2	965	115.1	980
GR	115	1020	114	1090	113.8	1175	113.8	1200	109.4	1200.01
GR	113.8	1200.02	113.8	1250	115.5	1300	114.3	1340	114	1410
GR	114.5	1485	114	1560	114.9	1605	115.3	1725	116.1	1825
GR	116.4	1925	117.8	2055	119.8	2180				

QT	1	1200								
X1	18600	23	1175	1250	2150	2150	2150		0.8	
CI	1200	105.82	0.04	4	4	20				
GR	117	760	116.4	835	115.4	935	115.2	965	115.1	980
GR	115	1020	114	1090	113.8	1175	113.8	1200	109.4	1200.01
GR	113.8	1200.02	113.8	1250	115.5	1300	114.3	1340	114	1410
GR	114.5	1485	114	1560	114.9	1605	115.3	1725	116.1	1825
GR	116.4	1925	117.8	2055	119.8	2180				

—

IHLEQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

THIS RUN EXECUTED 9/ 1/89 16:56:15

 HEC2 RELEASE DATED SEPT 88

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

F121-00-00

SUMMARY PRINTOUT

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
120.000	3310.00	86.63	84.00	83.80	74.30	3.73	86.83	.00	590.04	.00	20.00	.00
1980.000	3150.00	87.84	90.21	92.33	75.42	3.64	88.04	1860.00	119.33	15.15	20.00	39.22
2500.000	3150.00	88.20	91.83	93.93	75.73	3.61	88.41	520.00	119.80	16.57	20.00	58.25
* 2501.000	3150.00	91.20	91.75	93.92	79.70	3.60	91.41	1.00	122.04	16.58	30.00	58.29
3870.000	3000.00	92.19	98.10	94.02	81.07	3.62	92.39	1369.00	118.95	20.36	30.00	98.04
5220.000	2900.00	93.21	99.63	98.63	82.42	3.67	93.42	1350.00	116.33	24.01	30.00	152.44
* 5221.000	2900.00	97.21	99.02	98.32	86.40	3.66	97.42	1.00	116.49	24.01	30.00	152.47
6920.000	2790.00	98.57	100.44	102.03	88.10	3.71	98.78	1699.00	113.76	28.50	30.00	201.31
8480.000	2690.00	99.88	106.11	105.17	89.66	3.71	100.09	1560.00	111.75	32.54	30.00	261.64
* 8481.000	2690.00	104.38	105.07	105.10	93.70	3.46	104.56	1.00	115.43	32.54	30.00	261.68
10620.000	2550.00	105.97	106.20	108.31	95.84	3.57	106.17	2139.00	111.07	38.10	30.00	314.66
12120.000	2470.00	107.19	108.74	109.79	97.34	3.61	107.40	1500.00	108.83	41.89	30.00	354.68
12500.000	2430.00	107.52	109.36	110.43	97.72	3.59	107.72	380.00	108.32	42.84	30.00	365.57
* 12501.000	2430.00	109.02	109.20	110.05	99.72	3.89	109.25	1.00	104.36	42.84	30.00	365.60
12700.000	2310.00	109.24	109.61	110.49	99.92	3.69	109.45	199.00	104.54	43.32	30.00	369.74
14400.000	1920.00	110.68	111.69	111.69	101.62	3.20	110.84	1700.00	102.46	47.35	30.00	409.39
14500.000	1920.00	110.72	111.63	111.71	101.72	3.81	110.95	100.00	92.03	47.58	20.00	411.73

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
16410.000	1520.00	112.52	113.86	113.83	103.63	3.08	112.67	1910.00	91.11	51.59	20.00	453.95
16450.000	1520.00	112.55	113.86	113.82	103.67	3.08	112.70	40.00	91.09	51.68	20.00	454.86
18600.000	1200.00	114.07	114.65	114.60	105.82	2.75	114.18	2150.00	85.98	56.05	20.00	498.59

SUMMARY OF ERRORS AND SPECIAL NOTES

NOTE SECNO= 2501.000 PROFILE= 1 WSEL BASED ON X5 CARD
NOTE SECNO= 5221.000 PROFILE= 1 WSEL BASED ON X5 CARD
NOTE SECNO= 8481.000 PROFILE= 1 WSEL BASED ON X5 CARD
NOTE SECNO= 12501.000 PROFILE= 1 WSEL BASED ON X5 CARD

QT	1	5070								
X1	3870	24	9980	10010	1890	1890	1890			
CI	-1	76.55	0.04	4	4	30				
GR	101.5	8630	100	9070	98	9140	98	9300	100	9390
GR	100.5	9520	100	9670	98	9925	96	9940	94	9960
GR	92	9980	85.3	10000	92	10010	94	10060	96	10290
GR	98	10400	100	10530	100.5	10660	100	11060	102	11100
GR	104	11120	106	11140	108	11170	110	11200		

QT	1	4870								
X1	5220	32	9990	10020	1350	1350	1350			
CI	-1	77.36	0.04	4	4	30				
GR	114	7550	114	7700	112	7900	111.2	8170	112.5	8550
GR	112.1	8760	112	8900	113	9120	112	9220	110	9320
GR	108	9550	106	9650	104	9710	102	9770	100	9800
GR	100	9910	98	9970	96	9990	88.8	10000	96	10020
GR	98	10050	100	10160	102	10220	104	10290	106	10340
GR	108	10410	110	10480	112	10550	112	10730	114	10870
GR	116	11210	117	11420						

DROP STRUCTURE

X1	5221	32	9990	10020	1	1	1			
CI	-1	82.4	0.04	4	4	30				
X5	-1	6.0								
GR	114	7550	114	7700	112	7900	111.2	8170	112.5	8550
GR	112.1	8760	112	8900	113	9120	112	9220	110	9320
GR	108	9550	106	9650	104	9710	102	9770	100	9800
GR	100	9910	98	9970	96	9990	88.8	10000	96	10020
GR	98	10050	100	10160	102	10220	104	10290	106	10340
GR	108	10410	110	10480	112	10550	112	10730	114	10870
GR	116	11210	117	11420						

QT	1	4640								
X1	6920	26	9980	10020	1699	1699	1699			
CI	-1	83.42	0.04	4	4	30				
GR	113	9260	112	9430	112	9520	112.5	9580	112	9630
GR	110	9670	108	9690	106	9700	104	9730	102	9770
GR	101	9880	100	9980	98	9990	93.2	10000	98	10010
GR	100	10020	102	10070	104	10120	106	10150	108	10190
GR	110	10260	111.7	10500	110	10660	110	10780	112	10850
GR	113	11120								

QT	1	4440								
X1	8480	28	1531	1564	1560	1560	1560			
CI	-1	84.36	0.04	4	4	30				
GR	114.2	855	113.3	915	113.5	990	112.7	1080	112.3	1150
GR	112	1205	112.1	1265	113.8	1310	111.3	1365	103.9	1510
GR	103.8	1531	98.8	1538	97.6	1541	97.1	1545	97.4	1551
GR	100.7	1554	105.3	1564	105	1585	105.4	1680	103.3	1740
GR	105.3	1765	103.4	1810	105.7	1825	105.6	1940	108.5	2035
GR	112.1	2130	113.1	2250	114.2	2355				

DROP STRUCTURE

X1	8481	28	1531	1564	1	1	1			
CI	-1	89.4	0.04	4	4	30				
X5	-1	5.0								
GR	114.2	855	113.3	915	113.5	990	112.7	1080	112.3	1150
GR	112	1205	112.1	1265	113.8	1310	111.3	1365	103.9	1510
GR	103.8	1531	98.8	1538	97.6	1541	97.1	1545	97.4	1551
GR	100.7	1554	105.3	1564	105	1585	105.4	1680	103.3	1740
GR	105.3	1765	103.4	1810	105.7	1825	105.6	1940	108.5	2035
GR	112.1	2130	113.1	2250	114.2	2355				
QT	1	4180								
X1	10620	20	9980	10030	2139	2139	2139			
CI	-1	90.68	0.04	4	4	30				
GR	114	8510	112	9080	110	9280	110	9570	108	9660
GR	106	9980	104	9990	101.8	10000	104	10010	106	10030
GR	108	10050	110	10180	112	10250	112.8	10300	112	10340
GR	110.5	10530	111	10870	112	11200	114	11380	114.4	11570
QT	1	3760								
X1	12120	19	9980	10020	1500	1500	1500			
CI	-1	91.58	0.04	4	4	30				
GR	113.5	8500	112.5	8850	112	9140	111.3	9340	112	9560
GR	112.7	9630	112	9700	110	9870	108	9980	104.9	10000
GR	108	10020	110	10070	111.7	10130	112	10400	114	10650
GR	113.1	11060	114	11230	116	11330	116.6	11690		
X1	12220	19	9980	10020	100	100	100			
CI	-1	91.58	0.04	4	4	20				
GR	113.5	8500	112.5	8850	112	9140	111.3	9340	112	9560
GR	112.7	9630	112	9700	110	9870	108	9980	104.9	10000
GR	108	10020	110	10070	111.7	10130	112	10400	114	10650
GR	113.1	11060	114	11230	116	11330	116.6	11690		
QT	1	2920								
X1	14400	25	1742	1757	2180	2180	2180			
CI	-1	92.89	0.04	4	4	20				
GR	116	300	114	560	112.2	1000	112.5	1265	111.6	1380
GR	111	1485	110.4	1610	111.7	1695	111.2	1730	111.4	1742
GR	109.1	1745	108.7	1747	109.1	1749	110.1	1750	112.6	1757
GR	111.8	1777	111.5	1850	111.9	1975	112.1	2110	112.3	2230
GR	113.2	2365	113.4	2460	113.7	2560	114.2	2630	115.2	2725

DROP STRUCTURE

X1	14401	25	1742	1757	1	1	1			
CI	-1	97.9	0.04	4	4	20				
X5	-1	3.5								
GR	116	300	114	560	112.2	1000	112.5	1265	111.6	1380
GR	111	1485	110.4	1610	111.7	1695	111.2	1730	111.4	1742
GR	109.1	1745	108.7	1747	109.1	1749	110.1	1750	112.6	1757
GR	111.8	1777	111.5	1850	111.9	1975	112.1	2110	112.3	2230
GR	113.2	2365	113.4	2460	113.7	2560	114.2	2630	115.2	2725

QT	1	2340									
CHATEAU WOODS PARKWAY											
X1	16410	23	1175	1250	2009	2009	2009				
CI	1200	99.11	0.04	4	4	20					
GR	117	760	116.4	835	115.4	935	115.2	965	115.1	980	
GR	115	1020	114	1090	113.8	1175	113.8	1200	109.4	1200.01	
GR	113.8	1200.02	113.8	1250	115.5	1300	114.3	1340	114	1410	
GR	114.5	1485	114	1560	114.9	1605	115.3	1725	116.1	1825	
GR	116.4	1925	117.8	2055	119.8	2180					
X1	16450	23	1175	1250	40	40	40				
CI	1200	99.13	0.04	4	4	10					
GR	117	760	116.4	835	115.4	935	115.2	965	115.1	980	
GR	115	1020	114	1090	113.8	1175	113.8	1200	109.4	1200.01	
GR	113.8	1200.02	113.8	1250	115.5	1300	114.3	1340	114	1410	
GR	114.5	1485	114	1560	114.9	1605	115.3	1725	116.1	1825	
GR	116.4	1925	117.8	2055	119.8	2180					
QT	1	1910									
FALVEY LAKE OUTFALL											
X1	18600	23	1175	1250	2150	2150	2150			0.8	
CI	1200	100.42	0.04	4	4	10					
GR	117	760	116.4	835	115.4	935	115.2	965	115.1	980	
GR	115	1020	114	1090	113.8	1175	113.8	1200	109.4	1200.01	
GR	113.8	1200.02	113.8	1250	115.5	1300	114.3	1340	114	1410	
GR	114.5	1485	114	1560	114.9	1605	115.3	1725	116.1	1825	
GR	116.4	1925	117.8	2055	119.8	2180					

9/ 4/89

8:11:18

PAGE 5

IHLQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

THIS RUN EXECUTED 9/ 4/89 8:11:28

HEC2 RELEASE DATED SEPT 88

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

F121-00-00

SUMMARY PRINTOUT

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
120.000	5640.00	88.24	84.00	84.18	74.30	4.27	88.48	.00	1500.44	.00	30.00	.00
1980.000	5350.00	89.51	90.23	92.33	75.42	4.40	89.81	1860.00	142.72	35.08	30.00	48.02
3870.000	5070.00	90.97	98.25	94.18	76.55	4.01	91.22	1890.00	145.36	41.33	30.00	143.29
5220.000	4870.00	91.86	100.00	99.03	77.36	3.82	92.08	1350.00	145.97	45.85	30.00	240.25
* 5221.000	4870.00	97.86	99.63	98.64	82.40	3.43	98.04	1.00	153.65	45.85	30.00	240.31
6920.000	4640.00	98.63	100.64	102.92	83.42	3.36	98.80	1699.00	151.67	51.80	30.00	330.50
8480.000	4440.00	99.32	107.47	105.26	84.36	3.30	99.49	1560.00	149.75	57.20	30.00	439.77
* 8481.000	4440.00	104.32	106.18	105.17	89.40	3.31	104.49	1.00	219.16	57.20	30.00	439.83
10620.000	4180.00	105.27	106.33	108.64	90.68	3.25	105.43	2139.00	146.65	66.19	30.00	545.97
12120.000	3760.00	105.90	109.19	110.60	91.58	3.01	106.04	1500.00	144.57	71.20	30.00	630.65
12220.000	3760.00	105.92	109.09	110.44	91.58	3.39	106.10	100.00	134.72	71.52	20.00	636.35
14400.000	2920.00	106.90	111.26	111.56	92.89	2.74	107.01	2180.00	132.08	78.20	20.00	765.84
* 14401.000	2920.00	110.40	111.55	111.65	97.90	3.34	110.57	1.00	119.97	78.20	20.00	765.89
16410.000	2340.00	111.42	113.90	114.54	99.11	2.74	111.54	2009.00	118.52	83.70	20.00	847.01
16450.000	2340.00	111.41	113.89	114.34	99.13	3.22	111.57	40.00	108.27	83.80	10.00	848.62
18600.000	1910.00	112.56	114.69	115.06	100.42	2.69	112.68	2150.00	107.15	89.12	10.00	926.79

SUMMARY OF ERRORS AND SPECIAL NOTES

NOTE SECNO= 5221.000 PROFILE= 1 WSEL BASED ON X5 CARD
NOTE SECNO= 8481.000 PROFILE= 1 WSEL BASED ON X5 CARD
NOTE SECNO= 14401.000 PROFILE= 1 WSEL BASED ON X5 CARD

THIS RUN EXECUTED 9/ 1/89 16:11:26

HEC2 RELEASE DATED SEPT 88

T1 SOUTHERN MONTGOMERY COUNTY FLOOD PROTECTION STUDY
T2 DODSON AND ASSOCIATES, INC. SEPTEMBER, 1989
T3 F121-02-00 HARPER'S HORSEPEN BRANCH
T4 100-YEAR STORM FREQUENCY EXISTING CONDITIONS
T5 FILENAME = F12102EX.IH2

J1 ICHECK INQ NINV IDIR STRT METRIC HVINS Q WSEL FQ
2 .0019 112.3
J2 NPROF IPLOT PRFVS XSECV XSECH FN ALLDC IBW CHNIM ITRACE
-1 -1

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

38 43 1 23 24 42 26 3 39 4
37 30 65

J5 LPRNT NUMSEC *****REQUESTED SECTION NUMBERS*****

-10 -10

J6 IHLEQ ICOPY SUBDIV STRTDS RMILE

1

QT 1 1610
NC .15 .15 .1 .1 .3
X1 460 11 9910 10110 460 460 460
GR 113 8890 112 9540 111.3 9660 110 9910 108 9980
GR 108 10010 110 10110 111.7 10460 111.7 10810 112 11030
GR 113 11500
X1 1540 13 9870 10050 800 960 1080
GR 115 8420 114 9270 113 9400 112 9870 110 9970
GR 110 10020 112 10050 112.5 10190 113 10680 113.5 11150
GR 113.7 11490 114 11760 115 12260

QT	1	1590									
X1	2669	14	9970	10020	1240	960	1129				
GR	117.7	7810	116	8170	115.7	9450	114	9970	112	9990	
GR	110.3	10000	112	10010	114	10020	114.5	10430	114.7	10980	
GR	115.5	11280	116	12100	118	12720	119	13080			
NC				.3	.5						
NH	5	.15	9987	.024	9993	.1	10007	.024	10013	.15	
NH	13080										
X1	2719	34	9987	10013	50	50	50				
X3	10										
GR	117.7	7810	116	8170	115.7	9450	115.2	114.9	114.5		
GR	114.6	9800	114.2	9900	114	9970	111.65	9600	114.9	9700	
GR	110.35	9989	110.3	9990	110.35	9991	110.52	9987	110.52	9988	
GR	111.75	10000	111.85	10007	110.72	10008	110.55	9992	111.65	9993	
GR	110.55	10011	110.72	10012	111.85	10013	114	10009	110.5	10010	
GR	114.2	10200	114.3	10300	114.5	10400	114.5	10020	114.1	10100	
GR	115.5	11280	116	12100	118	12720	119	10430	114.7	10980	
NH	5	.15	9987	.024	9993	.1	10007	.024	10013	.15	
NH	13080										
SLEEPY HOLLOW ROAD											
X1	2720				1	1	1				
X3	10										
BT	-26	9600	115.2	115.2	9700	114.9	114.9	114.9	114.5		
BT		9900	116.1	114.2	9970	115.7	114	9800	115.0	114.6	
BT		9988	115.7	113.45	9989	115.7	114.05	9987	115.7	111.65	
BT		9991	115.7	114.05	9992	115.7	113.45	9990	115.7	114.22	
BT		10000	115.7	111.75	10007	115.7	111.85	9993	115.7	111.65	
BT		10009	115.7	114.25	10010	115.7	114.42	10008	115.7	113.65	
BT		10012	115.7	113.65	10013	115.7	111.85	10011	115.7	114.25	
BT		10100	114.8	114.1	10200	114.6	114.2	10020	115.7	114	
BT		10400	114.9	114.5	10430	114.5	114.5	10300	114.8	114.3	
NH	5	.15	9987	.024	9993	.1	10007	.024	10013	.15	
NH	13080										
X1	2748				28	28	28				
X2											
X3	10							1			
									114.9	114.5	
NH	5	.15	9987	.024	9993	.1	10007	.024	10013	.15	
NH	13080										
X1	2749				1	1	1				
X3	10										
									114.9	114.5	
NC	.15	.15	.1								
X1	2800	14	9970	10020	51	51	51				
GR	117.7	7810	116	8170	115.7	9450	114	9970	112	9990	
GR	110.3	10000	112	10010	114	10020	114.5	10430	114.7	10980	
GR	115.5	11280	116	12100	118	12720	119	13080			

NC				.1	.3					
X1	4320	15	9960	10050	1220	1160	1520			
GR	117.7	7820	116	8070	115	8520	115	8740	116	9220
GR	117.7	9490	116	9580	114	9960	112.5	10000	114	10050
GR	116	10160	117	10400	117	10660	118	10850	119	11100
X1	4780	14	9960	10060	880	100	460			
GR	117	8830	116	9300	116.7	9530	115	9720	114	9960
GR	112.8	10000	114	10060	116	10090	118	10110	118.5	10170
GR	118	10210	117	10690	118	10880	119	11130		
X1	5700	16	9900	10140	1640	700	920			
GR	120.5	4630	120	4650	118	4670	118	5110	118	8200
GR	118.3	8410	118	8660	117.5	8800	117	9260	116	9900
GR	114	9980	113.6	10000	114	10020	116	10140	118	10290
GR	119	10450								
QT	1	1520								
X1	7089	42	9988	10010	1380	1020	1389			
GR	121.5	4580	120	4630	118	4930	119	5280	118.5	5850
GR	119	6420	118.5	6880	118	7500	117	8200	127	8230
GR	127	8730	117	8760	117	8920	117.7	9010	117.3	9440
GR	118	9700	118.3	9860	118	9890	116.2	9950	116.2	9972
GR	115.7	9980	116.1	9988	115.4	9994	114.4	9996	114.1	9998
GR	114.0	10001	114.4	10003	115.3	10005	116.1	10010	117	10020
GR	117.6	10030	118	10037	117.3	10050	117.5	10330	117.5	10860
GR	118	10960	118.3	11330	118	11710	117.5	12300	118	12600
GR	120	12640	120.5	12660						
NC				.3	.5					
NH	5	.15	9982	.024	9986	.1	10014	.024	10018	.15
NH	12660									
X1	7139	67	9982	10018	50	50	50			
X3	10									
GR	121.5	4580	120	4630	118	4930	119	5280	118.5	5850
GR	119	6420	118.5	6880	118	7500	117	8200	127	8230
GR	127	8730	117	8760	117	8920	117.7	9010	117.3	9440
GR	117.8	9600	117.3	9700	117.2	9800	117.5	9900	117.5	9916
GR	116.2	9950	116.2	9972	116	9978	115.7	9980	116	9982
GR	115.48	9982.1	115	9982.3	114.59	9982.6	114.27	9983	114.07	9983.5
GR	114	9984	114.07	9984.5	114.27	9985	114.59	9985.4	115	9985.7
GR	115.48	9985.9	116	9986	116	10000	116	10014	115.48	10014.1
GR	115	10014.3	114.59	10014.6	114.27	10015	114.07	10015.5	114	10016
GR	114.07	10016.5	114.27	10017	114.59	10017.4	115	10017.7	115.48	10017.9
GR	116	10018	117	10020	117.6	10030	118	10037	117.3	10050
GR	117.6	10100	117.6	10200	117.6	10300	117.7	10400	117.5	10860
GR	118	10960	118.3	11330	118	11710	117.5	12300	118	12600
GR	120	12640	120.5	12660						

X1	10320	13	9620	10210	1440	1120	1220			
GR	121	5900	118.3	8600	118	8930	117.5	9230	117.4	9620
GR	116	9830	116	10000	116	10170	118	10210	119.5	10580
GR	120	11020	122	11130	122.5	11160				
QT	1	1480								
X1	12260	14	9710	10390	760	2300	1940			
GR	121	5870	119.5	7190	119.5	7680	119	8500	118	9160
GR	117.8	9210	118	9300	118.5	9510	118	9710	117	10000
GR	118	10390	119	11100	120	11220	121.7	11410		
NC	.15	.15	.1							
QT	1	1220								
X1	17340	38	2612	3326	6020	4620	5080			
GR	124.5	0	124.2	236	123.2	475	124.7	547	124.4	627
GR	122.3	721	124.4	838	122.6	870	121.8	885	121	900
GR	121.3	915	122.1	930	124.8	951	124	978	122.4	1026
GR	122.4	1166	123.3	1205	122.6	1286	122.1	1452	122.7	1605
GR	121.8	1686	121.8	1919	121.8	2129	121.5	2413	121.2	2612
GR	120.7	2757	119.8	2801	119.6	2883	119.9	3005	120.2	3130
GR	120	3199	121	3326	121.3	3543	122.4	3731	121.9	3894
GR	123.3	3989	124.4	4151	125.2	4264				
X1	19320	13	9420	10860	2040	1800	1980			
GR	126.2	6370	126	6520	125.7	6700	125.6	7310	124.2	7720
GR	123	9420	121	10000	123	10860	124	11370	125	11800
GR	125	12270	126	12700	128	12750				
X1	20950	32	5246	5271	2100	1400	1630			
X3				5179		5339				
GR	127.5	500	127	1210	126.2	2000	126	2211	124.3	2530
GR	123.9	2723	126.2	2786	124.6	2869	124.2	3195	123.6	3485
GR	124.6	3818	123	4062	122.9	4499	122.2	4974	121.7	5231
GR	122	5246	121.1	5253	120.8	5261	121.9	5271	121.5	5311
GR	121.6	5331	122.5	5551	123.3	5825	123.1	5960	125	6006
GR	123	6051	122.9	6394	123.2	6637	123.2	6859	123.8	7100
GR	124	7270	128	8220						
NC				.3	.5					
MISSOURI PACIFIC RAILROAD										
X1	21000	34	5240	5280	50	50	50			
X3	10							126.8	126.8	
GR	127.5	500	127	1210	126.2	2000	126	2211	124.3	2530
GR	123.9	2723	126.2	2786	124.6	2869	124.2	3195	123.6	3485
GR	124.6	3818	123	4062	122.9	4499	122.2	4974	121.7	5231
GR	121.9	5240	122	5246	121.1	5253	120.8	5261	121.9	5271
GR	121.8	5280	121.5	5311	121.6	5331	122.5	5551	123.3	5825
GR	123.1	5960	125	6006	123	6051	122.9	6394	123.2	6637
GR	123.2	6859	123.8	7100	124	7270	128	8220		

SB	1.05	1.56	3.0	5100	23	1	126	2.13	120.8	120.8
X1	21014	34	5240	5280	14	14	14			
X2			1	124.8	128.8					
X3	10							128.9	128.9	
GR	127.5	500	127	1210	126.2	2000	126	2211	124.3	2530
GR	123.9	2723	126.2	2786	124.6	2869	124.2	3195	123.6	3485
GR	124.6	3818	123	4062	122.9	4499	122.2	4974	121.7	5231
GR	121.9	5240	122	5246	121.1	5253	120.8	5261	121.9	5271
GR	121.8	5280	121.5	5311	121.6	5331	122.5	5551	123.3	5825
GR	123.1	5960	125	6006	123	6051	122.9	6394	123.2	6637
GR	123.2	6859	123.8	7100	124	7270	128	8220		
X1	21054	36	6246	6271	40	40	40			
X3				6239		6279				
GR	131	150	127.5	1500	127	2210	126.2	3000	126	3211
GR	124.3	3530	123.9	3723	126.2	3786	124.6	3869	124.2	4195
GR	123.6	4485	124.6	4818	123	5062	122.9	5499	122.2	5974
GR	121.7	6231	122	6246	121.1	6253	120.8	6262	121.9	6271
GR	121.5	6311	121.6	6331	122.5	6551	123.3	6825	123.1	6960
GR	125	7006	123	7051	122.9	7394	123.2	7637	123.2	7859
GR	123.8	8100	124	8270	128	9220	126	11940	128	12090
GR	130	12140								
NC				.1	.3					
X1	23420	19	9350	11150	2400	2400	2366			
GR	130	5970	128	5990	128	6290	128.5	6520	128	6580
GR	127.5	6840	127	7220	127	8080	126	8600	125	9350
GR	124	10000	124.5	11150	125	11630	125	11850	126	12020
GR	127	12220	126	12440	126	12550	129	12820		
INTERSTATE HIGHWAY 45										
X1	24840	19	9350	11150	1420	1420	1420		2.0	
GR	130	5970	128	5990	128	6290	128.5	6520	128	6580
GR	127.5	6840	127	7220	127	8080	126	8600	125	9350
GR	124	10000	124.5	11150	125	11630	125	11850	126	12020
GR	127	12220	126	12440	126	12550	129	12820		

IHLEQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

THIS RUN EXECUTED 9/ 1/89 16:11:47

 HEC2 RELEASE DATED SEPT 88

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

F121-02-00

SUMMARY PRINTOUT

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
460.000	1610.00	112.26	110.00	110.00	108.00	1.47	112.28	.00	1777.78	.00	.01	.00
1540.000	1610.00	113.95	112.00	112.00	110.00	1.27	113.96	1080.00	2442.70	44.95	.01	.00
2669.000	1590.00	115.92	114.00	114.00	110.30	1.65	115.94	1129.00	3528.93	117.97	.01	.00
2719.000	1590.00	116.01	111.65	111.85	110.30	2.30	116.03	50.00	3939.28	122.25	.01	.00
* 2720.000	1590.00	116.03	111.65	111.85	110.30	1.24	116.03	1.00	3940.54	122.34	.01	.00
2748.000	1590.00	116.14	111.65	111.85	110.30	1.07	116.14	28.00	3996.19	124.89	.01	.00
* 2749.000	1590.00	116.14	111.65	111.85	110.30	2.01	116.15	1.00	4003.44	124.98	.01	.00
2800.000	1590.00	116.20	114.00	114.00	110.30	1.22	116.21	51.00	4034.77	129.69	.01	.00
4320.000	1590.00	117.19	114.00	114.00	112.50	.92	117.19	1520.00	2689.69	222.42	.01	.00
4780.000	1590.00	117.73	114.00	114.00	112.80	1.20	117.74	460.00	1764.10	255.94	.01	.00
* 5700.000	1590.00	118.53	116.00	116.00	113.60	.75	118.53	920.00	5708.50	385.51	.01	.00
7089.000	1520.00	119.00	116.10	116.10	114.00	.64	119.00	1389.00	7292.30	579.73	.01	.00
7139.000	1520.00	119.02	116.00	116.00	114.00	.64	119.02	50.00	7295.56	588.10	.01	.00
7140.000	1520.00	119.02	116.00	116.00	114.00	.34	119.02	1.00	7294.91	588.27	.01	.00
7164.000	1520.00	119.02	116.00	116.00	114.00	.34	119.03	24.00	7296.23	592.29	.01	.00
7165.000	1520.00	119.02	116.00	116.00	114.00	.64	119.03	1.00	7296.37	592.45	.01	.00
7215.000	1520.00	119.04	116.10	116.10	114.00	.61	119.04	50.00	7298.98	600.83	.01	.00

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
* 9100.000	1500.00	119.33	116.00	116.00	115.50	.39	119.33	1885.00	4695.41	798.53	.01	.00
10320.000	1500.00	119.56	117.40	118.00	116.00	.50	119.56	1220.00	3286.48	923.39	.01	.00
12260.000	1480.00	119.95	118.00	118.00	117.00	.44	119.95	1940.00	4417.92	1029.78	.01	.00
* 17340.000	1220.00	122.31	121.20	121.00	119.60	.67	122.32	5080.00	2413.86	1464.75	.01	.00
19320.000	1220.00	123.63	123.00	123.00	121.00	.50	123.64	1980.00	2654.33	1579.54	.01	.00
* 20950.000	1220.00	126.08	122.00	121.90	120.80	2.56	126.13	1630.00	160.00	1636.35	.01	.00
* 21000.000	1220.00	126.25	121.90	121.80	120.80	6.43	126.89	50.00	40.00	1636.46	.01	.00
* 21014.000	1220.00	128.20	121.90	121.80	120.80	4.56	128.52	14.00	40.00	1636.47	.01	.00
21054.000	1220.00	128.50	122.00	121.90	120.80	5.50	128.90	40.00	40.00	1636.51	.01	.00
* 23420.000	1220.00	128.96	125.00	124.50	124.00	.09	128.96	2366.00	6836.07	1825.22	.01	.00
* 24840.000	1220.00	129.00	127.00	126.50	126.00	.19	129.00	1420.00	4547.03	2010.76	.01	.00

SUMMARY OF ERRORS AND SPECIAL NOTES

WARNING SECNO= 2720.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 2749.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 5700.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 9100.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 17340.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 20950.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 21000.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 21014.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 23420.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 24840.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE



THIS RUN EXECUTED 9/ 1/89 16:52:43

HEC2 RELEASE DATED SEPT 88

T1 SOUTHERN MONTGOMERY COUNTY FLOOD PROTECTION STUDY
T2 DODSON AND ASSOCIATES, INC. SEPTEMBER, 1989
T3 F126-00-00 HARPER'S HORSEPEN BRANCH
T4 100-YEAR STORM FREQUENCY INTERIM CONDITIONS
T5 FILENAME = F126INT.IH2

J1 ICHECK INQ NINV IDIR STRT METRIC HVINS Q WSEL FQ
2 .0005 109

J2 NPROF IPLOT PRFVS XSECV XSECH FN ALLDC IBW CHNIM ITRACE
-1 -1

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

38 43 1 23 24 42 26 3 39 4
37 30 65

J5 LPRNT NUMSEC *****REQUESTED SECTION NUMBERS*****

-10 -10

J6 IHLEQ ICOPY SUBDIV STRTDS RMILE

1

QT	1	1600								
NC	.15	.15	.04	.1	.3					
X1	1300	5	9990	10010	1300	1300	1300			
CI	-1	88.0	0.04	3	3	40				
GR	96.5	9550	97.5	9990	97.5	10000	97.5	10010	97.0	10330
QT	1	1590								
X1	3000	7	9990	10010	1700	1700	1700			
CI	-1	88.85	0.04	3	3	40				
GR	98.3	9420	98.5	9830	98.5	9990	98.5	10000	98.5	10010
GR	98.5	10320	98.0	10545						

QT	1	1580								
X1	4700	9	9990	10010	1700	1700	1700			
CI	-1	89.70	0.04	3	3	40				
GR	102.5	9450	102.0	9520	100.0	9770	100.0	9990	100.0	10000
GR	100.0	10010	100.0	10025	102.0	10065	103.0	10340		

QT	1	1560								
X1	5800	5	9990	10010	1100	1100	1100			
CI	-1	90.25	0.04	3	3	40				
GR	100.0	9800	100	9990	100	10000	100	10010	100	10200

X1	6000	5	9990	10010	200	200	200			
CI	-1	90.35	0.04	3	3	40				
GR	114.0	9800	114.0	9990	114.0	10000	114.0	10010	114.0	10200

DROP STRUCTURE

X1	6001	5	9990	10010	1	1	1			
CI	-1	95.35	0.04	3	3	40				
X5	-1	5.0								
GR	114.0	9800	114.0	9990	114.0	10000	114.0	10010	114.0	10200

X1	6400	7	9990	10010	399	399	399			
CI	-1	95.55	0.04	3	3	40				
X3	10									
GR	114.0	9550	115.5	9900	115.5	9990	115.5	10000	115.5	10010
GR	115.5	10300	115.2	10530						

DROP STRUCTURE

X1	6401	7	9990	10010	1	1	1			
CI	-1	100.55	0.04	3	3	40				
X3	10									
X5	-1	5.0								
GR	114.0	9550	115.5	9900	115.5	9990	115.5	10000	115.5	10010
GR	115.5	10300	115.2	10530						

X1	6800	7	9990	10010	399	399	399			
CI	-1	100.75	0.04	3	3	40				
X3	10									
GR	114.0	9550	115.5	9900	115.5	9990	115.5	10000	115.5	10010
GR	115.5	10300	115.2	10530						

DROP STRUCTURE

X1	6801	7	9990	10010	1	1	1			
CI	-1	105.75	0.04	3	3	40				
X3	10									
X5	-1	5.0								
GR	114.0	9550	115.5	9900	115.5	9990	115.5	10000	115.5	10010
GR	115.5	10300	115.2	10530						

QT	1	1530								
X1	8100	6	9990	10010	1299	1299	1299			
CI	-1	106.40	0.04	3	3	40				
GR	116.5	9570	116.8	9990	116.8	10000	116.8	10010	117.0	10170
GR	117.0	10600								

QT	1	1510								
X1	9500	8	9990	10010	1400	1400	1400			
CI	-1	107.1	0.04	3	3	40				
GR	119.0	9230	119.0	9770	118.7	9990	118.7	10000	118.7	10010
GR	118.5	10125	118.5	10370	118.8	10740				

QT	1	1500								
X1	10800	5	9990	10010	1300	1300	1300			
CI	-1	107.75	0.04	3	3	40				
GR	119.5	9630	119.5	9990	119.5	10000	119.5	10010	119.5	10370

QT	1	1490								
X1	11800	6	9990	10010	1000	1000	1000			
CI	-1	108.25	0.04	3	3	40				
GR	119.5	9420	119.5	9910	119.5	9990	119.5	10000	119.5	10010
GR	119.5	10400								

QT	1	1480								
X1	12900	5	9990	10010	1100	1100	1100			
CI	-1	108.80	0.04	3	3	40				
GR	119.5	9680	119.2	9990	119.2	10000	119.2	10010	119.0	10220

QT	1	1470								
X1	13900	16	9990	10010	1000	1000	1000			
CI	-1	109.30	0.04	3	3	40				
GR	121	5870	119.5	7190	119.5	7680	119	8500	118	9160
GR	117.8	9210	118	9300	118.5	9510	118	9710	117	9990
GR	117	10000	117	10010	118	10390	119	11100	120	11220
GR	121.7	11410								

NC	.15	.15	.10							
DROP STRUCTURE										
X1	13901	14	9710	10390	1	1	1			
CI	10000	115.3	.10	3	3	6				
X5	-1	1.0								
GR	121	5870	119.5	7190	119.5	7680	119	8500	118	9160
GR	117.8	9210	118	9300	118.5	9510	118	9710	117	10000
GR	118	10390	119	11100	120	11220	121.7	11410		

NC	.15	.15	.10							
QT	1	1450								
X1	15400	14	9710	10390	1500	1500	1500		.8	
CI						.01				
GR	121	5870	119.5	7190	119.5	7680	119	8500	118	9160
GR	117.8	9210	118	9300	118.5	9510	118	9710	117	10000
GR	118	10390	119	11100	120	11220	121.7	11410		

NC	.15	.15	.10							
QT	1	1220								
X1	18500	38	2612	3326	3100	3100	3100			
GR	124.5	0	124.2	236	123.2	475	124.7	547	124.4	627
GR	122.3	721	124.4	838	122.6	870	121.8	885	121	900
GR	121.3	915	122.1	930	124.8	951	124	978	122.4	1026
GR	122.4	1166	123.3	1205	122.6	1286	122.1	1452	122.7	1605
GR	121.8	1686	121.8	1919	121.8	2129	121.5	2413	121.2	2612
GR	120.7	2757	119.8	2801	119.6	2883	119.9	3005	120.2	3130
GR	120	3199	121	3326	121.3	3543	122.4	3731	121.9	3894
GR	123.3	3989	124.4	4151	125.2	4264				

QT	1	1220								
X1	20480	13	9420	10860	2040	1800	1980			
GR	126.2	6370	126	6520	125.7	6700	125.6	7310	124.2	7720
GR	123	9420	121	10000	123	10860	124	11370	125	11800
GR	125	12270	126	12700	128	12750				

X1	22110	32	5246	5271	2100	1400	1630			
X3				5179		5339				
GR	127.5	500	127	1210	126.2	2000	126	2211	124.3	2530
GR	123.9	2723	126.2	2786	124.6	2869	124.2	3195	123.6	3485
GR	124.6	3818	123	4062	122.9	4499	122.2	4974	121.7	5231
GR	122	5246	121.1	5253	120.8	5261	121.9	5271	121.5	5311
GR	121.6	5331	122.5	5551	123.3	5825	123.1	5960	125	6006
GR	123	6051	122.9	6394	123.2	6637	123.2	6859	123.8	7100
GR	124	7270	128	8220						

NC			.3	.5						
QT	1	1220								
MISSOURI PACIFIC RAILROAD										
X1	22160	34	5240	5280	50	50	50			
X3	10							126.8	126.8	
GR	127.5	500	127	1210	126.2	2000	126	2211	124.3	2530
GR	123.9	2723	126.2	2786	124.6	2869	124.2	3195	123.6	3485
GR	124.6	3818	123	4062	122.9	4499	122.2	4974	121.7	5231
GR	121.9	5240	122	5246	121.1	5253	120.8	5261	121.9	5271
GR	121.8	5280	121.5	5311	121.6	5331	122.5	5551	123.3	5825
GR	123.1	5960	125	6006	123	6051	122.9	6394	123.2	6637
GR	123.2	6859	123.8	7100	124	7270	128	8220		

SB	1.05	1.56	3.0	5100	23	1	126	2.13	120.8	120.8
X1	22174	34	5240	5280	14	14	14			
X2			1	124.8	128.8					
X3	10							128.9	128.9	
GR	127.5	500	127	1210	126.2	2000	126	2211	124.3	2530
GR	123.9	2723	126.2	2786	124.6	2869	124.2	3195	123.6	3485
GR	124.6	3818	123	4062	122.9	4499	122.2	4974	121.7	5231
GR	121.9	5240	122	5246	121.1	5253	120.8	5261	121.9	5271
GR	121.8	5280	121.5	5311	121.6	5331	122.5	5551	123.3	5825
GR	123.1	5960	125	6006	123	6051	122.9	6394	123.2	6637
GR	123.2	6859	123.8	7100	124	7270	128	8220		

X1	22214	36	6246	6271	40	40	40			
X3				6239		6279				
GR	131	150	127.5	1500	127	2210	126.2	3000	126	3211
GR	124.3	3530	123.9	3723	126.2	3786	124.6	3869	124.2	4195
GR	123.6	4485	124.6	4818	123	5062	122.9	5499	122.2	5974
GR	121.7	6231	122	6246	121.1	6253	120.8	6262	121.9	6271
GR	121.5	6311	121.6	6331	122.5	6551	123.3	6825	123.1	6960
GR	125	7006	123	7051	122.9	7394	123.2	7637	123.2	7859
GR	123.8	8100	124	8270	128	9220	126	11940	128	12090
GR	130	12140								
NC				.1	.3					
QT	1	1200								
X1	24580	19	9350	11150	2400	2400	2366			
GR	130	5970	128	5990	128	6290	128.5	6520	128	6580
GR	127.5	6840	127	7220	127	8080	126	8600	125	9350
GR	124	10000	124.5	11150	125	11630	125	11850	126	12020
GR	127	12220	126	12440	126	12550	129	12820		
X1	26000	19	9350	11150	1420	1420	1420		2.0	
GR	130	5970	128	5990	128	6290	128.5	6520	128	6580
GR	127.5	6840	127	7220	127	8080	126	8600	125	9350
GR	124	10000	124.5	11150	125	11630	125	11850	126	12020
GR	127	12220	126	12440	126	12550	129	12820		

IHLEQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

THIS RUN EXECUTED 9/ 1/89 16:52:57

 HEC2 RELEASE DATED SEPT 88

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

F126-00-00

SUMMARY PRINTOUT

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
1300.000	1600.00	96.74	97.41	97.44	88.00	2.76	96.86	.00	197.40	.00	40.00	.00
3000.000	1590.00	97.58	98.50	98.50	88.85	2.75	97.70	1700.00	92.43	5.66	40.00	41.34
4700.000	1580.00	98.42	100.00	101.52	89.70	2.73	98.54	1700.00	92.37	9.26	40.00	85.90
5800.000	1560.00	98.96	100.00	100.00	90.25	2.71	99.07	1100.00	92.27	11.59	40.00	114.93
6000.000	1560.00	99.05	114.00	114.00	90.35	2.71	99.17	200.00	92.23	12.02	40.00	127.15
* 6001.000	1560.00	104.05	114.00	114.00	95.35	2.71	104.17	1.00	92.22	12.02	40.00	127.24
6400.000	1560.00	104.25	115.50	115.50	95.55	2.71	104.36	399.00	92.18	12.86	40.00	155.18
* 6401.000	1560.00	109.25	115.50	115.50	100.55	2.71	109.36	1.00	92.18	12.87	40.00	155.24
6800.000	1560.00	109.44	115.50	115.50	100.75	2.72	109.55	399.00	92.14	13.71	40.00	173.79
* 6801.000	1560.00	114.44	115.50	115.50	105.75	2.72	114.55	1.00	92.14	13.71	40.00	173.83
8100.000	1530.00	115.07	116.77	116.85	106.40	2.67	115.18	1299.00	92.02	16.46	40.00	207.89
9500.000	1510.00	115.72	118.76	118.62	107.10	2.66	115.83	1400.00	91.77	19.41	40.00	249.59
10800.000	1500.00	116.33	119.50	119.50	107.75	2.66	116.44	1300.00	91.50	22.15	40.00	291.75
11800.000	1490.00	116.81	119.50	119.50	108.25	2.65	116.91	1000.00	91.32	24.24	40.00	323.49
12900.000	1480.00	117.32	119.24	119.16	108.80	2.65	117.43	1100.00	91.14	26.55	40.00	355.48
13900.000	1470.00	117.78	117.12	117.09	109.30	2.62	117.89	1000.00	539.80	33.79	40.00	378.25
* 13901.000	1470.00	118.78	118.00	118.00	115.30	1.27	118.80	1.00	2299.96	33.82	6.00	378.26

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
* 15400.000	1450.00	120.37	118.80	118.80	117.80	.58	120.37	1500.00	4037.82	142.94	.01	378.26
18500.000	1220.00	122.35	121.20	121.00	119.60	.65	122.35	3100.00	2467.80	374.43	.01	378.26
20480.000	1220.00	123.63	123.00	123.00	121.00	.50	123.63	1980.00	2647.48	490.27	.01	378.26
* 22110.000	1220.00	126.08	122.00	121.90	120.80	2.56	126.13	1630.00	160.00	546.93	.01	378.26
* 22160.000	1220.00	126.25	121.90	121.80	120.80	6.43	126.89	50.00	40.00	547.04	.01	378.26
* 22174.000	1220.00	128.20	121.90	121.80	120.80	4.56	128.52	14.00	40.00	547.06	.01	378.26
22214.000	1220.00	128.50	122.00	121.90	120.80	5.50	128.90	40.00	40.00	547.09	.01	378.26
* 24580.000	1200.00	128.96	125.00	124.50	124.00	.08	128.96	2366.00	6836.21	735.81	.01	378.26
* 26000.000	1200.00	129.00	127.00	126.50	126.00	.19	129.00	1420.00	4547.60	921.36	.01	378.26

SUMMARY OF ERRORS AND SPECIAL NOTES

NOTE SECNO= 6001.000 PROFILE= 1 WSEL BASED ON X5 CARD

NOTE SECNO= 6401.000 PROFILE= 1 WSEL BASED ON X5 CARD

NOTE SECNO= 6801.000 PROFILE= 1 WSEL BASED ON X5 CARD

NOTE SECNO= 13901.000 PROFILE= 1 WSEL BASED ON X5 CARD

WARNING SECNO= 13901.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 15400.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 22110.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 22160.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 22174.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 24580.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 26000.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

THIS RUN EXECUTED 9/ 4/89 8: 5:23

HEC2 RELEASE DATED SEPT 88

T1 SOUTHERN MONTGOMERY COUNTY FLOOD PROTECTION STUDY
 T2 DODSON AND ASSOCIATES, INC. SEPTEMBER, 1989
 T3 F126-00-00 HARPER'S HORSEPEN BRANCH
 T4 100-YEAR STORM FREQUENCY ULTIMATE CONDITIONS
 T5 FILENAME = F126ULT.IH2

J1 ICHECK INQ NINV IDIR STRT METRIC HVINS Q WSEL FQ
 2 .0005 109
 J2 NPROF IPLOT PRFVS XSECV XSECH FN ALLDC IBW CHNIM ITRACE
 -1 -1

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

38 43 1 23 24 42 26 3 39 4
 37 30 65

J5 LPRNT NUMSEC *****REQUESTED SECTION NUMBERS*****

-10 -10

J6 IHLEQ ICOPY SUBDIV STRTDS RMILE

1

QT 1 7890
 NC .15 .15 .04 .1 .3
 X1 1300 5 9990 10010 1300 1300 1300
 CI -1 81.65 0.04 4 4 60
 GR 96.5 9550 97.5 9990 97.5 10000 97.5 10010 97.0 10330
 QT 1 7780
 X1 3000 7 9990 10010 1700 1700 1700
 CI -1 82.50 0.04 4 4 60
 GR 98.3 9420 98.5 9830 98.5 9990 98.5 10000 98.5 10010
 GR 98.5 10320 98.0 10545

QT	1	7670								
X1	4700	9	9990	10010	1700	1700	1700			
CI	-1	83.35	0.04	4	4	60				
GR	102.5	9450	102.0	9520	100.0	9770	100.0	9990	100.0	10000
GR	100.0	10010	100.0	10025	102.0	10065	103.0	10340		

QT	1	7600								
X1	5800	5	9990	10010	1100	1100	1100			
CI	-1	83.90	0.04	4	4	60				
GR	100.0	9800	100	9990	100	10000	100	10010	100	10200

X1	6000	5	9990	10010	200	200	200			
CI	-1	84.00	0.04	4	4	60				
GR	114.0	9800	114.0	9990	114.0	10000	114.0	10010	114.0	10200

DROP STRUCTURE

X1	6001	5	9990	10010	1	1	1			
CI	-1	89.00	0.04	4	4	50				
X5	-1	6.0								
GR	114.0	9800	114.0	9990	114.0	10000	114.0	10010	114.0	10200

X1	6400	7	9990	10010	400	400	400			
CI	-1	89.20	0.04	4	4	50				
GR	114.0	9550	115.5	9900	115.5	9990	115.5	10000	115.5	10010
GR	115.5	10300	115.2	10530						

DROP STRUCTURE

X1	6401	7	9990	10010	1	1	1			
CI	-1	94.20	0.04	4	4	40				
X5	-1	6.0								
GR	114.0	9550	115.5	9900	115.5	9990	115.5	10000	115.5	10010
GR	115.5	10300	115.2	10530						

QT	1	7430								
X1	8100	6	9990	10010	1700	1700	1700			
CI	-1	95.05	0.04	4	4	40				
GR	116.5	9570	116.8	9990	116.8	10000	116.8	10010	117.0	10170
GR	117.0	10600								

QT	1	7240								
X1	9500	8	9990	10010	1400	1400	1400			
CI	-1	95.75	0.04	4	4	40				
GR	119.0	9230	119.0	9770	118.7	9990	118.7	10000	118.7	10010
GR	118.5	10125	118.5	10370	118.8	10740				

QT	1	7070								
X1	10800	5	9990	10010	1300	1300	1300			
CI	-1	96.40	0.04	4	4	40				
GR	119.5	9630	119.5	9990	119.5	10000	119.5	10010	119.5	10370

QT	1	6940								
X1	11800	6	9990	10010	1000	1000	1000			
CI	-1	96.90	0.04	4	4	40				
GR	119.5	9420	119.5	9910	119.5	9990	119.5	10000	119.5	10010
GR	119.5	10400								
QT	1	6800								
X1	12900	5	9990	10010	1100	1100	1100			
CI	-1	97.45	0.04	4	4	40				
GR	119.5	9680	119.2	9990	119.2	10000	119.2	10010	119.0	10220
QT	1	6630								
X1	14300	8	9990	10010	1400	1400	1400			
CI	-1	98.15	0.04	4	4	40				
GR	119.0	9600	118.0	9740	117.0	9930	117.2	9990	117.2	10000
GR	117.2	10010	118.0	10210	120.0	10280				
QT	1	6350								
X1	16600	38	2801	2883	2300	2300	2300		-1.2	
CI	-1	99.30	0.04	4	4	40				
GR	124.5	0	124.2	236	123.2	475	124.7	547	124.4	627
GR	122.3	721	124.4	838	122.6	870	121.8	885	121	900
GR	121.3	915	122.1	930	124.8	951	124	978	122.4	1026
GR	122.4	1166	123.3	1205	122.6	1286	122.1	1452	122.7	1605
GR	121.8	1686	121.8	1919	121.8	2129	121.5	2413	121.2	2612
GR	120.7	2757	119.8	2801	119.6	2883	119.9	3005	120.2	3130
GR	120	3199	121	3326	121.3	3543	122.4	3731	121.9	3894
GR	123.3	3989	124.4	4151	125.2	4264				
QT	1	3340								
X1	16700	38	2801	2883	100	100	100		-1.2	
CI	-1	99.35	0.04	4	4	40				
GR	124.5	0	124.2	236	123.2	475	124.7	547	124.4	627
GR	122.3	721	124.4	838	122.6	870	121.8	885	121	900
GR	121.3	915	122.1	930	124.8	951	124	978	122.4	1026
GR	122.4	1166	123.3	1205	122.6	1286	122.1	1452	122.7	1605
GR	121.8	1686	121.8	1919	121.8	2129	121.5	2413	121.2	2612
GR	120.7	2757	119.8	2801	119.6	2883	119.9	3005	120.2	3130
GR	120	3199	121	3326	121.3	3543	122.4	3731	121.9	3894
GR	123.3	3989	124.4	4151	125.2	4264				
DROP STRUCTURE										
X1	16701	38	2801	2883	1	1	1		-1.2	
CI	-1	104.40	0.04	4	4	20				
X5	-1	1.0								
GR	124.5	0	124.2	236	123.2	475	124.7	547	124.4	627
GR	122.3	721	124.4	838	122.6	870	121.8	885	121	900
GR	121.3	915	122.1	930	124.8	951	124	978	122.4	1026
GR	122.4	1166	123.3	1205	122.6	1286	122.1	1452	122.7	1605
GR	121.8	1686	121.8	1919	121.8	2129	121.5	2413	121.2	2612
GR	120.7	2757	119.8	2801	119.6	2883	119.9	3005	120.2	3130
GR	120	3199	121	3326	121.3	3543	122.4	3731	121.9	3894
GR	123.3	3989	124.4	4151	125.2	4264				

QT	1	2780								
X1	18880	38	2801	2883	2179	2179	2179			
CI	-1	105.49	0.04	4	4	20				
GR	124.5	0	124.2	236	123.2	475	124.7	547	124.4	627
GR	122.3	721	124.4	838	122.6	870	121.8	885	121	900
GR	121.3	915	122.1	930	124.8	951	124	978	122.4	1026
GR	122.4	1166	123.3	1205	122.6	1286	122.1	1452	122.7	1605
GR	121.8	1686	121.8	1919	121.8	2129	121.5	2413	121.2	2612
GR	120.7	2757	119.8	2801	119.6	2883	119.9	3005	120.2	3130
GR	120	3199	121	3326	121.3	3543	122.4	3731	121.9	3894
GR	123.3	3989	124.4	4151	125.2	4264				
X1	18980	38	2801	2883	100	100	100			
CI	-1	105.54	0.04	4	4	10				
GR	124.5	0	124.2	236	123.2	475	124.7	547	124.4	627
GR	122.3	721	124.4	838	122.6	870	121.8	885	121	900
GR	121.3	915	122.1	930	124.8	951	124	978	122.4	1026
GR	122.4	1166	123.3	1205	122.6	1286	122.1	1452	122.7	1605
GR	121.8	1686	121.8	1919	121.8	2129	121.5	2413	121.2	2612
GR	120.7	2757	119.8	2801	119.6	2883	119.9	3005	120.2	3130
GR	120	3199	121	3326	121.3	3543	122.4	3731	121.9	3894
GR	123.3	3989	124.4	4151	125.2	4264				
QT	1	2350								
X1	20880	15	9990	10010	1900	1900	1900			
CI	10000	106.49	0.04	4	4	10				
GR	126.2	6370	126	6520	125.7	6700	125.6	7310	124.2	7720
GR	123	9420	121	9990	121	10000	121	10010	123	10860
GR	124	11370	125	11800	125	12270	126	12700	128	12750
X1	20980	15	9990	10010	100	100	100			
CI	-1	106.54	0.04	4	4	6				
GR	126.2	6370	126	6520	125.7	6700	125.6	7310	124.2	7720
GR	123	9420	121	9990	121	10000	121	10010	123	10860
GR	124	11370	125	11800	125	12270	126	12700	128	12750
QT	1	2040								
X1	22550	32	5246	5271	1570	1570	1570			
CI	-1	107.32	0.04	4	4	6				
GR	127.5	500	127	1210	126.2	2000	126	2211	124.3	2530
GR	123.9	2723	126.2	2786	124.6	2869	124.2	3195	123.6	3485
GR	124.6	3818	123	4062	122.9	4499	122.2	4974	121.7	5231
GR	122	5246	121.1	5253	120.8	5261	121.9	5271	121.5	5311
GR	121.6	5331	122.5	5551	123.3	5825	123.1	5960	125	6006
GR	123	6051	122.9	6394	123.2	6637	123.2	6859	123.8	7100
GR	124	7270	128	8220						
NC				.3	.5					

9/ 4/89

8: 5:23

PAGE 6

IHLQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

THIS RUN EXECUTED 9/ 4/89 8: 5:38

 HEC2 RELEASE DATED SEPT 88

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

F126-00-00

SUMMARY PRINTOUT

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
1300.000	7890.00	97.61	97.31	97.37	81.65	3.96	97.85	.00	780.00	.00	60.00	.00
3000.000	7780.00	98.46	98.50	98.50	82.50	3.93	98.70	1700.00	723.40	29.34	60.00	123.62
4700.000	7670.00	99.31	100.00	102.15	83.35	3.88	99.54	1700.00	187.69	47.11	60.00	256.03
5800.000	7600.00	99.84	100.00	100.00	83.90	3.85	100.07	1100.00	187.59	51.85	60.00	342.09
6000.000	7600.00	99.94	114.00	114.00	84.00	3.85	100.17	200.00	187.50	52.71	60.00	369.51
* 6001.000	7600.00	105.94	114.00	114.00	89.00	3.81	106.16	1.00	185.49	52.72	50.00	369.68
6400.000	7600.00	106.12	115.37	115.50	89.20	3.82	106.35	400.00	185.39	54.42	50.00	427.67
* 6401.000	7600.00	112.12	115.48	115.50	94.20	3.80	112.34	1.00	183.36	54.43	40.00	427.80
8100.000	7430.00	112.87	116.73	116.92	95.05	3.74	113.09	1700.00	182.65	61.57	40.00	598.79
9500.000	7240.00	113.48	118.84	118.52	95.75	3.68	113.69	1400.00	181.93	67.43	40.00	748.85
10800.000	7070.00	114.03	119.50	119.50	96.40	3.62	114.24	1300.00	181.13	72.84	40.00	895.25
11800.000	6940.00	114.45	119.50	119.50	96.90	3.59	114.65	1000.00	180.41	76.99	40.00	1006.46
12900.000	6800.00	114.90	119.29	119.11	97.45	3.55	115.09	1100.00	179.59	81.54	40.00	1122.77
14300.000	6630.00	115.46	117.14	117.55	98.15	3.51	115.65	1400.00	178.50	87.29	40.00	1251.92
16600.000	6350.00	116.36	119.56	118.54	99.30	3.44	116.55	2300.00	176.55	96.67	40.00	1443.52
16700.000	3340.00	116.53	119.55	118.54	99.35	1.79	116.58	100.00	177.42	97.07	40.00	1451.95
* 16701.000	3340.00	117.53	119.17	118.46	104.40	3.51	117.72	1.00	125.02	97.08	20.00	1452.01

9/ 4/89

8: 5:23

PAGE 8

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
18880.000	2780.00	118.68	120.38	119.66	105.49	2.90	118.81	2179.00	125.51	103.34	20.00	1540.21
18980.000	2780.00	118.70	120.27	119.65	105.54	3.37	118.87	100.00	115.26	103.62	10.00	1544.01
20880.000	2350.00	119.72	121.19	121.13	106.49	2.82	119.85	1900.00	115.87	108.66	10.00	1612.44
20980.000	2350.00	119.76	121.18	121.12	106.54	3.02	119.90	100.00	111.82	108.92	6.00	1616.00
22550.000	2040.00	120.50	121.76	121.54	107.32	2.64	120.60	1570.00	111.45	112.95	6.00	1669.37
22600.000	2040.00	120.52	121.76	121.54	107.35	2.64	120.62	50.00	111.35	113.07	6.00	1671.05
22614.000	2040.00	120.52	121.76	121.54	107.36	2.64	120.63	14.00	111.29	113.11	6.00	1671.51
22654.000	2040.00	120.54	121.76	121.54	107.38	2.64	120.65	40.00	111.26	113.21	6.00	1672.84
25760.000	1550.00	121.60	124.08	124.02	108.93	2.16	121.67	3106.00	107.32	121.00	6.00	1782.05
27500.000	1550.00	122.11	126.09	126.03	109.80	2.28	122.19	1740.00	104.50	125.23	6.00	1851.39

SUMMARY OF ERRORS AND SPECIAL NOTES

NOTE SECNO= 6001.000 PROFILE= 1 WSEL BASED ON X5 CARD

NOTE SECNO= 6401.000 PROFILE= 1 WSEL BASED ON X5 CARD

NOTE SECNO= 16701.000 PROFILE= 1 WSEL BASED ON X5 CARD

WARNING SECNO= 16701.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

THIS RUN EXECUTED 9/ 1/89 16: 8:20

HEC2 RELEASE DATED SEPT 88

T1 SOUTHERN MONTGOMERY COUNTY FLOOD PROTECTION STUDY
T2 DODSON AND ASSOCIATES, INC. SEPTEMBER, 1989
T3 F128-00-00 CARTER'S SLOUGH
T4 100-YEAR STORM FREQUENCY EXISTING CONDITIONS
T5 FILENAME = F128RVEK.IH2

J1 ICHECK INQ NINV IDIR STRT METRIC HVINS Q WSEL FQ
2 .0042 104.4

J2 NPROF IPLOT PRFVS XSECV XSECH FN ALLDC IBW CHNIM ITRACE
-1 -1

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

38 43 1 23 24 42 26 3 39 4
37 30 65

J5 LPRNT NUMSEC *****REQUESTED SECTION NUMBERS*****

-10 -10

J6 IHLEQ ICOPIY SUBDIV STRTDS RMILE

1

QT 1 660
NC .15 .15 .1
X1 5960 33 1096 1132 5960 5960 5960
GR 111 0 110.1 110 110.7 210 111.4 330 113.7 480
GR 115.8 610 111.3 710 108.3 820 105 910 103.8 980
GR 101.8 1070 102.2 1096 101.6 1106 97.1 1110 96.9 1116
GR 97.2 1120 98.9 1123 98.6 1127 101.9 1132 103.1 1155
GR 105.3 1206 109.6 1270 105.6 1486 114.9 1736 115.7 1835
GR 116.4 1900 116.1 1960 116 2080 116.7 2170 117.2 2320
GR 116.4 2480 116.8 2640 116.5 2800

QT 1 610
X1 7500 22 9870 10160 1540 1540 1540
GR 117 8970 116 9090 114 9230 114 9370 114 9410
GR 114 9480 112 9820 110 9850 108 9870 106 9900
GR 104 9950 103.5 10000 104 10060 106 10110 108 10160

GR	116	10830	117.5	11080						
X1	8920	16	9730	10280	8170	8170	8170			
GR	117	9090	116	9200	114	9400	112	9730	110	9800
GR	108	9870	106	10000	108	10190	110	10230	112	10280
GR	114	10360	116	10420	118	10490	118	10640	120	10680
GR	120.5	10740								
X1	10340	11	9950	10070	1420	1420	1420			
GR	121	9270	120.4	9490	120	9840	118	9950	116	9970
GR	114.4	10000	116	10040	118	10070	120	10110	121	10530
GR	122	10700								
NC	.12	.12	.08							
QT	1	490								
X1	12130	36	1972	2022	1790	1790	1790			
GR	121.4	0	120.7	17	119.9	18	120.1	22	121	23
GR	120.9	115	120.8	315	120.1	515	120.1	615	121.6	815
GR	120.4	915	121.2	1115	121.2	1239	119.6	1243	120.7	1262
GR	120.3	1415	120.3	1416	121.1	1615	120.2	1815	118.6	1915
GR	118.7	1972	118.1	1984	116	1995	114	2003	113.9	2005
GR	115	2006	118.5	2022	120.1	2115	120.3	2256	121.1	2291
GR	120.3	2300	121.7	2315	121.7	2415	121.2	2515	121.7	2615
GR	123	2715								

LEXINGTON DRIVE

X1	12230	29	1953	1973.2	100	100	100			
X3	10							118.7	118.7	
GR	121.3	0	121.8	200	121.4	400	121.3	600	121.5	800
GR	121.9	1000	121.6	1200	121.5	1400	121.5	1535	121.3	1700
GR	120.7	1800	119.8	1900	119.7	1953	119.2	1953.01	115.7	1953.02
GR	115.5	1962.6	115.5	1963.6	114	1968	114.3	1971	119.2	1973.2
GR	119.7	1974	120	2000	121.3	2200	121.7	2400	122.5	2600
GR	123.3	2800	123.5	2952	123.1	3100	122	3246		
SB	1.05	1.56	2.7		8	1.0	52	1.5	114.0	114.0
X1	12255	29	1953	1973.2	25	25	25			
X2			1	118.1	119.2					
X3	10							119.2	119.2	
BT	-6	1953	119.2	118.1	1962.6	119.2	118.1	1962.6	119.2	115.5
BT		1963.6	119.2	115.5	1963.6	119.2	118.1	1973.2	119.2	118.1
GR	121.3	0	121.8	200	121.4	400	121.3	600	121.5	800
GR	121.9	1000	121.6	1200	121.5	1400	121.5	1535	121.3	1700
GR	120.7	1800	119.8	1900	119.7	1953	119.2	1953.01	115.7	1953.02
GR	115.5	1962.6	115.5	1963.6	114	1968	114.3	1971	119.2	1973.2
GR	119.7	1974	120	2000	121.3	2200	121.7	2400	122.5	2600
GR	123.3	2800	123.5	2952	123.1	3100	122	3246		
X1	12305	43	1875	2025	50	50	50			
GR	120.4	0	121.2	14	120.8	24	119.5	30	120.6	33
GR	121.5	41	121	100	121	200	120.9	300	120.7	500
GR	120.2	700	120.8	740	120.4	900	120.8	1000	120	1100
GR	120.5	1122	120.4	1125	121.1	1129	121.3	1134	121	1139
GR	120.3	1142	121.5	1153	122.7	1200	122.7	1222	121	1300

GR	120.6	1400	121.1	1600	121	1700	120	1800	119.3	1860
GR	119.4	1875	118.6	1880	116	1891	115.1	1895	114.1	1902
GR	114.7	1910	116.6	1915	118.3	1924	120.2	2013	120.6	2025
GR	121.4	2300	120.6	2500	123.6	2700				
X1	12760	24	1884	1895.6	415	415	415			
GR	121.7	0	121.9	100.	122.9	300.	122.9	600.	122.7	900.
GR	122.2	1200.	122.1	1500.	121.2	1700.	121.1	1884.	115.7	1884.
GR	115.6	1888.	116.7	1893.	121.1	1895.6	121.3	2000.	121.8	2300.
GR	121.7	2600.	121.2	2800.	122.2	2934.	121.8	2947.	120.6	2954.
GR	121.7	2959.	122.	3000.	123.5	3100.	123.8	3219.		
X1	12860	24	1884	1895.6	100	100	100			
X3	10							120.5	120.5	
GR	121.7	0	121.9	100.	122.9	300.	122.9	600.	122.7	900.
GR	122.2	1200.	122.1	1500.	121.2	1700.	121.1	1884.	115.7	1884.
GR	115.6	1888.	116.7	1893.	121.1	1895.6	121.3	2000.	121.8	2300.
GR	121.7	2600.	121.2	2800.	122.2	2934.	121.8	2947.	120.6	2954.
GR	121.7	2959.	122.	3000.	123.5	3100.	123.8	3219.		
WHITE BIRCH DRIVE										
X1	12861	24	1884	1895.6	1	1	1			
X2				120	121.1					
GR	121.7	0	121.9	100.	122.9	300.	122.9	600.	122.7	900.
GR	122.2	1200.	122.1	1500.	121.2	1700.	121.1	1884.	115.7	1884.
GR	115.6	1888.	116.7	1893.	121.1	1895.6	121.3	2000.	121.8	2300.
GR	121.7	2600.	121.2	2800.	122.2	2934.	121.8	2947.	120.6	2954.
GR	121.7	2959.	122.	3000.	123.5	3100.	123.8	3219.		
X1	12879				18	18	18			
X2				120	121.1					
X1	12880	24	1884	1895.6	1	1	1			
X3	10							121.1	121.1	
GR	121.7	0	121.9	100.	122.9	300.	122.9	600.	122.7	900.
GR	122.2	1200.	122.1	1500.	121.2	1700.	121.1	1884.	115.7	1884.
GR	115.6	1888.	116.7	1893.	121.1	1895.6	121.3	2000.	121.8	2300.
GR	121.7	2600.	121.2	2800.	122.2	2934.	121.8	2947.	120.6	2954.
GR	121.7	2959.	122.	3000.	123.5	3100.	123.8	3219.		
X1	12930	24	1884	1895.6	50	50	50			
GR	121.7	0	121.9	100.	122.9	300.	122.9	600.	122.7	900.
GR	122.2	1200.	122.1	1500.	121.2	1700.	121.1	1884.	115.7	1884.
GR	115.6	1888.	116.7	1893.	121.1	1895.6	121.3	2000.	121.8	2300.
GR	121.7	2600.	121.2	2800.	122.2	2934.	121.8	2947.	120.6	2954.
GR	121.7	2959.	122.	3000.	123.5	3100.	123.8	3219.		
X1	12999	40	1862	1914	69	69	69			
GR	121.4	0	121.4	10	120.5	16	121	24	121.3	47
GR	120.6	100	122	200	122.1	400	122.1	600	122.1	800
GR	121.4	1000	121	1200	121.3	1400	122	1472	121	1680
GR	120.4	1700	119.6	1800	119	1862	117.9	1874	115.9	1881
GR	115.4	1886	115.6	1889	118.2	1893	120.7	1905	121.4	1914
GR	120.8	2000	121.9	2200	121.9	2400	120.1	2600	120.4	2800

GR	121.6	2907	120.4	2915	122	2925	122.3	2933	121.9	2941
GR	120.9	2950	121.8	2958	122.9	3000	124.1	3100	123.7	3219
X1	13049	26	1884	1895.6	50	50	50			
GR	121.7	0	121.9	100	122.9	300	122.9	600	122.7	900
GR	122.2	1200	122.1	1500	121.2	1700	121.1	1884	115.7	1884
GR	119.6	1884.01	115.6	1888	116.7	1893	119.6	1895.6	121.1	1895.6
GR	121.3	2000	121.8	2300	121.7	2600	121.2	2800	122.2	2934
GR	121.8	2947	120.6	2954	121.7	2959	122	3000	123.5	3100
GR	123.8	3219								
X1	13099	33	1871	1985	50	50	50			
GR	122.3	603	122.1	900	121.7	1200	120.7	1400	121.7	1500
GR	121.6	1600	120.1	1800	120	1871	119.5	1886	117	1914
GR	115.8	1925	115.3	1934	115.6	1940	117.8	1942	119.5	1954
GR	120	1985	119.9	2000	121.8	2200	121	2300	121.4	2367
GR	121.2	2500	122.3	2700	120.2	2800	121.5	2900	121	2905
GR	120.2	2914	121.7	2925	122	2935	121.3	2945	120.3	2956
GR	120.8	2961	121.4	3000	123.2	3219				
CONCORD DRIVE										
X1	13400	33	1871	1985	301	301	301			
GR	122.3	603	122.1	900	121.7	1200	120.7	1400	121.7	1500
GR	121.6	1600	120.1	1800	120	1871	119.5	1886	117	1914
GR	115.8	1925	115.3	1934	115.6	1940	117.8	1942	119.5	1954
GR	120	1985	119.9	2000	121.8	2200	121	2300	121.4	2367
GR	121.2	2500	122.3	2700	120.2	2800	121.5	2900	121	2905
GR	120.2	2914	121.7	2925	122	2935	121.3	2945	120.3	2956
GR	120.8	2961	121.4	3000	123.2	3219				

IHLQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

THIS RUN EXECUTED 9/ 1/89 16: 8:36

 HEC2 RELEASE DATED SEPT 88

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

F128-00-00

SUMMARY PRINTOUT

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
5960.000	660.00	104.21	102.20	101.90	96.90	2.59	104.28	.00	224.32	.00	.01	.00
* 7500.000	610.00	107.23	108.00	108.00	103.50	.96	107.24	1540.00	259.54	8.55	.01	.00
* 8920.000	610.00	110.55	112.00	112.00	106.00	.46	110.56	8170.00	462.96	76.31	.01	.00
* 10340.000	610.00	116.75	118.00	118.00	114.40	5.30	117.18	1420.00	88.64	85.30	.01	.00
* 12130.000	490.00	120.61	118.70	118.50	113.90	1.40	120.63	1790.00	1163.92	111.03	.01	.00
* 12230.000	490.00	120.72	119.70	119.20	114.00	3.50	120.87	100.00	310.65	112.73	.01	.00
* 12255.000	490.00	121.49	119.70	119.20	114.00	1.93	121.52	25.00	1248.30	113.17	.01	.00
* 12305.000	490.00	121.53	119.40	120.60	114.10	.50	121.53	50.00	2440.13	115.29	.01	.00
* 12760.000	490.00	122.07	121.10	121.10	115.60	2.04	122.09	415.00	1609.50	134.58	.01	.00
* 12860.000	490.00	122.24	121.10	121.10	115.60	1.45	122.25	100.00	2011.65	138.74	.01	.00
12861.000	490.00	122.25	121.10	121.10	115.60	.88	122.25	1.00	2013.41	138.78	.01	.00
12879.000	490.00	122.28	121.10	121.10	115.60	.83	122.28	18.00	2038.55	139.62	.01	.00
12880.000	490.00	122.27	121.10	121.10	115.60	1.37	122.28	1.00	2041.03	139.67	.01	.00
12930.000	490.00	122.32	121.10	121.10	115.60	1.25	122.33	50.00	2085.29	142.04	.01	.00
* 12999.000	490.00	122.34	119.00	121.40	115.40	.42	122.34	69.00	2978.58	146.05	.01	.00
* 13049.000	490.00	122.36	121.10	121.10	115.60	.97	122.36	50.00	2114.80	148.97	.01	.00
* 13099.000	490.00	122.37	120.00	120.00	115.30	.42	122.37	50.00	2515.79	151.63	.01	.00

9/ 1/89 16: 8:20

PAGE 7

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
13400.000	490.00	122.39	120.00	120.00	115.30	.41	122.39	301.00	2517.84	169.02	.01	.00

SUMMARY OF ERRORS AND SPECIAL NOTES

WARNING SECNO= 7500.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 8920.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 10340.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 12130.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 12230.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 12255.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 12305.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 12760.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 12860.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 12999.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 13049.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 13099.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE



THIS RUN EXECUTED 9/ 4/89 8: 3:48

HEC2 RELEASE DATED SEPT 88

T1 SOUTHERN MONTGOMERY COUNTY FLOOD PROTECTION STUDY
 T2 DODSON AND ASSOCIATES, INC. SEPTEMBER, 1989
 T3 F128-00-00 CARTER'S SLOUGH
 T4 100-YEAR STORM FREQUENCY ULTIMATE CONDITIONS
 T5 FILENAME = F128ULT.IH2

J1 ICHECK INQ NINV IDIR STRT METRIC HVINS Q WSEL FQ
 2 .0005 97
 J2 NPROF IPLOT PRFVS XSECV XSECH FN ALLDC IBW CHNIM ITRACE
 -1 -1

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

38 43 1 23 24 42 26 3 39 4
 37 30 65

J5 LPRNT NUMSEC *****REQUESTED SECTION NUMBERS*****

-10 -10

J6 IHLEQ ICOPY SUBDIV STRTDS RMILE

1

QT	1	2080								
NC	.15	.15	.04	.1	.3					
X1	600	5	9990	10010	600	600	600			
CI	-1	83.3	0.04	3	3	10				
GR	97.0	9800	97.7	9990	97.7	10000	97.7	10010	99.0	10380
QT	1	1900								
X1	1850	5	9990	10010	1250	1250	1250			
CI	-1	83.93	0.04	3	3	10				
GR	98.5	9700	97.7	9990	97.7	10000	97.7	10010	97.0	10330
QT	1	1720								
X1	3200	7	9990	10010	1350	1350	1350			
CI	-1	84.60	0.04	3	3	10				
GR	99.0	9760	98.2	9990	98.2	10000	98.2	10010	98.0	10070
GR	97.0	10320	97.5	10580						

QT	1	1650								
X1	3800	9	9990	10010	600	600	600			
CI	-1	84.90	0.04	3	3	10				
GR	112.5	9670	110.0	9820	100.0	9990	100.0	10000	100.0	10010
GR	104.0	10110	104.0	10370	110.0	10550	116.5	10850		
DROP STRUCTURE										
X1	3801	9	9990	10010	600	600	600			
CI	-1	88.90	0.04	3	3	6				
X5	-1	3.0								
GR	112.5	9670	110.0	9820	100.0	9990	100.0	10000	100.0	10010
GR	104.0	10110	104.0	10370	110.0	10550	116.5	10850		
QT	1	1590								
X1	4300	33	1096	1132	500	500	500			
CI	-1	89.40	.04	3	3	6				
GR	111	0	110.1	110	110.7	210	111.4	330	113.7	480
GR	115.8	610	111.3	710	108.3	820	105	910	103.8	980
GR	101.8	1070	102.2	1096	101.6	1106	97.1	1110	96.9	1116
GR	97.2	1120	98.9	1123	98.6	1127	101.9	1132	103.1	1155
GR	105.3	1206	109.6	1270	105.6	1486	114.9	1736	115.7	1835
GR	116.4	1900	116.1	1960	116	2080	116.7	2170	117.2	2320
GR	116.4	2480	116.8	2640	116.5	2800				
QT	1	1430								
X1	5800	24	9990	10010	1500	1500	1500			
CI	-1	90.90	.04	3	3	6				
GR	117	8970	116	9090	114	9230	114	9370	114	9410
GR	114	9480	112	9820	110	9850	108	9870	106	9900
GR	104	9950	103.5	9990	103.5	10000	103.5	10010	104	10060
GR	106	10110	108	10160	108	10350	108	10640	110	10680
GR	112	10720	114	10750	116	10830	117.5	11080		
QT	1	1310								
X1	7000	18	9990	10010	1200	1200	1200			
CI	-1	92.10	.04	3	3	6				
GR	117	9090	116	9200	114	9400	112	9730	110	9800
GR	108	9870	106	9990	106	10000	106	10010	108	10190
GR	110	10230	112	10280	114	10360	116	10420	118	10490
GR	118	10640	120	10680	120.5	10740				
QT	1	1270								
X1	7400	18	9990	10010	400	400	400		2.5	
CI	-1	92.50	.04	3	3	6				
GR	117	9090	116	9200	114	9400	112	9730	110	9800
GR	108	9870	106	9990	106	10000	106	10010	108	10190
GR	110	10230	112	10280	114	10360	116	10420	118	10490
GR	118	10640	120	10680	120.5	10740				

DROP STRUCTURE

X1	7401	18	9990	10010	1	1	1			
CI	-1	96.50	.04	3	3	6			2.5	
X5	-1	4.0								
GR	117	9090	116	9200	114	9400	112	9730	110	9800
GR	108	9870	106	9990	106	10000	106	10010	108	10190
GR	110	10230	112	10280	114	10360	116	10420	118	10490
GR	118	10640	120	10680	120.5	10740				

QT	1	1230								
X1	7900	18	9990	10010	499	499	499			
CI	-1	97.00	.04	3	3	6			6	
GR	117	9090	116	9200	114	9400	112	9730	110	9800
GR	108	9870	106	9990	106	10000	106	10010	108	10190
GR	110	10230	112	10280	114	10360	116	10420	118	10490
GR	118	10640	120	10680	120.5	10740				

DROP STRUCTURE

X1	7901	18	9990	10010	1	1	1			
CI	-1	101.00	.04	3	3	6			6	
X5	-1	4.0								
GR	117	9090	116	9200	114	9400	112	9730	110	9800
GR	108	9870	106	9990	106	10000	106	10010	108	10190
GR	110	10230	112	10280	114	10360	116	10420	118	10490
GR	118	10640	120	10680	120.5	10740				

QT	1	1180								
X1	8400	11	9950	10070	499	499	499			
CI	-1	101.50	.04	3	3	6				
GR	121	9270	120.4	9490	120	9840	118	9950	116	9970
GR	114.4	10000	116	10040	118	10070	120	10110	121	10530
GR	122	10700								

DROP STRUCTURE

X1	8401	11	9950	10070	1	1	1			
CI	-1	105.00	.04	3	3	6				
X5	-1	3.5								
GR	121	9270	120.4	9490	120	9840	118	9950	116	9970
GR	114.4	10000	116	10040	118	10070	120	10110	121	10530
GR	122	10700								

QT	1	1060								
X1	10100	36	1972	2022	1699	1699	1699			
CI	-1	105.85	.04	3	3	6				
GR	121.4	0	120.7	17	119.9	18	120.1	22	121	23
GR	120.9	115	120.8	315	120.1	515	120.1	615	121.6	815
GR	120.4	915	121.2	1115	121.2	1239	119.6	1243	120.7	1262
GR	120.3	1415	120.3	1416	121.1	1615	120.2	1815	118.6	1915
GR	118.7	1972	118.1	1984	116	1995	114	2003	113.9	2005
GR	115	2006	118.5	2022	120.1	2115	120.3	2256	121.1	2291
GR	120.3	2300	121.7	2315	121.7	2415	121.2	2515	121.7	2615
GR	123	2715								

QT 1 770

DROP STRUCTURE

X1	10110	36	1972	2022	10	10	10			
CI	-1	107.85	.04	3	3	6				
GR	121.4	0	120.7	17	119.9	18	120.1	22	121	23
GR	120.9	115	120.8	315	120.1	515	120.1	615	121.6	815
GR	120.4	915	121.2	1115	121.2	1239	119.6	1243	120.7	1262
GR	120.3	1415	120.3	1416	121.1	1615	120.2	1815	118.6	1915
GR	118.7	1972	118.1	1984	116	1995	114	2003	113.9	2005
GR	115	2006	118.5	2022	120.1	2115	120.3	2256	121.1	2291
GR	120.3	2300	121.7	2315	121.7	2415	121.2	2515	121.7	2615
GR	123	2715								

2 - 8' x 8' BOX CULVERTS

LEXINGTON DRIVE

X1	10190	29	1953	1973.2	80	80	80			
CI	-1	107.89	.04	3	3	6				
GR	121.3	0	121.8	200	121.4	400	121.3	600	121.5	800
GR	121.9	1000	121.6	1200	121.5	1400	121.5	1535	121.3	1700
GR	120.7	1800	119.8	1900	119.7	1953	119.2	1953.01	115.7	1953.02
GR	115.5	1962.6	115.5	1963.6	114	1968	114.3	1971	119.2	1973.2
GR	119.7	1974	120	2000	121.3	2200	121.7	2400	122.5	2600
GR	123.3	2800	123.5	2952	123.1	3100	122	3246		

X1	10250	29	1953	1973.2	60	60	60			
CI	-1	107.92	.04	3	3	6				
X5	-1	0.9								
GR	121.3	0	121.8	200	121.4	400	121.3	600	121.5	800
GR	121.9	1000	121.6	1200	121.5	1400	121.5	1535	121.3	1700
GR	120.7	1800	119.8	1900	119.7	1953	119.2	1953.01	115.7	1953.02
GR	115.5	1962.6	115.5	1963.6	114	1968	114.3	1971	119.2	1973.2
GR	119.7	1974	120	2000	121.3	2200	121.7	2400	122.5	2600
GR	123.3	2800	123.5	2952	123.1	3100	122	3246		

X1	10285	43	1875	1924	35	35	35			
CI	-1	107.94	.04	3	3	6				
GR	120.4	0	121.2	14	120.8	24	119.5	30	120.6	33
GR	121.5	41	121	100	121	200	120.9	300	120.7	500
GR	120.2	700	120.8	740	120.4	900	120.8	1000	120	1100
GR	120.5	1122	120.4	1125	121.1	1129	121.3	1134	121	1139
GR	120.3	1142	121.5	1153	122.7	1200	122.7	1222	121	1300
GR	120.6	1400	121.1	1600	121	1700	120	1800	119.3	1860
GR	119.4	1875	118.6	1880	116	1891	115.1	1895	114.1	1902
GR	114.7	1910	116.6	1915	118.3	1924	120.2	2013	120.6	2025
GR	121.4	2300	120.6	2500	123.6	2700				

QT	1	740								
X1	10700	24	1884	1895.6	415	415	415			
CI	-1	108.15	.04	3	3	6				
GR	121.7	0	121.9	100.	122.9	300.	122.9	600.	122.7	900.
GR	122.2	1200.	122.1	1500.	121.2	1700.	121.1	1884.	115.7	1884.
GR	115.6	1888.	116.7	1893.	121.1	1895.6	121.3	2000.	121.8	2300.
GR	121.7	2600.	121.2	2800.	122.2	2934.	121.8	2947.	120.6	2954.

X1	11039	33	1886	1954	50	50	50			
CI	-1	108.32	.04	3	3	6				
GR	122.3	603	122.1	900	121.7	1200	120.7	1400	121.7	1500
GR	121.6	1600	120.1	1800	120	1871	119.5	1886	117	1914
GR	115.8	1925	115.3	1934	115.6	1940	117.8	1942	119.5	1954
GR	120	1985	119.9	2000	121.8	2200	121	2300	121.4	2367
GR	121.2	2500	122.3	2700	120.2	2800	121.5	2900	121	2905
GR	120.2	2914	121.7	2925	122	2935	121.3	2945	120.3	2956
GR	120.8	2961	121.4	3000	123.2	3219				

QT 1 700
 2 - 8' x 8' BOX CULVERTS
 CONCORD DRIVE

X1	11280	33	1886	1954	241	241	241			
CI	-1	108.44	.04	3	3	6				
GR	122.3	603	122.1	900	121.7	1200	120.7	1400	121.7	1500
GR	121.6	1600	120.1	1800	120	1871	119.5	1886	117	1914
GR	115.8	1925	115.3	1934	115.6	1940	117.8	1942	119.5	1954
GR	120	1985	119.9	2000	121.8	2200	121	2300	121.4	2367
GR	121.2	2500	122.3	2700	120.2	2800	121.5	2900	121	2905
GR	120.2	2914	121.7	2925	122	2935	121.3	2945	120.3	2956
GR	120.8	2961	121.4	3000	123.2	3219				

X1	11340	33	1886	1954	60	60	60			
CI	-1	108.47	.04	3	3	6				
X5	-1	0.7								
GR	122.3	603	122.1	900	121.7	1200	120.7	1400	121.7	1500
GR	121.6	1600	120.1	1800	120	1871	119.5	1886	117	1914
GR	115.8	1925	115.3	1934	115.6	1940	117.8	1942	119.5	1954
GR	120	1985	119.9	2000	121.8	2200	121	2300	121.4	2367
GR	121.2	2500	122.3	2700	120.2	2800	121.5	2900	121	2905
GR	120.2	2914	121.7	2925	122	2935	121.3	2945	120.3	2956
GR	120.8	2961	121.4	3000	123.2	3219				

X1	11370	33	1871	1985	30	30	30			
CI	-1	108.48	.04	3	3	6				
GR	122.3	603	122.1	900	121.7	1200	120.7	1400	121.7	1500
GR	121.6	1600	120.1	1800	120	1871	119.5	1886	117	1914
GR	115.8	1925	115.3	1934	115.6	1940	117.8	1942	119.5	1954
GR	120	1985	119.9	2000	121.8	2200	121	2300	121.4	2367
GR	121.2	2500	122.3	2700	120.2	2800	121.5	2900	121	2905
GR	120.2	2914	121.7	2925	122	2935	121.3	2945	120.3	2956
GR	120.8	2961	121.4	3000	123.2	3219				

IHLEQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

THIS RUN EXECUTED 9/ 4/89 8: 4: 6

 HEC2 RELEASE DATED SEPT 88

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

F128-00-00

SUMMARY PRINTOUT

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
600.000	2080.00	96.72	97.56	97.84	83.30	3.09	96.86	.00	90.50	.00	10.00	.00
1850.000	1900.00	97.32	97.80	97.62	83.93	2.83	97.44	1250.00	236.00	4.68	10.00	34.10
3200.000	1720.00	97.86	98.33	98.08	84.60	2.56	97.96	1350.00	565.74	17.11	10.00	69.04
3800.000	1650.00	98.07	102.88	101.83	84.90	2.53	98.17	600.00	89.05	21.62	10.00	87.06
* 3801.000	1650.00	101.07	101.88	101.20	88.90	3.19	101.23	600.00	79.04	22.78	6.00	102.68
4300.000	1590.00	101.40	101.86	103.25	89.40	3.16	101.55	500.00	77.99	23.68	6.00	111.46
5800.000	1430.00	102.37	103.90	103.82	90.90	3.09	102.52	1500.00	74.79	26.31	6.00	140.17
7000.000	1310.00	103.16	106.61	106.40	92.10	3.03	103.30	1200.00	72.31	28.33	6.00	167.81
7400.000	1270.00	103.42	109.22	108.97	92.50	3.00	103.56	400.00	71.50	28.99	6.00	179.43
* 7401.000	1270.00	107.42	109.01	108.83	96.50	3.00	107.56	1.00	71.52	29.00	6.00	179.46
7900.000	1230.00	107.75	112.67	112.44	97.00	2.99	107.89	499.00	70.47	29.81	6.00	191.49
* 7901.000	1230.00	111.75	112.46	112.30	101.00	2.99	111.89	1.00	70.49	29.81	6.00	191.51
8400.000	1180.00	112.08	118.00	118.00	101.50	2.96	112.22	499.00	69.46	30.61	6.00	201.81
* 8401.000	1180.00	115.58	118.00	118.00	105.00	2.96	115.72	1.00	69.48	30.61	6.00	201.83
10100.000	1060.00	116.57	118.67	118.79	105.85	2.59	116.68	1699.00	70.34	33.34	6.00	228.58
* 10110.000	770.00	116.57	118.68	118.68	107.85	2.74	116.69	10.00	58.37	33.35	6.00	228.72
10190.000	770.00	116.63	119.75	120.02	107.89	2.74	116.74	80.00	58.37	33.46	6.00	229.80

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
* 10250.000	770.00	117.53	119.75	120.02	107.92	2.30	117.61	60.00	63.64	33.55	6.00	230.70
10285.000	770.00	117.54	119.32	118.52	107.94	2.30	117.63	35.00	63.65	33.60	6.00	231.16
10700.000	740.00	117.73	121.12	121.17	108.15	2.22	117.81	415.00	63.47	34.20	6.00	237.54
10780.000	740.00	117.76	121.12	121.17	108.19	2.23	117.84	80.00	63.44	34.32	6.00	239.11
* 10840.000	740.00	118.56	121.12	121.17	108.22	1.93	118.62	60.00	68.05	34.41	6.00	240.27
10870.000	740.00	118.57	121.12	121.17	108.23	1.93	118.63	30.00	68.06	34.46	6.00	240.86
10939.000	740.00	118.59	119.09	121.29	108.27	1.94	118.65	69.00	67.92	34.56	6.00	242.04
10989.000	740.00	118.61	121.12	121.17	108.29	1.94	118.66	50.00	67.89	34.64	6.00	242.91
11039.000	740.00	118.62	119.59	119.54	108.32	1.95	118.68	50.00	67.80	34.72	6.00	243.67
11280.000	700.00	118.69	119.58	119.54	108.44	1.86	118.75	241.00	67.50	35.09	6.00	246.28
* 11340.000	700.00	119.39	119.58	119.54	108.47	1.65	119.44	60.00	71.54	35.19	6.00	246.92
11370.000	700.00	119.40	120.00	120.00	108.48	1.65	119.44	30.00	76.64	35.24	6.00	247.24

SUMMARY OF ERRORS AND SPECIAL NOTES

NOTE SECNO= 3801.000 PROFILE= 1 WSEL BASED ON X5 CARD

NOTE SECNO= 7401.000 PROFILE= 1 WSEL BASED ON X5 CARD

NOTE SECNO= 7901.000 PROFILE= 1 WSEL BASED ON X5 CARD

NOTE SECNO= 8401.000 PROFILE= 1 WSEL BASED ON X5 CARD

WARNING SECNO= 10110.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

NOTE SECNO= 10250.000 PROFILE= 1 WSEL BASED ON X5 CARD

NOTE SECNO= 10840.000 PROFILE= 1 WSEL BASED ON X5 CARD

NOTE SECNO= 11340.000 PROFILE= 1 WSEL BASED ON X5 CARD

THIS RUN EXECUTED 9/ 1/89 16: 7:17

 HEC2 RELEASE DATED SEPT 88

T1 SOUTHERN MONTGOMERY COUNTY FLOOD PROTECTION STUDY
 T2 DODSON AND ASSOCIATES, INC. SEPTEMBER, 1989
 T3 F131-00-00 GLENEAGLES DIVERSION DITCH
 T4 100-YEAR STORM FREQUENCY EXISTING CONDITIONS
 T5 FILENAME = F131RVEX.IH2

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
		2			.0014				114.5	
J2	NPROF	IPLT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	-1		-1							

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

38	43	1	23	24	42	26	3	39	4
37	30	65							

J5 LPRNT NUMSEC *****REQUESTED SECTION NUMBERS*****
 -10 -10

J6 IHLEQ ICOPY SUBDIV STRTDS RMILE
 1

NC .15 .15 .05 .1 .3
 QT 1 960

STATION 1+00 LOCATED 100 HUNDRED FEET UPSTREAM OF NEEDHAM RD. CL

X1	100	9	9939	10067	100	100	100			
GR	122	9899	121.5	9939	106.2	9997	105.3	10000	106	10003
GR	123.1	10067	120.5	10117	119	10162	120.5	10197		
QT	1	880								
X1	1300	11	9964	10042	1200	1200	1200			
GR	122	9926	121.7	9943	119.6	9964	110.5	9988	109	9995
GR	107	10000	108.1	10005	110.5	10025	118.4	10042	122.1	10066
GR	120.6	10119								

IHLQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

THIS RUN EXECUTED 9/ 1/89 16: 7:20

HEC2 RELEASE DATED SEPT 88

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

F131-00-00

SUMMARY PRINTOUT

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
100.000	960.00	114.50	121.50	123.10	105.30	3.01	114.64	.00	69.28	.00	.01	.00
1300.000	880.00	115.91	119.60	118.40	107.00	2.69	116.02	1200.00	62.91	1.82	.01	.00
2575.000	820.00	116.95	116.80	116.00	109.30	2.14	117.02	1275.00	113.81	4.41	.01	.00
4100.000	740.00	118.17	120.90	120.40	110.70	2.39	118.26	1525.00	72.96	7.68	.01	.00
5500.000	680.00	119.46	121.70	122.50	111.80	1.96	119.51	1400.00	74.28	10.04	.01	.00
7000.000	620.00	120.90	122.40	122.40	113.40	2.06	120.97	1500.00	73.82	12.59	.01	.00

SUMMARY OF ERRORS AND SPECIAL NOTES

THIS RUN EXECUTED 9/ 4/89 8: 0: 4

HEC2 RELEASE DATED SEPT 88

T1 SOUTHERN MONTGOMERY COUNTY FLOOD PROTECTION STUDY
 T2 DODSON AND ASSOCIATES, INC. SEPTEMBER, 1989
 T3 F131-00-00 GLENEAGLES DIVERSION DITCH
 T4 100-YEAR STORM FREQUENCY ULTIMATE CONDITIONS
 T5 FILENAME = F131ULT.IH2

J1 ICHECK INQ NINV IDIR STRT METRIC HVINS Q WSEL FQ
 2 .0014 114.5

J2 NPROF IPLOT PRFVS XSECV XSECH FN ALLDC IBW CHNIM ITRACE
 -1 -1

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

38 43 1 23 24 42 26 3 39 4
 37 30 65

J5 LPRNT NUMSEC *****REQUESTED SECTION NUMBERS*****

-10 -10

J6 IHLEQ ICOPY SUBDIV STRTDS RMILE

1

NC .15 .15 .04 .1 .3

QT 1 1460

STATION 1+00 LOCATED 100 HUNDRED FEET UPSTREAM OF NEEDHAM RD. CL

X1 100 9 9939 10067 100 100 100
 GR 122 9899 121.5 9939 106.2 9997 105.3 10000 106 10003
 GR 123.1 10067 120.5 10117 119 10162 120.5 10197

QT 1 1210

X1 1300 11 9964 10042 1200 1200 1200
 GR 122 9926 121.7 9943 119.6 9964 110.5 9988 109 9995
 GR 107 10000 108.1 10005 110.5 10025 118.4 10042 122.1 10066
 GR 120.6 10119

IHLEQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

THIS RUN EXECUTED 9/ 4/89 8: 0: 7

HEC2 RELEASE DATED SEPT 88

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

F131-00-00

SUMMARY PRINTOUT

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
100.000	1460.00	115.20	121.50	123.10	105.30	3.95	115.45	.00	74.58	.00	.01	.00
1300.000	1210.00	116.55	119.60	118.40	107.00	3.29	116.72	1200.00	65.98	1.94	.01	.00
2575.000	1010.00	117.40	116.80	116.00	109.30	2.40	117.49	1275.00	139.36	4.94	.01	.00
* 4100.000	810.00	118.28	120.90	120.40	110.70	2.56	118.38	1525.00	73.80	8.67	.01	.00
5500.000	670.00	119.08	121.70	122.50	111.80	2.09	119.15	1400.00	71.94	11.01	.01	.00
* 7000.000	540.00	119.96	122.40	122.40	113.40	2.30	120.05	1500.00	66.85	13.40	.01	.00

SUMMARY OF ERRORS AND SPECIAL NOTES

WARNING SECNO= 4100.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 7000.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

QT	1	1210								
X1	5200	18	9958	10048	1285	1285	1285			
GR	118.2	9783	117	9833	115.2	9883	114.8	9933	113.8	9938
GR	114.1	9946	114	9958	107.7	9980	105.9	9995	103.9	9997
GR	104.8	10003	105.9	10005	107.6	10027	114.1	10048	114	10057
GR	113.4	10064	115.1	10089	118	10139				
NC			.02							
X1	5358	16	9958	10048	158	158	158			
GR	118.2	9783	117	9833	115.2	9883	114.8	9933	113.8	9938
GR	114.1	9946	114	9958	112.6	9962	101.6	9995	101.6	10005
GR	112.9	10038	114.1	10048	114	10057	113.4	10064	115.1	10089
GR	118	10139								
NC			.3	.5						
SLOPING DROP STRUCTURE										
X1	5378	28	9958	10048	20	20	20			
X3		105.2								
GR	118.2	9783	117	9833	115.2	9883	114.8	9933	113.8	9938
GR	114.1	9946	114	9958	112.6	9962	105.7	9982.5	106.1	9982.5
GR	106.1	9989.5	103.4	9989.5	101.6	9995	101.6	9996.5	106.1	9996.5
GR	106.1	10003.5	101.6	10003.5	101.6	10005	103.5	10010.5	106.1	10010.5
GR	106.1	10017.5	105.9	10017.5	112.9	10038	114.1	10048	114	10057
GR	113.4	10064	115.1	10089	118	10139				
X1	5399	27	9957	10037	21	21	21			
GR	115.4	9883	114	9933	112.9	9938	114.5	9946	114.8	9957
GR	113.9	9969.5	109.5	9982.5	109.7	9982.5	109.7	9989.5	107.1	9989.5
GR	105.2	9995	105.2	9996.5	109.7	9996.5	109.7	10003.5	105.2	10003.5
GR	105.2	10005	107.1	10010.5	109.7	10010.5	109.7	10017.5	109.5	10017.5
GR	114	10030.5	115.9	10037	115.9	10047	114.6	10054	116.1	10062
GR	118.8	10112	119.9	10162						
NC										
X1	5424	15	9957	10037	25	25	25			
GR	115.4	9883	114	9933	112.9	9938	114.5	9946	114.8	9957
GR	113.9	9969.5	105.2	9995	105.2	10005	114	10030.5	115.9	10037
GR	115.9	10047	114.6	10054	116.1	10062	118.8	10112	119.9	10162
NC			.06							
X1	5525	16	9957	10037	101	101	101			
GR	115.4	9883	114	9933	112.9	9938	114.5	9946	114.8	9957
GR	107.6	9976	106.7	9997	105.6	10000	106.4	10003	108.9	10022
GR	115.9	10037	115.9	10047	114.6	10054	116.1	10062	118.8	10112
GR	119.9	10162								
NC			.1	.3						
QT	1	1030								
X1	7150	19	9956	10033	1625	1625	1625			
GR	119.7	9743	118.8	9793	117.8	9843	116.3	9893	118.2	9943
GR	118.2	9956	111.3	9973	109.1	9990	108.1	9992	107.8	10007
GR	109	10009	111.4	10017	117	10033	117.1	10045	116.4	10049
GR	117	10057	117.5	10107	118.7	10157	119.4	10207		

X1	12307	23	9953	10023	307	307	307				
GR	125	9200	121.7	9603	121.6	9653	121.7	9703	121.4	9753	
GR	121.4	9803	120.6	9853	120.2	9903	122.3	9953	119	9978	
GR	117.8	9991	117.7	9993	117.5	10006	117.9	10008	120.1	10023	
GR	120.2	10073	120.6	10123	120.5	10173	120.7	10223	120.8	10273	
GR	121.2	10323	121.3	10373	125	11150					

IHLQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

THIS RUN EXECUTED 9/ 1/89 16: 5:30

 HEC2 RELEASE DATED SEPT 88

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

F132-00-00

SUMMARY PRINTOUT

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
135.000	1870.00	105.60	105.30	105.30	93.70	3.86	105.82	.00	237.89	.00	.01	.00
* 835.000	1870.00	106.25	105.00	105.60	95.50	1.57	106.27	700.00	3345.21	28.79	.01	.00
* 1700.000	1870.00	106.86	107.20	107.70	95.70	3.63	107.04	865.00	547.78	67.44	.01	.00
* 1759.000	1870.00	106.90	105.00	105.60	95.20	3.27	107.06	59.00	566.90	68.20	.01	.00
1779.000	1870.00	106.89	105.00	105.60	95.20	3.60	107.08	20.00	563.62	68.46	.01	.00
* 1799.000	1870.00	107.22	108.60	108.60	100.00	8.90	108.25	20.00	523.41	68.71	.01	.00
* 1824.000	1870.00	108.07	108.60	108.60	100.00	5.58	108.47	25.00	730.17	69.07	.01	.00
* 1850.000	1600.00	108.53	109.30	109.50	99.20	2.80	108.60	26.00	859.57	69.54	.01	.00
3915.000	1350.00	111.73	113.00	112.90	101.00	2.97	111.87	2065.00	75.59	91.71	.01	.00
5200.000	1210.00	113.52	114.00	114.10	103.90	2.66	113.63	1285.00	89.73	94.15	.01	.00
* 5358.000	1210.00	113.58	114.00	114.10	101.60	2.22	113.66	158.00	89.39	94.47	.01	.00
5378.000	1210.00	113.57	114.00	114.10	105.20	2.67	113.68	20.00	88.83	94.51	.01	.00
* 5399.000	1210.00	113.41	114.80	115.90	105.20	5.32	113.85	21.00	62.79	94.55	.01	.00
* 5424.000	1210.00	113.66	114.80	115.90	105.20	4.13	113.92	25.00	66.53	94.58	.01	.00
* 5525.000	1210.00	113.92	114.80	115.90	105.60	3.12	114.07	101.00	83.11	94.76	.01	.00
7150.000	1030.00	116.43	118.20	117.00	107.80	2.69	116.54	1625.00	79.14	97.78	.01	.00
8460.000	1030.00	118.21	119.30	119.30	110.00	2.75	118.33	1310.00	87.91	100.30	.01	.00

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
9525.000	850.00	119.43	121.10	119.00	111.80	2.27	119.51	1065.00	194.04	103.74	.01	.00
9579.000	850.00	119.42	126.70	126.70	112.00	3.31	119.59	54.00	53.86	103.90	.01	.00
9594.000	850.00	119.45	126.70	126.70	112.00	3.29	119.62	15.00	53.98	103.92	.01	.00
9644.000	850.00	119.48	126.70	126.70	112.00	3.27	119.65	50.00	69.82	103.99	.01	.00
11000.000	750.00	120.59	125.70	126.00	114.30	1.91	120.64	1475.00	82.15	106.56	.01	.00
12000.000	690.00	121.33	124.50	125.90	113.00	1.97	121.39	1000.00	65.29	108.25	.01	.00
* 12307.000	690.00	121.78	122.30	120.10	117.50	2.25	121.83	307.00	862.67	111.52	.01	.00

SUMMARY OF ERRORS AND SPECIAL NOTES

WARNING SECNO= 835.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 1700.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 1759.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
CAUTION SECNO= 1799.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 1799.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 1799.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL
WARNING SECNO= 1824.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 1850.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 5358.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 5399.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 5424.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 5525.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 12307.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE



THIS RUN EXECUTED 9/ 4/89 7:58:42

HEC2 RELEASE DATED SEPT 88

T1 SOUTHERN MONTGOMERY COUNTY FLOOD PROTECTION STUDY
T2 DODSON AND ASSOCIATES, INC. SEPTEMBER, 1989
T3 F132-00-00 WOODLAND'S TRADE CENTER DITCH
T4 100-YEAR STORM FREQUENCY ULTIMATE CONDITIONS
T5 FILENAME = F132ULT.IH2

J1 ICHECK INQ NINV IDIR STRT METRIC HVINS Q WSEL FQ
2 .0005 108
J2 NPROF IPLOT PRFVS XSECV XSECH FN ALLDC IBW CHNIM ITRACE
-1 -1

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

38 43 1 23 24 42 26 3 39 4
37 30 65

J5 LPRNT NUMSEC *****REQUESTED SECTION NUMBERS*****
-10 -10

J6 IHLEQ ICOPY SUBDIV STRTDS RMLE
1

NC .15 .15 .04
QT 1 7550
X1 135 9 9955 10039 135 135 135
CI -1 92.0 0.04 4 4 60
GR 106 9805 104.2 9855 104.7 9905 105.3 9955 96.3 9994
GR 93.7 10000 96.4 10006 105.3 10039 106.4 10094

X1 835 21 9960 10041 700 700 700
CI -1 92.35 0.04 4 4 60
GR 110 7400 105 7700 105 9100 104.5 9460 104.7 9560
GR 104.9 9660 105 9760 105 9860 105 9960 97.9 9988
GR 95.5 9989 96.3 10010 97.4 10011 105.6 10041 104.7 10141
GR 102.5 10291 105.5 10341 105 10441 104.5 10541 104.3 10641
GR 110 11600

QT	1	7250								
X1	1700	13	9962	10044	865	865	865			
CI	-1	92.78	0.04	4	4	60				
GR	110	8700	105	9941	107.5	9950	107.2	9962	100.8	9983
GR	98.5	9995	95.7	9997	95.9	10003	97.8	10005	100.4	10025
GR	107.7	10044	107.3	10068	110.0	11180				
X1	1759	10	9962	10038	59	59	59			
CI	-1	92.81	0.04	4	4	60				
GR	110	8700	105	9941	107.5	9950	105	9962	95.2	9995
GR	95.2	10005	105.6	10038	107.7	10044	107.3	10068	110	11180
X1	1779	22	9962	10038	20	20	20			
CI	-1	92.82	0.04	4	4	60				
GR	110	8700	105	9941	107.5	9950	105	9962	98.9	9982.5
GR	99.7	9982.5	99.7	9989.5	96.8	9989.5	95.2	9995	95.2	9996.5
GR	99.7	9996.5	99.7	10003.5	95.2	10003.5	95.2	10005	96.9	10010.5
GR	99.7	10010.5	99.7	10017.5	99.1	10017.5	105.6	10038	107.7	10044
GR	107.3	10068	110	11180						
X1	1799	28	9969.5	10030.5	20	20	20			
CI	-1	92.83	0.04	4	4	60				
GR	110	8850	105.6	9842	105.3	9892	106.1	9942	108.9	9954
GR	109.3	9966	108.6	9969.5	104.2	9982.5	104.5	9982.5	104.5	9989.5
GR	101.9	9989.5	100	9995	100	9996.5	104.5	9996.5	104.5	10003.5
GR	100	10003.5	100	10005	101.9	10010.5	104.5	10010.5	104.5	10017.5
GR	104.2	10017.5	108.6	10030.5	109.5	10034	109.2	10050	107.9	10053
GR	109.3	10103	109.4	10153	110	11050				
X1	1824	16	9969.5	10030.5	25	25	25			
CI	-1	92.84	0.04	4	4	60				
GR	110	8850	105.6	9842	105.3	9892	106.1	9942	108.9	9954
GR	109.3	9966	108.6	9969.5	100	9995	100	10005	108.6	10030.5
GR	109.5	10034	109.2	10050	107.9	10053	109.3	10103	109.4	10153
GR	110	11050								
X1	1850	16	9966	10034	26	26	26			
CI	-1	92.86	0.04	4	4	60				
GR	110	8850	105.6	9842	105.3	9892	106.1	9942	108.9	9954
GR	109.3	9966	101	9994	99.3	9996	99.2	10004	101.5	10006
GR	109.5	10034	109.2	10050	107.9	10053	109.3	10103	109.4	10153
GR	110	11050								
QT	1	6920								
X1	3500	17	9960	10041	1650	1650	1650		-0.4	
CI	-1	93.68	0.04	4	4	60				
GR	112.2	9634	112.2	9684	112.3	9734	112.3	9784	112.4	9834
GR	112.4	9884	112.5	9934	113	9960	104.4	9982	103	9998
GR	101	10000	102.7	10001	104.1	10017	108.6	10033	112.9	10041
GR	112.1	10057	112.1	10200						

DROP STRUCTURE

X1	3501	17	9960	10041	1	1	1			-0.4
CI	-1	95.70	0.04	4	4	60				
X5	-1	2.0								
GR	112.2	9634	112.2	9684	112.3	9734	112.3	9784	112.4	9834
GR	112.4	9884	112.5	9934	113	9960	104.4	9982	103	9998
GR	101	10000	102.7	10001	104.1	10017	108.6	10033	112.9	10041
GR	112.1	10057	112.1	10200						

X1	3915	17	9960	10041	414	414	414			
CI	-1	95.91	0.04	4	4	60				
GR	112.2	9634	112.2	9684	112.3	9734	112.3	9784	112.4	9834
GR	112.4	9884	112.5	9934	113	9960	104.4	9982	103	9998
GR	101	10000	102.7	10001	104.1	10017	108.6	10033	112.9	10041
GR	112.1	10057	112.1	10200						

QT	1	6710								
X1	4700	18	9958	10048	785	785	785			-1.1
CI	-1	96.30	0.04	4	4	60				
GR	118.2	9783	117	9833	115.2	9883	114.8	9933	113.8	9938
GR	114.1	9946	114	9958	107.7	9980	105.9	9995	103.9	9997
GR	104.8	10003	105.9	10005	107.6	10027	114.1	10048	114	10057
GR	113.4	10064	115.1	10089	118	10139				

DROP STRUCTURE

X1	4701	18	9958	10048	1	1	1			-1.1
CI	-1	98.30	0.04	4	4	60				
X5	-1	2.0								
GR	118.2	9783	117	9833	115.2	9883	114.8	9933	113.8	9938
GR	114.1	9946	114	9958	107.7	9980	105.9	9995	103.9	9997
GR	104.8	10003	105.9	10005	107.6	10027	114.1	10048	114	10057
GR	113.4	10064	115.1	10089	118	10139				

QT	1	6620								
X1	5200	18	9958	10048	499	499	499			
CI	-1	98.55	0.04	4	4	60				
GR	118.2	9783	117	9833	115.2	9883	114.8	9933	113.8	9938
GR	114.1	9946	114	9958	107.7	9980	105.9	9995	103.9	9997
GR	104.8	10003	105.9	10005	107.6	10027	114.1	10048	114	10057
GR	113.4	10064	115.1	10089	118	10139				

X1	5358	16	9958	10048	158	158	158			
CI	-1	98.63	0.04	4	4	60				
GR	118.2	9783	117	9833	115.2	9883	114.8	9933	113.8	9938
GR	114.1	9946	114	9958	112.6	9962	101.6	9995	101.6	10005
GR	112.9	10038	114.1	10048	114	10057	113.4	10064	115.1	10089
GR	118	10139								

X1	5378	28	9958	10048	20	20	20			
CI	-1	98.64	0.04	4	4	60				
GR	118.2	9783	117	9833	115.2	9883	114.8	9933	113.8	9938
GR	114.1	9946	114	9958	112.6	9962	105.7	9982.5	106.1	9982.5
GR	106.1	9989.5	103.4	9989.5	101.6	9995	101.6	9996.5	106.1	9996.5
GR	106.1	10003.5	101.6	10003.5	101.6	10005	103.5	10010.5	106.1	10010.5
GR	106.1	10017.5	105.9	10017.5	112.9	10038	114.1	10048	114	10057
GR	113.4	10064	115.1	10089	118	10139				
X1	5398	27	9957	10037	20	20	20			
CI	-1	98.65	0.04	4	4	60				
GR	115.4	9883	114	9933	112.9	9938	114.5	9946	114.8	9957
GR	113.9	9969.5	109.5	9982.5	109.7	9982.5	109.7	9989.5	107.1	9989.5
GR	105.2	9995	105.2	9996.5	109.7	9996.5	109.7	10003.5	105.2	10003.5
GR	105.2	10005	107.1	10010.5	109.7	10010.5	109.7	10017.5	109.5	10017.5
GR	114	10030.5	115.9	10037	115.9	10047	114.6	10054	116.1	10062
GR	118.8	10112	119.9	10162						
X1	5399	27	9957	10037	21	21	21			
CI	-1	98.66	0.04	4	4	60				
GR	115.4	9883	114	9933	112.9	9938	114.5	9946	114.8	9957
GR	113.9	9969.5	109.5	9982.5	109.7	9982.5	109.7	9989.5	107.1	9989.5
GR	105.2	9995	105.2	9996.5	109.7	9996.5	109.7	10003.5	105.2	10003.5
GR	105.2	10005	107.1	10010.5	109.7	10010.5	109.7	10017.5	109.5	10017.5
GR	114	10030.5	115.9	10037	115.9	10047	114.6	10054	116.1	10062
GR	118.8	10112	119.9	10162						
X1	5424	15	9957	10037	25	25	25			
CI	-1	98.67	0.04	4	4	60				
GR	115.4	9883	114	9933	112.9	9938	114.5	9946	114.8	9957
GR	113.9	9969.5	105.2	9995	105.2	10005	114	10030.5	115.9	10037
GR	115.9	10047	114.6	10054	116.1	10062	118.8	10112	119.9	10162
X1	5525	16	9957	10037	101	101	101			
CI	-1	98.72	0.04	4	4	60				
GR	115.4	9883	114	9933	112.9	9938	114.5	9946	114.8	9957
GR	107.6	9976	106.7	9997	105.6	10000	106.4	10003	108.9	10022
GR	115.9	10037	115.9	10047	114.6	10054	116.1	10062	118.8	10112
GR	119.9	10162								
QT	1	6300								
X1	7150	19	9956	10033	1625	1625	1625			
CI	-1	99.53	0.04	4	4	60				
GR	119.7	9743	118.8	9793	117.8	9843	116.3	9893	118.2	9943
GR	118.2	9956	111.3	9973	109.1	9990	108.1	9992	107.8	10007
GR	109	10009	111.4	10017	117	10033	117.1	10045	116.4	10049
GR	117	10057	117.5	10107	118.7	10157	119.4	10207		

DROP STRUCTURE

X1	7151	19	9956	10033	1	1	1			
CI	-1	101.60	0.04	4	4	60				
X5	-1	1.5								
GR	119.7	9743	118.8	9793	117.8	9843	116.3	9893	118.2	9943
GR	118.2	9956	111.3	9973	109.1	9990	108.1	9992	107.8	10007
GR	109	10009	111.4	10017	117	10033	117.1	10045	116.4	10049
GR	117	10057	117.5	10107	118.7	10157	119.4	10207		
QT	1	6090								
X1	8460	17	9971	10047	1309	1309	1309			
CI	-1	102.26	0.04	4	4	60				
GR	118.5	9894	118.2	9944	116	9954	119.1	9962	119.3	9971
GR	111.1	9995	110	10000	111.2	10004	111.1	10024	113.1	10034
GR	119.3	10047	119.7	10097	120.8	10147	121.6	10197	123.3	10247
GR	124	10297	124.5	10347						
QT	1	5920								
X1	9525	16	9960	10031	1065	1065	1065			
CI	-1	102.79	0.04	4	4	60				
GR	124.3	9588	122.4	9688	120.4	9788	119.8	9888	119.1	9912
GR	121.6	9930	121.1	9960	112.3	9982	111.8	10000	112.9	10018
GR	119	10031	120.5	10043	118.3	10088	119.6	10188	119.6	10288
GR	122.8	10388								

DROP STRUCTURE

X1	9526	16	9960	10031	1	1	1			
CI	-1	104.80	0.04	4	4	60				
X5	-1	1.5								
GR	124.3	9588	122.4	9688	120.4	9788	119.8	9888	119.1	9912
GR	121.6	9930	121.1	9960	112.3	9982	111.8	10000	112.9	10018
GR	119	10031	120.5	10043	118.3	10088	119.6	10188	119.6	10288
GR	122.8	10388								

NC .3 .5

MISSOURI PACIFIC RAILROAD

X1	9579	16	9960	10040	54	54	54			
CI	-1	104.83	0.04	4	4	60				
X3	10							129.0	129.1	
GR	124.3	9588	122.4	9688	120.4	9788	119.8	9888	119.1	9912
GR	121.6	9930	126.7	9960	125.3	9960	113.4	9986	112.0	10000
GR	114.1	10014	125	10040	126.7	10040	119.6	10188	119.6	10288
GR	122.8	10388								
SB	1.05	1.56	3.0		60	4.0	3140	4	104.84	104.83
X1	9594	16	9960	10040	15	15	15			
CI	-1	104.84	0.04	4	4	60				
X2			1	126.7	131.4					
X3	10							131.4	131.5	
BT	-9	9600	131.5	0	9700	131.4	0	9800	131.5	0
BT		9900	131.4	0	10000	131.5	0	10100	131.5	0
BT		10200	131.5	0	10300	131.5	0	10400	131.5	0
GR	124.3	9588	122.4	9688	120.4	9788	119.8	9888	119.1	9912

GR	121.6	9930	126.7	9960	125.3	9960	113.4	9986	112.0	10000
GR	114.1	10014	125	10040	126.7	10040	119.6	10188	119.6	10288
GR	122.8	10388								

X1	9644	16	9960	10040	50	50	50			
CI	-1	104.86	0.04	4	4	60				
GR	124.3	9588	122.4	9688	120.4	9788	119.8	9888	119.1	9912
GR	121.6	9930	126.7	9960	125.3	9960	113.4	9986	112.0	10000
GR	114.1	10014	125	10040	126.7	10040	119.6	10188	119.6	10288
GR	122.8	10388								

NC			.1	.3						
QT	1	5700								
X1	11000	16	9946	10058	1475	1475	1475			
CI	-1	105.60	0.04	4	4	60				
GR	126	9823	126	9873	125.6	9923	125	9933	125.7	9946
GR	116.4	9972	114.9	9980	114.3	9982	114.3	10018	114.9	10020
GR	115.9	10029	126	10058	125.2	10066	126.4	10086	125.8	10136
GR	125.7	10186								

QT	1	5550								
X1	12000	21	9955	10042	1000	1000	1000			
CI	-1	106.10	0.04	4	4	60				
GR	126.3	9705	125.9	9755	125.2	9805	124.8	9855	124.2	9905
GR	124.5	9955	116.1	9979	115.1	9986	113	9988	113	10012
GR	115.8	10014	125.9	10042	125.3	10058	126.5	10072	126.9	10122
GR	126.9	10172	126.1	10222	126.8	10272	126.9	10322	124.7	10372
GR	124.5	10422								

QT	1	5500								
INTERSTATE HIGHWAY 45										
X1	12300	23	9953	10023	300	300	300			
CI	-1	106.25	0.04	4	4	60				
GR	125	9200	121.7	9603	121.6	9653	121.7	9703	121.4	9753
GR	121.4	9803	120.6	9853	120.2	9903	122.3	9953	119	9978
GR	117.8	9991	117.7	9993	117.5	10006	117.9	10008	120.1	10023
GR	120.2	10073	120.6	10123	120.5	10173	120.7	10223	120.8	10273
GR	121.2	10323	121.3	10373	125	11150				

X1	12700	23	9953	10023	400	400	400		2.0	
CI	-1	106.65	0.04	4	4	40				
X5	-1	1.7								
GR	125	9200	121.7	9603	121.6	9653	121.7	9703	121.4	9753
GR	121.4	9803	120.6	9853	120.2	9903	122.3	9953	119	9978
GR	117.8	9991	117.7	9993	117.5	10006	117.9	10008	120.1	10023
GR	120.2	10073	120.6	10123	120.5	10173	120.7	10223	120.8	10273
GR	121.2	10323	121.3	10373	125	11150				

QT	1	4850								
X1	13200	5	9990	10010	500	500	500			
CI	-1	107.15	0.04	4	4	40				
GR	128	9800	128	9990	128	10000	128	10010	128	10200

DROP STRUCTURE

X1	13201	5	9990	10010	1	1	1			
CI	-1	112.15	0.04	4	4	30				
X5	-1	5.0								
GR	128	9800	128	9990	128	10000	128	10010	128	10200
QT	1	4250								
X1	13700	5	9990	10010	499	499	499			
CI	-1	112.65	0.04	4	4	30				
GR	134	9800	134	9990	134	10000	134	10010	134	10200
X1	13800	5	9990	10010	100	100	100			
CI	-1	112.75	0.04	4	4	20				
GR	134	9800	134	9990	134	10000	134	10010	134	10200
QT	1	3550								
X1	14400	5	9990	10010	600	600	600			
CI	-1	113.35	0.04	4	4	20				
GR	134	9800	134	9990	134	10000	134	10010	134	10200
QT	1	2950								
X1	15100	5	9990	10010	700	700	700			
CI	-1	114.05	0.04	4	4	20				
GR	132	9800	132	9990	132	10000	132	10010	132	10200
X1	15200	5	9990	10010	100	100	100			
CI	-1	114.15	0.04	4	4	10				
GR	132	9800	132	9990	132	10000	132	10010	132	10200
QT	1	2100								
X1	16400	5	9990	10010	1200	1200	1200			
CI	-1	115.35	0.04	4	4	10				
GR	130	9800	130	9990	130	10000	130	10010	130	10200
QT	1	1800								
X1	17000	5	9990	10010	600	600	600			
CI	-1	115.95	0.04	4	4	10				
GR	132	9800	132	9990	132	10000	132	10010	132	10200

IHLQ = 1. THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH. SEE DOCUMENTATION FOR DETAILS.

THIS RUN EXECUTED 9/ 4/89 7:59: 4

HEC2 RELEASE DATED SEPT 88

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

F132-00-00

SUMMARY PRINTOUT

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
135.000	7550.00	107.26	104.83	106.20	92.00	4.06	107.51	.00	289.00	.00	60.00	.00
* 835.000	7550.00	107.64	105.00	105.23	92.35	2.74	107.72	700.00	3662.48	31.75	60.00	26.87
* 1700.000	7250.00	107.80	105.07	107.36	92.78	3.91	108.03	865.00	1026.25	78.30	60.00	61.62
1759.000	7250.00	107.83	105.08	107.35	92.81	3.92	108.06	59.00	1040.06	79.70	60.00	64.03
1779.000	7250.00	107.84	105.08	107.35	92.82	3.91	108.07	20.00	1051.50	80.18	60.00	64.83
1799.000	7250.00	107.84	105.72	109.08	92.83	3.93	108.08	20.00	754.47	80.60	60.00	65.83
1824.000	7250.00	107.86	105.72	109.07	92.84	3.92	108.09	25.00	756.55	81.03	60.00	67.30
1850.000	7250.00	107.87	105.72	109.07	92.86	3.93	108.10	26.00	759.55	81.48	60.00	68.80
3500.000	6920.00	108.71	112.03	111.70	93.68	3.84	108.93	1650.00	180.13	99.28	60.00	175.70
* 3501.000	6920.00	110.71	112.04	111.70	95.70	3.84	110.93	1.00	180.04	99.28	60.00	175.77
3915.000	6920.00	110.92	112.44	112.10	95.91	3.84	111.15	414.00	180.05	101.00	60.00	199.60
4700.000	6710.00	111.32	113.94	115.12	96.30	3.72	111.53	785.00	180.13	104.24	60.00	246.53
* 4701.000	6710.00	113.32	113.88	114.51	98.30	3.72	113.53	1.00	180.14	104.25	60.00	246.59
5200.000	6620.00	113.56	115.01	115.87	98.55	3.68	113.77	499.00	180.05	106.31	60.00	271.44
5358.000	6620.00	113.63	115.00	115.85	98.63	3.68	113.84	158.00	180.03	106.96	60.00	279.48
5378.000	6620.00	113.64	115.00	115.84	98.64	3.68	113.85	20.00	180.02	107.04	60.00	280.48
5398.000	6620.00	113.65	114.86	118.50	98.65	3.68	113.86	20.00	180.01	107.13	60.00	281.65

SECNO	Q	CWSEL	XLBEL	RBEL	ELMIN	VCH	EG	XLCH	TOPWID	TWA	BW	VEXT
5399.000	6620.00	113.66	114.86	118.49	98.66	3.68	113.87	21.00	180.01	107.21	60.00	283.02
5424.000	6620.00	113.67	114.86	118.49	98.67	3.68	113.88	25.00	180.02	107.32	60.00	284.63
5525.000	6620.00	113.72	114.86	118.48	98.72	3.68	113.93	101.00	180.00	107.73	60.00	290.87
7150.000	6300.00	114.47	116.45	117.39	99.53	3.52	114.66	1625.00	179.53	114.44	60.00	396.16
* 7151.000	6300.00	115.97	116.72	117.30	101.60	3.73	116.18	1.00	174.92	114.44	60.00	396.22
8460.000	6090.00	116.62	118.38	119.98	102.26	3.61	116.82	1309.00	174.87	119.70	60.00	472.92
9525.000	5920.00	117.12	119.49	118.32	102.79	3.52	117.31	1065.00	174.71	123.97	60.00	541.80
* 9526.000	5920.00	118.62	119.22	118.65	104.80	3.72	118.83	1.00	201.69	123.98	60.00	541.86
9579.000	5920.00	118.65	119.18	123.58	104.83	3.72	118.86	54.00	170.53	124.21	60.00	545.35
9594.000	5920.00	118.66	119.19	123.58	104.84	3.72	118.87	15.00	170.54	124.27	60.00	546.48
9644.000	5920.00	118.68	119.19	123.59	104.86	3.71	118.90	50.00	170.59	124.46	60.00	550.25
11000.000	5700.00	119.44	125.86	126.07	105.60	3.57	119.64	1475.00	170.77	130.24	60.00	658.94
12000.000	5550.00	119.92	124.31	126.81	106.10	3.48	120.11	1000.00	170.55	134.16	60.00	731.55
12300.000	5500.00	120.06	120.21	120.21	106.25	3.46	120.24	300.00	170.48	135.33	60.00	751.37
* 12700.000	5500.00	121.76	122.30	122.19	106.65	3.62	121.96	400.00	160.87	136.86	40.00	774.76
13200.000	4850.00	122.02	128.00	128.00	107.15	3.28	122.19	500.00	158.99	138.69	40.00	813.07
* 13201.000	4850.00	127.02	128.00	128.00	112.15	3.64	127.23	1.00	148.99	138.70	30.00	813.15
13700.000	4250.00	127.31	134.00	134.00	112.65	3.27	127.47	499.00	147.27	140.39	30.00	849.60
13800.000	4250.00	127.33	134.00	134.00	112.75	3.72	127.54	100.00	136.61	140.72	20.00	858.29
14400.000	3550.00	127.70	134.00	134.00	113.35	3.19	127.86	600.00	134.83	142.59	20.00	906.62
15100.000	2950.00	128.03	132.00	132.00	114.05	2.78	128.15	700.00	131.83	144.73	20.00	955.45
15200.000	2950.00	128.04	132.00	132.00	114.15	3.24	128.21	100.00	121.15	145.02	10.00	961.19
16400.000	2100.00	128.61	130.00	130.00	115.35	2.51	128.71	1200.00	116.12	148.29	10.00	1015.81
17000.000	1800.00	128.82	132.00	132.00	115.95	2.27	128.90	600.00	112.98	149.87	10.00	1040.21

SUMMARY OF ERRORS AND SPECIAL NOTES

WARNING SECNO= 835.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 1700.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

NOTE SECNO= 3501.000 PROFILE= 1 WSEL BASED ON X5 CARD

NOTE SECNO= 4701.000 PROFILE= 1 WSEL BASED ON X5 CARD

NOTE SECNO= 7151.000 PROFILE= 1 WSEL BASED ON X5 CARD

NOTE SECNO= 9526.000 PROFILE= 1 WSEL BASED ON X5 CARD

NOTE SECNO= 12700.000 PROFILE= 1 WSEL BASED ON X5 CARD

NOTE SECNO= 13201.000 PROFILE= 1 WSEL BASED ON X5 CARD