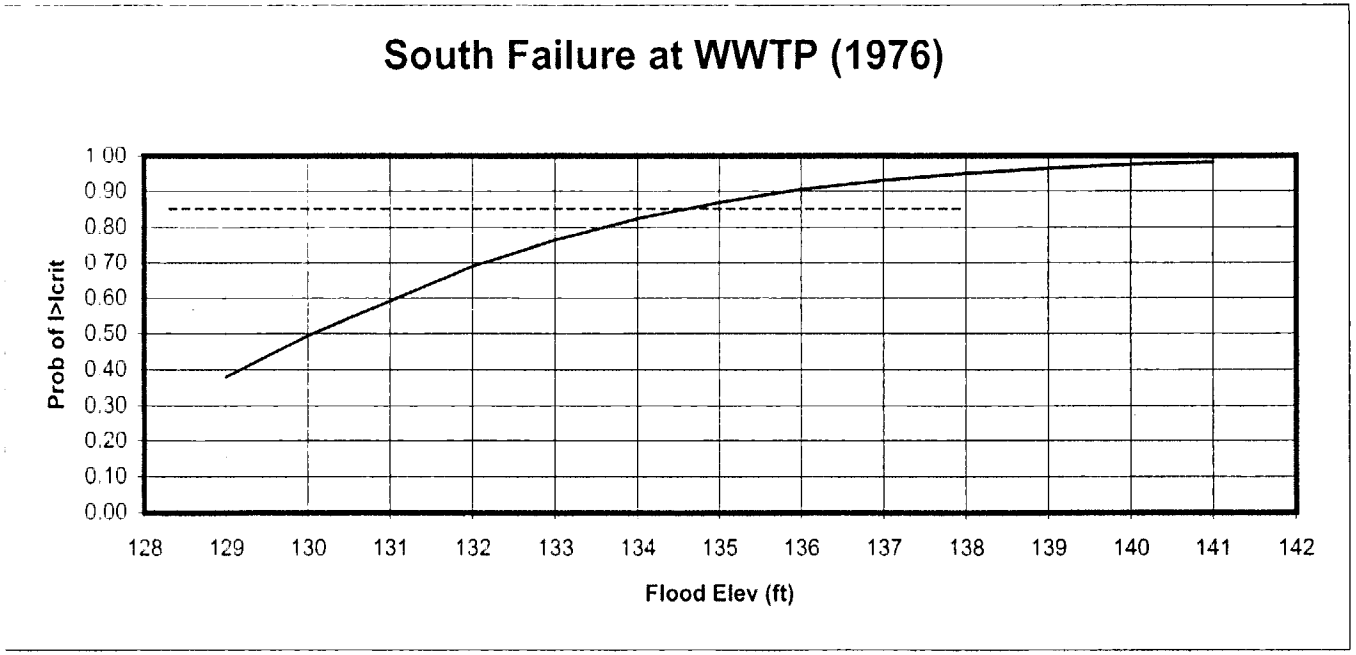
APPENDIX E

crest elev		**140** ft
elev of toe (inside)		**119** ft
elev of toe (outside)		**129** ft
crest width		**20** ft
inside slope		**1.35** H:V
outside slope		**1.6** H:V
dist to river channel	L1	**150** ft
dist to seepage block	L3	**30** ft
Width of Levee at base	L2	65.95 ft
Tailwater Elevation		**0** ft

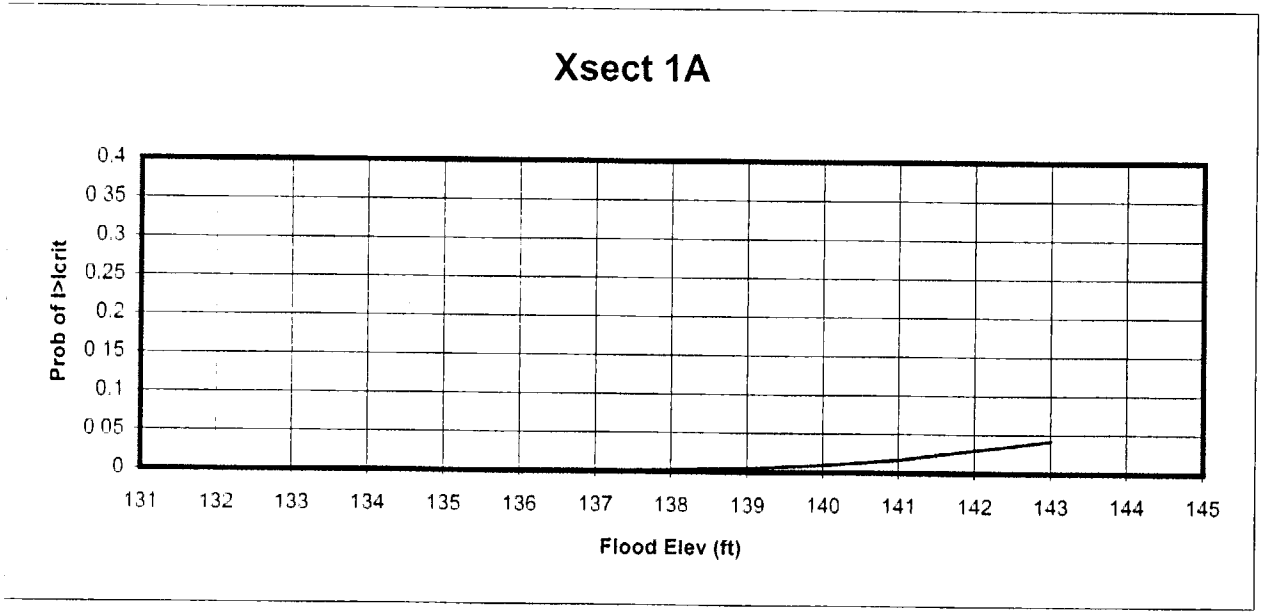
	average	variance	std dev	avg+std dev	avg - std dev
Substratum Permeability	**3.E-05**	**30**	9.E-06	4.E-05	2.E-05
Top Blanket Permeability (outside)	**1.E-05**	**30**	4.E-06	2.E-05	1.E-05
Top Blanket Permeability (Inside)	**1.E-06**	**30**	3.E-07	1.E-06	7.E-07
Thickness of Pervious Layer	**20**	**50**	10	30.0	10.0
Top elev of pervious layer	**112**	2.23	**2.5**	114.5	109.5



Probability of Failure Function - City of Columbia WWTP 1976 South Failure

crest elev		**144.5** ft
elev of toe (inside)		**125** ft
elev of toe (outside)		**132.1** ft
crest width		**11** ft
inside slope		**2.05** H:V
outside slope		**1.4** H:V
dist to river channel	L1	**100** ft
dist to seepage block	L3	**20** ft
Width of Levee at base	L2	68.335 ft
Tailwater Elevation		**125** ft

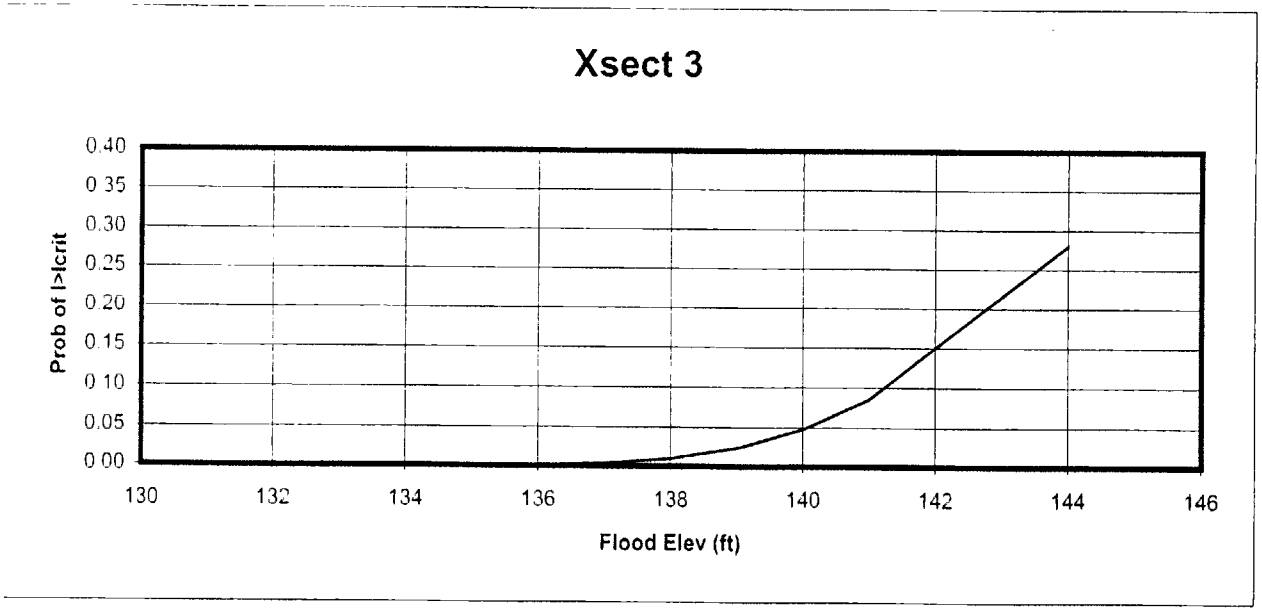
	average	variance	std dev	avg+std dev	avg - std dev
Substratum Permeability	**3.0E-04**	**30**	9.0E-05	3.9E-04	2.1E-04
Top Blanket Permeability (outside)	**1.0E-04**	**30**	3.0E-05	1.3E-04	7.0E-05
Top Blanket Permeability (Inside)	**5.0E-05**	**30**	1.5E-05	6.5E-05	3.5E-05
Thickness of Pervious Layer	**20**	**50**	10	30.0	10.0
Top elev of pervious layer	**110**	2.27	**2.5**	112.5	107.5



Probability of Failure Function - Section 1A

crest elev		**144.7** ft
elev of toe (inside)		**127** ft
elev of toe (outside)		**132** ft
crest width		**11** ft
inside slope		**2.67** H:V
outside slope		**2.1** H:V
dist to river channel	L1	**0** ft
dist to seepage block	L3	**20** ft
Width of Levee at base	L2	69.415 ft
Tailwater Elevation		**127** ft

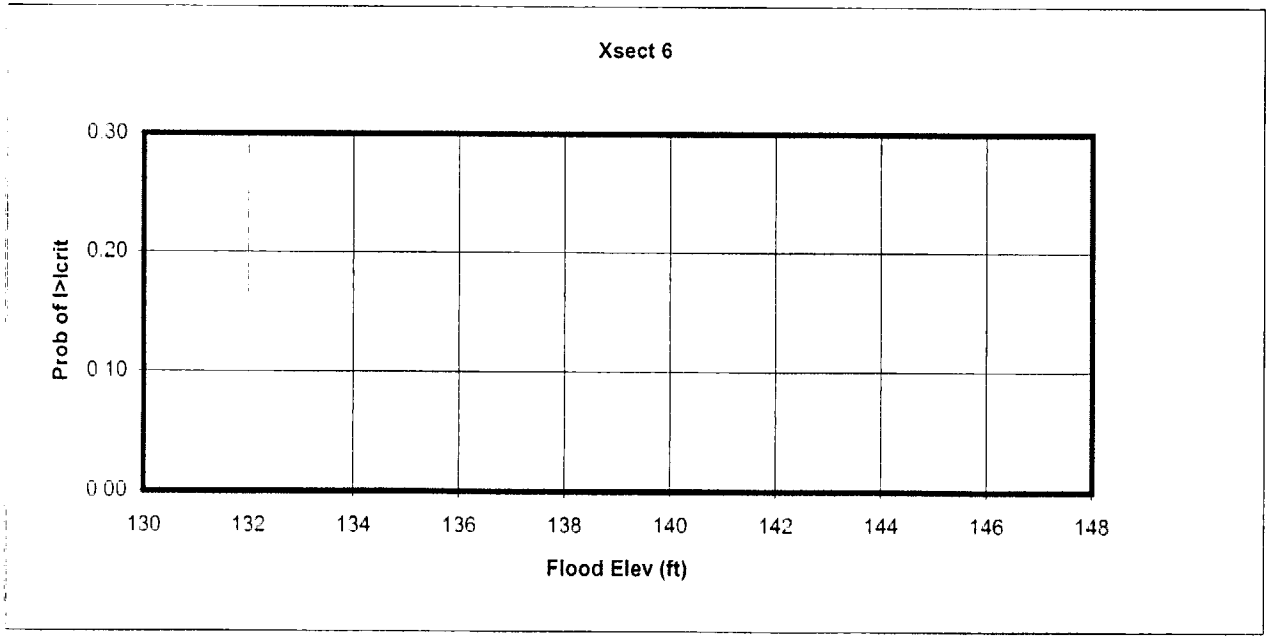
	average	variance	std dev	avg+std dev	avg - std dev
Substratum Permeability	**5.0E-04**	**30**	1 5E-04	6.5E-04	3.5E-04
Top Blanket Permeability (outside)	**1.0E-04**	**30**	3.0E-05	1.3E-04	7.0E-05
Top Blanket Permeability (Inside)	**5.0E-05**	**30**	1.5E-05	6.5E-05	3.5E-05
Thickness of Pervious Layer	**20**	**50**	10	30.0	10.0
Top elev of pervious layer	**113**	2.21	**2.5**	115.5	110.5



Probability of Failure Function - Section 3

crest elev		**149.7** ft
elev of toe (inside)		**128** ft
elev of toe (outside)		**135** ft
crest width		**10** ft
inside slope		**2.2** H:V
outside slope		**1.6** H:V
dist to river channel	L1	**110** ft
dist to seepage block	L3	**100** ft
Width of Levee at base	L2	81.26 ft
Tailwater Elevation		**0** ft

	average	variance	std dev	avg+std dev	avg - std dev
Substratum Permeability	**3.0E-05**	**30**	9.0E-06	3.9E-05	2.1E-05
Top Blanket Permeability (outside)	**1.4E-05**	**30**	4.2E-06	1.8E-05	9.9E-06
Top Blanket Permeability (Inside)	**6.0E-06**	**30**	1.8E-06	7.8E-06	4.2E-06
Thickness of Pervious Layer	**20**	**50**	10	30.0	10.0
Top elev of pervious layer	**120**	2.08	**2.5**	122.5	117.5

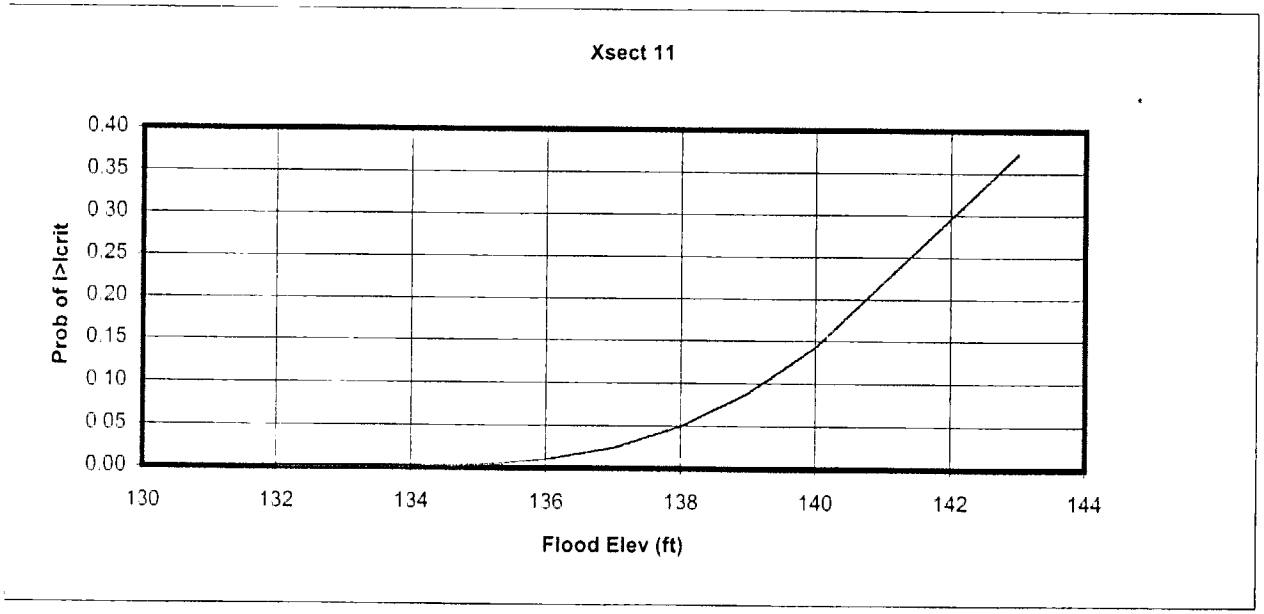


Probability of Failure Function - Cross Section 6

Cross Section 11

crest elev		**145** ft
elev of toe (inside)		**125** ft
elev of toe (outside)		**128** ft
crest width		**10** ft
inside slope		**1.7** H:V
outside slope		**2.3** H:V
dist to river channel	L1	**240** ft
dist to seepage block	L3	**20** ft
Width of Levee at base	L2	82.1 ft
Tailwater Elevation		**125** ft

	average	variance	std dev	avg+std dev	avg - std dev
Substratum Permeability	**3.E-04**	**30**	9.0E-05	3.9E-04	2.1E-04
Top Blanket Permeability (outside)	**1.4E-05**	**30**	4.2E-06	1.8E-05	9.8E-06
Top Blanket Permeability (Inside)	**1.4E-05**	**30**	4 2E-06	1.8E-05	9.8E-06
Thickness of Pervious Layer	**20**	**50**	10	30.0	10.0
Top elev of pervious layer	**112**	2.23	**2.5**	114.5	109.5

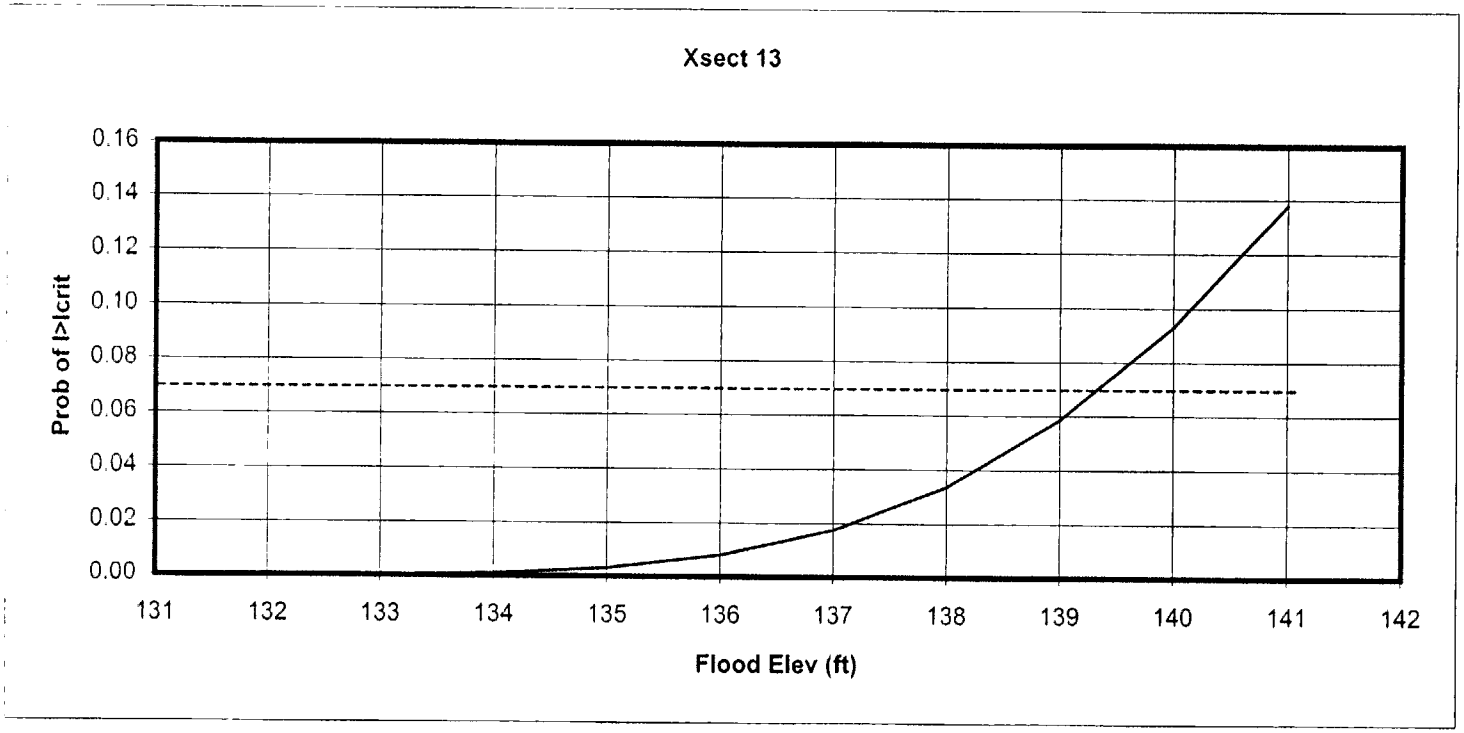


Probability of Failure Function - Section 11

Cross Section 13

crest elev		**145.5** ft
elev of toe (inside)		**123** ft
elev of toe (outside)		**135** ft
crest width		**11** ft
inside slope		**2.2** H:V
outside slope		**2.2** H:V
dist to river channel	L1	**55** ft
dist to seepage block	L3	**30** ft
Width of Levee at base	L2	83.6 ft
Tailwater Elevation		**0** ft

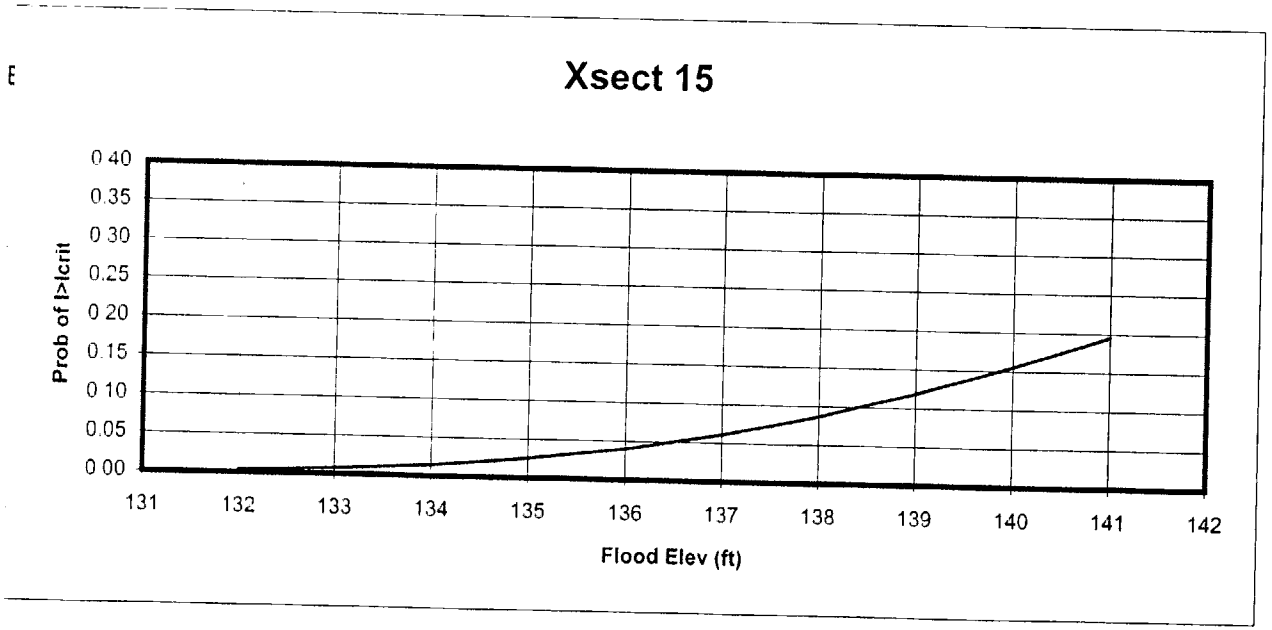
	average	variance	std dev	avg+std dev	avg - std dev
Substratum Permeability	**3.E-04**	**30**	9.E-05	4.E-04	2.E-04
Top Blanket Permeability (outside)	**3.E-05**	**30**	9.E-06	4.E-05	2.E-05
Top Blanket Permeability (Inside)	**1.E-05**	**30**	4.E-06	2.E-05	1.E-05
Thickness of Pervious Layer	**20**	**50**	10	30.0	10.0
Top elev of pervious layer	**107**	2.34	**2.5**	109.5	104.5



Probability of Failure Function - Cross Section 13

crest elev		**144.5** ft
elev of toe (inside)		**121** ft
elev of toe (outside)		**134** ft
crest width		**11** ft
inside slope		**2.36** H:V
outside slope		**2.67** H:V
dist to river channel	L1	**70** ft
dist to seepage block	L3	**20** ft
Width of Levee at base	L2	94.495 ft
Tailwater Elevation		**0** ft

	average	variance	std dev	avg+std dev	avg - std dev
Substratum Permeability	**3.0E-04**	**30**	9.0E-05	3.9E-04	2.1E-04
Top Blanket Permeability (outside)	**3.0E-05**	**30**	9.0E-06	3.9E-05	2.1E-05
Top Blanket Permeability (Inside)	**3.0E-05**	**30**	9.0E-06	3.9E-05	2.1E-05
Thickness of Pervious Layer	**20**	**50**	10	30.0	10.0
Top elev of pervious layer	**108**	2.31	**2.5**	110.5	105.5

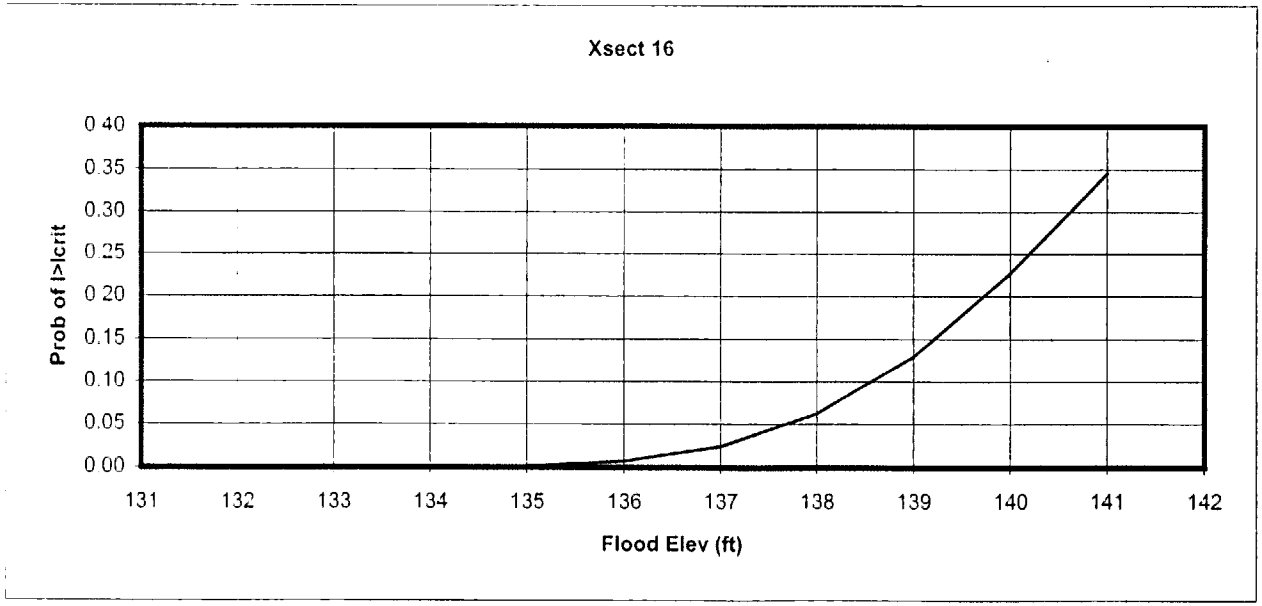


Probability of Failure Function - Cross Section 15

CROSS SECTION 16

crest elev		**142**	ft
elev of toe (inside)		**125**	ft
elev of toe (outside)		**129**	ft
crest width		**11**	ft
inside slope		**1.6**	H:V
outside slope		**2.3**	H:V
dist to river channel	L1	**80**	ft
dist to seepage block	L3	**20**	ft
Width of Levee at base	L2	68.1	ft
Tailwater Elevation		**0**	ft

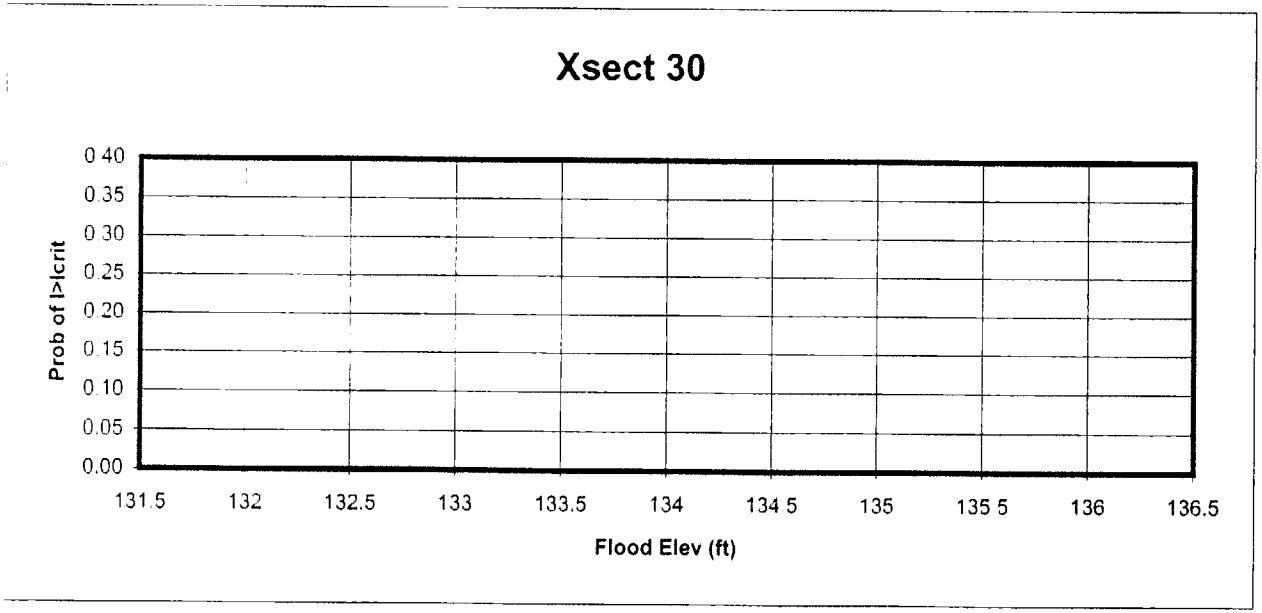
	average	variance	std dev	avg+std dev	avg - std dev
Substratum Permeability	**3.E-04**	**30**	9.E-05	4.E-04	2.E-04
Top Blanket Permeability (outside	**1.E-04**	**30**	3.E-05	1.E-04	7.E-05
Top Blanket Permeability (Inside)	**1.E-05**	**30**	3 E-06	1.E-05	7.E-06
Thickness of Pervious Layer	**20**	**50**	10	30.0	10.0
Top elev of pervious layer	**110**	2.27	**2.5**	112.5	107.5



Probability of Failure Function - Cross Section 16

crest elev		**142** ft
elev of toe (inside)		**127** ft
elev of toe (outside)		**122** ft
crest width		**20** ft
inside slope		**2** H:V
outside slope		**2** H:V
dist to river channel	L1	**10** ft
dist to seepage block	L3	**30** ft
Width of Levee at base	L2	90 ft
Tailwater Elevation		**127** ft

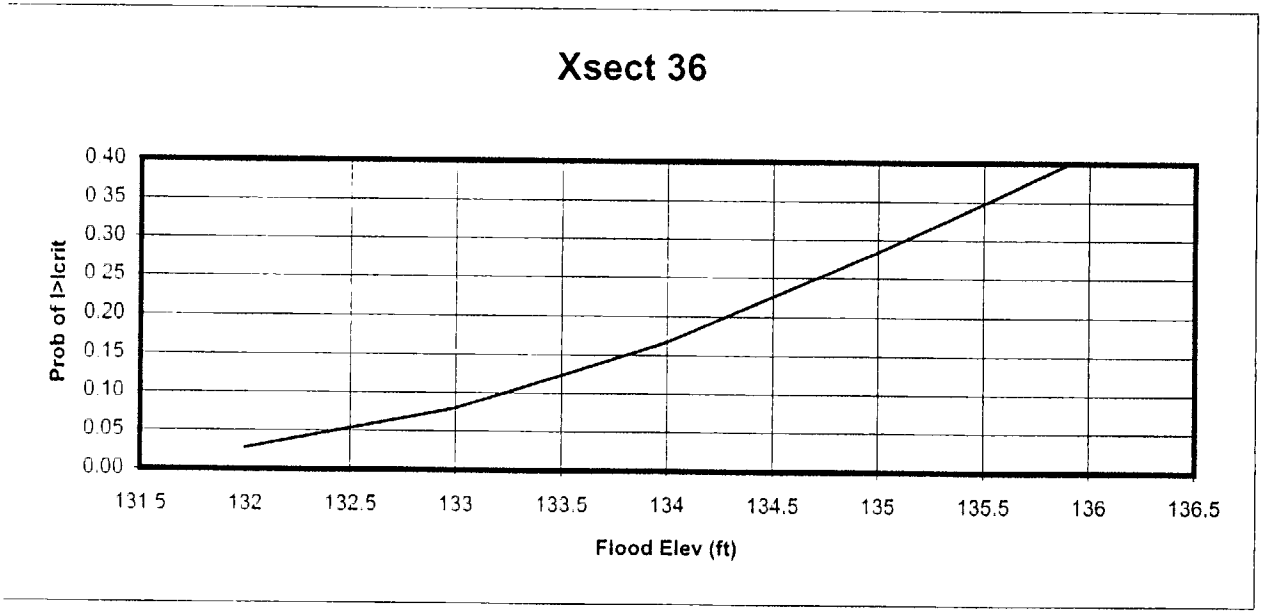
	average	variance	std dev	avg+std dev	avg - std dev
Substratum Permeability	**3.0E-05**	**30**	9 0E-06	3.9E-05	2.1E-05
Top Blanket Permeability (outside)	**6.0E-06**	**30**	1.8E-06	7.8E-06	4.2E-06
Top Blanket Permeability (Inside)	**6.0E-06**	**30**	1.8E-06	7.8E-06	4.2E-06
Thickness of Pervious Layer	**20**	**50**	10	30.0	10.0
Top elev of pervious layer	**119**	2.10	**2.5**	121.5	116.5



Probability of Failure Function - Cross Section 30

crest elev		**135** ft
elev of toe (inside)		**126** ft
elev of toe (outside)		**126** ft
crest width		**20** ft
inside slope		**2** H:V
outside slope		**2** H:V
dist to river channel	L1	**10** ft
dist to seepage block	L3	**30** ft
Width of Levee at base	L2	56 ft
Tailwater Elevation		**126** ft

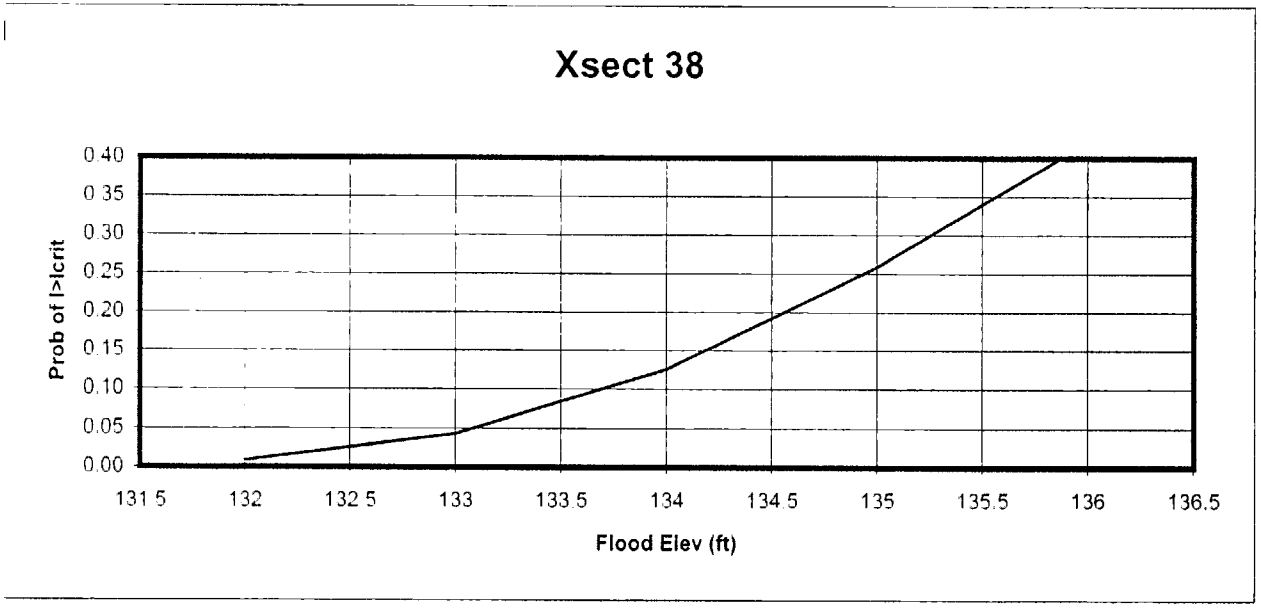
	average	variance	std dev	avg+std dev	avg - std dev
Substratum Permeability	**3.0E-05**	**30**	9.0E-06	3.9E-05	2.1E-05
Top Blanket Permeability (outside)	**1.4E-05**	**30**	4.2E-06	1.8E-05	9.8E-06
Top Blanket Permeability (Inside)	**1.0E-06**	**30**	3.0E-07	1.3E-06	7.0E-07
Thickness of Pervious Layer	**20**	**50**	10	30.0	10.0
Top elev of pervious layer	**118**	2.12	**2.5**	120.5	115.5



Probability of Failure Function - Cross Section 36

crest elev		**136**	ft
elev of toe (inside)		**126**	ft
elev of toe (outside)		**126**	ft
crest width		**20**	ft
inside slope		**2**	H:V
outside slope		**2**	H:V
dist to river channel	L1	**10**	ft
dist to seepage block	L3	**30**	ft
Width of Levee at base	L2	60	ft
Tailwater Elevation		**126**	ft

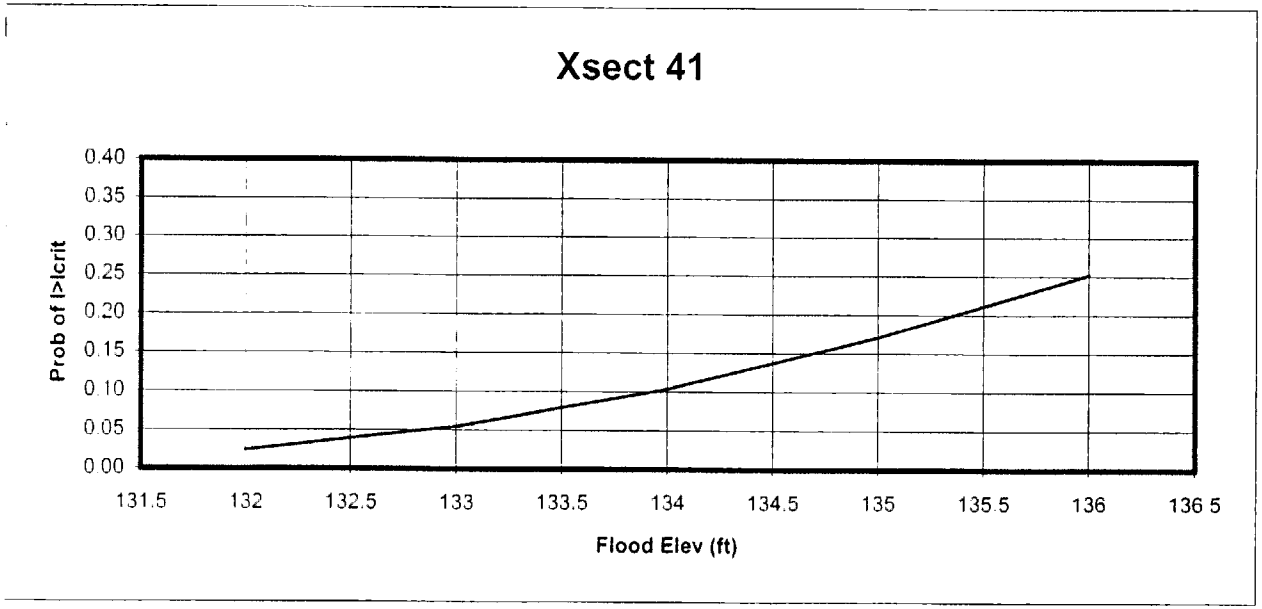
	average	variance	std dev	avg+std dev	avg - std dev
Substratum Permeability	**3.0E-04**	**30**	9.0E-05	3.9E-04	2.1E-04
Top Blanket Permeability (outside)	**9.2E-08**	**30**	2.8E-08	1.2E-07	6.5E-08
Top Blanket Permeability (Inside)	**9.2E-08**	**30**	2.8E-08	1.2E-07	6.5E-08
Thickness of Pervious Layer	**15**	**50**	8	22.5	7.5
Top elev of pervious layer	**115**	2.17	**2.5**	117.5	112.5



Probability of Failure Function - Cross Section 38

crest elev		**136** ft
elev of toe (inside)		**124** ft
elev of toe (outside)		**124** ft
crest width		**20** ft
inside slope		**2** H:V
outside slope		**2** H:V
dist to river channel	L1	**30** ft
dist to seepage block	L3	**30** ft
Width of Levee at base	L2	68 ft
Tailwater Elevation		**0** ft

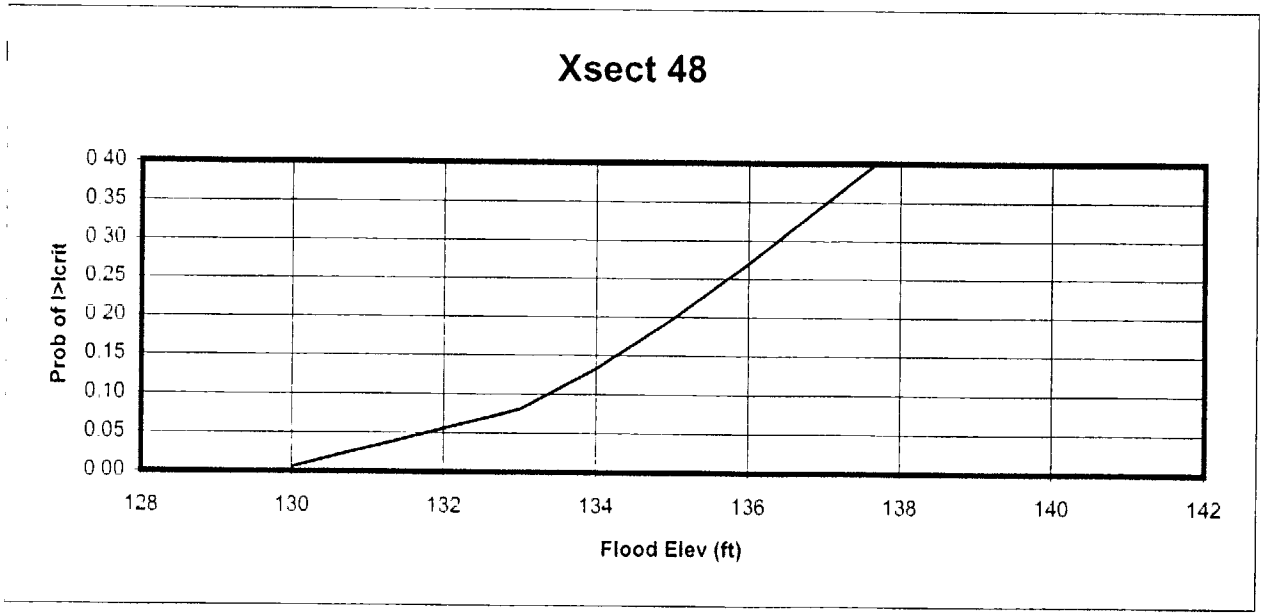
	average	variance	std dev	avg+std dev	avg - std dev
Substratum Permeability	**3.0E-04**	**30**	9.0E-05	3.9E-04	2.1E-04
Top Blanket Permeability (outside)	**1.4E-05**	**30**	4.2E-06	1.8E-05	9.8E-06
Top Blanket Permeability (Inside)	**1.4E-05**	**30**	4.2E-06	1.8E-05	9.8E-06
Thickness of Pervious Layer	**20**	**50**	10	30.0	10.0
Top elev of pervious layer	**115**	2.17	**2.5**	117.5	112.5



Probability of Failure Function - Cross Section 41

crest elev		**135** ft
elev of toe (inside)		**124** ft
elev of toe (outside)		**121** ft
crest width		**20** ft
inside slope		**2** H:V
outside slope		**2** H:V
dist to river channel	L1	**10** ft
dist to seepage block	L3	**30** ft
Width of Levee at base	L2	70 ft
Tailwater Elevation		**124** ft

	average	variance	std dev	avg+std dev	avg - std dev
Substratum Permeability	**3.0E-04**	**30**	9.0E-05	3.9E-04	2.1E-04
Top Blanket Permeability (outside)	**3.0E-05**	**30**	9.0E-06	3.9E-05	2.1E-05
Top Blanket Permeability (Inside)	**3.0E-05**	**30**	9.0E-06	3.9E-05	2.1E-05
Thickness of Pervious Layer	**25**	**50**	13	37.5	12.5
Top elev of pervious layer	**117**	2.14	**2.5**	119.5	114.5



Probability of Failure Function - Cross Section 48

SUMMARY OF REVISED
HEC-2 MODELS
10-26-00

Four separate HEC-2 models are included with this submission. This brief summary will describe the purpose of each of the models, as well as all changes and revisions to the FEMA HEC-2 models of 10-26-00 to create the models presented.

Lexington Multiple Model

This model was created to predict base flood elevations for Lexington County. Base flood elevations for Lexington County are computed with the levee in place, as this is the worst-case scenario. This model is included with this submission as **LXMUL.DAT**. This model has been modified from the Lexington multiple model presented by FEMA on 10-26-00 in the following manner:

- Base for model is HEC-2 model presented by FEMA, **CONLX2KR.DAT**.

- At section 246700, the channel "n" value was changed from 0.040 to 0.038. This change was done for the **LXMUL.DAT** HEC-2 model submitted to FEMA on 10-12-00, however, it was changed back to 0.040 because this cross-section was used as a calibration section. We have performed a sensitivity analysis on this change (documented in the included model **LXSEN.DAT**). The results of this sensitivity analysis show that the maximum change in WSEL (due to the "n" value change from 0.040 to 0.038) is –0.04 foot at section 246700. Upstream of the change are several 0.01 foot increases. Since the change in modeling results is insignificant when changing the channel "n" value from 0.040 to 0.038, the channel "n" value was set at 0.038 for consistency between adjoining upstream and downstream cross-sections.

- At section 247000, the FEMA Lexington multiple model predicts that 134,970 CFS will flow landward of the levee. This is representative of 45.2% of the total flow in the Congaree River during the passage of the 100-year storm event. This flowrate landward of the levee occurs even though the entire flow area landward of the levee has been designated as "ineffective" by the use of "n" = 10. To correct the situation, the data set on GR records for section 247000 was truncated from the top of the levee through the remainder of Richland County. This is technically appropriate, since the concept of the Lexington multiple model is that no flow occurs landward of the levee on the Richland County side.

- At section 250770, the data set landward of the levee through Richland County was truncated as was done at section 247000. At section 250770, the FEMA Lexington multiple HEC-2 model predicts that 125,926 CFS (or 42.2% of the total 100-year flow) will be conveyed landward of the levee. Truncation of the GR point from the levee top landward into Richland County alleviates the problem.

The revised Lexington multiple HEC-2 model (**LXMUL.DAT**) resulting from the above changes yields a much more stable model than the Lexington multiple model presented by FEMA on 10-18-00 (**CONLX2KR.DAT**). The HEC-2 model as presented by FEMA indicates as much as a 2.04 foot drawdown between sections 250770 and 253400. This drawdown significantly affects the computation of Base Flood Elevations for the remainder of the model upstream of section 250770. By truncating the GR records at

247000 and 250770 in the manner indicated, the instability in the HEC-2 model is removed. This truncation of GR points is technically appropriate, since the Lexington model is for the levee in-place scenario, and no effective conveyance is to exist landward of the levee.

Lexington Floodway Model

This model was created to model floodway for Lexington County with the levee in place. This model is included with this submission as **LXFW.DAT**. The base model for creation of the Lexington floodway model is the revised Lexington multiple model, as described above. During floodway computations, the floodway boundary is set at the top of levee location (Richland County side) and the same encroachments are used for the Lexington County side as are used in the FEMA floodway model for the Congaree River, **CONFW2KR.DAT**. All encroachments upstream and downstream of the levee location, for both Richland and Lexington counties, are set at the locations presented in the FEMA floodway model. Some encroachment exceptions exist at sections 246700, 247000, 247200, 248200, 249300, and 249590. At these sections, the floodway boundary is pushed outside the limits of floodway as indicated in the FEMA floodway model **CONFW2KR.DAT**. However, the floodway limits remain at, or on the river side of, the floodway line as presented on the preliminary FIRM for Lexington County on 9-26-00. Therefore, the slight change in floodway boundary from this revised Lexington floodway model and the FEMA's floodway model of 10-18-00 will not change the floodway as mapped by FEMA on the preliminary FIRM for Lexington County (released for comment 9-26-00).

Lexington CLOMR-Ready Floodway Model

This model is based on the revised Lexington floodway model (**LXFW.DAT**), and is included with this submission as **LXFWCLMR.DAT**. This model has been revised to reflect the top of levee elevations that will be required to provide three (3) feet of freeboard in the 500-year storm event, as predicted by the revised Lexington multiple model (**LXMUL.DAT**). This model is CLOMR and No-Rise ready, as it shows no change in floodway delineation from the revised Lexington floodway model, and no change in Base Flood Elevation as compared to the revised Lexington multiple and floodway models.

Lexington Sensitivity Model

This model is based on the Lexington multiple model provided by FEMA on 10-18-00 (**CONLX2KR.DAT**) and is included with this submission as **LXSEN.DAT**. This model quantifies the differences in WSEL that occur when the channel "n" value at section 246700 is changed from 0.040 to 0.038. The results of this model show that the maximum change in WSEL (100-year storm event) is –0.04 foot at section 246700, with several increases of 0.01 foot from section 247000 to section 269300. There is no increase more than 0.01 foot as a result of this modification.

HEC-2 Modeling Summary of Results

	FEMA RESULTS				*CLOMR READY RESULTS*					*DIFFERENCE; FEMA TO CLOMR READY*				
		Congaree Floodway Boundary per FEMA 10-18-00					Congaree Floodway Boundary Lex. Multiple Base; Levee at FW				Congaree Floodway Boundary Lex. Multiple Base; Levee at FW			
River Station	Lexington BFE per FEMA (ft, MSL)	Left Encr. Station (Richland)	Right Encr. Station (Lexington)	Floodway Surcharge (ft)	Corrected Lexington Multiple BFE (ft, MSL)	Lexington BFE per LXFWCLMR Model (ft, MSL)	Left Encr. Station (Richland)	Right Encr. Station (Lexington)	Floodway Surcharge (ft)	Lexington BFE (ft, MSL)	Left Encr. Station (Richland)	Right Encr. Station (Lexington)	Floodway Surcharge (ft)	Difference; Corrected Lex. To CLOMR Lex. BFE (with new levee EL) (feet)
212950	127 96	9139 38	22974 60	0 95	127 96	127 96	9139 38	22974 60	1 00	0.00	0.00	0.00	0 05	0.00
215700	129.52	8030.57	22914 93	0 90	129.52	129.52	8030.57	22914.93	0.76	0.00	0.00	0.00	-0.14	0.00
226700	132 48	10079 12	25766 09	0 62	132 48	132 48	10079.12	25766.09	0.52	0.00	0.00	0.00	-0.10	0.00
234100	135 06	5550 00	22656 00	0 66	135.06	135 06	15014 00	22656.00	0.54	0.00	-9464.00	0 00	-0 12	0.00
238900	136 75	19835 00	35900 00	0 88	136.75	136.75	28331.00	35900.00	0.79	0.00	-8496.00	0.00	-0.09	0.00
239370	136.89	21160 00	35900.00	0.88	136 89	136 89	28331 00	35900.00	0.78	0.00	-7171.00	0.00	-0 10	0 00
239800	136 93	560 00	15700 00	0 93	136 93	136 93	9030.00	15700.00	0 87	0 00	-8470.00	0.00	-0.06	0.00
241500	137.50	6342 05	18692.54	0 85	137 50	137.50	12061.00	18692.54	0.76	0.00	-5718.95	0.00	-0.09	0.00
241850	137 59	6399 08	18865 33	0 86	137 59	137 59	12104.00	18865.33	0.76	0.00	-5704.92	0.00	-0.10	0.00
242049	138 17	5540.00	17240.00	0 90	138.17	138.17	10815.00	17240.00	0.84	0.00	-5275.00	0 00	-0.06	0.00
242050	138 17	5540 00	17240 00	0 90	138.17	138.17	10815.00	17240.00	0.84	0.00	-5275.00	0.00	-0.06	0.00
242120	138.18	5540.00	17240.00	0.90	138.18	138.18	10815.00	17240.00	0 84	0 00	-5275 00	0.00	-0 06	0 00
242121	138 19	5540.00	17240.00	0.91	138.19	138.19	10815.00	17240.00	0.83	0.00	-5275.00	0.00	-0.08	0.00
242169	138.21	5540.00	17240.00	0.91	138.21	138.21	10793 00	17240 00	0 83	0.00	-5253 00	0 00	-0 08	0 00
242170	138.20	5540.00	17240 00	0.91	138.20	138.20	10793.00	17240.00	0.83	0.00	-5253.00	0.00	-0.08	0.00
242240	138.22	5540.00	17240.00	0.91	138 22	138 22	10806.00	17240.00	0 84	0 00	-5266 00	0 00	-0 07	0.00
242241	138.23	5540.00	17240.00	0.91	138.23	138.23	10806.00	17240.00	0.82	0.00	-5266.00	0.00	-0.09	0.00
242440	138.10	5540.00	17600 00	0 89	138 10	138 10	11800 00	17600 00	0 75	0 00	-6260 00	0 00	-0 14	0.00
243000	138.54	6452.90	17859.61	0.83	138.54	138.54	11830.00	17859.61	0.75	0.00	-5377.10	0.00	-0.08	0.00
245800	139 59	5580 00	17300 00	0 92	139 59	139 59	11800 00	17300 00	0 98	0 00	-6220.00	0.00	0.06	0.00
246000	139.79	5589.08	17131.80	0.89	139.79	139.79	11815.00	17131.80	0.88	0.00	-6225.92	0.00	-0.01	0.00
246700	139 80	8900 00	18800 00	0 87	139 76	139 76	14467 00	19200.00	0.97	-0.04	-5567.00	400.00	0.10	0.00
247000	140.76	12729.02	23282.54	0.91	140.25	140.25	18790.00	23582.00	1.00	-0.51	-6060.98	299.46	0.09	0 00
247200	140 26	12445 06	23301 65	0 94	140 25	140.25	18800.00	23601.00	1.03	-0.01	-6354.94	299.35	0.09	0.00
248200	140.62	6340.41	17582.96	0.94	140.62	140.62	12860.00	17682.00	1.02	0.00	-6519.59	99.04	0.08	0 00
249300	141 56	4222 68	13994 81	0 85	141.56	141.56	9390.00	14400.00	0.97	0.00	-5167.32	405.19	0.12	0.00
249590	141.35	7576.92	17206.01	0.85	141.35	141.35	12740.00	17306.00	0 87	0.00	-5163.08	99.99	0 02	0.00
250770	142.07	1620.16	10222.71	0.87	141.57	141.57	5910.00	10222.71	0.90	-0.50	-4289.84	0.00	0.03	0.00
253400	140.03	7628.00	12000.00	0.94	142.72	142.72	9590 00	12000 00	1.04	2 69	-1962 00	0 00	0 10	0 00
254500	141.38	4685.00	5315.00	0.82	143.68	143.68	4685.00	5315.00	0.95	2.30	0.00	0.00	0.13	0.00
254600	141.67	4685.00	5315.00	0.72	143 96	143 96	4685 00	5315.00	0 78	2 29	0 00	0 00	0 06	0.00
255100	142.51	4685.00	5315.00	0.56	144.63	144.63	4685.00	5315.00	0.68	2.12	0.00	0.00	0.12	0.00
256100	143.79	4685 00	5315.00	0.61	145 61	145 61	4685 00	5315 00	0 76	1 82	0 00	0 00	0 15	0.00
257200	144.97	4685.00	5316.53	0.60	146.60	146.60	4685.00	5316.53	0.81	1.63	0.00	0.00	0.21	0.00
258400	145 36	6172 70	6774 11	0 63	146 82	146 82	6172 70	6774 11	0 94	1.46	0.00	0.00	0.31	0.00
259600	146.65	6166.49	6778.74	0.61	147.94	147.94	6166.49	6778.74	0.92	1.29	0.00	0.00	0.31	0 00
260100	147 14	6168 58	6773 78	0 58	148.37	148.37	6168.58	6773.78	0.88	1.23	0.00	0.00	0.30	0.00
260400	149.36	5607.88	6689.00	0.41	150.46	150.46	5607.88	6689.00	0.69	1.10	0.00	0.00	0.28	0 00
260500	149 32	1570 00	2465.00	0.50	150.41	150.41	1570.00	2465.00	0.78	1.09	0.00	0.00	0.28	0.00
260550	149.72	1570.00	2465.00	0.48	150.78	150.78	1570.00	2465 00	0.76	1 06	0 00	0 00	0 28	0 00
260600	149.74	1570.00	2465.00	0.48	150.79	150.79	1570.00	2465.00	0.76	1.05	0.00	0.00	0.28	0.00
260700	150.38	1510.00	2730.00	0.35	151 40	151 40	1510 00	2730.00	0 63	1 02	0 00	0 00	0 28	0 00
260730	150.38	1510.00	2730.00	0.35	151.41	151.41	1510.00	2730.00	0.63	1.03	0.00	0.00	0.28	0.00

HEC-2 Modeling Summary of Results

	FEMA RESULTS				*CLOMR READY RESULTS*					*DIFFERENCE; FEMA TO CLOMR READY*				
		Congaree Floodway Boundary per FEMA 10-18-00					Congaree Floodway Boundary Lex. Multiple Base; Levee at FW				Congaree Floodway Boundary Lex. Multiple Base; Levee at FW			
River Station	Lexington BFE per FEMA (ft, MSL)	Left Encr. Station (Richland)	Right Encr. Station (Lexington)	Floodway Surcharge (ft)	Corrected Lexington Multiple BFE (ft, MSL)	Lexington BFE per LXFWCLMR Model (ft, MSL)	Left Encr. Station (Richland)	Right Encr. Station (Lexington)	Floodway Surcharge (ft)	Lexington BFE (ft, MSL)	Left Encr. Station (Richland)	Right Encr. Station (Lexington)	Floodway Surcharge (ft)	Difference; Corrected Lex. To CLOMR Lex. BFE (with new levee EL) (feet)
260800	150.59	1510.00	2730.00	0.38	151.60	151.60	1510.00	2730.00	0.65	1.01	0.00	0.00	0.27	0.00
261200	150.66	370.00	1684.83	0.38	151.66	151.66	370.00	1684.83	0.65	1.00	0.00	0.00	0.27	0.00
262900	150.94	323.30	1710.50	0.41	151.91	151.91	323.30	1710.50	0.67	0.97	0.00	0.00	0.26	0.00
264500	151.48	1660.00	3130.00	0.43	152.40	152.40	1660.00	3130.00	0.68	0.92	0.00	0.00	0.25	0.00
264600	151.45	1660.00	3130.00	0.48	152.37	152.37	1660.00	3130.00	0.74	0.92	0.00	0.00	0.26	0.00
264750	151.53	1660.00	3130.00	0.48	152.45	152.45	1660.00	3130.00	0.73	0.92	0.00	0.00	0.25	0.00
265200	151.59	1175.73	2285.00	0.25	152.50	152.50	1175.73	2285.00	0.52	0.91	0.00	0.00	0.27	0.00
266750	151.69	4287.44	5471.00	0.51	152.58	152.58	4287.44	5471.00	0.75	0.89	0.00	0.00	0.24	0.00
266900	151.63	4595.00	5405.00	0.47	152.53	152.53	4595.00	5405.00	0.70	0.90	0.00	0.00	0.23	0.00
267400	152.64	821.50	2231.30	0.52	153.47	153.47	821.50	2231.30	0.76	0.83	0.00	0.00	0.24	0.00
267750	152.36	4475.00	5525.00	0.54	153.20	153.20	4475.00	5525.00	0.78	0.84	0.00	0.00	0.24	0.00
267850	152.36	563.00	2000.00	0.54	153.20	153.20	563.00	2000.00	0.78	0.84	0.00	0.00	0.24	0.00
268920	153.08	4260.00	5915.00	0.50	153.88	153.88	4260.00	5915.00	0.73	0.80	0.00	0.00	0.23	0.00
269250	153.14	600.00	2248.00	0.48	153.94	153.94	600.00	2248.00	0.71	0.80	0.00	0.00	0.23	0.00
269300	153.15	600.00	2248.00	0.48	153.95	153.95	600.00	2248.00	0.71	0.80	0.00	0.00	0.23	0.00
270450	153.53	3835.00	6165.00	0.58	154.31	154.31	3835.00	6165.00	0.80	0.78	0.00	0.00	0.22	0.00
272010	153.93	2970.00	5300.00	0.52	154.67	154.67	2970.00	5300.00	0.74	0.74	0.00	0.00	0.22	0.00

HEC-2 Modeling Summary of Results

River Station	FEMA RESULTS: Lexington BFE per FEMA (ft, MSL)	FEMA RESULTS: Congaree Floodway Boundary per FEMA 10-18-00: Left Encr. Station (Richland)	FEMA RESULTS: Congaree Floodway Boundary per FEMA 10-18-00: Right Encr. Station (Lexington)	FEMA RESULTS: Congaree Floodway Boundary per FEMA 10-18-00: Floodway Surcharge (ft)	REVISED LEXINGTON MODEL RESULTS: Corrected Lexington Multiple BFE (ft, MSL)	REVISED LEXINGTON MODEL RESULTS: Lexington BFE per LXFW Model (ft, MSL)	REVISED LEXINGTON MODEL RESULTS: Congaree Floodway Boundary Lex. Multiple Base; Levee at FW: Left Encr. Station (Richland)	REVISED LEXINGTON MODEL RESULTS: Congaree Floodway Boundary Lex. Multiple Base; Levee at FW: Right Encr. Station (Lexington)	REVISED LEXINGTON MODEL RESULTS: Congaree Floodway Boundary Lex. Multiple Base; Levee at FW: Floodway Surcharge (ft)	DIFFERENCE; FEMA TO REVISED: Lexington BFE (ft, MSL)	DIFFERENCE; FEMA TO REVISED: Congaree Floodway Boundary Lex. Multiple Base; Levee at FW: Left Encr. Station (Richland)	DIFFERENCE; FEMA TO REVISED: Congaree Floodway Boundary Lex. Multiple Base; Levee at FW: Right Encr. Station (Lexington)	DIFFERENCE; FEMA TO REVISED: Congaree Floodway Boundary Lex. Multiple Base; Levee at FW: Floodway Surcharge (ft)
212950	127 96	9139 38	22974 60	0 95	127.96	127 96	9139.38	22974.60	1.00	0.00	0.00	0.00	0.05
215700	129 52	8030 57	22914 93	0 90	129 52	129 52	8030 57	22914 93	0 76	0.00	0.00	0.00	-0.14
226700	132 48	10079 12	25766 09	0 62	132.48	132.48	10079.12	25766.09	0.52	0.00	0.00	0.00	-0 10
234100	135 06	5550 00	22656.00	0.66	135.06	135.06	15014.00	22656.00	0.54	0.00	-9464.00	0.00	-0.12
238900	136.75	19835 00	35900 00	0 88	136 75	136 75	28331 00	35900.00	0.79	0.00	-8496.00	0.00	-0.09
239370	136.89	21160.00	35900.00	0.88	136.89	136.89	28331.00	35900 00	0 78	0 00	-7171.00	0.00	-0.10
239800	136.93	560.00	15700.00	0.93	136.93	136.93	9030.00	15700.00	0.87	0.00	-8470.00	0.00	-0 06
241500	137 50	6342 05	18692 54	0 85	137.50	137.50	12061.00	18692.54	0.76	0.00	-5718.95	0.00	-0.09
241850	137.59	6399.08	18865.33	0.86	137 59	137 59	12104.00	18865 33	0 76	0.00	-5704.92	0.00	-0.10
242049	138.17	5540.00	17240.00	0.90	138.17	138.17	10815.00	17240.00	0.84	0 00	-5275.00	0 00	-0 06
242050	138 17	5540.00	17240.00	0.90	138.17	138.17	10815.00	17240.00	0.84	0.00	-5275.00	0.00	-0.06
242120	138.18	5540 00	17240 00	0 90	138 18	138 18	10815.00	17240.00	0.84	0.00	-5275.00	0.00	-0.06
242121	138.19	5540.00	17240.00	0.91	138.19	138.19	10815.00	17240.00	0 83	0.00	-5275.00	0.00	-0.08
242169	138.21	5540.00	17240.00	0.91	138.21	138.21	10793.00	17240.00	0.83	0.00	-5253.00	0.00	-0 08
242170	138 20	5540 00	17240 00	0.91	138.20	138.20	10793.00	17240.00	0.83	0.00	-5253.00	0.00	-0.08
242240	138.22	5540.00	17240.00	0 91	138 22	138 22	10806.00	17240 00	0.84	0.00	-5266.00	0.00	-0.07
242241	138.23	5540.00	17240.00	0.91	138.23	138.23	10806.00	17240.00	0.82	0.00	-5266.00	0 00	-0.09
242440	138.10	5540.00	17600.00	0.89	138.10	138.10	11800.00	17600.00	0.75	0.00	-6260.00	0.00	-0.14
243000	138 54	6452 90	17859 61	0.83	138 54	138.54	11830.00	17859.61	0.75	0.00	-5377.10	0.00	-0.08
245800	139.59	5580.00	17300.00	0.92	139.59	139.59	11800.00	17300 00	0.98	0 00	-6220.00	0.00	0.06
246000	139.79	5589.08	17131.80	0.89	139.79	139.79	11815.00	17131.80	0.88	0.00	-6225.92	0 00	-0.01
246700	139 80	8900 00	18800 00	0.87	139.76	139.76	14467.00	19200.00	0.97	-0.04	-5567.00	400.00	0.10
247000	140.76	12729.02	23282 54	0.91	140.25	140.25	18790 00	23582 00	1.00	-0.51	-6060.98	299.46	0.09
247200	140.26	12445.06	23301.65	0.94	140.25	140.25	18800.00	23601.00	1.03	-0.01	-6354.94	299 35	0.09
248200	140.62	6340.41	17582.96	0.94	140.62	140.62	12860.00	17682.00	1.02	0.00	-6519.59	99.04	0 08
249300	141 56	4222 68	13994.81	0 85	141.56	141.56	9390.00	14400.00	0.97	0.00	-5167.32	405.19	0.12
249590	141.35	7576.92	17206.01	0.85	141.35	141 35	12740 00	17306 00	0.87	0.00	-5163.08	99.99	0.02
250770	142.07	1620.16	10222.71	0.87	141.57	141.57	5910.00	10222.71	0.90	-0.50	-4289.84	0.00	0 03
253400	140 03	7628.00	12000.00	0.94	142.72	142.72	9590.00	12000.00	1.04	2.69	-1962.00	0.00	0 10
254500	141 38	4685.00	5315 00	0 82	143 68	143.68	4685.00	5315.00	0.95	2.30	0.00	0.00	0.13
254600	141.67	4685.00	5315.00	0.72	143.96	143 96	4685.00	5315.00	0.78	2 29	0.00	0.00	0.06
255100	142 51	4685.00	5315.00	0.56	144.63	144.63	4685.00	5315.00	0.68	2.12	0 00	0.00	0 12
256100	143 79	4685 00	5315.00	0.61	145.61	145.61	4685.00	5315.00	0.76	1.82	0.00	0.00	0.15
257200	144.97	4685.00	5316 53	0 60	146 60	146 60	4685.00	5316.53	0.81	1.63	0.00	0.00	0.21
258400	145.36	6172.70	6774.11	0.63	146.82	146.82	6172 70	6774 11	0 94	1.46	0 00	0.00	0.31
259600	146.65	6166.49	6778.74	0.61	147.94	147.94	6166.49	6778.74	0.92	1.29	0.00	0.00	0.31
260100	147 14	6168 58	6773 78	0.58	148.37	148.37	6168.58	6773.78	0.88	1.23	0.00	0.00	0.30

HEC-2 Modeling Summary of Results

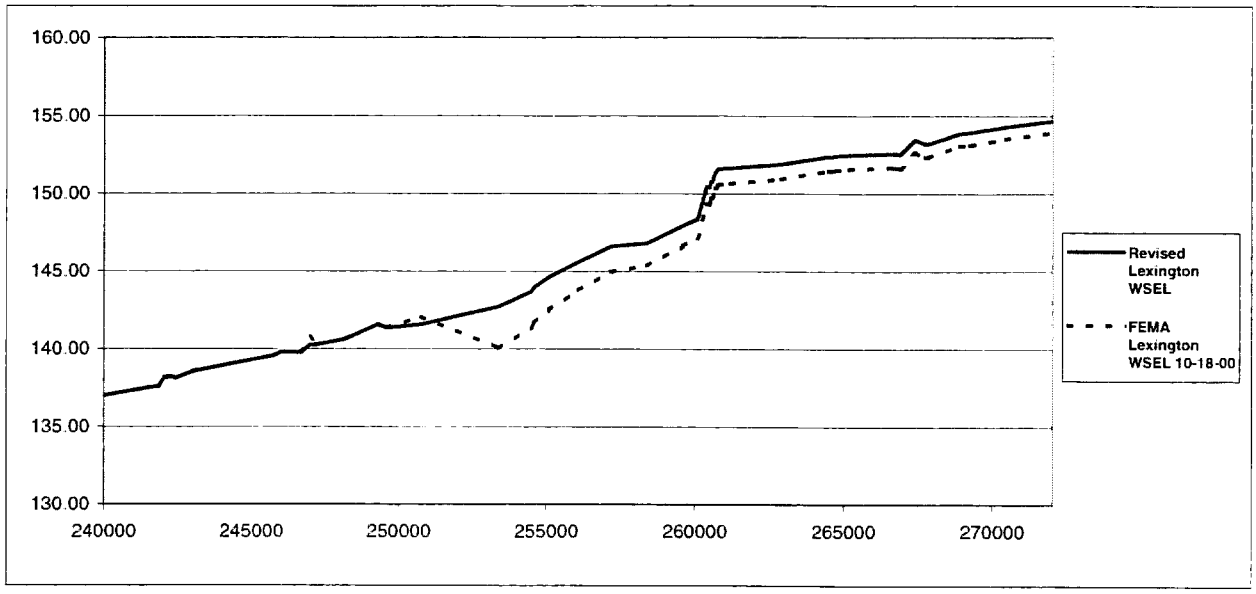
River Station	FEMA RESULTS: Lexington BFE per FEMA (ft, MSL)	FEMA RESULTS: Congaree Floodway Boundary per FEMA 10-18-00 Left Encr. Station (Richland)	FEMA RESULTS: Congaree Floodway Boundary per FEMA 10-18-00 Right Encr. Station (Lexington)	FEMA RESULTS: Congaree Floodway Boundary per FEMA 10-18-00 Floodway Surcharge (ft)	REVISED LEXINGTON MODEL RESULTS: Corrected Lexington Multiple BFE (ft, MSL)	REVISED LEXINGTON MODEL RESULTS: Lexington BFE per LXFW Model (ft, MSL)	REVISED LEXINGTON MODEL RESULTS: Congaree Floodway Boundary Lex. Multiple Base; Levee at FW Left Encr. Station (Richland)	REVISED LEXINGTON MODEL RESULTS: Congaree Floodway Boundary Lex. Multiple Base; Levee at FW Right Encr. Station (Lexington)	REVISED LEXINGTON MODEL RESULTS: Congaree Floodway Boundary Lex. Multiple Base; Levee at FW Floodway Surcharge (ft)	DIFFERENCE; FEMA TO REVISED: Lexington BFE (ft, MSL)	DIFFERENCE; FEMA TO REVISED: Congaree Floodway Boundary Lex. Multiple Base; Levee at FW Left Encr. Station (Richland)	DIFFERENCE; FEMA TO REVISED: Congaree Floodway Boundary Lex. Multiple Base; Levee at FW Right Encr. Station (Lexington)	DIFFERENCE; FEMA TO REVISED: Congaree Floodway Boundary Lex. Multiple Base; Levee at FW Floodway Surcharge (ft)
260400	149 36	5607 88	6689 00	0 41	150 46	150.46	5607 88	6689.00	0.69	1.10	0.00	0.00	0.28
260500	149.32	1570.00	2465.00	0.50	150 41	150.41	1570 00	2465 00	0.78	1 09	0 00	0.00	0.28
260550	149.72	1570.00	2465.00	0.48	150.78	150.78	1570.00	2465.00	0.76	1.06	0.00	0.00	0.28
260600	149 74	1570.00	2465.00	0.48	150.79	150.79	1570.00	2465.00	0.76	1.05	0.00	0.00	0.28
260700	150 38	1510.00	2730 00	0 35	151 40	151 40	1510 00	2730.00	0.63	1.02	0.00	0.00	0.28
260730	150.38	1510.00	2730.00	0.35	151.41	151.41	1510.00	2730.00	0.63	1.03	0.00	0.00	0.28
260800	150.59	1510.00	2730.00	0.38	151.60	151.60	1510.00	2730.00	0.65	1.01	0.00	0.00	0.27
261200	150 66	370 00	1684 83	0 38	151.66	151.66	370.00	1684.83	0.65	1.00	0.00	0.00	0.27
262900	150.94	323.30	1710.50	0.41	151 91	151 91	323.30	1710.50	0.67	0 97	0.00	0.00	0.26
264500	151.48	1660.00	3130.00	0.43	152.40	152.40	1660.00	3130.00	0.68	0.92	0 00	0.00	0.25
264600	151 45	1660.00	3130.00	0.48	152.37	152.37	1660.00	3130.00	0.74	0.92	0.00	0.00	0.26
264750	151.53	1660 00	3130 00	0 48	152 45	152 45	1660.00	3130.00	0.73	0.92	0.00	0.00	0.25
265200	151.59	1175.73	2285.00	0.25	152.50	152.50	1175.73	2285.00	0.52	0 91	0.00	0 00	0.27
266750	151.69	4287.44	5471.00	0.51	152.58	152.58	4287.44	5471.00	0.75	0.89	0.00	0.00	0.24
266900	151 63	4595 00	5405 00	0.47	152.53	152.53	4595.00	5405.00	0.70	0.90	0.00	0.00	0.23
267400	152.64	821.50	2231 30	0 52	153 47	153 47	821 50	2231.30	0.76	0.83	0.00	0.00	0.24
267750	152.36	4475.00	5525.00	0.54	153.20	153.20	4475.00	5525.00	0.78	0.84	0.00	0 00	0.24
267850	152.36	563.00	2000.00	0.54	153.20	153.20	563.00	2000.00	0.78	0.84	0.00	0.00	0.24
268920	153.08	4260 00	5915 00	0 50	153 88	153 88	4260.00	5915.00	0.73	0.80	0.00	0.00	0.23
269250	153.14	600.00	2248.00	0.48	153.94	153 94	600.00	2248.00	0.71	0.80	0.00	0.00	0.23
269300	153.15	600.00	2248.00	0.48	153.95	153.95	600.00	2248.00	0.71	0.80	0.00	0.00	0.23
270450	153 53	3835 00	6165.00	0.58	154.31	154.31	3835.00	6165.00	0.80	0.78	0.00	0.00	0.22
272010	153 93	2970.00	5300 00	0.52	154.67	154.67	2970.00	5300.00	0.74	0.74	0.00	0.00	0.22

Model Left Overbank flowrates and WSEL tabulation

Base model for this comparison is the revised Lexington multiple HEC-2 model, based on the revised Lexington multiple HEC-2 model presented by FEMA on 10-18-00. The changes made to the FEMA Lexington model provide a much more stable HEC-2 model with the levee in place. Note the removal of the instabilities in WSEL when comparing the FEMA Lexington multiple model with the revised Lexington multiple model.

River Station	Computed WSEL (ft)	Computed EGL (ft)	Slope EGL X 10,000	.01 X Conveyance	Total Flowrate (CFS)	Left Overbank Flowrate (CFS)	Channel Flowrate (CFS)	Right Overbank Flowrate (CFS)	% total flow in LOB
212950	127 96	128.42	6.13	120548	298400	167757	120858	9785	56 2%
215700	129 52	129.85	4.42	141905	298400	174506	113106	10788	58 5%
226700	132 48	132.82	3.48	159960	298400	12256	124991	161153	4.1%
234100	135 06	135.66	3.96	149938	298400	27573	197563	73264	9.2%
238900	136 75	137.29	3.40	161793	298400	25815	196038	76548	8.7%
239370	136.89	137.46	3.51	159216	298400	26545	200138	71717	8.9%
239800	136 93	137.69	4.53	140221	298400	5909	217283	75208	2.0%
241500	137 50	138.25	3.14	168344	298400	2592	225435	70372	0.9%
241850	137 59	138.38	3.23	166055	298400	2357	229605	66437	0.8%
242049	138 17	138.55	2.70	181732	298400	1901	146412	150088	0.6%
242050	138 17	138.56	2.59	185521	298400	467	149621	148312	0.2%
242120	138 18	138.58	2.58	185692	298400	467	149573	148361	0.2%
242121	138 19	138.58	2.56	186577	298400	1827	148868	147705	0.6%
242169	138.21	138.59	2.55	186806	298400	1829	148734	147837	0.6%
242170	138.20	138.59	2.57	185963	298400	467	149426	148507	0.2%
242240	138.22	138.61	2.58	185850	298400	468	149563	148369	0.2%
242241	138.23	138.62	2.54	187084	298400	1788	148619	147993	0.6%
242440	138.10	138.88	4.17	146213	298400	2594	218972	76834	0.9%
243000	138.54	139 13	4.11	147271	298400	3928	192526	101946	1.3%
245800	139.59	140 17	3.81	152932	298400	3523	196151	98726	1.2%
246000	139.79	140 25	3.20	166858	298400	3586	181736	113079	1.2%
246700	139.76	140 71	6.36	118284	298400	5117	217395	75888	1.7%
247000	140.25	140 89	3.88	151551	298400	898	204873	92629	0.3%
247200	140.25	141 00	4.31	143658	298400	2721	216172	79507	0.9%
248200	140.62	141 49	4.70	137657	298400	4799	207329	86272	1.6%
249300	141.56	141 89	2.25	199025	298400	4315	142512	151573	1.4%
249590	141.35	142 10	4 35	143020	298400	6908	196006	95486	2.3%
250770	141.57	142 87	6 13	120542	298400	3317	228669	66414	1.1%
253400	142.72	145 15	9 04	99263	298400	3275	283834	11291	1.1%
254500	143.68	146 25	9 73	95651	298400	14	291614	6772	0.0%
254600	143.96	146 39	9 23	98199	298400	17	287578	10805	0.0%
255100	144.63	146 89	8 54	102139	298400	21	283931	14447	0.0%
256100	145.61	147 74	7 79	106942	298400	2147	283454	12799	0.7%
257200	146.60	148 59	7 08	112127	298400	6366	282298	9736	2.1%
258400	146.82	149 79	7 99	105579	298400	6264	275386	16750	2.1%
259600	147.94	150 72	7 26	110709	298400	6808	274353	17239	2.3%
260100	148.37	151 08	7 01	112716	298400	7020	273959	17421	2.4%
260400	150.46	151 36	1 80	222399	298400	43886	253171	1343	14.7%
260500	150.41	151 65	2 65	183134	298400	0	298400	0	0.0%
260550	150.78	152 00	2 57	186147	298400	0	298400	0	0.0%
260600	150.79	152 01	2 57	186255	298400	0	298400	0	0.0%
260700	151.40	152 08	1 83	220514	298400	0	298400	0	0.0%
260730	151.41	152 09	1 83	220580	298400	0	298400	0	0.0%
260800	151 60	152 27	1 80	222619	298400	0	298400	0	0.0%
261200	151.66	152 35	1 68	230361	298400	6537	269060	22803	2.2%
262900	151.91	152 69	2 05	208471	298400	5576	271000	21824	1.9%
264500	152.40	153.01	1 73	227049	298400	11107	287225	67	3.7%
264600	152.37	153.05	1 87	218151	298400	0	298400	0	0.0%
264750	152.45	153.12	1 86	219085	298400	0	298400	0	0.0%
265200	152.50	153.22	1 91	216185	298400	35899	262501	0	12.0%
266750	152.58	153.66	2 38	189303	292000	5315	284990	1694	1.8%
266900	152.53	153.74	2 53	183587	292000	5408	283777	2816	1.9%
267400	153.47	153.88	0 84	318674	292000	4614	285142	2244	1.6%
267750	153.20	154.25	2 54	183264	292000	0	292000	0	0.0%
267850	153.20	154.25	1 23	262979	292000	0	292000	0	0.0%
268920	153.88	154.40	1 49	239362	292000	0	288267	3733	0.0%
269250	153.94	154.48	2 88	171914	292000	12010	279552	438	4.1%
269300	153.95	154.49	2 88	172061	292000	12016	279545	439	4.1%
270450	154.31	154.78	1 94	209409	292000	0	291796	204	0.0%
272010	154.67	155.08	1.61	229792	292000	1805	285707	4487	0.6%

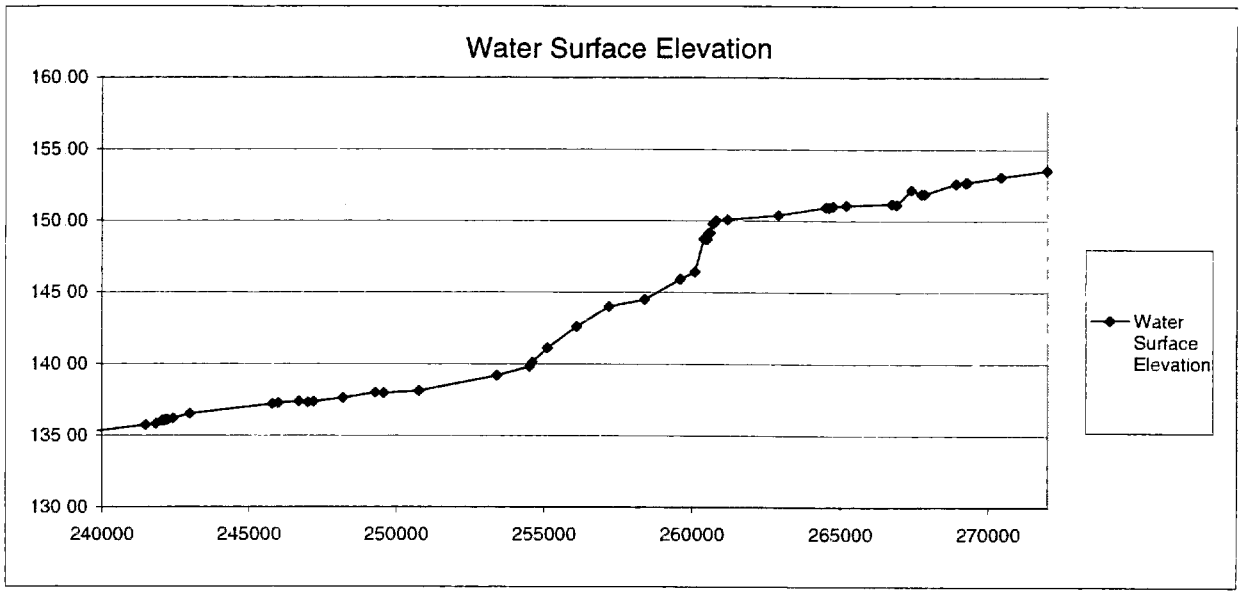
Revised Lexington Model



Model Left Overbank flowrates and WSEL tabulation

Base model for this comparison is the Richland multiple HEC-2 model, presented by FEMA in Atlanta on 10-18-00. This HEC-2 model assumes the levee has breached, and conveyance will occur landward of the levee.

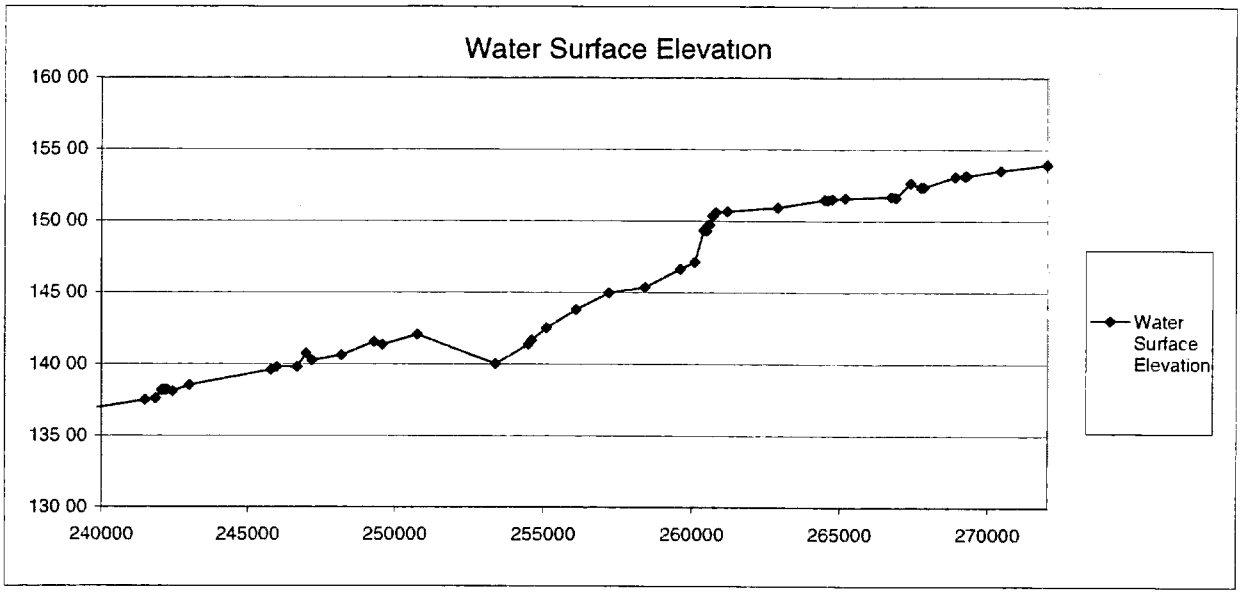
River Station	Computed WSEL (ft)	Computed EGL (ft)	Slope EGL X 10,000	.01 X Conveyance	Total Flowrate (CFS)	Left Overbank Flowrate (CFS)	Channel Flowrate (CFS)	Right Overbank Flowrate (CFS)	% total flow in LOB
212950	127.24	127.67	6.20	119871	298400	173978	115986	8435	58.3%
215700	128.82	129.18	4.84	135699	298400	174728	113349	10323	58.6%
226700	131.70	131.94	3.02	171743	298400	57171	111079	130150	19.2%
234100	133.74	134.19	3.53	158826	298400	66336	173511	58552	22.2%
238900	135.18	135.44	2.27	198029	298400	101246	147503	49651	33.9%
239370	135.27	135.56	2.49	189001	298400	96109	154839	47452	32.2%
239800	135.31	135.72	3.35	163034	298400	73674	170994	53732	24.7%
241500	135.73	136.23	2.71	181425	298400	57205	191046	50149	19.2%
241850	135.82	136.33	2.70	181617	298400	59742	191760	46899	20.0%
242049	136.04	136.42	3.09	169736	298400	33211	140651	124539	11.1%
242050	136.04	136.42	2.94	174044	298400	33894	142005	122501	11.4%
242120	136.06	136.45	2.93	174327	298400	33905	141914	122581	11.4%
242121	136.07	136.45	2.93	174294	298400	33807	141951	122642	11.3%
242169	136.10	136.46	2.86	176600	298400	36749	140208	121444	12.3%
242170	136.09	136.47	2.91	174864	298400	33936	141678	122787	11.4%
242240	136.11	136.49	2.91	174844	298400	33992	141728	122680	11.4%
242241	136.09	136.52	3.17	167679	298400	22894	147597	127909	7.7%
242440	136.21	136.60	3.69	155264	298400	80480	164693	53227	27.0%
243000	136.53	136.78	2.69	181917	298400	96998	139084	62318	32.5%
245800	137.22	137.36	1.66	231897	298400	136984	113578	47838	45.9%
246000	137.28	137.39	1.38	253841	298400	141602	104075	52723	47.5%
246700	137.40	137.50	1.70	228609	298400	179583	92606	26211	60.2%
247000	137.34	137.61	2.60	185060	298400	109637	143302	45461	36.7%
247200	137.38	137.67	2.69	182047	298400	114092	146030	38278	38.2%
248200	137.64	137.95	2.80	178465	298400	114418	137561	46421	38.3%
249300	138.03	138.22	1.92	215132	298400	95088	109971	93341	31.9%
249590	137.98	138.34	3.30	164312	298400	99585	143342	55474	33.4%
250770	138.14	138.98	5.49	127401	298400	75515	183284	39601	25.3%
253400	139.20	141.22	9.80	95341	298400	42629	249604	6167	14.3%
254500	139.82	143.18	14.30	78901	298400	0	295576	2824	0.0%
254600	140.11	143.35	13.75	80474	298400	0	293907	4493	0.0%
255100	141.12	144.09	12.28	85169	298400	1	290790	7610	0.0%
256100	142.59	145.31	10.68	91310	298400	768	290687	6945	0.3%
257200	144.00	146.47	9.35	97612	298400	1773	289459	7168	0.6%
258400	144.50	147.90	9.81	95268	298400	5170	277573	15657	1.7%
259600	145.90	149.03	8.65	101451	298400	5825	276244	16331	2.0%
260100	146.43	149.47	8.26	103815	298400	6077	275750	16574	2.0%
260400	148.74	149.78	2.14	203942	298400	38603	258475	1322	12.9%
260500	148.70	150.06	3.11	169336	298400	0	298400	0	0.0%
260550	149.12	150.46	2.99	172703	298400	0	298400	0	0.0%
260600	149.14	150.47	2.98	172825	298400	0	298400	0	0.0%
260700	149.79	150.55	2.15	203690	298400	0	298400	0	0.0%
260730	149.80	150.56	2.14	203764	298400	0	298400	0	0.0%
260800	150.02	150.77	2.10	206041	298400	0	298400	0	0.0%
261200	150.09	150.86	1.97	212774	298400	5764	270622	22014	1.9%
262900	150.39	151.26	2.41	192259	298400	4861	272453	21086	1.6%
264500	150.96	151.63	2.04	208698	298400	9994	288361	46	3.3%
264600	150.93	151.68	2.20	201333	298400	0	298400	0	0.0%
264750	151.02	151.76	2.17	202367	298400	0	298400	0	0.0%
265200	151.08	151.88	2.21	200535	298400	33952	264448	0	11.4%
266750	151.19	152.37	2.72	176961	292000	3911	286756	1334	1.3%
266900	151.13	152.46	2.90	171592	292000	3963	285779	2258	1.4%
267400	152.18	152.62	0.94	300510	292000	4166	285834	2000	1.4%
267750	151.89	153.02	2.90	171578	292000	0	292000	0	0.0%
267850	151.89	153.02	1.40	246996	292000	0	292000	0	0.0%
268920	152.63	153.19	1.71	223100	292000	0	288377	3623	0.0%
269250	152.69	153.28	3.26	161804	292000	11570	280059	372	4.0%
269300	152.71	153.30	3.25	161969	292000	11577	280050	373	4.0%
270450	153.10	153.63	2.33	191425	292000	0	291848	152	0.0%
272010	153.53	153.98	1.90	211822	292000	1636	286055	4309	0.6%


Water Surface Elevation
160.00
155.00
150.00
145.00
140.00
135.00
130.00
240000
245000
250000
255000
260000
265000
270000
Water Surface Elevation

Model Left Overbank flowrates and WSEL tabulation

Base model for this comparison is the Lexington multiple HEC-2 model, presented by FEMA in Atlanta on 10-18-00. This HEC-2 model assumes the levee has not breached, and conveyance will not occur landward of the levee.

River Station	Computed WSEL (ft)	Computed EGL (ft)	Slope EGL X 10,000	.01 X Conveyance	Total Flowrate (CFS)	Left Overbank Flowrate (CFS)	Channel Flowrate (CFS)	Right Overbank Flowrate (CFS)	% total flow in LOB
212950	127.96	128.42	6.13	120548	298400	167757	120858	9785	56.2%
215700	129.52	129.85	4.42	141905	298400	174506	113106	10788	58.5%
226700	132.48	132.82	3.48	159960	298400	12256	124991	161153	4.1%
234100	135.06	135.66	3.96	149939	298400	27576	197561	73263	9.2%
238900	136.75	137.29	3.40	161795	298400	25820	196034	76546	8.7%
239370	136.89	137.46	3.51	159218	298400	26550	200135	71715	8.9%
239800	136.93	137.69	4.53	140220	298400	5910	217283	75207	2.0%
241500	137.50	138.25	3.14	168381	298400	2651	225389	70360	0.9%
241850	137.59	138.38	3.23	166055	298400	2357	229605	66438	0.8%
242049	138.17	138.55	2.70	181733	298400	1901	146411	150088	0.6%
242050	138.17	138.56	2.59	185521	298400	467	149621	148312	0.2%
242120	138.18	138.58	2.58	185693	298400	467	149572	148361	0.2%
242121	138.19	138.58	2.56	186578	298400	1827	148868	147705	0.6%
242169	138.21	138.59	2.55	186806	298400	1829	148734	147837	0.6%
242170	138.20	138.59	2.57	185964	298400	467	149426	148507	0.2%
242240	138.22	138.61	2.58	185851	298400	468	149562	148370	0.2%
242241	138.23	138.62	2.54	187085	298400	1788	148619	147994	0.6%
242440	138.10	138.88	4.17	146213	298400	2594	218972	76834	0.9%
243000	138.54	139.13	4.11	147263	298400	3913	192536	101951	1.3%
245800	139.59	140.17	3.81	152934	298400	3524	196150	98726	1.2%
246000	139.79	140.25	3.20	166861	298400	3587	181734	113079	1.2%
246700	139.80	140.70	6.81	114359	298400	5321	214107	78973	1.8%
247000	140.76	140.79	0.00	**********	298400	134970	58944	104486	45.2%
247200	140.26	141.01	4.31	143744	298400	2721	216127	79552	0.9%
248200	140.62	141.49	4.69	137715	298400	4805	207302	86294	1.6%
249300	141.56	141.89	2.25	199097	298400	4303	142497	151600	1.4%
249590	141.35	142.11	4.35	143074	298400	6911	195983	95506	2.3%
250770	142.07	142.17	0.00	**********	298400	125926	82058	90416	42.2%
253400	140.03	143.05	12.21	85399	298400	2597	290353	5450	0.9%
254500	141.38	144.40	12.22	85373	298400	1	294251	4148	0.0%
254600	141.67	144.55	11.68	87325	298400	2	291635	6764	0.0%
255100	142.51	145.18	10.62	91580	298400	5	288402	9994	0.0%
256100	143.79	146.24	9.37	97484	298400	1985	287266	9149	0.7%
257200	144.97	147.26	8.46	102584	298400	3014	287240	8146	1.0%
258400	145.36	148.60	9.07	99061	298400	5571	276752	16077	1.9%
259600	146.65	149.65	8.10	104818	298400	6183	275542	16674	2.1%
260100	147.14	150.05	7.77	107041	298400	6420	275088	16892	2.2%
260400	149.36	150.35	2.01	210534	298400	40551	256520	1330	13.6%
260500	149.32	150.64	2.93	174314	298400	0	298400	0	0.0%
260550	149.72	151.01	2.82	177545	298400	0	298400	0	0.0%
260600	149.74	151.03	2.82	177661	298400	0	298400	0	0.0%
260700	150.38	151.11	2.02	209730	298400	0	298400	0	0.0%
260730	150.38	151.11	2.02	209802	298400	0	298400	0	0.0%
260800	150.59	151.31	1.98	211984	298400	0	298400	0	0.0%
261200	150.66	151.40	1.86	219076	298400	6046	270048	22306	2.0%
262900	150.94	151.78	2.27	198055	298400	5119	271922	21359	1.7%
264500	151.48	152.13	1.92	215236	298400	10400	287948	53	3.5%
264600	151.45	152.17	2.07	207333	298400	0	298400	0	0.0%
264750	151.53	152.25	2.05	208329	298400	0	298400	0	0.0%
265200	151.59	152.36	2.10	206112	298400	34667	263733	0	11.6%
266750	151.69	152.83	2.59	181336	292000	4400	286138	1462	1.5%
266900	151.63	152.92	2.76	175842	292000	4466	285077	2457	1.5%
267400	152.64	153.08	0.90	306962	292000	4326	285587	2087	1.5%
267750	152.36	153.46	2.76	175733	292000	0	292000	0	0.0%
267850	152.36	153.46	1.34	252673	292000	0	292000	0	0.0%
268920	153.08	153.62	1.63	228867	292000	0	288337	3663	0.0%
269250	153.14	153.71	3.12	165403	292000	11730	279875	395	4.0%
269300	153.15	153.72	3.11	165561	292000	11737	279867	396	4.0%
270450	153.53	154.04	2.18	197709	292000	0	291831	169	0.0%
272010	153.93	154.37	1.79	218104	292000	1697	285930	4373	0.6%


Water Surface Elevation
160 00
155 00
150 00
145 00
140 00
135 00
130 00
240000
245000
250000
255000
260000
265000
270000
Water Surface Elevation

Comparison of Levee elevations versus revised Lexington BFE HEC-2 Model

River Station	Field Survey top of levee EL	FEMA 10/18/00 Lexington Multiple BFE HEC-2 WSEL	LXMUL.DAT Revised Multiple BFE HEC-2 WSEL	Freeboard to FEMA 10/18/00 Lex. BFE	Freeboard to revised LXMUL.DAT Lex. BFE
234100	142.70	135.06	135.06	7.64	7.64
238900	142.80	136.75	136.75	6.05	6.05
239370	137.30	136.89	136.89	0.41	0.41
239800	137.10	136.93	136.93	0.17	0.17
241500	142.30	137.50	137.50	4.80	4.80
241850	***148.00***	137.59	137.59	10.41	10.41
242049	***153.00***	138.17	138.17	14.83	14.83
242050	***153.00***	138.17	138.17	14.83	14.83
242120	***153.00***	138.18	138.18	14.82	14.82
242121	***153.00***	138.19	138.19	14.81	14.81
242169	***153.00***	138.21	138.21	14.79	14.79
242170	***153.00***	138.20	138.20	14.80	14.80
242240	***150.60***	138.22	138.22	12.38	12.38
242241	***150.60***	138.23	138.23	12.37	12.37
242440	147.20	138.10	138.10	9.10	9.10
243000	147.10	138.54	138.54	8.56	8.56
245800	145.40	139.59	139.59	5.81	5.81
246000	144.80	139.79	139.79	5.01	5.01
246700	140.70	139.80	139.76	0.90	0.94
247000	142.40	140.76	140.25	1.64	2.15
247200	142.20	140.26	140.25	1.94	1.95
248200	145.40	140.62	140.62	4.78	4.78
249300	142.00	141.56	141.56	0.44	0.44
249590	145.40	141.35	141.35	4.05	4.05
250770	149.30	142.07	141.57	7.23	7.73
253400	147.80	140.03	142.72	7.77	5.08
254500	***151.00***	141.38	143.68	9.62	7.32

Note: *Bold numbers under levee top elevation are elevations taken from HEC-2 model (aerial topo information). All others are field verified top elevations.*

Lexington HEC-2 model BFE sensitivity

The purpose of this comparison is to model the sensitivity of the Lexington multiple model to changes in the channel "n" value at section 246700. The FEMA multiple model of 10-18-00 sets the "n" value at 0.040. The revised Lexington multiple model sets the "n" value at 0.038.

River Station	10-18-00 FEMA Lexington Multiple BFE (ft, MSL)	Revised Lexington Multiple BFE (ft, MSL)	Difference (feet)
212950	127.96	127.96	0.00
215700	129.52	129.52	0.00
226700	132.48	132.48	0.00
234100	135.06	135.06	0.00
238900	136.75	136.75	0.00
239370	136.89	136.89	0.00
239800	136.93	136.93	0.00
241500	137.50	137.50	0.00
241850	137.59	137.59	0.00
242049	138.17	138.17	0.00
242050	138.17	138.17	0.00
242120	138.18	138.18	0.00
242121	138.19	138.19	0.00
242169	138.21	138.21	0.00
242170	138.20	138.20	0.00
242240	138.22	138.22	0.00
242241	138.23	138.23	0.00
242440	138.10	138.10	0.00
243000	138.54	138.54	0.00
245800	139.59	139.59	0.00
246000	139.79	139.79	0.00
246700	139.80	139.76	-0.04
247000	140.76	140.77	0.01
247200	140.26	140.27	0.01
248200	140.62	140.63	0.01
249300	141.56	141.57	0.01
249590	141.35	141.36	0.01
250770	142.07	142.08	0.01
253400	140.03	140.03	0.00
254500	141.38	141.39	0.01
254600	141.67	141.67	0.00
255100	142.51	142.52	0.01
256100	143.79	143.80	0.01
257200	144.97	144.98	0.01
258400	145.36	145.37	0.01
259600	146.65	146.66	0.01
260100	147.14	147.14	0.00
260400	149.36	149.37	0.01
260500	149.32	149.33	0.01
260550	149.72	149.73	0.01
260600	149.74	149.74	0.00

Lexington HEC-2 model BFE sensitivity

The purpose of this comparison is to model the sensitivity of the Lexington multiple model to changes in the channel "n" value at section 246700. The FEMA multiple model of 10-18-00 sets the "n" value at 0.040. The revised Lexington multiple model sets the "n" value at 0.038.

River Station	10-18-00 FEMA Lexington Multiple BFE (ft, MSL)	Revised Lexington Multiple BFE (ft, MSL)	Difference (feet)
260700	150.38	150.38	0.00
260730	150.38	150.39	0.01
260800	150.59	150.60	0.01
261200	150.66	150.66	0.00
262900	150.94	150.94	0.00
264500	151.48	151.48	0.00
264600	151.45	151.45	0.00
264750	151.53	151.54	0.01
265200	151.59	151.59	0.00
266750	151.69	151.69	0.00
266900	151.63	151.63	0.00
267400	152.64	152.65	0.01
267750	152.36	152.36	0.00
267850	152.36	152.36	0.00
268920	153.08	153.08	0.00
269250	153.14	153.14	0.00
269300	153.15	153.16	0.01
270450	153.53	153.53	0.00
272010	153.93	153.93	0.00

Lexington HEC-2 Multiple Model

This sheet compares BFE's for the Lexington HEC-2 models. The comparisons shown here are for the FEMA 10-18-00 Lexington BFE model, the revised Lexington multiple HEC-2 model , and the revised Lexington floodway model.

	Model Results			Differences	
River Station	10/18/00 FEMA Lexington BFE	Revised Lexington Multiple BFE	Revised Lexington Floodway BFE	10/18/00 Multiple BFE	Revised Mult to Floodway BFE
212950	127.96	127.96	127.96	0.00	0.00
215700	129.52	129.52	129.52	0.00	0.00
226700	132.48	132.48	132.48	0.00	0.00
234100	135.06	135.06	135.06	0.00	0.00
238900	136.75	136.75	136.75	0.00	0.00
239370	136.89	136.89	136.89	0.00	0.00
239800	136.93	136.93	136.93	0.00	0.00
241500	137.50	137.50	137.50	0.00	0.00
241850	137.59	137.59	137.59	0.00	0.00
242049	138.17	138.17	138.17	0.00	0.00
242050	138.17	138.17	138.17	0.00	0.00
242120	138.18	138.18	138.18	0.00	0.00
242121	138.19	138.19	138.19	0.00	0.00
242169	138.21	138.21	138.21	0.00	0.00
242170	138.20	138.20	138.20	0.00	0.00
242240	138.22	138.22	138.22	0.00	0.00
242241	138.23	138.23	138.23	0.00	0.00
242440	138.10	138.10	138.10	0.00	0.00
243000	138.54	138.54	138.54	0.00	0.00
245800	139.59	139.59	139.59	0.00	0.00
246000	139.79	139.79	139.79	0.00	0.00
246700	139.80	139.76	139.76	-0.04	0.00
247000	140.76	140.25	140.25	-0.51	0.00
247200	140.26	140.25	140.25	-0.01	0.00
248200	140.62	140.62	140.62	0.00	0.00
249300	141.56	141.56	141.56	0.00	0.00
249590	141.35	141.35	141.35	0.00	0.00
250770	142.07	141.57	141.57	-0.50	0.00
253400	140.03	142.72	142.72	2.69	0.00
254500	141.38	143.68	143.68	2.30	0.00
254600	141.67	143.96	143.96	2.29	0.00
255100	142.51	144.63	144.63	2.12	0.00
256100	143.79	145.61	145.61	1.82	0.00
257200	144.97	146.60	146.60	1.63	0.00
258400	145.36	146.82	146.82	1.46	0.00
259600	146.65	147.94	147.94	1.29	0.00
260100	147.14	148.37	148.37	1.23	0.00
260400	149.36	150.46	150.46	1.10	0.00
260500	149.32	150.41	150.41	1.09	0.00

Lexington HEC-2 Multiple Model

This sheet compares BFE's for the Lexington HEC-2 models. The comparisons shown here are for the FEMA 10-18-00 Lexington BFE model, the revised Lexington multiple HEC-2 model , and the revised Lexington floodway model.

	Model Results			Differences	
River Station	10/18/00 FEMA Lexington BFE	Revised Lexington Multiple BFE	Revised Lexington Floodway BFE	10/18/00 Multiple BFE	Revised Mult to Floodway BFE
260550	149.72	150.78	150.78	1.06	0.00
260600	149.74	150.79	150.79	1.05	0.00
260700	150.38	151.40	151.40	1.02	0.00
260730	150.38	151.41	151.41	1.03	0.00
260800	150.59	151.60	151.60	1.01	0.00
261200	150.66	151.66	151.66	1.00	0.00
262900	150.94	151.91	151.91	0.97	0.00
264500	151.48	152.40	152.40	0.92	0.00
264600	151.45	152.37	152.37	0.92	0.00
264750	151.53	152.45	152.45	0.92	0.00
265200	151.59	152.50	152.50	0.91	0.00
266750	151.69	152.58	152.58	0.89	0.00
266900	151.63	152.53	152.53	0.90	0.00
267400	152.64	153.47	153.47	0.83	0.00
267750	152.36	153.20	153.20	0.84	0.00
267850	152.36	153.20	153.20	0.84	0.00
268920	153.08	153.88	153.88	0.80	0.00
269250	153.14	153.94	153.94	0.80	0.00
269300	153.15	153.95	153.95	0.80	0.00
270450	153.53	154.31	154.31	0.78	0.00
272010	153.93	154.67	154.67	0.74	0.00

Richland HEC-2 Multiple Model

This sheet compares BFE's for the Richland HEC-2 models. The comparisons shown here are for the FEMA 10-18-00 models, multiple and floodway runs. These results are for "out of the box" models, no modifications have been made.

River Station	Richland Multiple BFE	Richland FW BFE	Difference (feet)
212950	127.24	127.24	0.00
215700	128.82	128.82	0.00
226700	131.70	131.70	0.00
234100	133.74	133.74	0.00
238900	135.18	135.18	0.00
239370	135.27	135.27	0.00
239800	135.31	135.31	0.00
241500	135.73	135.73	0.00
241850	135.82	135.82	0.00
242049	136.04	136.04	0.00
242050	136.04	136.04	0.00
242120	136.06	136.06	0.00
242121	136.07	136.07	0.00
242169	136.10	136.10	0.00
242170	136.09	136.09	0.00
242240	136.11	136.11	0.00
242241	136.09	136.09	0.00
242440	136.21	136.21	0.00
243000	136.53	136.53	0.00
245800	137.22	137.22	0.00
246000	137.28	137.28	0.00
246700	137.40	137.40	0.00
247000	137.34	137.34	0.00
247200	137.38	137.38	0.00
248200	137.64	137.64	0.00
249300	138.03	138.03	0.00
249590	137.98	137.98	0.00
250770	138.14	138.14	0.00
253400	139.20	139.20	0.00
254500	139.82	139.82	0.00
254600	140.11	140.11	0.00
255100	141.12	141.12	0.00
256100	142.59	142.59	0.00
257200	144.00	144.00	0.00
258400	144.50	144.50	0.00
259600	145.90	145.90	0.00
260100	146.43	146.43	0.00
260400	148.74	148.74	0.00
260500	148.70	148.70	0.00

Richland HEC-2 Multiple Model

This sheet compares BFE's for the Richland HEC-2 models. The comparisons shown here are for the FEMA 10-18-00 models, multiple and floodway runs. These results are for "out of the box" models, no modifications have been made.

River Station	Richland Multiple BFE	Richland FW BFE	Difference (feet)
260550	149.12	149.12	0.00
260600	149.14	149.14	0.00
260700	149.79	149.79	0.00
260730	149.80	149.80	0.00
260800	150.02	150.02	0.00
261200	150.09	150.09	0.00
262900	150.39	150.39	0.00
264500	150.96	150.96	0.00
264600	150.93	150.93	0.00
264750	151.02	151.02	0.00
265200	151.08	151.08	0.00
266750	151.19	151.19	0.00
266900	151.13	151.13	0.00
267400	152.18	152.18	0.00
267750	151.89	151.89	0.00
267850	151.89	151.89	0.00
268920	152.63	152.63	0.00
269250	152.69	152.69	0.00
269300	152.71	152.71	0.00
270450	153.10	153.10	0.00
272010	153.53	153.53	0.00

Model comparisons for floodway sketch of Lexington County

River Station	Calc'd -CL- Station	09/26/00 FEMA Models		10/18/00 FEMA Models		Revised Lex. Floodway Model		Lexington Mapping Information			Difference, 9/26/00 FEMA to 10/18/00 FEMA	Difference, 10/18/00 FEMA Rev. Lexington
		Left Encr. Sta.	Right Encr. Sta.	Left Encr. Sta.	Right Encr. Sta.	Left Encr. Sta.	Right Encr. Sta.	9/26/00 FEMA Dist -CL- to FW	10/18/00 FEMA Dist -CL- to FW	Rev. Lexington Dist -CL- to FW		
212950	22475	9085.78	22750.00	9139.38	22974.60	9139.38	22974.60	**275.00**	**499.60**	**499.60**	224.60	0.00
215700	22475	8033.87	22913.72	8030.57	22914.93	8030.57	22914.93	**438.72**	**439.93**	**439.93**	1.21	0.00
226700	20000	10117.33	25749.53	10079.12	25766.09	10079.12	25766.09	**5750.03**	**5766.59**	**5766.59**	16.56	0.00
234100	20000	5550.00	22656.00	5550.00	22656.00	15014.00	22656.00	**2656.00**	**2656.00**	**2656.00**	0.00	0.00
238900	30285	19835.00	35900.00	19835.00	35900.00	28331.00	35900.00	**5615.00**	**5615.00**	**5615.00**	0.00	0.00
239370	30285	21160.00	35900.00	21160.00	35900.00	28331.00	35900.00	**5615.00**	**5615.00**	**5615.00**	0.00	0.00
239800	10000	560.00	15700.00	560.00	15700.00	9030.00	15700.00	**5700.00**	**5700.00**	**5700.00**	0.00	0.00
241500	12700	6356.79	18683.86	6342.05	18692.54	12061.00	18692.54	**5983.86**	**5992.54**	**5992.54**	8.68	0.00
241850	12700	6408.50	18859.09	6399.08	18865.33	12104.00	18865.33	**6159.09**	**6165.33**	**6165.33**	6.24	0.00
242049	11440	5540.00	17240.00	5540.00	17240.00	10815.00	17240.00	**5800.00**	**5800.00**	**5800.00**	0.00	0.00
242050	11440	5540.00	17240.00	5540.00	17240.00	10815.00	17240.00	**5800.00**	**5800.00**	**5800.00**	0.00	0.00
242120	11440	5540.00	17240.00	5540.00	17240.00	10815.00	17240.00	**5800.00**	**5800.00**	**5800.00**	0.00	0.00
242121	11440	5540.00	17240.00	5540.00	17240.00	10815.00	17240.00	**5800.00**	**5800.00**	**5800.00**	0.00	0.00
242169	11429	5540.00	17240.00	5540.00	17240.00	10793.00	17240.00	**5811.00**	**5811.00**	**5811.00**	0.00	0.00
242170	11429	5540.00	17240.00	5540.00	17240.00	10793.00	17240.00	**5811.00**	**5811.00**	**5811.00**	0.00	0.00
242240	11436	5540.00	17240.00	5540.00	17240.00	10806.00	17240.00	**5804.50**	**5804.50**	**5804.50**	0.00	0.00
242241	11436	5540.00	17240.00	5540.00	17240.00	10806.00	17240.00	**5804.50**	**5804.50**	**5804.50**	0.00	0.00
242440	12363	5540.00	17600.00	5540.00	17600.00	11800.00	17600.00	**5237.50**	**5237.50**	**5237.50**	0.00	0.00
243000	12413	6437.81	17864.96	6452.90	17859.61	11830.00	17859.61	**5452.46**	**5447.11**	**5447.11**	-5.35	0.00
245800	12413	5580.00	17300.00	5580.00	17300.00	11800.00	17300.00	**4887.50**	**4887.50**	**4887.50**	0.00	0.00
246000	12413	5614.04	17143.13	5589.08	17131.80	11815.00	17131.80	**4730.63**	**4719.30**	**4719.30**	-11.33	0.00
246700	15000	8900.00	18800.00	8900.00	18800.00	14467.00	19200.00	**3800.00**	**3800.00**	**4200.00**	0.00	400.00
247000	19313	12726.80	23275.22	12729.02	23282.54	18790.00	23582.00	**3962.72**	**3970.04**	**4269.50**	7.32	299.46
247200	19313	12442.06	23303.16	12445.06	23301.65	18800.00	23601.00	**3990.66**	**3989.15**	**4288.50**	-1.51	299.35
248200	13338	6352.97	17570.07	6340.41	17582.96	12860.00	17682.00	**4232.07**	**4244.96**	**4344.00**	12.89	99.04
249300	10000	4220.45	13995.86	4222.68	13994.81	9390.00	14400.00	**3995.86**	**3994.81**	**4400.00**	-1.05	405.19
249590	13338	7574.81	17209.71	7576.92	17206.01	12740.00	17306.00	**3871.71**	**3868.01**	**3968.00**	-3.70	99.99
250770	6392	1618.34	10226.07	1620.16	10222.71	5910.00	10222.71	**3834.07**	**3830.71**	**3830.71**	-3.36	0.00
253400	10000	7628.00	12000.00	7628.00	12000.00	9590.00	12000.00	**2000.00**	**2000.00**	**2000.00**	0.00	0.00
254500	5000	4685.00	5315.00	4685.00	5315.00	4685.00	5315.00	**315.00**	**315.00**	**315.00**	0.00	0.00
254600	5000	4685.00	5315.00	4685.00	5315.00	4685.00	5315.00	**315.00**	**315.00**	**315.00**	0.00	0.00
255100	5000	4685.00	5315.00	4685.00	5315.00	4685.00	5315.00	**315.00**	**315.00**	**315.00**	0.00	0.00
256100	5000	4685.00	5315.00	4685.00	5315.00	4685.00	5315.00	**315.00**	**315.00**	**315.00**	0.00	0.00
257200	5000	4685.00	5315.00	4685.00	5316.53	4685.00	5316.53	**315.00**	**316.53**	**316.53**	1.53	0.00
258400	6437	6173.37	6773.76	6172.70	6774.11	6172.70	6774.11	**336.76**	**337.11**	**337.11**	0.35	0.00
259600	6437	6167.07	6778.51	6166.49	6778.74	6166.49	6778.74	**341.51**	**341.74**	**341.74**	0.23	0.00
260100	6437	6169.04	6773.53	6168.58	6773.78	6168.58	6773.78	**336.53**	**336.78**	**336.78**	0.25	0.00
260400	6345	5613.58	6689.00	5607.88	6689.00	5607.88	6689.00	**344.50**	**344.50**	**344.50**	0.00	0.00
260500	2018	1570.00	2465.00	1570.00	2465.00	1570.00	2465.00	**447.50**	**447.50**	**447.50**	0.00	0.00
260550	2018	1570.00	2465.00	1570.00	2465.00	1570.00	2465.00	**447.50**	**447.50**	**447.50**	0.00	0.00
260600	2018	1570.00	2465.00	1570.00	2465.00	1570.00	2465.00	**447.50**	**447.50**	**447.50**	0.00	0.00
260700	1865	1510.00	2730.00	1510.00	2730.00	1510.00	2730.00	**865.00**	**865.00**	**865.00**	0.00	0.00

Model comparisons for floodway sketch of Lexington County

River Station	Calc'd -CL- Station	09/26/00 FEMA Models		10/18/00 FEMA Models		Revised Lex. Floodway Model		Lexington Mapping Information			Difference, 9/26/00 FEMA to 10/18/00 FEMA	Difference, 10/18/00 FEMA Rev. Lexington
		Left Encr. Sta.	Right Encr. Sta.	Left Encr. Sta.	Right Encr. Sta.	Left Encr. Sta.	Right Encr. Sta.	9/26/00 FEMA Dist -CL- to FW	10/18/00 FEMA Dist -CL- to FW	Rev. Lexington Dist -CL- to FW		
260730	1865	1510.00	2730.00	1510.00	2730.00	1510.00	2730.00	**865.00**	**865.00**	**865.00**	0 00	0.00
260800	1865	1510.00	2730.00	1510.00	2730.00	1510 00	2730 00	**865.00**	**865.00**	**865.00**	0.00	0.00
261200	903	370.00	1682 84	370 00	1684.83	370.00	1684.83	**780.34**	**782.33**	**782.33**	1.99	0 00
262900	903	325.39	1710.39	323.30	1710.50	323.30	1710.50	**807.89**	**808.00**	**808.00**	0.11	0.00
264500	2395	1660.00	3130.00	1660 00	3130 00	1660 00	3130.00	**735.00**	**735.00**	**735.00**	0.00	0.00
264600	2395	1660.00	3130.00	1660.00	3130.00	1660.00	3130.00	**735.00**	**735.00**	**735.00**	0 00	0 00
264750	2395	1660.00	3130.00	1660.00	3130.00	1660 00	3130 00	**735.00**	**735.00**	**735.00**	0.00	0.00
265200	1753	1177 88	2285 00	1175 73	2285 00	1175.73	2285.00	**532.50**	**532.50**	**532.50**	0.00	0.00
266750	5033	4289.35	5471.00	4287.44	5471.00	4287.44	5471.00	**438.00**	**438.00**	**438.00**	0.00	0.00
266900	5000	4595.00	5405.00	4595 00	5405 00	4595.00	5405.00	**405.00**	**405.00**	**405.00**	0.00	0.00
267400	1526	821 50	2231.30	821.50	2231.30	821.50	2231.30	**704.90**	**704.90**	**704.90**	0 00	0 00
267750	5000	4475.00	5525.00	4475.00	5525.00	4475.00	5525.00	**525.00**	**525.00**	**525.00**	0.00	0.00
267850	1282	563 00	2000 00	563.00	2000 00	563.00	2000.00	**718.50**	**718.50**	**718.50**	0.00	0.00
268920	5088	4260.00	5915.00	4260.00	5915.00	4260.00	5915.00	**827.50**	**827.50**	**827.50**	0 00	0.00
269250	1424	600.00	2248.00	600.00	2248 00	600 00	2248 00	**824.00**	**824.00**	**824.00**	0.00	0.00
269300	1424	600 00	2248 00	600.00	2248.00	600.00	2248.00	**824.00**	**824.00**	**824.00**	0.00	0 00
270450	5000	3835.00	6165.00	3835.00	6165.00	3835.00	6165.00	**1165.00**	**1165.00**	**1165.00**	0.00	0.00
272010	4135	2970.00	5300 00	2970 00	5300 00	2970 00	5300.00	**1165.00**	**1165.00**	**1165.00**	0.00	0.00

Calculation of cross section centerline stations

River Station	Left Top Bank	Right Top Bank	Stream -CL-
212950	22200	22750	22475
215700	22200	22750	22475
226700	19665	20334	20000
234100	19585	20415	20000
238900	29870	30700	30285
239370	29870	30700	30285
239800	9575	10425	10000
241500	12275	13125	12700
241850	12275	13125	12700
242049	10815	12065	11440
242050	10815	12065	11440
242120	10815	12065	11440
242121	10815	12065	11440
242169	10793	12065	11429
242170	10793	12065	11429
242240	10806	12065	11436
242241	10806	12065	11436
242440	11900	12825	12363
243000	12000	12825	12413
245800	12000	12825	12413
246000	12000	12825	12413
246700	14587	15413	15000
247000	18900	19725	19313
247200	18900	19725	19313
248200	13000	13676	13338
249300	9662	10338	10000
249590	13000	13676	13338
250770	6089	6695	6392
253400	9697	10303	10000
254500	4685	5315	5000
254600	4685	5315	5000
255100	4685	5315	5000
256100	4685	5315	5000
257200	4685	5315	5000
258400	6209	6665	6437
259600	6209	6665	6437
260100	6209	6665	6437
260400	6000	6689	6345
260500	1570	2465	2018
260550	1570	2465	2018
260600	1570	2465	2018
260700	1000	2730	1865
260730	1000	2730	1865
260800	1000	2730	1865
261200	370	1435	903
262900	370	1435	903

Calculation of cross section centerline stations

River Station	Left Top Bank	Right Top Bank	Stream -CL-
264500	1660	3130	2395
264600	1660	3130	2395
264750	1660	3130	2395
265200	1220	2285	1753
266750	4595	5471	5033
266900	4595	5405	5000
267400	821.5	2231.3	1526
267750	4475	5525	5000
267850	563	2000	1282
268920	4260	5915	5088
269250	600	2248	1424
269300	600	2248	1424
270450	3835	6165	5000
272010	2970	5300	4135

Levee Top Elevation Adjustment

This is a brief calculation of the overall fill required to bring the levee top elevation to the required height to maintain FEMA freeboard requirements.

Freeboard Requirement (per FEMA 37) ==>

1) A minimum freeboard requirement of three (3) feet is necessary along the entire levee.

2) An additional one (1) foot of freeboard is required within 100' of strucutures within the levee or wherever flow is restricted, such as bridges (in this case, I-77).

3) An additional one-half (0 5) foot of freeboard is required at the upstream end of the levee.

Richland County Requirements ==>

1) Top of levee elevation must be equal or greater than the 500-year elevation plus three (3) feet.

River Station	100 yr. HEC-2 WSEL	500 yr. HEC-2 WSEL	Existing Levee Top Elevation	Present Freeboard 100-year (feet)	Present Freeboard 500-year (feet)	100-year Freeboard Required (feet)	500-year Freeboard Required (feet)	Min.Elev. for 100-year (ft, MSL)	Min.Elev. for 500-year (ft, MSL)	Calc'd New Min. Levee Top Elevation	Levee top input to HEC-2 Model	Comments	Levee Increase
234100	135.06	138.48	142.70	7.64	4.22	3.00	3.00	138.06	141.48	same	**same**	End of Levee	0.00
238900	136.75	140.54	142.80	6.05	2.26	3.00	3.00	139.75	143.54	143.54	**143.60**		0.80
239370	136.89	140.71	137.30	0.41	-3.41	3.00	3.00	139.89	143.71	143.71	**143.80**		6.50
239800	136.93	140.68	137.10	0.17	-3.58	3.00	3.00	139.93	143.68	143.68	**143.80**		6.70
241500	137.50	141.49	142.30	4.80	0.81	3.00	3.00	140.50	144.49	144.49	**144.50**		2.20
241850	137.59	141.60	148.00	10.41	6.40	3.00	3.00	140.59	144.60	same	**same**		0.00
242049	138.17	142.48	153.00	14.83	10.52	4.00	3.00	142.17	145.48	same	**same**	I-77 Section	0.00
242050	138.17	142.47	153.00	14.83	10.53	4.00	3.00	142.17	145.47	same	**same**	I-77 Section	0.00
242120	138.18	142.49	153.00	14.82	10.51	4.00	3.00	142.18	145.49	same	**same**	I-77 Section	0.00
242121	138.19	142.50	153.00	14.81	10.50	4.00	3.00	142.19	145.50	same	**same**	I-77 Section	0.00
242169	138.21	142.52	153.00	14.79	10.48	4.00	3.00	142.21	145.52	same	**same**	I-77 Section	0.00
242170	138.20	142.51	153.00	14.80	10.49	4.00	3.00	142.20	145.51	same	**same**	I-77 Section	0.00
242240	138.22	142.53	150.60	12.38	8.07	4.00	3.00	142.22	145.53	same	**same**	I-77 Section	0.00
242241	138.23	142.56	150.60	12.37	8.04	4.00	3.00	142.23	145.56	same	**same**	I-77 Section	0.00

Levee Top; Revised Lex Model

River Station	100 yr. HEC-2 WSEL	500 yr. HEC-2 WSEL	Existing Levee Top Elevation	Present Freeboard 100-year (feet)	Present Freeboard 500-year (feet)	100-year Freeboard Required (feet)	500-year Freeboard Required (feet)	Min.Elev. for 100-year (ft, MSL)	Min.Elev. for 500-year (ft, MSL)	Calc'd New Min. Levee Top Elevation	Levee top input to HEC-2 Model	Comments	Levee Increase
242440	138.10	142.35	147.20	9.10	4.85	3.00	3.00	141.10	145.35	same	**same**		0.00
243000	138.54	142.97	147.10	8.56	4.13	3.00	3.00	141.54	145.97	same	**same**		0.00
245800	139.59	144.14	145.40	5.81	1.26	3.00	3.00	142.59	147.14	147.14	**147.20**		1.80
246000	139.79	144.43	144.80	5.01	0.37	3.00	3.00	142.79	147.43	147.43	**147.50**		2.70
246700	139.76	144.35	140.70	0.94	-3.65	3.00	3.00	142.76	147.35	147.35	**147.50**		6.80
247000	140.25	144.98	142.40	2.15	-2.58	3.00	3.00	143.25	147.98	147.98	**148.00**		5.60
247200	140.25	144.95	142.20	1.95	-2.75	3.00	3.00	143.25	147.95	147.95	**148.00**		5.80
248200	140.62	145.27	145.40	4.78	0.13	3.00	3.00	143.62	148.27	148.27	**148.30**		2.90
249300	141.56	146.50	142.00	0.44	-4.50	3.00	3.00	144.56	149.50	149.50	**149.50**		7.50
249590	141.35	146.19	145.40	4.05	-0.79	3.00	3.00	144.35	149.19	149.19	**149.50**		4.10
250770	141.57	146.41	149.30	7.73	2.89	3.00	3.00	144.57	149.41	149.41	**149.50**		0.20
253400	142.72	147.51	147.80	5.08	0.29	3.00	3.00	145.72	150.51	150.51	**150.60**		2.80
254500	143.68	148.68	151.00	7.32	2.32	3.50	3.00	147.18	151.68	151.68	**151.70**	End Levee	0.70