Addendum 4
April, 1983
Watershed Plan and Environmental Impact Statement
for
South Fork Licking River Watershed, Ohio

The purpose of this addendum is to make a major change in the original, June 1980, Watershed Plan and Environmental Impact Statement, and to update the benefits, costs, and interest rate to current levels. The major changes consist of deleting four floodwater retarding dams and the Heath Critical Area Stabilization. All measures contained in the June 1980 Watershed Plan and Environmental Impact Statement that are not specifically deleted by this addendum are included in the recommended plan. A complete set of revised tables and a display of the incremental analysis are attacned.

The recommended plan for South Fork includes Big Hollow floodwater retarding structure, I-70 bypass, channel enlargement, channel obstruction removal, Hebron dike, and channel recreation development. The Etna and Kirkersville dams, and streambank stabilization (Heath Critical Area Stabilization) have been deleted.

The recommended plan for Raccoon Creek includes the Lobdell Dam and recreation development at the Lobdell dam site, and channel obstruction removal. The Kiber and Simpson structures and land acquisition of House No. 44 at Granville have been deleted.

The Etna and Kirkersville dams were originally included in the plan to avoid damages being induced downstream from other works of improvement. An indepth review of watershed conditions and the original analyses revealed that the expected induced damages would not occur. Therefore, there is little physical or economic need for the dams. The environmental quality benefits alone are not sufficient to justify their construction.

Streambank stabilization was originally included in the plan to achieve environmental quality objectives of the sponsors. However, it was determined that the expected benefits do not exceed expected costs and therefore this measure has been deleted from the plan.

The Kiber and Simpson structures and the land acquisition and relocation of House No. 44 were originally included in the plan as the most acceptable way of providing protection from the 100-year flood event. However, these measures do not produce net NED benefits and have been deleted from the plan. Some flood damages from the 100-year flood will still occur. Threat of loss of life will be greatly reduced. However, some threat of loss-of-life will continue in a four unit apartment house and one single family house.

TABLE 1 - ESTIMATED INSTALLATION COST
South Fork Licking River Watershed, Ohio

Item	Unit	Number	Estimated Cost (Dollars) 1/ PL-566 Funds SCS 2/	PL-566 Funds FS 2/	PL-566 Funds Total	Other Funds SCS 2/	Other Funds FS 2/	Other Funds Total	Total Installation Cost
LAND TREATMENT - GOING PROGRAM									
Cropland	Acres to	7,470				1,247,100		1,247,100	1,247,100
Pasture	be Adequately	1,040				435,500		435,500	435,500
Forest	Protected 2/	820					32,900	32,900	32,900
Other		200				95,800		95,800	95,800
Technical Assistance						363,700	16,100	379,800	379,800
SUBTOTAL	Acres 2/	9,530				2,142,100	49,000	2,191,100	2,191,100
LAND TREATMENT - ACCELERATED									
Cropland	Acres to	2,880				753,500		753,500	753,500
Pasture	be Adequately	1,060				431,600		431,600	431,600
Forest	Protected 2/	600					12,600	12,600	12,600
Other		160				103,200		103,200	103,200
Technical Assistance			219,600	49,600	269,200		8,700	8,700	277,900
SUBTOTAL	Acres 2/	4,700	219,600	49,600	269,200	1,288,300	21,300	1,309,600	1,578,800
TOTAL LAND TREATMENT	Acres 2/	14,230	219,600	49,600	269,200	3,430,400	70,300	3,500,700	3,769,900

TABLE 1 - ESTIMATED INSTALLATION COST
South Fork Licking River Watershed, Ohio

Item	Unit	Number	Estimated Cost (Dollars) 1/ PL-566 Funds SCS 2/	PL-566 Funds FS 2/	PL-566 Funds Total	Other Funds SCS 2/	Other Funds FS 2/	Other Funds Total	Total Installation Cost
STRUCTURAL MEASURES									
Floodwater Retarding Dam	No.	1	391,500		391,500	75,400		75,400	466,900
Lobdell Multiple-purpose Res.	No.	1	1,156,000		1,156,000	598,700		598,700	1,754,700
Lobdell Creek Recreational Facilities	No.	1	998,100		998,100	998,100		998,100	1,996,200
Channel Work - (M) 3/	Miles	0.7	279,200		279,200	13,300		13,300	292,500
- (N) 3/	Miles	11.2	55,900		55,900	10,400		10,400	66,300
- (O) 3/	Miles	3.3	2,250,300		2,250,300	571,400		571,400	2,821,700
South Fork Channel Recreational Facilities	No.	1	287,100		287,100	287,100		287,100	574,200
Flood Prevention Dikes - Hebron	Miles	0.3	46,300		46,300	7,200		7,200	53,500
Raccoon Creek Obstruction Removal	Miles	7.0	17,200		17,200	4,000		4,000	21,200
SUBTOTAL - Structural Costs			5,481,600		5,481,600	2,565,600		2,565,600	8,047,200
PROJECT ADMINISTRATION									
Construction Inspection			1,018,700		1,018,700				1,018,700
Relocation Assistance Advisory Service						400		400	400
Other			378,900		378,900	175,200		175,200	554,100
SUBTOTAL - Project Administration			1,397,600		1,397,600	175,600		175,600	1,573,200
TOTAL ALL COSTS			7,098,800	49,600	7,148,400	6,171,600	70,300	6,241,900	13,390,300

1/ Price base 1982.
2/ Federal agency responsible for assisting in installation of project measures.
3/ Type of channel before project: (M) - a manmade or previously modified channel; (N) - an unmodified, well-drained natural channel; (O) - none or practically no defined channel.

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TABLE 2 - ESTIMATED COST DISTRIBUTION
South Fork Licking River Watershed, Ohio
(Dollars) 1/

Item	Installation Cost - P.L. 566					Installation Cost - Other					Total Installation Cost
	Construction	Engineering	Land Rights	Relocation Payments	Total PL-566	Construction	Engineering	Land Rights	Relocation Payments	Total Other	
STRUCTURAL MEASURES											
Floodwater Retarding Dam											
Big Hollow	359,600	31,900			391,500			75,400		75,400	466,900
Floodwater Retarding and Recreational Dam											
Lobdell Creek	826,500	101,100	211,700	16,700	1,156,000	346,500		244,900	7,300	598,700	1,754,700
Recreational Facilities	826,200	65,600	106,300		998,100	826,200	65,600	106,300		998,100	1,996,200
Flood Prevention Channel Work - South Fork											
Bypass Near I-70 (O) 3/	2,107,000	143,300			2,250,300			571,400 2/		571,400	2,821,700
1687+00 to 1810+00 (M) 3/	262,100	17,100			279,200			13,300		13,300	292,500
1810+00 to 2317+45 (N) 3/	52,400	3,500			55,900	2,800		7,600		10,400	66,300
Flood Prevention Dikes - Hebron	42,400	3,900			46,300			7,200		7,200	53,500
Channel Recreation Development											
South Fork Recreational Facilities	99,100	10,400	177,600		287,100	99,100	10,400	177,600		287,100	574,200
Raccoon Creek Obstruction Removal	16,100	1,100			17,200			4,000		4,000	21,200
SUBTOTAL - Structural Measures	4,591,400	377,900	495,600	16,700	5,481,600	1,274,600	76,000	1,207,700 4/	7,300	2,565,600	8,047,200
PROJECT ADMINISTRATION					1,397,600					175,600	1,573,200
GRAND TOTAL	4,591,400	377,900	495,600	16,700	6,879,200	1,274,600	76,000	1,207,700	7,300	2,741,200	9,620,400

1/ Price base 1982.
2/ Includes $437,600 for pipeline changes and new bridges.
3/ Type of channel before project: M - A manmade or previously modified channel; N - An unmodified well-defined natural channel; O - None or practically no defined channel.
4/ Includes $86,400 appraisals, legal, survey and other costs.

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TABLE 2A - COST ALLOCATION AND COST SHARING SUMMARY
South Fork Licking River Watershed, Ohio
(Dollars) 1/

Item	COST ALLOCATION			COST SHARING					
	Purpose			P.L. 566			Other		
	Flood Prevention	Recreation	Total	Flood Prevention	Recreation	Total	Flood Prevention	Recreation	Total
STRUCTURAL MEASURES									
Single Purpose Floodwater Retarding Dam	466,900		466,900	391,500		391,500	75,400		75,400
Multipurpose Structure (1)									
Lobdell Dam	561,500	1,193,200	1,754,700	525,400	630,600	1,156,000	36,100	562,600	598,700
Lobdell Recreational Facilities		1,996,200	1,996,200		998,100	998,100		998,100	998,100
South Fork Channel Recreation		574,200	574,200		287,100	287,100		287,100	287,100
Channel Work	3,174,900	5,600	3,180,500	2,582,600	2,800	2,585,400	592,300	2,800	595,100
Flood Prevention Dike - Hebron	53,500		53,500	46,300		46,300	7,200		7,200
Raccoon Creek Obstruction Removal	21,200		21,200	17,200		17,200	4,000		4,000
GRAND TOTAL	4,278,000	3,769,200	8,047,200	3,563,000	1,918,600	5,481,600	715,000	1,850,600	2,565,600

1/ Price Base 1982.

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TABLE 2B - RECREATIONAL FACILITIES
ESTIMATED CONSTRUCTION COSTS
South Fork Licking River Watershed, Ohio
(Dollars) 1/

Item	Number or Size 2/	Estimated Unit Cost	Total Construction Cost
LOBDELL CREEK RECREATIONAL DEVELOPMENT			
Beach Area			
Bathhouse and Change Booths (with 10 showers)	700 Sq. Ft.	84	58,500
Toilets-Vault Type	2	24,870	49,740
Beach - Sand Area	26,000 Sq. Ft.	0.49	12,820
- Grass Area	1 Acre	1,160	1,160
Life Guard Chairs	2	410	820
Diving Platforms	2	1,660	3,320
Swimming Area Markers	1 Set	2,580	2,580
Safety Equipment	1 Set	840	840
Well and Electric Pump	1	4,970	4,970
Water Line	500 Ft.	9.60	4,800
Water Fountains	3	840	2,520
Refuse Container Stands	20	1.20	2,400
Paved Road 3/	1,500 Ft.	49	73,980
Concrete Curbs	500 Ft.	9.60	4,800
Paved Parking	100 Cars	247	24,700
Grassed Parking	150 Cars	84	12,600
Boating			
Docks	15 Boats	1,140	17,100
Boating Access Ramp	300 Ft.	82	24,600
Paved Road	100 Ft.	49	4,930
Paved Parking	10 Cars and Trailers	575	5,750
Security Lights	2	330	660
Signs	5	46	230
Primitive Camping			
Toilet-Vault Type	1	15,000	15,000
Well and Hand Pump	1	2,500	2,500
Refuse Container Stands	20	120	2,400
Gravel Road	4,000 Ft.	27	109,600
Gravel Parking	20 Cars	120	2,500
Fence and Gate	2,500 Ft.	11	27,500
Signs	5	46	230
Waste Drains	8	120	960
Boat Docks	5	1,140	5,700

Item	Number or Size 2/	Estimated Unit Cost	Total Construction Cost
Family Camping - Class A and B			
Campsites with Pads & Barriers	75	580	43,500
Grills and Fire Rings	75	232	17,400
Tables	75	246	18,450
Refuse Container Stands	75	120	9,000
Electrical Outlets	76	166	12,450
Waste Drains	75	120	9,000
Toilets - Vault Type	4	16,500	66,000
Trailer Dump Station	1	24,800	24,800
Playground Equipment	1 Set	3,770	3,770
Wells with Hand Pumps	3	2,480	7,440
Electric Lines	2,500 Ft.	750	18,750
Security Lights	4	330	1,320
Paved Road	2,000 Ft.	49	98,000
Landscaping - Trees	1,500	75	112,500
- Shrubs	620	9.50	5,890
- Shaping & Seeding	35 Acres	1,200	42,000
Signs	20	45	900
Group Camping			
Group Grill	1	4,150	4,150
Tables	6	260	1,560
Refuse Container Stands	3	120	360
Toilet - Vault Type	1	16,600	16,600
Electric Line	500 Ft.	7.54	3,770
Security Light	1	330	330
Paved Road with Gate	500 Ft.	55	27,500
Shaping and Seeding	2 Acres	1,165	2,330
Signs	5	46	230
Well and Hand Pump	2	2,500	5,000
Picnic and Playground Area			
Grills and Fire Rings	100	226	22,600
Tables	200	260	52,000
Refuse Container Stands	70	120	8,400
Group Shelters	4	16,600	66,400
Toilets - Vault Type	10	15,000	150,000
Playground Equipment	3 Sets	3,770	11,310
Wells with Hand Pumps	3	2,500	7,500
Electric Line - Underground	5,000 Ft.	7.54	37,700
Security Lights	25	330	8,250
Paved Road 3/	1,500 Ft.	49	73,500
Paved Parking	20 Cars	247	4,940
Landscaping - Trees	200	75	15,000
- Shrubs and Vines	1,200	9.60	11,520
- Shaping and Seeding	15 Acres	1,160	17,400

Item	Number or Size 2/	Estimated Unit Cost	Total Construction Cost
Signs	50	46	2,300
Trails			
Lake Trail	26,400 Ft.	2.47	65,170
Nature Trail	10,560 Ft.	2.47	26,080
Other Facilities			
Entrance Control Building	1	24,900	24,900
Security Lights	2	330	660
Entrance Area Landscaping of Trees and Shrubs	3,000 Ft.	4.52	13,560
Total Lobdell Creek			1,652,400
SOUTH FORK CHANNEL RECREATIONAL DEVELOPMENT			
Grills and Fire Rings	35	226	7,910
Tables	70	260	18,200
Refuse Container Stands	24	120	2,880
Waste Drains	3	120	360
Toilets - Flood Proof Vault Type	3	14,750	44,250
Stream Access Ramps	3	2,500	7,500
Paved Parking - 3 Acres	105 Cars	260	27,300
Trail	39,300 Ft.	2.26	88,810
Security Lights	3	330	990
Total South Fork			198,200
GRAND TOTAL			1,850,600

1/ Price Base 1982.
2/ Estimated quantity, subject to minor variation at time of detailed planning.
3/ With gravel parking along side (estimated 68 cars per 1,500 feet per side).

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TABLE 3 - STRUCTURAL DATA
DAMS WITH PLANNED STORAGE CAPACITY
South Fork Licking River Watershed, Ohio

Item	Unit	Big Hollow	Lobdell Creek	Total
Class of Structure		c	c	
Total Drainage Area	Sq. Mi.	2.07	17.73	19.80
Controlled	Sq. Mi.	-	-	-
Runoff Curve No. (1-day; AMC II)	-	81	80	-
Top of Dam Elevation	Feet	1087.8	1036.4	-
Emergency Spillway Crest Elevation	Feet	1080.4	1026.0	-
High Stage Inlet Crest Elevation	Feet	1072.0	0	-
Low Stage Inlet Crest Elevation	Feet	1069.3	1007.0	-
Maximum Dam Height	Feet	31.4	75.5	-
Fill Volume	Cu. Yd.	68,700	245,800	314,500
Total Capacity 1/	Ac. Ft.	398	4,459	4,857
Sediment, Submerged	Ac. Ft.	70	378	448
Sediment, Aerated	Ac. Ft.	6	32	38
Recreation	Ac. Ft.	-	1,110	1,110
Floodwater Retarding	Ac. Ft.	322	2,939	3,261
Between High and Low Stage	Ac. Ft.	(55)	-	(55)
Surface Area				
Sediment Pool	Acres	17	(42) 2/	59
Recreation Pool	Acres	-	106	106
Floodwater Retarding Pool 1/	Acres	40	208	248
Equivalent Rainfall Vol. (1-day)	Inches	5.2	5.3	-
Equivalent Rainfall Vol. (10-day)	Inches	10.7	10.9	-
Principal Spillway Design				
Runoff Volume (1-day)	Inches	3.2	3.2	-
Runoff Volume (10-day)	Inches	6.3	6.3	-
Capacity of Low Stage (Max.)	cfs	11	306	-
Capacity of High Stage (Max.)	cfs	144	-	-
Diameter of Conduit	Inches	36	42	-
Emergency Spillway Design				
Frequency of Operation	% Chance	1	1	-
Rainfall Volume (ESH)	Inches	9.48	9.5	-
Runoff Volume (ESH)	Inches	7.15	7.2	-
Storm Duration	Hours	6	6	-
Type	-	Veg.	Veg.	-
Bottom Width	Feet	200	400	-
Max. Exit Channel Velocity	Ft./Sec.	6.7	8.9	-
Exit Channel Slope	Ft./Ft.	0.015	0.025	-
Max. Reservoir Water Surface Elev.	Feet	1083.1	1030.4	-
Freeboard Design				
Rainfall Volume (FH)	Inches	25.36	25.4	-
Runoff Volume (FH)	Inches	22.75	23.2	-
Storm Duration	Hours	6	6	-
Max. Reservoir Water Surface Elev.	Feet	1087.3	1036.4	-
Total Emergency Spillway Outflow	Ac. Ft.	2,047	18,083	-
Capacity Equivalents				
Sediment Volume	Inches	0.69	0.43	-
Flood Retarding Volume	Inches	2.92	3.11	-
Recreation Volume	Inches	-	1.18	-

1/ At emergency spillway crest elevation.
2/ Normal Pool = 106 acres.

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TABLE 3A - STRUCTURAL DATA
CHANNEL WORK
South Fork Licking River Watershed, Ohio

Station	Drainage Area Sq. Mi.	100-Yr. Frequency Design Discharge cfs	Water Surface Elevation Feet msl	Average Hydraulic Gradient ft/ft	Channel Bottom Dimensions 1/ Gradient ft/ft	Width Feet	Elevation Feet msl	"n" Value Aged	"n" Value As Built	Average Velocity fps Aged	Average Velocity fps As Built	Excavation Volume Cu. Yd.	Type of Work 2/	Existing Channel Type 3/	Present Flow Condition 4/
SOUTH FORK BY-PASS NEAR INTERSTATE 70 (3.3 miles)															
93+00	59.3		891.7				881.0								
		3870		.0007	.0007	50		.030	.023	4.8	5.7	241,200	I	O	-
164+00	63.0		886.8				876.1								
		3870 6/		.00034	.0007	50		.030	.023	5.1	6.6	315,400	I	O	-
268+00	65.1		883.1				868.6								
17,500 feet total by-pass length.												556,600 Cu. Yd. total Excavation.			
SOUTH FORK FROM DOWNSTREAM END OF BY-PASS TO JUNCTION WITH BUCKEYE LAKE OUTLET CHANNEL (0.7 mile)															
1690 5/	72.7		883.1				868.6								
		4940 7/		.00006	.0004	80		.25	.020	1.4	1.8	63,000	II	M(1925)	P
1724+85	72.2		881.9				867.2								
3,485 feet total South Fork enlargement length.												63,000 Total South Fork Volume			
SOUTH FORK FROM BUCKEYE LAKE OUTLET CHANNEL TO JUNCTION WITH RACCOON CREEK (11.2 miles)															
1724+85	116.7							0.57 8/	.050 9/	1.1 8/	1.2 9/		IVA	M(1925)	P
1810+00	118.7							.052 8/	.045 9/	2.7 8/	2.9 9/		IVA	N	P
2317+45	184.1														
59,160 feet total South Fork obstruction removal															
80,145 feet total length South Fork.												619,600 Cu. Yd. total volume.			

TABLE 3A - STRUCTURAL DATA
CHANNEL WORK
South Fork Licking River Watershed, Ohio

Station	Drainage Area Sq. Mi.	100-Yr. Frequency Design Discharge cfs	Water Surface Elevation Feet msl	Average Hydraulic Gradient ft/ft	Channel Bottom Dimensions 1/ Gradient ft/ft	Width Feet	Elevation Feet msl	"n" Value Aged	"n" Value As Built	Average Velocity fps Aged	Average Velocity fps As Built	Excavation Volume Cu. Yd.	Type of Work 2/	Existing Channel Type 3/	Present Flow Condition 4/
RACCOON CREEK FROM COUNTY ROAD 91 TO STATE ROUTE 16 (7.0 miles)															
880+70	33.71														
1071+50	75.0							.055 8/	.050 9/	2.9 8/	3.2 9/		IVA	N	P
1253+60	81.8							.060 8/	.055 9/	2.2 8/	2.4 9/		IVA	N	P

37,290 feet total Raccoon Creek obstruction removal length.

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TABLE 3A - STRUCTURAL DATA
CHANNEL WORK
South Fork Licking River Watershed, Ohio

	Length	100-Year Freq. Elev.	Top of Dike Elev.	Dike Dimensions Top Width 10/	Side Slope 10/	Avg. Height	Fill Volume
HEBRON FLOOD PREVENTION DIKE							
	1800'	883.2	885.2	8-10'	3:1-6:1	5'	9300 cu. yds.

1/ Side slopes 2:1 in type I and II work areas.
2/ I - Establishment of new channel including necessary stabilization measures.
II - Enlargement of existing channel.
IVA- Removal of flow obstructions within the channel flow area.
3/ M () - Previously modified channel with approximate date of original major construction shown in parentheses.
N - An unmodified, well-defined channel.
O - None or practically no defined channel.
4/ P (perennial) - Flows at all times except during extreme drought.
5/ By-pass station 268+00 equals South Fork station 1690+00.
6/ Average flow within bank is 2,400 cfs.
7/ Average flow within bank is 1,200 cfs.
8/ Average before obstruction removal.
9/ Average after obstruction removal.
10/ Varies with topography.

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TABLE 4 - ANNUAL COST
South Fork Licking River Watershed, Ohio
(Dollars) 1/

Evaluation Unit	Amortization of Installation Cost 2/	Operation, Maintenance, And Replacement Cost	Total
South Fork	336,800	71,000 3/	407,800
Raccoon Creek	295,500 (1,700) 5/	154,000 4/ (800) 5/	449,500 (2,500) 5/
Project Administration	123,900 (300) 5/	0	123,900 (300) 5/
Grand Total	756,200	225,000	981,200

1/ Price Base 1982.

2/ Amortized at 7 7/8 percent interest rate for 100-years.

3/ Includes $47,000 for operation, maintenance, and replacement for the South Fork recreational development.

4/ Includes $152,300 for operation, maintenance, and replacement for the Lobdell recreational development.

5/ Obstruction removal on Raccoon Creek (allocated to Environmental Quality).

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TABLE 5 - ESTIMATED AVERAGE ANNUAL FLOOD DAMAGE REDUCTION BENEFITS
South Fork Licking River Watershed, Ohio
(Dollars) 1/

Item	Estimated Average Annual Damage		Damage Reduction Benefit
	Without Project	With Project	
Floodwater			
Crop and Pasture	104,900	49,500	55,400
Other Agricultural	7,900	4,200	3,700
Nonagricultural			
Transportation	3,500	2,300	1,200
Urban	432,300	63,200	369,100
Subtotal	548,600	119,200	429,400
Indirect	116,600	40,500	76,100 2/
Total	665,200	159,700	505,500

1/ Price Base: 1982 current normalized prices for agricultural damages and benefits and 1982 prices for all others.

2/ Includes $7,700 traffic delay benefits on Interstate 70.

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TABLE 6 - COMPARISON OF BENEFITS AND COSTS
South Fork Licking River Watershed, Ohio
(Dollars)

Evaluation Unit	Average Annual Benefits 1/					Average 3/ Annual Cost	Benefit Cost Ratio
	Damage 2/ Reduction	More Intensive Land Use	Recreation	Redevelop-ment	Total		
South Fork	329,300	139,600	107,200	22,500	598,600	407,800	1.47:1.0
Raccoon Creek	176,200	12,700	600,600	21,100	810,600	449,500	1.80:1.0
Project Administration						123,900	
Total	505,500	152,300	707,800	43,600	1,409,200	981,200	1.44:1.0

1/ Price Base 1982.

2/ From Table 5.

3/ From Table 4.

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Incremental Analysis
(Dollars)

Increment Description	Annual Costs Total	Annual Costs Incremental Costs	Annual Benefits Total	Annual Benefits Incremental Benefits	Net Benefits
ACCELERATED LAND TREATMENT TECHNICAL ASSISTANCE		21,200		1/	
SOUTH FORK LICKING RIVER					
1. Big Hollow Structure		47,900		69,500	21,600
2. Plus I-70 Bypass, Enlargement, and Obstruction Removal	358,500	310,600	459,800	390,300	101,300
3. Plus Hebron Dike	363,400	4,900	490,000	30,200	126,600
4. Plus Recreation	460,000	96,600	598,600	108,600	138,600
5. Heath Stabilization	578,600	118,600	598,600	2/	20,000
6. Plus Kirkersville and Etna Structures	733,700	155,100	631,000	32,400	-102,700
RACCOON CREEK					
1. Lobdell Structure		171,700		197,700	26,000
2. Plus Recreation	521,200	349,500	810,600	612,900	289,400
3. Obstruction Removal	524,000	2,800	810,600	2/	286,600
4. Plus Kiber and Simpson Structure	638,500	114,500	846,100	35,500	207,600

1/ Monetary Benefits from land treatment and technical assisstance were not evaluated.
2/ Monetary Benefits were not evaluated.

ADDENDUM TO THE ENVIRONMENTAL

IMPACT STATEMENT

April, 1983

South Fork Licking Watershed, Ohio

This Addendum to the Environmental Impact Statement (EIS) is in response to a major change in the work plan and EIS to satisfy concerns of the sponsors, the Soil Conservation Service, and the Office of Management and Budget. The following discussion summarizes the principal environmental impacts of the project. Fish and wildlife, visual, and cultural resource values that would be affected by this action will be fully mitigated. The project will have no effect on threatened or endangered species or wetlands.

The structural measures will provide $369,100 in average annual flood prevention benefits by protecting 449 houses and 35 businesses. Urban flood damages will be reduced 85.4%. The average annual flood water damage to pasture and cropland will be reduced by $55,400 on 325 farms.

The Big Hollow and Lobdell reservoirs will permanently flood 1.9 miles and periodically flood 1.3 miles of natural stream. Land use changed by these reservoirs include 46 acres of cropland, 52 acres of grassland, 61 acres of forestland and 9 acres of other land. New plantings of trees, shrubs and grasses in appropriate areas of these structures will in time provide good quality herbaceous habitat.

The two reservoirs, in addition to flood prevention benefits, will create 123 acres of aquatic and waterfowl habitat. Lobdell reservoir will have 106 acres of recreation water for boating and fishing. This area and its adjacent 161 acres of facilities for picnicking, beaching, hiking and camping will provide more than 150,000 recreation visits each year.

The installation of Lobdell, a multiple purpose dam and recreation facility, will require the closure of three roads in the reservoir. This will create longer travel patterns for about 30 area residents. The development will increase traffic from people visiting this facility which will increase disturbance to residents in the area. One family will require relocation. Adequate housing is available in the area.

The I-70 channel bypass (floodway) will destroy 53 acres of cropland and 14 acres classified as other land. The area located between I-70 and the new channel contains approximately 20 acres that can be developed into wildlife habitat. 0.74 miles of channel enlargement will remove 5 acres of cropland, 2 acres of forestland, and 3 acres of other land. Five fish pools will be constructed by excavation and placement of riprap.

The channel berm and all disturbed areas will be seeded to grasses of value to wildlife and erosion prevention creating a high quality herbaceous habitat. Approximately 5 acres have been set aside adjacent to the proposed bypass channel for a single row planting of woody vegetation to provide wildlife habitat.

Seven miles of the South Fork Licking River will be developed for canoeing, picnicking, and hiking. Recreational facilities will consist of 3 canoe ramps, two picnic grounds with each consisting of 35 picnic tables, three parking lots with each having a 35 car capacity, seven miles of hiking trails, and the necessary sanitary facilities. Annual recreation visits are estimated at 29,000.

Obstruction removal on seven miles of Raccoon Creek will reduce streambank erosion by reducing stream meandering. An interagency team of engineers and biologists will review the stream and agree upon obstructions to be removed.

Watershed protection will be achieved through the application of planned land treatment under the combined on-going program and the accelerated land treatment program which will result in adequately protecting 10,350 acres of cropland, 2,100 acres of pasture, 1,420 acres of forestland, and 360 acres of other land. These measures, coupled with the development of farm ponds, water control structures, and wildlife habitat and critical area plantings will reduce average annual erosion to less than three tons per acre. The land treatment measures will also increase opportunities for recreation and enjoyment of natural areas, improve wildlife food and cover, and improve visual resources of the watershed.

Water quality and aquatic habitat is expected to improve because of a reduction in the suspended sediment load due to land treatment and structural measures. It is estimated that the reservoirs will trap a total of 486 acre feet of sediment during the project life. Existing water quality at the recreation sites meets state standards for the planned uses.

Increased dust, exhaust gases and noises will lower air quality during the construction of the structural measures. Construction techniques will be used that minimize dust production and water quality effects. Construction equipment will conform to OSHA standards for noise and exhausts.

The construction, operation and maintenance of the project as well as benefits of the project will result in increased jobs in the area. There will be 11.3 persons years of employment in the agricultural sector. Recreation facilities will provide for 3 permanent skilled, 4 permanent seasonal semi-skilled, and 11 permanent unskilled jobs.

This project will provide benefits to both economic and environmental sectors. The amended plan will produce no adverse impacts that were not characterized in the amended plan and environmental impact statement for the South Fork Licking River Watershed. These documents should be consulted for details of project impact. Further information can be obtained by contacting the responsible Federal Official, Robert R. Shaw, State Conservationist, Soil Conservation Service, Room 522, 200 North High Street, Columbus, Ohio 43215, 614-469-6962.