MINOR REVISION

TO

CEDAR CREEK WATERSHED WORK PLAN

OF THE TRINITY RIVER WATERSHED
KAUFMAN COUNTY, TEXAS

Prepared by
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
Temple, Texas
October 1964

SUPPLEMENTAL WATERSHED WORK PLAN AGREEMENT

between the

Kaufman-Van Zandt Soil Conservation District
Local Organization
Trinity-Neches Soil Conservation District
Local Organization
Neches-Sabine Soil Conservation District delete
Local Organization

(Hereinafter referred to as the Districts)

Kaufman County Commissioners Court
Local Organization
Van Zandt County Commissioners Court
Local Organization
Rockwall County Commissioners Court
Local Organization
Henderson County Commissioners Court
Local Organization

(Hereinafter referred to as the Counties)

City of Kaufman, Texas
Local Organization
City of Terrell, Texas
Local Organization

In the State of Texas

and the

United States Department of Agriculture
Soil Conservation Service
(Hereinafter referred to as the Service)

Whereas, the Watershed Work Plan Agreement for Cedar Creek Watershed, State of Texas, executed by the Sponsoring Local Organization named herein and the Service, became effective on the 2nd day of May, 1961; and

Whereas, in order to carry out the watershed work plan for said watershed, it has become necessary to modify said Watershed Work Plan Agreement to provide for installation, operation, and maintenance of works of improvement; and

Whereas, it was found necessary to modify the watershed work plan to delete floodwater retarding structure Sites 86, 87, and 93, and to add a multiple-purpose structure Site 87A by the incorporation of detention and sediment storage capacity in the new Terrell City Reservoir; and

Whereas, a Supplemental Watershed Work Plan which modifies the Watershed Work Plan dated October, 1960, for said watershed has been developed through the cooperative efforts of the Sponsoring Local Organization and the Service, which plan is annexed to and made a part of this agreement; and

Whereas, the Counties will benefit from installation of works of improvement through the reduction of damages to property, including county roads and bridges located in the flood plain of the watershed; and the City of Terrell will benefit from the modifications of their reservoir which provides additional sediment storage, thus prolonging the useful life of their reservoir. Therefore, the City of Terrell agrees to become a sponsor of the watershed project.

Now, therefore, in view of the foregoing considerations, the Sponsoring Local Organization and the Secretary of Agriculture, through the Service, hereby agree on the Supplemental Work Plan, and further agree that the works of improvement as set forth in said plan will be installed.

It is mutually agreed that in installing and operating and maintaining the works of improvement substantially in accordance with the terms, conditions, and stipulations provided for in the Supplemental Watershed Work Plan:

1. The Sponsoring Local Organization will acquire such lands, easements, or rights-of-way as will be needed in connection with works of improvement.

2. The Sponsoring Local Organization in accordance with the Supplemental Work Plan will acquire or provide assurance that landowners or water users have acquired such water rights pursuant to State law as may be needed in the installation and operation of the works of improvement.

3. The Service will award and administer the contracts covering the construction of all works of improvement.

4. The Sponsoring Local Organization will obtain agreements from owners of not less than 50 percent of the land above each floodwater retarding structure that they will carry out conservation farm or ranch plans on their land.

5. The Sponsoring Local Organization will provide assistance to landowners and operators to assure the installation of the land treatment measures.

6. The Sponsoring Local Organization will encourage landowners and operators to operate and maintain the land treatment measures for the protection and improvement of the watershed.

7. The Sponsoring Local Organization will be responsible for the operation and maintenance of the structural works of improvement by actually performing the work or arranging for such work in accordance with agreements to be entered into prior to issuing invitations to bid for construction work.

8. This agreement does not constitute a financial document to serve as a basis for the obligation of Federal funds, and financial and other assistance to be furnished by the Service in carrying out the watershed work plan is contingent on the appropriation of funds for this purpose.

Where there is a Federal contribution to the construction cost of works of improvement, a separate agreement in connection with each construction contract will be entered into between the Service and the sponsoring local organization prior to the issuance of the invitation to bid. Such agreement will set forth in detail the financial and working arrangements and other conditions that are applicable to the specific works of improvement.

9. The Supplemental Watershed Work Plan may be amended or revised, and this agreement may be modified or terminated, only by mutual agreement of the parties hereto.

10. No member of Congress, or resident Commissioner, shall be admitted to any share or part of this agreement, or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this agreement if made with a corporation for its general benefit.

Kaufman-Van Zandt Soil Conservation District
Local Organization

By Frank Springer

Title Chairman

Date 11-6-64

The signing of this agreement was authorized by a resolution of the governing body of the Kaufman-Van Zandt Soil Conservation District
Local Organization

adopted at a meeting held on Nov 4th 1964

Glen Ahrend
(Secretary, Local Organization)

Date Nov 6th 1964

Trinity-Neches Soil Conservation District
Local Organization

By J. A. Huff

Title Chairman

Date 4-6-65

The signing of this agreement was authorized by a resolution of the governing body of the Trinity-Neches Soil Conservation District
Local Organization

adopted at a meeting held on 4-6-65

H. B. McLoin
(Secretary, Local Organization)

Date 4-6-65

Neches-Sabine Soil Conservation District
Local Organization

By G. M. Stripling

Title Chairman

Date 12-11-64

The signing of this agreement was authorized by a resolution of the governing body of the Neches-Sabine Soil Conservation District
Local Organization

adopted at a meeting held on 12-11-64

A. J. Hearon
(Secretary, Local Organization)

Date 12-11-64

Bastrop County Commissioners Court
Local Organization

By Jay C. Dunlap

Title County Judge

Date April 9, 1965

The signing of this agreement was authorized by a resolution of the governing body of the Bastrop County Commissioners Court
Local Organization

adopted at a meeting held on April 9, 1965

Jimmy Galen
(Secretary, Local Organization)

Date April 9, 1965

Van Zandt County Commissioners Court
Local Organization

By James Mayo

Title County Judge

Date January 4, 1965

The signing of this agreement was authorized by a resolution of the governing body of the Van Zandt County Commissioners Court
Local Organization

adopted at a meeting held on January 4, 1965

Lester Slaton
(Secretary, Local Organization)

Date Jan 4, 1965

Rockwall County Commissioners Court
Local Organization

By Derwood Wimpee

Title County Judge

Date 12-14-64

The signing of this agreement was authorized by a resolution of the governing body of the Rockwall County Commissioners Court
Local Organization

adopted at a meeting held on 12-14-64

Elmer A. Payne
(Secretary, Local Organization)

Date 12-14-1964

Henderson County Commissioners Court
Local Organization

By R H Lee

Title County Judge

Date April 1st 1965

The signing of this agreement was authorized by a resolution of the governing body of the Henderson County Commissioners Court
Local Organization

adopted at a meeting held on April 1, 1965

Virgie Bennett
(Secretary, Local Organization)

Date April 1, 1965

City of Bonham, Texas
Local Organization

By W. L. Morris

Title Mayor

Date 4-12-1965

The signing of this agreement was authorized by a resolution of the governing body of the City of Bonham, Texas
Local Organization

adopted at a meeting held on 4-6-1965

Mrs. Dora Spencer
(Secretary, Local Organization)

Date 4-12-1965

City of Ferris, Texas
Local Organization

By E L Lamond

Title Mayor

Date 11-14-64

The signing of this agreement was authorized by a resolution of the governing body of the City of Ferris, Texas
Local Organization

adopted at a meeting held on 11-2-64

John Lindsman
(Secretary, Local Organization)

Date 11-14-64

Soil Conservation Service
United States Department of Agriculture

By F. N. Smith
State Conservationist

Date April 27, 1965

WORK PLAN REVISION

CEDAR CREEK WATERSHED
Of the Trinity River Watershed
Rockwall, Kaufman, VanZandt, Henderson and Hunt Counties, Texas
October 1964

INTRODUCTION

Authority

The Cedar Creek Watershed Flood Prevention Project will be carried out under the authority of the Soil Conservation Act of 1935 (Public Law No. 46, 74th Congress) and the Flood Control Act of 1944 (Public Law No. 534, 78th Congress), as amended and supplemented.

Purpose and Scope of Work Plan Revision

The purpose of this revision is to include the City of Terrell, Texas as a sponsor of the Cedar Creek Watershed Project and to improve the system of structural measures by modifying the new Terrell City Reservoir designated as structure Site No. 87A, incorporating sediment and floodwater detention storage in the facility. Modification of the dam and spillways will be such that the structure will serve as a multiple-purpose flood prevention-water supply reservoir for the City of Terrell. The level of protection afforded by the works of improvement for flood prevention planned for Construction Unit No. 12 of the Cedar Creek Watershed Work Plan of October 1960 will be increased.

Modifying the Terrell City Reservoir will cost much less than single-purpose flood prevention site(s) that would give the same or equal level of protection. Had cost sharing in Site 87A by purpose been possible, the Federal cost would have been considerably greater. Therefore, Federal funds will be used to bear the entire cost of modifying the structure.

This revision of Cedar Creek Watershed Work Plan includes the deletion of floodwater retarding structure Sites 86, 87, and 93, and designating the new Terrell City Reservoir as structure Site No. 87A.

SUMMARY OF PLAN

The Cedar Creek Watershed Work Plan of October 1960 includes a combination of land treatment measures for watershed protection and structural works of improvement for flood prevention and protection of the watershed included in Construction Unit No. 12. The planning and application of land treatment measures will be carried out in accordance with the provision of the original plan. This revision provides for the addition of sediment and flood prevention storage in the new Terrell City Reservoir and the deletion of floodwater retarding structure Sites No. 86, 87, and 93.

The structural measures now planned for Construction Unit No. 12 are multiple-purpose structure Site No. 87A, and floodwater retarding structure Sites No. 88, 89, and 90.

The total cost of the structural measures to be installed in Construction Unit No. 12 is $158,150 of which $23,030 is to be borne by local interest and $135,120 by the Federal Government.

The proposed revision will result in a net Federal savings of $150,200 with an increase of $5,448 in annual benefits due to the higher degree of protection afforded by substituting the multiple-purpose structure for the deleted floodwater retarding structures.

The total Federal cost of floodwater retarding structures in Construction Unit No. 12 would be reduced from $285,320 without the changes to $135,120 with the changes.

The total cost of structural measures without the changes is $362,240 and $158,150 with the changes.

Only benefits accruing to floodwater retarding structures in Construction Unit No. 12 from evaluation reaches 24 and 40 were used in this evaluation. Additional benefits downstream along the flood plain of Cedar Creek could be allocated to these structures. Additional pro rata benefits from reduction of sediment in the Fort Worth Cedar Creek Reservoir were not claimed in the evaluation of this unit. No secondary or incidental recreational benefits were used in the evaluation. Had these benefits been included, the benefit-cost ratios, both without and with changes, would have been substantially more favorable.

The degree of control for Evaluation Reaches 24 and 40 which includes Construction Unit No. 12 is 13.30 square miles or 31.5 percent without the changes, and 17.24 square miles or 40.8 percent with the proposed changes.

The reduction in average annual damages for reaches 24 and 40 expected as a result of the planned program are:

Without Changes	38.5 percent
With Changes	54.4 percent

After installation of stream channel improvement the expected reduction in damages for the reach will be 75.9 percent.

COMPARISON OF BENEFITS AND COSTS

The overall benefit-cost analysis for structural measures, without and with the

changes is as follows:

	Annual Benefits (dollars)	Annual Cost (dollars)	Benefit-Cost Ratio
Without Changes	11,635	14,678	0.79:1
With Changes	17,053	6,693	2.55:1

WORKS OF IMPROVEMENT TO BE INSTALLED

Terrell City Reservoir

The new Terrell City Reservoir will be modified to include storage for flood prevention. The existing structure has a two-stage emergency spillway. The first stage is a concrete chute, bottom width 40 feet, with the crest at elevation 503.5 mean sea level which controls the permanent water level at this elevation impounding 8,300 acre-feet. The second stage is an earth spillway with a bottom width of 500 feet with the crest at elevation 507.0 m.s.l.

Modifying the present structure would include raising the permanent water level from elevation 503.5 m.s.l. to elevation 504.0 m.s.l. by installing a principal spillway at elevation 504, thus providing 412 acre-feet for sediment storage; raising the crest of the concrete chute spillway from elevation 503.5 to elevation 505.6, thus providing 4,968 acre-feet detention storage and an additional 70 acre-feet of sediment storage; raising the crest of the earth spillway from elevation 507.0 m.s.l. to elevation 509.8 m.s.l., thus reducing the frequency of use of this spillway; and raising the earthen embankment from elevation 512.0 to 513.2.

Figures 1A and 1B, respectively, show the principal spillway layout and the plan of the emergency spillway.

Figure 2 shows the general layout of the reservoir and figure 3 shows the location of structural measures for the entire watershed project.

PROVISIONS FOR OPERATION AND MAINTENANCE

Terrell City Reservoir

A specific operation and maintenance agreement will be executed prior to the issuance of invitation to bid on construction of works of improvement included in this revision of the Watershed Work Plan.

The City of Terrell will be responsible for operation and maintenance of multiple-purpose structure Site No. 67A. Maintenance will be accomplished by contract or force account. Funds to be used for operation and maintenance will be from city revenues.

The structure will be inspected jointly by representatives of Kaufman-VanZandt Soil Conservation District and the City of Terrell after each storm producing heavy stream flow. Inspection items which may require attention will include, but not be limited to, condition of the principal spillway and its appurtenances, the earth fill and the emergency spillway.

The Soil Conservation Service, through the soil conservation districts, will participate in operation and maintenance only to the extent of furnishing technical assistance to aid in inspections and technical guidance and information necessary for the operation and maintenance program.

Provisions will be made for free access of representatives of sponsoring local organizations and Federal representatives to inspect and provide maintenance for all structural measures and their appurtenances at any time.

TABLE 1 - ESTIMATED PROJECT INSTALLATION COST

Work Plan Revision
Cedar Creek Watershed, Texas
(Trinity River Watershed)
Price Base: 1957

Item	Unit	Number Applied and to be Applied	Estimated Cost 2/ Federal (dollars)	Estimated Cost 3/ Non-Federal (dollars)	Total 1/ (dollars)
LAND TREATMENT FOR:					
Watershed Protection					
Soil Conservation Service					
Conservation Cropping System	Acre	75,202	-	-	-
Contour Farming	Acre	116,927	-	116,927	116,927
Cover Cropping	Acre	207,176	-	1,894,602	1,894,602
Crop Residue Use	Acre	189,819	-	189,819	189,819
Rotation Hay and Pasture	Acre	31,859	-	286,731	286,731
Grassland Renovation	Acre	77,169	-	1,524,088	1,524,088
Pasture Improvement	Acre	367,112	-	734,224	734,224
Pasture Planting	Acre	231,506	-	4,572,214	4,572,214
Rotation Grazing	Acre	253,417	-	253,417	253,417
Wildlife Area Treatment	Acre	14,081	-	77,905	77,905
Brush Control	Acre	56,615	-	297,229	297,229
Diversion Construction	Mile	38	-	105,600	105,600
Erosion Control Structures	No.	140	-	119,000	119,000
Grassed Waterways	Acre	5,388	-	444,511	444,511
Pond Construction	No.	3,622	-	862,036	862,036
Terracing	Mile	4,236	-	389,712	389,712
Technical Assistance (Accel.)			387,459	-	387,459
SCS Subtotal			387,459	11,838,015	12,225,465
TOTAL LAND TREATMENT			387,459	11,838,015	12,225,465
STRUCTURAL MEASURES					
Soil Conservation Service					
Multiple-Purpose Structure (40+87A)	No.	2	82,559	15,425	97,984
Floodwater Retarding Structures	No.	136	3,685,516	-	3,685,516
Stream Channel Improvement	Mile	112.40	3,366,040	-	3,366,040
Subtotal - Construction			7,076,115	15,425	7,069,540
Installation Services					
Soil Conservation Service					
Engineering Services			1,290,221	2,303	1,292,524
Other			638,598	-	638,598
Subtotal - Installation Services			1,928,789	2,303	1,931,092
Other Costs					
Land, Easements and R/W			-	2,079,499	2,079,499
Legal Fees			-	24,110	24,110
Subtotal - Other			-	2,103,609	2,103,609
TOTAL STRUCTURAL MEASURES			9,022,804	2,121,337	11,144,141
Work Plan Preparation Cost			80,000	-	80,000
TOTAL PROJECT			9,478,824	13,959,352	23,437,046
SUMMARY					
Subtotal SCS			9,478,824	13,959,352	23,437,046
TOTAL PROJECT			9,478,824	13,959,352	23,437,046

40.44% 59.56%

1/ Includes total watershed needs.
2/ Flood Prevention funds, including acceleration funds.
3/ Excludes $4,478,420 that will be reimbursed from other Federal funds.

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TABLE 2 - ESTIMATED STRUCTURE COST DISTRIBUTION
Work Plan Revision
Cedar Creek Watershed, Texas
(Trinity River Watershed)

Structure Site Number	FEDERAL INSTALLATION COST 1/				Non-Federal Installation Cost 2/	Estimated Total Cost
	Construction	Installation Services		Total Federal Cost		
		Engineering	Other			
	(dollars)	(dollars)	(dollars)	(dollars)	(dollars)	(dollars)
87A	29,960	7,490	2,850	40,300	2,290	42,590
88	24,430	6,110	2,330	32,870	7,540	40,410
89	20,480	5,110	1,950	27,480	4,900	32,380
90	25,620	6,410	2,440	34,470	8,300	42,770
Total	100,430	25,120	9,570	135,120	23,030	158,150

1/ Price Base 1963.
2/ Includes easements, rights-of-way, legal fees, and removing obstacles.
3/ Cost estimate for Site 87A does not include cost of existing structure or associated land in pool area owned by the City of Terrell, Texas.

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TABLE 3 - STRUCTURE DATA - MULTIPLE-PURPOSE STRUCTURE
Work Plan Revision
Cedar Creek Watershed, Texas
(Trinity River Watershed)

Item	Unit	STRUCTURE NUMBER 87A		
Drainage Area	Sq.Mi.	14.33		
Storage Capacity				
Sediment Pool	Ac.Ft.	412		
Sediment in Detention Pool	Ac.Ft.	76		
Floodwater Detention	Ac.Ft.	4,968		
Water Supply	Ac.Ft.	8,300		
Total	Ac.Ft.	13,756		
Surface Area				
Water Supply Pool 1/	Acre	872		
Floodwater Pool	Acre	1,212		
Volume of Fill	Cu.Yd.	20,870	9/	
Elevation Top of Dam	Foot	513.2		
Maximum Height of Dam 2/	Foot	43		
Emergency Spillway				
Crest Elevation	Foot	508.8	509.8	3/
Bottom Width	Foot	40	450	
Type		Concrete	Veg.	
Percent Chance of Use 4/		2.9	2.0	
Average Curve No. - Condition II		81		
Emergency Spillway Hydrograph				
Storm Rainfall (6-Hour) 5/	Inch	9.05		
Storm Runoff	Inch	6.75		
Velocity of Flow (V_e) 6/	Ft./Sec.	0		
Discharge Rate 6/	C.F.S.	0		
Maximum Water Surface Elevation 6/	Foot	508.8		
Freeboard Hydrograph				
Storm Rainfall (6-Hour) 7/	Inch	20.50		
Storm Runoff	Inch	17.9		
Velocity of Flow (V_e) 6/	Ft./Sec.	7.7	7.7	
Discharge Rate 6/	C.F.S.	1,280	6,340	
Maximum Water Surface Elevation 6/	Foot	513.2	513.2	
Principal Spillway Capacity (Maximum)	C.F.S.	179		
Capacity Equivalents				
Sediment Volume	Inch	0.64		
Water Supply Volume	Inch	10.86		
Detention Volume	Inch	6.50		
Spillway Storage 8/	Inch	7.80		
Class of Structure		B		

(See footnotes on next page)

TABLE 3 - STRUCTURE DATA - MULTIPLE-PURPOSE STRUCTURE - Continued
Work Plan Revision
Cedar Creek Watershed, Texas
(Trinity River Watershed)

1/ Surface area at top of riser.
2/ Measured from centerline of stream channel to effective top of dam.
3/ Consists of 2 spillways - concrete spillway and vegetative spillway.
4/ Based on regional analysis of gaged runoff.
5/ .75P, value of P taken from Figure 3.21-1, Supplement A, Section 4, National Engineering Handbook.
6/ Maximum during passage of hydrograph.
7/ 1.7P, value of P taken from Figure 3.21-1, Supplement A, Section 4, National Engineering Handbook, as modified by ENGINEERING-HYDROLOGY MEMORANDUM EWP-3, (Fort Worth), dated June 8, 1959.
8/ Storage from emergency spillway crest to top of dam.
9/ Additional fill to raise dam to elevation 513.2 and crest of vegetative emergency spillway to elevation 509.8.

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TABLE 4 - ANNUAL COST

Work Plan Revision
Cedar Creek Watershed, Texas
(Trinity River Watershed)

(Dollars)

Evaluation Unit	Amortization of Installation Cost 1/	Operation and Maintenance Cost	Total
Floodwater Retarding Structures 88, 89, and 90 and Multiple-Purpose Structure No. 87A	6,293	400	6,693
TOTAL	6,293	400	6,693

1/ Installation costs based on 1963 prices and amortized over 50 years.

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TABLE 5 - ESTIMATED AVERAGE ANNUAL FLOOD DAMAGE REDUCTION BENEFITS

Work Plan Revision
Cedar Creek Watershed, Texas
(Trinity River Watershed)

(Dollars) 1/

Item	Estimated Average Annual Damage: Without Project	With Project	Damage Reduction Benefits
Floodwater	28,579	12,770	15,809
Sediment	3,904	2,061	1,843
Erosion	126	51	75
Indirect	3,261	1,489	1,772
TOTAL	35,870	16,371	19,499

1/ Price Base: Long-term as projected by ARS, September 1957.

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TABLE 6 - COMPARISON OF BENEFITS AND COSTS FOR STRUCTURAL MEASURES

Work Plan Revision
Cedar Creek Watershed, Texas
(Trinity River Watershed)

(Dollars)

Evaluation Unit	AVERAGE ANNUAL BENEFITS 1/ Flood Prevention Damage Reduction	Average Annual Cost 2/	Benefit-Cost Ratio
Floodwater Retarding Structures 88, 89, and 90 and Multiple-Purpose Structure No. 87A	17,053	6,693	2.55:1
GRAND TOTAL	17,053 3/	6,693	2.55:1

1/ Price Base: Long-term prices as projected by ARS, September 1957.

2/ From Table 4.

3/ In addition, it is estimated that land treatment measures willprovide flood damage reduction benefits of $2,446 annually.

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SITE NO.	DRAINAGE AREA	SITE NO.	DRAINAGE AREA
1	1,734	73	877
3	403	74	1,850
4	269	76	2,528
5	339	77	557
6	442	78	845
7	275	79	1,427
8	435	80	1,549
9	333	81	1,530
10	288	82	979
11	1,274	83	403
11A	3,270	84	666
13	1,395	85	768
14	998		
15	806	87A	9171
16	1,824	88	717
16A	3,155	89	480
17	1,184	90	666
18	1,619	92	2,534
19	2,816		
20	3,213	94	1,459
21A	819	95A	8,614
22	890	96	602
23	422	97	2,278
24	480	98	6,758
25	1,050	99	3,782
26	371	100	499
27	1,069	101	6,003
28	883	102	1,178
29	1,690	103	2,445
30	3,392	104	2,758
31	301	105	582
32	365	106	1,542
33	314	107A	2,880
34	358	108	1,869
35	973	109	826
36	3,186	110	1,555
38	7,142	111	10,106
39	3,494	113	1,338
40	531	114	1,107
42	1,357	115	1,146
43	1,043	116	2,131
44	499	117	2,246
45	1,760	118	838
46	429	119	723
47	1,850	120	461
48	934	121	493
49	1,370	122	4,122
50	486	123	1,786
51	1,613	124	1,517
52	774	125	4,934
53	998	126	659
54	870	127	1,030
55	3,084	128	1,754
56	781	129	691
57	2,995	130	602
58	442	131	915
59	288	133	8,672
60	5,323	134	3,629
61	1,442	135	4,134
62	4,672	136	851
63	403	137	640
64	832	138	883
65	1,107	139	371
66	429	140	4,525
67	1,158	141	2,227
68	262	142	3,302
69	1,165	143	4,307
70	1,190	144	6,080
71	832	145	4,557
72	346	146	870

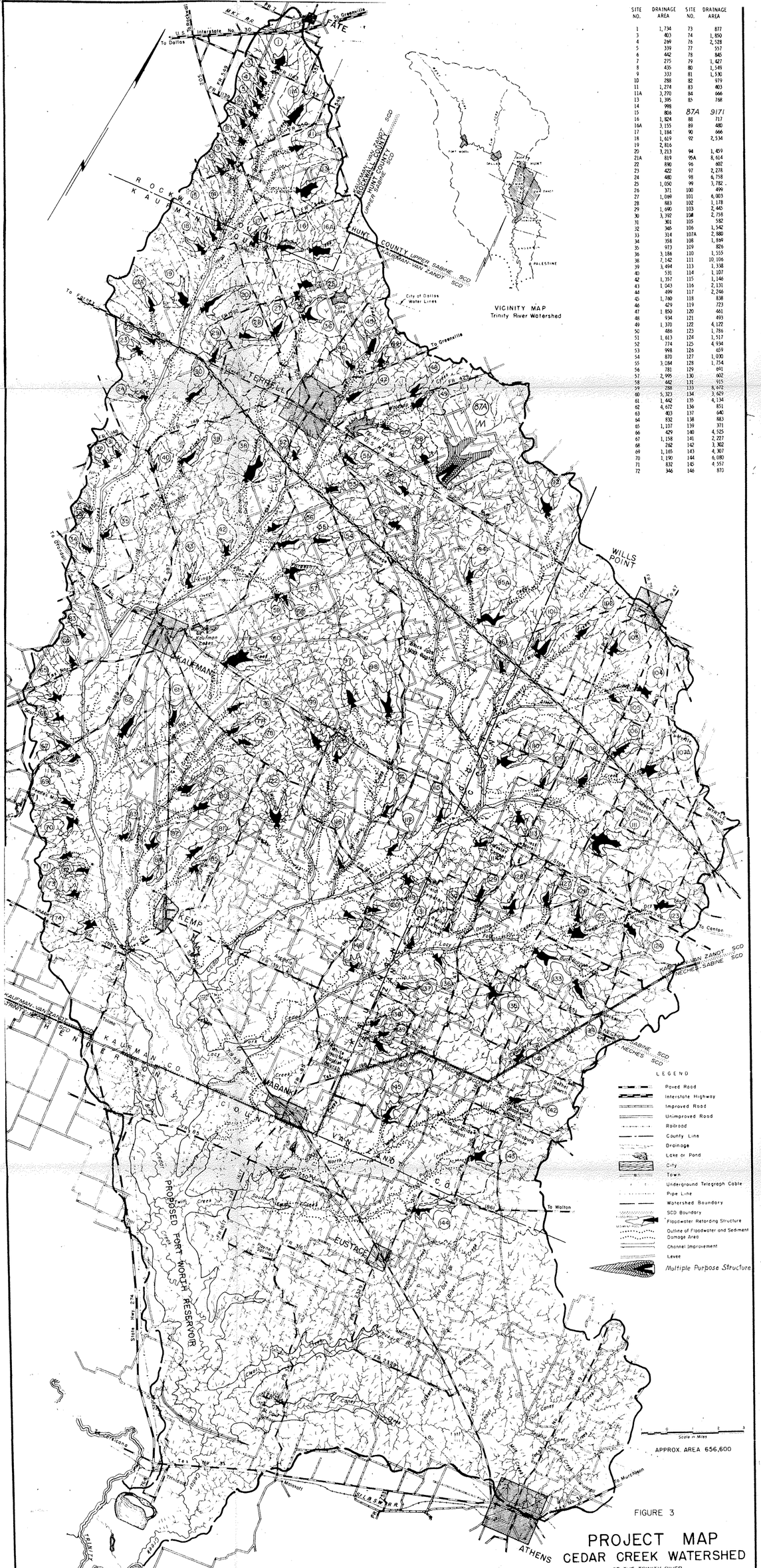


FIGURE 3

PROJECT MAP
CEDAR CREEK WATERSHED
OF THE TRINITY RIVER
TEXAS
U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

TEMPLE TEXAS

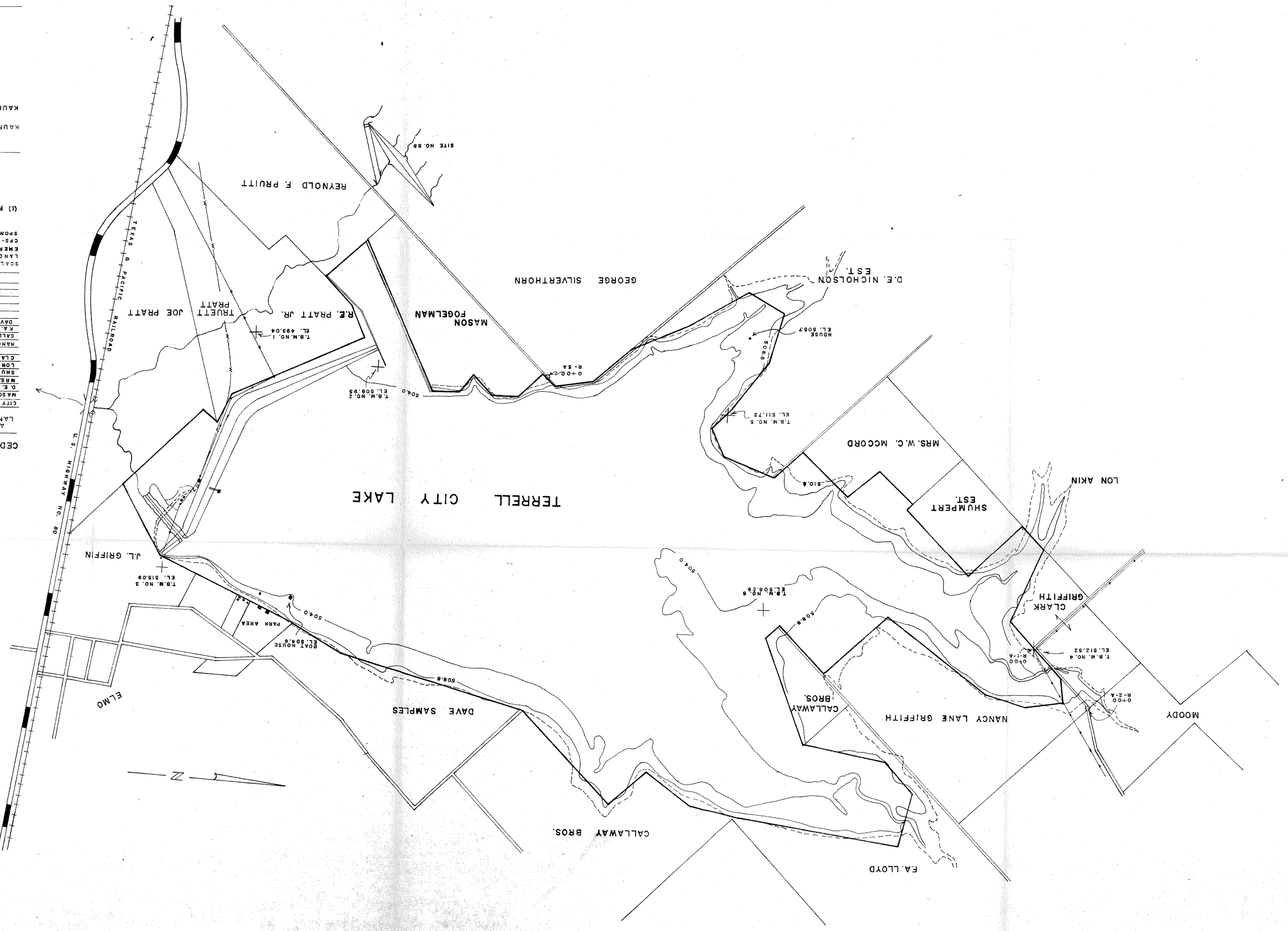
REFERENCE

CARTOGRAPHIC APPROVAL — TECHNICAL APPROVAL

COMPILED	TRACED	CHECKED	DATE
	JEL, F.B.		10-21-60

Revised 10-64 — 4-R-13,226

Revised 10-60 D.S. 5-49 Base 4-R-7,300



LEGEND

- HARD SURFACE ROAD
- DIRT ROAD
- RAIL ROAD
- POLE LINE
- W — WATER LINE

CEDAR CREEK WATERSHED

LAND RIGHTS NEEDED FOR CONSTRUCTION

SITE NO. 87-A

T.B.M. NO. 1 60D NAIL DRIVEN VERTICAL IN THE ROOT OF A 8" OAK TREE, TREE IS ABOUT 50' N. OF A POWER LINE. ELEV. 493.04

T.B.M. NO. 2 60D NAIL IN A TWIN 8" ELM TREE, TREE IS S. OF INLET CHANNEL TO EMERGENCY SPILLWAY. ELEV. 508.93

T.B.M. NO. 3 60D NAIL DRIVEN VERTICAL IN A ROOT AND ON E. SIDE OF A 24" BLACK WALNUT TREE. 120' S.E. OF S.E. END OF DAM. ELEV. 515.09

T.B.M. NO. 4 60D NAIL IN A POWER POLE, POLE IS AT ANGLE IN LINE AND TURN IN ROAD. ELEV. 512.52

T.B.M. NO. 5 60D NAIL ON THE S. SIDE OF ALONE 8" OAK TREE, TREE IS APPROX. 800' S. OF A ROAD. ELEV. 511.72

T.B.M. NO. 6 60D NAIL ON THE NE. SIDE OF A 30" POST OAK TREE, AND ON THE S.E. SIDE OF ROAD. ELEV. 508.28

APPARENT LAND OWNER	WATER SUPPLY	DETENTION POOL	SPILLWAY CREST PLUS 2.0 FEET	OTHER THAN POOLS	TOTAL ACRES NEEDED
	ELEV. 504.0	ELEV. 508.8	ELEV. 510.8		
CITY OF TERRELL	872.0	(1) 893.5	1281.8	(1) 85.0	1308.5
D. E. NICHOLSON EST.	—	6.0	18.0	—	16.0
MASON FOGELMAN	—	0.4	1.0	—	1.0
MRS. W.C. MCCORD	—	6.0	18.0	—	16.0
SHUMPERT EST.	—	0.1	0.3	—	0.3
CLARK GRIFFITH	—	3.0	7.0	—	7.0
LON AKIN	—	4.7	11.0	—	11.0
NOODY	—	0.4	1.0	—	1.0
NANCY LANE GRIFFITH	—	0.4	1.8	—	1.8
CALLAWAY BROS.	—	8.0	24.4	—	24.4
FA. LLOYD	—	2.6	21.0	—	21.0
DAVE SAMPLES	—	1.0	3.0	—	3.0
TOTALS	872.0	1212.0	1348.0	55.0	1403.0

SCALE- 1"= 660 FT. APPROX. PHOTO (S) CKK-3P-088 & 091. PLANNING NO. 87-A DRAINAGE AREA 9171 AC.

EASEMENT AND RIGHTS TO BE SECURED 30 FT. ABOVE EMERGENCY SPILLWAY CREST. MAXIMUM WATER ELEVATION OF EMERGENCY SPILLWAY HYDROGRAPH 508.8. TOP DAM ELEV. 513.2 RELEASE RATE 10

LAND RIGHTS TO DRAIN DETENTION POOL AFTER INFLOW CEASES 12 DAYS.

CFS-SQ MI. APPROX. TIME REQUIRED

SPONSOR KAUFMAN-VAN ZANDT S.C.D. KAUFMAN COUNTY

KAUFMAN CO. COMMISSIONERS COURT

(1) FOR DAM, SPILLWAY, AND ADJACENT WORK SITE AREA.

OTHER RIGHTS AND PERMITS REQUIRED

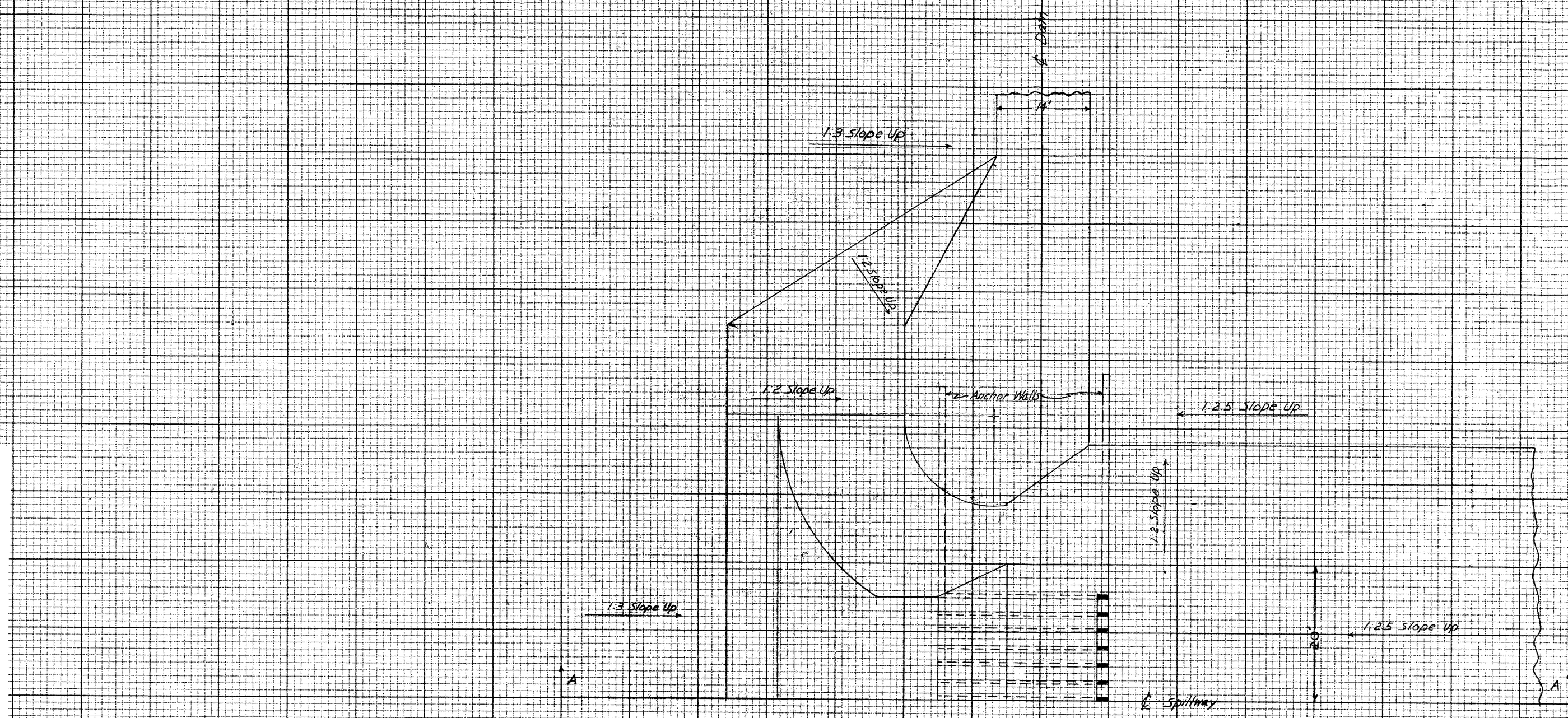
KAUFMAN CO. ELEC. COOP. PERMIT TO TEMPORARILY IMPOUND FLOOD WATER ON POWER POLES.

KAUFMAN CO. COMMISSIONERS COURT PERMIT TO TEMPORARILY IMPOUND FLOODWATER ON ROADS.

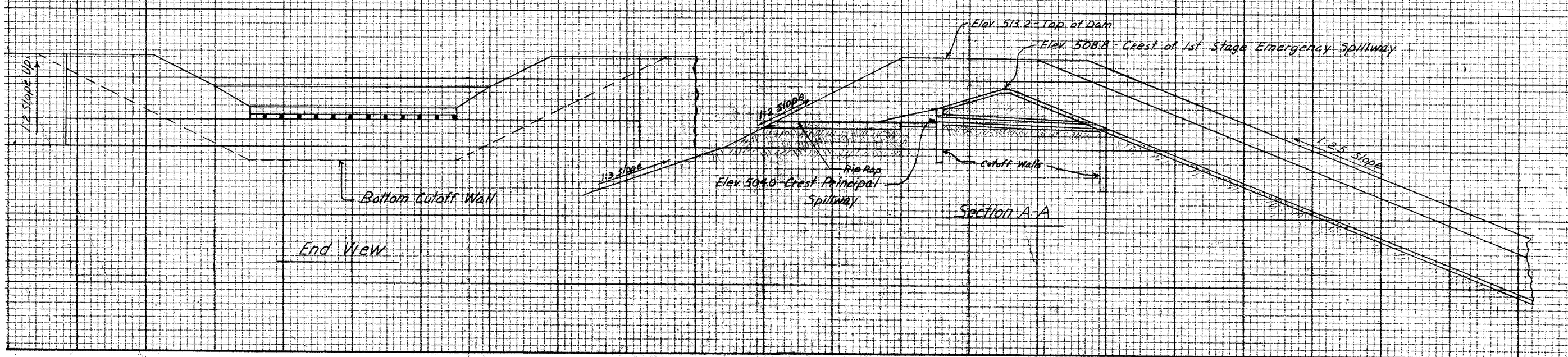
FIGURE 2

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
TEMPLE, TEXAS

PREPARED BY M.R.BRUCE DATE 14-FEB-64 & 24-SEPT-64
REVISED BY DATE
CHECKED BY DATE



Half Plan Principal Spillway



Scale 1" = 10'

Figure 1A

PRINCIPAL SPILLWAY LAYOUT
Site 87A Terrell City Lake
Cedar Creek Watershed

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Designed
Drawn TEW
Traced
Checked
Date 11-18-63
Approved by
Title
Sheet No
Drawing No
of

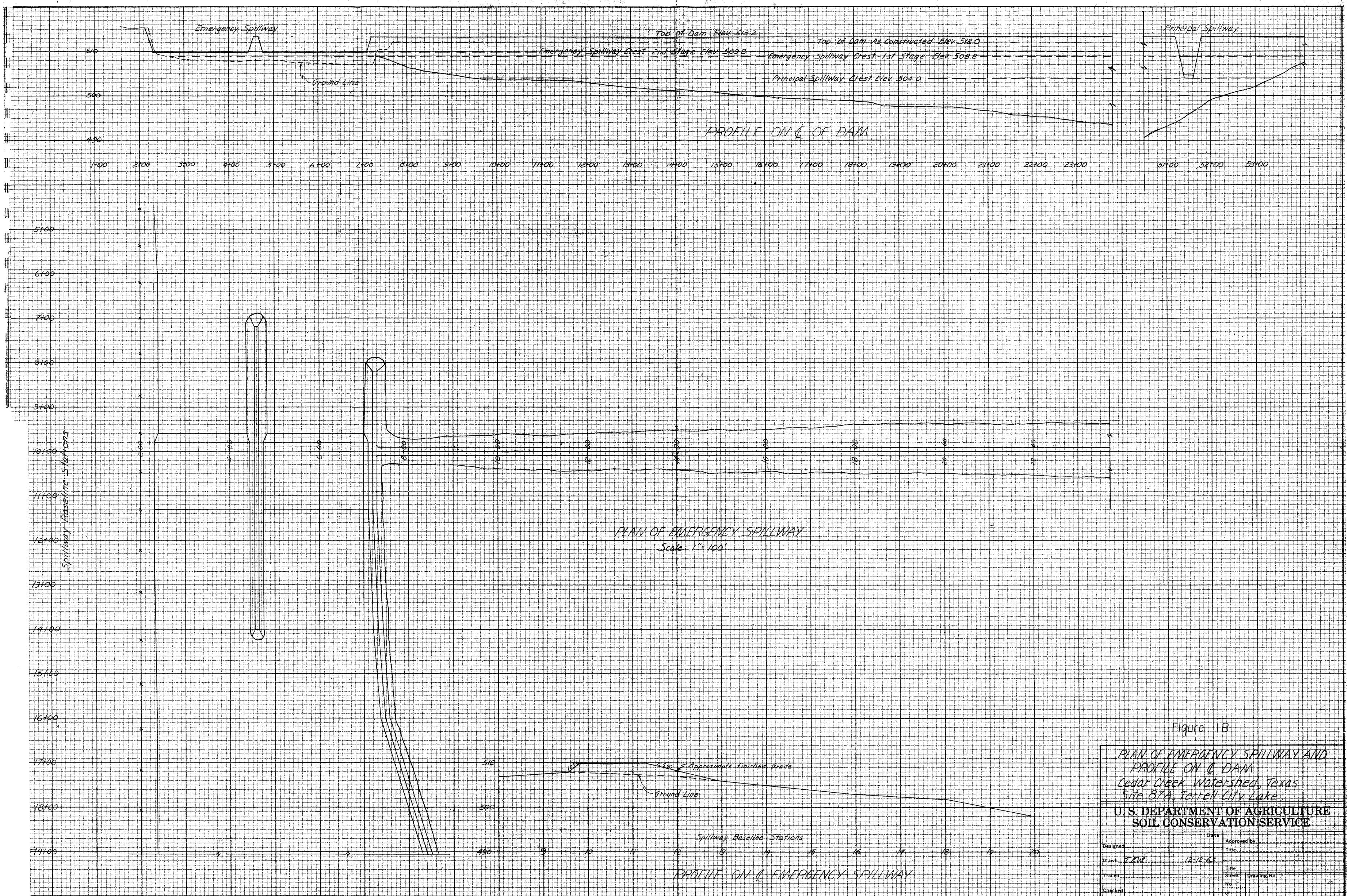


Figure 1B

PLAN OF EMERGENCY SPILLWAY AND PROFILE ON ℄ DAM
Cedar Creek Watershed, Texas
Site 87A, Terrell City Lake

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Designed		Date	Approved by
Drawn	T.E.W.	12-12-63	Title
Traced			Title
Checked			Sheet No. of / Drawing No.