SUPPLEMENTAL WATERSHED AGREEMENT NO. II
FOR SOUTHWEST LATERALS WATERSHED, TEXAS
(Middle Colorado River Watershed)

BY

EXCHANGE OF CORRESPONDENCE

Since the original Watershed Agreement was signed on the 14th day of June 1976, and subsequent supplements since, it has become necessary to modify that agreement in order to carry out the installation of the plan.

Floodwater Retarding Structure No. 1A will be deleted and in its place site 1C will be added. Site 1C will be located approximately 9,000 feet (2,743 meters) upstream from the presently planned structure site 1A. Site 1C will have a drainage area of 3.72 square miles (9.63 sq. kilometers). The total installation costs will be less at the new location.

The classification of site 1C will remain a class A structure. Tables 2 and 3 are attached. Supporting data is shown below:

	Structure 1C
Drainage Area Controlled (Sq. Mi.)	3.72
Total Estimated Installation Cost	$437,750
Estimated Federal Installation Cost	$412,300
Average Annual Project Cost	$372,200
Average Annual Project Benefits	$375,400
Benefit - Cost Ratio	1.0 : 1.0

Site 1C will commit less acreage (10.6 acres, 4.3 hectares) than the original location. A biological evaluation of site 1C indicated that approximately 12 acres (4.8 hectares) of cropland and 28.4 acres (11.5 hectares) of mesquite covered rangeland would be required for the site at the new location. The area committed will have a lower wildlife value than at the original location as the site will require fewer acres (22.6 acres, 9.1 hectares) of woody upland wildlife habitat. No federally listed threatened or endangered plants or animals will be affected and no critical habitat is present. No fishery resources will be affected.

This supplement will also delete the San Saba-Brady Soil and Water Conservation District as a sponsoring local organization and add the McCulloch Soil and Water Conservation District as a sponsoring local organization due to the re-organization of new district boundaries.

SCS activities for protection and preserving cultural resources will include a cultural resource specialist conducting a complete detailed survey prior to construction to determine if any cultural resources exist within the proposed work areas. If any significant cultural resources are found during the survey, SCS will take appropriate actions to protect them. The proposed work areas will also be monitored during construction and if any cultural resources are discovered, SCS will notify the State Historic Preservation Officer and will take appropriate actions to protect any significant cultural resources and avoid any adverse effect on them.

The installation of sites 1C will not create any significant adverse impacts compared to those that would have occurred at the original location.

All other terms, conditions and stipulations of the watershed agreement not modified here remain the same and are agreed to:

signed:

Chairman	McCulloch Soil and Water Conservation District	3-2-95 Date
Chairman	Concho Soil and Water Conservation District	1-5-95 Date
Chairman	McCulloch County Commissioners Court	2/27/95 Date
Chairman	Concho County Commissioners Court	2-13-95 Date

Approved by:

Harry E. Quick
State Conservationist

MAR 13 1995
Date

Table 2. Estimated Cost Distribution - Structural and nonstructural measures
Southwest Laterals Watershed

(Dollars) 1/

[illegible]	[illegible]											
	Construction	Engineering	Land Rights	Project Admin.	Total PL 534	Construction	Engineering	Land Rights	Other	Project Admin.	Total Other	[illegible]
Planned Sites												
1C	338,200	27,800		46,300	412,300			24,250		1,200	25,450	437,750
Constructed Sites												
2	452,200	37,100		61,800	551,100			51,300		1,200	52,500	603,600
3	315,300	27,700		43,100	386,100			23,750		1,200	24,950	411,050
4	1,152,800	77,200		157,600	1,387,600			58,650		1,200	59,850	1,447,450
5A	467,400	36,000		63,900	567,300			20,650		1,200	21,850	589,150
5B	309,600	27,200		42,300	379,100			19,200		1,200	20,400	399,500
6A	1,123,900	75,300		153,600	1,352,800			31,400		1,200	32,600	1,385,400
7	551,800	42,500		75,400	669,700			51,300		1,200	52,500	722,200
[illegible]	4,711,200	350,800	0	844,000	5,706,000	0	0	280,500	0	9,600	290,100	5,996,100

1/ Price Base: 1994
2/ Includes $3,150 for relocating powerline and $4,550 to raise county road

May 1994

TABLE 3: STRUCTURAL DATA - DAMS WITH PLANNED STORAGE CAPACITY
SOUTHWEST LATERALS WATERSHED, TEXAS
MIDDLE COLORADO RIVER

ITEM	UNIT	STRUCTURE NUMBER
		1C
Class of Structures		A
Seismic Zone		0
Uncontrolled Drainage Area	SQ. MI.	3.72
Runoff Curve No. (1 Day) (Average AMC II)		62
Time of Concentration (Tc)	HR.	1.91
Elevation Top of Dam	FT.	1690.6
Elevation Crest Emergency Spillway	FT.	1687.6
Elevation Crest High Stage Inlet	FT.	1679.0
Elevation Crest Lowest Ungated Outlet	FT.	1679.0
Emergency Spillway Type		Vegetated
Emergency Spillway Bottom Width	FT.	70
Emergency Spillway Exit Slope	%	3.0
Maximum Height of Dam	FT.	23.3
Volume of Fill	CU. YD.	68,200
Total Capacity 1/	AC. FT.	609
Sediment Submerged Lowest Ungated Outlet 2/	AC. FT.	133.7
Sediment Submerged 100 Years	AC. FT.	133.7
Sediment Aerated	AC. FT.	12.7
Floodwater Retarding	AC. FT.	462.6
Surface Area		
Lowest Ungated Outlet	AC.	30.3
Sediment Pool	AC.	32.7
Floodwater Retarding Pool	AC.	85.7
Principal Spillway Design		
Rainfall Volume (1 Day)	IN.	6.80
Rainfall Volume (10 Day)	IN.	10.80
Runoff Volume (10 Day)	IN.	3.10
Capacity of High Stage (Maximum)	CFS	57.5
Dimensions of Conduit	IN.	24
Frequency Operation (Emergency Spillway)	% CHANCE	4.0
Emergency Spillway Hydrograph		
Rainfall Volume	IN.	6.25
Runoff Volume	IN.	2.26
Storm Duration	HR.	6
Velocity of Flow (Ve)	FT./SEC.	-
Maximum Reservoir Water Surface Elevation	FT.	1687
Freeboard Hydrograph		
Rainfall Volume	IN.	8.91
Runoff Volume	IN.	4.27
Storm Duration	HR.	6
Maximum Reservoir Water Surface Elevation	FT.	1690
Discharge Per Foot of Width (Qe/b)	AC. FT.	4
Bulk Length	FT.	385
Capacity Equivalents		
Sediment Volume	IN.	0.73
Floodwater Retarding Volume	IN.	2.33

1/ At Emergency Spillway Crest
2/ Included in Sediment Submerged 100 Years

June 1994

TABLE 3: STRUCTURAL DATA - DAMS WITH PLANNED STORAGE CAPACITY
SOUTHWEST LATERALS WATERSHED, TEXAS
MIDDLE COLORADO RIVER

ITEM	UNIT	STRUCTURE NUMBER
		1C
Class of Structures		A
Seismic Zone		0
Uncontrolled Drainage Area	Sq. Km.	9.63
Runoff Curve No. (1 Day) (Average AMC II)		62
Time of Concentration (Tc)	HR.	1.91
Elevation Top of Dam	M.	515.3
Elevation Crest Emergency Spillway	M.	514.4
Elevation Crest High Stage Inlet	M.	511.8
Elevation Crest Lowest Ungated Outlet	M.	511.8
Emergency Spillway Type		Vegetated
Emergency Spillway Bottom Width	M.	21.3
Emergency Spillway Exit Slope	%	3.0
Maximum Height of Dam	M.	7.1
Volume of Fill	Cu. M.	52,142.6
Total Capacity 1/	Cu. M.	751,080.4
Sediment Submerged Lowest Ungated Outlet 2/	Cu. M.	164,892.4
Sediment Submerged 100 Years	Cu. M.	164,892.4
Sediment Aerated	Cu. M.	15,662.9
Floodwater Retarding	Cu. M.	570,525.1
Surface Area		
Lowest Ungated Outlet	Ha.	12.26
Sediment Pool	Ha.	13.23
Floodwater Retarding Pool	Ha.	34.68
Principal Spillway Design		
Rainfall Volume (1 Day)	Cm.	17.3
Rainfall Volume (10 Day)	Cm.	27.4
Runoff Volume (10 Day)	Cm.	7.9
Capacity of High Stage (Maximum)	C.M.S.	1.6
Dimensions of Conduit	M.	0.6
Frequency Operation (Emergency Spillway)	% Chance	4.0
Emergency Spillway Hydrograph		
Rainfall Volume	Cm.	15.9
Runoff Volume	Cm.	5.7
Storm Duration	Hr.	6
Velocity of Flow (Ve)	M./Sec.	0.0
Maximum Reservoir Water Surface Elevation	M.	514.2
Freeboard Hydrograph		
Rainfall Volume	Cm.	22.6
Runoff Volume	Cm.	10.8
Storm Duration	HR.	6
Maximum Reservoir Water Surface Elevation	M.	515.1
Discharge Per Foot of Width (Qe/b)	Cu. M.	7.9
Bulk Length	M.	117.3
Capacity Equivalents		
Sediment Volume	Cm.	1.85
Floodwater Retarding Volume	Cm.	5.92

1/ At Emergency Spillway Crest
2/ Included in Sediment Submerged 100 Years

June 1994