

Pertinent Data - Lewisville Dam and Lake
(See Exhibit A for Supplementary Data)

LOCATION: R.M. 30.0 on the Elm Fork of the Trinity River, Denton County about 22 miles northwest of Dallas.

DRAINAGE AREA: 1,660 sq. mi. (total)
One inch of runoff: 88,533 acre-feet
968 sq. mi. (below Ray Roberts Dam)
One inch of runoff: 51,627 acre-feet

DAM:
Type: Rolled Earth Fill
Maximum Height: 125 ft.
Top Width: 20 ft
Length: 32,888 ft
(including spillway)

SPILLWAY:
Crest Elev: 532 ft ngvd
Length: 560 ft
Type: Ogee
Control: None

INFLOW:
Spillway design flood peak, cfs 633,200
Spillway design flood volume, ac-ft 1,815,000
Spillway design flood runoff, in. 20.50

OUTFLOW:
Total routed peak outflow, cfs 229,100
Spillway, cfs 216,800
Outlet works, cfs 12,300

OUTLET WORKS:
Type: 1 conduit with 3 inlets
Dimension: 16 ft diameter
Invert Elev: 448 ft ngvd
Control: 3 - 6.5 ft. x 13 ft. gates
(broome type)

LOW FLOW OUTLET:
Type: 2 steel pipes
Size: Each 60-inches in diameter
Lowest invert elev: 481 ft ngvd
Control: 48-inch valve on each pipe

Feature	Elev Feet (ngvd)	Reservoir Area (acres)	Reservoir Capacity			Outlet Works Capacity (cfs)
			Incre- mental (ac-ft)	Accumu- lative (ac-ft)	Runoff (inches)	
Top of Dam	560.0					
Max Design Water Surface	553.0*	66,100	1,101,037	2,082,800	23.53	12,300
Spillway Crest and Top of Flood Control Pool	532.0	39,168	340,777	981,763	11.09	11,000
Top of Conservation Pool	522.0	29,592	640,986	640,986	7.24	10,200
Streambed (1953-original)	435.0					

NOTE: Area capacity data based on 1965 sedimentation resurvey.

* Elevation 553.0 ft. n.g.v.d. is based on spillway design flood from 1946; best current estimate of probable maximum water surface for Lewisville Lake with Ray Roberts Lake in place (using NWS HMR 51 and 52) is 552.14 feet n.g.v.d.

Pertinent Data - Lewisville Dam and Lake
(See Exhibit A for Supplementary Data)

AUTHORIZATION:

Federal River and Harbor Act, March 2, 1945.
Permit No. 1476 (A-1579) Jan. 20, 1949
Permit No. 1706 (A-1590) June 17, 1954

ANNUAL O&M COST (OCTOBER 95):

Federal Expenditures	\$2,171,092
Non-Federal	Not Avail.

COST ALLOCATION METHOD:

Separable costs - remaining benefits

LOCAL AGENCY:

The cities of Dallas and Denton

131,400

LAND ACQUISITION:

	Guide Contour (ngvd)	Area (acres)
Fee Simple	537.00	45,533
Easement		5,746
Total		51,279

FLOOD DATA:

Date		Peak Inflow (cfs)
Apr 57		113,000
Oct 74		104,500
Oct 81		284,000
May 82		286,000
Jun 89	Approx.	80,000
May 90	Approx.	235,000
Dec 91	Approx.	82,000

Note: Inflows calculations were based on hourly change in storages.

STATUS OF PROJECT:

Construction began 28 November 1948.
Dam completed August 1955.
Deliberate impoundment began 1 November 1954.

NON-FEDERAL PARTICIPATION AND LOCAL COOPERATION:

The Cities of Dallas and Denton have water supply storage contracts dated 18 May 1953 and 10 December 1953 for 415,000 acre-feet and 21,000 acre-feet respectively below elevation 515 ngvd. Additional contracts authorized 16 September 1980 entitle the City of Dallas to 134,000 acre-feet and the City of Denton to 46,200 acre-feet between elevations 515 ngvd and 522 ngvd. The City of Lewisville has contracted with the City of Dallas for water supply withdrawals from Lewisville Lake.

HYDROPOWER FACILITIES:

The City of Denton installed a hydropower facility at Lewisville Dam. The construction of the hydropower facility was completed on October 23, 1991. The facility consists of one Horizontal S-shaped Kaplan Unit capable of producing 2,892 Kilowatts. The unit is a Run-of-river facility, where downstream water supply and small flood releases will be used to generate power.

The hydropower facility is connected to the Brazos River Authority distribution network.