STRUCTURE 178

This structure is a single-barreled reinforced concrete box culvert, located at the north end of Canal 111E at State Road #27. Control is effected by two manually operated sluice gates mounted on a reinforced concrete head structure.

PURPOSE

This structure maintains optimum upstream water control stages in Canal 111E; it passes the design flood (40% of the Standard Project Flood) without exceeding the upstream flood design stage and restricts downstream flood stages and channel velocities to non-damaging levels.

OPERATION

This structure is operated so as to maintain the optimum upstream water surface elevation of 4.5 feet, insofar as possible. Headwater elevations above 5.0 feet will overflow the top of the box structure uncontrolled.

FLOOD DISCHARGE CHARACTERISTICS

	Design	Standard Project Flood
Discharge Rate	510 cfs	510 cfs
	40% SPF	100% SPF
Headwater Elevation	4.6 feet	5.5 feet
Tailwater Elevation	3.9 feet	5.0 feet
Type Discharge (gate open)	controlled submerged	controlled submerged

DESCRIPTION OF STRUCTURE

Type reinforced concrete box culvert with upstream control

Number of barrels 1

Size of barrel 12 ft. high by 10 ft. wide

Length of barrel 25 feet

Culvert flow line elevation -7.0 feet

Service bridge elevation 16.5 feet

Water level which will by-pass structure 6.5 feet

Control Structure — Discharge is controlled by a 21 ft. wide by 9½ ft. long by 9½ ft. high box structure at the upstream end of the culvert, with a sill elevation of -3.0 feet. Upstream water surfaces to elevation 5.0 feet can be controlled by a sluice gate. Higher water surfaces will discharge uncontrolled over the top of the box structure into the culvert.

Gates

- Number: 2
- Type: sluice gates mounted on inlet structure
- Size: 8' X 8'
- Control: manual
- Sill elevation: -3.0 feet
- Lifting Mechanism: pedestal mounted, manually operated hoist

Date of Transfer: August 15, 1967

ACCESS: structure located about 100 ft. upstream from U.S. Highway #27

HYDRAULIC AND HYDROLOGIC MEASUREMENTS

Water Level: Upstream and downstream staff gauges only

Gate Position Recorder: None

DEWATERING FACILITIES - None