

STRUCTURE 63-A

This structure is a reinforced concrete, gated spillway with discharge controlled by two stem operated, vertical lift gates. Operation of the gates is automatically controlled in accordance with operational criteria. The structure is located on Canal 34 about 500 feet upstream from State Road 523 and 2½ miles upstream from Lake Cypress.

PURPOSE

This structure maintains optimum upstream water control stages in Canal 34; it passes the design flood (30% of the Standard Project Flood) without exceeding the upstream flood design stage, and restricts downstream flood stages and channel velocities to non-damaging levels; and it passes sufficient discharge during low-flow periods to maintain downstream stages and irrigation demands.

OPERATION

This structure is operated, subject to hydraulic and structural restraint, to maintain an optimum headwater elevation of 56.5, insofar as possible, through automatic controls as follows:

When the headwater elevation rises to 57.25, the gates will open at six inches per minute;

When the headwater elevation rises or falls to 56.5, the gates will become stationary;

When the headwater elevation falls to 56.19, the gates will close at six inches per minute.

During low-water periods, minimum releases will be made to satisfy irrigation and navigation requirements; these requirements will be met from upstream storage, and S-63A will release them without any changes in the controls described above.

Structural Limitations

The maximum water level drop across the structure will be 11 feet if the upstream water surface elevation is below 58.0, or 10 feet if the upstream water surface is over 58.0. The headwater elevation should never exceed 62.0.

Hydraulic Limitations

To prevent damage from high velocity discharge, the gate opening will be limited in

accordance with the "Maximum Allowable Gate Opening Curve" for either automatic or manual operations.

FLOOD DISCHARGE CHARACTERISTICS

	Design		Standard Project Flood
	Lower Profile*	Peak Stage*	
Discharge Rate	<u>2000</u> cfs	<u>870</u> cfs	<u>3450</u> cfs
	<u>30</u> %SPF	<u>30</u> %SPF	<u>100</u> %SPF
Headwater Elevation	<u>57.0</u> feet	<u>57.0</u> feet	<u>61.0</u> feet
Tailwater Elevation	<u>53.2</u> feet	<u>53.8</u> feet	<u>58.3</u> feet
Type Discharge	free <u>uncontrolled</u>	submerged <u>controlled</u>	submerged <u>uncontrolled</u>

*Peak Stage is based on lake operation which allows 2.0 feet of storage above historic average levels. Lower Profile is based on no rise in lake levels from the historic record for the design flood. Actual operation will probably be close to Lower Profile for the design flood.

DESCRIPTION OF STRUCTURE

Type fixed crest, reinforced concrete, gated spillway

Weir Crest

Net Length 30.0 feet

Elevation 49.4 feet

Service Bridge Elevation 64.0 feet

Water Level which will by-pass structure 64.0 feet

Gates

Number 2

Size 7.7 ft. high by 15.8 ft. wide

Type vertical lift

Bottom elevation of gates, full open 59.3 feet

Top elevation of gates, full closed 57.0 feet

Control Automatic, on-site upstream control with seven minute cycle clocks for both raise and lower.

Lifting Mechanism

Normal power source commercial electricity

Emergency power source LP gas driven generator

Type Hoist each gate -direct drive motor, gear connected to two gate stems

Date of Transfer: May 12, 1967

ACCESS: from State Road 523 via access road on right (west) bank of C-34

HYDRAULIC AND HYDROLOGIC MEASUREMENTS

Water Level Remote digital upstream and downstream recorders

Gate Position Recorder Remote digital

DEWATERING FACILITIES

Storage Kissimmee Field Station

Type Stop logs (same as S-63)

Size and Number (per bay) _____

Upstream 13, 12" X 12" X 16'-8" long

Downstream - 13, 12" X 12" X 16'-8"long