STRUCTURE 63

This structure is a reinforced concrete, gated spillway with discharge controlled by a stem operated, vertical lift gate. Operation of the gate is manually controlled in accordance with seasonal operational criteria. The structure is located on Canal 34 about 3,300 feet east of State Road 523 and 2,000 feet downstream from Lake Gentry.

PURPOSE

This structure maintains optimum upstream water control stages in Canal 34 and in Lake Gentry; 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 in accordance with the Lake Gentry Regulation Schedule. This schedule ranges between elevations 59.0 and 61.5. If the level is above the prescribed level, flood operation is followed; if the level is below the prescribed level, low-water operation is followed. The operation is also dependent on hydraulic and structural limitations of the structure.

Flood Operation

When the lake level is within 0.5 foot of the prescribed level, a release schedule, based on forecasted inflow, will be established to return the lake to that level within 15 days. When the lake stage is over 0.5 foot from the prescribed level, maximum releases, subject to hydraulic and structural limitation, will be made.

Low-water Operation

Whenever the lake level is below the prescribed level, minimum releases will be made to satisfy downstream irrigation and navigation demands.

Structural Limitations

The maximum water level drop across the structure will be 11 feet if the upstream water surface elevation is below 64.0, or 10 feet if the upstream water surface is over 64.0. The headwater elevation should never exceed 67.0.

Hydraulic Limitations

To prevent damage from high velocity discharge, the gate opening will be limited in accordance with the "Maximum Allowable Gate Opening Curve". Moreover, the gate shall be opened gradually to allow tailwater stages to rise before large releases are made.

FLOOD DISCHARGE CHARACTERISTICS

	Design		Standard Project Flood
	Lower Profile*	Peak Stage*	
Discharge Rate	715 cfs	715 cfs	1800" cfs
	30 %SPF	30 %SPF	100 %SPF
Headwater Elevation			
Static	60.5 feet	62.8 feet	66.2 feet
Wind Tide	___ feet	63.3 feet	66.6 feet
Wind Tide plus Breaking Wave Height	___ feet	65.5 feet	71.1 feet
Tailwater Elevation	57.7 feet	57.5 feet	61.2 feet
Type Discharge	submerged controlled	submerged controlled	submerged uncontrolled

*Peak Stage is based on lake operation for design flood which allows 2.0 feet of storage above historic average levels. Lower Profile is based on no rise in lake levels from historic average. 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 15.0 feet

Elevation 54.0 feet

Service Bridge Elevation 68.5 feet

Water Level which will by-pass structure 68.5 feet

Gates

Number 1

Size 8.1 ft. high by 15.8 ft. wide

Type vertical lift

Bottom elevation of gates, full open 63.9 feet

Top elevation of gates, full closed 62.0 feet

Control manual

Lifting Mechanism

Normal power source commercial power

Emergency power source LP gas driven generator

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

Date of Transfer: May 12, 1967

ACCESS: from State Road 523 via access road on west tie-back levee

Points of possible flooding _____

HYDRAULIC AND HYDROLOGIC MEASUREMENTS

Water Level Remote digital upstream and downstream recorders

Gate Position Recorder Remote digital recorder

DEWATERING FACILITIES

Storage Kissimmee Field Station

Type Stop logs (same as S-63A)

Size and Number (per bay) _____

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

Downstream - same