STRUCTURE 75

This structure is a reinforced concrete, gated spillway with discharge controlled by a stem operated, vertical lift gate. Operation of the gate is automatically controlled in accordance with the established operational criteria. The structure is located on Canal 40 about 10 miles upstream from S-72 and about 14 miles upstream from Lake Okeechobee.

PURPOSE

This structure maintains optimum upstream water control stages in Canal 40; 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 could be operated to maintain an optimum headwater elevation between 25.3 and 26.2, insofar as possible, through automatic controls as follows:

When the headwater elevation rises to 26.2, the gates will open at six inches per minute;

When the headwater elevation rises or falls to 25.7, the gates will become stationary;

When the headwater elevation falls to 25.3, the gates will close at six inches per minute.

Because of the limited canal capacity downstream of S-75, the structure is operated manually most of the time to control the amount of flow through the structure.

FLOOD DISCHARGE CHARACTERISTICS

	Design*	Standard Project Flood
Discharge Rate	1150 cfs	2100 cfs
	30 % SPF	100 % SPF
Headwater Elevation	25.5 feet	31.4 feet
Tailwater Elevation	25.0 feet	27.7 feet
Type Discharge	controlled submerged	controlled submerged

*For design discharge, headwater and tailwater elevations, gates have to be opened more than allowable. If gates limited to allowable opening, discharge would be 700

cfs, given headwater and tailwater elevations.

Moreover, S-72 on C-40 not able to pass design or Standard Project Flood, therefore S-75 cannot pass these floods.

DESCRIPTION OF STRUCTURE

Type reinforced concrete, gated spillway

Weir Crest

Net Length 28.0 feet

Elevation 17.0 feet

Service Bridge Elevation 31.5 feet

Water Level which will by-pass structure 31.5 feet

Gates

Number 1

Size 10.0 ft. high by 28.8 ft. wide

Type vertical lift

Bottom elevation of gates, full open	26.7 ft. Normal
	29.8 ft. Maximum
Top elevation of gates, full closed	26.9 ft.
Bottom of breast wall	26.5 ft.

Control on-site automatic and remote computer control

Lifting Mechanism

Normal power source commercial electricity

Emergency power source LP engine driven generator

Type Hoist direct drive electric motor, gear connected to screw stem lifts

Date of Transfer: May 12, 1960 (beneficial occupancy); December 27, 1961

ACCESS: from State Road 70 via access road on west bank of C-40

Points of possible flooding_____

HYDRAULIC AND HYDROLOGIC MEASUREMENTS

Water Level Remote digital headwater and tailwater recorders

Gate Position Recorder Remote digital recorder on all gates

Other _____

DEWATERING FACILITIES

Storage Okeechobee Field Station

Type steel needle beam and aluminum needles

Size and Number (per bay)

Upstream

5 needles 4' x 20'

5 needles 4' x 22'

1 needle 3' x 20'

1 needle 3' x 22'

beam 27WF 177, 29'-9½" long