

STRUCTURE 37A

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 so that the gate operating system opens or closes the gates in accordance with the operational criteria. The structure is located on Canal 14, 150 feet east of Dixie Highway and just east of the F.E.C. Railroad.

PURPOSE

This structure maintains optimum upstream water control stages in Canal 14; it passes the design flood (40% and 60% of the Standard Project Flood from the western and eastern portions of the drainage basin, respectively) without exceeding the upstream flood design stage, and restricts downstream flood stages and channel velocities to non-damaging levels; and it prevents saline intrusion.

OPERATING CRITERIA

This structure is operated to maintain an optimum water surface of 3.5 feet insofar as possible. The automatic operation is actuated by the headwater elevation as follows:

When the headwater elevation rises to 4.4 feet, the gates begin to open at six inches per minute.

When the headwater elevation rises or falls to elevation 4.0, the gates become stationary.

When the headwater elevation falls to 3.0, the gates begin to close.

FLOOD DISCHARGE CHARACTERISTICS

	Design	Standard Project Flood
Discharge Rate	<u>3890</u> cfs	<u>3890</u> cfs
	<u>40 & 60</u> % SPF	<u>100</u> % SPF
Headwater Elevation	<u>3.0</u> feet	<u>5.4</u> feet
Tailwater Elevation	<u>-0.4</u> feet	<u>-0.4</u> feet
	2.0	2.0
Type Discharge	submerged <u>controlled</u>	submerged <u>controlled free</u>

DESCRIPTION OF STRUCTURE

Type reinforced concrete gated spillway

Weir Crest

Net Length 50.0 feet

Elevation -7.7 feet

Service Bridge Elevation 8.0 feet

Water level which will by-pass structure 8.0 feet

Gates

Number 2

Size 12.8 ft. high by 25.8 ft. wide

Type vertical lift

Bottom of gates full open 4.0

Top of gates closed 5.0

Control On-site, automatic headwater control with differential water level override sensed by bubbler system and remote computer control

Date of Transfer: August 9, 1961

ACCESS: Structure located just east of Old Dixie Highway

HYDRAULIC AND HYDROLOGIC MEASUREMENTS

Water Level Remote digital headwater & tailwater recorders

Gate Position Recorder Remote digital recorder

Rain Gauge: Remote, digital recorder

DEWATERING FACILITIES

Storage Needles at Miami Field Station, beams at West Palm Beach Field Station

Type Needle beams and vertical aluminum needles

Size and Number (per bay) _____

Upstream and downstream

Number 1 beam; needles, 5 @ 4', 1 @ 2' wide

Size beam 33WF200 with 24" flange end sections, length 26' -11"
needles 20' long

Lifting Mechanism

Normal power source Commercial electricity - main gates

Emergency power source LP gas engine driven generator

Type Hoist Main gates - direct drive electric motor, gear
connected to gear box and gate stems.