

STRUCTURE 5AW

This structure is a double-barreled reinforced concrete box culvert, located on Canal 51 (West Palm Beach Canal) at the point where Levee 8 meets that canal. Control is effected by motor operated sluice gates mounted in a reinforced concrete well structure.

PURPOSE

This structure functions with S-5AE, S-5AS, and S-5A to control irrigation releases in the L-10, L-12 basin and to pass flood runoff from L-8 and C-51 into Conservation Area No. 1 via Pumping Plant S-5A.

OPERATION

The criteria which govern the operation of this structure are a function of either the flood or low-water conditions, which are as follows:

Flood Conditions

The gates shall always be closed when a flood condition exists in the L-10, L-12 basin. This condition shall be recognized as existing whenever all six pumps at pump station S-5A are in operation and S-5A is not able to lower the stage at Canal Point below 12.5.

The gates may be opened and the excess flows pumped at S-5A in the absence of the above condition whenever a flood condition exists in L-8, or in the east end of C-51. A potential flood condition exists in the L-8 basin whenever the stage at Sand Cut exceeds 17.0, and in the east end of the C-51 stage whenever the tailwater at S-5AE exceeds 13.0. The use of the gate is also determined by other factors, such as environmental concerns, and water level in WCA 1. It will be considered case by case.

Low-water Conditions

When flood conditions are not imminent, the gates will be operated subject to water availability to meet water use requirements in L-10 and L-12 basins and in the L-8 Basin.

HYDRAULIC AND HYDROLOGIC MEASUREMENTS

Water Level: U.S.G.S. on-site digital upstream (at U.S. 441 bridge)
and downstream recorder. WMD remote upstream (L-8)
and downstream (S-5AW) recorders.

Gate Position Recorder: Remote digital recorder

DEWATERING FACILITIES (per barrel)

Storage: West Palm Beach Field Station

Type: Stop logs

Size and Number:

Upstream and Downstream

9 each, 6" x 12" x 7'9" long

NOTE: Other instrumentation at S-5A, S-5AE and S-5AS

FLOOD DISCHARGE CHARACTERISTICS

	Design
Discharge Rate	<u>700</u> cfs
	* <u> </u> %SPF
Headwater Elevation	<u>13.0</u> feet
Tailwater Elevation	<u>11.5</u> feet
Type Discharge	<u>controlled submerged</u>

*Design flow not related to Standard Project Flood

DESCRIPTION OF STRUCTURE

Type reinforced concrete box culvert

Number of barrels 2

Size of barrels 7 ft. x 7 ft.

Length of barrels 80 ft.

Flow line elevation -1.75 feet to 0.3 feet

Service bridge elevation 24.5 feet

Water Level which will by-pass structure 24. feet

Control Structure The control structure is a wet well in the center of the culvert. Slide gates in this well control discharges from the structure.

Gates

Number 2

Type sluice gates mounted in the wet well

Size 7' x 7'

Control: manual and remote control

Lifting Mechanism: pedestal mounted, motor operated hoist

Date of Transfer: April 15, 1954

ACCESS: Structure located on U.S. Highway #441