STRUCTURE S-169

This structure is a three-barreled, corrugated metal pipe culvert, located at the east end of C-21, immediately north of the City of Clewiston. Control is effected by automatically operated sluice gates mounted on a reinforced concrete head structure at the southeast ends of the culverts.

PURPOSE

This structure enables the discharge of the Industrial Canal into Lake Okeechobee via C-21and Pump Station 4 when gravity discharge to the Lake is impossible. It also permits discharge from Lake Okeechobee to meet agricultural requirements in the S-4 Basin.

OPERATION

This structure is operated in conjunction with S-310, S-4, the culverts in LD-1 and S-235 to control water levels in the Industrial Canal and in the S-4 basins according to the following chart:

LAKE OKEECHOBEE STAGE	GATE STATUS				NORMAL RANGE S-4 HW
	S-310	LD-1 Culverts	S-235	S-169	
OVER 15.5	CLOSED	CLOSED	FULL OPEN	AUTO	11-14
14 - 15.5	FULL OPEN	CLOSED	FULL OPEN	CLOSED	11-14
13 - 14	FULL OPEN	CLOSED	FULL OPEN	CLOSED	11-14
BELOW 13	FULL OPEN	FULL OPEN	CLOSED	FULL OPEN	BELOW 13

When S-169 is on automatic operation, it functions as follows:

When the headwater elevation rises to 15.2 feet, the gates begin to open.

When the headwater elevation rises or falls to 15.0 feet, the gates become stationary.

When the headwater elevation falls to 14.7 feet, the gates begin to close.

During periods when any of the structures are shown as closed in the above chart, they are opened as needed to maintain optimum water stages in the S-4 Basin.

FLOOD DISCHARGE CHARACTERISTICS

	Design
Discharge rate	625 cfs

Headwater Elevation 15.0 feet

Tailwater Elevation 14.1 feet

Type Discharge Submerged, uncontrolled

DESCRIPTION OF STRUCTURE

Type corrugated metal pipe with upstream control

Number of barrels: 3

Size of barrels: 7 feet

Length of barrels: 60 feet

Flow Line elevation 6.0 feet

Service bridge elevation 23.0 feet

Water level which will by-pass structure: 19.5 feet

Control Structure: Pedestal mounted hoist on concrete head structure

Gates:

Number 3

Type: sluice gates

Size: 7 foot circular

Control: automatic, on-site control and remote computer control

Lifting Mechanism: Pedestal mounted, electric motor operated hoist

Normal power source: commercial electricity

Emergency power source: LP gas driven generator

ACCESS: Westerly from Francisco St. (S.R. 832) in the City of Clewiston via about 1/3 mile of paved access road.

HYDRAULIC & HYDROLOGIC MEASUREMENTS

Water Level: Remote upstream and downstream digital sensor

Gate Position: Remote digital sensor

DEWATERING FACILITIES: None