

CULVERT 10A

This structure is a five-barreled corrugated metal pipe culvert located at the north end of the L-8 canal through the Herbert Hoover Dike.

PURPOSE

The purpose of this structure is to provide irrigation releases from Lake Okeechobee to the agricultural lands along the L-8 canal and to afford gravity drainage of that canal into Lake Okeechobee during flood periods, when the Lake is lower than the canal. It also affords some measurement of water supply to the East Coast area of Palm Beach County.

OPERATION

Operation of this structure is performed by the Corps of Engineers. District requests for irrigation releases are made through the Clewiston Office of the Corps.

Based on the recommendation of the District's environmental science division, the minimum gate opening of this structure has to be above 2.5 feet or closed completely to protect manatees.

The water supply operation is as follows:

One or more gates at Culvert 10A will be opened full to maintain stage in L-8 between 12 - 14. When the stage at L-8 at S-5A falls below 12.0 and the stage in CA-1 is not too low, S-5AS will be partially opened as required to maintain the 12.0 stage in L-8 and S-5A. Because of water quality concerns regarding WCA1, Culvert 10A should supply water to the City of West Palm Beach pumping station on L-8 Canal if water in WCA1 is of poor quality.

During hurricane alerts, Culvert 10A slide gate will be closed.

FLOOD DISCHARGE CHARACTERISTICS

	<u>Design</u>
Discharge Rate	<u>1000 cfs *</u>
Headwater Elevation	<u>19.0 (land side)</u>
Tailwater Elevation	<u>15.6 (lake side)</u>

* Note: Design not related to Standard Project Flood

DESCRIPTION OF STRUCTURE

Type:	<u>Corrugated metal pipe culverts with Lakeside Control</u>
Number of Barrels:	<u>5</u>
Size of Barrels:	<u>120 inches</u>
Length of Barrels:	<u>85 feet</u>
Flow line elevation:	<u>5.5 feet</u>
Operating deck elevation:	<u>25.5 feet</u>
Water level which will by-pass structure:	<u>34 feet</u>

Gates

Number:	<u>4 flap gates</u> <u>1 slide gate (on center barrel)</u>
Size:	<u>120" diameter (Flap gate), 10 feet X 10 feet square (slide gate)</u>
Control:	<u>flap gates manually lifted by crane when head differential less than 1 foot. Slide gate by hand wheel or by portable power unit.</u>

ACCESS: Structure located at L-8 crossing of U.S. 441.

HYDRAULIC AND HYDROLOGIC MEASUREMENTS

Water Level Recorder:	<u>Downstream, (land side) and upstream (lake side) staff gauge only.</u>
Gate Position Recorder:	<u>None</u>

DEWATERING FACILITIES: None

Flow measurement in L-8 Canal at Highway 441 by Nancy Little on November 7, 1989.

Starting Time: 10:57
Ending Time: 11.53
Velocity in Channel: 1.25 ft/sec
Discharge: 258 cfs

Culvert 10A

One slide gate is closed.

Four flap gates only can discharge into Lake Okeechobee.

Field reading on November 7, 1989.

Lake Side Stage: 12.80
Canal Side Stage: 13.05

Telemetry reading at S-5A on November 7, 1989.

WATS: 15.53
WAT8: 15.40

S-5AS two gates at 10 feet each.