

STRUCTURE 133

This structure is a five unit pumping plant located on the northeast shore of Lake Okeechobee landward of Herbert Hoover Dike and in the alignment of Levee D-4. It is lakeward of U. S. Highway 441 and about 3 miles southeast of the town of Okeechobee and about 1200 feet west of S-193 on Taylor Creek. The station consists of both a pumping and outlet unit. The pumping unit is a reinforced concrete structure with a concrete block superstructure. The outlet unit is a U-shaped structure of reinforced concrete sides and bottom. The pumping station is equipped with five 125 cfs pumps which discharge via the outlet structure into the lake.

PURPOSE

Lake Okeechobee Northeast Shore Levees, together with higher lake stages, restrict natural drainage to the lake. This structure removes the otherwise impounded water at a rate of as much as 3/4 inch of runoff per day from the tributary drainage area.

OPERATION

As a means of providing for gravity discharge of runoff from the drainage areas to the lake when lake stages permit, the lock through Levee D-4 at S-193 satisfies the requirements for the area served by S-133. Normally, pumping will be initiated when the headwater elevation reaches 14.0 and terminated when it falls to 13.25. In response to heavy rainfall, all pumping units may be placed in operation and the stage lowered to and maintained at 13.0 until the storm has passed. The lock shall be in operation at all times when the lake level is above 13.5 feet.

For the normal range of pumping heads up to 4.5 feet, the engine should be run at a constant governed speed of 1200 r.p.m. After the pump is stopped, the vacuum breaker valve is opened to permit the water column in the pump to drop to intake pool level and the water in the discharge pipe to drop to the lower of the lake or invert elevation.

FLOOD DISCHARGE CHARACTERISTICS

	Pump Design
	Lower Profile
Discharge Rate	<u>625</u> cfs
Headwater Elevation	<u>13.0</u> feet
Tailwater Elevation	<u>23.5</u> feet
Type Discharge	<u>Pumped</u>

DESCRIPTION OF PUMPING STATION

Number of Pumps 5

Size & Type of Pumps 48" vertical, axial flow

Design rating 125 cfs each

Impeller speed 390 r.p.m.

Pump manufacturer Johnson Pump Co.

Engine Make & Type Caterpillar, ~~3406~~ (as of 1-sep-2002) ~~D-353~~, 6 cylinder, in-line diesel

Engine Horsepower 268 each

Engine Speed 1200 r.p.m.

Gates (per bay)

Number one

Type flap, downstream

Size 48 inch diameter

Control None

Lifting Mechanism None

Date of Transfer September 9, 1969

ACCESS from U. S. Highway 441 via about 1,000 feet of access road

HYDRAULIC AND HYDROLOGIC MEASUREMENTS

Water Level Remote digital headwater and tailwater recorders

Engine tachometer Remote digital recorder