

Draft

Pump Station S-509
Summary of Hydraulic Design Data

Revisions:

- 25 January 2001 – Altered Pump stage data to meet area design
- 21 July 2000 – Original submission, received SFWMD pump mix concurrence

XY Coordinate¹ – 847910 590520

Location: Southern boundary of C-9 Impoundment, backpumps C-9 Canal

Purpose/Operational Intent: Flood Control.

- Pumps C-11 diverted waters conveyed to the C-9 Canal via S-30 operation.
- Pumps targeted amount of western C-9 Basin runoff via S-511 operation.

Design Condition:	Flood Control	1000 cfs
	Seepage Control	75 cfs

Pump Station Capacity Criteria:

- 1000 cfs meets required dry-season water supply flow rates to C-9, C-6, C-4 and C-2 canals.

Number of Pumps 4

Pump Mix Type and Size

Diesel	1 @ 500 cfs
Diesel	2 @ 250 cfs
Electric	1 @ 75 cfs

Mix Criteria:

- The pump station will have one identical 500 cfs pumps that will match the two at S-500
- The pump station will have two identical 250 cfs pumps that will match the one at S-503 (C-11 Imp).
- The pump mix allows for intermediate flow values.
- The pump station will be 4 bays (3 for flood control, 1 for seepage management)
- The 250 cfs pump can be used to assist in seepage control

Control Local & Remote by SCADA

Design Heads²

Normal (1.5 HW to 10.5 TW)	9.00	feet
Maximum (0.0 HW to 10.5 TW)	10.5	feet

Intake Water Surface Elevations

Maximum Non-Pumping	7.00	ft-NGVD
Maximum Pumping	7.00	ft-NGVD
Start Pumping	3.50	ft-NGVD
Normal Drawdown	2.0 to 3.0	ft-NGVD
Minimum Drawdown Pumping	1.00	ft-NGVD
Minimum Non-Pumping	1.00	ft-NGVD
Channel Invert	-16.0	ft-NGVD

Discharge Water Surface Elevations

Maximum Non-Pumping	13.50	ft-NGVD
Maximum Pumping	10.50	ft-NGVD
Normal Pumping	8.50	ft-NGVD
Minimum Pumping	3.00	ft-NGVD
Minimum Non-Pumping	3.00	ft-NGVD
Channel Invert	-2.00	ft-NGVD

Notes:

- ¹ XY coordinates system used is NAD 83, Florida east, state plane.
- ² Interim data is used for status of pump station before construction of the NLBSA. Interim data is also used for the permanent case where the NLBSA is **not** constructed.
- All elevations are in feet, NGVD (National Geodetic Vertical Datum of 1929)
- Diesel generator is required for control station and electric pumps in case of power outage.

Data Compiled from:

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