

Draft

Pump Station S-533  
Summary of Hydraulic Design Data

Revisions:

- 26 January 2001 – Original Submission

XY Coordinate<sup>1</sup> – 884760 833540

Location: Southeast corner of Acme B STA, near the confluence of Acme C-1 and C-24 Canals.

Purpose/Operational Intent: Flood Control, Seepage Control

- Pumps Acme B runoff into STA's portion of the currently permitted 500 cfs untreated runoff that is discharged into WCA-1.
- 10 cfs seepage pump capacity based on seepage analysis with applied safety factor of 5. Seepage pump may also be used to keep STA wet when water is available within Acme B Basin.
- Pump station is considered to be an integral part of the chemical pre-treatment plant.

Design Condition:	Flood Control	150 cfs
	Seepage Control	10 cfs

Pump Station Capacity Criteria:

- 150 cfs meets Acme B STA's portion of the currently permitted 500 cfs untreated runoff that is discharged into WCA-1.
- 150 cfs matches discharge pump station S-534 capacity minus seepage control.

Number of Pumps 3

Pump Mix Type and Size

Electric	2 @ 75 cfs
Electric	1 @ 10 cfs

Mix Criteria:

- The pump station will have three bays with two 75-cfs electric pumps that match the two at S-534.
- The pump mix allows for intermediate flow values.

Control

Local & Remote by SCADA

Design Heads<sup>2</sup>

Normal (13.0 HW to 25.0 TW)	12.0	feet
Maximum (11.0 HW to 25.0 TW)	14.0	feet

Intake Water Surface Elevations

Maximum Non-Pumping	17.00	ft-NGVD
Maximum Pumping	17.00	ft-NGVD
Start Pumping	13.10	ft-NGVD
Normal Drawdown	12.0-13.0	ft-NGVD
Minimum Drawdown Pumping	11.00	ft-NGVD
Minimum Non-Pumping	11.00	ft-NGVD
Channel Invert	3.00	ft-NGVD

Discharge Water Surface Elevations<sup>2</sup>

Maximum Non-Pumping	25.00	ft-NGVD
Maximum Pumping	25.00	ft-NGVD
Normal Pumping	25.00	ft-NGVD
Minimum Pumping	12.50	ft-NGVD
Minimum Non-Pumping	12.50	ft-NGVD
Channel Invert	12.50	ft-NGVD

Notes:

- <sup>1</sup> XY coordinates system used is NAD 83, Florida east, state plane.
- <sup>2</sup> Tailwater elevations are assumed only. May be modified with pre-treatment plant plan.
- 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:

## Draft

- 1-8C max/min record
- Acme B Basin drainage plan
- LIDAR data
- Selected Plan Features