

STRUCTURES G-342C and G-342D

The G-342C and G-342D structures are each single gated reinforced concrete box culverts located on the western perimeter levee of Stormwater Treatment Area 5 (STA-5), along the L-2 borrow canal, in Hendry County, Florida. Control is effected by a remotely operated sluice gate mounted on a reinforced concrete head structure.

PURPOSE

Together or independently, these structures control inflows into STA-5 treatment cell 2A from the L-3 borrow canal.

OPERATION

The G-342C&D structures are remotely operated in conjunction with other structures within STA-5 as guided by the *STA-5 Operation Plan, SFWMD, August 2000*. These structures will be normally open or partially open to allow for inflows into Treatment Cell 2A of STA-5. They will be closed or partially closed when necessary to fully or partially bypass STA-5.

It is the operational intent that the water depths within in Cell 2A be maintained, to the maximum extent practicable, between the minimum operational depth of 0.5 feet above average cell ground elevation and the maximum operational depth of 4.5 feet above average cell ground elevation, with a long-term average depth approximately 1.5 feet to 2.0 feet. The average ground elevation in Cell 2A is 12.5 feet NGVD. Accordingly, the target stage within Cell 2A during normal operations ranges from 14.0 feet to 14.5 feet NGVD.

Additional operational guidance for the G-342C&D structures is based on best professional judgement of operating personnel, taking field condition factors into consideration such as flood control and water supply, existing water levels within the treatment cell, existing vegetative conditions, and seasonality.

FLOOD DISCHARGE CHARACTERISTICS

(Assuming completion of all ECP components)

	<u>Design</u>	<u>During SPF *</u>
Discharge Rate	<u>319 cfs</u>	<u>628 cfs</u>
Computed Headwater Elevation	<u>16.98' NGVD</u>	<u>21.30' NGVD</u>
Computed Tailwater Elevation	<u>16.28' NGVD</u>	<u>18.61' NGVD</u>
Type Discharge	<u>controlled submerged for all STA-5 stages</u>	

equal to or greater than 13.5' NGVD

* Standard Project Flood Conditions

DESCRIPTION OF STRUCTURE

Type: Reinforced concrete box culvert with upstream sluice gate control

Number of barrels: 1

Size of barrels: 6 feet high X 10 feet wide

Length of barrels: Approximately 68 feet

Flow line elevation: 7.25 feet NGVD (Invert Elevation)

Service bridge elevation: 24.0 feet NGVD

Gates

Number: 1

Type: Single Stem Lift Gate

Size: 6 feet high X 10 feet wide

Control: Remote and manual

Lifting Mechanism Type: Pedestal mounted, screw type hoist, with electric motor
(for remote) and handwheel (for manual) operation

Date Acceptance into Service: October 1999 *

* Temporary operations authorized for 14-day period in response to Hurricane Irene.

Routine operations began June 2000.

ACCESS: Access to these structures is from Levee L-2

HYDRAULIC AND HYDROLOGIC MEASUREMENTS

Water Level: Upstream digital recorder at G-342C

Upstream and downstream digital recorder at G-342D

Gate Position Recorder: Remote digital recorder at G-342 C and D

DEWATERING FACILITIES (per gate): Yes

MONITORING: Flow and Water Quality compliance monitoring as required by FDEP Permit

Numbers 0131842 (EFA) and FL0177954 (NPDES).