

DRAFT

**S-511
Gated Box Culverts**

Revisions 18 September 2000 - Original Submission

XY Coord 851307 590420

Location On C-9 Canal, east of Pump station S-509

Purpose Controls dry season deliveries to the C-9 Basin.
Reverse flow allows capture of excess C-9 Basin runoff.

Notes 1. Operational criteria requires allowable reverse flow.
2. Riprap requirements have not been verified with Geotech.

Design Conditions

Discharge (CFS)	500 cfs
Headwater Elevation	4.35 ft,NGVD
Tailwater Elevation	3.50 ft,NGVD

Maximum Expected Stages

Headwater Elevation	7.00 ft,NGVD
Tailwater Elevation	6.00 ft,NGVD

Maximum Head Difference

Maximum Headwater Elevation	7.00 ft,NGVD
Minimum Tailwater Elevation	3.00 ft,NGVD

Culvert Data

Number of Barrels	2
Single Barrel Width	7.0 feet
Single Barrel Height	7.0 feet
Barrel Length	60.0 feet
Barrel Invert Elevation	-4.50 ft, NGVD
Type of Control	Slide Gate

Canal Section

Side Slope Cotangent	1
Upstream Bottom Width	20.00 feet
Upstream Bottom Elevation	-11.00 ft,NGVD
Downstream Bottom Width	20.00 feet
Downstream Bottom Elevation	-11.00 ft,NGVD

Riprap Requirements

Design Barrel Velocity	5.10 fps
Design Riprap Velocity	8.00 fps
Riprap Protected Area	1,800 sq-ft
Riprap Thickness	2.0 feet
Riprap Bedding Thickness	1.0 feet

Control Protection Elevation 8.00 ft,NGVD