

**DRAFT**

**S-519A  
Gated Box Culverts**

**Revisions** 14 September 2000 - Original Submission

**XY Coord** 837880 519400

**Location** On C-503, just north of C-4 Canal at S-520.

**Purpose** Provides water deliveries to SDCS, Bird Drive Recharge Area, and C-4/2.  
Provides stage control on C-503 for seepage and gw recharge control.

**Notes** 1. Riprap requirements have not been verified with Geotech.

**Design Conditions**

Discharge (CFS)	1,100 cfs
Headwater Elevation	4.50 ft,NGVD
Tailwater Elevation	4.30 ft,NGVD

**Maximum Expected Stages**

Headwater Elevation	8.50 ft,NGVD
Tailwater Elevation	8.00 ft,NGVD

**Maximum Head Difference**

Maximum Headwater Elevation	7.50 ft,NGVD
Minimum Tailwater Elevation	3.50 ft,NGVD

**Culvert Data**

Number of Barrels	3
Barrel Type	Concrete
Single Barrel Width	12.0 feet
Single Barrel Height	12.0 feet
Barrel Length	60.0 feet
Barrel Invert Elevation	-10.00 ft, NGVD
Type of Control	Slide Gate

**Canal Data**

Side Slopes Cotangent	1
Upstream Bottom Width	50.00 feet
Upstream Bottom Elevation	-14.00 ft,NGVD
Downstream Bottom Width	Pool feet
Downstream Bottom Elevation	-14.00 ft,NGVD

**Riprap Requirements**

Design Barrel Velocity	2.55 fps
Design Riprap Velocity	4.00 fps
Riprap Protected Area	400 sq-ft
Riprap Thickness	1.5 feet
Riprap Bedding Thickness	1.0 feet

**Control Protection Elevation** 9.50 ft,NGVD