

OUTLET CONTROL

Line	Flow (cfs)	Pipe Size (in)	Number of Barrels	Area (sf)	Velocity (fps)	Head (ft)	Hydraulic Slope (ft/ft)	Outlet Flowline (ft)	Starting Tailwater (ft)	Length (ft)	Headwater Elevation (ft)
D-1	2.3	18	1	1,767.1	1.3	0.03	0.0005	499.50	501.00	60	501.04
D-2	15.7	24	2	3,141.6	2.5	0.10	0.0012	500.50	502.50	63	502.62

INLET CONTROL

Line	Flow (cfs)	Pipe Size (in)	Number of Barrels	Area (per barrel)	Headwater Required (ft)	Inlet Flowline (ft)	Headwater Elevation (ft)
D-1	2.3	18	1	1,767.1	0.07	499.74	500.56
D-2	15.7	24	2	3,141.6	0.27	500.76	502.02

Inlet Control vs. Outlet Control

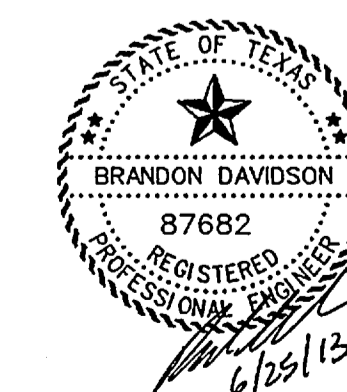
Line	Elevation		Governing Control	Headwater Elevation
	Outlet Control	Inlet Control		
D-1	501.04	500.56	Outlet Control	501.04
D-2	502.62	502.02	Outlet Control	502.62

DRIVEWAY CULVERT CALCULATIONS

Block	Lot	Receives Drainage		Flow (cfs)	Ditch Slope	Pipe Size (in)	No. of Barrels	Area (sf)	Full Flow Velocity (fps)	Head (ft)	Hydraulic Slope (ft/ft)	Outlet Flowline (ft)	Starting Tailwater (ft)	Length (ft)	Headwater Elevation (ft)	Upstream Soft Elev. (ft)	Headwater Required (ft)	Inlet Flowline (ft)	Headwater Elevation (ft)	Inlet or Outlet Control?	US vs. Soffit Elev. (ft)	
		From Lots	Area (sf)																			
C	7	7	25075	2.9	1.00%	18	1	1,767.1	1.5	0.04	0.0008	0.00	1.50	28	1.54	1.76	0.12	0.28	1.15	Outlet Control	1.54	-0.24
C	6	6-7	48376	5.4	1.00%	18	1	1,767.1	3.1	0.15	0.0027	0.00	1.50	28	1.65	1.78	0.41	0.28	1.44	Outlet Control	1.65	-0.13
C	5	5-7	70875	6.0	1.95%	21	1	2,403.3	3.3	0.17	0.0025	0.00	1.75	28	1.91	2.30	0.47	0.55	1.89	Outlet Control	1.91	-0.39
C	4	4-7	95202	10.7	1.95%	18	2	1,767.1	3.0	0.14	0.0026	0.00	1.50	28	1.84	2.05	0.40	0.55	1.89	Outlet Control	1.89	-0.35
C	3	3-7	123469	13.9	1.95%	21	2	2,403.3	2.9	0.13	0.0019	0.00	1.75	28	1.87	2.30	0.36	0.55	1.78	Outlet Control	1.87	-0.43
C	2	2-7	140452	15.8	1.95%	21	2	2,403.3	3.3	0.17	0.0025	0.00	1.75	28	1.90	2.30	0.47	0.55	1.89	Outlet Control	1.90	-0.39
C	1	1-7	152372	17.1	1.95%	21	2	2,403.3	3.6	0.20	0.0029	0.00	1.75	28	1.93	2.30	0.55	0.55	1.97	Outlet Control	1.97	-0.33
A	23	23	11360	1.3	1.00%	18	1	1,767.1	0.7	0.01	0.0001	0.00	1.50	28	1.51	1.76	0.02	0.28	1.05	Outlet Control	1.51	-0.27
A	22	22-23	21850	2.5	1.00%	18	1	1,767.1	1.4	0.03	0.0006	0.00	1.50	28	1.53	1.76	0.08	0.28	1.11	Outlet Control	1.53	-0.25
A	21	21-23	46982	5.3	1.95%	18	1	1,767.1	3.0	0.14	0.0025	0.00	1.50	28	1.64	2.05	0.39	0.55	1.68	Outlet Control	1.68	-0.36
A	20	20-23	58225	6.5	1.95%	18	1	1,767.1	3.7	0.21	0.0039	0.00	1.50	28	1.72	2.05	0.59	0.55	1.89	Outlet Control	1.89	-0.16
A	19	19-23	70594	8.0	1.95%	21	1	2,403.3	3.3	0.17	0.0025	0.00	1.75	28	1.91	2.30	0.47	0.55	1.90	Outlet Control	1.91	-0.38
A	18	18-23	81449	9.2	1.00%	21	1	2,403.3	3.8	0.23	0.0033	0.00	1.75	28	1.96	2.03	0.63	0.28	1.79	Outlet Control	1.96	-0.07
A	17	17-23	86050	9.9	1.00%	21	1	2,403.3	4.1	0.26	0.0039	0.00	1.75	28	1.99	2.03	0.73	0.28	1.89	Outlet Control	1.99	-0.04
A	16	16-23	93243	10.5	1.00%	21	1	2,403.3	4.4	0.30	0.0044	0.00	1.75	28	2.02	2.03	0.82	0.28	1.98	Outlet Control	2.02	-0.01

Inlet Control vs. Outlet Control

Block	Lot	Elevation		Governing Control	Headwater Elevation
		Outlet Control	Inlet Control		
C	7	1.54	1.15	Outlet Cont.	1.54
C	6	1.65	1.44	Outlet Cont.	1.65
C	5	1.91	1.89	Outlet Cont.	1.91
C	4	1.84	1.69	Inlet Control	1.69
C	3	1.87	1.78	Outlet Cont.	1.87
C	2	1.90	1.89	Outlet Cont.	1.90
C	1	1.93	1.97	Inlet Control	1.97
A	23	1.51	1.05	Outlet Cont.	1.51
A	22	1.53	1.11	Outlet Cont.	1.53
A	21	1.64	1.68	Inlet Control	1.68
A	20	1.72	1.99	Inlet Control	1.99
A	19	1.91	1.90	Outlet Cont.	1.91
A	18	1.96	1.79	Outlet Cont.	1.96
A	17	1.99	1.89	Outlet Cont.	1.99
A	16	2.02	1.98	Outlet Cont.	2.02



The seal appearing on this document was authorized by Brandon Davidson P.E. 87682, on June 25, 2013

AS-BUILT APRIL 2014
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CORWIN ENGINEERING, INC. 200 W. BELMONT, SUITE E ALLEN, TEXAS 75013 (972) 396-1200 TBPE FIRM #5951			
DEVELOPMENT PLANS FOR BREEZY HILL PHASE I ROCKWALL, TEXAS			
DRAINAGE CALCULATIONS			
DRAWN BY	DESIGNED BY	CHECKED BY	SHEET NO.
JOB NUMBER 12003	DATE APRIL 2013	SCALE: 1"=100'	4 OF 18