

HY-8 Culvert Analysis Report

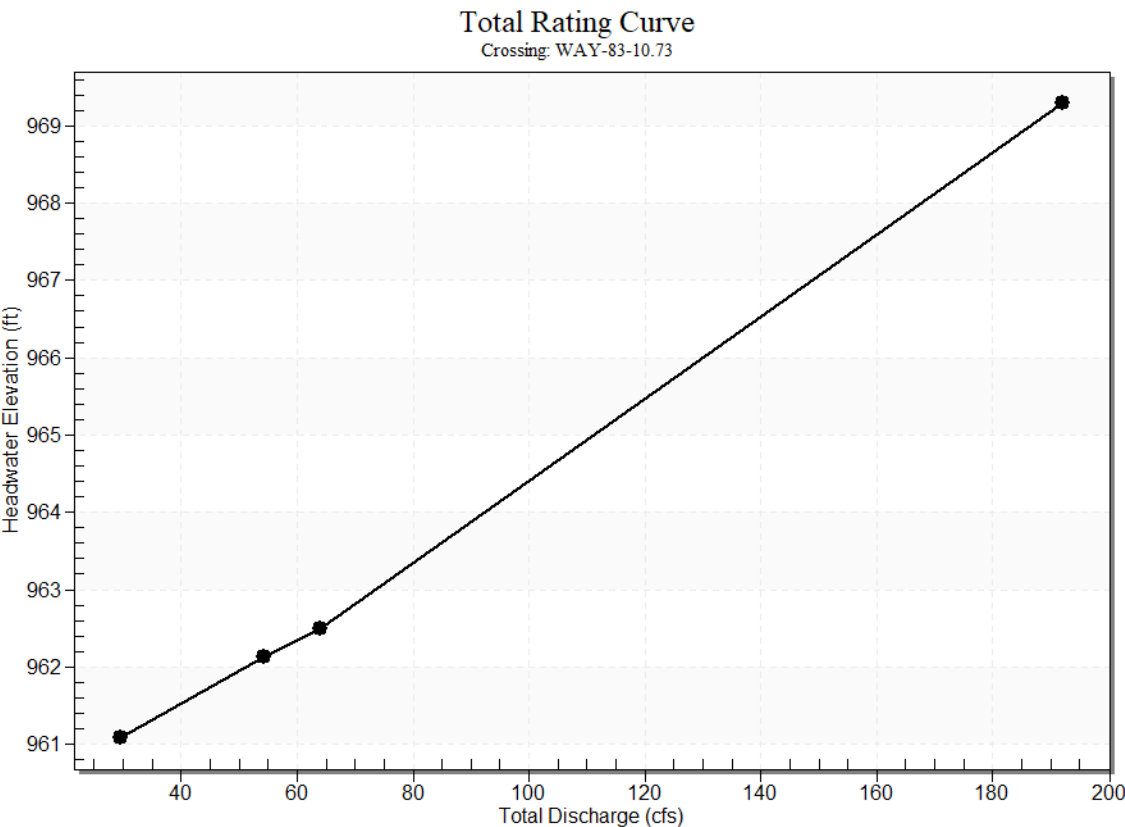
Crossing Discharge Data

Discharge Selection Method: Recurrence

Table 1 - Summary of Culvert Flows at Crossing: WAY-83-10.73

Headwater Elevation (ft)	Discharge Names	Total Discharge (cfs)	Pr. SASL Discharge (cfs)	Roadway Discharge (cfs)	Iterations
961.09	2 year	29.60	29.60	0.00	1
962.13	25 year	54.30	54.30	0.00	1
962.49	100 year	64.00	64.00	0.00	1
969.15	Overtopping	174.75	174.75	0.00	Overtopping

Rating Curve Plot for Crossing: WAY-83-10.73



Culvert Data: Pr. SASL

Table 1 - Culvert Summary Table: Pr. SASL

Disc harg	Total Disc	Culv ert	Head water	Inle t	Out let	Fl o	Nor mal	Crit ical	Ou tle	Tail water	Outl et	Tail water
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e Nam es	harg e (cfs)	Disc harg e (cfs)	Eleva tion (ft)	Con trol Dep th (ft)	Con trol Dep th (ft)	w Ty pe	Dep th (ft)	De pth (ft)	t De pth (ft)	r Dept h (ft)	Vel ocit y (ft/ s)	r Velo city (ft/s)
2 year	29.60 cfs	29.60 cfs	961.0 9	2.28	0.98 3	1- S2 n	1.36	1.6 1	1.3 7	1.22	7.74	3.78
25 year	54.30 cfs	54.30 cfs	962.1 3	3.32	2.01 0	1- S2 n	1.90	2.2 1	1.9 2	1.66	9.08	4.47
100 year	64.00 cfs	64.00 cfs	962.4 9	3.68	2.44 4	1- S2 n	2.10	2.4 1	2.1 2	1.80	9.47	4.67

Culvert Barrel Data

Culvert Barrel Type Straight Culvert

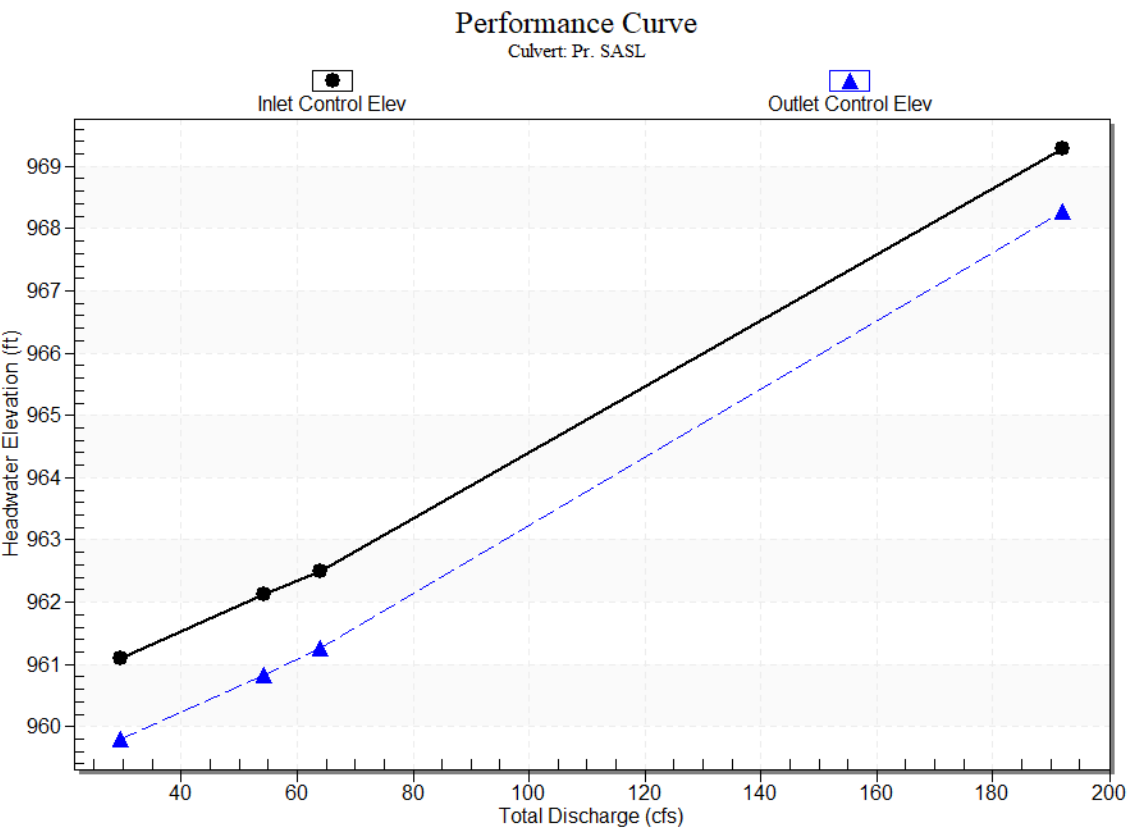
Inlet Elevation (invert): 958.81 ft,

Outlet Elevation (invert): 958.00 ft

Culvert Length: 140.68 ft,

Culvert Slope: 0.0058

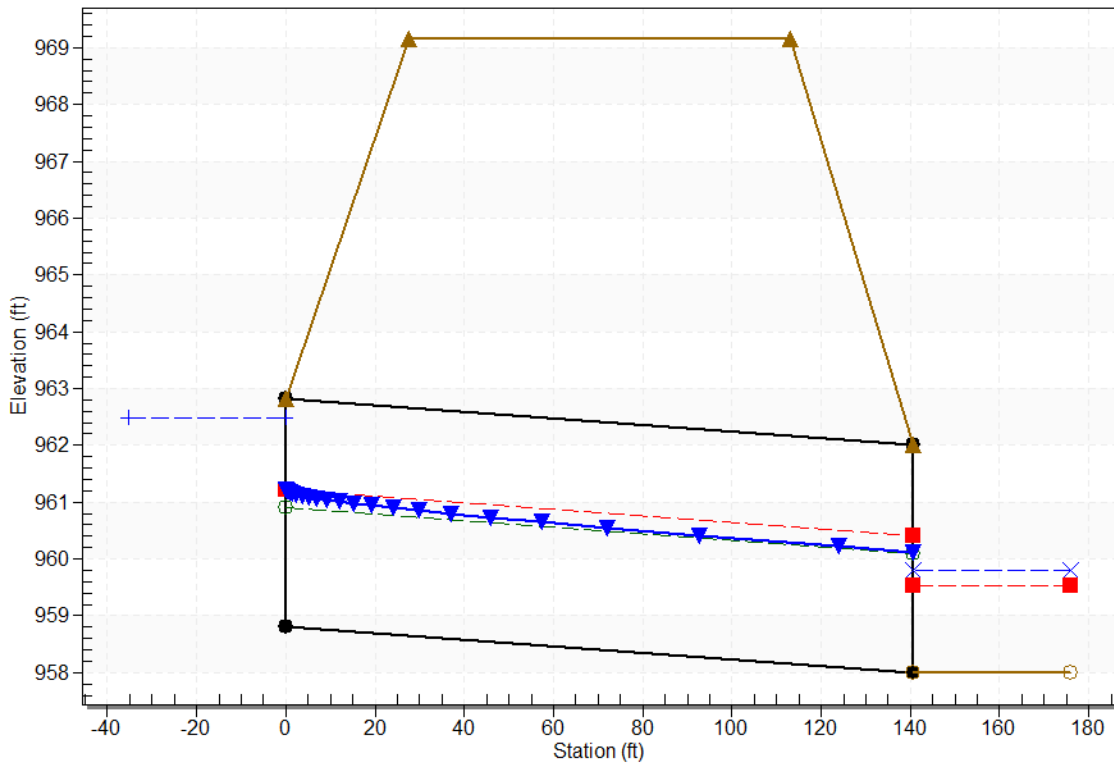
Culvert Performance Curve Plot: Pr. SASL



Water Surface Profile Plot for Culvert: Pr. SASL

Crossing - WAY-83-10.73, Design Discharge - 64.0 cfs

Culvert - Pr. SASL, Culvert Discharge - 64.0 cfs



Site Data - Pr. SASL

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 958.81 ft

Outlet Station: 140.68 ft

Outlet Elevation: 958.00 ft

Number of Barrels: 1

Culvert Data Summary - Pr. SASL

Barrel Shape: Circular

Barrel Diameter: 4.00 ft

Barrel Material: Concrete

Embedment: 0.00 in

Barrel Manning's n: 0.0120

Culvert Type: Straight

Inlet Configuration: Square Edge with Headwall (Ke=0.5)

Inlet Depression: None

Tailwater Data for Crossing: WAY-83-10.73

Table 2 - Downstream Channel Rating Curve (Crossing: WAY-83-10.73)

Flow (cfs)	Water Surface Elev (ft)	Velocity (ft/s)	Depth (ft)	Shear (psf)	Froude Number
29.60	959.22	1.22	3.78	0.57	0.71
54.30	959.66	1.66	4.47	0.78	0.74
64.00	959.80	1.80	4.67	0.84	0.74

Tailwater Channel Data - WAY-83-10.73

Tailwater Channel Option: Trapezoidal Channel

Bottom Width: 4.00 ft

Side Slope (H:V): 2.00 (:1)

Channel Slope: 0.0075

Channel Manning's n: 0.0300

Channel Invert Elevation: 958.00 ft

Roadway Data for Crossing: WAY-83-10.73

Roadway Profile Shape: Constant Roadway Elevation

Crest Length: 100.00 ft

Crest Elevation: 969.15 ft

Roadway Surface: Paved

Roadway Top Width: 85.50 ft