

Project No.: 61348

Bridge/Project Name: SR 48 over Turtle Creek

Designed By: BCS

Date: 4/6/2026

Subject: Parallel Bridge Roadway Left Shoulder

Checked By: XAC

Date: 4/7/2026

Drainage Input:

Manning's 'n' = 0.015 (ODOT L&D Vol. 2 Table 1102-4)
 Coefficient of Runoff, C = 0.9 (ODOT L&D Vol. 2 Table 1101-2)
 Frequency = 5 years (Principal, (ODOT L&D Vol. 2, Section 1103.2))
 Zone = C (ODOT L&D Vol. 2 Figure 1101-2)
 Time of Concentration = 10 minutes (ODOT L&D Vol. 2 Section 1103.3)
 a = 67.933
 b = 11
 c = 0.869
 Rainfall Intensity, i = 4.82 in / hr (ODOT L&D Figures 1101-2 & 1101-3 and Section 1103.2)
 Scupper Width = 0.5 ft

Vertical Curve Data:

PVI Station = 138+05.00 Curve Type = SAG
 G1 = -0.5 % PC Station = 134+80.00
 G2 = 0.8 % PT Station = 141+30.00
 Curve Length = 650 ft Ext. Distance = 1.06
 Low Point Station = 137+30.00

Toe of Barrier to rounding = 5'
 Ensure water does not go past
 left rounding edge.

Max Spread = 3.93

0

Station	Description	Length ft	Instantaneous Slope ft/ft	Cross-Slope (positive) ft/ft	Drained Deck Width ft	Incremental Flow cfs	Incoming Flow cfs	Actual Spread ft	Scupper?	Flow to Scupper cfs	Allowable Spread ft	Scuppers Required?
<u>134+59.75</u>	<u>Begin Barrier</u>	0.00	-0.0050	<u>0.04</u>	<u>9.00</u>	0.000	0.000	0.00		0.000	<u>5.00</u>	No
135+09.75		50.00	-0.0044	0.04	9.00	0.045	0.045	1.67		0.000	5.00	No
135+59.75		100.00	-0.0034	0.04	9.00	0.045	0.090	2.27		0.000	5.00	No
136+09.75		150.00	-0.0024	0.04	9.00	0.045	0.134	2.82		0.000	5.00	No
136+59.75		200.00	-0.0014	0.04	9.00	0.045	0.179	3.47		0.000	5.00	No
136+84.35	<u>End Barrier</u>	224.60	-0.0009	0.04	9.00	0.022	0.201	3.93		0.000	5.00	No

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High Volume Highway
 >= 45mph 4' allowable spread into
 4'+8' = 12'

Max Spread = 6.01 0

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<u>134+57.58</u>	<u>Begin Barrier</u>	0.00	-0.0050	<u>0.046</u>	<u>36.00</u>	0.000	0.000	0.00		0.000	<u>12.00</u>	No
135+07.58		50.00	-0.0044	0.046	36.00	0.179	0.179	2.56		0.000	12.00	No
135+57.58		100.00	-0.0034	0.046	36.00	0.179	0.359	3.48		0.000	12.00	No
136+07.58		150.00	-0.0024	0.046	36.00	0.179	0.538	4.32		0.000	12.00	No
136+57.58		200.00	-0.0014	0.046	36.00	0.179	0.717	5.31		0.000	12.00	No
136+82.67	<u>End Barrier</u>	225.09	-0.0009	0.046	36.00	0.090	0.807	6.01		0.000	12.00	No