

**Project J8S0836B - ROUTE MM  
Design Criteria**

Roadway	ROUTE MM	FARM ROAD 144	Notes
Classification	Minor Aerial		<a href="#">Springfield_6.pdf (modot.org)</a>
Number of Traffic Lanes	2	2	
Width of Traffic Lanes	12'	12'	
Number of Parking Lanes	-	-	
Left Turn Lane	14'	14'	
Bike Lane	-	-	
Width of Median	-	-	
Lighting			
Right-of-Way Width - Existing	60'		
Design Speed	45 mph	45 mph	
Posted Speed	55 mph		Existing posted speed is 55 mph, lowering to 45 mph.
Design Vehicle	WB-67	WB-67	
Current AADT (2019)	9565		
Future AADT (2039)	15600		From concept plans
<b>HORIZONTAL ALIGNMENT</b>			
Stopping Site Distance	495	495	Intersection Sight Distance (AASHTO Table 9-7)
Minimum Horizontal Curve Length	15x Design Speed (825' Min.)	15x Design Speed (825' Min.)	AASHTO - 3.3.13
Roadway Cross-Slope	2%	2%	AASHTO - 4.2.2.1
Superelevation eMax	NC	NC	Use 200' min for Minor roadways.
Minimum Radii Horizontal Curve	-	-	
Superelevation Runoff, L	N/A	N/A	
Percent Runoff Length Prior to Curve	N/A	N/A	
Minimum Tangent between Reverse Curves	N/A	N/A	No Reverse Curves in Alignment
Clear Zone	6:1 = 22'-24' or 4:1 = 26'-32'	6:1 = 22'-24' or 4:1 = 26'-32'	AASHTO - RSDG
Lateral Offset (Horizontal Clearance)	1.5'	1.5'	AASHTO - Section 7.3.4
<b>VERTICAL ALIGNMENT</b>			
Minimum SSD Crest Vertical Curve	495	495	AASHTO Table 3-34
Minimum SSD Sag Vertical Curve	495	495	AASHTO Table 3-36
Maximum Grade	8%	8%	10% with special justification.
Minimum Grade	0.5%	0.5%	AASHTO - 3.4.2.2.2
Minimum Vertical Curve Length	3x Design Speed (165')	3x Design Speed (165')	AASHTO - 3.4.6.2.1
Minimum K Crest Vertical Curve	114	114	K Values correspond to design speed as specified in Table 3-35.
Minimum K Sag Vertical Curve	115	115	K Values correspond to design speed as specified in Table 3-37.
Maximum K Type III Sag Vertical Curve-Curbed Sections	167	167	AASHTO - 3.4.6 - Fig. 3-36
<b>MISCELLANEOUS</b>			
Minimum Curb Return Radius	30'	30'	
Sidewalks	6'	6'	Design for future sidewalk on back of curb
Shared Use Path	10'	10'	
Minimum Greenspace	0'	0'	
Pavement Section	11. Asph / 6" Agg Base or 10" PCC / 6" Agg Base	11. Asph / 6" Agg Base or 10" PCC / 6" Agg Base	From MoDOT provided pavement design
Foreslope/Backslope - Minimum	3:1 / 2:1	3:1 / 2:1	
Foreslope/Backslope - Desirable	4:1 / 3:1	4:1 / 3:1	Desireable slopes within the clear zone.
<b>PAVEMENT DRAINAGE DESIGN</b>			
Maximum Gutter Spread	Up to 1/2 of the lane nearest to gutter	Up to 1/2 of the lane nearest to gutter	EPG 640.1.2.2
Design Storm	10 year for typical, 10-25 year for non-typical locations	10 year for typical, 10-25 year for non-typical locations	EPG 640.1.2.1; no critical locations
Maximum Flow Across Intersections	2.0 cfs	2.0 cfs	EPG 640.1.2.4
Maximum Inlet Spacing	400' for <=15" conduit, 500' for >=18" conduit	400' for <=15" conduit, 500' for >=18" conduit	EPG 750.4.2.5
Minimum Pipe Size	18" from storm sewer, 12" for storm sewer outlets	18" from storm sewer, 12" for storm sewer outlets	EPG 750.7.2.1
Minimum Pipe Cover	1' outside of shoulder line, 6" below agg. Base	1' outside of shoulder line, 6" below agg. Base	750.7.11.1
Min. Pipe Slope (Storm Sewer)	See EPG 750.4.2.4	See EPG 750.4.2.4	EPG 750.4.2.4
Freeboard	1' below intake of drop inlets, 2' below top of manhole covers	1' below intake of drop inlets, 2' below top of manhole covers	EPG 750.4.4.8
<b>CROSS ROAD CULVERT DESIGN</b>			
Design Storm	10-25 years pipe culverts; 25-50 years box culverts	10-25 years pipe culverts; 25-50 years box culverts	EPG 748.2.2.2
Minimum Pipe Size	18"	18"	EPG 750.7.2.1
Freeboard	1' below lowest shoulder point	1' below lowest shoulder point	EPG 748.2.2.2
Minimum Pipe Cover	1' outside shoulder or 6" below agg. base	1' outside shoulder or 6" below agg. base	EPG 750.7.11.1
REFERENCES			
EPG = MoDOT Engineering Policy Guide			
AASHTO = A Policy on Geometric Design of Highways and Streets - 2018 7th Edition			
AASHTO RSDG = Roadside Design Guide 4th Edition 2011			