

## Design Standards on County Major Collectors and Local Roads for New or Reconstruction of Existing Infrastructure

	County Major Collectors (CMC) "On-System"	Local Roads (County) "Off-System"	Local Roads (Township) "Off-System"	Local Roads (Other) "Off-System"
Bridge Width (Clear Roadway) – Min is <u>28 ft</u>	28 FEET	28 FEET	28 FEET	28 FEET
Storm Design Frequency (Bridges)*	Q25	Q15	Q15	Q15
Design Loading (Bridges) – Min is <u>HS-25</u>	HL-93	HL-93	HL-93	HL-93
Culvert Design Frequency*	Q25	Q15	Q15	Q15
Graded Roadbed Width (sub-grade) – Paved surface	34 FEET	N/A	N/A	N/A
- Minimum travel way width (both lanes + shoulders)	22 FEET	N/A	N/A	N/A
- Minimum pavement section (base and HBP)	3 INCHES	N/A	N/A	N/A
Graded Roadbed Width (sub-grade) – Gravel surface	28 FEET	24-26 FEET	24-26 FT	24-26 FT
- Minimum travel way width (both lanes + shoulders)	24 FEET	20 FEET	20 FT	20 FT
- Minimum gravel thickness	4 INCHES	4 INCHES	4 INCHES	4 INCHES
Design Speed	55 MPH	45-50 MPH	45-50 MPH	45-50 MPH
Right of Way Width	150 FEET	100-150 FT	100-150 FT	100-150 FT
Inslope Ratio	4:1	4:1	4:1	4:1
Separation (Road top to Ditch Bottom)	5 FEET	3-4 FEET	3-4 FT	3-4 FT

\*Bridges - For County Major Collectors (on-system); the design frequency is 25-years and other local roads (off-system); the design frequency is 15-years. If an overflow section is provided, then the waterway opening plus the overflow section must pass the appropriate design frequency. Culverts – The same design frequencies are required for culverts as they are for bridges; except for Township roads, the design frequency is 10-years. These requirements are required according to North Dakota Century Code.



Adopted by ADAMS County

Date JUNE 3, 2010

Howard Nelson  
Chairperson, Board of County Commissioners

ATTEST:

Ratisha Carson  
County Auditor

## RESOLUTION

WHEREAS, The Barnes County addresses the need to be updating their guidelines for county roads and  
 WHEREAS, there is a need for compliance of standards which will assist in the uniformity of constructions  
 NOW, THEREFORE BE IT RESOLVED, the following standards for county roads will be adopted:

### MINIMUM DESIGN STANDARDS HIGHWAYS & STRUCTURES

	COUNTY	COUNTY/TOWNSHIP
	"ON-SYSTEM"	"OFF-SYSTEM"
Culvert Cover Standard	1-1.5' minimum	1-1.5' minimum
Stabilization Standard	6-10 minimum pit run	6-10" minimum pit run
	3-4" minimum gravel	3-4" minimum gravel
Seal Coat Standard	.30 per square yard oil	.30 per square yard oil
	28 lbs. Per sq. cover coat	28 lbs. per sq. cover coat
	chips	chips
Bridge Width (Clear Roadway)	28'	28'
Design & Flood Frequency (Bridges)	25 years	25 yrs
Design Loading (Bridges)	HS-25	HS-25
Culvert Design Flood Frequency	25 years	10 years
Graded Roadbed Width	36'	36'
Minimum Travel Way width (both lanes+ shoulder)	24'	24'
Design Speed	55 MPH	55 MPH
Right of Way Width	150'	66'
In slope Ratio	4 to 1	3 to 1
Separation (Road top to Ditch Bottom)	4'	3-5'
Design Asphalt Pavement Section (new)	6" Aggregate Base	N/A
	4" Hot Bituminous Pavement	N/A
Hot Bituminous Overlay	2 3/4 (1.25" leveling and 1.5" wearing)	2 3/4 (1.25" leveling and 1.5" wearing)
Pavement Repair	22" Sub cut	22" Sub cut
	Geotextiel Fabric	Geotextile Fabric
	12" Aggregate Base	6" Aggregate Base
	4" Hot Bituminous Pavement	4" Hot Bituminous Pavement
Design Aggregate Surface Course (new)	4" Aggregate Surface	4" Aggregate Surface

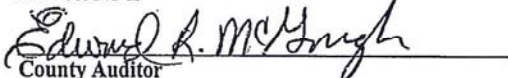
Adopted by Barnes County

Date: March 16, 2010



Chairperson, Board of County Commissioners

ATTEST

  
County Auditor

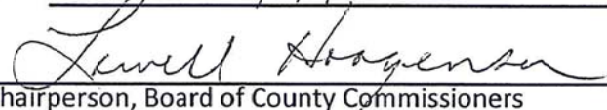


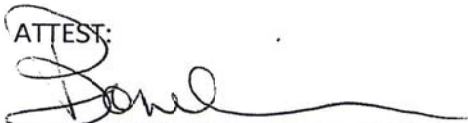
## Design Standards on County Major Collectors and Local Roads for New or Reconstruction of Existing Infrastructure

	County Major Collectors (CMC) "On-System"	Local Roads (County) "Off-System"	Local Roads (Township) "Off-System"	Local Roads (Other) "Off-System"
<b>Bridge Width (Clear Roadway) – Min is <u>28 ft</u></b>	32 ft	28 ft	28 ft	28 ft
<b>Storm Design Frequency (Bridges)*</b>	25 year	15 year	15 year	15 year
<b>Design Loading (Bridges) – Min is <u>HS-25</u></b>	HS-25 or HL 93	HS-25 or HL 93	HS-25 or HL 93	HS-25 or HL 93
<b>Culvert Design Frequency*</b>	25 year	15 year	10 year	15 year
<b>Graded Roadbed Width (sub-grade) – Paved surface</b>	34 ft to 36 ft	34 ft to 36 ft	34 ft to 36 ft	28 ft to 36 ft
- Minimum travel way width (both lanes + shoulders)	24 ft	24 ft	24 ft	24 ft
- Minimum pavement section (base and HBP)	6in Base	6in Base	6in Base	6in Base
<b>Graded Roadbed Width (sub-grade) – Gravel surface</b>	32 ft	32 ft	28 ft	28 ft
- Minimum travel way width (both lanes + shoulders)	24 ft	24 ft	24 ft	24 ft
- Minimum gravel thickness	4in	4in	4in	4in
<b>Design Speed</b>	55 mph	55 mph	55 mph	55 mph
<b>Right of Way Width</b>	150 ft min	150 ft min	120 ft min	120 ft min
<b>Inslope Ratio</b>	4:1	4:1	4:1	4:1
<b>Separation (Road top to Ditch Bottom)</b>	4 ft to 5 ft	4 ft to 5 ft	4 ft to 5 ft	3.5 ft to 5 ft

\*Bridges - For County Major Collectors (on-system); the design frequency is 25-years and other local roads (off-system); the design frequency is 15-years. If an overflow section is provided, then the waterway opening plus the overflow section must pass the appropriate design frequency. Culverts – The same design frequencies are required for culverts as they are for bridges; except for Township roads, the design frequency is 10-years. These requirements are required according to North Dakota Century Code.

Adopted by Benson County

Date 5/4/10  
  
 Chairperson, Board of County Commissioners

ATTEST:  
  
 County Auditor

# Design Standards on County Major Collectors and Local Roads for New or Reconstruction of Existing Infrastructure

	County Major Collectors (CMC) "On-System"	Local Roads (County) "Off-System"	Local Roads (Township) "Off-System"	Local Roads (Other) "Off-System" ①
Bridge Width (Clear Roadway) – Min is 28 ft	28'	28'	N/A	14'
Storm Design Frequency (Bridges)*	25 Year	15 Year	N/A	15 Year
Design Loading (Bridges) – Min is HS-25	HL-93	HL-93	N/A	HL-93
Culvert Design Frequency*	25 Year	15 Year	N/A	10-Year + overflow
Graded Roadbed Width (sub-grade) – Paved surface	34'	34'	N/A	19'
- Minimum travel way width (both lanes + shoulders)	24'	24'	N/A	14' ③
- Minimum pavement section (base and HBP)	6" Base - 4" HBP	6" Base - 4" HBP	N/A	6" Base - 4" HBP
Graded Roadbed Width (sub-grade) – Gravel surface	28'	28'	N/A	16'
- Minimum travel way width (both lanes + shoulders)	24'	24'	N/A	14' ③
- Minimum gravel thickness	6"	6"	N/A	4"
Design Speed ②	55	40	N/A	15
Right of Way Width	150'	150'	N/A	VARIES
Inslope Ratio	4:1	4:1	N/A	3:1
Separation (Road top to Ditch Bottom)	5'	5'	N/A	2.33'

\*Bridges - For County Major Collectors (on-system); the design frequency is 25-years and other local roads (off-system); the design frequency is 15-years. If an overflow section is provided, then the waterway opening plus the overflow section must pass the appropriate design frequency. Culverts - The same design frequencies are required for culverts as they are for bridges; except for Township roads, the design frequency is 10-years. These requirements are required according to North Dakota Century Code.

- ① Most "Local Roads" in Billings County are oilfield access roads on USFS property. For those roads, use 50-year culvert design frequency and 100-year bridge design frequency.
- ② All roads posted at 35 mph. Design exceptions will be considered down to 40 mph when terrain dictates.
- ③ Turnouts provided as necessary for passing.

Adopted by Billings County County

Date April 6, 2010

[Signature]  
Chairperson, Board of County Commissioners

ATTEST:

[Signature]  
County Auditor



## Design Standards on County Major Collectors and Local Roads for New or Reconstruction of Existing Infrastructure

	County Major Collectors (CMC) "On-System"	Local Roads (County) "Off-System"	Local Roads (Township) "Off-System"	Local Roads (Other) "Off-System"
Bridge Width (Clear Roadway) – Min is <u>28 ft</u>	32 ft	28 ft	28 ft	28 ft
Storm Design Frequency (Bridges)*	25 year	15 year	15 year	15 year
Design Loading (Bridges) – Min is <u>HS-25</u>	HS-25 or HL 93	HS-25 or HL 93	HS-25 or HL 93	HS-25 or HL 93
Culvert Design Frequency*	25 year	15 year	15 year	15 year
Graded Roadbed Width (sub-grade) – Paved surface	34 ft to 36 ft	34 ft to 36 ft	34 ft to 36 ft	28 ft to 36 ft
- Minimum travel way width (both lanes + shoulders)	24 ft	24 ft	24 ft	24 ft
- Minimum pavement section (base and HBP)	4in HBP & 6in Base	4in HBP & 6in Base	4in HBP & 6in Base	4in HBP & 6in Base
Graded Roadbed Width (sub-grade) – Gravel surface	28 ft to 32 ft	28 ft to 32 ft	28 ft to 32 ft	26 ft to 32 ft
- Minimum travel way width (both lanes + shoulders)	24 ft to 26 ft	24 ft to 26 ft	24 ft to 26 ft	24 ft to 26 ft
- Minimum gravel thickness	4in to 6in	4in to 6in	4in to 6in	4in to 6in
Design Speed	55 mph	55 mph	55 mph	55 mph
Right of Way Width	150 ft min	150 ft min	120 ft min	120 ft min
Inslope Ratio	4:1	4:1	4:1	4:1
Separation (Road top to Ditch Bottom)	4 ft to 5 ft	4 ft to 5 ft	4 ft to 5 ft	3.5 ft to 5 ft

\*Bridges – For County Major Collectors (on-system); the design frequency is 25-years and other local roads (off-system); the design frequency is 15-years. If an overflow section is provided, then the waterway opening plus the overflow section must pass the appropriate design frequency. Culverts – The same design frequencies are required for culverts as they are for bridges; except for Township roads, the design frequency is 10-years. These requirements are required according to North Dakota Century Code.

Adopted by Bottineau County

Date 9-7-10

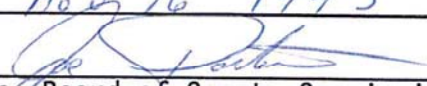
Fred Tyle  
Chairperson, Board of County Commissioners

ATTEST:

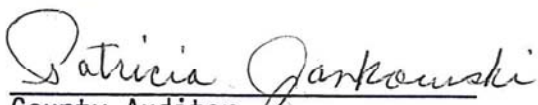
Mae Streich  
County Auditor

## GUIDELINES FOR COUNTY MAJOR COLLECTORS AND LOCAL ROADS

	County Major Collectors (CMC) "On-System"	Local Roads "Off-System"
Bridge Width (Clear Roadway)	<u>24-28</u>	<u>24-28</u>
Storm Design Frequency (Bridges)	<u>50</u>	<u>50</u>
Design Loading (Bridges)	<u>HS20</u>	<u>HS20</u>
Culvert Design Frequency	<u>30</u>	<u>30</u>
Graded Roadbed Width	<u>28-24</u>	<u>20-24</u>
Design Speed	<u>40 MPH</u>	<u>40 MPH</u>
Right of Way Width	<u>75' each side of center line</u>	<u>50' each side</u>
Inslope (Foreslope) Ratio	<u>4 to 1</u>	<u>3 to 1</u>
Separation (Roadtop to Ditch Bottom)	<u>5</u>	<u>3</u>

Adopted by Burman CountyDated Nov 16 1993  
Chairman, Board of County Commissioners

ATTEST:

  
County Auditor



## GUIDELINES FOR COUNTY MAJOR COLLECTORS AND LOCAL ROADS

	County Major Collectors (CMC) "On-System"	Local Roads "Off-System"
Bridge Width (Clear Roadway)	<u>28'</u>	<u>28'</u>
Storm Design Frequency (Bridges)	<u>25 yr.</u>	<u>15 yr.</u>
Design Loading (Bridges)	<u>HS-25</u>	<u>HS-25</u>
Culvert Design Frequency	<u>15 yr.</u>	<u>10 yr.</u>
Graded Roadbed Width	<u>28-32'</u>	<u>24-26'</u>
Design Speed	<u>55mph</u>	<u>Min. 35mph</u>
Right of Way Width	<u>75' from center</u>	<u>50' from center</u>
Inslope (Foreslope) Ratio	<u>4:1</u>	<u>4:1</u>
Separation (Roadtop to Ditch Bottom)	<u>4'</u>	<u>3'</u>

Adopted by BURKE CountyDated 1-4-94

*John J. Christ*  
Chairman, Board of County Commissioners

ATTEST:

*Rae C. Elke*  
County Auditor

# GUIDELINES FOR COUNTY AND TOWNSHIP ROADS

	Major Collectors (Formerly FAS)	Township Roads
Bridge Width (Clear Roadway)	<u>28'</u>	<u>28'</u>
Storm Design Frequency (Bridges)	<u>25 year</u>	<u>15 year</u>
Design Loading (Bridges)	<u>H5-25</u>	<u>H5-25</u>
Culvert Design Frequency	<u>25 yr</u>	<u>25 yr</u>
Graded Roadbed Width	<u>32'</u>	<u>28'</u>
Right of Way Width	<u>150' Total</u>	<u>120' Total</u>

Adopted by Burleigh County

Dated 2/3/93

Walter A. DeMure  
Chairman, Board of County Commissioners

ATTEST:

Kenneth J. Sloan  
County Auditor

Return To:  
SECONDARY ROADS DIVISION  
ND DEPT OF TRANSPORTATION  
608 E BOULEVARD AVE  
BISMARCK ND 58505-0700



## Design Standards on County Major Collectors and Local Roads for New or Reconstruction of Existing Infrastructure

	County Major Collectors (CMC) "On-System"	Local Roads (County) "Off-System"	Local Roads (Township) "Off-System"	Local Roads (Other) "Off-System"
Bridge Width (Clear Roadway) – Min is <u>28 ft</u>	36' - 40'	28' - 30'	28' - 30'	28' - 30'
Storm Design Frequency (Bridges)*	25YR.MIN/ 100YR PREFERRED	25YR.MIN/ 100YR PREFERRED	15 YR	15 YR
Design Loading (Bridges) – Min is <u>HS-25</u>	HS - 25	HS - 25	HS - 25	HS - 25
Culvert Design Frequency*	25 YR.MIN/ 100 YR. PREFERRED	25 YR	10 YR	10 YR
Graded Roadbed Width (sub-grade) – Paved surface	34' MIN/46' PREFERRED	34' MIN/46' PREFERRED	34' MIN/46' PREFERRED	34' MIN/46' PREFERRED
- Minimum travel way width (both lanes + shoulders)	24' MIN/36' PREFERRED	24' MIN/36' PREFERRED	24' MIN/36' PREFERRED	34' MIN/36' PREFERRED
- Minimum pavement section (base and HBP)	12"	12"	12"	12"
Graded Roadbed Width (sub-grade) – Gravel surface	32' - 36'	32' - 36'	28' - 32'	28' - 32'
- Minimum travel way width (both lanes + shoulders)	28' - 32'	28' - 32'	24' - 28'	24' - 28'
- Minimum gravel thickness	6"	6"	4"	4"
Design Speed	55 MPH MIN/ 65MPH PREFERRED	55 MPH MIN/ 65 MPH PREFERRED	55 MPH	50 MPH
Right of Way Width	150' MIN/ 200' PREFERRED	150' MIN/ 200' PREFERRED	66'	66'
Inslope Ratio	4:1 MIN/5:1 PREFERRED	4:1 MIN/5:1 PREFERRED	4:1	4:1
Separation (Road top to Ditch Bottom)	4'	4'	4'	4'

\*Bridges - For County Major Collectors (on-system); the design frequency is 25-years and other local roads (off-system); the design frequency is 15-years. If an overflow section is provided, then the waterway opening plus the overflow section must pass the appropriate design frequency. Culverts – The same design frequencies are required for culverts as they are for bridges; except for Township roads, the design frequency is 10-years. These requirements are required according to North Dakota Century Code.

Adopted by Cass County

Date 4-19-2010

Wendell Vang  
Chairperson, Board of County Commissioners

ATTEST:

Minah Montplaisir  
County Auditor


## MINIMUM DESIGN STANDARDS HIGHWAYS & STRUCTURES

	COUNTY "ON-SYSTEM"	COUNTY/TOWNSHIP "OFF-SYSTEM"
Bridge Width (Clear Roadway)	28'	28'
Design Flow Frequency (Structures)	25 Year	15 Year
Design Loading (Structures & Culverts)	HS-25	HS-25
Design Flow Frequency (Culverts)	25 Year	County = 15 Yr. / Twp. = 10 Yr.
Graded Roadbed Width	36'	County = 28' Twp. = 24'
Design Speed	55 MPH	55 MPH
Right of Way Width	150'	66'
Inslope Ratio	4 to 1	3 to 1
Design Asphalt Pavement Section (New)	6" Aggregate Base 4" Hot Bituminous Pavement	N/A
Hot Bituminous Overlay	2 ¾" (1.25" Leveling & 1.5" Wearing)	2 ¾" (1.25" Leveling & 1.5" Wearing)
Pavement Repair	22" Subcut Geotextile Fabric 12" Aggregate Sub-Base 6" Aggregate Base 4" Hot Bituminous Pavement	22" Subcut Geotextile Fabric 12" Aggregate Sub-Base 6" Aggregate Base 4" Hot Bituminous Pavement
Design Aggregate Surface Course (New)	4" Aggregate Surface	4" Aggregate Surface
Aggregate Repair	4" Aggregate Surface 6" Pit Run Gravel	3" Aggregate Surface 6" Pit Run Gravel
Ditch/Roadway Separation	4' Desired	3-4' Desired

Adopted by Cavalier County  
Dated 5/5/10

  
Chairman, Board of County Commissioners

ATTEST

  
County Auditor



## MINIMUM DESIGN STANDARDS HIGHWAYS & STRUCTURES

	COUNTY "ON-SYSTEM"	COUNTY/TOWNSHIP "OFF-SYSTEM"
Bridge Width (Clear Roadway)	28'	28'
Design & Flood Frequency (Bridges)	25 Year	15 Year
Design Loading (Bridges & Culverts)	HS-25	HS-25
Culvert Design Flood Frequency	25 Year	10 Year
Graded Roadbed Width	36'	County - 28' Twp. = 24'
Design Speed	55 MPH	55 MPH
Right of Way Width	150'	66'
Inslope Ratio	4 to 1	3 to 1
Design Asphalt Pavement Section (New)	6" Aggregate Base 4" Hot Bituminous Pavement	N/A
Hot Bituminous Overlay	2 ¾" (1.25" Leveling & 1.5" Wearing)	2 ¾" (1.25" Leveling & 1.5" Wearing)
Pavement Repair	22" Subcut Geotextile Fabric 12" Aggregate Sub-Base 6" Aggregate Base 4" Hot Bituminous Pavement	22" Subcut Geotextile Fabric 12" Aggregate Sub-Base 6" Aggregate Base 4" Hot Bituminous Pavement
Design Aggregate Surface Course (New)	4" Aggregate Surface	4" Aggregate Surface
Aggregate Repair	4" Aggregate Surface 6" Pit Run Gravel	3" Aggregate Surface 6" Pit Run Gravel
Ditch/Roadway Separation	4' Desired	3-4' Desired

Adopted by Dickey County  
Dated 3/15/2010

  
Chairman, Board of County Commissioners

ATTEST

  
County Auditor

## Design Standards on County Major Collectors and Local Roads for New or Reconstruction of Existing Infrastructure

	County Major Collectors (CMC) "On-System"	Local Roads (County) "Off-System"	Local Roads (Township) "Off-System"	Local Roads (Other) "Off-System"
Bridge Width (Clear Roadway) – Min is <u>28 ft</u>	32 ft	28 ft	28 ft	28 ft
Storm Design Frequency (Bridges)*	25 year	15 year	15 year	15 year
Design Loading (Bridges) – Min is <u>HS-25</u>	HS-25 or HL 93	HS-25 or HL 93	HS-25 or HL 93	HS-25 or HL 93
Culvert Design Frequency*	25 year	15 year	15 year	15 year
Graded Roadbed Width (sub-grade) – Paved surface	34 ft to 36 ft	34 ft to 36 ft	34 ft to 36 ft	28 ft to 36 ft
- Minimum travel way width (both lanes + shoulders)	24 ft	24 ft	24 ft	24 ft
- Minimum pavement section (base and HBP)	4in HBP & 6in Base	4in HBP & 6in Base	4in HBP & 6in Base	4in HBP & 6in Base
Graded Roadbed Width (sub-grade) – Gravel surface	28 ft to 32 ft	28 ft to 32 ft	28 ft to 32 ft	26 ft to 32 ft
- Minimum travel way width (both lanes + shoulders)	24 ft to 26 ft	24 ft to 26 ft	24 ft to 26 ft	24 ft to 26 ft
- Minimum gravel thickness	4in to 6in	4in to 6in	4in to 6in	4in to 6in
Design Speed	55 mph	55 mph	55 mph	55 mph
Right of Way Width	150 ft min	150 ft min	120 ft min	120 ft min
Inslope Ratio	4:1	4:1	4:1	4:1
Separation (Road top to Ditch Bottom)	4 ft to 5 ft	4 ft to 5 ft	4 ft to 5 ft	3.5 ft to 5 ft

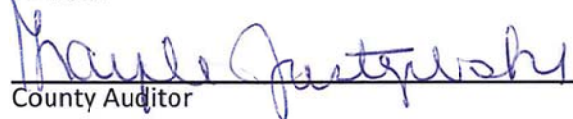
\*Bridges - For County Major Collectors (on-system); the design frequency is 25-years and other local roads (off-system); the design frequency is 15-years. If an overflow section is provided, then the waterway opening plus the overflow section must pass the appropriate design frequency. Culverts – The same design frequencies are required for culverts as they are for bridges; except for Township roads, the design frequency is 10-years. These requirements are required according to North Dakota Century Code.

Adopted by  County

Date 04/20/10

  
Chairperson, Board of County Commissioners

ATTEST:

  
County Auditor



# Design Standards on County Major Collectors and Local Roads for New or Reconstruction of Existing Infrastructure

	County Major Collectors (CMC) "On-System"	Local Roads (County) "Off-System"	Local Roads (Township) "Off-System"	Local Roads (Other) "Off-System"
Bridge Width (Clear Roadway) – Min is 28 ft	28' - 32'	28'	28'	28'
Storm Design Frequency (Bridges)*	Q25; Q15 <sup>with</sup> overflow	Q15; Q10 <sup>with</sup> overflow	Q10	Q10
Design Loading (Bridges) – Min is HS-25	HS-25	HS-25	HS-25	HS-25
Culvert Design Frequency*	Q25; Q15 <sup>with</sup> overflow	Q15; Q10 <sup>with</sup> overflow	Q10; Q2 ①	Q10; Q2 ①
Graded Roadbed Width (sub-grade) – Paved surface	34' - 42'	30' - 40'	30' - 34'	30'
- Minimum travel way width (both lanes + shoulders)	24' - 30'	24' - 28'	22' - 24'	22' - 24'
- Minimum pavement section (base and HBP)	8" - 20"	8" - 20"	8" - 12"	8" - 12"
Graded Roadbed Width (sub-grade) – Gravel surface	28' - 34'	26' - 32'	26' - 28'	22' - 26'
- Minimum travel way width (both lanes + shoulders)	24' - 28'	24' - 28'	22' - 26'	22' - 26'
- Minimum gravel thickness	4" - 8"	4" - 8"	4" - 6"	2" - 6"
Design Speed	35-55 mph	35-55 mph	35-45 mph	25-45 mph
Right of Way Width	150'	120' to 150'	100' - 150'	100' - 150'
Inslope Ratio	4:1	4:1	4:1	4:1
Separation (Road top to Ditch Bottom)	4'	4'	3' - 4'	3' - 4'

\*Bridges - For County Major Collectors (on-system); the design frequency is 25-years and other local roads (off-system); the design frequency is 15-years. If an overflow section is provided, then the waterway opening plus the overflow section must pass the appropriate design frequency. Culverts - The same design frequencies are required for culverts as they are for bridges; except for Township roads, the design frequency is 10-years. These requirements are required according to North Dakota Century Code.

① Q2 when Approved By County  
Commission And Appropriate  
Signs Are Installed.

Adopted by DANN County

Date October 2, 2013

Glenn Eckelberg  
Chairperson, Board of County Commissioners

ATTEST:

Gregg Duford  
County Auditor



# Design Standards on County Major Collectors and Local Roads for New or Reconstruction of Existing Infrastructure

	County Major Collectors (CMC) "On-System"	Local Roads (County) "Off-System"	Local Roads (Township) "Off-System"	Local Roads (Other) "Off-System"
Width (Clear Roadway) – Min Is <u>28 ft</u>	<u>28</u>	<u>28</u>		
Design Frequency (Bridges)*	<u>25</u>	<u>15</u>		
Loading (Bridges) – Min Is <u>HS-25</u>	<u>HS-25</u>	<u>HS-25</u>		
Design Frequency*	<u>25</u>	<u>15</u>		
Roadbed Width (sub-grade) – Paved surface	<u>36+</u>	<u>34+</u>		
Minimum travel way width (both lanes + shoulders)	<u>24+</u>	<u>24+</u>		
Minimum pavement section (base and HBP)	<u>6" Base 3" Surf</u>	<u>6" Base 3" Surf</u>		
Roadbed Width (sub-grade) – Gravel surface	<u>28+</u>	<u>28+</u>		
Minimum travel way width (both lanes + shoulders)	<u>24+</u>	<u>24+</u>		
Minimum gravel thickness	<u>4"</u>	<u>4"</u>		
Speed	<u>55</u>	<u>55</u>		
Right of Way Width	<u>150'</u>	<u>150'</u>		
Ratio	<u>4:1</u>	<u>4:1</u>		
Height (Road top to Ditch Bottom)	<u>4'</u>	<u>4'</u>		

\* For County Major Collectors (on-system); the design frequency is 25-years and other local roads (off-system); the design frequency is 15-years. If an overflow section is provided, then the roadway opening plus the overflow section must pass the appropriate design frequency. Culverts – The same design frequencies are required for culverts as they are for bridges; except for drainage roads, the design frequency is 10-years. These requirements are required according to North Dakota Century Code.

Adopted by Eddy County


Date 3/26/12

Neal Reed  
Chairperson, Board of County Commissioners

## Design Standards on County Major Collectors and Local Roads for New or Reconstruction of Existing Infrastructure

	County Major Collectors (CMC) "On-System"	Local Roads (County) "Off-System"	Local Roads (Township) "Off-System"	Local Roads (Other) "Off-System"
Bridge Width (Clear Roadway) – Min is <u>28 ft</u>	32 ft	28 ft	28 ft	28 ft
Storm Design Frequency (Bridges)*	25 year	15 year	15 year	15 year
Design Loading (Bridges) – Min is <u>HS-25</u>	HS-25 or HL 93	HS-25 or HL 93	HS-25 or HL 93	HS-25 or HL 93
Culvert Design Frequency*	25 year	15 year	15 year	15 year
Graded Roadbed Width (sub-grade) – Paved surface	34 ft to 36 ft	34 ft to 36 ft	34 ft to 36 ft	28 ft to 36 ft
- Minimum travel way width (both lanes + shoulders)	24 ft	24 ft	24 ft	24 ft
- Minimum pavement section (base and HBP)	4in HBP & 6in Base	4in HBP & 6in Base	4in HBP & 6in Base	4in HBP & 6in Base
Graded Roadbed Width (sub-grade) – Gravel surface	28 ft to 32 ft	28 ft to 32 ft	28 ft to 32 ft	26 ft to 32 ft
- Minimum travel way width (both lanes + shoulders)	24 ft to 26 ft	24 ft to 26 ft	24 ft to 26 ft	24 ft to 26 ft
- Minimum gravel thickness	4in to 6in	4in to 6in	4in to 6in	4in to 6in
Design Speed	55 mph	55 mph	55 mph	55 mph
Right of Way Width	150 ft min	150 ft min	120 ft min	120 ft min
Inslope Ratio	4:1	4:1	4:1	4:1
Separation (Road top to Ditch Bottom)	4 ft to 5 ft	4 ft to 5 ft	4 ft to 5 ft	3.5 ft to 5 ft


\*Bridges - For County Major Collectors (on-system); the design frequency is 25-years and other local roads (off-system); the design frequency is 15-years. If an overflow section is provided, then the waterway opening plus the overflow section must pass the appropriate design frequency. Culverts - The same design frequencies are required for culverts as they are for bridges; except for Township roads, the design frequency is 10-years. These requirements are required according to North Dakota Century Code.

Adopted by  County

Date 4-6-10

  
Chairperson, Board of County Commissioners

ATTEST:

  
County Auditor



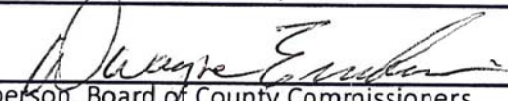
# Design Standards on County Major Collectors and Local Roads for New or Reconstruction of Existing Infrastructure

	County Major Collectors (CMC) "On-System"	Local Roads (County) "Off-System"	Local Roads (Township) "Off-System"	Local Roads (Other) "Off-System"
Bridge Width (Clear Roadway) – Min is <u>28 ft</u>	32'	30'	28'	
Storm Design Frequency (Bridges)*	25	15	15	
Design Loading (Bridges) – Min is <u>HS-25</u>	HS-25	HS-25	HS-25	
Culvert Design Frequency*	25	15	10	
Graded Roadbed Width (sub-grade) – Paved surface	34'	34'	34'	
- Minimum travel way width (both lanes + shoulders)				
- Minimum pavement section (base and HBP)				
Graded Roadbed Width (sub-grade) – Gravel surface	32'	28'	28'	
- Minimum travel way width (both lanes + shoulders)				
- Minimum gravel thickness				
Design Speed	55 mph	55 mph	55 mph	
Right of Way Width	150'	150'	150'	
Inslope Ratio	4 to 1	4 to 1	4 to 1	
Separation (Road top to Ditch Bottom)	5'	5'	5'	

\*Bridges - For County Major Collectors (on-system); the design frequency is 25-years and other local roads (off-system); the design frequency is 15-years. If an overflow section is provided, then the waterway opening plus the overflow section must pass the appropriate design frequency. Culverts – The same design frequencies are required for culverts as they are for bridges; except for Township roads, the design frequency is 10-years. These requirements are required according to North Dakota Century Code.

Adopted by Foster County

Date March 16, 2010

  
Chairperson, Board of County Commissioners

ATTEST:

  
County Auditor



## Design Standards on County Major Collectors and Local Roads for New or Reconstruction of Existing Infrastructure

	County Major Collectors (CMC) "On-System"	Local Roads (County) "Off-System"	Local Roads (Township) "Off-System"	Local Roads (Other) "Off-System"
Bridge Width (Clear Roadway) – Min is <u>28 ft</u>	28	24	24	24
Storm Design Frequency (Bridges)*	25	15	15	15
Design Loading (Bridges) – Min is <u>HS-25</u>	HS-25	HS-25	HS-25	HS-25
Culvert Design Frequency*	25	15	10	10
Graded Roadbed Width (sub-grade) – Paved surface	24	NA	NA	NA
- Minimum travel way width (both lanes + shoulders)	24	NA	NA	NA
- Minimum pavement section (base and HBP)	8"	NA	NA	NA
Graded Roadbed Width (sub-grade) – Gravel surface	28	24	20-24	20-24
- Minimum travel way width (both lanes + shoulders)	28	24	20-24	20-24
- Minimum gravel thickness	4"	3"	3"	2"-3"
Design Speed	35-55	35-55	35	35
Right of Way Width	150	66-150	66-150	66
Inslope Ratio	4:1	3-4:1	3:1	3:1
Separation (Road top to Ditch Bottom)	3-4	2-4	2-4	0-2

\*Bridges - For County Major Collectors (on-system); the design frequency is 25-years and other local roads (off-system); the design frequency is 15-years. If an overflow section is provided, then the waterway opening plus the overflow section must pass the appropriate design frequency. Culverts – The same design frequencies are required for culverts as they are for bridges; except for Township roads, the design frequency is 10-years. These requirements are required according to North Dakota Century Code.

Adopted by Golden Valley County

Date 5-4-10

  
Chairperson, Board of County Commissioners

ATTEST:

  
County Auditor

Design Standards on County Major Collectors and Local Roads  
for New or Reconstruction of Existing Infrastructure

	County Major Collectors (CMC) "On-System"	Local Roads (County) "Off-System"	Local Roads (Township) "Off-System"	Local Roads (Other) "Off-System"
Bridge Width (Clear Roadway) – Min is 28 ft	28 – 32 ft	28 – 32 ft	28 – 32 ft	28 – 32 ft
Storm Design Frequency (Bridges)*	25 yr	15 yr	10 yr	10 yr
Design Loading (Bridges) – Min is HS-25	HS-25	HS-25	HS-25	HS-25
Culvert Design Frequency*	25 yr	15 yr	Twp. Rd. Authority	Twp. Rd. Authority
Graded Roadbed Width (sub-grade) – Paved Surface	32 - 34 ft	32 - 34 ft	Twp. Rd. Authority	Twp. Rd. Authority
Minimum travel way width (both lanes + shoulders)	28 -30 ft	28 -30 ft	Twp. Rd. Authority	Twp. Rd. Authority
Minimum pavement section (base and HBP)	(6") - 6"	(6") - 6"	Twp. Rd. Authority	Twp. Rd. Authority
Graded Roadbed Width (sub-grade) – Gravel surface	28 – 30 ft	28 – 30 ft	Twp. Rd. Authority	Twp. Rd. Authority
Minimum travel way width (both lanes + shoulder)	24 - 28 ft	24 - 28 ft	Twp. Rd. Authority	Twp. Rd. Authority
Minimum gravel thickness	3 – 6 In	3 – 6 In	Twp. Rd. Authority	Twp. Rd. Authority
Design Speed	50 – 55 MPH	50 – 55 MPH	Twp. Rd. Authority	Twp. Rd. Authority
Right of Way Width	120 – 150 ft	120 – 150 ft	Twp. Rd. Authority	Twp. Rd. Authority
Inslope Ratio	4:1 – 6:1	4:1 – 6:1	Twp. Rd. Authority	Twp. Rd. Authority
Separation (Road top to Ditch Bottom)	Dependent on Road Ditch Design	Dependent on Road Ditch Design	Dependent on Road Ditch Design	Dependent on Road Ditch Design

\*Bridges – For County Major Collectors (on-system); the design frequency is 25 years and other local roads (off-system); the design frequency is 15 years. If an overflow section is provided, then the waterway opening plus the overflow section must pass the appropriate design frequency. Culvert – The same design frequencies are required for culverts as they are for bridges; except for Township roads, the design frequency is 10 years. These requirements are required according to North Dakota Century Code.

Adopted by Grand Forks County

Date 3/16/10

Orville Knauf  
Chairperson, Board of County Commissioners

ATTEST:

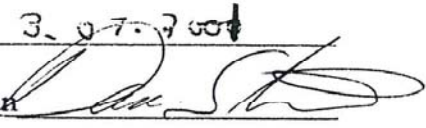
Debbie Nelson  
County Auditor

**GUIDELINES FOR COUNTY MAJOR COLLECTORS, COUNTY AND TWP ROADS**

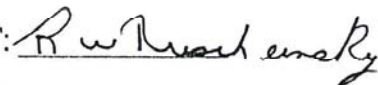
	<b>Major Collectors</b>	<b>County Roads</b>	<b>Twp Roads</b>
Bridge width (Clear Roadway )	28 ft	28 ft	28ft
Storm Design Frequency (Bridges)	O25	Q10 w/overflow Q15	Q10 w/overflow Q15
Design Loading (Bridges)	HS 25	HS25	HS 25
Culvert Design Frequency	Q-15	Q-10	Q-10
Graded Roadbed Width	28 feet	28 feet	24 feet
Design Speed	55 MPH		
Right of Way Width	150 feet	150 feet total	100 feet total
Inslope (Foreslope) Ratio	4 to 1		
Separation (Road top to Ditch Bottom)	5 ft		

County Roads & Twp Roads  
Adopted by Grant County

Date 3-07-01

Chairman 

Date 5-16-01

ATTEST: 

R.W. Ruscheinsky  
Grant County Auditor




## MINIMUM DESIGN STANDARDS HIGHWAYS & STRUCTURES

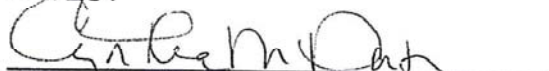
	COUNTY "ON-SYSTEM"	COUNTY/TOWNSHIP "OFF-SYSTEM"
Bridge Width (Clear Roadway)	28'	28'
Design & Flood Frequency (Bridges)	25 Year	15 Year
Design Loading (Bridges & Culverts)	HS-25	HS-25
Culvert Design Flood Frequency	25 Year	10 Year
Graded Roadbed Width	36'	County - 28' Twp. = 24'
Design Speed	55 MPH	55 MPH
Right of Way Width	150'	66'
Inslope Ratio	4 to 1	3 to 1
Design Asphalt Pavement Section (New)	6" Aggregate Base 4" Hot Bituminous Pavement	N/A
Hot Bituminous Overlay	2 ¾" (1.25" Leveling & 1.5" Wearing)	2 ¾" (1.25" Leveling & 1.5" Wearing)
Pavement Repair	22" Subcut Geotextile Fabric 12" Aggregate Sub-Base 6" Aggregate Base 4" Hot Bituminous Pavement	22" Subcut Geotextile Fabric 12" Aggregate Sub-Base 6" Aggregate Base 4" Hot Bituminous Pavement
Design Aggregate Surface Course (New)	4" Aggregate Surface	4" Aggregate Surface
Aggregate Repair	4" Aggregate Surface 6" Pit Run Gravel	3" Aggregate Surface 6" Pit Run Gravel
Ditch/Roadway Separation	4' Desired	3-4' Desired

Adopted by Griggs County

Dated 3-17-10

  
Chairman, Board of County Commissioners

ATTEST

  
County Auditor

## GUIDELINES FOR COUNTY AND TOWNSHIP ROADS

	Major Collectors (Formerly FAS)	Township Roads
Bridge Width (Clear Roadway)	<u>28 ft.</u> Q 15	<u>28 ft.</u> Q 15
Storm Design Frequency (Bridges)	<u>Q 10 w/ overflow</u>	<u>Q 10 w/ overflow</u>
Design Loading (Bridges)	<u>HS 20</u>	<u>HS 20</u>
Culvert Design Frequency	<u>Q 10</u>	<u>Q 10</u>
Graded Roadbed Width	<u>28 ft.</u>	<u>24 ft.</u>
Right of Way Width	<u>150 ft.</u>	<u>66 ft.</u>

Adopted by Hettinger CountyDated January, 19, 1993

Patrick P. Candlish  
Chairman, Board of County Commissioners

ATTEST:

Ray J. Steiner  
County Auditor

Return To:  
SECONDARY ROADS DIVISION  
ND DEPT OF TRANSPORTATION  
608 E BOULEVARD AVE  
BISMARCK ND 58505-0700

## Design Standards on County Major Collectors and Local Roads for New or Reconstruction of Existing Infrastructure

	County Major Collectors (CMC) "On-System"	Local Roads (County) "Off-System"	Local Roads (Township) "Off-System"	Local Roads (Other) "Off-System"
Bridge Width (Clear Roadway) – Min is <u>28 ft</u>	NA	NA		
Storm Design Frequency (Bridges)*	NA	NA		
Design Loading (Bridges) – Min is <u>HS-25</u>	NA	NA		
Culvert Design Frequency*	REPLACED WHEN NECESSARY			
Graded Roadbed Width (sub-grade) – Paved surface	28'-30'	28'-30'		
- Minimum travel way width (both lanes + shoulders)	25'-26'	25'-26'		
- Minimum pavement section (base and HBP)	4'-6"	4'-6"		
Graded Roadbed Width (sub-grade) – Gravel surface	28'-30'	28'-30'		
- Minimum travel way width (both lanes + shoulders)	25'-26'	25'-26'		
- Minimum gravel thickness	4'-6"	4'-6"		
Design Speed	55	55		
Right of Way Width	66'	66'		
Inslope Ratio	4:1	4:1		
Separation (Road top to Ditch Bottom)				

\*Bridges - For County Major Collectors (on-system); the design frequency is 25-years and other local roads (off-system); the design frequency is 15-years. If an overflow section is provided, then the waterway opening plus the overflow section must pass the appropriate design frequency. Culverts - The same design frequencies are required for culverts as they are for bridges; except for Township roads, the design frequency is 10-years. These requirements are required according to North Dakota Century Code.

Adopted by KIDDER County

Date MARCH 9, 2010

Mark F. Meyer  
Chairperson, Board of County Commissioners

ATTEST:

Michelle Karyl  
County Auditor

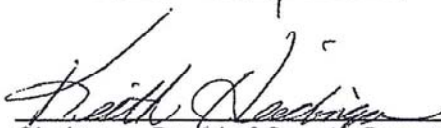


## MINIMUM DESIGN STANDARDS HIGHWAYS & STRUCTURES

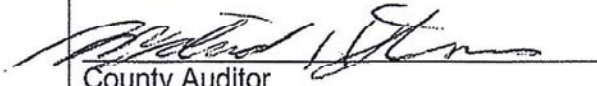
	COUNTY "ON-SYSTEM"	COUNTY/TOWNSHIP "OFF-SYSTEM"
Bridge Width (Clear Roadway)	28'	28'
Design & Flood Frequency (Bridges)	25 Year	15 Year
Design Loading (Bridges & Culverts)	HS-25	HS-25
Culvert Design Flood Frequency	25 Year	15 Year
Graded Roadbed Width	36'	County - 32' Twp. = 28'
Design Speed	55 MPH	55 MPH
Right of Way Width	150'	66'
Inslope Ratio	4 to 1	3 to 1
Design Asphalt Pavement Section (New)	6" Aggregate Base 4" Hot Bituminous Pavement	N/A
Structural Overlay (HBP)	2 ¾" (1.25" Leveling & 1.5" Wearing)	N/A
Pavement Repair	22" Subcut Geotextile Fabric 12" Aggregate Sub-Base 6" Aggregate Base 4" Hot Bituminous Pavement	16" Subcut Geotextile Fabric 12" Aggregate Sub-Base 4" Class 13 (Crushed)
Design Aggregate Surface Course (New)	4" Aggregate Surface	4" Aggregate Surface
Haul Road Material	Class 13 (Crushed)	Class 13 (Crushed)

Adopted by LaMoure County

Dated 6.7.2011

  
Chairman, Board of County Commissioners

ATTEST

  
County Auditor

# GUIDELINES FOR LOGAN COUNTY MAJOR COLLECTORS AND LOCAL ROADS

	County Major Collectors (CMC) "On- System"	Local Roads "Off-System"	FEMA Specs
Bridge Width (Clear Roadway)	28'	28'	
Storm Design Frequency (Bridges)	25 Yr	15 Yr	
Design Loading (Bridges)	HL-93	HL-93	
Culvert Design Frequency	25 Yr	15 Yr	
Graded Roadbed Width	28' (gravel) 36' (paved)	28'	
Design Asphalt Pavement Section	Determined by pavement design	N/A	
Design Aggregate Surface Course	6"	4"	2"
Aggregate Repair	6" Aggregate Surface 6" Pit Run Gravel	3" Aggregate Surface 6" Pit Run Gravel	4"
Rip Rap (8 Inches)		8"	
Design Speed	55 mph	55 mph	
Design Speed-end of City Limits on Lake Ave to West Lake	45 mph	45 mph	
Right of Way Width	150'	66' W/Slope	
Inslope (Foreslope) Ratio	4 to 1	3 to 1	
Separation (Roadtop to Ditch Bottom)	4'	4'	

Adopted by Logan County,

Dated 12/11/23

Blanche Schumacher

Chairman, Board of County Commissioners

ATTEST:

Jodya Kristian  
County Auditor

## ROAD RIGHTS OF WAY

Rights of Way for County Roads 66'  
Rights of Way for Farm to Market Roads 150'  
Rights of Way for State Highways 300'

Building Setbacks = 33' + 200' = 233'  
Building Setbacks = 75' + 200' = 275'  
Building Setbacks = 150' + 200' = 350'



## Design Standards on County Major Collectors and Local Roads for New or Reconstruction of Existing Infrastructure

	County Major Collectors (CMC) "On-System"	Local Roads (County) "Off-System"	Local Roads (Township) "Off-System"	Local Roads (Other) "Off-System"
Bridge Width (Clear Roadway) – Min is <u>28 ft</u>	32 ft	28 ft	28 ft	28 ft
Storm Design Frequency (Bridges)*	25 year	15 year	15 year	15 year
Design Loading (Bridges) – Min is <u>HS-25</u>	HS-25 or HL 93	HS-25 or HL 93	HS-25 or HL 93	HS-25 or HL 93
Culvert Design Frequency*	25 year	15 year	15 year	15 year
Graded Roadbed Width (sub-grade) – Paved surface	34 ft to 36 ft	34 ft to 36 ft	34 ft to 36 ft	28 ft to 36 ft
- Minimum travel way width (both lanes + shoulders)	24 ft	24 ft	24 ft	24 ft
- Minimum pavement section (base and HBP)	6in Base	6in Base	6in Base	6in Base
Graded Roadbed Width (sub-grade) – Gravel surface	32 ft	32 ft	28 ft	28 ft
- Minimum travel way width (both lanes + shoulders)	24 ft	24 ft	24 ft	24 ft
- Minimum gravel thickness	4in	4in	4in	4in
Design Speed	55 mph	55 mph	55 mph	55 mph
Right of Way Width	150 ft min	150 ft min	120 ft min	120 ft min
Inslope Ratio	4:1	4:1	4:1	4:1
Separation (Road top to Ditch Bottom)	4 ft to 5 ft	4 ft to 5 ft	4 ft to 5 ft	3.5 ft to 5 ft

\*Bridges - For County Major Collectors (on-system); the design frequency is 25-years and other local roads (off-system); the design frequency is 15-years. If an overflow section is provided, then the waterway opening plus the overflow section must pass the appropriate design frequency. Culverts - The same design frequencies are required for culverts as they are for bridges; except for Township roads, the design frequency is 10-years. These requirements are required according to North Dakota Century Code.

Adopted by McHenry County

Date May 4, 2010  
[Signature]

Chairperson, Board of County Commissioners

ATTEST:

[Signature]  
County Auditor

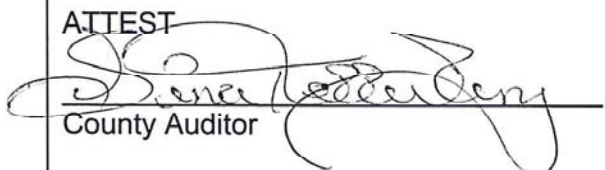
## MINIMUM DESIGN STANDARDS HIGHWAYS & STRUCTURES

	COUNTY "ON-SYSTEM"	COUNTY/TOWNSHIP "OFF-SYSTEM"
Bridge Width (Clear Roadway)	28'	28'
Design & Flood Frequency (Bridges)	25 Year	15 Year
Design Loading (Bridges & Culverts)	HS-25	HS-25
Culvert Design Flood Frequency	25 Year	10 Year
Graded Roadbed Width	36'	County - 28' Twp. = 24'
Design Speed	55 MPH	55 MPH
Right of Way Width	150'	66'
Inslope Ratio	4 to 1	3 to 1
Design Asphalt Pavement Section (New)	6" Aggregate Base 4" Hot Bituminous Pavement	N/A
Hot Bituminous Overlay	2 ¾" (1.25" Leveling & 1.5" Wearing)	2 ¾" (1.25" Leveling & 1.5" Wearing)
Pavement Repair	22" Subcut Geotextile Fabric 12" Aggregate Sub-Base 6" Aggregate Base 4" Hot Bituminous Pavement	22" Subcut Geotextile Fabric 12" Aggregate Sub-Base 6" Aggregate Base 4" Hot Bituminous Pavement
Design Aggregate Surface Course (New)	4" Aggregate Surface	4" Aggregate Surface
Aggregate Repair	4" Aggregate Surface 6" Pit Run Gravel	3" Aggregate Surface 6" Pit Run Gravel
Ditch/Roadway Separation	4' Desired	3-4' Desired

Adopted by McIntosh County  
Dated 7/16/2010

  
Chairman, Board of County Commissioners

ATTEST

  
County Auditor





**McKenzie County**  
1300 12<sup>th</sup> Street SE, Suite 240  
Watford City, ND 58854  
Ph. 701-444-2600  
[county.mckenziecounty.net](http://county.mckenziecounty.net)

**DESIGN STANDARDS FOR NEW CONSTRUCTION OR RECONSTRUCTION OF ROADS**

	County Major Collectors (CMC)	Local Roads (County)	Local Roads (Township)	Local Roads (Other)
Bridge Width (Minimum Clear Roadway)	32 ft	32 ft	32 ft	28 ft
Storm Design Frequency (Bridges)	50 year	50 year	25 year	Per NDAC 89-14
Minimum Design Loading (Bridges)	HL-93	HL-93	HL-93	HL-93
Culvert Design Frequency	50 year	50 year	25 year	Per NDAC 89-14
<b>Paved Roadways</b>				
Minimum Travel Way Width (both lanes + shoulders)	24 ft + 4 ft per Shoulder	24 ft + 4 ft per Shoulder	24 ft + 4 ft per Shoulder	24 ft + 2 ft per Shoulder
Minimum Pavement Thickness <sup>1</sup>	6 in	6 in	6 in	4 in
Minimum Gravel Thickness <sup>1</sup>	12 in	12 in	12 in	8 in
<b>Gravel Roadways</b>				
Minimum Travel Way Width (both lanes + shoulders)	24 ft + 4 ft per Shoulder	24 ft + 4 ft per Shoulder	24 ft + 4 ft per Shoulder	24 ft + 1 ft per Shoulder
Minimum Gravel Thickness <sup>1</sup>	8 in	6 in	6 in	6 in
Minimum Design Speed	55 mph	35 mph	35 mph	35 mph
Minimum Right of Way Width	150 feet	150 feet	120 feet	120 feet <sup>2</sup>
Maximum Inslope Ratio (H:V)	4:1			
Minimum Separation (Road Top to Ditch Bottom)	4 feet	4 feet	3 feet	3 feet

<sup>1</sup> As required by the County Engineer, pavement section is to be determined by geotechnical report, ADT, and with legal load limits at 105,500 lbs.

<sup>2</sup> If required by McKenzie County and/or Organized Township.

**ADOPTED BY MCKENZIE COUNTY**

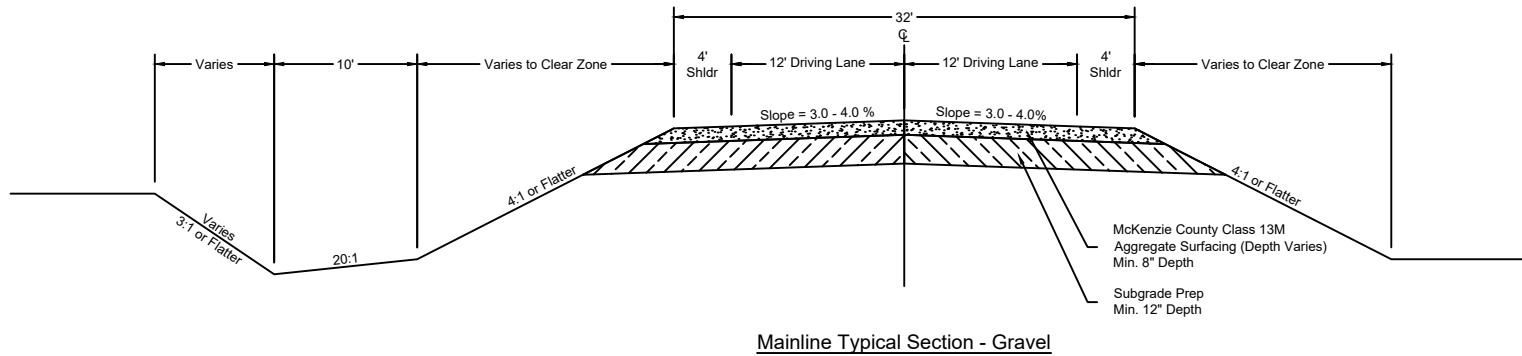
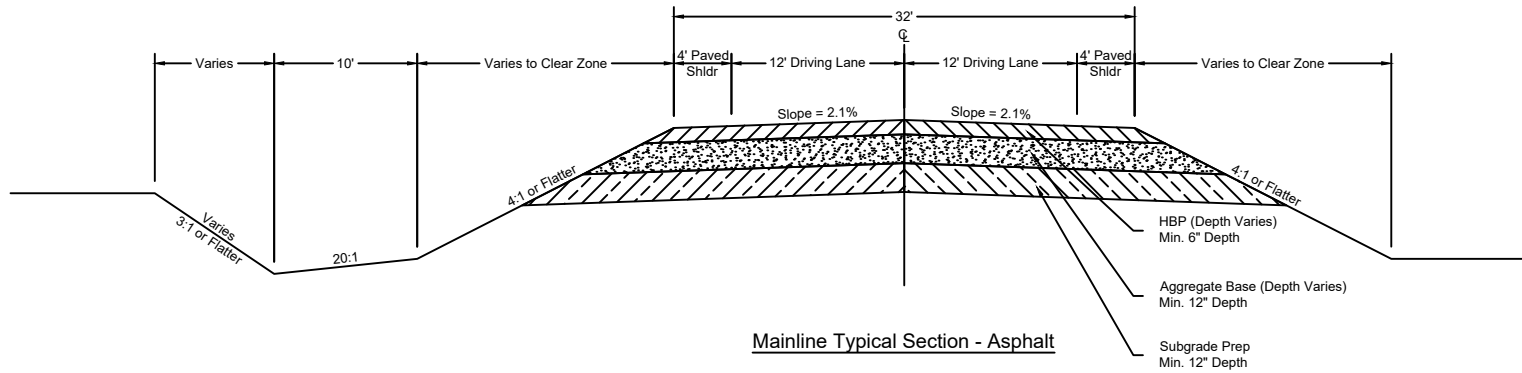
**DATE:** 07/18/2023

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BOARD OF COUNTY COMMISSIONERS CHAIRMAN

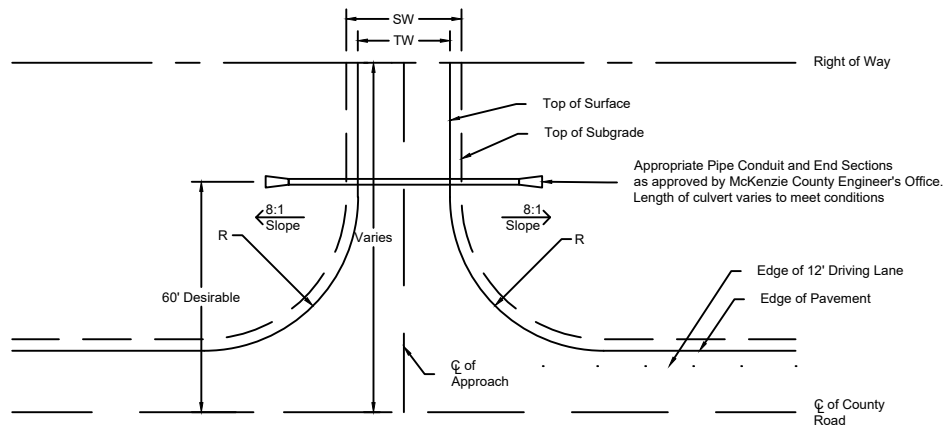
**ATTEST:**

\_\_\_\_\_  
COUNTY AUDITOR

# **MCKENZIE COUNTY** **CMC TYPICAL SECTION**

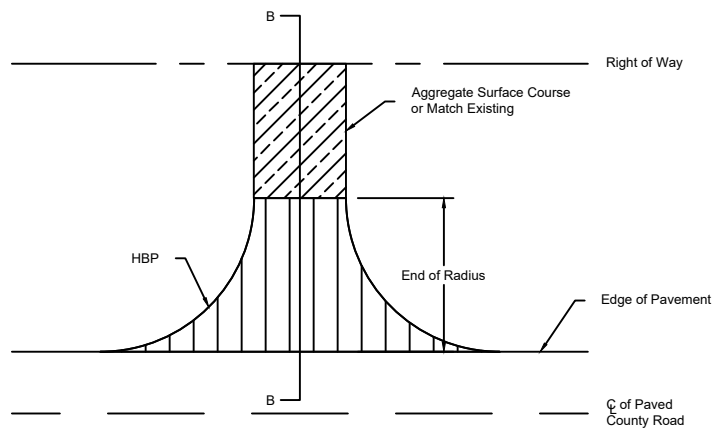




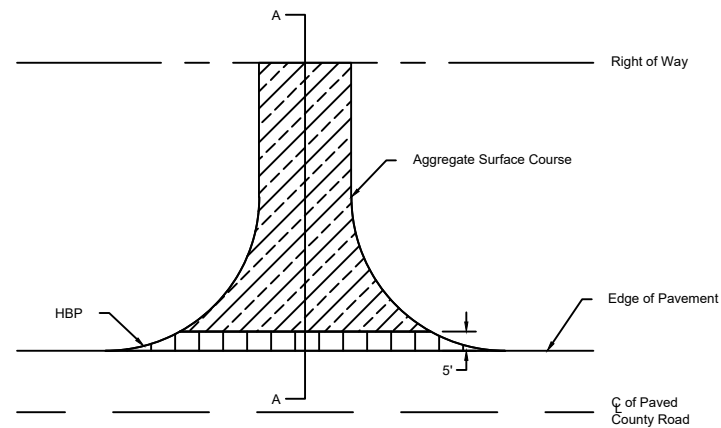


	Field Drives	Private Drives	Section Line or Road
Radius (R)	40 ft	40 ft	50 ft
Top Width (TW)	24 - 40 ft	24 - 40 ft	32 ft
Subgrade Width (SW)	28 - 44 ft	28 - 44 ft	38 ft
Maximum Grade	10%	7%	7%
Storage Platform	24 ft	24 ft	50 ft
Vertical Curve Length	10 ft	10 ft	Varies

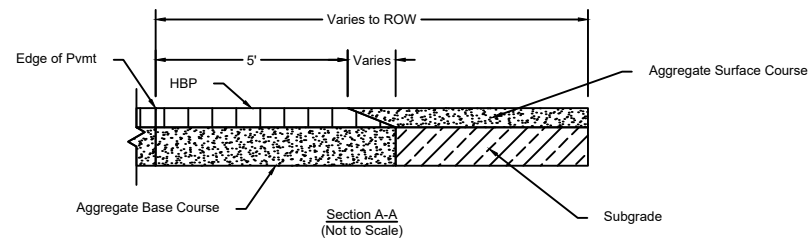
Refer to NDDOT Standard Drawing D-203-8 for more information.



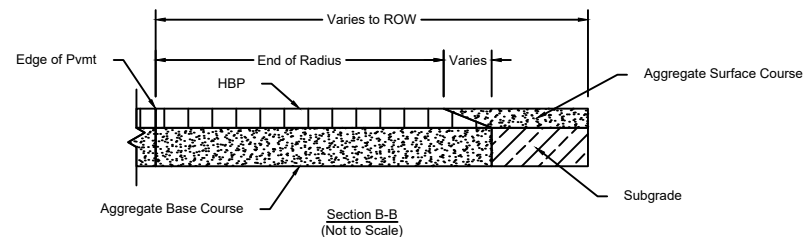
**Private Drive Approach/Section Line or Road Approach**



**Field Drive Approach**



**Section A-A  
(Not to Scale)**



**Section B-B  
(Not to Scale)**

## Design Standards on County Major Collectors and Local Roads for New or Reconstruction of Existing Infrastructure

	County Major Collectors (CMC) "On-System"	Local Roads (County) "Off-System"	Local Roads (Township) "Off-System"	Local Roads (Other) "Off-System"
<b>Bridge Width (Clear Roadway) – Min is <u>28 ft</u></b>	32 ft	28 ft	28 ft	28 ft
<b>Storm Design Frequency (Bridges)*</b>	25 year	15 year	15 year	15 year
<b>Design Loading (Bridges) – Min is <u>HS-25</u></b>	HS-25 or HL 93	HS-25 or HL 93	HS-25 or HL 93	HS-25 or HL 93
<b>Culvert Design Frequency*</b>	25 year	15 year	15 year	15 year
<b>Graded Roadbed Width (sub-grade) – Paved surface</b>	34 ft to 36 ft	34 ft to 36 ft	34 ft to 36 ft	28 ft to 36 ft
- Minimum travel way width (both lanes + shoulders)	24 ft	24 ft	24 ft	24 ft
- Minimum pavement section (base and HBP)	4in HBP & 6in Base	4in HBP & 6in Base	4in HBP & 6in Base	4in HBP & 6in Base
<b>Graded Roadbed Width (sub-grade) – Gravel surface</b>	28 ft to 32 ft	28 ft to 32 ft	28 ft to 32 ft	26 ft to 32 ft
- Minimum travel way width (both lanes + shoulders)	24 ft to 26 ft	24 ft to 26 ft	24 ft to 26 ft	24 ft to 26 ft
- Minimum gravel thickness	4in to 6in	4in to 6in	4in to 6in	4in to 6in
<b>Design Speed</b>	55 mph	55 mph	55 mph	55 mph
<b>Right of Way Width</b>	150 ft min	150 ft min	120 ft min	120 ft min
<b>Inslope Ratio</b>	4:1	4:1	4:1	4:1
<b>Separation (Road top to Ditch Bottom)</b>	4 ft to 5 ft	4 ft to 5 ft	4 ft to 5 ft	3.5 ft to 5 ft

\*Bridges - For County Major Collectors (on-system); the design frequency is 25-years and other local roads (off-system); the design frequency is 15-years. If an overflow section is provided, then the waterway opening plus the overflow section must pass the appropriate design frequency. **Culverts** – The same design frequencies are required for culverts as they are for bridges; except for Township roads, the design frequency is 10-years. These requirements are required according to North Dakota Century Code.

Adopted by McLean County

Date 3-6-10  
  
 Chairperson, Board of County Commissioners

ATTEST:

\_\_\_\_\_  
 County Auditor



## Design Standards on County Major Collectors and Local Roads for New or Reconstruction of Existing Infrastructure

	County Major Collectors (CMC) "On-System"	Local Roads (County) "Off-System"	Local Roads (Township) "Off-System"	Local Roads (Other) "Off-System"
Bridge Width (Clear Roadway) – Min is <u>28 ft</u>	28 FT	28 FT	28 FT	28 FT
Storm Design Frequency (Bridges)*	25 YRS <sup>15 YRS W/ OVERFLOW</sup>	15 YRS <sup>10 YRS W/ OVERFLOW</sup>	15 YRS <sup>10 YRS W/ OVERFLOW</sup>	15 YRS <sup>10 YRS W/ OVERFLOW</sup>
Design Loading (Bridges) – Min is <u>HS-25</u>	HS-25	HS-25	HS-25	HS-25
Culvert Design Frequency*	25 YRS	15 YRS	15 YRS	15 YRS
Graded Roadbed Width (sub-grade) – Paved surface	34 FT	34 FT	34 FT	34 FT
- Minimum travel way width (both lanes + shoulders)	24 FT	24 FT	24 FT	24 FT
- Minimum pavement section (base and HBP)	9 INCHES	9 INCHES	9 INCHES	9 INCHES
Graded Roadbed Width (sub-grade) – Gravel surface	28 FT	28 FT	28 FT	28 FT
- Minimum travel way width (both lanes + shoulders)	24 FT	24 FT	24 FT	24 FT
- Minimum gravel thickness	3 INCHES	3 INCHES	3 INCHES	3 INCHES
Design Speed	65 MPH PAVED 55 MPH GRAVEL	65 MPH PAVED 55 MPH GRAVEL	65 MPH PAVED 55 MPH GRAVEL	65 MPH PAVED 55 MPH GRAVEL
Right of Way Width	150 FT	150 FT	150 FT	150 FT
Inslope Ratio	4:1	4:1	4:1	4:1
Separation (Road top to Ditch Bottom)	4 FT	4 FT	4 FT	4 FT

\*Bridges - For County Major Collectors (on-system); the design frequency is 25-years and other local roads (off-system); the design frequency is 15-years. If an overflow section is provided, then the waterway opening plus the overflow section must pass the appropriate design frequency. Culverts - The same design frequencies are required for culverts as they are for bridges; except for Township roads, the design frequency is 10-years. These requirements are required according to North Dakota Century Code.

Adopted by Mercer County

Date 3-17-2010

Wayne Zinke Vice Chairman  
Chairperson, Board of County Commissioners

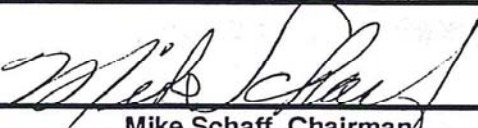
ATTEST:

Monty Erhardt Auditor  
County Auditor

# MORTON COUNTY HIGHWAY DEPARTMENT ROADWAY STANDARDS FOR ALL NEW CONSTRUCTION - MINIMUM REQUIREMENTS

AVERAGE DAILY TRAFFIC	COUNTY ROADS	COLLECTORS		COLLECTORS		
		0 - 125		125 - 250		250 - 400
		0 - 125	MC	PC	MC	PC
Minimum Design Speed mph						
Level Terrain	40	40	55	50	55	55
Rolling Terrain	30	40	50	40	55	55
Graded Roadway Section						
Graded Roadway						
Gravel Surface: Width , Feet	24	26	28	28	28	28
Bituminous Surface: Width, Feet	24	28	32	28	32	36
Inslopes	4:1	4:1	4:1	4:1	4:1	4:1
Right of Way	66-150	150	150	150	150	150
Ditch Depth Centerline to Ditch, Feet	3	3	5	3	5	5
Backslope	4:1	4:1	4:1	4:1	4:1	4:1
Surfacing						
Gravel: Width, Feet	20	24	24	24	24	24
Depth, Inches	3	3	4	4	4	4
Bituminous Base: Width, Feet	22	26	26	26	26	26
Depth, Inches	4	4	6	6	6	6
Bituminous Surface: Width, Feet	20	24	24	24	24	24
Depth, Inches	2-1/2	3	4	4	4	4
Degree of Curve						
Level	10	10	5.5	6.5	5.25	5.25
Rolling	10	10	5.5	8.0	5.25	5.25
Drainage						
Bridges:						
Clear Roadway Width Feet	28	28	28	28	28	28
Bridges & Culverts Capacity	HS15	HS20	HS25	HS25	HS25	HS25
Storm Frequency (Yrs) w/o Overflow	10	15	25	15	25	25
Storm Frequency (Yrs) w/ Overflow	10	10	15	10	15	15
Minimum Culvert Diameter Inches	18	18	24	24	24	24

Adopted February 1, 1994

  
 Mike Schaff, Chairman  
 Morton County Board of Commissioners



## Design Standards on County Major Collectors and Local Roads for New or Reconstruction of Existing Infrastructure

	County Major Collectors (CMC) "On-System" & Haul Routes	Local Roads (County) "Off-System"	Local Roads (Township) "Off-System" Organized Townships	Local Roads (Other) "Off-System" Unorganized Townships
Bridge Width (Clear Roadway) – Min is <u>28 ft</u>	28'-34'	28'	Township Responsibility	28'
Storm Design Frequency (Bridges)*	25 YR	25 YR	Township Responsibility	15 YR
Design Loading (Bridges) – Min is <u>HS-25</u>	HS-25	HS-25	Township Responsibility	HS-25
Culvert Design Frequency*	25 YR	25 YR	Township Responsibility	10 YR
Graded Roadbed Width (sub-grade) – Paved surface	49'	41'	Township Responsibility	41'
- Minimum travel way width (both lanes + shoulders)	34' (28' HBP; 6' GRV SHL)	28'	Township Responsibility	28'
- Minimum pavement section (base and HBP)	15" Base – 5" HBP	12" Base – 4" HBP	Township Responsibility	12" Base – 4" HBP
Graded Roadbed Width (sub-grade) – Gravel surface	37'	28'	Township Responsibility	28'
- Minimum travel way width (both lanes + shoulders)	28'	24'	Township Responsibility	24'
- Minimum gravel thickness	12"	6"	Township Responsibility	6"
Design Speed	55 MPH	55 MPH	Township Responsibility	35 MPH
Right of Way Width	150'	150'	Township Responsibility	66'-150'
Inslope Ratio	4:1	4:1	Township Responsibility	4:1
Separation (Road top to Ditch Bottom)	5'	5'	Township Responsibility	3' Min. – 5' Pref.

\*Bridges - For County Major Collectors (on-system); the design frequency is 25-years and other local roads (off-system); the design frequency is 15-years. If an overflow section is provided, then the waterway opening plus the overflow section must pass the appropriate design frequency. Culverts – The same design frequencies are required for culverts as they are for bridges; except for Township roads, the design frequency is 10-years. These requirements are required according to North Dakota Century Code.

Adopted by Mountrail County

Date February 7, 2012

Arlo B. Beyer  
Chairperson, Board of County Commissioners

ATTEST: Joan M. Hollekum  
County Auditor



## MINIMUM DESIGN STANDARDS HIGHWAYS & STRUCTURES


	COUNTY "ON-SYSTEM"	COUNTY/TOWNSHIP "OFF-SYSTEM"
Bridge Width (Clear Roadway)	28'	28'
Design & Flood Frequency (Bridges)	25 Year	15 Year
Design Loading (Bridges & Culverts)	HS-25	HS-25
Culvert Design Flood Frequency	25 Year	10 Year
Graded Roadbed Width	36'	County - 28' Twp. = 24'
Design Speed	55 MPH	55 MPH
Right of Way Width	150'	66'
Inslope Ratio	4 to 1	3 to 1
Design Asphalt Pavement Section (New)	6" Aggregate Base 4" Hot Bituminous Pavement	N/A
Hot Bituminous Overlay	2 ¾" (1.25" Leveling & 1.5" Wearing)	2 ¾" (1.25" Leveling & 1.5" Wearing)
Pavement Repair	22" Subcut Geotextile Fabric 12" Aggregate Sub-Base 6" Aggregate Base 4" Hot Bituminous Pavement	22" Subcut Geotextile Fabric 12" Aggregate Sub-Base 6" Aggregate Base 4" Hot Bituminous Pavement
Design Aggregate Surface Course (New)	4" Aggregate Surface	4" Aggregate Surface
Aggregate Repair	4" Aggregate Surface 6" Pit Run Gravel	3" Aggregate Surface 6" Pit Run Gravel
Ditch/Roadway Separation	4' Desired	3-4' Desired

Adopted by Nelson County

Dated 4-6-10

  
 Chairman, Board of County Commissioners

ATTEST

  
 County Auditor

# Design Standards on County Major Collectors and Local Roads for New or Reconstruction of Existing Infrastructure

	County Major Collectors (CMC) "On-System"	Local Roads (County) "Off-System"	Local Roads (Township) "Off-System"	Local Roads (Other) "Off-System"
Bridge Width (Clear Roadway) – Min is <u>28 ft</u>				
Storm Design Frequency (Bridges)*				
Design Loading (Bridges) – Min is <u>HS-25</u>				
Culvert Design Frequency*				
Graded Roadbed Width (sub-grade) – Paved surface				
- Minimum travel way width (both lanes + shoulders)				
- Minimum pavement section (base and HBP)				
Graded Roadbed Width (sub-grade) – Gravel surface				
- Minimum travel way width (both lanes + shoulders)				
- Minimum gravel thickness				
Design Speed				
Right of Way Width				
Inslope Ratio				
Separation (Road top to Ditch Bottom)				

\*Bridges - For County Major Collectors (on-system); the design frequency is 25-years and other local roads (off-system); the design frequency is 15-years. If an overflow section is provided, then the waterway opening plus the overflow section must pass the appropriate design frequency. Culverts - The same design frequencies are required for culverts as they are for bridges; except for Township roads, the design frequency is 10-years. These requirements are required according to North Dakota Century Code.

Adopted by Oliver County

Date 5-6-10

Dwaine Holmes  
Chairperson, Board of County Commissioners

ATTEST:

Barbara Fleming  
County Auditor



MAY-07-2010 09:09 From:

# Oliver County Highway Department

## Minimum construction standards

### For All New Roadways

FAS

AVERAGE DAILY TRAFFIC	COUNTY ROADS	COLLECTORS		COLLECTORS		
		0 - 125		125 - 250		250 - 400
		0 - 125	MC	PC	MC	PC
Minimum Design Speed mph						
Level Terrain	40	40	55	50	55	55
Rolling Terrain	30	40	50	40	55	55
Graded Roadway Section						
Graded Roadway						
Gravel Surface: Width, Feet	24	26	28	28	28	28
Bituminous Surface: Width, Feet	24	28	32	28	32	36
Inslopes	4:1	4:1	4:1	4:1	4:1	4:1
Right of Way	66-150	150	150	150	150	150
Ditch Depth Centerline to Ditch, Feet	3	3	5	3	5	5
Backslope	4:1	4:1	4:1	4:1	4:1	4:1
Surfacing						
Gravel: Width, Feet	20	24	24	24	24	24
Gravel: Depth, Inches	3	3	4	4	4	4
Bituminous Base: Width, Feet	22	26	26	26	26	26
Bituminous Base: Depth, Inches	4	4	6	6	6	6
Bituminous Surface: Width, Feet	20	24	24	24	24	24
Bituminous Surface: Depth, Inches	2-1/2	3	4	4	4	4
Degree of Curve						
Level	10	10	5.5	6.6	5.25	5.25
Rolling	10	10	5.5	8.0	5.25	5.25
Drainage						
Bridges:						
Clear Roadway Width Feet	28	28	28	28	28	28
Bridges & Culverts Capacity	HS15	HS20	HS25	HS25	HS25	HS25
Storm Frequency (Yrs) w/o Overflow	10	15	25	15	25	25
Storm Frequency (Yrs) w/ Overflow	10	10	15	10	15	15
Minimum Culvert Diameter Inches	18	18	24	24	24	24



## PEMBINA COUNTY MINIMUM DESIGN STANDARDS HIGHWAYS & STRUCTURES

	COUNTY "ON-SYSTEM"	COUNTY/TOWNSHIP "OFF-SYSTEM"
Bridge Width (Clear Roadway)	28'	28'
Design Flow Frequency (Structures)	25 Year	15 Year
Design Loading (Structures & Culverts)	HS-25	HS-25
Design Flow Frequency (Culverts)	25 Year	County = 15 Yr. / Twp. = 10 Yr.
Graded Roadbed Width	36'	County = 28' Twp. = 24'
Design Speed	55 MPH	55 MPH
Right of Way Width	150'	66'
Inslope Ratio	4 to 1	3 to 1
Design Asphalt Pavement Section (New)	6" Aggregate Base 4" Hot Bituminous Pavement	N/A
Hot Bituminous Overlay	2 ¾" (1.25" Leveling & 1.5" Wearing)	2 ¾" (1.25" Leveling & 1.5" Wearing)
Pavement Repair	22" Subcut Geotextile Fabric 12" Aggregate Sub-Base 6" Aggregate Base 4" Hot Bituminous Pavement	22" Subcut Geotextile Fabric 12" Aggregate Sub-Base 6" Aggregate Base 4" Hot Bituminous Pavement
Design Aggregate Surface Course (New)	4" Aggregate Surface	4" Aggregate Surface
Aggregate Repair	4" Aggregate Surface 6" Pit Run Gravel	3" Aggregate Surface 6" Pit Run Gravel
Ditch/Roadway Separation	4' Desired	3-4' Desired

Adopted by Pembina County  
Dated 5-4-10

  
Chairman, Board of County Commissioners

ATTEST

  
County Auditor

## Design Standards on County Major Collectors and Local Roads for New or Reconstruction of Existing Infrastructure

	County Major Collectors (CMC) "On-System"	Local Roads (County) "Off-System"	Local Roads (Township) "Off-System"	Local Roads (Other) "Off-System"
<b>Bridge Width (Clear Roadway) – Min is <u>28 ft</u></b>	32 ft	28 ft	28 ft	28 ft
<b>Storm Design Frequency (Bridges)*</b>	25 year	15 year	15 year	15 year
<b>Design Loading (Bridges) – Min is <u>HS-25</u></b>	HS-25 or HL 93	HS-25 or HL 93	HS-25 or HL 93	HS-25 or HL 93
<b>Culvert Design Frequency*</b>	25 year	15 year	15 year	15 year
<b>Graded Roadbed Width (sub-grade) – Paved surface</b>	34 ft to 36 ft	34 ft to 36 ft	34 ft to 36 ft	28 ft to 36 ft
- Minimum travel way width (both lanes + shoulders)	24 ft	24 ft	24 ft	24 ft
- Minimum pavement section (base and HBP)	6in Base	6in Base	6in Base	6in Base
<b>Graded Roadbed Width (sub-grade) – Gravel surface</b>	32 ft	32 ft	28 ft	28 ft
- Minimum travel way width (both lanes + shoulders)	24 ft	24 ft	24 ft	24 ft
- Minimum gravel thickness	4in	4in	4in	4in
<b>Design Speed</b>	55 mph	55 mph	55 mph	55 mph
<b>Right of Way Width</b>	150 ft min	150 ft min	120 ft min	120 ft min
<b>Inslope Ratio</b>	4:1	4:1	4:1	4:1
<b>Separation (Road top to Ditch Bottom)</b>	4 ft to 5 ft	4 ft to 5 ft	4 ft to 5 ft	3.5 ft to 5 ft

\***Bridges** - For County Major Collectors (on-system); the design frequency is 25-years and other local roads (off-system); the design frequency is 15-years. If an overflow section is provided, then the waterway opening plus the overflow section must pass the appropriate design frequency. **Culverts** – The same design frequencies are required for culverts as they are for bridges; except for Township roads, the design frequency is 10-years. These requirements are required according to North Dakota Century Code.

Adopted by Pierce County

Date 5-4-2010

J. Ball  
Chairperson, Board of County Commissioners

ATTEST:

Karin Pursath  
County Auditor



# DESIGN STANDARDS ON COUNTY MAJOR COLLECTORS AND LOCAL ROADS FOR NEW OR RECONSTRUCTION OF EXISTING INFRASTRUCTURE

	CCUNTY MAJOR COLLECTORS (CMC) "ON-SYSTEM"	LOCAL ROADS (COUNTY) "OFF-SYSTEM"	LOCAL ROADS (TOWNSHIP) "OFF-SYSTEM"	LOCAL ROADS (OTHER) "OFF-SYSTEM"
BRIDGE WIDTH (CLEAR ROADWAY)	28'	28'	28'	28'
STORM DESIGN FLOOD FREQUENCY (BRIDGES)	25 YEAR	25 YEAR	15 YEAR	15 YEAR
DESIGN LOADING (BRIDGES)	HS-25	HS-25	HS-25	HS-25
CULVERT DESIGN FLOOD FREQUENCY	10 YEAR	10 YEAR	10 YEAR	10 YEAR
GRADED ROADBED WIDTH (SUB-GRADE) - PAVED SURFACE	36'	28'	24'	22'
- MINIMUM TRAVEL WAY WIDTH (BOTH LANES + SHOULDERS)	30'	22'	22'	20'
- MINIMUM PAVEMENT SECTION (BASE AND HBP)	8" AGG BASE 4" HBP	6" AGG BASE - 4" HBP	6" AGG BASE 4" HBP	6" AGG BASE 3" HBP
GRADED ROADBED WIDTH (SUB-GRADE) - GRAVEL SURFACE	36'	28'	24'	22'
- MINIMUM TRAVEL WAY WIDTH (BOTH LANES + SHOULDERS)	30'	24'	24'	20'
- MINIMUM GRAVEL THICKNESS	4" - 8"	4" - 8"	4" - 8"	4"
DESIGN SPEED	65	55	55	55
RIGHT OF WAY WIDTH	150'	66'	66'	66'
INSLOPE RATIO	4 TO 1	4 TO 1	3 TO 1	3 TO 1
SEPARATION (ROAD TOP TO DITCH BOTTOM)	3'	3'	3'	1'
PAVEMENT REPAIR	22" SUBCUT GEOTEXTILE FABRIC 12" AGGREGATE SUB-BASE 6" AGGREGATE BASE 4" HBP	22" SUBCUT GEOTEXTILE FABRIC 12" AGGREGATE SUB-BASE 6" AGGREGATE BASE 4" HBP	22" SUBCUT GEOTEXTILE FABRIC 12" AGGREGATE SUB-BASE 6" AGGREGATE BASE 4" HBP	22" SUBCUT GEOTEXTILE FABRIC 12" AGGREGATE SUB-BASE 6" AGGREGATE BASE 4" HBP
SUBGRADE REPAIR - GRAVEL ROAD	18" SUBCUT GEOTEXTILE FABRIC 14" AGGREGATE SUB-BASE 4" AGGREGATE BASE	18" SUBCUT GEOTEXTILE FABRIC 14" AGGREGATE SUB-BASE 4" AGGREGATE BASE	18" SUBCUT GEOTEXTILE FABRIC 14" AGGREGATE SUB-BASE 4" AGGREGATE BASE	18" SUBCUT GEOTEXTILE FABRIC 14" AGGREGATE SUB-BASE 4" AGGREGATE BASE
DESIGN AGGREGATE SURFACE COURSE (NEW)	4" AGGREGATE SURFACE	4" AGGREGATE SURFACE	4" AGGREGATE SURFACE	4" AGGREGATE SURFACE

ATTEST:

*Elizabeth V. Lusk*  
COUNTY AUDITOR



ADOPTED BY RAMSEY COUNTY

DATE MARCH 16, 2010

*Joe R. Brown*

CHAIRPERSON, BOARD OF COUNTY COMMISSIONERS



## MINIMUM DESIGN STANDARDS HIGHWAYS & STRUCTURES

	COUNTY "ON-SYSTEM"	COUNTY/TOWNSHIP "OFF-SYSTEM"
Bridge Width (Clear Roadway)	28'	28'
Design & Flood Frequency (Bridges)	25 Year	15 Year
Design Loading (Bridges & Culverts)	HS-25	HS-25
Culvert Design Flood Frequency	25 Year	15 Year
Graded Roadbed Width	36'	County - 32' Twp. = 28'
Design Speed	55 MPH	55 MPH
Right of Way Width	150'	66'
Inslope Ratio	4 to 1	3 to 1
Design Asphalt Pavement Section (New)	6" Aggregate Base 4" Hot Bituminous Pavement	N/A
Hot Bituminous Overlay	2 ¾" (1.25" Leveling & 1.5" Wearing)	2 ¾" (1.25" Leveling & 1.5" Wearing)
Pavement Repair	22" Subcut Geotextile Fabric 12" Aggregate Sub-Base 6" Aggregate Base 4" Hot Bituminous Pavement	22" Subcut Geotextile Fabric 12" Aggregate Sub-Base 6" Aggregate Base 4" Hot Bituminous Pavement
Design Aggregate Surface Course (New)	4" Aggregate Surface	4" Aggregate Surface
Haul Road Material	Class 13 (Crushed)	Class 13 (Crushed)

Adopted by Ransom County  
Dated 4-13-09

Steve O'Leary  
Chairman, Board of County Commissioners

ATTEST

Connie Gilbert  
County Auditor

## Design Standards on County Major Collectors and Local Roads for New or Reconstruction of Existing Infrastructure

	County Major Collectors (CMC) "On-System"	Local Roads (County) "Off-System"	Local Roads (Township) "Off-System"	Local Roads (Other) "Off-System"
<b>Bridge Width (Clear Roadway) – Min is <u>28 ft</u></b>	32 ft	28 ft	28 ft	28 ft
<b>Storm Design Frequency (Bridges)*</b>	25 year	15 year	15 year	15 year
<b>Design Loading (Bridges) – Min is <u>HS-25</u></b>	HS-25 or HL 93	HS-25 or HL 93	HS-25 or HL 93	HS-25 or HL 93
<b>Culvert Design Frequency*</b>	25 year	15 year	15 year	15 year
<b>Graded Roadbed Width (sub-grade) – Paved surface</b>	34 ft to 36 ft	34 ft to 36 ft	34 ft to 36 ft	28 ft to 36 ft
- Minimum travel way width (both lanes + shoulders)	24 ft	24 ft	24 ft	24 ft
- Minimum pavement section (base and HBP)	4in HBP & 6in Base	4in HBP & 6in Base	4in HBP & 6in Base	4in HBP & 6in Base
<b>Graded Roadbed Width (sub-grade) – Gravel surface</b>	28 ft to 32 ft	28 ft to 32 ft	28 ft to 32 ft	26 ft to 32 ft
- Minimum travel way width (both lanes + shoulders)	24 ft to 26 ft	24 ft to 26 ft	24 ft to 26 ft	24 ft to 26 ft
- Minimum gravel thickness	4in to 6in	4in to 6in	4in to 6in	4in to 6in
<b>Design Speed</b>	55 mph	55 mph	55 mph	55 mph
<b>Right of Way Width</b>	150 ft min	150 ft min	120 ft min	120 ft min
<b>Inslope Ratio</b>	4:1	4:1	4:1	4:1
<b>Separation (Road top to Ditch Bottom)</b>	4 ft to 5 ft	4 ft to 5 ft	4 ft to 5 ft	3.5 ft to 5 ft

\*Bridges - For County Major Collectors (on-system); the design frequency is 25-years and other local roads (off-system); the design frequency is 15-years. If an overflow section is provided, then the waterway opening plus the overflow section must pass the appropriate design frequency. Culverts – The same design frequencies are required for culverts as they are for bridges; except for Township roads, the design frequency is 10-years. These requirements are required according to North Dakota Century Code.

Adopted by Benville County

Date April 6, 2010

Richard Gerner  
Chairperson, Board of County Commissioners

ATTEST:

Debra M. Fisher  
County Auditor



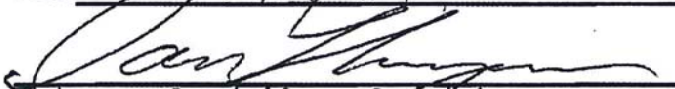
## Design Standards on County Major Collectors and Local Roads for New or Reconstruction of Existing Infrastructure

	County Major Collectors (CMC) "On-System"	Local Roads (County) "Off-System"	Local Roads (Township) "Off-System"	Local Roads (Other) "Off-System"
Bridge Width (Clear Roadway) – Min is <u>28 ft</u>	32'	28-32'	28-32'	28'
Storm Design Frequency (Bridges)*	25 YR	15 YR	15 YR	15 YR
Design Loading (Bridges) – Min is <u>HS-25</u>	HS-25	HS-25	HS-25	HS-25
Culvert Design Frequency*	25 YR	15 YR	10 YR	10 YR
Graded Roadbed Width (sub-grade) – Paved surface	40'	36'	24-28'	24'
- Minimum travel way width (both lanes + shoulders)	34'	26'	24'	24'
- Minimum pavement section (base and HBP) - <i>hot bituminous</i>	12" BASE + 5" HBP	6" BASE + 4" HBP	N/A	N/A
Graded Roadbed Width (sub-grade) – Gravel surface <i>pavement</i>	36'	36'	24-28'	24'
- Minimum travel way width (both lanes + shoulders)	28'	24'-28'	24-28'	24'
- Minimum gravel thickness	6"	4"	4"	4"
Design Speed	55 MPH	55 MPH	55 MPH	55 MPH
Right of Way Width	150'	66'-150'	66'	66'
Inslope Ratio	4 to 1	3 to 1	3 to 1	3 to 1
Separation (Road top to Ditch Bottom)	5'	4'	4'	4'

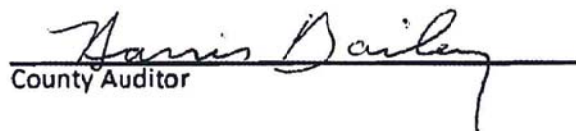
\*Bridges - For County Major Collectors (on-system); the design frequency is 25-years and other local roads (off-system); the design frequency is 15-years. If an overflow section is provided, then the waterway opening plus the overflow section must pass the appropriate design frequency. Culverts - The same design frequencies are required for culverts as they are for bridges; except for Township roads, the design frequency is 10-years. These requirements are required according to North Dakota Century Code.

Adopted by Richland County

Date May 3, 2010

  
Chairperson, Board of County Commissioners

ATTEST:

  
County Auditor



# GUIDELINES FOR COUNTY MAJOR COLLECTORS AND LOCAL ROADS

	County Major Collectors (CMC) "On- System"	Local Roads "Off-System"
Bridge Width (Clear Roadway)	<u>30'</u>	<u>28'</u>
Storm Design Frequency (Bridges)	<u>25 yr.</u>	<u>15 yr.</u>
Design Loading (Bridges)	<u>H-25</u>	<u>H-25</u>
Culvert Design Frequency	<u>25 yr.</u>	<u>15 yr.</u>
Graded Roadbed Width	<u>32'</u>	<u>28'</u>
Design Speed	<u>55 mph</u>	<u>55 mph</u>
Right of Way Width	<u>150'</u>	<u>120'</u>
Inslope (Foreslope) Ratio	<u>4 to 1</u>	<u>4 to 1</u>
Separation (Roadtop to Ditch Bottom)	<u>5'</u>	<u>5'</u>

Adopted by Rollette County

Dated 8/14/09

Joseph S. Baker  
Chairman, Board of County Commissioners

ATTEST:

Valerie J. McClure  
County Auditor

## Design Standards on County Major Collectors and Local Roads for New or Reconstruction of Existing Infrastructure

	County Major Collectors (CMC) "On-System"	Local Roads (County) "Off-System"	Local Roads (Township) "Off-System"	Local Roads (Other) "Off-System"
Bridge Width (Clear Roadway) – Min is <u>28 ft</u>	28 Feet	28 Feet	28 Feet	28 Feet
Storm Design Frequency (Bridges)*	25-Year	15-Year	15-Year	15-Year
Design Loading (Bridges) – Min is <u>HS-25</u>	HS-25	HS-25	HS-25	HS-25
Culvert Design Frequency*	25-Year	15-Year	10-Year	10-Year
Graded Roadbed Width (sub-grade) – Paved surface	36 feet	NA	NA	NA
- Minimum travel way width (both lanes + shoulders)	30 feet	NA	NA	NA
- Minimum pavement section (base and HBP)	6" Base, 4" Hbp	NA	NA	NA
Graded Roadbed Width (sub-grade) – Gravel surface	28 Feet	28 feet	24 feet	24 feet
- Minimum travel way width (both lanes + shoulders)	24 Feet	24 Feet	22 Feet	22 Feet
- Minimum gravel thickness	4 Inches	4 Inches	4 Inches	4 Inches
Design Speed	55 Mph	55 Mph	55 Mph	55 Mph
Right of Way Width	150 Feet	100 Feet	66 Feet	66 feet
Inslope Ratio	4:1	4:1	3:1	3:1
Separation (Road top to Ditch Bottom)	4-Feet	4 Feet	4 feet	4 feet

\*Bridges - For County Major Collectors (on-system); the design frequency is 25-years and other local roads (off-system); the design frequency is 15-years. If an overflow section is provided, then the waterway opening plus the overflow section must pass the appropriate design frequency. Culverts – The same design frequencies are required for culverts as they are for bridges; except for Township roads, the design frequency is 10-years. These requirements are required according to North Dakota Century Code.

Adopted by Sargent County

Date May 4, 2010

Mike Wabster  
Chairperson, Board of County Commissioners

ATTEST:

Sherry Hosford  
County Auditor

# Design Standards on County Major Collectors and Local Roads for New or Reconstruction of Existing Infrastructure

	County Major Collectors (CMC) "On-System"	Local Roads (County) "Off-System"	Local Roads (Township) "Off-System"	Local Roads (Other) "Off-System"
Bridge Width (Clear Roadway) – Min is <u>28 ft</u>	32 ft	28 ft	28 ft	28 ft
Storm Design Frequency (Bridges)*	25-year	15-year	15-year	15-year
Design Loading (Bridges) – Min is <u>HS-25</u>	HS-25 or HL 93	HS-25 or HL 93	HS-25 or HL 93	HS-25 or HL 93
Culvert Design Frequency*	25-year	15-year	15-year	15-year
Graded Roadbed Width (sub-grade) – Paved surface	34 ft to 36 ft	34 ft to 36 ft	34 ft to 36 ft	28 ft to 36 ft
- Minimum travel way width (both lanes + shoulders)	24 ft	24 ft	24 ft	24 ft
- Minimum pavement section (base and HBP)	4 in HBP & 6 in Base	4 in HBP & 6 in Base	4 in HBP & 6 in Base	4 in HBP & 6 in Base
Graded Roadbed Width (sub-grade) – Gravel surface	28 ft to 32 ft	28 ft to 32 ft	28 ft to 32 ft	26 ft to 32 ft
- Minimum travel way width (both lanes + shoulders)	24 ft to 26 ft	24 ft to 26 ft	24 ft to 26 ft	24 ft to 26 ft
- Minimum gravel thickness	4 in to 6 in	4 in to 6 in	4 in to 6 in	4 in to 6 in
Design Speed	55 mph	55 mph	55 mph	55 mph
Right of Way Width	150 ft	150 ft	120 ft	120 ft
Inslope Ratio	4:1	4:1	4:1	4:1
Separation (Road top to Ditch Bottom)	4 ft to 5 ft	4 ft to 5 ft	4 ft to 5 ft	3.5 ft to 5 ft

\*Bridges - For County Major Collectors (on-system); the design frequency is 25-years and other local roads (off-system); the design frequency is 15-years. If an overflow section is provided, then the waterway opening plus the overflow section must pass the appropriate design frequency. Culverts - The same design frequencies are required for culverts as they are for bridges; except for Township roads, the design frequency is 10-years. These requirements are required according to North Dakota Century Code.

Adopted by Michael D. [Signature] S. Peridam  
County  
Date 4/13/10

Chairperson, Board of County Commissioners

ATTEST:

Shirley A. Munay  
County Auditor



## Design Standards on County Major Collectors and Local Roads for New or Reconstruction of Existing Infrastructure

	County Major Collectors (CMC) "On-System"	Local Roads (County) "Off-System"	Local Roads (Township) "Off-System"	Local Roads (Other) "Off-System"
Bridge Width (Clear Roadway) - Min is <u>28 ft</u>	28 ft	28 ft	28 ft	28 ft
Storm Design Frequency (Bridges)*	25 yrs*	15 yrs*	15 yrs*	15 yrs*
Design Loading (Bridges) - Min is <u>HS-25</u>	HS-25	HS-25	HS-25	HS-25
Culvert Design Frequency*	25 yrs	15 yrs	10 yrs	10 yrs
Graded Roadbed Width (sub-grade) - Paved surface				
- Minimum travel way width (both lanes + shoulders)	34 ft	34 ft	32 ft	32 ft
- Minimum pavement section (base and HBP)	26 ft	26 ft	24 ft	24 ft
Graded Roadbed Width (sub-grade) - Gravel surface				
- Minimum travel way width (both lanes + shoulders)	28 ft	28 ft	26 ft	26 ft
- Minimum gravel thickness	4 in	4 in	3 in	3 in
Design Speed	55 mph	55 mph	40 mph	40 mph
Right of Way Width	150 feet	150 feet	150 feet	60 - 150 feet
Inslope Ration	4:1 **	4:1 **	4:1 **	4:1 **
Separation (Road top to Ditch Bottom)	5 feet	5 feet	4 feet	4 feet

\*Bridges - For County Major Collectors (on-system); the design frequency is 25-years and other local roads (off system); the design frequency is 15-years. If an overflow section is provided, then the waterway opening plus the overflow section just pass the appropriate design frequency. Culverts - The same design frequencies are required for culverts as they are for bridges; except for Township roads, the design frequency is 10-years. These requirements are required according to North Dakota Century Code.

Adopted by David County

Date 4-06-20

Larry Silbunager  
Chairperson, Board of County Commissioners

ATTEST:

Barbara Heltz  
County Auditor

\* overflow section may apply

\*\* to 32 feet then 2:2

## Design Standards on County Major Collectors and Local Roads for New or Reconstruction of Existing Infrastructure

	County Major Collectors (CMC) "On-System"	(County) "Off- System"	Local Roads (Township) "Off-System"	(Other) "Off- System"
Bridge Width (Clear Roadway) - Min is <b>28 ft</b>	30'	28'	28'	28'
Storm Design Frequency (Bridges)*	25 yr	10yr w/ot	10yr w/ot	10yr w /ot
Design Loading (Bridges) - Min is <b>HS-25</b>	hs-25	hs25	hs-25	hs-25
Culvert Design Frequency*	25yr	10yr w /ot	10yrw / ot	10yr w / ot
Graded Roadbed Width (sub-grade) - Paved Surface	36'			
- Minimum travel way width (both lanes + shoulders)	28-32			
- Minimum pavement section (base and HBP)	32'			
Graded Roadbed Width (sub-grade) - Gravel surface	36'			
- Minimum travel way width (both lanes + shoulders)	28-32			
- Minimum gravel thickness	6"-10"	6"	6"	3"
Design Speed	45-55	45mph	45mph	45mph
Right of Way Width	150'	100'	100'	100'
Inslope Ratio	4:1	4:1	4:1	4-1
Separation (Road top to Ditch Bottom)	4'	4'	3'-4'	2'-4'

\*Bridges - For County Major Collectors (on-system); the design frequency is 25-years and other local roads (off-system); the design frequency is 15-years. If an overflow section is provided, then the waterway opening plus the overflow section must pass the appropriate design frequency. Culverts - The same design frequencies are required for culverts as they are for bridges; except for Township roads, the design frequency is 10-years. These requirements are required according to North Dakota Century Code.

Adopted by Slope County

Date 5-4-16

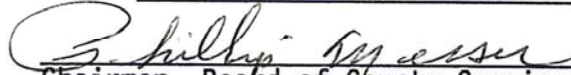
[Signature]  
Chairperson, Board of County Commissioners

ATTEST:

Lorrie Buzalsky  
County Auditor


## GUIDELINES FOR COUNTY AND TOWNSHIP ROADS

	Major Collectors (Formerly FAS)	Township Roads
	minimums	
Bridge Width (Clear Roadway)	28 feet	
Storm Design Frequency (Bridges)	Q10 w/overflow Q15	
Design Loading (Bridges)	HSO	
Culvert Design Frequency	Q10	
Graded Roadbed Width	28 ft.	
Right of Way Width	150 ft.	

Adopted by Stark CountyDated 2-2-93

Chairman, Board of County Commissioners

ATTEST:

  
County Auditor

Return To:

SECONDARY ROADS DIVISION  
ND DEPT OF TRANSPORTATION  
608 E BOULEVARD AVE  
BISMARCK ND 58505-0700



# Design Standards on County Major Collectors and Local Roads for New or Reconstruction of Existing Infrastructure

	County Major Collectors (CMC) "On-System"	Local Roads (County) "Off-System"	Local Roads (Township) "Off-System"	Local Roads (Other) "Off-System"
Bridge Width (Clear Roadway) – Min is <u>28 ft</u>	28	28	28	28
Storm Design Frequency (Bridges)*	25	15	15	15
Design Loading (Bridges) – Min is <u>HS-25</u>	HS-25	HS-25	HS-25	HS-25
Culvert Design Frequency*	25	15	10	10
Graded Roadbed Width (sub-grade) – Paved surface	36	32	30	30
- Minimum travel way width (both lanes + shoulders)	26	24	24	24
- Minimum pavement section (base and HBP)	8" & 5"	6" & 4"	6" & 4"	6" & 4"
Graded Roadbed Width (sub-grade) – Gravel surface	28	28	24	24
- Minimum travel way width (both lanes + shoulders)	24	24	22	22
- Minimum gravel thickness	4"	4"	4"	4"
Design Speed	55	55	55	55
Right of Way Width	150	100	66	66
Inslope Ratio	4:1	4:1	3:1	3:1
Separation (Road top to Ditch Bottom)	4	4	4	4

\*Bridges - For County Major Collectors (on-system); the design frequency is 25-years and other local roads (off-system); the design frequency is 15-years. If an overflow section is provided, then the waterway opening plus the overflow section must pass the appropriate design frequency. **Culverts** – The same design frequencies are required for culverts as they are for bridges; except for Township roads, the design frequency is 10-years. These requirements are required according to North Dakota Century Code.

Adopted by Steele County

Date May 4, 2010

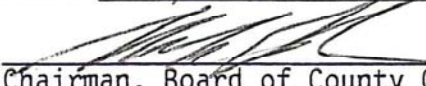
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Chairperson, Board of County Commissioners

ATTEST:

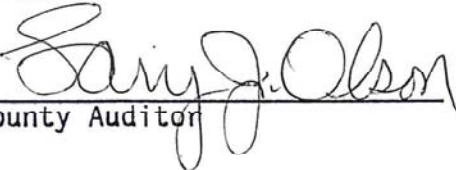
[Signature]  
County Auditor

## GUIDELINES FOR COUNTY MAJOR COLLECTORS AND LOCAL ROADS

	County Major Collectors (CMC) "On-System"	Local Roads "Off-System"
Bridge Width (Clear Roadway)	<u>28'</u>	<u>28'</u>
Storm Design Frequency (Bridges)	<u>25 years</u>	<u>15 years</u>
Design Loading (Bridges)	<u>H525</u>	<u>H525</u>
Culvert Design Frequency	<u>15 years</u>	<u>10-15 years</u>
Graded Roadbed Width	<u>28-34</u>	<u>24-28</u>
Design Speed	<u>55</u>	<u>50</u>
Right of Way Width	<u>75' each Side</u>	<u>50' each Side</u>
Inslope (Foreslope) Ratio	<u>4:1</u>	<u>4:1</u>
Separation (Roadtop to Ditch Bottom)	<u>4'</u>	<u>4'</u>

Adopted by Stutsman CountyDated 11-16-93  
Chairman, Board of County Commissioners

ATTEST:

  
County Auditor

## GUIDELINES FOR COUNTY MAJOR COLLECTORS AND LOCAL ROADS

	County Major Collectors (CMC) "On-System"	Local Roads "Off-System"
Bridge Width (Clear Roadway)	<u>30</u>	<u>28</u>
Storm Design Frequency (Bridges)	<u>25</u>	<u>25</u>
Design Loading (Bridges)	<u>H-20</u>	<u>H-20</u>
Culvert Design Frequency	<u>10</u>	<u>10</u>
Graded Roadbed Width	<u>32</u>	<u>26</u>
Design Speed	<u>55</u>	<u>50</u>
Right of Way Width	<u>150'</u>	<u>120'</u>
Inslope (Foreslope) Ratio	<u>4 to 1</u>	<u>4 to 1</u>
Separation (Roadtop to Ditch Bottom)	<u>5'</u>	<u>5'</u>

Adopted by Janner CountyDated 1-4-94[Signature]  
Chairman, Board of County Commissioners

ATTEST:

Verna M. Martz  
County Auditor




## MINIMUM DESIGN STANDARDS HIGHWAYS & STRUCTURES

	COUNTY "ON-SYSTEM"	COUNTY/TOWNSHIP "OFF-SYSTEM"
Bridge Width (Clear Roadway)	28'	28'
Design & Flood Frequency (Bridges)	25 Year	15 Year
Design Loading (Bridges & Culverts)	HS-25	HS-25
Culvert Design Flood Frequency	25 Year	10 Year
Graded Roadbed Width	36'	County - 28' Twp. = 24'
Design Speed	55 MPH	55 MPH
Right of Way Width	150'	66'
Inslope Ratio	4 to 1	3 to 1
Design Asphalt Pavement Section (New)	6" Aggregate Base 4" Hot Bituminous Pavement	N/A
Hot Bituminous Overlay	2 3/4" (1.25" Leveling & 1.5" Wearing)	2 3/4" (1.25" Leveling & 1.5" Wearing)
Pavement Repair	22" Subcut Geotextile Fabric 12" Aggregate Sub-Base 6" Aggregate Base 4" Hot Bituminous Pavement	22" Subcut Geotextile Fabric 12" Aggregate Sub-Base 6" Aggregate Base 4" Hot Bituminous Pavement
Design Aggregate Surface Course (New)	3" Aggregate Surface	3" Aggregate Surface
Aggregate Repair	3" Aggregate Surface 6" Pit Run Gravel	3" Aggregate Surface 6" Pit Run Gravel
Ditch/Roadway Separation	4' Desired	3-4' Desired

Adopted by Trall County  
Dated 4/6/10

  
Chairman, Board of County Commissioners

ATTEST

  
County Auditor

## MINIMUM DESIGN STANDARDS HIGHWAYS & STRUCTURES

	COUNTY "ON-SYSTEM"	COUNTY/TOWNSHIP "OFF-SYSTEM"
Bridge Width (Clear Roadway)	28'	28'
Design Flow Frequency (Structures)	25 Year	15 Year
Design Loading (Structures & Culverts)	HS-25	HS-25
Design Flow Frequency (Culverts)	25 Year	County = 15 Yr. / Twp. = 10 Yr.
Graded Roadbed Width	36'	County = 28' Twp. = 24'
Design Speed	55 MPH	55 MPH
Right of Way Width	150'	66'
Inslope Ratio	4 to 1	3 to 1
Design Asphalt Pavement Section (New)	6" Aggregate Base 4" Hot Bituminous Pavement	N/A
Hot Bituminous Overlay	2 ¾" (1.25" Leveling & 1.5" Wearing)	2 ¾" (1.25" Leveling & 1.5" Wearing)
Pavement Repair	22" Subcut Geotextile Fabric 12" Aggregate Sub-Base 6" Aggregate Base 4" Hot Bituminous Pavement	22" Subcut Geotextile Fabric 12" Aggregate Sub-Base 6" Aggregate Base 4" Hot Bituminous Pavement
Design Aggregate Surface Course (New)	4" Aggregate Surface	4" Aggregate Surface
Aggregate Repair	4" Aggregate Surface 6" Pit Run Gravel	3" Aggregate Surface 6" Pit Run Gravel
Ditch/Roadway Separation	4' Desired	3-4' Desired

Adopted by Walsh County

Dated May 4, 2010

Jack Karas  
Chairman, Board of County Commissioners

ATTEST

Sharon Kinsale  
County Auditor



## Design Standards on County Major Collectors and Local Roads for New or Reconstruction of Existing Infrastructure

	County Major Collectors (CMC) "On-System"	Local Roads (County) "Off-System"	Local Roads (Township) "Off-System"	Local Roads (Other) "Off-System"
<b>Bridge Width (Clear Roadway) – Min is <u>28 ft</u></b>	36 ft	36 ft	28 ft	28 ft
<b>Storm Design Frequency (Bridges)*</b>	25 – 100 year	25 – 100 year	15 – 100 year	15 – 100 year
<b>Design Loading (Bridges) – Min is <u>HS-25</u></b>	HS-25 or US Air Force Minimum Requirements for Transportation Erector Routes			
<b>Culvert Design Frequency*</b>	25 year	25 year	10 year	10 year
<b>Graded Roadbed Width (sub-grade) – Paved surface</b>	36 ft	36 ft	30 ft	30 ft
- Minimum travel way width (both lanes + shoulders)**	28 ft	28 ft	24 ft	24 ft
- Minimum pavement section (base and HBP) **	6 " and 4"	6 " and 4"	6" and 3 "	6" and 3 "
<b>Graded Roadbed Width (sub-grade) – Gravel surface</b>	32 ft	32 ft	30 ft	30 ft
- Minimum travel way width (both lanes + shoulders)	28 ft	28 ft	24 ft	24 ft
- Minimum gravel thickness ***	6"	6"	6"	6"
<b>Design Speed</b>	45 – 65 mph	25 – 55 mph	25 – 55 mph	25 – 55 mph
<b>Right of Way Width</b>	150 ft total	66 – 150 ft total	66 – 80 ft total	66 – 80 ft total
<b>Inslope Ratio</b>	4:1 Minimum	4:1 Minimum	4:1 Minimum	4:1 Minimum
<b>Separation (Road top to Ditch Bottom)</b>	4.5 ft Minimum	4.5 ft Minimum	2.0 - 4.5 ft	2.0 - 4.5 ft

\***Bridges** – For County Major Collectors (on-system); the design frequency is 25-years and other local roads (off-system); the design frequency is 15-years. If an overflow section is provided, then the waterway opening plus the overflow section must pass the appropriate design frequency. Design frequency of 100 years must be considered when possibility of impacting residents, and cities.

\***Culverts** – The same design frequencies are required for culverts as they are for bridges; except for township roads, the design frequency is 10-years. These requirements are required according to North Dakota Century Code. Minimum culvert diameter under centerline of county roads is 24" and minimum under approaches and township roads is 18" unless special conditions exist.

\*\* **Pavement and Base thicknesses** are based on AASHTO pavement design guidelines and will vary depending upon ADT & ADTT.

\*\* **Roadway widths** are based on ADT & ADTT. Higher traffic roadways may require 12 ft driving lanes, 6 ft shoulders, and possible center and right turn lanes. Minimum is 12 ft driving lanes and 2 ft shoulders for new construction.

\*\*\* **Gravel Roadbeds** – gravel shall be laid, water and compacted in accordance with Section 302 of the NDDOT Standard Specification

Adopted by Ward County

Date May 18, 2010

Bruce Christensen  
Chairperson, Board of County Commissioners

ATTEST:

Debra Smestad  
County Auditor

## Design Standards on County Major Collectors and Local Roads for New or Reconstruction of Existing Infrastructure

	County Major Collectors (CMC) "On-System"	Local Roads (County) "Off-System"	Local Roads (Township) "Off-System"	Local Roads (Other) "Off-System"
<b>Bridge Width (Clear Roadway) – Min is <u>28 ft</u></b>	32 ft	28 ft	28 ft	28 ft
<b>Storm Design Frequency (Bridges)*</b>	25 year	15 year	15 year	15 year
<b>Design Loading (Bridges) – Min is <u>HS-25</u></b>	HS-25 or HL 93	HS-25 or HL 93	HS-25 or HL 93	HS-25 or HL 93
<b>Culvert Design Frequency*</b>	25 year	15 year	15 year	15 year
<b>Graded Roadbed Width (sub-grade) – Paved surface</b>	34 ft to 36 ft	34 ft to 36 ft	34 ft to 36 ft	28 ft to 36 ft
- Minimum travel way width (both lanes + shoulders)	24 ft	24 ft	24 ft	24 ft
- Minimum pavement section (base and HBP)	4in HBP & 6in Base	4in HBP & 6in Base	4in HBP & 6in Base	4in HBP & 6in Base
<b>Graded Roadbed Width (sub-grade) – Gravel surface</b>	28 ft to 32 ft	28 ft to 32 ft	28 ft to 32 ft	26 ft to 32 ft
- Minimum travel way width (both lanes + shoulders)	24 ft to 26 ft	24 ft to 26 ft	24 ft to 26 ft	24 ft to 26 ft
- Minimum gravel thickness	4in to 6in	4in to 6in	4in to 6in	4in to 6in
<b>Design Speed</b>	55 mph	55 mph	55 mph	55 mph
<b>Right of Way Width</b>	150 ft min	150 ft min	120 ft min	120 ft min
<b>Inslope Ratio</b>	4:1	4:1	4:1	4:1
<b>Separation (Road top to Ditch Bottom)</b>	4 ft to 5 ft	4 ft to 5 ft	4 ft to 5 ft	3.5 ft to 5 ft

\***Bridges** - For County Major Collectors (on-system); the design frequency is 25-years and other local roads (off-system); the design frequency is 15-years. If an overflow section is provided, then the waterway opening plus the overflow section must pass the appropriate design frequency. **Culverts** – The same design frequencies are required for culverts as they are for bridges; except for Township roads, the design frequency is 10-years. These requirements are required according to North Dakota Century Code.

Adopted by Wells County

Date 9-14-10

Rand S. Schubert  
Chairperson, Board of County Commissioners

ATTEST:

Janell Rudel  
County Auditor



# DESIGN GUIDELINES FOR WILLIAMS COUNTY MAJOR COLLECTORS AND LOCAL ROADS FOR NEW OR RECONSTRUCTION OF EXISTING INFRASTRUCTURE

	County Major Collectors (CMC) "On-System"	Local Roads(County) "Off-System"	Local Roads(Township) "Off-System"	Local Roads(Subd.) "Off-System"
<b>Bridge Width (Clear Roadway) - Min is 28 ft</b>	30'	28'	28'	28'
<b>Storm Design Frequency (Bridges)*</b>	25 yr	15yr or 10yr w/overflow	15yr or 10yr w/overflow	10 yr
<b>Design Loading (Bridges) - Min is HS-25</b>	HS 25	HS 25	HS 20-25	HS 20-25
<b>Culvert Design Frequency*</b>	25 yr	15yr or 10yr w/overflow	15yr or 10yr w/overflow	10 yr
<b>Minimum Culvert Size</b>	18"	18"	18"	15"-18"
<b>Graded Roadbed Width (sub-grade) - Paved surface</b>	36'	36'	34'	32'
- Minimum travel way width (both lanes + shoulders)	36'	36'	34'	32'
- Minimum pavement section (base and HBP)	32'	32'	30'	30'
<b>Graded roadbed Width (sub-grade) - Gravel surface</b>	30'	28'-30'	28'-32'	30'
- Minimum travel way width (both lanes + shoulders)	30'	28'	28'-32'	30'
- Minimum gravel thickness	4"	4"	4"	4"
<b>Design Speed</b>	45-65 mph	45-65 mph	30-55 mph	30 mph
<b>Right of Way Width</b>	130'-150'	100'-150'	100'-150'	80'
<b>Inslope Ratio</b>	4:1	3:1 Min	3:1	4:1
<b>Separation (Road top to Ditch Bottom)</b>	4.0'	3.0'-4.0'	3.0'-4.0'	2.0'
<b>Ditch Bottom Width - Min.</b>			10'	8'
<b>Cul-de-Sac (Radius)</b>				50'(road) 65' R/W

\*Bridges - For County Major Collectors (on-system); the design frequency is 25-years and other local roads (off-system); the design frequency is 15-years. If an overflow section is provided, then the waterway opening plus the overflow section must pass appropriate design frequency. Culverts - The same design frequencies are required for culverts as they are for bridges; except for Township roads, the design frequency is 10-years. These requirements are required according to North Dakota Century Code.

Adopted by Williams County

Date April 6, 2010

[Signature]  
Chairperson, Board of County Commissioners

ATTEST:

[Signature]  
County Auditor