

# MUNICIPAL DISTRICT OF BONNYVILLE NO. 87 POLICY



<b>Section:</b>	Transportation Services	30
<b>Subsection:</b>	Public Works General	32
<b>Authority:</b>	Director of Transportation and Utilities	
<b>Title:</b>	<b>Road Construction and Development Policy</b>	<b>Policy No: 30.32.01</b>

**Statement:** The Municipal District of Bonnyville No. 87 (hereinafter referred to as the "Municipality") will establish and maintain a road construction program that takes into consideration the long-term transportation needs (long-term construction program) as well as Supplementary construction Projects that will include requests for the improvement of undeveloped road allowances, or existing roads, from developers/landowners proposing new developments or expansions to existing developments.

The annual road construction program will normally be comprised of 90% of projects that are classified as long-term transportation needs and 10% Supplementary Construction Projects (evaluated annually). The needs of all areas of the Municipality shall be given equal consideration when road construction programs are established.

**Purpose:** To provide a procedure to prioritize and respond to long-term transportation needs as well as to Supplementary Construction Projects.

Priorities for the long-term construction program are to be based on the greatest need and most benefit using the following criteria:

- i. public safety;
- ii. general condition of existing road;
- iii. traffic volumes and type of traffic (includes compliance to applicable road standard for the road designation; Arterial, collector, Local, etc.);
- iv. traffic patterns and alternative roads available;
- v. service for new development and growth strategies;
- vi. maintenance concerns;
- vii. cost of construction;

Priorities for the Supplementary Construction Projects are to be based on the greatest need and most benefit using the following criteria:

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**Date Adopted:** October 10, 1991  
**Date Amended:** (02) December 14, 2016  
**REEVE:**  **CAO:**  **Resolution No:** 91.344  
**Resolution No:** 16.471

- i. public safety;
- ii. improvements to site lines;
- iii. improvements to drainage;
- iv. repairing of isolated soft areas in the road surface;
- v. maintenance concerns;
- vi. cost of construction;
- vii. type and amount of equipment required;

**Procedures: *Long-term Construction Program:***

To facilitate land acquisition, bridge funding requests and planning requirements a four year construction program will be maintained.

The Director of Transportation and Utilities in consultation with the Councillors and Chief Administrative Officer shall prepare a listing of proposed long-term road construction program prior to August 1 following the year of their Municipality's general election.

The Chief Administrative Officer and Director of Transportation and Utilities will review the proposed projects, complete an evaluation based on the aforementioned respective criteria and arrange for an annual road tour with Council to review priorities prior to September 1 following the year of the municipality's general election.

Council will review and update the long term construction program prior to October 1 following the year of the municipality's general election.

Projects that area currently on the long-term construction schedule will normally be given a higher priority and completed prior to any new projects.

***Supplementary Construction Projects:***

The Director of Transportation and Utilities in consultation with Councillors and Chief Administrative Officer shall prepare a listing of proposed supplementary road construction projects prior to August 1 of each year.

The Chief Administrative Officer and Director of Transportation and Utilities will review the proposed projects, complete an evaluation based on the aforementioned respective criteria and arrange for an annual road tour with Council to review priorities prior to September 1 of each year.

Council will review and update the supplementary construction projects prior to October 1 of each year.

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**Date Adopted:** October 10, 1991

**Date Amended:**<sup>(02)</sup> December 14, 2016

**REEVE:** 

**CAO:** 

**Resolution No:** 91.344

**Resolution No:** 16.471

1. All requests for road improvement projects under this policy shall be received at the Administration Office of the municipality no later than July 15 of each year for consideration for improvement in the following year.
2. The Director of Transportation and Utilities will prepare an estimate of the road improvement costs for each project request based on the standard of road required in the attached schedules. The improvement costs will include costs of estimates/construction/management.
3. The Director of Transportation and Utilities in consultation with Councillors and the Chief Administrative Officer shall prepare a listing of proposed supplementary road construction projects prior to August 1.
4. The municipality will construct at its cost those projects approved by Council.
5. Where the Director of Transportation and Utilities determines that additional road right-of-way is required to meet the appropriate road standard the developer shall execute an agreement with the municipality for the acquisition of land for the purpose of road widening for each parcel the developer owns adjacent to the road allowance/road requested for improvement. The developer shall agree to compensation of \$1.00 per parcel for these lands.
6. Roads constructed under this policy will only be constructed to a point:
  - a) 150 meters (500 ft.) beyond the property line of the parcel on which the development is being proposed if the property is within 100 meters (330 ft.) of a road allowance intersection, or
  - b) 30 meters (100 ft.) beyond the nearest property line of the parcel on which the development is being proposed.
7. Prior to the municipality commencing construction of any project under this policy:
  - a) All agreements required under Section 5 shall be in place.
8. This policy will only apply to roads constructed on public road allowances. This policy will not apply to lease roads, private accesses and any other roads on private lands.

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**Date Adopted:** October 10, 1991

**Date Amended:**<sup>(02)</sup> December 14, 2016

**REEVE:** 

**CAO:** 

**Resolution No:** 91.344

**Resolution No:** 16.471

**Standards:** Applicable Municipality Road Standards Schedules "B" through Schedule "H", Specifications for Road Approaches and Intersection Country Residential Subdivision Road to Grid Road (attached).

**Policy Review:** Within five (5) years from date adopted/amended/reviewed.

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**Date Adopted:** October 10, 1991

**Date Amended:**<sup>(02)</sup> December 14, 2016

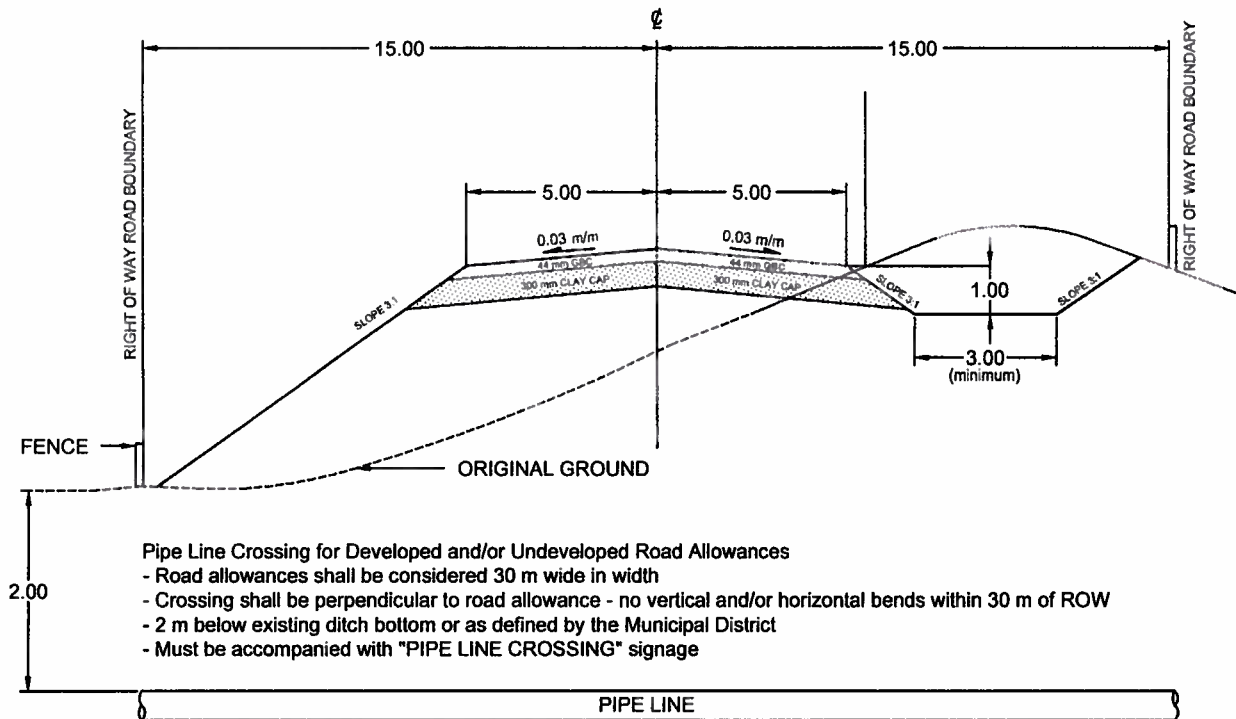
**REEVE:** 

**CAO:** 

**Resolution No:** 91.344

**Resolution No:** 16.471

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SURFACE WIDTH (m)	ROW REQUIRED (m)	NORMAL SIDE SLOPE	MAXIMUM SIDE SLOPE	NORMAL BACK SLOPE	MAXIMUM BACK SLOPE	MAXIMUM CURVE RADIUS (m)	MAXIMUM SUPER ELEVATION (m/m)	MAXIMUM GRADIENT (%)
10.00	30.00	3:1	3:1	3:1	2:1	300	0.06	6.00

### GRAVEL SPECIFICATION

DESIGNATION 4 CLASS 20

MINIMUM 44 mm THICKNESS

SUBGRADE (CLAY SPECIFICATION): The top 300 mm material shall be compacted to 98% standard proctor density. The material below 300 mm shall be compacted to 95% standard proctor density.

### NOTE:

All measurements are in meters unless otherwise noted



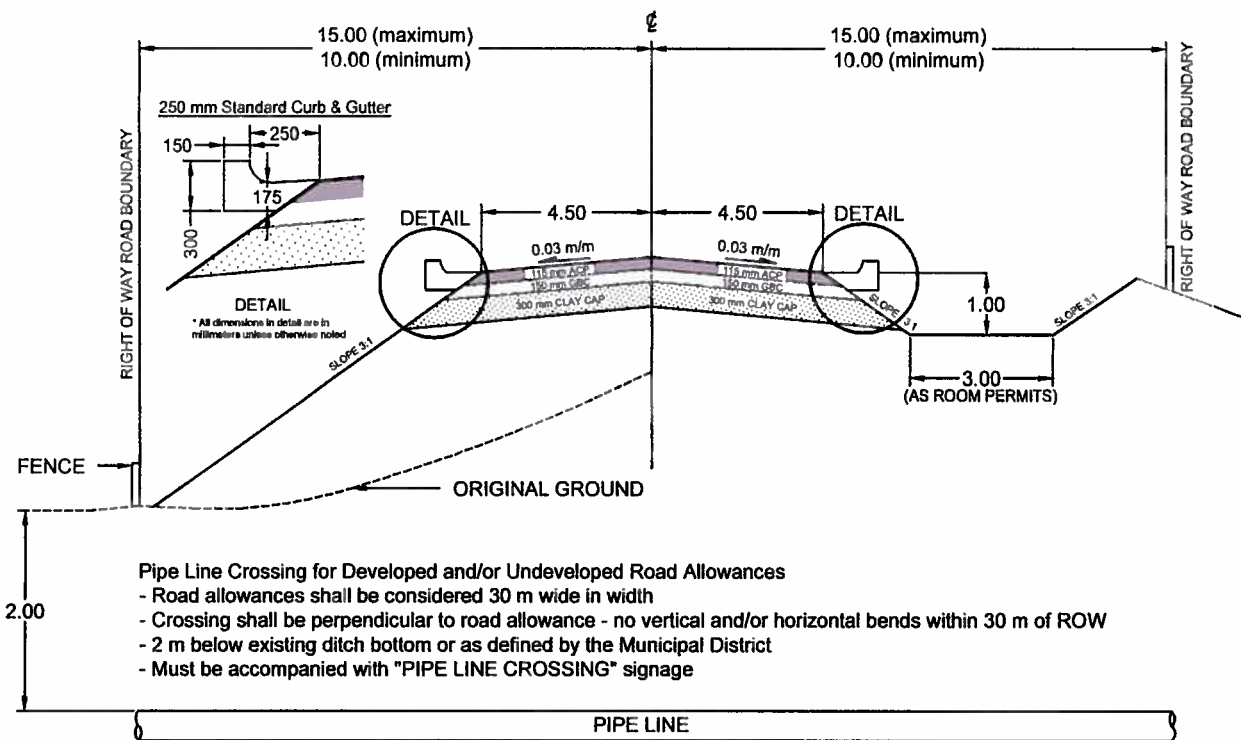
SPECIFICATION FOR TYPICAL GRAVEL  
LOCAL ROAD CROSS-SECTION

Scale: N.T.S.

Date: OCT 2016

Drawn By: MD of Bonnyville

**SCHEDULE B**  
**GRAVEL LOCAL ROAD**



SURFACE WIDTH (m)	ROW REQUIRED (m)	DIVIDING LANE WIDTH (m)	PARKING LANE WIDTH (m)	NORMAL BACK SLOPE	MAXIMUM BACK SLOPE	MAXIMUM CURVE RADIUS (m)	MAXIMUM SUPER ELEVATION (m/m)	MAXIMUM GRADIENT (%)
9.00	20.00	3.7	2.4	N/A	2:1	300	0.06	6.00

**GRAVEL SPECIFICATION**

DESIGNATION 2 CLASS 40

MINIMUM 150 mm THICKNESS

SUBGRADE (CLAY SPECIFICATION): The top 300 mm material shall be compacted to 98% standard proctor density. The material below 300 mm shall be compacted to 95% standard proctor density.

**NOTE:**

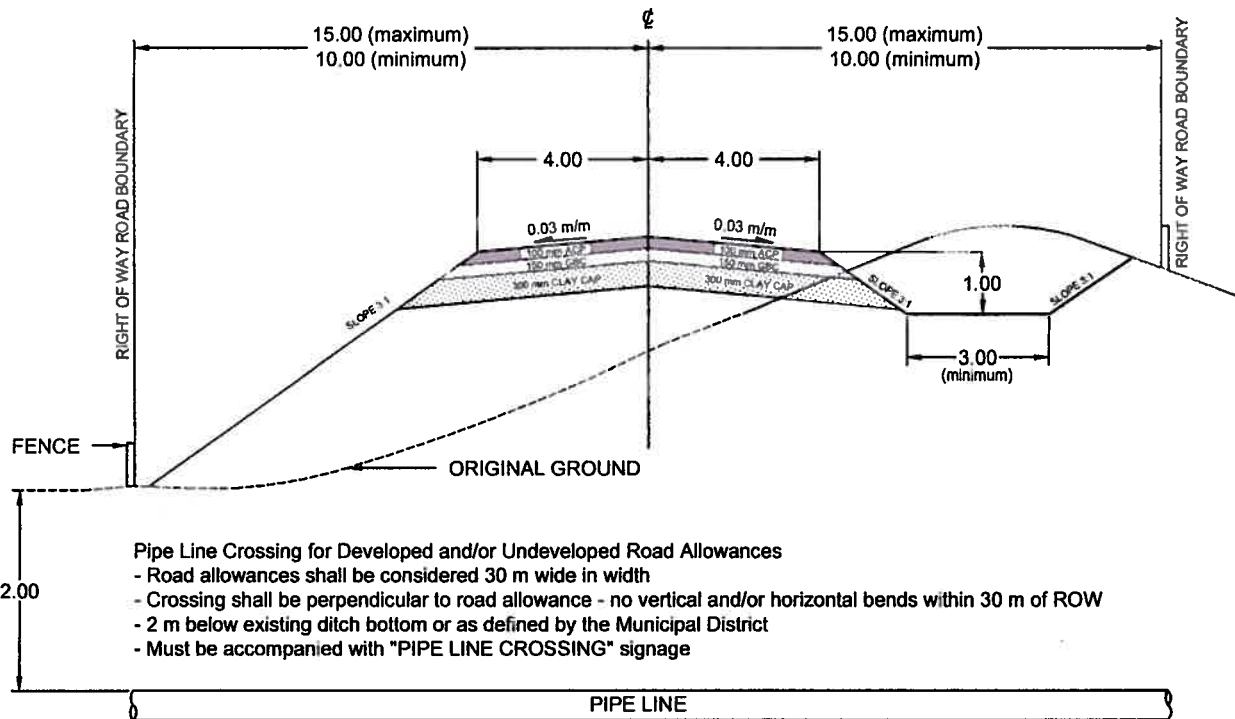
All measurements are in meters unless otherwise noted



**SPECIFICATION FOR TYPICAL INDUSTRIAL/COLLECTOR ROAD CROSS-SECTION**

Scale:	N.T.S.
Date:	OCT 2016
Drawn By:	MD of Bonnyville

**SCHEDULE C INDUSTRIAL/COLLECTOR ROAD**



SURFACE WIDTH (m)	ROW REQUIRED (m)	NORMAL SIDE SLOPE	MAXIMUM SIDE SLOPE	NORMAL BACK SLOPE	MAXIMUM BACK SLOPE	MAXIMUM CURVE RADIUS (m)	MAXIMUM SUPER ELEVATION (m/m)	MAXIMUM GRADIENT (%)
8.00	20.00	3:1	3:1	3:1	2:1	300	0.06	6.00

### GRAVEL SPECIFICATION

DESIGNATION 2 CLASS 40

MINIMUM 150 mm THICKNESS

SUBGRADE (CLAY SPECIFICATION): The top 300 mm material shall be compacted to 98% standard proctor density. The material below 300 mm shall be compacted to 95% standard proctor density.

### NOTE:

All measurements are in meters unless otherwise noted



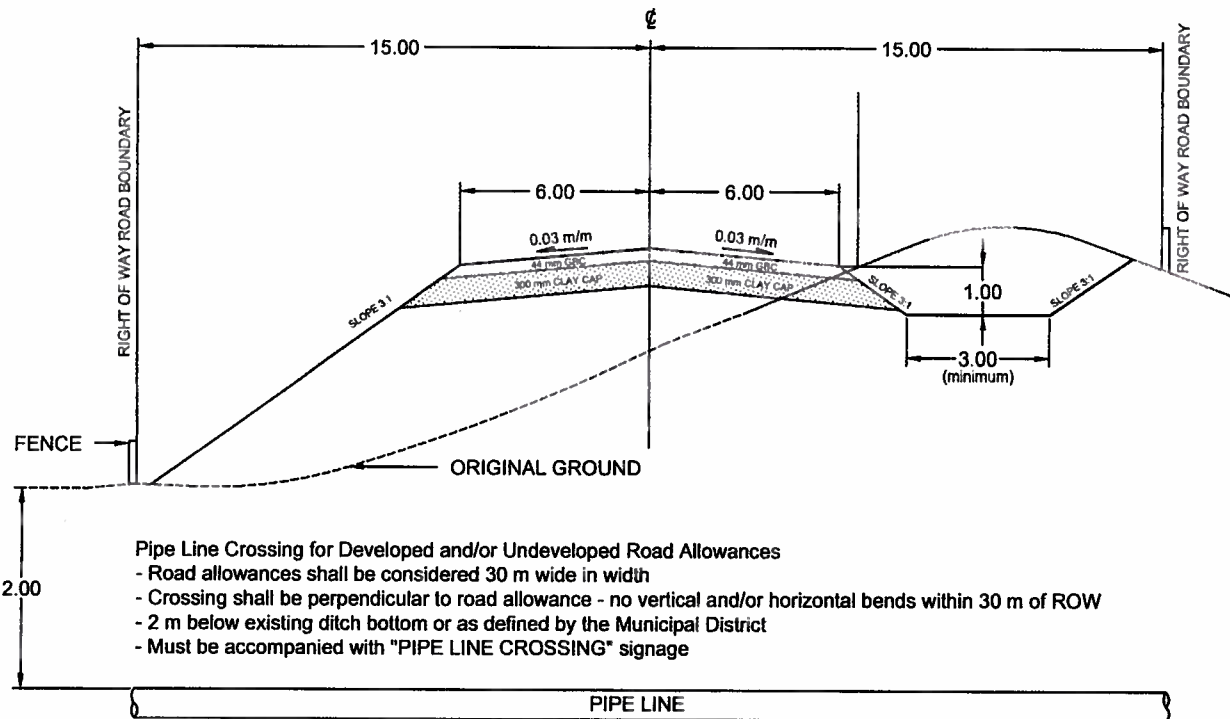
## SPECIFICATION FOR TYPICAL COUNTRY RESIDENTIAL ROAD CROSS-SECTION

Scale: N.T.S.

Date: OCT 2016

Drawn By: MD of Bonnyville

## SCHEDULE D COUNTRY RESIDENTIAL ROAD



SURFACE WIDTH (m)	ROW REQUIRED (m)	NORMAL SIDE SLOPE	MAXIMUM SIDE SLOPE	NORMAL BACK SLOPE	MAXIMUM BACK SLOPE	MAXIMUM CURVE RADIUS (m)	MAXIMUM SUPER ELEVATION (m/m)	MAXIMUM GRADIENT (%)
12.00	30.00	3:1	3:1	3:1	2:1	300	0.06	6.00

**GRAVEL SPECIFICATION**

DESIGNATION 4 CLASS 20  
 MINIMUM 44 mm THICKNESS

SUBGRADE (CLAY SPECIFICATION): The top 300 mm material shall be compacted to 98% standard proctor density. The material below 300 mm shall be compacted to 95% standard proctor density.

**NOTE:**  
 All measurements are in meters unless otherwise noted

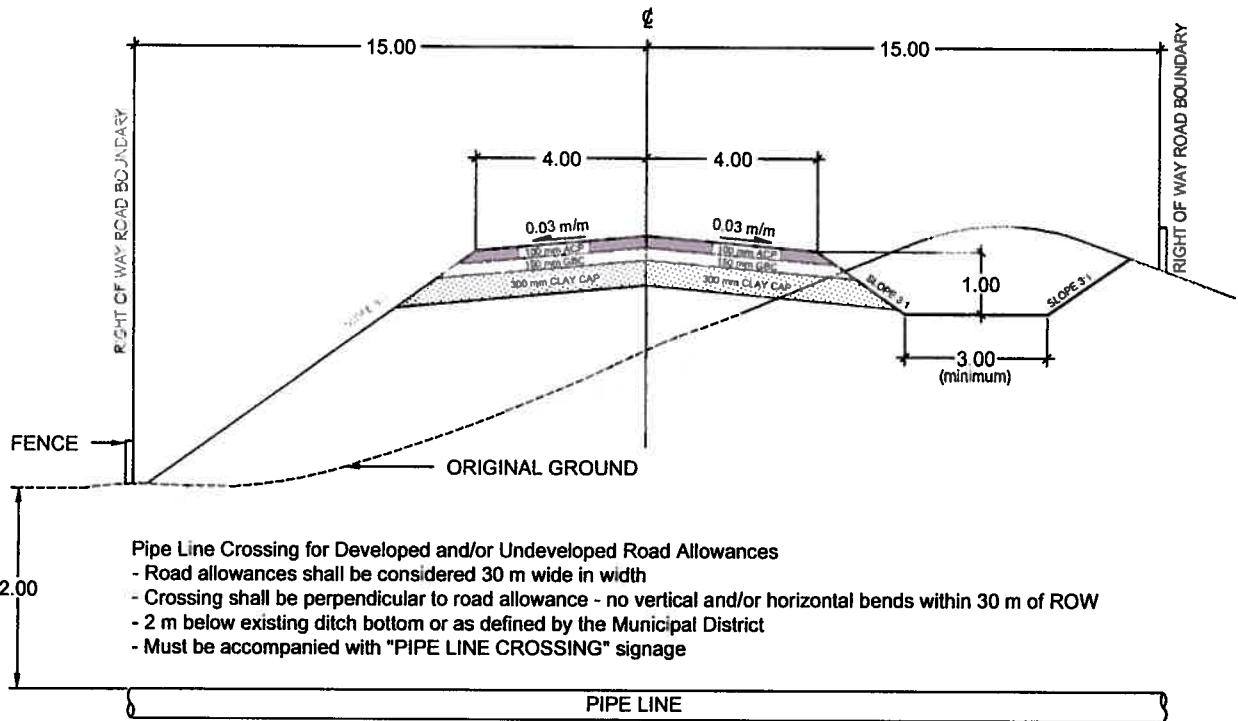


**SPECIFICATION FOR TYPICAL GRAVEL COLLECTOR ROAD CROSS-SECTION**

Scale: **N.T.S.**  
 Date: **OCT 2016**  
 Drawn By: **MD of Bonnyville**

**SCHEDULE E  
 GRAVEL COLLECTOR ROAD**





SURFACE WIDTH (m)	ROW REQUIRED (m)	NORMAL SIDE SLOPE	MAXIMUM SIDE SLOPE	NORMAL BACK SLOPE	MAXIMUM BACK SLOPE	MAXIMUM CURVE RADIUS (m)	MAXIMUM SUPER ELEVATION (m/m)	MAXIMUM GRADIENT (%)
8.00	30.00	3:1	3:1	3:1	2:1	300	0.06	6.00

**GRAVEL SPECIFICATION**

DESIGNATION 2 CLASS 20

MINIMUM 150 mm THICKNESS

SUBGRADE (CLAY SPECIFICATION): The top 300 mm material shall be compacted to 98% standard proctor density. The material below 300 mm shall be compacted to 95% standard proctor density.

**NOTE:**

All measurements are in meters unless otherwise noted



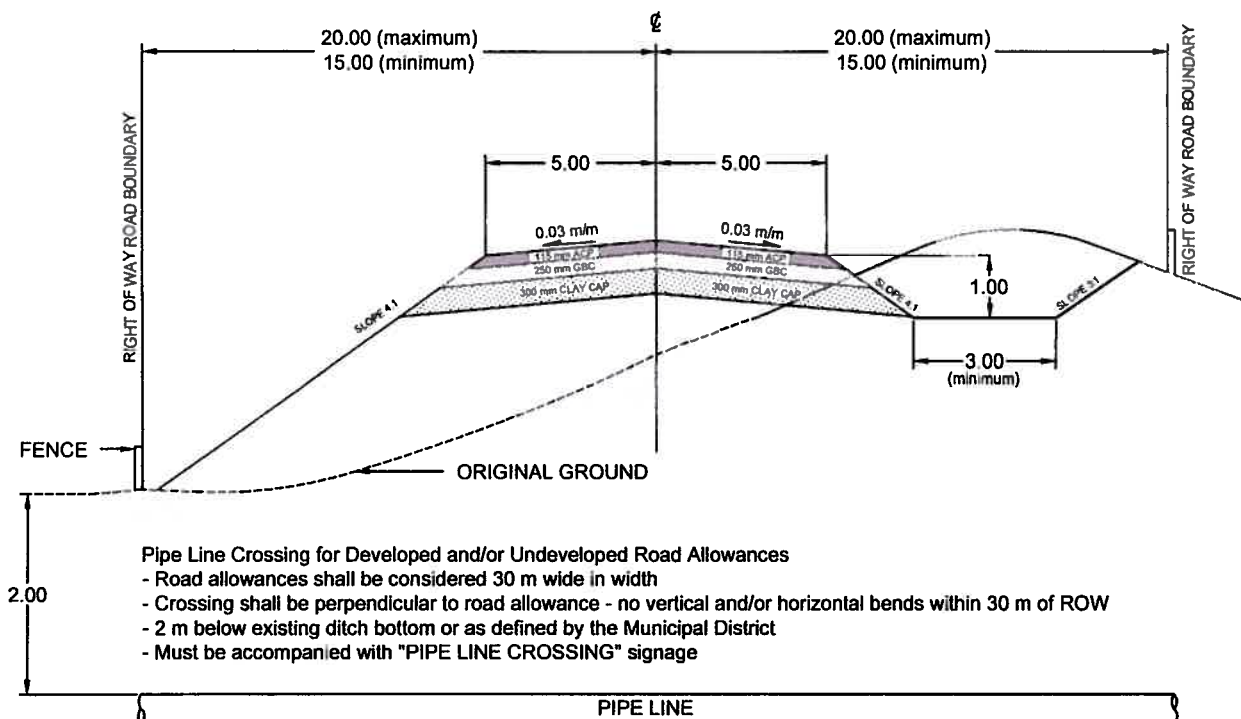
**SPECIFICATION FOR TYPICAL ASPHALT RESIDENTIAL SUBDIVISION ROAD CROSS-SECTION**

Scale: **N.T.S.**

Date: **OCT 2016**

Drawn By: **MD of Bonnyville**

**SCHEDULE F**  
**ASPHALT RESIDENTIAL SUBDIVISION ROAD**



SURFACE WIDTH (m)	ROW REQUIRED (m)	NORMAL SIDE SLOPE	MAXIMUM SIDE SLOPE	NORMAL BACK SLOPE	MAXIMUM BACK SLOPE	MAXIMUM CURVE RADIUS (m)	MAXIMUM SUPER ELEVATION (m/m)	MAXIMUM GRADIENT (%)
10.00	30.00	4:1	3:1	3:1	2:1	300	0.06	6.00

**GRAVEL SPECIFICATION**

DESIGNATION 2 CLASS 40  
MINIMUM 250 mm THICKNESS

SUBGRADE (CLAY SPECIFICATION): The top 300 mm material shall be compacted to 98% standard proctor density. The material below 300 mm shall be compacted to 95% standard proctor density.

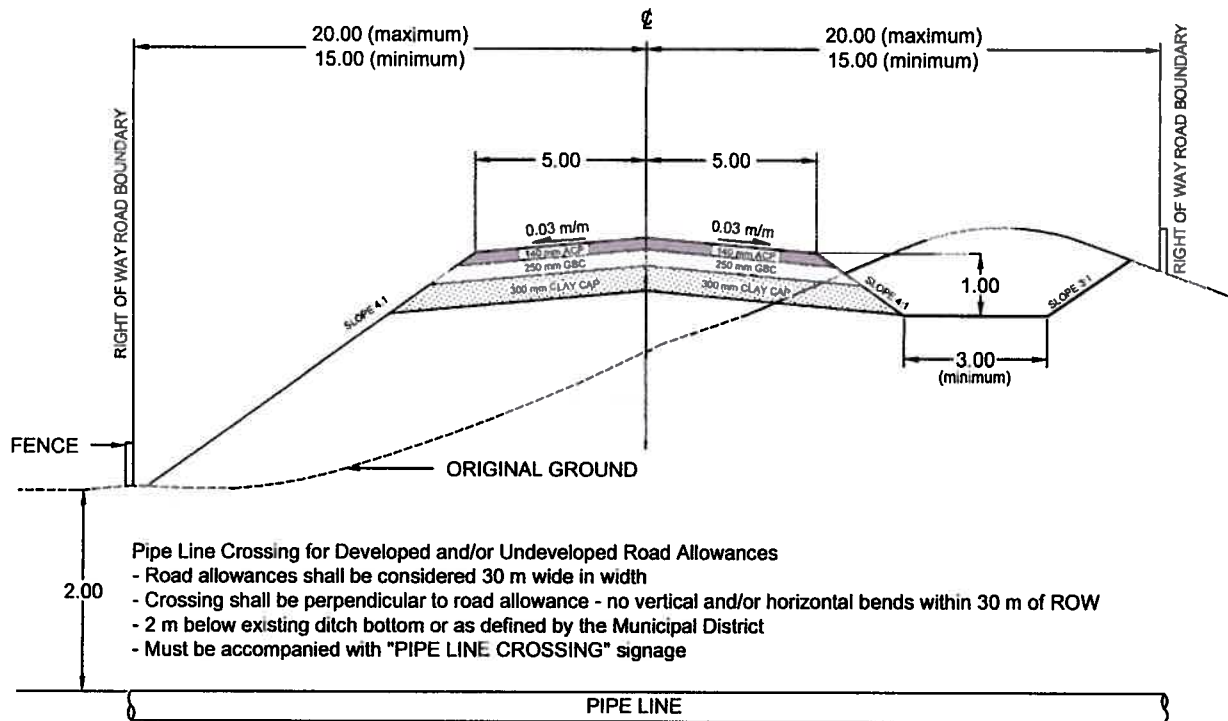
**NOTE:**  
All measurements are in meters unless otherwise noted



**SPECIFICATION FOR TYPICAL ACP  
MINOR ARTERIAL ROAD  
CROSS-SECTION**

Scale: **N.T.S.**  
Date: **OCT 2016**  
Drawn By: **MD of Bonnyville**

**SCHEDULE G  
ACP MINOR ARTERIAL ROAD**



SURFACE WIDTH (m)	ROW REQUIRED (m)	NORMAL SIDE SLOPE	MAXIMUM SIDE SLOPE	NORMAL BACK SLOPE	MAXIMUM BACK SLOPE	MAXIMUM CURVE RADIUS (m)	MAXIMUM SUPER ELEVATION (m/m)	MAXIMUM GRADIENT (%)
10.00	30.00	4:1	3:1	3:1	2:1	300	0.06	6.00

### GRAVEL SPECIFICATION

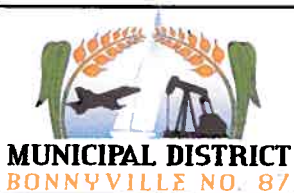
DESIGNATION 2 CLASS 40

MINIMUM 250 mm THICKNESS

SUBGRADE (CLAY SPECIFICATION): The top 300 mm material shall be compacted to 98% standard proctor density. The material below 300 mm shall be compacted to 95% standard proctor density.

### NOTE:

All measurements are in meters unless otherwise noted



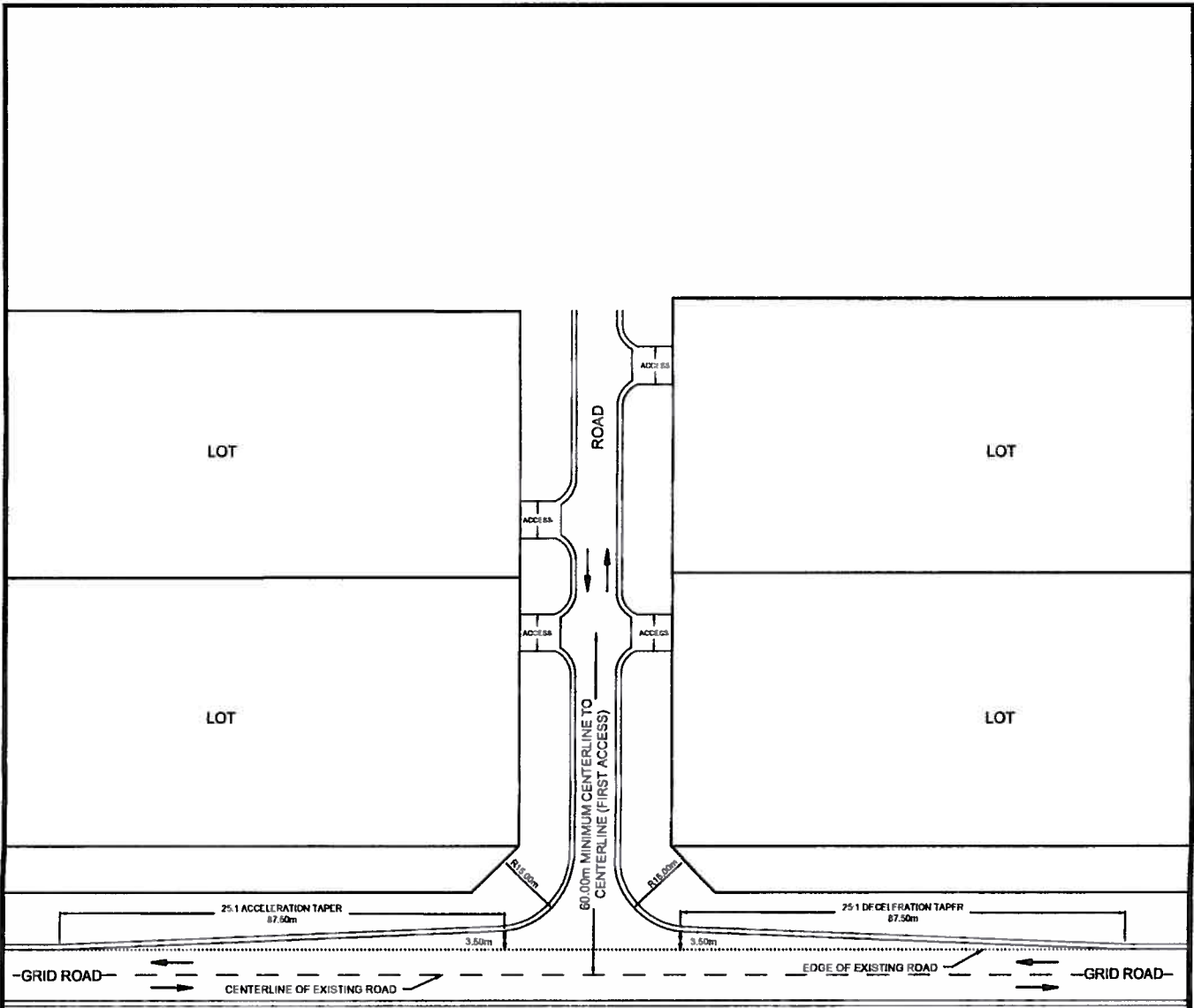
## SPECIFICATION FOR TYPICAL ACP MAJOR ARTERIAL ROAD CROSS-SECTION

Scale: N.T.S.

Date: OCT 2016

Drawn By: MD of Bonnyville

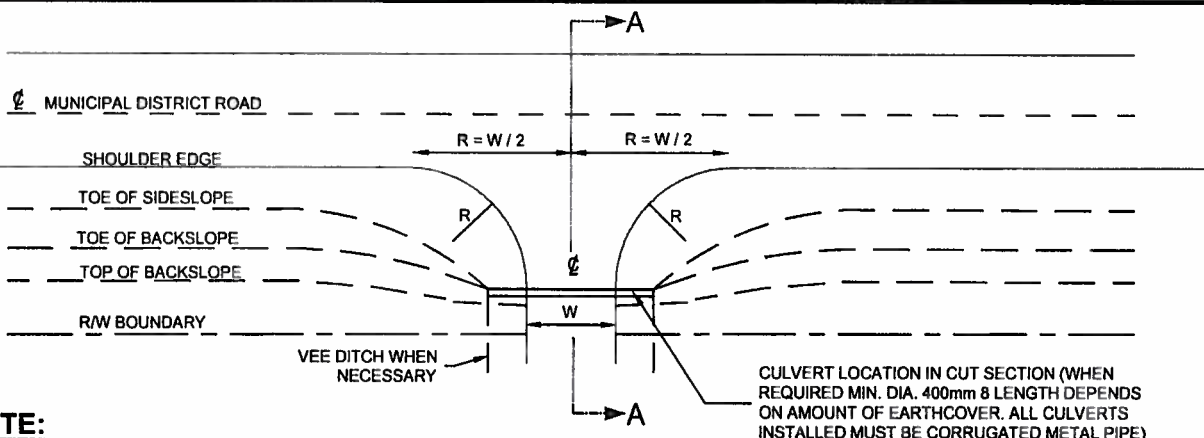
## SCHEDULE H ACP MAJOR ARTERIAL ROAD



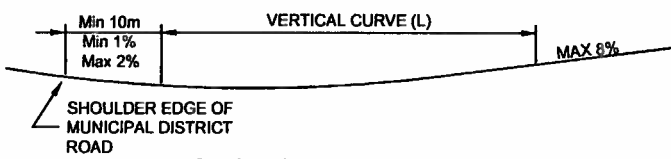
**SPECIFICATION FOR COUNTRY  
 RESIDENTIAL SUBDIVISION ROAD  
 TYPICAL INTERSECTION TREATMENT**

Scale:	N.T.S.
Date:	OCT 2016
Drawn By:	MD of Bonnyville

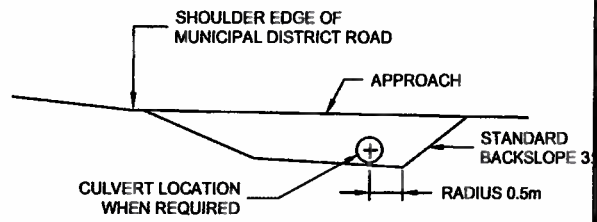
**SPECIFICATION FOR INTERSECTION  
 COUNTRY RESIDENTIAL SUBDIVISION ROAD TO GRID ROAD**



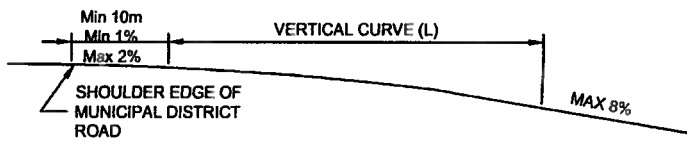
**NOTE:**  
INTERSECTION ANGLE TO BE IN RANGE 80 TO 100



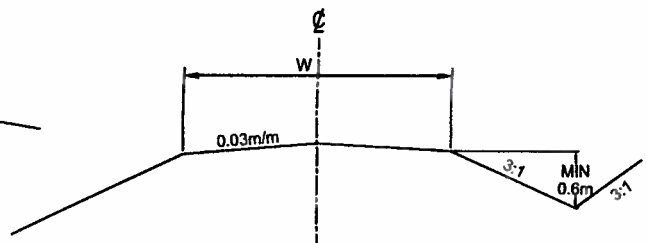
**SECTION A**  
PRIVATE APPROACH IN CUT



**DETAIL OF**  
**DITCH AND CULVERT LOCATION**



**SECTION A**  
PRIVATE APPROACH IN FILL



**PRIVATE APPROACH**  
**CROSS-SECTION**

ALGEBRAIC DIFF IN GRADIENT (%)	LENGTH (m)	
	CREST	SAG
1	6	8
2	12	15
3	16	23
4	24	30
5	30	38
6	37	46
7	/	46
8	/	46
9	/	46

USE	APPROACH WIDTH, W (m)	RADIUS OF INTERSECTION EDGE OF SHOULDER (R)
	BASE	
RESIDENTIAL	8	10-15
AGRICULTURE	10	15-20
INDUSTRIAL	10	15-20



**A MINIMUM 400mm CULVERT  
REQUIRED**

Scale: **N.T.S.**  
Date: **OCT 2016**  
Drawn By: **MD of Bonnyville**

**DESIGN SPECIFICATIONS  
FOR ROAD APPROACHES**

## **The Municipal District of Bonnyville No. 87**

### **CONSTRUCTION STANDARDS FOR ROAD APPROACH**

1. Minimum of 400mm = 16 inch diameter culvert. All culverts installed must be corrugated metal pipe with whistled ends (beveled). All culverts are to be sized to the drainage requirements of the ditch.
2. In the instance that there is no ditch depth, then approval from the Municipal District will be required for approach installation without a culvert.
3. All topsoil must be removed from ditch prior to culvert installation for ease of water flow.
4. Approach surface must be crowned with a minimum of 300 mm = 1 foot of compacted clay cover at the shoulders of the approach with finish grade at a minimum of 50 mm = 2 inches of 20 mm =  $\frac{3}{4}$  inch crushed gravel, compacted
5. Road Approach shall be a minimum roadway width for:
  - residential approaches 8 meters (26.24 feet)
  - agriculture/industrial approaches 10 meters (32.8 feet).
6. All exposed culvert ends to be packed with hand size rocks to prevent erosion around culvert ends.
7. Road approaches should have a minimum distance separation of 30 meters (100 feet) and align with existing approach(s) across from both sides of the municipal road when possible.
8. Road approaches should be a minimum of 100 meters (328 feet) from the intersection of any municipal roads and highways.