

## MODULE 1

## RURAL ROAD NETWORK

### Objectives

After fulfilling Module 1, you will be able to:

- Understand the Local Road Network and apply to your local circumstances.
- Understand main components of roads, bridges, culverts & other structures.

### Pre-requirement

- No special requirements

### Methods

- The participants are introduced a local road network (district, commune level) and to on-road structures & facilities.
- The participants are introduced components of roads, bridges, culverts... and safety facilities.
- Self-Assessment.

### Training Kit

- Rural Road Maintenance Handbook
- Module 1: “*Rural Road Network*”

### Studying Activities

1. Learn about the Local Road Network (commune, district) - name, road types & structures (based on current classification of the rural road network)
2. Learn about the structure of local roadwork, facilities such as bridges, culverts... in the Local Road Network.
3. Relate to your Local Road Network – introduce about your own Local Road Network and related facilities in your commune’s road network.
4. Self - assessment.

## 1. Learn about the Rural Road Network



*Find out and read* the standards relating to Rural Road Network classification

1. Road connecting district to commune centers is classified into 2 types: AH, AHMN *according to Decision No. 1582/1999/QĐ -BGTVT dated 01/7/1999* and two types of road from commune to village, inter-villages and from village to field: A, B *according to the Transport Sector Standard 22 TCN 210-92*
2. *Basic norms* of road according to standard 22 TCN 210-92 and decision 1582/1999/QĐ-BGTVT

Basic norms	Road from District to Commune center		Commune road	
	AH Type	AHMN Type	A Type	B Type
The design speed of vehicle in limited condition (km/hour)	25(20)	20(15)	15	10
The width of road surface (m)	3.5m x 1	3.0m x 1	3.5(3.0) *	3.0(2.5) *
The width of road-bed (m)	5.5	5.0	5.0(4.0) *	4.0(3.5) *

3. The design load capability of on-road structures complies with the standard 22 TCN 210-92

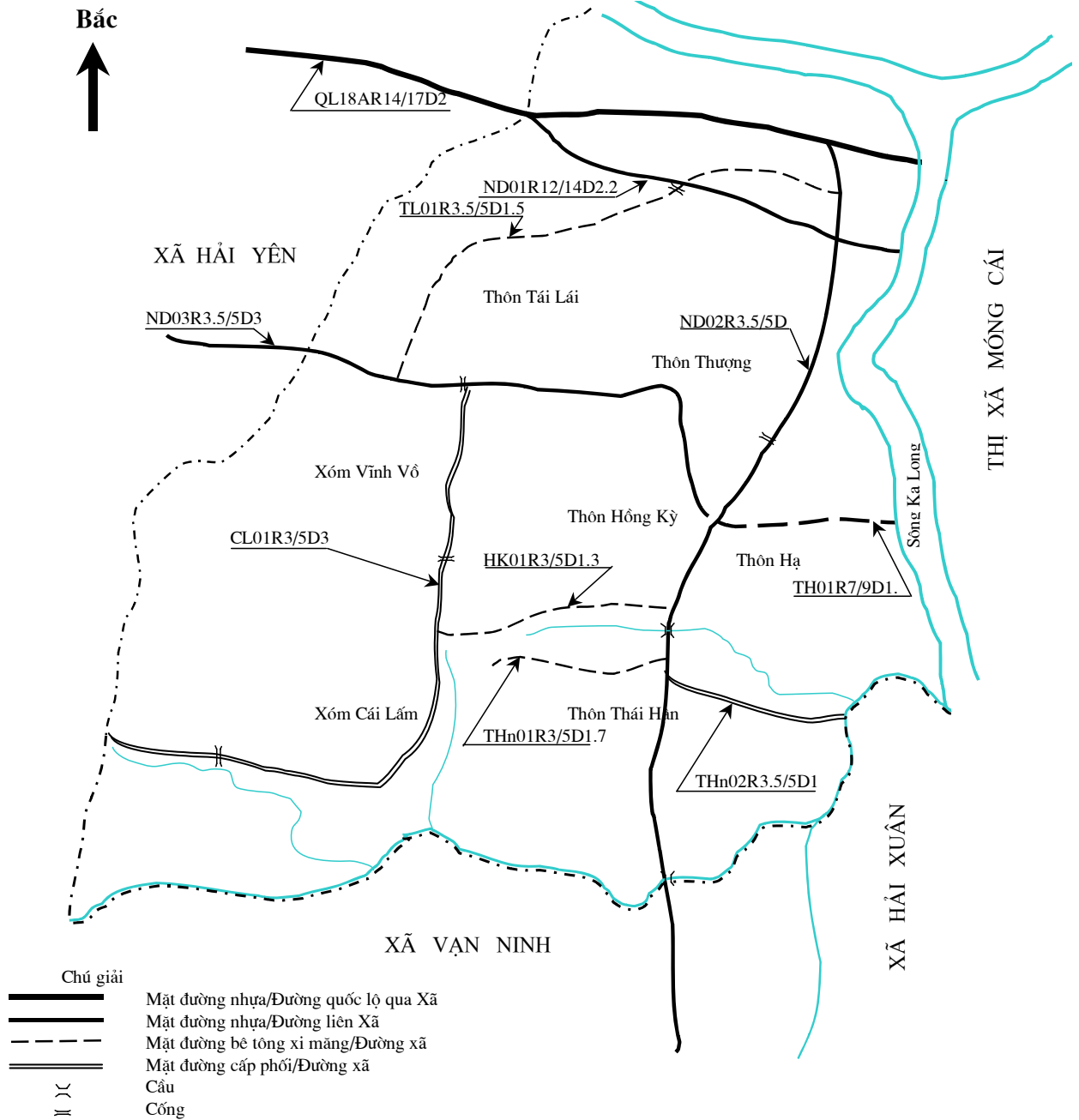
*Type A road* mainly accommodates motorized vehicles of medium **weight** with design axle load of 6 tons.

*Type B road* mainly accommodates non-motorized vehicles with design axle load of 2.5 tons.



Look at the below *Chart*, and give *general remarks* about each Commune Road Network

MANG LƯỚI ĐƯỜNG PHƯỜNG NINH DƯƠNG - THỊ XÃ MÓNG CÁI - QUẢNG NINH



\*Các vị trí cống trên sơ đồ là giả định

**Remarks:**

1. Types of commune road:

- Road from District to Commune Center, Inter-Commune includes:

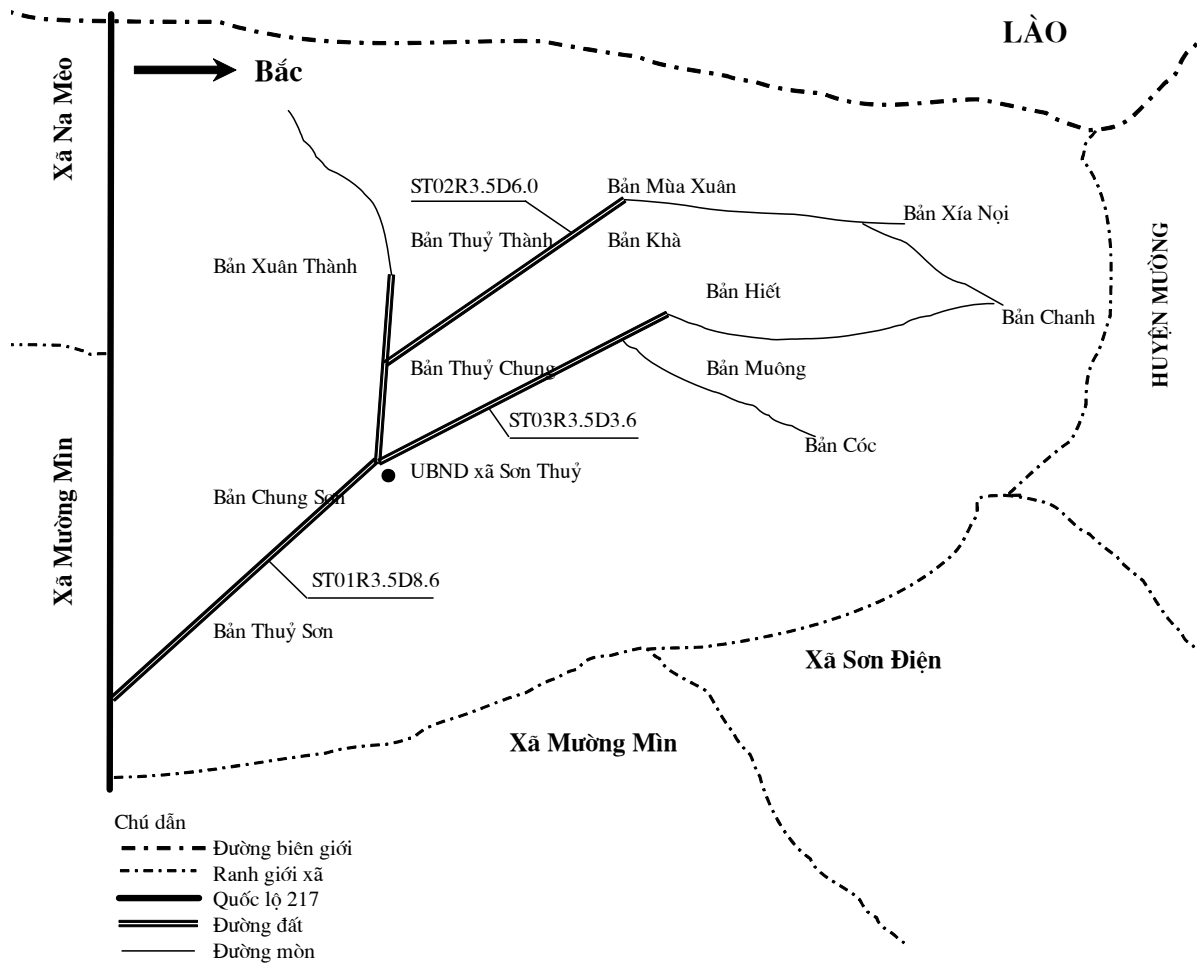
- + .....
- + .....

- Road from Commune to village, inter-village:

- + .....

- + .....
  - + .....
  - Road from village to the field (not shown in the chart)
2. Commune traffic conditions
- .....
- .....

SƠ ĐỒ ĐƯỜNG GIAO THÔNG XÃ SƠN THỦY - HUYỆN QUAN HOÁ - THANH HOÁ



**Remarks:**

1. Types of Commune road:
  - Road from District to Commune Center, Inter-Commune includes:
    - + .....
    - + .....
  - Road from Commune to village, inter-village:
    - + .....
    - + .....

- + .....
  - Road from village to field (not shown in the chart)
2. Commune traffic conditions
- .....
- .....

 Read remarks about current Vietnam Rural Road Network

The Rural Road Network in our country is highly diversified and varies from each regional and local *socio-economic- natural condition*.

+ Roads from District to Commune Center may be National or Provincial Highway outside the commune, or District road. The width and road surface composition are also diversified, ranging from local roads with high quality surfaces (asphalt concrete, cement concrete) with large width to bitumen sealing, penetration and even to earth road surfaces with small width.

+ Road from Commune to Villages, Inter-village may be constructed with cement concrete, the bitumen sealing, penetration... with the rather large width (7m), or the track with the small width (about 2m)




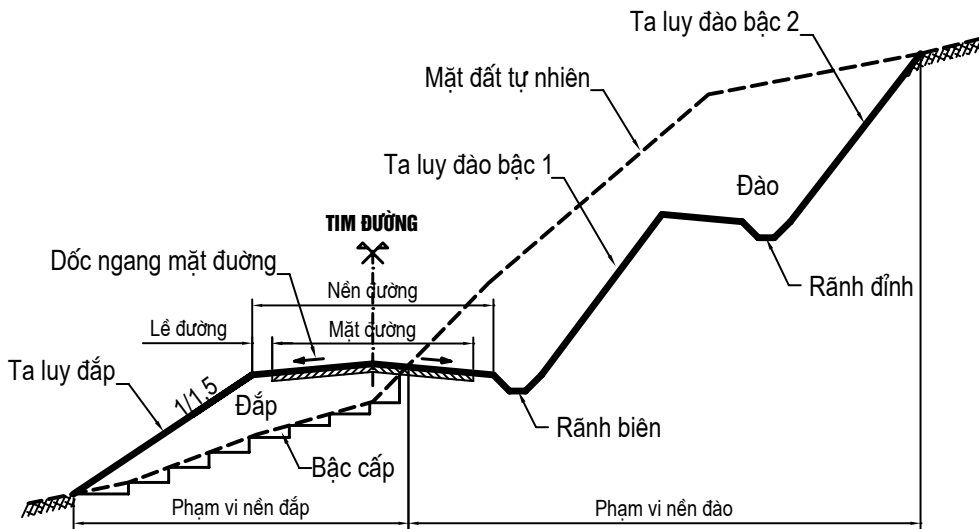
NOTES

**The Rural Road Network composes of roads from District to Commune Centers, Inter-commune, from commune to villages, inter-village and from village to the field.**

**Basic norms such as width of road surface, compositions depend on local socio-economic- natural conditions.**

## 2. Learn about road compositions and structures

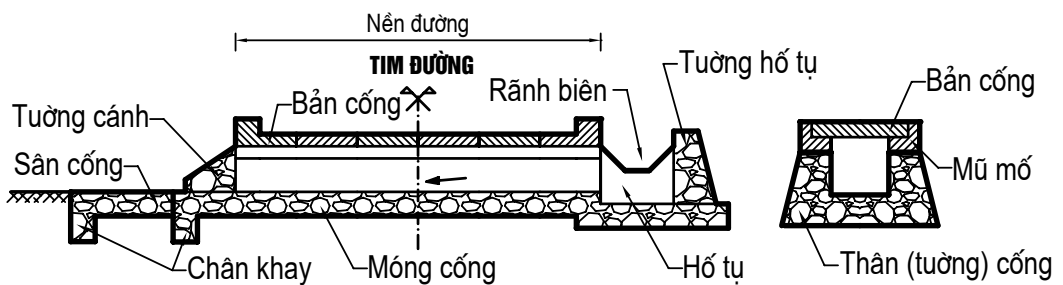
 *Look at the below typical cross-section of roads* drawing and memorize its main features.



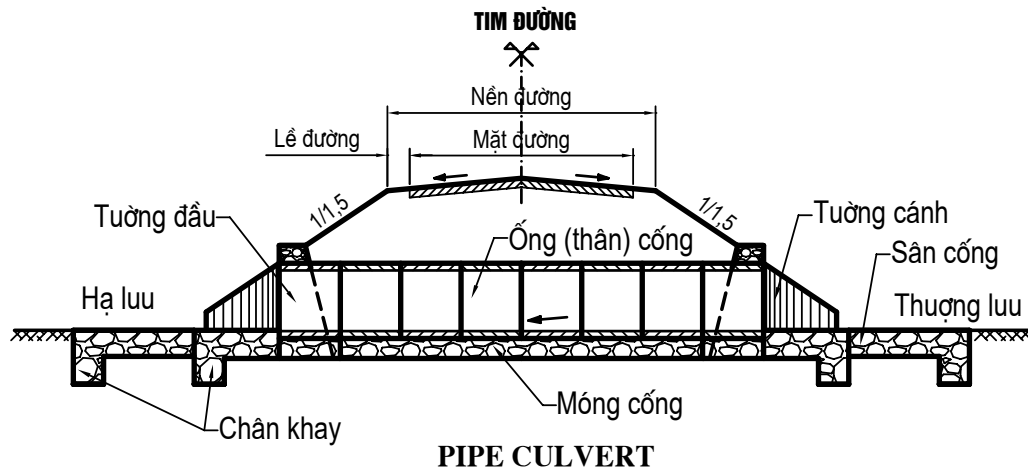
 **Draw** a typical cross-section of roads in your local/region and **write down** names of its main features.

Typical cross-section road surface..... commune.....district.....

 **Look at** the below longitudinal section of a culvert drawing and memorize its main features.



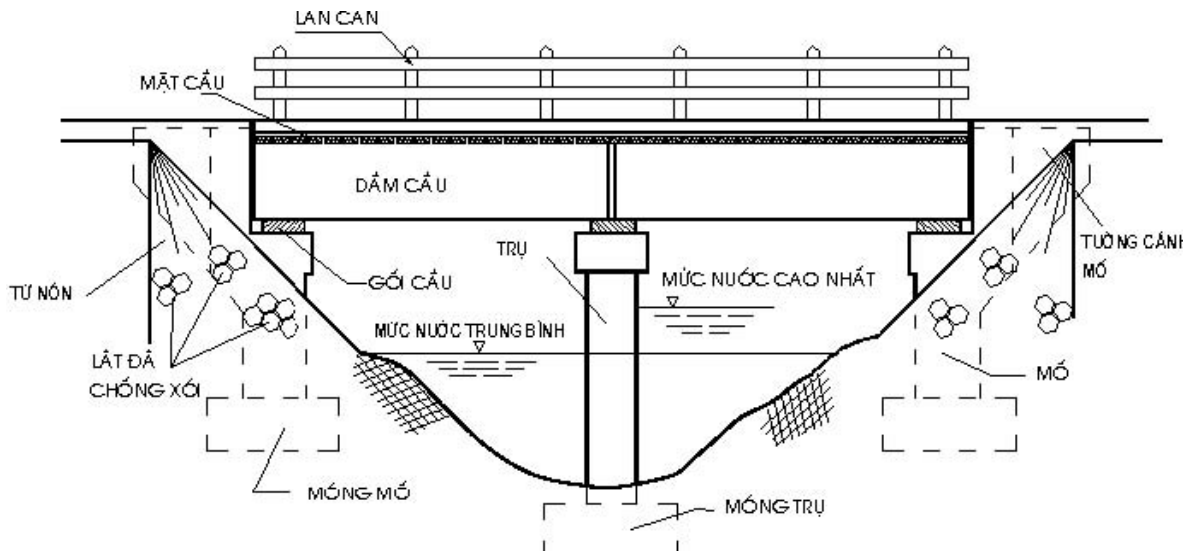
**PLATE CULVERT**



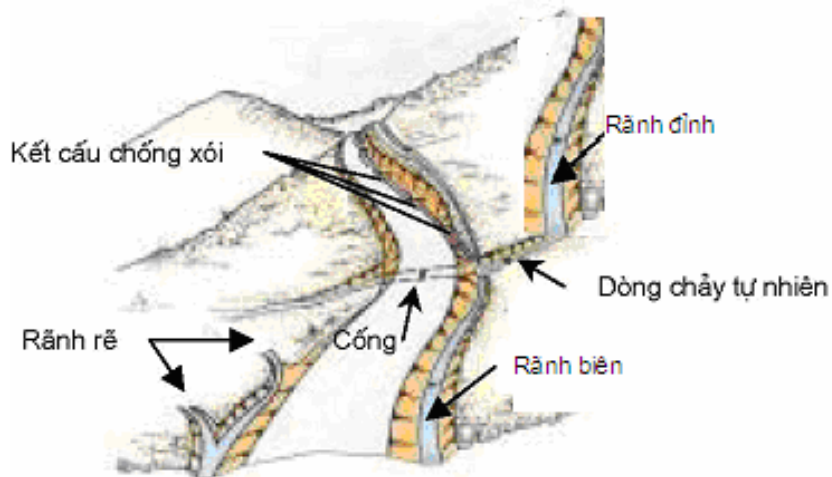
PIPE CULVERT

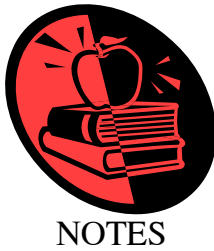


**Look at** the below longitudinal section of a bridge drawing and memorize its main features




**Look at** the side drainage system in the below drawing and **memorize** the drainage types.

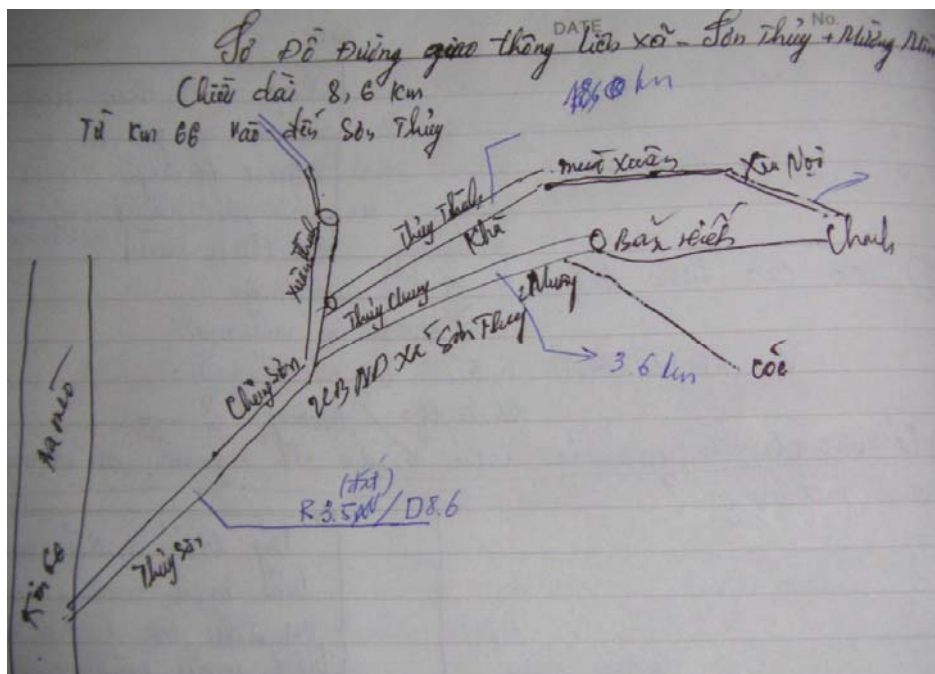




- A typical cross-section of Rural Road includes the following main features: carriageway, shoulder, formation, embankment & cut slopes, side drain/ditch.
- Main features of culvert: foundation, culvert pipe, head wall, wing wall, apron
- Main features of bridge: pier (pier foundation, pier pipe, abutment (foundation, pipe, wing wall), quarter cone, bearing, beam, bridge deck, railing.
- Types of drainage: side drain/ditch, catch water drain, miter drains (turn out drains)

### 3. Apply to your Commune Road Network and present it in summary

 Look at a Road Network drawing by a member of CDOT Staff







**Draw** and give remarks on your Commune Road Network

Commune Road Network Chart.....district.....province.....



**Fill in the table below with more information** of your Commune road network

No.	Structure	Type of Composition	Dimension/Width	Remarks
1	Road from District to Commune Center			
	- .....			
2	Inter-commune road			
	- .....			
	- .....			
3	Inter-village road			
	- .....			
	- .....			
	- .....			

4	Road to field - ..... ..... - ..... .....			
5	Bridge - ..... - ..... - ..... - .....			
6	Culvert - ..... - ..... - ..... - ..... - ..... - .....			
7	Other structures - ..... - ..... - ..... - .....			



**Kiểm tra - Danh gia**

**Assessment**

1. Fill in the blanks below:

*Commune Road Network composes of roads.....*  
 .....  
 .....

*Types of road composition and structures compose of.....*  
 .....  
 .....

Good	Not good
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2. Look at the below drawing and note main parts of the bridge.



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Good

Not good