

PLANNING



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Irrigation Works

Earthwork
(Canal or drain)

Constructional work
(all other works)

Canals

Public

Private

- a - Diversion Canal
- b - Main Canal
- c - Branch canal (major)
- d - Distributary canal (minor)

Field Canal

Drains

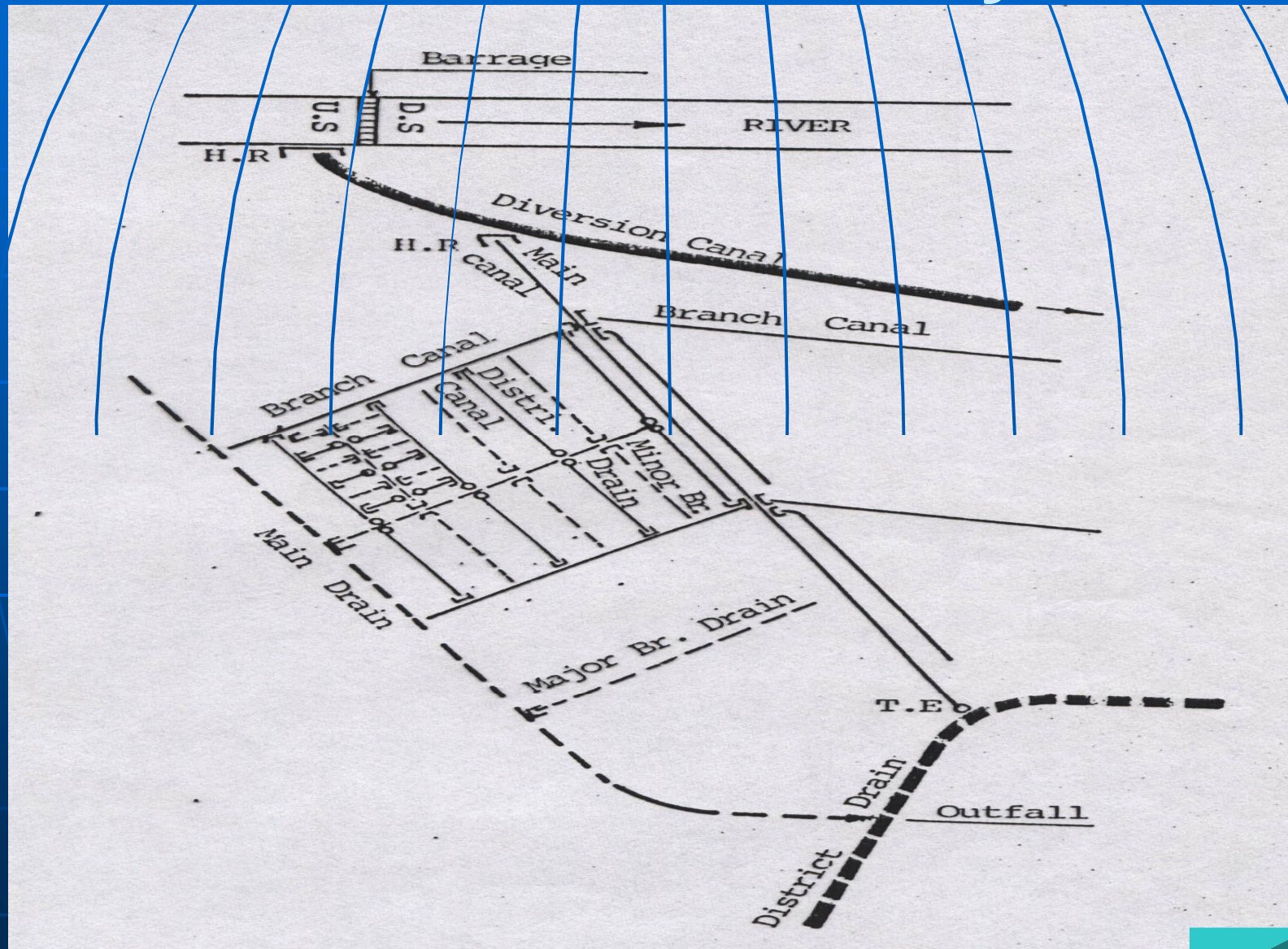
- a - Public District drain
- b - Main drain
- c - Major branch drain
- d - Minor branch drain

Private
Field Drain

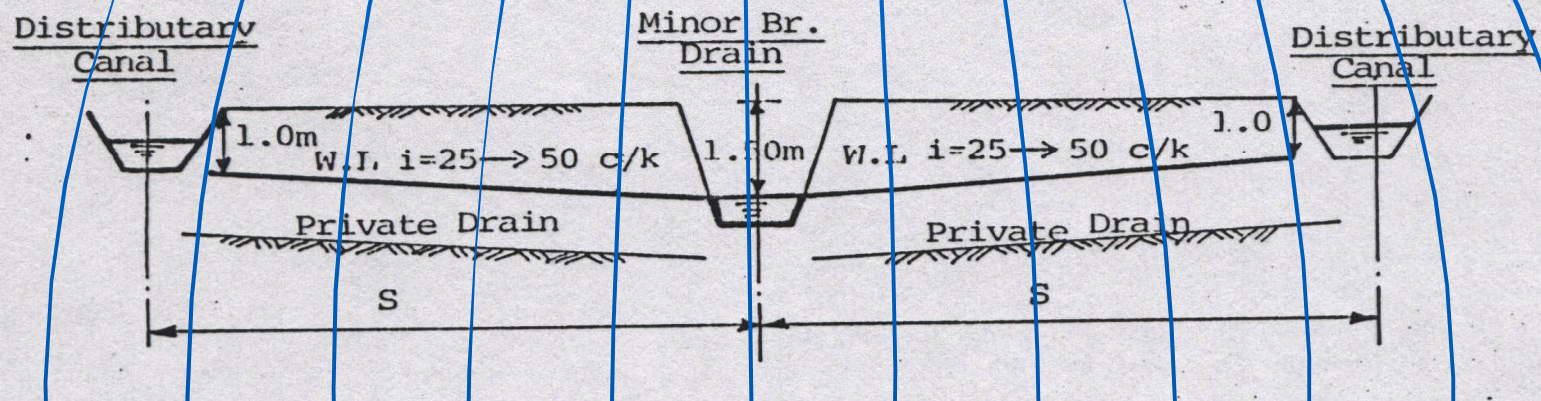
The table gives the area served, lengths and water slopes for various types of canals and drains.

Canals		Drains		Area Served Feddans	L km
Grades	i min cm/km	Grades	i min cm/km		
Diversion	3-5	District	3-5	>200 000	>50
Main	5-8	Main	7-10	10000-200000	=50
Branch	8-15	Major Branch	10-15	5000-10000	10-15
Distributary	10-20	Minor Branch	15-25	1000-5000	<10
Private	20-30	Private	25-50	< 1000	1 - 2

Canals and Drains System



Spacing



For Clay Soil

$$S = \frac{50 \text{ cm}}{50 \text{ c/k}} = 1 \text{ km}$$

For Silting Soil :

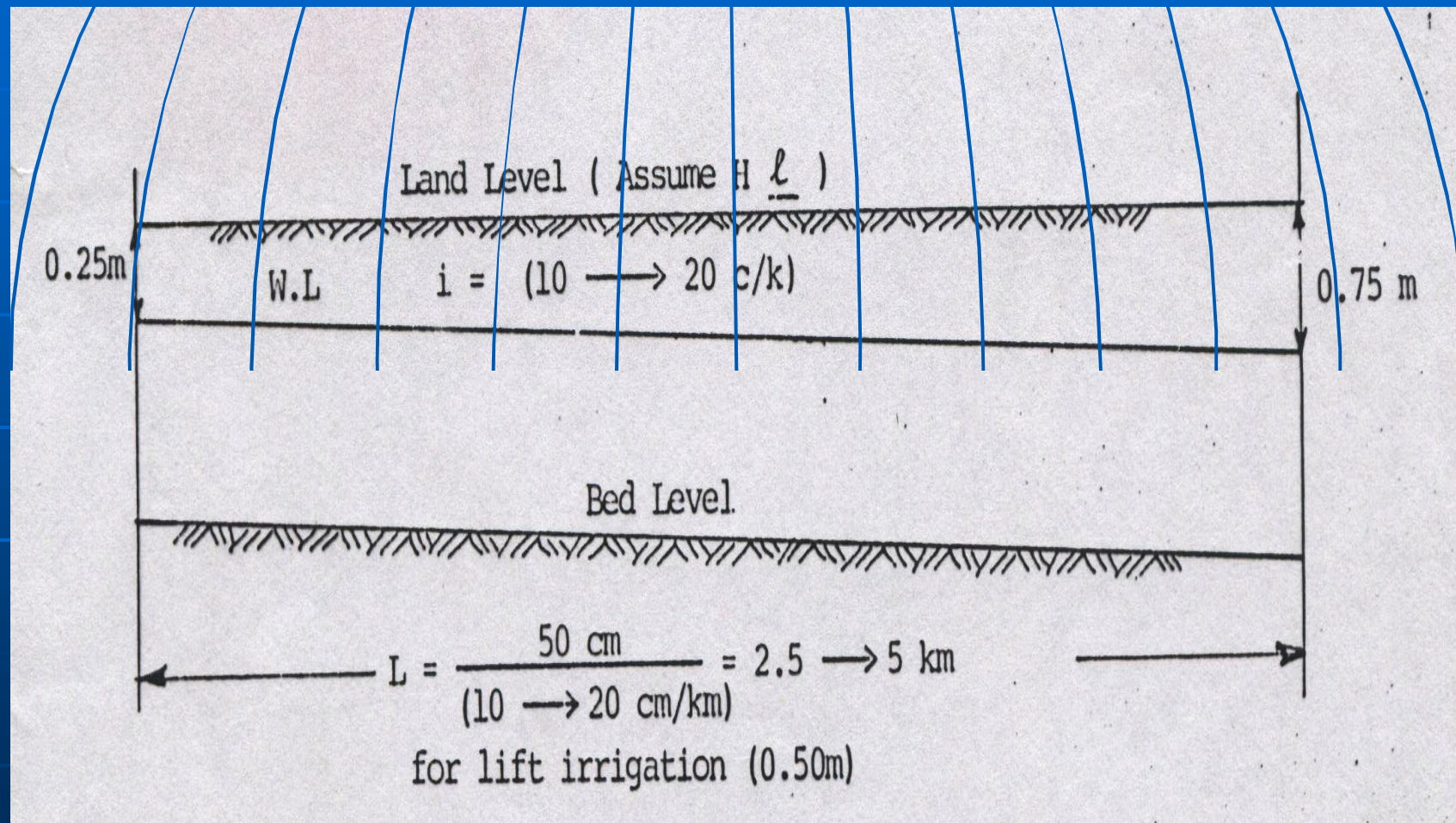
$$S = \frac{50 \text{ cm}}{30 \text{ c/k}} = 1.6 \text{ km}$$

For Sanding Soil :

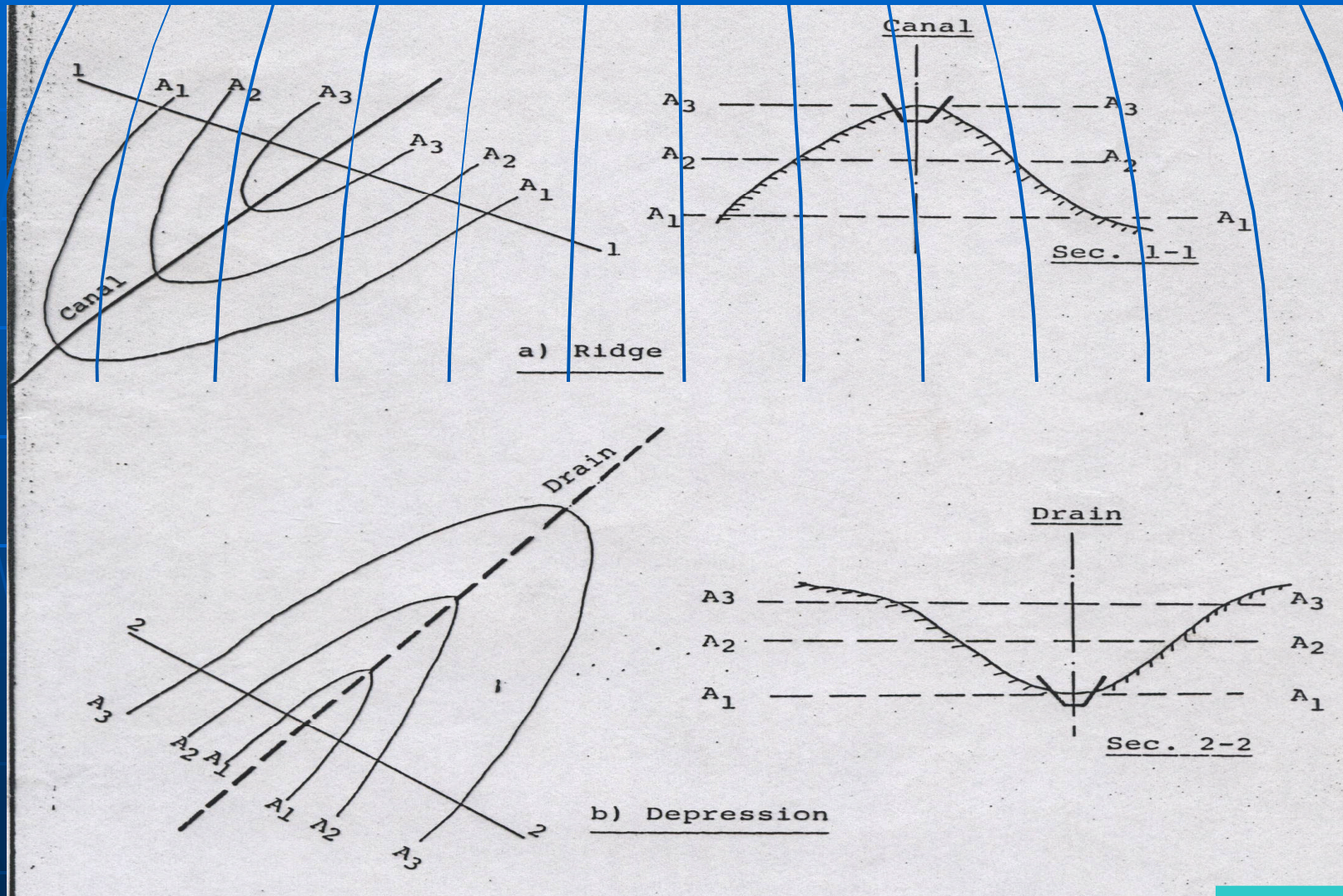
$$S = \frac{50 \text{ cm}}{25 \text{ c/k}} = 2.0 \text{ km}$$



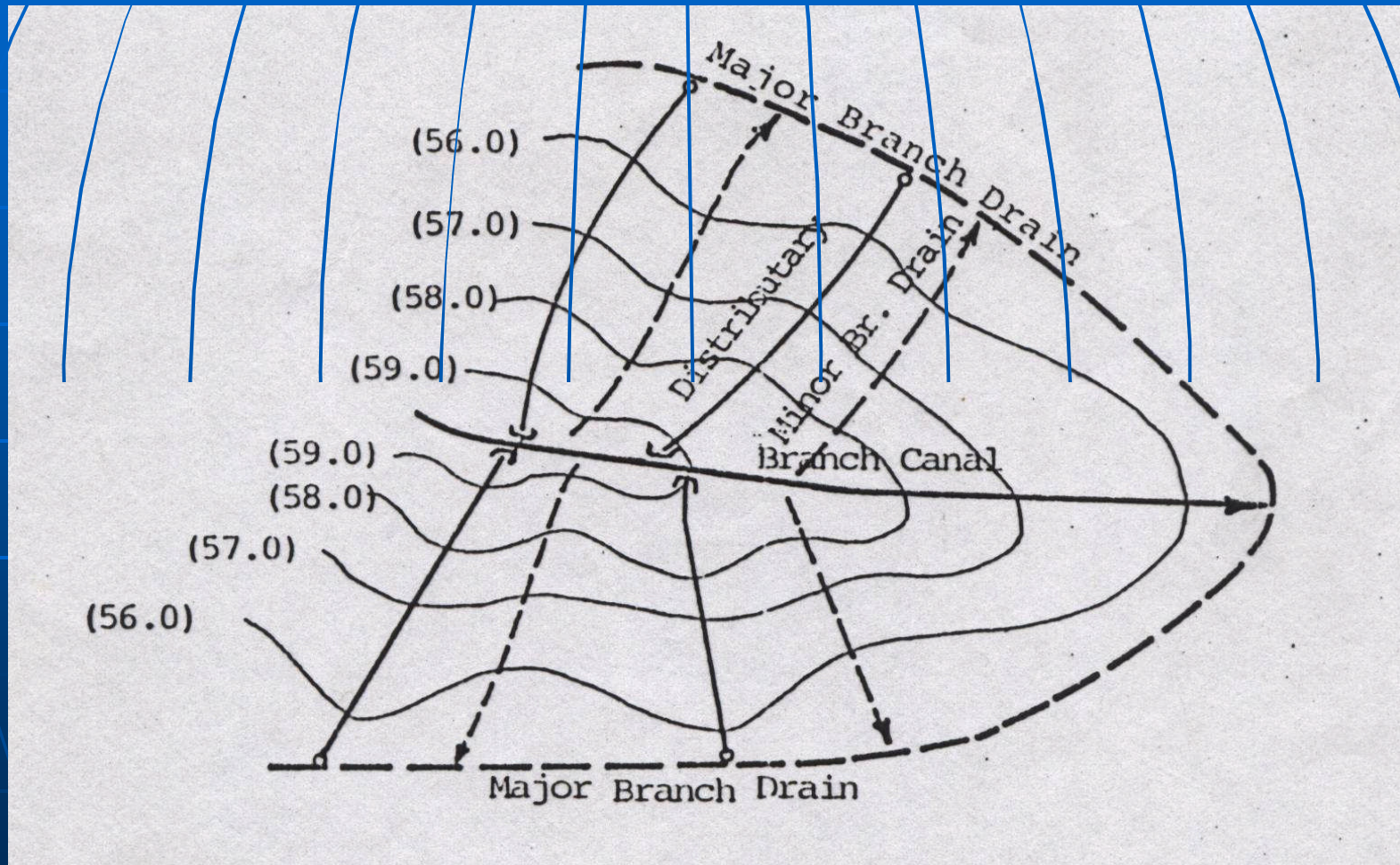
Length



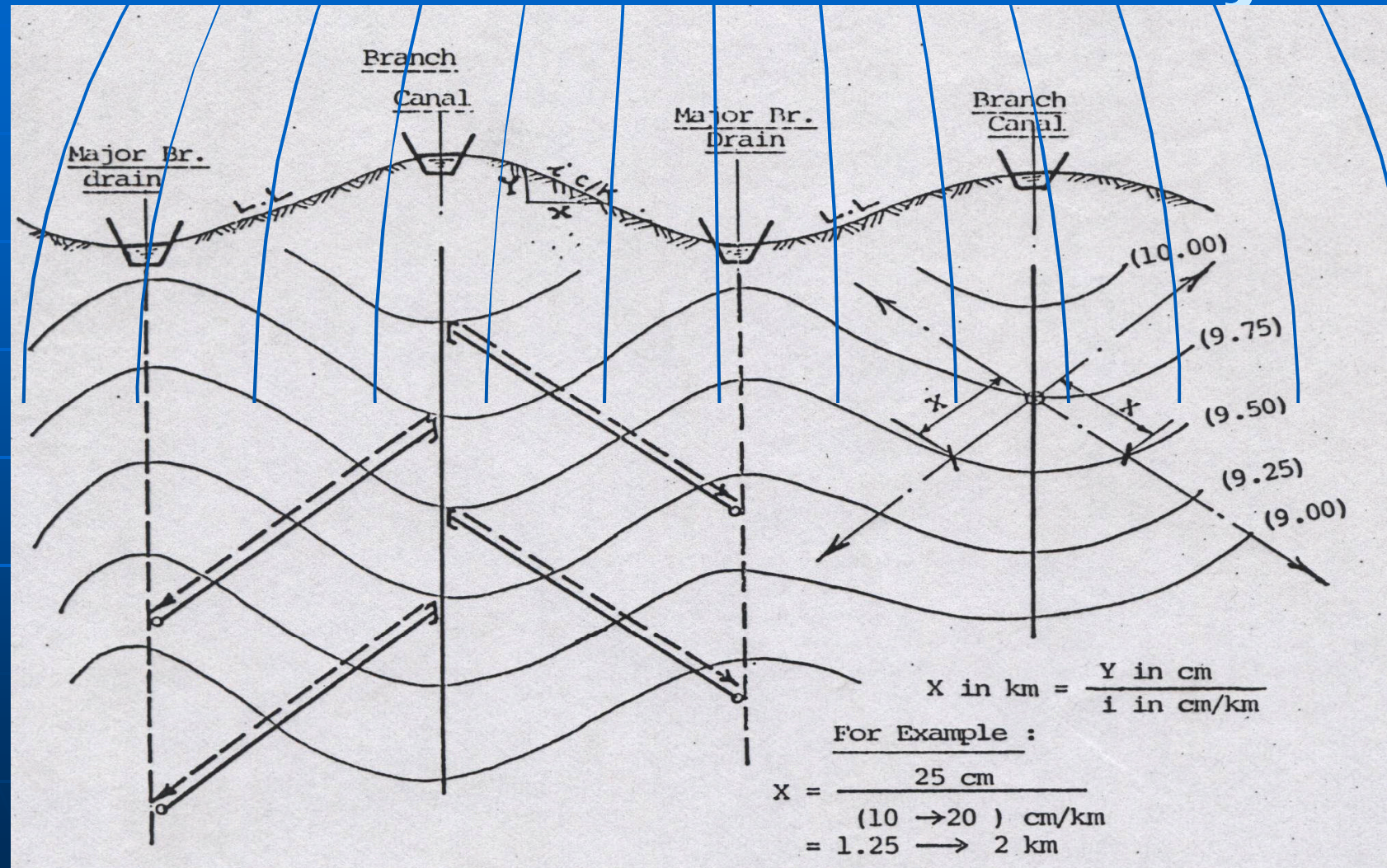
Ridges & Depression



Corrigated Topography



Direction of Distributary.



Sloping Topography :

If the topography of the land has an inclination in one direction, the alignment will be as shown in Fig. (1.8).

a) Flat Slope ($S \leq 7$ cm/km)

The distributary canal irrigates lands on both sides and runs in the direction of natural land slope.

b) Medium Slope ($S = 7 - 20$ cm/km)

The distributary canal irrigates lands on one side only and runs beside the drain with a suitable direction according to the land slope.

c) Steep Slope ($S \geq 20$ cm/km)

The distributary canal runs beside the drain with a suitable direction that fits the suitable canal slope.



