

The distance AA_1 we supposed to be equal to 0.1 foot, hence

$$l_1 = 799.55 + 0.1 = 799.65 \text{ and } h_1 = 121.926,$$

which determines the deflection of the guidewire in case the assumption of the distance AA_1 , will prove correct. This will be the case if with due regard to the friction of rollers, the horizontal tensions of river and land cables are alike. To determine the latter, a calculation similar to the one for middle cable, must be made; but it will be sufficient to consider the load supported by stays as equally distributed. Though this assumption will make a noted difference in the shape of curve, it will change the amount of horizontal tension so little as to be of no practical value, while on the other hand, it will much simplify the formulas. Considering the uncertainty in rolling friction, it is altogether not necessary to be too exact in this calculation.

In the diagram following, the curve ARM indicates the land cable, which was adjusted to balance the middle cable