

## CAMBRIDGE UNIVERSITY ENGINEERING DEPARTMENT

### BRIDGE DESIGN CHALLENGE

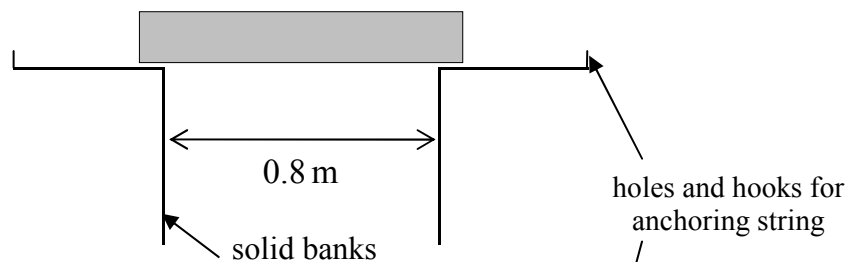
Your team is competing with several others for the contract to design and build a new bridge in a high-profile location. The client placing the order will be visiting today and your team has been asked to develop a model to demonstrate your proposed design. The client will judge the competing designs on the basis of:

- The maximum load it can support at mid span
- The maximum load divided by the weight of the bridge (a measure of efficient use of materials)
- Aesthetic appeal

#### 1. DESIGN REQUIREMENTS

- The bridge must span a gap of 0.8m
- The bridge must be of a single span design
- The deck (walkway) width must be between 0.1m (minimum) and 0.2m (maximum)

Side View



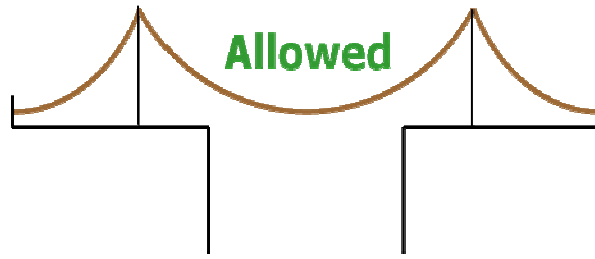
Plan View



Not to scale

#### 2. MATERIALS

- Thick cardboard sheet 1 off
- Thin cardboard sheet 1 off
- A4 paper unlimited within reason
- String can be used to simulate cables (see below),  
not to be used for lashings
- Masking tape for tube manufacture and box edge reinforcement only
- Nuts and bolts



Rules on the use of string!

### 3. EQUIPMENT

- Scissors
- Stanley knife
- Hole punch
- Steel safety ruler
- 3m tape measure
- Tube roller (used for making rolled paper tubes)
- Hot glue gun
- General tool kit – spanner, screwdriver, hand drill

### ACKNOWLEDGEMENTS

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