

# Design criteria report examples

[Design](#)



A bridge is a structure constructed to cross physical barriers such as a valley, body of water, or a road in order to provide passage over the obstacle.

Bridges are designed depending on the nature of the landscape there the bridge is to be built, the function of the bridge, funds available to build it and the material used to construct it.

At the level of theoretical engineering the most important geometric development administering the design of the bridge are the vertical and horizontal alignments, the cross section of the bridge, the arrangement of piers for span positioning, height and the pylon/ tower configuration.

**The properties and materials that were assumed for conceptual design and analysis of the bridge construction components are as follows:**

Reinforcing -  $f_y = 400 \text{ MPa}$

Pylon Concrete/ Tower -  $f'_c = 43 \text{ MPa}$

Anchorage Concrete/ Foundation -  $f'_c = 23 \text{ MPa}$

Concrete Box support Concrete -  $f'_c = 39 \text{ MPa}$

Steel -  $F_y = 300 \text{ MPa}$

Strand Area =  $150 \text{ mm}^2$

Before the construction, a team of technicians and engineers visited the site and performed a superficial inspection of the site. The following tasks were carried out during the bridge

**Photo logged structural components and visible conditions of the site.**

Observed general site conditions in order to evaluate roadway, critical approach and channel arithmetical constraints

Measured the bridge geometry.

Recorded structures and existing utilities which might be impacted during the construction process

Anchorage construction is composed of longitudinal wall construction, mass concrete pours, slab construction, all of which can be achieved with conventional construction techniques for the appropriate methods. The method entails the building of a steel edge atop which unbreakable concrete walls are built. The walls are constructed in a way to create a sequence of open cells through which the soil may be dug up. The increasing weight of the rising walls forces the edges to be sliced through the soil.