

1.0 Brief

In the southwestern region of the United States there is a plan to develop a new scenic trail in a national park. The trail aims to offer a wider experience of the park to the tourists by connecting the existing facilities with a new picnic area located in the heart of the park, but to do so it will have to wind through a deep, narrow canyon. Given the nature of the canyon walls, which can be very steep and at times overhang, the trail will need to move from one side of the canyon to the other at one location, where a crossing will be required. A sketch of the crossing location is shown in Figure 1.

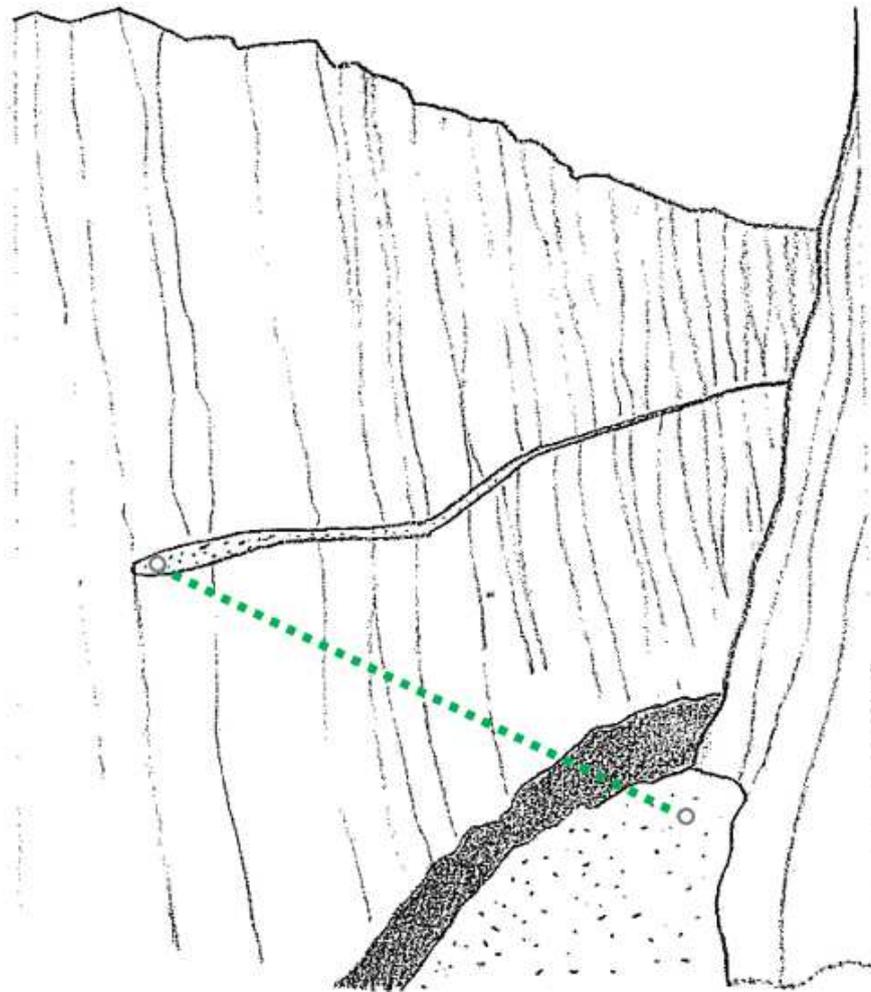


Figure 1 – Sketch of the canyon location at which the trail dead ends will have to be connected by the crossing (dotted green line).

Your task is to propose a design for a footbridge which will be able to span 16m across the canyon, connecting the dead ends of the trail paths. A cross section and a plan view of the canyon at the location of the crossing are shown in Figure 2.

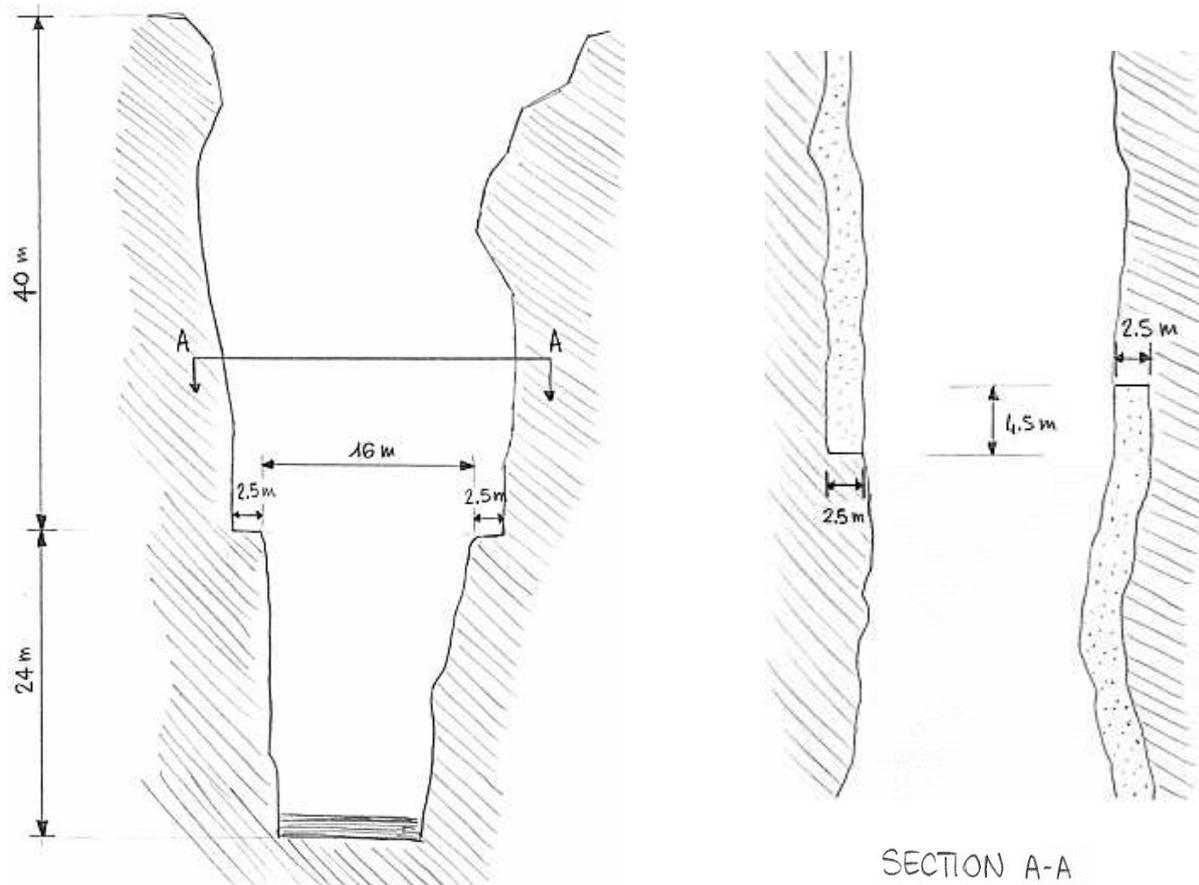


Figure 2 – Cross section (left) and plan view (right) of the canyon at the location of the future crossing.

2.0 Characteristics of the bridge

The local authority who commissioned the scenic trail has the following requirements on the design of the crossing:

- The visual impact of the structure should be minimal and preserve as much as possible the authenticity of the natural scenery.
- The design should account for the fact that materials will be delivered only to the top of the canyon and installation of the bridge elements will be from above. A construction sequence will have to be presented to demonstrate the constructability of the design.
- The design should include the proposed method of anchorage to the rocks and a typical detail of a connection in the structure. The canyon is mostly composed by red and white sandstone which can be assumed in good conditions for structural purposes at the location of the crossing.

3.0 Proposal

While choosing the typology of bridge they prefer, designers are expected to propose designs which meet the requirements in section 2. As well as the conceptual design element, designers should demonstrate that they have considered more technical aspects of the design. (However, no detailed calculations are required!)

The judging criteria will be as follows:

- Structural feasibility
- Visual impact and suitability
- Constructability
- Consideration of material durability and maintenance

The submissions will be judged by a jury of engineers and architects based on these criteria.

It should be noted that the judging criteria focus on the solution to the brief, rather than the mode of presentation. While the quality of the presentation may affect the judges' decision, it is not essential to produce computer rendered images of the scheme; high quality hand sketches are an adequate communication device.

Depending on the number of submissions received, the jury may decide to shortlist three (or more) schemes to be exhibited at the conference.

Prizes will be awarded at the jury's discretion.

4.0 Submission details

4.1. Format

Submissions are to consist of a single A2 size board, submitted in pdf format by email to events@iabse.org.uk. Boards should include the team's identification number clearly located in one corner. No other identifying marks (e.g. entrant names, company/organisation names or logos) should be displayed on the boards.

Entries must be submitted before 8 am on 19th August 2019. Entries received later than this time will be rejected.

Entries should be accompanied by the name of a team member who will be attending the conference. Entries will not be considered for shortlisting if none of the team are available to attend.

The organising committee will arrange for the shortlisted schemes to be printed. These boards will be displayed for public viewing throughout the conference, and will be available for collection at the end of the day.

Teams may consist of up to four team members. All entrants must be under 35 years of age on the date of the conference. A prize of £200 will be awarded to the winning team.

4.2. Programme:

22 nd May 2019	Design Brief issued
5 pm, 19 th July 2019	End of questions period. Any questions about the brief or the competition should be sent to events@iabse.org.uk . Answers will be made available to all competitors and published on the IABSE UK website.
8am, 19 th August 2019	Deadline for competition submission
2 nd September 2019	Shortlisted entries notified
13 th September 2019	Display and judging at the IABSE FoD Conference