

# Engineering Challenge

## Build a Bridge Contest – 2018

**Mission:** Build a lightweight bridge that can carry a load of 100 lbs. to fit one of the three span lengths (10", 15", 20").

**The Challenge:** Contestants (teams made up of no more than 6 persons) will be given a bag of wooden sticks (similar to popsicle sticks) and a hot glue gun (with glue sticks) to build a bridge to fit one of three span lengths. This material will be distributed at the contest so there will be no pre-contest fabrication. Contestants may bring hand powered tools only to the contest to cut and shape their creations. All must be approved by the judges prior to the beginning of the contest.



Each bridge will be supported on a load frame supplied by the judges. The load frame shall be the sole means of support for the bridge. Any bridge found to gain support from an area other than the load frame shall be classified as loaded to failure.

At the contest, each contestant will place a load transfer device (LTD - supplied at the contest) along the clearly defined roadway path at the midpoint of the span. Refer to Q and A for additional information on load application. The load transfer hook at the bottom of the device must be accessible to allow attachment of the load. Each contestant should have someone with them who will assist with applying load to the bridge. Weights will be supplied by the judges. Only the contestant and their assistant(s) may load the bridge.

A contest winner will be established for each span length. Contestants are free to build bridges for any or all of the span lengths. The winner will be the lightest bridge that successfully carries the 100 pound load. Once established, the bridge weight to beat for each span length will be posted throughout the competition. Broken pieces from failed attempts may be reused for subsequent attempts at the choice of the contestants. Successful bridges may be modified to reduce weight or be reconfigured for another span length. No sharing of pieces between teams is allowed however the sharing of hand tools is permitted. A single contestant / team may win multiple span lengths in the contest.

**When:** The Engineering Challenge will be conducted on January 31, 2018 from 8:30 AM to 11:30 AM.

Contestants will be allowed to begin construction at 8:30 AM. At 9:30 AM judges will begin to weigh bridges that are ready for testing and will continue to do so until 11:15 AM. No bridge will be loaded unless it is lighter than the posted leader for that span length. Any bridge submitted for testing prior to 11:15 AM will be tested. There is no maximum set for the number of entries a contestant/team can make.

## **Young Professionals – MdQI Offers Complimentary One-Day Conference Registration for Contestants**

The purpose of the Engineering Challenge at MDQI has always been to attract young people to the conference. We fully understand that registrations for the conference represent a big financial outlay for firms and agencies. In the past, we've tried to hold the contest after hours to minimize the need for registration. This year the contest will occur as one of the opening acts for MDQI and here are the details as they relate to registrations for the Engineering Challenge.

In 2018, the MdQI Steering Committee has decided to provide 30 “One-Day Registrations” for January 31, 2018 to encourage young professionals to participate in the Engineering Challenge and the MdQI Conference activities which includes lunch, the technical sessions and networking opportunities (also the chance to accept the trophy for teams winning the challenge). Please note that the Celebration Dinner on Day One is not included in the Day One Ticket.

Each Team that registers for the 2018 Engineering Challenge will receive 2 complimentary one-day registrations that will allow them to participate in the contest and attend the afternoons technical sessions. Each team must designate their 2 contestants that will receive the complimentary registrations when they sign up for the Engineering Challenge. Please note that firms or agencies may enter more than one team, but only 2 complimentary registrations will be provided to the firm or agency. Names of all participants should be provided. Complementary registrations will be provided for the teams based upon who signs up first.

### **Contestants’ Registration for the Engineering Challenge**

There is no entry fee for this year’s contest. You must register with [gvaughan@sha.state.md.us](mailto:gvaughan@sha.state.md.us) prior to 12/31/2017. Contestants that are not registered for the conference, or have not received the complimentary registrations, will be allowed to enter for the contest and stay until noon.

**Again, the goal here is to expose young professionals to the MDQI experience in hopes of generating momentum for the future.**

**Check the MDQI website for answers to “frequently asked questions” as they come in.**

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