



# 2023 POPSICLE BRIDGE CONTEST

## Eligibility

The competition is open to all schools attending the event.

## Registration

All students interested in competing should complete the registration form online. Please register by **Thursday, October 12, 2023**. Space is limited.  
<https://tinyurl.com/rccipopsiclebridgecontest>



## Questions?

Contact Jasmine  
[jgelsomino@uniconrochester.com](mailto:jgelsomino@uniconrochester.com)  
or (585) 402-9603.

Rochester Careers in Construction is pleased to sponsor the 2023 Popsicle Stick Bridge Contest. Students will design and build their own bridges out of popsicle sticks and will compete for several awards.

The competition will be held Thursday, October 19th at 11:00 AM at the Monroe County Fleet Center, Building 11 in Rochester.





# ROCHESTER CAREERS IN CONSTRUCTION DAY



## **General Competition Requirements**

**Objective:** To span a clear distance of 22 inches using a bridge constructed of only standard, craft variety

- popsicle sticks and Elmer's glue. Each bridge will be scored in accordance to an Efficiency
- Rating (ER), which will be calculated by the following equation:
  - **Maximum Weight of Bridge** = 450 g (about 1 pound, or approximately 250 sticks plus glue)
  - **Minimum Length of Bridge** = 24 inches (any portion of the bridge below the supports must not be longer than 20 inches)
  - **Minimum/Maximum Width** = 4" minimum / 5.5" maximum width
  - **Maximum Height** = 10" maximum height
  - **Required Sticks:** Standard, 4½" x 3/8" x 1/12" craft-type Popsicle sticks (readily available at all craft and department stores).
  - **Required Glue:** Elmer's ® Glue-All Multi-Purpose Glue
    - This is the white, craft variety of glue. Bridges using any other glue such as wood glue, super glue, epoxy, or any other type of adhesive will be disqualified.
  - Each bridge must be able to hold the weight of the testing equipment, which is about 5 lbs.
  - The bridges must be able to stand freely on the supporting bars, spaced 22 inches apart. No hooking, gluing, or otherwise fastening the bridges to the supports will be allowed.
  - Bridge must contain a continuous roadway capable of allowing a "matchbox" type car to roll completely across the bridge without stopping or falling through.
  - Popsicle sticks are limited to a glued ½" overlap at all connections. Open gaps between adjacent sticks is allowable.
  - Bridges will be loaded using a ½" diameter steel rod placed on top of the roadway at the center of the bridge. All bridges must be able to accommodate this rod (refer to the figures and photos shown on the following pages).
  - Bridges must meet the additional requirements shown on the following pages for connection and geometric limitations.
  - All completed bridges are to be dropped off at pre-determined locations and clearly labeled with a tag stating the student's name, school, and division.

**Disqualification:** Bridges not meeting the requirements listed in these rules will be subject to disqualification. Disqualified bridges will still be eligible for the innovation or aesthetic awards but will not be considered for the efficiency score awards. Disqualified bridges will be tested until failure as long as it remains safe to do so. The decision of the judges at the time of the event is final.

## **Helpful Hints**

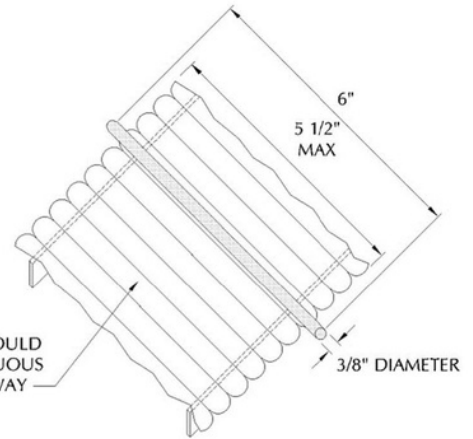
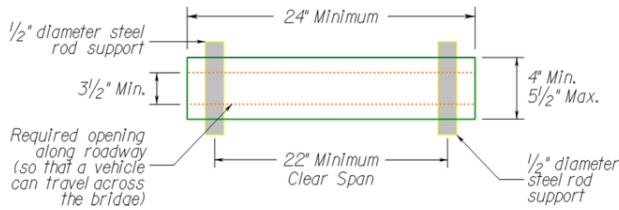
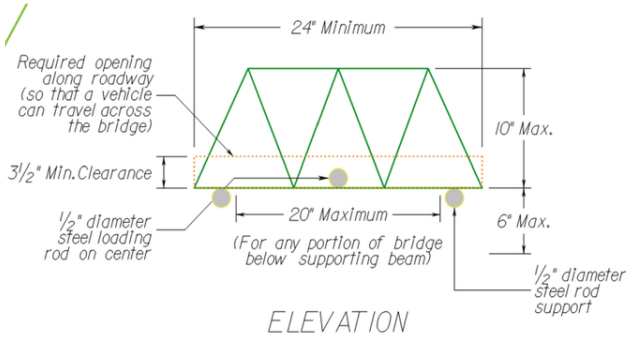
- Sticks can be cut, sanded, trimmed or colored with colored pencils but all sticks must be visible to inspection and may not be painted or stained in anyway. Sticks cannot be coated with glue so as to laminate them either.
- The glued connection between the sticks is most likely the weakest link in the bridge so be sure to allow at least 24 hours before the competition for the glue to dry.
- Note that the score will be very heavily influenced by the weight of the bridge. Try to maximize the strength of the bridge while keeping the weight as low as possible!



# ROCHESTER CAREERS IN CONSTRUCTION DAY

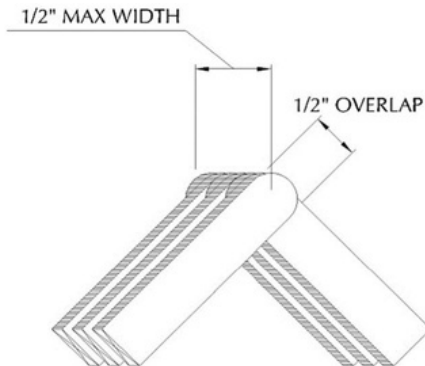


## Additional Requirements



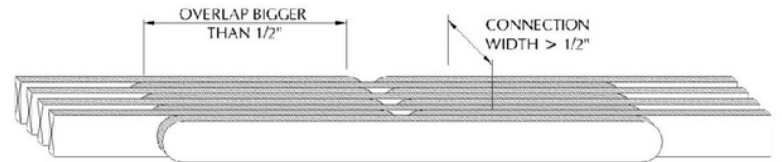
### STEEL LOADING ROD (PROVIDED BY ASCE)

- A STEEL BAR WILL BE PLACED AT THE CENTER OF EACH BRIDGE ON TOP OF THE DECK. THIS WILL BE PULLED DOWNWARDS UNTIL THE BRIDGE BREAKS



### ACCEPTABLE CONNECTION

- 1/2" MAXIMUM WIDE FOR ANY CONNECTION
- OPEN GAPS BETWEEN ADJACENT PIECES
- 1/2" MAX. OVERLAP



### UNACCEPTABLE CONNECTION

- CONNECTION IS GREATER THAN 1/2" WIDE
- TOO MUCH OVERLAP (> 1/2")