

# M2.02 - New Braunfels Heritage Tribute

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## Problem

### Objective

Design, manufacture, and install features on Hole 16 of the Landa Park Mini Golf Course must have minimal to no maintenance for at least 5 years and last for over 20 years



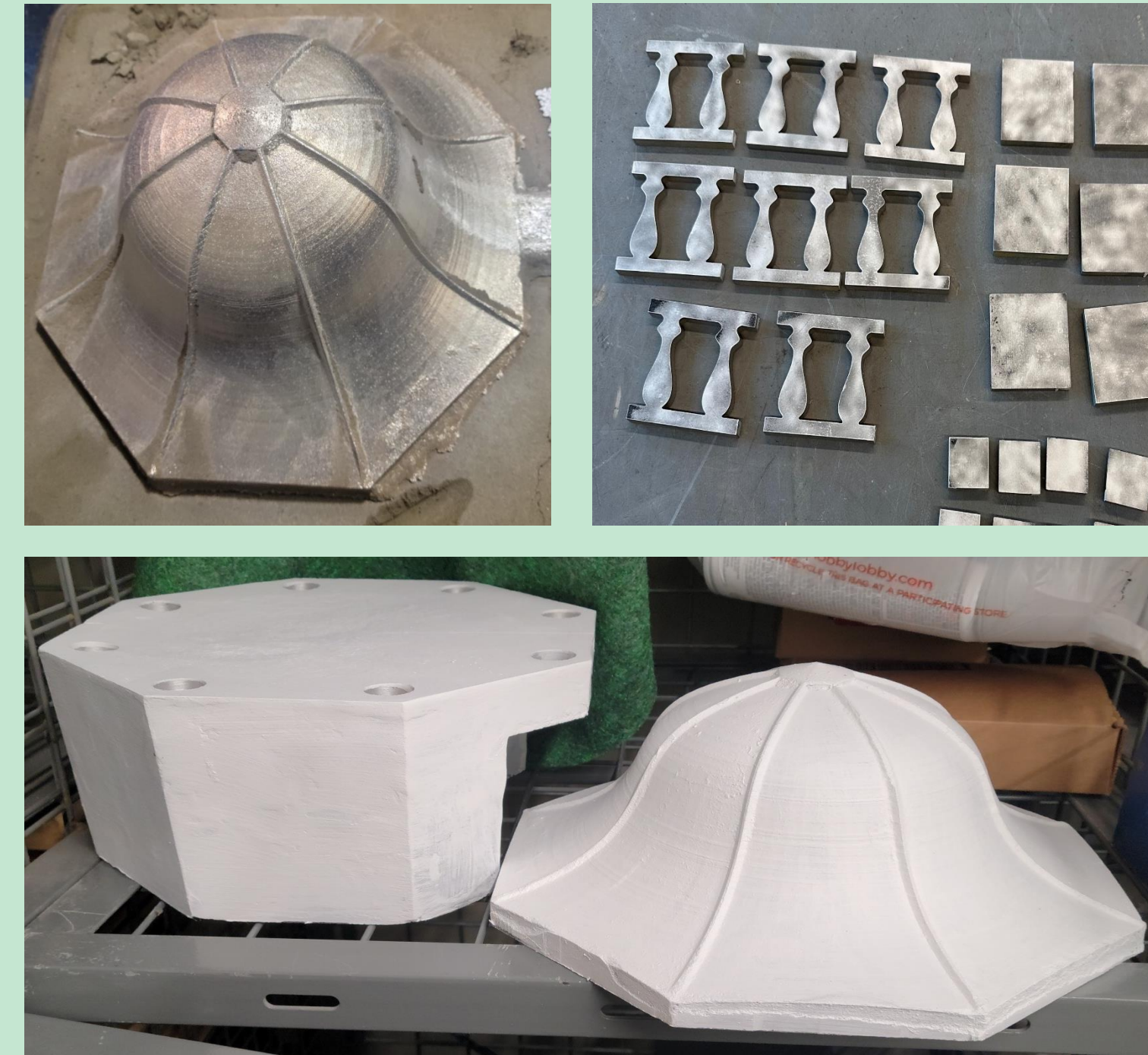
### History

- Faust Bridge was built in 1887 as part of the State Highway but later was designated solely for pedestrian use
- Founders' Oak is over 300 years old used as a form of communication by Central Texas Native Americans, and recognized in 2012 as The Famous Tree of Texas
- Bandstand was added to plaza in 1905, served as stage for concerts given by the Waldschmidt Fire Department Band for years
- Landa Park has been open to the public since 1936



## Design

Components:



Final Design:



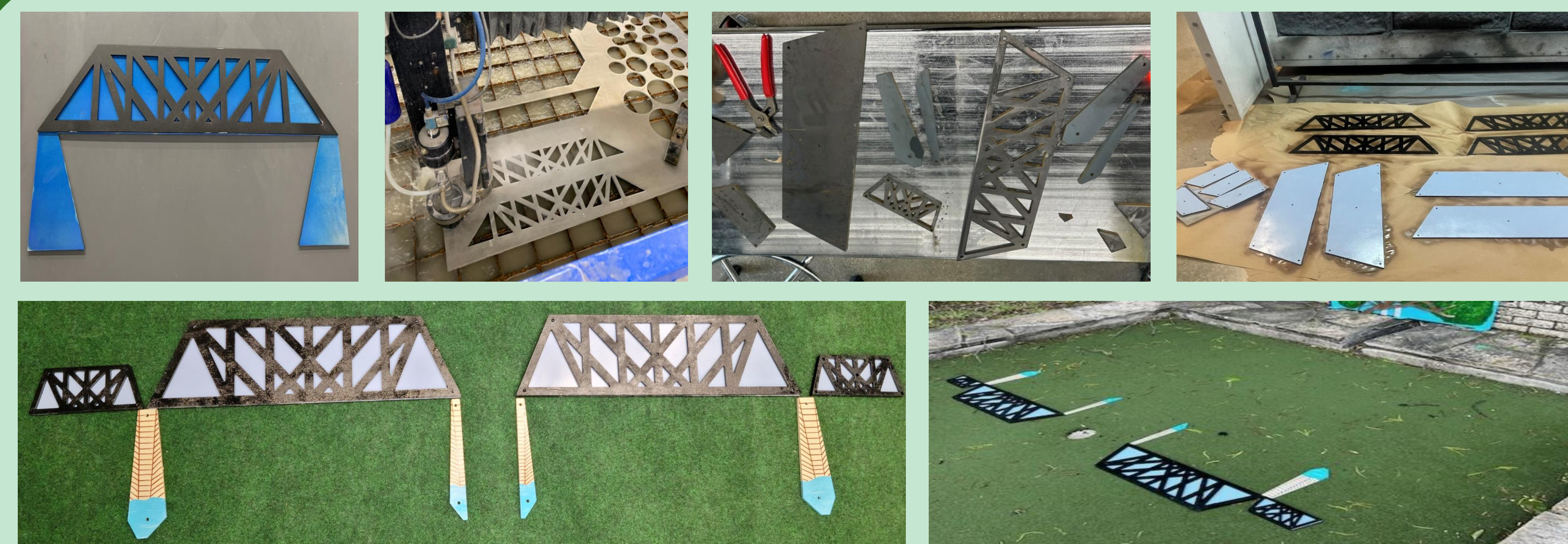
### Bandstand

3D printed to use as a mold then sand casted out of aluminum with aluminum columns and steel railings



### Founders Oak

Plasma cut steel tree shape stacked on Waterjet steel 2D background cutout with the canopy made of golf balls secured with carriage bolts

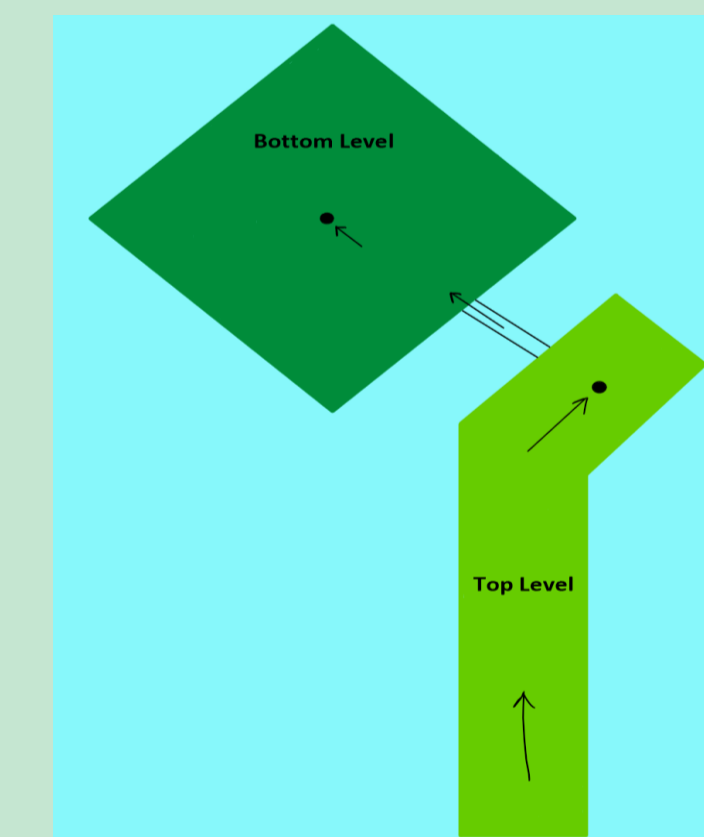


### Faust Bridge

Waterjet layers were assembled to create an 8ft span across the hole and acrylic paint was used as a background to create a sky illusion

### Customer Needs

- Must be durable and withstand weather
- Must Incorporate NB Heritage and Culture
- Must follow Playground Safety Regulations
- Must be < 5ft in length and weigh < 100lb



## Manufacturing

### Materials

Bandstand – Molten Aluminum  
3D Printing - PLA Filament  
Cutouts for Tree and Bridge – 1/4 in. Steel  
Tree Background – 1/4 in. Steel  
Tree Canopy - Golf balls

### Testing

**Milling vs Hand Drilling:** Ensuring correct alignment when incorporating all components  
**Powder Coat vs Acrylic:** Resists chipping against wear and all-weather conditions  
**Welding vs Epoxy:** Ensuring high-strength bond durable under extreme conditions



### Manufacturing Processes

Waterjet, Torchmate Plasma Cutter, Sand Casting, Milling, Laser Etching, Welding, 3D Printing, Solidworks, Adobe Illustrator, Powder Coating



Thank you to the Texas State Foundry Dept. and Ingram Hall Makerspace staff for helping us with these processes!