

Hexagon Fire Pit

Description:

A hexagon shaped fire pit is a versatile piece that can double as a grill and, when not in use, a wood-topped table. It can be used with cut seasoned wood or charcoal. This project requires that all steps of the project will be completed while demonstrating proper safety procedures.

Skills Required:

Students must be able to properly and safely use a plasma cutter, shear, chop saw, MIG welder, and grinder. Students will also need the basic knowledge of reading a proper layout, measuring materials, and abide by the proper safety rules.

Materials:

- HR Steel Plate 3/16" x 4' x 8'
(1/4" plate may also be used)
- 3/16 x 4" HR Strip
- 1" x .120 square tubing
- Scrap 1 1/2" HR Bar
- High Temp Paint

Tools Required:

- Plasma cutting torch or plasma table
- GMAW Welder
- Hand Grinder
- Tape Measure
- Soapstone
- Chop Saw/Cold Saw
- Hydraulic Shear

Bill of Materials:

Complete the bill of materials below for this project. Use the completed bill of materials for your record book budget by entering the name of the project and the total amount as an expense

Size	Description	Units	Qty/Project	Cost/Unit	Order	Amount

Project Price:

Enter the expected price you will receive for the project in your record book budget (income). \$_____

Estimated Construction Time:

5 hours.

Directions:

1. If available, upload CAD cutout template to plasma CNC computer. If a plasma cam is unavailable; follow the attached layout and cut out individual pieces using a plasma cutting torch. See layout for cutting multiple pieces.
2. Cut out the base using the CNC plasma cutter.
3. Cut the sides on a shear. Hint: Clamp a piece of angle to the shear to use a guide.
4. Clean up edges with a grinder.
5. Tack the pieces together to ensure all pieces fit. Hint: Place base on the floor. Use magnetic corners to prop up a two sides the proper angle. Tack the corners of the sides. Add the next side and repeat. Last side may need a bit of trimming.
6. Weld from the outside.
7. Clean the welds.
8. Cut the legs with a chop saw. Tack in position to ensure square. Weld on two sides.
9. Optionally add a foot to the legs (a scrap of flat works well)
10. Optionally drill holes in the bottom for drainage.
11. Clean and paint with high temperature paint.

Accessories:

- Wood top. Build a top from 1 x 6 to overhang about an inch on all sides. Place cleats on the underside to hold boards together and prevent from sliding. Assemble with glue and screws. Stain or paint.
- Grill. – Construct a grill from 3/8" rod to span two side (16" wide"). Make ends from 1/4" stock so it hooks on both sides.

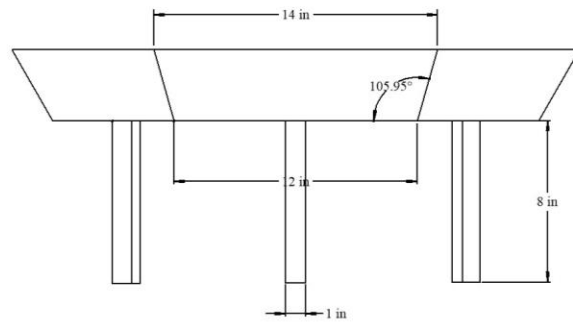
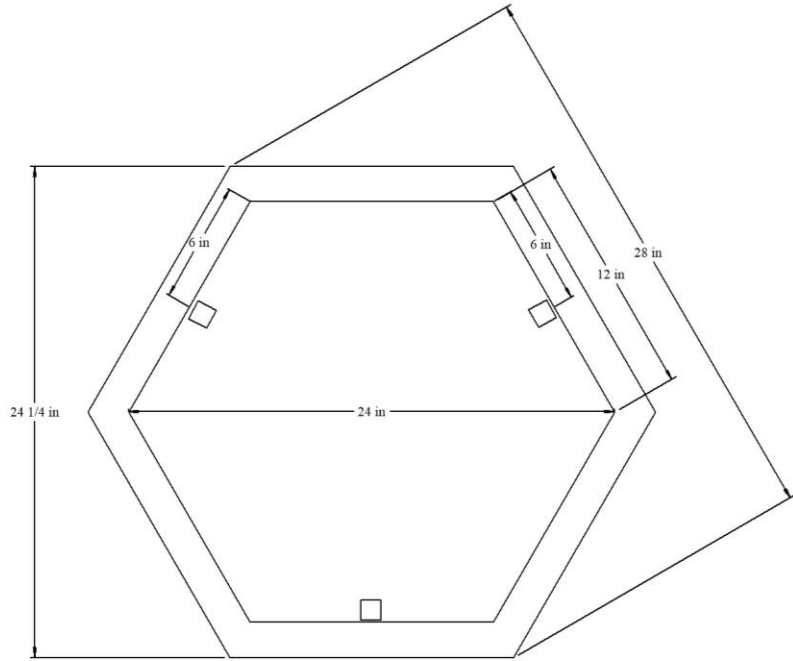
Photo:

Note custom handles made from 3/8" rod.



Use of corners to prop up sides for tacking.

Drawing:

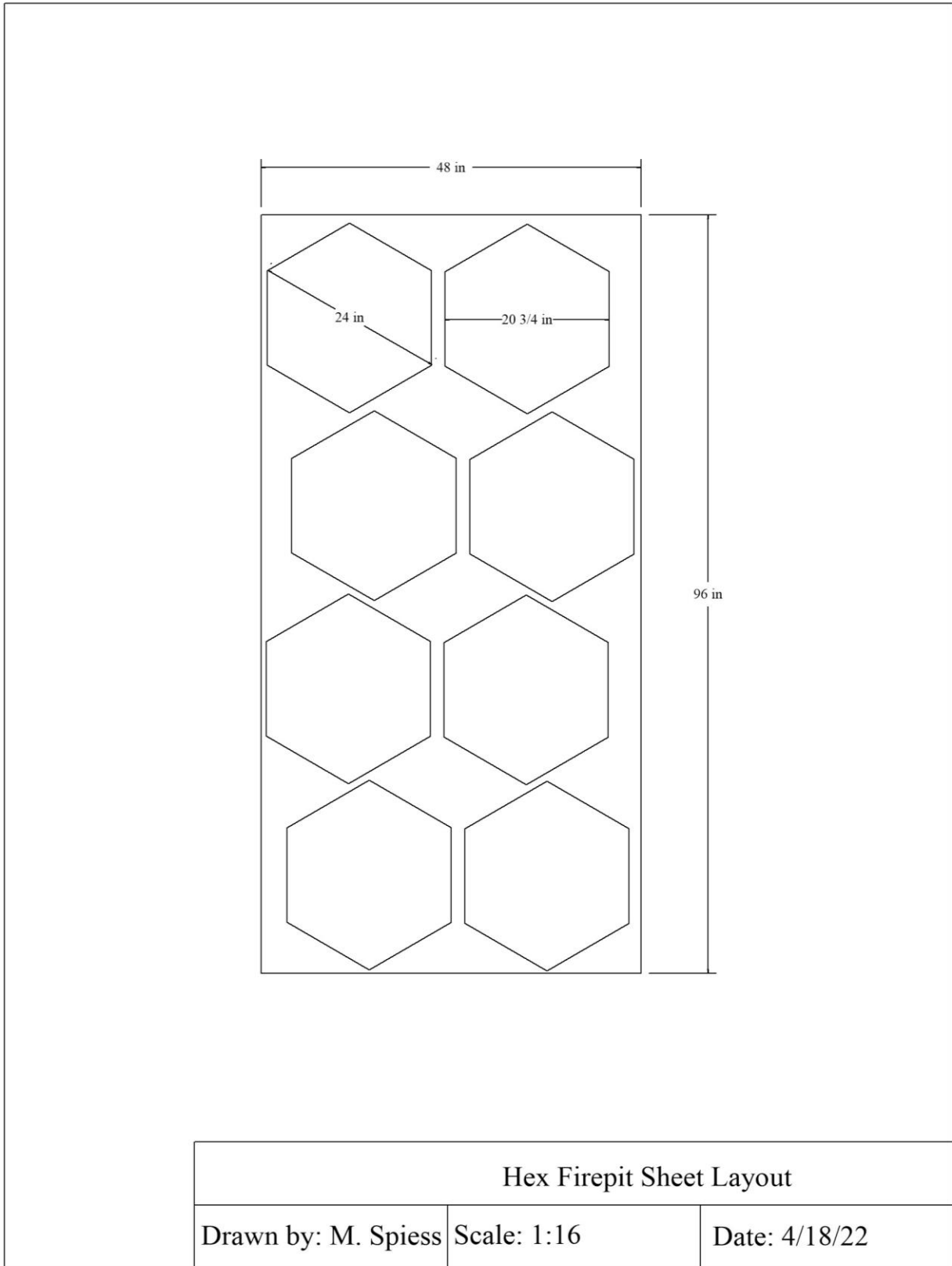


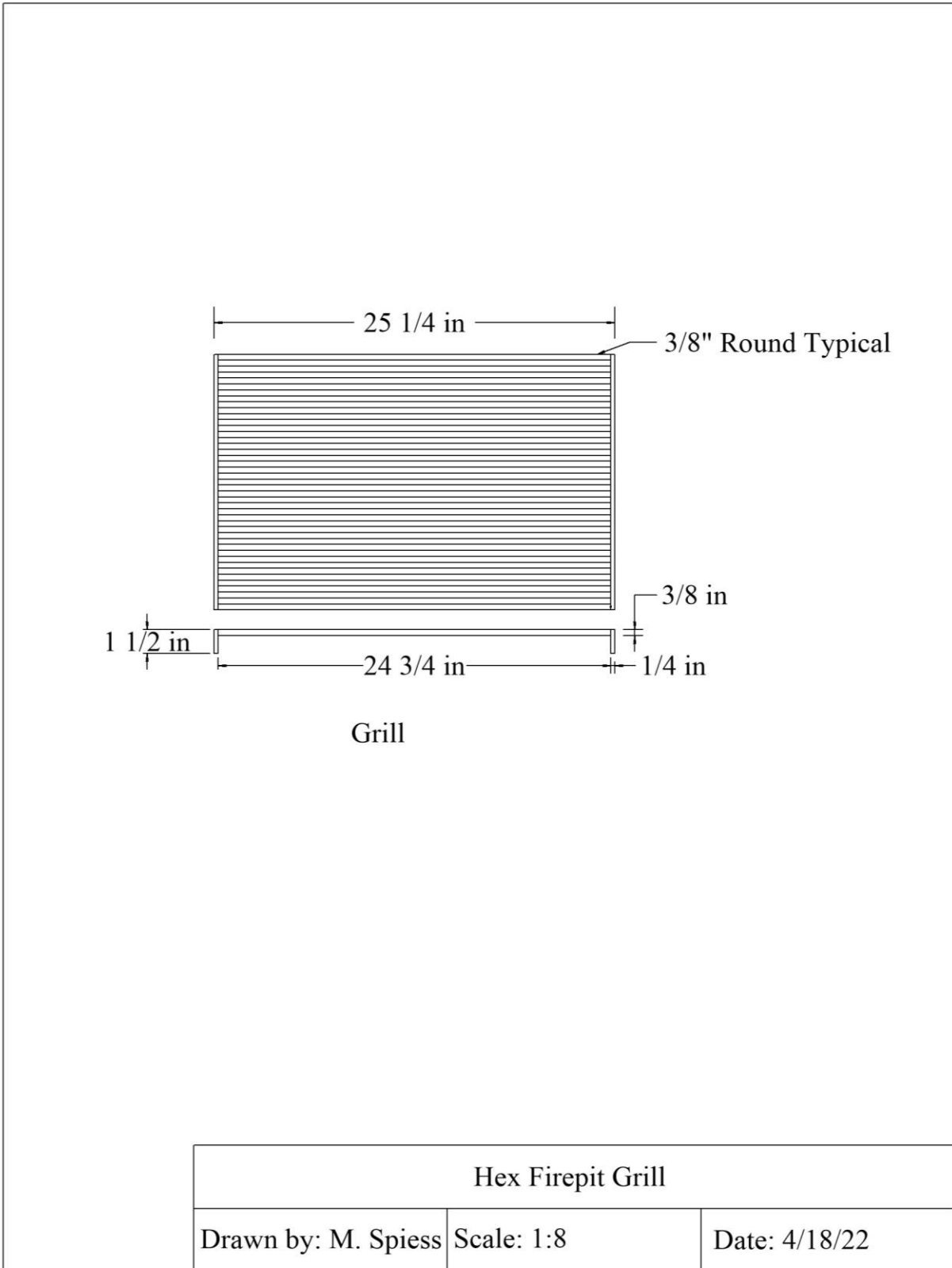
Hex Firepit

Drawn by: M. Spiess

Scale: 1:8

Date: 4/18/22





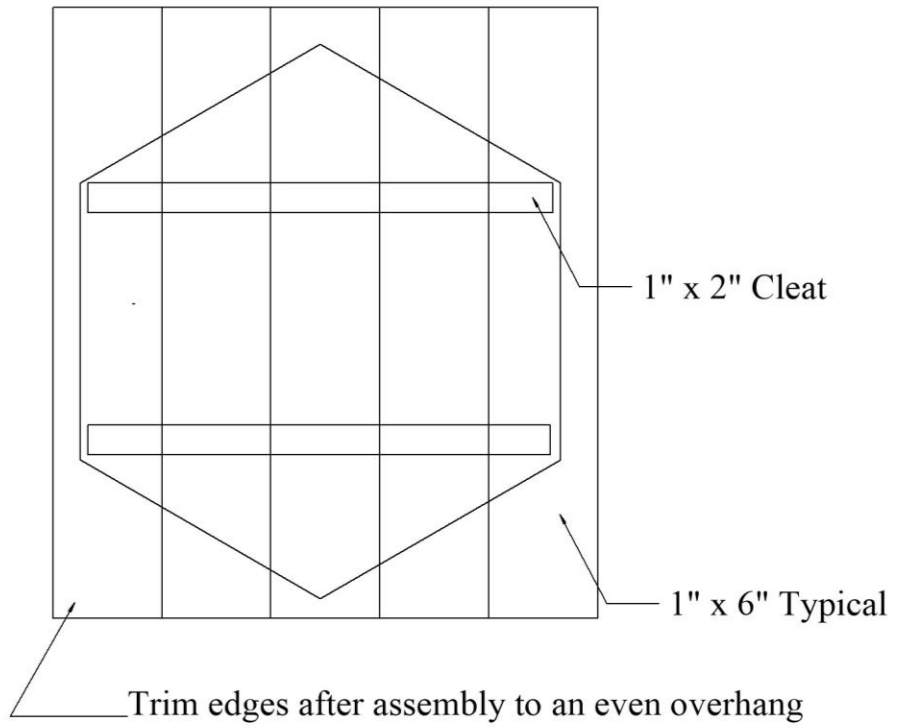


Table Top

Hex Firepit Table Top		
Drawn by: M. Spiess	Scale: 1:8	Date: 4/18/22

Actual Price Received:

Enter the actual price you received for the project in your record book journal as income.

\$_____

Project Portfolio:

Complete a portfolio for the project that includes:

- A description of the project and the skills you learned building the project. Include the hours spent on the project and the income (if sold). Use the construction log to complete this narrative. Write in complete sentences.
- The Bill of Materials
- The project plan
- 2-8 photos documenting the project at various stages of construction.