After working from a structure and rendering into AutoCAD Plant 3D 2014, it was time to go in the other direction. However, to provide a different experience, Famic Technologies Automation Studio™ was used to first illustrate as a line drawing structure, and then second to take the “Pipe Rack” structural drawing to an actual physical entity.

The software rendering is illustrated as a front view and as a side view:

As the students built this “Pipe Rack” structure, they used the RIDGID™ pipe threading tools, purchased as part of a Texas Workforce grant, which allowed us to develop the portions of the “Pipe, Pump, Tank, and Valve” concept.
The “Pipe Rack” structure was fabricated out of 2” steel pipe which the students cut and threaded, and five types of 2” steel pipe fittings. The “Pipe Rack” will hold 21 foot long sections of 2”, 1”, ½”, as well as a few other components used during lab exercises, as well as PVC conduit sections.

“Project Based Learning” came full circle, taking a rendering into an actual physical structure, including cutting, threading, assembly, and structural loading to test strength and stability.