

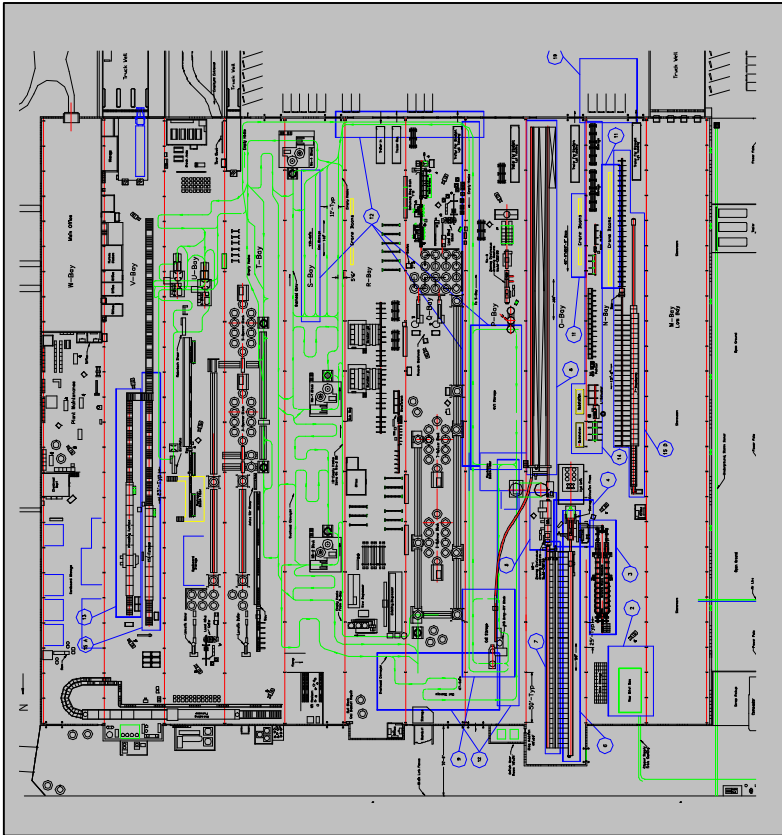
Copper Tubing Manufacturer

Wynne, Arkansas

Facility Planning & Analysis Services

- Facility Layout Design and Optimization
- Simulation Modeling
- Project Cost Validation
- Equipment Specification

A copper tubing manufacturer was considering a modernization project for their copper tubing process located in Wynne, Arkansas. A design/build firm was requested to develop a design criteria document and a guaranteed price for the entire facility project. The project team analyzed the modernization project and developed a new process which would avoid over \$1.5 million in capital costs. The overall project activities included (Op2mize personnel activities in Italics)



Proposed Modernized Copper Tubing Facility

Operational Analysis

- *Determine optimal staffing levels*
- *Line balance through altering draw procedures*
- *Develop alternate layouts*
- *Evaluate redraw and scrap*

Process Equipment

- *Create functional specifications for the entire process*
- *Develop equipment specifications,*
- *Develop equipment performance goals*
- *Recommend material handling alternatives*
- *Analyze existing facility infrastructures*

Site & Building Engineering

- *Structural, civil, electrical, mechanical, architectural and site analysis of the existing site and facility*

Construction Support

- *Project estimating (Guaranteed Price)*
- *Procurement cost and schedule validation*
- *Design and construction schedule*

In an effort to ensure the equipment performance expectations were quoted properly, and to ensure the process could produce the required 200,000,000 pounds of copper tubing annually, the utilization of the new equipment, as well as, the existing equipment was analyzed using a simulation model. The equipment placement was then further analyzed for additional savings based on optimizing the facility layout. Once optimized, the final process design was estimated to save the client \$11.3 million annually.

Estimated Operational Savings

Material (Less Scrap)	\$1,070,000
Bailing Savings	\$115,000
Man Power Reduction	\$5,069,000
Energy Savings	\$617,000
Off-Site Redraw Savings.....	<u>\$4,400,000</u>
Total Savings.....	\$11,271,000