

# UTILITY/PROCESS PIPING

Evergreen Engineering has decades of experience in designing new or modifying existing industrial piping systems. We design process chemical, high purity, and utility systems, including material and energy balances, P&ID and distribution diagrams. Our designs also include piping materials selection and specifications, general arrangement drawings, detailed piping drawings, fabrication isometrics with BOM, and piping supports. In addition, our designs incorporate thermal and seismic considerations and materials ranging from PVC to alloyed steel.

Our process and piping system analysis and design services include (but are not limited to):

- Utility piping
- Compressed air
- Water
- Gas
- N<sub>2</sub>
- O<sub>2</sub>
- Steam
- Thermal oil
- Process piping
- Pipe hanger/support design
- Capital cost estimates
- Documentation for installation contractors to bid and install piping
- Plant retrofits
- New process applications
- Process equipment sizing and selection
- Process reactors installation
- On-site construction management
- Piping stress analysis for high pressure and temperature applications
- Piping design to ASME design standards B31.1 and B31.3
- Seismic restraints

Our piping clients include:

- Agilyx
- Arclin Performance Applied
- ATI Wah Chang
- Cascade Pacific Pulp, LLC
- International Paper Company
- MeadWestvaco Corp.
- Momentive Specialty Chemicals
- Oregon Steel Mills
- Outotec Incorporated
- Pacific Cast Technologies
- H3O Incorporated
- Shell Oil Company
- Weyerhaeuser



**EVERGREEN ENGINEERING**

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