

## Project Examples

### Confidential Client



Provided preliminary engineering for a major rebuild and capacity expansion of the formaldehyde plant, including alternative plant layouts, P&IDs, detailed capital estimate, specifications, and bids for major equipment. Provided detailed engineering for the same project, including complete civil/structural design, detailed piping design, fluid transfer systems design, electrical system design, instrumentation system design, and design of a complete automation system (DCS). Completed numerous projects and studies, including retrofit

modifications to process and storage systems, P&IDs, debottlenecking, railcar unloading, utility systems, and more. All these projects addressed design and implementation into a plant DCS system.

### Dynea

Moved specialty resin plant from Weyerhaeuser, Longview, Washington site to Springfield. Designed special building with explosion panels per code occupancy. Installed 12 tanks, tank farm and truck loading rack; used Class I/Division I and II equipment where required. Designed two plant expansions at the Springfield plant. Each included a new reactor, condenser, pumps, piping, building additions/modifications, foundations, electrical and instrumentation. Prepared a detailed construction schedule for a reactor replacement. Provided a complete plant layout drawing for this facility. Designed plant expansion for the Moncure plant. Added one kettle, all accessories, and provided long-range layout and design for addition of several more kettles.



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### Borden Chemical Company

Rebuilt the tank farm to meet new spill containment requirements. Increased the capacity of the tank farm by more than 25%. This included concrete, tank design, piping, electrical and instrumentation. Numerous additional projects, including design of railcar and truck unloading stations, UF & PF chiller installations, P&IDs, fall protection, and more.

### Process Experience

Evergreen is experienced with adhesives R&D in laboratories, pilot plants, and operating plants, and in all areas of plant engineering. We have practical experience with Phenolic Resin, Urea Resin, MDI, Hot Melts, and several specialty resins. We have engineering design experience with pilot plants, tank farms, vacuum systems, instrumentation, reactors, and materials handling.

