

PLANT SYSTEMS ENGINEERING

Mineral Processing Project Case Studies

Project: Limestone Milling and Distribution via Pneumatic Conveying
Year: 2015
Client: Proprietary
Project Location: PA
Material: Limestone
Services: Engineering Design
Constructed Value: \$7M



Engineering package included building structural steel and foundations for enclosing milling systems. Milling systems included proprietary milling system along with traditional Raymond Mill system.

Process piping systems for lime distribution included (12) silos, (30) diverter valves, numerous airlocks, dust collectors, pressure blowers and pneumatic receivers. Thousands of feet of 3" through 8" SCH 40 pipe designed to serve destination equipment and included long span pipe bridges.

Other design aspects included compressed air, building ventilation and integration of sub-systems and equipment provided by vendors or existing. Partial retrofit and partial greenfield project area with interface into existing equipment. Engineering provided for a design-build project deployment. MSHA Plant.

Project: Sand and Iron Ore Receiving Station
Year: 2007
Client: ESSROC Cement
Project Location: Martinsburg, WV
Material: Sand and Iron Ore
Services: Engineering
Constructed Value: \$1M



Complete engineering package for receiving raw sand and iron ore on tri-axle dump trucks. Receiving hoppers, pan feeders, belt conveyors, dust collection, structural steel, concrete walls.

Totally greenfield project area with limited interface into new equipment by others. MSHA Plant.

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Project: Cement Distribution
Year: 2008
Client: Claudius Peters Americas
Project Location: ESSROC Cement - Martinsburg, WV
Material: Cement
Services: Engineering
Constructed Value: \$3M



Complete engineering package for detailing and coordinating piping, pumps, and dust collection equipment into existing plant to distribute finished cement from new Multi-Cell Silo to existing concrete cement silos and to rail cars.

Distribution via combination airslide/semi-dense phase FK pump system. Combination retrofit and greenfield project area with extensive interface into new and existing equipment. MSHA Plant.

Project: Crushing, Screening and Drying Plant
Year: 2011
Client: Proprietary
Project Location: Proprietary
Material: Industrial Minerals
Services: Engineering
Constructed Value: \$5M



Complete engineering package for crushing, screening and drying project for industrial mineral. Belt conveyors, bucket elevators, dust collectors, rotary dryer, piping, ducting, power distribution and motor controls, remote I/O panels.

Seismic considerations required deep foundations (drilled piers) for crusher and dryer foundations.

Complete retrofit project area with complete interface into existing equipment. MSHA Plant.

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Project: Undersize Material Processing Plant
Year: 2012-13
Client: Proprietary
Project Location: Proprietary
Material: Industrial Minerals
Services: Engineering
Constructed Value: \$5M



Complete engineering package for under size material processing plant. Mill fines and collected dust conveyed, classified and a proprietary “value add” step. Belt conveyors, bucket elevators, bulk storage silos, classifying equipment, weighing equipment, process piping, power distribution and motor controls. Special concrete construction with retaining walls.

Predominantly greenfield project area with limited interface into existing equipment. MSHA Plant.

Project: Bulk Storage and Truck Load Out
Year: 2012
Client: Proprietary
Project Location: Proprietary
Material: Industrial Minerals
Services: Engineering
Constructed Value: \$5M



Complete engineering package for storage and truck load out of bulk industrial mineral. Seismic considerations required deep foundations (drilled piers) for storage silos. Belt conveyors, bucket elevators, bulk storage silos, load cells, process piping, power distribution and motor controls and remote I/O panels.

Predominantly retrofit project area with extensive interface into existing equipment.

Coordination with rail service provider Union Pacific (equipment spanned over existing siding). MSHA Plant.

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Project: Multi-Fuel Kiln Burners
Year: 2014-15
Client: Graymont
Project Location: Pleasant Gap, PA
Material: Industrial Minerals
Services: Engineering
Constructed Value: \$3M



Complete engineering package for installation of multi-fuel kiln burners. Coal piping, ASME B31-3 piping, natural gas, process cooling air, coordination with burner OEM, burner alignment for optimum performance and minimum NOX, electrical location drawings.

Complete retrofit project area with complete interface into existing equipment. MSHA Plant.

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