



Scope of Work:

- FEED Study
 - Value Engineering
 - Geotechnical Analysis
 - Material-Handling Systems Engineering
 - Structural Engineering
 - Mechanical Engineering
 - Electrical Engineering
 - Procurement & Subcontract Management
 - Dome Construction
 - Tunnels Construction
 - Material-Handling Systems Installation
 - Explosion Relief Installation
 - Additional Steel & Concrete Construction
- None Some All

Foundation systems can often be optimized due to the inherent properties of the dome

Store more product in a single building, maximizing portside property.

As a result of its geometry, a dome can support sizable structures like a headhouse and conveyors at the apex.

Overview:

St. Marys Cement had grown business so well that they were running out of storage space at both their Charlevoix and Chicago facilities. A dome, with its versatile reclaim options, was selected for construction at an existing St. Marys transload facility that receives cement made at the Charlevoix plant and elsewhere, temporarily stores it, then loads it onto trucks for transport. “(St. Marys) was looking for additional storage capacity and an economical solution; domes provide both,” plant manager Randy Pryor said. The project wrapped in January 2016.

Storage & Reclaim:

- 1 Dome: 39.6m (130ft) Wide x 36.9m (121ft) Tall
- 50,000 Metric Tons, Cement
- Airslide & Screw, 1 Tunnel

Until the new dome was built, the Chicago facility did not have the capacity to store the volume shipped from the Charlevoix plant. The completed dome will allow St. Marys “to get the dome filled before the lakes freeze over and (they) can’t get ships down there,” Dome Technology operations manager Brent Hardy said. Total reclaim was another must, and rather than opting for a traditional cement-handling system, St. Marys chose a hybrid system of airslides paired with a Laidig reclaim screw. “The fluidized screw will provide a more mechanically reliable solution, as compared to other mechanical reclaim systems. It will also provide for more complete reclaim of stored product compared to other mechanical systems or aerated floors,” Pryor said.

Employees are safer and operations are efficient with the reclaim system St. Marys selected. “The Laidig system greatly reduces (the safety) risk by providing inherent redundancy associated with having two different reclaim methods. Hard-pack areas or dead zones that are not reclaimed by the air-gravity conveyors are broken down and reclaimed by the screw conveyor without putting personnel at risk,” Pryor said.

In conclusion, Bradley Bateman, CEO at Dome Technology remarked, “For nearly four decades we’ve relied on a collaborative approach with companies—they’re in the driver seat, and we help navigate. In every project Dome Technology incorporates innovative technology to maximize storage capacity and system performance with an economical solution.”



Read more about this project at: link.dometechnology.com/6282

