CASE STUDY

Erdman Anthony chooses Octave's design and analysis solutions to improve project collaboration and reduce costs

Key facts:

Company:
Erdman Anthony

Website:
erdmananthony.com

Industry: Buildings, Retrofits and As-Builts, Water Treatment, Product Handling

Country: United States

Octave products used:
Forte 3DWorx
(CADWorx Plant Professional)
Forte StructureWorx
(CADWorx Structure)
Aspect Pipe Stress
(CAESAR II)

Key benefits:

- Minimized rework involving multiple systems
- Improved information sharing between designers and engineers
- Reduced cost of materials by optimizing project planning

Erdman Anthony is a multi-disciplinary firm that specializes in infrastructure engineering and support services. Headquartered in Rochester, N.Y., USA, Erdman Anthony focuses on providing cost-effective infrastructure solutions for government and private sector clients such as geospatial services, civil engineering, facilities engineering and design services, transportation engineering and construction services.

Identifying goals

Erdman Anthony was part of the Footprint Reduction Program (FRP) project for Eastman Kodak in Rochester, N.Y. This was a three-year, $190M project in which the firm handled 80% of the project engineering and design. The Eastman Kodak project involved demolitions and relocations within a 120-year-old plant that included over 200 buildings spread over 1,000 acres of land. Thousands of pieces of relocated and new equipment, from coating machines to condensate pumps, plus over 100,000 feet of piping modifications, were involved. One of the main challenges on the project was a need to schedule system shutdowns during the demolition of some buildings, whilst also ensuring the continuous operation of the other systems.

Overcoming Challenges

The project faced challenges that involved multiple systems. Resultantly, Erdman Anthony decided to use Forte 3DWorx, Forte StructureWorx and Aspect Pipe Stress, in part because the programs allow engineers and designers to share information back and forth with ease. When compared to the plant design system Erdman Anthony used in the past, they were able to eliminate costly negatives such as inaccuracies in bids and estimates, rework due to incorrect project deliverables and the inability to verify the correct installation and design of piping supports and steel. "Forte 3DWorx and Aspect Pipe Stress allowed us to minimize rework and to pre-order materials ahead of time, reducing the cost of materials due to potential price increases," said Clint VanDewark, Senior Designer at Erdman Anthony. "As an example, this helped us identify a 50% error in the estimation of 24-inch chilled water piping required on the project."

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Clint VanDewark,
Senior Designer,
Erdman Anthony

Realizing results

Octave products allowed Erdman Anthony to perform stress analysis, easily extract data from models and ensure a dynamic exchange between the analysis tool and the model, with successful interaction among all the design team members. This collaboration helped eliminate errors of omission. "3D visualization allowed for client, contractor and design team interaction that resolved hundreds of questions and assisted with strategic planning," explained VanDewark.

Design deliverables developed by Erdman Anthony included standard CAD drawings, piping layouts, sections, details, schedules, equipment and piping specifications, demolition drawings and points of connection with shutdown coordination details. "Even with plans and sections in place, we still had complex areas that required the production and issuance of additional fabrication drawings complete with all the dimensions and BIM data," added VanDewark, "Forte 3DWorx helped us to use piping BIM data to communicate the detailed scope with very little additional effort."

About Octave

Octave is a leader in enterprise software, turning data into decisive action and intelligence into your edge. Our software solves for and simplifies complexity, from the design and build to operations and protection of people, property and assets – for any scope, at any scale. For decades, we've partnered with customers to sharpen performance, elevate efficiency and amplify results. From factory floors to entire cities, our solutions are tuned to scale up what's possible from day one onward.

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