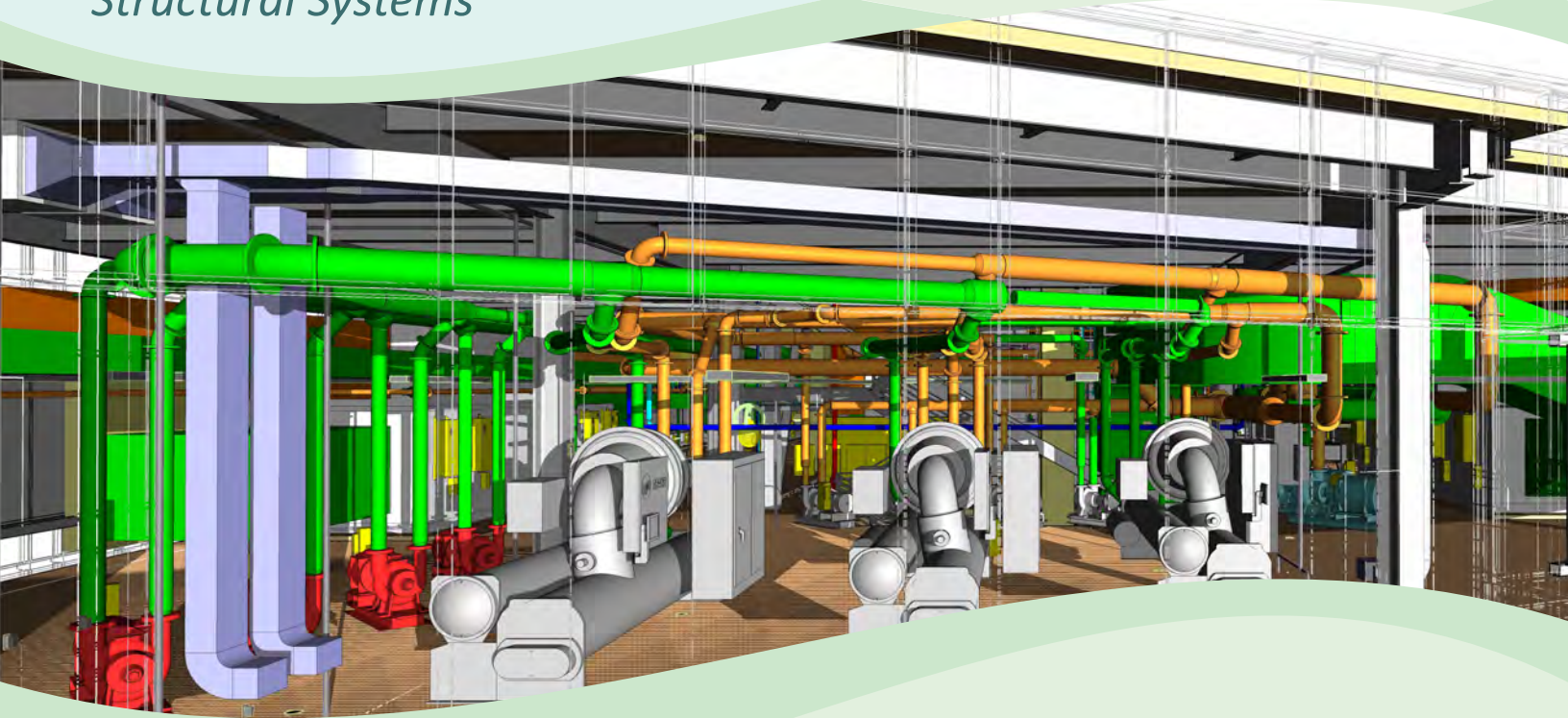


Building Information Modeling

3-D Design Services for Mechanical, Electrical, Plumbing, Fire Protection (MEP) and Structural Systems

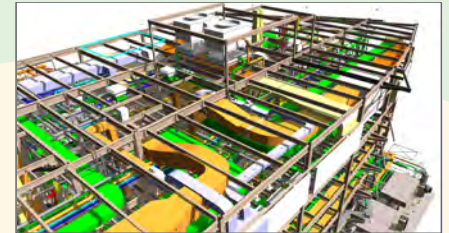


Designers and builders are leveraging Building Information Modeling (BIM) software to optimize the design and construction of today's complex, energy-efficient buildings. The creation and use of dynamic building modeling allows building owners the opportunity to reap a multitude of benefits throughout the project process – from initial conceptual design through highly coordinated construction schedules and ultimately into seamless operation.

Working together with the project architects, construction managers and building owners, BSG provides the services to create the three-dimensional model designs for the critical MEP and structural systems. While we have utilized this three dimensional design tool for our structural engineering projects for many years, we now bring the power of BIM to our mechanical, electrical, plumbing and fire protection designs.

BSG deploys Autodesk's Revit MEP software product, which fully integrates with Autodesk Revit, for architectural and structural systems and is widely held as the industry's benchmark, powerfully geared toward the engineering design community's stringent demands.

Having completed projects in the healthcare, higher educational, municipal and commercial office market-places, encompassing over 500,000 sf, using BIM we have successfully integrated MEP design solutions into this the preferred method of delivery for complex building construction projects.



BSG MEP & Structural BIM services provide extraordinary value to our clients:

- **Creation of 3-D Model of Systems** – providing a virtual picture of all the HVAC, electrical, plumbing and fire protection distribution paths and connections as well as structural foundation, floor plates and column systems
- **Animation & Walkthroughs** – providing dynamic views of the MEP systems integrated with interior and exterior building elements allowing for the full determination of maintenance, clearance and aesthetic impacts to be fully determined before installation of equipment
- **4D Integration with Project Schedule** – incorporating various production, installation and construction activities, specific to the infrastructure systems, for time-saving critical path sequencing and planning
- **Cost Estimating** – providing a ready-made database for accurate material take-off's for more accurate cost estimating
- **Quality Control** – designing of the building systems more accurately using reliable, coordinated information intrinsic to the intelligent Revit MEP model
- **Parametric System Information** – populating the building information model with select, detailed MEP/Structural system information – material quantities, specifications, performance data
- **Construction Documentation** – extracting high-quality 2-D drawings for the construction team



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