



Thai Nguyen, Director of Virtual Design and Construction

2004 to present Hensel Phelps

VDC services: Director of Virtual Design and Construction at Hensel Phelps VDC Services Department. The department provides corporate support to the districts and project BIM related needs, including recruiting, training, technical assistance, hardware and software, and research and development.

Design Innovations Group: Support of VDC and building technology innovation throughout Hensel Phelps. Delivering corporate change to the companies VDC services, providing a company-wide knowledge network, incorporating support and training. Identification of processes and systems to enhance the design and construction integration through innovation including:

- Development of Project Specific BIM Project Execution Plans.
- Lift and Shop Drawing development using Revit, ArchiCad, Cad, and Tekla
- Field Layout using the virtual model tied to total stations for layout of specialty systems and building geometries
- 3D spatial collaboration and coordination utilizing Revit, NavisWorks, Solibri, and VEO, for major building systems including structural, civil, architectural, mechanical, electrical, plumbing and specialty systems
- Gap Modeling for miscellaneous building components not part of specialty systems
- 4D construction sequencing modeling, tying the virtual model to the Primavera schedule, through the use of Synchro
- 5D quantification and estimating support through the use of Innovaya, tying the model to the cost database
- 6D Facilities Operation Maintenance, COBie. Using the model and electronic postings for as-builts, commissioning, warranty and building operations
- Laser scanning and conversion to virtual model for determining and modeling as-built conditions, design and validation
- Geospatial underground probes for mapping underground utilities, providing x,y,z coordinates underground of pipes, conduits etc. tied into the virtual model for site coordination
- Dashboards for project controls and communication
- QR Coding and Bar Coding for quality control , logistics and supply chain management
- Virtual Mock-ups for constructability and communication
- Rapid Prototype Printing for mock-up analysis of details for constructability, proof of concept and communication
- PC over IP, using the latest technologies to create an environment where BIM can be leveraged on any standard computer
- Zero paper environment, leveraging on technology to create a zero paper environment

Collaboration: Assisted in the creation of the Hensel Phelps Preconstruction Manual and the Design Management Guide in collaboration with the Charles Pankow Foundation and the DBIA. The guide is to assist Contractors how to effectively engage in integrated design and construction projects with Owners and design teams. Developed the Hensel Phelps MEPFP coordination manual, 6 Step VDC Plan of Work, Reality Capture Protocols and BIM PreCon and Project Execution Plans.

Building Constructive Relationships: building collaboration, process improvement and integration between the design and construction teams. Providing support to multiple projects in the areas of design to construction support, visualizations, 3D modeling, 4D and 5D simulation, Health and Safety simulation, standards, training, process definition, software definition and configuration. Current Projects include; Largest Semi-Conductor Facility in AZ and Israel, Kaiser Permanente, Strategic Command, SSA, LAX SWA and LAX UAL.