



Trimble Westminster Building Project



Construct a 125,000 sq ft, four-story office building using IPD-like collaborative techniques and BIM-to-field synchronized technologies

In the Spirit of IPD

While the Trimble Westminster Building project is contracted under a more conventional guaranteed max price (GMP) project delivery mechanism, the project team is facilitating the project using integrated project delivery (IPD) techniques and strategies to gain the lifecycle benefits of BIM and deliver the project in a tight 13-month schedule.

The full spectrum of Trimble technologies will be utilized on the project spanning survey, site-work and excavation to estimating, 3D design and modeling, project management, sheet metal fabrication to construction layout.

Throughout building design and construction, the project team will facilitate the seamless transition of data from design through construction and handover using building information modeling (BIM) technology. The project team will develop detailed, dimensionally-accurate models, drive that data to the field using BIM-to-field methodologies, and then re-capture data in the field to update the model, thus creating a digital file that lives throughout the facility's life.

Technology-Enabled Workflow

All structural, mechanical, electrical, plumbing, fire safety and accessibility designs will be completed using BIM design tools to limit data re-entry or model re-creation and facilitate design coordination, clash detection and constructability reviews. From the start, these models are built to 100% dimensional accuracy suitable for detailing, fabrication and field level coordination. The model data will move from the model to fabrication to the site for steel, concrete, drywall, and MEP systems. Model data will also transfer layout information to the field and from the field back to the model. The project team will also electronically submit the 3D model to the City of Westminster for permit review and approval.

Location:

Westminster, Colo.

Construction Start: May 2012

Completion: May 2013

Contract Type: GMP

Certification: LEED Gold

Owner: Trimble Navigation

Architect: OZ Architecture

Contractor: JE Dunn

BIM-to-Field Synchronized Systems

- **Trimble Connected Community** — dedicated project website to track project progress, stream live job site video, store critical project data, and track site activity in real-time
- **QuickPen AutoBid** – generates and manages piping and plumbing bids
- **Accubid Estimating & LiveCount Pro** – estimating software for electrical contractors
- **Tekla Structures** – creates and manages detailed, highly constructable 3D structural models regardless of material or structural complexity
- **QuickPen PipeDesigner 3D** – 3D CAD detailing software for piping and plumbing contractors
- **Trimble Design Link** – 3D CAD sheet metal detailing software that facilitates the exchange of data between the finished design to estimating, collision avoidance and collaboration for MEP systems, leveraging the AutoCAD MEP platform
- **Tekla BIMsight** – project collaboration tool to combine 3D models from IFC-compliant BIM tools, clash detection, markup and design review
- **Meridian Prolog Project Management Solution** – robust project management solution for scheduling, document management, RFI's and submittals.
- **Trimble Point Creator (for MEP)** – creates 2D and 3D field points within Revit or CAD and then exports to Trimble Field Link for easy stake-out in the field.
- **Trimble Field Link Robotic Layout solution** -- used for all jobsite layout and measurement tasks by concrete, MEP, and general construction contractors and to transition model data to the field and as-built data from the field to the model
- **Trimble CX 3D Laser Solution** – collect as-built conditions for quality control & assurance processes as well as update 3D model for facility management

About Trimble Navigation

Trimble, a world leader in GNSS, construction lasers, robotic total stations and machine control solutions, is creating a broad range of innovative solutions that change the way construction work is done. The Engineering and Construction business of Trimble is focusing on the development of technology and solutions in the core areas of surveying, construction and infrastructure. From concept to completion, Trimble's integrated systems streamline jobs and improve productivity.