

VIRTUAL DESIGN AND CONSTRUCTION

Virtual Design and Construction (VDC) allows the design and construction team to estimate, coordinate, plan and build a project in the virtual space, long before construction begins.

The ability to collaborate within one integrated model enables early decision making, better trade coordination, and enhanced project execution. VDC brings together the people, process, and technology to provide an integrated solution that saves you time and money.

ERMCO's VDC engineers have managed models for many complex facility projects. Our process maximizes both field knowledge and technology. All 3D coordination and BIM modeling is performed in-house.

ERMCO'S VIRTUAL DESIGN AND CONSTRUCTION TOOLS:

- Autodesk Navisworks
- Autodesk Revit
- Autodesk Build
- Autodesk Collaborate Pro
- GTP Wireworks
- Trimble Robotic Total Station and GPS Rover
- Trimble SysQue
- Trimble LayoutFAST

VDC DELIVERABLES INCLUDE:



QUANTITY
TAKE-OFFS
FOR ESTIMATING



ENHANCED
SCHEDULES



CLASH DETECTION
AND VISUALIZATION



DETAILED FABRICATION,
INSTALLATION AND
AS-BUILT DRAWINGS



REAL-TIME MODELING
AND LAYOUT
COORDINATION
WITH DESIGN



ENHANCED
PREFABRICATION
OPPORTUNITIES



COST EFFICIENCIES
DRIVEN BY LAYOUT
AND PLANNING



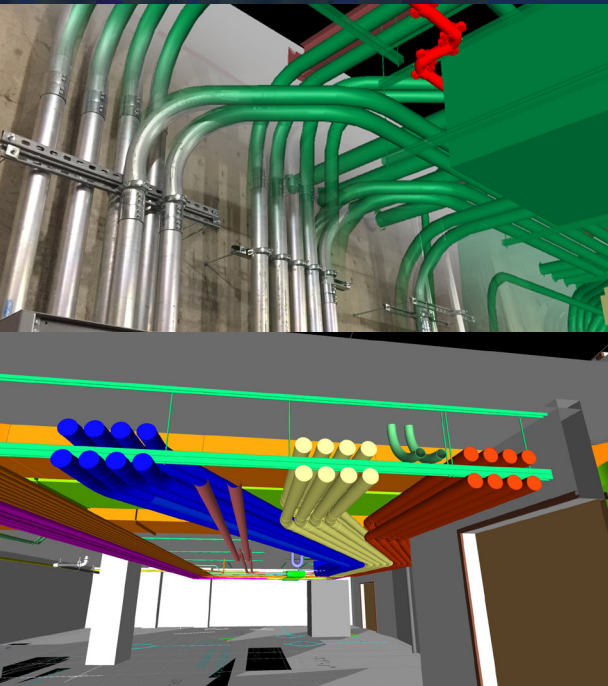
INTERACTIVE
SUBMITTAL REVIEW
PROCESS



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DESIGN | INTEGRATE | INSTALL | MAINTAIN | MONITOR

WHY WE USE VIRTUAL DESIGN AND CONSTRUCTION



INTEGRATED MODEL AND FABRICATION MANAGEMENT

At ERMCO, the same VDC engineers are collaborating with you to manage the project's BIM and to develop strategic prefabrication and modular construction solutions. Our VDC team includes seasoned IBEW field leaders and construction management graduates, who are engaged throughout the preconstruction and construction process. This integrated approach blends the use of technology with practical knowledge to improve installations and reduce costs.



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COLLABORATION WITH OWNER AND DESIGN TEAM

You get the most value from VDC when there is early engagement. Team members have real-time access to the design model and are able to shift critical path activities forward, enabling cost- and schedule-saving techniques such as prefabrication and modularization.

COLLABORATION WITH OTHER TRADES

All subsystems are modeled together and clash detection is used to develop realistic schedules and to identify potential design conflicts before they become rework on the job site.

IMPROVED COST ESTIMATES

VDC enables more accurate estimates of material quantities and costs as well as real-time cost analysis. It provides the ability to standardize material types and layouts, based on our extensive experience, resulting in the most cost-effective installations.

MINIMIZE FIELD REWORK

The ability to reference a precise VDC model in the field helps reduce errors caused by construction documents that are open to interpretation. Field layout solutions, such as the Trimble Robotic Total Station, help avoid rework by enabling precise, accurate installation.

BUILDING INFORMATION MODELING

At the end of the project, the owner has a complete building model. Users can click on components in the model for critical maintenance and replacement information. This enhances the owner's ability to manage operations on an ongoing basis.

LEAN CONSTRUCTION

VDC works well with a Lean Construction approach by front loading decisions and activities and enabling critical path items to move up in the schedule. This improves safety while also reducing on-site labor, waste, and storage requirements.

CONSTRUCTION SAFETY

VDC can be used to provide visuals for the flow of construction. This has proven effective for recognizing site logistics obstacles or potentially dangerous activities that may not have been identified in traditional planning and scheduling.