

## REAL WORLD IMPACT: A CASE STUDY

### THE POWER OF V.D.C.C.®

## Delivering Accuracy, Efficiency, and Clarity at the Milwaukee Repertory Theater

**PROJECT:** Milwaukee Repertory Theater (MKE REP)

**INDUSTRY:** Entertainment & Historic Renovation

**COMPANY:** Hunzinger Construction Company

### Project Overview

The Milwaukee Repertory Theater renovation was a complex, historic building project that required coordination between multiple historic structures, the Design Team, and many Trade Partners. Construction Manager Hunzinger Construction played a key role in managing these challenges through its Virtual Design, and Construction, Coordination® (V.D.C.C.®) process, ensuring design accuracy, minimizing rework, and maintaining the project schedule.

The scope included integrating modern mechanical, electrical, and plumbing systems within historically significant spaces, some with walls up to four feet thick, without compromising the building's character or increasing costs.

### Challenge

The main challenge was fitting new systems and uses into existing historic spaces with limited flexibility. With multiple interconnected buildings that were not square to each other, every construction trade, mechanical, electrical, plumbing, fire protection, and architectural drawings had to be coordinated precisely.

One of the most difficult areas was around the main entrance to the Powerhouse Theater, where the team needed to preserve a historic wall and archway while routing mechanical systems through the space above the ceiling. These systems had to connect several areas, from the Powerhouse to the Education & Engagement building and into the Atrium, while navigating existing structural and historical constraints.

Without careful coordination, creating new openings or reinforcements would have added significant cost and time to the project.

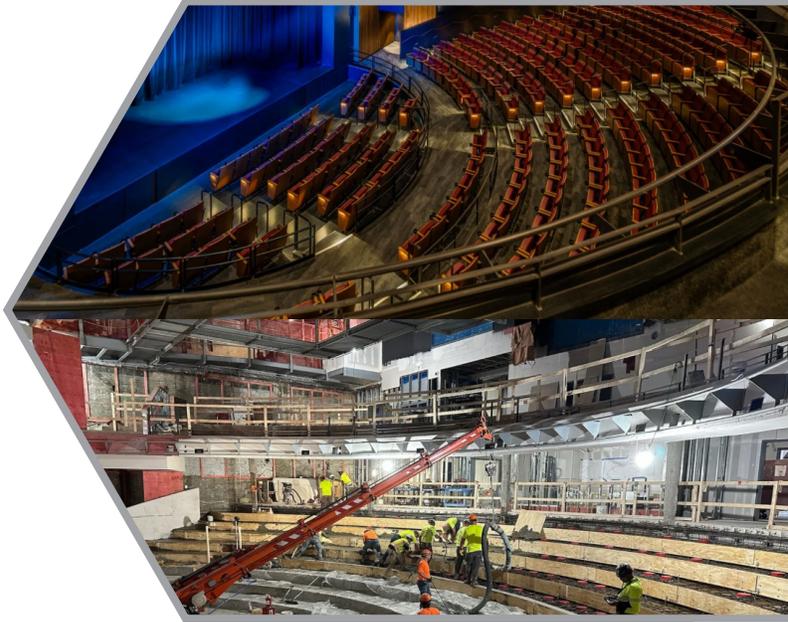
Hunzinger's V.D.C.C.® team utilized laser scanning, photogrammetry, and 3D modeling to capture precise existing conditions and visualize design options in real time.

### Solution

This allowed the team to:

- Identify spatial conflicts early and plan around them before installation.
- Bring all trades together in joint coordination meetings to make informed design decisions.
- Use real-time virtual walkthroughs with the MKE Rep design and ownership teams, allowing them to visualize the spaces and suggest adjustments instantly.

The design team fully embraced this process, making them strong collaborative partners. Many sessions were conducted that included making adjustments live during virtual walkthroughs, helping the owner better understand how their space would function before construction began.



**Hunzinger**  
**VD&CC**<sup>®</sup>  
**VIRTUAL DESIGN & CONSTRUCTION COORDINATION**<sup>®</sup>

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### V.D.C.C.<sup>®</sup> Involvement

Hunzinger's V.D.C.C.<sup>®</sup> process was critical to maintaining the project schedule and budget.

- Laser scanning and point clouds provided an accurate replica of the existing building space, revealing discrepancies in record drawings and preventing field conflicts.
- Weekly coordination meetings with the MEPFP trades, the mechanical contractor especially, ensured that ductwork and large systems, often the biggest space consumers, were efficiently integrated first, allowing other trades to plan accordingly.
- Field collaboration was key: once digital coordination was 90% complete, field teams fine-tuned adjustments in real-world conditions to account for tolerances and unforeseen variations.

Without this process, the team estimates that the project would have faced:

- Increased costs from additional change orders
- Schedule delays
- Significant rework due to inaccurate record drawings

### Results & Impact

Despite the challenges of working within historic structures, Hunzinger's coordinated approach allowed the team to:

- Deliver a highly integrated design that respects the building's historic fabric.
- Reduce the potential for costly rework and construction delays.
- Enhance communication among all project partners, designers, trades, and ownership, through shared visualization and real-time decision-making.

The laser scanning and V.D.C.C.<sup>®</sup> tools proved essential not only for construction accuracy but also as a visualization aid, helping all stakeholders clearly understand design intent before construction began. By combining innovative technology with hands-on field expertise, Hunzinger successfully brought the MKE Rep's vision to life, preserving history while creating a modern, functional performance space for future generations.

### Ready to Build Smarter?

Reducing rework and cutting costs doesn't happen by accident; it happens by design. The integration of reality capture, laser scanning, and Matterport into V.D.C.C.<sup>®</sup> workflows represent a transformative shift in how we plan, build, and manage construction projects. The leaders who embrace this change will not only build more efficiently, but they will also build the future.

If you're looking to reduce rework and improve renovation results, contact Maggie Pinnt at Hunzinger Construction to connect with our technology team to learn how V.D.C.C.<sup>®</sup> and 3D scanning can elevate your next project.



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### Tim Verheyen

LEED AP BD+C, CM-BIM

#### Vice President of Construction Technical Services

Verheyen is Hunzinger's VDCC<sup>®</sup> expert and manages our construction technology services department. He works with clients, architects, engineers, and subcontractors to provide our trademarked 5-dimensional platform that virtually constructs, coordinates and quantifies building systems and assemblies in 3D spatial dimensions and also incorporates a 4th project sequencing and a 5th dimension of project budget and cash flow details. Some of his notable work includes Foxtown Landing, Komatsu South Harbor Campus, The Milwaukee Repertory Theater Renovation, and office and distribution centers projects for Uline. Verheyen has proven to save owners both time and money on projects.

*Reality capture and photogrammetry were game changers for this project. The design team and owner could access cloud-based models to visualize the existing space, compare it to record drawings, and even take preliminary measurements, all without leaving their offices. It saved countless trips to the site and gave everyone a complete, walk-through view of every nook and cranny of the building.*

Tim Verheyen



# OUR TEAM



**Aaron Weyhrich**  
Construction Technical Services Engineer

Weyhrich specializes in the production of Matterport scans on our projects which creates immersive, interactive 3D models (digital twins) of physical spaces using specialized cameras and software, allowing users to virtually walk through existing buildings providing a bird's-eye "dollhouse" perspective providing accurate measurements throughout. The Matterport scan that is created is used by the project team to reduce site visits and work more efficiently to produce more accurate drawings. Weyhrich also uses the latest VDCC® technologies to elevate and enhance the building process at Hunzinger. Some of his recent projects include Foxtown Landing, The Milwaukee Repertory Theater Renovation, and multiple projects for Comcast working out of our in Denver, CO office.



**Jon Jansen** LEED AP BD+C  
Vice President of Construction Technical Services

Jansen has the overall responsibility for the on-time and on-budget completion of a project, leading the team and directly managing day-to-day administration. He oversees the seamless transition from preconstruction to construction and ultimate building commissioning and turnover. Jon will negotiate and administer all subcontracts, purchase orders and buyout functions. Many Journal and The Daily Reporter as Top Projects. Some notable projects are The Milwaukee Repertory Theater in the Associated Bank Theater Center, Komatsu South Harbor, Milwaukee Bucks Deer District and CNH Lakeside Expansion & Renovation.



**Dan Von Rueden** LEED AP BD+C  
Lead Superintendent

DVR is responsible for all field operations and directs foreman and trade workers throughout construction of your project. As Lead Superintendent, he is responsible for day-to-day scheduling, site logistics, staging of materials and equipment, sequencing activities, tracking quantities and maintaining job safety and quality control. Dan was named Newsmaker of the Year by The Daily Reporter for his work as Lead Superintendent at Komatsu South Harbor Campus. Some of his other projects include Milwaukee Repertory Theater in the Associated Bank Theater Center, Komatsu South Harbor, Milwaukee Bucks Deer District and the American Family Amphitheater on the Summerfest Grounds.



**Dan Cole** LEED AP BD+C  
Vice President of Preconstruction & Estimating

Cole manages our estimating department and works with clients, architects, engineers, subcontractors and our own VDCC® department to provide accurate project costs. Some of his notable work includes Komatsu South Harbor Campus, The Milwaukee Repertory Theater Renovation, Multiple projects for The Milwaukee Brewers Baseball Club American Family Field and office and distribution centers projects for Uline. Cole listens when owners state their needs and maximizes project dollars at every opportunity.

**About Hunzinger:**

Founded in 1907, Hunzinger Construction Co. is based in Brookfield, WI and has an office in Denver, CO. As a fourth-generation, family, and employee-owned firm, Hunzinger is responsible for the construction of many of Southeast WI's most significant buildings and venues. Hunzinger is an ESOP (Employee Stock Ownership Plan) company.

Hunzinger Construction Company is unconditionally dedicated to achieving excellence in the marketplace by understanding and exceeding customer expectations through integrity, honesty, and ethical conduct. Tradition, quality, safety, and attention to detail will result in long-lasting client relationships built on trust, and the highest level of professionalism. We will always "Do the right thing".

Hunzinger is recognized as an industry leader utilizing technology in construction management and building and has invested significant time and resources in the successful implementation of our own trademarked process known as Virtual Design & Construction Coordination®, (V.D.C.C.®). VDCC® is more than traditional 3D BIM; we integrate our groundbreaking Archispacial Model® which is an interactive platform utilizing architectural models for the purpose of scheduling, estimating, sequencing and project coordination. VDCC® becomes a 5-dimension analysis platform that not only virtually constructs, coordinates and quantifies building systems and assemblies in the three traditional spatial dimensions, but also incorporates a 4th dimension of project sequencing /delivery detail (Schedule) and a 5th dimension of project budget and cash flow detail (Cost). VDCC®, using Archispacial Analysis®, has been proven to save both time and money for all project participants.

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THE FUTURE  
TOGETHER™**

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