

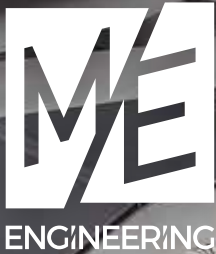


# ENGINEERING



Designing Solutions for Community Health

We Listen... We Understand... We Deliver...



# OUR VISION

Healthcare facilities are constantly changing to meet industry trends, new technology, and changing demographics. M/E Engineering, P.C. has built long term relationships with many hospitals and healthcare systems to assist in keeping up with these changes and demanding infrastructure requirements providing; long term planning, feasibility studies, energy studies, construction documents, construction administration, design-build, and fast track construction.

We are a client, employee, and community focused firm committed to life-long relationships, continually striving to be the most highly regarded firm developing solutions for the built environment.

## Facilities Served

- Hospitals
- Skilled Nursing Facilities
- Assisted Living
- Behavioral & Mental Health
- Outpatient Surgery Centers
- Medical Laboratories

**We Listen... We Understand... We Deliver...**

Cover Photo / Project Spotlight:

### **Orthopaedics and Physical Performance Center University of Rochester**



The new 330,000 SF, \$200M center is a four-story clinic building with exam, imaging, conference, and office spaces. Existing space will be renovated for cutting edge healthcare and patient experience. We designed the centralized heating/cooling plants, emergency power, UPS power, bulk oxygen storage, room pressurization control, fire pump, and all the associated distribution systems.



## Hartford Hospital Hartford, CT

The five-story, 50,000 SF, \$70M addition to the existing thirteen-story Bliss Building expands the existing Bliss services that each floor connects to, while the ground floor houses mechanical, electrical, and plumbing equipment in support of the 4 stories above. We provided the MEP/FP services including (1) standard and (4) multi-discipline operating rooms, (19) critical care rooms, (3) MRI rooms, and all the associated support spaces.



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# HEALTHCARE FACILITY DESIGN

Our Team of Professionals are here to help.



Anthony V. Thomas  
P.E., LEED AP  
Vice President



Michael K. Sullivan  
P.E.  
Principal



Brian L. Danker  
P.E., LEED AP BD+C  
Principal



Garrett D. Donals  
P.E.  
Partner



Richard F. Gostling  
LEED AP  
Associate



Lawrence H. Coon  
Associate



Eric K. Miller  
P.E.  
Project Manager

For additional information,  
please contact:

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# Our **SERVICES**

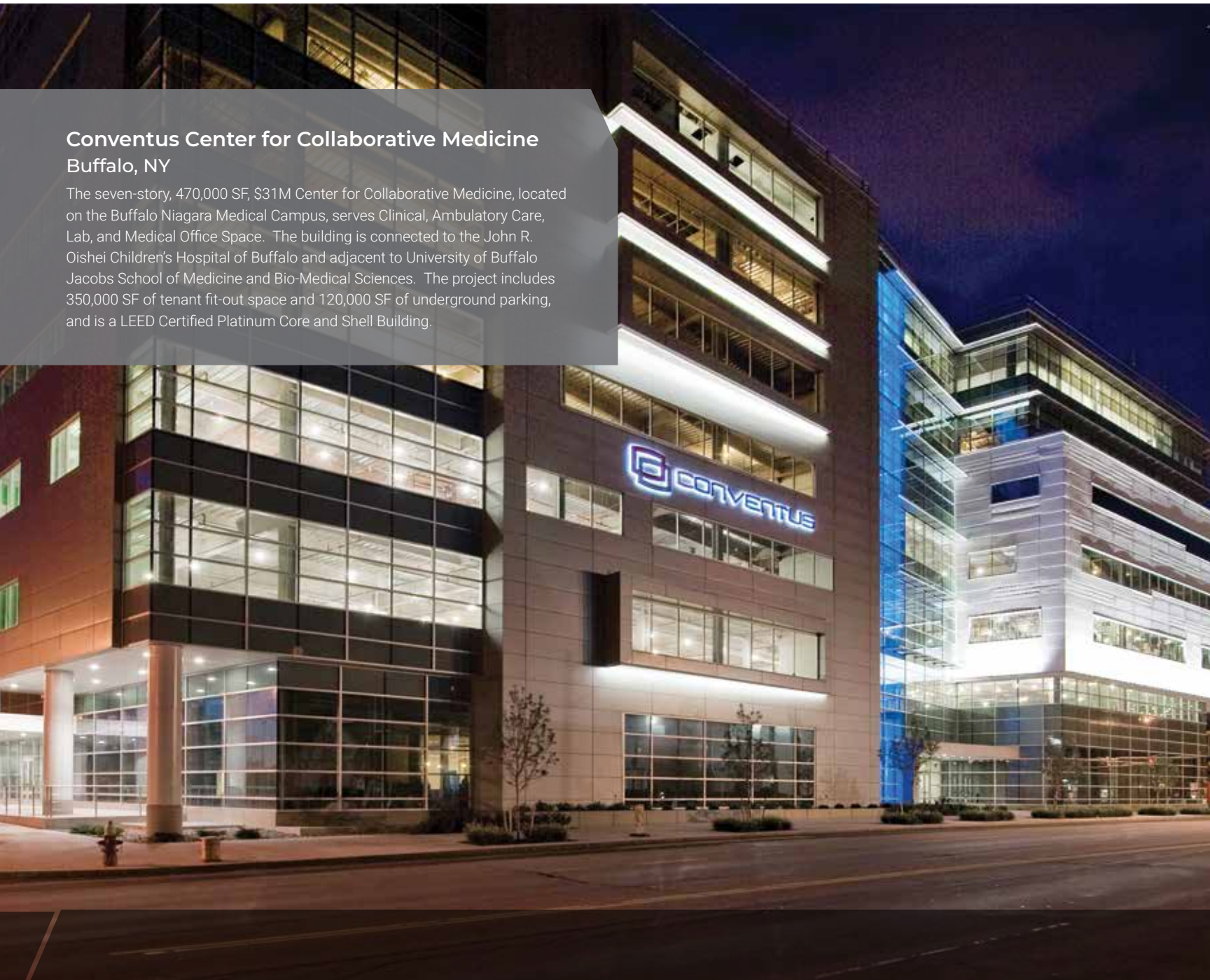
At M/E Engineering, we design systems and environments that improve the quality of life for the communities we live in.

Mechanical  
Electrical  
Plumbing  
Fire Protection  
Emergency Power Systems  
Central Chiller / Heating Plants

CFD Modeling  
Commissioning  
Specialty Lighting  
Energy / Sustainability Services  
Emergency Preparedness  
Code Review

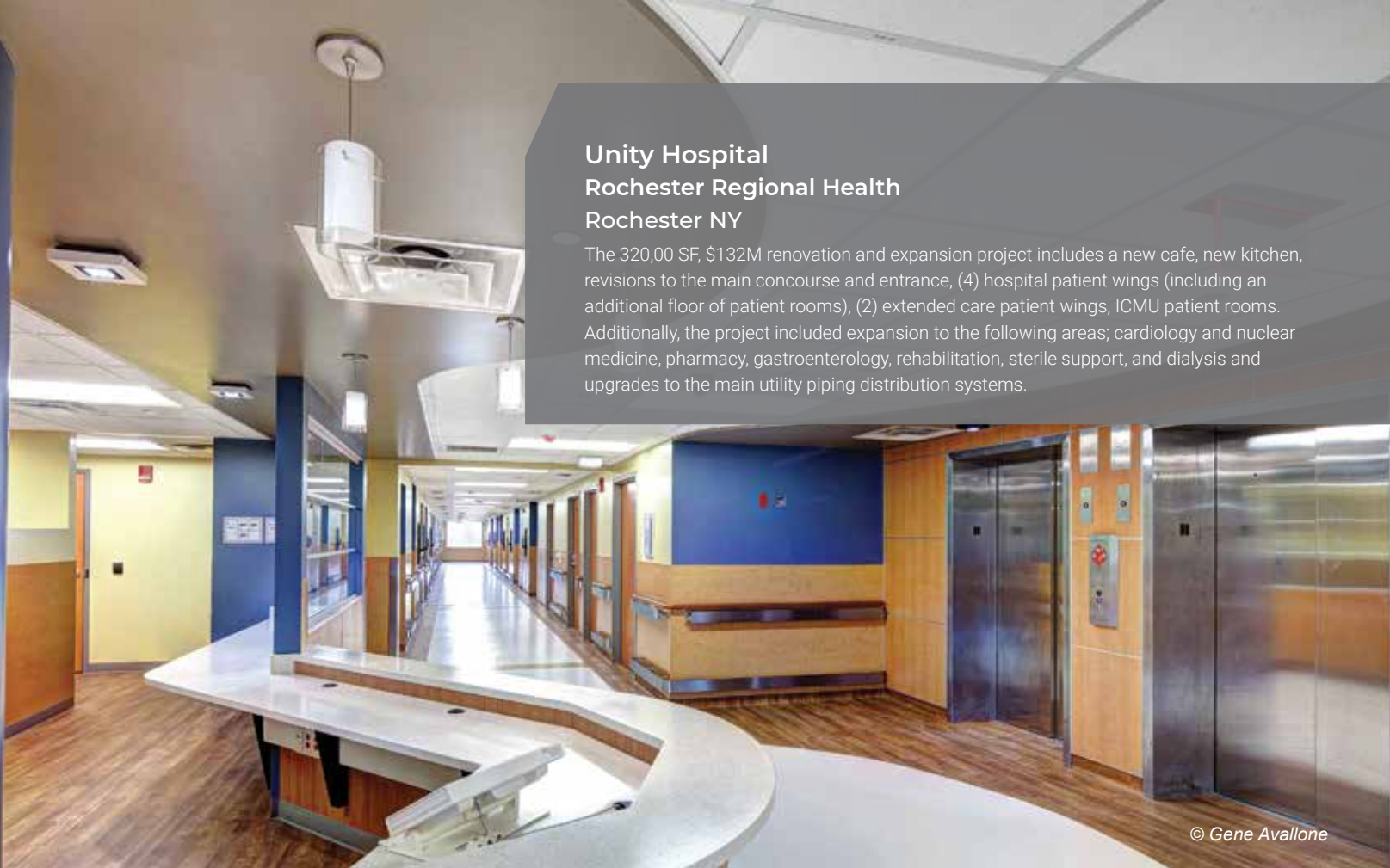
## **Conventus Center for Collaborative Medicine Buffalo, NY**

The seven-story, 470,000 SF, \$31M Center for Collaborative Medicine, located on the Buffalo Niagara Medical Campus, serves Clinical, Ambulatory Care, Lab, and Medical Office Space. The building is connected to the John R. Oishei Children's Hospital of Buffalo and adjacent to University of Buffalo Jacobs School of Medicine and Bio-Medical Sciences. The project includes 350,000 SF of tenant fit-out space and 120,000 SF of underground parking, and is a LEED Certified Platinum Core and Shell Building.



## Unity Hospital Rochester Regional Health Rochester NY

The 320,00 SF, \$132M renovation and expansion project includes a new cafe, new kitchen, revisions to the main concourse and entrance, (4) hospital patient wings (including an additional floor of patient rooms), (2) extended care patient wings, ICMU patient rooms. Additionally, the project included expansion to the following areas; cardiology and nuclear medicine, pharmacy, gastroenterology, rehabilitation, sterile support, and dialysis and upgrades to the main utility piping distribution systems.



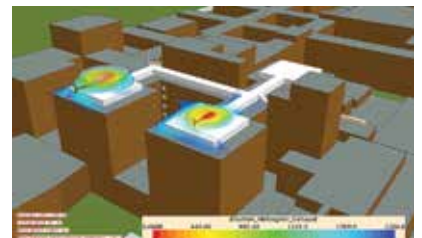
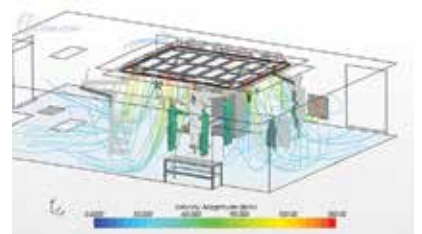
© Gene Avallone

## Computational Fluid Dynamics (CFD) Modeling

The use of CFD Modeling not only allows our staff to analyze specific issues, it also provides insight and added value to our design process by anticipating and reacting to the complex environment and enables our engineers to design a successful project. We are actively involved in research to help develop design tools that will aid in the initial layout of the facility and in the operation of these spaces both from an energy and infection control standpoint.

### CFD Applications

- Operating Room Air Distribution and Contaminant Control
- Pharmacy Clean Room Ventilation Effectiveness
- Isolation Room / Lab Fume Exhaust Discharge
- Emergency Generator / Boiler Exhaust Fumes
- Building Wind Wake Analysis
- Outside Air Intake Contamination
- Cooling Tower Water Vapor Discharge
- Helipad Impact On Outside Air Intake



For additional information regarding  
**CFD Modeling** please contact:

Scott D. Reynolds, P.E.  
Computer Aided Engineering Solutions  
585.288.5590



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# Commissioning

We provide commissioning and retro-commissioning services for both new construction and renovation projects. Our extensive experience ranges from 10,000 SF medical office buildings to 300,000 SF research facilities and acute care hospitals.

**Initial Design Review**

**Plan Development**

**Checklists & Functional Test Procedure Completion**

**On-Site Performance Testing**

**Department of Health Interface**

# Specialty Lighting

Our lighting & electrical services group provides specialty lighting design uniquely related to healthcare settings to optimize overall patient experience.

**Circadian Rhythm Lighting**

**Daylight Optimization Control**

**Germicidal Disinfecting Lighting**

**UVC Disinfecting**

## **Sands-Constellation Center for Critical Care Rochester General Hospital Rochester NY**

The seven story, 312,000 SF, \$260M facility features (23) multi-disciplinary operating rooms, (108) acuity-adaptable patient rooms, (20) private postpartum rooms, and (14) special care nursery rooms. The MEP design included (12) custom air handling units, new emergency generators, and we utilized 405 nm wavelength light fixtures to continuously disinfect airborne bacteria linked to hospital acquired infections (HAI). All utilities in the center are supplied by a new central plant that was designed by M/E as a separate project.

## Mercy Hospital of Buffalo Buffalo, NY

Like many of our clients, the Catholic Health System has entrusted M/E Engineering to provide services for multiple projects, including feasibility studies, preliminary design, bid documents, estimating, and construction administration. Our knowledge of the facility allows for fast response, efficient and consistent designs which save the facility's staff time and energy resulting in high quality successful projects. Examples include: chilled water and steam boiler plant upgrades, cardiac cath labs, operating room expansion, lobby and parking bridge addition, MRI addition, emergency department renovations, air handling unit replacements, electrical service and substation upgrades, and energy conservation measures.



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## Energy / Sustainability Services

**Building Energy Audits & Conservation  
Assessments**

**Integrated Whole Building Energy Modeling**

**Electrification Solutions**

**Renewable Energy Studies & Design**

**USGBC LEED Administration & Design Services**

**Net Zero & Net Zero Ready Confirmation**

**Incentive Program Triage & Assistance**

**Energy & Carbon Neutrality Master Planning**

Our professional engineers act as the interface between buildings and people to provide a comfortable, functional, sustainable environment.

**Melanie Stachowiak, Partner**  
M/E Engineering P.C.

For additional information regarding  
our **Sustainability Group** please contact:

Melanie G. Stachowiak, P.E.,  
LEED AP BD+C, CMVP  
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## Samaritan Hospital Tower St. Peter's Health Partners Troy, NY

We provided the MEP design for the new six-story, 92,000 SF, \$99M pavilion tower. Significant projects included a new 34.5KV electrical service, a new 1.8 MW Generation Plant, expansion of the chilled water plant, extension of existing steam lines to a new Pavilion Tower, and CFD wind wake analysis to ensure no entrainment of stack exhausts or HVAC exhaust would affect any existing or new HVAC systems outside air intakes.



# Emergency Preparedness Planning

## ARE YOU READY?

Our skilled team of engineers help plan and design each facility's mechanical and electrical systems to satisfy the client's Emergency Preparedness Plan in accordance to the clinical and administrative goals for addressing the needs of patients under a variety of hazards and emergency circumstances.

### **Emergency Preparedness Planning Considerations include:**

- Resiliency
- Redundancy
- Reliability
- Natural Disasters
- Extreme Weather
- Emerging Infectious Diseases
  - *Strategies for Minimizing Airborne Transmission*
  - *Temporary Reconfiguration, Flexibility / Adaptability*
  - *Re-Commissioning Restoration to Normal Operation*
  - *Medical Gases Source and Distribution Capacity*



# The Planning **Process**

Major renovations or new construction should include an emergency preparedness planning process so the facility can properly plan for appropriate infrastructure design criteria.

**1**

**Pre-Planning**

**2**

**Information  
Gathering**

**3**

**Strategic  
Analysis**

**4**

**Response  
Adaptability**

**5**

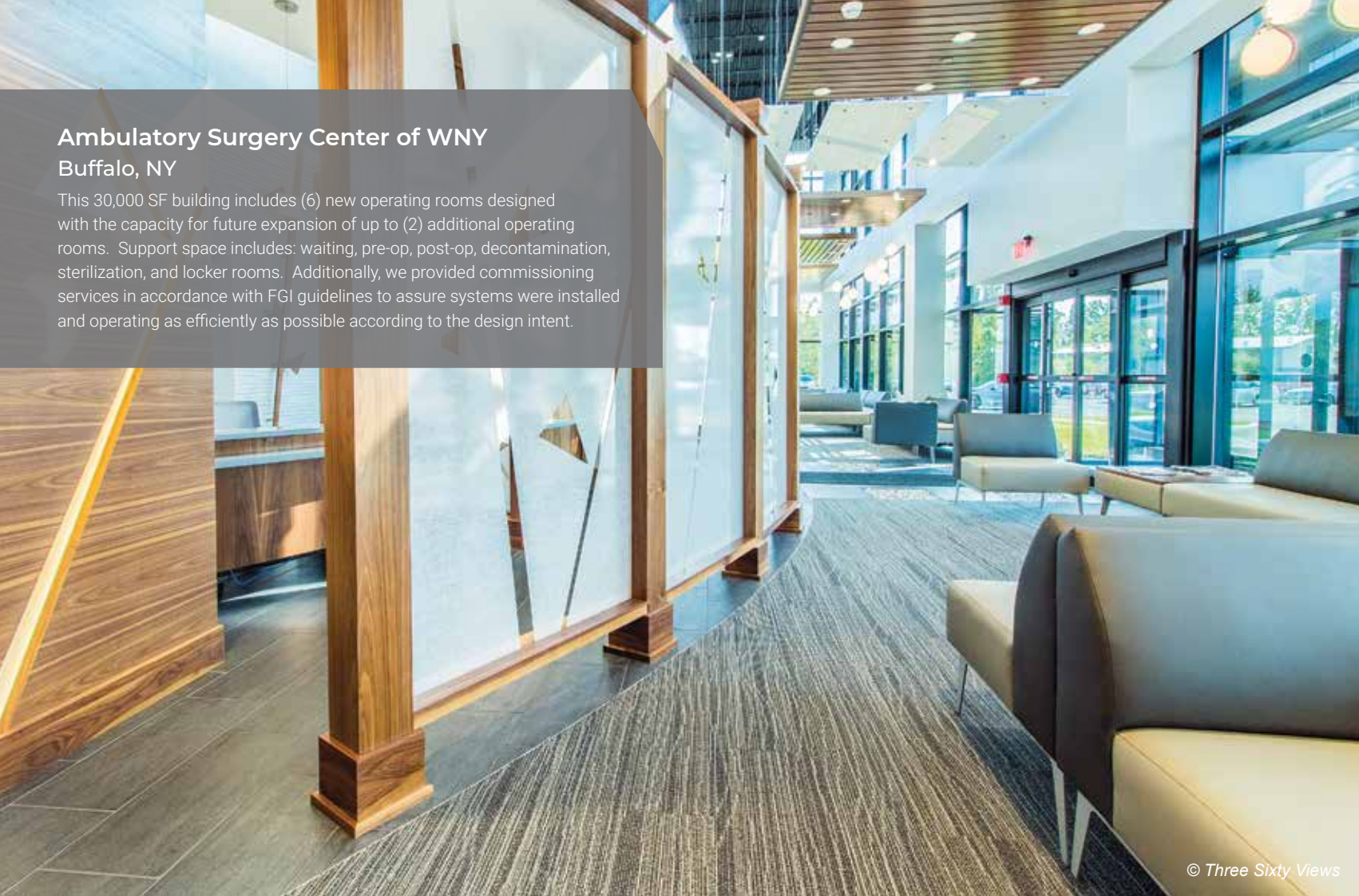
**Satisfy  
Goals**

M/E Engineering is trying to anticipate future design standards and codes by continually utilizing good design practices. We're implementing indoor air management strategies aimed to reduce occupant exposure to infectious aerosols that include air dilution, airflow patterns, pressurization, temperature and humidity distribution/control, filtration, and ultraviolet germicidal irradiation (UVGI).

**Rich Gostling**, Associate  
M/E Engineering P.C.

## Ambulatory Surgery Center of WNY Buffalo, NY

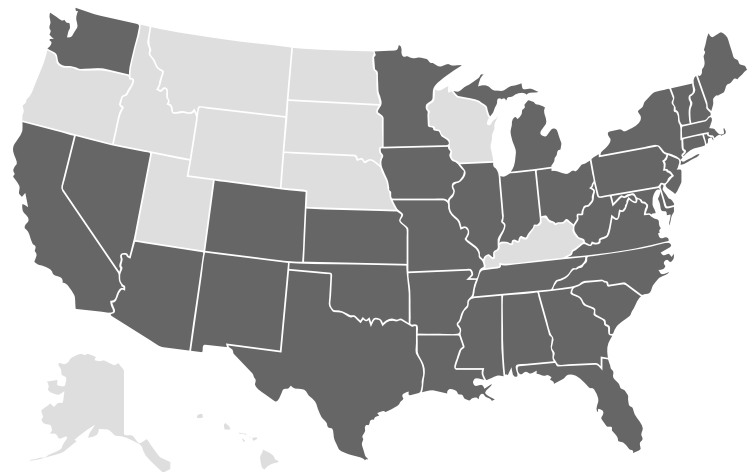
This 30,000 SF building includes (6) new operating rooms designed with the capacity for future expansion of up to (2) additional operating rooms. Support space includes: waiting, pre-op, post-op, decontamination, sterilization, and locker rooms. Additionally, we provided commissioning services in accordance with FGI guidelines to assure systems were installed and operating as efficiently as possible according to the design intent.



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## Established & Trusted

For over thirty years, our healthcare clients have trusted M/E to handle their most challenging projects. That trust is built on our core values of Stewardship, Professionalism, and Design Excellence.



Licensed in 38 States



“From small studies to projects in excess of \$500M, M/E has always provided the highest level of service to our clients. When you recognize that you or your family will need these facilities at some point in the future, you do everything in your power to ensure the best possible outcome. You would expect nothing less from our healthcare providers, and you should expect nothing less from those that design their facilities.”

**John A. Dredger**, President  
M/E Engineering P.C.





Rochester | Buffalo | Syracuse | Capital District

[www.meengineering.com](http://www.meengineering.com)