



**FIRE PROTECTION, FIRE ALARM,  
& LIFE SAFETY**





Aspen Snowmass Base Village



Children's Hospital Colorado



Trimble Navigation Offices

## WHAT WE DO

### CONTACT

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BCER is a full-service engineering, technology, and life safety firm serving the commercial, industrial, institutional, and government markets. From our offices in Colorado and Florida, we do more than provide a comprehensive suite of high-quality services for the built environment - we build uncommonly committed relationships with our clients and with each other.

Our belief in the value of people and the important work they do is unmatched. Beyond our high standards of expertise, quality, and service, we also measure success by the quality and depth of our relationships. This fierce loyalty and culture of caring for clients, their projects, and for each other are exceedingly rare, and distinguish us from every other firm.



FORGING  
UNCOMMONLY  
COMMITTED  
RELATIONSHIPS  
WITH OUR  
CLIENTS AND  
WITH EACH  
OTHER.



Mechanical



Electrical



Plumbing



Fire Protection and Life Safety



Technology



Lighting Design



Sustainable Design



Commissioning

## OUR SERVICES

### Mechanical, Electrical, Plumbing

- Mechanical Engineering
- Electrical Engineering
- Plumbing Engineering
- BIM
- Construction Administration
- Commissioning

### Life Safety & Fire Protection

- Admin Mod & Alternate Materials & Methods
- Building Code
- Commissioning & Testing
- Due Diligence
- Expert Witness & Testimony
- Field Observation & Engineering Judgment
- Fire Code
- Fire Protection Engineering

### Technology

- Telecommunications Systems
- Audiovisual Systems
- Security Systems
- Low Voltage/Specialty Systems
- Network (Data & Voice) & Wireless Systems
- Healthcare Technologies
- Relocation/Cutover/Migration Planning
- Technology Assessment/Analysis
- Service Provider Provisioning
- Construction Administration

### Sustainability

- Energy Analysis Services
- Energy Star Labeling
- LEED® & Green Building Rating



## LIFE SAFETY TEAM SERVICES

### Code Consulting

- Life Safety Plans
- Engineering Judgments
- Due Diligence Surveys
- Admin Modifications
- Fire Department Access
- 3rd Party Review of Life Safety Plans / Shop Drawings / etc.

### Performance Specs

- CA Services (Testing / Commissioning)

### Smoke Control

- Design / Design Assistance
- Test Plans
- Site Verification
- Reoccurring for High-Rises

### Hazmat Review

- HMIS
- HMMP
- Cannabis
- Medical
- Labs

### Water Flow Testing

- General Contractors
- Civil Engineers

### Hospital Surveys (JCAHO)

- UCHealth
- Centura
- Denver Health
- Banner
- Children's Hospital
- St. Anthony's Hospital

### Heavy Industrial

- Mark Wilmer Pumping Plant
- Eisenhower Tunnel - Fire Suppression System
- Wellington Water Treatment Plant

### Fire Rated Assembly Review

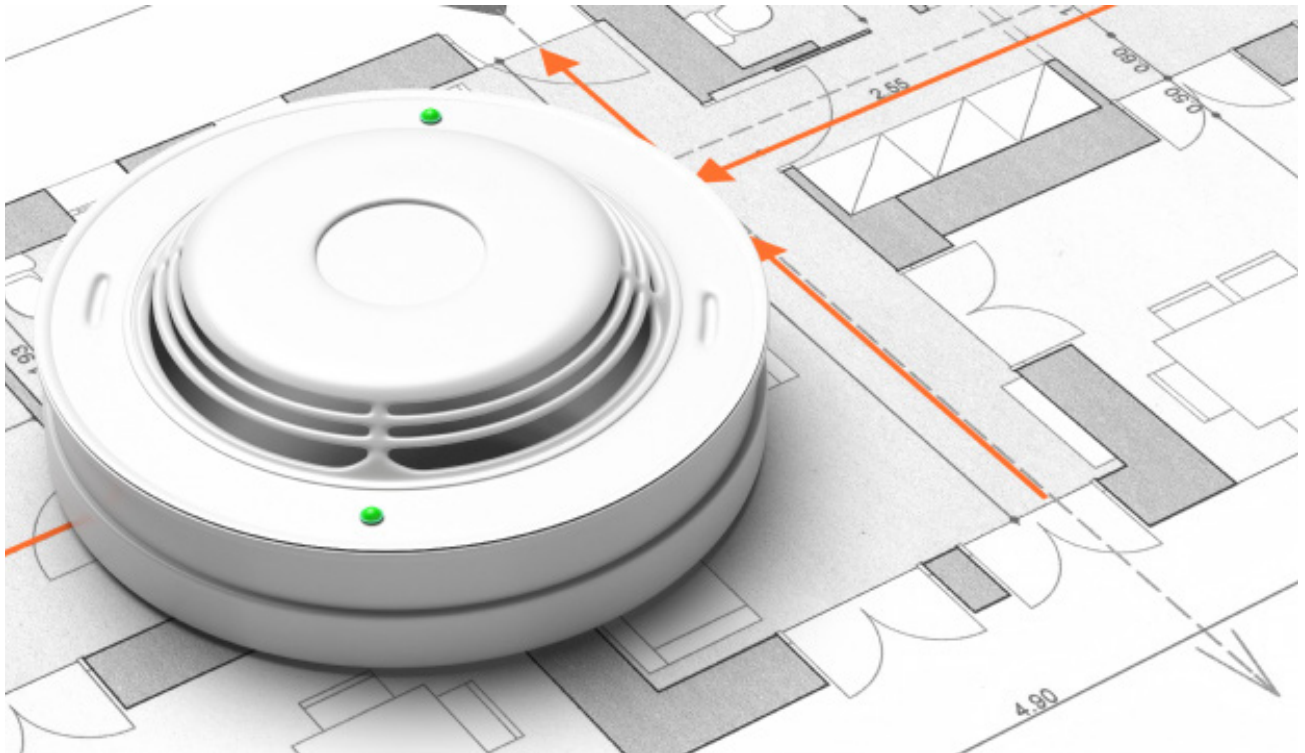
- Fire Stopping
- Rated Penetrations

### Fire Department Plan Review for Smaller Jurisdictions

## CODE CONSULTING

We provide code consulting for every building imaginable - from aircraft hangars to hospitals to high schools. Everything from means of egress to storage arrangement of chemicals, we will review your building to ensure that it is in compliance with code. BCER will review your building for compliance to the adopted International Codes, local codes and amendments, and applicable NFPA standards – ensuring that your building is code compliant. We will “consult-assist” during the design process and guide you through the entire development of the building.

Our team has decades of experience ensuring that your clients don't have any surprises during plan review, and getting your plans approved on the first submittal is always our goal! Code consulting for your project will help deliver the project on time and on budget, and make the construction process go smooth!





## WATERFLOW TESTING

Need to know how much water your site has? BCER has the tools and knowledge ready to help! We offer waterflow testing (hydrant flow) for any new or existing project side. We will flow water from hydrants on site and determine your water supply for the fire sprinkler system, or domestic water system. We work closely with developers and water purveyors to accomplish this, and provide the data needed to design these systems. We also can provide landscape and environmental protection plans for these tests – cleaning up mulch and rock is something we always try to avoid!







## HOSPITAL SURVEYS

Whether an organization is pursuing accreditation for the first time or is working toward continued readiness and process improvement, BCER can offer an array of service to improve Life Safety and Environment of Care compliance and survey preparation.

BCER surveys organizations based on a comprehensive accreditation checklist derived from the applicable accreditation agencies elements of performance, NFPA 101, IFC and the IBC. These items typically include, but are not limited to:

- Life safety systems management program and documentation review
- MEP maintenance program and documentation review
- Life safety drawing review
- Above the ceiling and wall penetration inspections
- Fire door inspection
- Room pressurization compliance
- Review of medical equipment maintenance program
- Environment of Care program review
- Overall impression of the physical environment

For newly Constructed Healthcare facilities BCER can provide the following services:

- Evaluate the environment before, during, and after construction.
- Evaluate as-built Life Safety drawings for compliance with Joint Commission standards and CMS Conditions of Participation.
- Field verify compliance with NFPA 101 after occupancy is granted.
- Help guide safe building design and new construction to help achieve compliance with the life safety code, infection prevention, and operational workflow during and after construction.
- Assist with pre-construction, infection prevention risk assessments, and interim life safety measures assessments.



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## EXPERT WITNESS AND TESTIMONY

Not every project goes perfectly. In life, things happen – and when they do we can be there to help provide expert witness reports and testimony for your project. Our services include building and fire codes, fire protection engineering services, review of built conditions vs. plans, systems, and cost review, etc. With extensive fire engineering backgrounds, BCER can help defend you and your client.



## DUE DILIGENCE

Selling your building? Buying a building? We can provide an extensive existing condition survey to note any deficiencies in the buildings. We will evaluate against the code of record for when the building was constructed, and can also provide recommendations and cost opinions for the required fire protection upgrades needed for the building.

BCER can evaluate existing fire alarm system, fire suppression systems, rated assemblies, smoke controls systems, all things related to the fire protection of the building!



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## CLAIRE MESTLER, PE - DIRECTOR OF LIFE SAFETY

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**Experience**

12 years

**Education**

B.S. in Mechanical Engineering,  
Colorado School of Mines

**Registrations**

Registered as a Professional  
Engineer in CO, AZ, WY, FL

Claire not only understands what makes a project successful; she embodies it. She strives to make her part in every project the best that it can be through good communication, finding and solving problems early, and always doing a thorough follow-up to discuss lessons learned. Her attention to detail and aptitude for identifying and solving problems are valuable to BCER's Life Safety and Fire Protection team and every project she is a part of.

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## TODD BRAND, M.Sc.FPE, SENIOR FIRE PROTECTION ENGINEER

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**Experience**

17 years

**Education**

B.S. in Mechanical Engineering,  
Michigan Tech University

M.S. in Fire Protection  
Engineering, California  
Polytechnic State University

**Registrations**

State of Colorado Certified Fire  
Suppression Systems Inspector

Todd has performed Life Safety consulting and Fire Protection Engineering for many of BCER's most complex projects. He excels at troubleshooting unique projects and finding creative solutions to problems as they arise. Todd is an excellent communicator with his team, clients, and the entire project team. He sets realistic boundaries and expectations and systematically reaches the project goals. Todd's expertise makes him a great technical resource for the entire Life Safety/Fire Protection team.

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## THERON WILLIAMS, SENIOR LIFE SAFETY CONSULTANT

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**Experience**

19 years

**Education**

B.S. in Facilities Management  
& Technology, Colorado State  
University - Pueblo

**Certifications**

Firefighter, Certified (State of  
Colorado)  
Hazardous Materials Operations  
ICC Fire Inspector I & II

Theron specializes in safety planning and operational management. He is knowledgeable in OSHA regulations, safety awareness activities, environmental quality investigations, hazard surveillance, risk assessments, and infection control awareness. He shows great commitment on gathering data to support quality improvement initiatives. His expertise includes emergency management and response, life safety, hazardous materials response, emergency medical services, and public safety.

# PROJECT LIST

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## FIRE ALARM

### **Amgen, CO**

Fire Alarm

### **Aspen Snowmass Base Village, CO**

Limelight Hotel - Fire Alarm/Fire Protection

### **Argo Mill Water Treatment Plant, CO**

Fire Alarm Design

### **AT&T, Nationwide**

Billings, MT Fire Alarm Replacement  
Boise, ID Fire Alarm Review

### **Auraria Higher Education Center, CO**

Tivoli Student Union - Historic Renovation

### **Aurora Public Schools, CO**

Montview Elementary School - Fire Alarm Design

### **Chili's, CO**

Englewood - Fire Alarm Design

### **City and County of Denver, CO**

City and County Building - Phase 1 Fire Alarm

### **City and County of Denver - Denver Museum of Nature and Science, CO**

450,000 sf fire alarm replacement and upgrade  
Administrative Office - 15,570 sf Remodel of NE Administration Area Fire Alarm  
New Volunteer Offices - Fire Alarm  
Southeast Wing Basement Remodel - Fire Alarm

### **Colorado Convention Center, CO**

Hyatt Hotel - Fire Alarm/Smoke Control  
Convention Center Expansion - Fire alarm and fire protection

### **Colorado School of Mines, CO**

Marv Kay Stadium - New Facility

### **Colorado State University, CO**

Hughes Stadium - 3rd Party Review of fire protection and life safety

### **Denver Art Museum, CO**

North Building Renovation - Fire Protection

### **Douglas County School District, CO**

Chapparral High - Fire Alarm/Fire Protection Upgrades  
Mountain Vista High - Fire Alarm/Fire Protection - Upgrades  
North Ridge Elementary - Fire Alarm Design

Upgrades

Ranch View Middle - Fire Alarm Design Upgrades  
Sierra Middle - Fire Alarm Design  
Thunder Ridge High - Fire Alarm/Fire Protection

### **Downtown Denver 17W Development, CO**

Plan review and inspection/testing for fire alarm, fire sprinklers, and smoke control

### **Denver International Airport, CO**

Third Party Review of Great Hall Expansion project  
Concourse A & C Fire Alarm Sequence  
Concourse B Fire Alarm  
Southwest Airlines In-flight, Ground Ops, and Tech Services - Fire Alarm  
Caribou Coffee - Fire Alarm  
PPG Lounge - Fire Alarm  
Jax Fish House - Fire Alarm  
Post Diner - Fire Alarm

### **Financial Plaza, CO**

Fire Alarm Design

### **Fidelis Healthcare Partners, CO**

Medical Office Building - Fire Alarm Design

### **JEFFCO Public Schools, CO**

Windy Peaks - Fire Alarm  
Three Creeks K-8 - New Facility Fire Alarm Design

### **Larimer County Jail, CO**

Fire Alarm and Smoke Control

### **Offices at Promenade, CO**

Code Analysis

### **Peterson Air Force Base**

Fire Alarm Replacement

### **Republic Plaza, CO**

Fire Alarm

### **Sakura Square, CO**

Fire Alarm

### **STAQ Pharma, CO**

Fire Alarm Design

### **The Arrabelle at Vail Square, CO**

Fire Protection/Fire Alarm for new mixed-use facility

### **UCHealth, CO**

Cherry Creek Clinic - Fire Alarm Design

## PROJECT LIST

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### **University of Colorado - Colorado Springs, CO**

Village at Alpine Valley - New Residence Village Fire Alarm Design

### **University of Denver, CO**

Centennial Halls - Kitchen Fire Alarm/Fire Protection

### **US General Services Administration, CO**

Cesar Chavez Fire Alarm Upgrades

### **USWest/CenturyLink, CO**

Arvada - Fire Alarm Upgrades  
Columbine - Fire Alarm Upgrades  
Golden Fire Alarm Replacement Upgrades  
Littleton Fire Alarm Upgrades  
Morrison Fire Alarm Upgrades  
Northeast Fire Alarm Upgrade Upgrades  
Scripps Fire Alarm Replacement Upgrades  
Smoky Hill Fire Alarm Upgrades  
Sullivan Fire Alarm Upgrades  
Westminster Fire Alarm Replacement Upgrades

### **Weld County School District, CO**

Admin Building - Fire Alarm  
Quest PK-8 - Fire Alarm  
Ft. Lupton High - Fire Alarm  
Lochbuie Elementary - Fire Alarm  
Hudson Elementary - Fire Alarm  
Pete Mirich Elementary - Fire Alarm  
South Valley Middle - Fire Alarm  
Platteville Elementary - Fire Alarm

### **Widfield School District, CO**

Widfield Elementary - Fire Alarm Upgrades  
North Preschool - Fire Alarm Upgrades  
Talbot Elementary - Fire Alarm Upgrades

### **Willow Creek Properties, CO**

Fire Alarm Design

## **SMOKE CONTROL**

### **385 Interlocken - Office Building, CO**

Smoke Control

### **Ameristar Casino, CO**

Smoke Control

### **Arrabelle, CO**

Annual Smoke Control Testing: 2011-Present

### **Civica Cherry Creek, CO**

Smoke Control Testing

### **CoBank, CO**

Smoke Control

### **Colorado Mesa University, CO**

Smoke Control

### **Colorado Convention Center - Hyatt Hotel, CO**

Smoke Control

### **Denver Museum of Nature and Science, CO**

Multiple Smoke Control Projects

### **Dry Creek Office Building, CO**

Smoke Control

### **Granite Place at Village Center, CO**

Smoke Control

### **IKEA, CO**

Smoke Control Commissioning

### **Longmont United Hospital, CO**

Operating Room Smoke Evacuation

### **Memorial Hospital, CO**

Atrium Smoke Control

### **Union Denver, CO**

Multi-Family High-Rise Smoke Control

# UNIVERSITY OF COLORADO - BOULDER

## Stearns Towers Housing - Fire Alarm & Building Skin Maintenance

Boulder, CO

### Services Provided

 Fire Alarm

### Type of Project

Building Maintenance

### Construction Budget

\$1M

BCER Engineering is serving as Prime Consultant for this student housing maintenance project at the University of Colorado Boulder East Campus. BCER performed an entire building survey for Stearns West for the fire alarm system, including initiation devices, notification devices, main panel and power supplies; for the replacement of devices as necessary to bring the building up to current intelligent devices and make the building safer for students.

During the design process, BCER guided CU through the necessary equipment upgrades to ensure that the project stayed within budget, and that the system would interface with the other two fire alarm systems in Stearns East and Stearns Central. The networked system for the buildings is very complex, and our knowledge of fire alarm systems ensured a smooth integration process.

Our Envelope sub-consultant performed an exterior building skin evaluation, assessing the condition of the brick façade, window seals, windows, and overall condition of the envelope. The report and repairs will help with getting the building weatherproof and stop infiltration from the elements. This will help prolong the life of the building, and lower energy costs for the University.

BCER is proud to be a partner with one of Colorado's most prestigious universities and continues to provide prime consulting services for the Housing facilities at CU.



# MARK WILMER PUMPING PLANT

## Fire Protection Renovation

Lake Havasu, AZ

### Services Provided



Fire Protection

### Type of Project

Renovation

The Mark Wilmer Pumping Plant was originally constructed in 1985. It helps pump water from the Colorado River 336 miles into central Arizona to support and sustain municipal growth there. It is the largest of the 14 pumping plants in the Central Arizona Project (CAP) system, helping to lift water nearly 3,000 vertical feet across Arizona.

This project consisted of upgrades to the existing Fire Suppression and Fire Detection systems at the Mark Wilmer Pumping Plant. The pumping plant is a 303'L x 136'W concrete structure. Our team is working to:

- Replace the existing fire alarm systems with intelligent panels and addressable devices.
- Evaluate and optimize new emergency voice/alarm communication system.
- Modify existing sprinkler systems including replacement of existing fire pump and controller.
- Upgrade existing HVAC system fire dampers and stairwell pressurization systems.
- Upgrade or replace existing High Pressure Carbon Dioxide suppression systems in pump motor rooms.





# EISENHOWER JOHNSON MEMORIAL TUNNEL

## New Fire Suppression System

Silverthorne, CO

### Services Provided

 Fire Protection

### Construction Cost

\$20M

### Size

2-mile tunnel

The Eisenhower Johnson Memorial Tunnel Fixed Fire Suppression System project is a \$20,000,000 fire protection project that required fire protection engineering for the performance-based design of the system. The fire suppression system is activated by a linear heat detection system which in turn activates the fire suppression system, protecting two 2-mile long tunnels. Our design role in the Fire Protection Engineering of the project included fire modeling, live-fire testing, and design of the fire protection system. The installation was complete in late September with testing and commissioning of the system in October and completion in late November, 2015.

BCER continues to be a part of the annual testing of the system.



# DOUGLAS COUNTY SCHOOL DISTRICT

## Fire Alarm Replacement & Public Address System Upgrades

Douglas County, CO

### Services Provided

-  Life Safety
-  Fire Protection
-  Fire Alarm
-  Technology Consulting

### Size

624,000 sf

BCER is providing Life Safety/Fire Protection Consulting and Technology Design services for the investigation and replacement of the existing fire alarm systems and intercom systems at three high schools in Douglas County; Chaparral High School, Thunder Ridge High School, and Mountain Vista High School as well as intercom replacement at Rock Canyon High School. BCER is serving as Prime Consultant for the four high school projects.

The work involved design, bidding assistance, and construction administration services for replacement of the existing fire alarm notification devices and initiating devices as may be required for compliance with current fire codes at Chaparral High School and Mountain Vista High School. The existing fire alarm panel at Mountain Vista High School was also replaced.



# WILLOW ST. APARTMENTS

## Smoke Control

Ft. Collins, CO

### Services Provided

 Life Safety

### Type of Project

New Construction

BCER performed third party commissioning for the Willow Street Apartments in Ft. Collins, which include two buildings with pressurized stairways linked together to a central Fire Command Center. The building was not classified as a high-rise, however due to Fire Department access issues, Poudre Fire Authority requested that stair pressurization be provided for the building.

BCER tested the entire system from operational ability of the smoke fans, door pressure opening forces, and pressure differential across smoke barriers. Our experience testing smoke control systems ensured that all the systems were operating correctly prior to the final test with the Fire Department.



ENGINEERING | TECHNOLOGY | LIFE SAFETY

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**Golden, CO 80401**

**303.422.7400**

**Colorado Springs**

**10855 Hidden Pool Heights**

**Colorado Springs, CO 80908**

**719.533.1112**

**Melbourne**

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**Melbourne, FL 32940**

**321.241.4142**

**Clearwater**

**1901 Ulmerton Rd., Suite 625-033**

**Clearwater, FL 33762**

**727.685.0458**