



**FIRE PROTECTION, FIRE ALARM,
AND 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 and Fire Protection

- Admin Mod & Alternate Materials and Methods
- Building Code
- Commissioning and 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 and 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

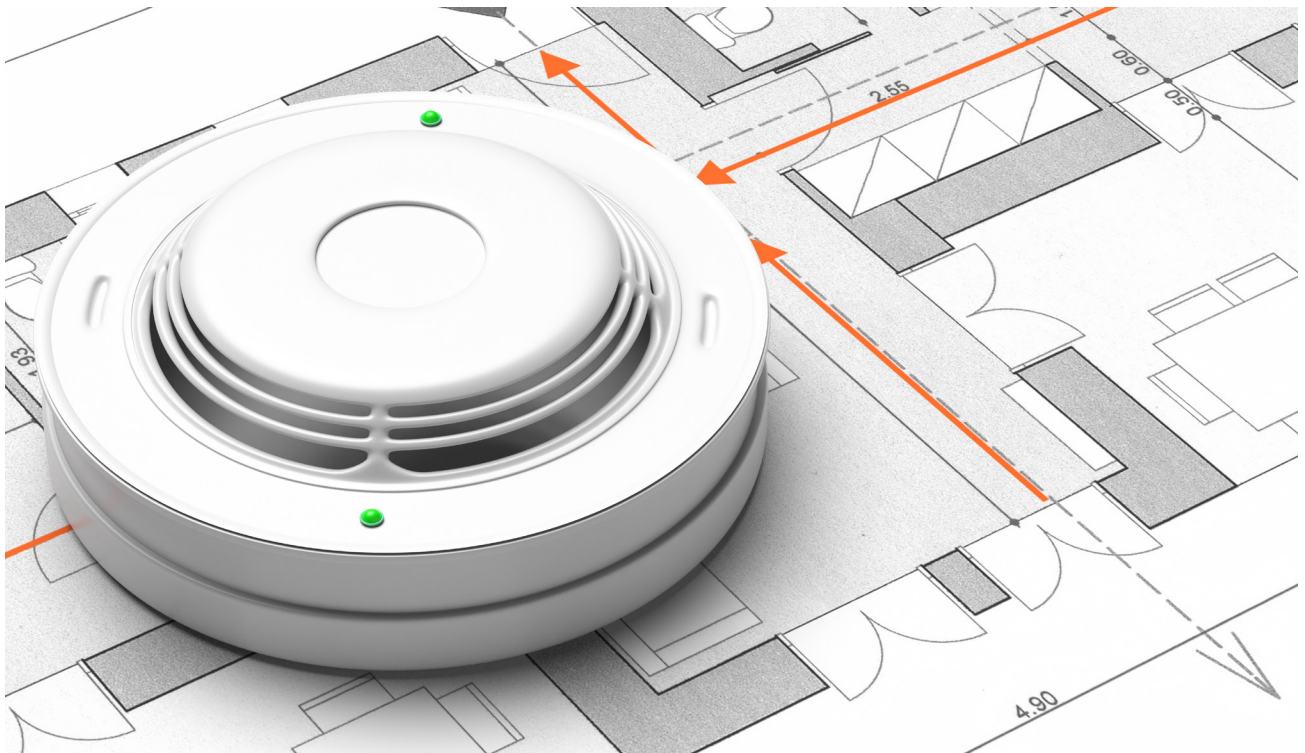
- Fire Stopping
- Rated Penetrations

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.

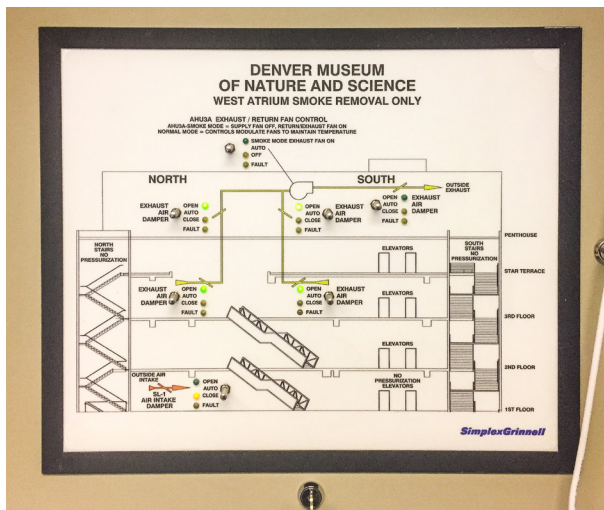
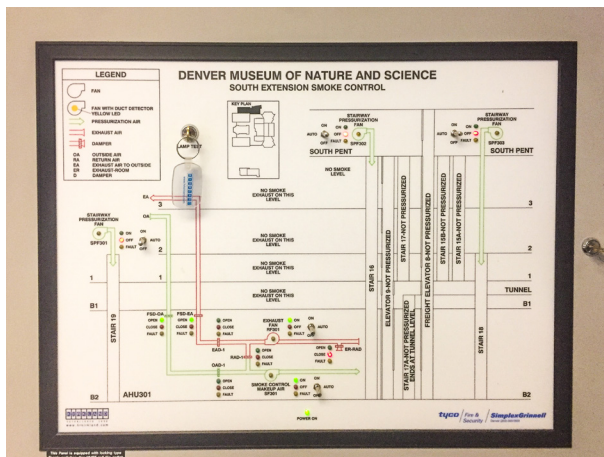
Our team has decades of experience ensuring that your clients don't have any surprises during plan review, and getting your plans approved on the first submittal is always our goal! Code consulting for your project will help deliver the project on time and on budget, and make the construction process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



SMOKE CONTROL

BCER provides consulting services for all your smoke control needs. From assisting with initial design parameters, creating test plans for the system, and final commissioning, we help guide our clients throughout the entire design and construction process.

BCER has commissioned dozens of smoke control systems throughout Colorado, ranging from detention centers to hospitals to high rises to atriums – if it has smoke control, we can help! Our testing services are extremely in-depth, we plan on testing the building for all types of scenarios to ensure that the systems work properly in a fire event. Careful coordination with the contractors, design team, and Fire Department are required to make this happen – and we’re just the people to make that happen for you.



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.



CLAIRE MESTLER, PE - DIRECTOR OF LIFE SAFETY

**Experience**

11 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.

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

**Experience**

15 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.

THERON WILLIAMS, SENIOR LIFE SAFETY CONSULTANT

**Experience**

17 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.

DANA LIPFERT, NICET II, FIRE PROTECTION CONSULTANT

**Experience**

8 years

Education

Bachelor of Science in Chemical
Engineering, Colorado School of
Mines

Dana has a passion for engineering, and it shows in her work. Her love of solving problems, and designing systems results in detail-oriented drawings that are precise and easy to follow. Dana has an expertise in knowing the parts and product manuals of the systems she installs, which ensures the correct placement and electrical needs each system requires. Her passion, knowledge and expertise will lead to clean, precise designs that will save money in the long run of any project she is designing.

PROJECT LIST

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
Admin Remodel - 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

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 and 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.