

Calhan School District Groundsource Heat Pumps Project

FACTS

LOCATION

Calhan, Colorado

PROJECT DATES

Installation Summer 2010

PROJECT SIZE

1 buildings, 87,950 sq. ft.

CONTRACT

Amount: \$2,925,000

Type: CO Dept of Ed grant — \$1.5M

DOLA grant — \$400,000

GEO grant — \$305,000

Utility Rebate - \$47,000

Cost to Calhan — \$673,000

TEAM

ACCOUNT MANAGER

Leslie Larocque

PROJECT DIRECTOR

Chris Larocque

PROGRAM MANAGER

Bryan Hanson, CEM

ENGINEER(S)

John Barnard, LEED® AP, CEM,
IGSHAP, CGD | Dave Moore, P.E.,
LEED® AP

CONSTRUCTION MANAGER

Garth McCann

SITE SUPERINTENDENT

Don Liss

CONTACTS

OWNER

Linda Miller

Calhan School District

719 347 2541

linmiller@calhanschool.org

SUBCONTRACTORS

- Can-America Drilling, Inc.
- Heating & Plumbing Engineers
- Sedlak Electric
- ATS Rocky Mountain (Building Automation Contractor)



PROJECT DETAILS

“Stifling. Stuffy. Hot.” These were once the terms Calhan’s teachers and students used to describe their facility when the weather turned warm in rural Colorado. The aging mechanical system consisted of propane fired boilers and rooftop units, only some of which had cooling. The Calhan School District also had inefficient lighting and time clocks and pneumatic actuators controlled the mechanical systems. As a result, many teachers would leave their exit doors propped open, posing a security risk. The McKinstry team worked with the district for nearly three years to secure enough grant funding to solve these problems.

Installed in summer 2010, the project replaced the entire mechanical system with high efficiency geothermal heat pumps (GSHP) and energy recovery ventilators that are controlled by a new, internet-accessible building automation system. The GSHP provides heating and cooling and proper ventilation air to all of the spaces in the most efficient means possible. As a result of this installation, the teachers are now able to keep their exit doors closed while maintaining a comfortable learning environment. Additionally, this project retrofit the majority of the lighting fixtures in the school to high efficiency T-8 linear fluorescent lamps and electronic ballasts and also replaced many aging light fixtures with new high efficiency fixtures. McKinstry worked with local contractors as much as possible and kept more than 50% of the project dollars in the local community.

Results

In addition to improving indoor air quality — both through creating more comfortable temperatures year round and decreasing CO₂ levels — the new systems reduce the district’s energy costs by 30%. The school district is also realizing reduced maintenance costs from implementing new technology instead of maintaining aging and failing boilers.

