

Metro Community Provider Network Jeffco Family Health Services

Supporting community health through conservation.

For nearly 25 years, Metro Community Provider Network (MCPN) has been offering medical, dental, and mental health services to “at-risk” individuals in the metro Denver community. The US Census Bureau reports that this population includes an estimated 800,000 people in Colorado alone. To serve their growing patient base, MCPN began fundraising efforts for a new clinic in Wheat Ridge, Colorado. When donor funding was augmented in 2010 with a Federal grant award, the Jeffco Family Health Services Clinic moved quickly from concept to reality. The new two-story facility includes five clinical pods: senior/disability care, pediatrics, obstetrics and gynecology, family practice, and extended hours care, as well as a dental suite and lab services. In partnership with the Jefferson Center for Mental Health (JCMH), the Clinic also offers services to foster mental health and support those with mental health challenges.

Recognizing that the construction and operation of their facilities affects both the environment and their ability to serve, MCPN made LEED certification of the new clinic a priority. Reducing resource

use, carbon footprint, and operating costs meant stepping beyond conventional practices, and seeking alternatives that would benefit all of their stakeholders.

At the Jeffco Family Health Services Clinic sustainability starts in the parking lot, where the LED light fixtures are projected to use just 25% of the electricity allowed and will substantially reduce maintenance while providing appropriate light levels for driving and security. In the surrounding landscape, xeric plantings are watered only when necessary through the use of smart irrigation controls that automatically monitor and adjust depending on season and available rainfall. This combination of careful plant selection and precise controls is projected to reduce outdoor water usage by 53%.

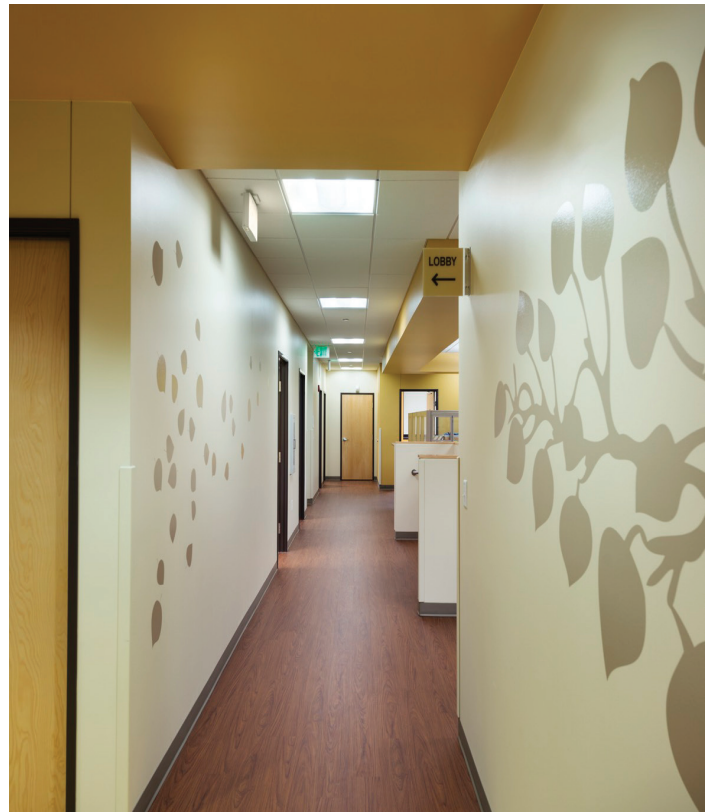
In the lobby, the selected traction elevators will use approximately 33% of the energy of typical hydraulic machines, and remove the risk of soil contamination by eliminating the oil. Since they do not require a machine room, they have also freed up space for community services.





Throughout the building, the air is heated and cooled by a Variable Refrigerant Flow (VRF) mechanical system. The system operates by moving refrigerant from a central outdoor unit via piping to multiple, strategically placed variable-capacity indoor units throughout the facility. It delivers only the required amount of refrigerant to each unit to maintain the zones' desired temperature setpoint, and by using a branch circuit controller, can heat and cool simultaneously in different zones. The system was deemed ideal for this type of facility, where hours/days of operation vary between services, as do preferred temperature ranges. Typical HVAC systems need to turn the compressor either on or off, using large amounts of energy each time the system re-starts. But not this one. When the space needs have been met the system dials back to low capacity, operating for long periods at a low level in order to maintain a constant and comfortable indoor environment. Combined with other energy-saving features built into the project, the overall projected energy savings is approximately 45%.

Maintaining the building's energy conservation goals over time will allow more money to be spent on services for the community.



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In order to help offset the increased costs, MCPN participated with Xcel Energy in their Energy Design Assistance Program. Through this program Xcel provided free energy modeling services and anticipates a rebate of \$39,000 to the facility once it is fully occupied. The remaining costs for energy-efficient features will payback over time—offset by reduced operating costs. Commissioning agents will revisit the facility after a year of operation to help fine-tune the system, utilizing valuable information obtained monthly from the Building Automation System (BAS) and re-calibration of the energy model for real-life conditions. The facility management staff will also be able to evaluate energy use trends of the project utilizing the Energy Star Portfolio Manager program. Maintaining the building's energy conservation goals over time will allow more money to be spent on services for the community.

Selection of new plumbing fixtures for the clinic was approached with caution. While many water-efficient options exist, finding the right fixtures for the job meant testing them under real-life conditions. With the help of the design team and fixture manufacturers, MCPN installed multiple fixtures at an existing clinic and asked staff to evaluate their performance to inform the selection process. This ultimately led to the specification of 1.0 gpf water closets and 0.35 gpm lavatory faucets with automatic sensors, reducing indoor water use for restrooms by over 40%.

The numerous green design strategies incorporated into this project led to a LEED Gold certification from the USGBC—a notable achievement which allows them to maximize services through reduced operating costs and illustrates their commitment to sustainability and the community they support.

Sustainable Highlights:

- 45% reduction in energy-use
- 35% electricity consumption powered by wind
- 53% reduction in landscape water-use
- 41% reduction in interior water-use
- 20% recycled materials
- 17% local materials
- 64% FSC-certified wood
- 94% construction waste diverted from the landfill
- 100% urea-formaldehyde free composite wood products
- 30% more outside air for improved indoor air quality



PROJECT TEAM

ARCHITECTS – Boulder Associates Architects
INTERIOR DESIGNERS – Boulder Associates Architects
MEP ENGINEERS – CCRD Partners
ENERGY MODELING – Group14 Engineering

COMMISSIONING AGENT – Eaton
CONTRACTOR – Adolfson & Peterson Construction
LEED COORDINATION – Boulder Associates Architects
LANDSCAPE ARCHITECTS – Ouellette & Associates