



# COLORADO BUILDING GREEN

The official newsletter of the U.S. Green Building Council - Colorado Chapter

May/June 2007  
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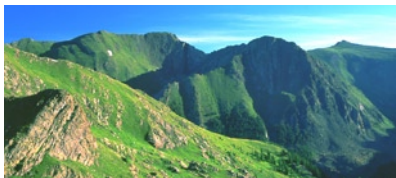


Photo courtesy of John Fielder's Colorado

**Project Profile** // Exploring Highlights of Colorado's Latest Green Designs

## New Belgium Brewing Co. Bottling & Packaging Hall

### New Belgium Continues its Commitment to Sustainability

*by Greg Borst,  
Senior Estimator,  
Swinerton Builders*

New Belgium Brewing Company has a long history with high performance green building strategies. With each expansion of their facility, the company combines lessons learned in previous projects, with new sustainability strategies.

The latest expansion project adds a new Bottling and Packaging facility to New Belgium's Fort Collins campus. The 55,000 square foot Bottling and Packaging facility adds capacity to the existing two Brew Houses, a Water Treatment Plant, Methane Co-Generation Plant (fueled by methane generated from the brewing process waste water), Administra-



*Bottles of brew ready for packaging.*

tion Building and Tasting Room. New Belgium tapped Swinerton Builders to construct the facility, and the beer is beginning to flow!

### Continued Commitment to Sustainability

The site development utilizes existing driveways and truck routes,



## New Belgium Brewing Co. Bottling & Packaging Hall *continued*



Inside the packaging hall. Bottles are gathered and put into 24-pack carriers.

an employee parking lot, a detention pond, employee recreation area, and ten truck docks. The new building features employee offices and break room, locker rooms with showering facilities, a visitor observation balcony, mechanical and electrical support areas, a trucking office and a just-in-time loading dock. An elevated pipe bridge will transport the beer from the existing building to the

Packaging Hall.

### Sustainable Features

Sustainable Sites:

#### Stormwater Management and Soil Erosion Control

- Swinerton controlled stormwater run-off and collected sedimentation by stockpiling the existing topsoil at the outset of construction.
- Shortly afterward, they constructed

the detention pond.

- Swinerton also ensured that the local erosion requirements were EPA-compliant, and were documented in the construction and permitting documents.

#### Alternative Transportation Ingrained in New Belgium Culture

- Public bus lines run in close proximity to the New Belgium campus.

### Project Data

#### Project Name

New Belgium Brewery Packaging Hall

#### Location

500 Linden, Fort Collins, Colorado

#### Building Type

Industrial

#### Project Size

55,000-square-feet

#### Project Cost

\$10.4 million

#### Completion Date

May 2007

#### Owner

New Belgium Brewing Company

#### Project Team

Swinerton Builders (Design-Build Contract) **General Contractor**

Ware Malcomb **Architect**

RB+B **Architectural Consultant**

Twist Designs for Living **Interior Designer**

EMC Engineers, Inc. **Mechanical Engineer**

Electrical Systems Consulting Inc. **Electrical Engineer**

Dave Nelson & Associates **Lighting Consultant**

North Star Design **Civil Engineer**

BHA Design **Landscape Architect**

Peak Engineering **Structural Engineering**

## New Belgium Brewing Co. Bottling & Packaging Hall *continued*

- Employees bike merrily to work, knowing that bicycle parking and showers are readily available.
- Those with less than one year of employment eagerly anticipate their one year anniversary – New Belgium presents each employee completing one year of service with their very own bicycle.

### Heat Island Effect – Roof and Onsite Renewable Energy

- The roof of the new building includes a high-reflectance TPO roof system.



*Behind the scenes at the brewery.*

- With an eye towards a future renewable energy system, the roof's structural load was designed to support a photovoltaic array.
- The local Public Utility provided consulting throughout the project. They also provided New Belgium Brewery with a grant to support the brewery's goal of applying sustainable integrated design on the project.

### Water Efficiency

The New Belgium facility would have no problem qualifying for LEED water efficiency credits. The existing campus already included a Process Water Treatment Plant.

- Through an anaerobic reactor and an aerobic pond, bacteria feed on the organic waste from the brewing process.
- The Process Water Treatment plant dramatically decreases New Belgium's impact on the Fort Collins municipal wastewater treatment plant.
- Landscaping on the campus features native vegetation and Xeriscape principles

### Energy and Atmosphere

EMC Engineers conducted Energy Modeling on the proposed mechanical systems to assist in selecting the heating and cooling systems.



*Elevated pipe bridge transports the beer.*

- A baseline model using ASHRAE 90.1-2004 compliant Roof Top Units, helped determine the relative efficiency of the selected HVAC system.
- The project team selected a direct/indirect evaporative cooling system, with a multi-stage gas furnace.
- New Belgium contracted with Architectural Energy Corporation to perform the mechanical systems commissioning

### Materials and Resources

- New Belgium maintains an extensive recycling program, not only for glass and cardboard from their packaging operations, but also for the office and support functions.
- Employees are invited to bring

recyclable materials from home and deposit them in containers provided near the campus parking lot.

### Indoor Environmental Air Quality

- The facility uses low VOC - emitting materials
- Interior ventilation is increased through a displacement ventilation system that provides two air changes per hour
- Skylights and light tubes provide daylighting and reduce electrical lighting loads.
- Strategically – placed operable windows along the office perimeter provide occupant comfort and line-of-site views.

# When LEED ≠ Sustainability

## Challenges between LEED Credits & Sustainable Development Objectives



by Courtney France,  
President France  
Sustainable Solutions

Without a doubt, the USGBC's sustainable building tools have spurred the integration of energy efficiency and environmental responsibility into building design, construction and operations. The portfolio of LEED rating systems offers a plethora of sustainable options for projects of any type.

However, it is unrealistic to assume that LEED checklists are the end-all-answer to high performance sustainable building. Project teams are often challenged with the need to weigh the relevancy and appropriate application of earning specific LEED credits, against the more important sustainability objectives of the specific project.

Each time we utilize the LEED rating system as a guide to render our projects more sustainable, our collective experience provides data points



Aerial view of landfill redevelopment.

for credit clarifications and future revisions. Updates to LEED NC v3.0 will likely address many of the practicalities and challenges garnered through projects certified through version 2.2.

With this preface, the following actual case examples demonstrate how some LEED criteria may not always translate into the most appropriate sustainable strategy for a particular situation. In these instances, it

is important to keep in mind the core mission and intent of the LEED rating system - to promote better building design and construction. Focusing on overall sustainability rather than credits earned, may require an alternative compliance approach to achieving a particular credit.

### Project Case Example #1: Stormwater Management

The intent of SSc 6.1 in LEED NC

is to limit the disruption of natural water hydrology by reducing *impervious* cover, increasing on-site *infiltration*, and decreasing pollution from stormwater runoff.

On most project sites, this is an appropriate approach. However, for some sites - specifically contaminated sites - this may in fact be detrimental. For example, consider the situation of a site located on former landfills that are 'capped' and selected for development.

Many of you may be thinking, "no brainer, just don't develop on those types of sites". The reality is that many projects already follow this method of land redevelopment. Logan International Airport in Boston, and Japan's Osaka Kansai Airport are but two examples of projects built on re-claimed land from surrounding bays using a landfill base. In these types of situations, following SSc6.1 criteria to increase stormwater permeability and infiltration would be toxic: rainwater would leach landfill contaminants right into the surrounding bay or groundwater resources. For these projects, landfill rehabilitation and associated site development would need to , through a clay clap. While not likely to earn SSc6.1



## When LEED ≠ Sustainability *continued*

credit points, this strategy achieves the overall sustainability objective of avoiding contamination to the surrounding site and waterway.

### Project Case Example #2: Daylighting

Research and supported studies have demonstrated the undeniable benefits of daylighting and the resulting positive effects on occupants. The LEED rating system encourages the integration of daylighting design for both tenant benefits and optimizing building energy efficiency.

However, the specified LEED NC IEQc8.1 credit criteria may not always lead to the most sustainable daylighting design. To demonstrate a conflict between the LEED criteria and appropriate sustainable design, examine the Option 1 method for IEQc8.1 – *Calculations, shown below.*

The IEQc8.1 calculation threshold requires a minimum glazing factor of 2% in a minimum of 75% of all regularly occupied areas. This fixed calculation methodology may lead to a problematic daylighting design for complex daylighting systems. For some designs, appropriate work-plane illuminance may not achieve the specified LEED 2% glazing factor requirement, due to sky conditions, sun positions, and even orientation.

Projects utilizing detailed daylight modeling are afforded the opportunity to examine alternative design decisions in comparison with the specified 2% glazing factor threshold. Projects that select the fixed glazing factor requirement may end up over or under designing the daylighting component of the building.

For Colorado projects, this is particularly important. The 2% glazing

factor is based on overcast conditions. Our Rocky Mountain state enjoys clearer, sunnier days than most regions of the country. Blindly following the 2% threshold can result in a poor daylighting design for projects, which may cause glare, contrast, perimeter heat gain issues, and other occupant comfort challenges.

### Project Case Example #3: Water Efficient Landscaping

In LEED NC v2.2, an alternative compliance approach was added to WEc1 – Water Efficient Landscaping. This alternative allows the use of municipally provided non-potable water as an irrigation source – thus earning the points awarded for achieving 100% reduction of potable water for irrigation use.

For projects located in municipalities that provide non-potable water, this is a valuable credit option. It allows the team to double the LEED credit points for water efficient landscaping.

However, this additional compliance option may not always lead to the most sustainable landscape design.

Projects that automatically achieve 100% potable-water reduction solely by using non-potable water provided by the municipality may miss the

'big picture' intent of reducing the actual amount of water consumed for irrigation. Although using non-potable water to irrigate non-native plant species may earn LEED points, it is a less sustainable solution than deploying native species, xeriscaping or dry landscaping strategies. At the end of the day, reduction of irrigation needs remains the overall design priority.

The intent of this article is not to criticize the LEED rating system and the specific credit requirements highlighted in the examples. Rather, it is a reminder that we should focus our attention and intent on providing the most sustainable design features appropriate to each project's unique environment, community, and occupants. In those instances where the LEED criteria do not represent the most sustainable approach and design, we can learn from alternative approaches and understand how future sustainable development continues to evolve and improve.

We may not all have the privilege of working on strictly 'living building' eco-systems or off-the-grid communes, but it's worth making sure we're doing the basic things right first on those projects that pay the majority of our bills.

Room	Floor Area	Glazing Area	Window Geometry		Transmittance (T <sub>v19</sub> )		Window Height	Daylight Factor		Daylit Area	Views	Shading Device
	[SF]	[SF]	Type	Factor	Actual	Min	Factor	Each	Room	[SF]	[SF]	
103	390	50	vision	0.1	0.40	0.4	0.8	1.0%	1.0%	0	390	
		0	daylight	0.1	0.70	0.7	1.4	0.0%				
104	96	20	vision	0.1	0.40	0.4	0.8	1.7%	3.1%	96	96	
		10	daylight	0.1	0.70	0.7	1.4	1.5%				
106	1,039	100	vision	0.1	0.40	0.4	0.8	0.8%	1.7%	0	1,039	
		70	daylight	0.1	0.70	0.7	1.4	0.9%				
107	72	10	vision	0.1	0.40	0.4	0.8	1.1%	2.1%	72	72	
		5	daylight	0.1	0.70	0.7	1.4	1.0%				

## Foam Insulation: R-Value is Just the Beginning

by Rick Gulick,  
President, Rocky  
Mountain Foam

To really understand the role of R-value in the insulation decision, you need to understand the basics of heat flow. There are three primary mechanisms of heat flow: conduction, convection, and radiation.

- *Thermal Conduction* is the movement of heat resulting from direct contact with a material. For example, hot coffee makes the outside of the cup feel hot.

Energy is conducted from the coffee to the cup.

- *Convection* is the transfer of heat by movement.

As air warms, it expands, becomes more buoyant, and rises. If you are working on a ladder, you will

typically notice that the air near the ceiling is warmer than the air near the floor. Similarly, an empty or un-insulated wall cavity creates a convective loop. In winter, the warm (or interior) part of the wall

causes air to rise. At the cavity's top, the air moves to the exterior wall side where it is cooled. The chilled air then sinks to the cavity bottom where the loop begins anew. Fibrous insulation such as fiberglass or cellulose (to a lesser degree) fails to stop these convective loops

- *Radiation* is the transfer of heat by electromagnetic waves. Even though old fireplaces often lose more heat than they generate, it still feels good when you sit in front of a cozy fire. You are toasted by the energy transferred or radiated to your cooler body.

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*Different insulations with the same laboratory R-value can deliver very different levels of comfort and energy efficiency*

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### Comparing Insulation Materials

While R-value is one way to compare insulation materials, it is but the first step toward making your best purchase

decision. R-values are a good starting point-but they are the results of small, meticulously prepared laboratory samples - they do not necessarily reveal how an insulation system will perform once installed in an actual building.



Application of spray foam insulation.

### R-Value Testing

R-value testing is performed in a closed box with a hot plate on one side, a cold plate on the other side, and the insulating material in between. In this perfect environment basically all insulation materials with

the exception of rigid foam will test out somewhere between R-3 and R-4 per inch. In essence, the lab test only measures conductive heat flow and does not account for radiant and convective energy flow. It is also interesting to note that R-value tests



## Foam Insulation: R-Value is Just the Beginning *continued*

are performed at 75OF, where tested R-value tend to be higher. According to the EPA, some insulation will have its R-value drop from R-21 at 75OF to R-12 when tested at 90F.

Unfortunately, our homes and buildings are far from the perfect lab environment. For example, Oak Ridge National Laboratory research shows R-19 labeled fiberglass batts have a tested value of R-17.4. Batts that were perfectly installed - that is installed with no gaps, cracks, wires, or plumbing interference - tested at R-17. As is commonly the case in typical installations, walls containing fiberglass batts only achieved R-13.7.

### Use Spray Foam to InSEALate

Materials that serve as an air barrier have the ability to retard the conductive heat flow and convective heat loss. Spray foam insulation installed in the walls, floors and attic of a structure, provides a complete, air-tight, monolithic seal. This type of highly efficient, air-tight thermal envelope cannot be accomplished with stick-frame construction using fibrous insulation.

### Tested R-value vs. Thermal Performance

Not getting hung up on R-value and understanding thermal or insula-

#### Effective R-Value

Depth	Foam	Fiberglass
3.5"	R=26	R=13
5.5"	R=41	R=19 to 21
6.0"	R=45	R=23

To achieve R=45 performance with fiberglass, over 17" of blow-in insulation is required.

Source: Michael R. Busby, PhD, PE  
Energy Wise Structures of North America, Inc.

tion performance will help you select the best products for your application. For example, if you are shopping for windows, using R-value as a measure of performance is almost non-applicable. Low-E windows have a coating that blocks a significant amount of radiant heat flow. Purchase a window based solely upon its R-value and you will most likely buy the wrong window - assuming you goal is to save energy.

Understanding thermal performance will also help you make the best insulation decision. Spray foam insulation has roughly the same tested R-value as fiberglass or cellulose. However, because it forms an air barrier, it has greater thermal inertia and does a better job of retarding thermal heat loss. In addition, foam's air sealing properties create a tighter structure.

The end result is that the same

thickness of open-cell spray foam insulation will have greater thermal conservation performance than fiberglass, cellulose, or other fibrous insulations.

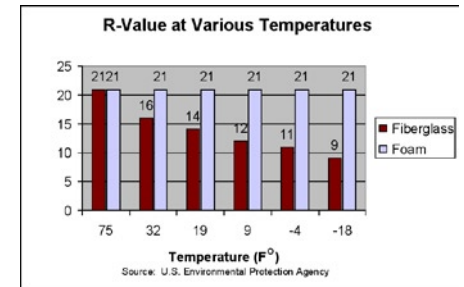
### Green

Reducing energy consumption and related carbon emissions is the most important criteria within the USGBC LEED rating systems. Basically, energy reduction earns the most points. When purchasing insulation, the author believes reducing energy consumption is greener than purchasing insulation made from recycled or rapid renewable fibers. Unfortunately, mixing energy reduction and recycling confuses the issue and introduces misleading information or green-washing.

Spray foam is available with soy-based components. However, the soy oil content is only in the 6% to 9% range, and foam yield or output is usually lower. In fact, a foam contractor can use soy-based components. But due to the lower yield, he will actually consume more petroleum components than if he were to use petroleum based products.

### Decision time

So how do you make the correct insulation decision? The answer is



you make the decision for insulation just like you do for any other product: You do your homework, you ask for references, you select a contractor who is knowledgeable, trustworthy, and priced fairly. Remember to ask about job performance and customer service. Your contractor does not make the insulation or the components; he is just the guy who makes it happen at the job site. Doing it right makes the difference between saving energy or not.

Unfortunately, there is no ASTM test or product label for Effective R-Value, Total Energy Saving Performance, or any other term that describes the energy saving performance of a building envelope, window, door, and insulation system. Use your head and don't forget to use your common sense.

*Rick Gulick owns Rocky Mountain Foam. If you have thoughts on this article or need further information, send an email to Rick@RockyMountainFoam.com*

## ‘Walking the Talk’ on Environmental and Energy Challenges

Congressman Perlmutter Sets the Example for Carbon Neutral Congressional Offices



by Daniele Loffreda,  
LEED AP, Plateau Enviro  
Associates

These days it’s common to hear elected officials of many stripes wax on about global warming, climate change, renewable energy, and the need to reduce green house gas emissions. There aren’t many open seats left on the bandwagon.

It’s quite different to find politicians who ‘walk the talk’ – especially when it comes out their own pocket.

Last week Congressman Perlmutter made Congressional District 7 and all of Colorado proud with the unveiling of his Green Office Initiative, announcement that the building housing his Lakewood District Congressional Office is seeking LEED – EB Silver certification, and declaration that his Office had become carbon neutral.

As one of the first members of Congress located in a LEED building, and one of only two members



Congressman Perlmutter.

of Congress running carbon neutral offices Representative Perlmutter is setting the example for his colleagues in Washington D.C. “My Green Office Initiative is a step in the right direction and proves that all members of Congress, along with the research community and local business can all combine to promote renewable energy and energy efficiency”, stated Perlmutter.

Although current legislation precludes legislative offices from purchasing renewable energy credits or greenhouse gas offsets from their congressional budgets, the Congressman was determined to set the example: He personally footed the bill to purchase Colorado wind renewable credits to offset any unavoidable carbon produced by his office.

“As a member of Congress we

must lead by example and not just talk about renewable energy. Every year we will calculate our carbon footprint and try to reduce it. I call on other members of Congress to make their office carbon neutral, and my staff and I will assist them in that process. To fully wean ourselves from foreign oil and combat climate change we must take action”

“Quite simply, this initiative is



## 'Walking the Talk' on Environmental and Energy Challenges *continued*

good for national security, good for jobs and good for the climate”

As an ongoing collaboration between public policy, research institutions and the business community, Congressman Perlmutter’s Green Office Initiative has three parts:

### I. Becoming Green

The Congressional Office began collaborated with nearby NREL to calculate the entire amount of CO2 produced in running day-to-day activities: air travel, daily commuting, driving to district events and the heating, cooling and electricity used in his Lakewood and Washington D.C. offices. The National Renewable Energy Laboratory (NREL) estimated the total annual carbon production at 93 tons of CO2. After implementing as many efficiency measures as possible Representative Perlmutter wrote a personal check to purchase renewable energy credits to offset the remaining carbon footprint.

### II. Working Green

It helps that the 7th Congressional District Office is located in Propp Realty’s Golden Hill Office Building, a model of energy efficiency. It also helps to have RMH Group – the original designers – as neighbors.

“The Golden Hill Office Centre on West Colfax was constructed over 20 years ago for the same cost as comparable buildings. It uses 34% less energy than a conventional office building and, in the process, has avoided 48 million pounds of carbon dioxide emissions over the last 24 years of operation” said Bill Green, President of The RMH Group.

Propp Realty and RMH are working to place photovoltaic panels on the rooftop to provide a percentage of the building’s energy needs. RMH also convinced the building owners to pursue LEED EB

certification, - although it wasn’t a very hard sell. “It is great to have Rep. Perlmutter’s District Office in one of our properties” stated head partner Daryll Propp, “By pursuing LEED-EB Silver status and placing the PV panels on the roof it definitely makes the Golden Hill office building an attractive building for present and future tenants. If I can help the environment and make a good long term investment I will do so”

### III. Promoting Green

• As chair of the Energy Efficiency

Task Force in the House Financial Services Committee, the Congressman is sponsoring legislation and supporting ideas in Congress to promote energy efficiency standards. The Task Force is currently meeting with groups and individuals to formulate ways to promote energy efficiency and renewable energy in the financial services

community. Congressman Perlmutter submitted an amendment to the Federal Housing Finance Reform Act of 2007 allowing institutions such as Fannie Mae and Freddie Mac to make loans more available to energy efficient housing. This bill passed the House this month.

- Along with members of the Colorado Congressional Delegation and House leadership, Rep. Perlmutter helped secure an increase in funds to the Department of Energy for programs that fund NREL, which is located in the 7th Congressional District.
- Furthermore, Rep. Perlmutter is a proud co-sponsor of legislation introduced by Rep. Peter Welch (D-VT) entitled the Carbon Neutrality

Act of 2007, which allows legislative offices and executive agencies to use their budget to purchase greenhouse gas offsets or renewable energy credits to offset their carbon output.

*“Ed Perlmutter is walking the walk in addressing the environmental and energy challenges we face. As we work together in Congress to aggressively address global warming, we can and we must take immediate steps now to tackle this challenge. Mr. Perlmutter has shown tremendous leadership with his Green Office Initiative, demonstrating that through strong local partnerships we can make meaningful progress,”*

- Representative Peter Welch (D-VT)

*Updates to Congressman Perlmutter’s Green Office Initiative will be available soon on the Congressman’s website, [www.Perlmuter.house.gov](http://www.Perlmuter.house.gov).*



# Greening Our Schools

Providing Every Child the Opportunity to Succeed



by Amy Jiron,  
USGBC, Colorado

My daughter's name is Kenedy. Although just over nine months old and two feet tall, I foresee in her a demanding, willful and boisterous future adult. She has already begun making her mark on the world: announcing herself as loud as she can in every quiet restaurant, waving 'hello' to all suspicious strangers and dialing any number of random people using her favorite toy - my cell phone. As a parent my challenge is to arm her with the knowledge and guidance that will give her the best possible foundation to enter our world. Optimistically (unfortunately optimism is the operative word for now), I believe that every child deserves what I want for Kenedy: equal footing as they go out into the world; at least the opportunity to succeed.

Thanks to Diane Odbert, a 4th grade teacher at Bacon Elementary School in the Poudre School District,



Fossil Ridge High School.

I have every reason to believe that my optimism will become a reality. Diane's willingness to 'go the extra mile' has prepared 4th and 5th grade students to participate on the Bacon Energy Savings Team (BEST) as tour guides of their 'green' school. They lead visitors past quiet, orderly lines of three-foot tall kindergarten students, into the main lobby where they show recycled fiber insulation. They continue towards the cafeteria,

passing long lines of recycling bins. They then head outside to explain how the air handling units utilize water chilled from ice - made during the night - to cool their classrooms during the day. Inside the classrooms they demonstrate how the lights turn off when sunlight hits the daylight sensor and the fan turns off when they open the windows. As part of their school day they track energy savings and carbon reduction and

learn what they can do to contribute to making their school and Earth a better place.

As members of the Green Building Community, we all know the basic facts about green schools:

- They save on average \$100,000 per year in utility costs
- Teachers teach longer in green schools and students miss fewer school days per year (14 million/year nationally)



## Executive Director Corner

### Greening Our Schools *continued*

- Students learn faster and perform better on tests (20% on average better than students in traditionally built schools)

I came away from my tour of Bacon Elementary impressed, inspired...and ready to pack up and move to Fort Collins! Fortunately a few rational thoughts later I remembered: every child deserves equal footing. Providing Kenedy and her Denver classmates with equal footing to students at Bacon in their amazing school will be a considerable challenge. And clearly, it takes more than high performing green schools to conquer the problems of our educational systems. But we can do our part by focusing first on what we know as green building experts.

It takes a community to grow greener schools—the Green Building Community! As part of the Growing Greener Schools program, we are reaching out to teachers across the state. We will bring them to the Sustainable Schools Summit (SSS) at Fossil Ridge High School where they will hear and see:

- How and why Diane Odbert does it: the Bacon BEST program
- The Fossil Ridge Design Team lead a tour and discuss their green strategies
- Brian Dunbar present 147 Practical Tips for Teaching Sustainability



*High-performance shading and ventilation.*

- The “what it means to be green” student essay contest winner present what it means to him/her to be green. Fellow community members, this is my call to you: reach out to the teachers in your life. Invite them to incorporate sustainability into their classroom and teaching. Tell them there are resources, information and

inspiration available at the Sustainable Schools Summit on October 19th at Fossil Ridge High School. It’s free! Visit our schools webpage, [www.usgbccolorado.org](http://www.usgbccolorado.org) under “Resources,” for developing information on the Sustainable Schools Summit.

*Kenedy and I will see you there!*

## Membership Update

### Welcome New USGBC Colorado Chapter Members!

#### April-May

Scott Anderson	Carrie Kronberg
Ian Anderson	Erik Larson
Jeremy Babilonia	Cliff Lind
Roy Blythe	Anna Litvinova
Kevin Brandon	Nancy Marple
Patrick Braun	Lorrie McAllister
Blaine Buck	Kathryn McNally
Allyson Buck	Jeremy Musson
Weston Burrer	Lynn Myers
Scot Chadwick	Aleka Pappas
David Chasnow	Dane Patunoff
Jason Coker	Michael Pisano
Douglas Dahlstrom	Joshua Pollock
Gregory Damian	Scott Rendfrey
Mike Diess	Mark Rogers
Wendy DuBord	Brennan Schumacher
Jennifer Eden	Gabriel Selko
Pete Evangelista	Alyson Sothoron
Larry Gilland	Nathan Starck
Lisa Goldberg	Joe Steffens
Kathrine Graham	Tom Stern
Chris Grund	Ashley Strachan
Mark Harrington	Jeff Szmyd
James Heath	Deborah Tate
Kyle Heckman	Christopher Viets
Denise Jacoby	Steve Williamson
William Sandy Jenkins	Robin Woelfel
Penny Johnson	Jeffrey Wong
Meghan Kolund	

# Colorado LEED Projects

## Certified Projects

BUILDING	CITY
Sundeck Restaurant (NC 1.0 Bronze)	Aspen
CH2M Hill South Building (NC Certified)	Englewood
CH2M Hill West Building (NC Certified)	Englewood
CH2M Hill North Building (NC Certified)	Englewood
North Boulder Recreation Center (NC Silver)	Boulder
Boulder Community Hospital (NC Silver)	Boulder
U.S. Department of Transportation (NC Silver)	Lakewood
Denver Place (EB 1.0 Gold)	Denver
Russell T. Tutt Science Center (NC Certified)	Colorado Springs
Snowmass Golf Clubhouse (NC Silver)	Aspen
Colorado Springs Utilities Laboratory (NC Silver)	Colorado Springs
Fossil Ridge High School (NC Silver)	Fort Collins
University of Denver, College of Law (NC Gold)	Denver
Belmar 2M3 (NC Silver)	Lakewood
State of CO Dept. of Labor and Empl. (NC Cert)	Denver
Boulder Associates, Inc. (CI Gold)	Boulder
Pikes Peak Regional Development Center (NC Silver)	Colorado Springs
ProLogis (NC Cert)	Denver
Univ. of Colorado Memorial Center (EB Silver)	Boulder
Classrooms of Guggenheim Hall (CI 1.0 Silver)	Fort Collins
Alliance Center (EB Gold)	Denver
Porter Industries Building (EB Gold)	Loveland
City of Fort Collins Vehicle Storage Building (NC Silver)	Fort Collins
DTJ Design Office Expansion (CI Gold)	Boulder
RMI Offices (CI Platinum)	Boulder
Byron G. Rogers U.S. Courthouse (EB 1.0 Gold)	Denver
Main Street @ NorthField Stapleton (CS 1.0 Silver)	Denver
Alliance for Sustainable Colorado (CI 2.0 Silver)	Denver
Alliance for Tech, Learning and Society (ATLAS) (NC 2.0 Gold)	Boulder
NREL Science & Technology Facility (NC 2.0 Platinum)	Golden
Wolf Law Building, University of Colorado (NC 2.0 Gold)	Boulder
M-E Engineers Office Building (EB)	Wheatridge
State of CO State Services Building	Denver
State of CO Human Services Building	Denver
Judicial Building/CO History Building	Denver
Vail Resorts	Broomfield

## Certified LEED H Projects

BUILDING	CITY
Harvard Communities	Denver
McStain Neighborhoods	Denver
New Town Builders	Denver



*Harvard Communities, Denver*



*McStain Neighborhoods, Denver*



## VISION

Promote responsibility for Colorado's environmental legacy.

## MISSION

Advance and promote sustainable planning, design, construction and operation of the built environment through education, improving industry guidelines, policy advocacy, and information and resource sharing.

## BOARD OF DIRECTORS

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RNL Design

**Tim Carey**

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**Dana Kose**

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