

2014 SMS REPORT

August 2015

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EXPLORE

NORTHGLENN HIGH SCHOOL STEM CONVERSION
*Awarded CEFPI Rocky Mountain Chapter
Summit Design Award*

01. Foreword

We are happy to publish the fourth annual report of RB+B's Sustainability Management System. The SMS document was produced in April of 2011 by RB+B's G:REEN Team with input from the entire office. In our fourth year of implementation, it has been a valuable tool in guiding our office processes as well as the design of our buildings and their environments.

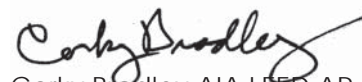
We understand that as humans we affect the quality of all life on our planet. We believe we must think globally and act where we can have the most impact. It is a natural extension of our beliefs and practice to implement the RB+B SMS and participate in the AIA 2030 Commitment.

Our SMS annual report has helped us to document our vision and chart a course for action around each of the three areas of our business: Internal Operations, Internal Process + Technology, and External Product Offerings. We have identified things we are already doing well, as well as areas we will target for growth. With this report, we have provided a benchmark both for ourselves and for our industry to measure growth against. As we move forward, the SMS annual report will help us to tell our story, hold ourselves accountable, and celebrate our positive impact on the world around us. We firmly believe that sustainable design, as we practice it, will positively affect ourselves and the lives of the people who use our buildings.

There is a lot of work to be done and we have set some challenging targets. The SMS and this report are important guides to keep us on track to reach them. However, achieving these targets is not the end of the process. It is only a step as we seek to further understand and broaden our role in the world of education and sustainability.


Ken Field AIA LEED AP


David Kress AIA LEED AP


Corky Bradley AIA LEED AP


Rebecca Spears AIA LEED AP

ARMY NATIONAL GUARD WINDSOR READINESS CENTER
Awarded AIA Colorado North Merit Award in 2014



02. Introduction

About RB+B Architects

Over the course of our 61 year history, RB+B has designed many public buildings and award winning schools. With a focus on the integrated design process, we strive for sustainability in every building project. RB+B works closely with clients to implement sustainable building practices. We are involved with several LEED projects in Colorado and are committed to the future of sustainable building as a registered member of The AIA 2030 Commitment.

In addition to sustainability in our design products, RB+B is committed to long-term change throughout our business organization. As a member of the City of Fort Collins Climate Wise Program since 2007 our goal is to not only reduce our carbon footprint through energy, transportation, and waste initiatives, but also to educate and challenge our staff to live and work in a sustainable way. The development of the Sustainability Management System (SMS) has helped to move us toward these goals as well as track our progress.

Within the SMS, RB+B has adopted the One Planet Living Framework. This framework is a global initiative developed by BioRegional® which outlines a vision of a sustainable world. As a commitment to this vision we have implemented their One Planet Action Plan. This plan helps us to embed sustainability in our organization's culture and mission.

One Planet Living Framework

One Planet Living is a vision of a sustainable world where people lead healthy, happy lives within their fair share of the Earth's resources. We are demonstrating our commitment to this vision by implementing this One Planet Action Plan.

Mission Statement

"RB+B incorporates sustainable design practices in every project no matter what size or budget, designing buildings that are responsive to the natural environment while meeting the user's needs. As we believe in being responsible environmental stewards, we are also committed to incorporating sustainable practices into our daily operations."



ONE PLANET ACTION PLAN

We're using a One Planet Action Plan to help us live within a fair share of the earth's resources

Zero carbon	making buildings more energy efficient and delivering all energy with renewable technologies
Zero waste	reducing waste, reusing where possible, and ultimately sending zero waste to landfill
Sustainable transport	encouraging low carbon modes of transport to reduce emissions, reducing the need to travel
Sustainable materials	using sustainable and healthy products, such as those with low embodied energy, sourced locally, made from renewable or waste resources
Local and sustainable food	choosing low impact, local, seasonal and organic diets and reducing food waste
Sustainable water	using water more efficiently in buildings and in the products we buy; tackling local flooding and water course pollution
Land use and wildlife	protecting and restoring existing biodiversity and natural habitats through appropriate land use and integration into the built environment
Culture and heritage	reviving local identity and wisdom; supporting and participating in the arts
Equity and local economy	creating bioregional economies that support fair employment, inclusive communities and international fair trade
Health and happiness	encouraging active, sociable, meaningful lives to promote good health and well being

03. Our Top Priorities

After a firm wide workshop and development of our SMS in 2011, we identified five principles we believed would have the greatest impact. In order of priority, those Principles were:

1. Zero Carbon
2. Health and Happiness
3. Zero Waste
4. Sustainable Materials
5. Culture and Heritage

In organizing our thoughts into the One Planet Living Framework, several cross-cutting intentions emerged that we desired to incorporate into our sustainability initiatives:

1. Communication.
2. Education.
3. Building Instruction Manual.
4. Consultant Contracts.

These priority principles and cross-cutting intentions were a great starting point for implementing our SMS. The G:REEN|team created a database with each item we hoped to accomplish in 2011. We soon realized that this itemization and tracking system was cumbersome. In 2012 we revised our thought process and developed Concentration Areas. Each year the concentration areas are updated to reflect previous years' accomplishments and goals moving forward.

2014 CONCENTRATION AREAS

Concentration Area #1: Develop firm-wide sustainable design goals and metrics for projects.

Objective: Establish baseline level of sustainability for projects.

Approach: Develop "RB+B Design Opportunities Checklist" to capture design goals and metrics.

Principles: All, with an emphasis on Zero Carbon.

Concentration Area #2: Implement sustainable design goals and track/report project data.

Objective: Improve office-wide documentation of sustainable design features and outcomes for reference in future designs, marketing, and AIA 2030 Commitment reporting.

Approach: Utilize "RB+B Design Opportunities Checklist" to set quantifiable goals and then capture outcomes in the RB+B Project Database.

Principles: All, with an emphasis on Zero Carbon.

Concentration Area #3: Broadly engage staff in sustainability efforts.

Objective: Maximize staff participation in sustainability efforts.

Approach: The collective staff will brainstorm initiatives through periodic workshops, the G:REEN team will organize, manage, and champion them, and individual staff members will implement them, according to their individual expertise and passion.

Principles: All, with an emphasis on Health and Happiness.



EQUINOX BREWING EXPANSION
Completed in the Summer of 2014





04. Ongoing Initiatives



2014 was a great year for continuing to implement our SMS. We were able to accomplish many projects related to our Concentration Areas and some additional projects.



The following pages provide a detailed look into the ongoing projects in 2014 along with detailed cost and savings information for each project. We begin with a highlight of accomplishments that correspond to our cross-cutting intentions and move into projects that encompassed every petal of the One Planet Living Framework. We then turn our focus to our AIA 2030 Commitment and City of Fort Collins Climate Wise information.



Communication

Green Schools Summit | Brianne, along with Ann LaPlante (former principal of Summit Elementary), presented The Summit Elementary Success Story: Examining an Open Plan School for 21st Century Learning. The presentation focused on Summit as a fascinating example of how school design and curriculum development, in conjunction with a high level of community involvement, can transform the way students learn and interact.



UNC Sustainability Presentation | Jayne and Brianne presented to a UNC class, Business & the Environment, about how our business approaches sustainability when it comes to people, planet, and profits. They communicated to the students that it is not only cost effective, but



feels good to implement sustainability initiatives within the office and in our designs.

Help Stop the 2030 Repeal | Ken signed a letter drafted by the AIA to help let the U.S. Senate know that we support continuing to make federal buildings more sustainable and back policies that help save energy.

Ethics of LEED Panel Speaker | "Ethics of LEED" Discussion: The panel discussion will focus on the challenges and benefits of using rating systems, such as LEED, to guide the decision making process. Specifically it will address the trade-offs between spending resources using a formal rating system versus investing the resources directly into the building, and which types of projects are better suited for each choice. The panel includes representatives from all life cycle phases of a building: design, construction, & operation.

Upward Bound Student Job Shadow | The Upward Bound program is designed to support low-income, first generation college students by providing them guidance while still in high school. Jasmine joined Brianne for an OAC meeting and site tour, receiving hands on exposure to the design and construction profession. After, Brianne answered questions and gave her guidance on the report she would have to complete for the UP program.

Kate EP Groups

Education

Business Innovation Fair | Jayne attended the Climate Change Effects on Energy Use in the Built Environment, Dynamic Team Infrastructure: The Science & the Practice, and Watershed seminars at this fair hosted by ClimateWise.

AIA National Convention | David and Rebecca attended the convention



held in Chicago.

Building Envelope Conference | Brianne attended this seminar put on by the AIA Building Envelope Council. The seminar focused on the means and goals of energy engineering with respect to the building envelope.

Early Childhood Education Design Conference | Derek attended the ECE conference in Denver. The conference brought together "nationally recognized experts and thought leaders to highlight best practices and cutting edge research in designing, developing and managing high performance learning environments for early childhood education."

Denise conference
CEFPI



Image courtesy City of Fort Collins ClimateWise

2014 SUSTAINABILITY REPORT



Zero Carbon

Lights Out Lunch (2011-Present)

In 2014, we continued the Lights Out Lunch initiative when possible. Project deadlines and lack of task lighting interrupted monthly implementation.

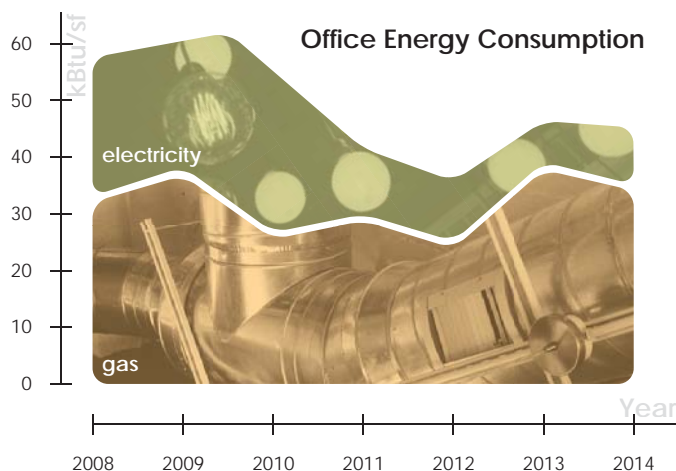
Project Savings: Possible 85 kWh/mo = \$93 in 2014

Energy Consumption

In 2014 we used a total of 23,017 kWh compared to only 15,203 kWh in 2013. Electricity consumption in 2014 may be attributed to lower winter temperatures and the need for electric space heaters. We also added another server system at the end of 2013. Our natural gas consumption went down from 2,214 therms in 2013 to 2,154 therms in 2014. We continued our practice of purchasing "Green Energy" through the City of Fort Collins to offset our electrical usage. In 2014 we also purchased a new ENERGYSTAR dishwasher.

Project Cost: \$1376

Project Savings: \$0



Zero Waste

Divert to Dirt (2008-Present)

In 2014, we continued divert to dirt program with great success.

Project Cost: \$1,080

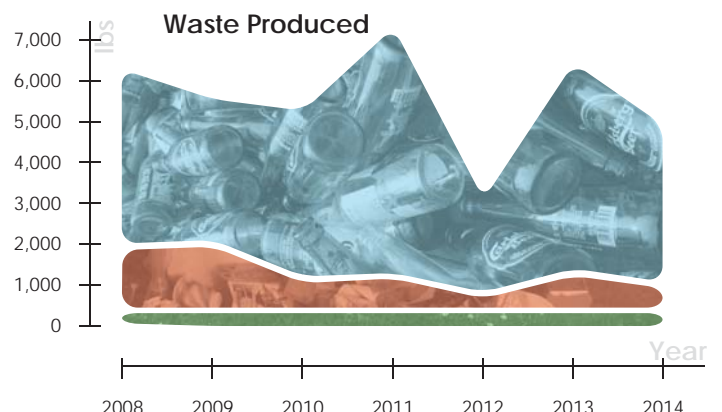
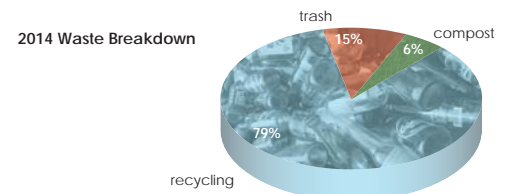
Recycling Teams (2010-Present)

In 2014 recycling teams changed as project teams moved desks around and two new hires were added to the office. This created the perfect opportunity to remind staff to participate.

Project Cost: 1 hour/week

Landfilled Waste

In 2014, we reduced our landfill waste to only 421.5 pounds even though we cleaned out the storage room in January of 2014!





Sustainable Transportation

In 2014, we saved 745 gallons of gasoline by using alternative transportation for business.

Project Cost: 3 hours tracking

Project Savings Potential: \$1,860

ROAD Challenge (2010-present)

In 2014 we had 100% participation, with all 20 employees using alternative transportation at least once during the year. We saved over 263 gallons of gasoline by using alternative transportation methods.

Project Cost: 3 hours tracking

Project Savings: \$658 to employees

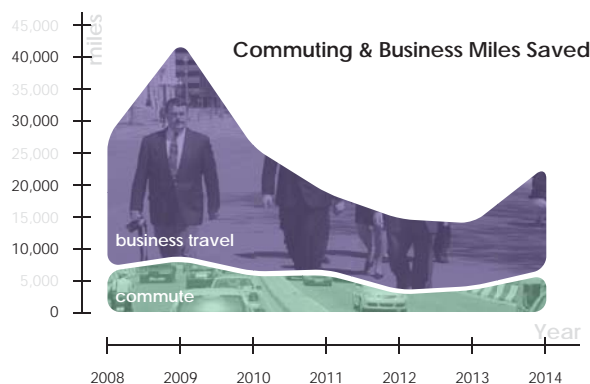
ATmo (2011-present)

In 2014, we aimed to have 100% Alternative Transportation month (ATmo) participation and to reduce our carbon emissions by 1 ton. Although we had 100% participation, we only made it to about 60% of our reduction goal.

Project Cost: 2 hours, \$50 gift certificate to winner

GoTo Meetings

We continue to use GoTo as the standard when scheduling meetings. Miles saved by using GoTo Meetings are not accounted for in the chart below.



Sustainable Materials

Green Cleaning (2008-present)

We continue our green cleaning products purchasing policy to improve indoor air quality in the office.

Project Cost: \$100/year

Project Material Re-use

We make every effort to have the work that comes out of our office reflect our commitment to sustainable materials. Often, we include sustainable, upcycled, or repurposed materials in our designs. A few examples from 2013 are:

Hanna Elementary School | We used wood that was naturally weathered from it's first life as snow fences to highlight the main entrance and classroom entrances. The detail added to our 'coal mine' design, which told the story of Hanna's mining history.

Prairie Heights Middle School | We were charged with creating a replacement school for the aging John Evans Middle School, and were able to salvage chunks of the existing wood gym floor during demolition for re-use. These were turned into decorative wall panels, located around display cases in the new building.



Local/Sustainable Food

Community Supported Agriculture

In 2014 RB+B was host to CSA shares through Spring Kite Farm in Fort Collins. We offered employees the option to buy their own shares, split shares with others, and have the shares delivered directly to the office with an additional delivery fee. It was exciting to see what the shares contained each week and to have the fresh produce delivered directly!

Lunch Presentations & Break

Whenever possible, we purchase food from locally owned businesses for lunch presentations and office meetings. Some of our favorites include the Food Co-op, Backcountry Provisions, and Silver Grill.



Healthy Foods Potluck

For Earth Day the wellness committee hosted a healthy foods potluck.

"With so many different diets, eating plans, and government guidelines to follow, it's hard to find consensus on what you should and should not eat. The simplest way to find the healthiest nutritional equation for you is to eat real, unprocessed foods and cook your meals at home. That way you know exactly what is going into

the food you put into your body. And remember, everyone is different and has different needs for their health, so find what works for you!"



Culture & Heritage

Culture Elements

Conservatory Green | The building incorporated details such as laser images of the solar system, Platt River Watershed, and tree rings. They also had railing panels with fractions, equilateral triangles, right triangles, the Fibonacci sequence, and the golden mean. A large mosaic of the former airport aerial map of, located on the school site, was a primary exterior feature of the project.

Hanna Elementary School | Students at Hanna Elementary school had a local history research assignment to help find items for a set of shadow boxes at the main entry of the new school. They partnered with the Hanna History Museum, and filled the boxes with local artifacts, history, and photos to teach the community about their historic site.





Health and Happiness

NEW! RB+B Living by Design Wellness Committee

G:REEN | team

Personal Volunteering (2012-present)

We wish to encourage active participation in volunteer activities directly related to enriching the quality of life and opportunities for the communities in which we live and work. In 2014, employees reported 461 hours of volunteering for their favorite organizations:

- Ben Basalay - Larimer County Emergency Services; Poudre School District
- Brianne Smith - RB+B G:REEN | team
- David Kress - AIA, Mountain View High School
- Denise Pozvek - Hope Lives, Figure Skating Club, CSU Interiors Department, Front Range Community College, MOCA Masks
- Derek Young - Poudre School District
- Jayne Kafka - FoCo Derby Girls, RB+B G:REEN | team, RB+B Living by Design
- Josh - The Crossing Church
- Kate Penning - USGBC
- Ken - Engineering Ministries International, CEFPI, AIA
- Matt Arabasz - Poudre School District, RB+B G:REEN | team
- Rebecca Spears - RB+B G:REEN | team, City of Fort Collins Bike to Work Day, Open Streets, Trail Crew
- Tiffany Carlson - RB+B

Office-Wide Volunteering Efforts

- Participated in Partners Mentoring Youth's annual SuperStars Sports Challenge to raise money for their organization - The office matched the total raised by employees for a lump sum donation of \$1,660.
- Adopted a family through Poudre School District for Christmas
- RB+B donates and sponsors many local events and non-profit organizations.

RB+B H²O (Happy Hour Outing)

A monthly happy hour to enjoy a brew (or two) with coworkers.

Project Share (2012-present)

Project share helps generate a more inclusive and informed environment in our office culture and allows for creative input from staff on current projects. Project shares are each month during break.

Rockies Game

This year the office took a bus down to Denver to catch a Rockies game - fireworks included!

Pro-bono University Shalom



City of Fort Collins Climate Wise Program

RB+B joined Climate Wise in 2007 and worked our way up the ranks to be recognized as a Platinum Partner in 2011 at the annual EnvirOvation event.

One of the benefits of becoming a Platinum partner is that we get to be featured in advertorial campaigns such as the banner to the right. We were also featured in Northern Colorado Business Magazine as a Platinum partner.

Some of the requirements for maintaining platinum partner status

are submitting a greenhouse gas baseline (60 tons) and hosting two challenges each year. Our 2014 challenges included ATmo and September Active Days Challenge.



Photo of platinum partners being honored for 2014 at EnvirOvation courtesy City of Fort Collins ClimateWise



AIA 2030 Commitment

"In December of 2005, the AIA adopted a Sustainable Architectural Practice Position Statement that set the profession on a trajectory toward carbon neutrality. It calls for a 70 percent reduction from the current level of fossil fuel consumption used to construct and operate new and renovated buildings by the year 2015 and further reductions of remaining fossil fuel consumption by 10 percent or more in each year with the ultimate goal of zero fossil fuel consumption by the year 2030.

The AIA 2030 Commitment program is the AIA's cornerstone effort to demonstrate the progress AIA members are making toward reducing the operational energy use of their designs, while encouraging other architects to do the same. The program is a voluntary call for action for member firms to join and demonstrate progress toward the industry's widely adopted 2030 targets in both how the firms operate and how they design. To date, more than 270 firms have made the commitment, ranging in size from the sole practitioner to the multi-national practice." *AIA 2030 Commitment*

RB+B signed on to the AIA 2030 Commitment program in January of 2010 and submitted our first report in March of 2012.

For projects in design in 2014, RB+B reported 18 projects and 1,105,552 gross square feet of whole building/addition projects, compared to 8 projects and 688,802, 12 projects and 944,139 in 2012 and 15 project and 550,021 GSF in 2011.

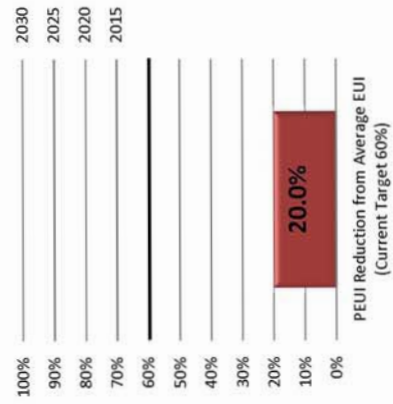
Our Predicted Energy Use Intensity (PEUI) Reduction from the National and Regional Site Energy Use Intensity (EUI) was 20% in 2014 compared to 9.3% in 2013, 33.3% in 2012, and 36.8% in 2011. The project with the highest PEUI percent reduction from average in 2014 was, for the second year in a row, Prairie Heights Middle School with a predicted 66.7% reduction. In 2012, the PSD elementary renovations had the highest predicted reduction at 40%. In 2011, the project with the highest PEUI percent reduction was the Windsor Readiness Center at 75.9%.

In 2014 and 2013, RB+B reported 4,200 gross square feet of interior only projects compared to 111,065 GSF in 2012 and 127,749 gross square feet in 2011.

Our Lighting Power Density (LPD) Reduction from ASHRAE was again 13.3% in 2014 and 2013 compared to 25.6% in 2012 and 20.7% in 2011. The only reported interior only project, the Equinox Brewing Remodel, had a reduction of 13.3% compared to Burlington Elementary's 30.8% in 2012. In 2011 it was the Fairmont School in Denver with a 27.2% reduction.

Whole Building/Additions Projects

18 projects and 1,105,552 GSF included in analysis.



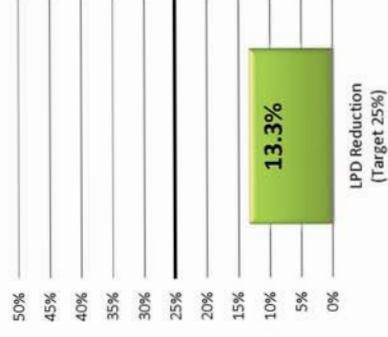
GSF Meeting Target
166,958 = 15.1%



GSF for which Data will be Collected
367,582

Interior-Only Projects

1 project and 4,200 GSF included in analysis.



GSF Meeting Target
0,000 = 0.0%

05. Concentration Areas

To be revised/developed after 2015
SMS Retreat.

2014 SUSTAINABILITY REPORT

