Building from the Best of the Northern Rockies




SONORAN INSTITUTE

The Sonoran Institute promotes community decisions that respect the land and people of western North America. Facing rapid change, Western communities recognize and value the importance of protecting their natural and cultural assets. The Sonoran Institute offers tools, training and sound information for managing growth and change and encourages collaboration, civil dialogue and big-picture thinking to create practical solutions. The Institute promotes healthy lands, sound economies, and vibrant communities that embrace conservation as an integral part of their prosperity and quality of life. Founded in 1990, the Sonoran Institute is a nonprofit organization with offices in Tucson and Phoenix, Arizona; Bozeman and Helena, Montana; Grand Junction, Colorado; and Mexicali, Baja California, Mexico.

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Building from the Best of the Northern Rockies

Produced by the Northern Rockies office of the Sonoran Institute in Bozeman, Montana, Building from the Best of the Northern Rockies is intended to recognize the successes that have been achieved by communities throughout the region and offer other communities precedent on which they can build.




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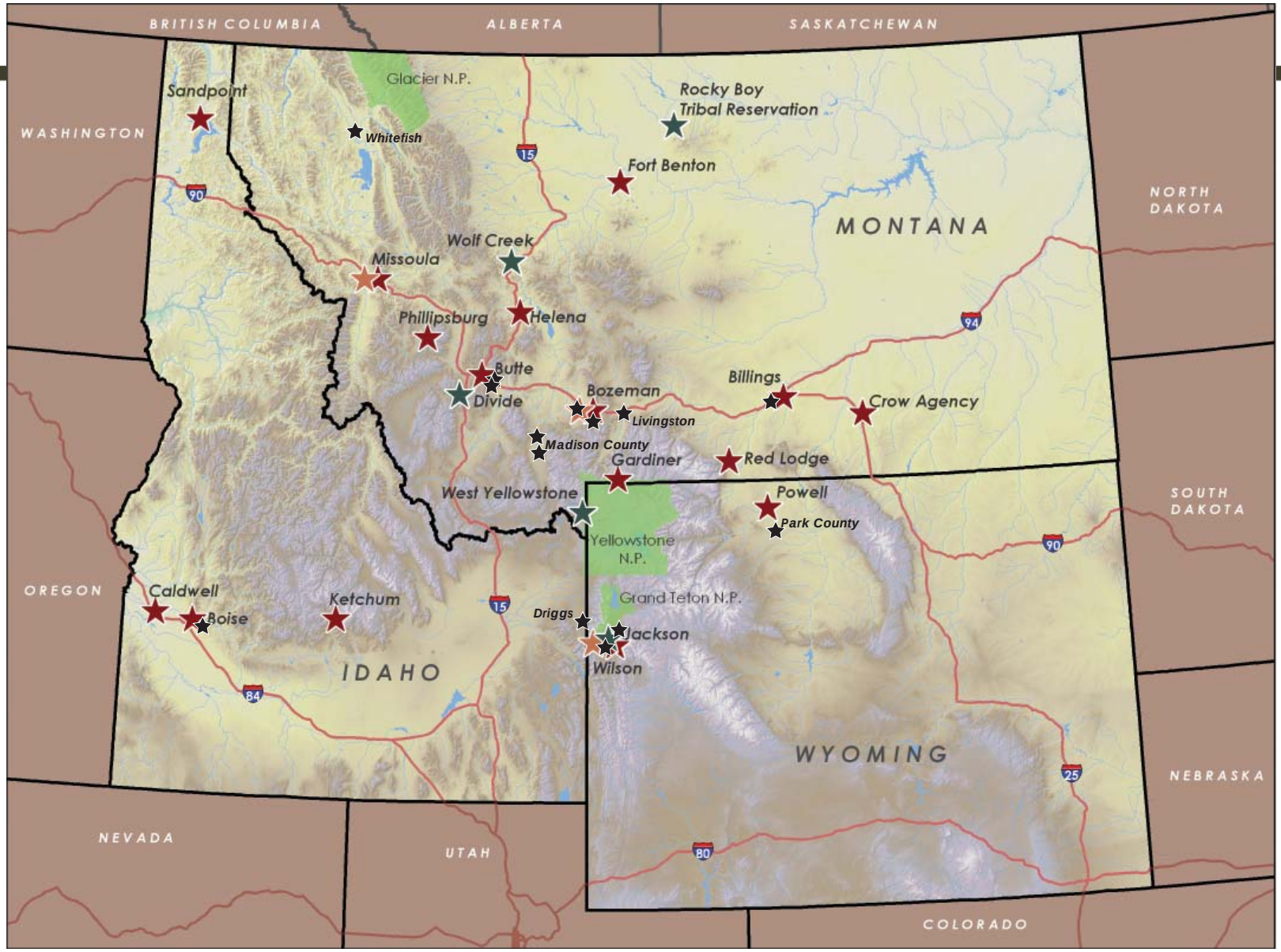

In-Town Case Study Edge Case Study Rural Case Study Noteworthy Project

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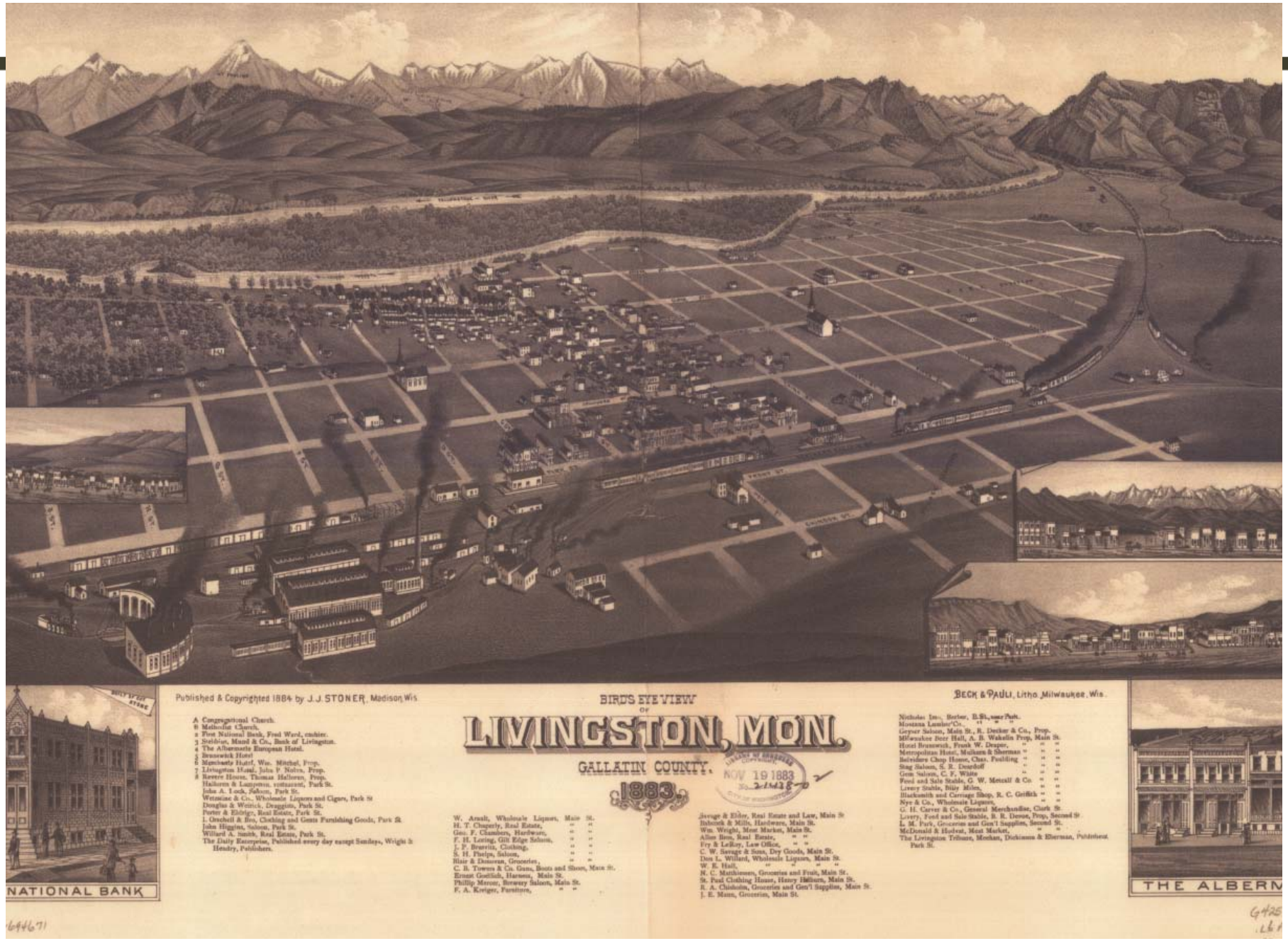

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A Congregational Church.
B Methodist Church.
1 First National Bank, Fred Ward, cashier.
2 Stebbins, Mund & Co., Bank of Livingston.
3 The Albemarle European Hotel.
4 Brunswick Hotel
5 Merchants Hotel, Wm. Mitchel, Prop.
6 Livingston Hotel, John P. Nolen, Prop.
7 Revere House, Thomas Halloren, Prop.
8 Halloren & Lampman, restaurant, Park St.
John A. Lock, Saloon, Park St.
Weinsine & Co., Wholesale Liquors and Cigars, Park St
Douglas & Weirick, Druggists, Park St.
Porter & Eldrige, Real Estate, Park St.
I. Orschell & Bro, Clothing and Gents Furnishing Goods, Park St.
John Higgins, Saloon, Park St.
Willard A. Smith, Real Estate, Park St.
The Daily Enterprise, Published every day except Sundays, Wright & Hendry, Publishers.

W. Arndt, Wholesale Liquors, Main St.
H. T. Chaperly, Real Estate, " "
Geo. F. Chambers, Hardware, " "
F. H. Loring, Gilt Edge Saloon, " "
J. P. Brevetz, Clothing, " "
S. H. Phelps, Saloon, " "
Blair & Donovan, Groceries, " "
C. B. Towers & Co. Guns, Boots and Shoes, Main St.
Ernest Gottlieb, Harness, Main St.
Phillip Mercer, Brewery Saloon, Main St.
F. A. Kreiger, Furniture, " "

Savage & Elder, Real Estate and Law, Main St
Babcock & Mills, Hardware, Main St.
Wm. Wright, Meat Market, Main St.
Allen Bros, Real Estate, " "
Fry & LeRoy, Law Office, " "
C. W. Savage & Sons, Dry Goods, Main St.
Don L. Willard, Wholesale Liquors, Main St.
W. E. Hall, " " "
N. C. Mathiesen, Groceries and Fruit, Main St.
St. Paul Clothing House, Henry Hellburn, Main St.
R. A. Chisholm, Groceries and Gen'l Supplies, Main St.
J. E. Mann, Groceries, Main St.

Nicholas Inn., Barber, B.St., near Park.
Montana Lumber Co. " " "
Geyser Saloon, Main St., R. Decker & Co., Prop.
Milwaukee Beer Hall, A. B. Wakelin Prop, Main St.
Hotel Brunswick, Frank W. Draper, " " "
Metropolitan Hotel, Mulkern & Sherman " " "
Belvidere Chop House, Chas. Paulding " " "
Stag Saloon, S. E. Deardoff " " "
Gem Saloon, C. F. White " " "
Feed and Sale Stable, G. W. Metcalf & Co. " " "
Livery Stable, Billy Miles, " " "
Blacksmith and Carriage Shop, R. C. Griffith " " "
Nye & Co., Wholesale Liquors, " " "
G. H. Carver & Co., General Merchandise, Clark St.
Livery, Feed and Sale Stable, R. R. Devoe, Prop, Second St
L. M. Park, Groceries and Gen'l Supplies, Second St.
McDonald & Hodvat, Meat Market, " "
The Livingston Tribune, Meehan, Dickinson & Sherman, Publishers. Park St.

Preface

A Short History of Development in the Northern Rockies

By Dennis Glick, Director
Northern Rockies Office, Sonoran Institute

Many a Rocky Mountain courthouse is adorned with an historic "bird's-eye-view" lithograph of the surrounding community in the late 1800s. These often reveal a striking degree of optimism that founders had about the future of their community. While only a few dozen houses may have actually existed, the yellowed drawings document the ambitious street network, parks, railroad lines, industrial sites and other developments they envisioned. In many cases, the towns that eventually materialized did indeed closely follow these plats. Homes and businesses were often mixed. A diversity of housing could be found on the same street. Neighborhood parks were within walking distance of nearly everyone. Public transportation lines were easily accessible.

In the Northern Rockies, towns like Coeur D'Alene, Idaho, and Dillon, Montana, were platted with wide streets, and the fronts of buildings were constructed at the edge of the street right of way. Along rail lines, the railroaders themselves planned many communities. In towns like Livingston, Pocatello and Cheyenne, depots and commercial developments were sited near the tracks. Railroad executives realized that development of these towns would add to their profits. The Church of Latter Day Saints also played a significant role in the early planning of communities in the Northern Rockies. Mormon settlements like Idaho Falls featured compact communities with hard edges that provided services to farmers and protected prime farmland from development.

While most new settlers moved to existing communities, the Homestead Act of 1862 spurred Western migration by bringing waves

of white settlers to the prairies and mountain valleys where they built rural homes and ranch buildings. These were seldom perched on ridgelines or on the edge of rivers, but, instead, they were often tucked into sheltered sites out of the wind. While often near water, these structures were not so near that they would be threatened by floods.

There are many examples of boom towns – often related to the mining industry – that were built overnight and disappeared almost as suddenly. The decline in resource-extractive industries such as logging and mining had a significant, though sometimes short-lived, impact on many towns. In the late twentieth century, places like Dubois, Wyoming, Salmon, Idaho, and Livingston, Montana, suffered when local industries, including the railroad, downsized or disappeared. But as the economies of the "Old West" continue to evolve and diversify, many towns once associated with resource extraction are becoming havens for those seeking outdoor recreation, small-town living and beautiful scenery.

In the New West, the Internet and other technology have freed many businesses from having to be located in large urban areas. These "footloose entrepreneurs" are seeking a high quality of life, beautiful scenery and vibrant communities. Baby boomers reaching the age of retirement are adding to the wave of new residents that is washing over the region. The combined population of Montana, Idaho and Wyoming grew 27 percent from 1991 to 2006. Counties boasting scenic public lands, abundant outdoor recreation, and sound infrastructure, including airports, are seeing some of the highest rates of growth in the country. In the past two decades, the counties surrounding Yellowstone National Park grew nearly twice the rate of the nation as a whole.

In the past two decades, the counties surrounding Yellowstone National Park grew at a rate nearly twice as fast as the nation as a whole.

The pattern and character of this growth impacts the land and communities more than the rate of growth itself. Most of the growth that has occurred in recent years in Wyoming, Idaho and Montana has been exurban – that is, growth out in the countryside, not in the cities or towns. And much of this growth can be characterized as large-lot subdivisions. In the Yellowstone Park region from 1970 to 2000, population grew by 62 percent while the amount of land developed in rural areas increased by 350 percent. Sophisticated models of projected future growth show a continuation and perhaps even acceleration of these trends if we continue to manage growth as we have in the past.

It is not difficult to imagine the dramatic impacts of this pattern and rate of growth. Ecologically important natural features such as river corridors and the edge of national forests are coveted for home sites, which can degrade habitat and water quality and lead to increased confrontations between humans and wildlife. According to a recent study by the American Farmland Trust, some of the most threatened ranchlands in the country are located in places like Teton Valley, Idaho, Gallatin Valley, Montana, and Sheridan County, Wyoming. Leapfrog subdivisions are fragmenting farmlands and having serious impacts on the long-term viability of agricultural operations. And, the provision of services like fire, police and schools to this dispersed pattern of development is expensive and challenging. In many counties, taxes have skyrocketed to meet the fiscal demands of this growth. Though residential development generates considerable tax revenue, providing services to residential sprawl almost always requires more money than it generates.

In towns and cities, much of the new residential and commercial development has not been well integrated into the existing character and design of the communities. The rise of the automobile and other factors have led to the segregation of residential and commercial development. Purchasing a loaf of bread or a quart of milk can require a frustrating car trip in heavy traffic. Not surprisingly, more and wider roads have diminished the walkability of many towns while public transportation systems have languished or been abandoned.

© Tim Crawford

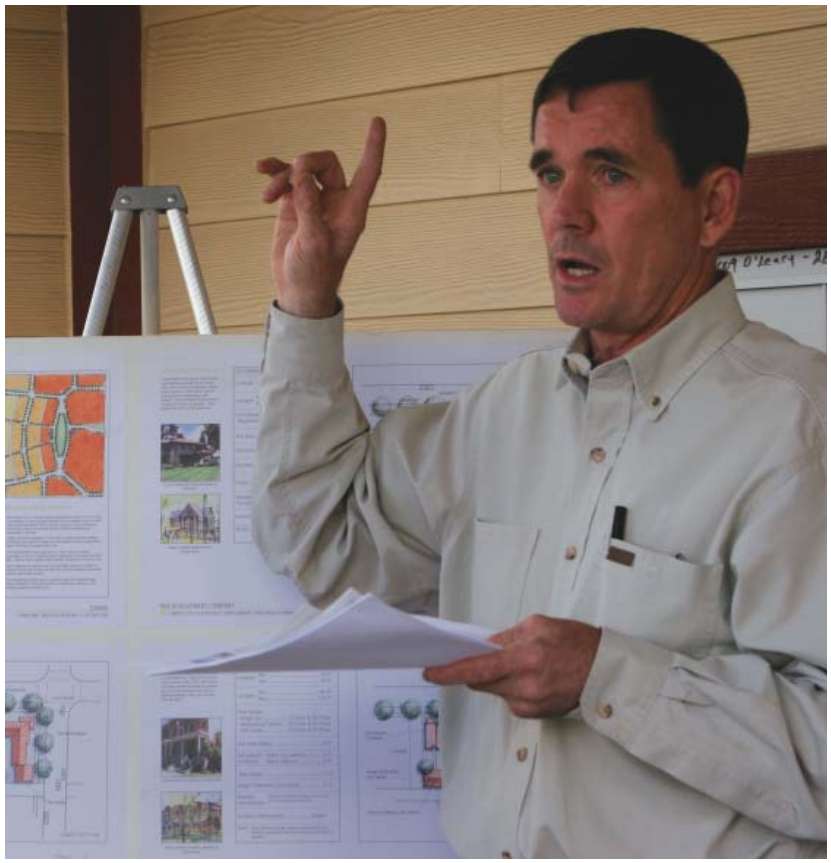
Until recently, the design of many new residential and commercial buildings in the Northern Rockies has been indistinguishable from what one might encounter in California, New Jersey or Ohio. Towns that were once distinctive and photogenic are in danger of becoming homogenous and bland, which can have both economic and social impacts. As writer Wallace Stegner observed, "If you don't know where you are, you don't know who you are."

"If you don't know where you are, you don't know who you are."
Wallace Stegner

Housing affordability has also become a front-burner issue. In communities that boast a high quality of life like Missoula, Montana, providing affordable housing is a serious challenge. In resort communities, like Jackson Hole or Big Sky, the problem is acute. In Jackson Hole, where the median listing price of a home in 2006 was $1.2 million, fewer than 3.4 percent of the homes are affordable to families earning less than 120 percent of the median income. In Montana, nearly 5,000 people commute daily to Big Sky because of the dearth of worker housing.

Community efforts to meet the challenges of rapid growth have had mixed results. While most communities and counties in the region have drafted land-use plans that set goals to protect cultural and natural assets, examples of successful implementation are few and far between. Growth issues are often contentious, and there is generally a lack of political will to put into place the mechanisms needed to affect the pattern and character of new growth. In addition, these issues are complex and require a combination of regulatory, voluntary and incentive-based tools that are often unfamiliar to decision makers, citizens and developers. In some places, existing regulations have actually been the cause of some of the problems related to the design and location of new development. Some developers have noted that they would like to be more creative and sensitive in their designs, but compliance to local codes and ordinances stymies this creativity.

As issues related to growth and change dominate the headlines and affect more and more communities, there are a number of positive indicators for how communities plan for and manage development. Citizens are becoming more actively involved in the development process. Community leaders and decision makers are becoming better educated on the tools available for managing growth. They are also becoming more dedicated to growing in a manner that protects important natural and cultural values. Landowners are realizing that there are alternatives to the status quo rural and urban developments of the past.



Within the development community, a growing number of visionary individuals, through their own initiative and passion, are demonstrating that there is a strong and growing market for new development that breaks the mold of the past. They are building new neighborhoods that reflect the region's heritage of mixed use and affordability. They are restoring Main Streets and revitalizing town and city centers. They are making historic buildings safer, more usable and energy efficient. They are open to public involvement in the planning process and making sure that their projects are welcomed by the community. And they are aware of the precious natural values of the region and are seeking to protect them in the design of their projects.

A new vision for development in the Northern Rockies is beginning to take shape. It is happening in small and large towns, at the edge of communities and out on the rural landscapes. In many cases it is being spearheaded by individual entrepreneurs, but communities are also demanding something different from developers and crafting plans and ordinances that support these new ventures. Past trends were cause for concern. A new ethic of what development could and should be in this region is cause for hope.

ADVISORY BOARD

This project would not have been possible without the thoughtful guidance of a dedicated team of professionals. Visionary developers, affordable housing advocates, innovative architects, elected officials, regional wildlife biologists, creative land use planners and others identified the best attributes and examples of new development in the region.

Thor Arnold, Thor Design Architects
Paul Bertelli, Jonathan L. Foote and Associates
Tracy Blain, Human Resources Development Council
Dorothy Bradley, District Court
John Carney, Carney Architects
Lynn Chan, Yellowstone National Park
Richard Charlesworth, Architect
Jacquelyn Corday, Missoula Planning Department
Dab Dabney, Dabney Company
Tim Davis, Montana Smart Growth Coalition
Doris Fischer, Madison County Planner
Stuart Goldberg, Northern Lights Development LLC
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Judy Smith, homeWORD
Dick Storbo, Jonathan Foote and Associates
Derek Strahn, Bozeman Historical Society
Ed Tinsley, Lewis and Clark County Commission
Mike Vogel, Montana State University
KC Walsh, Simms Fishing Products

* Building From the Best of the Northern Rockies Project Facilitator

Acknowledgments

Building from the Best of the Northern Rockies is a response to a growing demand for examples of developments that fit into their natural environment and embrace and maintain community character. The project is inspired by the Sonoran Institute's successful Building from the Best of Tucson project.

Building from the Best of the Northern Rockies is designed to:

- Identify best-development practices through the collaborative effort of a diverse and talented advisory team.
- Seek out completed projects that reflect best-development principles in community and rural settings.
- Celebrate good development through publications, awards, media and trainings.
- Provide policy recommendations that encourage high-quality community and rural development.

We wish to extend our gratitude to Professor Ralph Johnson, former director of the Community Design Center at Montana State University's School of Architecture, for his leadership in this project. Research fellow Brian Brush from Montana State University's School of Architecture traveled thousands of miles to photograph development projects and interview project partners, then gathered their stories in a tasteful, contemporary layout.

Finally, we are deeply grateful to the Kendeda Sustainability Fund of the Tides Foundation, New York Community Trust, Bullitt Foundation, Brainerd Foundation, Jonathan L. Foote and Associates and Art Thompson. Their confidence in our work and generous support made this project possible.

Dennis Glick, Director
Northern Rockies Office
Sonoran Institute

We welcome your suggestions and comments, as well as any ideas on how we can promote higher quality development throughout the Northern Rockies.

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Introduction

"The Last Best Place"

The Northern Rockies region – Wyoming, Idaho and Montana – holds a special place in the hearts of Americans. With wide-open spaces, frontier towns, and working farms and ranches, it is often described as "the last best place." Few other places in the lower forty-eight states offer such striking examples of the best of small-town living juxtaposed against a magnificent backdrop of forests, prairies and snowcapped peaks.

Not surprisingly, this combination of livable communities, diverse economies and stunning landscapes has become a magnet for new residents. In fact, the Northern Rockies is one of the fastest-growing regions in the country.

While change is inevitable and can bring a multitude of benefits, it can also diminish the very qualities that attract new residents. Strip development, rural sprawl, a dearth of affordable housing, and traffic congestion are just some of the manifestations of the current rates and patterns of growth. Development issues dominate the headlines and, in some cases, tear at the social fabric of fast-growing communities. What are we building today that will be cherished tomorrow?

The good news is that, while change seems ubiquitous, much of the region still boasts the landscapes and historic small towns most often associated with the Rocky Mountain West. Compared with much of the country, residents of the Northern Rockies are blessed with a unique opportunity to learn from the mistakes of others. We can still create a built environment that enhances rather than degrades our communities and countryside.

This process is already underway. Visionary architects and developers are designing and building a new West that honors the region's traditional designs and patterns of growth. They are enhancing these structures with energy efficiency and environmentally friendly materials. They are creating communities that are walkable and affordable, where stores and homes are in proximity to one another. They are involving the community itself in the planning of these projects.

Building from the Best of the Northern Rockies is helping to craft this alternative vision for growth. It is documenting and celebrating new developments in Montana, Wyoming and Idaho that embody this vision. And it is disseminating

Visonary architects and developers are designing and building a new West that honors the region's traditional designs and patterns of growth.

this information to key decision makers.

This publication is a vehicle for communicating these ideas. It is divided into three primary sections. One is the identification of "Best Practices" for new developments in towns, at the edge of communities, and in rural landscapes. Best Practices address a variety of issues ranging from project planning, design and location to energy efficiency, affordability and environmental sensitivity. The second section highlights case studies that demonstrate the application of Best Practices in small and large towns, community edges and rural neighborhoods. Lastly, recommendations are offered for policy reforms that will remove barriers to applying these practices and provide incentives for their application.

The Sonoran Institute is incorporating information generated by this project into its training and outreach activities to county officials, community leaders and people involved in the building industry. Through a partnership with the National Association of Counties, the Institute convenes workshops and trainings for key decision makers on land-use issues. Building from the Best of the Northern Rockies will become part of that curriculum. The Institute is also pursuing opportunities for conservation partnerships with developers.

Growth in the Northern Rockies will continue, perhaps even accelerate. Change will occur by default or by design. Building from the Best of the Northern Rockies aims to lead by example – to shift the debate away from what is wrong with new development to what is right.

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The Northern Rockies

Character and Circumstance

The population of the Northern Rockies region of Idaho, Montana and Wyoming has grown at an extraordinary rate in the previous decade. According to U.S. Census data, Canyon County, Idaho (population 158,000), grew 45.9 percent from 1990 to 2000 and 20.2 percent from 2000 to 2004. Although not as dramatic, Gallatin County, Montana (population 75,600), experienced 34.4 percent growth from 1990 to 2000 and 11.5 percent from 2000 to 2004, while Sublette County, Wyoming (population 6,700), grew 22.2 percent from 1990 to 2000 and 12.4 percent from 2000 to 2004. Numerous areas throughout the region, from relatively large urban communities to rural farm and ranch lands, have had growth rates exceed 18 percent in a single year; others have sustained growth rates exceeding 6 percent per year.

As a consequence of this growth, historic town centers are being radically altered, the edges of existing communities have become suburbanized, and rural development is replacing natural habitats and agricultural production. People are drawn to the Northern Rockies for the quality of life in its towns and rural landscapes, yet the consequences of that migration jeopardize those qualities that make the region unique.

Growth and Stewardship

Growth appears to be inevitable in the Northern Rockies. The quality of life, the natural landscape, and the recreational opportunities in the region attract those who can choose where they wish to live without reliance on traditional industrial and commercial employment, among them retirees, second-home owners and wireless professionals. Their presence creates a need for service-related jobs spanning the spectrum from designers to day laborers, prompting more growth.

Although growth may be inevitable, the impact it has on both the urban and rural landscape is not. Communities, large or small, can choose to guide change or choose, most often by inaction, to let change simply happen. In other words, communities can be stewards of their future or let others create a future based on private aspirations. Stewardship, by definition, requires an understanding of what exists and what is needed to ensure a desired future. This requires communities to take stock of their existing social, cultural, economic and natural resources and, through compromise and consensus, reach a strategy for achieving

their desired future. Stewardship is a difficult, creative activity. It is much easier to criticize failures than identify creative solutions that meet the needs of the entire community.

Shifting the Debate

The despoiling of the Northern Rockies has become a common critique from old-timers and new arrivals, from those seeking to preserve social, cultural, economic and natural resources and those seeking to exploit the region's social, cultural, economic and natural wealth.

While participating in community meetings throughout the region, the staff of the Sonoran Institute came to realize that the public critique focuses primarily on identifying what is wrong with development. The projects, policies and prototypes that demonstrate successful strategies for accommodating growth while preserving and enhancing quality of life and character of place rarely enter the debate.

In an effort to shift public discussion from simply identifying what is wrong with development to identifying strategies that generate appropriate growth patterns, the Sonoran Institute conceived the Building from the Best of the Northern Rockies project. It aims to identify, document, celebrate and disseminate examples of appropriate development practices that have proven successful in the region.

Identifying Best Practices

Best Practices and Building from the Best of the Northern Rockies

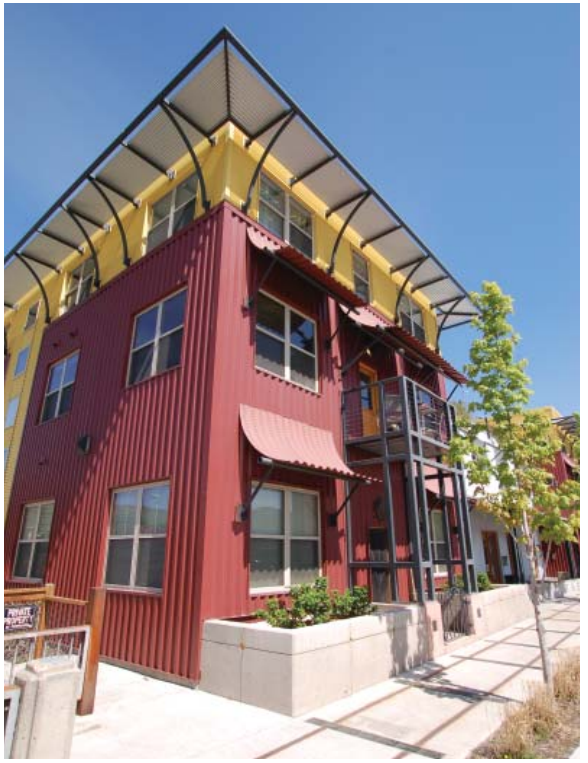
During the summer of 2005, the Sonoran Institute organized an advisory group to identify best development practices and specific projects that demonstrate successful implementation of these practices in the Northern Rockies. The advisory group consisted of ten developers, six architects, four local government planners, three elected officials from local, county and state government, two nonprofit affordable-housing advocates, and two realtors, as well as individuals representing farming, wildlife conservation, hydrology, engineering, historic preservation, smart growth and green building. The advisory group met seven times, each work session averaged 20 participants, and more than 40 individuals ultimately participated in an advisory capacity.

Together with Sonoran Institute staff, the advisory group reviewed existing publications and papers related to best development practices appropriate for the natural and cultural character and urban and rural settings in the Northern Rockies. A list was created of development practices that address local issues of land use and site design, transportation planning, preservation of environmental amenities, energy efficiency, architectural scale and design, and housing affordability and diversity. It became clear that three distinct areas of focus should be considered — town centers, community edges and rural landscapes.

After much debate and discussion regarding each of these areas of focus, common critical issues were identified that could be used to help select appropriate case studies exemplifying best development practices that implemented:

- Innovative design strategies
- Community revitalization that conserves community character
- Preservation of open space and cultural features
- Protection of surface and groundwater resources
- Sustainable energy strategies and passive energy design
- Multi-modal transportation systems
- Equitable distribution of the costs for community services
- Community engagement and participation of diverse disciplines in the planning process
- Economically successful projects

The best development practices found in many exemplary projects completed by private, public, and nonprofit organizations throughout the Northern Rockies illustrate tangible goals that can be achieved in the region's communities. These goals will not apply in every situation, but their use by residents, architects, planners, builders, developers, local officials and financing institutions would improve the quality of projects. Ultimately these goals form a set of criteria by which to evaluate whether a proposed development enhances the unique natural environment and character of towns and rural landscapes.



Best Practices for Town Centers

Best Practices for Town Centers

- **Promote a Pedestrian Environment**

A pedestrian environment is one in which walking is a pleasure and is the primary means of experiencing the district. Automobiles are not excluded, but pedestrians are buffered from them by well-defined cross walks that minimize the distance across streets and by wide sidewalks with landscape elements and street furniture.

The sidewalk experience should be vibrant with a variety of window displays, small-scale signage perpendicular to the sidewalk, frequent entrances into businesses, and retail and food services on the sidewalk.

- **Promote Historic Preservation**

The uniqueness of a community is found in its history. Often buildings and landmarks are visual testaments to that history. Preserving, restoring or creatively reusing historic buildings or landmarks is critical if the community is to preserve its unique historic and cultural heritage.

- **Create a Mix of Uses**

Human activity is the principal element in creating a vibrant town center. That is best achieved when people of various ages and socio-cultural backgrounds are in the town center to shop, work, live, eat and take advantage of cultural and entertainment opportunities. This broad mix of uses promotes the diversity of people and activities needed in the town center to ensure vibrancy, day and night, seven days a week.

- **Achieve Relatively High Density**

The town centers of the Northern Rockies have historically been relatively dense. This has been achieved with multi-storied buildings on small lots built shoulder-to-shoulder. Typically these structures have incorporated local retail on the first floor with offices and residences above. Achieving density in this manner assures a street front of continuous and varying activity serving the town-center businesses and residents as well as the broader community.

- **Create Public Amenities**

Town centers must demonstrate the community's commitment to the public good on a variety of scales. Sidewalk benches, drinking fountains, public art, and seasonal flowers or native plantings, benefitting individuals or small groups, can be broadly distributed throughout the town center. At an intermediate scale, street lighting, designed for visual appeal and capable of supporting banners advertising lo-

cal events, can serve as a significant amenity. Larger scale plazas, courtyards and parks serve as focal elements and provide places for community gatherings and events.

- **Foster Community Pride and a Sense of Place**

The town center is the face, heart and soul of the community. Public and private investment must honor qualities that contribute to community pride and ensure that characteristics unique to the community are preserved, enhanced and celebrated. To achieve this, buildings should be in keeping with the character and quality of the historic town center, and both public and private investment must provide the amenities that are unique and appropriate to the community.

"... the downtown historic district and neighborhoods that offer foot and cycling access to downtown areas of shopping and work have been the neighborhoods that have appreciated at a faster rate..."
Jennifer Monroe, Absaroka Realty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Best Practices for Community Edges

Best Practices for Community Edges

- **Provide a Diversity of Housing Types for a Variety of Income Levels**

Housing located in edge developments should serve members of the community in a broad socioeconomic range. Neighborhoods that provide cross-generational housing options, including those for the elderly, small and large families, and the young, as well as live-work opportunities, are traditional in the Northern Rockies. These neighborhoods include single and multi-family housing types, accessory dwelling units or carriage houses above garages, and the opportunity to operate small businesses from home. This variety of residents, schedules and activities creates a culturally rich and safe neighborhood because there are different people and many "eyes" on the street at all times.

- **Preserve Open Space and Important Natural Features**

Parks must be located at the center of neighborhoods with public streets on a minimum of three sides to insure maximum public access, unobstructed visual access, and maximum ease of emergency and police access. In a walkable community, a five-minute walk from any residence in the neighborhood determines the appropriate distance between parks. Trails and open space, incorporating xeriscape landscaping, should be utilized to create upland buffers and transitions between developed lands and natural habitats. Ecosystems that support wildlife and native vegetation are rare; therefore, their preservation contributes significantly to a sense of place. Of equal importance are those landmarks with which the community identifies. The creation of view corridors focusing on these local landmarks can ensure a sense of their presence within the community even as development occurs.

"This is the age of the environment; we need to protect it while living in it. Our lives and those of our children depend on it."
Lynn Chan, Landscape Architect -Yellowstone National Park

- **Protect Surface and Groundwater Resources**

Maintain the integrity of waterways and riparian vegetation by providing adequate setbacks and utilizing natural strategies to cleanse surface water runoff. Plan for recharging aquifers by retaining all water runoff within developments, and employ natural drainage with vegetation systems to clean the runoff.

- **Use Environmentally Appropriate Development and Construction Practices**

Environmentally appropriate development patterns should integrate with the existing topography, avoid steep slopes, maintain streams, wetlands and wildlife corridors, and preserve significant vegetation. Existing structures should be adaptively reused. No development should be named for what it destroyed. During the construction phase, preserve adjacent natural systems and minimize off-site disturbance of the landscape. All construction projects should be required to develop and implement a waste-management program that identifies and distributes recyclable materials and minimizes the necessity for burning or dumping waste. The use of recycled materials should be encouraged.

- **Employ Sustainable Energy Strategies and Passive Energy Design**

Development should include design guidelines to maximize the use of alternative energy systems such as photovoltaic cells, wind generators and fuel cells. Because of the cold winters in the Northern Rockies, streets should be oriented so buildings receive maximum solar gain and natural light. Individual buildings should be designed to maximize insulation and cross ventilation. Public landscaping should be designed to employ sustainable planting and irrigation methods, with deciduous street trees to provide summer shade and improve air quality.

- **Provide Recreational Opportunities**

Recreational opportunities for the entire community include playgrounds, athletic fields and trails linked to parks, schools, wetlands, streams and forests. Porous trail pavement systems in conformance with the American Disabilities Act (ADA) minimize erosion and water pollution.

- **Create Transit-Oriented Communities**

A transit-oriented community is multi-modal in that it is designed to integrate walking, bicycling, automobile and multi-passenger transit systems. This requires a distributed street system with sidewalks and bicycle lanes so that there are many alternative routes and means to reach any destination. Neighborhoods are interconnected in a distributed system as opposed to segregated in a hierarchical street system. Traffic calming devices, such as sidewalk bulbs at intersections, traffic circles and narrow streets, ensure that speeds are minimized and bicyclists and walkers feel safe moving throughout the community.

Trails, segregated from the automobile and located in natural settings, can offer additional routes for bicyclists and walkers and are especially effective in promoting a walkable community when they connect residential areas to

businesses and schools. Higher density nodes of activity incorporating retail, office, multi-family residential and public uses adjacent to less dense residential areas promote walking and bicycling. Appropriate locations and adequate spaces for car-pooling and public transit stops are critical elements if the node is to be successful.

- **Minimize the Cost of Public Infrastructure, Construction and Maintenance**

The most effective means of minimizing the cost of public infrastructure are the adaptive reuse of existing buildings and the development of sites already served by sewer, water, roadways, and police and fire protection. Where greenfield sites are proposed for development, multiple patterns of development, such as traditional neighborhoods, coving and clustering, should be compared to ensure that a minimum of roads, infrastructure and future maintenance is required.


HESSTON

Best Practices for Rural Communities

Best Practices for Rural Communities

- **Engage the Community in Planning**

The northern Rocky Mountain region has always experienced growth related to resource use and, inevitably, a decline in populations when those natural resources were depleted. Communities grew with a common purpose, whether mining, commerce or agriculture. The rural landscape itself is now the natural resource driving the region's growth.

Like mining and agriculture, the rural landscape is finite, and development will inevitably deplete the qualities that attracted settlement and development. Those who first settled and created the rural landscape shared a vision and have been mindful of its stewardship. As change to this vision is proposed by development, the community members must evaluate the consequences and remain stewards of their rural lands.

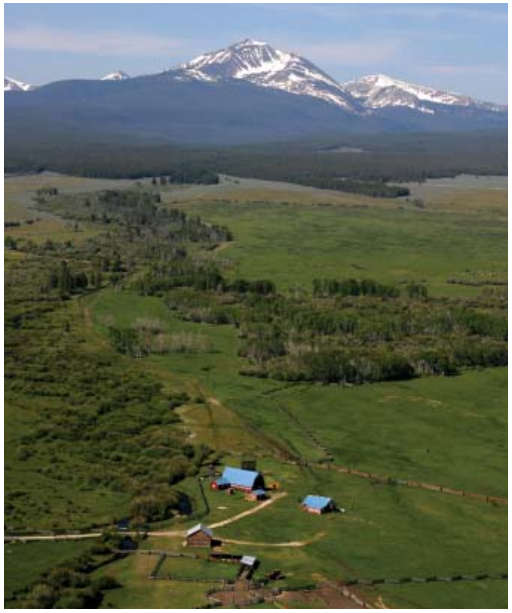
The manner in which that landscape is to change or not change, develop or not develop, must come from the community's involvement in a planning process that occurs prior to and during development. Rural communities must, through a local participatory process that builds consensus, determine their vision of the future landscape and create the legal framework that will guide development to be consistent with that vision.

- **Preserve Natural Resources and Community Access to Those Resources**

Natural resources such as wetlands, streams and rivers, areas of unique topography, and areas of special vegetation should be considered community resources that significantly contribute to the rural landscape and culture. These resources should be preserved and community access should be permitted through public right of ways including trails, parking areas, and, in some cases, road access. Without community access, these natural resources are a walled domain segregated from the local community.

- **Preserve and Promote Agricultural Activity**

Agricultural activity — farming, ranching, forestry — on private or public land forms much of the open space and the social, cultural, and economic characteristics that define the rural landscape of the Northern Rockies. It is the open space that most often draws development to rural landscapes. The often marginal economic return on agriculture results in the conversion of productive agricultural lands into alternative uses. The desire to live in a rural agricultural landscape and the financial reward of land sales will inevitably bring about significant land-use change. That change does not have to lead to the demise of agricultural activity. The agricultural community knows the quantity and quality of land and the infrastructure required to sustain economically viable agricultural production. By identifying these characteristics, a balance may be achieved between agriculture and development that ensures the potential of land sales while preserving and promoting viable agricultural activity.



© Kestrel Aerial Services, Inc.

© Sarah Waring/Sonoran Institute

- **Preserve Surface and Groundwater Resources**

The Northern Rockies is known throughout the world for its water resources. Recreational activities such as fishing, boating, skiing, and agricultural activities rely on water from the headwaters of the Colorado, Columbia and Missouri rivers. Rich in water resources yet subject to prolonged droughts, the rural landscape's cultural and economic sustainability has always been dependent on water management.

Rural water management practices are linked directly to the natural systems of water use and replenishment. In the past, the rural landscape's lack of human development insured that waste water was distributed in such a manner that its impact on surface and groundwater was inconsequential. This ecologically balanced relationship between water resources and use is not inherent in more developed landscapes.

The consequences of development with regard to water consumption, the integrity of aquifers, irrigation systems, waterways, riparian vegetation, surface and groundwater quality, and erosion must be critically evaluated. In no case should development diminish the quality of surface or groundwater resources. In addition, all measures possible should be used to minimize water consumption in an effort to maintain existing quantities.

- **Preserve Wildlife Habitat and Migration Corridors**

The accessibility of wildlife habitats to the residents of the Northern Rockies region is one of its most defining characteristics. Few other places in the United States boast such a variety of species and their habitats in such proximity to development. Yet, as growth in the region occurs, habitats diminish. Migration corridors required to support the continued existence for many species are jeopardized. Development in the rural landscape occurs in an incremental and somewhat random manner, but wildlife habitats and migration corridors are part of ecosystems unrelated to ownership or political boundaries. If wildlife is to be sustained and development to occur, proactive measures must be taken to identify habitats and migration corridors in advance of development. With this information, it may be possible to preserve the habitats that are so critical to the character and quality of life in the Northern Rockies. With careful planning, development can strike a balance between the economics of land use and the habitat needs of wildlife.

- **Preserve the Visual Character of the Rural Landscape**

The visual characteristics of the rural lands of the Northern Rockies include broad vistas, mountain views, clear blue skies, open or forested landscapes, and buildings grouped closely together either as farmsteads or towns. If these qualities are diminished by development, the rural landscape's unique, defining characteristics are reduced. New development must be conceived to preserve the qualities that are unique to each specific rural environment by avoiding the typical and universal blanketing of the landscape. Historic building patterns of the Northern Rockies — where buildings are clustered together, screened from wind and weather by topography and landscaping while maximizing open space — should be employed in lieu of standard suburban patterns or ridgeline development.

© Jennifer Read

- **Absorb the Cost of Government Services**

The cost of services such as local government administration, police and fire protection, road maintenance, and schools within the rural landscape of the Northern Rockies has historically been minimal and adequately funded by the taxes imposed on agriculture and industries. This balance has been achieved because agricultural production and rural industries are very self-reliant and generally do not depend heavily on local government. Subdivision communities, on the other hand, are dependent on

government services to maintain county roads not designed for the traffic loads generated by neighborhoods; to remove snow from roads that would have been considered passable for agricultural and industrial users; to respond to more frequent fires and police calls as a result of greater density and human interaction; and to provide emergency and social services as well as cultural activities not required in a sparsely populated, primarily agricultural landscape. Property taxes on residential uses, however, are inadequate to meet these costs. Urban communities depend on a broad slate of tax revenues not available in the rural landscape to fund the high cost of services necessary to meet the needs of relatively dense development patterns. Because of this, local governments must require those seeking to develop in the rural landscape to identify and implement strategies so the additional services will be paid for by those generating and using the services.

Best of the Northern Rockies Case Studies

Overview

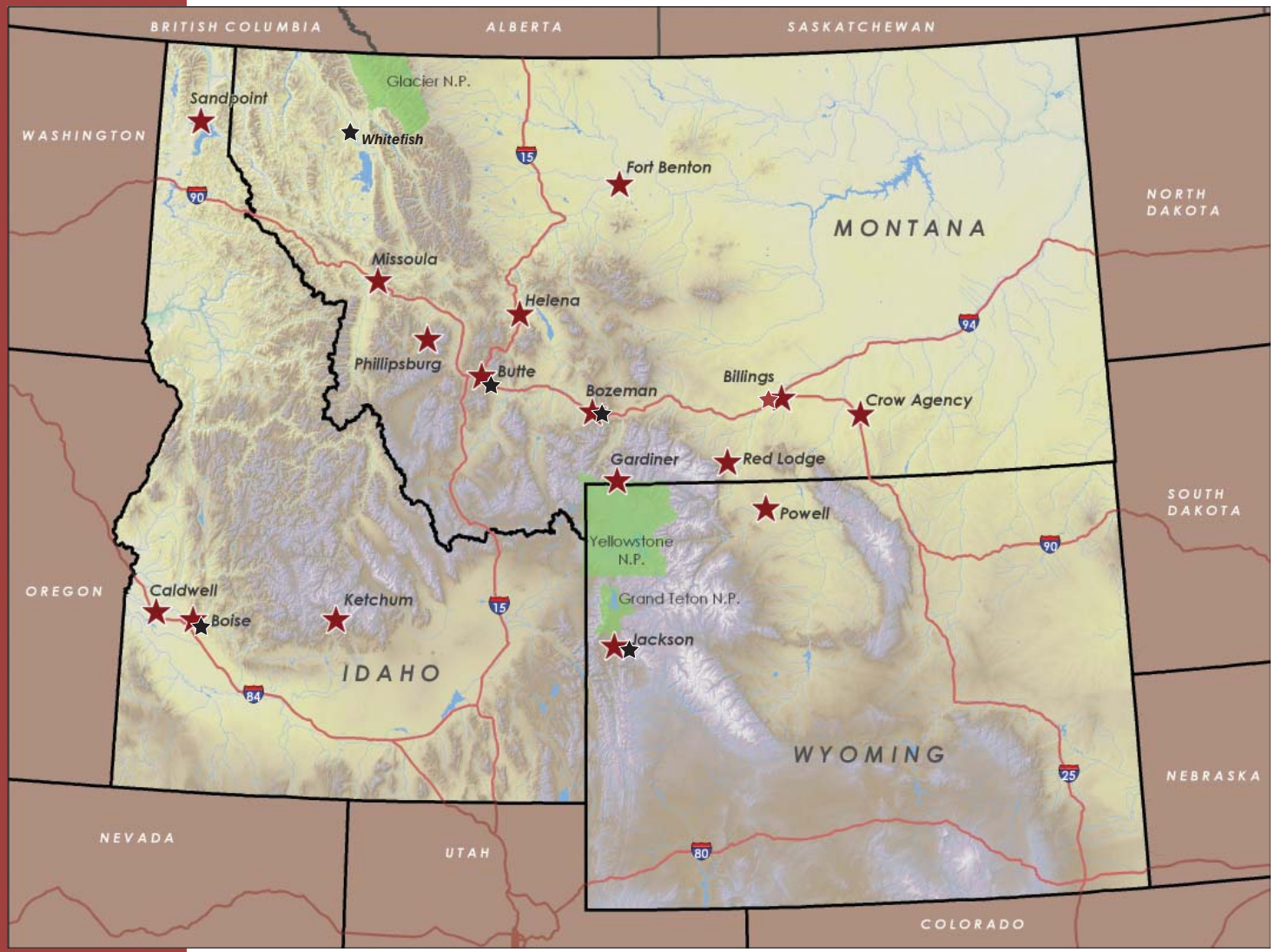
Building from the Best of the Northern Rockies Advisory Board members submitted projects to be considered as case studies for inclusion in this publication. These projects successfully implemented one or more of the best practices identified by the Board, although no single project was expected to demonstrate all of the best practices. To ensure economic viability, only those projects well on their way to completion were considered.

The Board evaluated more than 125 nominated projects from across the region, ultimately recommending 35 of them for inclusion as case studies: 25 are in towns, five at the edge of communities, and five are located in the rural environment. Following each collection of case studies are short descriptions of other noteworthy projects in that category.

As the map on page ii indicates, examples of excellent work are widely distributed throughout the region. Five of the case studies are in Idaho, 22 in Montana, and eight in Wyoming. By Northern Rockies' travel standards, no matter where you live, exemplary projects are not far away.

Although we have presented the case studies in discrete categories, frequently the successes and lessons of a project can be valuable for planning a project in a different category. Innovative strategies for sustainability, preservation and stewardship are found in every category and can be applied to rural, community-edge and in-town settings regardless of where they originated. Taken as a whole, the case studies are intended to offer precedent to those who seek to promote best practices in their communities. Knowing what has been done successfully is the key to knowing what can be expected of development in your community.

In-Town Case Studies



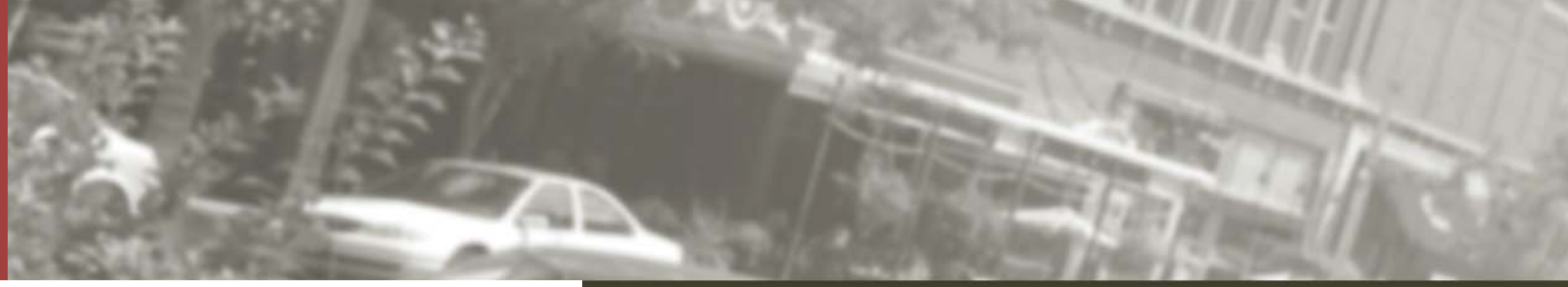
The primary function of in-town development must be to foster human interaction. People live, work and take part in cultural activities primarily in built structures or a highly managed natural environment. Projects selected for these case studies embrace and enhance the life of their towns and contribute to great public spaces. Often incorporating a blend of private and public investment, the selected town-center projects:

- Promote a pedestrian environment
- Promote historic preservation
- Create a mix of uses
- Achieve a relatively high density
- Create public amenities
- Foster community pride and a sense of place

In-Town Case Studies

- Downtown Billings Framework
- BoDo (Boise Downtown)
- Bonner General Hospital Healing Garden
- Bridger Apartments
- Bus Transfer Station
- Butte Community Trail
- Cedar Street Bridge
- Center for the Arts
- Fields Condos
- Flat Iron Townhomes
- Downtown Fort Benton
- Front 5
- Gold Dust
- Great Northern Town Center
- Home on the Range
- Hyde Park Place
- Indian Creek Daylighting Project
- Little Big Horn College
- Mill District
- Mountain Line Transfer Station
- Park Cottages
- Downtown Phillipsburg
- Downtown Powell
- Downtown Red Lodge
- Xanterra Employee Housing
- Other Noteworthy Projects

* Each project's most noteworthy characteristics are called out below the project title for easy reference.



Billings Downtown Framework

Downtown
Billings, Montana

Community Engagement

Urban Revitalization

Planning & Policy

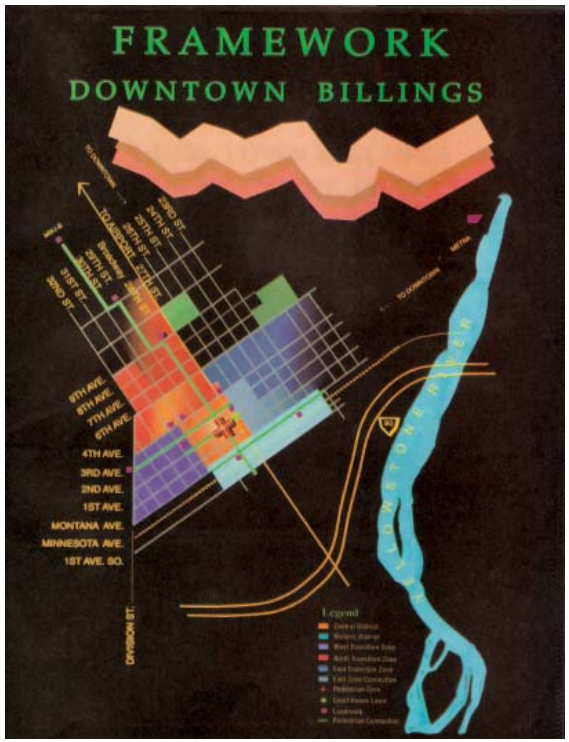
Developer/Owner:
Downtown Billings
Partnership

Project Consultants:
Kimley-Horn and Associates

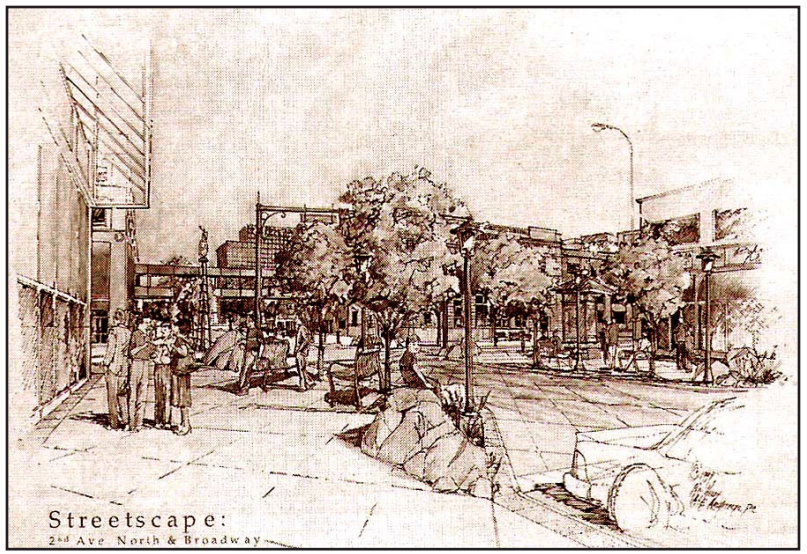
Contact:
Sara Jane Machlennan &
James Cromar
Fischer & Associates
Sandy Fischer
A & E Architects
Jim Bos

Tax assessment records for Billings, Montana, in the early 1990s showed that the underlying economic conditions of downtown were in decline. This simply confirmed what was apparent: activity was disappearing and vacancies increasing at an alarming rate.

In May 1995 a diverse group of 120 interested citizens participated in a two-day workshop to set a course of action. Following the workshop a group of Billings' citizens representing public and private interests met for 18 months to decide what they wanted their downtown to become and how this might be achieved. The Downtown Billings Framework Plan was created to describe the revitalization necessary for the downtown to become, once again, the center of the community. The plan includes: easing access for cars, pedestrians and bicyclists; stabilizing the economic base; establishing active leadership; and enhancing the visual image of Billings.



Approximately 100 downtown blocks are included in the planning district. Projects have included the revitalization of existing commercial and office structures, conversion of vacant space into residential use from low to high income, adaptive re-use of private structures for cultural activities, and new street landscaping.



Conceptual image for pedestrian enhancements from the Framework Downtown Billings publication.

"For the first time, leaders from local government, business, cultural and faith entities, property owners, and concerned citizens, all of whom have their own vested interest in downtown Billings, have put aside individual agendas and come together to produce a vision of what downtown can become." Dan Berry – Downtown Billings Association

The widening of Broadway Avenue sidewalks has promoted retail and restaurant activity within the pedestrian streetscape.

Lessons Learned

- Creating a "framework" that illustrates the goals and objectives of the community rather than specific design requirements for each property has made it possible for individuals to tailor their project's economic, social and design concepts to meet the desires of the community while at the same time meeting their own objectives.

Public amenitites such as lighting, signage, banners, and landscaping enhance the streetscape of Montana Avenue.

Billings Downtown Framework

Above: The Securities Building has been successfully restored and converted into street level dining with second floor offices and upper level loft apartments. **Above Right:** Street trees and unique sidewalk treatments distinguish Broadway from other downtown streets.

Economic Success

Since adoption, the Downtown Billings Framework Plan has served as a roadmap and catalyst for over 200 projects totaling more than $45 million in private investment and doubling the total taxable value of downtown.

Above: The Old Maverick Fire Station, a National Historic Landmark, has been converted into a mixed-use building with offices below and residences above. The red Sonoma Lofts, shown across the street, demonstrates the flexibility built into the Framework Plan to accomodate both contemporary and historic architecture. **Right:** The Montana Power Company building, a National Historic Landmark, has been converted by homeWord Inc. of Missoula into a mixed-use building with restaurant below and affordable housing above.

BoDo

Front Street, Downtown
Boise, Idaho

Community Design

Urban Revitalization

Developer/Owner:
Brix and Company
7920 Norfolk Ave. Suite 940
Bethesda, MD 20814
www.brixandco.com

The four-square-block Bodo district was a brownfield site that included dilapidated buildings and numerous large storage tanks. The developer opened an abandoned public street and enhanced it with street trees, benches, celebratory signage, new lighting and decorative paving to bring a new sense of place to the district. New uses that include a nine-screen movie theater, restaurants, a 186-room hotel, offices and retail stores, as well as a 380-space parking garage, were integrated into existing structures and appropriately scaled additions to insure that the character of the historic buildings was retained.

The design of new construction respects historic building styles and scale.

The BoDo integrates new development and revitalization around a public plaza intended for both small-scale gatherings and large scale public events.

Best Practices In Action

Community: Once a neglected and blighted neighborhood, the BoDo district was transformed with private investment into a regional destination with uses and amenities that bring pride of place to downtown Boise.

"This project represents the transformation of what was a really sore spot for this community into a new neighborhood in the middle of a great downtown that has great appeal. A great public/private partnership in an outstanding city was achieved and everyone is being rewarded for their efforts." Mark Rivers – Developer

Economic Success

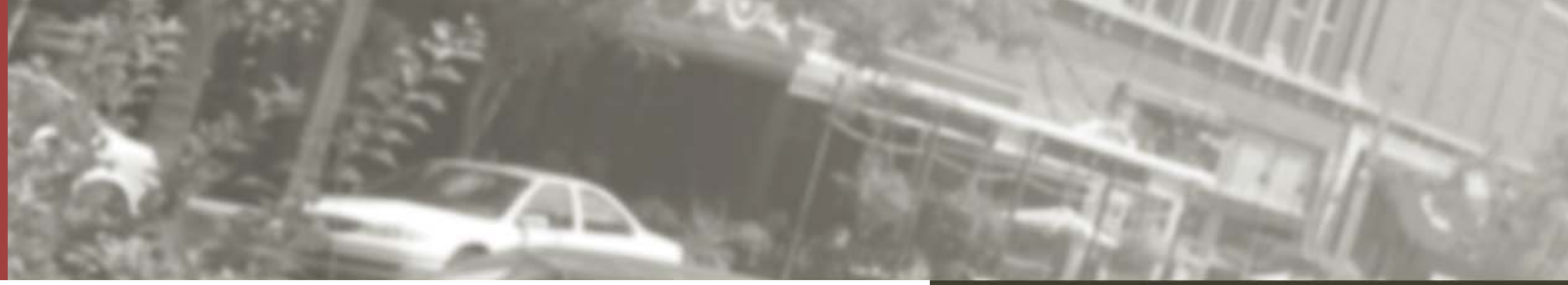
The BoDo successfully attracts and retains high-end retail and commercial tenants in a small to medium-sized market. High quality architectural and urban design has led to profitable co-tenancy between national chains, such as PF Chang's (Chinese restaurant) and Tully's (coffee), and local businesses like Shoez, shown in the photo to the right.

"All the new tenants here are performing well. It's an example of the new making the old better, and the old making the new better," according to developer Mark Rivers. *"This project is all about neighborhood building."*

Above: The interior of Shoez demonstrates a successful strategy of exposing historic structure and materials in combination with contemporary design elements. **Left:** Locating the Edwards Cinema in the BoDo town center brings a significant number of evening users to downtown, expanding the hours of retail and food service activity. Its interior features contemporary materials and colors that complement the adjacent historic interiors.

Lessons Learned

- A pedestrian-friendly streetscape can be created where none existed by narrowing streets, narrowing intersections, increasing sidewalk widths, maximizing window openings, and introducing street furniture such as small-scale street lamps, seating, and planters.



Bonner General Hospital Healing Garden

520 North Third
Sandpoint, Idaho

Open Space

Community Engagement

Developer/Owner:
Bonner General Hospital
520 North Third
Sandpoint, ID 83864
www.bonnergen.org

Contact:
Debra Kellerman
Bonner Community Hospice

Garden:
Gardens by Barbara
Sandpoint, ID
208.255.4353

Land Cost (donated)	$1.0 M
Pre-Development Cost	$0
In Kind Donations	$38,683
Building Cost	$168,194
Total Cost	$206,877

Area of Site	11,000 SF
Cost per SF	$18.80
Open Space	95%

Built entirely by volunteers on a previously empty quarter-acre lot, the garden is open to the community as a uniquely conceived and designed landscape park.

"*Stroll the grounds surrounded by the beauty of nature, sit on a rock as you listen to the rushing sounds of the waterfall, enjoy the view of the Sand Creek from the tea house, or find yourself embraced by the comfort of the chapel and the light of the eternal flame. Every element in the garden blends and enhances the beauty which nature has provided,*" says Deb Kellerman, director of Bonner Community Hospice.

Above: The Healing Garden was created almost entirely by volunteer efforts © Bonner General Hospital
Right: The entrance to the Healing Garden.

Best Practices In Action

Public Amenities: Elegantly designed and open to the public, the park demonstrates an extraordinary commitment to the public good.

Community: The park not only celebrates the volunteerism of the community but does so in a manner that honors the historic relationship of Sand Creek to the natural environment that defined its banks prior to Sandpoint's development.

"Even before it was built, the Healing Garden brought the community together. Allied with a common goal, residents and volunteers worked to create a place of healing that truly reflects the surrounding natural beauty." Deb Kellerman – Director of Bonner Community Hospice

The Healing Garden Tea House overlooks Sand Creek.

Lessons Learned

- Volunteerism works when the project is unique and clearly valuable to the community.
- Communities in today's fast-paced, interconnected world need places conceived for repose, reflection and sensual engagement with nature.

Community Engagement

Throughout the entire project process, Bonner General Hospital and its Community Hospice program utilized the resources of the Sandpoint community – volunteerism, in-kind donations, and fundraising for all planning, design, and construction labor. In one instance, a patient formerly served by hospice organized a family reunion of nearly 40 people for a cleanup and construction day at the garden site. Hospice Director Deb Kellerman describes the day:

"We had just started construction, so we invited them all to come in on a Saturday to clear the creek bank. They showed up with pickup trucks, tractors, tools and bags and produced truckloads of trash and overgrowth. They were out there all day long, happily, and this family's story is the spirit of our garden."

The Healing Garden chapel, open to patients and visitors alike.

Bridger Apartments

2555 West College Street
Bozeman, Montana

- Open Space
- Urban Revitalization
- Community Design

Developer/Owner:
William C. Dabney III
2555 W. College Suite B
Bozeman, MT 59718
406.585.9808

Architect:
Bitnar Architects
www.bitnararchitects.com

Contractor:
Walker Construction Co.
Bozeman, MT

Land Cost	$450,00
Pre-Development Cost	$962,000
Financing Cost	$230,000
Building Cost	$3.25 M
Total Cost	$4.9 M
Gross Area of Building	37,000 SF
Cost per SF	$132
Area of Site	3.2 acres
Number of Living Units	44
Open Space	.66 acres
Parking and Pavement	100 spaces
Rental Rates	2BR: $425-$595

Privately funded, developer-built affordable housing is rare in the Northern Rockies. Not only is the Bridger Apartments a restricted-rent, restricted-income private development, but the project also won a Bozeman Community Beautification Award in 2005, demonstrating that low-income apartments can be both socially responsible and contribute significantly to the beauty of the community.

Federal tax credits allocated to the project by the Montana Board of Housing were sold to a publicly traded company to help finance construction. This method of project financing allows for high-quality construction and site development while enabling the developer to charge below-market rents.

The Bridger Apartments' site design creates a pedestrian friendly sidewalk corridor through the use of extensive landscaping and parking screened by the buildings themselves.

"Contextually appropriate project aesthetics, excellent planning and design, as well as high quality construction materials resulted in a rapid public approval process, faster lease-up and a positive community attitude toward the development." William Dabney III – Developer

Land Use

Organized in a traditional grid, the project achieves a density of 14 units per acre including a 2/3 acre park. The park not only provides a playground for kids but serves as an outdoor gathering place for residents in the manner of traditional city parks in historic neighborhoods.

Central to the complex is a large, landscaped playground.

Extensive use of windows provides cross-ventilation and natural daylighting in all of the units.

Valuable open space and natural features, such as this stand of cottonwoods, were preserved within the site.

Best Practices In Action

Community: Extensive landscaping in combination with a regional architectural style contributes to a sense of place and enhances the city of Bozeman.

Lessons Learned

- Meeting with the immediate neighbors and addressing their concerns prior to public hearings brought about their support for the project during the approval process.
- A well-designed affordable housing project can integrate into the community in a manner that is indistinguishable from market rate multi-family housing.

Bus Transfer Station

1324 Harrison Avenue
Butte, Montana

Transportation

Urban Revitalization

Community Design

Developer/Owner:
Butte-Silver Bow Local Government
155 West Granite St.
Butte, MT 59701
406.497.6200

Contractor:
Markovich Construction
2827 Lexington Avenue
Butte, MT 59701
406.494.3901

Architect:
Hinick Associates
100 E. Broadway St.
Butte MT 59701
406.782.4616

Land Cost (in-kind)	$170,000
Pre-Development Cost	$88,000
Building Cost	$507,000
Total Cost	$595,000

Butte's public bus station, new in 2002, is centrally located to serve all neighborhoods within 30 minutes. It is located adjacent to the civic center and a shopping area on a former brownfield site of abandoned tennis courts. The station is also near trails, and buses have been fitted with bike racks for an intermodal system. The simple concrete structure is attractive, with many windows to brighten the interior. The windows, by admitting winter sun, and concrete, by retaining solar heat, also increase energy efficiency. A small shop with food inside adds to the hospitable space.

The Butte Bus Transfer Station combines easily maintained and durable natural materials with effective daylighting to create a clean and comfortable interior.

Best Practices In Action

Preservation: Redeveloping public land for public uses proved to be cost effective and offered significant in-kind matches from federal grant funds.

"We have been able to provide a safe, clean, warm environment for our bus patrons, which simply did not exist before." Gary Keeler – Butte Transit System Director

Planning and Policy

Community involvement through surveys and forums offered guidance to the development of the transit plan. The location increased efficiency for bus users by cutting transfer time in half. Using city-owned property for a public resource decreased the cost of the project. The trail system was extended to the transfer station thus making the trail system easily accessible to the entire community via bus routes.

Lessons Learned

- Locating the station adjacent to trails and the civic center in a geographically central site adds value to the facility and service.
- Always strive to keep public ground in public use. Redeveloping dilapidated tennis courts into a safe, clean, attractive transportation center provides needed services to the greater community.

Butte Community Trail

Uptown
Butte, Montana

Open Space

Community Design

Planning & Policy

Developer/Owner:
Butte-Silver Bow Local Government
155 West Granite St.
Butte, MT 59701
406.497.6200

Blacktail Creek Trail	$1.0M
Civic Center Trail	$500,000
BA&P Trail	$560,000

Funding
50:50 ARCO/CTEP Superfund Remediation

Cost per mile (Includes all amenities) $1.0M

Butte's impressive trail system has more than 20 miles of trails meandering throughout Butte, along Silver Bow Creek and to the nearby community of Rocker. The trails are paved and graveled with interpretive signs documenting historical sites and reclamation projects. By linking a constellation of historic sites throughout the city, the trails engage community members in their rich history and local character.

The Copperway Trail features historic mining artifacts for signage and rest areas.

Best Practices In Action

Transportation: Providing amenities such as trails and parks is the central theme of the economic development agenda.

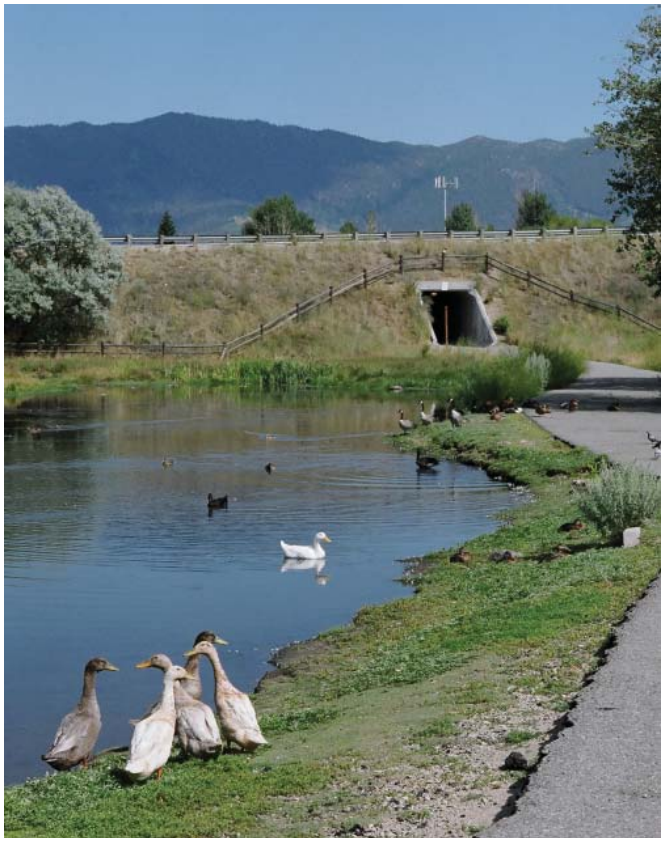
Planning: Creating a beneficial reuse for reclamation sites is essential for long-term viability of the community.

Community: Community meetings on reclamation activities, conversion of railroad corridors, future trail routes and the prioritization of trails to be developed have guided the project.

"We are recreating ourselves as a quality-of-life community, rich with amenities. Butte before and after the trail system is a different community." Jon Sesso – Butte-Silver Bow Planning Director

Planning and Policy

The Community Trail System was a community vision to create a highly valued public amenity through mine remediation. Long-term maintenance was considered during the planning process producing designs conducive to plowing and cleaning. The trails are incorporated into the economic development plan as well as the large scale reclamation plan.



The Butte Community Trail System accesses both the valley floor and the foothills above the town.

Lessons Learned

- There was a lengthy bureaucratic process to eliminate the rail line and a challenge to demonstrate that pedestrian use was higher in value than rail or other uses.
- Building partnerships with the historic-preservation community alleviated concerns that removing the rail corridor and replacing it with a trail system would be inconsistent with maintaining the cultural heritage of the community and neighborhood.
- A focus on long-term planning resulted in higher cost of initial development but lower costs for maintenance throughout the lifetime of the project.

Cedar Street Bridge

334 North First Avenue
Sandpoint, Idaho

- Sustainability
- Urban Revitalization
- Community Design
- Economic Success

Developer/Owner:
Scott Glickenhaus
Sandpoint, ID

Contractor:
Frank Wakely

Architect:
Johnathan Stoumen
75 Arbor Rd.
Allied Arts Guild, Suite G
Menlo Park, CA 94025
www.stoumen.com

Land Cost (Lease)	$99/99 yrs
Building Cost	$2.0M
Gross Area of Building	28,000 SF
Cost per SF	$72

Inspired by the Ponte Vecchio Bridge in Florence, Italy, and the desire to transform a dying downtown, developer Scott Glickenhaus proposed to replace an abandoned bridge over Sand Creek in downtown Sandpoint, Idaho, with an environmentally responsible, mixed-use pedestrian shopping bridge. The resulting 70-foot-wide shopping bridge containing 26,500 square feet of solar-heated retail space took five years to plan and develop in cooperation with the City, the Corps of Engineers and Burlington Northern Railroad. Upon completion it became an instant landmark bringing people to the downtown and pride to the community.

The Cedar Street Bridge, which crosses Sand Creek, has south-facing windows to draw both warmth and natural light into the interior retail spaces.

"I built the bridge with great hopes and expectations that it would be the impetus for other people to come in with progressive development ideas."
Scott Glickenhaus – Cedar Street Bridge Company

Best Practices In Action

Preservation: The decaying vehicular bridge was the third bridge at this location over Sand Creek; using the old bridge's beams as part of the project's superstructure retained an important historical element.

Community: The Cedar Street Bridge is a unique landmark in the Northern Rockies, recognized not only for its creativity and visual appeal but also for its environmentally responsible building strategies.

Sustainability

Utilizing selective wood harvesting, the Cedar Street Bridge is constructed of heavy timber. All of the tamarack beams were milled from dead trees found in stands across Montana, Idaho and Washington. The design complemented this sustainable construction method with an interior sun space enclosed by 4,500 sq. ft. of southern glazing. The resulting radiant-energy transmittance heats nearly 100,000 sq. ft. of insulated concrete, making the floor a passive battery for heat in the winter.

Lessons Learned

- Dreams can be realized when patience, perseverance and cooperation are used to overcome the unforeseen, unexpected and unusual conditions brought about by creative development strategies.

The public plaza at the entrance to the Cedar Street Bridge is a popular gathering place for Sandpoint residents.

Center for the Arts

240 South Glenwood
Jackson, Wyoming

- Economic Success
- Urban Revitalization
- Community Engagement

Developer/Owner:
Center for the Arts
www.jhcenterforthearts.org

Architect:
Phase I – Harry Teague
Aspen, CO
info@teaguearch.com

Phase II – Stephen Dynia &
John Carney Architects
Jackson Hole, WY
www.carneyarchitects.com

Land Cost	Lease
Financing Cost	$800,000
Building Cost	$30 M
Total Cost	$35 M
Gross Area of Building	74,000 SF
Cost per SF	$400
Area of Site	4 acres
Open Space	1.5 acres
Parking and Pavement	225 spaces
Public/Private Contributions:	CDBG& WBC grants

A $1,000 grant in 1991 from the Community Foundation of Jackson Hole, Wyoming, was the first of $35 million in donations to fund the recently completed Center for the Arts.

The project was conceived to serve two purposes. First and foremost, it was to meet the needs of local performing and visual artists and arts educators, but in a broader context the project was also intended by local government as a means of pursuing a vision of "town as the heart of the region." The Center for the Arts serves as an arts incubator, nurturing the cultural identity of the community and the "art business" of successful galleries, theaters and festivals, which are important to the economic sustainability of Jackson Hole.

The Town of Jackson built a multi-level parking structure to serve the Center, and the Center will include a park and a community clubhouse to provide space for dances, parties and gala receptions.

Best Practices In Action

Public Amenities: The Center for the Arts combines visual and performing arts, exhibition space, arts-education studios, a 500-seat theater, a park, and a community clubhouse into a single facility which contributes significantly to the public amenities of Jackson Hole.

Community: The public use of the Center and its architectural character promote a sense of public investment and civic commitment.

"It's amazing to have everyone together. It will really be another heart of the town."
Heather Smith – Jackson Hole resident

Decorated with community sponsored art, and used by hundreds of Jackson area school children, the Center for the Arts' fine art studios offer space, flexibility, and ample natural light, perfect for artistry on all levels.

Lessons Learned

- Quality of communications between all stakeholders is critical to success.
- Design oversight by the development entity is necessary to ensure programmatic goals and budget management.
- Community awareness, education and the resulting community support are critical.

Economic Success

Since the Center of the Arts opening in December 2004, many of the private arts organizations it houses have enjoyed exponential growth and success. One organization, the Art Association, has held 169 classes and workshops for 1,100 adult students, has enrolled an additional 600 children and adults in community art outreach programs, and has hosted more than 20,000 residents and visitors for arts festivals. The most significant indicator of its economic success, however, was a 40 percent increase in membership, from 600 to 850 members in just 12 months. According to Art Association Development Director Catherine Wikoff, "The new space that we have to offer for our arts programming has just made a huge difference for our organization."

The Center for the Arts boasts an expansive ceramics studio. Students and artisans alike can take advantage of one of the region's largest kilns.

Fields Condos

Warm Springs Road
Ketchum, Idaho

Community Design

Planning & Policy

Developer/Owner:
Sawtooth Development LLC
Garth Schlemlein
2701 First Ave. Suite 300
Seattle, WA 98121

Contractor:
Exxel Pacific Inc.
323 Telegraph Rd.
Bellingham, WA 98226
www.exxelpacific.com

Architect:
Living Architecture
671 1st Ave. North
Ketchum, ID 83340
www.livarch.com

Land Cost	$1.5M
Pre-Development Cost	$378,000
Financing Cost	$120,000
Building Cost	$4.5M
Total Cost	$6.5M
Gross Area of Building	52,000 SF
Cost per SF	$86
Area of Site	2.2 acres
Living Units	41 units
Open Space	.37 acres
Parking	62 spaces

As a resort community, Ketchum, Idaho, has many people working as teachers, firemen, policemen and other service workers who cannot afford to live in Ketchum. To address this problem, the Blaine-Ketchum Housing Authority was created in 1997, and, with its guidance, the Fields Condominium project offered the first affordable community housing in the city. The City granted a density bonus and setback variances in exchange for 33 percent of the units being dedicated to affordable community housing.

Courtyard design of the Fields Condos was conceived to accomodate snow storage and utilize spring runoff to irrigate landscaping.

Developed to combine market-rate and deed-restricted condominium units in a visually seamless and economically viable manner, the project was further enhanced by its use of passive energy-efficient design strategies. At completion in 2001, sales prices were $350,000 per market unit and $135,000 for deed-restricted units. The program's success was recently demonstrated with the sale of a deed-restricted unit for $165,000, with the seller using the equity as a down payment on a market-rate single-family home in Ketchum.

Best Practices In Action

Mix of Uses: A significant mixing of socioeconomic groups was achieved by artificially manipulating the cost of housing to better serve the broader community.

Density: Forty-one housing units have been developed on 2.2 acres, with 17 percent open space, achieving a density of 18.6 units per acre.

"A courageous commitment by the planning and zoning board as well as the city council not only enabled this project to be built but insured that it set the gold standard for private-public cooperation in creating community housing." Garth Schlemlein – Project Developer

Lessons Learned

- Initial sales and resales demonstrated that an invisible mixing of market and community housing can be both socially and economically successful.
- Real-estate sales studies concluded that mixing community and market-rate housing has had no adverse affect on property values in and around the project.
- The developer and architect's proactive engagement of community concerns prior to and throughout the review process insured the project's success.

Economic Success

"With housing costs increasing faster than incomes, the Blaine-Ketchum Housing Authority seeks to work within the public-private institutional matrix to create sustainable and affordable housing solutions for residents of the Wood River Valley." Drew Sanderford, Director, Blaine–Ketchum Housing Authority

Flat Iron Townhomes

Kelly Street
Jackson, Wyoming

Community Design

Urban Revitalization

Developer/Owner:
Jackson Hole Community Housing Trust
70 South Gros Ventre Dr.
Jackson, WY 83001
www.housingtrustjh.org

Contractor:
RAM Construction
P.O. Box 4339
Jackson, WY 83001
www.ram-construction.com

Architect:
Strout Architects
P.O. Box 1251
Jackson, WY 83001
www.stroutarchitects.com

Land Cost	$0
Building Cost	$880,000
Area of Site	.98 acres
Number of Living Units	15
Open Space	.78 acres
Parking	23 spaces
Unit Sales Price	$96,000-$136,000

The success and affordability of the Flat Iron Townhomes, developed by the Jackson Hole Community Housing Trust, is due largely to the gift of the property by the Love family, longtime residents of Jackson. Their gift was leveraged to gain $880,000 of unsecured loans from 25 individuals for construction financing. The project created fifteen permanently affordable homes for ownership by service-industry workers, educators, healthcare workers, construction workers, civil-service employees, small-business owners, and those working in the arts and nonprofit organizations. Jackson Hole Community Housing Trust's strategy to promote home ownership and ensure future affordability is to sell the home and lease the land. The lease limits the appreciation of a home to 3.6 percent per year, which provides a fair return to the homeowner.

Best Practices In Action

Pedestrian Environment: The site plan is transparent in that it allows and encourages pedestrian traffic to move through and from neighboring streets and alleys into the adjacent central business district.

Density: 15 units ranging from studios to three bedroom homes on .98 acres achieved a density of 15 units per acre.

"Affordable housing, above all, is about maintaining a diverse population! Secondly, it is providing families and individuals an opportunity to remain in Jackson Hole, increasing their commitment to our community." Arne Jorgensen – Architect, Jackson Hole

Community Engagement

The success and affordability of the Flat Iron Townhomes is largely due to the donation of the property by the Love family of Jackson Hole.

According to David and Jane Love, *"The dollar value of this property has increased to levels beyond any of our imaginations when it was purchased in the mid 1940's. This increase was largely due to the changes within the community around us and not particularly due to our actions. This donation is a way for us to return to the community a portion of this value. It is also a vehicle that will allow us to help those that are unable to afford to purchase a home in Jackson Hole. Many of these people have become our friends and are key to the health of our community."*

Lessons Learned

- Nearly 50 percent of the Housing Trust homeowners who sold their affordable home used their equity as a steppingstone to purchase a free-market home in Jackson Hole.
- Affordable homeownership has proven to enrich community character by creating opportunities for social and economic diversity.

Downtown Fort Benton

Downtown
Fort Benton, Montana

- Community Engagement
- Urban Revitalization
- Planning & Policy

Contact:
City of Fort Benton
1204 Front St.
P.O. Box 8
Fort Benton, MT 59442
406.622.5494
www.fortbenton.com

Fort Benton, Montana, was losing its population and businesses until a group of inspired citizens came together to lead a revitalization effort. The result was a downtown facelift supported by tax increment financing. Stores reopened on Front Street, which is listed on the National Register of Historic Places, and enjoyed increased pedestrian traffic associated with community trails, interpretative signs and public art. The catalyst for this was the restoration and reopening of the Grand Union Hotel, a private effort that inspired the community with a can-do attitude. The community also supported the expansion of the city's planning jurisdiction to 4.5 miles, keeping agriculture intact and development away from the river.

Best Practices In Action

Preservation: The privately funded restoration of the Grand Union Hotel was the impetus for subsequent private investment in other buildings throughout the community.

Community: A city-wide sculpture initiative, the first of which was "Shep" the dog, illustrates the history of Fort Benton with art in public parks.

"Fort Benton was the first community in Montana based on steamboat transportation. This is our advantage. We need to maintain the focus of our community on historic buildings and the river." John Lupley – Local Historian

Fort Benton has established a community trail system that links the historic main street to a nature preserve across the Missouri River. The key element in making this possible was the adaptive re-use of a historic train tressle proposed for demolition that is now a popular pedestrian bridge and picturesque community amenity.

Lessons Learned

- To do revitalization right, involve the public early in the process and engage community and service groups.
- Focus on the best interests of the community. Create a vision that is based on what makes the community unique and special.
- Trails are all on city property, and their maintenance is shared with civic organizations and volunteers.

Community Engagement

The community members came out and got involved. The community vision and early successes fostered community pride which continues today with summer celebrations and expanding trails, museums and interpretive centers. Citizen groups raised money and supplied labor for the walking bridge, beautification projects and historic restoration efforts.

Front 5

500 Broad Street
Boise, Idaho

- Sustainability
- Urban Revitalization
- Planning & Policy

Developer/Owner:
OAAS Laney
Boise, ID

Architect:
Cole + Poe Architects
519 W. Front St.
Boise, ID 83702
www.colepoe.com

Contractor:
Petra Inc.
9056 W. Blackeagle Dr.
Boise, ID 83709

Gross Area of Building	16,500 SF
Cost per SF	$68

The conversion of this abandoned 1970s railroad warehouse into a U.S. Green Building Council LEED certified office building demonstrates the potential of adaptive reuse strategies to not only save historic structures but also convert them into high-performance buildings meeting quantifiable principles of sustainability. Design elements that exceed code requirements have resulted in a 15 percent savings ($2,000) in first-year energy costs, which will continue to grow as the cost of energy escalates throughout the life of the building.

Seventy-five percent of the original warehouse building was retained, and windows were installed where loading dock doors previously existed, daylighting 76 percent of the interior space. ©Randy Carpenter/Sonoran Institute

Old, restored, and recycled materials bring new life to the interior of the building. ©Randy Carpenter/Sonoran

Best Practices In Action

Preservation: The original building was windowless, but by converting the former truck dock openings into windows and punching similar-sized openings throughout the façade, in combination with unseen skylights, 75 percent of the interior receives natural light while retaining 76 percent of the original building shell.

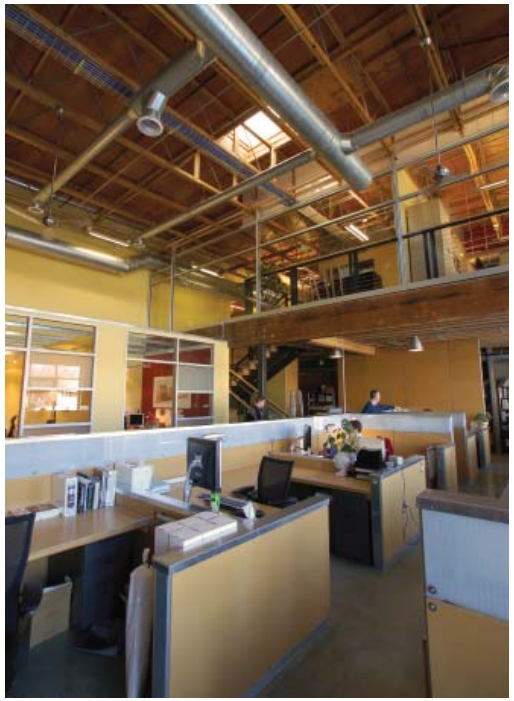
"After attending a conference in which Rick Fedrizzi (President/CEO of USGB) argued the business case for building green, I knew immediately the Front 5 Building would be a perfect test case for us to try LEED certification in Boise." Erik Oaas – Oaas Laney, LLC

Sustainability

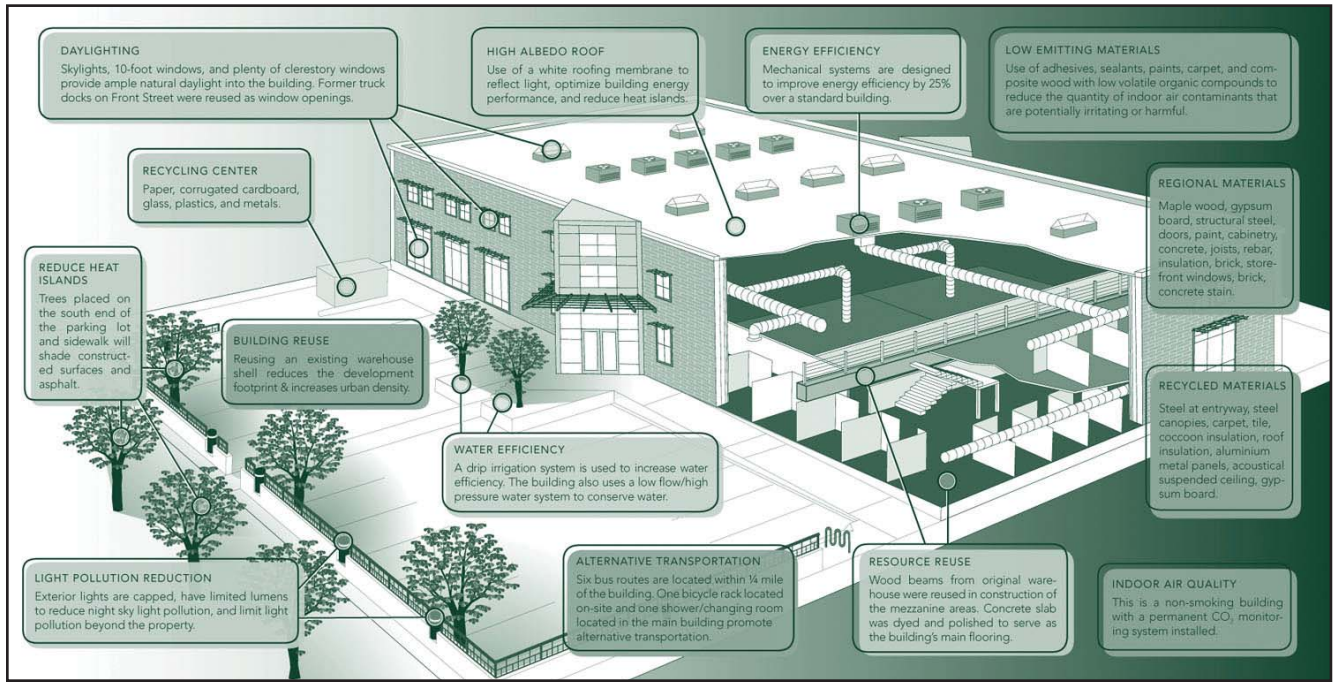
Construction included extensive use of materials with recycled post-consumer and/or post-industrial content, such as cocoon insulation (80 percent recycled content), tile (50 percent), carpet (10 percent) and suspended ceiling tiles (27 percent). Steel in the entryway and canopies as well as aluminum metal panels were recycled, while Douglas fir beams found in the old warehouse were reused to construct the new mezzanine areas.

Lessons Learned

- The construction cost for adaptive reuse of the building was less than that of comparable new construction.
- The sustainable characteristics of the building will reduce the building's lifecycle costs due to savings in maintenance costs, lower utility bills and higher tenant-occupancy rates



Top: Loft space was created by using materials found in the abandoned building. **Above:** Shading devices above every window significantly decrease interior heat gain.



Gold Dust

330 North 1st Street West
Missoula, Montana

- Sustainability
- Urban Revitalization
- Community Design

Developer/Owner:
homeWORD
127 North Higgins #307
Missoula, MT 59802
www.homeword.org

Contractor:
Garden City Builders
2310 Fairview Ave.
Missoula, MT 59801

Architect:
MacArthur, Means and Wells Architects, P.C.
125 West Alder St.
Missoula, MT 59802
www.mmwarchitects.com

Land Cost	$136,227
Pre-Development Cost	$335,713
Building Cost	$1,960,611
Total Cost	$2,432,551
Gross Area of Building	15,685 SF
Cost per SF	$155
Area of Site	.45 acres
Number of Living Units	18
Parking and Pavement	15 spaces
Rental Rates	$240-$695

The Gold Dust complex was conceived to demonstrate the appropriateness of combining sustainable energy and community principles with affordable housing. A mix of work-live units, serving those earning 30-50 percent of the area median income, range in size from studio apartments to single-family dwellings. The residents realize the savings from photovoltaic energy, a green roof and energy efficient construction. To insure a "fit" within the neighborhood, a series of community design workshops were held as well as door to door canvassing, insuring links between the desires of the community and the project goals. A multi purpose community room/art gallery contributes significantly to the aspirations of the neighborhood to become an arts community. Most importantly the Gold Dust has demonstrated the neighborhood's potential for future investment and economic development.

Located in a historic railway corridor, the Gold Dust responds to an existing urban fabric of industrial structures and historic buildings such as the Stensrud (far right).

The staff of homeWORD in front of Gold Dust, one of seven affordable housing projects they have developed in the last decade. © homeWORD

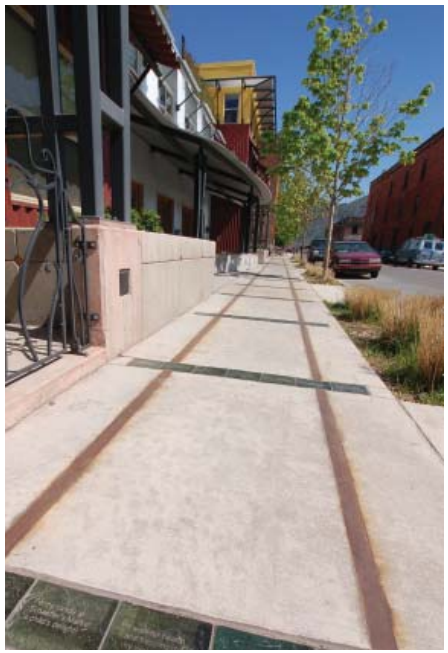
Best Practices In Action

Density: 27 units per acre

Preservation: Materials and design complement nearby historic structures.

Community: Three units were designated bike/pedestrian units, eliminating their requirements for parking spaces.

"The Gold Dust project demonstrates innovative, sustainable, and replicable methods to develop affordable housing and asset-building strategies for those most in need."
Ren Essene – homeWORD



Left: The rooftop garden is a social space and community food source. **Above**: The sidewalk "railroad tracks" are one of several public arts projects at the Gold Dust. **Right:** Typical residence.

Sustainability

The architect was required to set benchmarks for solar heat gain, insulation, heating, ventilating, lighting, sewer and water consumption. A photovoltaic system provides a third of the power needs of the residents. The contractor was required to develop a waste management plan. homeWORD works closely with their property management company to ensure long term capital needs are being met and all preventive maintenance is being performed.

© homeWORD

Lessons Learned

- Sustainable strategies (making decisions based on initial cost, lifetime cost, durability, energy efficiency, local availabilty and environmental qualities) have proven to be cost effective.
- Community participation during the planning phase eases project passage during government review.
- Mixed uses integrate the project into the neighborhood.
- Innovative architectural design that mixes new forms and contemporary materials can effectively contribute to the historic identity of the streetscape.

Great Northern Town Center

Great Northern Boulevard
Helena, Montana

Community Design

Urban Revitalization

Developer/Owner:
Artisan LLP
Box 472
Helena, MT 59624

Architect:
Dowling Tintinger
Architecture, P.C.
50 South Park Ave.
Helena, MT

Situated on an abandoned railroad spur, the 11-acre Great Northern Town Center is a mixed-use, planned-unit development that includes office and retail space, restaurants, a movie complex, hotel, museum, parking garage and future housing. In an effort to create a dense urban environment, 36 lots were created along the Great Northern vehicular and pedestrian boulevard with buildings ranging in height up to nine stories. The pedestrian portion of the boulevard, featuring an outdoor Lewis & Clark sculptural interpretive exhibit and indoor carousel, connects the development to Carroll College and the proposed Centennial Park and sports complex to the north. Integrated into the city's street-grid system, the Great Northern Town Center is connected to Helena's commercial districts to the east and south and the Helena Civic Center, Kay McKenna Park and the historic residential neighborhood to the west.

Best Practices In Action

Pedestrian Environment:	A central parking garage, sidewalk restaurants, first floor commercial, sidewalk art and a pedestrian underpass to Carroll College create a pedestrian-dominated development.
Density:	The 305,000 SF of buildable area permits 209,000 SF to be built seven stories high, 69,000 SF to be built nine stories high, and 27,000 SF to be built six stories high.

"Alan Nicholson has done an amazing job with the Great Northern Development. The Great Northern Hotel, the Silver Star Restaurant, the Cinemark Theater, the Carousel, the Exploration Museum and all the rest in the Great Northern reflect the best of the city."
Robert Peccia – Helena Independent Record, June 2006

Previous Page and Left: Streetscape amenitites include shading devices, tree plantings, and decorative sidewalks. **Above:** Contemporary designs mark the interiors of many Great Northern businesses.

Lessons Learned

- A high-density urban environment can be successfully developed in a traditionally low-density city.

Urban Revitalization

Development of the Great Northern Town Center began in 1998 with the intention of revitalizing an 11-acre brownfield previously used for a railroad spur and bringing greater vitality to the downtown. Because of its location, the existing street grid and infrastructure for sewer, water and power could be used. Conceived as a traditional downtown street with a mix of uses, the complex has served as a catalyst for adjacent development including two federal and one state office buildings. Within the five-minute walk from one corner of the development to the other, residents have access to homes, offices, restaurants and entertainment. Included in this mix are destination businesses such as the 8-plex Cinemark Theater and the Best Western Helena Hotel and Convention Center. These businesses supply additional regional patronage of the local services in the Great Northern neighborhood.

Above: Great Northern Carousel demonstrates the project's commitment to amenities for all ages.

Home on the Range

220 South 27th Street
Billings, Montana

Sustainability

Community Design

Urban Revitalization

Developer/Owner:
Northern Plains Resource Council & Western Organization of Resource Councils
www.northernplains.org

Architect:
High Plains Architects, P.C.
One South Broadway
Billings, MT 59101

Contractor:
Hardy Construction Co.
Billings, MT

Land & Pre-Development Cost	$182,808
Construction Cost	$960,800
Other Costs	$533,229
Total Cost	$1.67M
Gross Area of Building	8,300 SF
Cost per SF	$115
Area of Site	0.80 acres
Open Space	0.35 acres
Parking	25 spaces

When the Northern Plains Resource Council and the Western Organization of Resource Councils needed to find a new space for their growing staffs, they took advantage of the opportunity to "live their values" and create a showcase of sustainable building technologies. In the process, they converted an 8,300 SF derelict grocery store that had become an eyesore into a widely recognized landmark on the entry corridor into downtown. The U.S. Green Building Council's LEED rating system was used to add rigor to the ambitious sustainability goals, and the building, named Home On The Range, has received Platinum certification. This achievement is particularly remarkable given the extremely tight building budget. All of the sustainability goals originally established, remained intact after a lengthy budget-cutting process.

The staff of the Northern Plains Resource Council stands in front of their new home.

Clerestory windows bring ample natural light to the interior.

Best Practices In Action

Community: Home on the Range brings new life to a downtrodden portion of the city. The building's massing evokes regional sandstone forms and the extensive landscaping highlights native and water-wise plantings.

"As a grassroots conservation and family agriculture group, it is great to be showing others that even a small group like ours can do it right and build with minimal impact. One of our goals is to educate the public on issues that are important to quality of life in Montana, and with this building we are continuing that public education."
Mark Fix – Chair of Northern Plains Resource Council

Sustainability

The building uses 50 percent less energy than new construction that meets the energy code through the following strategies:

- Well-insulated building envelope.
- Extensive daylighting through clerestory monitors and perimeter light shelves.
- Radiant floor heating uses 20% less energy than a conventional forced-air system.
- Evaporative cooling uses 75% less energy than conventional air conditioning.
- Water efficient features: the building uses 65% less water than conventional new construction by employing micro-flush composting toilets and a waterless urinal.
- Over 90% of the construction and demolition waste was diverted from the landfill through salvaging and recycling.

A 10-kilowatt photovoltaic array generates approximately 35 percent of the building's annual energy needs. **Near Right:** Permeable pavement employing recycled glass cullet reduces the urban heat-island effect, recharges the aquifer, and eliminates pollution to waterways. **Far Right:** Light shelves direct natural light deep into the interior. Artificial lighting is not required in most rooms during daylight hours.

Lessons Learned

- Most green-building features do not cost more than conventional construction, and some have up-front savings. However, there are additional design costs incurred to incorporate materials and methods that are not familiar to the local building officials and contractors.
- A well-organized corps of volunteers, even if unskilled, can significantly stretch a building budget, particularly if there are lots of salvaged materials that need to be refinished. The owner estimated that volunteer work saved $75,000 in the project.
- Incorporating significant green-building features can bring considerable positive press, benefiting all parties involved.

Hyde Park Place

West Fort Street
Boise, Idaho

Community Design

Urban Revitalization

Developer/Owner:
Southers Properties
PO Box 8245
Boise, ID 83707
208.342.6320

Contractor:
SACO Construction
Hal Signett
hal@sacocc.com

Architect:
John Price
499 W Main St.
Boise, ID
johnprice@rmci.net

Land Cost	$860,000
Pre-Development Cost	$180,000
Financing cost	$760,000
Building Cost	$4.2M
Total Cost	$6M
Gross Area of Building	43,000 SF
Cost per SF	$100
Area of Site	.83 acres
Number of Living Units	39
Open Space	.33 acres
Parking and Pavement	78 spaces
	$135,000 - $340,000

Hyde Park Place illustrates how very high-density housing – 39 units on less than an acre – can be integrated into a historic residential neighborhood while at the same time reducing traffic impacts. To achieve this density, narrow (19-foot to 22-foot wide), three-story units with 20-foot deep front yards sit atop an underground parking garage. Exterior materials, landscaping and building facades relate to the character of the old houses of the primarily residential north end of Boise, while interiors are thoroughly modern.

By replacing the abandoned office building that previously occupied the site with residential development and pedestrian access to the central business district, a net decrease in daily automobile trips was generated. As a result of the project's location, three of the residents do not even own an automobile, clearly demonstrating the potential of urban housing to promote a pedestrian environment.

"My main goal in doing Hyde Park Place was to create quality infill housing in a location that's within walking distance to services." David Southers – Developer

Economic Success

Skillfully designed high-density infill residential development with underground parking in the historic core of the community can not only be developed at competitive market rates but also sells quickly.

Apartments include both single-story and two-story loft units.

Hyde Park Place boasts screened access to 49 below-grade parking spaces.

Best Practices In Action

Density: Thirty-nine units with 78 parking spaces on .83 acres result in a density of 47 units/acre.

Lessons Learned

- Spend development money up front to meet with every nearby resident, and design a project that responds to their concerns.
- The most important part of infill work is that it needs to fit in with the neighborhood character.

Indian Creek Daylighting Project

Downtown
Caldwell, Idaho

- Open Space
- Urban Revitalization
- Planning & Policy

Developer/Owner:
Caldwell Urban Renewal District
City of Caldwell
621 Cleveland Blvd.
P.O. Box 1177
Caldwell, ID 83606
www.cityofcaldwell.com

Planning:
Leland Consulting Group
www.lelandconsulting.com
Portland, OR

Land Cost	$3.0M
Pre-Development Cost	$750,000
Construction Cost	$1.3M
Total Cost	$5.05M

Area of Site	20 blocks
Number of Living Units (planned)	300-400
Open Space	6 acres
Parking and Pavement	300 spaces
Public/Private Contributions	$1.7M

Caldwell, formerly a major urban center in southern Idaho, experienced the demise of its economic vitality after the construction of the I-84 bypass, a fate shared by other towns and cities. Consequently, significant growth and development occurred outside the city of Caldwell.

In response, the city looked to a natural mountain stream that flows beneath the historic downtown, which Caldwell had buried early in its urbanization. The Indian Creek Restoration project was conceived to revive this natural amenity, act as the centerpiece for downtown development, and reclaim the city's historical economic importance in the region. A City Center Steering Committee was charged in 2002 with establishing a plan for mixed-use development to create a live, work, play and shop atmosphere centered on the asset of Indian Creek.

The re-emergence of Indian Creek has linked the rich natural habitats upstream with the historic downtown and served as the catalyst for investment.

Best Practices In Action

Community: A new pedestrian environment surrounding Indian Creek brings vitality and renewed pride of place to the city of Caldwell.

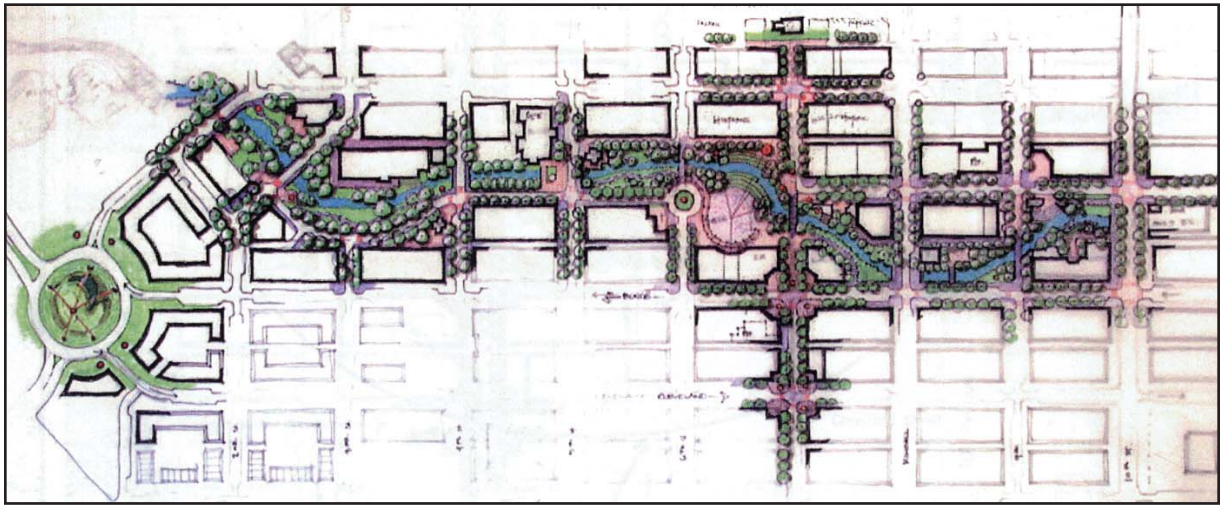
Mix of Uses: Further development of housing units, retail, restaurants, entertainment and government offices will create a live-work environment along the creek.

"In a city such as ours, where the historic downtown has deteriorated significantly, you have to have something unique to spearhead reinvestment."
Dennis Cannon – Caldwell Redevelopment Coordinator

Planning and Policy

In 2005 the city adopted a performance-based zoning ordinance for the Indian Creek downtown district based on the City Center Redevelopment Plan. These design requirements are intended to:

- Promote a range of alternative methods for achieving innovation and creativity in meeting the development design objectives
- Provide for a mix of land uses
- Protect and maintain the Indian Creek corridor
- Promote energy efficient and environmentally sustainable structures
- Protect and enhance existing historical architecture
- Develop a pedestrian environment



The master plan shows restoration and landscaping of the Indian Creek corridor to be a pedestrian greenbelt that will become the central focus of downtown redevelopment. © Leland Consulting Group

Natural landscaping strategies enhance the character of the restored Indian Creek bank.

Lessons Learned

- A steering committee must take a strong lead in identifying and incorporating smart-growth and energy-efficient features in the revitalization plans.
- Close coordination and cooperation with the community's planning, funding, economic development and city-management organizations were keys to maintaining project momentum, obtaining numerous co-funded grants and obtaining the city's funding contribution.
- Revitalization focused on a highly valued amenity, Indian Creek, to unite the entire community and consolidate support for investment in a broad variety of corresponding development opportunities.

Little Big Horn College

1 Forest Lane
Crow Agency, Montana

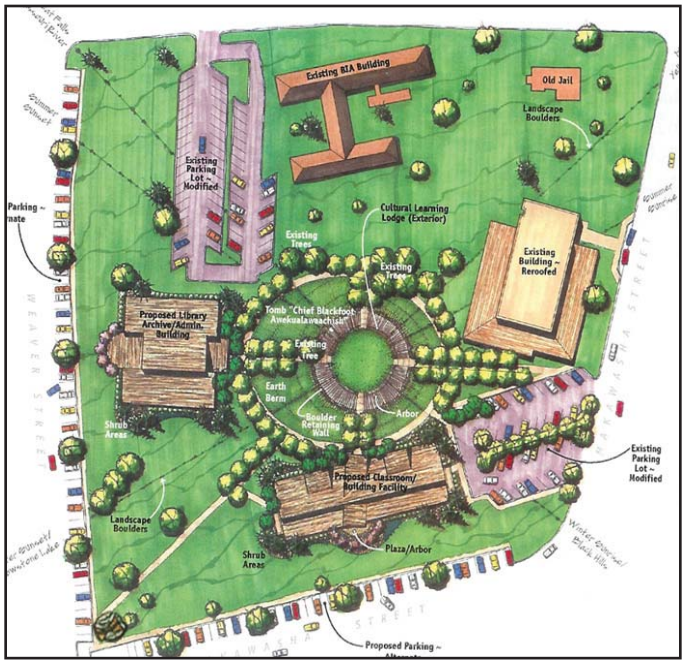
- Sustainability
- Urban Revitalization
- Community Engagement
- Community Design

Developer/Owner:
Little Big Horn College
1 Forest Lane
Crow Agency, MT 59022
www.lbhc.cc.mt.us
406.638.3104

Architect:
Glenn & Glenn Design Associates
480.727.5453

CTA Architects-Billings
Billings, MT
www.ctagroup.com

In the fall of 1998, aided by the Community Design Center at the Montana State University School of Architecture, Little Big Horn College embarked on a community visioning process for a new campus. The challenge was to have the Crow community develop a long-range program of needs for the College, select a site, develop a master plan, and participate in the design and construction of new buildings, all in a manner responsive to the Crow culture. This was achieved by utilizing "charrettes" to offer clear pictures of alternative design concepts that the community could evaluate, comment on and select at every phase of the visioning process. Each charrette included participants from the community and the College, tribal elders, and students and practioners. More than 100 members of the Crow Tribal community participated in the process. Their input rendered a master plan and buildings representative of a successful effort to create an environment that fosters Little Big Horn College's ongoing mission to be a Crow educational and cultural center.



Best Practices In Action

Community: Over 100 community members worked for 18 months to achieve consensus on the Tribal College master plan, which ultimately located the Tribal College within the existing town of Crow Agency, minimizing infrastructure costs and reinforcing the sense of community.

"Every scheme did an amazing job of developing designs that were truly relevant to the Crow people." Sarge Old Horn – Little Big Horn College Board Member

Community Design

The Crow tribal community, in collaboration with the School of Architecture at Montana State University as well as CTA, A&E, LA Olson, and RoTo architectural firms, ultimately selected a site in the heart of Crow Agency, at the end of the town's Main Street and adjacent to the Little Big Horn River. The master plan evolved around cultural and historic symbolism related to the sacred medicine wheel, a Crow encampment, Crow tepee structures and the sweat lodge. As the buildings have been designed and built, their relationship to the simplicity of form in the tradition of the Crow Lodge and Hidatsa Earth Lodge has been apparent as has the inclusion of natural light, heating, cooling and ventilation systems. In addition, the expression of Crow tradition in construction materials and methods in combination with ornamentation is clearly seen throughout the emerging campus.

The architecture of Little Bighorn College is intended to recall the traditional building methods of the Crow people.

Natural light permeates the interior spaces of the Seven Stars Learning Center.

Left: Contemporary shading devices contrast the traditional beadwork reinterpreted in the design of this masonry wall.

Lessons Learned

- The charrette process proved to be an excellent way of offering the community a means of evaluating alternative design concepts and reaching consensus.

Mill District

Northside Downtown
Bozeman, Montana

Community Engagement

Urban Revitalization

Planning & Policy

Contact:
City of Bozeman
Planning & Zoning
Department
20 East Olive
Bozeman, MT 59715

The "Northeast Historic Mixed Use District" is the zoning designation for an eclectic neighborhood of historic buildings, old idiosyncratic structures utilized as residences, a bed and breakfast, manufacturing and industrial facilities, and new offices and retail sales. Located adjacent to an early railroad spur, the area had evolved as a traditional working-class neighborhood with this varied mix of uses long before zoning was established. As normal zoning initiatives attempt to segregate uses, every attempt to zone the area resulted in the creation of nonconforming residential, industrial or commercial properties and their resultant devaluation. The City of Bozeman staff, at the request of neighborhood residents, business and property owners, crafted a unique zoning ordinance specific to the neighborhood. The ordinance resolved existing conflicts, legalized existing uses and, importantly, accommodates change in a manner that gives voice to the existing neighborhood. Significant investment in the neighborhood in the form of remodeling, adaptive reuse and new construction, as well as an increase in property values, has resulted.

Historic industrial buildings, such as the Bon Ton above, have been adapted to contemporary business and manufacturing uses.

Best Practices In Action

Preservation: Traditional models of historic preservation are intended to preserve iconic buildings or neighborhoods but in so doing often create preciousness and consistency at the expense of vitality and change. The flexibility built into the Northeast Historic Mixed Use District ordinance insures preservation of iconic buildings but at the same time emphasizes the value of change within the district intended to sustain and promote greater variety and vitality.

Planning and Policy

The intent of the Northeast Historic Mixed Use District is to provide recognition of an area that has developed with a blend of uses not commonly seen under typical zoning requirements. The intent of the zoning district is to allow case-by-case determination of the most appropriate use of land in a broad range of both nonresidential and residential uses. It is assumed that persons choosing to locate in this area are aware of the variety of possible adjacent land uses and understand such possibilities as both acceptable and desirable.

New construction in the district reflects the mix of materials, landscaping, art and styles found throughout the historic neighborhood.

Lessons Learned

- Zoning is often seen as a regulatory device that diminishes property rights. Creation of the Northeast Historic Mixed Use District demonstrates that unique zoning ordinances can be created to meet the needs of all property owners if they are willing to engage in the process.

Mountain Line Transfer Station

200 West Pine
Missoula, Montana

Transportation

Economic Success

Planning & Policy

Developer/Owner:
City of Missoula
Redevelopment Agency
123 West Spruce St.
Missoula, MT 59802
406.552.6160

Contractor:
Garden City Builders
2310 Fairview Ave.
Missoula, MT 59801

Architect:
L'Heureux Page Werner
15 Fifth St. South
Great Falls, MT 59401
www.lpwarchitects.com

Land Cost	$0
Pre-Development Cost	$150,000
Cost of Facilities	$1.5M
Gross Area of Building	2,500 SF
Area of Site	3,850 SF
Funding	
CMAQ	$800,000
FFTCO	$600,000
TIF	$120,000

The Missoula Urban Transportation District's primary goal is to contribute to a seamless, safe, convenient and accessible transportation system for the Missoula community. To have a significant impact on vehicle miles traveled, the local economy, and citizens' access to employment and important services, the transit system needs to be extremely easy to use and cost effective. Conceived to meet each of these objectives, the Pine Street Transfer Center is located in the central business district with easy access to the Missoula County Courthouse, Missoula Police Station and the waterfront Caras Park. To maximize efficiency and cost effectiveness, the block of Pine Street where the station is located is closed to all but bus traffic. To promote community interaction, the transfer station includes food services, magazine sales, a sitting area and a phone center.

The transit station waiting area with adjacent pizza shop.

Best Practices In Action

Community: Locating public transit facilities downtown fosters a sense of community heart and strengthens municipal connections to the transit system.

"This project has been a billboard for the local transit system reading: We finally have a home and the community loves it!" Steve Earle – Mountain Line Director

Transportation

The decision to locate the Mountain Line Transfer Station in a public right of way at the heart of Missoula's central business district is indicative of the Missoula Urban Transportation District's (MUDT) larger goal of promoting development that supports increased accessibility to transit, especially by walking and biking. To achieve this, the MUTD supports efforts to increase urban density and to develop regulations that offer incentives for projects that are compatible with pedestrian, transit and non-motorized activity, that promote transit use and that reduce the demand for parking.

The opening of the Transit Station was the culmination of a 15-year effort by the citizens of Missoula to find a home for their public transportation system. © Mountain Line Transport

The Mountain Line fleet provides alternative fuel transportation with its bio-diesel buses. On high pollution-index days, bus service is offered for free to encourage reduced automobile use.

Lessons Learned

- For a public transportation system to be successful its facilities must symbolize the values of the citizenry and contribute to the community's sense of place.

Park Cottages

Spruce Street
Sandpoint, Idaho

Community Design

Sustainability

Community Engagement

Developer/Owner:
Steve Lockwood &
Molly O'Reilly
Sandpoint, ID

Contractor:
The Home Crafters
Brent Lockwood
208.263.1224

Architect:
Studio of Sustainable Design
Bruce Eugene Millard
208.263.3815

Land Cost	$180,000
Pre-Development Cost	$70,000
Financing Cost	$0
Building Cost	$750,000
Total Cost	$1M
Gross Area of Building	9,305 SF
Cost per SF	$107
Area of Site	36,160 SF
Number of Living Units	16
Open Space	10,160 SF
Parking and Pavement	22 spaces
Rental Rates	$400-$500

Located on a small infill site adjacent to a public park and existing single-family residences, the Park Cottages serve one- and two-person households with modest incomes. Privately built as market-rate rentals, the 16 compact units are located in four buildings. The two buildings aligned on existing residential streets are designed to blend into the single-family character of the homes on those streets. A community courtyard with tables provides access to the other two buildings and serves both the coin-operated laundry and sheltered waiting area for public transit. All 11 street-level units are ADA accessible and have both porches and patios.

Best Practices In Action

Pedestrian Environment: Located in an existing urban neighborhood, the site is within a five-minute walk of many jobs, the general hospital, the public library and five schools.

Density: 16 units on .82 acres create a density of more than 19 units per acre.

"This project was conceived as one that would showcase smart growth and eco-friendly building and management, as well as fulfill an unmet housing need, demonstrating that a small, private developer can invest responsibly and successfully." Steve Lockwood – Developer

Sustainability

The Park Cottages feature site and building-construction strategies that are sustainable and cost effective. The buildings are constructed of RASTRA (blocks of recycled Styrofoam in concrete). Interior finishes include low-toxicity dyed concrete and integrally colored gypsum plaster. All buildings have south-facing windows that heat concrete floors during the winter, thermally supplementing the radiant floor-heating system. Landscaping utilizes native plantings with low-water-demand perennials. Swales of native riparian vegetation substitute for grass lawns and retain water runoff on the site.

Lessons Learned

- Good design and cost savings result from coordination among the developer, architect and builder during the earliest phases of the project.
- The use of studio units – in combination with bicycle parking and walkable distances to jobs and services – permitted a ratio of 1.4 parking spaces per unit.

Above Left: Insulation in excess of that required by code in combination with solar heat gain and radiant floor heating serve to reduce long-term energy costs. **Above:** General contractor Brent Lockwood explains the benefits and ease of constructing with RASTRA wall blocks prior to application of exterior finish.

Downtown Phillipsburg

Downtown
Phillipsburg, Montana

Economic Success

Urban Revitalization

Community Engagement

Contact:
Shirley Beck
Dale Siegford
115 E. Broadway
Phillipsburg, MT 59858
800.525.0169
www.sapphiregallery.com

Chamber of Commerce
PO Box 661
Phillipsburg, MT 59858
406.859.3388
www.philipsburgmt.com/

In 1991 the small, historic mining town of Phillipsburg with its rich architectural heritage was on the ropes. Eight businesses closed that year, and the bank owned a dozen buildings.

One morning residents awoke to freshly planted flowers in the long-neglected downtown planters. It was the clandestine work of a local business woman. The next year this same enterprising individual reopened a newly renovated historic storefront. The Phillipsburg renaissance was underway.

In the past 15 years, dozens of the town's historic commercial buildings have been restored. Twice it has been runner-up in a nationwide "Prettiest Painted Places" competition. Vintage street lamps donated by local businesses and individuals adorn three blocks of Broadway. Nearly all of the renovations are the result of energetic entrepreneurs. Tax credits provided added incentive for restoration, but this was a citizen-driven process with little government oversight and few local ordinances or design codes.

Today the community is bustling with visitors attracted by a multitude of community events ranging from summer theater in Montana's oldest opera house to the famed Rocky Mountain Accordion Celebration and an array of outdoor recreation opportunities.

Best Practices In Action

Preservation:	Fifty buildings in National Historic District.
Community:	Most restoration was completed by business owners and volunteers.
Economic:	Restoration work is a key element of economic development strategy.

"Our downtown is like our parlor – the benches are our couch, the sky our ceiling."
Shirley Beck — Phillipsburg resident

Lessons Learned

- Don't wait for grants, programs or plans – just do it.
- One individual's action can be a catalyst for community action.
- Awards such as the "Prettiest Painted Place" can build a community's confidence to move forward with other projects.
- A suite of cultural activities and natural and historic features can attract people to isolated communities.

Urban Revitalization

Most of Phillipsburg's renovations were completed through the sweat equity of business owners and their families. A supportive local bank provided much of the financing. While there was considerable freedom to renovate as one saw fit, there was also considerable peer pressure to maintain the historic character of the community. Thus far this laissez-faire approach to community revitalization has worked well.

Above: Volunteers and proactive citizens have been the primary source of revitalization efforts in downtown Phillipsburg.

Right: Restoration of exterior paint on the Main Street hotel demonstrates the rich vitality of historic buildings.

Far Right: Historic lighting, plantings, and ornate street furniture create a pleasurable pedestrian environment.

Downtown Powell

Downtown
Powell, Wyoming

- Economic Sucess
- Urban Revitalization
- Planning & Policy
- Community Engagement

Contact:

Powell Valley Chamber of Commerce
111 S. Day St.
Powell, WY 82435

Contributors:

- Chamber Image Improvement Committee
- Powell Valley Economic Development ALLIANCE
- City Design Development Committee
- Mayor's Committee on the Disabled
- City Urban Systems Committee

Public/private Funding:

• Wyoming Farm Loan Board	$600,000
• City of Powell General Fund	$415,000
• Wyoming Highway Department	$400,000
• Special Improvment District	$225,000
• Private donations	$160,000
Total	$1.8M

From 1970 to 1990 Powell, Wyoming, suffered a $76 million drop in assessed property valuations. Retail stores and service buildings had closed resulting in a main street with 22 vacancies – 25 percent of all its buildings. Billings, Montana, had become a regional market serving Powell, and a Wal-Mart opened 25 miles away in Cody, Wyoming. Three times before – in 1965, 1981, and 1984 – proposals for downtown beautification had failed.

Recognizing the inadequacies of past attempts at revitalization linked only to beautification, the Powell Valley Chamber of Commerce began in early 1991 to address downtown revitalization in a comprehensive manner with a joint public-private partnership engaging not only in design but aggressive promotion, organization and management, and economic restructuring. The results: 21 of 22 vacant stores have been filled by businesses, creating approximately 50 new jobs, and retail sales growth has averaged approximately 12 percent. Once an embarrassment, downtown Powell is now the centerpiece for a healthy and vigorous community.

The Merc, a cooperative retail store, was the cornerstone for revitalization in downtown Powell.

Best Practices In Action

Community: Public and private investment has led to a main street that is rich in visual appeal, pedestrian friendly, mixed in its retail services and vibrant with activity.

"Powell people claim ownership in downtown again. Only a decade ago, people avoided the downtown when they had visitors in town…they never held downtown up as something to be proud of. Now everybody starts with downtown as a showpiece of the community."
David Reetz – Powell Valley Economic Development Alliance

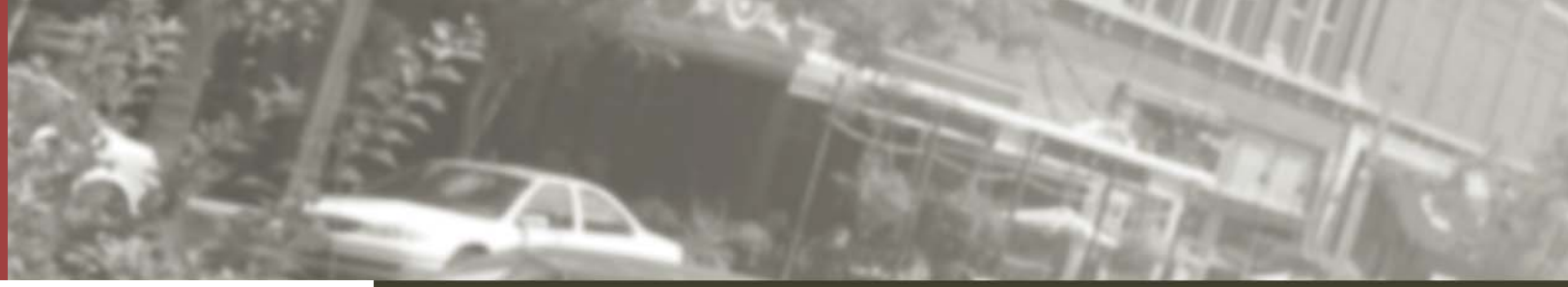
Planning and Policy

A comprehensive approach to revitalization led to Powell's success. City government invested in new streetscape elements and infrastructure, public parking improvements, park enhancements and the creation of a community plaza for downtown events and activities. Equally important, merchants redesigned their storefronts to create greater visual appeal; retail and merchandising workshops were conducted; retail strategy planning was developed; and an aggressive merchants' promotions organization was initiated.

Lessons Learned

- Research trips to other communities that have undertaken revitalization efforts are critical in identifying the goals, objectives and implementation strategies necessary to achieve successful and sustainable revitalization.
- Architectural assistance should be provided to store owners and merchants to help them prepare plans for improvements to their storefronts.

Streetscape amenities including bulbouts, stamped concrete sidewalks and crosswalks, benches, historic scaled street lights, street trees, and mural art (right) make downtown a destination for pedestrian activity.



Downtown Red Lodge

Downtown
Red Lodge, Montana

Planning & Policy

Economic Success

Planning:

- City of Red Lodge
  801 N. Broadway St.
  Red Lodge, MT 59068
  406.446.2320
- Dave Stauffer, City Planner
- Beartooth Front Community Forum
- Red Lodge Area Chamber of Commerce
- Red Lodge Downtown Merchants Association

Efforts to revitalize, preserve and enhance Red Lodge's historic downtown have been underway since the mid 1980s, consistently supported by the Beartooth Front Community Forum, the Red Lodge Area Chamber of Commerce, the Red Lodge Downtown Merchants Association, and the Red Lodge City Government. The city development code enacted in 1997 formalized measures to encourage and perpetuate the historic character of buildings. The same year voters passed a 3 percent resort tax on sales of nonessential goods in the city. The resort tax revenues of approximately $500,000 annually are used primarily for replacement and upgrading of the city's infrastructure.

Best Practices In Action

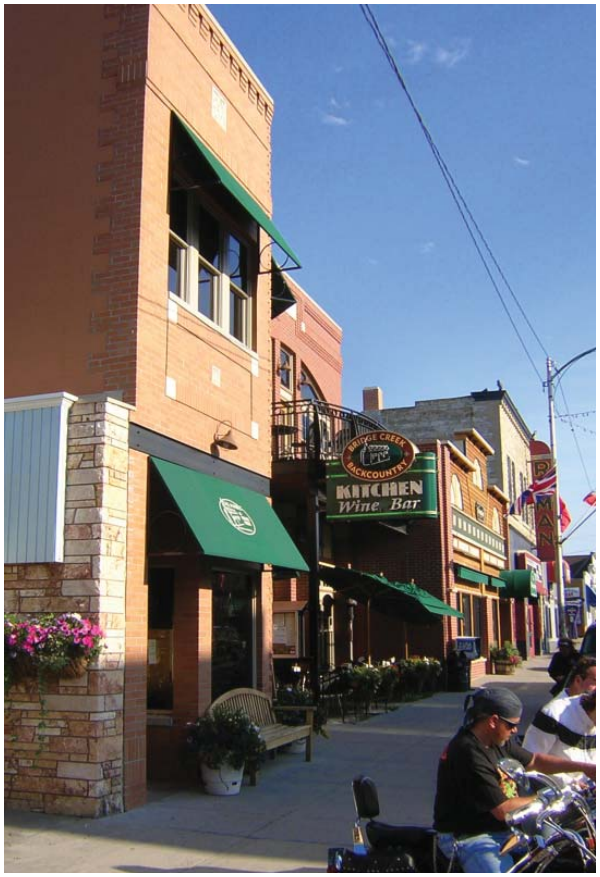
Historic Preservation: The historic district of Red Lodge centers on nine blocks of Main Street and the streets paralleling it on either side. More than 100 housing units and two parks are in this area.

"I think it is fair to say that Red Lodge's historic downtown is the principal economic engine for our city and the surrounding area. Moreover, our historic downtown is a great source of pride for the city, our area, and our citizens, providing an invisible glue that binds us together." Dave Stauffer – Red Lodge City Commissioner

Planning and Policy

In a comprehensive, ongoing project, such as Red Lodge's historic preservation, detailed regulations and guidelines were developed, adopted, periodically updated and rigorously enforced. These include a Historic Revitalization Master Plan, Historic District Design Standards, and a Red Lodge Growth Policy and Development Code. In combination these documents connect the historic character of the community and its social, cultural past to the economic aspirations of today's community.

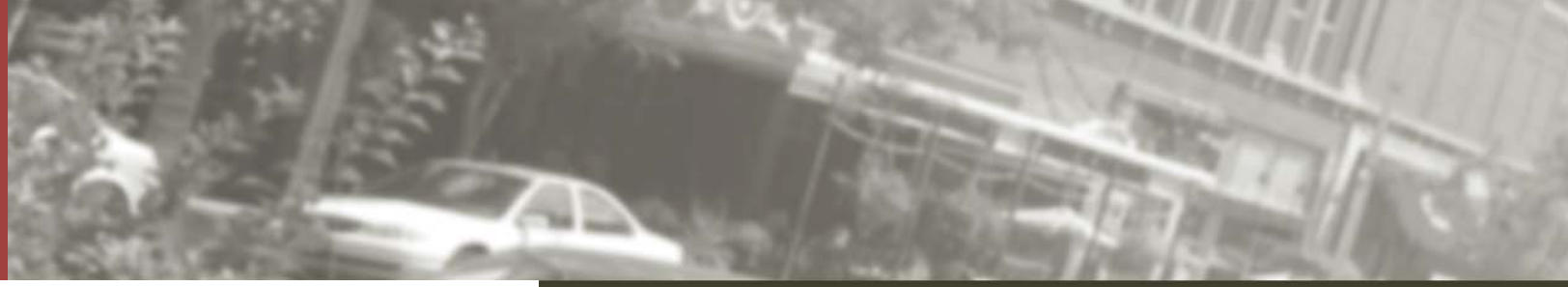
Preservation of historic structures applies not only to Red Lodge's mainstreet commercial district, but also the adjacent residential community.



The Hawkeye Center, an adaptively re-used granary, houses a mix of office and commercial uses.

Lessons Learned

- Always seek to make regulations clear and simple so that well-meaning people can be attracted, not repelled, by the standards.
- Provide builders and shop owners with planning office consultations and research by the county historic preservation officer to aid in developing building plans.



Xanterra Employee Housing

Downtown
Gardiner, Montana

Sustainability

Urban Revitalization

Community Design

Developer/Owner:
National Park Service
Yellowstone National Park

Concessionaire:
Xanterra Parks & Resorts
Yellowstone National Park

Contractor:
Martel Construction
Bozeman, MT

Architect:
Overland Partners/Studio Forma
Mark Headley
406.585.1400

Land Cost	$0
Financing Cost	$0
Building Cost	$880,782
Total Cost	$880,782
Gross Area of Building	4,742 SF
Cost per SF	$186
Area of Site	.42 acres
Number of Living Units	2 houses
Open Space	.29 acres
Parking and Pavement	1,556 SF

Seeking a test platform for exploring potential sustainable and green strategies, concessionaire Xanterra Parks & Resorts, in cooperation with Yellowstone National Park, developed a 3-bedroom duplex for employee housing with the principal goal of achieving LEED (Leadership in Energy and Environmental Design) certification. Beginning with the clean up of a brown field site contiguous with the town of Gardiner and using passive solar design features, green materials and construction methods, the project was awarded LEED certification in 2005.

Solar sunspaces dominate the south façade of the residences.

Xanterra's LEED certification monument.

Best Practices In Action

Community: Utilizing sustainable technologies minimizes the energy impact on the community and achieves affordable employee housing.

"Our motivation for deciding to seek LEED certification for this project was based on a sincere sense that protecting our environment through recycling, energy conservation, sustainable design, and best practices was simply the morally right thing to do."
Barry Cantor – Xanterra Parks & Resorts

Sustainability

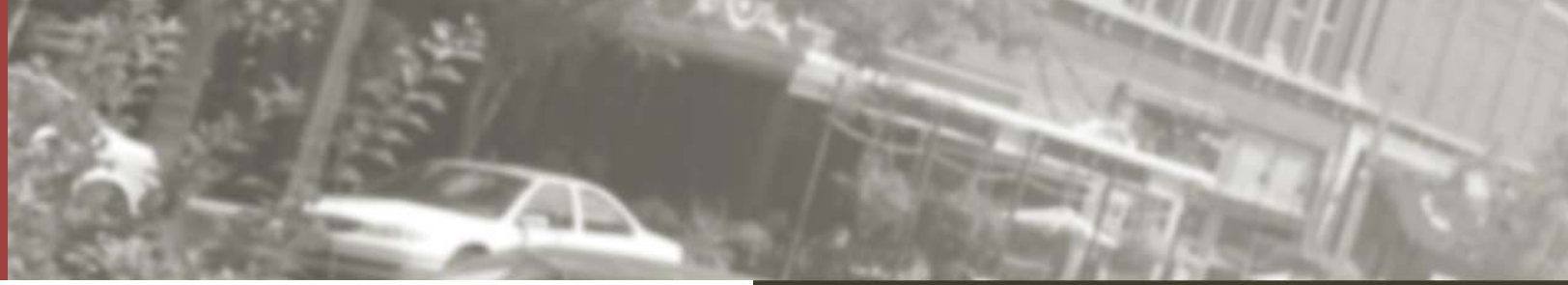
Each unit has a south-facing two-story sun space to maximize passive solar heat gain, a photovoltaic array for electrical energy, insulated concrete formed (ICF) walls to enhance and stabilize heat gain, structural insulated panels (SIP) to minimize waste and maximize roof insulation as well as sustainable landscaping using native vegetation. Within the units sustainable design elements include in-slab hydronic heating, water efficient fixtures, dual flush toilets, energy efficient appliances, compact fluorescent lighting, low VOC emitting paints and carpets as well as insulating drapes.

Left: Photovoltaic array above the sunspaces. **Top:** The steep site permitted daylighting of the lower level. **Above:** Interior view of residence. © Erik Hendrickson/National Park Service

Shown during construction, the Insulated Concrete Form (ICF) system was used for both foundations and walls in order to stabilize heat transfer. © Erik Hendrickson/National Park Service

Lessons Learned

- LEED's certification requires pre-planning, coordination, and budgeting among all of the participants in the design and construction process.
- The cost of LEED's certification represented approximately 2 percent of the construction budget.
- The LEED's point system is not necessarily an infallible guide to energy-efficient design. For example, southern exposure, which is so important in Gardiner, was not awarded points toward LEED certification.



Other Noteworthy In-Town Projects

Throughout the Northern Rockies, our towns and neighborhoods are enriched by the efforts of local government, groups and individuals. The Bureau of Reclamation Snake River Area Office demonstrates the ability of government agencies to lead by example in creating a building that contributes to the aesthetics of the community while adopting a full range of sustainable building practices. The Belmont Senior Center and Downtown Whitefish are exemplary public-private partnerships in which civic groups and local government worked together to meet the social, cultural and economic needs of their community. The remaining three projects illustrate the leadership role that private enterprise plays in making our communities great places to live and work. The CTA building illustrates strategies for adaptive reuse while 524 South Black and 199 East Pearl illustrate the potential of infill projects to demonstrate the value of unique zoning regulations.

CTA Architects
Billings, Montana

This previously dilapidated 1920s warehouse at the east edge of the Montana Avenue tax increment financing district has not only been restored but also serves as a demonstration project for illustrating the beauty and practicality of building "green." The sustainable strategies involved began with preserving 75 percent of the original building and include: a 2,550 square-foot roof garden; operable windows for fresh air; photo sensors to turn off perimeter lights when adequate daylight is available; waterless urinals and low-flow fixtures; and the use of recycled steel throughout the entire project. Not only has the beauty of the building been restored and enhanced but, perhaps more importantly to the city of Billings, the building's occupants have restored life and vitality to what had become for all practical purposes an abandoned portion of the downtown.

Architect: CTA Architects & Engineers

524 South Black
Bozeman, Montana

This in-town housing project utilized a single, corner lot to create two small homes. The infill project increased density in an existing neighborhood, which is already served by the city's infrastructure. The craftsman-style architecture is consistent with the style of the neighborhood. Unconventional siding was approved as a variance to the historic district requirements through a neighborhood process documenting support. Although requiring numerous variances for fencing, setbacks, lot coverage, and multiple dwellings, the project is often used as an example of the quality and character of design sought by the community. The project not only illustrates the conflicts often found between appropriate design strategies and ordinances intended to prevent the worst case scenarios but also the ability of the approval process to accommodate good design.

Architect: Richard Charlesworth

Belmont Senior Center
Butte, Montana

The Belmont Senior Center is an unlikely conversion of the historic Belmont mine hoist building into a community facility serving the elderly residents of Butte, Montana.

Innovative design was necessary to maintain the historic structure and its industrial character while making it accessible and creating an interior environment for socializing, education, games, meetings, and food service. By retaining the exterior character of the building and many of the interior elements such as cranes and lockers, a powerful link to the history of Butte was brought to life, fostering community pride and reinforcing a sense of place.

Architect: Butte Silver Bow - Mark Reavis

199 East Pearl
Jackson, Wyoming

The first to use Jackson Hole's zoning ordinance that provides density and floor area ratio bonuses for development of underground parking and 50 percent or more housing in the commercial zoning district, this mixed-use project incorporates street-level commercial with two floors of residential above (including affordable units) and parking below. Conceived to integrate into an existing mixed-use neighborhood, the scale of the building draws attention to its corner location, and the fixed awnings provide year-round weather protection for pedestrians.

Architect: Carney Architects

Bureau of Reclamation Snake River Office, Boise, Idaho

The Bureau of Reclamation Snake River Area Office was conceived as a "green" building capable of meeting the federal government's aspirations to be a leader in demonstrating energy efficiency and at the same time satisfy the contemporary demand for security. Environmentally friendly materials and renewable resources were used exclusively throughout the building. The principal green strategies included maximum daylighting, which provides natural light throughout the interior and takes advantage of the site's extraordinary views, energy-efficient geothermal heating and cooling systems, water reclamation systems, and landscaping exclusively with native vegetation.

Architect: Hummel Architects

Downtown Whitefish
Whitefish, Montana

Streetscape enhancements, new façades, adaptive reuse of older buildings, and new public buildings have led to a significantly revitalized downtown Whitefish. New bulb-outs at crosswalks reduce pedestrian travel distance and better define on-street parking areas. Pedestrian friendly amenities such as historic lighting fixtures, hanging plants and banners, public seating and a new plaza for community events enhance the quality of the downtown environment. Private investment has led to new commercial and retail uses in remodeled and new buildings. A new library and separate arts theater enhance the mix of uses downtown, and the nearby Amtrak station serves as a major transportation hub and railroad history museum.

Edge Case Studies

Community-edge projects exist in the transitional zones between town centers and the rural landscape. These are the areas of greatest growth in the Northern Rockies, both in terms of acreage consumed and population. While historic communities were often platted by the railroads or conceived as commerce centers with densities of six to eight units per acre, today's edge developments typically have only one to three units per acre. Thus the design of edge communities is extraordinarily important if they are to successfully connect the historic landscape to the social, cultural, economic and physical needs of existing and new residents in the Northern Rockies. Projects were selected as community edge case studies because they:

- Offer a diversity of housing types for a variety of income levels.
- Use environmentally appropriate development and construction practices.
- Employ sustainable energy strategies and passive energy design.
- Preserve open space and important natural features.
- Provide recreational opportunities.
- Create mass-transit oriented communities.
- Minimize the cost of public infrastructure, construction and maintenance.

Edge Case Studies

- Hellgate Meadows
- McCauley Butte Master Plan
- Orchard Gardens
- Valley West
- Wilson/Sage Meadows
- Other Noteworthy Projects

Hellgate Meadows

America Way off South Reserve Street
Missoula, Montana

Community Design

Planning & Policy

Developer/Owner:
Neighborhoods by Design LLC
Bob Brugh
25685 Nine Mile Rd.
Huson, MT 59847
406.626.4687

Edgell Homes & Development
David Edgell
320 Express Way
Missoula, MT 59808

Architect:
Lennertz Coyle and Associates
433 California St.
San Francisco, CA 94104

James Hoffman and Associates
265 West Front
Missoula, MT 59802

Land Cost	$1.1M
Pre-Development Cost	$701,000
Financing Cost	$472,000
Building Cost	$4.9M
Total Cost	$7.3M

Area of Site	97 acres
Number of Living Units	325-400
Open Space	1.69 acres
Parking and Pavement	8.93 acres

Hellgate Meadows was conceived, designed and executed with a clear and persistent commitment to the principles of "New Urbanism," successfully illustrated by:

- A street, block and building design concept based on local historic precedents
- A five-minute walk from the edge of the neighborhood to the center
- A neighborhood center organized around a park with community services and a mix of higher density residential and nonresidential uses encompassing the park
- Local retail and residential uses connected to an arterial street where city-wide commercial activity is available
- Small front-yard setbacks and porches for all residential units;
- An inter-generational and economically diverse community achieved by providing a variety of housing types intermixed throughout the neighborhood.

Left: Parking lots are located adjacent to residential alleys behind commercial buildings. Above: Accesory dwelling units permitted above garages creates affordable housing units in the neighborhood.

Best Practices In Action

Diversity of Housing Types: Single-family homes with mother-in-law units, duplexes, a variety of lot sizes, apartments, and senior housing were all integrated into the development.

"In the West, I think planning should be a crucial part of development in addition to design. Really, good planning is good architecture."
Bob Brugh — Neighborhoods by Design

Planning and Policy

The success of Hellgate Meadows is owed to the willingness of the City of Missoula to adopt a Traditional Neighborhood Design zoning ordinance. This allowed the developer to organize the village core in a manner that could receive zoning approval yet at the same time gave the developer the flexibility to respond to market demands.

The Hellgate Meadows site plan demonstrates the concept of high density at town center and diminished density toward the edges. © Oliver Kuehne/HDR

A typical single-family home shown adjacent to multi-family homes, duplexes, and apartments beyond.

Lessons Learned

- Have an excellent, well-thought-out plan that has been thoroughly discussed within the community, and don't deviate from it.
- Pay for the best experts in the field of town planning.
- Do not allow "cookie cutter" design that is endlessly repeated throughout the development.
- Realize that in developing a neighborhood in a manner that is new to a community, the price points will move up as the consumer sees the project maturing and as its desirability as a place to live comes to fruition.

McCauley Butte Master Plan

At the Confluence of the Bitterroot and Clark Fork Rivers, Missoula, Montana

- Open Space
- Community Design
- Planning & Policy

Developer/Owner:
Northern Lights
Development LLC
Stuart Goldberg
406.250.7146

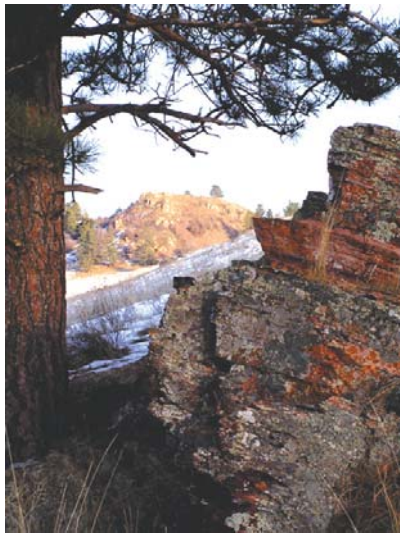
Architect:
MacArthur, Means, and
Wells Architects, P.C.
125 W. Alder St.
Missoula, MT 59802
www.mmwarchitects.com

Planning:
Professional Consultants Inc.
3115 Russell St.
Missoula, MT
406.728.1880

Land Cost	$3.37M
Pre-Development Cost	$500,000
Financing Cost	$3M
Building Cost	$5M
Total Cost	$11.87M
Area of Site	310 acres
Number of Living Units	128
Open Space	280 acres
Parking and Pavement	5 acres
Market Sales Price	$155,000

The McCauley Butte subdivision uses less than nine percent of its 300-plus acres on the Bitterroot River for residential development. The 1.5 miles of wetland, riparian areas and hayfield adjacent to the river have been set aside from development, and a conservation easement gives up the development rights to McCauley Butte, preserving in perpetuity one of the community's most cherished views and wildlife habitats. The remaining 19.6 acres, on flat ground at the eastern edge of the property, were subdivided into 128 lots for townhomes and single-family residences. Clustering in this manner provides excellent protection of wildlife habitat by maximizing the area of contiguous habitat and minimizing the points of human interaction.

Preseved agricultural operations are a key component to the McCauley Butte Master plan.
© MacArthur, Means, and Wells Architects



A view of the preserved McCauley Butte wilderness. © MacArthur, Means, and Wells Architects

Best Practices In Action

Environmentally Appropriate:	Development is clustered on relatively flat land preserving slopes, wetlands and wildlife corridors.
Open Space & Nature:	The project protects one of the community's designated open-space "cornerstones," McCauley Butte.

"We were able to see that many species, not just deer and geese but also foxes, black bears and mountain lions, use these riparian areas as migration corridors. This first-hand experience led us to create generous riparian buffer zones that limit the development and keep it away from these sensitive lands." Brett Kulina — Northern Lights Development Co.

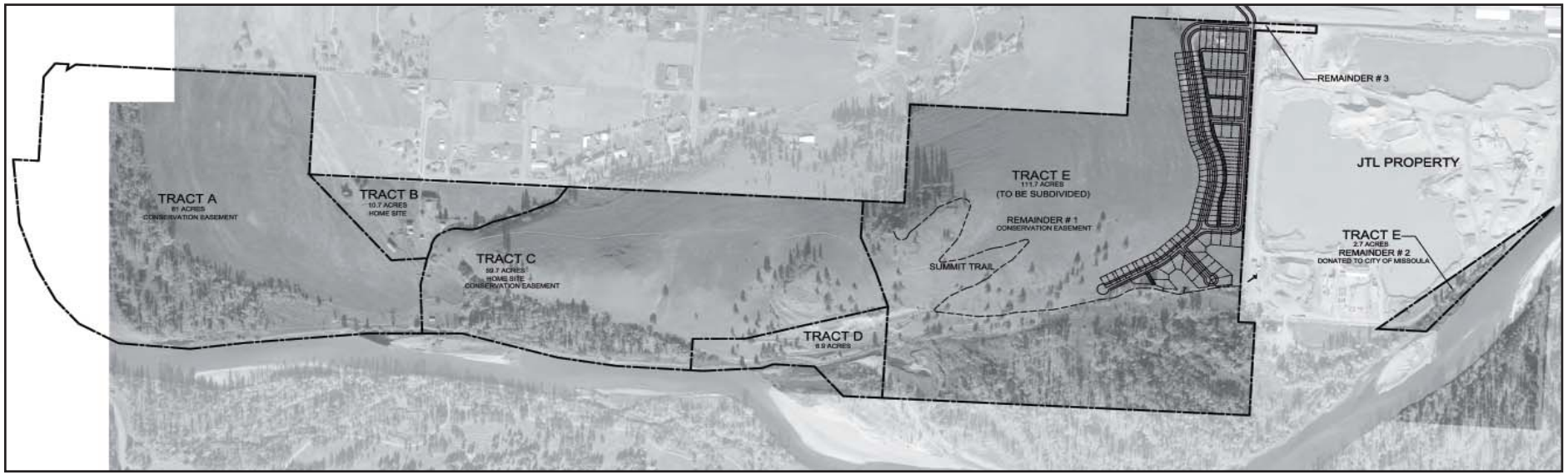
Open Space

Celebrating the area's rural agricultural history, more than 60 acres of the McCauley Butte development remain in hay production, and a 300-animal sheep-grazing program works to mitigate noxious weeds, as well as provide wool and lamb for local farmer's markets.

Lessons Learned

- Local government is woefully unprepared to deal with and advocate uniquely public interest-based, cross-jurisdictional projects. Progressive, special projects need champions who can help get things done.

Above: Preserved wetland habitat. **Right:** A photo rendering showing the future location of residential development. © MacArthur, Means, and Wells Architects **Below:** Site plan indicating 280 acres of open space and 20 acres of clustered residential development. © MacArthur, Means, and Wells Architects



Orchard Gardens

210 North Grove Street
Missoula, Montana

Open Space

Community Design

Sustainability

Developer/Owner:
homeWORD
www.homeword.org

Architect:
MacArthur, Means and
Wells Architects, P.C.
125 W. Alder St.
Missoula, MT 59802
www.mmwarchitects.com

Contractor:
McMahon Construction
Missoula, MT

Sirius Constuction
825 Cooper St.
Missoula, MT 59802

Land Cost	$373,000
Pre-Development Cost	$693,827
Building Cost	$4,883,406
Total Cost	$5,950,233
Gross Area of Building	39,369 SF
Cost per SF	$151
Area of Site	4.56 acres
Number of Living Units	35
Open Space	2 acres
Parking and Pavement	55 spaces
Rental Rates	$301-$809

Conceived first as a sustainable and affordable community, Orchard Gardens demonstrates the potential of green architecture to contribute directly to a sense of place. Thirty-five housing units and a community barn surround community gardens and a commons area. An underground parking structure contributes significantly to the residential character of the community by minimizing conflicts with cars on the site and emphasizing the pedestrian-oriented landscape. Metal roofs and industrial roof ventilators, in combination with vertical siding and the clustering of buildings, create an agricultural feel to the entire complex. This agricultural character is reinforced by the adjacent orchard, which is maintained and harvested by the residents for local fruit sales.

The Orchard Gardens cluster of buildings, with the "farmhouse" in front, is reminiscent of traditional farmsteads in the West.

Best Practices In Action

Environmentally Appropriate: A waste-management system identified and distributed recyclable materials generated on the construction site.

Transit Oriented: Alternatives to the automobile are provided by a relatively high concentration of housing that creates a node appropriate for connection to public transportation and by the location adjacent to an existing trail system.

"Orchard Gardens is designed to foster local food security as two acres of the property are reserved for community gardens that will be facilitated by Missoula's Garden City Harvest."
Judy Smith — homeWORD

Above: Multifamily studio and one-bedroom apartment building successfully hides a parking garage below grade.
Upper Right: The community barn demonstrates straw bale construction techniques and the resulting aesthetic.
Lower Right: A typical affordable housing unit in the"Farmhouse."

Lessons Learned

- Creating higher density housing, 13 units per acre, within a low-density neighborhood of 10,000-plus-square-foot lots requires a significant commitment to working with neighbors in preparation and execution of the development.

Sustainability

Among the sustainable features found in the Orchard Gardens development are: a strawbale agricultural building framed with recycled heavy timbers; locally harvested wood for framing the residential units; ground source heat pumps; a solar array for power; and cold roofs that provide excellent insulation qualities.

Valley West

Babcock Street and Ferguson Avenue
Bozeman, Montana

- Open Space
- Community Design
- Planning & Policy

Developer/Owner:
The Aspen Group

Planning:
Prugh & Lenon Architects
27 East Main St.
Bozeman, MT 59715
www.prughlenon.com

Architectural:
Intrinsik Architecture
428 East Mendenhall
Bozeman, MT 59715
www.intrinsik.info

Engineer:
Morrison-Maierle
Engineering
www.m-m.net

Landscape Architect:
Fischer & Associates

Area of Site	310 acres
Number of Living Units	1,630
Open Space	93 acres

Valley West is a 310-acre planned-unit development (PUD) conceived to reflect the lot arrangements and street and block patterns of Bozeman's historic residential neighborhoods. Lots are relatively small, narrow and served by alleys. This increases the number of homes per block, which reduces the cost per unit of infrastructure and increases the "eyes on the street" for neighborhood safety. Additionally, using alleys eliminates curb cuts and cars parked in driveways, making the sidewalks safer and the community's visual character one of landscaping rather than a parking lot. Wetlands, watercourses and critical lands are integrated into an inter-connected network of open space, parks and trails.

Best Practices In Action

Diversity of Housing Types: Valley West includes a broad range of housing types and architectural styles including apartments, row housing, condominiums, duplexes and single-family homes.

"Valley West went against common convictions and typical development strategies and has resulted in an exemplary project that can be credited with changing codes and perceptions of moderate-density development patterns." Rob Pertzborn – Intrinsik Architecture

Community Design

The master plan for the community uses a traditional grid modified to preserve 93 acres of open space, two lakes and two stream corridors interconnected by a four-mile trail system. Front porches are set back 10 feet from sidewalks, and sidewalks are separated from the narrow streets by 10-foot-wide landscaped boulevards with tree plantings. Bulb outs and traffic circles increase pedestrian safety at intersections by slowing traffic and reducing the distance from curb to curb.

The Valley West site plan illustrates how 30 percent of the total acreage is dedicated to open space, trails, and water features, which integrate into the neighborhood. © Intrinsik Architecture © Prugh and Lenon Architects

Above: A portion of the four-mile trail system connects residents to their front doors. **Right:** A variety of contemporary forms create interest on narrow lots conforming to traditional historic neighborhood lot sizes.

Lessons Learned

- A comprehensive design that creates pride of place resulted in an effective working relationship with the city and community as each phase of development was modified to accommodate changing objectives of both the city and the builders.

Wilson/Sage Meadows

Wilson, Wyoming
Jackson, Wyoming

- Community Design
- Open Space
- Transportation

Developer/Owner:
Teton County
Housing Authority
P.O. Box 714
Jackson, WY 83001
www.tetonwyo.org/housing/

Architect:
Tobler Duncker Architects
P.O. Box 4735
Jackson, WY 83001
www.tdarch.net/

In a community with homes that on average sell for $565,000 and range past $1 million, the Teton County Housing Authority integrated eight single-family duplex homes in a manner that brings the views, open space and neighborhood characteristics of market-rate developments to affordable-housing residents. The affordable homes range in size from 1,000 square feet with two bedrooms and one bath up to 1,300 square foot, three-bedroom, two-bath units, all of which have front porches and attached one-car garages. Native landscape materials within the development blend seamlessly into the adjacent open lands preserved by the Jackson Hole Land Trust.

The site planning of Sage Meadows successfully transitions the development from private yards to natural landscape in a subtle and imperceptible manner.

"The focus is on creating home ownership opportunities, but also making homes that are very livable and take advantage of the views and natural factors here to give people a really nice place to live."
Forrest Neuerburg, Past Executive Director — Teton County Housing Authority

Community Design

The organization and visual character of the development were inspired by typical Western ranches where buildings of various sizes, shapes and heights are clustered together for ease of access, protection against the weather, and preservation of open lands.

Above: Curbless roads in Wilson Meadows promote natural runoff to be absorbed in the aquifer in a distributed manner throughout the subdivision. **Right:** The colors, forms and layout of the buildings within Sage Meadows recall historic agricultural architecture of Wyoming.

Best Practices In Action

Diversity of Housing Types:	Owners of the homes are employees or volunteers in the Jackson community service industries such as teaching, firefighting, food service, recreation and design.
Recreation:	An ADA-accessible commuter trail links the subdivision to Wilson and Jackson Hole.

Lessons Learned

- Well-designed duplexes, because of their combined size and potential for varied façade characteristics, can be integrated into a neighborhood of large, market-rate homes in a manner that makes one virtually indistinguishable from the other.

Other Noteworthy Edge Projects

In what manner should our landscape evolve as our communities expand in response to the ever increasing population that seeks to live in the Northern Rockies? Each of these projects demonstrates an alternative approach to infill and expansion at the edge of our towns and cities. The Copper Mountain Recreation Center demonstrates the potential of reclaimed industrial sites to contribute significantly to the quality of life of our communities while Creekside Meadows, Mountain Meadow, and the Branding Iron Subdivision each illustrate different strategies for meeting the variety of housing needs present in the Northern Rockies.

Branding Iron
Livingston, Montana

The ten homes built simultaneously through the Rural Development Mutual Self-Help Program have created a new neighborhood in Livingston. The Northern Rocky Mountain Resource Conservation and Development organization used a $400,000 United States Department of Agriculture Technical Assistance Grant to help very low and low-income families finance and build their own homes. The grant funded the administration of the program, design of the homes, and construction supervision and construction education for the participant families. Uniquely, the program requires families to build sweat equity by working a required number of hours on construction of their home as well as their neighbors' homes to reduce costs and to build kinship among the participating neighbors much in the manner of historic building in the West.

Developer: Northern Rocky Mountain Resource Conservation and Development

Copper Mountain Recreation Center
Butte, Montana

Located near town, the recreation center and park were developed as part of a mine remediation process. The project features interpretative signage for the reclaimed mine site that tells the story of the mine and its relationship to the history of the community. The park includes a multi-purpose building capable of supporting a variety of public events, recreational fields, sports fields, a golf driving range and playground.

Developer: Butte-Silver Bow City-County Government

Mountain Meadow
Jackson, Wyoming

Mountain Meadow is an affordable-housing project located on a one-acre triangular parcel left over from previous market-rate developments. Three clusters of three units each have been created at the corners of the triangular site, achieving a density of nine units per acre with a central commons. The project is located near public transportation and commercial development, which provides live-work possibilities.

Developer: Teton County Housing Authority

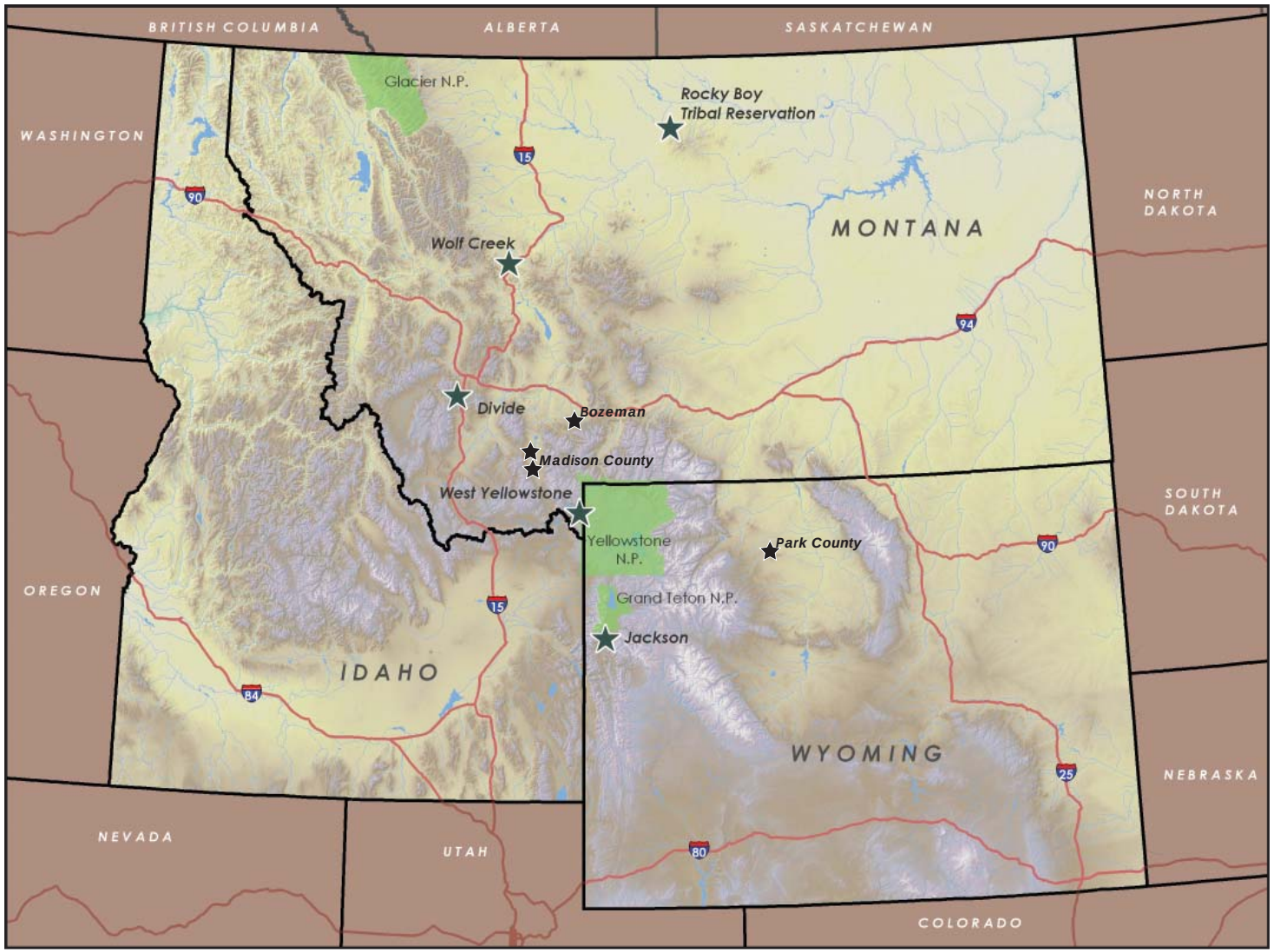
Creekside Meadows
Driggs, Idaho

Multi-generational housing, a broad range of housing types, and commercial development are effectively integrated in the Creekside Meadows community plan.

The master plan includes 50 clustered single-family homes, 35 estate lots, 7 multifamily townhouse lots, 56 apartments in 5 buildings, 14 commercial acres, and 10 commercial node lots. The 94-acre development has 23 acres of open space, paved bike and gravel pedestrian trails throughout, a 1.37-acre central park, and a trail that connects the community to downtown Driggs.

Developer: Prime Properties of Jackson Hole

Rural Case Studies



The primary responsibility of rural development is to maintain the natural and productive value of land. In contrast to the city center and edge projects, the opportunity for human interaction is de-emphasized in favor of protection of natural resources, ecosystems, and subsurface and surface water resources, as well as preservation of open space. Ultimately, many decisions about the future of the rural landscape must be made by those who reside in it, such as members of farming, ranching, timber or mining communities; therefore, the selected case studies illustrate development practices that:

- Engage the community in the planning process
- Preserve natural resources and community access to those resources
- Preserve and promote agricultural activity
- Preserve wildlife habitat and migration corridors
- Preserve surface and groundwater resources
- Preserve the visual character of the rural landscape
- Absorb the cost of government services

Rural Case Studies

- Big Hole River Land Use Plan
- Hebgen Basin Zoning District
- Rocking Z Ranch
- Rocky Boy's Reservation Master Plan
- Teton Science Schools' Jackson Campus
- Other Noteworthy Projects

Big Hole River Land Use Plan

Butte-Silver Bow, Madison, Beaverhead and Anaconda-Deerlodge Counties, Montana

- Open Space
- Community Engagement
- Planning & Policy

Developer/Owner:
The Big Hole Land Use Planning Committee

Planning:
Rick Hartz, Beaverhead Co.
Doris Fischer, Madison Co.
Jon Sesso, Butte-Silver Bow Co.
Susan Blume, Anaconda-Deerlodge Co.

Other:
The Big Hole River Foundation (www.bhrf.org)

Grants	RCC $5,000
Public/Private	EPA $5,000
Contributions:	RGI $25,000
	DEQ $30,000
	DEQ Floodplain map $20,000

A locally led community process engaged four counties, two watershed organizations and the citizens of the Big Hole Basin in planning for future development in this rural watershed. Following four years of educational forums and public comment, the process produced a vision for the area's land use and recommendations to present to the counties for adoption.

All four counties adopted the recommended Big Hole land-use plan, which includes: a right-to-farm ordinance; guidelines for future development near existing communities; support for the use and expansion of conservation easements; and a river conservation setback standard for all development.

The homes on the left side of the Big Hole River illustrate recent development patterns, which motivated the planning process. The open space shown across the river has been preserved and is typical of the results anticipated by the Land Use Plan. © Kestrel Aerial Services, Inc.

The process for determining Big Hole land use planning involved local residents at every phase.

"The public process took time to build trust between land owners and conservationists. It was important for everyone to learn together. This community process was not rushed and that was key to our success." Doris Fischer — Madison County Planner

Planning and Policy

Residents value maintaining the visual and ecological integrity of the Big Hole River, and through a series of public forums crafted recommendations to protect the river corridor. A setback standard was developed for all parcels of land. Recommended criteria for evaluating suitability for development included: the 100-year floodplain; riparian habitat; areas that would threaten stream-bank stability; and zones that do not meet sanitation requirements. Each county adopted the standards in its comprehensive plan and implemented them within the watershed boundary through either a building permit system or zoning ordinance. An inter-county memorandum of understanding established a consistent standard and an inter-county variance review board.

The Big Hole River Land Use Plan is intended to protect the abundant natural assets of the four-county region.

Lessons Learned

- The planning process must begin with identifying the values of the community and a vision for the future.
- At community forums, regional experts should educate groups about land-use planning tools, economic impacts and other community planning examples.
- Implementation of the river setback requires county ordinances to be adopted and an inter-county memorandum of understanding (MOU).
- An inter-county variance review board is required to ensure that variances are consistent throughout the watershed.
- An inter-county GIS floodplain map of current floodplain and flood-prone areas is required so that all parties work from the same information source.

Hebgen Basin Zoning District

Gallatin County,
Montana

Open Space

Community Engagement

Planning & Policy

Planning:
Gallatin County Planning Department and
Residents of Hebgen Basin

Facilitation:
Sonoran Institute

Hebgen Basin Zoning District encompasses 13,280 ecologically important acres at the edge of Yellowstone National Park. Grizzly bears regularly traverse Duck Creek, which flows through the basin. Elk migrating to their winter ranges skirt the northern edge of the basin, while bison wander through its center.

Developments proposed in the 1990s galvanized local concern about the future of the area and the potential impacts of unregulated growth. While a land-use plan and a zoning ordinance existed, both needed revisions. Over a two-year period, volunteers painstakingly revised both. They crafted a shared vision for the future of this special landscape and developed a land-use plan and zoning regulation that would achieve these goals. The plan features density bonuses for developers who cluster housing away from important habitats. Residents also successfully lobbied for public funding to protect private parcels through purchase and easements. Through hard work and creativity they designed a conservation-oriented land use plan and regulations that permanently protect important habitat.

© Daniel Glenn

Best Practices In Action

Density:	Developers are rewarded with density bonuses if housing is clustered.
Open Space:	Important habitats are identified and protected through zoning and easements.
Community:	The plan and regulation were written by local residents.

Community member forums were key to the planning process in Hebgen Basin.

"We're trying to protect what we have. If I don't protect my own backyard, I don't know who would." Dee Rothschiller – Hebgen Basin resident

Planning and Policy

A series of public meetings informed residents of the status of wildlife and the growth management tools available for protecting the area's natural values. Community-visioning sessions identified what people wanted to protect and where future development should be located. The land-use plan and zoning regulation served as a road map for achieving these goals. Gallatin County Commissioners unanimously approved this plan.

Lessons Learned

- Identifying shared community values helps to orient all subsequent planning.
- Citizens need to understand what is needed in a land-use plan to protect what they value. With this understanding comes increased acceptance for regulating land use.
- Not everyone will be pleased with any land-use plan or zoning regulation, but broad support will help convince decision makers that such plans should be approved.
- Citizens should be told upfront that these processes can be long and arduous.

This rendering depicts the potential of the previous traditional zoning ordinance to permit sprawling development that encroaches on Duck Creek, wetland habitats, and migratory corridors nearby. © Sonoran Institute

This rendering demonstrates the intention of the revised zoning ordinance to cluster development on small lots adjacent to the existing roads and away from Duck Creek, wetland habitats, and migratory corridors. Density bonuses are awarded to the developer for clustering housing units. © Sonoran Institute

Rocking Z Ranch

Wolf Creek, Montana

Open Space

Planning & Policy

Developer/Owner:
Rocking Z Guest Ranch
Zach and Pat Wirth
2020 Chevallier Dr.
Wolf Creek, MT 59648
www.rockingz.com

Planning:
Montana Land Reliance
www.mtlandreliance.org

American Conservation
Real Estate
Lane Coulston
406.443.7085

Land Cost (Easement)	$150,000
Area of Site	20 acres
Number of Living Units	1
Ranch Acreage	1000 acres
Ranch House and Support Facilities	50 acres
Open Space Preserved	950 acres

The Wirths, like many ranching families, wished to keep their 1,000 acre ranch in operation but were faced with debt, medical expenses, and inheritance issues as well as the costs of needed improvements. To raise the capital needed to resolve these issues, they chose an approach called Small Homestead – Large Landscape. In this model the rancher sells a homesite parcel and recreation rights on a working ranch protected from other development by a conservation easement. Thanks to the cash infusion generated by the sale and conservation easements, the Wirth's operate the Rocking Z Ranch in a manner that protects the land from subdivision and, according to Zack and Patty Wirth, "without going into debt and without sacrificing our goals for the family ranch."

The Wirth Family in front of their feed barn.

The Wirth Family home remains at the center of agricultural activity.

"Small-homestead transactions reverse the set of advantages and disadvantages associated with the fee-simple purchase of a working ranch. The small-homestead buyer has no management responsibilities and leverages his or her purchase dollars into the protection and enjoyment of a working ranch worth several times the purchase price." Lane Coulston – American Conservation Real Estate

Open Space

The Small Homestead – Large Landscape model works as follows:

- The rancher grants a conservation easement that limits development to one or two appropriate home sites.
- The buyer purchases the reserved home site, along with a parcel of deeded land and recreation rights to the entire protected ranch.
- The rancher retains agricultural use rights to the buyer's deeded parcel.

Best Practices In Action

Agriculture: The Small Homestead – Large Landscape model creates value for the homestead parcel while preserving the future of agricultural activity.

Above: Pictured is the small homestead within the conservation easement retained for the working ranch.
Left: The capital earned from the conservation easement has allowed the Wirths to maintain ranch operations and even build new structures to support them, such as this feed barn.

Lessons Learned

- Since rising prices have pushed the cost of scenic working ranches beyond the reach of all but the most affluent buyers, the Small Homestead – Large Landscape model broadens the market of conservation buyers and subsequently protects more property from development with conservation easements.

Rocky Boy's Reservation Master Plan

Rocky Boy's Reservation, Montana

Open Space

Community Engagement

Planning & Policy

Planning and Design:
The Community Design Center
School of Architecture
Montana State University
Bozeman, MT

Contact:
Ferdinand S. Johns, Professor
School of Architecture
Montana State University
Bozeman, MT

Cost $10,000

The Chippewa Cree Rocky Boy's Reservation consists of approximately 130,000 acres of bench lands, foothills and mountain terrain occupied by 3,000 tribal members. Because of newly reacquired water rights, the population is expected to grow to 19,000 in the next 50 years.

Tribal leaders recognized that this growth – if past patterns of reservation settlement continued – could lead to the loss of their extraordinary and unique landscape, as well as their historic cultural identity, which is closely tied to the landscape. To avoid this, the Chippewa Cree adopted a master plan to organize diverse yet noncompetitive land uses in a manner that will concentrate development in villages, each with its own unique character, while preserving and enhancing open grasslands, fields for agriculture, and mountains for historic cultural activities and recreation.

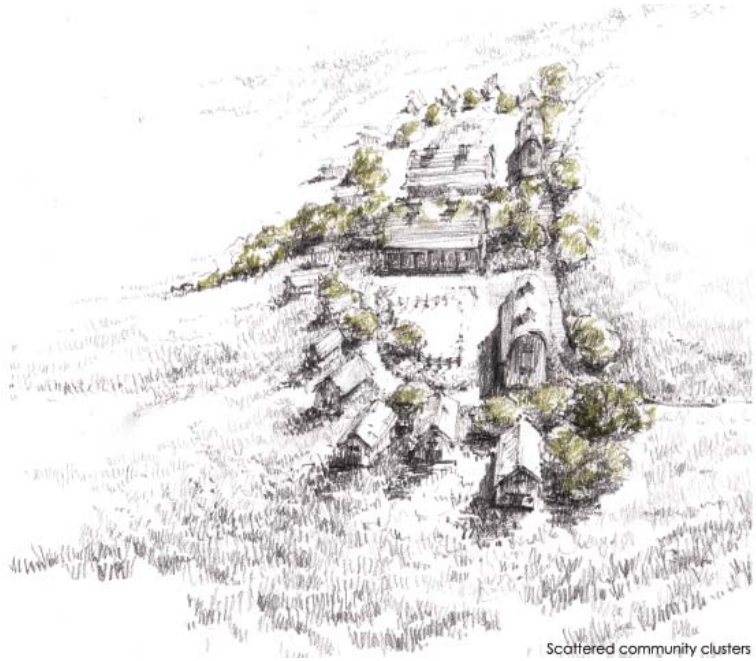
© Larry Morsette Jr.

Best Practices In Action

Agriculture: Large areas of land have been preserved for agricultural production in a manner that provides maximum economic and lifestyle benefits to current and future generations.

Community: All villages and cluster communities are linked by a trail system interwoven through nonproductive agricultural lands.

"The architect thoughtfully integrated nature and culture with ideas of economic, ecologic and social sustainability, which are ongoing issues for any community." Anonymous member of the American Institute of Architects Awards Committee – 2006 American Institute of Architects Award Citation



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© Larry Morsette Jr.

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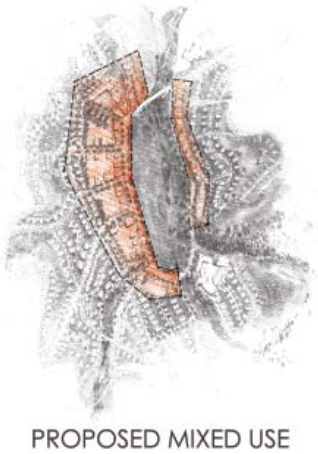


© Allison Orr/Montana State University

Community Engagement

The design team prepared five alternative master-planning scenarios based on community input, physical environment and economic realities. Each scenario included photo-montages superimposed on the landscape, simulating the likely character of the resultant development, as well as a list of the pros and cons of each scenario. This approach stimulated feedback from the tribal members and leaders, which then led to a sixth "cluster and village" scenario illustrating the consensus reached by the community. Drawings to the left show:

- A bird's-eye perspective indicates the organization of rural farm like clusters of buildings to be developed at the base of hillsides.
- A plan of natural greenways to be preserved that will link each village's central commons to the adjacent village as well as the broader landscape of the entire reservation.
- A plan indicating the intense development of work-live residential, commercial and retail uses adjacent to central commons with declining density as development occurs further from the commons.

Lessons Learned

- Multiple scenarios that visually illustrate the consequences of each plan provided an exceptionally good means of stimulating community involvement in determining a desired future.
- Community involvement in the master plan's creation and commitment to its content has led to enactment of zoning to insure implementation of the master plan.

Teton Science Schools' Jackson Campus

700 Coyote Canyon Road
Jackson, Wyoming

- Sustainability
- Community Design
- Open Space

Developer/Owner:
Teton Science Schools
www.tetonscience.org

Architect and Lanscape Architects:
Mithun
www.mithun.com
Hawtin Jorgensen Architects
265 E. Kelly Ave.
Jackson, WY 83001
www.hawtinjorgensen.com

Contractor:
Zaist Construction Management
Jackson, Wyoming

Land Cost	$4.5 M
Pre-Development Cost	$1.5 M
Financing Cost	$700,000
Building Cost	$22.5 M
Total Cost	$28.5 M
Gross Area of Building	78,000 SF
Cost per SF	$160
Area of Site	15 acres
Number of Living Units	150
Open Space	845 acres
Parking and Pavement	120 units
	15.3 acres

Teton Science Schools' new Jackson Campus is comprised of ten buildings, totaling nearly 78,000 square feet. The welcome center, dining hall, two residential lodges, five education buildings, the maintenance and outfitting center, and a booster pump house were all designed and built to protect wildlife habitat and scenic resources, conserve water, promote healthy air quality, and reduce energy and material consumption. They are also adaptable, flexible, functional and low-maintenance. Significantly, the complex of buildings is limited to less than 2 percent of the 880-acre campus, permitting key wildlife habitat areas to be preserved. Uniquely for a contemporary school, no air-conditioning is used – all of the buildings are naturally cooled with operable windows and mechanical ventilation. Narrow building footprints maximize day lighting, which reduces the demand for artificial lighting and increases sun exposure on insulated concrete floor slabs incorporated for their thermal mass.

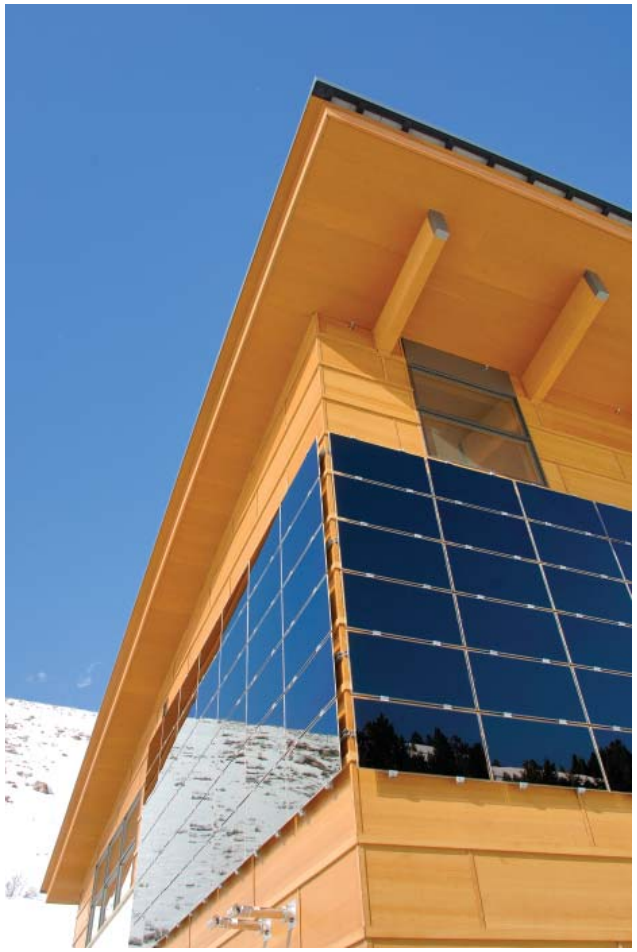
Above: The campus buildings are hidden from the highway's viewscape by their location in a draw that protects them from wind and weather. **Right:** Tall windows permit light to be drawn deeply into the adjacent spaces. © Mithun

"The Jackson Campus of the Teton Science Schools was conceived to utilize and demonstrate environmentally intelligent design and high performance building solutions."
Rich Bloom — Former Associate Executive Director/CFO for Teton Science Schools

Sustainability

The campus layout and buildings were shaped in direct response to the site's natural conditions:

- Building roofs sloped to allow maximum solar access to interior spaces
- Narrow building footprints maximize day lighting from both sides of the building
- Buildings with heavy daytime use situated to maximize solar access
- Roof slopes and porches designed to shed snow away from pedestrians
- Landscape buffer of trees and stone prevents pedestrians from walking on icy surfaces during freeze/thaw seasons
- Concrete stem walls provide protection from accumulated snow
- Campus development hidden by topography from the highway
- Buildings sited at the bottom of a valley paralleling topography to minimize site disturbance
- Building footprints, volumes and window openings designed to maximize natural passive ventilation and cooling
- Angle and direction of shed roofs of buildings echo geological subsurface



Fiber cement siding is contrasted by a vertical photovoltaic curtain wall. This is in keeping with the aspirations to both maintain traditional rural character and emulate the West's historic adaptation of technological innovation. © Mithun

© Mithun

© Teton Science Schools/Dan Swabb

Lessons Learned

- Exterior connections between buildings that require going outside have proven to offer social and physical benefits.

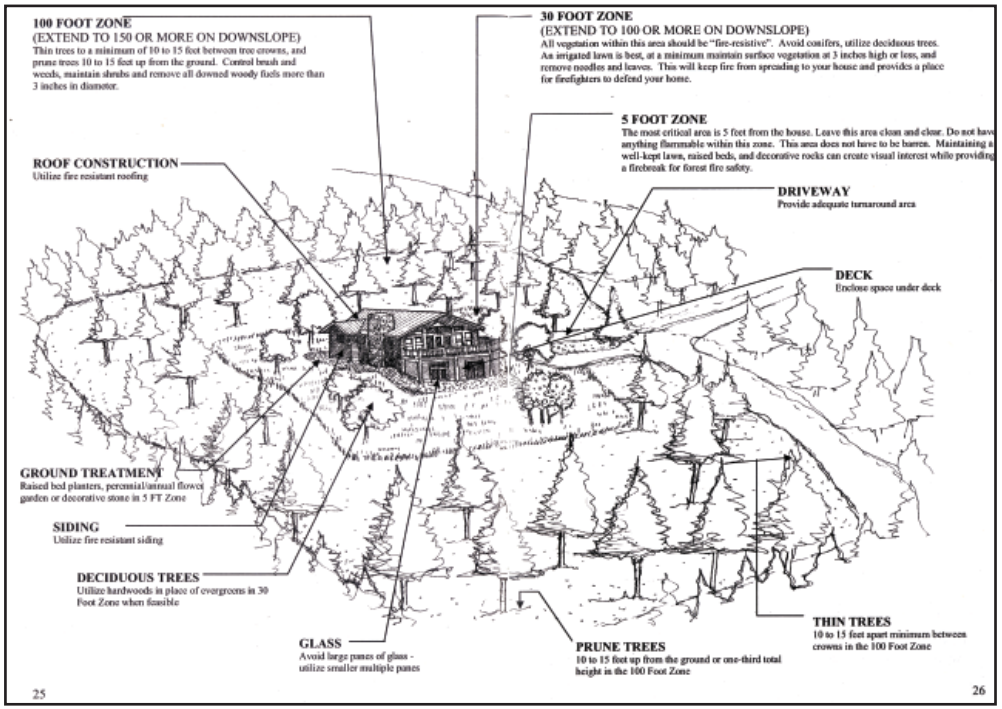
Other Noteworthy Rural Projects

Each of these projects illustrates an approach to occupying the Northern Rockies landscape in a manner sensitive to its physical characteristics and environmental limits. Most encompassing is the Code of the New West, a local government publication that explains the realities of residing in a rural environment. At the opposite extreme is the hand-built home of the Rose family where sustainable principles were used to minimize the home's impact on rural infrastructure. Sun West Ranch and Eagle Rock subdivisions are examples of development that have successfully integrated building sites into the rural landscape and, through subdivision, insured continued ranching and habitat preservation.

Code of the New West Madison County Rural Design Guidelines
Madison County, Montana

As rural growth accelerates in Madison County, citizens and county officials have taken several steps to insure that the character and pattern of this growth does not degrade the scenic values of the area or strain county services. In addition to writing a new growth policy, the county has also developed a "Code of the New West" booklet that describes the reality of life in rural Montana, suggests a code of conduct for living in this landscape, and presents design guidelines for new development. These illustrated guidelines were developed with input from local citizens and reflect many of the goals of the county-wide growth policy. The "Code" is widely disseminated and used in public education campaigns. Suggestions include:

- Avoiding ridgeline development to preserve viewsheds.
- Utilizing signage strategies that are sensitive to landscape, culture, and property.
- Developing homesites with vegetation thinning zones to prevent the spread of wildfires.
- Using fire-resistant materials.
- Planting native and drought tolerant species for landscaping.



© Madison County

Sun West Ranch
Madison County, Montana

© Sun West Ranch

Clustered development ensures viewshed preservation for the Sun West Ranch development in which 80% of the 2,000-acre ranch remains in common land with shared ownership. Conceived as a shared-ranch community, the 55 home sites are limited to 400 acres of the development and effectively blend into the landscape. The remainder of the ranch is devoted to raising conservation beef on pastureland, preserving diverse wildlife habitats and maintaining the three-mile corridor of Madison River waterfront.

Owner: Heidi and Ted Gildred

Eagle Rock
Bozeman, Montana

This rural housing project incorporates open space and wildlife habitat into its design. The project is approximately 800 acres with 20 parcels each having a pre-designated building site of 1-3 acres. Building sites were determined so as to protect elk winter range, wetlands, stream habitat, wildlife corridors, the most suitable lands for agricultural operations and viewsheds. Beyond the building sites, native vegetation is used for all landscaping. To ensure adequate grazing and protection of grass lands, horses are restricted to a community pasture and barn.

Rose Residence
Park County, Wyoming

© Andrew Rose

A 10-KW, grid tied Bergey turbine on a 55' tower supplies the power to the Rose family home. This is just one of the sustainable practices that went into the construction of this 2,500 SF house. The home is built of adobe brick in a special process using traditional gang molds but with cement stabilizing the block to conform with contemporary building codes. The 10"-12" adobe walls are insulated on the outside with 2" polystyrene beadboard. Extensive glazing insures passive solar gain, which is stored in brick and Saltillo tile floors. Lumber throughout was cut locally or reclaimed from local sources including an abandoned cabin and potato barn.

Owner/Builder: Andrew Rose


ASHTON
POPULATION 1219
FOUNDED 1906
ELEVATION 5262
TOTAL 8387

What We Learned

"Planning is about building communities that are desirable for people to live in, now and for the future. They are efficient, financially affordable, and remain beautiful not only for the setting that surrounds them but because they have quality and charm themselves."
Lynn Chan — Landscape Architect

Lessons Learned

Project developers provided the "Lessons Learned" for each Building from the Best of the Northern Rockies case study, sharing their insights based on the project's type and circumstances. In reviewing similar project types, such as affordable housing, mixed-use, or community plans, certain common lessons become evident. We also learned a great deal while discussing the 120-plus projects submitted to the advisory team for consideration and during interviews with planners, developers, architects and community members.

Certain concepts have proven to be significant for the emergence of the best land stewardship, planning, development and building in the Northern Rockies. Those principles follow, highlighted in blue, with a brief explanation of each.

- **Engage the Community in the Planning Process**

Change is inevitable. Creating a vision of the future based on an inclusive process that reveals the desires and aspirations of the community is the most effective means by which a community can guide change.

- **Seek Sound Information from Diverse Disciplines**

Expertise and knowledge abound. Require that it be utilized. Mistakes made in the planning and development process have enduring and often irrevocable consequences.

- **Make Development Decisions Predictable, Fair, and Cost Effective**

Both those seeking to develop and members of the community in which the development is proposed need to know what to expect, be treated the same as everyone else, and not be disproportionately burdened with the cost of development.

- **Seek Diversity in Master Plans**

Diversity in all things maximizes the potential for long-term success. Every plan, regardless of its size, should demonstrate variety and contribute to a more diverse community.

- **There Is a Cost to Innovation**

Every case study project required a greater investment in time, patience, and perseverance than a more conventional project. All of the case studies have proven to be economically viable while contributing significantly to the enhancement of the community's social, cultural, and physical character and have done so because of the vision and aspirations of those involved to "do the right thing."

- **There Is No One Way to Do the Right Thing**

The case studies demonstrate tremendous diversity. The "right" thing to do can only be found in the local community's unique social, political, cultural, historic, economic and landscape characteristics.

- **Encourage Early Developer and Neighborhood Collaboration**

Developers, regardless of the scale or type of the project, accelerate the approval process, improve the potential for economic and social success, and garner local support if they work with the adjacent landowners and neighborhoods during the conceptual and design phases of the project.

- **Look to the Past to Plan for the Future**

Early development in the Northern Rockies was based on an appropriate response to the climate, the landscape, water resources, transportation routes and a vision of compact, walkable communities serving as access points to the region's natural resources. All of the case study projects have been developed in a manner consistent with this historic model. It is a model worth using to evaluate the appropriateness of new development proposals.

An early realization by all of us participating in this project was that there are an extraordinary number and variety of innovative, effective, and successful projects being created in the rural landscapes, community edges, towns and cities throughout the Northern Rockies. This gives us hope that the Northern Rockies can grow in a manner that is distinctly different from those places where historic towns and landscapes have become bland, repetitive, placeless, and indistinct one from the other. The case studies have provided us with excellent examples on which to base an expectation that new development can enhance rather than diminish each community and the region's unique character.

Policy Recommendations

A Common Theme

A common theme throughout this book and in discussions among members of the Advisory Board has been that all development issues are best considered in light of local circumstances, whether in as small a detail as landscape materials or as broad a subject as a community vision. Those who have lived and worked in the rural landscape or in the small towns of the Northern Rockies will point out that we have always depended on our neighbors and they on us. It is part of our heritage that we respect each other's rights to do as we so choose with our land but that we all have a shared responsibility to the community. It is in this way that the residents of the region have survived. If someone in some manner failed to recognize his/her responsibility to the community, peer pressure usually was adequate to resolve the circumstance.

Today however, the breadth of activities throughout the region and in every community includes agriculture, industry, mining, timber, retail sales, services, recreation, government, and retirement. Local development issues cannot be resolved by peer pressure alone simply because peer pressure only works on peers. The population of even our smallest rural communities is diverse, and within that diversity is a broad range of values and aspirations for our lands.

...all development issues are best considered in light of local circumstances whether in as small a detail as landscape materials or as broad a subject as a community vision.

The role of public policy can be seen as a form of institutionalized peer pressure. It must reflect and balance the range of values and aspirations of a community and articulate these in a manner that leads to appropriate, predictable, timely and economically feasible development. To achieve this, public policy must address itself to the needs of the land owner, general public, local government and developer. Too often subdivision regulations, zoning ordinances, and building codes – the instruments used throughout the Northern Rockies to implement public policy – are seen as impediments to appropriate land use. The question is how does a community arrive at policies that promote appropriate, predictable, timely and economically feasible development? From our experiences and discussions in preparation of Building from the Best of the Northern Rockies, we offer the following recommendations:

Promote Appropriate Development

Communities need to envision the future at least twenty years before development occurs. This is not exclusively the responsibility of local government and should be undertaken, perhaps more importantly, by civic and cultural organizations, professional groups, clubs, and individual land owners in a public forum. The vision must address the town, its edges, and the rural landscape holistically. To address one without the other is to ensure the failure of the vision because the three are intimately intertwined in the character of the Northern Rockies.

Three simple questions regarding the social, cultural, economic and physical characteristics of the community form the basis for creating a desired vision of the future and, thus, appropriate patterns of development:

- **What in our community should be preserved?**
- **What in our community should be changed?**
- **What do we desire for our community that we do not now have and will need in the future?**

This will result in a set of goals and objectives for the social, cultural, economic and physical character of the community, not necessarily easily achieved and always the result of compromise. After formulating the community's desires, the question of how these desires are to be achieved must be addressed:

- **How will preservation be achieved?**
- **How will change be promoted?**
- **How will the new be accommodated?**

Financing Change

Since we have concluded that all development issues are best considered in light of local circumstances, those institutions that provide financing for development have a unique responsibility and opportunity. Local financial institutions should become familiar with and advocate for the vision created in their community. Promoting the development strategies and patterns identified as appropriate by the community will not only be good for the social and cultural well-being of the community but good business. Development patterns that preserve the landscape and promote a sustainable future ensure the success of investments and create a market for future investment. Lending institutions with policies that parallel local aspirations for achieving long-term goals and objectives can make lending decisions based on the potential of development strategies that reflect those goals and objectives. To do this lending institutions must:

- **Assume a leadership role in the community visioning process.**
- **Develop a set of best practices such as those presented in this book.**
- **Advocate development concepts that advance and implement the community vision and the lending institution's best practices policy document.**
- **Review loan applications in light of the community vision.**
- **Provide incentives for development strategies that fulfill the community vision.**

Framework for Change

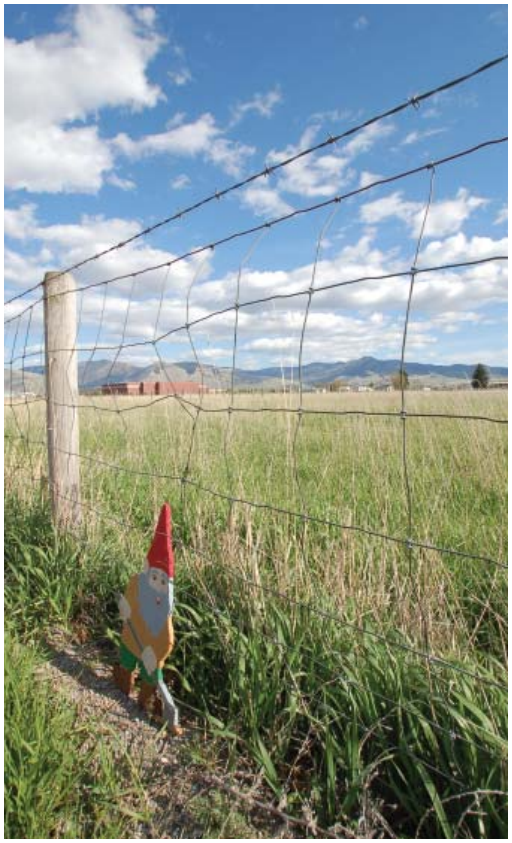
Flexibility is the key to identifying how the goals and objectives of the community can be achieved. A framework that permits alternative solutions or approaches is important if variety and creativity are sought in response to social, cultural, economic and physical issue.

Lastly, the question of who will bring about the vision is critical to its achievement:

- **Who will assume leadership?**
- **Who is needed to provide expertise?**
- **Who will absorb the fiscal, social and cultural cost of change?**

Change is inevitable in every community in the Northern Rockies. We cannot control when it will occur, but we can guide the changes if we create a vision of the future clearly articulated in a framework. The vision should express what is desired by the community, how it is intended to occur and who will be responsible for the changes that are sought.

The process for change must be public. There is no substitute for community involvement...



Achieve Predictable Development

All of those involved in development seek predictability. Individual land owners want to know what they can do with their land and what may happen on neighboring properties. The community and local government are concerned with identifying the appropriate location, size and types of community facilities and infrastructure, while developers need to know what will be required of them to transform an existing parcel of land or building into a viable project. Predictability is achieved when a community clearly articulates the process for change and the rules for land use.

The process for change must be public. There is no substitute for community involvement; however, that involvement should be most intense in the creation of the design guidelines that articulate the community's desires and expectations. Developers should feel confident that if their project follows the design guidelines then public input during the process will be related to perfecting elements of the design, not its fundamental characteristics.

The rules for development must be clear and at the same time flexible. In general performance standards are preferred to restrictive regulations. Restrictive regulations identify what must be done. For example, to control water runoff, a restrictive regulation might require all roads to have curbs, gutters and French drains. A performance standard, on the other hand, might state that all water runoff must be contained within the boundary of the development, leaving the means of control up to the developer. Because performance standards establish specific elements of development to be controlled without identifying how this is to be achieved they foster creative solutions appropriate to the unique circumstances of each community and project. Typically performance related to social and cultural issues can be addressed by establishing standards for:

- **Protection of water ways**
- **Protection of open space**
- **Protection of agricultural lands**
- **Protection of views**
- **Housing affordability**
- **Alternative transportation systems**
- **Appropriate local architecture**

Additionally, performance standards for measurable sustainable practices can be established with regard to:

- **Water usage**
- **Energy consumption**
- **Solid-waste generation**
- **Light pollution**
- **Air pollution**

Insure Timely Development Process

As the old saying goes, time is money. Most often thought of as a problem to be faced by developers, the cost incurred during the development process is also born by the public and government agencies. In general the pre-development costs for most projects represent about 33 percent of the total development cost. Projects that move rapidly through the review process accumulate lower overhead costs, and this will be reflected in either profits or sales prices. Given the significant portion of development cost associated with pre-development, it is not surprising that many developers choose to simply replicate, regardless of the circumstance, what has been done in the past because they know the project will conform to typical regulatory requirements and thus save time and money.

Well-conceived projects that effectively address community design guidelines and performance standards but do not "fit" typical regulatory requirements inevitably require more time to process and incur the greatest pre-development costs and government bureaucracy. Because of this, innovation and creativity are discouraged. Local governments, instead of being deterrents, should become advocates for non-traditional proposals by creating planning advocacy positions to assist such design proposals in moving through the regulatory system in the same or faster time as other proposals.

Local governments, instead of being deterrents, should become advocates for non-traditional proposals by creating planning advocacy positions to assist such proposals...

Clear guidelines must be created by the community that clarify the responsibilities new development has in sustaining the quality of life... in the Northern Rockies

Economically Feasible Development

Development should pay its own way. No one, whether private developer, government agency or the general public, seems to dispute this principle. The difficulty is in trying to determine what constitutes the cost of development. Quantitative elements such as schools, roads, sewer and water systems, police, fire and emergency services are relatively easy to calculate as to their initial capital investment, and new development must bear these expenses. However, their long-term costs may not be as easily forecast. Cost-of-services studies have consistently indicated that agricultural, industrial and commercial uses contribute more in tax revenues than they consume, while residential development consumes more tax dollars in local government services than tax dollars produced. The significance of this is not that residential develop-

ment alone will bring a local government to bankruptcy but that a balance must be struck between various land uses if local government is to be fiscally responsible.

Fiscal responsibility is more easily measured than qualitative costs. The cost and consequences that development brings to the social and cultural milieu, recreational opportunities, physical landscape, agricultural activity, wildlife habitat, aquifer, and air quality are high indeed. Each of these will be affected by development and constitute important measures of its economic feasibility. The community must create clear guidelines for the responsibilities new development has in sustaining the quality of life that makes the Northern Rockies a desirable place to live.

More important than immediate financial measures, identifying the quality of place we wish to preserve and enhance for future generations is the most significant of all policy initiatives. Herein lies the ultimate measure of sustainability: satisfying the needs and aspirations of the present generation without compromising the ability of future generations to experience the historic quality and character of the Northern Rockies.

Glossary of Terms

Affordable housing – Newly constructed or rehabilitated residences that can be purchased or rented at an annual cost that does not exceed 29 percent of the gross annual income of a person who earns 120 percent or less of the county median income.

Brownfields – Abandoned, idled, or underused industrial and commercial facilities/sites where expansion or redevelopment is complicated by real or perceived environmental contamination.

Building envelope – The elements of a building that enclose conditioned spaces through which thermal energy may be transferred to or from the exterior or to or from unconditioned spaces.

Building integrated photovoltaics (BIPV) – Portions of a building envelope (walls, roof, and fenestrations) that incorporate photovoltaic materials that create useful electricity.

Cluster development – Development that concentrates buildings within a small area of property, with the remainder of the property often maintained as open space. Clustering can be used to reduce the visual and environmental impact of development.

Compact fluorescent – More efficient alternatives to incandescent lighting. Also know as PL, CFL, twin-tube, or BIAX lamps.

Comprehensive plan – An official statement of a local government's plan for future development and conservation. It sets forth goals; analyzes existing conditions and trends; describes and illustrates a vision for the physical, social, and economic characteristics of the community in the years ahead; and outlines policies and guidelines intended to implement that vision.

Comprehensive plan elements– A typical comprehensive plan includes elements that describe existing and desired: land-use patterns, transportation systems, community facilities, housing, critical and sensitive lands and historic buildings, natural hazards, agricultural lands, and economic-development strategies.

Conservation development – When a property is being developed as a residential subdivision, an opportunity exists to add land to a community-wide network of open space. Conservation development plans development on each parcel so at least 50 percent of the buildable land is set aside as open space. The same number of homes can be built in a less land-consumptive manner, allowing the balance of the property to be permanently protected and added to an interconnected network of community green spaces. This density-neutral approach provides a fair and equitable way to balance conservation and development objectives.

Conservation easements – A legal agreement that a landowner makes to limit the type and amount of development on his or her property. Except in special instances, these restrictions are attached to the land and transfer to subsequent property owners in perpetuity. Conservation easements may be gifted or sold to appropriate private or public agencies.

Constructed wetland – Engineered wetlands that simulate natural wetlands and utilize natural and biological processes for wastewater treatment.

Coving – A method of subdivision design that uses a curved street and block plan, with relatively narrow and deep, trapezoid-shaped lots. Front-yard setbacks follow a different curve from that of the narrow street thus creating a highly varied visual experience as one travels through the neighborhood. An efficiently coved layout reduces roadway, thereby lowering the cost of construction and maintenance of roads and the cost of sewer, water, and gas-line construction within the road right of way.

Daylighting strategies – Methods that use natural light to minimize the need for artificial lighting during the day. For example, a clerestory allows natural light into the building interior through a raised section of roof with vertical glass; shading the glass allows light in while reducing heat gain.

Density – The degree to which buildings are concentrated in a particular area. Often expressed as a ratio of dwelling units per acre.

Design energy cost (DECOS) – The computed annual energy expenditure of a proposed building design.

Development review – The process of reviewing specific development proposals in the context of local land-use and building codes, zoning and subdivision regulations, and comprehensive plans, culminating in issuing or withholding of subdivision approval and permitting.

Downstream impact – Impact to the environment from an upstream activity. In the case of construction, downstream impacts include those resulting from site preparation, demolition of existing structures and/or materials, and general construction waste materials.

Earth-sheltered design – Design of buildings that are partially or totally below ground, either as a result of digging into existing topography or filling over parts of the structure. Earth-sheltered design uses the constant temperature of the deep earth in a location to improve energy efficiency, and can be beneficial on contoured sites by decreasing maintenance and environmental impact.

Ecosystem – The interaction of organisms in the natural community to one another and their environment.

Embodied energy – Embodied energy accounts for all energy expended for production and transportation plus inherent energy at a specific point in the life cycle of a product.

Energy efficiency – The process of minimizing the use of energy for space cooling, heating, lighting, and water cooling and heating. Energy efficiency is measured in "energy ratings" that provide information on the degree to which a feature, product, or device requires energy to perform its function.

Environmental cost – A quantitative assessment of impacts such as resource depletion, air, water, and solid waste pollution, and disturbance of habitats.

Environmentally preferable – Products or services that have a lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose. The comparison may consider raw materials acquisition, production, manufacturing, packaging, distribution, reuse, operation, maintenance, and /or disposal of the product or service.

Fiscal impact analysis – Fiscal impact analysis compares local government costs against local government revenues associated with land-use policies and specific development projects. It projects net cash flow to the public sector resulting from development.

Floodplains – Floodplains are the flat bottomlands adjacent to river channels. They accommodate floodwaters in excess of channel capacity, store floodwater, and thereby attenuate peak flows downstream. Silts suspended in fast moving floodwaters settle out from the slower moving waters on the floodplain, leaving behind highly fertile soils that constitute the best agricultural land in many regions.

Gated community – Developments enclosed by remote-controlled gates, walls, or fences; predominantly built and maintained privately.

Geo-exchange system – Also know as "ground-source heating and cooling" or "earth energy," geo-exchange systems involve the exchange of heat between the relatively constant temperature of the ground and a building. Typically a heat pump is used to move heat from shallow pipes buried in the ground or deeper wells when land area is limited.

Green building – A holistic approach to building that seeks to reduce energy consumption and minimize the environmental impact of constructing buildings and maintaining them throughout their life.

Green roof – Vegetation cover on roof surfaces. There are two types: extensive and intensive. Extensive green roofs, also referred to as eco-roofs or living roofs, have a thin soil layer with horizontally spreading, low growing vegetation cover over the entire roof surface, which adds minimal loads to the structure and serves as ecological storm-water management control by eliminating or delaying runoff. These also effectively reduce temperatures of the roof surface by absorbing heat from the sun. Intensive green roofs, also referred to as traditional roof gardens, use a thick soil layer or planters for vegetation (including trees and shrubs) and add substantial loads to the building structure.

Historic district – Historic districts are groupings of buildings and structures noteworthy for their age, architectural integrity, or aesthetic unity.

Historic structures – Any structure of significant character or special historic or aesthetic interest or value as part of the development, heritage, or cultural characteristics of a city, state, nation, or the world. Such structures are recognized as having special status and worthy of preservation so they are protected from inappropriate alteration. The National Historic Preservation Act (NHPA) authorizes the National Register of Historic Places, provides for state historic preservation officers (SHPOs), and provides for certified local government historic preservation programs.

Impact fees – Fees levied on developers by local government to pay for providing the infrastructure that the development requires.

Infrastructure – Facilities that support the health, safety and welfare of the community. Commonly thought of as sewer, water and transportation systems, police and fire protection, and schools, infrastructure also includes trails, parks, sidewalks, street trees, rivers, lakes and the aquifer.

Integrated waste management – Using a variety of practices, including source reduction, recycling, incineration and land-filling, to minimize the amount of municipal solid waste.

Land trust – A private, nonprofit organization that receives donations of land, interests in land known as conservation easements, stock, bonds, and cash. Donors may use these gifts as charitable deductions for federal income tax purposes. Some land trusts acquire open space in fee simple, either through donation or purchase. A land trust may opt to manage the open space it owns as a nature preserve with some public access for limited recreational and educational uses.

Leadership in Energy and Environmental Design (LEED) – The Leadership in Energy and Environmental Design Green Building Rating System is a voluntary standard for developing high-performance, sustainable buildings. Members of the U.S. Green Building Council (USGBC), representing all segments of the building industry, developed LEED and continue to contribute to its evolution. LEED defines a quantifiable threshold for green buildings and provides a tool to promote and guide comprehensive and integrated building design. LEED is self-evaluating and self-documenting, but not self-certifying. Certification is done solely by the USGBC. The LEED Green Building Rating System for new commercial construction and major renovation projects has four levels of certification based on the number of points achieved by a project out of 69 possible: LEED certified 26 to 38 points; Silver level at 33 to 38 points; Gold level at 39 to 51 points; and Platinum level with 52 plus points.

Life cycle cost – Sum of all costs associated with a product, process or activity throughout its entire life cycle. The Department of Defense has defined it to mean the amortized annual cost of a product, including capital costs, installation costs, operating cost, maintenance costs, and disposal costs discounted over the life of the product. This definition has traditionally excluded environmental costs.

Light shelf – Light shelves are horizontal projections at the building interior that reflect direct sun rays onto the ceiling deep into a space. Light shelves work best on facades that are generally south-facing, since they work for long periods of time each day and also can provide shading of glazing below.

Low-impact development – New development that minimizes disturbance on-site due to construction and erosion. Low-impact developments are designed to blend well into their environmental setting to preserve natural features and the maximum amount of open space.

Mixed use development – Mixed use developments create vibrant urban environments that bring together divergent land uses and public amenities at various scales. These developments seek to create pedestrian friendly environments, higher density, and a variety of uses that enable people to live, work, play and shop in one place, which can become a destination.

Native plants – Plants or vegetation that have occurred historically within a given location.

New urbanism – A set of planning principles guided by the Congress for the New Urbanism (CNU) that emphasizes the design of interconnected neighborhoods, which encourage walking, focus on public spaces, and integrate a mixture of uses and housing types.

Passive solar cooling – Building design that avoids unneeded solar heat, uses natural ventilation, and employs thermal mass (especially in hot, dry climates) to retain coolness.

Passive solar heating – Building design that uses natural processes to collect, store, and distribute heat for a building. Most passively solar-heated buildings require an auxiliary heating system for periods when solar heat is unavailable or insufficient.

Payback analysis – Evaluation of the period of time in which initial expenditures are recovered through subsequent savings. Simple payback can be calculated as follows: simple payback period = initial cost/annual savings.

Pedestrian-friendly streets – Pedestrian-friendly streets are designed to be more accommodating to pedestrian traffic than are conventionally designed streets. Pedestrian traffic includes bicyclists, the physically handicapped, transit users, and those on foot. Pedestrian-friendly streets include yield or queuing streets along with narrower vehicular traffic lanes. Yield streets require that one vehicle yield to another as they pass. When designed properly, narrow streets have design speeds of 20 miles or less per hour.

Permaculture – A holistic approach to community development with a long-standing emphasis on food production and land stewardship, which stresses the ecological connections between human activities and the natural environment.

Planned unit development (PUD) – A zoning designation that allows developers to plan and develop a large area as a single entity, with the design flexibility to mix land uses, housing types, and densities and to phase large development over a number of years. PUDs offer the advantage of a diversity of units and use types, provide a way to customize development standards to the specific land under consideration, and minimize environmental disturbance and alteration of existing topography.

Property rights – The collective property rights held by individuals and entities to own and use land are often referred to as a "bundle of rights.' The bundle is the sum total of the rights pertaining to property ownership. In the case of real property (e.g. land and buildings), it embraces the following rights: quiet enjoyment of the property; occupancy of the property and exclusion of others; the sale, lease, donation or bequeathing the property; mortgage of the property or the granting of easements; subdivision of the property or the building and removal of improvements; and control of the property within the law. The bundle also embraces public rights to tax or assess the property, to control its use and development, and to acquire it for public use with just compensation.

RASTRA – A material made from recycled plastics and cement that offers the structural strength of concrete with high insulation, soundproofing, and fire protection values.

Riparian corridors – Bands of vegetation that flank a channel or lake. Riparian corridors provide important habitats, filter suspended sediments from floodwaters, and uptake nutrients from shallow groundwater, leading to better water quality.

Setbacks – The part of zoning regulations that prohibits building within a specified distance from the property line, other buildings, streams, trails, or the street.

Solar water heater – A water heating system in which heat from the sun is absorbed by collectors and transferred by pumps to a storage unit. The heated fluid in the storage unit conveys its heat to the domestic hot water of the building through a heat exchanger.

Straw bale – A building technique for exterior walls where straw (not hay) bales are stacked, reinforced and interlocked in a manner that forms a thick, highly insulating wall.

Streetscape – Streetscape refers to the character and design of the roadbed, crosswalks, parking, sidewalks, landscape planting, street furniture including benches, planters, bicycle racks, and trash receptacles, signage, lighting, and building facades.

Structural insulated panels (SIPS) – Premanufactured, load-bearing panels of wood framing, sheathing, and insulation that are hoisted into place within a timber frame.

Subdivision – A division of land that creates parcels typically containing less than 160 acres so that the title to or possession of the parcels may be sold, rented, or leased. Subdivisions require public review of their impact on public health, safety and welfare.

Sunscreen – A fixed, exterior louver or fin that reflects and/or absorbs solar radiation. A sunscreen's effectiveness in shading a window depends on its light-absorption properties and its geometry with respect to the window opening.

Sun space – A well-glazed space, generally south-facing, that collects heat and supplies some of it to another space (typically adjoining). Temperatures within sunspaces are normally not controlled and float daily and seasonally.

Sustainability – As defined by the Brundtland Commission in 1987 means "meeting the needs of the present generation without compromising the ability of future generations to meet their own needs." Additionally it may be defined as representing a balance that accommodates human needs without diminishing the health and productivity of natural systems.

Tax increment financing (TIF) – A financing technique that allows a local government or redevelopment authority to target a group of contiguous properties for improvement – a TIF district – and earmark any future growth in property tax revenues in the district to pay for initial and ongoing improvement there. This growth in tax revenue is the "tax increment."

Thermal storage wall – A masonry or water wall used to store heat from the sun. Typically, the generally south-facing side is painted a dark color to improve absorption.

Traditional neighborhood development (TND) – A style of development that works to emulate many of the features of urban neighborhoods of 50 to 100 years ago. It stresses a walkable scale, integration of different housing types and commercial uses, and neighborhood centers that mix commercial uses with civic uses such as schools, libraries, post offices, courthouses and public parks.

Traffic calming – The Institute of Transportation Engineers (ITE) defines traffic calming as the combination of mainly physical measures that reduce the negative effects of motor vehicle use, alter driver behavior, and improve conditions for non-motorized street users. Traffic calming measures impact both vehicle speed and volume on roadways. Typical traffic calming tools include forced turns, median barriers, half closures, speed humps, raised crosswalks, raised intersections, textured surfaces, traffic circles, roundabouts, realigned intersections, neck-downs, center island narrowing, and chicanes.

Transit oriented development (TOD) – Transit oriented development is generally defined as development that is located within a 10 minute walk, or approximately .5 mile, from a commuter transit stop. A higher than typical density with a mix of uses, including housing, retail, office, research, civic, and others characterizes TOD projects.

Variance – Permission from the governing body to depart from the literal requirements of zoning or subdivision regulations.

Viewshed – The landscape visible from a specific point or the sum total of the area covered by views along a road or trail, as well as the aggregate of the views visible from a specific area such as a park, city square or historic landmark. The borders of viewsheds are usually defined by topography, structures, vegetation, or other physical barriers, but in some cases can be limited by distance, changes in land use, or changes in visual character.

Wastewater – Water that is discharged from homes and businesses from sinks, toilets, washers, showers, etc. It is treated through a series of separation and aeration processes.

Water harvesting – The rain and snow that falls on a roof or yard and is channeled by gutters or channels to a storage tank.

Wetland – Environment characterized by shallow or fluctuating water levels and abundant aquatic and marsh plants. Includes marshes, swamps, bayous, bogs, fens, sloughs and ponds.

Wetland mitigation – Mitigation measures authorized by the Army Corps of Engineers fall into five categories: wetland preservation where wetland is purchased and placed in long-term protection and management; wetland exchange in which a wetland is secured and exchanged for a wetland that will be damaged; wetland enhancement in which wetland functions that have been degraded are repaired; wetland restoration in which a former wetland with few remaining wetland functions is restored; and wetland creation where a wetland is created where none previously existed.

Wildlife corridors – Elongated wildlife habitats that connect habitat nodes. Corridors can vary from narrow to wide, high to low connectivity, and meandering to straight. Corridors often form interconnected networks across the landscape.

Wind turbine – A machine that generates electricity from the wind by turning a generator-connected wind propeller.

Vision statement – A short statement offering an image of the future, often accompanied by sketches that help to depict its physical implications.

Xeriscape – Landscaping for water and energy efficiency and lower maintenance. The seven xeriscape principles are: good planning and design; practical lawn areas; efficient irrigation; soil improvement; use of mulches; low-water-demand plants; and good maintenance.

Zoning – Establishing regulations by a municipality governing use, placement, spacing, and size of land and buildings.

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Sonoran Institute. Building from the Best of Tucson. 2002

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This project was partially funded by a Scholarship and Creativity Grant from the Office of the Vice President for Research, Creativity, and Technology Transfer at Montana State University-Bozeman, Montana.

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COVER PHOTOGRAPHS
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BACK: Cut Stone Row Houses in Boise, © Brian Brush/Montana State University; Pow-Wow Ladies of the Chippewa Cree Tribe, © Larry Morsette Jr.; Mountain Line Bio-Diesel Bus, © Brian Brush/Montana State University; The Missoula Good Food Store, © Brian Brush/Montana State University; Streetscape in Phillipsburg, © Jennifer Boyer/Sonoran Institute

Building from the Best of the Northern Rockies

The majority of the population of the Northern Rockies arrived in the second half of the 20th century. It was and still is the natural environment that attracted both historic settlers and today's contemporary families. It is this common thread that binds the region's past with its present and gives hope for the future. If we have chosen to live in the Northern Rockies for its abundant natural assets and amenities, then common sense tells us that we should be stewards of our resources.

Building from the Best of the Northern Rockies is intended to illustrate how stewardship has been accomplished by others in our region in towns, on the edges of our communities, and in the rural landscape. You will find examples of buildings that enrich the character of our historic towns and successfully minimize consumption of resources, subdivisions that integrate with nature, and rural development that preserves active ranching and wide, open spaces. It is our hope that your desire to sustain the extraordinary landscape in which we live will be fortified by these successes and that you will come to expect no less of the development in and around your community.