green

arizona

future visions for greer

by The Tejido Group
College of Architecture Planning and Landscape Architecture

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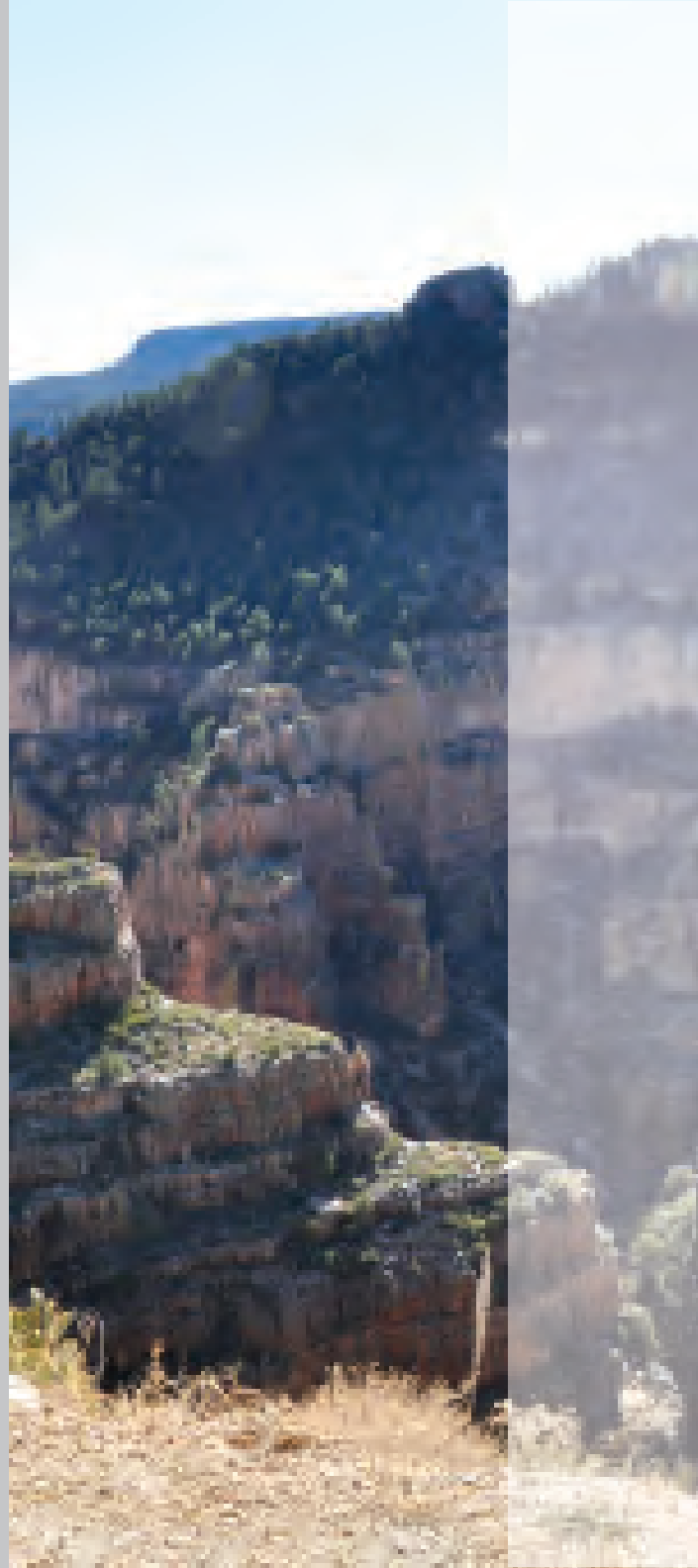
introduction



The introduction describes the Tejido Group and it's intentions as it works and has worked for communities around the world. Also in this section is a description of the intentions of the text as a planning document for the Greer area.

about this book

Nestled in a valley at the headwaters of the Little Colorado River, Greer ranks as one of the most charming towns in Arizona. For over a century, tourists have visited Greer to enjoy the myriad outdoor activities this place has to offer. From hunting, to fishing for Apache Trout, to learning about Greer's history at the Butterfly Lodge, Greer has long been a respite for Arizona's city dwellers. However, as urban populations grow, this little town receives ever more visitors annually. Today, Greer faces the daunting task of answering critical questions about its future. Should the community welcome all visitors with open arms, or should Greer shut itself off from the rest of the world, a retreat only for the lucky ones? Ultimately, it is our goal to help navigate the community of Greer on its way to finding balance between these two views.

The students of Tejido recognize that our five months of exposure to Greer do not make us experts on Greer's history and future direction. We save that title for the property owners and residents whose collective memory spans centuries. Our expertise is in rethinking what is possible and imagining alternative futures. Such an approach will open doors as yet unnoticed and pave the way for legislation that is informed by design, rather than the other way around. In so doing, we hope to create talking points from which the citizens of Greer can begin to collaborate regarding the future of their town. It is our hope that the work Tejido has done will begin to create room for the citizens of Greer to make concessions with one another. The politics of Greer should function as beautifully as the landscape the village inhabits. For these reasons, we suggest this book serve as a road map, rather than literal directions.

about tejido group

For the past eighteen years, the Tejido Group has developed into an interdisciplinary and collaborative applied research program in which faculty and professionals in Landscape Architecture, Planning and Architecture work side by side with University graduate and undergraduate students in an apprenticeship-style professional / learning environment. Tejido is also an international experience and has collaborated on projects throughout the United States, the Caribbean, Mexico, the Middle East and Central America. Projects include: harbor revitalization and waterfront development programs in Panama; the development of coastal planning and design guidelines for the State of Sonora, Mexico; tourism and resort planning for the Panamanian Canal Zone and Panamanian Government; campus master planning in Arizona and in Panama; small town revitalization master plans for several rural areas in Arizona, Sonora and Sinaloa Mexico including Show Low, Pinetop-Lakeside, Springerville, Clarkdale, Jerome, Benson, Camp Verde and Winslow, Arizona; a resort master plan for the Cuisinart Corp. in Anguilla, British West Indies; and sustainable community master planning in Picacho and Bisbee, Arizona, as well as San Carlos, Mexico.

Tejido selects projects in which it wishes to participate based on several criteria: 1) project uniqueness and pedagogic value in developing our students into exceptional practicing professionals; 2) client need; and 3) the project's potential impact on society and the environment. Although Tejido has and continues to develop projects through the construction document phase, we primarily focus on the generation of conceptual alternatives for our clients. We concentrate our efforts on developing innovative concepts through the application of research initiative. Tejido believes that designers gain insight and inspiration from a variety of sources. An essential part of our design and planning processes occurs during pre-design research. During this phase, information garnered from a variety of sources is reviewed and incorporated into the design intentions of our teams of landscape architects, planners, and architects. Critical socio-cultural, socio-economic, environmental, functional, and image-related issues are examined in depth through hybrid qualitative and quantitative methodologies. Our designers then distill relevant design and planning implications from the analysis of the data collected. These bits and pieces of design ideas (precepts), are then incorporated into comprehensive design and planning concepts in a form of post-factum hypothesis generation. We collect information regarding clients and site through structured interviews and questionnaires, video-tape protocol studies, and extensive case study analysis. We undertake exhaustive site inventories, as well as user-group analysis of the site and surrounding context. We

gather information, synthesize it, and analyze it for design implications. Both qualitative and quantitative research methods are often used to develop design implications from our data. Design issues are then presented to our clients for their consideration and editorial comments. These comments are then integrated into optimum solutions that are further developed and presented in graphic, digital, and literary form. We consider these presentations as means of establishing a collaborative dialogue with our clients and their representatives. We understand the importance of client participation, and that formative feedback and thorough research designs are essential to distinctive design products. In our attempt to facilitate communication with our clients, we have developed one of the largest digital libraries of design and planning case studies in the Southwest. Unlike associations with traditional design and planning offices, Tejido offers our clients an opportunity to afford in-depth applied research and the subsequent generation of alternative concepts prior to design development and construction documents. In "real-world" situations, the conceptual design process is often foreshortened when financial resources are strictly limited. As we are essentially a non-profit organization dedicated to the education of our students and the needs of our clients, we can afford to focus our efforts on pre-design research and schematic exploration with our clients in developing complex, yet tailored master planning solutions. We see our relationship with practicing professionals as one of project creation and not of direct competition. We render conceptual design and planning services that otherwise could not be afforded. Tejido assists clients in developing their ideas to the point where they are ready to seek the services of professionals in the design development and construction document phases. The master planning documents we develop become excellent tools for our clients in the solicitation of Federal, State and private funding. The Townships of Clarkdale and Show Low are both excellent examples of this sequence of events. They used our master planning document to make presentations to Federal and State funding agencies and were subsequently awarded a number of substantial development grants. These funds were then used to hire professional firms to execute the design and planning concepts outlined in our conceptual master planning documents.

site analysis

Site analysis looks at Greer through a variety of lenses including economic, sociocultural, environmental, functional, and aesthetic observations. These observations are what influence many of the design decisions that were made within this text.

http://rundio.com/100_2261.JPG

economic observations

One of the first observations made about Greer's economy is its dependence on tourism. This dependence means that the town should plan with these economic principles in mind. With large numbers of people coming during the summer, this means flooded streets, filled parking lots, and all around chaos at times for a town not suited infrustructurally to carry all their visitors. Another issue lies in the fact that the majority of the tourism occurs in the summer. Then, in the winter, the town loses its viability. This reduction in tourism is a strain on the local economy, leaving local businesses struggling to get by for a significant portion of the year.

Another thing noticed about Greer's economy is that there is a significant portion of residents who have their economic ties elsewhere. These residents do not necessarily contribute economically to the town throughout the year.

These observations led us to spend a large portion of time on brainstorming about ways in which to enhance the street for high-season times, and to search for opportunities to boost winter tourism.

sociocultural observations

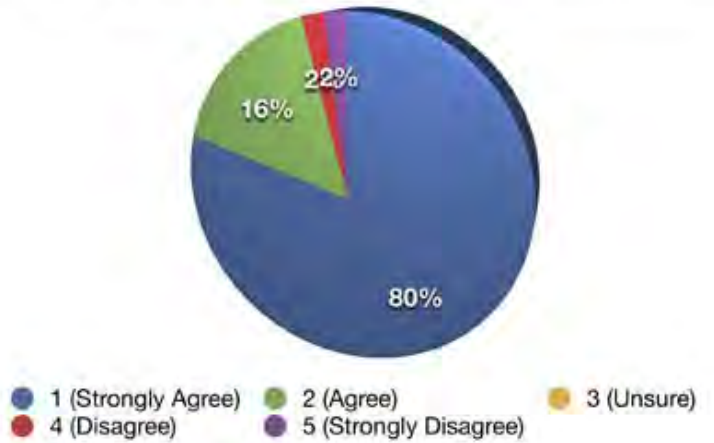
One thing is evident: everyone involved with Greer loves Greer. Each portion of the community wants the best for the town in which they live and visit throughout the year. Unfortunately, there has been some disagreement in the community as to what the future should hold for this beautiful place.

Greer is a town with a population consisting of full-time residents, summer residents, members of organizations such as the Greer Coalition, local business owners, land owners, etc. Each one of these populations has their own ideas of what Greer should be and how it should or should not change.

These are aspects of the town dynamics that greatly impacted the goals we set for the project. We have to try our best to take everyone of these individuals' desires into account in the work that we do. This being done, solutions can be found that greatly impact Greer for a positive and prosperous future.

Our process has been to listen to the community and respond to it, while holding true to the rules of design and design theories that could be beneficial for this wonderful town.

The primary draw for tourists in Greer is the natural environment.



environmental observations

Greer depends on its natural environment. This relationship makes Greer the place it is. People visit during the summer in order to see the meadows and streams, and to fish and hike. Without this relationship with nature, Greer loses its charm and primary draw.

One of the most important aspects of the local environment is the watershed of the Little Colorado River. This water source makes its way through town and flows north through the valley, which is subsequently broken up into three distinct meadows by the main road.

Given the importance of these natural systems to Greer, it is vital that this system and its associated floodplains be protected and maintained. We noticed that there have been areas of encroachment on the ecosystem that need mitigation and future efforts of conservation. This is in order to maintain the health of the meadow and its streams (for instance, setting and maintaining buffers along water and meadow edges which enforce no-build situations).

This area is not simply a system of meadows and streams. It is a place surrounded by the Apache-Sitgreaves National Forest. This has its own set of issues associated with it, including fire hazard and fire dependence, which is not practical within such a close proximity to where people live.

While residents generally do not want the surrounding forests overrun with development, they seem to really appreciate the places they have made for themselves in the forest. Homes and subdivisions have been built in and around Greer Village within the cover of pine trees.

functional observations

circulation

There are both benefits and drawbacks to being a one-road-in, one-road-out town. Some of the negative concerns are the safety of leaving the town in case of fire or flash flood. Also the function of dealing with large amounts of traffic and allowing comfortable flow and circulation of automobiles through the town. On the other hand, there is a very real benefit of not receiving through traffic which can lead to strip development like that which is found in the nearby town of Pinetop/Lakeside.

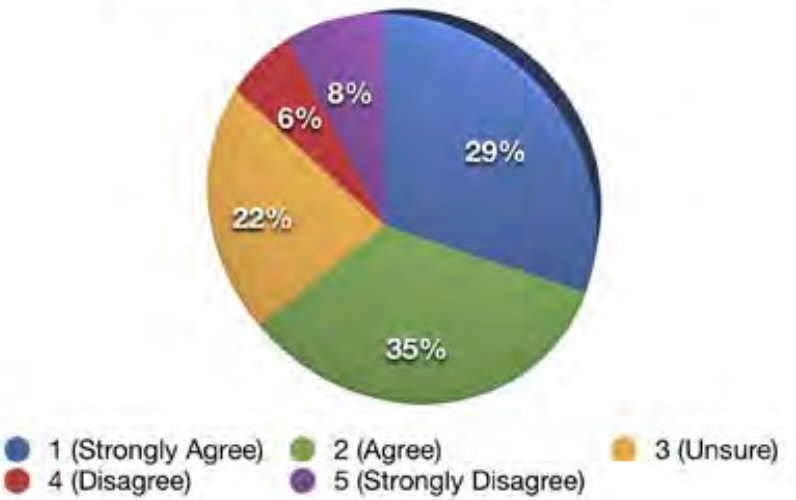
Another concern we noticed about traffic flow is the large amount of dead-end streets found in Greer.

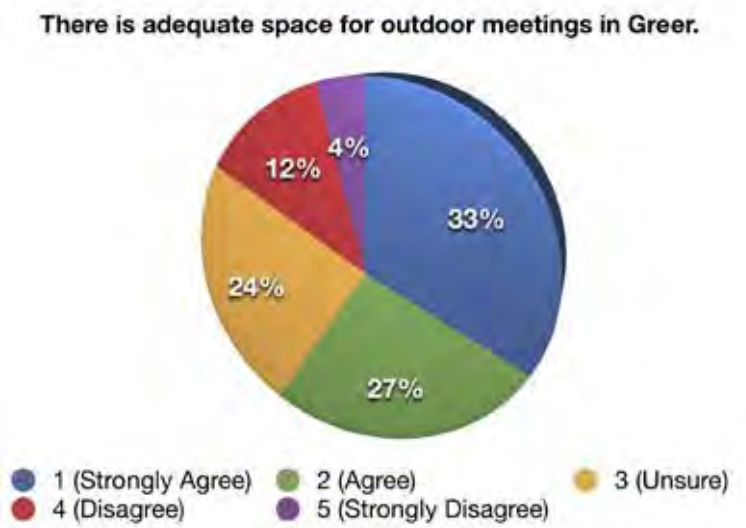
trails and walkways

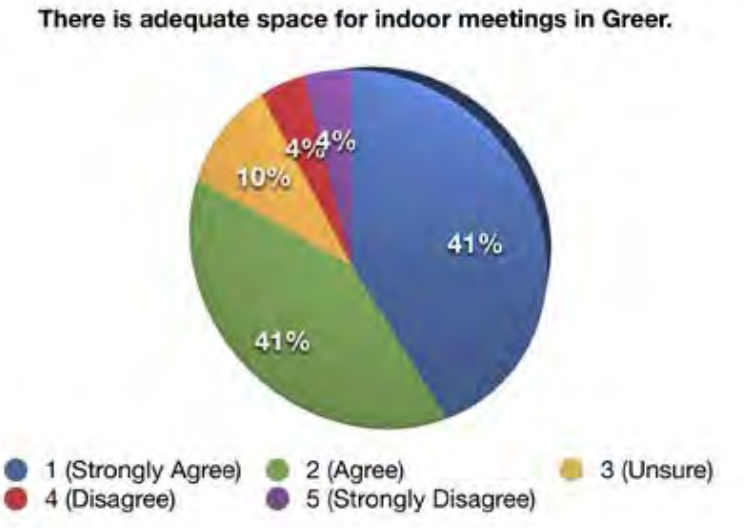
Greer has some options for walking and hiking in and around the town, which allow for some pedestrian movement. We find that the urban trail network (that of the roadside walkway) is in need of modification and improvements in structure and connectivity.

Connections can and should also be made with the hiking trails in the area. These connections will allow for visitors in the recreational area to easily access the town and its urban trail network without the need of driving and parking. This improvement in the town's roadside and natural trail systems will do more than just improve the way in which people walk in and around the town. It will also help local businesses by giving people an option for easily walking up and down the street. Through this movement they walk past storefronts, which invite them in to spend money and support local businesses.

A trail system within the town would benefit businesses.







parking

An abundance of individuals have expressed their desire to see less congestion in the streets during high season. There are several issues we have taken into consideration with regards tho this; one is the insufficient supply of parking within the town as a whole. Most of the parking is that which can be found in front of specific establishments. While this works well for those businesses, it does not benefit the town collectively. It is our belief that the creation of large automobile collector lots around town would drastically help in maintaining a more peaceful experience in Greer Village for the residents and visitors.

community space

Most individuals in Greer feel that there is adequate indoor meeting space for the town, and as it stands right now, we agree with this sentiment. However, there does seem to be less consensus regarding adequate outdoor meeting space. In terms of the creation of quality outdoor space, we feel that this could be improved with the implementation of a town square or plaza space. With thoughtful planning and design, the town will be able to create a space that all members of the community can use and enjoy during all seasons of the year.

aerial of greer's meadows

aerial of pinetop's overrun development patterns

aesthetic observations

Greer's rustic feel is a very large part of its charm as a small mountain village in Arizona. It could be described as a little bit western, a little bit alpine cabin. The residents of Greer don't want to see this change.

Another important aspect of Greer is that people have made it clear they want to keep the feel of a "sleepy village"--a term often used by residents to describe Greer. It is not hard to see why, as this is one of the real draws for getting away from cities and enjoying some rest and relaxation.

Establishments and residences throughout the town each take this rustic approach and make it their own, which creates an eclectic feel unmatched by other similar towns.

Without a doubt, Greer sits in a natural environment that creates the essence of its beauty. Three meadows make their way in and around town, continuing north to the gorges. In order to maintain Greer's aesthetic appeal, growth must be controlled in a way that preserves these meadows. As opposed to Pinetop, where growth has largely swallowed the existence of the meadow ecosystems, Greer has the opportunity to keep this from happening. This is justification for creating a structured growth that only allows for nodal development in exchange for large areas of preservation.

Greer's natural aesthetic starts the moment you turn off Hwy 260 on to Hwy 373, where the road is surrounded by undisturbed forest. In order to maintain this appearance, there needs to be a plan for preserving a defined buffer off the highway. This would allow for new development to happen without being noticed from the highway.

design: theory

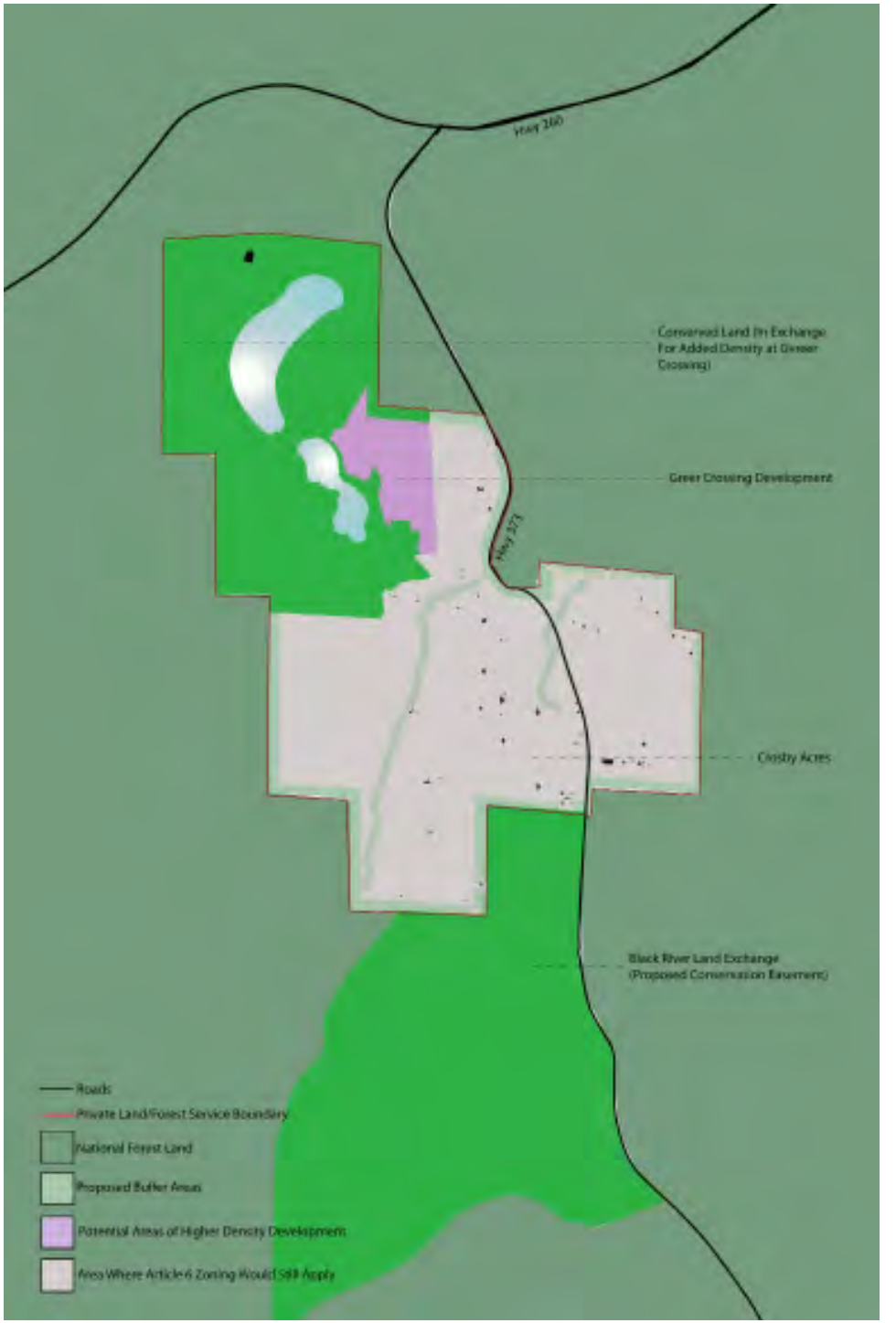
This section describes our overall theory in developing designs for Greer. This theory is based highly on compact nodal development, leaving large areas of open space to be conserved.

nodal development and preservation

By most accounts, Greer is described as a "one road town." While this certainly adds to the quaint character that has been cultivated over the years, it also has its drawbacks. As evidenced by numerous one-road towns throughout the country, development is prone to occur right along the street. This creates a scenario whereby the roadway, not the character of the town, is the dominant feature in the landscape. The unfortunate fallout of this scenario can be disastrous. Even in the White Mountains, strip malls, cheap motels, and gas stations plague what were once some of the most pleasant small towns in this country. This is not the future of Greer.

Because two of the primary objectives of this project are to protect the cultural and environmental character of Greer, we wish to avoid the above scenario at all costs. In the interest of stewardship, both for the Greer way of life, as well as its streams and meadows, we propose that the village consider development within concentrated nodes. In so doing, the fabric of Greer becomes woven with carefully-planned, walkable zones of development and thoughtfully-placed preservation zones. This solution promotes a slower pace of life, filled with personal interaction, rather than car-dominated culture.

Throughout this book, we have implemented the nodal development theory. In some cases, we have recommended zones of possible development, but not necessarily presenting specific design solutions. Additionally, this document is not specifically a comprehensive plan, but as already stated, a **road map to generate conversation**. We hope to provide guidelines, principles and examples that empower the citizens of Greer to implement the strategies in ways that benefit them and their future.

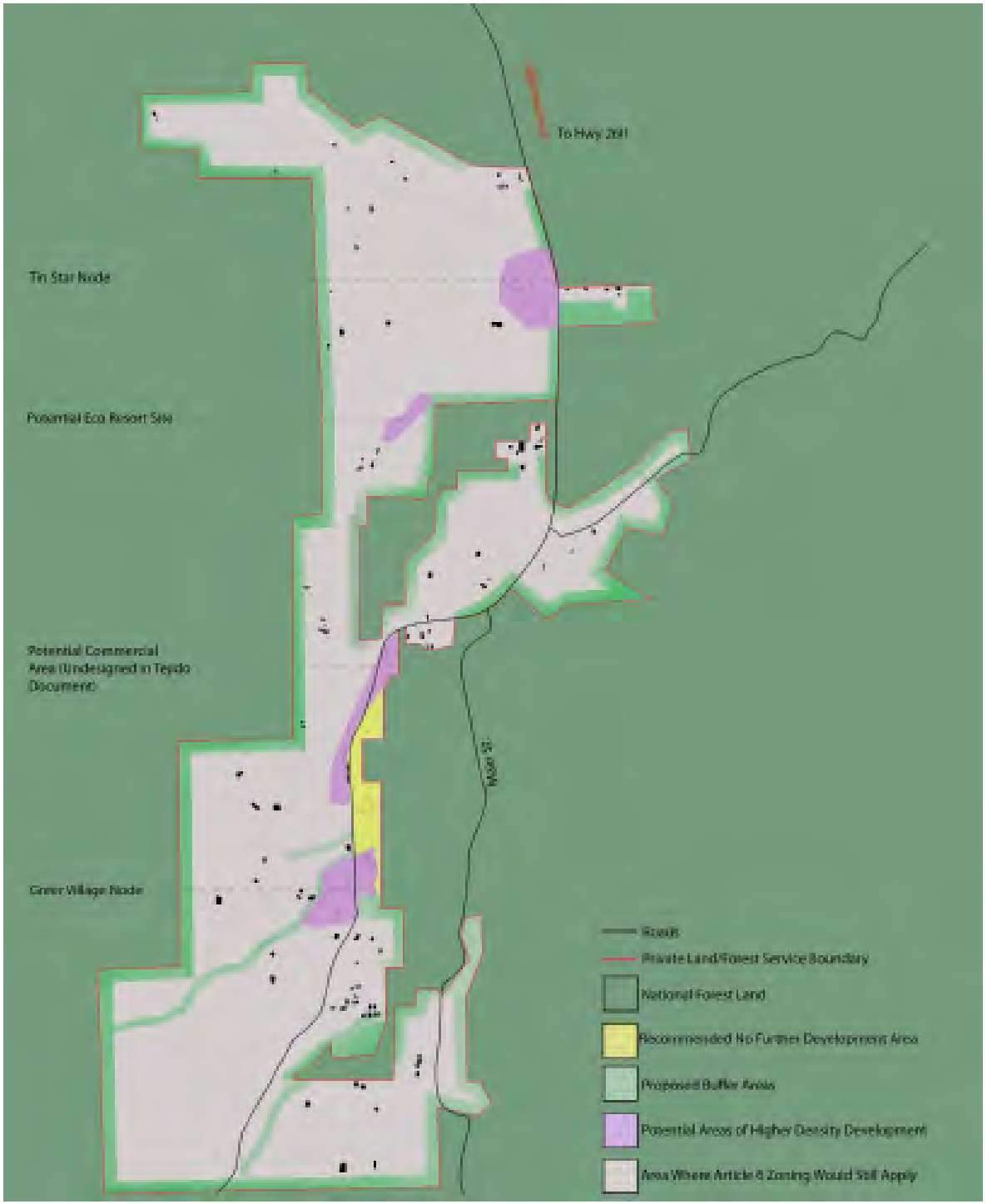

Hwy 260
Hwy 373
Conserved Land (In Exchange For Added Density at Greer Crossing)
Greer Crossing Development
Cristy Acres
Black River Land Exchange (Proposed Conservation Easement)
Roads
Private Land/Forest Service Boundary
National Forest Land
Proposed Buffer Areas
Potential Areas of Higher Density Development
Area Where Article 6 Zoning Would Still Apply

preservation strategies near hwy 260

In an effort to highlight the benefits of nodal development as they apply to Greer, we have developed a pair of maps showing the development/preservation balance that would result from the Tejido group's proposals. We wish to emphasize that the lines on these maps are merely suggestive. We believe the citizens, business owners, and county officials have the ultimate power to enact lasting change in the community.

Among our general suggestions, the Tejido group proposes that wherever possible, a forest buffer be implemented between private land and the Forest Service boundary. This way, potential land swaps will meet a forest buffer and have a less disruptive impact on homeowner's views and a sense of seclusion. A similar boundary is proposed on either side of major streams in an effort to reduce erosion and runoff into the Little Colorado.

In the northern section of Hwy 373, we propose one area be considered for higher-density development. This added density would be in exchange for large tracts of conserved land (conservation easements, land trusts, etc.). In addition, we propose that the Black River Land Exchange land south of Crosby Acres remain conserved with the assistance of a land trust. Not only would this protect a potentially fragile riparian system, it may also have tax benefits.


To Hwy 261
Tin Star Node
Potential Eco Resort Site
Potential Commercial
Area (Undesigned in Tejido
Document)
Main St.
Green Village Node
Roads
Private Land/Forest Service Boundary
National Forest Land
Recommended No Further Development Area
Proposed Buffer Areas
Potential Areas of Higher Density Development
Area Where Article 6 Zoning Would Still Apply

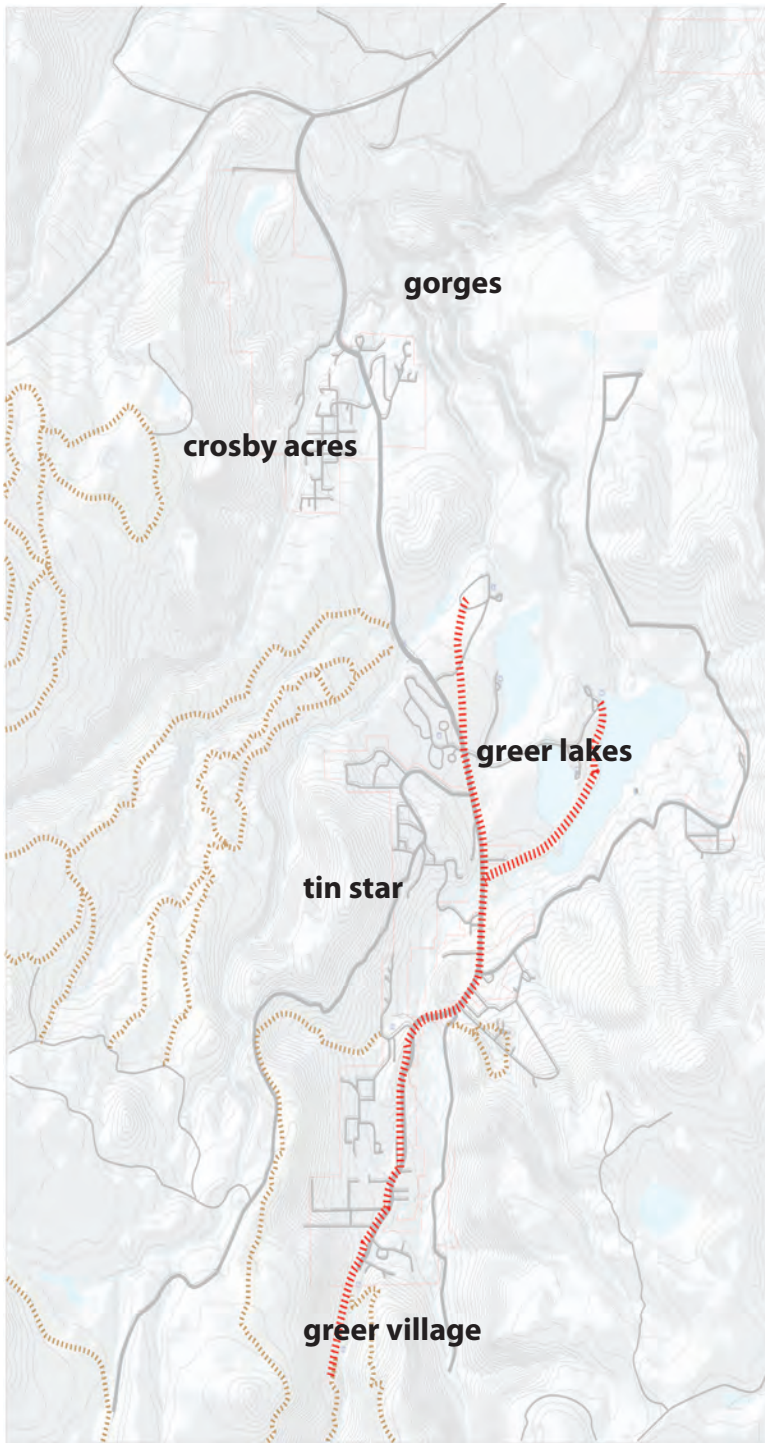
preservation strategies near greer village

In addition to the aforementioned private boundary/creek buffers, we feel the southern section of Hwy 373 (south of Hoyer Campground) has four areas where there is potential to develop more densely than Article 6 currently allows. These areas are shown in purple. The level of density is as yet undetermined. This decision should be the result of discussions between business owners, Greer residents, and Apache county officials. All but one of these areas are discussed in depth within this volume. The fourth area, which hugs Main Street to the north and south of Molly Butler's may be deemed unsuitable for further development. We do recommend stopping further growth on the east side of Main Street. (shown in yellow) as this will benefit the meadow and riparian systems, while also preserving views of the meadow from Main Street. In the northern section of Hwy 373, we propose one area be considered for higher-density development. This added density would be in exchange for large tracts of conserved land (conservation easements, land trusts, etc). Although the result of the potential Black River Land Exchange appears final, we recommend that this land remain preserved through an organization such as a land trust.

design: trail network

The development of a comprehensive trail network through the Greer Valley will create a cohesive thread that connects all three nodes of proposed development. The network will grow as Greer grows, or at its own pace depending on the future needs and wants of the community. Giving pedestrians easy access to a trail system that leads them to a variety of destinations both inside and outside of town will help reduce the dependence on vehicular movement in a town that was not meant to have high traffic volumes.

Creating a variety of trail types will attract multiple user groups which will help diversify the economy. Young and old, casual or extreme users will find a trail that will suit their needs and abilities. Giving spaces to specific users like ATV riders and mountain bikers will help to alleviate the concern of conflicts with pedestrians in town. This trail network will truly connect residents and visitors with the natural beauties that Greer has to offer and strengthen the link between town and nature.

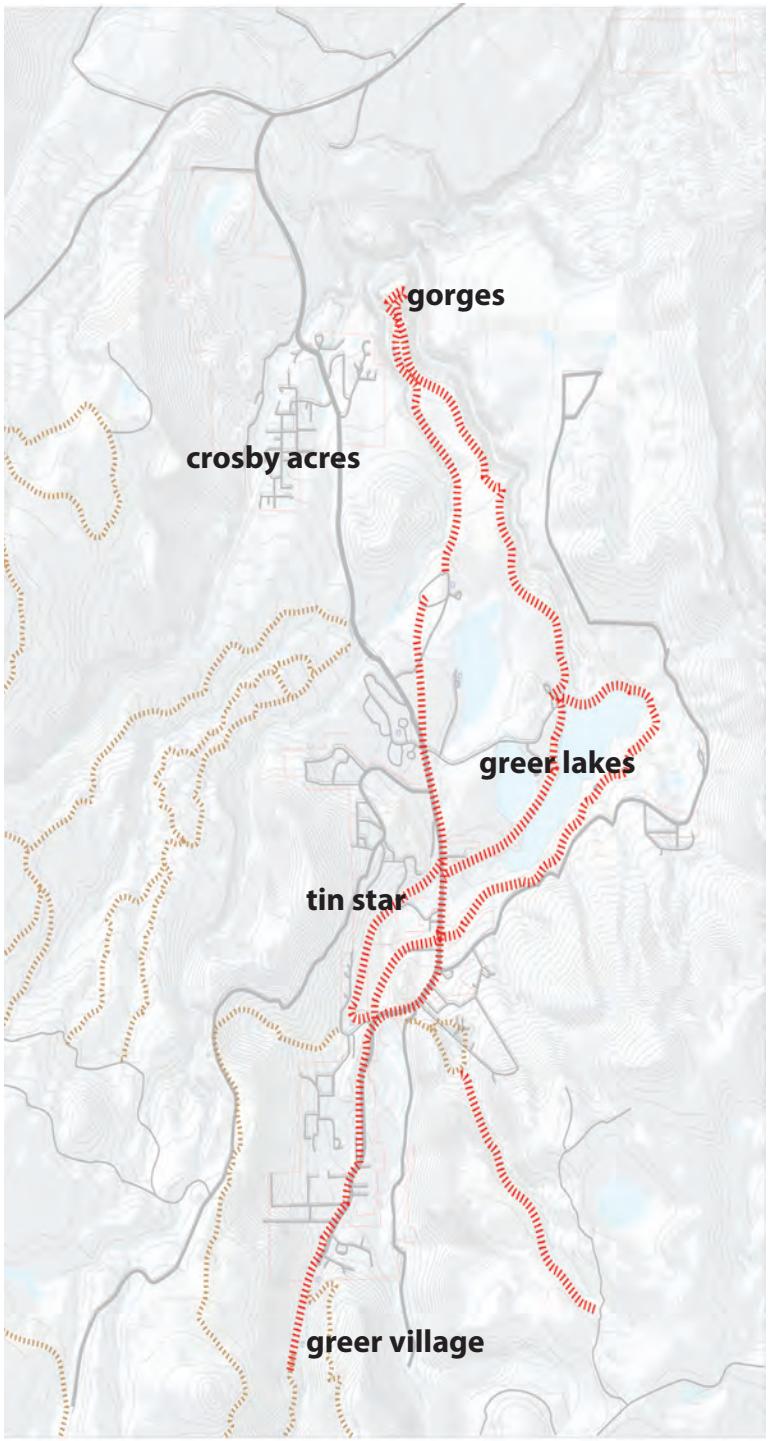


example of a paved, multi-use path

low impact trail development

The first phase of trail development would occur as a low impact scenario for the Tin Star Outpost node. Since the low impact option is a non-development phase, a simple street beautification / improvement plan is proposed. The beautification of the street would include a safer pedestrian experience connecting the Tin Star node to Greer Village with new pedestrian/bike lanes.

When looking at existing trail networks and connections in the Greer Valley, we noticed that there is a lack of connection to one of Greer's greatest amenities, the reservoirs. Two trails, one connecting Benny Creek Campground and the other connecting Tunnel and River Reservoirs with the Tin Star node and Greer Village have been proposed for this level of development.

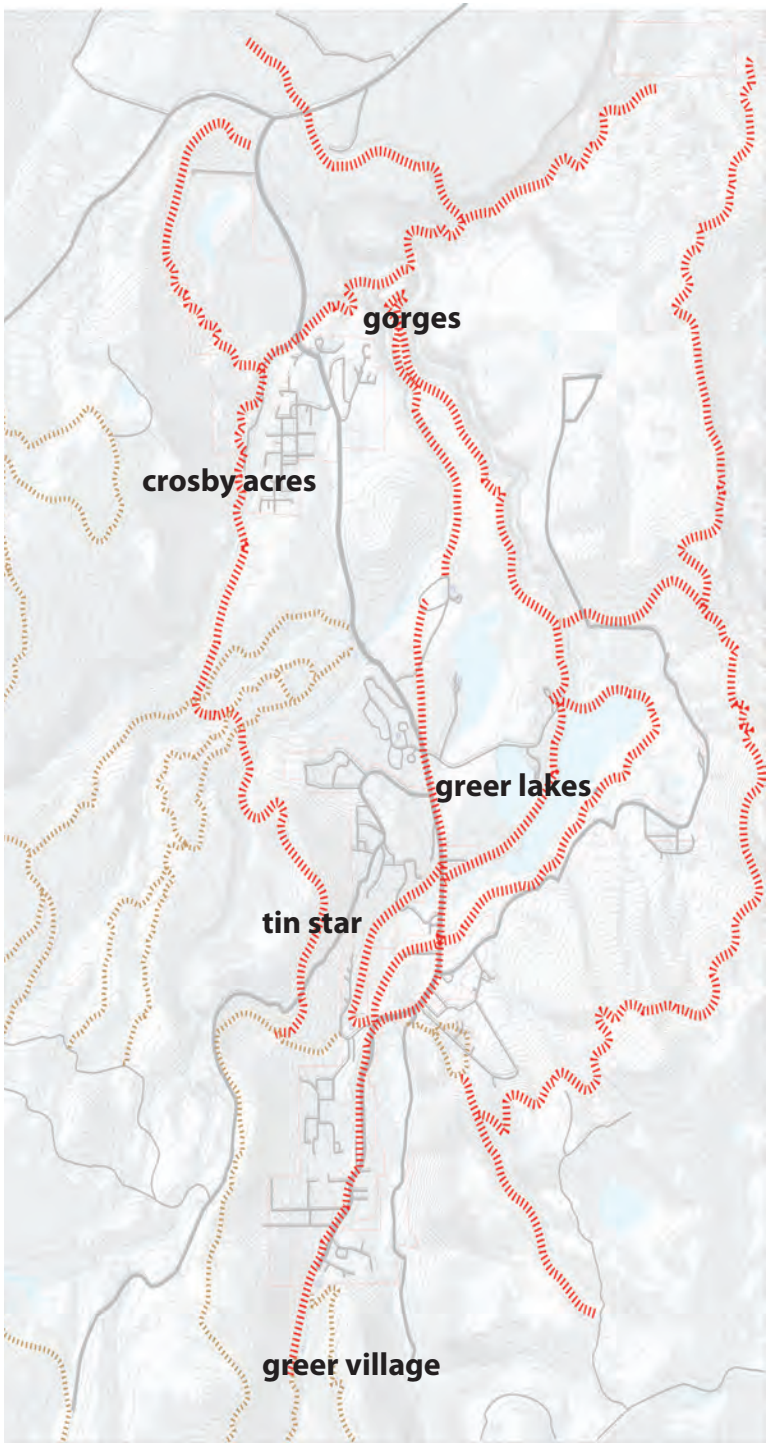


http://www.panoramio.com/photo/1901964?source=wapi&referrer=kh.google.com

medium impact trail development

The medium impact development of the Tin Star node would be a more extensive trail network. We start to see the development of loops in the network which offer users a variety of trail lengths and experiences to meet their needs. The trail extends north along the rim of the ridge that pierces into the gorge north of Greer, taking advantage of yet another one of Greer's unique assets.

In this scenario, the middle meadow would have an extension of Greer Village's boardwalk, which hugs the northern edge of the meadow. Along the southern edge, the trail system snakes its way along the slope creating another loop and connection between Greer Village and the Tin Star Ranch.



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high impact trail development

With full development of the trail system, the idea behind such an extensive network of trails is to make Greer an attraction that is also known for its diversity in trail uses. This network would connect all parts of Greer in a unified system that provides unlimited access for all skill levels. Using the natural contours and amenities that nature has to offer, the trail system connects users with both town and nature.

These trails begin to create connections with existing trail systems and offer higher elevation hikes for the more experienced user. Greer Village will be directly connected with Hwy 260, and easy access is proposed for those wanting to go into the gorges to the north. Regional connections to the Sunrise recreational area, Silverton and other areas can now be made through trails.

https://event-manager.compete-at.com/Manager/event/home.do?eid=1693

A great event with a large followings is trail running events that could take advantage of an extensive network of trails. This would be a yearly economic boost and make Greer an attraction for runners.

http://www.tripadvisor.com/LocationPhotos-g47185-d1489129-Grindstone_Stables-Ruidoso_New_Mexico.html#20783319

Opening up trails to horseback riding brings another tourism attraction for visitors. Established trail systems allow for controlled natural disturbances to occur in selected areas.

benefits to an extensive trail network

It is the hope that the development of an extensive trail network will serve the community of Greer in multiple ways. Greer is a natural treasure in the White Mountains, and nature, along with outdoor activity, is its life-blood. A well planned network of trails that allows a variety of users to enjoy them will ultimately improve the community of Greer by:

- Diversifying its tourism through competitions, etc.
- Creating connections and unifying the whole valley and beyond
- Stimulating the economy
- Creating one of many common threads seen throughout the valley
- Preserving natural amenities by guiding trail users

http://www.49st.com/images/event/55/14855.jpg

Multiple levels of trail difficulties allows for a variety of winter outdoor recreation and sporting experiences. Snow shoeing, cross-country skiing and biathlon could increase winter tourism.

trail development and amenities

Part of the goal of the trail network is to create an additional piece of fabric that threads its way through the community and valley creating a sense of unity. When visitors are on any trail within the network, it will be nice to see familiar symbols that let users know they are on a Greer trail and part of this network.

The most visual symbol on a trail is the trail-head marker. A common aesthetic, like the stone-carved marker shown above, unifies the network and connects the community to the trails. Trail side amenities such as seating and rest areas strike a balance between seclusion and way finding. Threading elements that one finds in the village of Greer along the trail system (e.g., stone and timber) serves to fuse the two attractions.

Undoubtedly, Greer's greatest asset is the watershed that snakes its way through the meadows on its way to the reservoirs in the middle meadow. Preserving those watersheds and streams is the most important ecological concern for the viability of Greer. The second most important concern for the valley is the health of the three meadows that make up the Greer valley. This too must be preserved to ensure the health of the community.

Allowing community members and visitors to enjoy these natural amenities is an important task. Intelligent trail development that allows for up-close pedestrian interaction with these amenities can help to ensure the health of these natural systems. Simple trail development standards can reduce the pollutants that enter into these areas.

Figure 1: When a trail runs parallel to a water source, a bio-swale is used to filter any contaminants through a series of natural filters before entering into the stream channel. Runoff from the trail collects into a swale which then directs the water through a leaching field separating many of the pollutants you may get from human or horse waste, along with any petroleum contaminants from ATV users.

Figure 2: When a trail interacts with the meadow, removing pollutants collected from the surface of the trail is important before entering into the meadow ecology. In this diagram, a swale would collect the runoff from the trail and direct the flow down and under the trail surface, acting as a filter before the water leaches itself back into the soil. Pollutants are kept separate from the edges of the meadow.

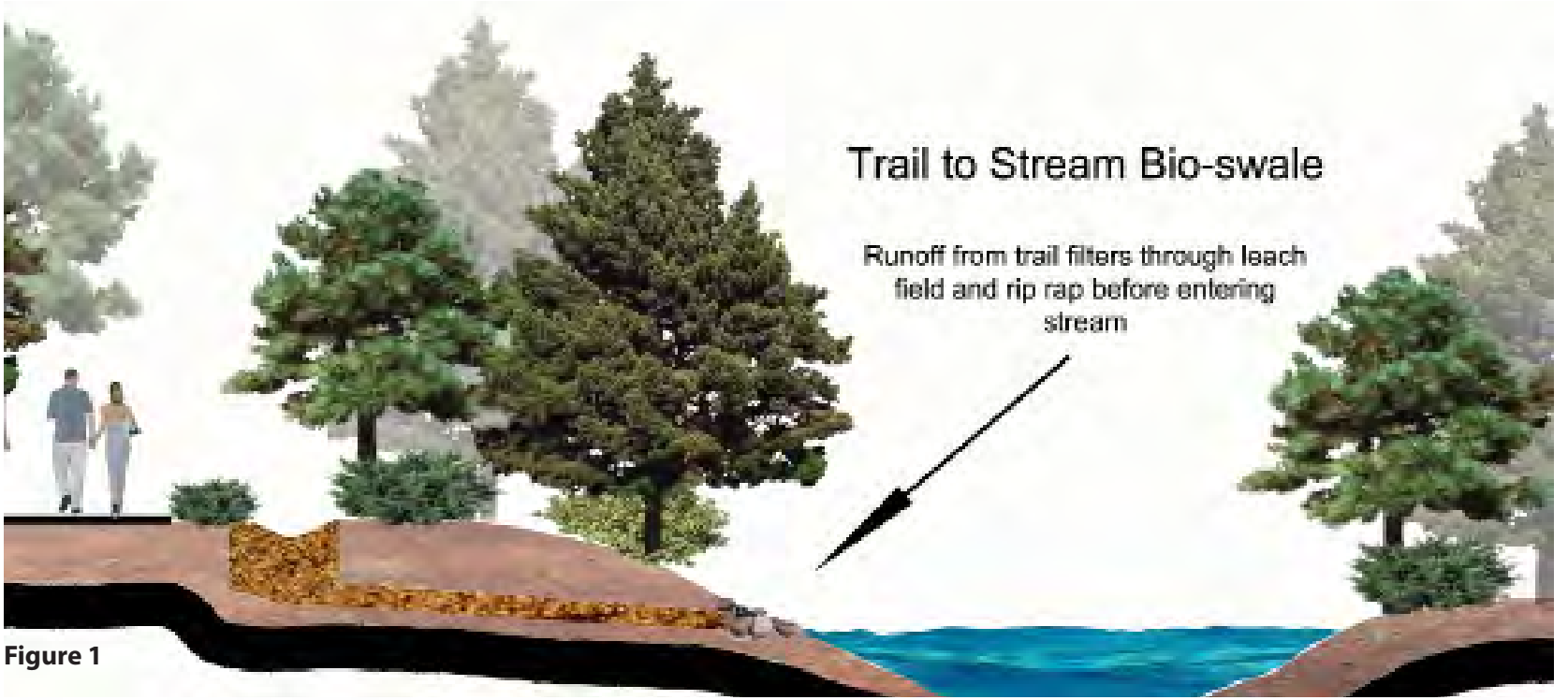


Figure 1

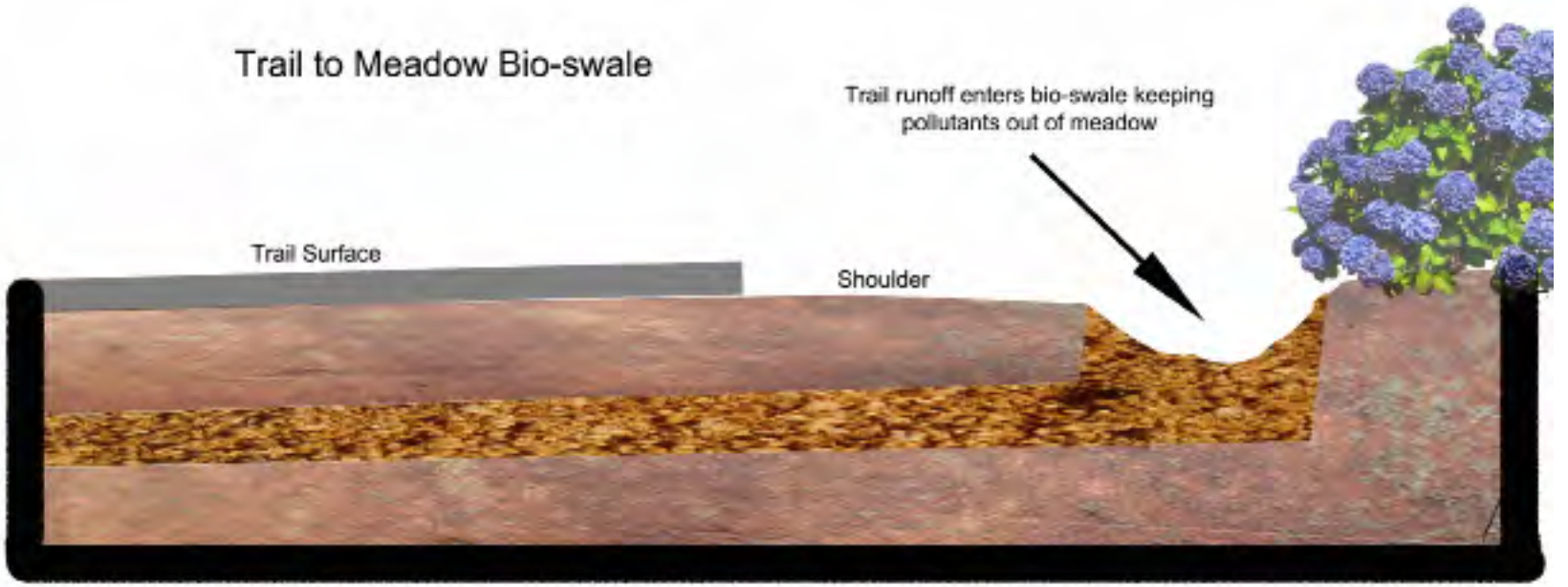
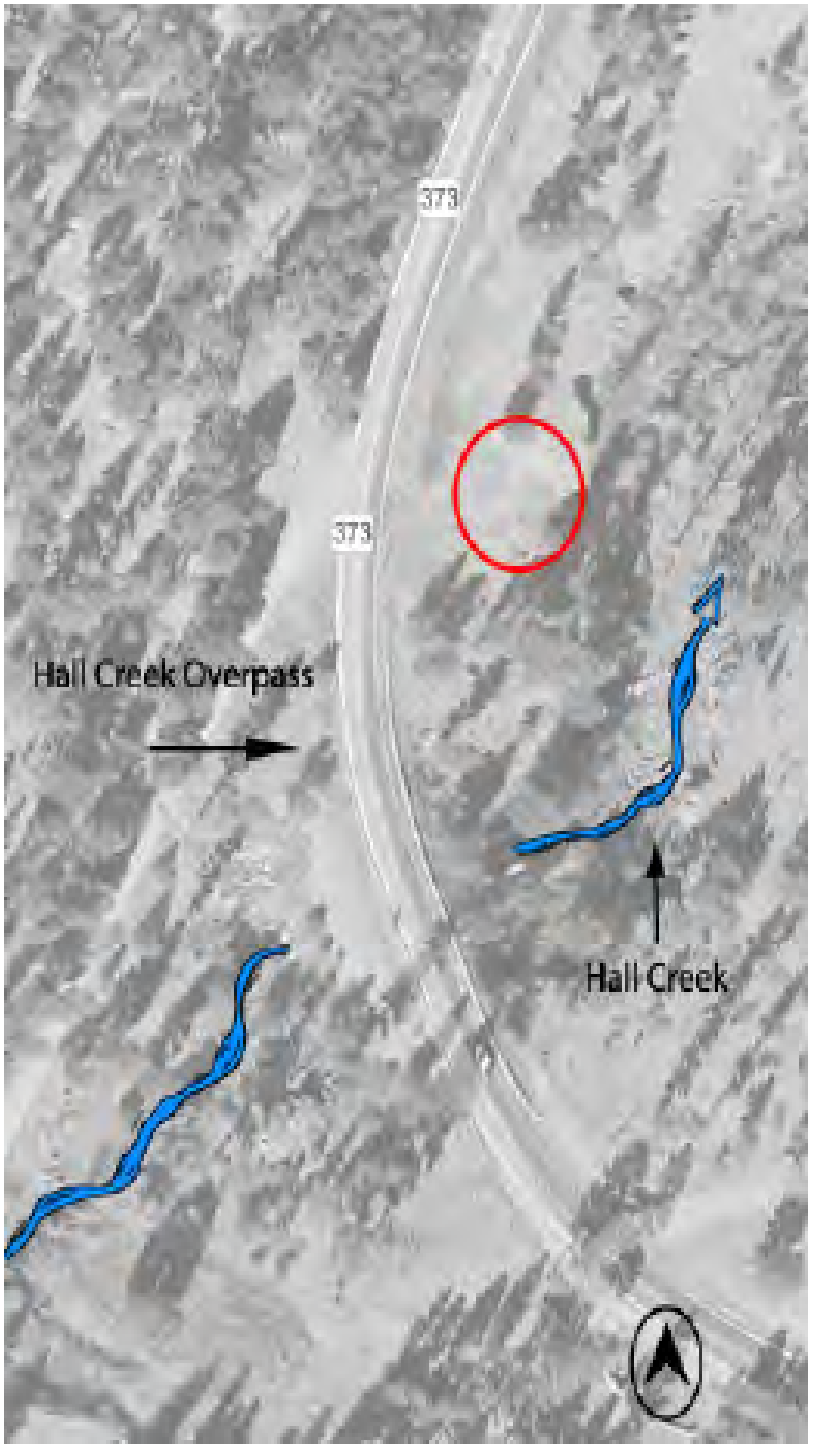


Figure 2

A parking pull-off currently located on the northeast corner of the overpass. Safety and accessibility is a major concern here.



hall creek underpass and overlook

opening another door to Greer's natural wonders

A critical area identified for the success of the trail network was the Hall Creek overpass. Access to the gorges north of Greer is difficult, and all the amenities in and downstream of the gorges are currently cut off to Greer residents and visitors. The construction of an underpass to replace the current culverts opens up access to the gorges and can be designed to reflect the character of both Greer and the natural settings around it.

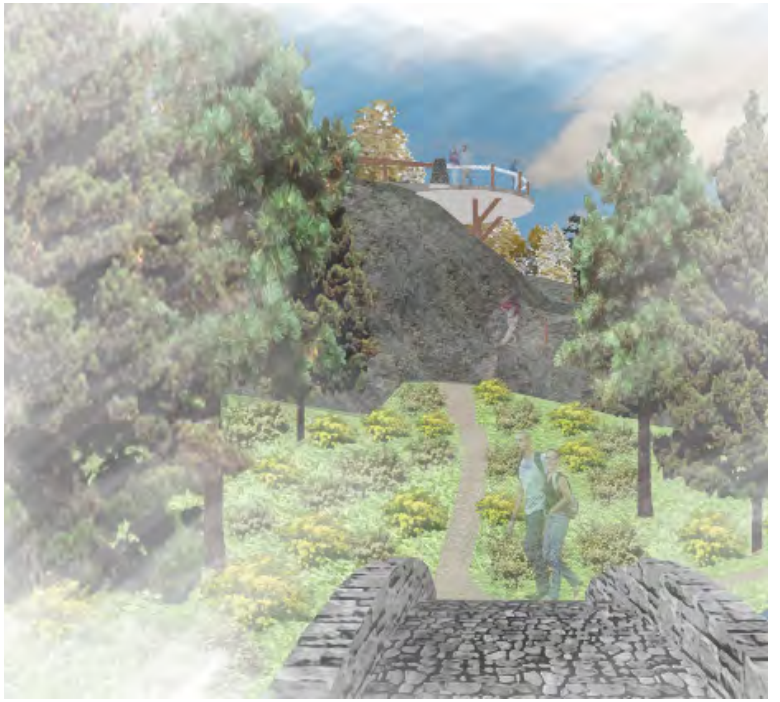
An added benefit that may come from the underpass is its availability as a wildlife corridor for animals that frequent the area. Wildlife, that may have utilized the bottom of the gorge prior to the overpass being constructed, will once again be able to enter safely. This will reduce the number of instances of wildlife having to cross Hwy 373 and lower the chance of wildlife vs. vehicle accidents.

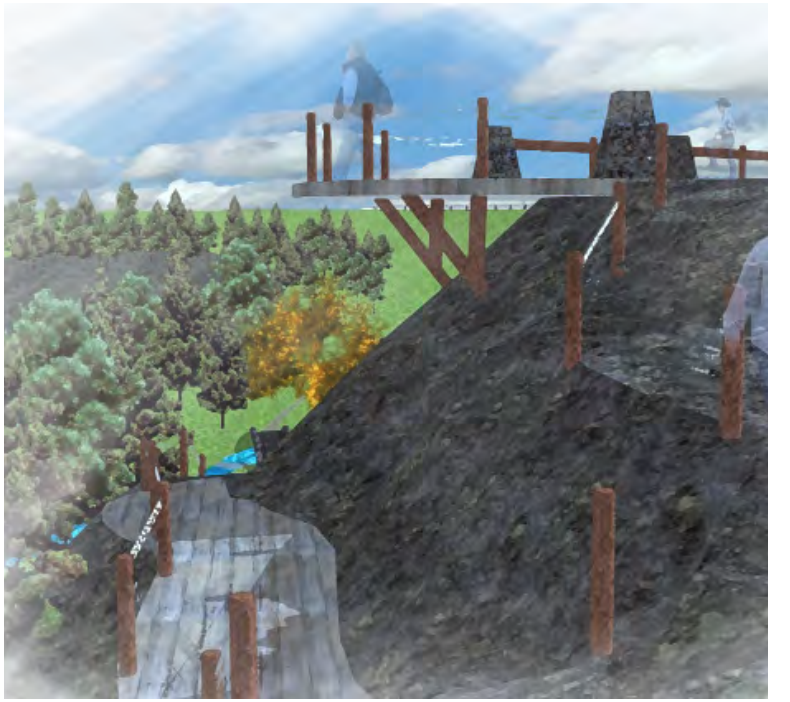
The development of this area will provide visitors and residents with a new and easier way of enjoying the gorge. A parking lot will allow for visitors and hikers to park away from the village and enter the network of trails without overcrowding populated areas. The lot is nestled into the trees, which creates a buffer from the road, allowing for an uninterrupted pristine drive into the village.

The overlook area is built on top of the existing rim of the gorge and follows the natural curves of the edge, allowing the user to feel like the overlook fits into the scenery. Local building materials such as stone and lumber make up the majority of the overlook with the steel railing accenting the aesthetic found in and around Greer Village.

The overlook provides the user a new vantage point of one of Greer's many natural gifts. From the top, one can see over the tree canopy into the gorge from the safety of the railing. A view like this is not currently easily accessible to the public. From here one can see down into the gorge and notice the new tunnel underpass that has been built, allowing hikers and wildlife to safely pass through Hwy 373. It invites one down into the gorge to explore more of the trail network.

Visitors are surrounded by trees and vegetation creating the feeling of seclusion. An extension of aspens wraps around the overlook and buffers users from the parking lot and traffic along Hwy 373. Small islands consisting of stone and trees on the overlook provide a shady canopy on hot summer days and give a sense of circulation to users, while reinforcing the unity with the natural surroundings.





stream bridge and surprise views

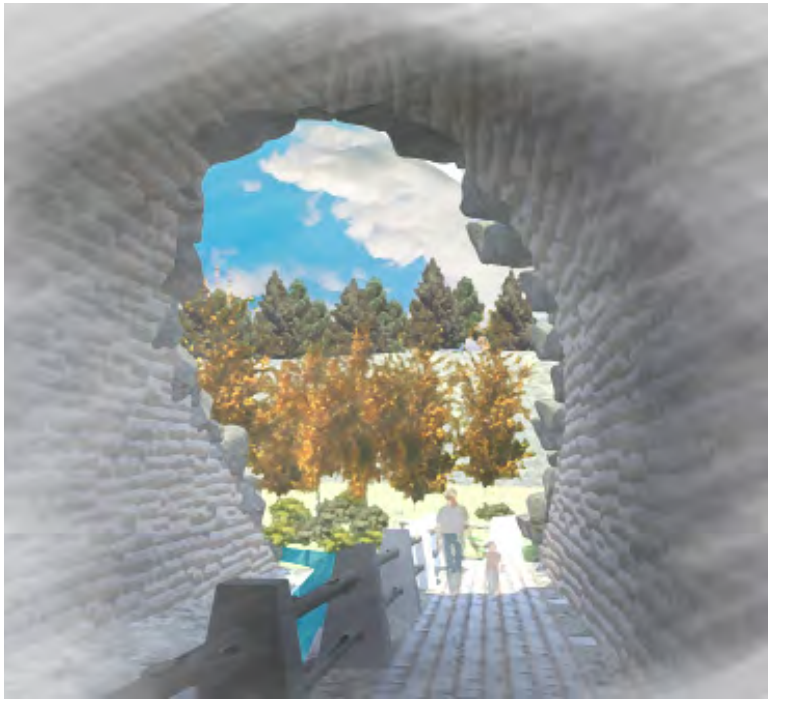
From below, on the gorge floor, one finds subtle treasures like this stone bridge which crosses over Hall Creek offering you a view up to the overlook and the winding stairs leading to the top. These little surprises keep hikers and casual users interested in what is to be found further down the trail. Common materials and styles of trail side amenities should be used throughout the trail network, creating regional unity and a sense of place. This stone bridge would ideally reflect the character of a stone bridge one would find in Greer Village.

extension and secondary platform

The overlook provides two special experiences besides simply looking above and down into the gorge. A cantilevered extension protrudes out over the edge allowing visitors the experience of floating above the gorge while taking in the sounds and other stimulants one would get from the rim. The second is a lower deck that protrudes out of the cliff side allowing a secondary experience of being among the tree canopy. This is an entirely different experience from above and will be great for all visitors, especially bird watchers. The stairs leading to the gorge floor are carved out of the cliff side and allow easy access to the trails below.

hall creek underpass east entrance

The entrance to the underpass tunnel beneath Hwy 373 from the west is designed to act as another surprise experience for users. Using vegetation such as aspens to screen the approach to the entrance keeps the user unaware of the approaching tunnel. This again reinforces the idea of keeping users interested and surprised at the variety of experiences the trail network has to offer.



exit view out of the underpass

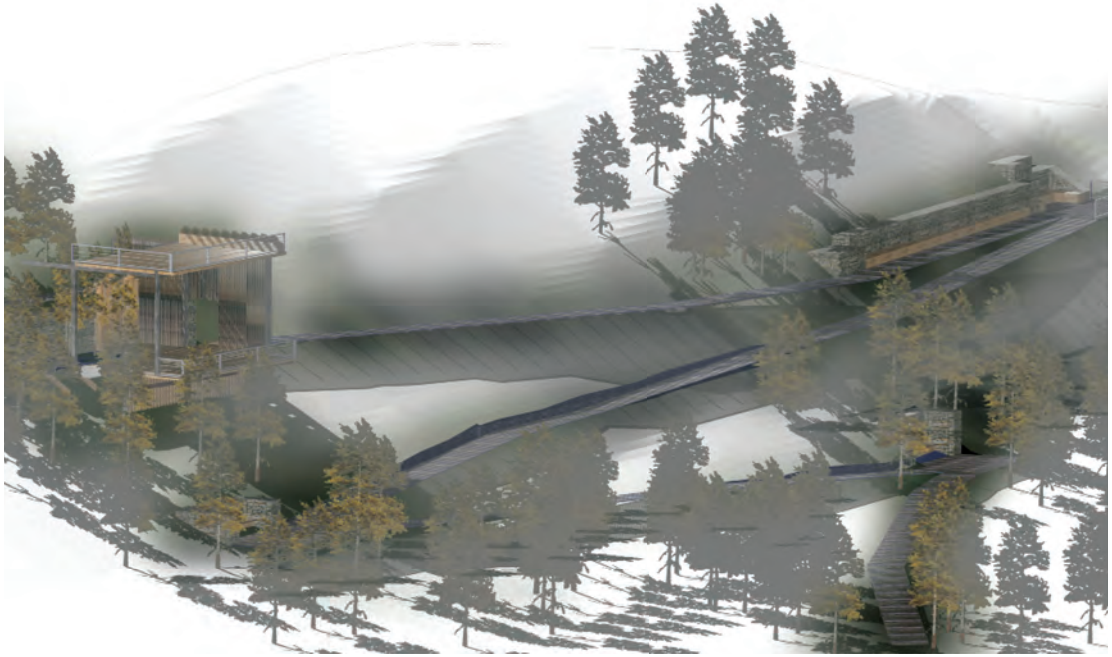
Inside the tunnel, a railing system separates human interaction from the stream. This preserves the ecology of the stream and limits the amount of pollutants that might enter into the stream. Natural materials such as stone and wood are used to preserve the natural aesthetic of the surrounding area, and the floor is paved with permeable paving allowing for a safe trip through the tunnel. Aspens await as you exit the tunnel, inviting you to pass through at both ends. Again, the path does not exit in a linear course out of the tunnel, which provides another temptation to further explore what's waiting down the path and find another surprise at every turn.

FUTS 50 MILES 1988-2010

case study: flagstaff, az

The Flagstaff Urban Trail System (FUTS), affectionately known as "Foots," is a successful example of an extensive trail network aimed at maximizing multiple user groups. Since its inception in 1988, the trail system has grown to nearly 50 miles with an additional 30 miles planned. Its design is intended to be useful to multiple user groups including commuters, hikers and children. The trail system connects neighborhoods with shopping centers and schools and weaves its way through most areas of town. Aside from the 50 miles it has on its own, the FUTS also connects to regional trails such as the cross-state Arizona Trail, Coconino National Forest and the Flagstaff bike network. It offers users a variety of experiences from busy city streets to secluded canyons and riparian habitat. Trail surfaces range from paved to natural, hard-pack soil depending on the location and need for surface.

A part of what has made the trail and bike system in Flagstaff so successful is the creation of the Pedestrian & Bicycle Design Guide in 2003 through the cooperation of the City of Flagstaff, Coconino County, ADOT and the Flagstaff Metropolitan Planning Organization. This document helps decision makers decide on the type of bike and pedestrian facilities that would be warranted, depending on condition of the surrounding area. Elements that would influence a design choice could be road function, parking type, drainage and abutting land uses. These types of factors decide whether a bike lane or bike route is suitable, or what type of paving surface should be used. The multiple agencies involved in the creation of the guide bonded the region in a unified trail development plan that creates a sense of recognition users will identify with and want to use.



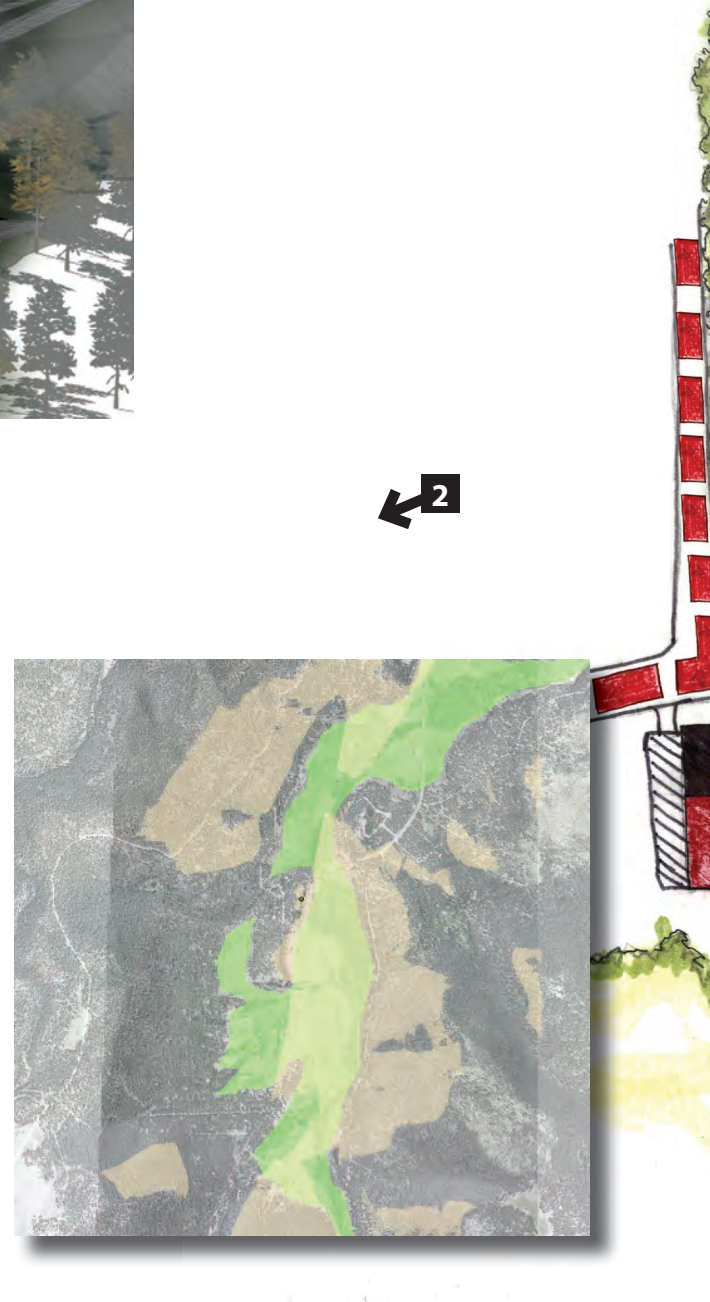
hillside viewing area

One thing that is common in the town of Greer is everyone's love of the nature that is present there. Views in the town are entirely defined by the meadows in and around the Village. This design is an example of what could be done here to create a community asset for the whole town--a place where visitors and residents alike can take a nice walk up the hillside and view the meadows and mountains from an elevation high above street level.

The site in which it is shown is near existing local businesses (such as figure 3 - Rendezvous) on a parcel of land not yet built on, which has steep slopes and allows for views of the entire village meadow and further views to the meadow as it continues north toward Tin Star (as shown in the view shed map to the right).

The boardwalk up the hillside has multiple switchbacks in order to create a walkway which does not exceed 5% slopes. This allows for ease of access for all, including wheelchairs.

Views 1 and 2 on following page



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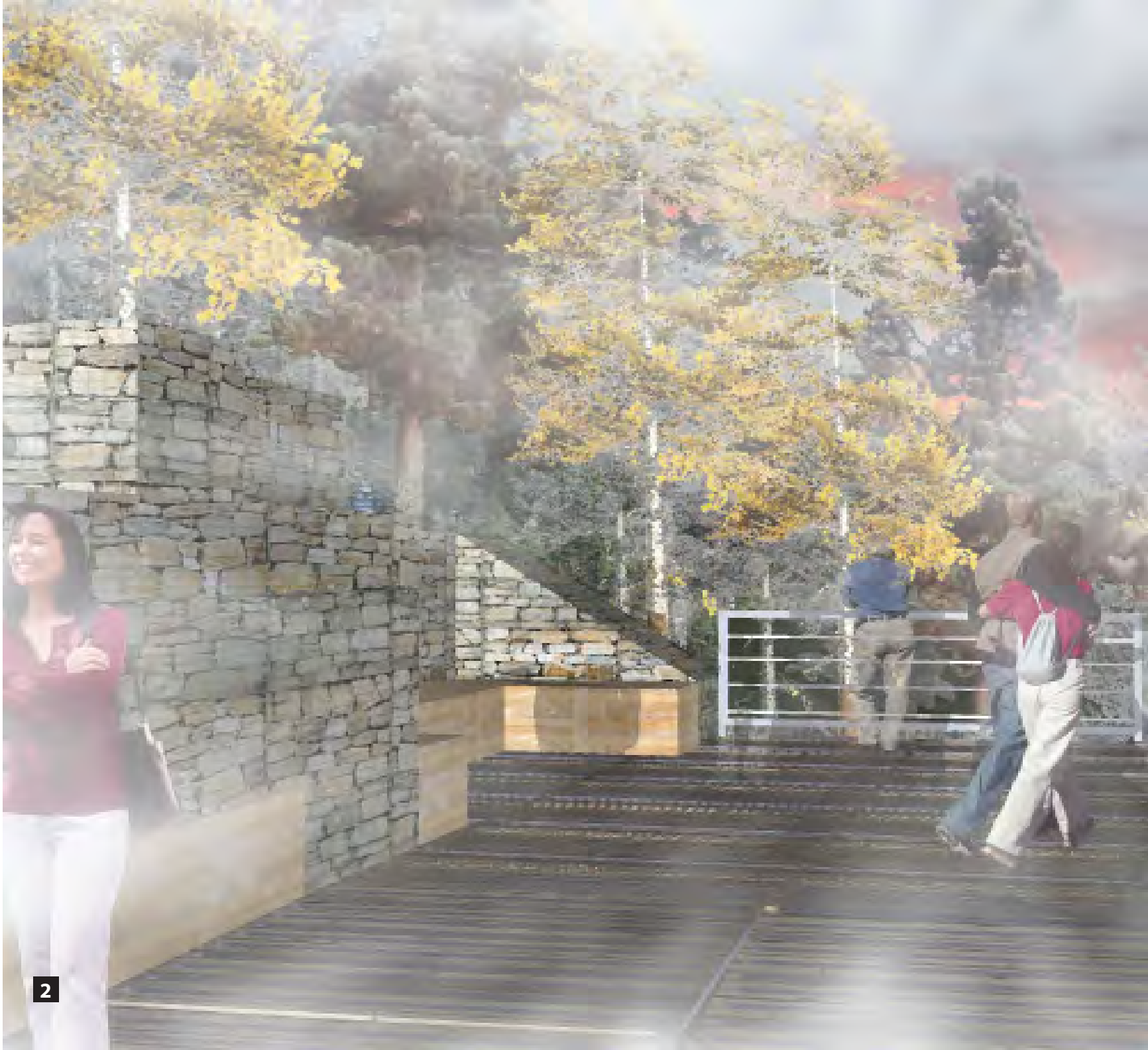

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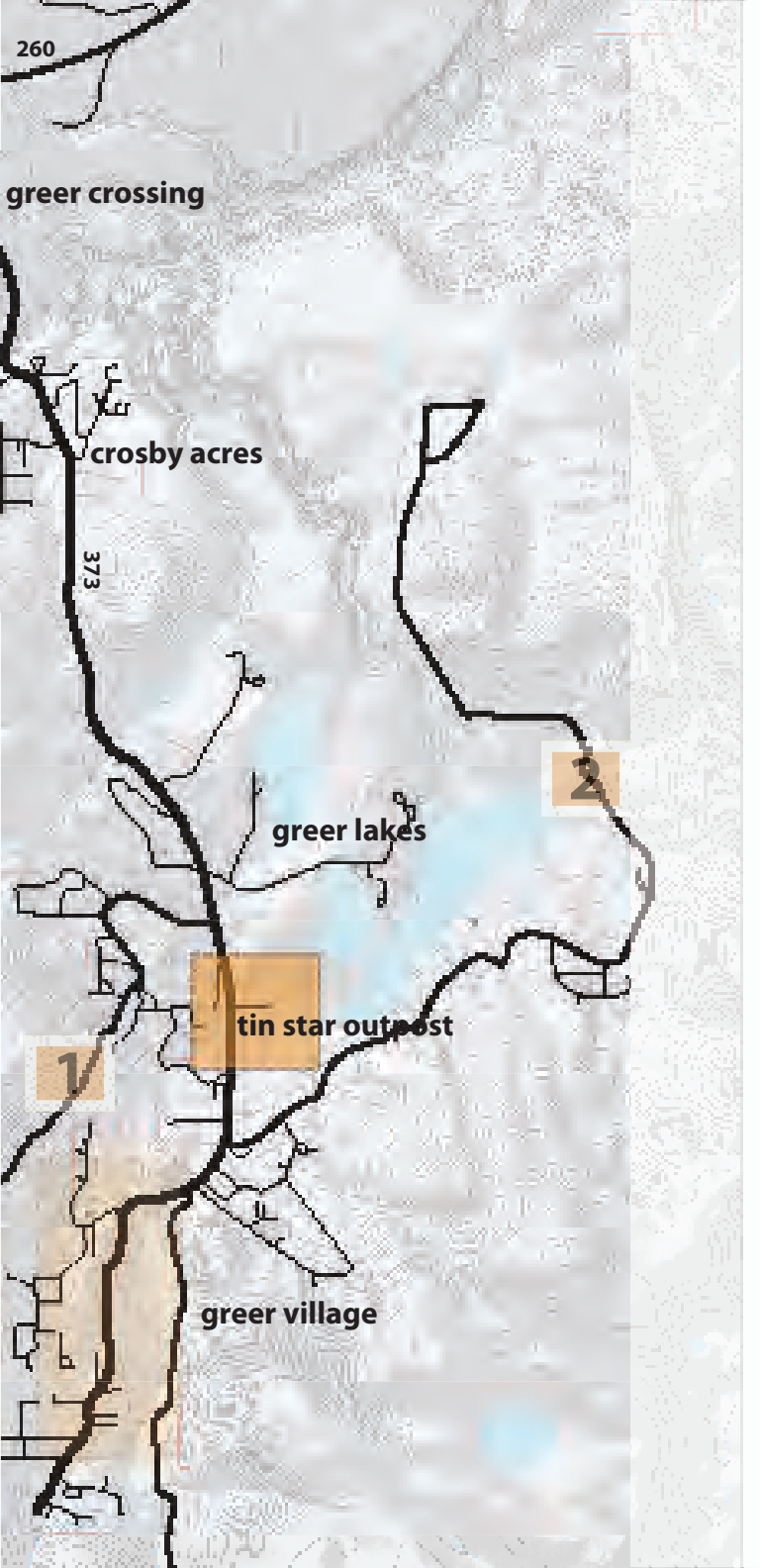
design: tourism



This section details opportunities in Greer for sustainable tourism sites. It describes the concept of sustainable tourism and shows in detail two different specific design sites in the Greer area.

http://feelgoodstyle.com/2008/09/01/news-from-paradise-daintree-rainforest-lodge-and-spa/

sustainable tourism

Tourism in Greer has the potential to strengthen the community. To do this, it has to be addressed strategically though. Doing so will allow for the betterment of the community and visitors to the village.

Tourism in Greer needs to be sustainable and can be done by meeting the five ordering systems of design. The ordering systems are: economic - creating jobs and keeping money in local hands; environmental - conservation of natural resources; social/cultural - targeting selective user groups; functional - assisting in creating amenities for residents and visitors; and aesthetic - promoting and enhancing a sense of place in Greer.

After doing research, the tourism strategy that seemed suited to and would respect Greer's identity appeared to be geared around health. Health oriented visitors would seek minimal development and respect the environment and serenity of Greer.

computingforsustainability.wordpress.com

nipika ecolodge http://www.nipika.com/

case study: nipika mountain resort
ivermere, BC, Canada

Nipika Mountain eco-resort prides itself on their energy self-sufficient cabins and environmental philosophies. Nipika attracts visitors who are respectful to the quaint mountain-town lifestyle and seek to experience the many natural amenities surrounding the resort. The design of the lodge is intended not to bee obtrusive to the land. In addition, it was designed and constructed by the community. The natural activities of the resort also encourage interaction with the visitors and the community.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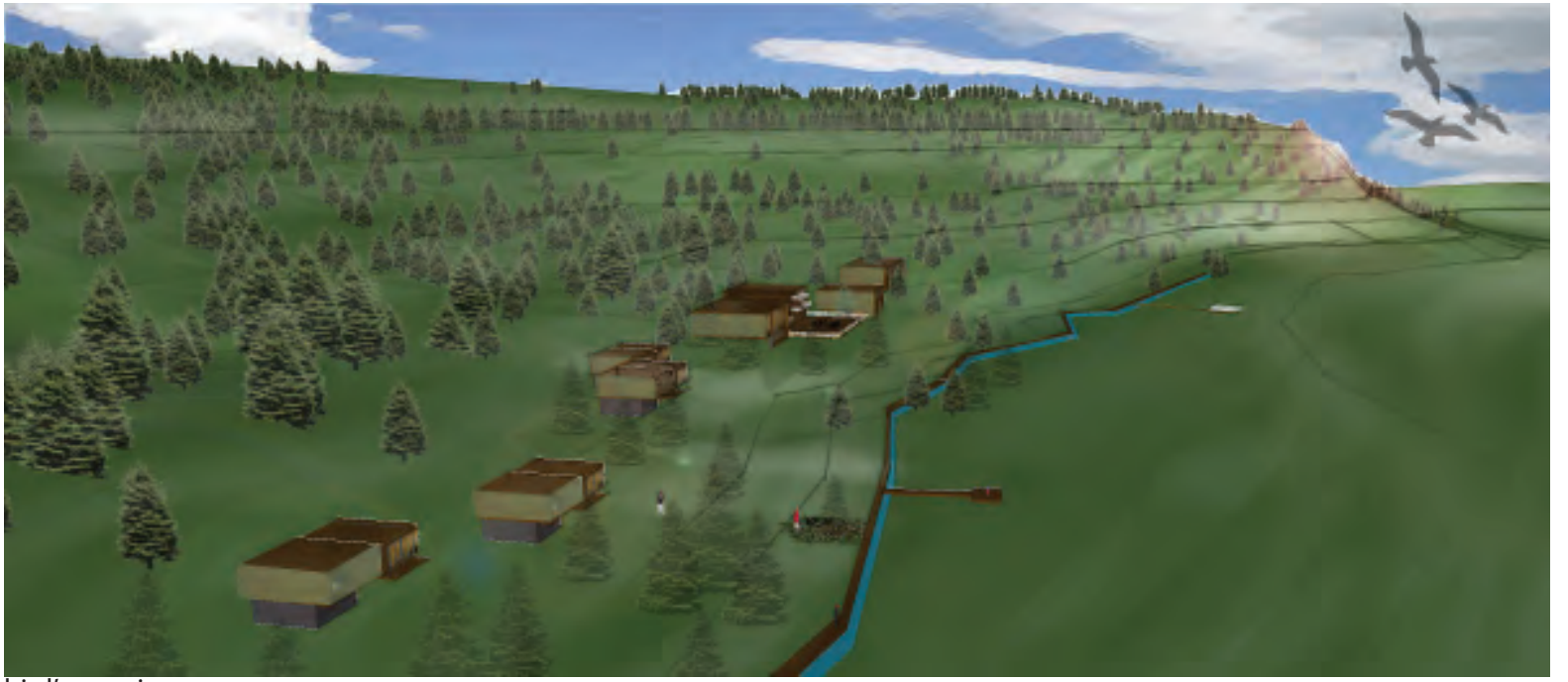


bird's eye view

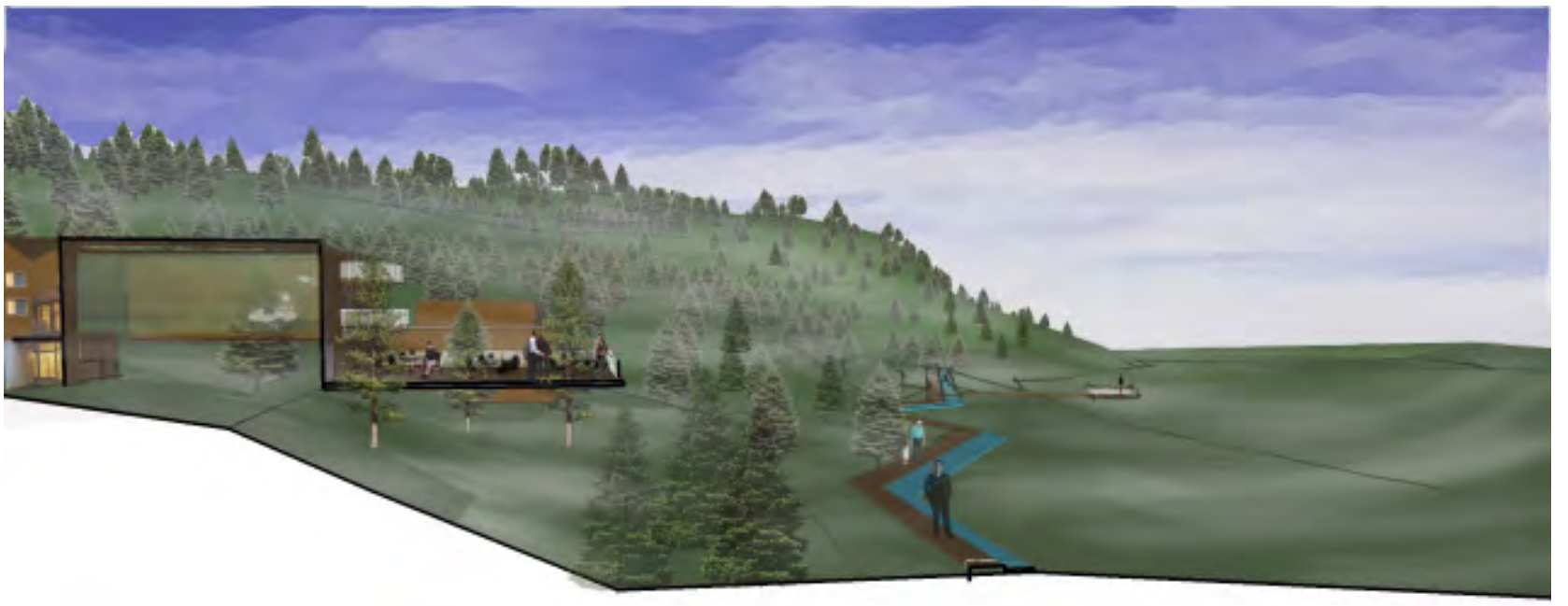
1 sleepy village ecolodge

1. The boardwalk connects to the established trail system as it goes through the middle meadow
2. Viewing porches extend into the meadow and allow a closer look at the meadow, while still supporting its preservation
3. Spa
4. Yoga studio
5. Main lodge
6. Guest cottages
7. Central gathering space for people who stay in the cottages

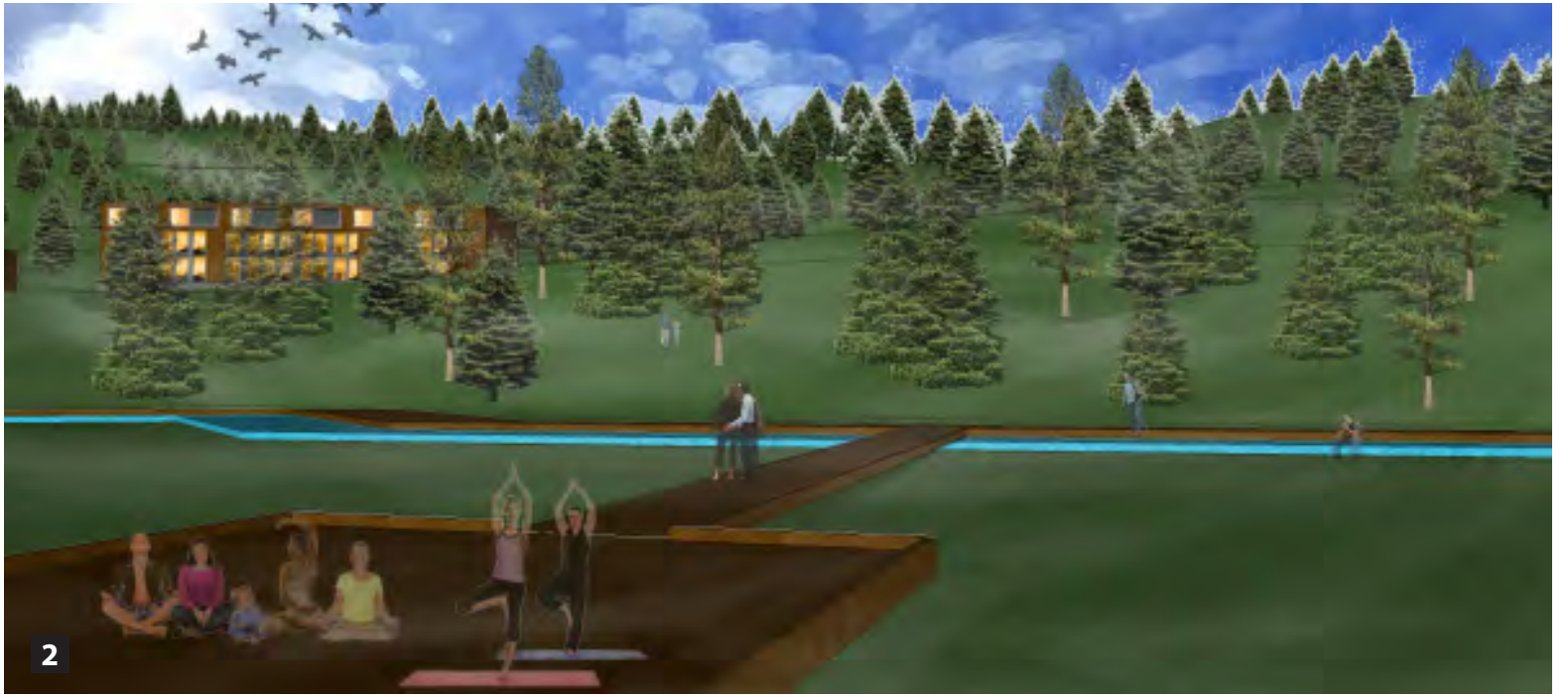
Sleepy Village Ecolodge seeks to have minimal impact on the land. The perimeter development of the meadow allows for a benign relationship that lets visitors interact with the meadow without harming it. The buildings sit on the land with the goal of letting it maintain its natural state. The buildings are composed of floor-to-ceiling windows, so that visitors are able to experience the beautiful vistas. The lodge is also intended to be health oriented, including in its design a spa and studio. The meditative properties of Greer provide a great environment for a health lodge such as this one.

There is a main lodge along with smaller guest cottages to provided different accommodations for visitors. The boardwalk provides connectivity from each amenity and is available for day hikers who want to visit the middle meadow.

perspective from inside the central gathering space



section a-a'



perspective from the meadow porches

http://danforthbiomeproject.com

dedicated tourism

Dedicated tourism specializes in engaging tourists in activities with limited infrastructure involved. Dedicated tourism is designed to attract people to the outdoor natural environment.

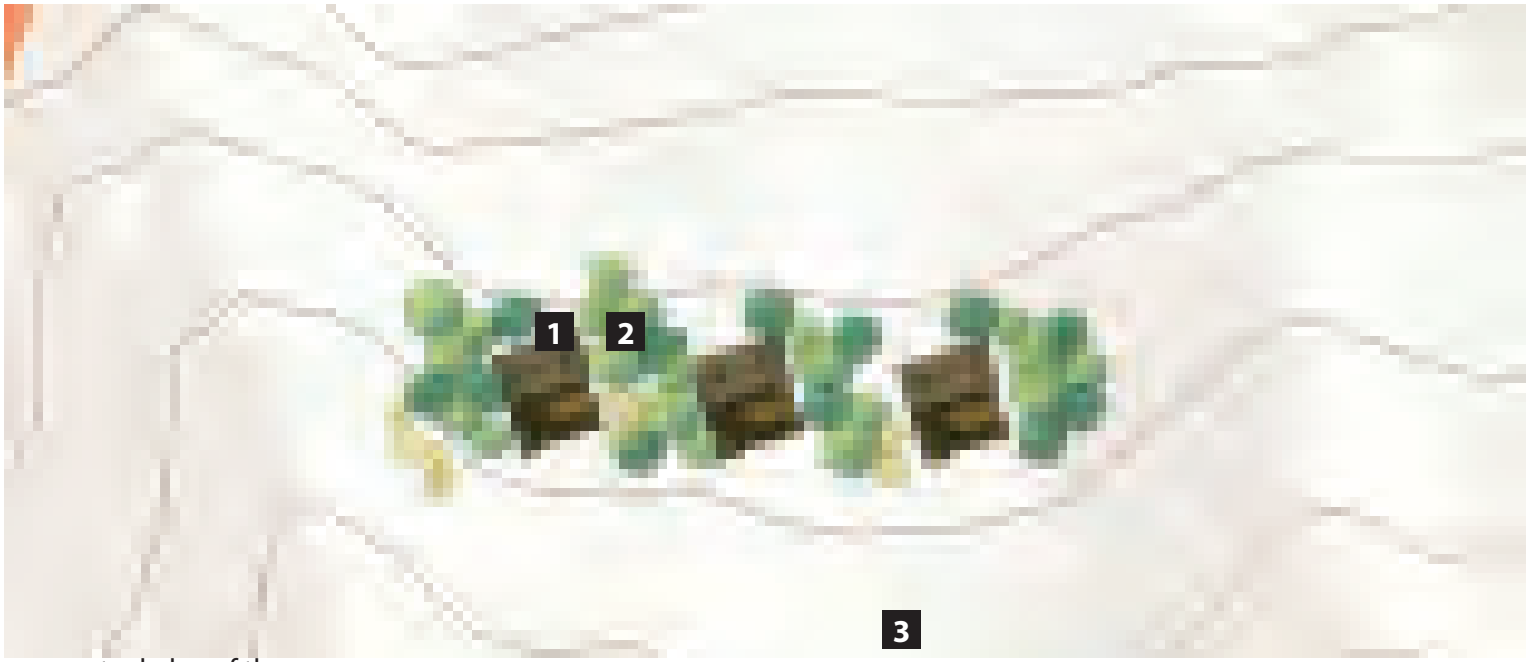
Such activities involved in dedicated tourism include bird watching, animal watching, camping, hiking, biking, horse back riding, survivor education, outdoor expeditions, and outdoor education. Eco Camps are designed to integrate with the natural environment while their activities are focused on nature based exploration and relaxation. Their measure of sustainability is based on minimal physical impact on the environment.

By minimizing impact on the natural environment, dedicated tourism enhances the user experience within nature. This form of tourism promotes responsibility toward conservation and the health of the outdoors, while creating a unique experience within nature.

http://www.wildland.com

case study: las torres eco camp

Las Torres Eco Camp is located in Patagonia Chile. The native peoples of Chile were nomads who traveled about the coast in search of shelter and food. Their lifestyle led them to build shelters on site using the native organic materials provided. The the Kawesqar constructed their huts from fallen trees and branches into geodesic shapes, and then covered them with sea lion skins. The indigenous peoples lived from the land and had an appreciation of their natural environment. The Eco Camp in Las Torres National Park is a modern day interpretation of the traditional huts of the Kawesqar. The structures can withstand high winds, and extreme weather conditions. The environmental systems within the camp are designed to be low impact while recycling waste and taking advantage of active and passive solar gains. All waste is recycled and reused. The Eco Camp is designed to appreciate and interact with the natural environment.



conceptual plan of the ecocamp

2 hidden ridge ecocamp

1 Low impact structures with viewing platforms

2 Ecolodges nestled between trees to protect from varying environmental conditions

3 Rigorous path through forest is part of the user experience

Hidden Ridge Eco Camp is designed to create an experience, allowing the user to be encompassed and emerged into the natural environment. Part of the user experience is the travel to the eco camp by horseback or foot, atv and vehicle use is highly discouraged. The design focuses on creating minimal impact on the environment by low impact structures, and through recycling and reusing any waste produced. The environmental systems include solar cells, compacting toilets, and water harvesting systems.

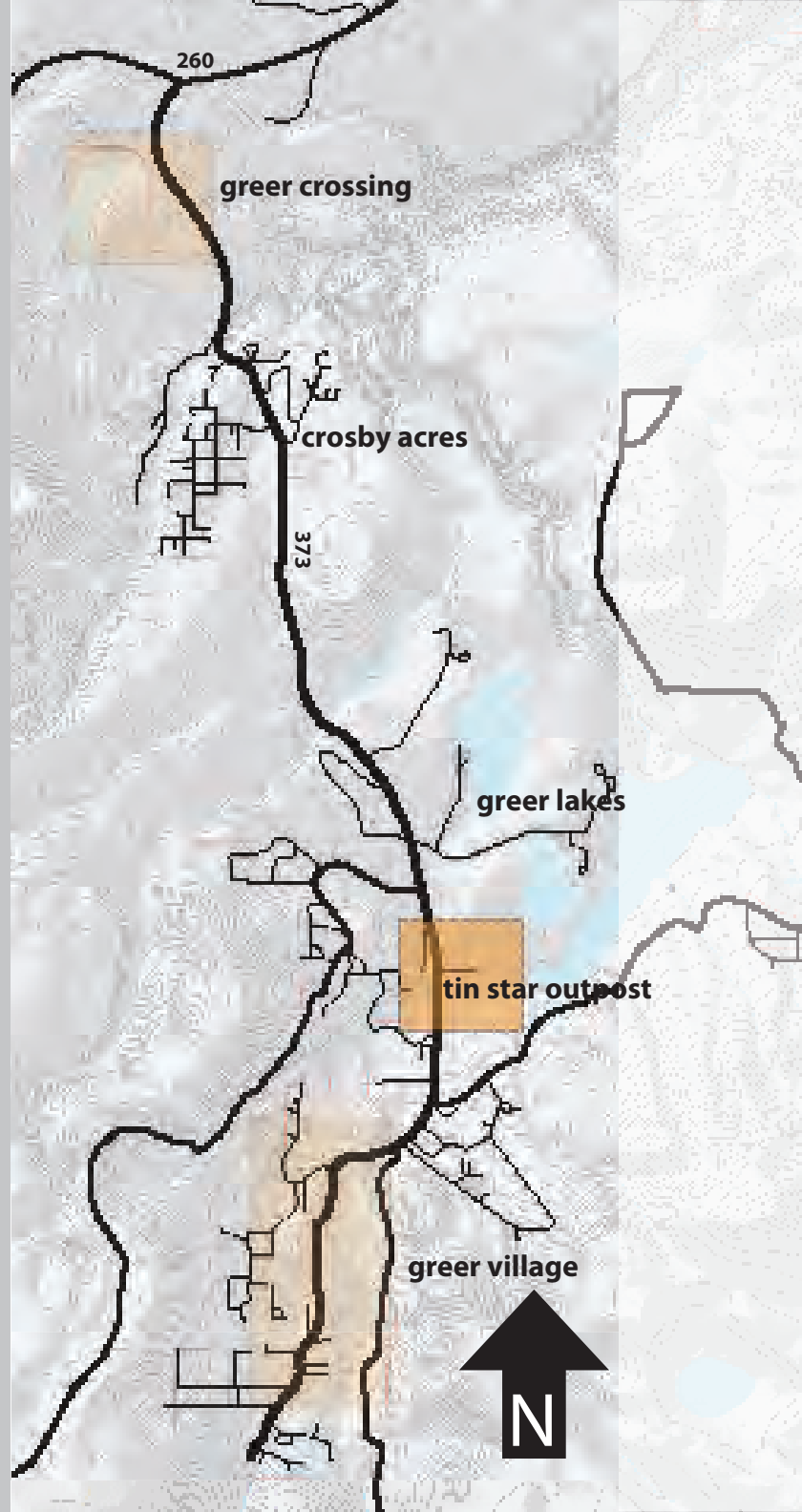
The concept behind the eco camp is to explore the natural environment accessible through 'the gateway to the outdoors' located at the Tin Star Outpost. The experience begins with early morning departures to the destination all while taking in the advantage of becoming consumed in mother nature.

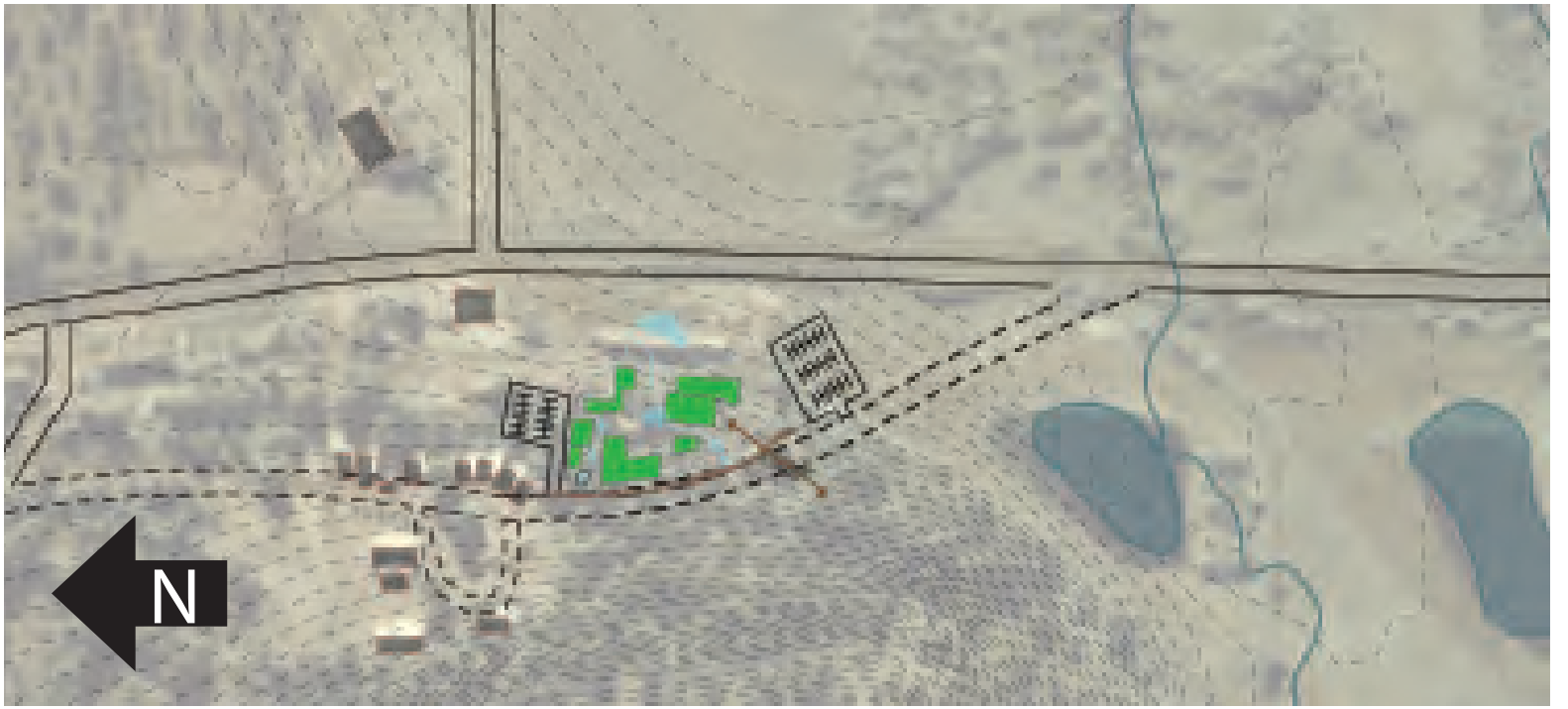
Imagine an experience to a destination within nature while being surrounded by a blanket of trees and nestled in the majestic mountain range. The Hidden Ridge Eco Camp is located to the east of the reservoir, hidden amongst the forest.

1 perspective of the arrival sequence to the ecocamp destination

2 perspective looking out onto the natural environment

design: tin star





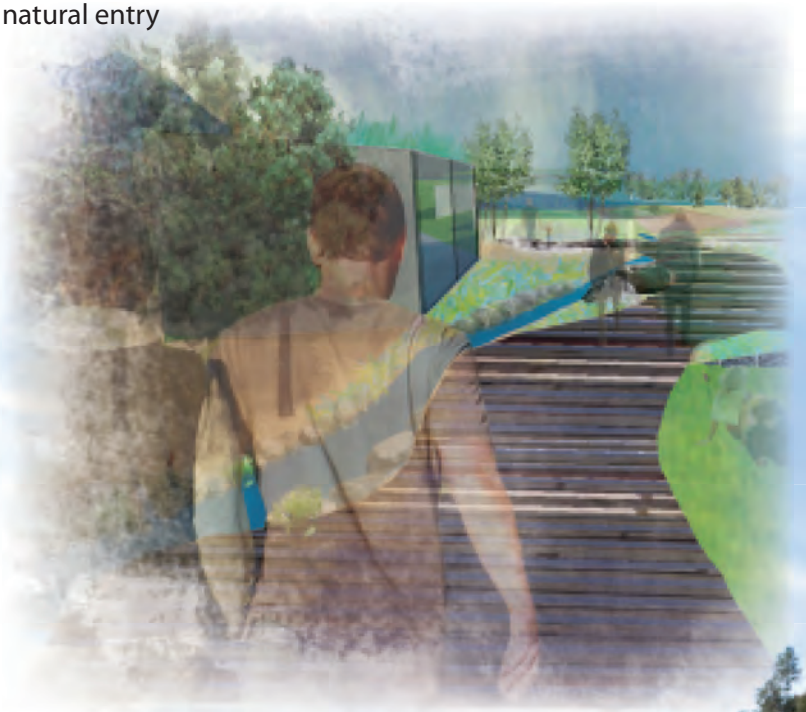
tin star ranch outpost

The Tin Star Outpost concept suggests that, in order to preserve the quality, function and aesthetic of the meadow, the road should be rerouted further up slope and to the west. The benefit of the road reroute is that traffic will no longer impede the view of the meadow, rather it will fit snuggly into the hillside.

The vantage point from the earth-integrated architecture on the slope allows for unobstructed views to the east. Such views would be punctuated by browsing elk, the rising sun and even the distant lakes. Any visitor of the Tin Star Outpost will truly get a view of what Greer has to offer.

We envision the Tin Star Outpost to be a major draw for Greer's camping community as it would provide numerous amenities for outdoor enthusiasts, ranging from the beginner to the dedicated weekend warrior. This compact cluster of buildings provides services, such as: an outfitter, a bar, a cafe, a restaurant, a visitor center, a general store, and a unique guest lodge. Upon entering the site, visitors will be greeted by the glass and rock wall facades. These elements are simply vegetated expressions of the hillside. A boardwalk gently guides visitors through the site, revealing all of the amenities Tin Star Outpost presents. Users will be delighted to find that their path is winding its way over wildflower rooftops and under trees, always following the path of water as it meanders to the meadow.

natural entry



birds eye view

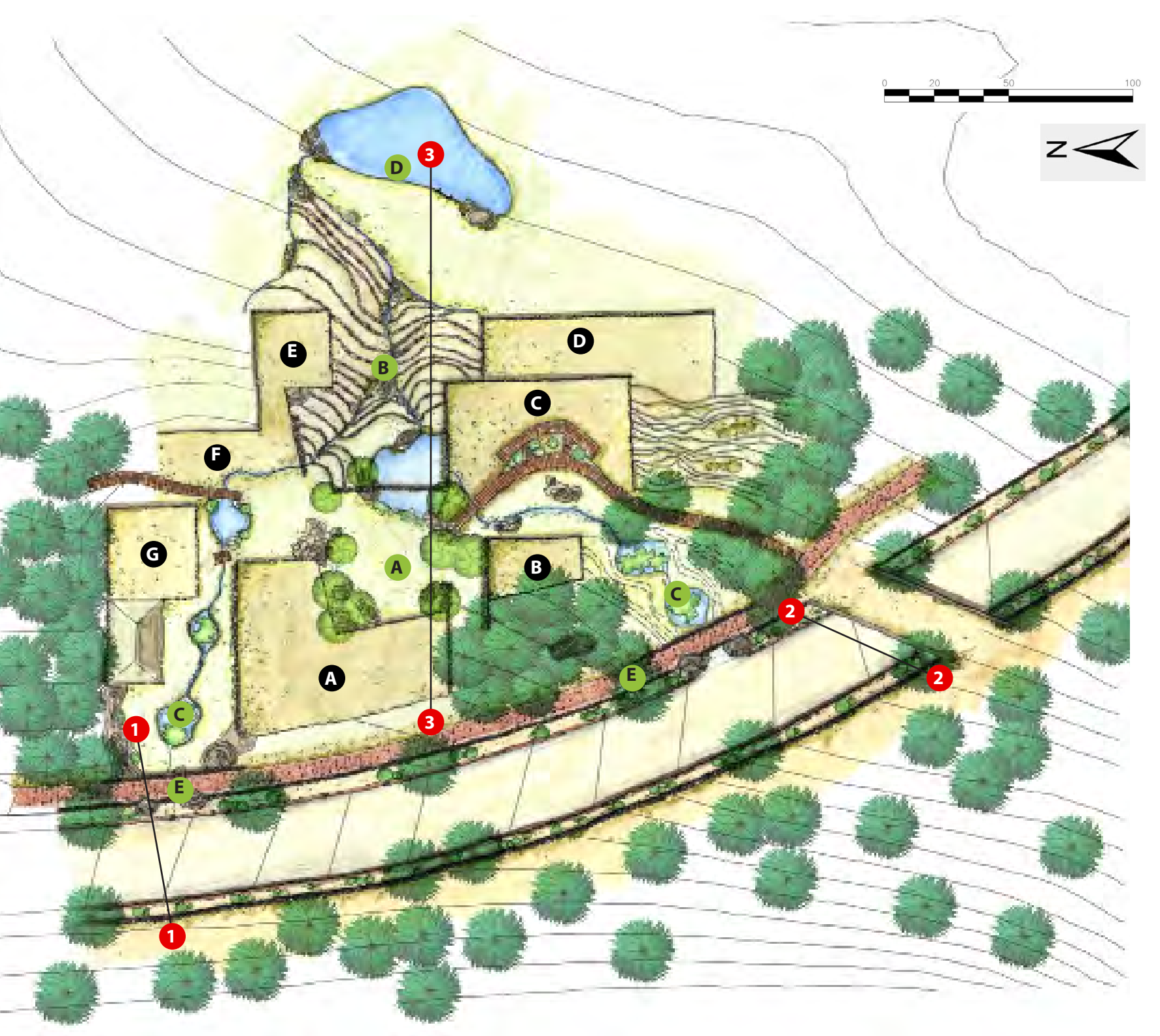
the outpost

tin star ranch outpost

As the sun rises in the east, a native grass filled meadow invites the browsing elk and deer to descend from the shelter of green, forested hillsides. Unlike Greer Village, the sun rises earlier on this meadow. Its rays, absorbed by the biotic and abiotic, slowly warm the Earth. This is the story of the land as you reach the Tin Star general store: early warmth and distant views. Years ago, when the road was built on top of the meadow, it in some ways marked the developers dissonance to the surrounding ecology. Part of the meadow was lost; its fragile ecology disrupted. The road led to other developments, housing pads and parking spaces all swallowed a little more land. If this were to continue, what would happen to the story surrounding the Tin Star?

Understanding the need to balance continued development and preservation, the Tin Star Outpost was so labeled to encapsulate the quintessential character of the surrounding environment. As a simple slogan, all development should not only preserve the meadow, but restore it. If one were to imagine what existed before the road, the buildings, and the gravel, the landscape--flat as it may seem--would be shaped by soft undulating contours. Sparse trees would have helped to scale the meadow's reach. Native bunch grasses and wildflowers would have filled the landscape until it hit the inevitable key line of the mountain sides where dense stands of ancient forest still exist.

In such a place, what type of built form would honor the landscape? Would the road still be where it is? This geologic history defines the approach taken for the Tin Star Outpost. The buildings become part of the meadow. The road is realigned to restore the quality of surrounding environment. People and environment are given equal rights to exist and thrive. The Tin Star Outpost is the gateway to the outdoors; its naturalness characterizes the threshold between developed and natural.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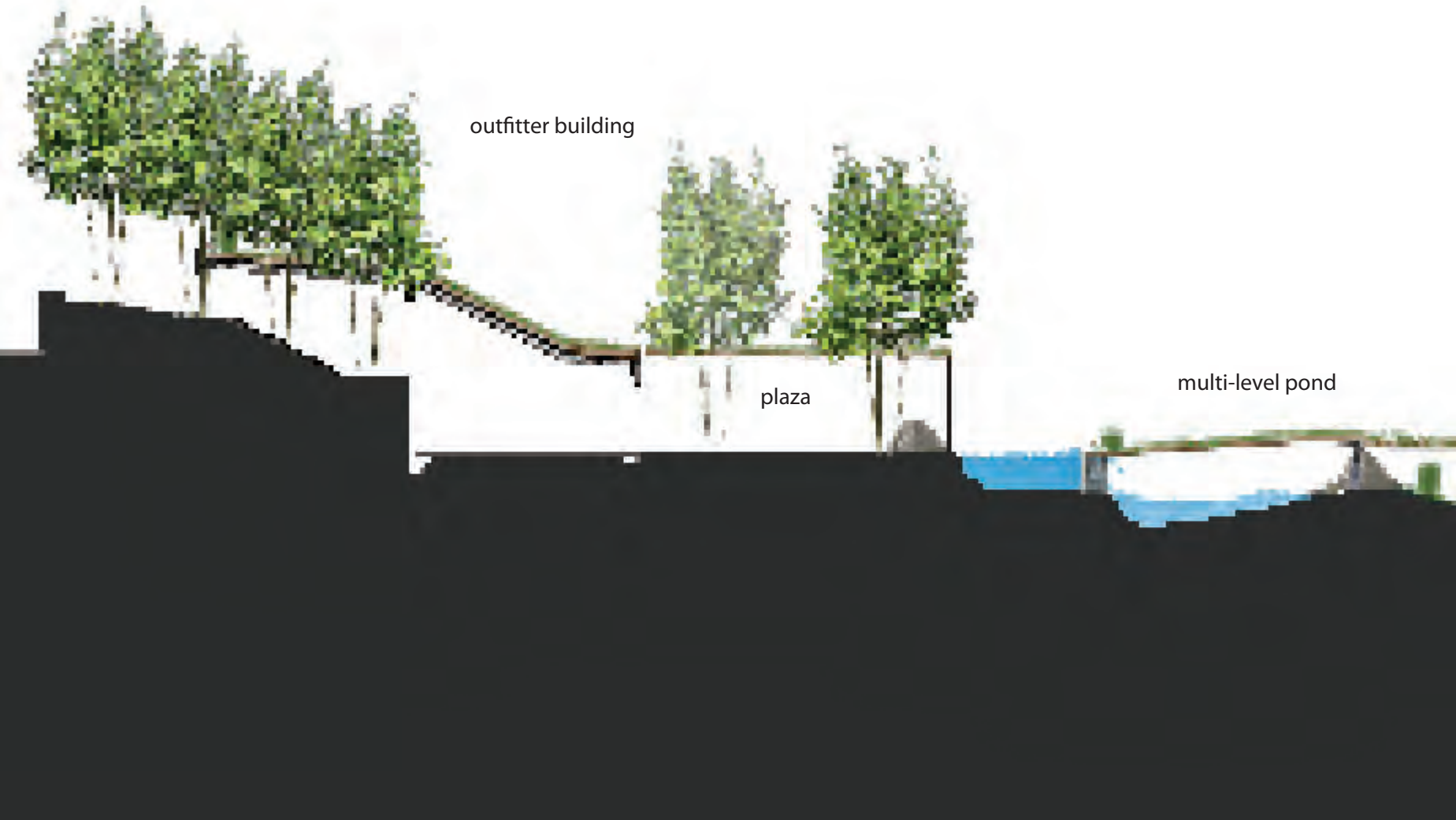
1 road filtration

- **A** Outfitter Store
- **B** Visitor's Center
- **C** General Store
- **D** Lodge
- **E** Restaurant
- **F** Bar
- **G** Cafe with Greenhouse

- **A** Natural Plaza
- **B** Terraced Seating
- **C** Filtration Canyon Wetlands
- **D** Stage on the Lake
- **E** Water Harvesting Structure

2 Land Bridge

3 plaza and stage

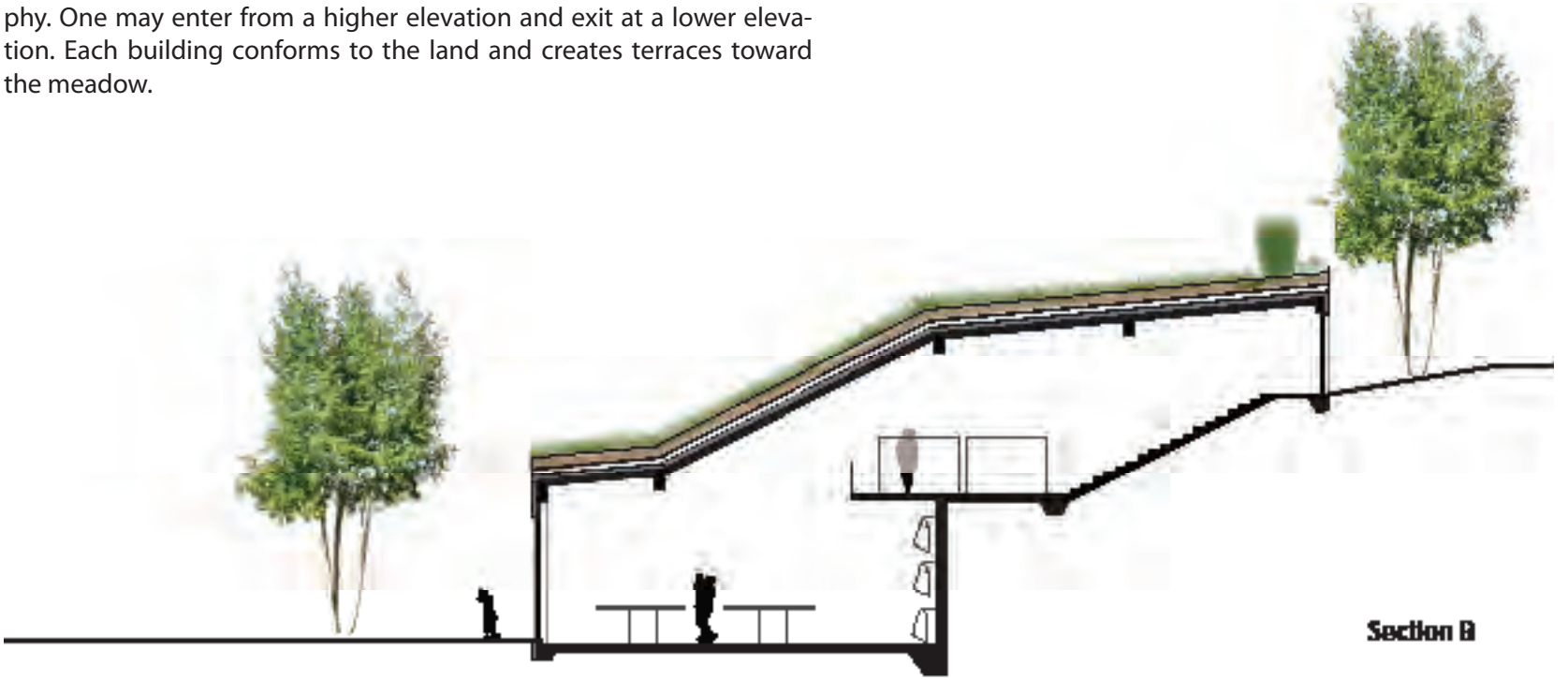


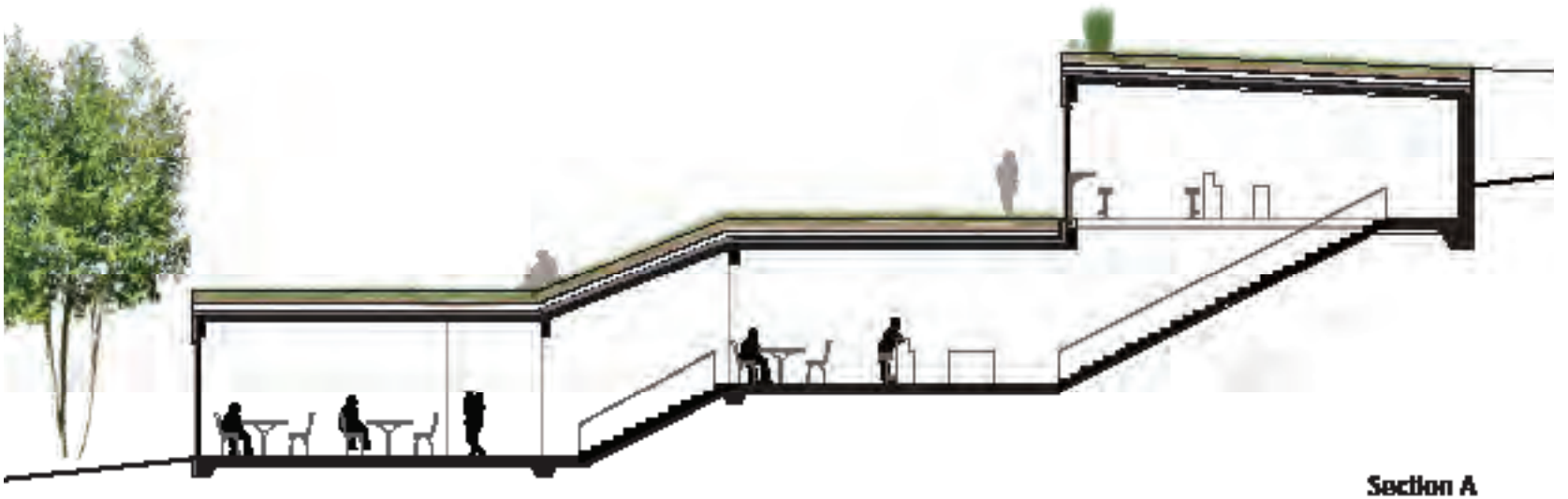
An east-west cross section of the Tin Star Outpost boasts a diversity of activity that complements the varied, exciting topography inherent to the site. Rather than grade the site flat to meet the needs of development, this design seeks to work with natural contours to conserve the amount of energy needed to build, maintain and sustain itself. For example, gravity is the main energy source used to direct up slope water runoff to pond areas which would be enjoyed by the public. Water's journey from source to sink is slowed and filtered through a series of aerobic and anaerobic sequences, allowing for adequate filtration of street run-off.

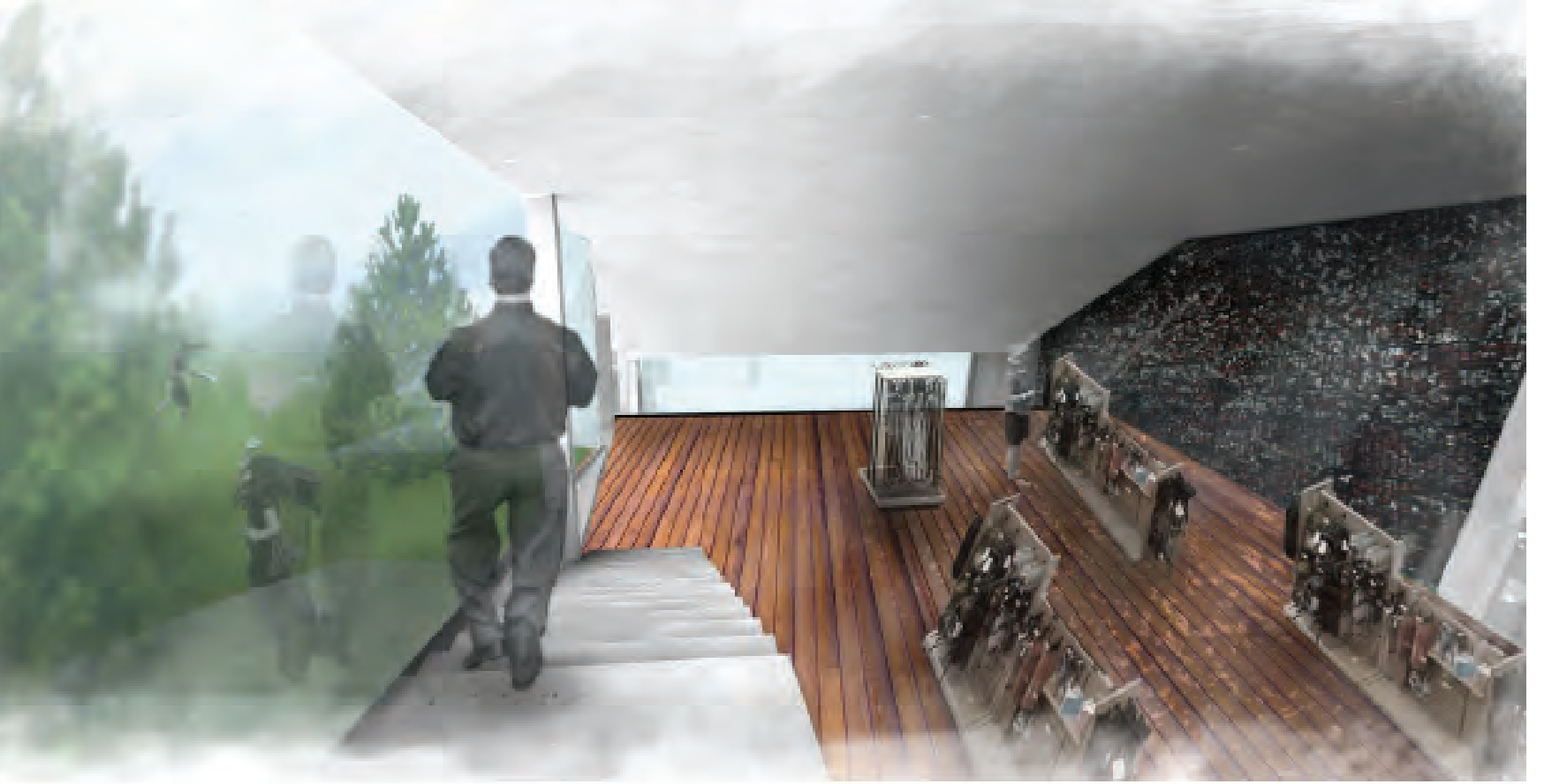
The uppermost portion of the section below highlights the elevational vantage point from the plaza. The architecture rests within the hillside, relying on the infinite thermal mass of the Earth to heat and cool comfortable abodes for visitors. As the hillside drops rapidly from plaza to lower pond, the interim space is terraced for picnics, seating and spectating. In the winter, the pond becomes a small ice skate rink for visitors. In the summer, a stage on pontoons could host a variety of events, possibly associated with Greer Days and Music in the Meadow in Greer Village.

Tin Star Outpost - Archetype

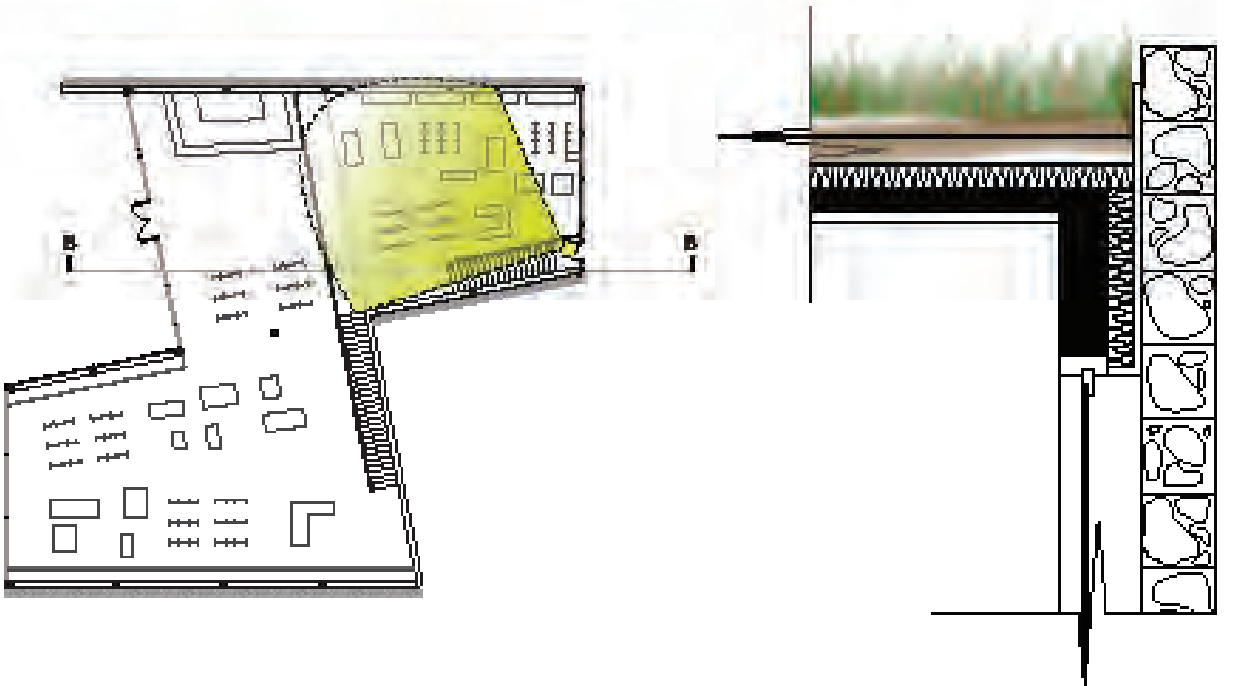
The form of the architecture is derived from the existing site topography. One may enter from a higher elevation and exit at a lower elevation. Each building conforms to the land and creates terraces toward the meadow.



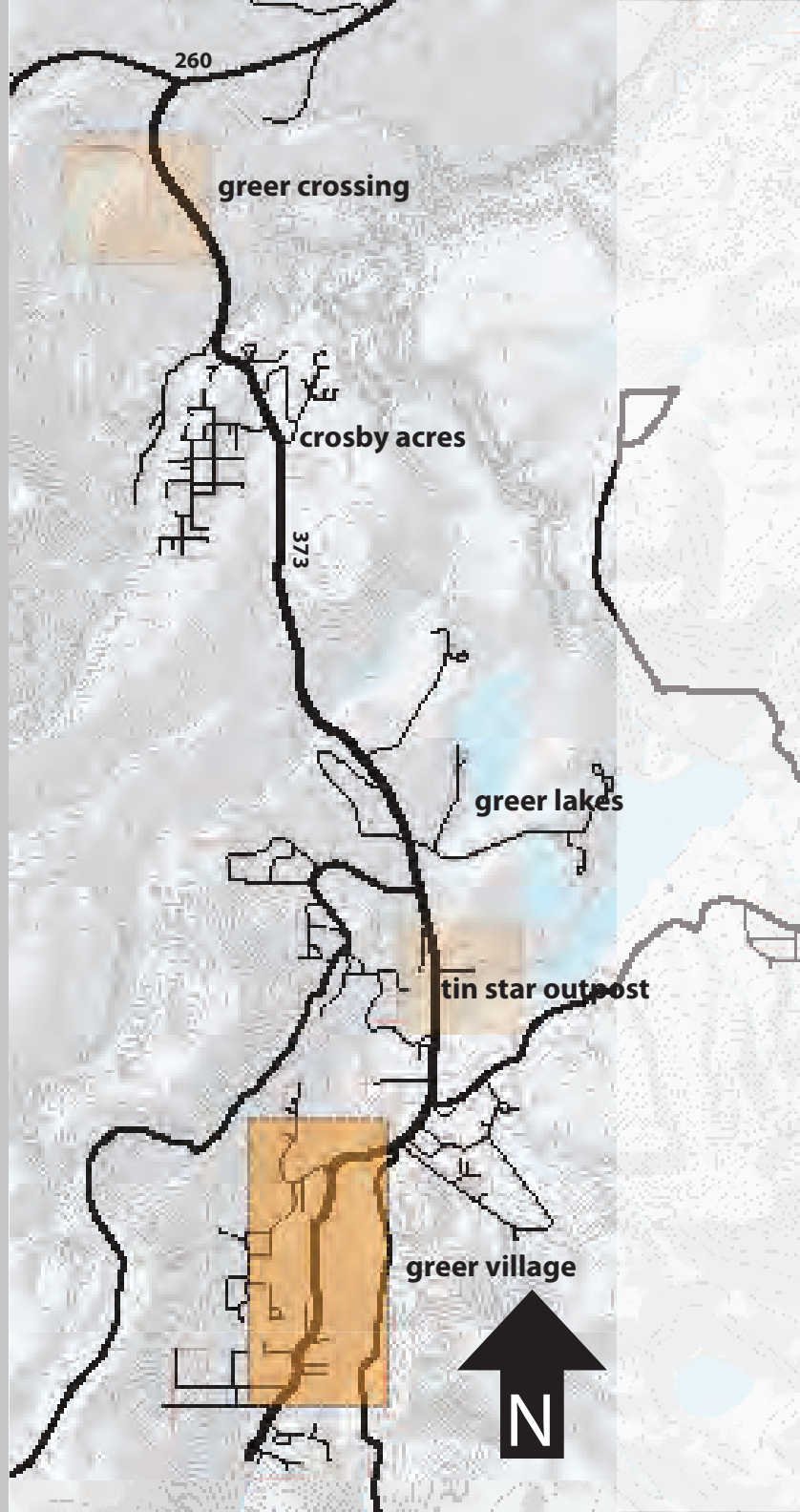




Concrete framing with gabion (metal mesh filled with rocks) walls is proposed for the structure of the opaque side of the buildings. As shown in the wall section detail (lower right), the building is enclosed with glass so the gabion wall on the outer layer will filter light through and increase the aesthetic value of the interior lighting condition.



design: greer village



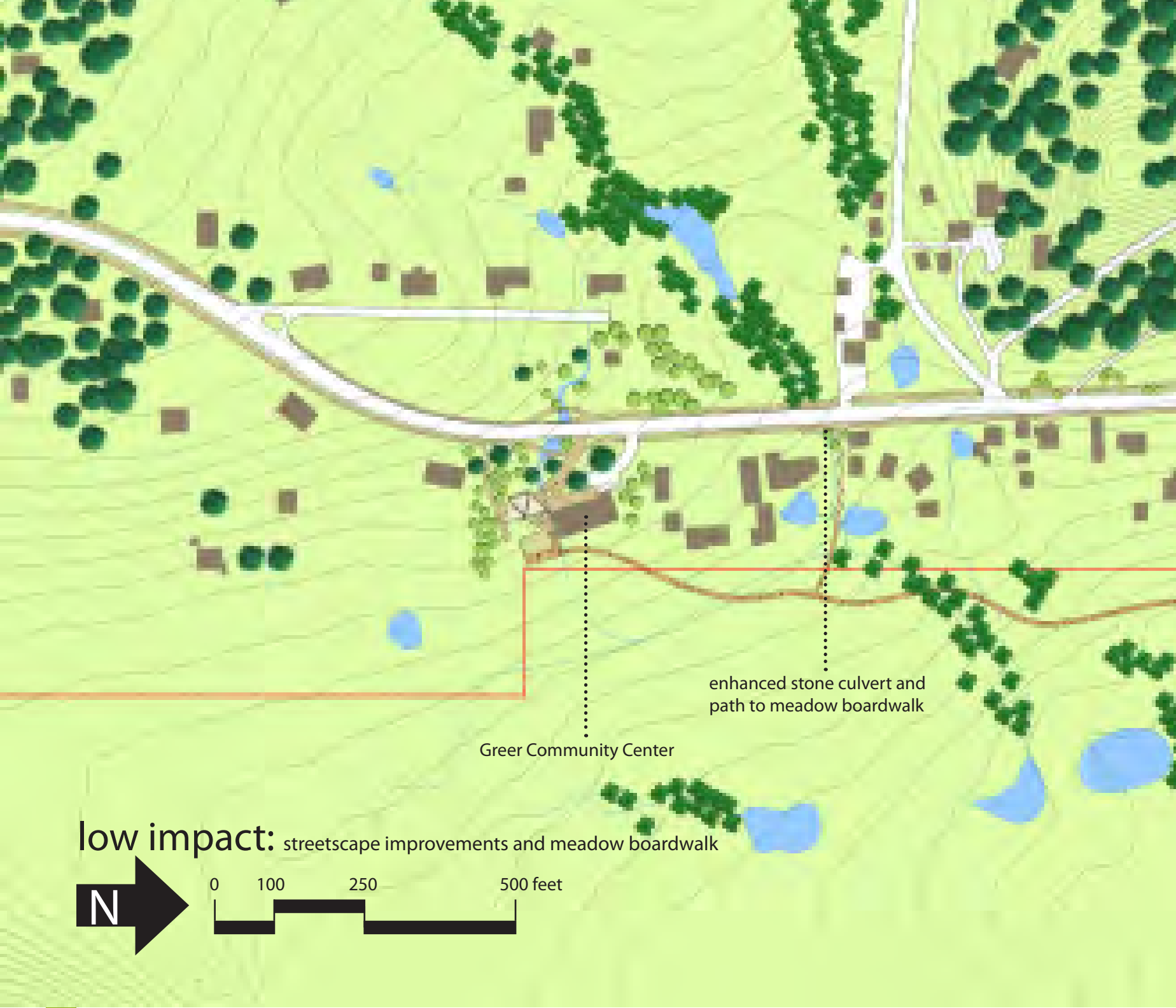
The Village of Greer, as it exists today, lines the west side of Amberton Flat: a picturesque meadow of grasses and willows interlaced with the waters of the Little Colorado River. Part of the Apache-Sitgreaves National Forest, this natural and open land is a focal point for all of the Village. A driving factor within the design process was to examine what the ecological impacts of our design decisions would imply when maximizing views to and from the meadows. The views surrounding the Village of Greer, from the modest bridge and following onward to the Ragel Family Community Center, captures your eye and ignites your imagination. We hope to embrace through design the natural wonder within the Village of Greer.

The following pages illustrate concepts for future development of the Village of Greer. The vision embodies a variety of phases labeled as low, medium and high impact design that relate to the descriptive measures of development. These phases include multiple elements that can be added as the need arises or as funding becomes available. The benefits of creating a conceptual vision for the development of the town extending far into the future ensures that as growth happens, it happens in a way that maximizes the use of space while remaining sensitive to the image, identity, and ecology of the Village and its residents.

The three phases of development progress from streetscape improvements, to enhanced in-town connections, to a small multi-use development. The final phase would eventually include a small "pocket neighborhoods" adjacent to the new village center.

Some of the build-out scenarios in the later two phases involve the replacement of existing buildings by new development. Any properties affected by the conceptual designs that follow would only be developed as the land owners desire.

Our plans serve only as guidelines for how the Village might develop in the future, and the ultimate control over the implementation of these designs lie with the property owners and residents of Greer itself.


enhanced stone culvert and
path to meadow boardwalk
Greer Community Center
low impact: streetscape improvements and meadow boardwalk
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500 feet


meadow boardwalk
safe street crossing
viewing platform
bridge overlook

image credit Tony Immoos 2010

case study: wetland boardwalks

Wetlands are defined as ecologically sensitive areas where the water table is at or near the surface of the soil. Land that sits between bodies of water and drier upland areas can also be classified as wetland. These areas are typically the home to aquatic plants that are unable to survive without near constant access to a water source. This vegetation supports a variety of terrestrial and avian species, some of which are unable to survive elsewhere.

The beauty and richness of these areas attract human visitors as well to hike, fish, and bird watch. Uncontrolled access to these sensitive areas can result in undue disruption and destruction of habitat. The image above shows a wetland boardwalk in Yosemite National Park. In order to accommodate the large volume of visitors that come to Yosemite each year, a low boardwalk was constructed to limit the disturbance to this sensitive environment, without having to eliminate access altogether.

The construction of wetland boardwalks does itself cause some disturbance to the landscape, but the long term protection that these built features offer to the ecosystem, especially in areas that experience a high volume of visitors, makes that temporary disruption worthwhile.

low impact:
streetscape improvements and meadow boardwalk

Our vision for a first phase low impact design for the Village of Greer includes primarily streetscape improvements and improved in-town connections. Adding pedestrian amenities such as paved sidewalks and improved crosswalks will enhance safety for the people of Greer. A boardwalk will also connect people to the meadow, while protecting this fragile ecosystem from the potential ill effects of too much foot traffic. The boardwalk travels along the west side of the meadow, north to south, and connects to the street in multiple places. This would serve as an alternative for pedestrian connection to a variety of destinations within the Village.

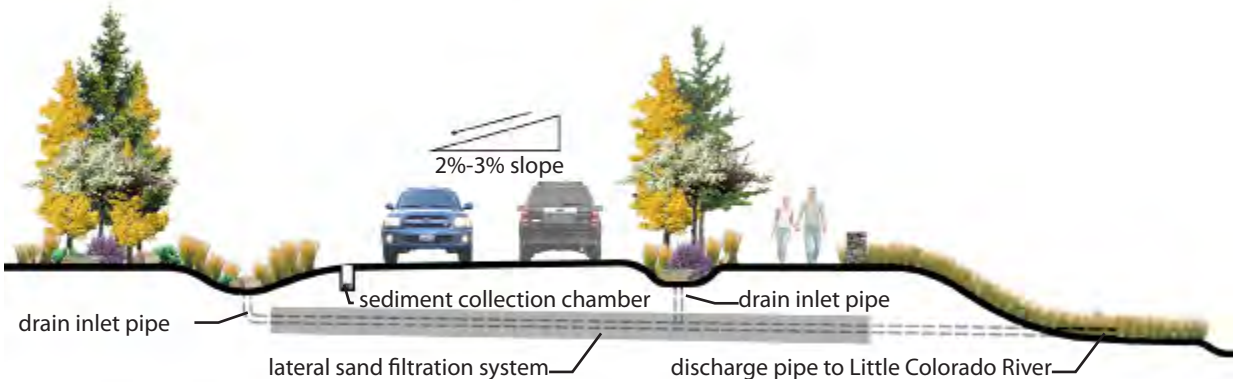
low impact:
safe street crossings and street side bio-swales

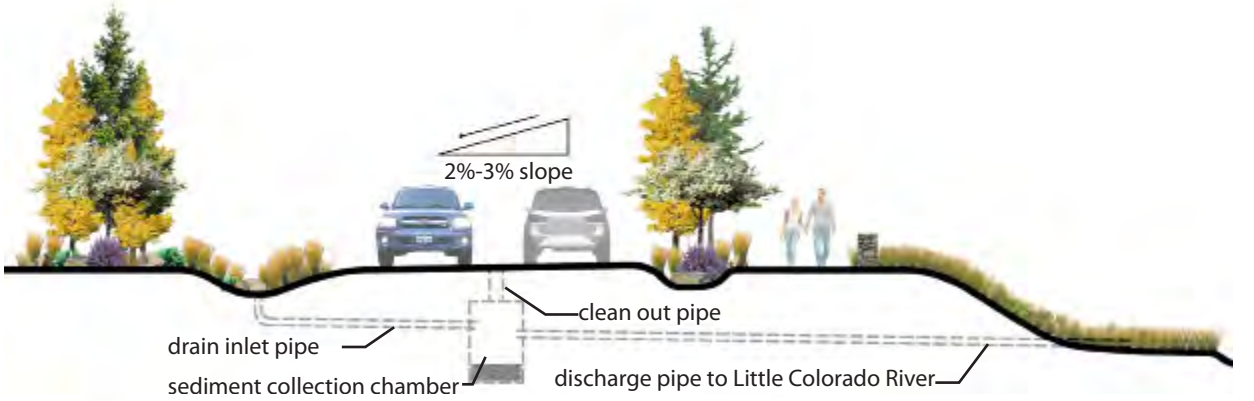
Off-street pedestrian pathways and boardwalks protect people from traffic on roadways, as long as they can still safely bring them from one side of the road to the other. Instead of simply painting a striped pathway across the road where people are intended to cross, we imagine planted bulb-outs that will slow traffic and protect pedestrians from unsafe interaction with automobiles. Creating "pedestrian refuges" at the center of the road where people are brought from one side to another is one way of slowing traffic and making it easier to cross streets.

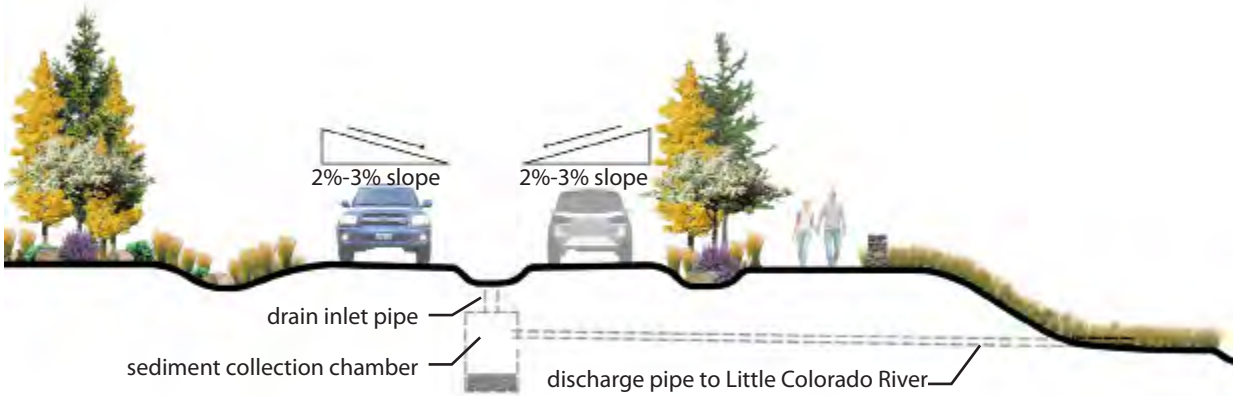
In the past few years, The Village of Greer has seen a substantial increase in development and visitation. This has resulted in an increase in vehicular traffic and pollutants from automobiles. Sending runoff from the road, in the form of storm water or snow melt, directly into the meadow and the waters of the Little Colorado can have negative effects on the ecosystem of the valley. Water carrying oil from cars, salt used on the road during the winter months, and even small bits of trash can eventually enter the meadow, streams, and lakes.

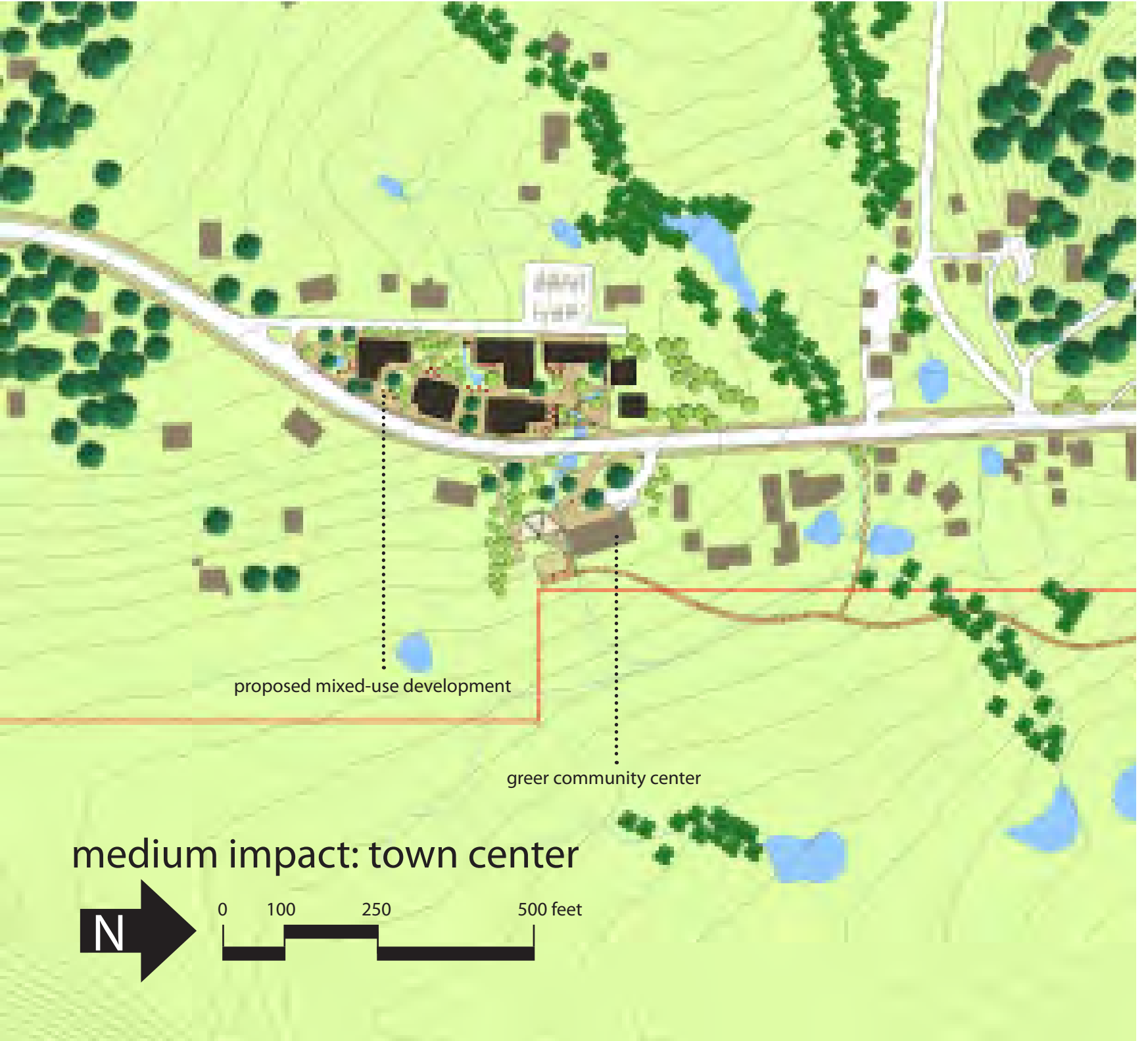
Incorporating a bio-swale and filtration system into the streetscape is a viable solution for mitigating pollution from the road before it reaches the Little Colorado River. This bio-swale would capture, temporarily store, and treat storm water runoff by passing it through an engineered natural filtration system to separate out the pollutants and effluent material. The filtration system would consist of two chambers or filters: the first is designed to allow large particles to settle out of the water, and the second filters out oils and other vehicle pollutants through a filter bed consisting of sand or organic material. Vegetated, these bio-swales also add to the beauty of the street.

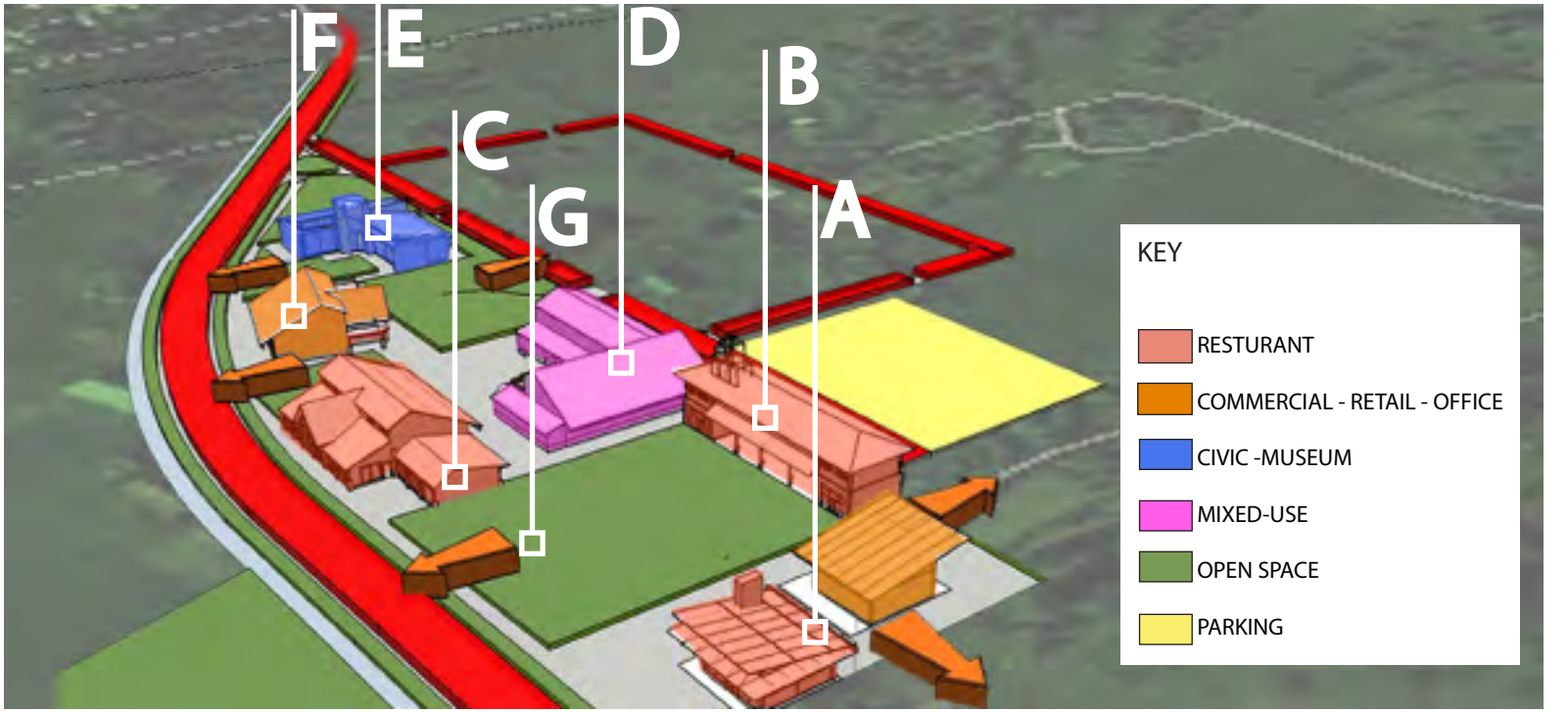
The images on the facing page illustrate how this filtration system can be incorporated into Main Street in order to preserve the health of the Little Colorado and the future of the Village of Greer.


2%-3% slope
sediment collection chamber
drain inlet pipe
drain inlet pipe
lateral sand filtration system
discharge pipe to Little Colorado River


2%-3% slope
clean out pipe
drain inlet pipe
sediment collection chamber
discharge pipe to Little Colorado River


2%-3% slope
2%-3% slope
drain inlet pipe
sediment collection chamber
discharge pipe to Little Colorado River


proposed mixed-use development
greer community center
medium impact: town center
N
0
100
250
500 feet



There are some broad goals for enhancement of Greer Village that are reflected in the medium impact scenario : 1)Reinforce Greers unique character, sense of place and quality of life. 2) Provide a well-maintained, clean, safe and user-friendly environment. 3) Provide an enriched, dynamic experience. 4) Establish and maintain collaborative efforts for continual enhancement. 5) Enhance and protect the character of the adjacent land uses and vicinity by protecting natural features, historic sites, open space and other resources. 6) Facilitate and participate in the programming, design development and funding of major civic and cultural projects such as the library, museum, entertainment center, health care expansion, welcome center and bus passenger facilities. 7) Provide opportunities for employment and resident housing within Greer. 8) Build on the eclectic feel of Greer, developing buildings within the site that display the character and variety of the Village. Changes in textures, colors and other elements should provide a commonality to the entire development.

Like the small villages and towns that formed prior to the automobile, the design of Greer Village features a walkable town center and small village atmosphere, where people are the most important element. The buildings and layout of the Village are portrayed in a fashion that promotes leisure, relaxation and social interaction, all at a scale that is comfortable and appropriate to the Little Colorado Valley.

Elements such as the integration of gabled roof lines, exposed wood pillars, and shuttered windows create a mountain-town atmosphere that residents have stated as an important element to maintain if growth ever comes to Greer. When asked, most people describe Greer as a “sleepy village” and have expressed a desire for it to remain that way.

Maintaining the sleepy village atmosphere does not mean that log cabins are the only type of buildings which can be built. A progressive spin can be tastefully mixed with classic archetypes to allow a level of interest to enter into a timeless and appropriate design palette.

perspective view from north side

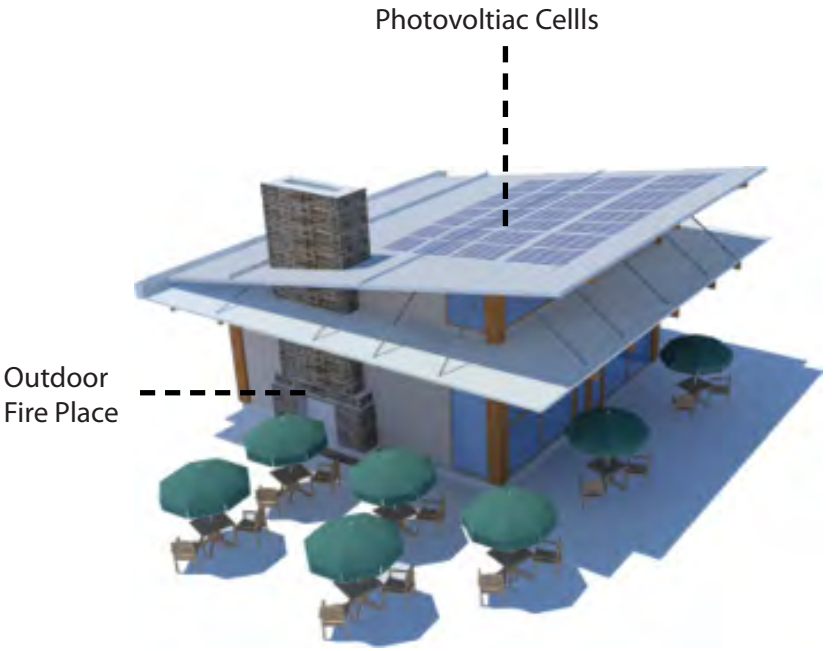
west elevation

Two of these buildings are places back to back in the northern part of the main plaza, creating a walkable area. Defining the entrance are aspen trees and native grasses. The architectural style of these buildings slightly differs from nearby introduced development.

The buildings are programmed to serve one another. They include a coffee shop and a local homemade dessert shop, where you can always find your favorite apple pie. The function of the area is to create a local spot to enhance the feeling of a neighbor gathering place where you can walk.

view from main street

A: coffeeshop and bakery



Designed as an open and inviting roadside building, this local shop features a transparent, progressive archetype that allows an abundance of morning eastern light to enter. Those waking to read the morning newspaper can view a sunrise, drink their morning coffee and greet old friends as they enter into the Village Square.

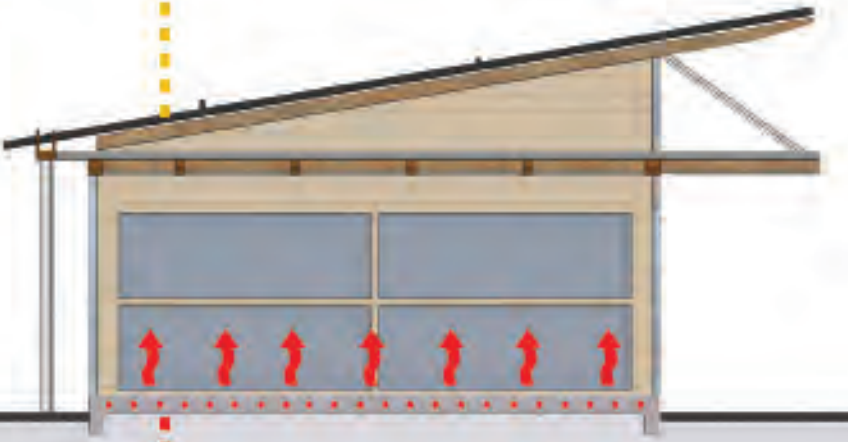
The exposed outdoor fireplace adds to the mountain town character and helps extend the season of use for outdoor seating, allowing people to sit outside during a brisk autumn day. Thus allowing them to enjoy the fall colors, before the aspen trees lose their leaves.

NARROW CROSS SECTION ALLOWING MAXIMUM INTERIOR LIGHTINB

SOLAR ENERGY FROM PHOTOVOLTAIC PANELS LOCATED ON ROOF

MAIN ELECTRICITY CONNECTION

MICRO-HYDRO POWER GENERATED FROM NEARBY STREAMS

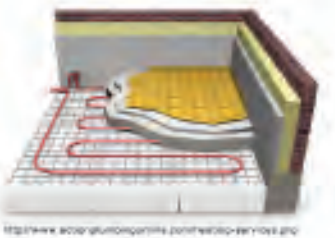


SAVING ENERGY

ENERGY GOALS FOR OLD VILLAGE BUILDINGS :

- HIGHLY EFFICIENT BUILDING PERFORMANCE.
- LOCAL MATERIALS.
- A TOOL TO BECOME PART OF EDUCAIONAL PROGRAMING LINKED TO OLD VILLAGE MUSEUM AND TIN STAR ECO LODGES

RADIANT SYSTEMS



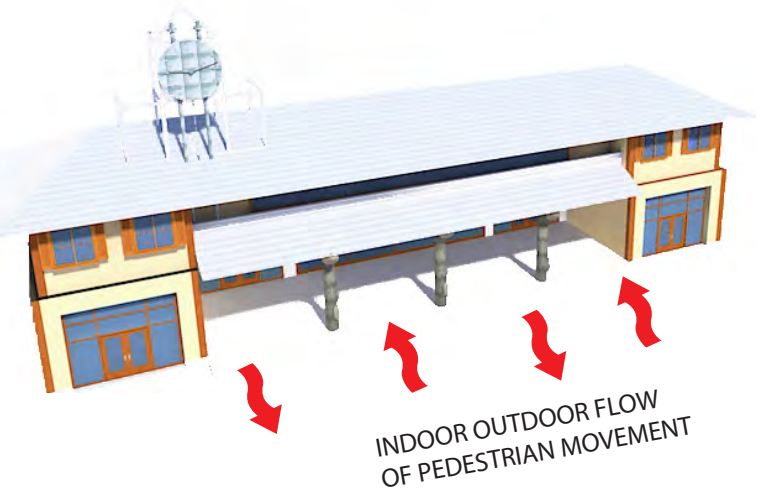
RADIANT HEAT IS ENERGY EFFICIENT. THE SYSTEMS USES IN-FLOOR PIPING DISTRIBUTING HEATED OR COOLED WATER

perspective view from plaza

Restaurant buildings and architecture should contribute and conform to the established or desired character and identity of the community of Greer.

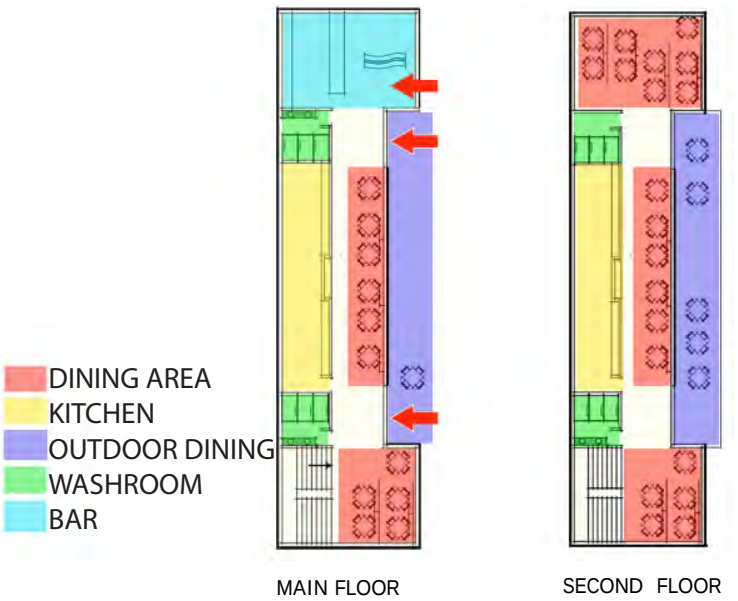
The design aims to establish a focal building such as a restaurant that supports economic vitality, seeks sustainability, and values the unique character and lifestyle of Greer.

The clock tower acts as an ordering factor and figure in the construction of the new village center. It acts as a tool to promote a balance between the community concerns over aesthetics with business requirements of the facility. A landscape buffer is provided to screen the restaurant usage from adjacent residential usage.



west elevation

B: time cafe



With a clock tower defining the main facade, this building was programmed to stand out. The idea behind this building is to establish a focal point at the west side of the main plaza area. The unique features act as a visual draw for passers-by along Main Street. As residents and tourists drive, walk or bike by the main plaza, this building will be the first in sight, and thus must have aesthetic appeal.

Due to the connection with the main plaza, this building will probably be amongst the first buildings to be constructed, giving further strength to the character and livability of the already established main plaza.

Main functions include a dining area, kitchen, washrooms and bar. A variety of dining areas are provided. An outdoor patio on the second floor provides views onto the vibrant main plaza, while views from the ground levels are dramatically framed by huge wooden logs.

perspective view from main street

Perceived height of the building is reduced by dividing the building mass into two smaller-scale components to reduce their visual impact and provide a more human scale. Mixed-use buildings, and spaces between them, are designed and oriented to create safe, pleasant, and active environments.

The office spaces on the second floor are accessed through a stair-case entered from the west side of the building. The restaurant entrance is more defined and is parallel along Main Street.

The restaurant is aimed to be one of the warmest, coziest spots on Main Street, with sophisticated rustic touches like a wine cave. A stone wall frames the outdoor patio, while the green walls create a visually appealing backdrop to the development.

awnings and arcades to provide shaded walkways for passers-by

west elevation

RETAIL
DINING AREA
KITCHEN
OUTDOOR DINING
WASHROOM
OFFICE

MAIN FLOOR

SECOND FLOOR

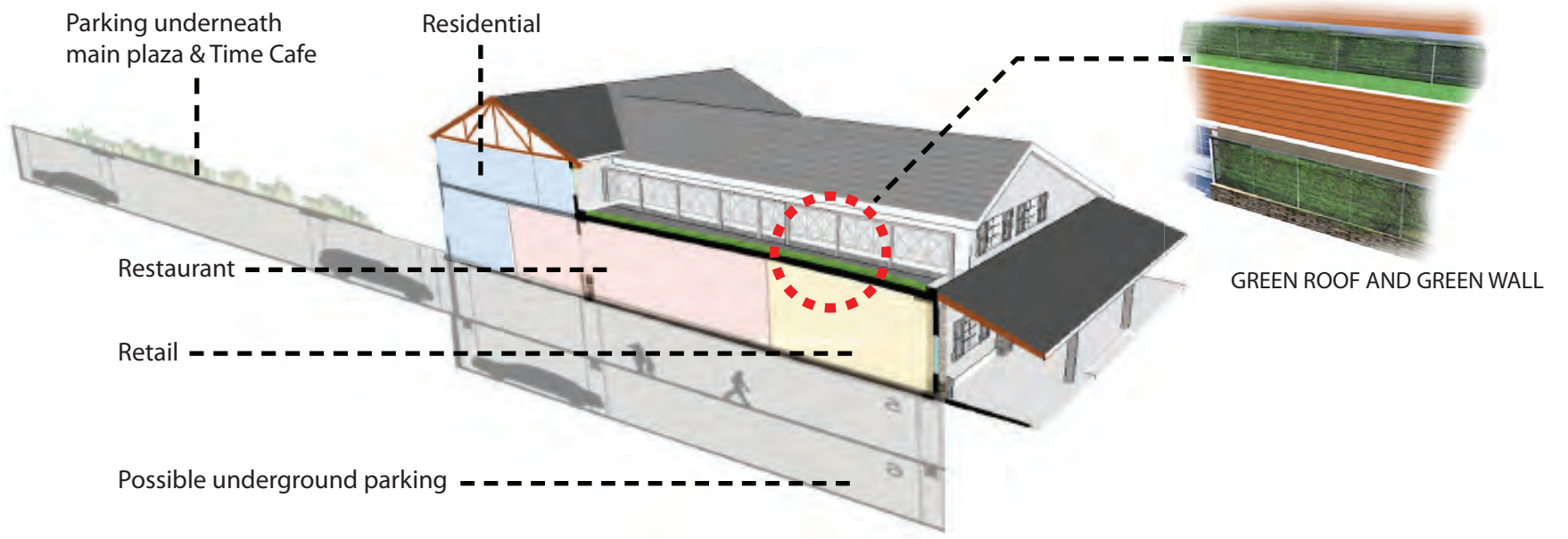
C: mixed-use

This mixed-use structure combines ground floor retail space with professional offices. These buildings along Main Street would define the commercial corridor, including awnings and arcades to provide shaded sidewalks for passers-by.

The structure is designed to respond to climate factors, including the installation of photo voltaic cells on rooftops for harvesting solar energy. Also, buildings are orientated for wind breaks to alleviate harsh wind flows. Green screens are used to create comfortable micro climates around the building to encourage social interactions among visitors.

Flow of indoor to outdoor spaces is desirable and is facilitated by operable windows and doors and outdoor patios.

view from plaza

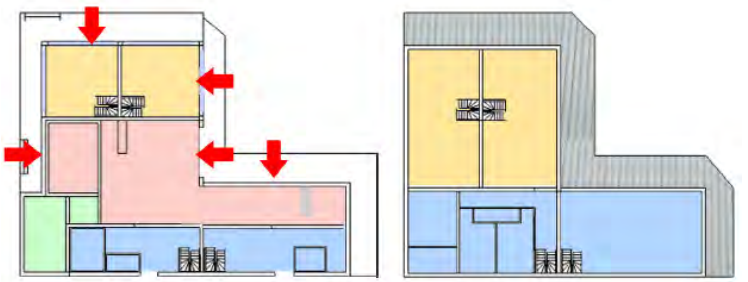


Underground parking can be located under this building, with the possibility of expanding the underground parking along the main plaza area. Locating parking underneath will provide more land on site for gardens and green spaces rather than surface parking.

west elevation

D: mixed-use

RETAIL
CAFE
KITCHEN
GARDEN
RESIDENTIAL

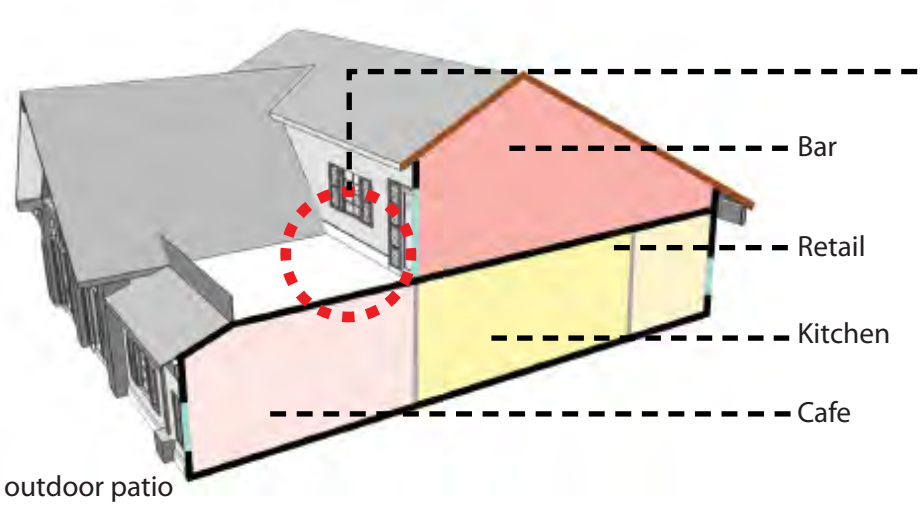


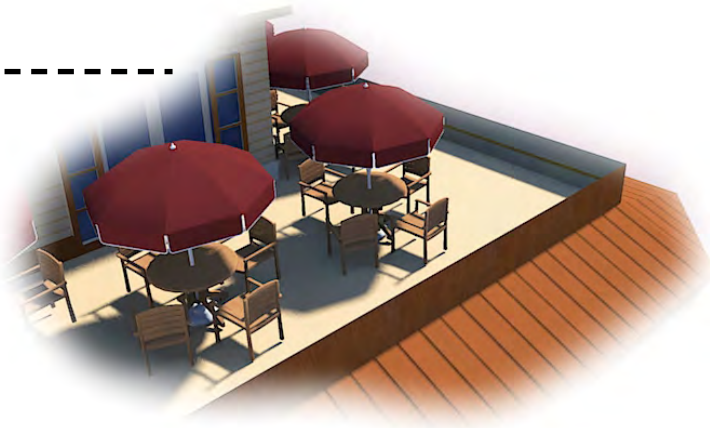
The west side of the second floor provides housing in the form of apartments or studios which can house separate families, tourists or employees. The apartments overlook the west meadow, as well as view into the main plaza, with private entrances to each apartment.

Landscaping is provided at the base of the building to anchor it to the surrounding environment and soften the structure. Providing a variety of setbacks, heights, colors and building sizes and forms enhance the pedestrian experience.

The building includes two retail shops, residential units and a cafe. Covered Pathways along three sides of the building shelter users from sun and rain. A kitchen garden on the north side serves the cafe kitchen, while a green wall on the south provides visual interest and softens the impact of the building.

view from main street



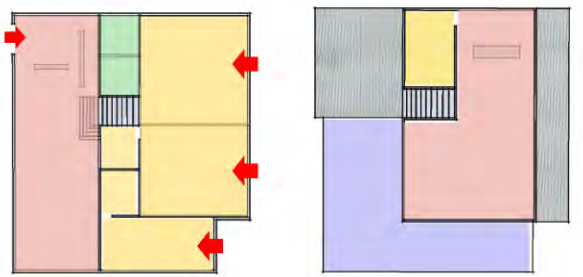


outdoor patio

south elevation

E: commercial

RETAIL
CAFE
GARDEN
RESIDENTIAL



This building provides numerous functions. On the north is the entrance to the bar/cafe. While entrances to numerous retail spaces are found on the other three sides.

The Bar/Cafe, accessed through well-defined entrances, provides indoor space for seating and an open lounge area that provides an inviting social environment. The second floor provides more intimate spaces, including an outdoor patio overlooking the natural area connecting to the west. The interior design of the bar reflects a cool and rustic ambience.

The spaces between the buildings contribute to the overall positive open space of the area, where open spaces connect with and provide views to natural amenities. The architectural features are used to provide weather protection and shade, as well as highlight building features and entries.

main facade

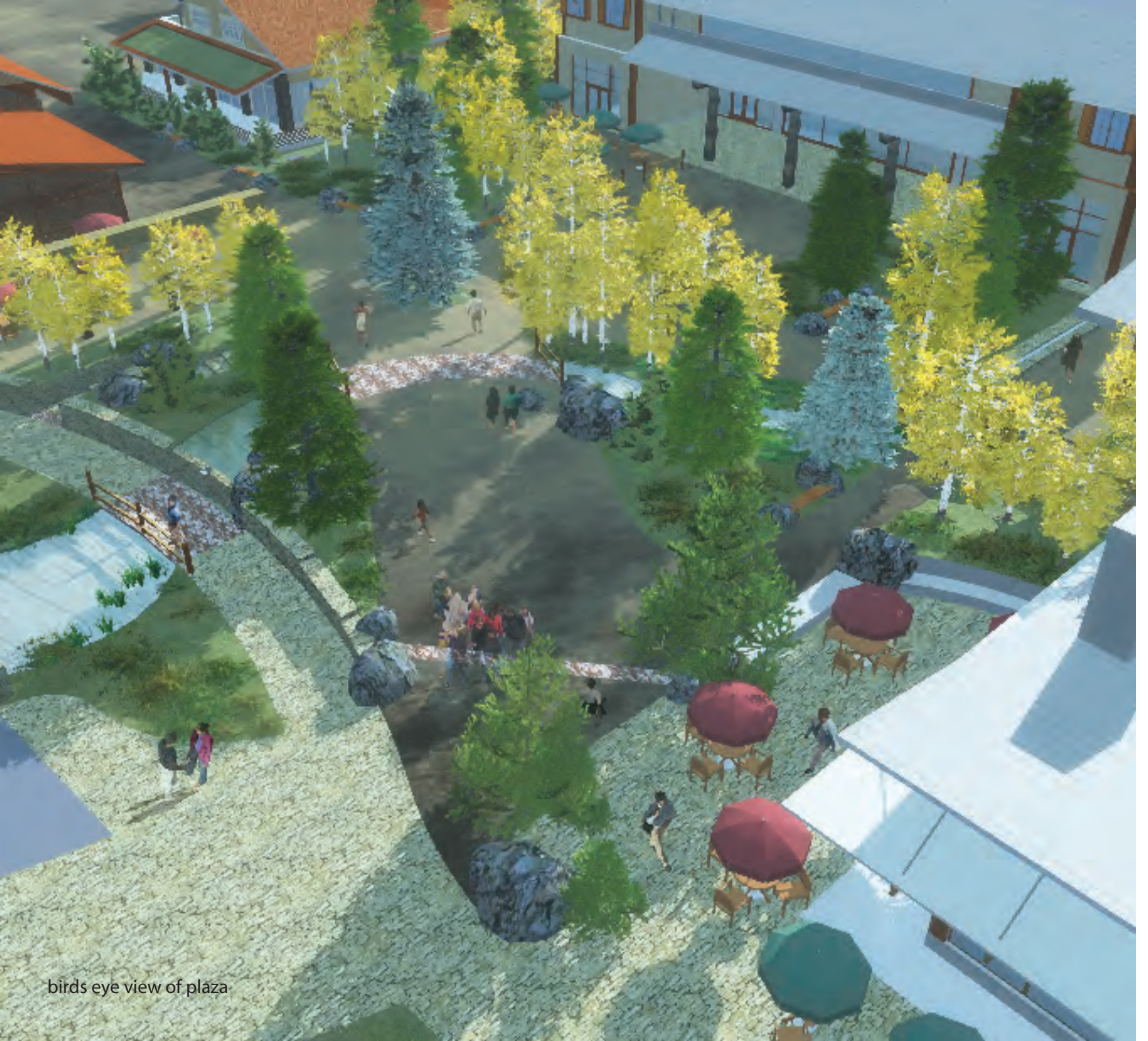
entrance view

F: greer nature museum

The museum defines the southern part of the development area. It will exhibit sustainable practices in architectural design, such as green walls and green roofs.

The building also forms a small square that acts as a welcoming plaza for visitors.

The primary goal of this building is to encourage local community participation in nature educational programs where visitors can learn more about the ecological significance of landscape elements found in Greer, including sustainable practices that would aid in preserving this ecosystem.



birds eye view of plaza

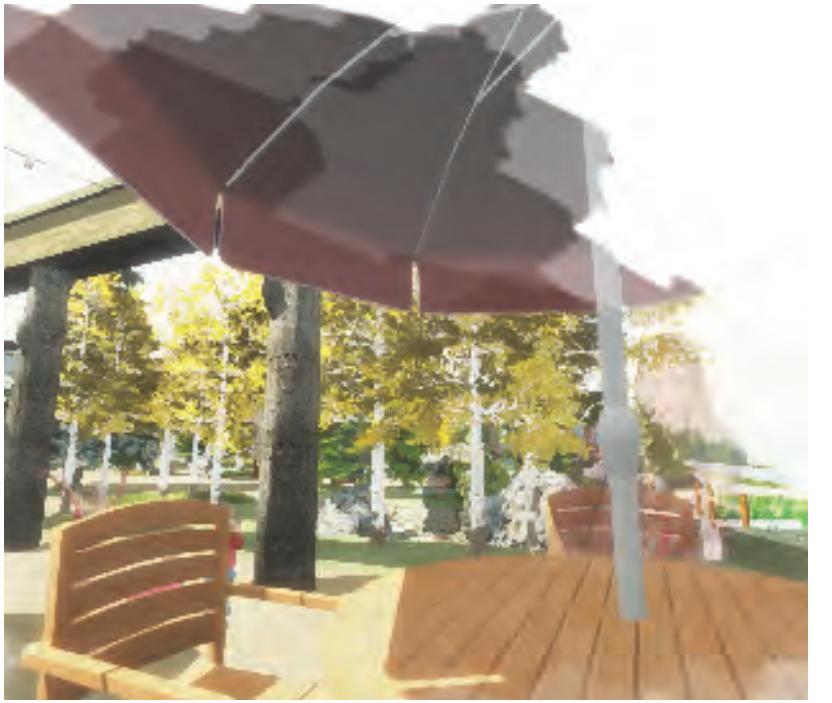
G: greer village plaza
the heart of the community

Without a common gathering point, a community is simply a collection of homes and their owners' individual private interests. As a community, Greer could be in danger of losing its collective identity as it grows and becomes increasingly scattered. A central gathering point is essential to maintaining a sense of community.

Visitors and residents enjoy the many wooded cabins surrounding Greer, but in order to establish a true sense of community, there needs to be a place that everyone knows to be the central gathering point. Are you hoping to bump into an old friend? Do you need to get the grand kids out of the house because of 'cabin fever?' Do you want to eat dinner out, but do not know where to go? The solution is to spend a few hours in The Village, which functions as the heart and soul of the community.

In the core of The Village you'll find an outdoor town-square, which will attract restaurants, pubs and cafés. The synergy of open public space with private services will create an electric atmosphere to which visitors and locals alike will enjoy spending time.

The town square features room for restaurants to spill out into the space, as well as native vegetation to support the integration of nature and development. It will celebrate the valley's many streams, by carefully integrating a watercourse to meander through and emphasize this important aspect of the community.



From plan view, as seen at right, the geometries of the public open space may seem too contemporary for Greer's rustic alpine setting. From ground perspective, where people actually experience a place, these shapes become organic and create interesting naturalistic views across the open town square. Rustic materials also ensure that Greer's natural identity comes through.

Aspen trees weave their way across the square, and café visitors can people-watch and experience nature without having to put down their morning coffee and newspaper.

Because of the topography of the proposed site, areas of interest can be formed with elevation changes. These changes, along with the integration of water, create special areas that catch one's attention with the sounds of bubbling brooks and falling water.


greer village plaza
Greer Community Center
1
2
3
4
5
6
50 feet
N

Much of Greer is currently focused along Main Street. Businesses have grown up alongside this central spine for the convenience and increased exposure to passing traffic. While it may be practical for an individual business, a linear town leaves much to be desired for its residents and visitors. Given this growth structure, the public open space presented here is designed to be attractive from the roadway when entering the town and create enough suspense and mystery to draw one off of the main roadway to explore The Village. This is achieved with the square's exposure to the roadway itself, as well as an aspen lined entry trail in the north (both featured above).

An iconic building on the edge of the space anchors the plaza and defines the square as being important and central to The Village (featured above left). Local stone material is incorporated into the design and indicates areas of interest, entry and seating. Seating constructed from these local materials welcomes users to spend time in the space and blends the lines of nature and the built environment.

Areas reserved for outdoor café seating ensure that the plaza remains at a human scale, maintaining a quaint and relaxing atmosphere. The fabric of the patio umbrellas and common plant palette soften the lines that the buildings and scattered boulders create, and therefore make the space more inviting.

When visitors and residents enter the Village Square, they know they are in the heart of Greer. This is where Greer meets, reconnects and spends quality time with their loved ones and fellow citizens. It has the potential to be the heart of the community.


1


2

4

5

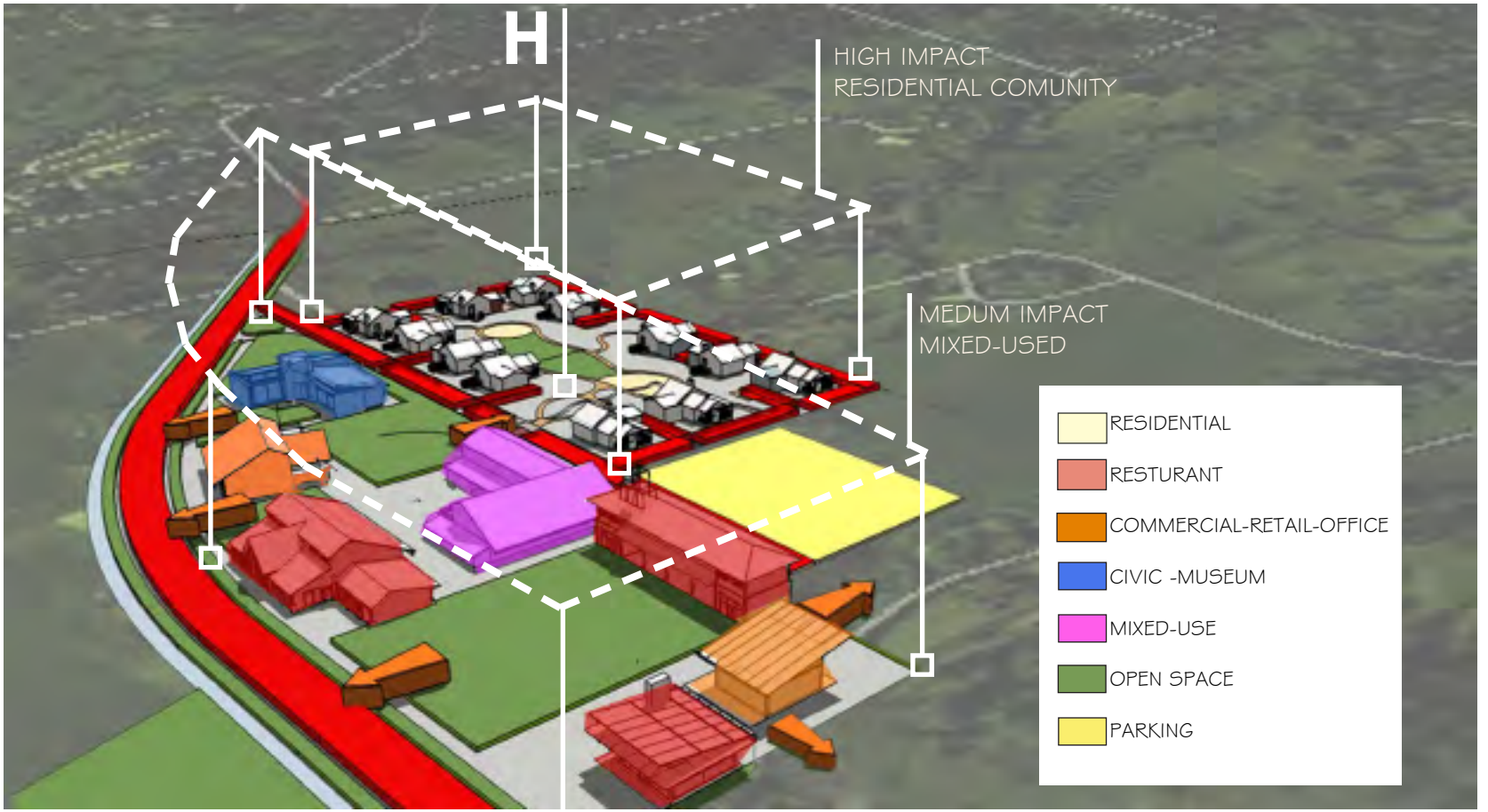
6

community center and outdoor event area

Working in conjunction with the town square, the community center park and event space is designed to give residents and visitors of Greer a place to gather and share common experiences. The open area shares elements with the town-square across the street, such as the water feature, materials and vegetation in order to bring cohesion to the two public spaces.

The park and event space is designed to house proposed activities, such as "Music on the Meadow" in the summer and ice-skating in the winter. An area to host these activities allows multiple generations to have an enjoyable time within a single space. Children can enjoy the rocks, trees and special environments created for them, while adults will enjoy the public events, meeting up with old friends, or taking a stroll along the boardwalk.


proposed pocket community development
Greer Community Center
high impact: proposed community development
N
0
100
250
500 feet


H
HIGH IMPACT
RESIDENTIAL COMUNITY
MEDUM IMPACT
MIXED-USED
RESIDENTIAL
RESTURANT
COMMERCIAL-RETAIL-OFFICE
CIVIC -MUSEUM
MIXED-USE
OPEN SPACE
PARKING

south elevation

birds eye view

perspective views of
neighborhood common area

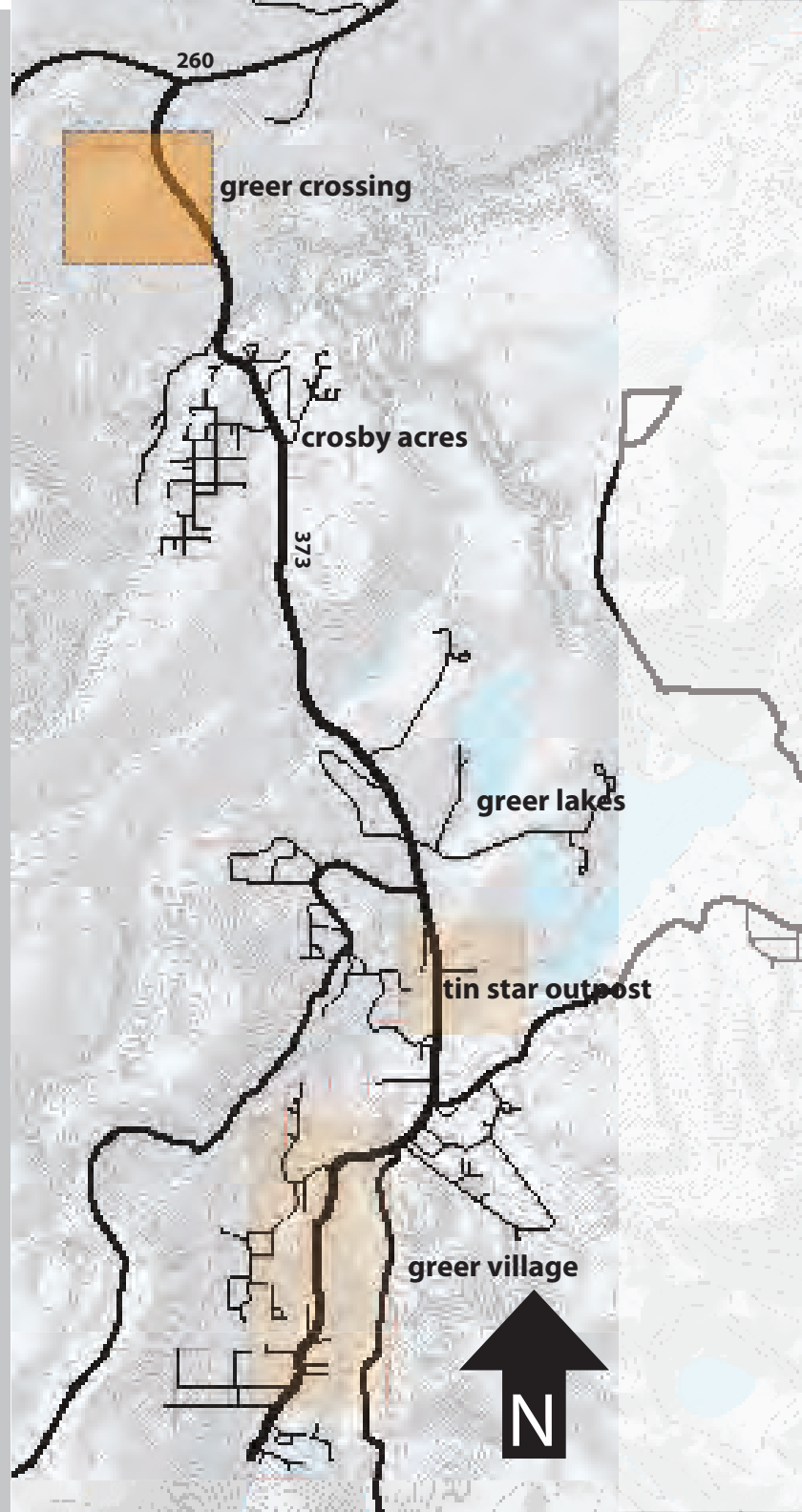
H: greer village residences

new urban pocket neighborhood

Changing demographics, and an aging population of baby boomers turning 65 this year, are reigniting a hunger for community and a desire to downsize to smaller homes. The proposed residential development in Greer Village is targeted to empty nesters, singles or people transitioning into their retirement years.

The concept is built after architect Ross Chapin's concept of small scale communities where homes are of moderate size with small personal lots and a shared communal yard. Homes have porches on both the front and back, with the offset of the building being only 15' on the street side. Homes average between 1,200 and 1,600 sq. ft. They each have open floor plans, with all materials and utilities meeting current LEED and Green Design technologies.

design: greer crossing



The northern node, "Greer Crossing", has been identified as an opportune area for development and design enhancement. As the entry into Greer, this area presents visitors with their first impressions of the town. Preserving the tree lined road, complimenting the natural environment, and integrating roadside features along the highway will enrich the image of the town for both visitors and residents.

New development in Greer Crossing provides economic growth without affecting the integrity of the existing town. Denser development allows for large percentages of preserved land, while promoting a walkable urban community, reducing economic costs, and preventing aesthetic blight. A wide preserved buffer of existing and new vegetation screens the growth from the road, except for opportune views that assist in way-finding and accent the community's features.

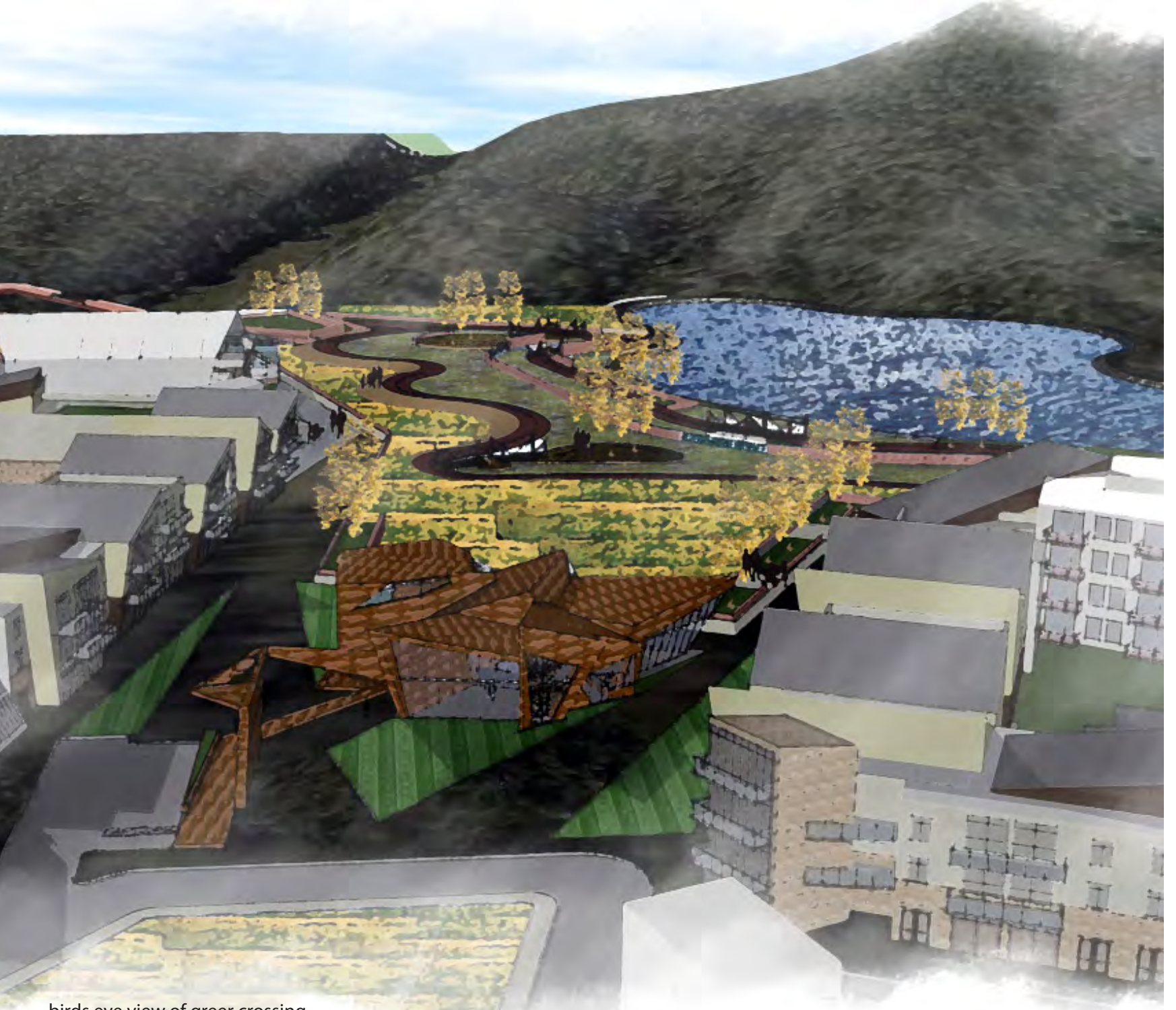
A visitor center provides newcomers with information about biological and cultural history. The center also offers opportunities for participation in principles of sustainability that are implemented throughout the development such as water harvesting, reuse, and filtration; energy conservation and production; and local food production.

The cider house restaurant and brewery in Greer Crossing is a living model of these sustainable principles. Patrons may dine in green houses where fruits and vegetables are grown, watch the cider presses in action, tour the solar photo voltaic arrays, and participate in urban agriculture activities. A small hotel offers tourists a taste of what it's like to reside within a LEED certified, sustainable building for a few nights. Mixed use buildings comprised of small residences on top of commercial stores provide wonderful views and proximity to the waterfront park and other community features.

greer crossing master plan

Building Type	Size
Parks	11 Acres
Commercial	343,279 SF
Residential	570,4956 SF

Building Type	Size
Developable Area	39 Acres
Preservation	573 Acres



birds eye view of greer crossing

National Parks Theme
referred to as "Parkitecture". It is rustic and warm and incorporates materiality of log and stone into aesthetic design.

Mountain Standard Theme
This style is best described by its use of durable materials, sometimes colorful aesthetics, western red cedar siding, steepmetal roofs, and minimal use of stone.

Bavarian Theme
Characterized by rich detail and a stong sense of luxury, warmth, charm, scale; this archetype has a strong appreciation for sunlight and sky. Tpically classically proportioned, symmetrical, colored and aged as if it had been built over time,it incorporates cut stone, ironwork and public art.

Mountain Contemporary Theme
This style is often reserved for large-scale mountain developments athat revolve around the idea of using classic mountain-oriented materialsin a way that is unique, rich, clever and unexpected.

The overall aesthetic proposed for Greer Crossing is inspired from four basic archetypes found in mountain communities. Taking its aesthetic cues from the dramatic roof pitch and artful response to climate and topography of these for mountain styles, the approach for Greer Crossing is a thoughtful blend of the successful elements of National Park, Bavarian, Standard, and Contemporary themes.

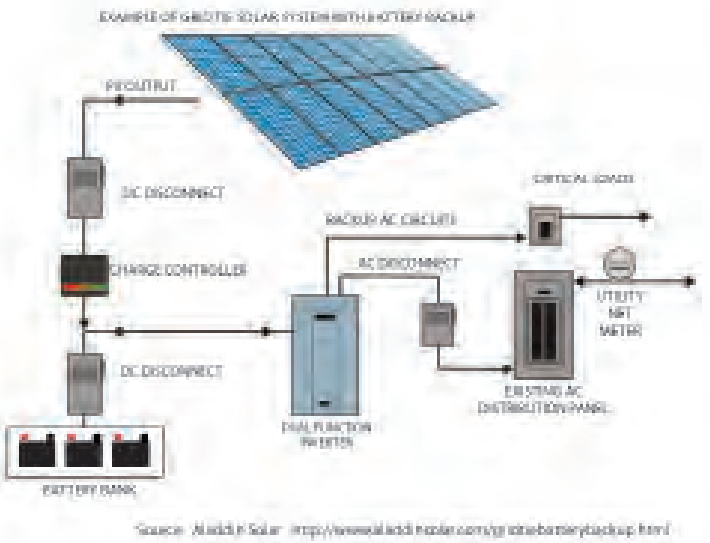
The synthesis of these four mountain styles generated an architectural form that took inspiration from the surrounding natural features, innate ebb and flow of existing landscape, and climatic conditions. Traditional mountain materials of local stone, western red cedar and warm colored concrete blend seamlessly with the modern materials of steel, glass, and aluminum to create a unique and memorable style. Furthermore, the use of traditional materials anchor the whimsical forms expressed in this archetype back to the existing architectural dialect of Tin Star Outpost and Greer Village.

The archetype developed for Greer Crossing is modern and progressive, capturing the pioneer spirit of Greer's history and western culture. The iconic forms in this architecture serve as a draw for new, young visitors, and carries the potential as an additional tourist attraction to Greer. Furthermore, it captures the essence of mountain communities and serves as a platform for sustainable values to continue to manifest in Greer as a whole.

case study:
Sonoma Mountain Village
Rohnert Park, California

In Sonoma Mountain Village, a new mixed-use community approximately 50 miles north of San Francisco in Rohnert Park, California, is making headway in the green movement. The development is the nation's first sustainable-development rating system for neighborhoods, and has already achieved LEED for Neighborhood Development Certification from the U.S. Green Building Council. The development combines the principles of smart growth, urbanism and green building. Greer Crossing seeks to use the sustainable approaches to new development found in this development.

The project features 825,000 sq. feet of commercial space ranging from office and industrial to retail and entertainment. The entire commercial zone is a solar-powered, zero-carbon, and zero-waste development. Furthermore, roughly 20% of the building materials used during construction were manufactured on site, while 50% of structural materials used are recycled steel and other products. Additionally, the entire community will be built without increasing the existing water allocation. The development also incorporates sustainable transportation, which will result in an 82% reduction in carbon dioxide through local transit and special technologies.



*Source: Aladdin Solar http://www.aladdinsolar.com/gridtiebatterybackup.html

Pros of a Grid-Tie System with Battery Backup

- Produces clean energy at an affordable price.
- Less maintenance and less cost than an off grid system.
- Less square footage required for collectors and battery banks.
- Provides emergency power for customer.
- Battery banks can be sized for customers needs from refrigerator and lights to HVAC.

Greer residents often experience power outages during storms. Rooftop solar collectors produce electricity and are connected to the regular power grid. Energy from the solar collectors is automatically directed to personal battery banks that store energy for times of power outage. After these banks are charged, the energy is fed into the power grid. The costumer's electric meter runs backward while their panels are supplying energy to the grid, reducing their monthly energy bill and supplying green energy to the community. Having a grid tie system with a battery backup allows customers to produce green energy without having to supply their peak demand and maintain large battery banks. This reduces costs in materials as well as in maintenance.

Sustainable strategies implemented in Greer Crossing include:

·Dense development - limiting sprawl not only preserves open space, wildlife corridors, and micro environments, but also reduces the amount of emissions in a community by creating a more bike and pedestrian accessible place to live.
·Rainwater harvesting - capturing rainwater from roof runoff supplements the green houses and roof top gardens that residents in the mixed use facilities use to produce local produce.
·Passive solar - proper solar orientation and angled windows can be an effective way to reduce unwanted heat gain in the warm summer months while allowing light to enter in the winter months.

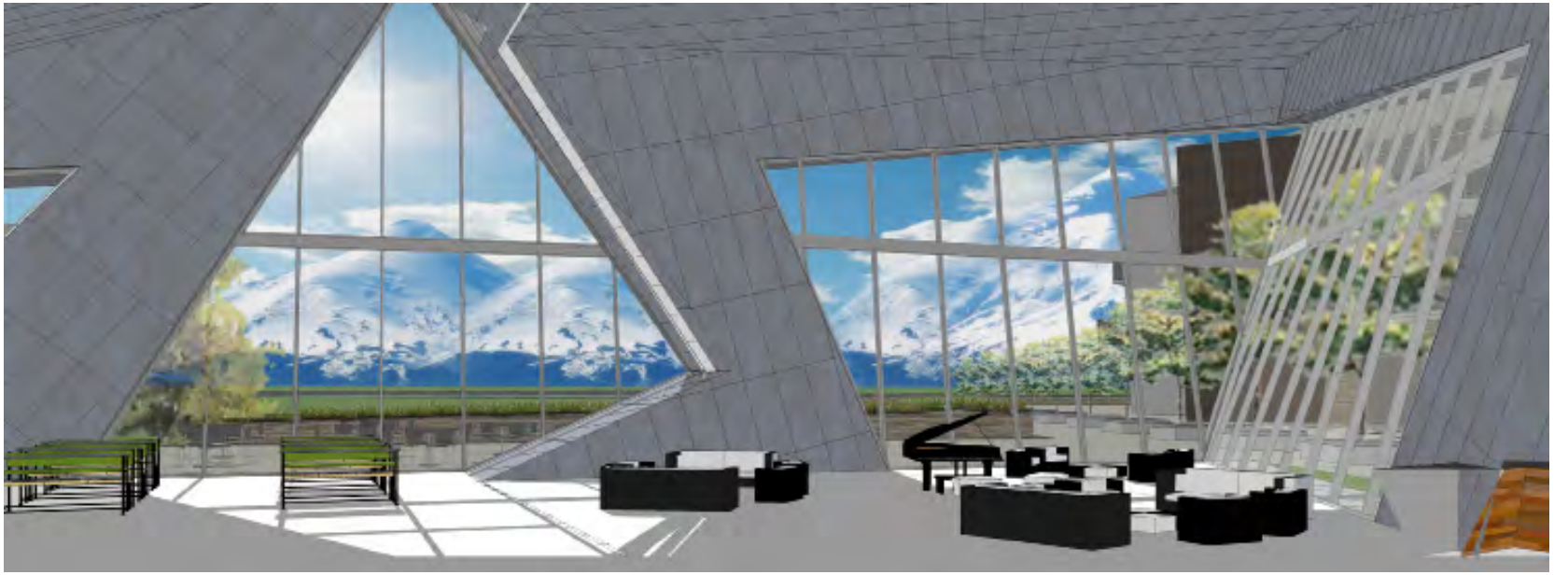
perspective views of the discovery center

visitor and wildlife discovery center

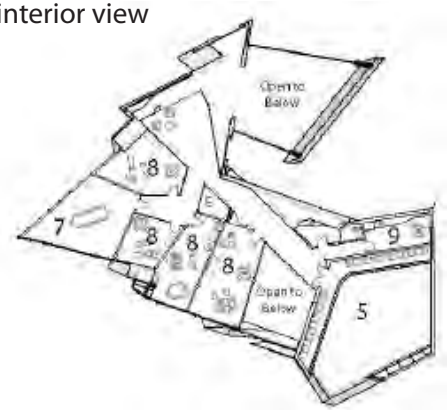
The Visitor and Wildlife Discovery Center is the focal point for the master plan of Greer Crossing. Being such, the building's forms take on an iconic spirit that establishes an identity for the entire community. The Visitor and Wildlife Discovery Center is approximately 12,000 square feet, which consists of an exhibition space, multi-purpose classrooms, offices, and theatre space. The overall design for the center evolved from a response to topography, views, and sustainability.

The architectural forms of the visitor center take inspiration from the dramatic mountain-scapes that make Greer magnificent, as well as from the jagged forms of ice crystals, which relates to the unique environmental features Greer offers Arizona residents. Sitting in the heart of Greer Crossing, the material palette of aluminum panels, glass, and steel allows the center to reflect sunlight; acting as a beacon to passers-by and residents alike. Roof lines, site orientation, and passive system design allow the building to operate in a truly sustainable manner. The sharp edges of the center are softened by Aspen and Pine trees, allowing the contemporary forms to maintain a clear dialect with architecture in "Tin Star Outpost" and "Greer Village".

At the center of this design is a hybrid space that combines a visitor destination, a learning facility, and civic space. The programmatic components within the Discovery Center strategically point to specific landscape features within Greer Crossing, and offer unique observing and educational opportunities. Movable walls also allow for the interior space to both open to the outside as well as offer maximum flexibility for housing various venues. Every element within the design of the Discovery Center exhibits educational opportunities. From a glass elevator that allows riders to witness the mechanics of lift systems to the various sustainable technologies incorporated in the design; the center houses exhibits as well as performs as an exhibit.



interior view



Room Legend

1. Entrance
2. Lobby
3. Classroom
4. Arts and Crafts
5. Theatre
6. Exhibition Hall
7. Conference Room
8. Office
9. Break Room

case study: gorges state park visitor center
sapphire, north carolina

The Gorges State Park Visitor Center is a proposed project by PCBL Architecture for a national park in North Carolina. The project will be certified as LEED Gold, and began construction in 2009. The building is 7,500 square feet and includes an exhibit hall, auditorium/theater for films and presentations, offices, and support spaces. The primary inspiration for the form of the building came from a strategic response to its site in both plan and section. The Visitor Center has evolved from a response to topography, views, and sustainability. It performs as an instructional tool for sustainable concepts as well as for the essence of the park itself. While the exhibits are in the building, the building is an exhibit.

The park is located on the Blue Ridge escarpment, rising 2,000 feet in four miles and forming the divide between the Tennessee Valley and Atlantic drainages. Warm moist air from the south flows over the escarpment and dumps more than 80 inches of rain annually on the park. It is one of the wettest places in North America. The park, and consequently the Visitor Center, showcases this natural beauty including numerous waterfalls, flora, fauna, and spectacular views.

the cider house

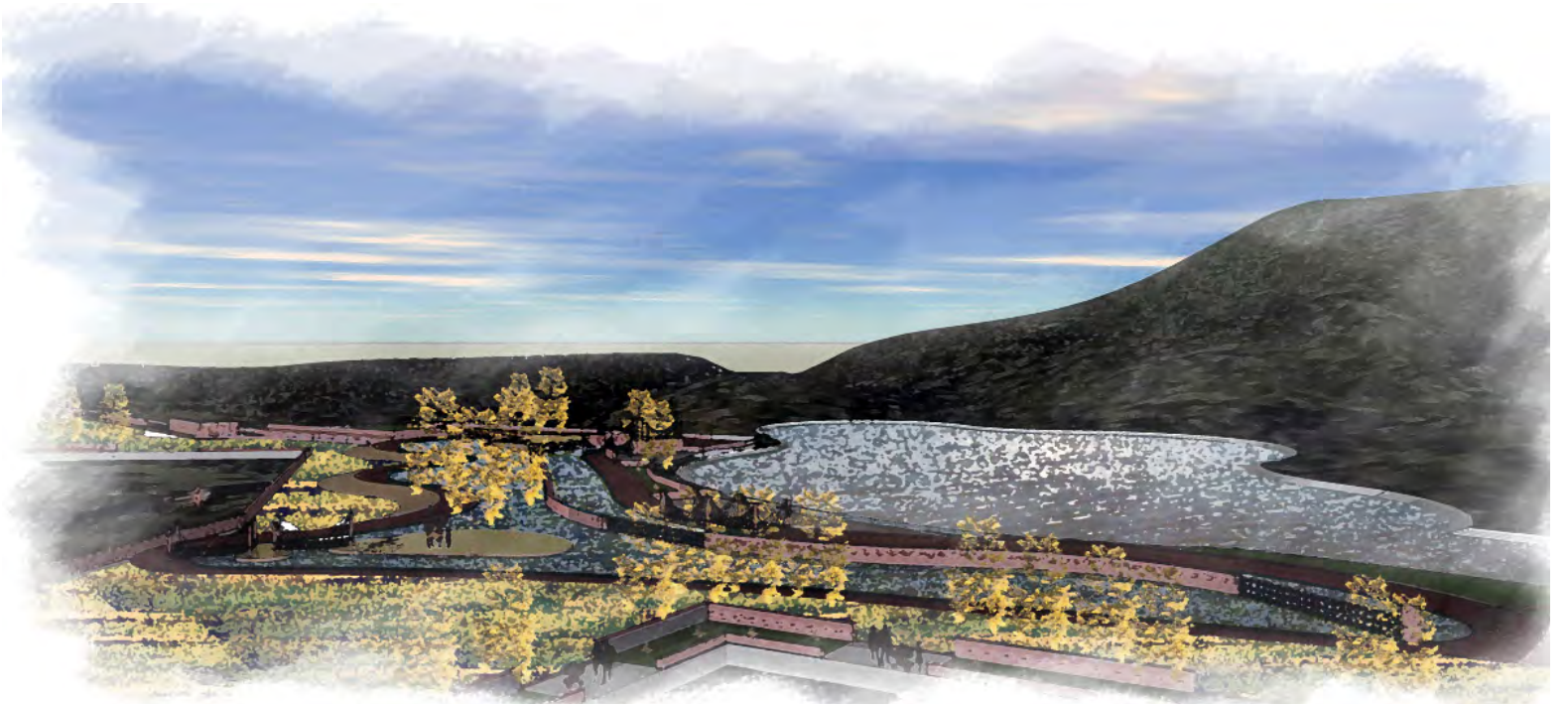
One of the main struggles that small mountain towns experience today involves a sharp decline in economic revenue. Many old mining and logging communities rely entirely on tourism in order to generate revenue after the mills and mines shut down. Tourism can be fickle, however. Anything from the climate, to the price of gas can influence the bottom line. Some small towns have found niches in beer or wine production. A brewery provides employment for many locals and attracts visitors. The products can subsequently be sold state or nationwide.

While a ruckus bar may not be Greer's idea of the right entertainment for a quiet getaway, a cider house brewery and restaurant suggests a more wholesome community hub. Families can come and participate in pressing the cider and enjoy it fresh or hard. It is a place for all ages. If someone catches a fish in one of the lakes or streams, the restaurant will clean, cook, and serve it for a small charge. The cider house's sustainable features intrigue a different sort of client. Those interested in sustainability, urban agriculture, water management, or cooking and making drinks wouldn't want to miss it. More importantly, it provides a social center for residents wishing to have hot cider after a snowball fight in the park, or a venue for local musicians to play.

The cider house strives to be an example of environmental responsibility. Everything from composting, local organic food production, water harvesting, alternative energy production, to gray and black water waste management can be experienced by visitors.

Part of the fun of visiting the cider house is looking down to the cellar to watch beer and cider production from your table. The copper kettles provide a nice visual, while the smells of fresh herbs and produce may entice some visitors to dine in the greenhouse. Views from the patio or balcony of the lake and park offer a nice setting for those wishing to soak in the beauty of Greer.

A physical separation of space helps to keep things running smoothly. The cider and beer production and bottling take place in the cellar. The cellar also houses the employee break room, office and employee restrooms with showers for bike commuters. The restaurant and greenhouse are on the main floor, and the bar is located above. This physical separation does not limit a visitor's experience. The cellar has a large open shaft that runs all the way to the two-planed solar roof, acting as not only a light well, but a visual connection to all those above.



greer crossing wetlands

In conjunction with the Greer Crossing Cider House, we propose the construction of wetlands to mitigate water use and loss during the brewing process. This water is considered to be reclaimed and is to be treated to remove solids and certain impurities that accumulate from the aforementioned process. This water will eventually be discharged back into the groundwater tables after passing through a series of wetland ponds to filter and cleanse the water.

Other sources of reclaimed water that will aid in the process of purification and that will also be filtered into the wetlands will be taken from the rooftops and hardscapes of Greer Crossing. A wetland is classified by an area that has soil that is saturated with moisture seasonally or year-round. There are plant materials that are present to help with erosion, cleaning the water and providing a visually appealing balance to the design. Some of the plant materials that will be used in the proposed construction of the wetlands are cattails, sedges, black spruce, horsetail reed and aspen.

The wetlands will become primarily fresh water as it moves through the filtration process. The proposed concept behind this wetland is that it passes through three purification strategies before eventually returning back to the earth.

The three strategies start with the primary pond of the wetlands that has been designed to be shallow where the water can begin to percolate towards stage two. The first pond will have the majority of the plant materials geared towards filtering out contaminants and impurities. The threshold between stage one and two of this process has a grate and wall that divide the ponds in order to maintain the integrity of the water purification process and to hold back flora and fauna that may be present in this area. This grate is similar to a strainer that will function as a catch-all for any debris that may accumulate in the area.

One of the most diverse functions of the primary wetland, pond one, is that in the winter when the shallow water freezes it can be used as an ice-skating rink. With the wall and grate in place it helps to separate users from the deeper more sensitive areas of the lower pond. The low wall will act as a visual barrier as well as seating for respite from skating, viewing the snow on nearby mountains and also giving closer visual access to the main lake. There are two small islands that are meant for use through all of the seasons for recreation, picnicking and viewing of wildlife that is present by the creation of a wetland. The addition of water, small lakes and wetlands, will hopefully provide landscape connectivity for migratory birds, reptiles and large mammals that pass through or live in adjacent areas surrounding Greer Crossing.

The second stage of this process, the middle pond, is designed to be rather deep and provide an area for particulates in the water to settle before moving into the main water feature of Greer Crossing. This is a small lake that will act as the final process for water purification. In this lake, the water will be mixed with water melted from the snow, perennial rainfall and passive and active water harvesting from the surrounding topography and built environment.

There are aesthetic features that surround the wetlands. These include multiuse paths constructed of decomposed granite that are ten feet in width and are chosen to help perpetuate the idea of keeping the ground as permeable as possible around the wetland pond. The wetlands are surrounded by three small meadows that have annual wildflowers seeded. The wildflower meadow area is meant to be natural and encourage human activity and recreation.

conclusion

conclusion

As with almost every person who has been involved with Greer knows, this valley has the power to enchant and inspire. Hopefully, the ideas shared in this document reflect the powerful impact Greer has had on us and provide appropriate treatment of the amenities Greer affords. Throughout this project, it has been our intention to present tangible suggestions that catalyze productive debate regarding Greer's future. We do, however, understand that some design expressions in this book will be rejected. That is okay. We encourage the people of Greer as well as county officials to use our ideas as a springboard for the future.

Although some of the creative expressions may not be entirely appealing to the community, we do wish to re-emphasize the importance of the main themes of this book. Nodal development has the ability to ensure the preservation of large tracts of land and provides a "release valve" if development pressure becomes extreme in the Village. Parking strategies associated with the nodes will also serve to reduce pedestrian/auto conflicts. Taking an active approach to tourism would allow Greer businesses and residents to carefully select the type of clientele that are attracted to the town. In addition, this strategy may extend the tourism season, thus providing year-round income for full time residents and businesses. An important way to begin this transition would be to extend the existing trail network throughout the valley. The addition of a town square in the Village may be critical in the development of Greer's branding. Finally, and most importantly, it is crucial that the Little Colorado River and associated meadowlands be protected, both from development and human-caused pollution.

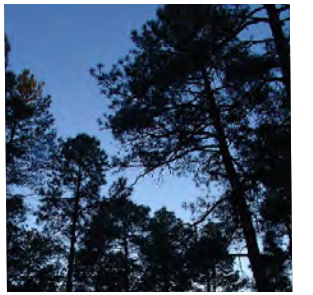
Whatever direction Greer takes in the future, we hope these points provide a framework within which all stakeholders can agree and work toward a visionary future for your town. The Tejido group extends its gratitude to all of those who took time to participate in interviews, provide feedback at our presentations, and welcome us during visits.

appendix

This section is a set of resources with suggested plant palettes, preservation strategies and funding sources for future reference.

PLANT RECOMMENDATIONS:

Greer as stated previously, has a wide range of ecological habitats that support a wide range of plant materials and wildlife. Many respondents in the user analysis phase of this study expressed that the "identity" of Greer was tied in with the trees and forest. Mans influence on the landscape has already been observed in many ways both positive and negative. Much like the materials, colors, textures and use of light by an artist can be used to evoke specific feelings in one experiencing the art; a well chosen plant palette and design can act similarly on the users of a particular environment. The following lists represent all of the plants that were observed on site during the analysis phase; other plants know to this area but not directly observed by our group and plants that we suggest will do well in the mountain environment of Greer. These plant materials in various combinations can be used to enhance existing areas, make proposed areas unique in character and even aide in improving the health of certain riparian and woodland systems.



The above were photographed by Tejido Group in May/June 2006

NATIVE TREES

Blue Spruce — Picea pungens
Ponderosa Pine — Pinus ponderosa
Gambel Oak — Quercus gambelii
Quaking Aspen — Populus tremuloides
New Mexico Locust — Robinia neomexicana
Box Elder — Acer negundo ssp. Californicum
Rocky Mountain Maple — Acer glabrum
Narrowleaf Cottonwood — Populus angustifolia
Lanceleaf Cottonwood — Populus x acuminata
Pinyon Pine — Pinus edulis
Alligator Juniper — Juniperus deppeana
One-seed Juniper — Juniperus monosperma
Utah Juniper — Juniperus osteosperma
Rocky Mountain Juniper — Juniperus scopulorum
Hackberry — Celtis laevigata v reticulata
Mountain Alder — Alnus incana tenuifolia
Fremont Cottonwood — Populus fremontii
Mountain Willow — Salix amygdaloides

NATIVE SHRUBS

Buffaloberry — Shepherdia spp.
Snowberries — Symphoricarpos spp.
Utah serviceberry — Amelanchier utahensis
Three-leaf sumac — Rhus trilobata
Wild Rose — Rosa woodsii
Golden currant — Ribes aureum
Fendler's buckbrush — Ceanothus fendleri
Mountain Mahogany — Cercocarpus intricatus
Bannana Yucca — Yucca baccata
Coyote Willow — Salix spp.
Shrubby Cliffrose — Cowania mexicana
Apache Plume — Fallugia paradoxa
Manzanita — Archostaphylos spp.
Smooth Sumac — Rhus glabra

NATIVE GRASSES

Blue grama — Bouteloua gracilis
Arizona fescue — Festuca arizonica
Indian ricegrass — Achnatherum hymenoides
Western wheatgrass — Pascopyrum smithii
Mountain muhly — Muhlenbergia montana
Muttongrass — Poa fendleriana
Prairie junegrass — Koeleria macrantha
Little bluestem — Schizachyrium scoparium
Deer Grass — Muhlenbergia rigens

Wildflowers/Perrinials

Beebalm — Monarda menthaefolia
Silvery lupine — Lupinus argenteus
Blue flax — Linum lewisii
Penstemons or beardtongues — Penstemon spp.
Coneflowers — Echinacea spp & Ratibida spp
Rudbeckia/Black-eyed Susan — Rudbeckia spp.
Columbine — Aquilegia spp.
Yarrow — Achillea millefolium var. occidentalis
Mosquito Plant — Agastache cana
Western Blue Flag — Iris missouriensis
Evening Primrose — Oenothera spp.
Aspen Fleabane — Erigeron speciosus
Fire Wheel — Gaillardia pulchella
Phlox — Linanthus spp.
Heuchera — Heuchera spp.
Hardy Hummingbird Trumpet — Epilobium canum subsp. Latifolium

GROUNDCOVERS

Creeping barberry Mahonia repens	
Cinquefoil	Potentilla spp.
Kinnikinnick	Arctostaphylos uva-ursi
Prairie smoke	Geum triflorum
Alum root	Heuchera spp.
Pussytoes	Antennaria spp.
Yerba Mansa	Anemopsis californica

NON-NATIVE TREES

Crab Apple	Malus spp.
Arborvitae	Thuja spp.
Austrian Black Pine	Pinus Nigra
Sunburst Honeylocust	Gleditsia trancanthos inermis 'Suncole'
Golden Honeylocust	Gleditsia trancanthos inermis 'Aurea'
Flame Maple	Acer ginnala
Red Sunset Maple	Acer rubrum 'Franksred'
Swedler Maple	Acer platanoides 'Schwedleri'
Hedge Maple	Acer campestre
Silver Queen Maple	Acer saccharinum 'Silver Queen'
Autumn Blaze Maple	Acer X freemanii
European Mountain Ash	Sorbus aucuparia
White Barked Himalayan Birch	Betula utilis v jacquemontii
Canada Red Chokecherry	Prunus virginiana 'Canada Red'
Dwarf Red-Leaf Plum	Prunus X cistena
Patmore Green Ash	Fraxinus pennsylvanica 'Patmore'
Flowering Pear	Pyrus calleryana 'Bradford'
Callery Pear	Pyrus calleryana 'Autumn Blaze'
Western Catalpa	Catalpa speciosa
Globe Willow	Salix matsudana 'Navajo'
Purple Robe Locust	Robina x ambigua
Greenspire Linden Tilia cordata 'Greenspire'	
Black Alder	Alnus glutinosa
Mountain Alder	Alnus Tenuifolia
Autumn Brilliance Serviceberry	Amelanchier X grandi flora
Hackberry	Celtis occidentalis
Crimson Cloud	Crataegus laevigata
Eastern Redbud	Cercis canadensis
Manchurian Ash	Fraxinus mandshurica 'Mancana'

NON-NATIVE SHRUBS

Brilliant Red Chokeberry	Aronia arbutifolia 'Brilliantissima'
Dogwood RedtwigCornus baileyi	
Mock Orange	Pittosporum tobria
Oregon Grape	Mahonia aquifolium
Winter Creeper	Euonymus fortunei `
Forsythia	F. Hardy Hybrids 'Meadow lark'; 'New Hampshire'; 'Northern Sun'
Burwood Viburnum	Viburnum x burkwoodii
Snowball bush	V. opulus 'Roseum'
Winged Euonymus	E. alatus 'Compactus'
Vicary Golden Privet	Ligustrum 'Vicari'
Common Privet	Ligustrum vulgare
Snowmound Spiria	Spiraea nipponica 'Snowmound'
Juniper	Multiple species
Fernbush	Chamaebatiaria millefoliu
Three-leaf Sumac	Rhus trilobata

NON-NATIVE GRASSES

Blue Fescue	Festuca glauca 'Border Blue'
Feather Reed GRass	Calamagrostis x acutiflora 'Karl Foster'
Maiden Grass	Miscanthus sinensis 'Gracil limus'
Blue Oat Grass	Helictotrichon semipervins 'Blue Avena Grass'
Indian Grass	Sorgastrum nutans 'Chey enne'



The above were photographed by Tejido Group in May/June 2006

PRESERVATION TOOLS AND STRATEGIES

introduction

As Greer moves forward in its development strategies, there will likely come a time when there is a need to acquire Conservation Easements or Property for Conservation. Encroachment on the Little Colorado river and meadows is one of the most significant risks to Greer. The value of these lands are not only in the dollars that they can generate for the town from building permits but the "identity" of the town itself rests in these natural amenities. Visitors and new residents aren't drawn to Greer because of its "cookie cutter homes" but because the beauty of the forests, lakes and natural systems. The community as a whole can gain more by protecting these natural amenities and celebrating them than to allow them to be taken away. This section of this study is organized to provide the Public with strategies currently employed by Individual Property Owners, Land Trusts and Government Entities to conserve important land and land uses. Discussed are the Pros and Cons of each method of conservation and details the various strategies that exist for each group. The following information provides a variety of options for the protection of important properties. Many tools exist for Landowners to utilize in this process which benefit both the Landowner and the Land.

conservation by individual property owners

Owners of a piece of land with a qualified conservation interest may opt to maintain full ownership of property and maintain the land how they see fit. Continuity of the protection is maintained by the beneficiaries of the landowner's will. Unfortunately, there are numerous examples of large privately held ranches and homesteads that have been sold and subdivided in Arizona. Prescott Valley, Phoenix, and Santa Cruz County are sad examples of this fact. However, there are some tools available to protect the land after the owner's death. There are advantages and disadvantages to protecting your land yourself.

Pros:
1) Landowners have a vested interest in the property
2) Private landowners are generally excellent stewards of the land
3) Landowners are able to use the land how they see fit




Cons:

1) The property is protected only as long as the landowner is alive unless they place a deed restriction on the property

2) Pieces of larger conservable lands can be compromised by the sale of adjacent pieces which eventually leads to loss of the entire resource

3) Increasing property values may compel conservation-minded landowners to sell to buyers who intend to develop it

4) Estate taxes may force heirs to subdivide and/or sell properties. (Estate taxes are currently assessed for the value of an estate in excess of 1.5 million dollars at a rate of 47%, but have been as high as 55% in the recent past)

landowner conservation tools

Deed restrictions: restrictions may be placed within a deed to control the use of the property. Restrictions travel with the deed, and cannot generally be removed by new owners.

Restrictive covenants: restrictive covenants are deed restrictions that apply to all of the homes on subdivided property. They are normally drafted and put in place by the original developer, and are different for every area of homes. Often the purpose is to give a development a more standard appearance. Typically, covenants stipulate the minimum size residence allowed, how many homes may be built on one lot, and what type of construction the homes must (or must not) be. They may include numerous other restrictions and are typically enforced by a homeowners association.

Right of First Refusal or Option

When the owner of an important conservation property is not ready to discuss immediate protection, the owner might consider a right of first refusal. This right provides a land trust or government agency with the opportunity to match a purchase offer received by the owner at a future time if and when the owner elects to sell the property.

An option agreement is a contract under which the owner offers a buyer a fixed period of time (normally a period of three to twelve months) within which to make a decision to purchase either a conservation easement (discussed below) or the property outright. The buyer is not required to exercise its right to purchase but can, instead, use the option period to develop a




The above were photographed by Tejido Group in May/June 2006

conservation plan and seek funding sources to conserve the property.

conservation by private land trusts

Land trusts are non-profit organizations that purchase land and conservation easements in order to provide long term protection and stewardship of important lands. Land trusts operate on national to local scales and may have a broad conservation interest or specialize in community, historic, wildlife, or natural areas. Land trusts typically are managed by an elected board of directors and hold the conservation easements in perpetuity, or pass the easements on to other land trusts in the event that the trust goes bankrupt. The White Mountains Land Trust is a local example of citizens in action. This group formed in 2004, with a nine member Board of Directors from the Pinetop/Lakeside and Wagonwheel area. It is currently working on a conservation easement for 52 acres on Forest Service Land near Buck Springs Rd. and other projects in the region.

Pros:

1) Conservation lands are protected forever.
2) Landowners can continue to inhabit and enjoy income from the property
3) Donation of the easement to a Land Trust creates significant income tax savings for the landowner.
4) Donation of the easement may reduce the value of the land enough to avoid paying estate tax.
5) Easements increase the property value of adjacent lands.
6) Large areas of land may be protected while allowing the traditional uses to continue.
7) Land trusts are non-governmental entities

Cons:

1) Landowners give up the right to undertake some activities on their land
2) The sale value of their land is reduces by the value of the conservation easement.
3) The conservation easement cannot be removed at a later date without renegotiation of the easement contract. It is rare that a land trust will give up the conservation easement.
4) Typically there is some cost to the landowner to process the paperwork of the easement

land trust tools: conservation easements

Easements are the most important tool used by Land trusts. An easement may cover portions of a property or the entire parcel. Easements are flexible and tailored to meet a landowner's needs. They typically identify specific permitted uses of the property including agriculture, forestry, recreation, and other open space uses. The easement also limits or prohibits certain other activities, including industrial, commercial, and residential development. Easements may be either donated by the owner or purchased by the land trust. Donating a conservation easement protects the land permanently, yet keeps it in private ownership. The donation of a conservation easement normally qualifies as a charitable contribution, which may entitle the donor to a charitable income tax deduction for the easement's value. Land Trusts may also have the ability to purchase conservation easements. There is no income tax reduction in this case but the owner will receive income from the sale and may avoid paying estate taxes.

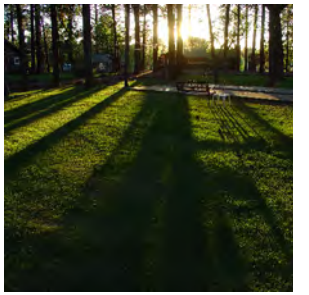
real estate transactions

Sometimes land trusts may either purchase important conservations lands or receive donations of land. Typically land trusts do not have the resources to manage land. Therefore, when land trusts acquire land with conservation value, they place a permanent conservation easement on the property and sell the land. The proceeds are used to protect other conserved lands.
Donating property has many benefits: It assures the permanent protection of a family property; provides a charitable income tax deduction for the full fair market value of the land; avoids capital gains taxes on appreciated land (which otherwise would be due at the time of a sale); removes the property from the donor's taxable estate; and releases the donor from the expense and the responsibility of managing the land.

donation of a remainder interest

A landowner can donate land and continue to live on it during his or her lifetime. This is known as a gift of a remainder interest.






The above were photographed by Tejido Group in May/June 2006

The final outcome and advantages are similar to that donating the property.

bequest and living trust

Landowners can conserve important lands by donating property or donating a conservation easement through their wills. Both the bequest and the living trust can assure the permanent protection of the land, permit the donor to control the property during his or her lifetime, and may reduce the donor's taxable estate.

bargain-purchase of easements and land

The landowner sells a conservation property or easement at less than full market value and donates the remaining value. For the landowner, this combines the income-producing aspects of a land sale with the tax benefits of a donation. The difference between the fair market value (as determined by appraisal) and the sale price is treated as a charitable contribution and can significantly reduce any capital gains taxes payable on the sale.

conservation by government agencies:

Government conservation is undertaken by governmental agencies. This may occur on the Federal, State, County, or Local level. Government agencies purchase and protect lands that provide public amenities, such as parks, transportation right of ways, waterways, wildlife refuges, etc. Acquisition of the properties may be through outright purchase, land swaps, or eminent domain. Governments can also provide tax and zoning incentives to encourage private landowners to place conservation easements on their property. There are several advantages and disadvantages of government land conservation.

Pros:

1) Lands are typically well protected and maintained in perpetuity.
2) Public access is provided for the amenity.
3) Costs of stewardship are paid by the entire community.

Cons:
1) Previous landowners give up all property rights in the sale.
2) Stewardship becomes subject to the political process.
3) Some acquisition processes (eminent domain) may place the perceived need of the community over the needs of the landowner.

government conservation tools

real estate purchase: The agency may have the funds and ability to purchase the property outright.

land swaps: The agency may own property that can be swapped for a property they want protected from development.

tax increment financing (TIF): Tax increment financing is a way for governments (usually municipal authorities) to help finance new capital projects by taking advantage of expected property tax returns. A city, for example, may designate a plot of land that is planned to be redeveloped as a TIF district. Then the city can borrow against expected increased tax revenues to build infrastructure such as sewers and transportation services.

transfer of de velopment rights (TDR): Provisions in a zoning law that allow for the purchase of the right to develop land located in a sending area (priority conservation areas) and the transfer of these rights to land located in a receiving area (priority development areas).

eminent domain: The power of the state to expropriate private property without the owner's consent. In the United States, the Fifth Amendment to the Constitution requires that just compensation be paid when the power of eminent domain is used, and requires that the property be taken for "public use". Most courts have interpreted "just compensation" to be the fair market value of the condemned property. Over the years the definition of "public use" has expanded to include economic development plans which use eminent domain seizures to enable commercial development for the purpose of improving the community. Critics contend this perverts the intent of eminent domain law and damages personal property rights. Recently

courts have ruled in favor of protecting landowners rights in these cases.

Further Reading:

The White Mountain Land Trust:
www.wmlandtrust.org

The Smart Growth Network:
www.smartgrowth.org

The Central Arizona Land Trust:
www.centralazlandtrust.org

Balancing Nature and Commerce in Gateway Communities by Jim Howe, Island Press

FUNDING SOURCES

introduction

The following pages list non-profit agencies and governmental organizations that fund projects and provide assistance to communities pursuing projects similar to those in Greer. This is not a comprehensive list, there are many more agencies and grants available than those that are listed here. This list suggests a starting point for those seeking funding for modules of development in Greer.

land preservation

Conservation easements are voluntary mutual agreements between a property owner and a qualified organization (e.g., a land trust or government agency) that basically purchases the development rights from the property owners.

Land and Water Conservation Fund, provides money to federal, state, and local governments to purchase land, water, and wetlands for preservation value.

www.fs.fed.us/land/staff/LWCF

Land Trust Alliance assists with land trusts and conservation easements. www.lta.org

Trust for Public Land assists with land trusts and conservation easements. www.tpl.org

White Mountain Land Trust, working to conserve and steward in perpetuity natural areas. www.wmlandtrust.org

Central Arizona Land Trust preserves ranchlands, open space and the scenic and wildlife values of central Arizona.
www.centralazlandtrust.org

The Nature Conservancy, a private organization that is a source for funding and information. www.nature.org

bicycle and pedestrian pathways

Transportation Equity Act for the 21st Century (TEA-21)
http://www.enhancements.org

The money for this program is budgeted from the Federal Highway Administration, and in Arizona, the Arizona Department of Transportation (ADOT) administers the funds they receive. The most popular program for bicycle and pedestrian projects within TEA-21 is the Transportation Enhancements (TE) Program that appropriated $3.6 billion for various projects between 1998 and 2003. Most states require TE project sponsors to provide at least 20 percent of the project costs. Contact people for TEA-21 funding in Arizona are:

FHWA Division TE Coord.
Layne Patton
Federal Highway Admin.
Phoenix, Arizona
Tel: 602-379-3645
Email: layne.patton@fhwa.dot.gov

ADOT TE Coord.
Cheryl Banta
ADOT
Phoenix, Arizona
Tel: 602-712-6258
Email: Cbanta@dot.state.az.us

The Federal Highway Administration's web site also gives information about what projects are eligible for obtaining federal funding from TEA-21.
www.fhwa.dot.gov/environment

Community Development Block Grants (CDBG) through Department of Housing and Urban Development (HUD) fund projects such as the "safe routes to school" initiative. For further information see:

http://www.hud.gov/offi ces/cpd/communitydevelopment/programs/index.cfm

Bicycle and Ped.Coord.
Michael Sanders
ADOT
Phoenix, Arizona
Tel: 602-712-8141
Email:MSanders@azdot.gov

ecological restoration

Many granting programs exist for helping communities perform stream restoration measures such as river clean-ups, runoff pollution studies, soil erosion controls, flood protection, and habitat restoration.

public funding

Federal Government TEA-21's Transportation Enhancements
www.enhancements.org/12_activities.asp

Watershed Protection and Flood Prevention Grants:
www.federalgrantswire.com/watershed_protection_and_flood_prevention.html

Clean Water Revolving Fund
www.epa.gov/owmitnet/cwfi nance/cwsrf

State Wetlands Protection Grants
www.epa.gov/owow/wetlands/initiative

Arizona Water Protection Fund, administered by the Arizona Department of Water Resources.
www.awpf.state.az.us

Army Corps of Engineers, Flood Hazard Mitigation and Riverine Ecosystem Restoration Program focuses on identifying sustainable, nonstructural solutions to flood-prone areas:
www.epa.gov/dced/topics/water_quality_funding.htm

private funding

National Rivers Coalition REI Seed Grant Program, administered by the National Rivers Coalition (which includes The American Canoe Association, American Rivers, The River Management Society, Sierra Club, and The Wilderness Society)
www.americanrivers.org

Trout Unlimited, an organization that works to "conserve, protect, and restore North American trout and salmon fisheries and their watersheds,"
www.tu.org

parks and rec. recreation trails

Recreational & multi-use trails can receive funding through TEA-21's Recreational Trails Program (RTP). For more information, see:

www.fhwa.dot.gov/tea21/factsheets/rec-trl.htm

The AZ State Parks administers RTP funding.
Arizona's contact person is:
Annie McVay
Recreational Trails Coordinator
Arizona State Parks

Phoenix, Arizona
Tel: 662-542-7116
Email:amcvay@pr.state.az.us

Recreational trails in Arizona also receive funding through the Trail Heritage Funds. Projects can involve the acquisition or lease of future trail alignments or trail support facilities such as signage, underpasses, and restrooms. An example near Pinetop-Lakeside of a trail built with Heritage Funds is the 6.5 mile Thompson Trail that is located in the White Mountains. This program typically pays up to 50 percent of the project's cost. The contact person for this program is:

Andrea Madonna
Chief of Grants
Arizona State Parks
Tel: 602-542-4174

A list of federal, state, local government and private funding for recreational trails is given at:

www.maricopa.gov/trail/pdf/phase_one/appendix_f.pdf

American Trails, working to enhance and protect America's growing network of interconnected trails.

www.americantrails.org/resources/funding/index.html

International Mountain Bicycling Association, links to grants and funding sources:

www.imba.com/resources/grants/index.html

American Birding Association. Information on the birding trails of North America and birding economics.

www.americanbirding.org/resources/birdingtrails.html