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LEED and the Galisteo Basin Preserve: Sustainable Solution to Metropolitan Sprawl?

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LEED and the Galisteo Basin Preserve: Sustainable Solution to Metropolitan Sprawl?

By: Angella Kilcher

Our ability to continue to sustain life as we want it is fading out. Quickening its pace by each new development, unsustainability will soon be right in our face. There is growing concern over metropolitan sprawl and its partnership with unsustainability. Popular culture and films like "End of Suburbia", thrash out the fall of humanity because of evil, American, homogenous, suburbs. Yet they seem to offer up no solutions. Knowing that we can't just obliterate everything and start anew, I feel there have to be alternatives to detrimental sprawl. I don't see development as inherently bad. We have now come to a place in human history where there is not enough land to sustain everyone individually. Sources say there are roughly five acres of land per person on the earth, but this does not consider the fact that much of the land is rocky, sandy, tumultuous terrain that is unfit for agriculture. Technology has brought us to a point that we can grow more food on less acreage, but an increasing world population has cut the available grain-land per person from 0.23 hectares in the 1950's to 0.10 hectares in the early 1990's. (Brown, 2008) We have come to a place where we are dependent on cities, and thus continual development, because we could not live on individual plots and continue to sustain as a world. As Beatley (2004, p. 4) professes: "…cities hold the greatest hope for achieving a more sustainable future for our planet."

LEEDing in Sustainable Efforts

There have been some major responses to the issue of sustainability. One of those responses is Leadership in Energy and Environmental Design and their Neighborhood Development project (LEED-ND). LEED certification has its beginnings with the U.S. Green Building Council (USGBC). The USGBC is a non-profit organization that was developed in 1993. Their mission and vision is to "transform the way buildings and communities are designed, built and operated, enabling an environmentally and socially responsible, healthy, and prosperous environment that improves the quality of life while having buildings and communities that will regenerate and sustain the health and vitality of all life within a generation". (USBGC online website http://www.usgbc.org/DisplayPage.aspx?CMSPageID=124)

USGBC mission is reflected in LEED's purpose to encourage the "global adoption of sustainable green building and development practices through the creation and implementation of universally understood and accepted tools and performance criteria". As a third-party certification program, LEED has become a nationally accepted gauge for the design, construction, and operation of green buildings. LEED evidently promotes a whole-building approach to sustainability by addressing performance in five areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection and indoor environmental quality.

The LEED for Neighborhood Development (ND) Rating System integrates the above goals along with principles of smart growth, urbanism and green building into the first national system for neighborhood design. The LEED-ND program involves collaboration among USGBC, the Congress for the New Urbanism and the Natural Resources Defense Council.

LEED-ND certification is similarly based on LEED requirements of location and design and accepted levels of environmentally responsible, sustainable development.

LEED for Neighborhood Development emphasizes what they see as some major benefits of the program. With LEED's help, development should encourage healthy living with the creation of compact, walkable, mixed-use neighborhoods with connections to nearby communities. It should also reduce unplanned, uncontrolled spreading of urban development into areas outside of the metropolitan region. To make this possible, LEED-ND communities are: in locations that are close to existing town and city centers; areas with already existing or proposed transit access; and previously developed sites adjacent to existing development. The developments should increase transportation choice and ultimately decrease automobile dependence by creating a community that is suited to transit options, walking, and biking. LEED-ND also boosts to protect threatened species by minimizing fragmentation and loss of habitat through the encouragement of compact development patterns.

LEED-ND recognizes that distinctive sprawl development, low-density housing and commercial uses located in automobile-dependent areas, are harmful to the environment in many ways. Sprawl can fragment and hurt farmland, forests, and wildlife habit. It can also have an adverse affect on water quality through the ruin of wetlands and increased storm-water runoff. It is easy to see these concerns for the natural environment outlined in LEED-ND's project requirements for certification.

Galisteo Basin Preserve, the case study that I will be examining, is one of the nearly 240 LEED-ND pilot projects that were started in the summer of 2007. This case will be instrumental in evaluating the role of LEED-ND in current sustainability efforts.

Case in Point

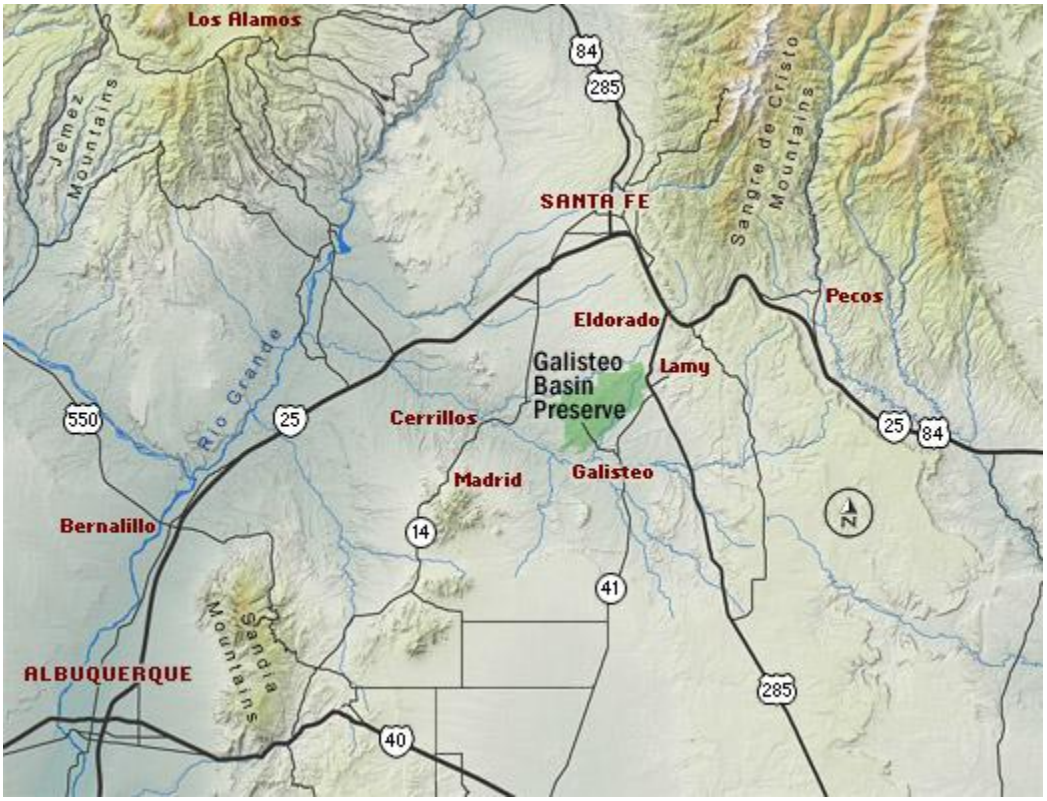

Figure 1: Galisteo Basin Preserve Regional Map

The Galisteo Basin Preserve is a 13,500-acre conservation-based community development project located 15 miles southeast of Santa Fe, New Mexico, in the central Galisteo Basin. Fed by the Rio Grande, Galisteo Basin is the major source and in some cases the only source of water in Santa Fe County. The basin will also be the main source of water for any new development in Santa Fe County in particular.

The Galisteo Basin has a long history of settlement, starting over eight hundred years ago with the Tanos, a Southwest Puebloan tribe. It is thought that at their peak in the mid to late 1300's, as many as ten to twenty thousand Puebloan people may have lived in the central

Galisteo Basin. The Tanos cultivated maize, squash, and other foods in addition to hunting small native game and growing small gardens. War and drought drove the population to dwindle until there were some scattered small towns and most of the land was owned by a few large ranchers. The two prominent ranchers left in Galisteo Basin mid-20th century were the Thorton and Simpson ranches. When the Simpson Ranch went out of business, the ensuing over-development that followed set off a collective realization that the Basin needed to be protected.

The selling of the Simpson Ranch spurred sprawling, over-development across sensitive parts of Galisteo Basin. This development was encouraged by Santa Fe's land use practices; maximum development of land with no concern of conservation. This land use practice could have ruined the basin ecologically and culturally had Commonweal Conservancy—a non-profit conservation organization—not decided to purchase the land. Commonweal's plan of maintaining most of Galisteo Basin as a public open space intends to greatly help reduce the environmental stress that is already being felt in other parts of the basin.

Why look at a Basin?

Galisteo Basin Preserve is a good fit when looking at sustainable communities for several reasons. In particular, it is a community that has been designed with issues of long-term sustainability in mind. Next, Galisteo Basin has previously been threatened by development. When the Simpson Ranch was sold in the 1970's, much of the land was converted into large bedroom communities with single-family homes on 1-2 acre lots. This has raised concerns of long-term sustainability in the Basin because of its sensitivity as a major water source in Santa Fe County. Not to mention, the wildlife, historic, cultural, and traditional resources that have also been threatened. Lastly, Santa Fe County is experiencing huge population growth and

Galisteo Basin is at the center situated between the two major cities of Santa Fe and Albuquerque. There has been a substantial amount of development along Highway 285 and Highway 25, where Galisteo Basin sits. The Village development of Galisteo Basin is expected to absorb a considerable amount of this expected growth while creating the first greenbelt in the region.

Concurrently, Galisteo Basin Preserve makes for an attractive case study of LEED-ND. As a certified "Gold" community to be developed, Galisteo Basin should exhibit LEED-ND standards in its overall processes and development. Galisteo Basin has been assessed like all other LEED-ND projects through the same certification process, making it typical to as well as comparable with the other developments.

Sustainability?

Despite years of conversation, no one definition of sustainable development has come about. According to Short and Short (2008, p. 232), the most widely used definition is "development that meets the needs of the present without compromising the ability of future generations to meet their own needs". Throughout this paper I refer to sustainability and sustainable communities and there are several objectives that I imply when using this term. One in particular is proposed by Robert Riddell. He describes sustainability as a systemic people-controlled process that combines conservation *with* development which sets out to meet consumer needs at socially and environmentally acceptable costs, and without degrading natural resource flows or depleting resource capital. The central principle is compromise for long-lasting permanence. In other words, development has to be able to endure, in effect, forever. It is held to be 'transgenerational': socially responsible, environmentally harmonious, and economically equitable (Riddell, 2004). This definition is useful because it recognizes the need

for development while emphasizing the call to couple that with conservation efforts in order to maintain consumer needs in the scope of socially and environmentally acceptable costs.

An accompanying definition comes from Sorenson (et. all 2004) which recognizes three basic principles for sustainable development: inter-generational equity, social justice, and transfrontier, or land responsibility. In order to create development that is truly sustainable a city needs to: provide healthy living and working conditions for inhabitants; supply safe water, sanitary conditions, trash collection/disposal, and other essential infrastructure for health and economic development; and remain in an ecologically-balanced relationship with local and global ecosystems. When cities work towards these principles, it will adjoin to the basic principles for sustainable development. (Sorenson et. all 2004)

Timothy Beatley also offers up principles of urban sustainability. Beatley (2000, p. 16) looked at a report put out by the European Commission, *European Sustainable Communities*, which breaks down urban sustainability into four principles: urban management; policy integration; ecosystems thinking; and cooperation and partnership. In summary, these principles set up a stage for all levels of government and authority in the European Union to be responsible and hold one another accountable on social, environmental, and economic dimensions of sustainability, while realizing that urban sustainability is something that is being learned, not already known. Sharing experiences, partnerships and networks, training, community consultation and participation, and increasing awareness on sustainability and sustainable efforts are primary drivers in making these principles happen. This means local governments are communicating with one another on issues like housing, regional governments are swapping ideas on transportation and transit, and member states are sharing what policies have been effective in their state.

CLOSER LOOK

There are many questions that spring into mind when thinking about the development of Galisteo Basin. Does LEED provide necessary infrastructure in the development region? What is being done to maintain an ecologically-balanced relationship within the region? Will Galisteo Basin Preserve ultimately combine conservation with its development to meet the needs of the community while still protecting the area? It is my contention that the LEED and LEED-ND programs do not offer as sound a solution for sustainability or "green living" as they claim or appear to be. It is in fact the other organizations that choose to pursue LEED-ND certifications that are making the real strides in more sustainable development.

In order to further contend to this claim, I will examine some of LEED's certification requirements in their relation to what Commonweal Conservancy has proposed in their development plans. This will help to illustrate how LEED is possibly contributing to Commonweal's development of Galisteo Basin. There are many different requirements and other suggestions where earning LEED-ND points is possible, thus I have chosen to look at several key requirements that are often related with matters of sustainability and sustainable development. These include reduced automobile dependence, compact development, open space, and affordable housing.

In addition, I would like to briefly discuss other attempts at sustainable communities, specifically the greenbelt cities developed in the 1930's and a current radical community by observing what they have to offer in terms of the issue of sustainable development.

The political economy of place perspective is one of the lenses through which I hope to further explore the development of Galisteo Basin. This perspective is set forth by Logan and Molotch (2007, p. 32) in what they describe as the "growth machine": interconnected players

that favor growth policies and advocate for one another and their policy plans. These policies more or less feed an ongoing system through which land is used and prepared for capital gain. The growth machine therefore promotes advocacy for policies like sprawl.

Though there are many examples of how the growth machine has been instrumental especially in developing American landscape, there is skepticism of the theory because it does not leave room to include those actors who *do* work for public interest and organizations that hold sustainable land use morals. In my research on the Galisteo Basin Preserve, I would argue that most of those involved with its development process had more than potential profit in mind while still being mindful and critical of how the growth machine has perpetuated the development of the basin.

Commonweal Conservancy

Commonweal Conservancy is a primary force behind the development of Galisteo Basin. The Conservancy was founded in 2003 by Ted Harrison, who had worked for Trust for Public Land (TPL)—one of the leading land-conservation programs in the nation[1]. From its beginnings, Commonweal had strong sustainable ethics in place and which turned into a nonprofit conservation-based community-development organization dedicated to building deep and sustaining connections among people, land, and the built environment.

Commonweal's mission of "regenerative community building" aims not only to protect and restore land, but also to foster the continual development of a community's capabilities. It boasts working collaboratively with clients and partners to facilitate multi-party real estate

[1] TPL is a non-profit organization that is dedicated to conservation of land for people to enjoy as parks, community gardens, historic sites, and other natural places. For more information on this organization go to: http://www.tpl.org/

transactions, plan for smart and environmentally sensitive community development, and help restore neighborhoods and landscapes. Their policy of integrative conservation development aspires to provide for public needs such as affordable housing, educational opportunities, and economic development, as well as the need for open, undeveloped, space that is protected, available, and cared for.

Commonweal is largely funded through grants from foundations, corporations, and gifts from individuals. Other than funds for general expenses, grants and gifts are needed to underwrite an array of community-building programs, such as park design, land restoration, community gardens, and more. In addition, Commonweal funds its programs by transaction generated funds. This happens through landowner donations of land value[2] and through professional services fees. (Commonweal Conservancy, 2003-2009)

Commonweal took a great deal of time and effort in deciding where to develop within Galisteo Basin Preserve. They sought help from a team of planning, engineering, cartographic, architectural, geohydrological, and conservation specialists. The combining of this expertise with Santa Fe County's Geographic Information Systems (GIS) staff, the visual, historic, and environmental aspects of Galisteo Basin were thoroughly reviewed and analyzed with use of an opportunity and constraints composite map of the Village development area. In this way, Commonweal Conservancy was able to ensure that their development plan would truly have the least amount of impact on the land site. This goes far beyond any certification requirements as set by LEED-ND.

[2] A donation of land value is defined as the difference between a property's appraised value and the price at which it is sold to a nonprofit organization or government agency.

It is intriguing to observe how Commonweal Conservancy is invested in creating a sense of place in their projects, particularly Galisteo Basin. Commonweal sees connections between people and place as an important factor in creating long-lasting sustainable developments. They try to create these connections through the use of open public space. Commonweal not only wants to protect and restore land, but to also foster continual development within a community. Through open space, relationships between community and the landscape are made possible because the public is able to interact with and become connected to the land they commonly share.

Returning to the growth machine, towns and cities are often viewed as nothing more than "products" and their residents as "shoppers" (Logan and Molotch, 2007). What does this mean for a place like Galisteo Basin? Is Galisteo Basin doomed to become another bedroom community and ultimately the development will begin to inch away from the concentrated center to sprawl over the sensitive basin? I would dispute any perception that Commonweal Conservancy has a secret under-lying agenda to unmercifully development Galisteo Basin, but it is worthwhile to realize that Galisteo Basin is being developed in order to be sold and inhabited by residents. As an ecologically sensitive area, why develop the Basin at all?

Galisteo Basin Preserve

Previously known as the Thorton Ranch and owned by the Thorton family, the holders no longer felt that the ranch was economically feasible and decided to sell it. Initially, Galisteo Basin was slated to be subdivided into 12.5-acre and 40-acre home sites; a developers dream. But when the Thorton family discovered the approximately 21-square-mile property was considered a high risk development area—one whose subdivision into the widely dispersed

"ranchettes" would have threatened the wildlife habitat, water, historic, cultural, and traditional economic resources of the central Galisteo Basin—they stepped in. To keep the area from being destroyed, the Thorton Ranch came into contact with the Trust for Public Land (TPL). They were able to sell off almost 800 acres of the lands to private buyers who agreed to restrictive development covenants. These included how much of the land was developed/built-up on each parcel of sold land, what kinds of building materials used, and other additional easements. Another 1,500 acres was sold to Santa Fe's Open Space and Trails Program. The remaining acres were sold to Commonweal Conservancy.

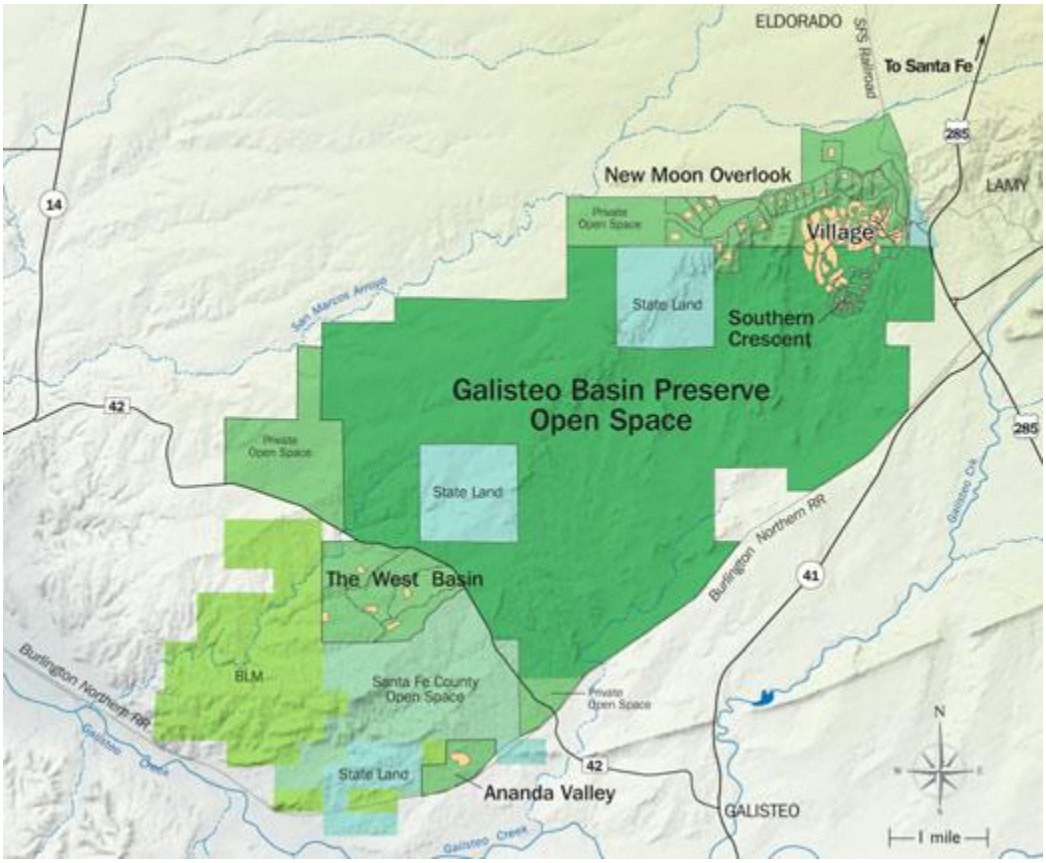

FIGURE 2: GALISTEO BASIN HOME SITE DEVELOPMENT

In collaboration with representatives of Santa Fe County, conservationists, archaeologists, professional planners, and neighborhood groups, Commonweal Conservancy is working to

purchase the Galisteo Basin Preserve in five phases. To support the purchase of the Preserve lands and help support the Village development process and a portion of the project's conservation planning work, Commonweal has marketed home sites in three conservation neighborhoods within the Preserve-Southern Crescent, West Basin, and New Moon Overlook. I will primarily be observing the Village and its development (See Figure 2, above; Also see Figure 6).

LEED-ND has many standards where the project is able to achieve points. I for the most part looked at two of the broader categories—smart location and linkage; and neighborhood pattern and design—as well as some of their sub-categories because they seemed to provide a clearer connection to issues of sustainability and sustainable development. Simply broken down:

- Smart location
    - Wetland and water body conservation
    - Reduced auto-dependence
    - Bicycle network
    - Housing and jobs proximity
- Pattern and design
    - Compact development
    - Diversity of uses
    - Open community
    - Walkable streets
    - Transit options
    - Affordable housing

These can be further condensed into four key points: transit options and reduced automobile-dependence; compact development; open community and public space; and affordable housing and housing to occupation proximity.

Wheels on the Bus…

One of the major issues in addressing sustainability is the lessened dependence on automobile usage and the increase of transportation option availability, which includes walkability and bike-ability within a community. The Village at Galisteo Basin is designed to minimize dependence on automobiles and encourage alternative means of transportation. Commercial services, institutional facilities, and surrounding neighborhoods will all be accessible by pedestrian, bicycle, and even equestrian paths.

The Village hopes to promote simple and visible connections to public and commercial services. The center aspires to create a "transit-ready" area that will allow the people of the community—residents, students, visitors—to have easy access to transit and transportation services. These aspirations were coupled with the desire to have alternatives that were not only efficient, but also attractive and enjoyable to its residents. Over fifty miles of walking, biking, and equestrian trails will be available throughout the preserve. The walkability of the community will be enhanced by courtyards, paseos and parks that will allow residents to travel easily and safely between neighborhoods and the Village center (The Village at Galisteo Basin Preserve: Master Plan, Santa Fe County, 2006).

LEED specifies several objectives when first examining walkability. LEED primarily sees walkability associated with access to local stores and businesses, as well as mobility in and around the project. Hence, a main entry of each building front should face a public space, such

as the street, square, park, or plaza. Sidewalks or other means of walking, like trails, should be provided along both sides of all streets within the project. Any new sidewalks, footpaths, or other walking provisions must be at least four feet wide. Lastly, all streets along residential blocks are designed for a maximum speed of 20 mph, and all streets along non-residential or mixed use blocks within project should be designed for a maximum speed of 25 mph.

In addition to these requirements, a project can earn other points by adopting other conditions. Some of these include:

> -The front façades of at least 80% of all buildings are no more than 25 feet from front property line.
>
> -The front facades of at least 50% of mixed-use and non-residential buildings are contiguous to the sidewalk.
>
> -All ground-level non-residential interior spaces that face a public space have transparent glass on at least 33% of the ground-level façade.
>
> -No blank (or without doors or windows) walls longer than 50 feet occur along sidewalks. Walls with public art, like murals, are accepted.
>
> (Pilot Version: LEED for Neighborhood Development Rating System Updated June 2007, p.65)

Many of these requirements are outlined in Commonweal Conservancy's development plans. Sidewalk and footpath design, along with maximum speeds of residential/non-residential areas as set by LEED-ND are just a couple of the ways that Commonweal is working towards the walkability of Galisteo Basin Preserve.

LEED-ND states the intent to reduce energy consumption and pollution from motor vehicles by encouraging use of public transit. Consequently, there are several options available,

though minimally LEED requires the implementation of at least one alternative. Option one is to create and implement a comprehensive transportation demand management program that is aimed at reducing weekday peak period trips by at least twenty percent, while also providing funds for at least two years. Option two is to give transit passes that are subsidized to be half of the regular price or cheaper to residents and employees that are located within the project, which should be offered for the first three years after completion. Finally, option three would be to provide transit service no less than five rides per weekday peak period, starting when the project is twenty percent occupied and guaranteed for two years past project completion. (Pilot Version: LEED for Neighborhood Development Rating System Updated June 2007, p. 73)

Commonweal Conservancy does not explicitly state how they plan to accomplish LEED's public transportation requirement, but in the discussion of their intent to foster transportation options, it is clear that Commonweal out-steps the boundaries of what is put forward by LEED-ND. Commonweal expects that the most frequent users will be those who are elderly, have difficulty walking, unable to drive, or residents that need a quick connection from the Village center to the trolley station. (The Village at Galisteo Basin, Master Plan: sec. 4A) A natural gas bus and van system will connect the neighborhoods with the Village center and Eldorado's center. Car-share and ride-share programs are being planned. A well-designed street system will provide safe, easy mobility for those driving, but will also make walking a more safe and attractive alternative around the community. Commonweal Conservancy introduced plans to utilize already existing roadways as a means to enter and exit the neighborhood development. According to their proposed outline of ways in and out of the Village with the addition of one signaled stop, traffic should not increase to the point of congestion along these roadways (See Figure 5).

Why are having transit options, especially public transportation, important? As Beatley (2000, p. 109) discusses; only about five percent of home-to-work trips are made on public transit nationwide in the United States. In comparison, Stockholm reports some seventy percent of trips in the region during peak hours are made by public transit, while Berlin boasts forty percent with a future goal of eighty percent use of public transit for trips within the city. In looking at this, it is not difficult to understand how American dependence on the motor vehicle has superseded that of its European counterparts. America has typically been developed in such a way that promotes sprawl and the idea of land as a profit-maker. These kinds of development practices have accommodated and encouraged automotive dependence, leaving little room for auto-alternatives and open community spaces. When there are little alternatives for transportation, this establishes a need to own or have access to an automobile for living in a community. This automatically presents a constraint for some residents that rely on public transit or other transportation options. This is particularly imperative to Galisteo Basin, where it is expected that many of the new residents will need to commute to Santa Fe, El Dorado, Albuquerque, or other neighboring centers.

Open Accessible Space for a Community

As the main water source for much of Santa Fe County, conservation of Galisteo Basin is fundamental in maintaining a sustainable future for the region. LEED-ND outlines wetland and water body conservation as a strict requirement, but does not offer up any means of action to make sure this is happening. Commonweal Conservancy tries to address this issue through the creation and utilization of open space.

Again, much of the land area around Galisteo Basin and US highway 285 is under significant development pressure to house growing populations of Santa Fe and Albuquerque. Even still, only 4% of the almost 15,000 acres will be devoted to development, while the rest of the area will be either private or public conservation and recreation lands. This may seem like a small percentage, but with increased density in the areas devoted to development the region is expected to accommodate a fair amount of growth.

The majority of the Preserve, approximately 12,000 acres, will be permanently protected and restored as publicly accessible open space. The hiking, biking, and equestrian trails are being planned throughout the Preserve and will connect to trail networks linking to surrounding cities and communities as far as the city of Santa Fe.

Preserving open space is crucial in a couple of different ways. One, open space can work as a greenbelt, which helps to define communities and reduce sprawl by maintaining undeveloped boundaries around communities. Next, it helps to create connections between land and community. As previously mentioned, Commonweal Conservancy sees a vital link between open space and continual responsible development of a community; hence the preservation of land is important in helping to establish a relationship that inspires responsibility.

Close Encounters

Continued metropolitan or suburban sprawl is often berated because of its low-density development. LEED discusses in their Pilot Version Rating System (found on the USGBC-LEED website) that the residential components of the project should be built at an average density of seven or more dwelling units per acre of buildable land. In response, Commonweal Conservancy has adopted three ways that density is to be regulated in the Village at Galisteo

Basin. First, there will be a total of 965 units. Second, Commonweal examines gross density within Galisteo Basin as a factor. The Village is to accommodate 10-25 dwelling units per acre, while the surrounding neighborhoods in the area are being designed at 5-15 dwelling units per acre. Lastly, the densities of other areas of Galisteo Basin are based upon the sensitivity of the land. There are several areas of the residential zone in the preserve where more than a few dwelling units per acre could have some serious consequences (LEED for Neighborhood Development Pilot Version Rating System, 2007). (See Figures 3, 4) Over-development on sensitive drainage ways and poor soil could have harmed land and habitats of the wildlife as well as the water resources of the Basin.

Density has become a driving force in promoting sustainable communities. It is now often argued that if we use higher-density development practices that they should then inherently be more sustainable. But this can be a problematic way of addressing density and sustainability. There are many areas planned for development that could not accommodate high-density development. In terms of smart density growth, Galisteo Basin is really a great example. Higher density is planned for the central Village and much of the surrounding neighborhoods. Yet there are some residential spaces that have been identified as more ecologically sensitive areas, where the land can only accommodate one or so dwelling units per acre. Commonweal Conservancy conducted many field tests of the area to help guide the placement of development within the basin away from arroyos and drainage areas. Outside the drainage zones, other physical land studies were done to determine appropriate intensities of land development. These studies allowed Commonweal to put housing, roads, industrial, and institutional developments in areas that would support those specific kinds of growth. Also, any areas showing significant signs of

alluvial soil deposition—or soil that is created by water run-off and easily eroded—were not developed. Obviously, the increased density here would have harmed this sensitive land.

Soil and drainage surveys are not part of LEED-ND certification requirements. The field tests were initiated and funded by Commonweal Conservancy. These analyses proved to be critical because in many instances seven or more dwelling units per acre would have been inappropriate and irresponsible development of the land.

Jill Grant further explores issues of density and sustainability. History shows us that sustainability and density do not always go hand in hand. There are some cities and traditions that practiced low density development that survived just as long as other cities which were high in density. Grant (et. all 2004) explains that history reveals ecological unsustainability as the major factor in the decline of cities. Cities that expand beyond the carrying capacity of their environments ultimately crash, whether they are highly concentrated or sprawled out. It is important to consider and continue to reevaluate development principles such as high density-compact form to further improve environmental practices that will help to achieve key sustainability objectives.

Can a Home by any other Name Smell as Sweet?

The Village will include 965 homes situated among the ridgelines, hills and knolls of the surrounding landscape. Commonweal boasts the Village as a "mixed-use, mixed-income village within 300 acres". The Village suggests accommodating a rich variety of mixed-income residential and community-serving land uses within a compact space of approximately 300 acres.

LEED proposes that at least 15% of total units are priced at no more than 50% of the average median income (AMI; set at $66,000 for Santa Fe County). Galisteo intends to have

approximately 25% of their total units between 0% and 65% AMI. But what does this really mean for those in need of affordable housing?

Affordable housing is an unavoidably important issue for Galisteo Basin. Almost eighteen percent of the state of New Mexico's inhabitants and over fifteen percent of Santa Fe County's inhabitants live below the poverty line (US Census Bureau, 2007). Riddell (2004, p. 278) identifies that when "urban property holding, always unequal, becomes more so, urban society as a whole slides into ghetto arrangements which compartmentalize and exacerbate the plight of the poor." This said, when housing is continually separated, the poor are all too often left out and end up in ghetto conditions. The political economy of place perspective supports these claims because the poor are often seen as a societal burden; not offering any sort of financial benefit to a community. This should also lead to a further discussion of who is Galisteo Basin being developed for? LEED-ND does not take into account varying levels of poverty and income in each state and within each state. Especially in the case of Santa Fe County were 15% of its residents are below the poverty line, it seems like there should be more consideration of low-income residents.

Grant (2006, p. 187) carries on the discussion of affordable housing options. She points out that rarely do any of these new urban development communities provide a place for the poor, new immigrants, or people of color. Women's shelters, half-way houses, homeless shelters, and group homes are often not included in original design plans for new development communities. This kind of purposeful "non-planning" continues to contribute to the history of colonialism and homogeneity. In developing safe spaces such as those listed above, it takes an acknowledgement of a "problem". Developers would then have to invest in creating spaces that do not supply a return, or have some sort of financial gain. Especially in new development projects like that of

Galisteo Basin the poor, people of color, immigrants, and so-called "others" are not even remotely considered in the planning and design process. LEED-ND does not require that any such places be made available, nor do they reward the implementation of such places or services. Their certification all but explicitly leaves them out. It is important to be aware of the fact that though LEED-ND is concerned with the development and design of sustainability; they are not necessarily concerned of the human aspect. The outlined benefits of LEED-ND are to encourage healthy living, reduce urban sprawl, and to protect threatened species. These intended benefits do not leave room for those services commonly left out of new developments, nor does LEED-ND seem to promote the inclusion of these services. Similarly, Commonweal Conservancy makes no mention of these shelters or homes in their statements and plans for Galisteo Basin's development. Again, Commonweal's primary focus seems to be land conservation and ecologically sensitive development, and not worry for those the development could potentially exclude.

Roosevelt and Radical Faeries: a brief comparison

LEED-ND was created out of growing awareness of needing to build "greener", more sustainable places, but it is not the first and (hopefully) not the last. There have been many attempts by institutions and individual communities to create long-lasting development.

The United States government under the Roosevelt administration in the 1930's made a large-scale attempt at sustainable development. Coined "Greenbelt" communities, these towns were modeled, at least in physicality, after Ebenezer Howard's Garden City (Christensen, 1986). The Greenbelt cities were the first communities in the United States to be built using a model of sustainability. These communities were built during the Depression in response to high

unemployment and widespread shortage of housing for low-income families. Though the Greenbelt communities were not specifically built to be "sustainable communities", their physical design prompted community-focused development and cooperative living.

A more contemporary example of communities attempting sustainable living and development is that of Short Mountain Sanctuary in Tennessee. Short Mountain Sanctuary is a collective that provides safe space for LGBTQA (lesbian, gay, bisexual, trans-sexual, questioning, and androgynous) and other individuals. Started in 1981, this "radical faerie collective" has been striving to live lightly on the land and maintain an environment that is open, free, and stimulating. They grow most of their own food and herbs, goats to supply them with milk, and chickens for eggs. This collective is small, with about twenty adults that live there year-round, but one that is trying to maintain a healthy, vibrant sustainable community.

What can be learned from these communities? The Greenbelt cities were ultimately ineffective because they started out as government-run entities. When the government eventually sold off the land, the community adapted popular ideals of growth and development which discouraged a communal-like living. Also, the communities were designed as short-term living arrangements. The people who moved in there were not supposed to stay there indefinitely. As they were not meant to be long-lasting, sustainable communities, it is not a surprise that their design failed in the end.

Short Mountain Sanctuary, like that of Galisteo Basin, was developed with an ethic that embraced sustainable, conservation ventures. All of the homes in the Sanctuary have been hand-built with ready-materials, such as using trees from their property. The people of Short Mountain Sanctuary are able to primarily live off what they grow and raise at the Sanctuary. Similar to that of Greenbelt cities, this community was initially created for reasons and purposes

other than sustainability. Theirs was a response to a need for a safe place for LGBTQA members, but it is easy to see that they have become much more than a safe haven. It is a functioning, self-sustaining entity.

This begs the question of what can the role of government be in American development? Are only grass-roots or non-profit organizations like TPL or Commonweal Conservancy capable of initiating sustainable development practices, or would implementation of a certification process like LEED-ND help to foster more sustainable growth?

Painting a Bigger Picture?

Galisteo Basin is just one example of the many attempts at creating more responsible, sustainable communities. It is hard to know whether or not LEED and LEED-ND requirements truly benefitted and supported development in Galisteo Basin. I feel another significant question has risen: who are the forces behind new sustainable development? Often it is the work of outside conservation-based organizations that are attempting to make development more long-lasting while LEED and LEED-ND certifications are merely a universal tool to gauge whether or not a development is "green". Galisteo Basin reaffirms this presumption. In looking at Galisteo Basin and at what is being done to ensure its sustainability, Commonweal Conservancy has gone beyond what is required by LEED in most instances. This leads me to believe that certification processes like that of LEED-ND can provide a starting block, but as a voluntary program it only helps those who already had the initiative to establish "greener" development. The US has done little in terms of creating standards by which new development has to adhere by. In the case of Galisteo Basin, Santa Fe County would have sooner developed the basin in its entirety had Trust for Public Land and Commonweal Conservancy come about. This seems to be representative of

many new developments across America. There needs to be influence from either outside a system or from within. Without national standards of development, the only way sustainable growth will be possible is through the work of these outer conservation-based organizations.

LEED-ND a Solution?

To come full circle, Galisteo Basin Preserve, in itself, is being developed as a good sustainable community. Much of the design behind the development is essential in keeping Galisteo Basin culturally, historically, and ecologically safe. The value placed on mixed-used building and appropriate densities are great starting blocks. Especially with almost 94% of the Basin remaining as an accessible public open space while still expecting to absorb a measurable amount of population growth, the Village seems too good to be true in terms of ecological sustainability and environmental responsibility. Also, had Commonweal Conservancy not invested itself and involved the LEED-ND program into Galisteo Basin, the certain sprawl that would have resulted would have been all but detrimental to the area.

But what about those services that often get left out? There are no outlined plans for any kind of shelter, half-way homes, or group homes in the Village. In the case of affordable housing, Commonweal Conservancy has promised twenty-five percent of dwelling units to be priced between 0% and 65% of the area median income. What happens, though, if more units are built closer to 65% of the AMI? This would definitely exclude low-income individuals and families from entering into the community. It signifies a need to reflect on who these new, sustainable communities are being built for and marketed to. It also indicates a need to reflect on what is meant by green and sustainable development. I do not think that any development is sustainable if there are important services like shelters and homes being left on the back-burner.

Development should be all inclusive in the sense that there are institutions and services available that help meet the needs of those who are disadvantaged. LEED-ND does not address sustainability in such a way that would invite the inclusion of these services because the LEED certification is measured by energy and environmental design. Currently, I only see evidence of LEED-ND as participating in a perpetuating cycle of exclusion and exclusionary policies and practices.

So, is LEED-ND a solution towards creating more sustainable communities? I argue no; at least not on its own. There are definitely some setbacks to LEED certification. The certification process is voluntary—no one has to comply with the standards set by LEED-ND. The certification process is also incredibly detailed and time-consuming, and therefore can be (and is) very expensive. There are many stages where companies can incur added costs, time, and certification fees which, in theory, can all be accomplished without certification. What's more, a project can achieve LEED certification even if it is located in environmentally inappropriate areas, such as wetland, forest, watershed, or farmland. This is particularly important in the case of Galisteo Basin. To reiterate, the basin itself is not only a major source basin for the Rio Grande, but also the main source of local water for most of the recent population growth in Santa Fe County. While Commonweal Conservancy has appropriated the majority of the Basin for an accessible open space for the public, there is still some concern over any development in the area. With the selling of the Simpson Ranch in the 1970's, other parts of Galisteo Basin have already been over-developed and pose potential threats to wildlife and water availability. (Report of the Galisteo Basin, taken from New Mexico Energy, Minerals, and Natural Resources Department website) Overall, LEED's involvement is very limited. LEED does not start projects, nor do they fund projects. Simply put, all they do is slap a sticker of

certification that reads "sustainable". It is the efforts of other organizations that are even willing to participate in LEED and LEED-ND certification processes that contribute to the creation of more sustainable communities.

This should not go without saying, though, that LEED-ND certification is instrumental in making strides towards more sustainable development. First, it's quantifiable and measurable. The standards are broadly accepted and agreed-upon measurements. The checklists provided by LEED are straightforward, so anyone wishing to obtain certification can read and understand them. There are very specific directions for anyone—individuals, companies, organizations—wanting to lessen their buildings impact, essentially making building "green" more accessible to a broader audience than would be otherwise. I think particularly in the case of individuals or companies that wish to be more "green", LEED is a fantastic starting point. The website outlines each kind of certification available, where to start, how to complete the certification process, and every step in between. The layout for what needs to be done can't be said any simpler. This sort of availability has helped to make Commonweal Conservancy's efforts possible. Did Commonweal Conservancy need LEED certification in order to create a more sustainable community in Galisteo Basin? No, but that should not discredit LEED's efforts and dedication to constructing more sustainable communities nor should it entirely discredit their involvement in the development of Galisteo Basin Preserve.

According to Sorenson (et. all 2004, p. 308) there are still no recipes for sustainability. Any approaches we do use and make must be adaptive to the ever shifting needs and conditions of the time. There is no "sustainable band-aid" because what works for one city may not be effective in another. We must use technology to help foster high quality, health, and durable

cities. “We will keep working towards the ideal of sustainability because the alternative — unsustainable lifestyle—is no choice at all”.

SOURCES:

Beatley, T. (2000) *Green Urbanism: Learning from European Cities*, Washington, D.C.: Island Press

Christensen, C. (1986) *The American Garden City and the New Towns Movement*, Ann Arbor: UMI Research Press (p. 72-93)

Logan, John R.; Molotch, Harvey L. (2007) *Urban Fortunes: The Political Economy of Place*, London, England: University of California Press Ltd.

Riddell, R. (2004) *Sustainable Urban Planning*, Malden: Blackwell Publishing Ltd.

Short, L. Benton-; Short, J. Rennie- (2008) *Cities and Nature*, New York: Routledge

Sorensen, A.; Marcotullio, P.; Grant, J. (2004) *Towards Sustainable Cities: East Asian, north American, and European perspectives on managing urban regions*, Hampshire, England: Ashgate Publishing Limited

Web-Sources

Brown, Lester R. (2008) *Mobilizing to Save Civilization: Early Signs of Decline* (Chapter 6) New York: W.W. Norton & Company. Retrieved March 2009. http://www.celsias.com/article/when-population-growth-and-resource-availability-c/)

Commonweal Conservancy: Conservation-Based Community Development. (2003-2009) Retrieved between February 2009 and April 2009. From Commonweal Conservancy website: http://www.commonwealconservancy.org/index.php

LEED for Neighborhood Development (2008) Retrieved between February 2009 and April 2009. From USGBC website: http://www.usgbc.org/DisplayPage.aspx?CMSPageID=148

LEED for Neighborhood Development: Pilot Version Rating System (2007). Retrieved between February 2009 and April 2009. From USGBC website: http://www.usgbc.org/ShowFile.aspx?DocumentID=2845

LEED for Neighborhood Development: Characteristics of LEED Neighborhood Development Pilot Projects. (2007) Retrieved between February 2009 and April 2009. http://www.usgbc.org/ShowFile.aspx?DocumentID=3773

The Village at Galisteo Master Plan. (2006) Retrieved between February 2009 and April 2009. From Galisteo Basin Preserve website: http://www.galisteobasinpreserve.com/village_mp.php

The Village at Galisteo Master Plan. (2006) Section 2: Community Origins. Retrieved between February 2009 and April 2009. From Galisteo Basin Preserve website: http://galisteobasinpreserve.com/pdf/MasterPlanSection2.pdf

The Village at Galisteo Master Plan. (2006) Section 3A-3C: Predevelopment site conditions. Retrieved between February 2009 and April 2009. From Galisteo Basin Preserve website: http://galisteobasinpreserve.com/pdf/MasterPlanSection3A.pdf

The Village at Galisteo Master Plan. (2006) Section 4A-4C: Concept Plan and Framework Elements. Retrieved between February 2009 and April 2009. From Galisteo Basin Preserve website: http://galisteobasinpreserve.com/pdf/MasterPlanSection4A.pdf

Report on Galisteo Basin. (2008) Retrieved March 28, 2009. From New Mexico Energy, Minerals, and Natural Resources Development website: http://www.emnrd.state.nm.us/MAIN/documents/Galisteo.Basin.Report.pdf

US Census Bureau: Quickfacts. (2007) Retrieved April1, 2009. From the US Census Bureau website: http://quickfacts.census.gov/qfd/states/35/35049.html

APPENDIX

**Please note: Figures taken directly from Village Plan Documents

Figure 1……. Galisteo Basin Regional Map (Retrieved April 23, 2009) in text.
http://www.galisteobasinpreserve.com/gbplocation.php

Figure 2……. Home Site Development Plan (Retrieved April 23, 2009 in text.
http://www.galisteobasinpreserve.com/homesites.php

Figure 3…….. Village Conceptual Plan (Retrieved April 6, 2009
http://galisteobasinpreserve.com/pdf/MasterPlanSection4A.pdf)

Figure 4…… Village Development Intensity Plan (Retrieved April 6, 2009
http://galisteobasinpreserve.com/pdf/MasterPlanSection4A.pdf

Figure 5…… Village Transportation and Mobility Plan (Retrieved April 6, 2009
http://galisteobasinpreserve.com/pdf/MasterPlanSection4A.pdf

Figure 6…… Village Phasing Plan (Retrieved April 6, 2009
http://galisteobasinpreserve.com/pdf/MasterPlanSection4C.pdf

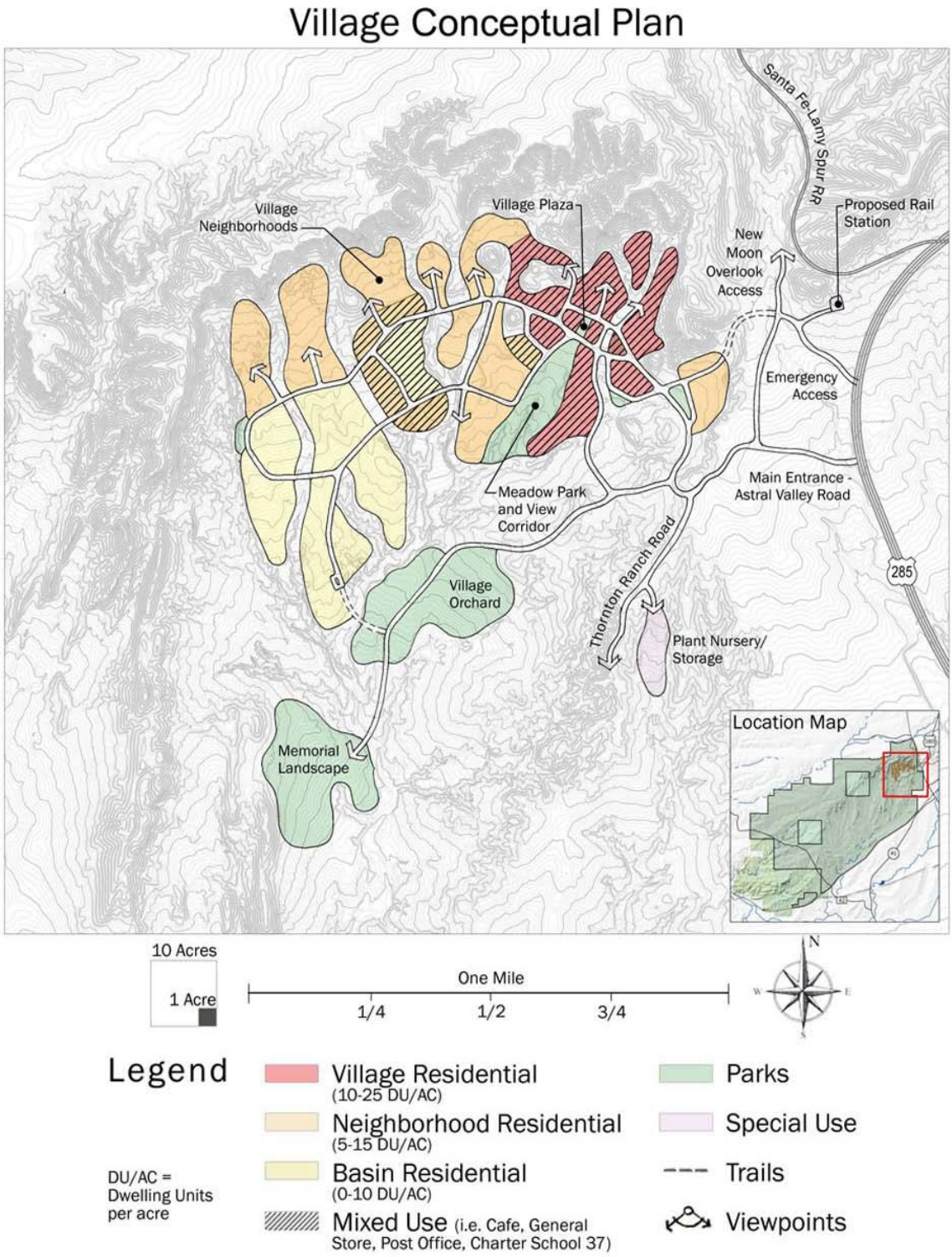
Village Conceptual Plan
Santa Fe-Lamy Spur RR
Village Neighborhoods
Village Plaza
Proposed Rail Station
New Moon Overlook Access
Emergency Access
Main Entrance - Astral Valley Road
Meadow Park and View Corridor
Thornton Ranch Road
285
Village Orchard
Plant Nursery/ Storage
Memorial Landscape
Location Map
10 Acres
1 Acre
One Mile
1/4
1/2
3/4
N
Legend
Village Residential (10-25 DU/AC)
Neighborhood Residential (5-15 DU/AC)
Basin Residential (0-10 DU/AC)
Mixed Use (i.e. Cafe, General Store, Post Office, Charter School 37)
Parks
Special Use
Trails
Viewpoints
DU/AC = Dwelling Units per acre

FIGURE 3

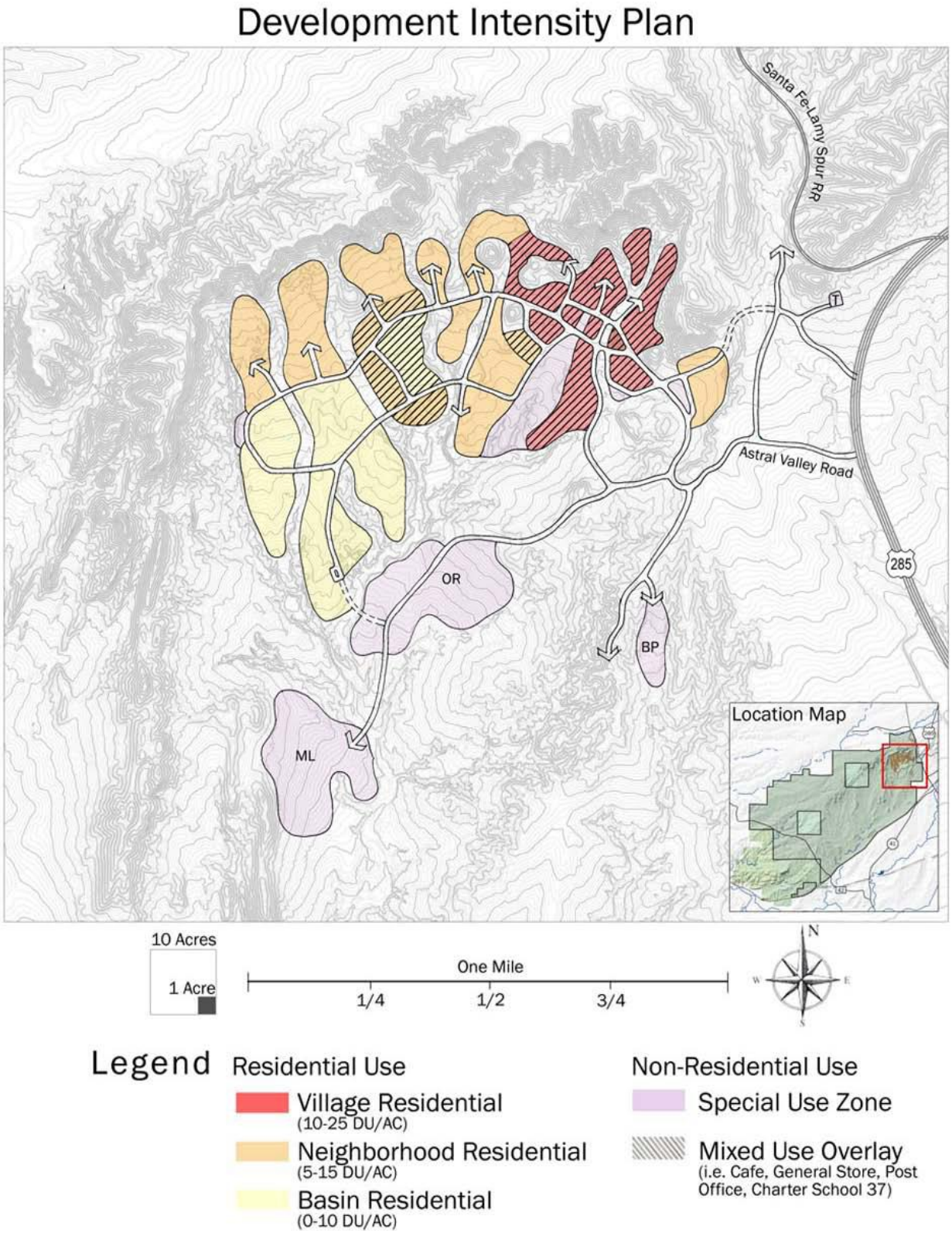
Development Intensity Plan
Santa Fe-Lamy Spur RR
Astral Valley Road
285
OR
BP
ML
Location Map
10 Acres
1 Acre
One Mile
1/4
1/2
3/4
N
W
E
S
Legend
Residential Use
Village Residential
(10-25 DU/AC)
Neighborhood Residential
(5-15 DU/AC)
Basin Residential
(0-10 DU/AC)
Non-Residential Use
Special Use Zone
Mixed Use Overlay
(i.e. Cafe, General Store, Post Office, Charter School 37)

FIGURE 4

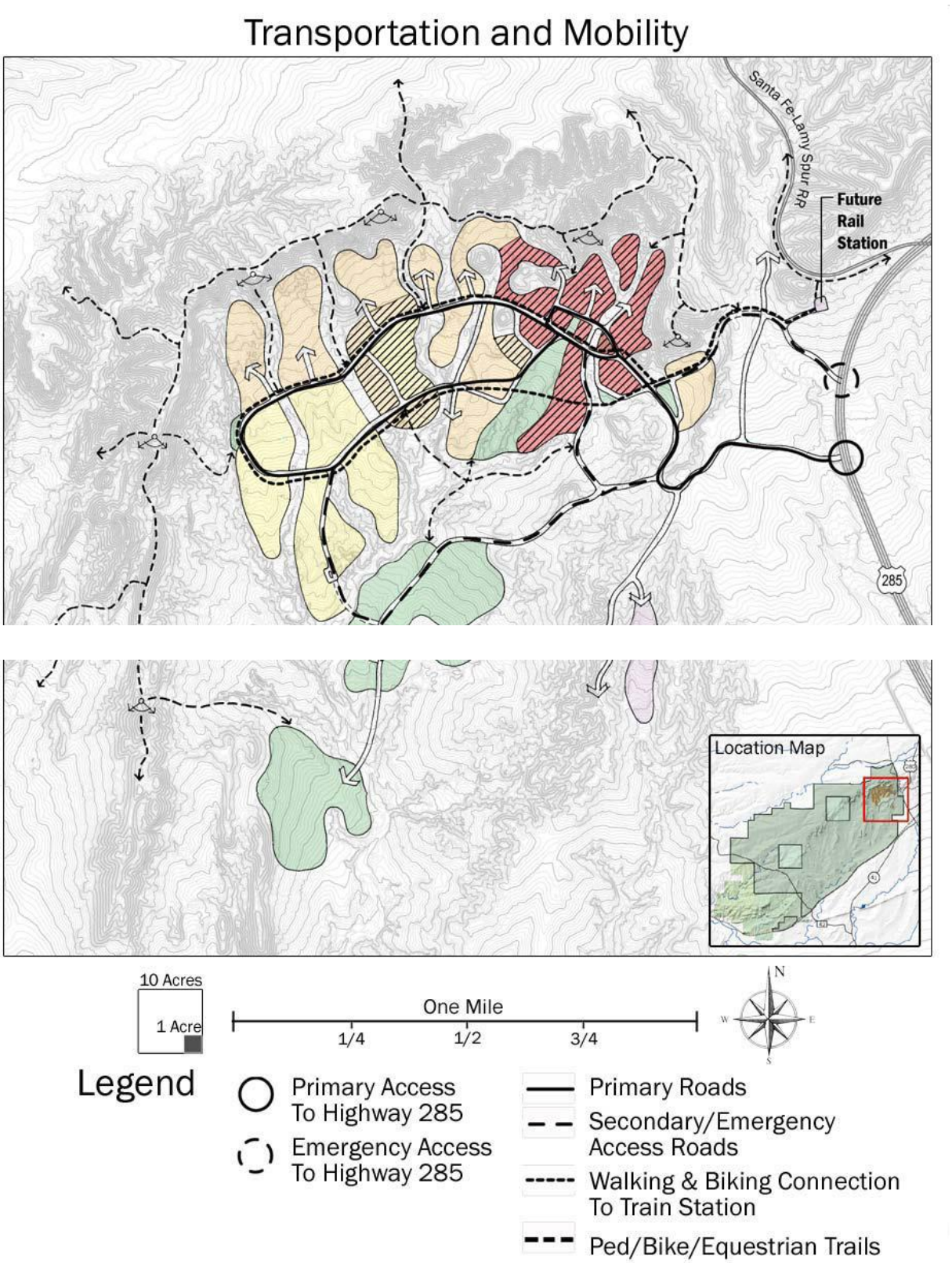
Transportation and Mobility
Santa Fe-Lamy Spur RR
Future
Rail
Station
285
Location Map
10 Acres
1 Acre
One Mile
1/4
1/2
3/4
N
W
E
S
Legend
Primary Access
To Highway 285
Emergency Access
To Highway 285
Primary Roads
Secondary/Emergency
Access Roads
Walking & Biking Connection
To Train Station
Ped/Bike/Equestrian Trails

FIGURE 5

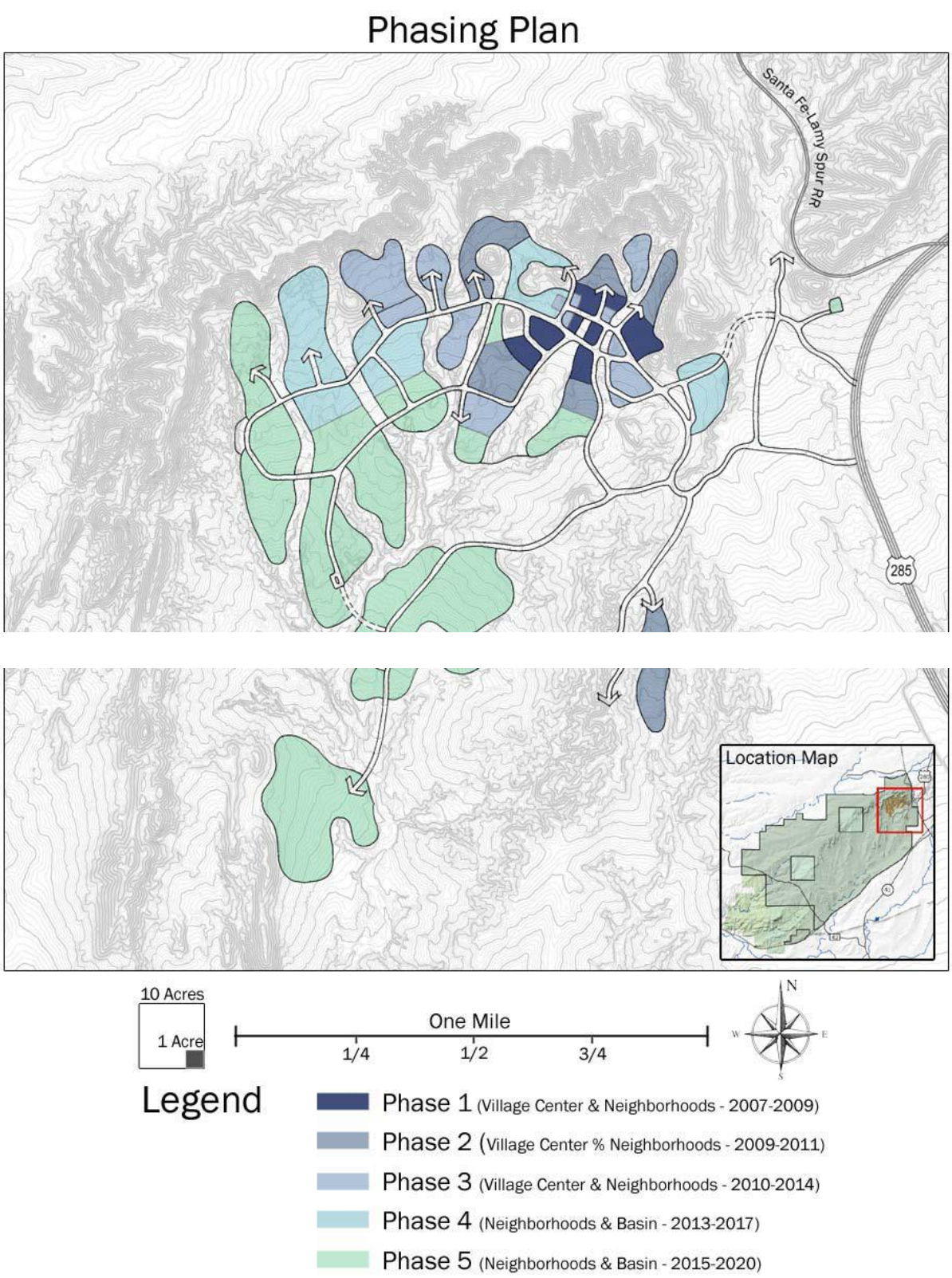
Phasing Plan
Santa Fe-Lamy Spur RR
285
Location Map
10 Acres
1 Acre
One Mile
1/4
1/2
3/4
N
W
E
S
Legend
Phase 1 (Village Center & Neighborhoods - 2007-2009)
Phase 2 (Village Center % Neighborhoods - 2009-2011)
Phase 3 (Village Center & Neighborhoods - 2010-2014)
Phase 4 (Neighborhoods & Basin - 2013-2017)
Phase 5 (Neighborhoods & Basin - 2015-2020)

FIGURE 6