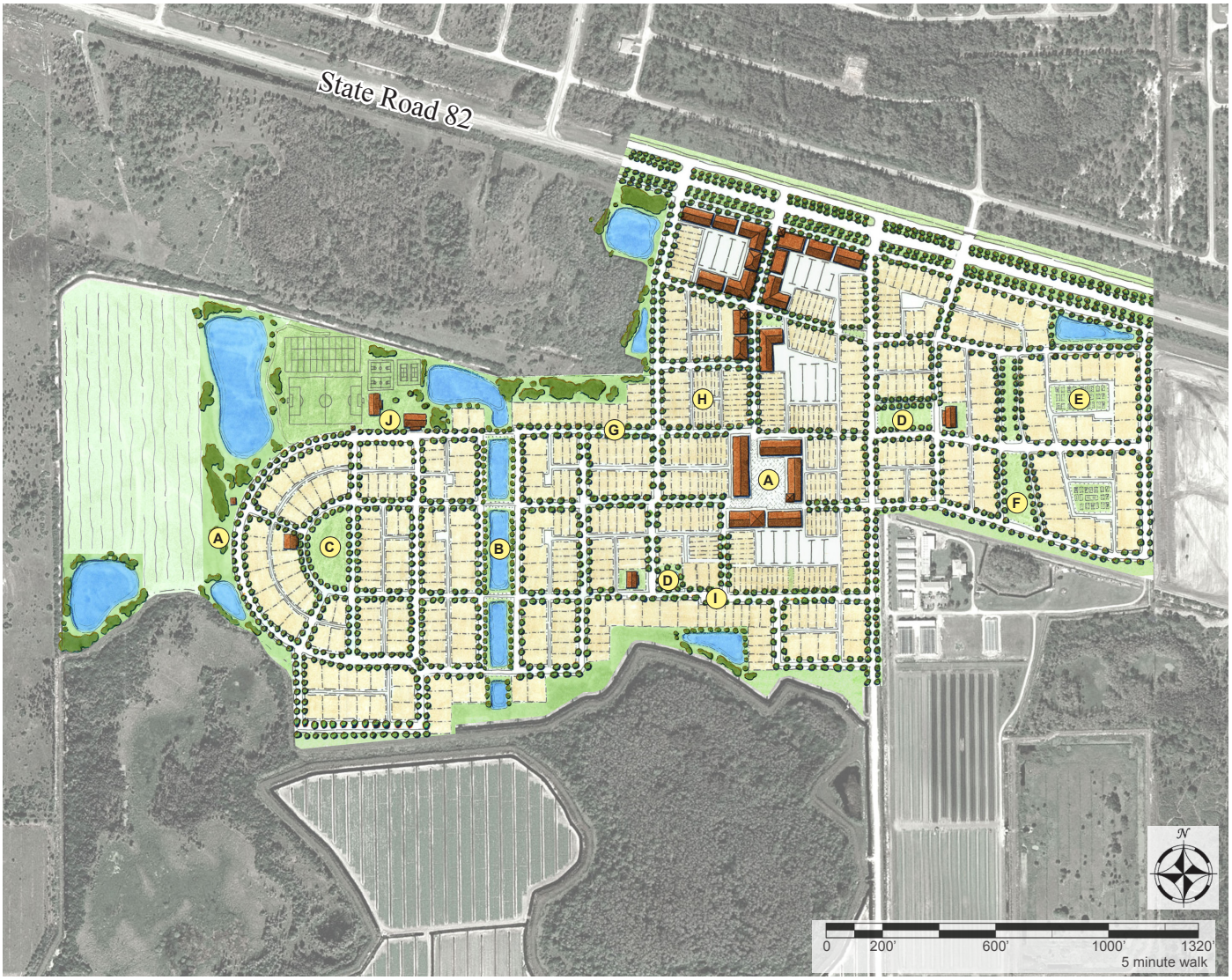
Illustrative Plan



Design Features

Ⓐ The community has an identifiable center and edge. A square defines the center of the community. The center may host a grocery store, daycare center, live/work buildings, farmer's market and transit stop. The defined edge preserves nearby farms and green spaces.

Ⓑ Water travels the length of the site yet is shaped to provide a pleasant public amenity.

Ⓒ Sites are reserved for civic buildings. The best sites are geometrically formal, such as the end of a street vista or anchoring a public square. This green would become a "postcard" symbol of the neighborhood.

Ⓓ The community is composed of distinct neighborhoods and each has green or square at its center.

Ⓔ Community gardens are located at the center of the blocks, at the rural edge of the community.

Ⓕ Homes have long views across nearby green spaces. The streets they front will be pleasurable to walk and add value to the homes.

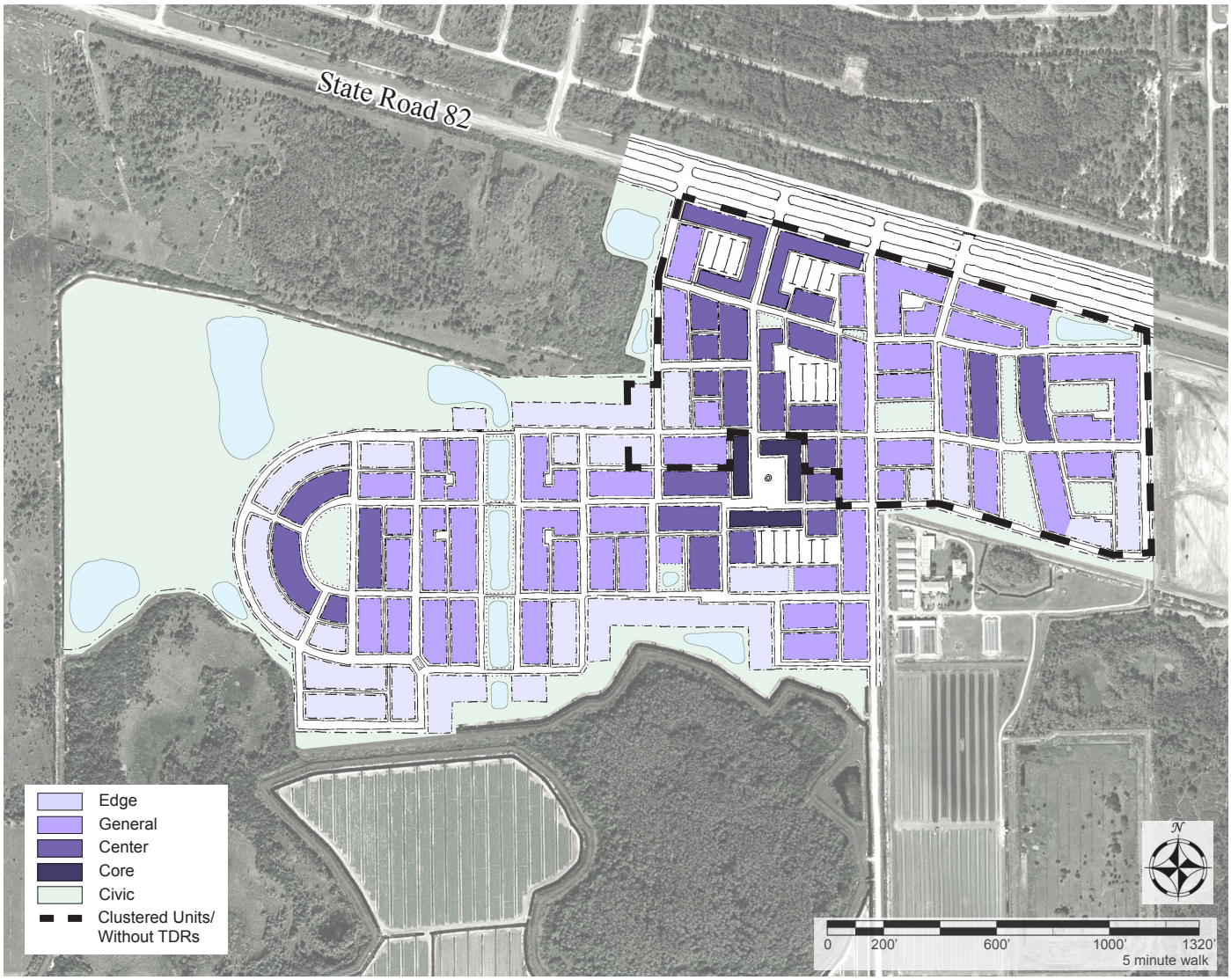
Ⓖ Houses placed close to the street create interest and natural surveillance.

Ⓗ Unit types are mixed. Attached rowhouses neighbor detached homes on the same block.

Ⓘ Traffic calming measures include street segments that end, curve or shift at intervals of less than 1,000 feet.

Ⓙ A site is reserved on the neighborhood edge for a civic building such as a small church, school, or community center where there is enough space for large recreational fields.

Transect Plan



Plan Essentials: The Multiway Boulevard

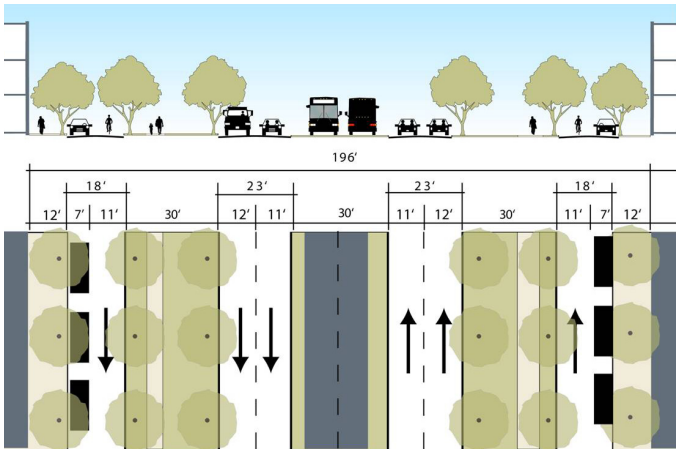
The Mixed-Use Communities along State Road 82 include multi-way boulevard street sections for the portions of State Road 82 on which they front. As a multimodal roadway the multi-way boulevard is a sustainable approach to development in the DR/GR.

The multi-way boulevard is a unique street type in its ability to serve distinctly different kinds of traffic within a single, unified, thoroughfare. Pedestrians, bicycles, vehicles moving at a slow pace, and vehicles moving at a rapid pace are all accommodated. The multi-way boulevard can also be, at times, and in places, a form of civic art. Wide, tree-lined sidewalks encourage pedestrians to visit shopfronts and dine at outdoor cafes; median promenades allow jogging or strolling in the shade; when traffic is slow, access lanes can become urban recreational spaces within sight of second floor residences. Multi-way boulevards were constructed in the United States between the late nineteenth century and early twentieth during what many consider the golden era of American planning. The multi-way boulevard fell out of favor when the profession of traffic engineering became so narrowly focused on moving traffic from one destination to the next that the art of creating new destinations was lost.

> *"There is a magic to great streets. We are attracted to the best of them not because we have to go there but because we want to go there. The best are as joyful as they are utilitarian. They are entertaining and they are open to all...They are symbols of a community and of its history; they represent a public memory.*
>
> *-Allan Jacobs, Great Streets*

During the City Beautiful movement at the beginning of the twentieth century the thoroughfare type was associated more with new suburban development in places like Eastern Parkway in Brooklyn than the grand boulevards of Paris' urban core which they were modelled after. In select places State Road 82 can become a destination for visitors, and a place to live, shop and recreate for the citizens of Lehigh Acres and southeast Lee County.

The multi-way boulevard includes multistory, mixed use buildings on wide sidewalks, access lanes for local traffic, medians and travel lanes.



This section was developed for State Road 82 and includes dedicated bus lanes at its center which could in the distant future be used for light rail service.

Key locations along multi-way boulevards can feature ample sidewalks for storefronts and patio dining. The pedestrian activity is buffered from the high speed traffic at the center of State Road 82 by an access lane for local traffic and on-street parking.

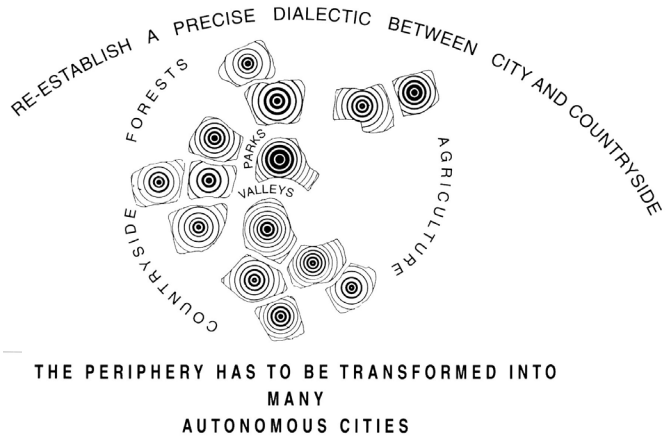
Mixed-Use Community at Eisenhower Boulevard

Mature communities should not continually spread outward into the countryside. A better pattern for continuing growth is the repetition of mature communities, each functioning as a complete place and satisfying some daily needs of its residents. Such polycentric cities allow for continuing expansion without overwhelming natural systems or creating placeless expanses of developed land.

The mixed-use communities along SR 82 are uniquely situated along the edge of the DR/GR and can be planned in a manner that can provide urban features that are missing from Lehigh Acres. The development of Lehigh Acres allowed Lee County to spread unsustainably outward. Long commute times, inefficient and expensive infrastructure, draining water supplies and degraded wildlife habitat have resulted. By creating a series of mixed-use communities along State Road 82, it will make the adjacent portions of Lehigh Acres more viable by capturing a number of car trips generated by those residences closer to home. The "greenbelts" between the communities will allow the natural water systems to continue to flow and large animals such as the panther to migrate.

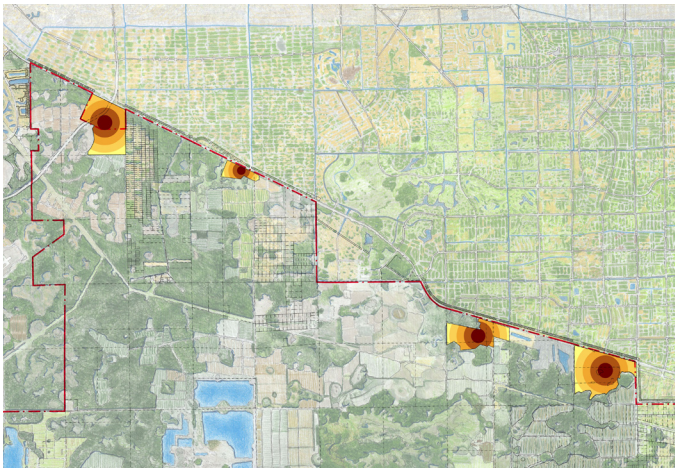
The community is located at the intersection of Eisenhower Boulevard and State Road 82. Eisenhower Boulevard is a main collector street for the Lehigh Acres subdivision. The community may function as a commercial and office center for the area. Unlike the existing commercial along State Road 82 the planned commercial would be part of a larger neighborhood structure. Mixed-use buildings would form a solid street wall without the breaks between buildings that result in boring, unshaded expanses for the pedestrian, and without the excessive number of curbcuts which are dangerous to the pedestrian. The mixed-use buildings would provide alley access to lots facing the street and require parking to be accessed from the rear to hide parking and facilitate deliveries. Most importantly the commercial uses would be part of multi-use, multistory buildings with office or residential above storefronts.

Wherever possible on-street parallel parking would be provided at the front of retail shops and businesses to reduce the amount of off-street parking required by shops, to buffer the sidewalk from noise and traffic and to calm and slow traffic.



The cities within the city illustrates the point that a city is a collection of neighborhoods.

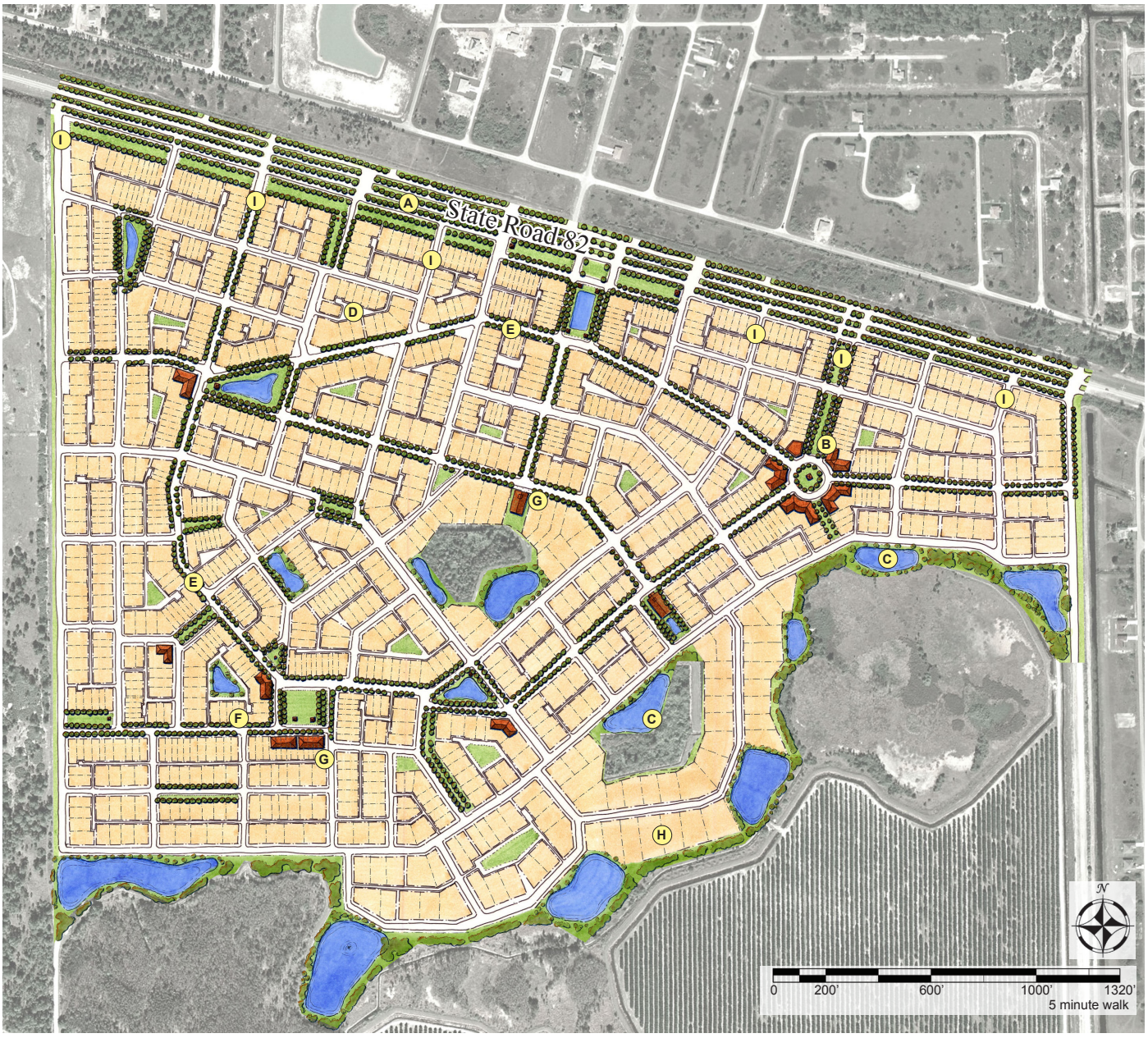
From *Architecture: Choice or Fate*



Mixed-use communities along State Road 82 could help Lehigh Acres become a self-sufficient community by providing centers.

The mixed-use center at Corkscrew Plantation

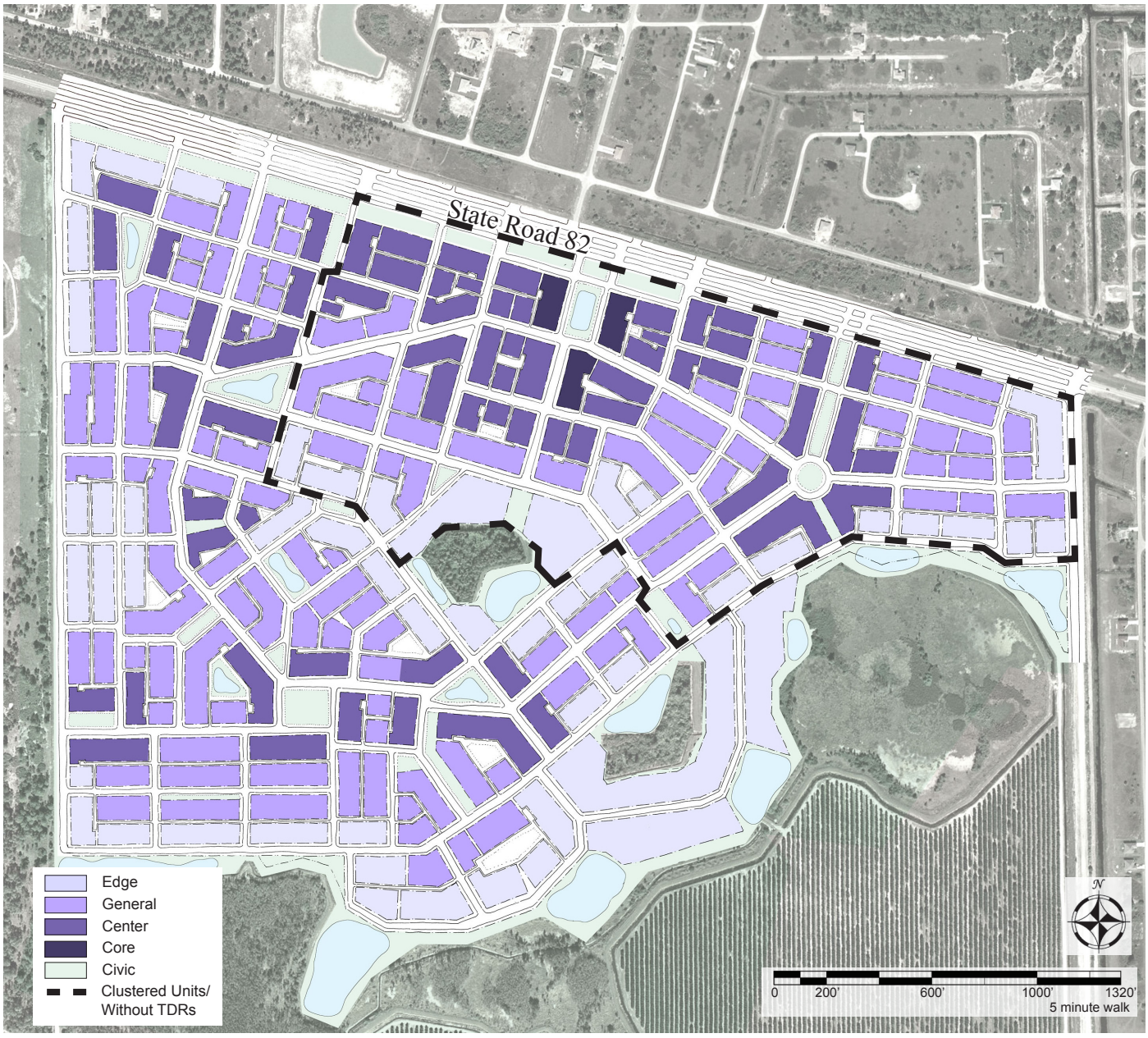
Illustrative Plan



Design Features

- (A) A tree-lined boulevard slows traffic and provides an elegant entrance to the community.
- (B) A roundabout serves as a focal point to the neighborhood; Mixed-use buildings line the circle, slowing traffic and creating a sense of space around a key traffic node.
- (C) Wetlands are preserved and new wetlands or retention ponds are sited adjacent to existing wetlands to reconnect larger systems.
- (D) In Center and General transects, parking is mid-block with garages on alleys.
- (E) A central Avenue connects each of the neighborhood centers.
- (F) A mix of lot sizes within the block allows for a variety of housing types in close proximity to the neighborhood center.
- (G) Civic buildings, such as schools, churches, government offices, community centers or club houses, front neighborhood greens or terminate vistas.
- (H) In Edge lots parking is allowed to be from driveways on the sides of lots. Parking garages, however, are always located at the rear of the lot.
- (I) Multiple connections between the neighborhood and the local street system reduce traffic at peak times.

Transect Plan



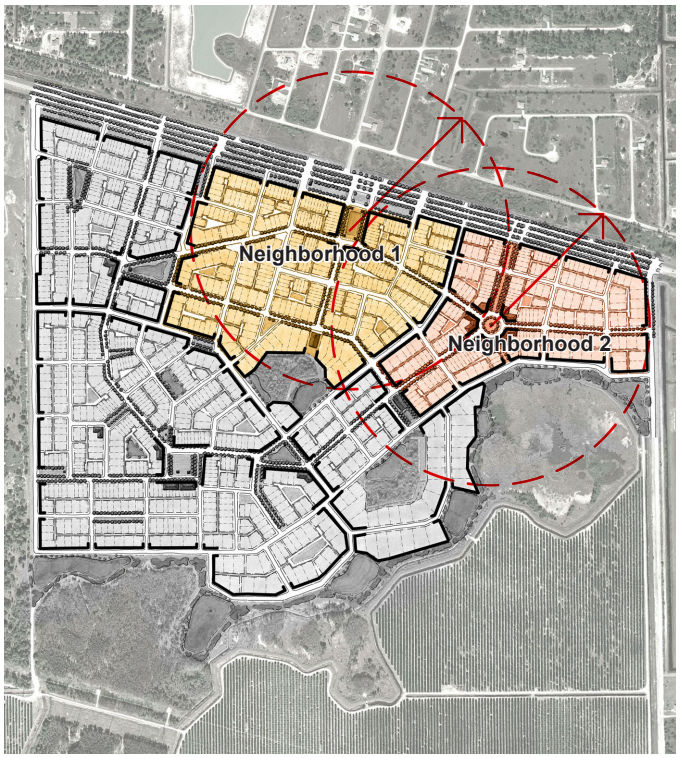
Plan Essentials: Development Options

The Corkscrew Plantation tract consists of 5,476 acres of uplands and 1,194 acres of wetlands for a total of 6,670 acres. Three options are available to a potential residential developer of the this tract:

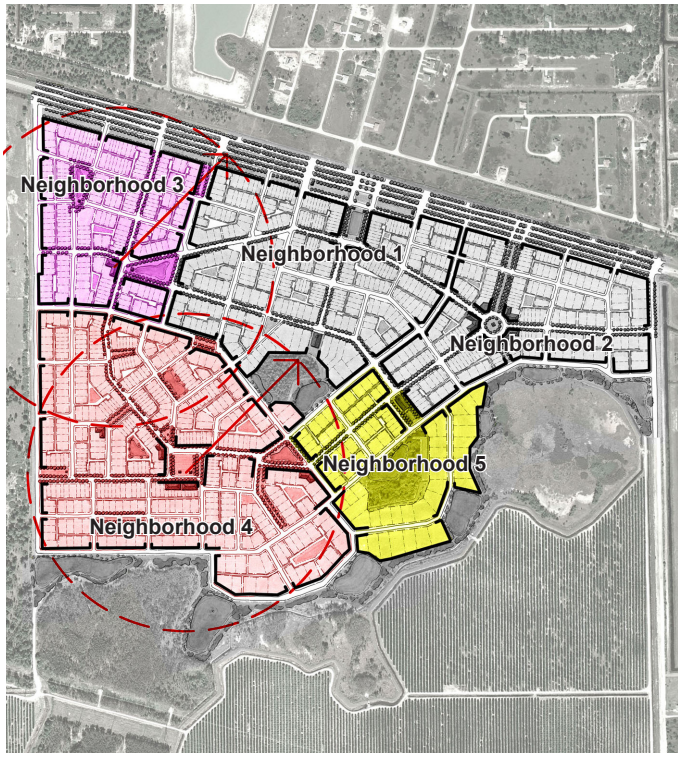
Large-lot Zoning Option: Under today's rules, the development rights contained on the Corkscrew Plantation tract would permit approximately 607 residential units to be built "by right" given that every ten acres of upland allow 1 residential unit and every 20 units of wetland allow 1 residential unit. Under current options units must be placed on lots of at least 1 acre each. The maximum development footprint would be the entire 6,670-acre tract.

Clustering Option: Under the proposed clustering option the 607 "by right" units could be used to create two complete neighborhoods composed of lots between 2,750 square feet and 10,000 square feet and roughly 15% open space, with a total development footprint of 105 acres.

Transfer of Development Option: In addition to the two neighborhoods on 105 acres described in the clustering option, development rights for an additional 578 units could be purchased to construct an additional three neighborhoods on 330 acres. The total development footprint of the mixed-use community at Eisenhower Boulevard would then be 435 acres in total. 578 TDRs would be enough to retire the rights and thus preserve lands otherwise reserved for the rural communities of Edison Farms, Western Corkscrew Road, Alico Road and Corkscrew Airstrip together. Under this scenario, over 3,500 acres would be preserved as agricultural lands.



Neighborhoods 1 and 2 contain all of the development rights on the site of the Corkscrew Plantation property.



Neighborhoods 3, 4 and 5 can be developed with transfered development rights from other DR/GR properties.

Community Supported Agriculture

Small-Scale Cooperative Agriculture and Public Gardens in the DR/GR

Community Supported Agriculture (CSA) and community gardens are recommended for the neighborhoods of Southeast Lee County for the social, recreational, educational and nutritional benefits they provide.

Many neighborhoods in the US have created CSAs on available surplus land. The communities of the DR/GR were planned with integrated open spaces and farm lands on the periphery that could easily become cooperative farms. The farms would provide contact with neighbors, exercise outdoors and wholesome food.

CSAs are jointly owned by the members of a community who receive a fresh mix of locally-grown fruits, herbs and vegetables. Most items are made available to CSA members the day they are harvested to insure peak flavor, ripeness, and nutrition. The farms often involve a small full-time staff with CSA members volunteering their time on the farm. This keeps the full-time staff small and gives participants a shared community activity and an understanding of the food they eat. CSA members assist with the routine tasks of planting, harvesting and preparing the crops for distribution. Farm staff supervises the work and assumes the specialized tasks involving farm machinery and livestock.
At its smallest scale a CSA could simply be a family-owned farm which receives a guaranteed income from

> *"To own a bit of ground, to scratch it with a hoe, to plant seeds and watch the renewal of life – this is the commonest delight of the race.*
>
> *-Charles Dudley Warner*

prepaid annual membership in the program or a tenant-farmer raising free-range livestock on pasture land that productively maintains the community's long-views. There are several CSAs in the Redlands farming district outside Miami that provides fresh produce to members. Often members never see the farm where the food is grown, however, roadside farmstands and CSA farmer's markets in the Redlands offer daytrips to participants and any other interested visitors.

Whatever their scale or format, small-format farms are less vulnerable to global market trends than large agribusinesses and could help preserve the agricultural tradition of southeast Lee County.

Forerunners to CSAs began in the early 1960s in Germany and Japan. There are now over 2,000 cooperative farming partnerships in the United States alone. Worden Farm near Punta Gorda has been unable to meet the demand for organic local produce in southwest Florida. In an era of increasing fuel costs small-format farms which serve a local population may become increasingly more competitive. Whether or not that occurs, the ecological and social benefits of local food is likely to always appeal to many. CSA farms are often organic and do not involve chemical pesticides or fertilizers, locally grown food travels just a few miles from farm to consumer instead of the thousands of miles industrial farm produce is likely to travel and profits from locally-grown food stay within the community.

Community gardens involve smaller-scale plots of land than CSAs but possess many of the same benefits. The American Community Garden Association estimates that there are 18,000 community gardens in the US.

In conventional subdivisions a large frontyard, sideyard and backyard are mandated by the standard zoning ordinance regardless of whether the spaces and their necessary upkeep are desired by the homeowner. In a Traditional Neighborhood Development parcels tend to have small yards and the joint-ownership plots provide open space specifically for those who will make use of them.

Traditional Neighborhood Developments with CSAs or community gardens include Clark's Grove in Covington, GA; the Fields of St. Croix in Lake Elmo, MN and Hampstead in Montgomery, AL. The Serenbe community, outside Atlanta, GA includes a relatively small 25-acre CSA which features an acclaimed restaurant serving CSA produce. Hosting festivals, wine-tastings and culinary competitions Serenbe has become a weekend destination for Atlantians. Getting residents of Fort Myers to participate in the DR/GR in every available way creates awareness and support for the area's agricultural identity.

PLAN ESSENTIALS: TEN MEASURES OF SUSTAINABLE DESIGN

The linked domains of sustainability are environmental (natural patterns and flows), economic (financial patterns and equity), and social (human, cultural, and spiritual). Sustainable design is a collaborative process that involves thinking ecologically—studying systems, relationships, and interactions—in order to design in ways that remove rather than contribute stress from systems. The sustainable design process holistically and creatively connects land use and design at the regional level and addresses community design and mobility; site ecology and water use; place-based energy generation, performance, and security; materials and construction; light and air; bioclimatic design; and issues of long life and loose fit. True sustainable design is beautiful, humane, socially appropriate, and restorative.

Sustainable Design Intent & Innovation

Sustainable design is rooted in a mind-set that understands humans as an integral part of nature and responsible for stewardship of natural systems. Sustainable design begins with a connection to personal values and embraces the ecological, economic, and social circumstances of a project. Architectural expression itself comes from this intent, responding to the specific region, watershed, community, neighborhood, and site.

Regional/Community Design & Connectivity

Sustainable design recognizes the unique cultural and natural character of place, promotes regional and community identity, contributes to public space and community interaction, and seeks to reduce auto travel and parking requirements and promote alternative transit strategies.

Land Use & Site Ecology

Sustainable design reveals how natural systems can thrive in the presence of human development, relates to ecosystems at different scales, and creates, re-creates, or preserves open space, permeable groundscape, and/or on-site ecosystems.

Bioclimatic Design

Sustainable design conserves resources and optimizes human comfort through connections with the flows of bioclimatic region, using place-based design to benefit from free energies—sun, wind, and water. In footprint, section, orientation, and massing, sustainable design responds to site, sun path, breezes, and seasonal and daily cycles.

Light & Air

Sustainable design creates a comfortable and healthy interior environment while providing abundant daylight and fresh air. Daylight, lighting design, natural ventilation, improved indoor air quality, and views, enhance the vital human link to nature.

Water Cycle

Recognizing water as an essential resource, sustainable design conserves water supplies, manages site water and drainage, and capitalizes on renewable site sources using water-conserving strategies, fixtures, appliances, and equipment.

Energy Flows & Energy Future

Rooted in passive strategies, sustainable design contributes to energy conservation by reducing or eliminating the need for lighting and mechanical heating and cooling. Smaller and more efficient building systems reduce pollution and improve building performance and comfort. Controls and technologies, lighting strategies, and on-site renewable energy should be employed with long-term impacts in mind.

Materials, Building Envelope, & Construction

Using a life cycle lens, selection of materials and products can conserve resources, reduce the impacts of harvest/manufacture/transport, improve building performance, and secure human health and comfort. High-performance building envelopes improve comfort and reduce energy use and pollution. Sustainable design promotes recycling through the life of the building.

Long Life, Loose Fit

Sustainable design seeks to optimize ecological, social, and economic value over time. Materials, systems, and design solutions enhance versatility, durability, and adaptive reuse potential. Sustainable design begins with right-sizing and foresees future adaptations.

Collective Wisdom & Feedback Loops

Sustainable design recognizes that the most intelligent design strategies evolve over time through shared knowledge within a large community. Lessons learned from the integrated design process and from the site and building themselves over time should contribute to building performance, occupant satisfaction, and design of future projects.

"Definition of Sustainable Design"
American Institute of Architects' Committee on the Environment

Water & Wastewater

Alternative Small Community Wastewater Treatment Beyond Septic Tanks And Plants

Wastewater treatment for communities that do not have municipal systems has traditionally been provided through either septic tanks or community package plants. These systems are often referred to as conventional wastewater treatment systems.

Septic tank systems require enough land to accommodate the drain field, and are the responsibility of individual landowners to maintain. Additionally, in Florida newly created residential lots must be a minimum half acre in size when septic tanks will be used for residential wastewater treatment [F.S. 64E-6.005(7)(a)]. This regulation limits the ability to create small communities that conserve large expanses of land for water resource protection and improvements; native or restored habitats; and agriculture unless alternative wastewater treatment systems are incorporated into the design of a new small community.

Residential communities located outside of the urban services area in Lee County have used community package plants for wastewater treatment. However, these facilities were often poorly maintained resulting in complaints from residents and potential environmental impacts. In fact, the EPA indicates that the majority of the wastewater discharge non-compliance violations are attributable to centralized treatment systems operated by small communities. Community operated facility failures are often due to the complexity of operating and maintaining the system.

WHY USE ALTERNATIVE SYSTEMS?

The small community conventional wastewater systems discussed above are not suitable or dependable for the long term protection of water resources within the DR/GR. In order to achieve the goals of water resource protection and enhancement, it is important to design the new small communities within the DR/GR in a manner that allows for smaller lot size to conserve large expanses of open space for restoration and maintenance of ground water levels. These new communities can be designed to incorporate alternative centralized wastewater treatment systems, and do not have the limitation of existing communities in obtaining the necessary land for the alternative system which typically requires more land area than a conventional system.

Small communities throughout the world have been utilizing wastewater treatment systems that incorporate created ecological systems to both protect their water quality, as well as, their water supply. These systems have proven to be less expensive and require less maintenance than conventional systems while being aesthetically pleasing and odor-free. Some alternative systems have been operating for over two decades demonstrating the long-term viability and successful tertiary water quality treatment. The treated water has been recycled for irrigation and toilet water, reducing the demand on the local aquifer resource. Some systems discharge the treated water back into natural systems.

These alternative systems include a centralized collection system that typically uses smaller size sewer pipes than conventional systems to transport the wastewater to the treatment facility. The treatment facility is designed to incorporate a series of alternative treatment methods (Table 1) from settling of solids through nutrient removal to pathogen removal without the use of chemicals which may be harmful to the environment. The design is based upon the existing landscape (i.e. topography; soils) and climate (i.e. temperature; rainfall). Each system is developed to meet the specific needs of the community (Table 2) and achieve the legally required water quality standards.

An alternative wastewater treatment system should be incorporated into the design of any new community within the DR/GR to conserve and protect the water resources. Existing homeowners and agricultural operators within the DR/GR rely on the local water resources for drinking water and irrigation water respectively. There are also thousands of acres of conservation lands that need the appropriate levels and timing of water resources to sustain these natural systems. The demand on the DR/GR water resources also reaches beyond the Southeast Lee County boundaries for potable water and for natural systems. The majority of unincorporated Lee County residents receive their potable water from Lee County Utility wells within the DR/GR. Additionally, natural systems including the Estero River, Imperial River, the Estero Bay Estuary, Flint Pen Strand, and Corkscrew Swamp are fed freshwater from the DR/GR. It is important for both the Southeast Lee County community and region that water resource protection be a primary focus in forming any development plans for the DR/GR area.

Table 1: Alternative Wastewater Systems

Aerated Lagoon[1]	• Algae used in the treatment process for uptake of nutrients. • Algae can be harvested & used as a component of animal food or as a soil conditioner. • Liners may be required to prevent ground water contamination.
Stabilization Pond[1]	• Similar to lagoons but shallow, usually just 2-feet deep. • Requires about 1 acre per 200 people. • Suitable where climate permits year round algal growth. • Liners may be required to prevent ground water contamination.
Trickling Filter[1] or Recirculating Media Filter[2]	• Sewage must first go to settling tank to remove the majority of solid waste. • Circular tanks containing either rock or plastic media. • Micro-organisms attach to the media & feed upon organic material within the waste. • Plastic media allows for greater oxygen transfer. • Plastic has more surface area & is lighter in weight. Often built above ground 20-30 feet. • Enhances removal of nitrogen and pathogens.
Constructed Wetlands[3, 4] • Surface Flow Systems • Subsurface Flow Systems	• "Constructed wetlands are complex, integrated systems in which water, plants, microorganisms, the sun, substrate and air interact to improve water quality."[4] • Lined cells or containers artificially recreate filtering capacity of natural wetlands. • Used in combination with settling tanks. • Aesthetically pleasing which makes it possible to incorporate into a development. • Low maintenance requirements. • High design flexibility. • Recommended for environmentally sensitive areas. • Can withstand shock loadings & volume changes while maintaining discharge quality. • Plants and animals grown in constructed wetlands may provide commercial profits (e.g. calla lilies; fish)
Drip & Spray Irrigation[3]	• Alternative disposal method. • Recycles wastewater reducing the demand on existing water resources.
Pressure Sewer with Grinder Pump[1]	• Alternative Wastewater Conveyance System. • Alternative Wastewater Conveyance System. • Holding tank containing a pump with grinder blades that shred the solids into tiny particles. • Eliminates need to periodically pump out the holding tank. • Pumps deliver the wastewater to the treatment system. • Smaller sewer pipes than conventional systems.

1. T.M. Doley & W.R. Kerns. Individual Homeowner & Small Community Wastewater Treatment & Disposal Options. Virginia State University, Virginia Cooperative Extension Publication Number 448-406, June 1996.
2. D. Jones, J. Bauer, R. Wise, & A. Dunn. Small Community Wastewater Cluster Systems. Purdue University Cooperative Extension Service, July 2001.
3. Alternative On-site Wastewater Treatment and Disposal Options. The Water Quality Program Committee, Virginia Tech Publication Number 448-453, July 1996.
4. The Centre for Alternative Wastewater Treatment. Fleming College, Ontario, Canada. http://www.flemingcollege.com/cawt/index.cfm

Table 2: Example Alternative Systems

Type of System	Location of Use	Methods of Treatment	Benefits of System & Use of Treated Water
Solar Aquatics System[1,2]	North America	Blending tank with microorganisms Series of solar tanks with micro-ecosystems Solar pond Created marsh UV treatment	No sludge produced Odorless Aesthetically pleasing Provides secondary & tertiary treatment Self-regenerating Low operation cost
Living Machine System[3]	United States Europe Australia	Pretreatment settling tank Series of treatment tanks which support plants and other organisms	Lower cost than conventional systems Capable of tertiary treatment Treats & recycles wastewater Don't typically require chemicals Aesthetically pleasing; allowing flexibility in locating the facility
Ecological Sanitation System (EcoSan)[4]	Europe	Vacuum sanitation technology Waterless urinals Separation toilets Constructed Wetland Holding Tank for Yellow Water (Urine separated in toilet)	Reduced water consumption Sludge from primary settling is incinerated Reeds from constructed wetland harvested for compost Treated yellow water used as fertilizer on farmlands

1. H. Tammemagi. 2004. Bear River's unique greenhouse wastewater treatment process. Environmental Science & Engineering. http://www.esemag.com/0904/bearriver.html
2. An Unconventional Approach to Wastewater Treatment. New England Biolabs, Inc. http://www.neb.com/nebecomm/wastewaterTreatment.asp
3. Hudson Farm Charette Booklet. 2008. Dover, Kohl & Partners, Town Planning and Andropogon Landscape Architecture and Ecological Planning and Design.
4. E. Benetto, D. Nguyen, T. Lohmann, B. Schmitt & P. Schosseler. 2009. Life cycle assessment of ecological sanitation system for small-scale wastewater treatment. Science of the Total Environment 407 (2009) 1506-1516.

REFERENCES

Alternative On-site Wastewater Treatment and Disposal Options. The Water Quality Program Committee, Virginia Tech Publication Number 448-403, July 1996.

Benetto, E., D. Nguyen, T. Lohmann, B. Schmitt & P. Schosseler. 2009. Life cycle assessment of ecological sanitation system for small-scale wastewater treatment. Science of the Total Environment 407 (2009) 1506-1516.

The Centre for Alternative Wastewater Treatment. Fleming College, Ontario, Canada. http://www.flemingcollege.com/cawt/index.cfm

Doley, T.M. & W.R. Kerns. Individual Homeowner & Small Community Wastewater Treatment & Disposal Options. Virginia State University, Virginia Cooperative Extension Publication Number 448-406, June 1996.

Florida State Statute 64E-6.005(7)(a)].

Hudson Farm Charette Booklet. 2008. Dover, Kohl & Partners, Town Planning and Andropogon Landscape Architecture and Ecological Planning and Design.

Individual Homeowner & Small Community Wastewater Treatment & Disposal Options. The Water Quality Program Committee, Virginia Tech Publication Number 448-406, June 1996.

Jones, D., J. Bauer, R. Wise, & A. Dunn. Small Community Wastewater Cluster Systems. Purdue University Cooperative Extension Service, ID-265. July 2001.

Tammemagi, H. 2004. Bear River's unique greenhouse wastewater treatment process. Environmental Science & Engineering. http://www.esemag.com/0904/bearriver.html

An Unconventional Approach to Wastewater Treatment. New England Biolabs, Inc. http://www.neb.com/nebecomm/wastewaterTreatment.asp

Leadership in Energy and Environmental Design for Neighborhood Development (LEED ND) and the DR/GR

Assessing the proposed communities and setting ecological goals using the LEED ND Rating System

The LEED for Neighborhood Development Rating System rates neighborhoods based on smart growth, new urbanism, and green building criteria. LEED ND is a program currently under development by the United States Green Building Council (USGBC), the Congress for the New Urbanism and the Natural Resources Defense Council.

LEED ND communities encourage healthy living, reduce urban sprawl and protect threatened species. Each community proposed for the DR/GR was designed to meet LEED ND criteria. However, full certification is not possible until the project is constructed. These future requirements create possible minimum goals for the communities.

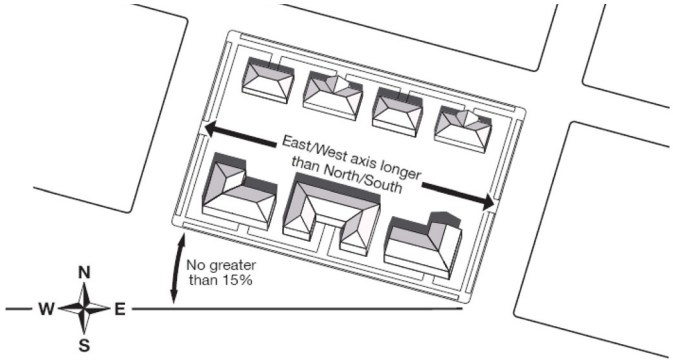
There are three categories for evaluating projects: Smart Location and Linkage, Neighborhood Pattern and Design, and Green Construction and Design.

Smart Location and Linkage requirements include the provision of public transportation service, the preparation of a Habitat Conservation Plan, the provision of bicycle racks, the restoration of some amount of wetlands on each site and the construction of multi-story townhouses and apartment houses as designated on the plans.

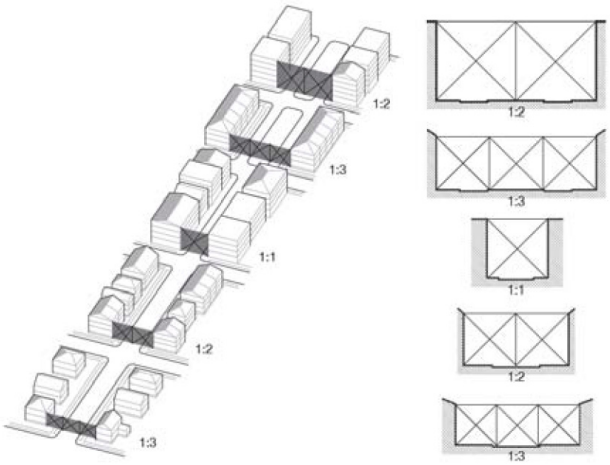
Neighborhood Pattern and Design requirements include the construction of a diversity of uses and housing types as designated on the plans.

Green Construction and Design requirements include the addition of certified green buildings which are energy and water efficient, water efficient landscaping, stormwater management, use of wind or solar energy generating systems and use of light-pollution reducing outdoor lights.

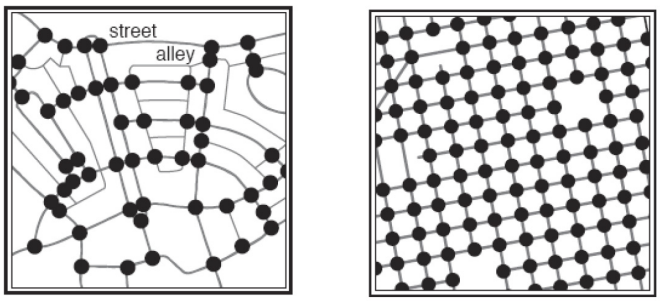
Note that the criteria for LEED ND are still being revised and that the DR/GR communities were evaluated according to the October 2008 Draft of the LEED ND criteria. Nonetheless, the scoring of the DR/GR communities is useful as a general indicator of the sustainability of the proposed communities.



The solar orientation of blocks and buildings within the DR/GR is generally north/south. This orientation achieves maximum light efficiency by capturing light from the southern exposure.



LEED ND encourages walkable streets in the interest of encouraging walking and bicycling and reducing per capita Vehicle Miles Traveled (VMT). A maximum building-height-to-street width ratio of 1:3 contributes to appealing and comfortable street environments. This was a central design feature of the streets and public spaces in the DR/GR.



Street network connectivity in the proposed communities is very high with typically over 400 intersections per square mile. Connectivity reduces traffic and encourages pedestrians.

Minimum Goals for the DR/GR Communities based on LEED for Neighborhood Development Rating System *Reviewed using the October 2008 Draft*	Alico Road	Western Corkscrew	Edison Farms	Six L's Farms	Corkscrew Airstrip	Carter Road	Wildcat Farms	Daniels Parkway	Sunshine Blvd.	Homestead Road	Eisenhower Blvd.
SMART LOCATION & LINKAGE											
Prereq. 1 – Smart Location	*	*	*	*	*	*	*	*	*	*	*
Prereq. 2 – Proximity to Water and Wastewater Infrastructure	•	•	•	•	•	•	•	•	•	•	•
Prereq. 3 – Imperiled Species and Ecological Communites	•	•	•	•	•	•	•	•	•	•	•
Prereq. 4 – Wetland and Water Body Conservation	•	•	•	•	•	•	•	•	•	•	•
Prereq. 5 – Agricultural Land Conservation	•	•	•	•	•	•	•	•	•	•	•
Prereq. 6 – Floodplain Avoidance	•	•	•	•	•	•	•	•	•	•	•
Credit 1 – Preferred Location	1	0	0	0	0	0	0	0	0	0	0
Credit 2 – Brownfield Redevelopment	1	0	0	0	0	0	0	0	0	0	0
Credit 3 – Reduced Automobile Dependence	0	0	0	0	0	0	0	0	0	0	0
Credit 4 – Bicycle Network and Storage	1	1	1	1	1	1	1	1	1	1	1
Credit 5 – Housing and Jobs Proximity	0	0	0	0	0	0	0	0	0	0	0
Credit 6 – Steep Slope Protection	1	1	1	1	1	1	1	1	1	1	1
Credit 7 – Site Design for Habitat or Wetlands Conservation	1	1	1	1	1	1	1	1	1	1	1
Credit 8 – Restoration of Habitat or Wetlands	1	1	1	1	1	1	1	1	1	1	1
Credit 9 – Conservation Management of Habitat or Wetlands	1	1	1	1	1	1	1	1	1	1	1
NEIGHBORHOOD PATTERN & DESIGN											
Prereq. 1 – Walkable Streets	•	•	•	•	•	•	•	•	•	•	•
Prereq. 2 – Compact Development	•	•	•	•	•	•	•	•	•	•	•
Prereq. 3 – Connected and Open Community	•	•	•	•	•	•	•	•	•	•	•
Credit 1 – Walkable Streets	11	12	12	12	11	11	11	12	12	12	12
Credit 2 – Compact Development	1	1	1	1	1	1	1	1	1	1	1
Credit 3 – Diversity of Uses	1	1	1	1	1	1	1	2	1	2	2
Credit 4 – Mixed-Income Diverse Communities	2	2	2	2	2	2	2	2	2	2	2
Credit 5 – Reduced Parking Footprint	1	1	1	1	1	1	1	1	1	1	1
Credit 6 – Street Network	2	2	2	2	2	2	2	2	2	2	2
Credit 7 – Transit Facilities	0	0	0	0	0	0	0	0	0	0	0
Credit 8 – Transportation Demand Management	0	0	0	0	0	0	0	0	0	0	0
Credit 9 – Access to Public Spaces	1	1	1	1	1	1	1	1	1	1	1
Credit 10 – Access to Active Public Spaces	1	0	0	1	1	1	1	1	1	1	1
Credit 11 – Universal Accessibility	0	0	0	0	0	0	0	0	0	0	0
Credit 12 – Community Outreach and Involvement	2	2	2	2	2	2	2	2	2	2	2
Credit 13 – Local Food Production	1	1	1	1	1	1	1	1	1	1	1
Credit 14 – Tree-Lined and Shaded Streets	1	1	2	1	1	1	1	2	2	2	2
Credit 15 – Neighborhood Schools	0	0	0	1	0	0	0	1	1	1	1

* The future provision of public transportation is assumed.

Minimum Goals for the DR/GR Communities based on LEED for Neighborhood Development Rating System *Reviewed using the October 2008 Draft*	Alico Road	Western Corkscrew	Edison Farms	Six L's Farms	Corkscrew Airstrip	Carter Road	Wildcat Farms	Daniels Parkway	Sunshine Blvd.	Homestead Road	Eisenhower Blvd.
GREEN CONSTRUCTION & DESIGN											
Prereq. 1 – Certified Green Building	•	•	•	•	•	•	•	•	•	•	•
Prereq. 2 – Minimum Building Energy Efficiency	•	•	•	•	•	•	•	•	•	•	•
Prereq. 3 – Minimum Building Water Efficiency	•	•	•	•	•	•	•	•	•	•	•
Prereq. 4 – Construction Activity Pollution Prevention	•	•	•	•	•	•	•	•	•	•	•
Credit 1 – Certified Green Buildings	1	1	1	1	1	1	1	1	1	1	1
Credit 2 – Building Energy Efficiency	1	1	1	1	1	1	1	1	1	1	1
Credit 3 – Water Efficiency Landscaping	1	1	1	1	1	1	1	1	1	1	1
Credit 4 – Existing Building Reuse	0	0	0	0	0	0	0	0	0	0	0
Credit 5 – Historic Building Reuse and Adaptive Reuse	0	0	0	0	0	0	0	0	0	0	0
Credit 6 – Minimize Site Disturbance in Design and Construction	0	0	0	0	0	0	0	0	0	0	0
Credit 7 – Stormwater Management	1	1	1	1	1	1	1	1	1	1	1
Credit 8 – Heat Island Reduction	0	0	0	0	0	0	0	0	0	0	0
Credit 9 – Solar Orientation	0	0	0	0	0	0	0	0	0	0	0
Credit 10 – On-Site Renewable Energy Sources	1	1	1	1	1	1	1	1	1	1	1
Credit 11 – District Heating & Cooling	0	0	0	0	0	0	0	0	0	0	0
Credit 12 – Infrastructure Energy Efficiency	1	1	1	1	1	1	1	1	1	1	1
Credit 13 – Wastewater Management	2	2	2	2	2	2	2	2	2	2	2
Credit 14 – Recycled Content in Infrastructure	0	0	0	0	0	0	0	0	0	0	0
Credit 15 – Waste Management Infrastructure	0	0	0	1	0	0	0	1	0	1	1
Credit 16 – Light Pollution Reduction	1	1	1	1	1	1	1	1	1	1	1
INNOVATION & DESIGN PROCESS											
IDP Credit 1 – Innovation and Exemplary Performance	1	1	1	1	1	1	1	1	1	1	1
IDP Credit 2 – LEED Accredited Professional	1	1	1	1	1	1	1	1	1	1	1
RP Credit 1 – Regional Priority Credit	0	0	0	0	0	0	0	0	0	0	0
PROJECT TOTAL	42	40	41	43	40	40	40	45	43	45	45

Communities need a minimum of 40 points to be LEED ND certified.

4 Proposed TDR Regulatory Structure

INTRODUCTION

The previous chapter describes how residential development rights on large DR/GR tracts could be shifted internally or transferred externally to create desirable rural or mixed-use communities that would use only a small fraction of the entire tract. The remainder of these tracts could continue to be farmed, could be restored to more natural conditions, or could be sold to public or nonprofit agencies for permanent preservation.

To a certain degree, internal shifts can be accomplished under today's regulations. The DR/GR residential density cap is set at 1 DU per 10 acres, but the plan does not explicitly require 10-acre lots. Considerable consolidation of development rights is now allowed, but the resulting lots cannot be smaller than about an acre without rezoning, and the consolidation is not permanently recorded through formal easements.

These shortcomings can all be mitigated through changes proposed in this chapter. A comprehensive strategy is set forth to:

- Make the internal transfer process clearer.
- Avoid the need for rezoning land to accommodate smaller lots.
- Create a permanent record of land from which development rights have been removed.
- Allow some commercial uses that are not normally permissible in the DR/GR area.
- Allow the transfer of development rights to noncontiguous mixed-use communities on the edges of the DR/GR area.

Much of the uncertainty inherent in shifts and transfers of development rights can be removed through the coordinated series of Lee Plan and Land Development Code amendments described here.

"RURAL RESIDENTIAL" OVERLAYS

At present the DR/GR designation is the predominant Lee Plan designation for over 82,560 acres of land. A companion report, *Proposed Lee Plan Amendments for Southeast Lee County*, proposes the adoption of a series of new overlay maps into the Lee Plan's Future Land Use Map Series. A new Map 17 would be added to the Lee Plan to include three new residential overlays.

Proposed Policy 1.7.13 summarizes these designations on Map 17:

> ***POLICY 1.7.13****: The Rural Residential overlay (Map 17) is described in Policies 30.3.1 and 30.3.2. This overlay affects only Southeast Lee County and identifies three types of land:*
>
> 1. *"Existing Acreage Subdivisions": existing residential subdivisions that are reasonably distant from adverse external impacts such as natural resource extraction.*
> 2. *"Rural Communities" and "Mixed-Use Communities": locations for the concentration of development rights from large contiguous tracts in the Density Reduction/Groundwater Resource area. See Objective 30.3 and following policies.*
> 3. *"Mixed-Use Communities": locations where this concentration of development rights may be supplemented by transfer of development rights from non-contiguous tracts in the Density Reduction/ Groundwater Resource area. See Objective 30.3 and following policies.*

Figure 1 shows each of these proposed overlay designations along with other information that will help explain how Map 17 was formulated. Each overlay designation will then be described.

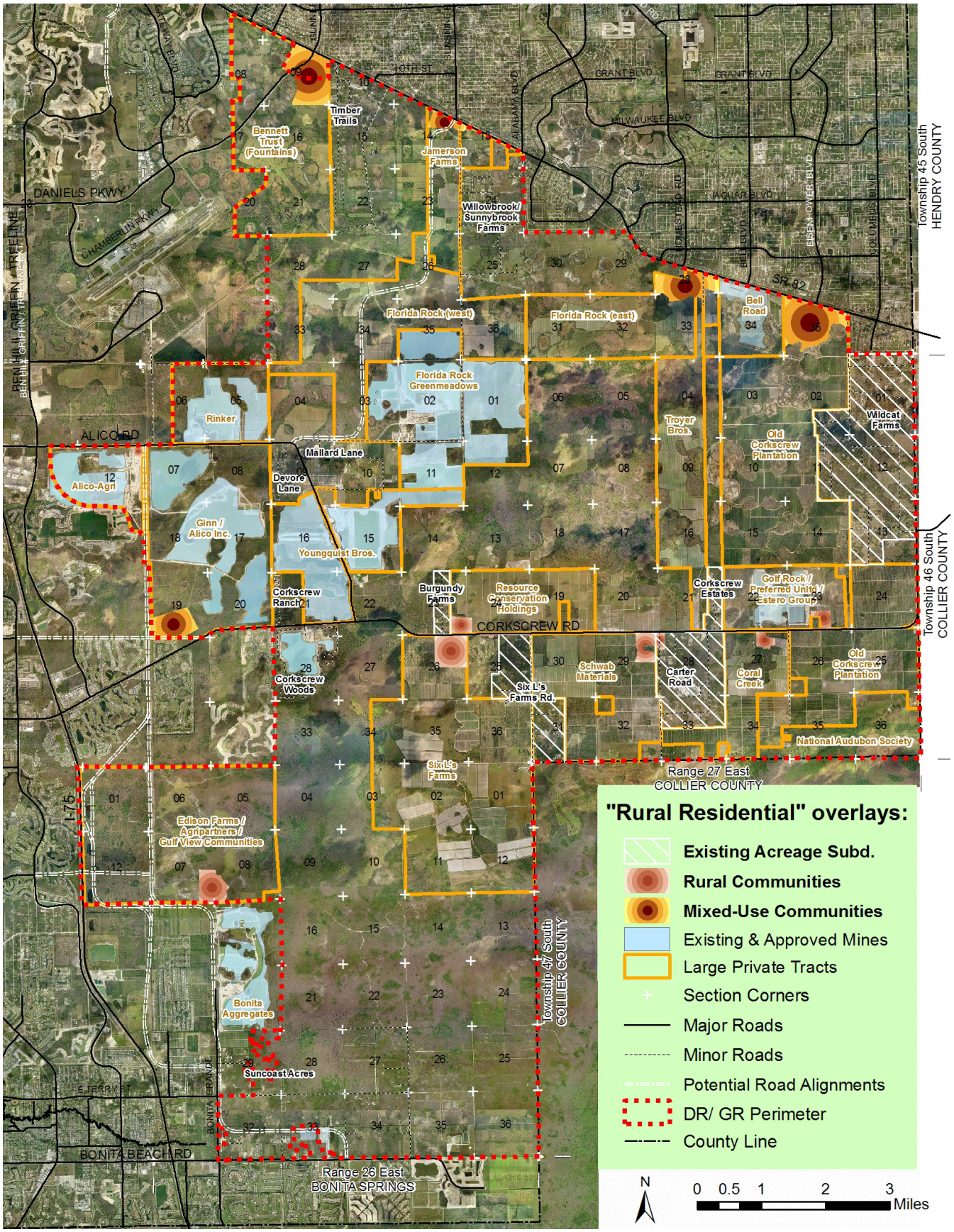


Figure 1. "Rural Residential" Overlays

EXISTING ACREAGE SUBDIVISIONS

Proposed Policy 30.3.1 would describe the first new designation on the Rural Residential overlay: "Existing Acreage Subdivisions":

> ***POLICY 30.3.1**: Existing acreage subdivisions that are not in or near Future Limerock Mining areas are shown on Map 17. These subdivisions are reasonably distant from adverse external impacts such as natural resource extraction.*

Table A describes major residential subdivisions within the DR/GR and identifies which ones would be designated on the Existing Acreage Subdivision overlay. The subdivisions that would not be included within this overlay are those are fairly close to existing limerock mines or potential future mines in a new "Future Limerock Mining" overlay map.

Proposed Policy 30.3.2 discourages the creation of additional acreage (ranchette) subdivisions:

> ***POLICY 30.3.2**: Unsubdivided land is too valuable to be consumed by inefficient land-use patterns. Although additional acreage or ranchette subdivisions may be needed in the future, the preferred pattern for using existing residential development rights from large tracts is to concentrate them as compact internally connected Rural and Mixed-Use Communities along existing roads away from Future Limerock Mining areas. Map 17 identifies future locations for Rural and Mixed-Use Communities where development rights can be concentrated from major DR/GR tracts. Rural Communities will be predominately residential but are encouraged to incorporate minimal commercial and civic uses that would serve rural residents.*

A later section of this chapter described changes to the Land Development Code that could discourage the inefficient land-use pattern of 10-acre lots in the DR/GR area.

TABLE A – Existing Subdivisions in Planning Community #18

Name Or Location	SEC-TWP-RGE	# Of Parcels	# W/ Homes	# Vacant	In New Overlay?
Timber Trails	10,15,22-45-26	262	54	208	no
Willowbrook/Sunnybrook Farms	13,24,25-45-26	143	76	67	no
Wildcat Farms	1,2,11,12,13-46-27	253	125	128	yes
Corkscrew Estates	21-46-27	14	3	11	yes
Carter Road	28,33-46-27	102	33	69	yes
Six L's Farms Road	25,31-46-26	87	43	44	yes
Burgundy Farms	23-46-26	34	14	20	yes
Mallard Lane	9,10-46-26	44	34	10	no
Devore Lane	9-46-26	41	32	9	no
Corkscrew Ranch	21-46-26	59	0	59	no
Corkscrew Woods	21,28-46-26	254	0	254	no
Sun Coast Acres	9–34-47-26	289	23	266	no
TOTALS:		**1,582**	**437**	**1,145**	

Source: Table A-1 of *Prospects for Southeast Lee County*, Dover, Kohl & Partners, 2008

Rural Communities

Each new lot in an acreage or ranchette subdivision in the DR/GR would typically consume 10 acres of farmland. Considerable consolidation of development rights onto smaller lots is now allowed by Lee County "by right" (without public hearings), although this practice is not encouraged by existing policies.

Most land within the DR/GR is zoned "AG-2" which requires that the resulting lots be no smaller than about an acre. Even minor commercial uses that would serve local residents are not allowed. Also, there are no provisions at this time for this consolidation of development rights to be permanently recognized in public records through formal agricultural or conservation easements.

Chapter 3 of this report describes a much more focused approach for the use of the residential development rights on DR/GR land. Specific locations were selected where development rights could be concentrated in a manner that preserves farmland and/or natural systems while creating highly desirable neighborhoods for future residents.

Six of these locations are in the southerly portions of the DR/GR, mostly along Corkscrew Road. These locations are in rural areas; development patterns need to be scaled accordingly. Four locations are on the south side of SR 82 directly adjoining Lehigh Acres, with a fifth location near Florida Gulf Coast University. These would accommodate neighborhoods of a more urban character; the first four would also serve as neighborhood centers for southerly portions of Lehigh Acres.

The following guidelines were used to select these locations:

- Large tracts under single or common ownership should each be permitted a full neighborhood so that development rights from that tract could be concentrated without the need to sell or purchase transferable development rights.

- Specific locations on each large tract were selected to balance the following goals: develop on or near the existing road network; on already-disturbed land; near other developed areas; away from potential mining impacts; and avoiding sensitive environmental features.

Once each location was selected, the approximate size of the neighborhood was determined by estimating the acreage of uplands and wetlands in each tract. Using Lee Plan density caps of 1 DU / 10 acres of uplands and 1 DU / 20 acres of wetlands, the approximate number of dwelling units to be accommodated in each neighborhood was determined.

Preliminary designs for each neighborhood were created using the basic design conventions described early in Chapter 3. Each neighborhood has an identifiable center and edge and its overall size is walkable. Neighborhoods contain a mix of land uses and housing types and have an integrated network of walkable streets. Special sites are reserved for civic purposes.

Preliminary designs for each neighborhood are shown in Chapter 3. The perimeters of these six rural neighborhoods should be shown as "Rural Communities" on the Rural Residential overlay map.

The five more urban neighborhoods could each be developed in the same manner as the six "Rural Communities." However, those landowners would have additional development rights (as discussed in the next section). Their perimeters would be shown as "Mixed-Use Communities" on the new overlay map.

If all development rights are used on the same tracts where they originate, the same general rules would apply to all eleven communities. Development rights could be concentrated on a "by-right" basis without the need for rezoning. A later section of this chapter describes how the Land Development Code would be amended so that it contains the details needed to carry out this program.

Mixed-use Communities

The five "Mixed-Use Communities" designated on Map 17 could each be implemented in the same manner as "Rural Communities." However, Proposed Policy 30.3.3 would add an additional program in which owners of other large tracts in the DR/GR area could participate and thus allow them to officially sever the development rights on their land and sell them on the open market to those who wish to apply these development rights to expand designated Mixed-Use Communities.

Four proposed Mixed-Use Communities are located on the south side of SR 82 at these major intersections:

- Gunnery Road / Daniels Parkway
- Sunshine Boulevard / (proposed) Alico Extension
- Homestead Road
- Eisenhower Boulevard

A fifth potential Mixed-Use Community would replace an earlier proposal for a Rural Community on western Corkscrew Road near Florida Gulf Coast University

The land from which development rights would be severed are referred to as "sending areas." The Mixed-Use Communities are primary potential "receiving areas." To accommodate additional development rights through the use of TDRs, the Mixed-Use Communities are shown on Map 17 with a larger perimeter that would be needed if no TDRs were acquired.

To encourage transfers to take place, the regulations that would govern this transferable development rights program must be clear and definitive and should provide some easily-understood incentives to landowners.

Table B summarizes sample incentives and compares them to Lee County's existing TDR program for wetlands.

For landowners who wish to continue agricultural operations on their land, the base transfer rate of 1 DU / 10 acres would apply. Landowners could double this number of development rights by placing a conservation easement instead of an agricultural easement on the sending area property. The base transfer rate could triple if the landowner restored that farmland to a native habitat.

These incentives would not have to be sought at the same time; for instance, the initial agricultural easement could be upgraded to a conservation easement at some future date.

TABLE B – Sample TDR Incentives

TDR TYPES:	ELIGIBLE RECEIVING AREAS WITHIN DR/GR:	DEVELOPMENT RIGHTS ELIGIBLE FOR TRANSFER:	ELIGIBLE RECEIVING AREAS OUTSIDE DR/GR:	DEVELOPMENT RIGHTS ELIGIBLE FOR TRANSFER:
Proposed Upland TDR Program (for DR/GR only)	Designated "Mixed-Use Communities"	One DU / 10 acres (with ag easement) Two DUs / 10 acres (with cons. easement) Three DUs / 10 acres (with restoration)	Lee Plan's "Mixed Use Overlay"; also Lehigh Acres	Double the transfer rate allowed for transfers WITHIN the DR/GR
			(incorporated areas may become eligible to use TDRs under terms established via interlocal agreement)	
Proposed Wetland TDR Program (for DR/GR only)	Designated "Mixed-Use Communities"	Two DUs / 20 acres (with cons. easement) Three DU / 20 acres (with restoration)	Lee Plan's "Mixed Use Overlay"; also Lehigh Acres	Double the transfer rate allowed for transfers WITHIN the DR/GR
			(incorporated areas may become eligible to use TDRs under terms established via interlocal agreement)	
Existing Wetland TDR Program (county-wide)	(no eligible receiving areas within DR/GR)	(not eligible)	"Intensive Development" "Central Urban" "Urban Community"	Four DUs / 20 acres

Details of Lee County's current TDR programs are contained in the Land Development Code. This same practice should be used for the new DR/GR TDR program because administrative details and incentive levels often must be adjusted over time as these programs evolve. The process for amending the Land Development Code is less cumbersome than amending the Lee Plan.

There are several additional questions that would need to be resolved when the code is amended to incorporate the new TDR program. The first is whether newly permissible commercial development in Rural or Mixed-Use Communities would be linked to the TDR program.

Most TDR programs transfer residential development rights only because sending areas rarely have any commercial rights; that is also the case in the DR/GR area. However, formulas could be created that would convert residential development rights to commercial development rights. Conversion formulas that are based on traffic generation levels are commonly used in development approvals for large master-planned developments.

An advantage to linking future commercial development to TDRs would be to increase the value of TDRs being acquired from sending areas. A disadvantage would be that commercial development might be less likely to occur even where it would be a desirable addition to a community. Middle ground might be identified where a limited amount of commercial development would be allowed without acquiring TDRs but development above a fixed limit would require TDRs.

A second question would be whether the incentives suggested in Table B should distinguish between large sending areas in different locations within the DR/GR. For instance, large tracts furthest from existing urban infrastructure (such as roads, utilities, and urban amenities) could be granted an additional 50% density bonus if they were to transfer their development rights to Mixed-Use Communities in more suitable locations.

A third question revolves around the type of legal instruments that would be recorded by property owners who are selling their development rights to others. Chapter 2 contained a list of keys to make TDR programs successful; several were insistent that TDRs must be usable "by right" without excessive discretionary review that would call into question whether the rights can definitely be used as intended. Part of this question relates to the specific terms of conservation or agricultural easements.

The Land Development Code should contain clear instructions as to which terms are essential; subsequent review would be a legal review of easements drafts against these requirements rather than individual negotiations over their terms.

For instance, the code needs to clearly state matters such as these:

- It should be clear that the easements produced by this program are perpetual and do not expire after a fixed number of years.

- The activities that would be restricted by the easement need to be clear but not excessively detailed. This is particularly important for agricultural easements because the nature of permissible activities could vary considerably in the future.

- Public access is not generally a requirement for either type of easement.

- If land restoration is being offered for additional density incentives, the timing and scope of restoration, and the criteria for determining that the restoration has been successful, must be clearly stated.

- Enforcement mechanisms must be clearly stated, in particular which legal entity accepts the responsibility to enforce the easement and which other entities may have the authority but not the responsibility to enforce the easement.

- The legal review of these easements should be integrated with review of site designs so that both can be approved in as short a period as possible.

Sections 33-1054–1056 of the Land Development Code identifies many of the features that the new DR/GR code should contain as to conservation or agricultural easements.

OTHER POTENTIAL RECEIVING AREAS

In addition to the "Mixed-Use Communities" proposed on Map 17, there are other potential receiving areas that could be established for DR/GR TDRs.

LEE PLAN'S MIXED-USE OVERLAY

In 2007, a new "Mixed Use Overlay" was added to the Lee Plan's Future Land Use Map (shown in red on Figure 2).

Objectives 4.2 and 4.3 and subsequent policies describe this designation for mixed-use, traditional neighborhood, and transit-oriented development patterns.

Many areas designated in this overlay have current density limits (in the Lee Plan or under current zoning) that are lower than optimal for mixed-use development. TDRs could be used as one mechanism to increase these density levels.

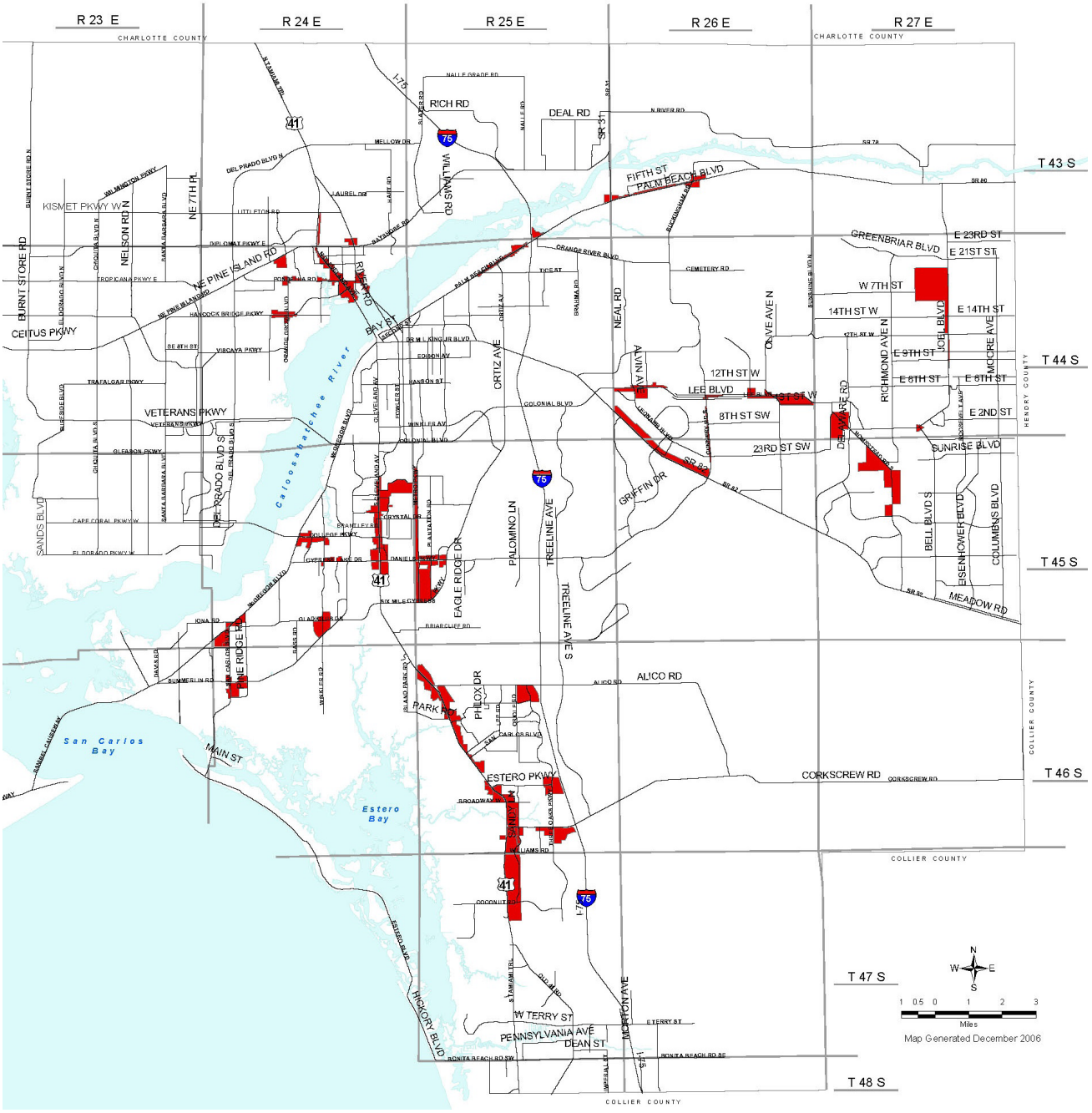


Figure 2

City of Bonita Springs

The City of Bonita Springs is significantly affected by many of the same DR/GR issues as unincorporated parts of the county. The city is bounded by over ten miles of unincorporated DR/GR land and the city contains part of Lee County's original DR/GR area within its boundaries.

Wellfields for Bonita Springs Utilities extend into the unincorporated area, and serious flooding is a recurring problem in parts of Bonita Springs. In these and other ways, Bonita Springs and Lee County share many common interests in the future of DR/GR land.

TDRs created from unincorporated DR/GR land could be used within the City of Bonita Springs if city officials were to amend their regulations to allow this transfer. The terms of such transfers would be established solely by Bonita Springs.

Lehigh Acres

Considerable acreage within Lehigh Acres (an unincorporated part of Lee County) is included in the Lee Plan's Mixed Use Overlay. However, other land in Lehigh Acres could also become receiving areas for DR/GR TDRs.

Lehigh Acres has overwhelming been platted into single-family homesites. Recent studies sponsored by Lee County have identified potential sites that could offset some of this severe imbalance of land uses by providing shopping and employment centers.

Two DR/GR areas just outside Lehigh Acres were designated for more intensive development in the most recent *Lehigh Acres Comprehensive Planning Study* (Wallace, Roberts & Todd, March 2009). Both are recommended herein to become Mixed-Use Communities on Map 17. These communities are on the south side of SR 82 at Gunnery Road and Sunshine Boulevard.

There are undoubtedly other sites within Lehigh Acres that would be equally or more valuable as intensive commercial centers. An obvious choice is the original downtown along Homestead Road, which is ripe for intensive redevelopment. These centers do not need to be totally dedicated to commercial purposes; substantial multifamily development could occur on those sites as well. Through changes to Lee County regulations, those sites could be included as additional receiving areas for DR/GR TDRs.

Existing Density Receiving Areas

Since adoption of the original Lee Plan in 1984, the county has had two programs where allowable residential densities may be increased in predictable ways.

The first is a program to transfer residential development rights from wetlands to suitable development sites in designated urban areas. The second is a bonus density program to assist in providing affordable housing.

Either program could be augmented by allowing DR/GR TDRs to be acquired and used within these existing programs.

OTHER LAND DEVELOPMENT CODE ISSUES

Policy 30.3.4 indicates that the policies described under Objective 30.3 will require changes to the Land Development Code and that these changes are a high priority of Lee County and will be completed within one year:

> ***POLICY 30.3.4****: The Land Development Code will be amended within one year to specify procedures for concentrating existing development rights on large tracts, for transferring development rights between landowners, for seeking approval of additional acreage subdivisions, and for incorporating commercial and civic uses into Rural and Mixed-Use Communities as designated on Map 17.*

RURAL AND MIXED-USE COMMUNITIES

Lee County's conventional method for evaluating large-scale land developments is to review applications through the planned development rezoning process. If successful, this process results in the adoption of a specific site plan and special conditions that govern future development on the property.

This process is most useful under conditions such as these:

- Where the ultimate use of a specific property has not been predetermined by the Lee Plan.
- Where on-site conditions include complicating factors such as wetlands or wildlife habitat.
- Where off-site conditions have a significant impact on development potential due to existing nearby land uses or unanticipated adverse impacts on roads.

The planned development process addresses all of these issues and more; but the process tends to be quite lengthy and it offers much less certainty for approval than review processes that are conducted administratively.

The DR/GR planning process has already evaluated most of the special conditions that are normally addressed through the planned development process. Therefore development proposals in Rural and Mixed-Use Communities similar to those in Chapter 3 of this report should be approvable in a greatly streamlined manner.

A modified version of the Lee County development order process could evaluate compliance with the Lee Plan and other county regulations and the neighborhood design conventions described in this report. For Mixed-Use Communities, this process could also review drafts of conservation or agricultural easements on the land from which development rights are being moved.

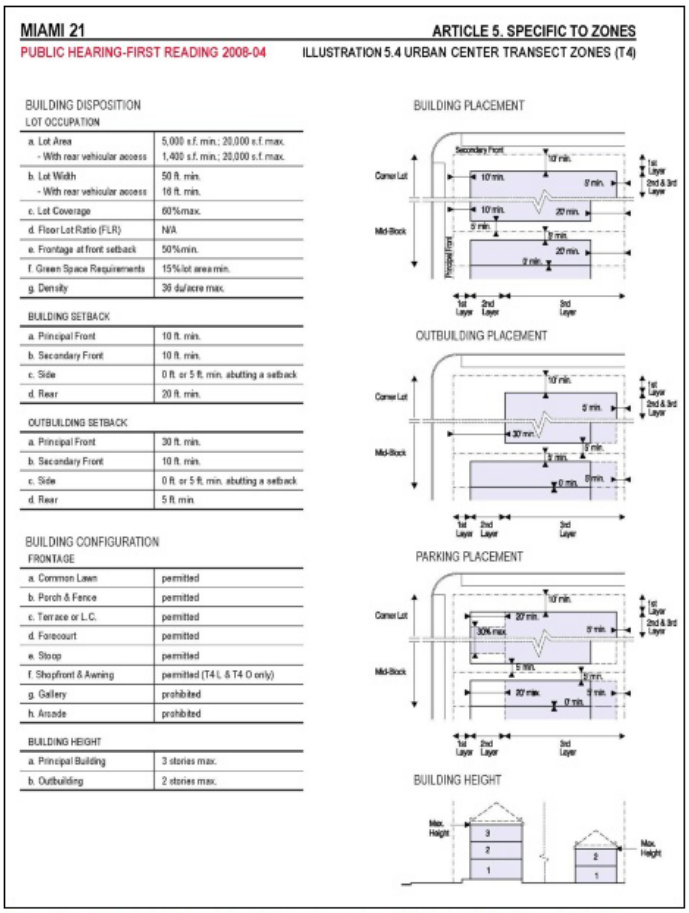
A similar streamlined process was adopted by Lee County in 2007 for reviewing development proposals in Greater Pine Island "Coastal Rural" areas (see *Land Development Code, Division 5, Chapter 34*). That process could be adapted for the DR/GR area and then be used to review development proposals for Rural and Mixed-Use Communities in place of the conventional planned development process.

This adaptation would need to resolve issues such as these:

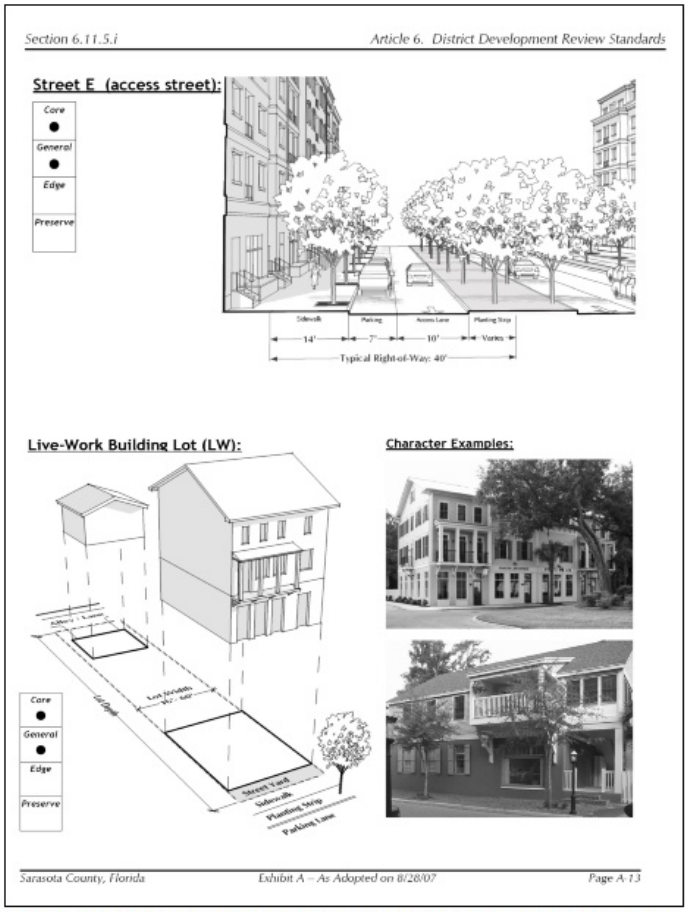
- What changes to the existing AG-2 zoning would be required so that these development projects would not require rezoning?
- For phased developments, what special rules would apply so that initial phases could succeed on their own but later phases would seamlessly integrate with the earlier phases?
- How much detail should be provided in the Land Development Code as to site design details? To what extent could site plans diverge from the preliminary plans shown in Chapter 3 of this report yet still qualify for administrative approval? Provisions would be made for development applicants who do not wish to meet all the requirements for immediate issuance of a development order to use the planned development rezoning process to request deviations from certain requirements.

In order to carry out an administrative review of DR/GR development proposals, the code revisions would use a variety of form-based coding techniques. Table C describes some fundamental differences between conventional zoning codes and form-based codes. Figure 3 shows excerpts from two recent form-based codes in Florida.

TABLE C – Comparison of Conventional Zoning Codes and Form-Based Codes	
Conventional Zoning Codes	**Form-Based Codes**
Buildings can be placed randomly on large parcels, essentially ignoring the placement of adjoining buildings	*Focuses on the placement and bulk of buildings in order to create a defined "public realm"*
Codes generally do not apply to streets, sidewalks, or other public spaces	*Merges planning for streets, sidewalks, and public spaces with planning for new buildings*
Fairly general; most requirements are proscriptive (what CANNOT be done)	*Quite detailed; many requirements are prescriptive (what SHOULD or MUST be done)*
Describes most rules with words and matrices	*Describes most rules with a combination of words, matrices, and graphics*
Focuses heavily on the regulation of specific uses of land; building form is very secondary	*Focuses on the form of buildings and public spaces more heavily than on uses of land*



Form-based code excerpts: From proposed "Miami 21" SmartCode



Form-based code excerpts: From Sarasota County Mixed-Use Infill code

Figure 3

NEW ACREAGE SUBDIVISIONS

Three different approaches are suggested in this report to counter the careless practice of requiring 10 acres for each residential lot. The first is to create a more favorable by-right option for owners of large tracts, as described earlier in this section.

Considerable consolidation of development rights on DR/GR land is now allowed without the need for rezoning, although this practice is not publicized nor encouraged by existing policies. All new lots must still meet agricultural zoning requirements including a minimum lot size of about an acre. Even minimal commercial uses that would serve local residents are not permitted. The regulations that govern these approvals do not require the use of advanced site planning techniques or protection of certain sensitive environmental features such as flowways. Also, there are no provisions at this time for this consolidation of development rights to be permanently recognized in public records through a formal agricultural or conservation easement.

These shortcomings could all be corrected through Land Development Code amendments.

One approach would be to require special approval before new acreage subdivisions could be created. This process would allow the evaluation of the need for additional acreage subdivisions in the DR/GR area and the proposed placement of the subdivision relative to future limerock mining areas, restoration areas, and other ongoing activities in the DR/GR. A likely method would be to require a "special exception" for subdivisions of five or more lots, which under current county rules could be granted by the Lee County Hearing Examiner. Subdivisions of four or fewer lots would continue to be approved administratively without a public hearing.

Another approach would be to require the planned development rezoning process be used for larger acreage subdivisions or subdivisions of land where a more thorough site planning and review process is warranted by physical conditions.

Neither of these processes would apply to development within designated Rural or Mixed-Use Communities on Map 17 of the Lee Plan.

TDR BANK

Policy 30.3.5 indicates Lee County's intention to find a funding source for a "TDR bank" for the new DR/GR TDR program. This bank would offer to purchase development rights for later resale; this would give potential sellers the opportunity to sell rights even if no developer is ready to use them, and give potential development applicants the opportunity to obtain the necessary rights without seeking them on the open market:

> ***POLICY 30.3.5****: By 2012 Lee County intends to establish and fund a DR/GR TDR bank which will offer to purchase development rights for resale in the TDR system. The purpose of this program is to give potential sellers the opportunity to sell rights even if no developer is ready to use them and to give potential development applicants the opportunity to obtain the necessary rights without seeking them on the open market.*

Development rights could of course still be sold on the open market at any time.

The TDR bank proposal is an outgrowth of ongoing consideration of severing development rights from land that has been purchased by Lee County for conservation purposes and then using the resale value of those rights to acquire additional conservation lands. Instead of severing development rights and reselling them, those rights may be more valuable if retained with the property and later used for mitigation purposes for future county projects such as roads or expansion to the airport.

Given the current real estate market, there are two different strategies that Lee County could follow in establishing a TDR bank. One strategy would be to delay establishing the bank until such time as there are potential buyers who have been unable to obtain TDRs from private landowners or from private brokers. Another strategy would be to take advantage of the current situation where there are very few buyers looking for vacant land and thus TDR values are likely to be lower now than they will be in the future. The county could purchase a fixed number of TDRs (perhaps 100) from the most motivated sellers and plan to hold them for up to five years; a reverse auction could be used to identify those willing to sell TDRs at the lowest price.

Proposed Goal, Objective, & Policies

GOAL 30: SOUTHEAST LEE COUNTY. To protect natural resources in accordance with the County's 1990 designation of Southeast Lee County as a groundwater resource area, augmented through a comprehensive planning process that culminated in the 2008 report, Prospects for Southeast Lee County. To achieve this goal, it is necessary to address the inherent conflict between retaining shallow aquifers for long-term water storage and extracting the aquifer's limestone for processing into construction aggregate. The best overall balance between these demands will be achieved through a pair of complementary strategies: consolidating future mining in the traditional Alico Road industrial corridor while initiating a long-term restoration program to the east and south to benefit water resources and protect natural habitat. Residential and commercial development will not be significantly increased except where development rights are being explicitly concentrated by this plan. Most agriculture can continue, and environmental restoration can begin. This goal and subsequent objectives and policies apply to Southeast Lee County as depicted on Map 16.

OBJECTIVE 30.3: RESIDENTIAL AND MIXED-USE DEVELOPMENT. Designate on a Future Land Use Map overlay existing rural residential areas that should be protected from adverse impacts of mining and locations for concentrating existing development rights on large tracts.

POLICY 30.3.1: Existing acreage subdivisions that are not in or near Future Limerock Mining areas are shown on Map 17. These subdivisions are reasonably distant from adverse external impacts such as natural resource extraction.

POLICY 30.3.2: Unsubdivided land is too valuable to be consumed by inefficient land-use patterns. Although additional acreage or ranchette subdivisions may be needed in the future, the preferred pattern for using existing residential development rights from large tracts is to concentrate them as compact internally connected Rural and Mixed-Use Communities along existing roads away from Future Limerock Mining areas. Map 17 identifies future locations for Rural and Mixed-Use Communities where development rights can be concentrated from major DR/GR tracts. Rural Communities will be predominately residential but are encouraged to incorporate minimal commercial and civic uses that would serve rural residents.

POLICY 30.3.3: Owners of major DR/GR tracts without the ability to provide direct access to SR 82 are encouraged to transfer their residential development rights to future Mixed-Use Communities along SR 82 (see designated areas on Map 17). These transfers would avoid unnecessary travel for future residents, increase housing diversity and commercial opportunities in nearby Lehigh Acres, protect existing agricultural lands, and allow the conservation of larger contiguous tracts of land.

1. *To this end Lee County will establish a program that will allow and encourage the transfer of upland and wetland development rights (TDR) from one landowner to another who wishes to develop a Mixed-Use Community or wishes to exercise these development rights outside the DR/GR area. This program will be in addition to the existing wetland TDR program described in Article IV of Chapter 2 of the Land Development Code.*
2. *In 2009 an exception was made to the requirement in Policy 1.4.5 that all DR/GR land uses must be compatible with maintaining surface and groundwater levels at their historic levels. Under this exception, Mixed-Use Communities may be constructed along SR 82 on land so designated on Map 17 provided the impacts to natural resources including water levels and wetlands are offset through appropriate mitigation within Southeast Lee County.*
3. *Within the Mixed-Use Communities shown on Map 17, significant commercial and civic uses are encouraged. Specific requirements for incorporating these uses into Mixed-Use Communities will be found in the Land Development Code.*

POLICY 30.3.4: The Land Development Code will be amended within one year to specify procedures for concentrating existing development rights on large tracts, for transferring development rights between landowners, for seeking approval of additional acreage subdivisions, and for incorporating commercial and civic uses into Rural and Mixed-Use Communities as designated on Map 17.

POLICY 30.3.5: By 2012 Lee County intends to establish and fund a DR/GR TDR bank which will offer to purchase development rights for resale in the TDR system. The purpose of this program is to give potential sellers the opportunity to sell rights even if no developer is ready to use them and to give potential development applicants the opportunity to obtain the necessary rights without seeking them on the open market.

Map 17

This revision to proposed Map 17 shows a Mixed-Use Community on western Corkscrew Road in place of an earlier proposal for a Rural Community at that location. All other designations on this map are unchanged.

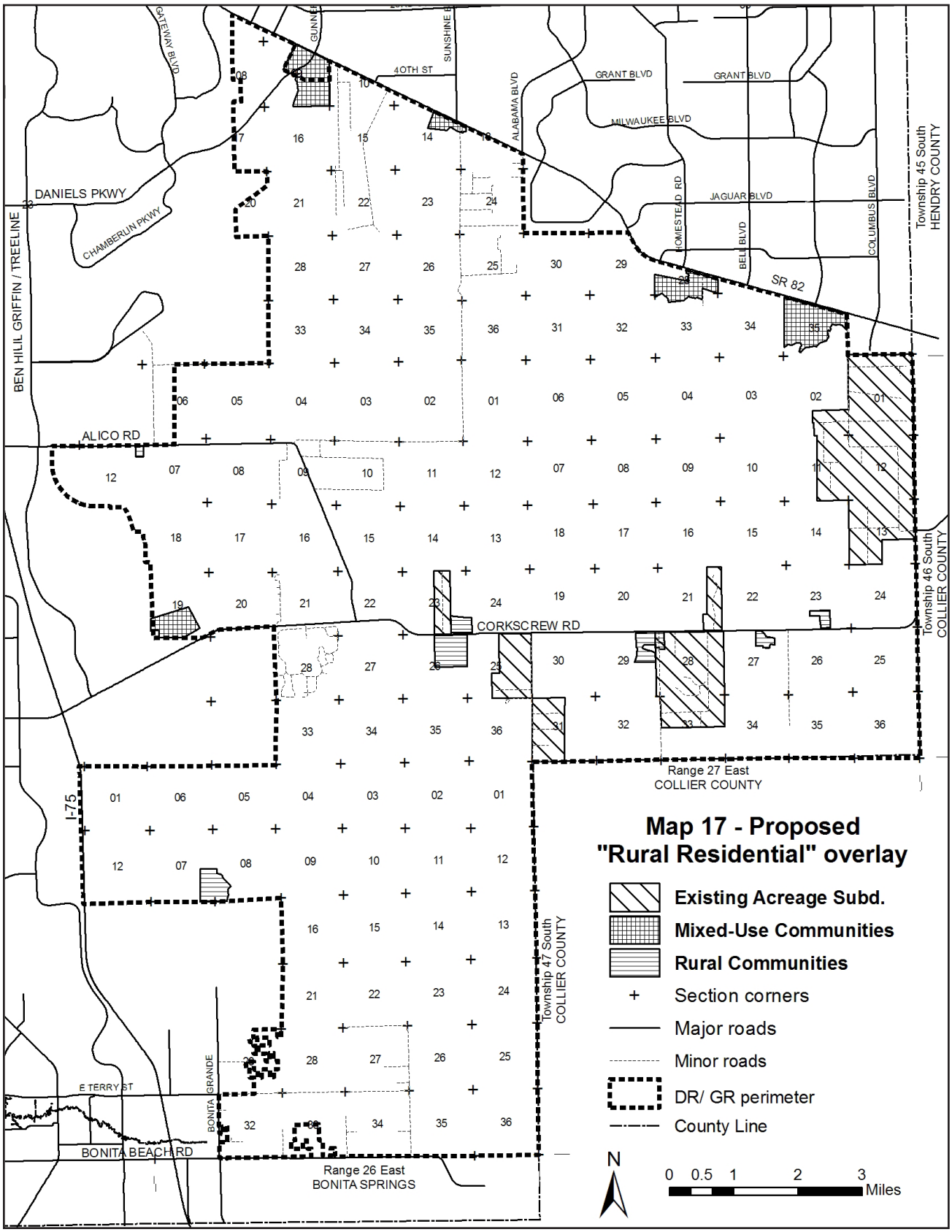


Figure 4

Other SW Florida TDR Concepts

This section described other TDR concepts that are either in effect today or have been under consideration in southwest Florida. It is clear that interest in using transferable development rights remains high and that each program has been heavily customized while attempting to merge specific policy goals with realities of the local real estate market.

Lee County

The 1984 Lee Plan established the basis for the first TDR program in southwest Florida.

Unlike the proposed DR/GR TDRs and all of the other TDR programs described in this section, Lee County's program was designed to move development rights only into designated urban areas. This program limited receiving areas to areas designated Intensive Development, Central Urban, or Urban Community on the Lee Plan's future land use map. These rights may not be used in the DR/GR area or on any coastal islands.

A second program conceived in 1984 was a bonus density program to assist in providing affordable housing. Developers can achieve bonus densities by contributing to an affordable housing trust fund or by constructing affordable housing on a development site and restricting the sale or rental of these units to households meeting certain income standards.

Detailed regulations were adopted by 1986 ordinances to implement both programs.

Given the fairly high development levels that the Lee Plan had already granted to most urban land, both programs were hampered from the start by not complying with several of the principles for successful TDR programs as described in Chapter 2 of this report.

Both programs have had some success in carrying out their purposes, but participation has been considerably less than originally anticipated.

An additional TDR program had been contemplated for Lee County's DR/GR area about eight years ago by county officials and private parties under the umbrella term "Greenway Plan" (not to be confused with the *Lee County Greenways Multi-Purpose Recreational Trails Master Plan* which was adopted into the Lee Plan in 2007).

The county's pre-existing TDR program can not be successful in protecting the DR/GR lands because its sending areas are limited to wetlands; also, its receiving areas are limited to those intense future urban areas that are allowed bonus density. The proposed Greenway Plan would have supplemented the existing TDR program.

The plan proposed to identify private DR/GR uplands and wetlands in greatest need of environmental protection and to establish greenway overlay zones on these properties. The plan would then allow the transfer of development rights from these lands to lands both within the DR/GR and to other rural areas.

This program had considerable potential to protect sensitive lands but it also has potential to be counterproductive. For instance, the creation of TDRs would have required the displacement of agriculture. Also, the receiving areas would have increased actual development deep in the DR/GR and created expectations for additional development in the future. Those effects would increase the market value of land in and around the very areas that are being designated for protection and would introduce development into areas where county policy has declared it to be unwise.

The Lee Plan amendments and TDR program proposed in this series of reports are designed to meet all the essential goals of the Greenway Plan while eliminating most side-effects through the careful selection of eligible receiving areas and by allowing agriculture to continue on land that has given up its residential development rights.

An additional TDR program was authorized by a 2005 Lee Plan amendment. Existing farmland on Pine Island would become primary TDR sending areas; receiving areas would be urban sites located above the Category 1 storm surge zone. Details of this program will be placed in the Land Development Code.

COLLIER COUNTY

After successfully challenging Collier County's growth management plan in 1999, state officials ordered a "Collier County Rural and Agricultural Area Assessment" to protect wetlands, farmland, and habitat for listed species and to limit urban sprawl while planning for future growth in eastern Collier County. This assessment was conducted in two parts, resulting in two different rural plans. Both plans resulted in programs to transfer development rights.

Rural Fringe

The first is known as the "Rural Fringe" planning program, which affects 72,180 acres of land between Naples and Golden Gate Estates (60% of which are wetlands). This land is broken into over 5,000 individual parcels, with had a pre-existing density of 1 DU per 5 acres.

This program assigned all 72,180 acres into one of three categories, primarily based on their environmental value:

- Land with the highest degree of environmental sensitivity, including significant wetlands, uplands, and habitat for protected species, was designated as a "Sending Zone" (56%).
- Land that has been disturbed or has a lesser degree of environmental value was deemed most appropriate for development and was designated as a "Receiving Zone" (31%).
- Land that fell between the first two categories was designated as a "Neutral Zone" (13%).

These designations were made as regulatory subcategories on the Future Land Use Map. A combination of regulations and optional incentives are provided to accomplish a major transfer of development from Sending Zones to Receiving Zones in a way that could be beneficial to both sets of landowners.

In Sending Zones, mining is no longer allowed, and landowners may construct only 1 DU per 40 acres. To offset this reduction of 8 times the previous density, several offsets are provided. If a landowner sells TDR credits to a landowner in a Receiving Zone, the credits are worth a minimum of 1 DU per 5 acres (the previous density on this land). TDR credits cannot be sold for less than $25,000 each; once a TDR credit is sold, agricultural uses can continue but cannot be intensified. A second DU per 5 acres (an increase of 2 times the previous density) is granted contingent on county acceptance of a "restoration and management plan" that includes removal of exotic vegetation. There are additional bonuses of 1 DU per 5 acres for donation of the land to a public agency and for those who create TDRs by a fixed date (to stimulate the market by making TDR credits available as soon as possible).

In Receiving Zones, landowners also retain the previous density of 1 DU per 5 acres, but the density may be increased through the purchase of additional development credits from landowners in Sending Zones. These credits can be used to construct extra dwelling units on parcels of at least 40 acres, or the extra units may be provided in up to four "rural villages" of at least 300 acres each, which must be approved through a PUD zoning process.

In Neutral Zones, most prior rules are maintained, including the original density cap of 1 DU per 5 acres.

Chapter 2 of this report contains additional details about the formulation of the TDR program for the "Rural Fringe."

Rural Land Stewardship

At about the same time, Collier County created a second program, a "Rural Land Stewardship" (RLS) planning program that affects 195,000 acres of land east of North Golden Gate Estates. This land includes Collier County's most productive agricultural land centered around Immokalee. The pre-existing density there was also 1 DU per 5 acres.

Six private entities that owned a majority of this land funded this planning effort. From the outset, a stewardship system was anticipated, defined as an "incentive-based system not dependent on a regulatory approach." The fundamental concept is to allow farming companies to extract financial value from their land by restricting certain potential uses while retaining most of the land for continued farming.

Conventional regulations provide a list of "permitted uses" based on the land's zoning district. Landowners may choose any use from this list, and may change uses in the future based on the list in effect at that time, but typically can only put an acre of land to a single use. Under the RLS program, the entire list of permitted uses (and to a lesser degree, conditional uses) are in effect authorized simultaneously. The permanent removal of

some of those uses from future lists is deemed "compensable" to landowners. Landowners now qualify for compensation even for uses they are not exercising or may not wish to exercise, including uses that are not economically feasible or are not permittable due to other regulations. For instance, eliminating the right to build subdivisions or golf courses in major sloughs has been deemed compensable.

This compensation may come in the form of cash from public agencies to acquire the land or more likely as "Stewardship Credits" which can be redeemed for approval to develop other land. The redemption rate is one acre of development for every eight stewardship credits.

To establish the number of stewardship credits that can be granted, a scoring system was calibrated to meet natural resource protection goals. This system is much more nuanced than TDR programs that are based more on the quantity of acres protected than on their quality. However, the scoring system is too complex to be included in the comprehensive plan or other published documents so it is difficult to evaluate in a general way the compensation that will be granted to landowners in return for the restrictions they apply to their land.

Under this plan, every privately-owned acre was first evaluated based on natural resource attributes, resulting in an objective score for each acre. High-scoring land qualifies for a greater number of stewardship credits. A second classification was then created of all potential uses of land under previous regulations, which were grouped into "layers" of potential uses. This program offers more stewardship credits as landowners agree to permanently forgo (or "remove") an increasing number of potential uses from their land.

When a landowner elects to keep a tract of land in permanent rural or conservation uses, that land becomes designated as a Stewardship Sending Area (SSA) and the property owner is compensated with stewardship credits based on the tract's natural resource attributes and the number of potential uses that are permanently eliminated. Land that meets defined suitability criteria can become a Stewardship Receiving Area (SRA) and be developed either as a town, a village, a hamlet, or "compact rural development." To date, one SRA has been established for the new town of Ave Maria, which includes a private university and up to 11,500 DUs on 5,000 acres of land.

Sarasota County

For many decades, Sarasota County regulations had limited density on most "Rural" lands east of I-75 to 1 DU per 5 acres (with no distinction between uplands and wetlands). In 2002 county officials adopted a "Sarasota 2050" plan that established a series of voluntary overlay zones in the county's comprehensive plan. If landowners elect to comply, they can benefit in two ways:

1. By increasing their development rights, in some cases dramatically, and selling those rights to other landowners; or
2. By building a village on their property, using a combination of their own development rights and those purchased from others.

The "Village/Open Space" overlay in northern Sarasota County will see the greatest amount of new development; it was applied to about 32% of "Rural" land. The most valuable environmental features, another 40%, were included in a separate "Greenways" overlay so that new villages won't destroy those features. An "Agricultural Reserve" overlay was applied to 15% of "Rural" near the Desoto County line north of the city of North Port; new villages cannot be built there. Another overlay was applied to 10% of "Rural" lands that were already subdivided into ranchettes.

Because Sarasota 2050 relies completely on voluntary compliance, exceptional incentives were deemed necessary to protect natural habitats and productive farmland. These incentives are provided as density increases which can be used on adjoining land that is developed as a new village. They can also be sold to other landowners, or potentially to Sarasota County. The density increases are based on a sliding scale; some examples are provided here:

- Preserving scrub habitat is allowed the largest increase: 10 times the regular density.
- Preserving pine flatwoods: 9 times the regular density.
- Preserving streams and wetlands: 8.25 times the regular density.
- Maintaining pastureland, citrus, or row crops: 5 times the regular density.
- Keeping lakes and regional stormwater facilities: 2.85 times the regular density.

To build a village, a developer must acquire sufficient development rights either through transfers from portions of their own land or through the purchase of development rights from others. Villages can include 1,000 to 3,000 acres of developed land. Within the developed land, densities can range from 3 to 5 DUs per acre. It is a developer's responsibility to acquire enough development rights to meet the rigorous density and design requirements and to demonstrate the proposed village's "fiscal neutrality."

The first village proposed under this program is currently in the approval process. It is called "Villages of Lakewood Ranch South" and would place 5,000 homes east of I-75 near the Manatee County line.

Highlands County

Outside the cities of Avon Park, Sebring and Lake Placid, land in Highlands County is primarily used for cattle ranching and citrus production. A density cap of 1 DU per 5 acres applies to 490,000 acres of land that is designated for agriculture on the county's future land use map.

County officials are anticipating several applications under the state's rural land stewardship program for major new developments on existing farmland. They also continue to contend with substantial pre-platted but undeveloped land.

To address these concerns, county officials are now reviewing a new rural area plan that proposes the expanded use of transferable development rights to optimize future development patterns. TDRs would become the only way that residential densities could be increased within areas designated for agriculture.

As in Sarasota County and in Collier County's rural land stewardship program, the Highlands County program would be completely voluntary. The county would provide very significant density bonuses to induce landowners to participate. Significant attempts are being made to achieve much of the sophistication of the Collier program while still allowing the public to understand what bonuses are being offered to large landowners.

A new "rural area overlay" would be created to define TDR sending and receiving areas. Three tiers would be defined for each: the most sensitive sending areas would be granted the highest density bonuses, and the receiving areas most suitable for urban development would be granted additional high density bonuses. Lower tiers of land would be granted lower bonuses.

County officials are currently reviewing several alternatives as to how the sending and receiving areas might be depicted on the proposed rural area overlay maps. The anticipation is that all development that uses the new TDR program would occur in the form of a town, hamlet, or compact urban or economic development.

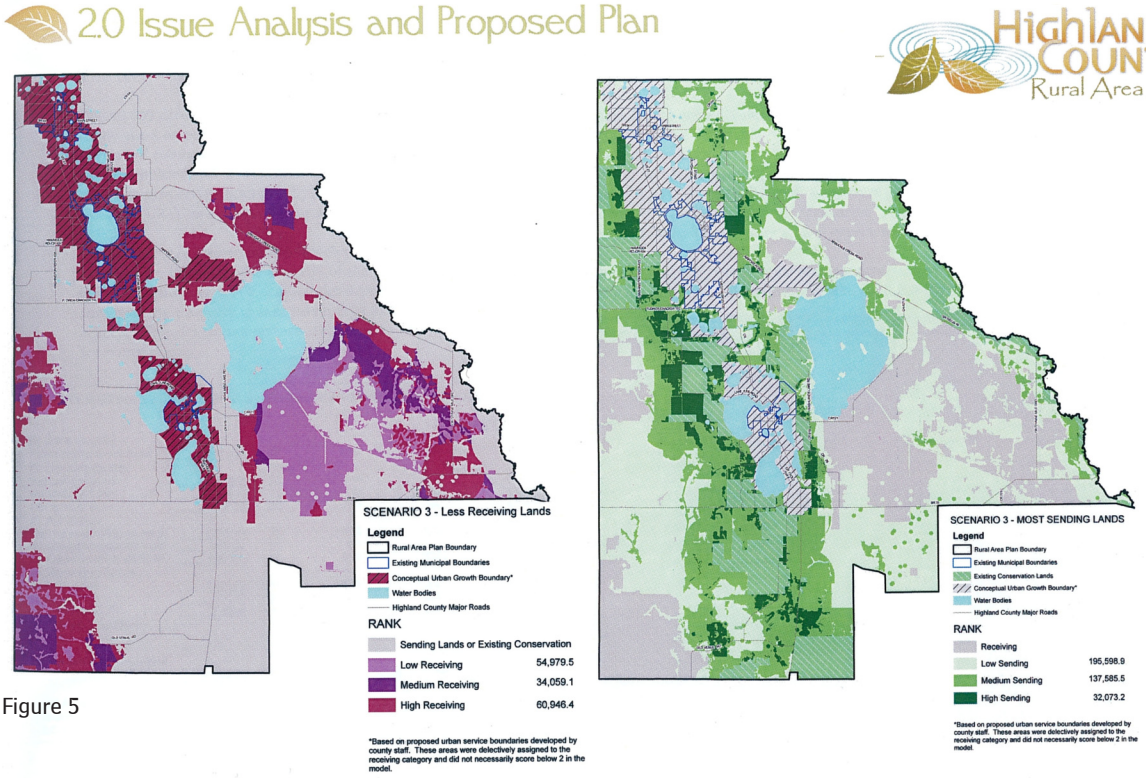


Figure 5

Top 10 Success Factors of Leading TDR Programs Nationwide

The *Journal of the American Planning Association* recently published a comprehensive survey and evaluation of 191 Transferable Development Right (TDR) programs nationwide. The article identified the elements which make successful TDR programs; the 20 programs which have preserved the most acreage tended to have 10 factors in common. These 20 programs have collectively protected over 350,000 acres. Each factor is summarized below (in italics), then discussed in relation to the TDR program proposed for Lee County's DR/GR area.

Factor 1: Demand for Bonus Development

The extra density and units provided by a TDR program must be sought by developers.

Although the recent downturn in the economy has decreased the demand for development, Florida's population continues to rise. The market demand for new communities such as the Fountains Town Center that has been proposed at the intersection of State Road 82 and Daniels Parkway can be expected to resume. Of the 20 leading TDR programs, all 20 were located in areas with long-term market appeal. In Florida they include the TDR programs of Palm Beach County, Collier County, Sarasota County and Miami/Dade County.

Factor 2: Receiving Areas Customized to the Community

The receiving areas which will host extra density must be able to accommodate the density both physically and politically.

This is essential to a TDR program's success. Receiving areas should have adequate infrastructure, be located where there is a market for higher density, be clearly designated in the Comprehensive Plan, and be acceptable to future neighbors.

In the DR/GR State Road 82 and Corkscrew Road provide access to the proposed receiving sites. The proposal for the Fountains project suggests that, in time, there will be demand for new communities in Southeast Lee County. The exact boundaries of the new communities are proposed to be added to the Lee Plan and a regulating plan for each community showing streets, blocks and development intensity is proposed for the County's land development regulations. While political consensus and neighbor approval is hard to predict, the environmental benefits of compact communities surrounded by conserved land versus large-lot subdivisions is generally understood.

The new communities along State Road 82 are also typically seperated from existing neighborhoods. This is similar to the Sarasota County and Rural Lands Stewardship Program in Collier County which provided "new town" sites in relatively isolated locations, thus triggering little resistance from neighbors.

Factor 3: Strict Sending Area Development Regulations

The stricter the development regulations of sending areas, the more likely the TDR program will be utilized because it is to the advantage of developers to build in receiving areas.

One-unit-per-five-acres of land was found to be a threshold density strict enough to encourage the use of a TDR program. In the DR/GR the requirement is even stricter at one-unit-per-ten acres for dry upland and one-unit-per-twenty acres for wetlands. The most successful TDR program in the country in Montgomery County, Maryland, further discouraged development in sending areas by downzoning its 90,000-acre sending area from one unit per five acres to one-unit per-twenty five.

Factor 4: Few or No Alternatives for Achieving Additional Development

TDR programs were found to be less successful when additional density could be secured through other means, including rezonings or density bonuses for clustering units.

During its roughly 20-year history, large tracts of land have been removed from the DR/GR for Florida Gulf Coast University through annexation to neighboring municipalities, to allow new golf course communities, and to create additional space for the Southwest Florida International Airport. Yet in recent years the County has not been inclined to redesignate lands. To the degree that the County continues this policy, a TDR program will be the only way to build complete communities within the DR/GR.

Factor 5: Market Incentives: Transfer Ratios and Conversion Factors

Of the programs surveyed, 15 of 20 used enhanced transfer ratios in which there was at least one bonus unit granted for every one unit transferred.

The transfer ratio proposed for the DR/GR has a similar one-to-two transfer ratio for 10-acre tracts preserved by conservation easement and may be incentivized by a one-to-three transfer ratio for tracts whose natural condition is restored.

"What Makes Transfer of Development Rights Work? Success Factors From Research and Practice"
by Rick Pruetz and Noah Standbridge, Vol. 75, No. 1, Winter 2009 of the Journal of the American Planning Association

Factor 6: Ensuring That Developers Will Be Able to Use TDR

The most successful TDR programs have built-in approval certainty for participating developers.

Many developers avoid projects where approval is uncertain. Costly, time-consuming and subjective application processes which may result in significant alterations are also unattractive to developers.

The proposed regulatory program includes what are essentially pre-approved densities and site plans for receiving sites. Landowners, investors, neighbors, and permit-granting agencies all know the density, intensity, and character of the development which allows for a streamlined permitting process. 14 of the most successful programs nationwide include a high degree of assurance in the approval process.

Factor 7: Strong Public Support for Preservation

Of the 20 leading TDR programs, 13 demonstrated municipal and public support for land preservation with complimentary conservation programs.

Lee County's commitment to conservation is described throughout the Lee Plan and evidenced through ongoing efforts such as the Conservation 20/20 program which has purchased large tracts within the DR/GR. Other entities such as the South Florida Water Management District, CREW Land & Water Trust, Lee County Port Authority Mitigation Bank, and the National Audubon Society all have active acquisition programs; many other groups, including the DR/GR's highly involved resident community, assure ongoing public support for conservation.

Factor 8: Simplicity

Uncomplicated regulatory systems often function best. Accordingly, 12 of the 20 leading TDR programs were found to be relatively simple to participate in and administer.

TDR programs such as in the Florida Keys, where the many gradations of environmental habitat equate to higher transfer ratios, involve detailed environmental assessments which can be time-consuming and discretionary. By contrast, the system proposed for the DR/GR involves only two distinctions in TDR sending areas: uplands and wetlands..

Receiving sites designed according to well-established design principles adds value to each project and provides an incentive to prospective developers. They also provide a relatively "turn-key" program for the County. The location and type of development are clearly explained by the plans.

Factor 9: TDR Promotion and Facilitation

Outreach to developers, land owners and the general public is a key element of successful TDR programs.

A website, regular press releases and visually-compelling background documents can help advertise the program. The New Jersey Pinelands website reportedly aims its educational programs at both children and adults. The various well-organized conservation organizations involved in the protection of the DR/GR are also likely to lend their resources to help promote the options provided by the program.

Factor 10: A TDR Bank

The four most successful TDR programs studied have TDR banks.

A TDR bank is proposed for Lee County which could buy and resell TDRs to facilitate the program. A TDR bank can play an active role in protecting the DR/GR by purchasing TDRs from sending areas in times of depressed land values, reselling during construction peaks, and using the proceeds to buy additional TDRs. In Palm Beach County most of the land preserved has been through purchases made by their public TDR bank.

Of the 10 factors identified in this article, the authors concluded that the first two (*Demand for Bonus Development* and *Customized Receiving Areas*) are critical to program success; the next three are extremely important (*Strict Sending Area Development Regulations*, *Few or No Alternatives for Achieving Additional Development*, and *Market Incentives*); and the remaining five are helpful but not essential. The TDR program proposed for the DR/GR incorporates all 10 factors. The ultimate success of any TDR program depends on many factors including the robustness of the real estate market over time. The economic and political foundation of the proposed DR/GR program appears very promising based on this review of successful TDR programs nationwide.

"What Makes Transfer of Development Rights Work? Success Factors From Research and Practice"
by Rick Pruetz and Noah Standbridge, Vol. 75, No. 1, Winter 2009 of the Journal of the American Planning Association