



COMMUNITY PLANNING ASSISTANCE TEAM

Wakulla Gardens: Retrofit Challenge

Final Report
Wakulla County, FL
December 18, 2012



American Planning Association

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The following individuals and organizations also deserve thanks for their generous monetary donations to the project: Habitat for Humanity, Commissioner Alan Brock, Commissioner Randy Merritt, Commissioner Mike Stewart, Commissioner Jerry Moore, and County Commission Candidate Emily Smith.

We would also like to thank the kind people of Wakulla Gardens that came out to tell us about their community and share their vision of Wakulla Gardens' future.



1. EXECUTIVE SUMMARY

The Team prepared this report after studying the CPAT application and materials prepared by the Wakulla County; meeting with residents, advocates, stakeholders, officials, and private sector representatives; conducting field investigations of Wakulla County and Wakulla Gardens; and extensive discussion and evaluation of the varied possibilities and concerns. We offer this report as a reference document for all those interested in the future planning of Wakulla Gardens.

The full report organization presents:

- An overview of Wakulla Gardens and the CPAT program
- Recommendations for community cohesion
- Recommendations for infrastructural deficits
- Recommendations for density reduction
- Recommendations for a further development and financing opportunities

The CPAT program provides an independent, professional, 3rd-party planning analysis and suggested planning approach. *It is not a definitive plan, but information, analysis and suggestions on how to plan Wakulla Gardens.* Wakulla Gardens is a community with serious infrastructural issues that stand to severely inhibit future growth and development. However, if these issues are addressed correctly, Wakulla Garden has the potential to serve a vital purpose for the Tallahassee metro area and Florida panhandle region.

This report offers two main types of recommendation: social and infrastructural. A major social recommendation is the creation of a community organization that would take initiative in Wakulla Garden needs and foster cooperation between Wakulla Garden and Wakulla County. The report also advocates for youth engagement; an area Wakulla Garden currently neglects.

Infrastructural recommendations focus on roadways, wastewater, flooding, and density reduction. As a Floridian community, Wakulla Gardens is prone to flooding so much of the other areas of infrastructural improvement touch upon that. Many roadways in the community are unpaved. The report offers advice on paving those roads in an organized and efficient manner. For wastewater, the report recommends conducting cost evaluations on various sewer treatment methods. This evaluation should compare several small treatment systems against one large system for the whole subdivision. In 2011, Wakulla Gardens issued a report on flooding and this report supports much of its findings. Population density is a recent problem for Wakulla Gardens. This report recommends encouraging and fostering channels for dual purposing, lot consolidation, land swaps, and numerous other methods for the population to exist more efficiently.

In addition to social and infrastructural improvements, the report touches upon forces and trends Wakulla Garden can use to its advantage. These include building relationships with local business, educational institutions, and utilizing its natural beauty through ecotourism. The report also identifies various cash sources to fund Wakulla Gardens' future improvement projects.

2. PROJECT OVERVIEW

After submitting an application, Wakulla County was accepted to be the site for the CPAT program. Team Leader Stephanie M. Tillerson, AICP, and APA Senior Program Associate Thomas Bassett visited Wakulla County in May 2012 to see the project site and have initial meetings with various stakeholders. They saw various areas of Wakulla Gardens, which were set in a thick forest and off a main highway. The county is extremely rural, and Wakulla Gardens is very underdeveloped, seeing the road and stormwater issues. They were able to meet with the County Planning Staff, many of the County Commissioners as well as the Public Works Department. That evening they were able to attend a County Commission meeting where Wakulla Gardens was discussed. The Commission approved a survey of the subdivision's residents to assess the willingness of an additional assessment to fund road pavement. The results of the survey will be very integral to the CPAT project's focus. Most residents that spoke were in favor of the additional assessment, while the Public Works Department highlighted the need for additional services and would like to propose an additional assessment for that funding.

The full Team arrived in Wakulla County on Saturday, September 8 and started off with a site visit of Wakulla Gardens with the County Planning Staff. Over the next three days they held two community drop in meetings, which were well attended by residents and other concerned citizens. The Team also met with key stakeholders from both the public and private sector. The Team then worked to create new ideas to solve the large issues in Wakulla Gardens, trying to prioritize challenges, look for new funding, and to lay out an implementation strategy. The culmination of the work was a presentation on Tuesday, September 11 to the public. The Team presented their ideas for funding key infrastructure projects and targeting community organization among other strategies. The meeting was well attended and this report is the final culmination of the team's work.

3. INTRODUCTION

3.1. HISTORY AND BACKGROUND

Platted in the 1960s, Wakulla Gardens is a dense residential subdivision in the rural, but rapidly growing Wakulla County in the panhandle of Florida. The subdivision lacks essential infrastructure, including water, sewer, paved roads, and stormwater management. Some of the most pressing problems include flooded and occasionally impassable roads, flooded homes and septic tanks, and contaminated groundwater. The cost associated with retrofitting Wakulla Gardens with the needed water, sewer, stormwater, and paved roads was estimated at \$34,154,365.

Wakulla Gardens is the largest of five overplatted subdivisions in the County that were created in the 1950s and 1960s. These were land scams that were never actually intended to be developed. The subdivision is comprised of five 'Units' with 3,738 platted lots, roughly 2,500 of which are considered buildable, and 970 residences.

Many locals relate tales of lots from Wakulla Gardens being sold at county fairs across the United States by real estate speculators promising a retirement haven. This could be partly true, as Wakulla Gardens property owners are from across the country and around the world. More recently the 50 x 100 foot lots of the subdivision have been marketed as a lost cost suburban alternative to Tallahassee, as the region experienced a recent building boom.

While traditionally a rural county dotted with small fishing and farming communities, the County has been transitioning into a suburban residential community for the neighboring state capital of Tallahassee (pop. of roughly 180,000 at 2010 census). Prior to the economic downturn, Wakulla was one of the fastest growing counties in Florida, with a growth rate of 35% between 2000 and 2010.

Wakulla Gardens still retains many undeveloped lots some with dense hardwood forest, others with wetlands and some with karst features. Scientists have investigated local geology and suggest that an underground springs and cave system may extend into Wakulla Gardens. Zoning in Wakulla County has been in place only since 1985. Of the five Units in Wakulla Gardens, four are zoned R-1, allowing for 5 site built, single-family dwelling per acre of land. Unit 3 is zoned RMH-1, allowing five dwelling units per acre of land and permits both built homes and mobile homes.

In contrast, the land use designation for all Wakulla Gardens Units is Rural 2, which allows for 1 dwelling unit per 2 acres of land, where central water service is available. Where central water service is not available, the density is restricted to 1 unit per 5 acres. Portions of two of the subdivision Units lack public water service.

Over half of the county's adult population commutes to Tallahassee for work. While there are only two small incorporated municipalities in Wakulla, there are two urbanized unincorporated areas, each with special overlay districts in place or in the planning process. One of these is Crawfordville, the county seat. Wakulla Gardens is roughly five miles from Crawfordville.

3.2. AFFORDABLE HOUSING

Wakulla Gardens Subdivision fulfills a great need for people in Wakulla County. The community provides affordable housing options for low-moderate income individuals, first-time homebuyers and seniors living on fixed incomes. The homes in Wakulla Gardens, ranging in size from 900-1300 square feet offer much needed workforce housing for the more than 70% of residents who commute to Tallahassee for daily employment.

3.3. CHALLENGES FACED BY THE COMMUNITY

The Wakulla Gardens community faces the following challenges:

- **Roads:** The condition of the unpaved roads in Wakulla Gardens is the greatest concern to most subdivision residents, many of whom were told that the roads would be paved within a year of their property purchases. When it rains, the unpaved roads become muddy and deeply rutted, even impassable. This situation has improved somewhat since the County graded the roads and added a gravel base.
- **Flooding:** During heavy rains, portions of Wakulla Gardens flood. In 2005, a significant storm event caused severe flooding problems for many residents. Streets were blocked by flood waters and many residences and septic tanks were inundated. Severe flooding occurred again in 2009. During these storms, residents have no access to vital public services including ambulance, fire and rescue, and police protection.
- **Public Water:** Talquin provides public water service to all of Units 2-4 of Wakulla Gardens, but only portions of Unit 1 and 5. Property owners without public water rely on private wells, which are in some cases in close proximity to onsite wastewater systems. Wastewater contamination has been documented by the Health Department.
- **Wastewater Management:** All property owners in the subdivision utilize onsite wastewater treatment systems (cesspools and septic systems). These systems provide insufficient treatment to protect the groundwater and drinking water of Wakulla County.
- **Housing Recession:** Wakulla Gardens experienced considerable development in the 1980s and 1990s. Many of those first-time homebuyers did not anticipate the various infrastructure problems of Wakulla Gardens upon purchasing their homes. Like the rest of the Country, Wakulla Gardens was hit by the great recession with foreclosed and even abandoned homes. The County has since faced declining property tax revenues.

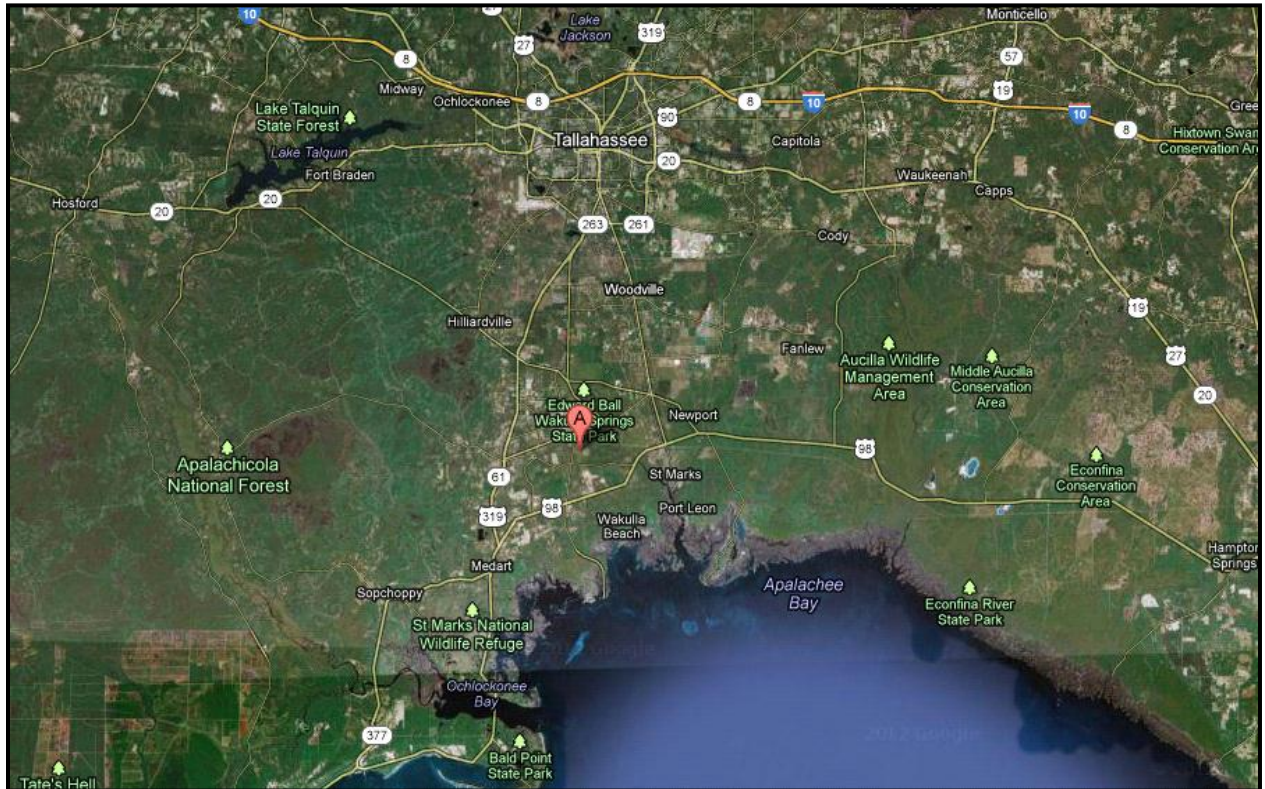


Figure 1-1: Wakulla Gardens location approximately 20 miles east of Tallahassee. Source: Google Maps

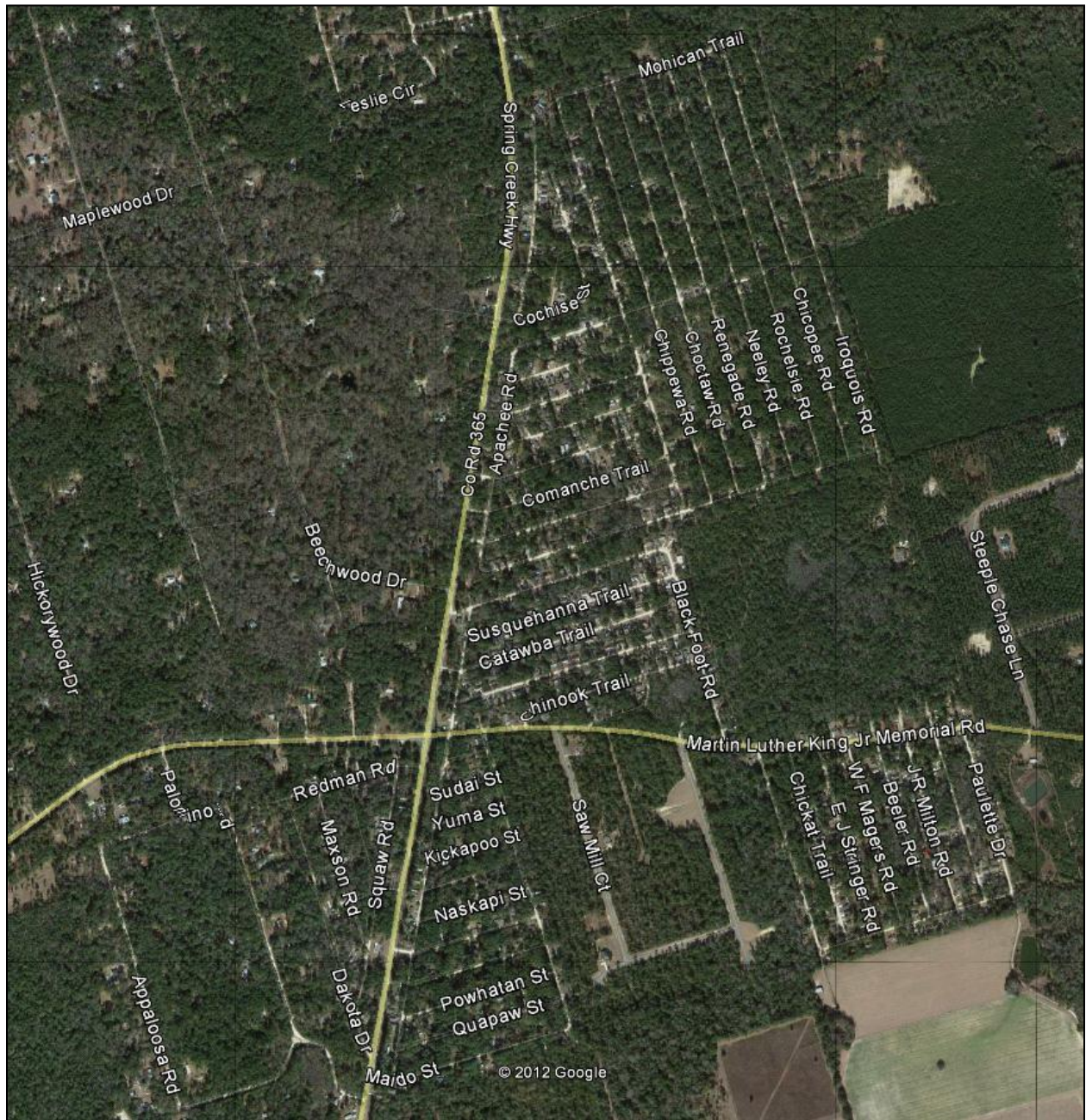


Figure 1-2: Aerial Map of Wakulla Gardens. Source: Google Maps

3.4. RECENT WAKULLA COUNTY INITIATIVES

The Board of County Commissioners has struggled over recent years to decide the best route to take to improve wastewater and stormwater management for Wakulla Gardens. After severe flooding in 2005, the Commission passed the "Special Flood Basin Ordinance". The ordinance states that any new home built in a flood basin that falls under FEMA flood zone "C" must be constructed with a finished floor elevation that is 12" above the crown of the facing road. Homes built in lots falling under FEMA flood zone "A" must have a finished floor elevation that is 18" above the crown of the road.

In 2008, Eutaw Utilities was hired to develop a plan to extend the sanitary sewer system to Wakulla Gardens, provide stormwater management and road paving, and determine the land acquisition required. The plan developed as a result of that work was too costly given the financial resources of the County.

On April 20, 2009, Commissioner Lynn Artz conducted a Commission workshop to explore infrastructure alternatives. One option that was explored was a redesign of the subdivision to reduce density and cluster future residences. This strategy would increase green space and lower the cost of infrastructure retrofits, allowing for the possibility of community sewer systems utilizing constructed wetlands. A second alternative considered during the workshop was a redesign of the subdivision to include a mixed-use town center to make residents less auto-dependent. Both proposals were deemed too complicated and too costly for the County due to limited funding for lot acquisition.

In 2009, the County made it possible to reduce the number of lots in the subdivision by encouraging owners of two or more adjacent lots to merge them. Property owners were encouraged to donate lots to the County for parks within Wakulla Gardens and a few did so. In 2010, the County applied 38,000 tons of gravel to many of the roads in the subdivision with funding from a FEMA mitigation grant. The gravel improved wet weather road conditions, but created dry weather dust problems. A sealant was considered, but proved cost-prohibitive. Recent re-grading has reduced the dust issue.

With road conditions improved, the County Commission identified stormwater as the next infrastructure issue to be addressed in Wakulla Gardens. Hydra Engineering was hired in 2010 to delineate Wakulla Gardens flood basins and develop a stormwater management plan. The County submitted a FEMA grant application based on the Hydra Engineering work for \$2.7M in stormwater improvements.

Inadequate funding for stormwater and sewer infrastructure continued to plague the County. In November 2011, the Commission proposed two possible mechanisms to generate infrastructure funding: 1) designating Wakulla Gardens as a Community Redevelopment Area (CRA) and/or 2) designating Wakulla Gardens as a Municipal Service Benefit Unit (MSBU) to levy a new infrastructure assessment on property owners. The CRA designation was dismissed, as there were already two or three other CRAs in the area. The MSBU designation was rejected based on the results of a survey of residents' willingness to pay an MSBU assessment fee.

3.5. THE COMMUNITY PLANNING ASSISTANCE TEAM

The American Planning Association's (APA) Community Planning Assistance Team (CPAT) is driven by APA's professional institute, the American Institute of Certified Planners (AICP). The CPAT initiative is a part of APA's broader Community Assistance Program.

Addressing issues of social equity in planning and development is a priority of APA and AICP. The Community Assistance Program, including the CPAT initiative, was created to express this value through service to communities in need across the United States.

Community assistance is built into the professional role of a planner. One principle of the AICP Code of Ethics and Professional Conduct states that certified planners shall aspire to "seek social justice by working to expand choice and opportunity for all persons, recognizing a special responsibility to plan for the needs of the disadvantaged and to promote racial and economic integration." Yet another principle is that certified planners should aspire to "contribute time and effort to groups lacking in adequate planning resources and to voluntary professional activities."

4. COMMUNITY COHESIVENESS AND REPRESENTATION

4.1. BACKGROUND

Wakulla Gardens is the largest single community in the County, with the potential to be even larger. Its residents represent a mix of incomes, ages, backgrounds, and needs. Some reside in the mobile homes of Unit 3, some in the homes constructed when the development was new, most others in homes constructed within the last decade. A number of Wakulla Gardens residents have come forward over the years to communicate the needs of their community to the County Commissioners and others. Unfortunately, no organization exists to represent all of its residents.

4.2. WAKULLA GARDENS NEIGHBORHOOD ASSOCIATION

The residents and property owners of Wakulla Gardens would benefit from an organization that creates a forum for community discussion on current and future issues that impact their quality of life.

Establishment of a neighborhood group or association could generate the kind of cohesiveness and enthusiasm needed to transform the Wakulla Gardens units into a real community. There are also tangible benefits that could come from a neighborhood association.

Representation and Communication

Although a number of Wakulla Gardens residents have actively interacted with Wakulla County staff and Commissioners, a single entity would that represents the community would be a better vehicle for communication between Wakulla Gardens residents, County staff, and elected officials. A Wakulla Gardens Neighborhood Association would be a simple yet powerful way to bridge any existing communication gap. The power of consistent and accurate communication cannot be understated.

Wakulla Gardens' residents, both owners and renters, need to make a concerted effort to come together to form a group or association to keep all informed and to interact with their government. In today's highly technological society maintaining communication is easier than ever. A Wakulla Gardens Neighborhood Association could establish regular dialogue between the residents of the Wakulla Gardens Subdivision and Wakulla County staff and elected officials insuring the transmission of accurate and consistent information and community concerns. A Wakulla Gardens Neighborhood Association could provide the County with residents' cell phone numbers for use in emergencies. Emergency alerts from Wakulla County public safety officials could then be sent instantly to residents via a *nixle* (reverse 911 text messages) system. Public meetings and community updates on issues that affect Wakulla Gardens can lead to improvements in the quality of life for residents of the subdivision.

Youth Involvement

It's important to include youth in community projects and communication efforts. Youth involvement can be coordinated by the young people of the community. In 2002, an American

Planning Association Outstanding Planning Special Community Initiative award was presented to the Youth Neighborhood Association Partnership Program of Las Vegas¹. In that youth-based initiative, teenagers came together to do community projects such as repainting fire hydrants, planting a neighborhood garden, and assisting the elderly and disabled with difficult tasks or those requiring heavy manual labor. Stephen Harsin, AICP said of the program, *"We wanted to get to the people part, getting people involved so they take ownership of their own neighborhoods and their own communities."*

An organized neighborhood group can hold a *'Make a Difference Day'* or a *'Lend a Hand Day,'* where residents assist their older and disabled neighbors by removing storm debris and repairing damage, mowing lawns and cleaning up yards. Other projects might include building a fence, painting, or even running errands. Coordination of such a regular assistance effort can be the responsibility of a neighborhood association and can help develop real community spirit. Involving the youth of Wakulla Gardens can help reduce vandalism by increasing pride in the community and communication between all of its residents.

CPAT recommends the establishment of a Wakulla Gardens Neighborhood Association.

4.3. COMMUNITY PROJECTS COORDINATED BY THE NEIGHBORHOOD ASSOCIATION

A Wakulla Gardens Neighborhood Association could initiate, coordinate, and manage community improvement efforts to improve community cohesiveness, spirit, and property values. Either of two such initiatives, a community garden or a neighborhood playground could be launched immediately with assistance from the County.

A Neighborhood Playground

Wakulla County owns a number of lots throughout the subdivision for stormwater conveyance/sewer infrastructure. Utilizing one or two of these County-owned parcels for a neighborhood playground could fulfill an important community need. Often referred to as a 'tot lot,' a 50' X 100' parcel can be transformed into a small playground. The Neighborhood Association could call together residents to select a playground kit that could be purchased by the County and assembled by the residents. Such an effort would partner County resources and community 'sweat equity' to acquire and assemble playground equipment. A tot lot can be constructed for under \$50,000. Grant funding may be available to the County.

Community Garden

Similarly, the County could dedicate one or two parcels for a community garden. The Neighborhood Association, working in partnership with the County, could prepare the parcel for use by neighborhood residents. The County could assist by clearing and grading the parcel

¹ Zapler, Michael; "Outstanding Planning: Special Community Initiative Youth Neighborhood Association Partnership Program: Las Vegas"; Planning, American Planning Association; March 2002.

and providing water service for irrigation and fencing for security. The Neighborhood Association could coordinate the efforts of residents to install the fencing, divide the property into garden plots, and help manage the project. The County could provide annual deliveries of topsoil and mulch.

Either of these projects would be an ideal first effort that could serve to unite the community and initiate a partnership between residents and the County to generate improvements for Wakulla Gardens. Either project would represent a 'small bite,' for the new Neighborhood Association that could help make it successful and could engender trust and regular interactions between the residents of Wakulla Gardens and the staff and elected officials of Wakulla County. The Neighborhood Association can then serve its constituents by representing them in the more difficult discussions about infrastructure, future development, taxes, and crime in Wakulla Gardens.

CPAT recommends a partnership between a Wakulla Gardens Neighborhood Association and Wakulla County to develop a community playground or garden on a County parcel.

5. ROAD INFRASTRUCTURE

5.1. EXISTING CONDITIONS AND CONCERNS

With the exception of Martin Luther King Highway, roads in Wakulla Gardens are unpaved. Until recently, many roads in the subdivision became nearly or completely impassable during rain storms from flooding and deep mud. To address this issue, in 2010 the County applied 38,000 tons of #57 gravel to 21 miles of subdivision roads with funding from a FEMA mitigation grant. The gravel substantially improved wet weather road conditions. Dry weather dust was subsequently reduced by additional re-grading. Residents were queried during the CPAT visit on road conditions today (2012). They responded with the following concerns and thoughts about their roadways:

- Flooding has been reduced by County efforts, but continues to be a problem on certain roads during wet weather
- County efforts reduced dust during dry weather, but it continues to be a problem
- Flooding is a problem for owner and emergency vehicle access
- There is poor connectivity between the long roads of some of the units which is a problem for pedestrian access
- The long roads encourage speeding
- Real or perceived property value increases when roads are paved
- Some property owners might consider a benefit assessment for paved roads, but most feel that their roads should be paved by the County like other communities' roads
- Residents want at least primary roads paved
- Road paving is not the highest priority infrastructure improvement for all
- All properties benefit from better access roads
- Paving of selected streets would be better than no paving

The 2010 Hydra Engineering stormwater study estimated the cost of paving the 21.8 miles of roadways in Wakulla Gardens at \$4.3 million. The cost included swale (ditch) construction, right-of-way seeding and sod. County road funding comes from sales and gasoline taxes. Of the 7 percent County sales tax, 60 percent of the 1 percent the County is allocated is set aside for roadway improvements. A percent of the County's portion of the gasoline tax is also available for roadway improvements. The County indicated that these revenue sources are not sufficient to pave *all* the roads in the subdivision.

5.2. PAVING OF THE PRIMARY ACCESS ROADS AND CONNECTORS WITH COUNTY FUNDING

During the community meetings, residents were asked to prioritize roadways in the subdivision for paving. Residents uniformly suggested paving the primary access roads and connectors (see

Such an arrangement could be best organized by a Neighborhood Association in cooperation with the County. The County would need to provide the Neighborhood Association with cost estimates to pave each of the secondary streets of the community. The Neighborhood

Association could then poll the residents of each street to determine whether they would be willing to fund the material cost of paving. If a majority or plurality of residents agreed to the fee, then the County could proceed with paving. The residents' portion of the cost could be secured through a short-term (5-year) tax surcharge on the *all* the residents of that street including non-participating property owners.

CPAT recommends paving the primary access roads and connectors with County funds. Dry sewer lines should be installed beneath the roadway, swales constructed for stormwater management, driveway culverts installed, and driveway aprons paved.

Prioritized the remaining roads proved to be difficult, although selecting these based on the number of homes was suggested. Residents agreed that this paving initiative should be completed with tax dollars. The paving effort should include the intersections for safer access to the adjoining dirt roads. It should also include driveway culvert installation and paving of driveway aprons. Prior to paving these roads, the County should determine the kind of collection system needed for future sewerage. The County should include 'dry' sewer lines (pipe) under the main access roads for a gravity sewer system, should that be selected. Accommodations should also be made for the pipe cross connections needed for a low-pressure sewer collection system. Ditching and vegetated swales should be part of the project for stormwater management.

The 4.3 miles of priority roads represent less than 20 percent of Wakulla Gardens roadways. If the total cost to pave all roads (from the Hydra Engineering study) is \$4.3 million, then the cost of paving the priority roads may be approximately \$850,000 (about \$200,000 per mile). The cost estimate includes swale (ditch) construction, seeding, sod, driveway culvert installation², and paving of driveway aprons. The cost could be 10-20 percent lower as much of the gravel bed included in the original cost estimate has already been installed by the County.

5.1. PAVING OF THE SECONDARY ROADS WITH LOCAL FINDING, COUNTY EQUIPMENT AND MANPOWER

Many residents suggested that limited County funds might be better spent on flood (stormwater) management than on paving Wakulla Gardens' secondary roads. Nonetheless, most residents did feel that paving the secondary roads is important and should be part of the long-term plan for the community.

Prioritizing which secondary roads should be paved is difficult, though most agreed that roads with more homes should be paved first. An approach that has worked in other areas is a funding partnership between the residents and the County. Residents are asked to pay for the roadway materials (all or part of the asphalt, gravel, culverts, seed, etc) and the County provides the actual paving work (equipment and labor).

² It is unclear whether driveway culverts were included in the cost estimate.

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CPAT recommends paving the primary access roads and connectors with County funds. Dry sewer lines should be installed beneath the roadway, swales constructed for stormwater management, driveway culverts installed, and driveway aprons paved.

6. WASTEWATER INFRASTRUCTURE

6.1. EXISTING CONDITIONS AND CONCERNS

On-Site Wastewater Treatment Systems

Wakulla Gardens has 3,738 platted lots each approximately 1/8 acre, with approximately 2,500 buildable lots (many lots are combined, others are not buildable). Two-bedroom homes are permitted on a single 100 ft. by 50 ft. lot, whereas three-bedroom homes must be built on two lots in order to be permitted for an on-site wastewater treatment systems (OWTS).

These systems have evolved over the years from the simple cesspool that was typically installed when homes were first constructed in the subdivision to the septic systems that have been required for many years. Cesspools are single leaching pools where wastewater from the home resides before it leaches into the ground. These are no longer permitted in most parts of the country as they provide little treatment and clog as solids fill the surrounding soil voids. Septic systems have two components – a concrete tank and a separate leaching pool or field. Solids settle in the tank, floating scum is contained, and the relatively clear effluent passes into the leaching tank or field where it enters the soil and ultimately flows to the groundwater.

Environmental Issues

Cesspools provide very little ‘treatment.’ Properly installed and maintained septic systems provide some wastewater treatment, but the effluent is, nonetheless, a major contributor of nitrogen to groundwater.

The 2006 wastewater study identified the following factors in Wakulla Gardens as undesirable for the use of septic systems: 1) high residential density of 8 dwelling units per acre on average, 2) high ground water table at 6 feet, and 3) poor soil types which move wastewater effluent rapidly through the soils, providing virtually no treatment.

Groundwater eventually reaches inland and coastal surface waters where the nitrogen acts as a fertilizer stimulating excessive growth of aquatic plants and microscopic algae. Algae blooms eventually die and their decomposition causes low or no oxygen conditions with severe consequences to the aquatic life of area springs, creeks, and bays.

Public Health Issues

Under certain conditions, OWTS can cause public health problems. Systems that have failed or are of insufficient capacity can release untreated sewage with its associated pathogens (bacteria and viruses). Failing or inadequate systems or those installed in shallow groundwater locations or close to surface waters can release pathogens into drinking water or waters used for swimming. Some of the homes of the subdivision receive their potable water from Talquin Electric, and some have their own private wells. Some of the wells may be too close to on-site wastewater systems.

County Requirements

Wakulla County requires the installation of properly-sized septic systems for new construction located a minimum of 75 feet from wells or wetlands and a minimum distance over groundwater. There are a number of parcels in the Wakulla Gardens subdivision where these conditions cannot be met.

'Advanced' onsite wastewater treatment systems are required for new construction on small lots. Approved systems provide far more effective wastewater treatment than conventional OWTS, but are expensive. In Wakulla Gardens, the requirement for these systems can be avoided by combining lots.

The Need for and Consequences of Sewering

Sewering is the best way to reduce the nitrogen pollution of groundwater and surface water caused by OWTS, but it is expensive. Not only is the capital cost of sewerage high, but ongoing maintenance and operation are costly as well. A moderate income community like Wakulla Gardens cannot carry the entire cost of conventional wastewater collection and treatment systems. The County does not have the revenue to fund a wastewater system for Wakulla Gardens. Sewering can also make development possible on those parcels that do not meet County requirements for on-site systems. Some form of sewerage is nonetheless the best long-term approach to protecting public health and the environment.

6.2. PROPOSED SEWERING

Wakulla County engaged Eutaw Utilities, Inc. to develop a plan to provide centralized wastewater treatment for Wakulla Gardens. They prepared a report in 2006 that examined wastewater treatment needs for 20 years (2009-2029). They estimated future County-wide demand (including Wakulla Gardens) to be 1.6 million gallons per day (MGD) and concluded therefore that the existing 0.6 MGD treatment plant and disposal systems were not adequate and should be expanded.

The wastewater improvements proposed in the 2006 report consisted of a gravity and low-pressure collection system for Wakulla Gardens with a connection (force main pipe) down Martin Luther King Jr. Memorial Road, 2.8 miles to a lift station on the County's solid waste land fill property and then another approximately two miles to the County treatment plant. Because of the relatively high density of the subdivision (8 units per acre and 50 foot lot frontage), the study concluded that it was cost effective to install a gravity collector system to serve most of the lots. Approximately 14% of the lots were expected to require a low pressure system due to the topography (depressed areas, sinks) and the proximity to the proposed gravity collector. Those lots (approximately 350) would have individual grinder pumps located on the residential property to deliver raw wastewater to the gravity collection system.

An expansion and upgrade to the treatment plant was also proposed to bring its capacity to the estimated 1.6 MGD needed to accommodate existing and anticipated sewerage needs. A County ordinance requires all properties to connect to the system once it is installed.

The cost for the proposed treatment plant upgrade and expanded collection system to include Wakulla Gardens was estimated to be \$19,569,018. The annual debt service for the State Revolving Fund loan at 2.47% interest rate was estimated at \$1,597,926. The capital costs for the system were broken down as follows:

Collection system	\$ 12,204,399
Master lift station & fm	\$ 2,753,836
Wastewater treatment	\$ 3,957,673
<u>Effluent disposal</u>	<u>\$ 653,110</u>
Total project cost	\$ 19,569,018

The monthly sewer rate for debt service was estimated at \$3.46 per 1,000 gallons. If a typical household uses 300 gallons per day or 9,000 gallons per month, then debt service would be \$31 per month or \$374 per year.

Total operation and maintenance costs (O&M) were estimated at \$174,536 per year. The report estimated the average residential wastewater user rate to be approximately \$22.00 per month or \$264 per year to fund O&M, renewal and replacement. Thus the total estimated annual cost for a typical household would be \$264 + \$374, or \$638.

In addition to the estimated \$638 annual fee, residential users would pay a one-time connection fee of \$3,850. An on-site system abandonment cost of \$600 was included in that estimate. Electrical costs were not included for the properties connected via grinder pumps and low pressure system to the gravity collection system. All the estimated fees were based on a projected growth in sewer connections of eight percent per year, a higher rate than the five percent growth in building permit applications from 2000-2006. Lower area growth rates are likely and would result in higher actual annual fees.

6.3. SEWERING ALTERNATIVES

The wastewater collection and treatment system proposed in 2006 would satisfy the performance requirements of the County and State and accommodates the topographic limitations of Wakulla Gardens by providing a low pressure collection system where a gravity system would be ineffective.

The proposed system would make it possible to construct homes on many more of the Wakulla Gardens parcels that are now limited by on-site system restrictions. It includes sewer piping beneath all the roadways of the subdivision, regardless of the number of homes currently located there. The proposed system has several advantages over the 'alternative systems' described below. It provides central management and operation and eliminates property owner responsibility. Treatment effectiveness *may* be better than alternative systems. It is a conventional system with approval by the regulatory community. It is also the most costly approach.

Lower cost collection and treatment systems are available that could provide a similar level of treatment. These alternative systems would require one or more sites for a treatment system or systems in the Wakulla Gardens subdivision. Savings could be realized from eliminating the five miles of force main and the lift station to the treatment plant. Additional savings could be found through the use of a Septic Tank Effluent Pumping (STEP) system and the use of alternative treatment methodologies as described below.

6.4. STEP: LOW-PRESSURE COLLECTION SYSTEM

A Septic Tank Effluent Pumping (STEP) system takes advantage of the treatment provided by existing on-site wastewater treatment systems (OWTS). The OWTS provide effective primary treatment as solids are settled out in the septic tank where they can be pumped out and removed. Septic tanks that are equipped with a baffle and a filter discharge an effluent that is relatively free of suspended solids and one where nitrogen has been reduced by as much as 35 percent.

In a STEP system, individual septic tanks are equipped with a small pump that delivers OWTS effluent to the collection system. The effluent can be pumped through smaller diameter pipes (typically 2-4 inches) to be delivered to the treatment system. This low-pressure collection system is less costly than a gravity piping system and works well in high groundwater areas. A STEP system does require regular pump-outs of the septic tank, an electrical connection from the residence to operate the pump, and periodic maintenance to keep the filter clear. The electrical cost to operate the pump is lower than for grinder pumps as they are generally smaller pumps. Provisions can be made for the septic tank to overflow to the existing drain field during a power interruption.

Use of a STEP system makes it possible to connect to smaller and less costly treatment systems as primary treatment provided by the OWTS reduces the organic loading to the treatment system. A STEP system makes it possible to utilize a variety of alternative treatment systems including many developed in the last 10-15 years for single parcel or small community use. It also makes possible use of other lower technology systems such as treatment wetlands and sand/gravel filtration systems.

6.5. SEPTIC TANK EFFLUENT – VACUUM COLLECTION SYSTEM

A similar option may be to utilize a vacuum sewer collection system connected to onsite septic systems. This option has the benefit of centralizing the pumping system and eliminating the pumps and electrical connection required for each residential property by a STEP system. Instead one or more central vacuum pump stations are utilized to collect wastewater from individual properties. A valve pit assembly is required for each property to connect to the septic tank. The valve pit assembly requires no electrical connection and operates with a float assembly similar to that of a toilet tank. When a proscribed volume of wastewater (~10 gallons) collects in the valve pit sump, the vacuum interface valve opens and the pressure differential allows wastewater to flow to the vacuum sewer main and the central collection tank. Pressure pumps are then utilized to deliver wastewater to the treatment system.

Vacuum systems are becoming more common and have proven simple to operate and reliable. The 2006 Eutaw Utilities report included a vacuum collection system as an option. It was estimated to cost \$2 million less than the proposed low pressure-gravity system (\$10.4 million vs. \$12.4 million).

6.6. COMMUNITY-BASED TREATMENT SYSTEMS

Smaller community-based treatment systems require less area and can therefore be located much closer to the properties they serve. For Wakulla Gardens, it would be possible to construct a collection and treatment system for an individual subdivision unit, rather than all five units. This would be a substantial savings over the proposed conventional system that sewers the entire subdivision. It would also allow the County to phase in the sewerage of the subdivision.

Most alternative (also known as performance-based) treatment systems discharge an effluent with a total nitrogen (TN) concentration under 19 mg/l. Many systems achieve TN concentrations under 13 mg/l and still others can discharge effluent with less than 5 mg/l TN. Even systems that deliver an effluent with TN at 19 mg/l achieve approximately a 73 percent reduction in TN (assuming an influent concentration of 70 mg/l) a considerable improvement over OWTS that discharge TN at approximately 50 mg/l. Different alternative systems can be used together to achieve even greater nitrogen reductions. It is important to note that many alternative systems can achieve the same treatment results as conventional treatment plants and deliver effluent that meets regulatory requirements.

Another option may be the use of treatment wetlands. Effluent can be delivered by a STEP system to a submerged bed constructed wetland treatment system. In these systems, an area is excavated to a few feet, lined, filled with small gravel, and planted with wetland vegetation such as cattails or bulrushes. The US EPA has reviewed the efficacy of these systems as far back as a 1993 report³ that *“verifies that subsurface flow constructed wetlands can be a reliable and cost effective treatment method for a variety of wastewaters. These have included: domestic, municipal, and industrial wastewaters as well as landfill leachates...It can be a low-cost, low-energy process requiring minimal operational attention. As such the concept is particularly well suited for small to moderate sized facilities where suitable land may be available at a reasonable cost. Significant advantages include lack of odors, lack of mosquitoes and other insect vectors, and minimal risk of public exposure and contact with the water in the system. The process can...produce the equivalent of tertiary effluent...Nitrogen removal to very low levels is possible.”*

These systems utilize approximately five acres of bed surface per million gallons per day (MGD) of wastewater. For 100 homes or 25,000 gallons per day, therefore, about 5,500 square feet of subsurface treatment wetland would be required or just over one 50 x 100 foot Wakulla Gardens parcel. It would be possible to utilize several non-contiguous undeveloped parcels in one of the subdivision units to treat all the OWTS effluent from the homes of that subdivision unit.

³ USEPA, 1993. Subsurface Flow Constructed Wetlands for Wastewater Treatment. EPA 832-R-93-008

The operation and maintenance requirements of these systems is minimal. Additional wetland treatment modules can be added as the subdivision grows. Regular inspections and pumpouts (every 3-5 years) would be required to keep OWTS functioning properly. Residents would realize additional electrical costs for pump operation. Provisions would need to be incorporated into the systems for electrical outages (i.e., overflow to leaching fields or temporary effluent storage).

CPAT recommends that the County conduct a feasibility study and cost evaluation of a STEP low pressure wastewater collection system, a septic tank effluent – vacuum collection system, various alternative (performance based) treatment systems, and a subsurface wetland treatment system. The study should consider the cost effectiveness of several small treatment systems vs. a single larger system for the entire subdivision.

7. STORMWATER AND FLOODING

7.1. EXISTING CONDITIONS AND CONCERNS

Wakulla County is a relatively wet place, with an annual rainfall of 57 inches, about half of which falls from June through September. Summer rainfall events can be heavy with two or three inches of rain falling in an hour or two. Longer rainfall events occur in the winter and spring with a 24-hour rainfall event of seven inches or more occurring on average once every 10 years. Wakulla Gardens is a low elevation community (Error! Reference source not found.) with several small areas within Units 1, 2, and 5 that are within Zone A – areas expected to flood during a 100-year rain storm (see FEMA map in Figure 7-2). A new FEMA flood map will be available in 2013.

A majority of the runoff from precipitation soaks into the ground and eventually reaches the water table (saturated zone). This groundwater then moves horizontally and discharges into the area's wells, springs, creeks and rivers, which eventually flow into the Gulf of Mexico. Most public water supply wells draw from a depth of 25 to 150 feet.

Runoff that does not soak into the ground causes flooding. Flooding of the Wakulla Gardens subdivision has been a problem since its original construction. No provision drainage ditches or basins were constructed to manage stormwater and provide for storage and recharge to groundwater. All stormwater must be contained and recharged within the subdivision as there is no creek into which runoff can be directed.

Residents reported that flooding is a problem in portions of the subdivision. Rainwater regularly accumulates on some properties, though very few structures are flooded except in severe weather events. Parts of some roads were made impassable during rain events by water and mud, though that has been far less of a problem since the County completed the

addition of gravel to the roads. Flooding, however, continues to be a problem in the subdivision.

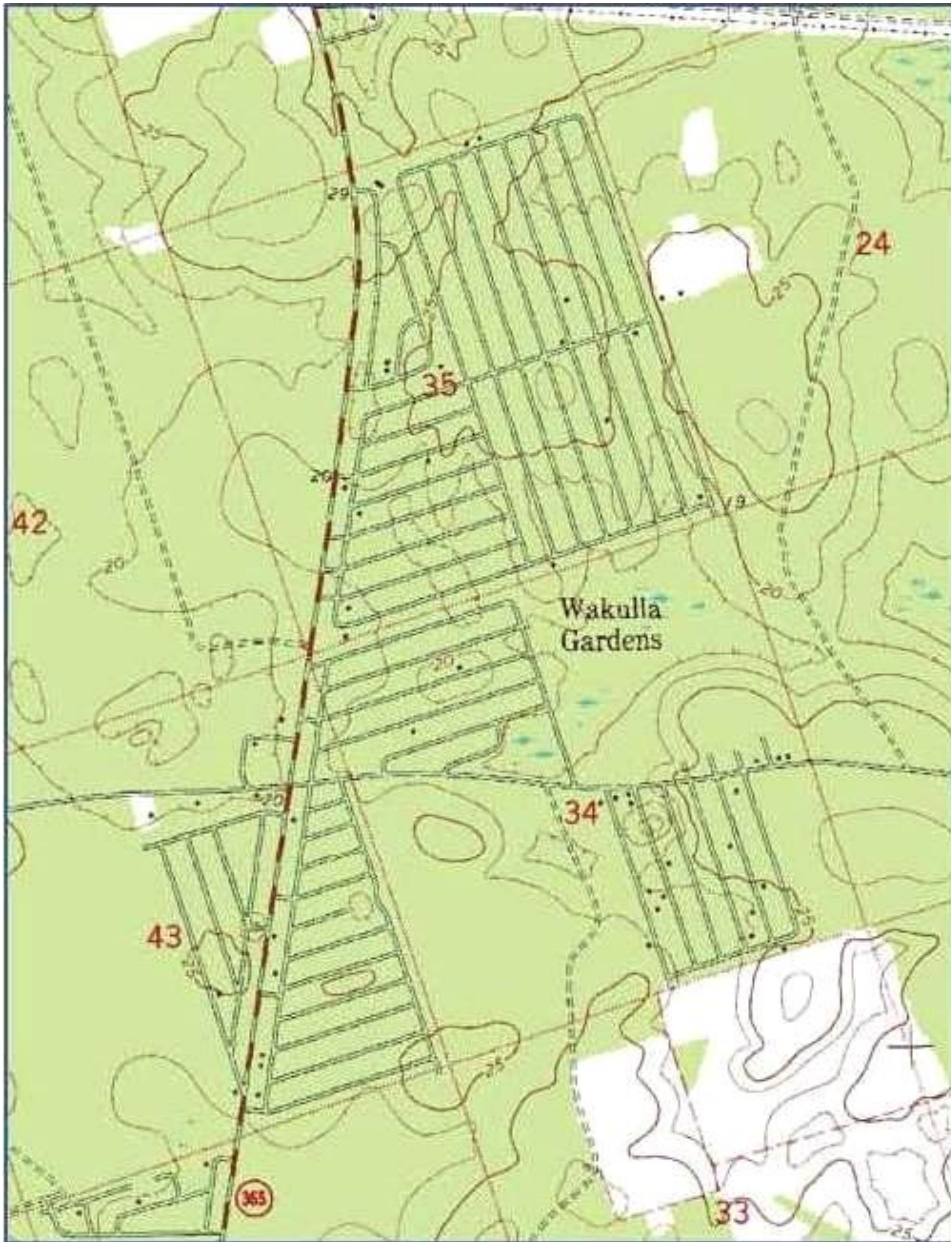


Figure 7-1: Wakulla Gardens topography.

Some of the problem can be attributed to the lack of ditches (swales) along the roadways to carry away runoff during rain events. Even where there are ditches, most driveways do not have culverts to pass stormwater. But the larger problem is that even where ditches and culverts are present, there is nowhere for the stormwater to go – there are no storage/drainage basins.

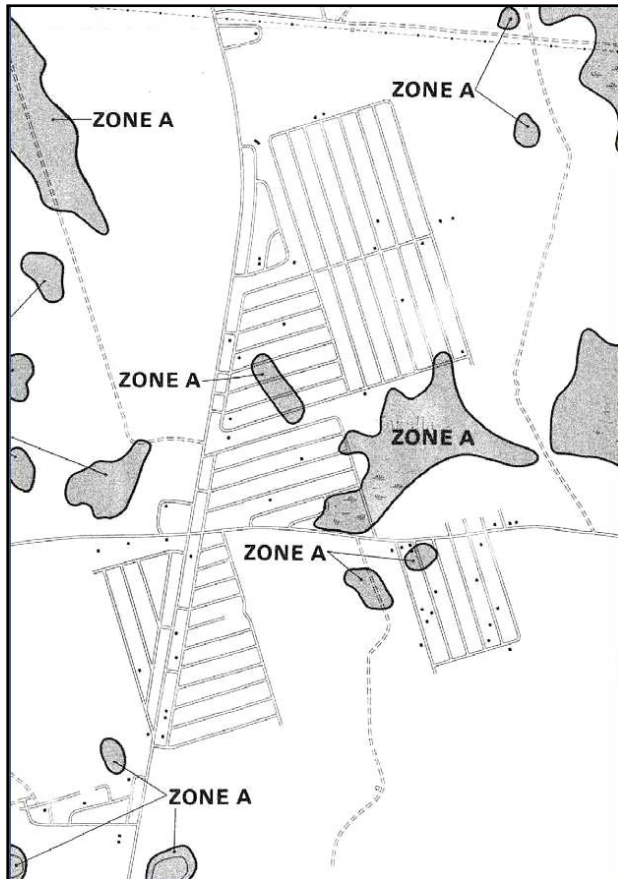


Figure 7-2: FEMA flood zones in Wakulla Gardens.

7.2. STORMWATER CONVEYANCE PIPES AND SWALES TO CONSTRUCTED PONDS

The County has long recognized that flooding was a problem in the Wakulla Gardens subdivision. The gravel addition to the roads improved conditions considerably, though the lack of drainage basins continues to be the core issue. The County commissioned two drainage studies to evaluate the options. A 2009 study by Hydra Engineering identified 60 subwatersheds where water accumulates and must drain through the sandy soils to groundwater. The 2009 study provided a conceptual design to manage stormwater, recommending substantial lot acquisitions for stormwater storage and conveyance.

The follow up *Wakulla Gardens Floodplain Study* was conducted by Preble-Rish and Hydra Engineering in 2011. That effort recommended improvements to reduce flooding in the six highest priority areas of the subdivision. The study included a detailed hydrologic analysis based on 2007 LiDAR data, a topographic survey from Edwin Brown & Associates and specialized hydraulic modeling software. The study identified 40 subwatersheds in Wakulla Gardens and determined that Units 2 and 5 required the most stormwater storage. The study proposed 20 stormwater storage ponds, 1 in Unit 1, 9 in Unit 2 and 10 in Unit 5. Construction of the recommended ponds requires acquisition of 48 lots of which two are developed. In total, 278 lot acquisitions were suggested at a 2011 cost of \$9,000 per lot or a total of \$2.5 million. The study recognized that stormwater cannot be drained directly to existing wetlands due to the regulatory limitations.

A majority of the proposed lot acquisitions were for conveyance piping. If instead, easements were obtained for that piping, lot acquisitions would be needed primarily for the ponds and the cost could be less than \$500,000. Pond and swale excavation was estimated at \$577,000 and \$131,000 respectively; piping was estimated at \$187,000, with additional costs for seed, sod, and silt fencing totaling \$126,000 (although some of these costs were associated only with road paving). Exclusive of lot acquisition, costs were estimated at just over \$1 million. With lot acquisition just for the ponds, the total cost would be approximately \$1.5 million. Easements for pipe installation might be obtained by offering cash payments or granting property tax relief (greater than the cash payment). Ideally, stormwater conveyance piping might be located on lots designated for future community use (park, playground, or mid-Unit access routes).

The 2011 study also included roadway paving as part of the proposed project. Roadway paving need not be conducted concurrently with the stormwater work. Ditching along the roads and installation of driveway culverts is necessary in order to convey stormwater to the proposed storage/infiltration ponds. The ditches should be constructed as vegetated swales and check dams installed to slow runoff and increase infiltration. The County should encourage residents to plant rain gardens to capture all roof runoff onsite by offering free leader extensions and plantings and instructions.

CPAT recommends that the County seek funding for the stormwater improvements proposed in the 2011 Wakulla Gardens Floodplain Study. It should acquire the necessary piping easements by offering modest tax reductions. It should have the lots required for the ponds appraised and begin their acquisition. Road paving that occurs prior to construction of stormwater ponds and piping should include vegetated swales with periodic check dams and culverts under all driveways. Homeowners should be encouraged to plant rain gardens to contain all roof runoff onsite. Property owners in FEMA flood zones should be informed about the strict building requirements and should be encouraged to relinquish their properties or the development rights through sale or donation to the County.

8. STRATEGIES TO REDUCE DENSITY

Wakulla Gardens has 3,738 platted lots with 2,500 considered buildable. With only about 970 existing residences in the five Units, a great number of vacant parcels remain. Residents expressed concerns over the infrastructure and environmental impacts of vacant parcel development. One way to reduce these potential impacts is through lot acquisition and consolidation. Land assemblage is needed for stormwater and sewer infrastructure.

8.1. INVENTORY OF POTENTIALLY AVAILABLE PROPERTIES

An inventory is needed of abandoned and dilapidated structures, properties with tax liens, *lis pendens* properties, homes entering foreclosure and those owned by banks. Properties in *lis pendans* can be acquired before they enter the lengthy foreclosure process.

Such an inventory, if kept current, could allow the County to acquire lots needed for infrastructure purposes or community use at less than full market value. The inventory should be mapped in GIS so that potentially available properties can be overlaid on maps of properties needed for infrastructure or community use.

CPAT recommends that the County create an inventory of abandoned and dilapidated structures, properties with tax liens, lis pendens properties, homes entering foreclosure and those owned by banks.

8.2. PROPERTY DONATIONS

Lots with wetland or karst features or those in the 100-year flood zone should not be built on. Owners of these properties should be contacted to encourage them to donate their lots to the County or to an area or regional land trust. If there is no land trust, one might be established to accept donations. Donations to 501 c (3) land trusts are considered tax deductible. Bargain sales can also be made to a land trust and the difference between the bargain sales price and market value is also tax deductible. Working with a land trust can make County land acquisitions easier as land trusts can acquire properties more quickly than a municipality and can issue tax deductible donation information on a timely basis.

Alternatively, the County could issue some form of tax credit for donations. According to the County attorney, issuing a property tax credit may not be possible. However, other credits such as a credit against the solid waste tax may be possible.

CPAT recommends that the County investigate the benefits of working with a land trust to make property donations easier and timelier. The County should also investigate how it might issue tax credits for property donations and should enclose updated donation information with property tax bills.

8.3. ACQUISITION OF LOTS FOR DUAL PURPOSES

Wherever possible, lot acquisitions by the County should serve more than one purpose. Lots designated for stormwater detention could be used as a passive or even an active park or playground or for a community garden through the use of underground stormwater storage devices. Upland portions of lots acquired to protect wetlands and karst features could be utilized as passive parks.

CPAT recommends that the County consider dual uses for acquired properties. For example, properties acquired for stormwater storage could also be utilized for a playground if stormwater were stored underground.

8.4. LOT CONSOLIDATION

Consolidation of two or more lots is a strategy to reduce density in the Wakulla Gardens subdivision. Consolidation of lots to achieve a lot size greater than 0.22 acres also eliminates the County requirement for a performance based (and more costly) onsite wastewater treatment system. The County has encouraged consolidation and should continue to do so. There are a number of incentives that the County might investigate to further encourage lot consolidation including permit fee reductions and property tax abatements for a limited time. The County might also reduce the cost of a future sewer connection for property consolidations.

CPAT recommends that the County continues to encourage lot consolidation. The County should determine what incentives it might offer including fee reductions, property tax abatements, and reductions in future sewer connection fees.

8.5. USE OF EASEMENTS TO REDUCE NEED FOR ACQUISITIONS

Easements over private property provide an alternative to lot acquisition. Easements are solely a right and do not denote a change in property ownership. Acquisition of side or rear

yard easements could be utilized by the County to convey stormwater through underground piping or to construct a path or both. For example, if five-foot easements were acquired from adjoining lots, stormwater piping could be installed within the ten-foot easement area. Acquiring easements from property owners prior to new home construction is ideal. Easements might be acquired through single payments or property tax reductions for a limited time. Tax reductions should total more than the single cash payment to make them more appealing and thus reduce the need for cash outlays by the County.

The same easement might also be used for a walking path, particularly for those Units where residents indicated that long blocks make pedestrian flow difficult. A paved path is not necessary - a crushed limestone/gravel or even wood chip surface may be appropriate.

CPAT recommends that the County re-evaluate the need for property acquisitions recommended in the stormwater and sewer studies and consider instead purchase of easements for stormwater and wastewater conveyance through cash payments or short-term property tax reductions.

8.6. USE OF LAND SWAPS

Land swaps are another tool that the County could utilize to move development to preferred locations. For example, privately-owned vacant lots in a flood zone could be swapped for County-owned parcels that are not prone to flooding. In an article published by the American Planning Association, author Sean Almonte⁴ talks about a land swap program the City of New Orleans established to relocate flooded residents to city-owned property on higher ground. *“This program would trade safer, city-owned properties with properties in low-lying hazardous areas. The goal of the program was to attract residents back to New Orleans and rebuild in a safe sustainable way.”* The publication emphasizes that residents who acquired safer higher elevation lots realized an increase in property values.

This strategy should be considered only after strictly enforcing existing regulations against building in wetlands and over karst features and making sure that builders conform to flood plain construction requirements. The strategy when carefully planned could reduce the County’s costs for implementing flood control measures.

CPAT recommends that the County consider land swaps as a tool to move development from private undesirable locations to preferred County-owned locations.

⁴ Almonte, Sean; “Helping to Rebuild New Orleans”; American Planning Association; October 2, 2007.

8.7. TRANSFER OF DEVELOPMENT RIGHTS

Transfer of Development Rights (TDR) is a mechanism that makes it possible to direct development to preferred locations from less desirable ones. Properties identified for preservation as open space are referred to as the 'sending areas.' Other areas identified for development are referred to as 'receiving areas.' Wakulla Gardens could be designated as a sending area and Crawfordville as a receiving area.

Typically, the municipality establishes a TDR bank and may have a third party manage it. Initial credits are made available and an initial (or floor) price set per TDR credit. The municipality encourages development in the receiving areas by creating incentives or bonuses for developers that can be acquired by purchasing TDR credits. For example, the parking requirement or minimum unit size might be reduced by purchasing a certain number of TDRs. Developers purchase TDR credits from willing property owners in the sending areas and utilize those TDRs in receiving areas to secure additional development bonuses.

A carefully conceived TDR program can preserve land and resources and compensate the owners of those lands. Growth occurs in right places - where roads, water, sewer, and other infrastructure are already in place. Taxpayers save by not having to pay for the extension of these services to less developed areas. The program is 100 percent voluntary.

TDR programs are based on property owners' rights to use the land; lease, sell and bequeath it; borrow money using it as security; construct buildings on it; and mine it; subject to reasonable local land use regulations. When a property owner sells the property, all the rights generally transfer to the buyer. A TDR program allows property owners to sell only the right to develop the property – they still retain ownership.

In developing a TDR program, planners must address a variety of technical issues including:

- Which areas should be protected?
- What type of transfers should be permitted?
- How should development rights be allocated?
- Where should development potential be transferred, how should rights be applied, and at what densities?
- Should the zoning in the sending area be changed to create more of an incentive for landowners to sell development rights?
- Should the zoning in the receiving area be changed to create more of an incentive or developers to buy development rights?
- Should the local government buy and sell development rights through a TDR bank?

Benefits

Participation in TDR programs is voluntary — landowners are never required to sell their development rights. A TDR program can promote orderly growth by concentrating it in areas with adequate public services. TDR programs are market-driven — private parties pay for development credits that then protect selected properties. More land is protected when development pressure is high. TDR programs can accomplish multiple goals, including land protection, protection of environmentally sensitive areas, the development of compact urban

areas, the promotion of downtown commercial growth and the preservation of historic landmarks.

Drawbacks

TDR programs are technically complicated and require a significant investment of time and staff resources to implement. Transfer of Development Rights programs are an unfamiliar concept and may require a lengthy and extensive public education campaign. The pace of transactions depends on the private market for development rights - if the real estate market is depressed, few rights will be sold and little land will be protected.

Linked Resources

- [Lee County, FL](#)
- [King County, WA](#)
- [Montgomery County](#)
- [Conservation Trust for Florida](#)
- [Boulder County, CO](#)

CPAT recommends that the County investigate the establishment of a TDR program that designated Wakulla Gardens as a sending area and Crawfordville as a receiving area.

8.8. VACATION AND ANNULMENT OF PLATS SUBDIVIDING LAND

While replatting a portion of Wakulla Gardens Subdivision is an option, it requires fee simple title held by one party to all lots proposed to be replatted. In accordance with Florida state statutes, any entity wishing to vacate and annul a plat must demonstrate they own fee simple title to the whole or part of the plat proposed to be vacated. All roads within the proposed annulment area on the plat of subdivision will automatically be vacated. Additionally, all other remaining lots within the subdivision require unimpeded access, which cannot be impacted as part of a vacation or replat.

CPAT does not recommend vacating or annulling Wakulla Gardens plats and replatting the subdivision.

9. OTHER AREA DEVELOPMENT

9.1. NEIGHBORHOOD COMMERCIAL DEVELOPMENT

Wakulla Gardens residents expressed a desire for some type of neighborhood-oriented retail, where people could pick up a loaf of bread or gallon of milk on their way home. While commercial development adjacent to Wakulla Gardens is currently not practical, due to the low population density, it may become so in the future if the majority of the subdivision were to develop.

One suggested location for this type of convenience retail development is the intersection of Martin Luther King Jr. Drive and Spring Creek Highway. Such a small retail center of approximately 8,000-10,000 square feet would serve primarily residents within a one- to two-mile radius.

CPAT recommends that the County consider rezoning parcels in the northwest corner of Martin Luther King Jr. Drive and Spring Creek Highway for a small retail center if sufficient demand develops with greater residential density in Wakulla Gardens.

9.2. CAPITALIZING ON LOCAL INSTITUTIONAL RESOURCES

Two outstanding academic institutions are located in Wakulla County; Florida State University (FSU) and Florida Agricultural and Mechanical University (FAMU). The FAMU School of Architecture has held many design charrettes (small intense group visioning sessions) throughout the greater Tallahassee area. The Florida Planning and Development Lab (FPDL) is located on the campus of FSU and has as its three goals to:

- Provide technical assistance to Florida communities and institutions;
- Provide training in urban planning and design for students through learning studios;
- Provide internships to students in various arrays of planning settings.

Past FPDL projects have included providing transit alternatives for the Tennessee Street Corridor in Tallahassee and detailed data collection and analysis and community visioning sessions to develop sustainability recommendations for Jefferson County in Florida.

These two institutions (FAMU and FSU) and others can provide valuable planning, design and sustainability assistance to the County. Other institutional resources include the State of Florida Bar and the Florida Chapter of the American Planning Association.

CPAT recommends that the County avail itself of the institutional resources available for planning and design assistance.

9.3. NEW DEVELOPMENT IN CRAWFORDVILLE

In 2011, Kimley-Horn and Associate, Inc. prepared a “*Crawfordville Town Plan*” for the County, recognizing the hamlet area as “*Wakulla County’s Downtown.*” The document identified the implementation steps needed to realize the vision for Crawfordville developed by its residents and business people since the mid-1990s. The Town Plan addressed the community’s needs for infrastructure, transportation, parks and recreation, quality of life improvements, and economic development. The document reported that “*the public input during each phase of the vision development consistently supported the idea of Crawfordville becoming Wakulla County’s downtown...In general; the vision would direct the majority of growth in Wakulla County to the Crawfordville area.*” The recommendations of the Crawfordville Town Plan included:

- *Defining the Crawfordville Planning District*
- *Expanding land use categories*
- *Establishing a cultural and historic town square*
- *Addressing zoning*
- *Updating the land development code*
- *Developing design guidelines*
- *Implementing a tree planting program*
- *Designing and constructing community gateway features*
- *Developing concept plans and enhancing Crawfordville parks*
- *Modifying the Crawfordville Enterprise Zone*
- *Implementing transportation enhancements*
- *Improving pedestrian facility connectivity*
- *Improving bicycle facility connectivity*
- *Identifying alternative connections*
- *Amending the Comprehensive Plan*
- *Coordinating with the Crawfordville Sector plan*
- *Funding mechanisms for the recommendations*

The recommendations of the *Crawfordville Town Plan*, if implemented, could help transform Crawfordville into the County’s “*downtown*” as envisioned by its residents. Such a transformation could make Crawfordville attractive to Jacksonville workers that would prefer to commute from a more rural environment. It could also make Crawfordville the gateway to the unique natural resources of the County for ecotourism visitors. The economic development that could come from the implementation of the *Crawfordville Town Plan* would benefit the residents of Wakulla Gardens by bringing new tax revenue to the County that could then support further public infrastructure investment.

CPAT recommends implementation of the Crawfordville Town Plan in its entirety to spur economic development and increase the tax revenues needed for the County to improve Wakulla Gardens infrastructure.

9.4. ECOTOURISM IN WAKULLA COUNTY

Wakulla County is rich in recreation and natural sites. It is home to Apalachicola National Forest and several state parks, including one which contains Wakulla Springs, one of the largest and deepest freshwater springs in the world. While the County borders the Gulf of Mexico, it has no large resort beaches. It is better known for its secluded beaches and the rich habitats of its rivers and estuaries. Wakulla is also one of three counties served by the nationally designated Big Bend Scenic Byway. Eco-tourism can become a significant economic driver for the County.

Eco-tourism was touted by one of the County's small but growing eco-tourism associations, the *'Florida Green Guide Association.'* The group drafted an overview of the potential for eco-tourism in 2012 titled *'Rural Economic Development: Seeking an Approach to Destination Development.'* They point to existing eco-tourism led by certified *Green Guides*⁵, who take visitors to areas of natural and cultural interest and by boat captains and outfitters that provide access to the County's special rivers and bays.

Eco-tourists can pass through Wakulla County and add little to the local economy. Or they can be encouraged to stay through an active tourism campaign tied to local businesses. Those local businesses include the Green Guides and the fishing and tour boats. Crawfordville, might however, support additional lodging (*i.e.* bed and breakfasts), dining establishments, and other businesses that cater to tourists seeking cultural and natural areas of interest.

Future development in Crawfordville must be mindful of the potential that tourism has to stimulate the economy. Implementation of the *Crawfordville Town Plan* recommendations (with special emphasis on the design guidelines) can transform the hamlet into the kind of destination that can support greater eco-tourism in the County.

CPAT recommends that the County promote eco-tourism and Crawfordville as a hub for area tourists. Future development in Crawfordville should be guided by the Crawfordville Town Plan to create a hamlet with the kind of amenities and ambiance that draws tourists. Destination development can add to County tax rolls to help fund Wakulla Gardens infrastructure improvements.

⁵ Green Guide certification by Tallahassee Community College

10. FUNDING OPPORTUNITIES

10.1. OVERVIEW

The purpose of this section is to provide an overview of funding opportunities available at the Federal, State, local and private levels. The current funding environment is very challenging. Funding resources at all levels have been cut or eliminated. Furthermore, the Wakulla County government has limited financial resources and does not want to overburden residents with additional taxes. Despite these challenging circumstances, there are opportunities to initiate and complete community projects involving public-private partnerships. Following are a number of potential funding and grant award resources for the County. Some of these resources may not be funded at this time. It is important for the County to be aware of new funding opportunities as they develop in the future.

On the local level, Wakulla Gardens residents will be more successful in attracting funding for important community projects if they actively participate. As discussed earlier, residents could partner with the County to construct a small playground. The value of community-supplied labor to construct the playground could be matched by grant dollars secured by the County. Demonstrating neighborhood cohesiveness and community pride and providing in-kind services is important to many funding sources.

From a county and state prospective, Wakulla County officials have been engaged with their state and federal elected officials in the *Resources and Ecosystems Sustainability, Tourist Opportunity and Revived Economy of Gulf Coast* (RESTORE) Act funding allocations. The RESTORE Act was established to allocate funding from federal government fines associated with the BP Deepwater Horizon disaster. County officials are negotiating funding allocations for impacted counties along Florida’s Gulf Coast. Although this accident was an unparalleled economic and environmental tragedy, the RESTORE funding represents a significant opportunity for Wakulla County to initiate community and economic development projects.

Wakulla County’s share of this funding could range from \$8 to \$34 million. The County is preparing a plan that identifies key projects for funding. These projects need to be tied to Gulf restoration, education and economic development. Even though the County may receive a significant level of funding, it has multiple priorities. Wakulla Gardens cannot expect sufficient funding from this source to complete all the infrastructure projects discussed in this report.

There is insufficient funding in the immediate future to pave all the roads, sewer all the lots, and mitigate all of the flooding in Wakulla Gardens. It is important, therefore, to prioritize infrastructure projects so that they can be completed in phases. This seems to be the general consensus of government officials and residents alike.

10.2. COMMUNICATIONS

To be successful in securing federal or state funding for a project, one needs to continually communicate with state and/or federal officials depending on the source of funds. When projects are brought forward to funding partners, the project schedule, match strategy and letters of support should be included. This helps position the project for funding. Wakulla

County officials have worked hard to communicate priorities with their elected officials. The County should make efforts to invite elected officials to tour priority project sites and specifically to tour Wakulla Gardens. Even if funding is scarce, having federal and state officials visit Wakulla Gardens will educate them about Wakulla Garden's history and needs. In many instances, decisions on federal funding are made outside the region or in Washington D.C. First hand site tours can go a long way in personalizing funding requests.

CPAT recommends that the County contact its state and federal agency representatives and elected officials on a regular basis to promote a better understanding of area needs.

10.3. FEDERAL FUNDING

10.3.1. Community Development Block Grants

Community Development Block Grants (CDBG), administered by the U.S. Department of Housing and Urban Development (HUD), could provide funding for road improvements in Wakulla Gardens. The County would need to administer an income survey of Wakulla Gardens to determine if the community qualifies for the use of CDBG funds. Given the apparent Wakulla Gardens income levels, qualifying for the program may be a challenge. If qualified, the County should prepare a multi-year strategy for fund use.

10.3.2. U.S. Department of Agriculture Community Facilities

Wakulla Garden residents and local officials identified the need for a public safety sub-station. The USDA has a grant loan program that is eligible for counties or special purpose districts. Funds from this program can be used to construct, enlarge, or improve community facilities for public safety and community and public services. This can include the purchase of equipment required for a facility's operation. A grant may be made in combination with a direct or guaranteed loan, applicant contribution, or loans and grants from other sources. The typical grant/loan amount may range from \$500,000 to \$2 million. The Community Facility application process is a two-stage procedure (pre application and application). Approximately 45 days is required to determine applicant eligibility, project priority status, and funding availability. After an application is submitted, time to process the application depends upon the scope of the project, environmental review and legal issues. Applications are handled by USDA Rural Development field offices. Funding is available for up to 75% of the project cost.

The program includes available grants, direct loans, and loan guarantees. For the direct loan program, there are three levels of interest rates available depending on the area's household income levels. Loan repayment terms may not exceed the applicant's authority under State Law, the useful life of the facility, or a maximum of 40 years.

10.3.3. USDA Rural Utility Service Wastewater Grant/Loan Funding

The County could seek funding for Wakulla Gardens wastewater collection and treatment or stormwater management from the U.S. Department of Agriculture's (USDA) Rural Development program. Loans and grants are available through its Rural Utilities program.

Direct loans may be used to develop water and wastewater systems and storm drainage in rural areas. Funds are available to public entities such as counties and special purpose districts. In addition, funds may be made available to corporations operated on a not-for-profit basis.

Priorities for funding include projects that modify existing wastewater facilities or provide service to areas with inadequate wastewater disposal. Preference is given to requests which involve serving low-income communities. The maximum term for all loans is 40 years; however, no repayment period can exceed state statutes. Grants are made in some instances, for up to 75 percent of eligible project costs.

CPAT recommends that the County continue to seek infrastructure funding for Wakulla Gardens from federal agencies including the USDA.

10.4. STATE FUNDING

These programs are available from the State for funding of recreation and infrastructure projects. *Some may currently be defunded.* The County should, nonetheless, define projects that are ready-to-go in the event that new or restored funding becomes available.

10.4.1. Florida Small Community Wastewater Facilities Program

This is a grant program to assist small communities in the planning, designing, and constructing of wastewater management facilities. Projects compete separately for preconstruction planning grants and construction and design grants. Projects must be associated with wastewater collection, transmission, treatment, or disposal facilities. This includes facilities to reuse reclaimed water from wastewater treatment plants. Stormwater projects are not eligible. The highest priority is given to projects that address the most serious risks to public health, are necessary to achieve compliance, or assist systems most in need based on an affordability index. A partial match of local funds is required. Funding of the local match may be obtained through the State Revolving Fund Program.

10.4.2. Florida State Revolving Fund Program

The Florida State Revolving Fund (SRF) programs provide financial savings for projects that benefit the environment, including protection of public health and conservation of local watersheds. Federal and state contributions fund loans for a wide variety of water quality projects including all types of stormwater, watershed protection or restoration, and estuary management projects, as well as more traditional municipal wastewater treatment projects including water reuse and conservation projects. This could be an opportunity for a scaled back project related to stormwater and wastewater projects in Wakulla Gardens.

Funds to establish or capitalize the Clean Water State Revolving Fund (CWSRF) programs are provided through federal government grants and state matching funds that are equal to 20 percent of federal government grants. The CWSRF monies are loaned to communities at lower than market rate interest-rates, and loan repayments are recycled back into the program to fund additional water quality protection projects.

The County will need to evaluate its willingness to take on loan requirements for projects in Wakulla Gardens. Once the County defines a stormwater and wastewater plan for Wakulla Gardens, the County should reevaluate the SRF program for projects.

10.4.3. Florida Recreational Development Assistance Program

Residents of Wakulla Gardens confirmed that many families with small children have moved into the subdivision in the last few years. They agreed that a small playground or “tot lot” would be a welcome addition to the neighborhood. The State has funding programs that might provide assistance.

The Florida Recreational Development Assistance Program (FRDAP) is a competitive program that provides grants for acquisition or development of land for public outdoor recreation use or to construct or renovate recreational trails. The Florida Department of Environmental Protection (DEP) administers the program according to Florida Statute and Administrative Code. The Office of Information and Recreation Services in DEP's Division of Recreation and Parks has direct responsibility for FRDAP. Eligible applicants are municipal and county governments or other legally constituted entities with the legal responsibility to provide public outdoor recreation.

Applicants must submit a completed FRDAP Grant Application during an announced submission period. The maximum grant amount is \$200,000 and requires a 50 percent match unless the project is less than \$50,000. The cash value of undeveloped land owned by applicant and the value of in-kind services can be used to satisfy the match.

10.4.4. Land, Water and Conservation Fund

The Land, Water and Conservation Fund (LWCF) is a competitive program which provides grants for acquisition or development of land for public outdoor recreational use. Florida's Department of Environmental Protection (DEP), Division of Recreation and Parks, Bureau of Design and Recreation Services, administers the program on behalf of the U.S. Department of the Interior, National Park Service. All local governmental entities with the legal responsibility for the provision of outdoor recreational sites and facilities for the use and benefit of the public may apply for funding. Grant amounts are announced prior to submission and awards require a 50 percent match. Like the FRDAP, cash, in-kind services and value of donated real property owned by the applicant can be used to satisfy the match requirement. Funding can be used for recreational equipment and associated recreational support facilities.

Each application is reviewed to determine eligibility. The Bureau of Design and Recreation Services evaluates each eligible application according to the Florida Administrative Code and the LWCF Manual, and assigns a final score. Based on the scores, the Bureau prepares

and submits a recommended priority list to the Secretary of the DEP for approval. State approved projects are then submitted to the U.S. Department of the Interior, National Park Service for final review and award.

10.4.5. RESTORE Act

The RESTORE Act is a law that dedicates 80 percent of the Clean Water Act penalties that will be paid as a result of the 2010 Deepwater Horizon oil spill to the Gulf Coast states for environmental and economic restoration. The money will be used to rebuild wetlands, implement federal plans for coastal restoration and advance important resiliency measures in Gulf Coast communities. The first law of its kind, the RESTORE Act is a historic piece of legislation and a major step toward recovery in the Gulf Coast region.

The RESTORE Act was introduced in July 2011 by a bipartisan coalition of nine gulf senators. Officially named the Resources and Ecosystems Sustainability, Tourist Opportunities and Revived Economy of the Gulf Coast Act of 2011, the bill received broad, bipartisan support in Congress for its simple purpose: to send the oil spill penalty money back to the region damaged by the spill. The legislation was prompted in part by two official reports on the spill, one conducted by Navy Secretary and former Governor of Mississippi Ray Mabus and another from the bipartisan National Commission on the Deepwater Horizon Oil Spill and Offshore Drilling. Both reports recommended that Clean Water Act penalties from the spill be dedicated to Gulf Coast restoration. Given the devastation the spill caused in the gulf, this was the only fair thing to do. Without the RESTORE Act, this penalty money could have been used for unrelated federal spending rather than for restoration.

Funding from the RESTORE Act, if approved for Wakulla County, could be an opportunity to fund capital projects that contribute to water quality improvements for waters that drain to the Gulf of Mexico. Wastewater collection and treatment and stormwater management projects in Wakulla Gardens could be candidate projects for RESTORE funding.

CPAT recommends that the County continue to seek infrastructure and related funding for Wakulla Gardens from state agencies. A portion of any funding secured through the RESTORE Act should be dedicated to Wakulla Gardens infrastructure improvements and promotion of area eco-tourism.

10.5. LOCAL FUNDING

10.5.1 Impact Fees

Impact fees are a powerful tool to make infrastructure improvements, but only when there is significant development pressure. The County Commissioners, however, recently abolished impact fees. In the current (2012) stagnant local economic climate, there would be less opportunity to utilize impact fees. With the 2012 elections, there may be an

opportunity to reestablish impact fees. Impact fees should be reevaluated *before* real estate market development returns to Wakulla County.

10.5.2 Wakulla Gardens Assessment District

Most recent developments have been required to provide infrastructure as a permit condition. Wakulla Gardens was constructed with no such requirement and so suffers from a lack of roads, sewer and stormwater infrastructure. Even the many years of real estate tax paid by Wakulla Gardens property owners is insufficient to fund major infrastructure improvements. Real estate taxes paid by Wakulla Gardens property owners (and all tax payers in the County) are used to fund the many other services residents expect and need such as fire and police protection and schools. Only a small portion of real estate taxes can be set aside for capital improvements (or the debt service associated with infrastructure loans).

Given these realities, the County circulated a survey in 2012 asking Wakulla Gardens residents if they would pay additional taxes or fees for infrastructure. The majority of respondents declined. The alternative then is for the County to secure grants and for it to gradually accumulate sufficient funds to implement infrastructure improvements in phases.

10.5.3 Public Private Partnerships

Another funding approach may be the public-private partnership proposed in the above section on road paving. Residents of a particular roadway agree to pay for the materials needed (asphalt, gravel, culverts, etc.) to pave their road and the County provides the equipment, labor, and coordination. Savings could be realized for all if the residents of more than one road agree to paving at the same time.

Construction of a community playground presents another opportunity for a public-private partnership. The County could provide County-owned land and could pay for a playground kit. The residents could work together to assemble the equipment. This arrangement would reduce costs for both the County and Wakulla Garden residents.

CPAT recommends that the County reevaluate the value of impact fees. It should also consider a public-private partnership to pay for the paving of Wakulla Gardens roads.

11. CONCLUDING REMARKS

Wakulla Garden has is a community with considerable challenges. Yet if those challenges are effectively met, this community is positioned to grow into a place with a strong social infrastructure and a functional physical infrastructure. In this report, CPAT offered numerous recommendations for guiding Wakulla Gardens toward that future. Socially these included creating a Wakulla Gardens Neighborhood Association and engaging with young people more in the community. Both of these recommendations serve to meet the broader goal of fostering more community cohesion in Wakulla Gardens. More community cohesion will lead people to have a greater stake in their community and greater voice in its future. In terms of physical infrastructure, CPAT offered numerous recommendations on improvements in roadways, wastewater management, flooding, and population density. If carried out, these recommendations can create a more efficient and functional Wakulla Gardens that better serves the needs of the community. The report also offers examples of how Wakulla Gardens can utilize outside resources – monetary and otherwise – to further realize its full potential. CPAT would like to thank Wakulla Gardens for hosting us and wishes them the best of luck as they plan out their community’s future.

12. MEET THE TEAM



Stephanie M. Tillerson, Team Leader

Stephanie is currently the City Manager for the City of Woodruff, South Carolina, where she is a strong advocate for smart codes, sustainable growth policies, and bikeable and walkable communities. She is a member of the Urban Land Institute, where she co-chaired the "Next Steps" Committee at the 2009 South Carolina Upstate Region Reality Check and has participated in two Technical Assistance Panels. She is very involved in her community, where she is President of the Junior League of Spartanburg and sits on the USC Upstate Foundation's Board of Directors and the Chamber of Commerce Economic Futures Group, as well as a number of other commitments. Stephanie is also the past recipient of the Upstate Forever's Public Servant of the Year Award.



Douglas Martin

Douglas has worked for municipal and county government in Northeastern Illinois for 15 years. Currently, he is the Deputy City Administrator for the City of McHenry, IL, where he has been employed for the last 11 years. Douglas is responsible for all planning, zoning and economic development activities in the City. He is also responsible for oversight of the City's Construction and Neighborhood Services Department, which includes property maintenance and administrative adjudication. Douglas has past experience working with tax increment financing districts and reviewing fiscal impact analyses. He has also worked with subdivisions to discuss sanitary sewage systems. Douglas holds a Master's Degree in Urban Planning and Policy from the University of Illinois at Chicago.



Darren J. Asper

Darren Asper provides clients of Delta Development Group expertise in various areas of planning, disaster preparedness, and economic development. As Senior Vice President, Darren leads a growing and diverse team of experts in economic and community planning, funding strategy development, market analysis, facilitation, disaster preparedness solutions, and higher education consulting. Darren's efforts have led to recognition by the Pennsylvania Planning Association for "Outstanding Community Initiative." Recently he has been conducting environmental modeling, housing studies, and capital improvement planning for communities affected by the Act 13 Impact Fee in the Marcellus Shale. He was named a Central Pennsylvania "Top 40 under 40" business leader in 2005.



David Berg

David Berg has been a land use planner and environmental analyst for Cameron Engineering for over 14 years. He has studied degraded estuaries and recommended watershed land use changes to restore estuarine water quality. David has developed low impact site plans, including designs and specifications incorporating green stormwater management, environmental restoration, and open space preservation. He has prepared land use plans that incorporate smart growth principles to redevelop older suburbs into communities where people of mixed incomes and ages can live, work, and play in a pedestrian-friendly environment. David is the former Director of the Long Island chapter of the APA and a founding board member of Vision Long Island, a non-profit that promotes smart