

WORKSHOP

Infrastructure Sales Tax Extension and Consideration of the Water and Sewer Master Plans

**Tuesday, April 12, 2011
12:00 – 3:00 p.m.**

**Leon County Board of County Commissioners' Chambers
Leon County Courthouse, 5th Floor**

This document distributed April 6, 2011



Board of County Commissioners Leon County, Florida

www.leoncountyfl.gov

Workshop

April, 12 2011

Title:

Workshop Regarding the Infrastructure Sales Tax Extension and Consideration of the City of Tallahassee's Updated Water and Sewer Master Plans

Staff:

Parwez Alam, County Administrator
Vincent S. Long, Deputy County Administrator
Alan Rosenzweig, Assistant County Administrator
Tony Park, Public Works Director

RA
OR

Issue Briefing:

This workshop addresses the infrastructure sales tax extension and the consideration of the City of Tallahassee's Updated Water and Sewer Master Plans.

Fiscal Impact:

The existing sales tax expires in December 2019. The sales tax currently generates approximately \$35 million annually.

Staff Recommendations:

1. Direct staff to prepare an agenda item establishing a citizens committee appointed by the Board of County Commissioners.
2. Direct staff to schedule a future workshop to address the following:
 - a. A proposed overall process and timeline for the sales tax extension initiative.
 - b. A detailed status of the current Blueprint 2000 projects.
 - c. The process to evaluate and prioritize County wide needs (to include both City and County projects) for the time horizon of the extension.
3. Provide any additional direction to staff with regard to specific projects and/or specific direction with regard to process that the Board wishes to come back at the future workshop identified above.
4. Approve the following list of projects to be included as part of any future discussion related to the infrastructure sales tax extension:
 - a. Sewer projects consistent with the City's Master plan as amended by the Board
 - b. Private dirt road paving, contingent upon a defined road selection process
 - c. Bannerman Road widening
 - d. Tharpe Street widening

Budget Discussion Item: Workshop Regarding the Infrastructure Sales Tax Extension and
Consideration of the City of Tallahassee's Updated Water and Sewer Master Plans

April 12, 2011

Page 2

- e. County facility maintenance
 - f. County road resurfacing and intersection/safety projects
 - g. Fairgrounds relocation
 - h. Economic development
 - i. On-going maintenance of park projects developed through the sales tax extension
5. Approval of the Tallahassee's 2030 Master Sewer Plan Phase 2 dated January 2010 contingent upon the City amending the plan to include the additional areas: NW Leon County (Talquin Water Area), Avondale Subdivision, Plantation Estates Subdivision, and areas west of the Woodville Special Development Area. Staff recommends the city utilize the information and cost estimates contained in the original workshop packet as the basis for the addendum to the plan.
6. Approve the City of Tallahassee's Water Master Plan dated April 2010.

Report and Discussion

Background:

Over the past several months, the Board has discussed the extension of the infrastructure sales tax first at the Board's Annual retreat (December 13, 2010) and subsequently at several meetings indicated below:

- As part of the December 14, 2010 Water and Sewer Master Plan workshop, the Board directed staff to schedule a workshop for April 12, 2011 regarding the infrastructure sales tax extension and the consideration of the Water and Sewer Master Plans. The December workshop included a discussion to use a portion of any future sales tax towards sewer/water infrastructure needs. (Attachment #1)
- At the January 18, 2011 Workshop on the County's 2/3 Paving Program, the Board directed staff to include the consideration of funding private roads at the April 12, 2011 workshop. (Attachment #2)
- At the February 8, 2011 meeting, the Board amended County's 2010/2011 top priorities to include providing leadership in the evaluation of the local government infrastructure surtax extension. (Attachment #3 and #4)
- At the February 22, 2011 meeting, the Board approved the action plan associated with the infrastructure sales tax priority. (Attachment #5)

Based on the approved action plan, the workshop will provide the direction to staff to develop a more detailed approach for the remainder of the process.

Analysis:

The analysis section of the packet is organized as follows:

Florida Statutes

Current Situation – Blueprint 2000

Current Project Identification for Extension

Next Steps

City of Tallahassee Water and Sewer Master Plans

Florida Statutes:

The imposition and usage of the local government infrastructure surtax is governed by Florida Statute 212.055 (2) (Attachment #6). The following is a brief summary of the statutory provisions:

- The imposition of the tax must be approved via referendum by the majority of the residents in the County
- The referendum shall be placed on the ballot by the governing authority of the county or be placed as the result of the City of Tallahassee passing a resolution calling for the County to conduct the referendum
- The proceeds of the surtax shall be shared between the County and the municipalities pursuant to an interlocal agreement or by state formula. The current state formula would

- allocate 54.8% County and 45.2% City.
- The proceeds for the tax may be used to:
 - Finance, plan and construct infrastructure; to acquire land for public recreation, conservation, or protection of natural resources, or to finance the closure of solid waste landfills that have been closed or are required to be closed by order of the Department of Environmental Protection.
 - In general, infrastructure means any capital expenditure associated with reconstruction, construction, or improvement of a public facility that have a life expectancy of 5 or more years, including land acquisition, land improvement, design and engineering. Public safety vehicles with a life expectancy of 5 or more years are eligible.
 - Other eligible expenditures and the associated rules relate to investment in private facilities for emergency shelter/staging area for emergency response and residential housing units.
 - Up to 15% may be deposited into a trust fund with the County's accounts created for the purpose of funding economic development projects having a general public purpose of improving local economies, including the funding of operational costs and incentives related to economic development. The ballot statement must indicate the intention to make an allocation if proceeds are to be used for this purpose.
 - For a County having a population greater than 75,000 in which the taxable value of real property is less than 60 percent of the just value of real property than the proceeds maybe used for the operation and maintenance of parks and recreation facilities established with the proceeds of the surtax throughout the duration of the surtax levy. For the most recent year, the County's just value was \$25.3 billion and the taxable value was \$14.4 billion or 57%.
 - The proceeds may not be used for the operational expenses of the infrastructure improvements.
 - There is no time limit that the tax may be imposed.

Current Situation – Blueprint 2000

The existing one cent infrastructure sales tax is being levied for a period of 15 years beginning December 1, 2004 and expiring December 31, 2019. Pursuant to an existing interlocal agreement, the County and City created the Intergovernmental Agency commonly referred to as Blueprint 2000 to oversee the utilization of 80% of the proceeds; the balance (20%) is shared equally between the County and the City. The intergovernmental agency consists of the entire County and City Commissions.

Although the Blueprint 2000 effort caused the deferral of many County infrastructure needs, the community was able to focus on high priority projects. Attachment #7 contains the approved project list from the County/City Interlocal agreement. Attachments #8 and #9 provide a summary of the projects and a cost allocation.

The first priority projects were designated as a-i and j-w represented second priority projects; the following provides a brief status of the projects (the letters denote the original project designation):

Budget Discussion Item: Workshop Regarding the Infrastructure Sales Tax Extension and Consideration of the City of Tallahassee's Updated Water and Sewer Master Plans

April 12, 2011

Page 5

- Completed:
 - Capital Circle NW (I-10 to US90) (a)
 - Capital Circle SE (Tram to Connie) (b)
 - Capital Circle SE (Woodville to Tram) (b)
 - Headwaters St. Marks NFWMD (e)

- Under Construction/On-going (or Near Commencement):
 - Capital Circle SE (Woodville to Crawfordville) (b)
 - Capital Cascade Trail – Segment 2 (Cascades Park) (c)
 - Capital Circle NW/SW (US 90 to Orange) (a)
 - Cascade Trail – Segment 1 (Franklin Blvd) (c)
 - Water Quality Program – City/County (d)
 - Headwaters St. Marks (e)
 - Lafayette Floodplain (f)
 - Lake Jackson Basin/Fred George (o)
 - Mahan Drive (l)

- Projects currently under design:
 - Capital Cascades Connector Bridge (c)
 - Capital Cascades Trail – Segment 3 (Monroe to Gamble) and Segment 4 (Gamble to Black Swamp) (c)

- Projects Currently Under Design; Construction Funds Currently not Available
 - Capital Circle SW (Crawfordville to Orange) (g, h)

A more detailed analysis of specific projects will be presented as part of a future workshop regarding the proposed sales tax extension.

As the result of funding these important Blueprint 2000 projects, County infrastructure needs have continued to lag. There are a number of “must do” County projects that have developed given the deferral of this revenue stream towards the Blueprint effort. The next section of this workshop packet begins the identification process of these needs.

Current Project Identification for Extension

As previously stated, 80% of the current sales tax is committed to a series of Blueprint 2000 projects. With the vast majority of the Tier 1 projects completed (or funded to be completed) it is appropriate to review the other existing needs of the community. Depending upon the length of the extension, this funding source could be addressing needs for the next two decades. It is important to acknowledge that over time priorities change and unknown conditions will emerge.

During two recent workshops, staff identified possible projects the Board may wish to consider as part of any sales tax extension. In addition, staff has included additional preliminary needs the County has (or will) experience. This section is not intended to be an exhaustive list, but a starting point in the discussion.

- Sewer improvements in excess of \$283 million. This includes those areas identified in the City's proposed master plan, as well as areas identified by County staff. This

includes, but is not limited to: Woodville (including areas west of the original study area), Centerville Trace, Harbinwood, Avondale, Plantation Estates, as well as all of the study areas identified by City. (Attachment #10)

- Paving of a portion of the County's private dirt roads. Currently, for the majority of development activity, developers are required to build roads to County standards regardless if the road is public or private. There are exceptions for large rural tracts based on intensity and density. Under the sales tax extension, the County could develop a program that provides funding towards the paving of the private roads if it met certain criteria, which may include, but not be limited to: 100% of the ROW being donated and having 2/3's of the property owners sign a petition requesting the project. Staff has identified 195 miles of unpaved dirt roads. Specific criteria would need to be developed to prioritize roads, such as a minimum number of lots accessing the road. At an estimated cost of \$400,000 per mile, the entire 195 miles could cost approximately \$78 million.

In addition to the above, there are a number of high priority projects the Board may wish to consider as part of any sales tax extension:

- Road projects. Attachment #11 contains the Significant Benefit Priority List which was approved by both the City and County and is included as part of the existing interlocal agreement which also includes the State Department of Transportation. The list contains priority segments for the County, City and State. The priority road segments for the County includes:
 - Bannerman Road – two phases: Thomasville to Tekesta and Tekesta to Preservation Point; costs estimates to be determined
 - Tharpe Street – two phases: Blountstown Highway to Ocala (\$33 million) and Blountstown Highway to Capital Circle (\$16 million)
- Over the next five to ten years, the County can anticipate experiencing significant long term maintenance issues related to its aging facility infrastructure. A recent example the County is addressing relates to the need to update the fire suppression system in the Courthouse garage (estimated cost \$1.0 million). In previous years the County has expended millions of dollars recaulking the Courthouse exterior and reinforcing the parking deck structure. Staff anticipates additional expenditures being required for the Courthouse, Jail, Main Library, etc. that will be significant. A complete list has not yet been developed.
- Road resurfacing and intersection and safety improvements. The current gas tax revenues do not provide any funds towards the County's resurfacing program or intersection/safety improvements. These programs are supported through the balance of funds remaining from the prior infrastructure sales tax. This allocation occurred in FY2008 when the County recommitted existing resources away from new projects towards the maintenance of existing infrastructure (such as resurfacing). Based on current projections, these funds will be depleted during FY2014. Beginning in FY2014, staff continues to recommend utilizing sales tax resources for the resurfacing and

intersection/safety improvement programs. This would occur through the County's 10% share of the existing sales tax and could last through FY2019. Given this approach, the next sales tax extension should also consider the County's on-going resurfacing/intersection and safety programs. These programs are currently funded at \$4.0 million annually and an additional \$850,000 every other year for local road resurfacing.

- The Board has prioritized the relocation and redevelopment of the existing Fairgrounds and has directed staff to proceed with the acquisition of the "Flea Market Tract" on Capital Circle. As part of the long term strategy to effectuate both the relocation and redevelopment of the existing site, the funding of these activities could come from a sales tax extension. This would provide the resources necessary to construct the infrastructure for the relocated fairgrounds and provide funding necessary to facilitate the redevelopment activities of the existing site.
- Economic development has been and will most likely continue to be the Board's top priority for the foreseeable future. As authorized by Florida Statutes, up to 15% of the sales tax collection can be utilized for economic development, including the funding of operational costs and incentives related to economic development. The proceeds are to be deposited in trust fund within the County's accounts. The ballot statement must indicate the intention to make an allocation for the purpose of economic development. Based on the most recent state estimates, one cent generates approximately \$35 million annually. A maximum of 15% equates to \$5.25 million annually; 5% equates to \$1.75 million annually.
- The County continues to face fiscal issues related to the funding of its annual budget. As authorized by Florida Statutes, the County could use a portion of its proceeds to support the operation and maintenance of parks and recreation programs and facilities developed with the proceeds of the surtax. This is allowed if the taxable value remains at less than 60% of the just value at the time of the referendum.

Next Steps

The existing sales tax addressed a number of projects that involved improvements to state roads or addressed large projects that involved multiple political jurisdictions. As such, the utilization of an intergovernmental entity such as Blueprint 2000 was essential in delivering the oversight of the construction projects.

As the existing sales tax extension does not expire until 2019, there is more than sufficient time to develop an inclusive process to identify the long term needs of the community. The timing to consider a referendum could be 2014, 2016 or even 2018. With the previous extension, having citizen participation is critical to ensuring all aspects of the community are addressed and represented.

As the Board of County Commissioners is the governing body authorized by Florida Statutes to place the sales tax extension on the referendum it is imperative for the Board to establish a process which is both inclusive of the community's vision while addressing the critical infrastructure needs identified in this item.

To insure a successful sales tax extension initiative, the process to be established must contemplate broad community involvement, as well as, contemplating the critical infrastructure needs of the community. As such, staff recommends that the Board provide the following direction:

1. Direct staff to prepare an agenda item establishing a citizens committee appointed by the Board of County Commissioners.
2. Direct staff to schedule a future workshop to address the following:
 - a. A proposed overall process and timeline for the sales tax extension initiative.
 - b. A detailed status of the current Blueprint 2000 projects.
 - c. The process to evaluate and prioritize County wide needs (to include both City and County projects) for the time horizon of the extension.

City of Tallahassee Water and Sewer Master Plans

As part of the ratification, the Board directed the consideration of the Water and Sewer Master Plans to be addressed as part of the April 12, 2011 workshop. Attachment #1 contains the December 14, 2010 Workshop on the City of Tallahassee's Updated Water and Sewer Master Plans in Accordance with the Water and Sewer Agreement between the City of Tallahassee and Leon County.

The following provides a brief summary of the previous Water and Sewer Master Plans Workshop:

- The Tallahassee-Leon County Comprehensive Plan includes objectives stating the need for sanitary sewer and potable water which promotes orderly, compact urban and cost efficient growth while maximizing existing facilities.
- Pursuant to the 2005 Water and Sewer Agreement between the City and the County, the City shall submit a water and sewer long range master plan every five years for County approval.
- The actual plans are large three-ring binders and are available for review; Attachment #1 contains select summary sections.
- The Sewer plan identifies a number of target areas throughout the Urban Services Area (USA) as well as the Woodville Special Development Area.
- County staff identified some additional areas that should be considered for sewer development.
- The total unfunded projects amount to approximately \$283 million.
- The Water master plan identifies areas requiring improvement. The water plan is identified to be completely funded over the next 20 years through the system.

Regarding the water and sewer plans, staff is recommending the following:

- Approval of the Tallahassee's 2030 Master Sewer Plan Phase 2 dated January 2010 contingent upon the City amending the plan to include the additional areas: NW Leon County (Talquin Water Area), Avondale Subdivision, Plantation Estates Subdivision, and areas west of the Woodville Special Development Area. Staff recommends the city

utilize the information and cost estimates contained in the original workshop packet as the basis for the addendum to the plan.

- Approve the City of Tallahassee's Water Master Plan dated April 2010.

Options:

1. Direct staff to prepare an agenda item establishing a citizens committee appointed by the Board of County Commissioners.
2. Direct staff to schedule a future workshop to address the following:
 - a. A proposed overall process and timeline for the sales tax extension initiative.
 - b. A detailed status of the current Blueprint 2000 projects.
 - c. The process to evaluate and prioritize County wide needs (to include both City and County projects) for the time horizon of the extension.
3. Provide any additional direction to staff with regard to specific projects and/or specific direction with regard to process that the Board wishes to come back at the future workshop identified above.
4. Approve the following list of projects to be included as part of any future discussion related to the infrastructure sales tax extension:
 - a. Sewer projects consistent with the City's Master plan as amended by the Board
 - b. Private dirt road paving, contingent upon a defined road selection process
 - c. Bannerman Road widening
 - d. Tharpe Street widening
 - e. County facility maintenance
 - f. County road resurfacing and intersection/safety projects
 - g. Fairgrounds relocation
 - h. Economic development
 - i. On-going maintenance of park projects developed through the sales tax extension
5. Approval of the Tallahassee's 2030 Master Sewer Plan Phase 2 dated January 2010 contingent upon the City amending the plan to include the additional areas: NW Leon County (Talquin Water Area), Avondale Subdivision, Plantation Estates Subdivision, and areas west of the Woodville Special Development Area. Staff recommends the city utilize the information and cost estimates contained in the original workshop packet as the basis for the addendum to the plan.
6. Approve the City of Tallahassee's Water Master Plan dated April 2010.
7. Board Direction.

Recommendation:

Options # 1 through #6

Budget Discussion Item: Workshop Regarding the Infrastructure Sales Tax Extension and
Consideration of the City of Tallahassee's Updated Water and Sewer Master Plans

April 12, 2011

Page 10

Attachments:

- #1 December 14, 2010 Water and Sewer Workshop
- #2 February 22, 2011 ratification of the January 18, 2011 Workshop on the County's 2/3 Program
- #3 Follow-up from February 8, 2011 meeting
- #4 Leon County Board of County Commissioners 2010-2011 Top Priorities
- #5 February 22, 2011 agenda item: Approval of the 2011 Action Plan for the Extension of the One-Cent Sales Tax to Fund Infrastructure Needs
- #6 Florida Statutes
- #7 Blueprint 2000 interlocal agreement project list
- #8 Blueprint 2000 project status
- #9 Blueprint 2000 funded projects
- #10 Sewer map
- #11 Significant benefit projects



Board of County Commissioners
Leon County, Florida

www.leoncountyfl.gov

Workshop Request
Executive Summary

December 14, 2010

Title:

Approval of the City of Tallahassee's Updated Water and Sewer Master Plans in Accordance with the Water and Sewer Agreement between the City of Tallahassee and Leon County

Staff:

Parvez Alam, County Administrator
Alan Rosenzweig, Assistant County Administrator
Tony Park, P.E., Director of Public Works

Issue Briefing:

In accordance with the Water and Sewer Agreement, this item seeks Board approval of the City of Tallahassee's 2030 Master Sewer Plan Phase 2 approved by the City February 2010 and the City of Tallahassee's Water Master Plan approved by the City August 2010. Both documents are available for review in the County Commission Chamber's Lobby, and the County Commissioner's Conference Room, located on the 5th floor of the Leon County Courthouse. They can also be reviewed at Leon County Public Works, located at 2280 Miccosukee Road.

Fiscal Impact:

The adoption of this item has no direct fiscal impact to Leon County. However, as noted in the recommendations, the ability to implement the Water and Sewer master plans will require a substantial investment by the community. Staff is recommending that the full implementation of these plans be included in any one cent infrastructure sales tax extension referendum.

Staff Recommendation:

- Option #1: Approve the City of Tallahassee's 2030 Master Sewer Plan Phase 2 dated January, 2010.
- Option #2: Approve the City of Tallahassee's Water Master Plan dated April, 2010
- Option #3: Authorize that the projects identified in the Sewer Master plan, as well as the additional projects identified by staff, be included in any one cent infrastructure sales tax extension referendum.
- Option #4: Authorize that when funded by the sales tax extension, equal water and sewer rates would apply for all customers within Leon County inclusive of any surcharges.

Workshop Request: Approval of the City of Tallahassee's Updated Water and Sewer Master Plans in Accordance with the Water and Sewer Agreement between the City of Tallahassee and Leon County
December 14, 2010
Page 2

Report and Discussion

Background:

Leon County approval of the City of Tallahassee's (City) Master Plans for Water and Sewer Service within the Urban Services Area is required in Paragraph 5.a. of the current Water and Sewer Agreement (WSA) (Attachment #1). Once approved, these Master Plans will serve as the basis for the City's annual submission of their proposed 5 Year Capital Improvements Plan (CIP) for water and sewer projects. Paragraph 5.b. of the WSA requires that the County approve this 5 Year CIP annually. This workshop is intended to provide the Board with an analysis of the proposed Master Plans and also background information regarding the WSA and related issues.

Analysis:

Water and Sewer Agreements:

The Tallahassee-Leon County Comprehensive Plan (Comp Plan) currently includes the following Objectives:

SANITARY SEWER LOS

Objective 1.3: [SSJ] (Leon County) (Rev. Effective 8/17/92)

Needed sanitary sewer facilities will be provided in a manner which promotes orderly, compact urban and cost efficient growth while optimizing the use of existing facilities.

POTABLE WATER LOS

Objective 1.2: [PW] (Effective 7/16/90)

Needed potable water facilities will be provided in a manner which promotes orderly compact urban growth and maximizes the use of existing facilities.

As indicated above, these objectives have been included within the Comp Plan since it was originally adopted in 1990. Compliance with these Comp Plan requirements is achieved by entering into and maintaining a Water and Sewer Agreement with the City of Tallahassee. Under this agreement, the City is assured of having the rights to extend sewer and water into the unincorporated area and therefore can justify the planning necessary to insure such facilities are available and the County has the right to monitor that planning and direct changes if any deficiencies are noted.

Prior to the enactment of the Comp Plan, the County and City had a history of Water and Sewer Agreements.

- In May, 1980, the first WSA was approved. This agreement was primarily focused on the acquisition of funding from the Federal government under the 201 program.
- In July, 1990, the County and City entered into a WSA that contained many of the same provisions used in later WSA's.

Workshop Request: Approval of the City of Tallahassee's Updated Water and Sewer Master Plans in Accordance with the Water and Sewer Agreement between the City of Tallahassee and Leon County

December 14, 2010

Page 3

- In February, 1993, the County and City approved a new WSA with provision intended to insure compliance with the new Comp Plan requirements.
- In May, 2005, the current WSA was approved.

The 1992/1993 WSA utilized Master Plans that were developed by the City in 1988 under the 1980 WSA. Those Master Plans served as the basis for the annual review of the City's 5 Year CIP for water and sewer until 2005.

At the time the 2005 WSA was being developed, the City was in the process of updating the 1988 Master Plans. Accordingly, the 2005 WSA provided that the City should develop the Master Plans within 18 months of execution of the 2005 WSA. The WSA was executed in May of 2005, therefore the Master Plans should have been developed by November 2006. A draft of the Sewer Master Plan was provided to County staff in early December, 2009. Staff's review noted that the Harbinwood area had not been addressed as a Target Area. City staff acknowledged the omission and modified the plan to include detailed plans for Harbinwood. The Sewer Master Plan was completed in January 2010 and approved by the City Commission in February 2010. The Water Master Plan was completed in April 2010 and approved by the City Commission in August 2010.

Upon receipt of both Master Plans, County staff began preparations for presentation to the Board for approval in September 2010. However, given the significant long term implications of these plans, it was decided to conduct a workshop once the new Board of County Commissioners was installed. Upon approval of the Master Plans, the annual review process for the City's 5 Year CIP will commence in June of the year following approval.

Other provisions of the WSA are also pertinent to the consideration of the approval of these Master Plans. Section 3 of the Agreement discusses Target Areas for water and sewer service. In this part of the agreement, the County reserved the right to identify areas to be considered with a higher priority for water and or sewer service. In summary, the City is not required to complete the construction of the collection system within a Target Area; the City agrees to provide the conveyance, connecting the collection system to the City system; and the City agrees to own, operate and maintain the system once it is built. The Agreement further provides that these arrangements will be the basis for an Implementation Agreement to be developed separately from the WSA. The three areas identified in the WSA are Woodville, Centerville Trace and the Harbinwood area between North Monroe and Lake Jackson. The County may add or delete Target Areas at its discretion.

Workshop Request: Approval of the City of Tallahassee's Updated Water and Sewer Master Plans in Accordance with the Water and Sewer Agreement between the City of Tallahassee and Leon County
December 14, 2010
Page 4

2030 Master Sewer Plan Phase 2:

The Sewer Master Plan is a large three-ring binder volume with oversize graphics. Much of the document consists of research data, calculations and other information upon which the results are based. For ease of review, the following excerpts from the SMP are attached: Executive Summary (Attachment #2); Section 1 – Introduction (Attachment #3); Section 3 – Evaluation of Unsewered Target Areas (Attachment #4) and Appendix A – Expanded Evaluation of Unsewered Areas (Attachment #5).

Scope of Study

In summary, the Master Plan was developed using the following criteria:

- The geographic area was limited to the area within the USA, with an exception for the Woodville Special Development Area being included.
- The population used was the ultimate population within the entire USA, including all of the unincorporated area within the USA
- The study included 9 large unsewered areas originally identified in the 1988 plan. Detailed analysis of these areas was provided. These areas embrace a large portion of the unincorporated portion of the USA.
- All of the Target Areas identified in the WSA were given detailed evaluation as to the cost of providing sewer service to those areas, including preliminary design.
- Capacity and operational upgrades to the existing system within the City limits were to be evaluated to insure that the system will be capable of accepting the flows to be generated in the unincorporated area.

Evaluation of Unincorporated Area Planning

The County's focus is on the unincorporated portion of the USA. To further evaluate the completeness of the City plan, County staff developed a separate graphic to analyze the extent to which the Plan addresses service within that area (Attachment #6). This graphic delineates the study areas of the City Master Plan on a map with the locations of septic systems indicated by dots. Also shown are the City Limits and the USA.

This graphic clearly shows that, with only a few exceptions, the entire unincorporated USA has been included in the long range plan. This confirms that the requirements of the Comp Plan are being met by the WSA.

It is noted, however, that review of the map indicates a few areas of relatively dense septic tank installations not addressed by the City's Plan. Although it is known that all of the future population within the unincorporated USA has been included in the Plan, the omission results in the cost of actually providing sewer service to the properties not established in the City's final Master Plan. This cost issue is addressed in the Budget Analysis section of this workshop presentation.

Workshop Request: Approval of the City of Tallahassee's Updated Water and Sewer Master Plans in Accordance with the Water and Sewer Agreement between the City of Tallahassee and Leon County
December 14, 2010
Page 5

According to the City, the primary areas not addressed by the plan are in the northwest in the area generally west of Harbinwood and including the subdivisions Edinburg Estates, Autumn Estates, Sterling Woods, Lake Jackson Estates, Tower Oaks Mobile Home Park, and Oak Valley Commercial Center. This is a relatively dense development area on septic systems. Although the Master Plan accounted for the build-out population in this area, detailed planning for these areas was beyond the Master Plan scope of this phasing period. This Master Plan update focused on unsewered areas with sufficient density and growth potential. More than likely these areas will be included during the next planning period or sooner if the need arises.

Two other areas in the southeastern part of the County are also not included. These are the Avondale and Plantation Estates subdivision. As with those areas mentioned above, these areas were not included in this update, due to them not having both sufficient density and growth potential.

As noted above, the cost to address these areas is included in the budget analysis section below.

WSA Target Areas

The WSA Target Areas were developed as the next highest priority areas after the Killearn Lakes Sewer Project. In that project, the County funded and built the collection system for Units 1 and 2 of the development utilizing a portion of the County's Blueprint 2000 water quality funding. The County also funded the cost of the conveyance to the City system. The City agreed to own and operate the system. The three additional Target Areas have been addressed in the Master Plan, and their costs are:

Table 1: WSA Target Areas	
Target Area	Estimated Cost
Woodville	\$24,576,000
Centerville Trace	\$4,745,000
Harbinwood	\$12,100,830
Total	\$41,421,830

Workshop Request: Approval of the City of Tallahassee's Updated Water and Sewer Master Plans in Accordance with the Water and Sewer Agreement between the City of Tallahassee and Leon County
December 14, 2010
Page 6

Budget Analysis

Before Budget Analysis can begin, there is a need to determine the cost of actually extending service into the omitted areas described above. Using an average cost per lot from the Plan's prior calculations, and a total number of parcels, staff determined the cost as reflected in Table 2.

Table 2: Omitted Sewer Areas			
Omitted Area	Cost/Lot	# Lots	Cost
Talquin Sewer Area, NW Leon County	12,000	3,687	\$44,244,000
Avondale Subdivision	12,000	187	\$2,244,000
Plantation Estates Subdivision	12,000	158	\$1,896,000
Total Additional Cost			\$48,384,000

It is to be noted all of the costs presented in the Master Plan reflect the cost to provide a sewer tap at each lot in the area. The additional cost for property owners to actually connect to the service tap is estimated at approximately \$10,000. It should also be noted that these projects are conventional gravity sewer, unlike the low pressure system installed in Killearn Lakes.

The current 5 Year CIP includes three projects, see Table 3, having a direct positive impact on the unincorporated area and comprise almost one third of the total 5 Year CIP budgeted amount. It should be noted that these projects are not mentioned in the Master Plan except in the CIP discussion. This would be the kind of projects that will be reviewed each year as a part of the City's proposed 5 Year CIP starting that year.

These projects have been proposed for inclusion in the current 5 Year CIP for various reasons. The CCSE (Sembler) Pump Station and Force Main, for example, is a critical collection point for sewer originating in the unincorporated area. Although the collection system is not being installed at this time, the pump station and force main are being installed as a part of the Capital Circle projects being done by BluePrint 2000.

The Aeon Church trunk sewer was initiated by the City in 2008 (concurrently with the preparation of this Master Plan update) to serve new developments proposed along Aeon Church and lying within the Transfer Station Target Planning Area.

The Apalachee Parkway - Williams Road trunk sewer provides added capacity and off-site sewer service to new developments previously proposed along Apalachee Parkway from March Road to Williams Road. Multiple requests have been received by the City to serve new potential developments in this area.

Workshop Request: Approval of the City of Tallahassee's Updated Water and Sewer Master Plans in Accordance with the Water and Sewer Agreement between the City of Tallahassee and Leon County
December 14, 2010
Page 7

Project Description	CIP Year	Estimated Cost
Aeon Church Gravity Outfall	2011	\$621,000
CCSE (Sembler) Pump Station & Force Main	2014	\$634,000
Apalachee Parkway / Williams Road Outfall	2015	\$2,207,000
Total		\$3,462,000

The 20 Year Budget developed as a result of the technical study is summarized in Table 4. It is to be noted that the Capacity and Operational Improvements are beneficial to the unincorporated area as well as to the internal City system. Capacity improvements are upgrades to existing pipes and pumping systems to insure that future flows can be handled by the system. Operational improvements include projects that make the system more efficient (and therefore cheaper) to operate, such as installing a gravity main to replace a pump station and force main. The Capacity and Operational improvements are funded by the City in the 20 Year CIP. Also funded are the specific Projects Serving Large Unincorporated Areas discussed above. The other line items below are on hold pending a funding initiative by the County or private development.

Budget Element	Total Cost
To be funded in City 20 Year CIP:	
Capacity Related Improvements	\$9,840,000
Operational Related Improvements	\$15,353,000
Projects Serving Large Unsewered Areas	\$3,462,000
Total Funded	\$28,655,000
Unfunded Items in Master Plan	
Large Unsewered Areas (excluding County Target Areas)	\$169,877,000
County Target Areas	\$41,421,830
Talquin Service Areas	\$7,210,000
Omitted Areas	\$48,384,000
Total Unfunded	\$266,892,830
Total, Funded and Unfunded	\$295,547,830

The actual proposed 20 year budget provides that the City will actually budget \$28,655,000 towards projects identified in the Master Plan (Table 5). \$10,577,000 is included in the City's current 5 Year CIP.

Workshop Request: Approval of the City of Tallahassee's Updated Water and Sewer Master Plans in Accordance with the Water and Sewer Agreement between the City of Tallahassee and Leon County
 December 14, 2010
 Page 8

Table 5: Summary of CIP Expenditures	
Budget Element	Total Cost
5 Year CIP - 2011-2015	\$10,577,000
Phase II - 2016-2020	\$11,913,000
Phase III - 2021-2025	\$2,110,000
Phase IV - 2026-2030	\$4,055,000
Total	\$28,655,000

Wastewater Treatment Capacity

Although the Master Plan being considered at this time focuses on the collection system, an important element of providing sewer service is that capability to provide treatment and disposal once the flows have been collected. The City is currently implementing its 2026 Master Plan for treatment facilities. Under this program, the treatment level of the facilities will be increased from secondary treatment to tertiary, significantly increasing the removal of nitrogen, etc. The treatment capacity of this facility is now 27.39 million gallons per day (MGD) while the facility currently only receives an average of 17.73 MGD. The completed facility will have a treatment capacity of 26.5 MGD but at a much higher level of treatment.

Water Master Plan:

The Water Master Plan is a large three-ring binder volume with oversize graphics. Much of the document consists of research data, calculations and other information upon which the results are based. For ease of review, the following excerpts from the WMP are attached: Executive Summary (Attachment #7); Section 1 – Introduction (Attachment #8); Section 5 – Projected Water Demands (Attachment #9) and Section 11 – Conclusions, Recommendations and Capital Improvement Plan (Attachment #10).

Scope of Study

In summary, the Master Plan was developed using the following criteria:

- The geographic area was limited to the area within the USA, with the exception being that the Woodville Special Development Area was included.
- The population used was the ultimate population within the entire USA, including all of the unincorporated area within the USA
- All of the Target Areas identified in the WSA were considered.
- Capacity and operational upgrades to the existing system within the City limits were to be evaluated to insure that the system will be capable of generating the flows needed to supply the unincorporated area.

Workshop Request: Approval of the City of Tallahassee’s Updated Water and Sewer Master Plans in Accordance with the Water and Sewer Agreement between the City of Tallahassee and Leon County
December 14, 2010
Page 9

Evaluation of Unincorporated Area Planning

The study activity found that the City water system is well-positioned to meet future water needs within the USA and that it is well “looped”, requiring minimal improvements to meet future customer needs. Although the County’s focus is on the unincorporated portion of the USA, it must be noted that improvements to the water system can have positive impacts in a large geographic area. Improvements inside the City limits can provide for the needs in the adjacent unincorporated area. Two projects are of special interest to Leon County.

1. One proposed project is to enhance fire protection in the Woodville area. The City proposes to extend larger mains to the Woodville area to enhance fire protection. This project is funded in the year 2012 in the proposed 20 Year CIP.
2. The other project is associated with fire protection at the western end of the City system on Highway 90 West. The project proposes to extend that water system down Barineau Road to Highway 20, and then along Highway 20 back to the City system, creating a looped system in that area. This project is funded in the year 2025 in the proposed 20 Year CIP.

Water Supply Capacity

The City’s existing Consumptive Use Permit establishes the following permitted capacities:

- Combined average annual withdrawal of 33.7 MGD
- Maximum combined withdrawal of 59.3 gallon during a single day
- Combined monthly withdrawal of 1,415,400,000 gallons.

The average day water demand for the system since 2000 has varied from 28.46 to 33.10 MGD.

The City will be renewing its Consumptive Use Permit in 2011. Two new water supply wells are proposed in the 20 Year CIP, and the wells have been targeted as needed by the year 2020.

Budget Analysis

The Master Plan resulted in the City’s planning to spend \$36,500,000 over the next 20 years on the water system. \$10,250,000 of that is budgeted in the City’s current 5 Year CIP. The 20 Year CIP is summarized in Table 6 (note that the first column is the current 5Year CIP):

Table 6: City’s 20 Year CIP’s for the Water System.

Project Element	2011-15	2016-20	2021-25	2026-30	Total
Operational Improvements	\$10,250,000	\$6,700,000	\$5,220,000	\$500,000	\$22,670,000
Capacity Improvements	\$1,000,000	\$1,500,000	\$1,100,000	\$6,000,000	\$9,600,000
Areas of Concern / Fire Flow Imp	.\$0	\$1,400,000	\$1,890,000	\$950,000	\$4,240,000
Total	\$11,250,000	\$9,600,000	\$8,210,000	\$7,450,000	\$36,510,000

Workshop Request: Approval of the City of Tallahassee's Updated Water and Sewer Master Plans in Accordance with the Water and Sewer Agreement between the City of Tallahassee and Leon County
December 14, 2010
Page 10

The scheduled funding of the two projects of interest to Leon County are summarized in Table 7:

Table 7: Projects of Interest

Project Element	2011-15	2016-20	2021-25	2026-30	Total
Highway 90 West Fire Flow Imp	\$640,000	\$0	\$0	\$0	\$640,000
Woodville Fire Flow Imp	\$0	\$0	\$1,700,000	\$0	\$1,700,000
Total	\$640,000	\$0	\$1,700,000	\$0	\$2,340,000

WSA Target Areas

There are no Target Areas in the WSA that address water service. Currently, there are no Target Areas that have identified water supply as a problem. The Plan did evaluate the three Target Area projects in the WSA and have confirmed that adequate flows are available and that any water supply needs in those areas can be easily met.

Long Term Funding

With the exceptions noted, the Water and Sewer Master plans have been developed consistent with the requirements of the interlocal agreement with the intention of providing needed service to the appropriate portions of the entire County. The City is committed to provide \$28.6 million of the total \$295.5 needed for the Sewer System; the Master plans indicated all of the Water needs will be included as funded capital projects over the next 20 years.

In order to continue with the necessary development of the sewer system which could eliminate the existing septic tanks for the vast majority of the USA, it is recommended that the projects identified in the respective Sewer Master plans, as well as the additional projects identified by County staff, be included in any one cent infrastructure sales tax extension referendum.

The inclusion of these projects will provide for environmental protection, economic development and improving the needs of some of our most economically challenged neighborhoods.

The existing sales tax expires in 2019. The Board of County Commissioners will have to determine when is the appropriate time to seek an extension to the existing sales tax.

Currently through the interlocal agreement and with statutory authority, the City is charging a 50% surcharge on unincorporated water and sewer customers. If the sales tax initiative is pursued, it is recommended that the water and sewer rates for all Leon County residents be equalized.

Workshop Request: Approval of the City of Tallahassee's Updated Water and Sewer Master Plans in Accordance with the Water and Sewer Agreement between the City of Tallahassee and Leon County

December 14, 2010

Page 11

Options:

1. Approve the City of Tallahassee's 2030 Master Sewer Plan Phase 2 dated January, 2010.
2. Approve the City of Tallahassee's Water Master Plan dated April, 2010.
3. Authorize that the projects identified in the Sewer Master plan, as well as the additional projects identified by staff, be included in any one cent infrastructure sales tax extension referendum.
4. Authorize that when funded by the sales tax extension, equal water and sewer rates would apply for all customers within Leon County inclusive of any surcharges.
5. Do not Approve the City of Tallahassee's 2030 Master Sewer Plan Phase 2 dated January, 2010.
6. Do not approve the City of Tallahassee's Water Master Plan dated April, 2010.
7. Board Direction.

Recommendation:

Options #1, #2, #3 and #4.

Attachments:

1. Water and Sewer Agreement
2. Sewer Master Plan Executive Summary
3. Sewer Master Plan Section 1 – Introduction
4. Sewer Master Plan Section 3 – Evaluation of Unsewered Target Areas
5. Sewer Master Plan Appendix A – Expanded Evaluation of Unsewered Areas
6. Map
7. Water Master Plan Executive Summary
8. Water Master Plan Section 1 – Introduction
9. Water Master Plan Section 5 – Projected Water Demands
10. Water Master Plan Section 11 – Conclusions, Recommendations and Capital Improvement Plan

PA/AR/TP/LD/djw

F:\Public Works\B O C C\Agenda Items\2010\12-14-10\Workshop WSA Master Plan Approval.DOC

WATER AND SEWER AGREEMENT

THIS AGREEMENT, made and entered into this 10th day of May, 2005, by and between the CITY OF TALLAHASSEE, a Florida municipal corporation (hereinafter referred to as "City"), and LEON COUNTY, a political subdivision of the State of Florida (hereinafter referred to as "County").

WITNESSETH

WHEREAS, the County has determined that it will be the sole local governmental entity to authorize the planning, construction and operation of water systems and sewage disposal systems within the unincorporated area of the County and will provide such services when it deems it appropriate; and

WHEREAS, the County has specifically determined that it is in the best interest of the citizens of the County if the City is granted an exclusive water and sewer franchise to serve all of that part of the County that is not currently served by other water and sewer providers, with conditions thereon; and

WHEREAS, the City, by accepting an exclusive water and sewer franchise pursuant to this Agreement, does not waive or relinquish any rights to which it is entitled under Florida Statutes, Chapter 180; and

WHEREAS, the County recognizes that, until such time as the City has its countywide system in place, there are areas of the County that cannot reasonably, efficiently and economically be served by the City and that other water and sewer providers may be able to provide the necessary service and, accordingly, upon notice from the City that the City cannot serve the area, the County will revoke the City's exclusive franchise for any specific geographic area and grant a franchise to another water and/or sewer provider so that the needs of the citizens of the County will be met.

NOW, THEREFORE, in consideration of the following mutual promises and covenants, and other good and valuable consideration the sufficiency of which is being acknowledged, the City and County hereby agree as follows:

Section 1. Term. The Term of this Agreement shall commence upon full execution hereof and shall continue until September 30, 2030, unless earlier terminated pursuant to the terms of this Agreement. This Agreement shall be extended automatically for an unlimited number of additional five (5) year periods unless written notice is provided by either party at least twenty-four (24) months prior to the end of the original or any extended agreement period.

Section 2. Franchise.

a. The County does hereby grant unto the City, and the City hereby accepts, an exclusive franchise to provide water service to all properties located within the County that are not located within an existing or applied for water franchise area at the time this Agreement becomes effective. Exhibit A identifies all existing water and sewer utility franchise areas at the

time of execution of this Agreement and is attached hereto and incorporated as if fully set forth herein. Further, the County does hereby grant unto the City, and the City does hereby accept, an exclusive franchise to provide sewer service to all properties located within the County that are not located within an existing or applied for sewer franchise at the time this Agreement becomes effective. Both the sewer and water service franchises granted herein shall be subject to and contingent upon the terms and conditions contained in this Agreement.

b. Portions of the sewer franchise granted herein are subject to the Tallahassee-Leon County Comprehensive Plan restrictions prohibiting the installation of municipal sewers. The City shall not be obligated to provide service in these areas until such time as amendments are made to the Tallahassee-Leon County Comprehensive Plan, which shall have the effect of partially or completely removing those restrictions.

Section 3. Target Water and Sewer Service Areas.

a. The City and County agree that, within the franchise area granted herein there are specific geographic areas, the Woodville Community, Centerville Trace Subdivision and Harbinwood Subdivisions, hereinafter referred to as Target Areas. It is agreed that these Target Areas are in need of water and/or sewer service due to the lack of proper utilities or the failure of utilities on which they were developed and that these Target Areas will be prioritized for the provision of water and/or sewer services.

b. Target Areas have been identified by the City and County and are attached hereto and incorporated as if fully set forth herein as Exhibit A. Target Areas will be updated annually by the County no later than December 1 of the preceding fiscal year prior to anticipated action by the City.

c. The City and County agree that, at the time that a Target Area is to be provided with water and/or sewer service by others, the City and County will enter into a Target Area Implementation Agreement. Said Implementation Agreement will specify the rights and responsibilities of each party in the provision of the utility service to the Target Area and the terms and conditions of service. The County agrees that the City is not obligated to participate in the development and construction of the water distribution or sewer collection system within the Target Area. The City agrees to provide some or all of the conveyance to or from the Target Area subject to the Implementation Agreement.

d. The City agrees that it will maintain or plan for treatment and disposal capacity to serve the identified Target Areas.

Section 4. Rights and responsibilities of City.

a. The City is responsible for providing water and/or sewer service to all properties located within the franchise area except as provided in this Agreement. City water and/or sewer service to existing developed properties within the franchise area shall be determined on the basis of a site specific evaluation by the City that includes cost feasibility, availability of easements, and other pertinent factors in a manner similar to that used within the City limits.

b. All City policies, standards, procedures, regulations, rates, fees, and charges for water and sewer services shall be the same, inside and outside City 's corporate limits, with the exception of the rebate policy, and as provided herein. City shall have the exclusive right to manage and operate its water and sewer system in the unincorporated area except as limited by this Agreement.

c. The City may assess a surcharge of up to 50% on water and/or sewer services in accordance with Florida Statutes commencing no sooner than October 1, 2005. Upon termination of the Parks and Recreation Agreement entered into by and between the parties on May 10, 2005 the provisions of this Section 4. paragraph c. shall expire.

d. The City shall not require annexation into the City as a condition for providing water and/or sewer service to any property in the franchise area.

e. The City's rights to require connection of existing properties shall be as prescribed in applicable statutes and codes. This agreement does not add to or detract from those rights.

Section 5. Annual Review of Long Range Master Plan.

a. The City shall, within 18 months of the effective date of this agreement, develop and maintain a long range master plan for the provision of water and sewer service within the franchise area granted herein. Said master plans shall be approved by the County and shall be updated and submitted for County approval every five years.

b. The County shall have the right to provide input to the City's budget process concerning priorities for water and sewer projects in the County. Such input shall be provided no later than December 1 of the preceding fiscal year. The City shall submit no later than June 1 the proposed City five-year capital improvement plan (CIP) for water and sewer projects in the County for annual review and approval by the County. City shall submit no later than October 20 to the County the final approved City CIP for water and sewer projects in the County. The CIP shall be based upon the approved long range master plans described above.

Section 6. Determination of City Sewer Service Availability for New Development

a. City sewer service shall be considered available to new developments which require site and development plan approval or issuance of a development order if it is capable of being connected to by the plumbing of a development, establishment or residence which has adequate permitted capacity to accept the sewage to be generated by the development, establishment or residence; and

1. All references to lots in this section are to developments having an average lot size of 2 acres in area or less.

2. For a new development on an existing parcel which has an estimated sewage flow of 1,000 gallons per day or less, a gravity sewer line to maintain gravity

flow from the property's drain to the sewer line, or a low pressure or vacuum sewage collection line in those areas approved for low pressure or vacuum sewage collection exists in a public easement or right-of-way within 100 feet of the property line of the lot, residence, or establishment.

3. For a new development on an existing parcel which has an estimated sewage flow exceeding 1,000 gallons per day, a point of connection to a sewer line exists in a public easement or right-of-way that abuts the property of the establishment or is within 400 feet of the property line of the establishment as accessed via existing rights-of-way or easements.

4. For residential subdivisions with 10 lots or less, and for commercial subdivisions with less than 5 lots, a point of connection to a sewer line exists within 400 feet of the development as measured and accessed via existing easements or rights-of-way.

5. For residential subdivisions with 11-20 lots, a point of connection to a sewer main exists within 800 feet of the development as measured and accessed via existing easements and rights-of-way.

6. For residential subdivisions with greater than 20 lots and for commercial subdivisions with 5 or more lots, a point of connection to a sewer main exists within 1200 feet of the development as measured and accessed via existing easements and rights-of-way.

b. The determination of availability of sewer for any new development shall be made based upon existing conditions at the time of the first Site Development Plan review meeting, as defined under Chapter 10, Leon County Code of Laws, except that the City reserves the right to extend its sewer system at its cost to make sewer available in accordance with the availability criteria set forth herein to existing and developing parcels within six months after the issuance of a site plan approval or development order as may be applicable to the new development.

c. When the City sewer system is available within the respective distances specified above, the property owner will be responsible for extending to the sewer main the remaining distance to their property and also for installing any on-site sewer collection system.

d. If the City Manager and the County Administrator or their designees agree that the connection of a development to City sewer is not economically feasible, regardless of the criteria defined herein, said service shall be determined to be not available.

e. The City reserves the right to develop agreements with property owners and developers to make service available within time frames and at locations that vary from these criteria subject to mutual agreement between City and developer.

Section 7. Determination of City Water Service Availability for New Development

a. City water service shall be considered available to new developments which require site and development plan approval or issuance of a development order if it is capable of being connected to the plumbing of a development, establishment or residence and has adequate permitted capacity and pressure to supply water to the development, establishment or residence; and

1. All references to lots in this section are to developments having an average lot size of 2 acres in area or less.

2. For a new development on an existing parcel a water main exists in a public easement or right-of-way within 200 feet of the property line of the lot, residence, or establishment.

3. For residential subdivisions with 10 lots or less, and for commercial subdivisions with less than 5 lots, a point of connection to a water line exists within 400 feet of the development as measured and accessed via existing easements or rights-of-way.

4. For residential subdivisions with 11-20 lots, a point of connection to a water main exists within 800 feet of the development as measured and accessed via existing easements and rights-of-way.

5. For residential subdivisions with 20 or more lots, for commercial subdivisions with 5 lots or more, a water system exists within 1200 feet of the development as measured and accessed via existing easements or rights-of-way.

b. The determination of availability of water for any new development shall be made based upon existing conditions at the time of the first Site Development Plan review meeting, as defined under Chapter 10, Leon County Code of Laws, except that the City reserves the right to extend its water system at its cost to make water available in accordance with the availability criteria set forth herein to existing and developing parcels within six months after the issuance of a site plan approval or development order as may be applicable to the new development.

c. When the City water system is available within the respective distances specified above, the property owner will be responsible for extending the water main the remaining distance to their property and also for installing any on-site water distribution system.

d. If the City Manager and the County Administrator or their designees agree that the connection of a development to City water is not economically feasible, regardless of the criteria defined herein, said service shall be determined to be not available.

e. The City reserves the right to develop agreements with property owners and developers to make service available within time frames and at locations that vary from these criteria subject to mutual agreement between City and developer.

Section 8. When City Service is not Available for New Development

a. City shall provide written notification to the County and the property owner within 14 days after the first formal review of the proposed site plan. Said notification shall advise whether service is or is not available, and shall describe the conditions which qualify it as being available. Upon notification that service is not available, property owner shall be allowed to install potable water wells and/or septic sewage systems in accordance with applicable County Codes of Law, or to seek services from another water and/or sewer service provider.

b. If City Service is not available as per notification received by the County described in Paragraph a above, County may, in accordance with Leon County Code and the provisions of this agreement, revoke the franchise for the geographic area in question and grant water and/or sewer franchises to other providers.

Section 9. Standards for Construction and Operation.

a. The City water and sewer construction standards, as they exist or may be modified, shall apply to all City water and sewer franchise area.

b. Standards for the design and construction of water and sewer systems by providers other than City shall be at least equal to those of City. Such standards for water systems shall include minimum requirements for water main sizes, fire hydrant distribution, and flow capacities to provide adequate fire protection.

c. State and Federal regulations relative to the construction and operation of water and sewer facilities shall be adhered to by all utility providers in Leon County.

d. County standards and permit procedures must be adhered to by City and all franchise holders for any water and/or sewer construction that impacts County maintained facilities such as roads or drainage facilities.

Section 10. Termination. If either Party fails to comply with any of the terms or conditions of this Agreement or defaults in any of its obligations under this Agreement and shall fail, within ninety (90) calendar days after written notice from the other Party, to correct such default or noncompliance, the non-defaulting Party may, at its option, forthwith terminate this Agreement after Section 11 provisions have been complied with. Upon termination, geographic areas physically served shall be converted into specific water and/or sewer franchises.

Section 11. Dispute Resolution.

a. The Parties shall attempt to resolve any disputes that arise under this Agreement in good faith and in accordance with this Section. The provisions of the "Florida Governmental

Conflict Resolution Act" shall not apply to disputes under this Agreement, as an alternative dispute resolution process, is hereby encompassed within Section 11. The aggrieved Party shall give written notice to the other Party, setting forth the nature of the dispute, date of occurrence (if known), and proposed resolution, hereinafter referred to as the "Dispute Notice".

b. The appropriate City and County department heads shall meet at the earliest opportunity, but in any event within 10 days from the date the Dispute Notice is received, to discuss and resolve the dispute. If the dispute is resolved to the mutual satisfaction of both, the department heads shall report their decision, in writing, to the City Manager and the County Administrator.

c. If the department heads are unable to reconcile the dispute, they shall report their impasse to the City Manager and the County Administrator who shall then communicate at their earliest opportunity regarding the dispute, but in any event within 20 days following receipt of the Dispute Notice, to attempt to reconcile the dispute.

d. If a dispute is not resolved by the foregoing steps within thirty (30) days after receipt of the Dispute Notice, unless such time is extended by mutual agreement of the Parties, then either Party may require the dispute to be submitted to mediation by delivering written notice thereof (the "Mediation Notice") to the other Party. The mediator shall meet the qualifications set forth in Rule 10.100(c), Florida Rules for Mediators, and shall be selected by the Parties within 10 days following receipt of the Mediation Notice. If agreement on a mediator cannot be reached in that 10-day period, then either Party can request that a mediator be selected by an independent conflict resolution organization, and such selection shall be binding on the Parties. The costs of the mediator shall be borne equally by the Parties.

e. If an amicable resolution of a dispute has not been reached within 60 calendar days following selection of the mediator, or by such later date as may be mutually agreed upon by the Parties, then such dispute may be referred to binding arbitration by either Party. Such arbitration shall be conducted in accordance with the Florida Arbitration Code (Chapter 682, Florida Statutes).

f. Such arbitration shall be initiated by delivery, from one Party (the "Claimant") to the other (the "Respondent"), of a written demand therefor containing a statement of the nature of the dispute and the amount, if any, involved. The Respondent, within ten (10) days following its receipt of such demand, shall deliver an answering statement to the Claimant. After the delivery of such statements, either Party may make new or different claims by providing the other with written notice thereof specifying the nature of such claims and the amount, if any, involved.

g. Within ten (10) days following the delivery of such demand, each Party shall select an arbitrator and shall deliver written notice of that selection to the other. If either Party fails to select an arbitrator within such time, the other Party may make application to the court for such appointment in accordance with the Florida Arbitration Code. Within ten (10) days following delivery of the last of such written notices, the two arbitrators so selected shall confer

and shall select a third arbitrator. Each of the arbitrators so appointed shall have experience in local government and/or utility issues.

The arbitration hearing shall be commenced in Leon County, Florida within sixty (60) days following selection of the third arbitrator. Except as may be specifically provided herein, the arbitration shall be conducted in accordance with Rules R-23 – R-48, of the Commercial Arbitration Rules of the American Arbitration Association.

Section 12. Indemnification

To the extent permitted by law and subject to the limitations, conditions, and requirements of Section 768.28, Florida Statutes, which the Parties do not waive, each Party agrees to indemnify, defend and hold harmless the other Party, their officials, officers, and employees, from and against all liabilities, damages, costs and expenses, resulting from or arising out of any acts or omissions by the indemnifying Party, or its officials, officers, or employees, relating in any way to this Agreement.

Section 13. General Provisions.

a. Governing Law and Venue. This Agreement shall be governed by and construed in accordance with the laws of the State of Florida. Any action to enforce any of the provisions of this Agreement must be maintained in Tallahassee, Leon County, Florida.

b. Waiver. Failure to insist upon strict compliance with any term, covenant or condition of this Agreement shall not be deemed a waiver of it. No waiver or relinquishment of a right or power under this Agreement shall be deemed a waiver of that right or power at any other time.

c. Modification. This Agreement shall not be extended, changed or modified, except in writing duly executed by the Parties hereto.

d. Binding Effect. This Agreement shall be binding upon the successors and, subject to below, assigns of the Parties hereto.

e. Assignment. Because of the unique nature of the relationship between the Parties and the terms of this Agreement, neither Party hereto shall have the right to assign this Agreement or any of its rights or responsibilities hereunder to any third Party without the express written consent of the other Party to this Agreement, which consent shall not unreasonably be withheld.

f. Entire Agreement. This Agreement constitutes the entire agreement between the Parties with respect to the matters contained herein, and all prior agreements or arrangements between them with respect to such matters are superceded by this Agreement.

g. Headings. Headings in this Agreement are for convenience only and shall not be used to interpret or construe its provisions.

h. Ambiguity. This Agreement has been negotiated by the Parties with the advice of counsel and, in the event of an ambiguity herein, such ambiguity shall not be construed against any Party as the author hereof.

i. Public Bodies. It is expressly understood between the Parties that the City is a duly incorporated municipal corporation of the State of Florida and that the County is a political subdivision of the State of Florida. Nothing contained herein shall be construed as a waiver or relinquishment by either of the Parties to claim such exemptions, privileges or immunities as may be provided to that Party by law.

j. Force Majeure. A Party shall be excused from performance of an obligation under this Agreement to the extent, and only to the extent, that such performance is affected by a "Force Majeure Event" which term shall mean any cause beyond the reasonable control of the Party affected, except where such Party could have reasonably foreseen and reasonably avoided the occurrence, which materially and adversely affects the performance by such Party of its obligation under this Agreement. Such events shall include, but not be limited to, an act of God, disturbance, hostility, war, or revolution; strike or lockout; epidemic; accident; fire; storm, flood, or other unusually severe weather or act of nature; or any requirements of law.

k. Cost(s) and Attorney Fees. In the event of litigation between the Parties to construe or enforce the terms of this Agreement or otherwise arising out of this Agreement, the prevailing Party in such litigation shall be entitled to recover from the other Party its reasonable costs and attorneys fees incurred in maintaining or defending subject litigation. The term litigation shall include appellate proceedings.

l. Severability. It is intended that each Section of this Agreement shall be viewed as separate and divisible, and in the event that any Section, or Party thereof, shall be held to be invalid, the remaining Sections and parts shall continue to be in full force and effect.

m. Subject to Appropriation. All payment obligations of the Parties as set forth herein shall be subject to appropriation of funding therefore by the applicable legislative bodies; however, failure to appropriate funding adequate to meet such payment obligations shall be dealt with as a dispute under this Agreement.

n. Exceptions to Agreement. All provisions of Chapter 18, of the Leon County Code of Laws, not in conflict with the provisions herein, shall remain in full force and effect. All provisions of the City of Tallahassee Code, particularly Chapter 21 not in conflict with the provisions herein, shall remain in full force and effect. The Water and Sewer Agreement entered into by and between Leon County and the City February 11, 1993 shall be cancelled as of the effective date of this agreement and shall have no effect upon the terms and conditions of this Agreement, nor the Franchise granted herein.

IN WITNESS WHEREOF, the Parties hereto, through their duly authorized representative, have executed this Water and Sewer Agreement as of the date first written above.

LEON COUNTY, FLORIDA

By: 
CLIFF THABALL, Chairman
of the Board of County Commissioners

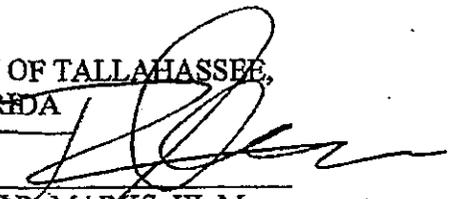
ATTESTED TO:

By: 
ROBERT B. INZER, Clerk
Leon County, Florida

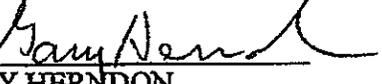
APPROVED AS TO FORM:

By: 
HERBERT W.A. THIELE, Esq.
COUNTY ATTORNEY

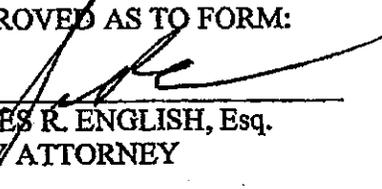
CITY OF TALLAHASSEE,
FLORIDA

By: 
JOHN R. MARKS, III, Mayor
of the City of Tallahassee

ATTESTED TO:

By: 
GARY HERNDON
City Treasurer-Clerk

APPROVED AS TO FORM:

By: 
JAMES R. ENGLISH, Esq.
CITY ATTORNEY

Introduction

This report presents the City of Tallahassee *Sanitary Sewer System Master Plan - Phase 2*. The report describes the review and analyses conducted by Hatch Mott MacDonald (HMM), on the City of Tallahassee's trunk sewer system model. This phase of the project expanded the City's *InfoSWMM* model (developed in Phase 1) to include future piping, infrastructure, and projected wastewater flows through the year 2030; provide hydraulic and capacity analysis observations; and recommend improvements for a 20-year Capital Improvements Program.

HMM's scope of work for this project included the following:

- Update the 2005 Trunk System Model (developed in Phase 1) to include improvements made to the system through August 2008, including 1:1 match with the City's GIS.
- Develop population and wastewater flow projections through 2030 for the existing Urban Service Area (USA), using 100 gallons per capita-day (gpcd) flow.
- Evaluate nine (9) Unsewered Study Areas originally identified in a 1988 Master Sewer Plan, including preliminary layout of new infrastructure; incorporate the trunk elements of these areas into the *InfoSWMM* model; project future wastewater flows based on Tallahassee-Leon County TAZ population projections; and prepare detailed project cost opinions for each Study Area.
- Modify other areas of the model based on updated GIS information provided by the City, supplement the existing conditions model with additional geometric information, perform basin boundary adjustments as required, research available codes and standards as they relate to sewer system/service area expansion, define future sewershed delineations within the existing USA, and extend the model entities to incorporate all of these areas.
- Develop future conditions flow data for both dry-weather and wet-weather flow conditions.
- Using the 2030 trunk system model, assess future conditions collection system operation.
- Prepare a Collection System Capacity Assessment Report for future conditions (included in this Project Report).
- Prepare a 20-year Capital Improvements Program (CIP).
- Prepare this Project Report to present study methodology, results of system analyses, the Collection System Capacity Assessment Report, and the CIP.
- Present and demonstrate the updated model to City staff.
- Conduct other analyses, workshops, and presentations as requested by City staff.

The scope of the master-planned system was for a conventional gravity and force main sewer system, and therefore does not plan for or rely on low-pressure sewer systems to implement solutions.

2008 Trunk System Model Summary

In 2008, HMM assisted City GIS staff with supplementing the City's existing GIS with sewer system improvements made through August 2008. This included pump stations, force mains, and gravity lines extracted from as-built drawings. The 2005 Trunk System Model created during Phase 1 of this Master Sewer Plan project was then expanded by importing the updated GIS geodatabase into the *InfoSWMM* Trunk System Model. The Trunk System Model consists of all City-owned pump stations and force mains, along with gravity sewers 10" and larger in diameter, except as needed to ensure connectivity between the existing gravity and force main systems.

The 2008 *InfoSWMM* model contains the following data as outlined in Table EX-1, below:

TABLE EX-1: *InfoSWMM* Model Entities (2008 Trunk System Model)

Gravity Main Diameter	Quantity	Unit	Force Main Diameter	Quantity	Unit
8 inches	153,285	Linear Feet	4 inches	29,209	Linear Feet
10 inches	255,156	Linear Feet	6 inches	107,582	Linear Feet
12 inches	168,669	Linear Feet	8 inches	87,650	Linear Feet
14 inches	3,641	Linear Feet	10 inches	16,858	Linear Feet
15 inches	120,826	Linear Feet	12 inches	67,057	Linear Feet
16 inches	2,092	Linear Feet	14 inches	21,595	Linear Feet
18 inches	54,079	Linear Feet	16 inches	10,465	Linear Feet
21 inches	47,775	Linear Feet	18 inches	9,683	Linear Feet
24 inches	30,129	Linear Feet	20 inches	8,529	Linear Feet
27 inches	5,306	Linear Feet	24 inches	47,657	Linear Feet
30 inches	21,576	Linear Feet	30 inches	26,935	Linear Feet
36 inches	48,798	Linear Feet	36 inches	11,430	Linear Feet
42 inches	16,079	Linear Feet	42 inches	47,831	Linear Feet
			48 inches	1,179	Linear Feet
			60 inches	38	Linear Feet
TOTALS:		927,411 Linear Feet			493,698 Linear Feet

Model Entity	Quantity	Unit
Pump Stations	103	Each
Manholes	4,295	Each
Flow Control Valves	1	Each
Diversion Structure	1	Each
Treatment Plants	2	Each

An illustration of the Overall 2008 Trunk System Model is shown in **Figure 1**.

Urban Service Area Population Projections

HMM and the City collaborated early in the project and established the Phase 2 Master Sewer Plan service area as the current limits of the existing USA. In October 2008, HMM received a database file from the Tallahassee – Leon County Planning Department with 2003, 2015, and 2030 population projections. These population projections were categorized according to Traffic Analysis Zone (TAZ) boundaries, and included all of Leon County. HMM used linear interpolation to estimate TAZ populations for years 2005, 2008, 2010, 2020, and 2025, and estimated the USA population for each planning year. **Figure 2** shows the USA boundary map with TAZ boundaries.

These population projections were next multiplied by 100 gpcd to estimate the total wastewater flow for each planning year. **Table EX-2** summarizes the population and flow projections through 2030 for the USA and Leon County:

Table EX-2: Population & Wastewater Flow Projections by TAZ

YEAR	TAZs in USA		TOTAL	EST. USA FLOW (MGD) *	TAZs not	TOTAL LEON
	100% (n)	Portion (n)	TAZs in USA		in USA (n)	CO. TAZs
	635	57	692		68	760
YEAR	POPULATION		EST. USA POPULATION	EST. USA FLOW (MGD) *	POP. NOT IN USA	TOTAL LEON CO. POP.
2003	208761	17199	225960	22.60	33057	259017
2005	215587	17842	233430	23.34	33935	267364
2008	225827	18807	244634	24.46	35252	279886
2010	232653	19450	252103	25.21	36130	288233
2015	249719	21058	270777	27.08	38325	309102
2020	263265	22284	285548	28.55	40650	326198
2025	276810	23510	300320	30.03	42974	343294
2030	290356	24735	315092	31.51	45298	360390

* At 100 gallons per capita-day

Unsewered Area Evaluation Summary

As part of this project, HMM completed an analysis of nine (9) Unsewered Target Areas, which were identified as part of a 1988 Master Sewer Plan. HMM personnel studied each area to verify the general topography, the extent of existing development, and the proximity to existing sanitary sewer system infrastructure, from which new infrastructure would be extended to serve each respective area.

Wastewater flows from each unsewered area were estimated using TAZ population data and 100 gpcd, as described above. **Table 3-1** contains a summary of the population and flow projections for each area through 2030.

HMM then completed opinions of probable project cost for infrastructure construction in each area. The unit and lump-sum prices incorporated into these construction cost opinions were taken from recent contractors' bids for similar work items; a 20% construction contingency and estimated engineering cost of 10% were likewise included in each opinion of probable cost. From these values, the total project cost and an average cost per sanitary sewer connection were computed as shown (see **Tables 3-2a & 3-2b**).

Figure 3 illustrates the boundaries of these Unsewered Target Areas, and summarizes the cost, population and flow statistics associated with each. A copy of HMM's report for the Unsewered Target Areas is included in **Appendix A**.

Other Franchise and Unsewered Areas Evaluation Summary

In order to identify the other areas within the existing USA which are currently unsewered, HMM created an ArcGIS map which identifies locations of existing septic tanks (see **Figure 4**). These septic tank locations were extracted from Tallahassee-Leon County GIS information. The boundaries of the nine (9) Unsewered Target Areas were added to the map, as were the boundaries of four (4) existing franchise areas served by the Talquin Electric Cooperative (TEC).

In order to estimate the wastewater flows from each of the four TEC franchise areas for this Master Plan, HMM utilized the same population and flow projection methodology described previously. These values are summarized in **Table 4-1**. Current permitted and actual flow information for each WWTP was obtained by HMM from FDEP. All 2030 projected wastewater flow from the four TEC franchise areas has been incorporated into the 2030 Trunk System Model.

TABLE 3-1: UNSEWERED AREAS POPULATION & FLOW PROJECTIONS

YEAR	UNSEWERED AREA POPULATION										UNSEWERED AREA TOTAL POPULATION	TOTAL EST. FLOWS (gpd) *	INCREMENTAL FLOW INCREASE (gpd) *
	Killearn Acres (Area 1)	Buck Lake/Lafayette Oaks/Mahan (Area 2)	Lake Jackson (Area 3)	Huntington Estates (Area 4)	Lake Munson/Four Points (Area 5)	Woodville (Area 6) †	Bobbin Mill/Brooke (Area 7)	Centerville Trace (Area 8)	Rose Hill (Area 9)				
2008	5,066	5,094	4,205	3,834	6,417	2,887	2,337	1,290	301	301	30,367	3,135,747	
2010	5,082	5,211	4,275	3,118	6,683	2,938	2,375	1,271	309	309	31,263	3,126,259	89,511
2015	5,119	5,503	4,448	3,831	7,948	3,075	2,470	1,375	331	331	33,500	3,350,036	223,778
2020	5,171	5,700	4,578	4,195	7,692	3,156	2,607	1,528	361	361	34,989	3,498,920	148,884
2025	5,223	5,897	4,708	4,560	8,035	3,238	2,745	1,681	391	391	36,478	3,647,804	148,884
2030	5,274	6,094	4,838	4,924	8,379	3,320	2,882	1,835	421	421	37,987	3,796,687	148,884

20-Year Population Growth (2010 to 2030): 21.4%

* At 100 gallons per capita-day (as per HMM scope of work)

† Currently outside the USA



TABLE 3-2a: UNSEWERED AREAS SEWER CONNECTION STATISTICS

Unsewered Study Area	Estimated Project Cost (2009 \$)	Max. Estimated Number of Sewer Connections	Average Cost per Connection	2010 Projected Flow (gpd) *
1. Killearn Acres	\$20,354,370	1,602	\$12,710	508,159
2. Buck Lake	\$29,734,500	1,901	\$15,640	521,094
3. Lake Jackson	\$24,452,990	1,532	\$15,960	427,459
4. Huntington Estates	\$9,240,490	729	\$12,680	311,803
5. Lake Munson	\$30,614,860	3,162	\$9,680	668,332
6. Woodville †	\$24,576,240	2,150	\$11,430	293,840
7. Bobbin Mill/Brooke	\$13,072,610	837	\$15,620	237,525
8. Centerville Trace	\$4,745,080	485	\$9,780	127,116
9. Rose Hill	\$3,587,520	98	\$36,610	30,931

* At 100 gallons per capita-day (as per HMM scope of work)

† Currently outside the USA



TABLE 3-2b: UNSEWERED AREAS SEWER CONNECTION STATISTICS
 (sorted in ascending order by "Average Cost per Connection")

Unsewered Study Area	Estimated Project Cost (2009 \$)	Max. Estimated Number of Sewer Connections	Average Cost per Connection	2010 Projected Flow (gpd) *
5. Lake Munson	\$30,614,860	3,162	\$9,680	668,332
8. Centerville Trace	\$4,745,080	485	\$9,780	127,116
6. Woodville †	\$24,576,240	2,150	\$11,430	293,840
4. Huntington Estates	\$9,240,490	729	\$12,680	311,803
1. Killearn Acres	\$20,354,370	1,602	\$12,710	508,159
7. Bobbin Mill/Brooke	\$13,072,610	837	\$15,620	237,525
2. Buck Lake	\$29,734,500	1,901	\$15,640	521,094
3. Lake Jackson	\$24,452,990	1,532	\$15,960	427,459
9. Rose Hill	\$3,587,520	98	\$36,610	30,931

* At 100 gallons per capita-day (as per HMM scope of work)
 † Currently outside the USA



TABLE 4-1: TALQUIN ELECTRIC COOPERATIVE SERVICE AREA POPULATION & FLOW PROJECTIONS

YEAR	TALQUIN ELECTRIC COOPERATIVE BASIN												TOTAL EST. FLOWS (gpd) *	POPULATION TOTALS	INCREMENTAL FLOW INCREASE (gpd) *
	K1 (Sandstone Ranch) 0.0707 Mgd/0.049 Mgd †			K2 (Lake Jackson) 0.500 Mgd/0.268 Mgd †			K3 (Killearn Lakes) 0.700 Mgd/0.44 Mgd †			K4 (Meadows at Woodrum) 0.098 Mgd/0.051 Mgd †					
	Population	Flow (gpd) *	Population	Flow *	Population	Flow *	Population	Flow *	Population	Flow *	Population	Flow *			
2003	1,082	109,541	6,737	679,718	5,380	536,099	1,762	175,221	15,011	1,307,099	34,478	34,478			
2005	1,085	109,544	7,102	710,185	5,400	539,917	1,768	176,271	15,356	1,356,977	54,478	54,478			
2008	1,092	109,558	7,582	755,985	5,429	542,925	1,781	179,096	15,873	1,387,294	57,717	57,717			
2010	1,099	109,876	7,864	786,352	5,449	544,898	1,805	180,646	16,218	1,621,772	34,478	34,478			
2015	1,111	111,109	8,625	862,520	5,498	549,818	1,845	184,520	17,080	1,707,967	86,195	86,195			
2020	1,131	113,119	8,889	888,938	5,582	558,205	1,913	191,279	17,515	1,751,541	43,574	43,574			
2025	1,151	115,128	9,154	915,356	5,666	566,593	1,980	198,037	17,951	1,795,115	43,574	43,574			
2030	1,171	117,138	9,418	941,774	5,750	574,981	2,048	204,796	18,387	1,838,688	43,574	43,574			

* At 100 gallons per capita-day (as per HMM scope of work)
 † Existing WWTP permitted capacity/most recently reported ADF

In order to ensure flow from other unsewered areas was included in the overall 2030 Master Plan, HMM and the City worked jointly to adjust and expand the 2008 Trunk System Model sewershed basin boundaries shown in **Figure 1**, to include the entire USA. These new basin demarcations subdivide the entire USA into discrete sewersheds, most of which will be served by an existing master pump station. **Figure 5** shows the Trunk System boundaries which have been established to serve the entire USA. Trunk System population demographics and flow projections are likewise included thereon.

2030 Trunk System Model Summary

The 2008 *InfoSWMM* Trunk System Model was expanded to serve the entire present-day USA. Gravity and force main system extensions were added to the model with assistance from City staff. New pump stations were modeled as constant-flow stations; the design flow for each new pump station was assumed to be the anticipated peak flow to each station, based on direct service area population and peak inflow from upstream pump stations. Pump station basin peaking factors were computed based on population, via Figure 1 in *Recommended Standards for Wastewater Facilities* ("10-States' Standards").

The 2030 *InfoSWMM* model contains the following data as outlined in **Table EX-3**, below:

TABLE EX-3: *InfoSWMM* Model Entities (2030 Trunk System Model)

Gravity Main Diameter	Quantity	Unit	Force Main Diameter	Quantity	Unit
8 inches	189,984	Linear Feet	4 inches	42,080	Linear Feet
10 inches	259,860	Linear Feet	6 inches	88,893	Linear Feet
12 inches	197,624	Linear Feet	8 inches	81,810	Linear Feet
14 inches	3,641	Linear Feet	10 inches	62,259	Linear Feet
15 inches	125,695	Linear Feet	12 inches	82,757	Linear Feet
16 inches	2,080	Linear Feet	14 inches	27,561	Linear Feet
18 inches	53,716	Linear Feet	16 inches	48,520	Linear Feet
20 inches	2,022	Linear Feet	18 inches	9,683	Linear Feet
21 inches	52,038	Linear Feet	20 inches	34,180	Linear Feet
24 inches	35,076	Linear Feet	24 inches	60,207	Linear Feet
27 inches	8,797	Linear Feet	30 inches	25,110	Linear Feet
30 inches	21,576	Linear Feet	36 inches	11,430	Linear Feet
36 inches	48,589	Linear Feet	42 inches	47,806	Linear Feet
42 inches	16,079	Linear Feet	48 inches	795	Linear Feet
Total = 1,016,777 Linear Feet			Total = 623,091 Linear Feet		

TABLE EX-3 (cont.): *InfoSWMM* Model Entities (2030 Trunk System Model)

Model Entity	Quantity	Unit
Pump Stations	107	Each
Manholes	4,465	Each
Flow Control Valves	1	Each
Diversion Structure	1	Each
Treatment Plants	2	Each

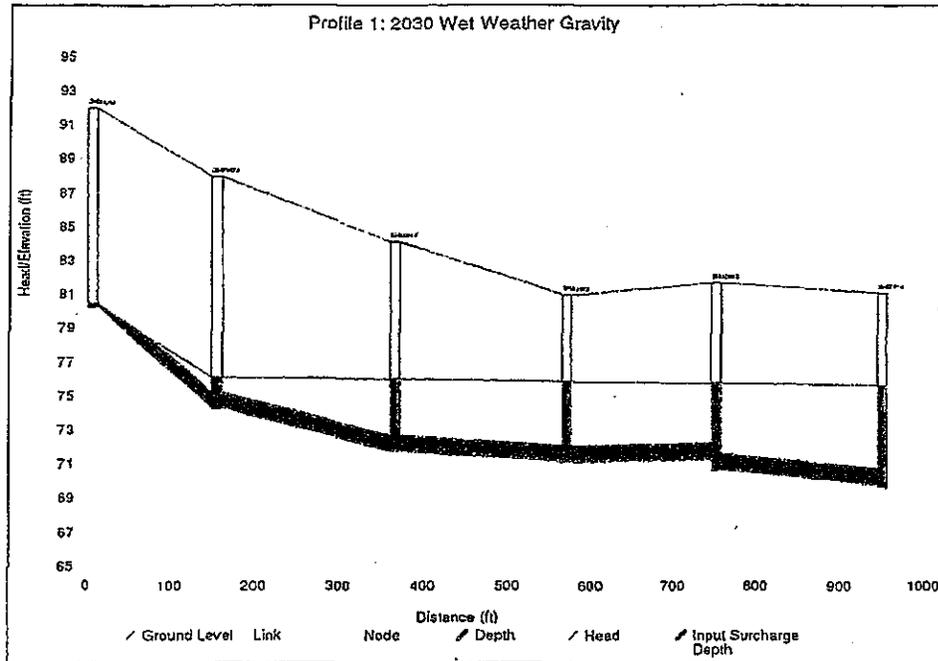
The 2030 *InfoSWMM* Trunk System Model is shown in **Figure 6**. As with the 2008 Trunk System Model, the 2030 Trunk System Model contains all force mains and pump stations, and all gravity sewers 10" diameter and larger. Several reaches of gravity sewer less than 10" diameter are likewise included where required for connectivity of the system's various components.

Once the 2030 Trunk System Model was fully established and running, HMM performed a **Capacity Assessment** of the gravity sewer system, pump stations, and sewer force main system, in order to establish a 2030 infrastructure solution set.

Capacity Assessment Report Summary

The model's gravity sewer system capacity was analyzed on a depth-of-flow basis. Gravity sewers flowing full were considered to be at 100% capacity; profiles of those sewer reaches flowing $\geq 100\%$ full at some point during the model run(s) were generated to verify the degree of manhole surcharging (i.e., manhole filling above highest influent or effluent pipe crown elevation), to identify potential problem areas. Additional surveying was performed by 3DS to verify critical portions of the initial 2030 gravity system model pipe reaches that were flowing full. The results of the surveying effort were incorporated into the 2030 model final solution set. There were no overflowing, or "flooding," manholes observed in the final wet-weather 2030 Trunk System Model solution set. There were 16 reaches of gravity sewers flowing full under the wet-weather scenario (see **Figure 7**). The profile comments on **Figure 7** present HMM's observations regarding each of the surcharging conditions. As the profile comments indicate, the majority of the surcharging conditions do not warrant additional analysis or concern. The reach shown in Profile 12 is slightly constricted due to larger diameter pipe upstream and downstream of the middle section; however even under 2030 wet-weather conditions, there is no flooding of manholes along this reach.

Profiles of each surcharged reach are contained in **Appendix C**; an example of which follows:



It should be noted that the surcharged conditions in the cited profiles do not necessarily occur at the same time step in the model analysis. Minor surcharging of the system and manholes without detriment to connected customers or risk of overflow is acceptable, practical and economical. These reaches should be reviewed for rehabilitation, repair or replacement in order to reduce I/I entering the system upstream of the applicable area.

Each pump station was analyzed under the dry- and wet-weather scenarios, to determine its behavior over the simulation period. This analysis included examining the following:

- Wet well level fluctuations
- Pump discharge pressure/head fluctuations
- Discharge flow rate fluctuations
- Average run, off, and daily run times
- Total gallons pumped

The following observations were made during the course of the model runs:

- Several pump stations appear to surcharge into their respective influent gravity systems by design, due primarily to shallow wet wells.
- The following pump stations were upgraded in order to accommodate the increase in flow from 2008 to 2030:
 - PS6 (Timberlane Road)
 - PS47 (Shamrock Plaza)
 - PS137 (Commerce Industrial Park)
 - PS70 (Timber Lake)
 - PS33 (Mt. Sinai Road)
- Approximately 38 of the 107 pump stations in the model appear to operate less than two hours per day under the dry-weather scenario conditions
- The operating range(s) of several pump stations could be adjusted to help increase operational efficiency:
 - PS11 (Shoreline Drive)
 - PS36 (Talquin Inn)
 - PS46 (Macon Road)
 - PS47 (Shamrock Plaza)
 - PS48 (Armistead Road)
 - PS49 (Okecheepkee Road)
 - PS53 (Woodhaven Trailer Park)
 - PS62 (Cypress Cove)
 - PS65 (State Office Complex)
 - PS66 (Park Ave./SR 20 West)
 - PS73 (Municipal Code)
 - PS78 (Century Park)
 - PS91 (Buckwood)
 - PS96 (Timberlane School Road)
 - PS97 (Maclay Road)
 - PS99 (Southland Drive)
 - PS110 (Pecan Grove)
 - PS115 (Forest Meadows)
 - PS118 (Centre Court)
 - PS121 (Piney Z)
 - PS122 (Oven Park)

- PS148 (Kennedy Drive)
- PS 152 (Team Toyota)

Appendices D and E contain this capacity analysis information in graphical and textual format for each pump station, under both dry- and wet-weather scenarios, respectively.

In order to conduct a capacity analysis of the City's force main sewer system, it was necessary to establish a limiting capacity condition. The limiting condition chosen by HMM and the City of Tallahassee for this analysis was an instantaneous force main velocity of six feet per second (6 fps). Force main segments with instantaneous velocities greater than 6 fps were flagged in the model for further analysis. The vast majority of these segments had average velocities over the 24-hour model simulation of less than 6 fps. In the few cases where the average velocity did exceed 6 fps, the maximum velocity was examined. A maximum acceptable velocity of ten feet per second (10 fps) was used in this analysis.

There were 42 reaches of force main with an instantaneous velocity greater than 6 fps under the wet-weather scenario. The results are presented graphically in **Appendix F**; a map with comments on each force main's observed velocities is shown in **Figure 8**.

The following observations were made during the course of the force main analysis:

- Several of the force mains shown in **Figure 8** as having an instantaneous velocity greater than 6 fps were observed to have much lower average velocities during the dry- and wet-weather model runs.
- The 18-inch force main from PS 36 has a maximum velocity of approximately 10 fps during 2030 wet-weather model scenario when multiple pumps are running. This is the upper limit of acceptable velocity, but only occurs during peak wet-weather flow. It is recommended that the infiltration/inflow into this pump station be studied in detail and reduced where practicable.

A map of new 2030 trunk system infrastructure is shown in **Figure 9**. This solution set is a representation of the *minimum* additional trunk system components necessary to extend sanitary sewer service to the entire existing USA and the Woodville Rural Community. The solution set includes the pump stations and force mains necessary to service the 1988 Unsewered Target Areas, as well as the four (4) existing TEC franchise areas within the existing USA.

The 2030 solution set does not consider low-pressure sewer systems. These are considered by the City to be non-standard, high-maintenance, low-cost, temporary solutions which can be an impediment to the orderly expansion

of a gravity sewer system. As such, low-pressure sewer systems are not be considered for installation anywhere within the USA, as these systems are independent, not expandable, and are not typically sized to convey wastewater from adjacent abutting upland development.

20-Year Capital Improvements Program Summary

HMM prepared a 20-Year Capital Improvements Program through the year 2030. As per discussions with City staff over the course of the project, the following criteria were established in generating this Capital Improvements Program (CIP) for this Master Plan:

- Include capacity-related improvements based on projected population growth & deficiencies within existing service areas.
- Include service area expansion within the existing USA.
- Exclude service area expansion outside of the existing USA, with the exception of the existing Woodville Rural Community.
- Exclude rehabilitation and replacement of existing infrastructure.
- Generate a phased list of projects with input from City staff.
- Project construction cost derived from the costs in **Appendix A**.
- Design Cost = 17% of estimated Construction Cost
- All costs presented in 2009 dollars.

At the City's request, the 20-Year CIP for this project is presented in two parts.

Table 7-1 lists the projects applicable to extending the existing trunk system to serve the entire USA by 2030. Each of these projects is described in **Section 6**.

Table 7-2 contains a phased project implementation plan through the year 2030. As per HMM's Scope of Work for this project, the phasing plan lists improvements in one-year increments through 2015, then in five-year increments thereafter. As noted in **Table 7-2**, this phasing plan is for general guidance only, since it will be driven by both policy decisions and available funds as the City's sewer system expands.

TABLE 7-1: USA Master Plan Projects

FINAL JAN-2010

Capacity Related Improvements

ProjectID	ProjectDescription	Construction Cost	Design Cost	Estimated Capital Cost
A-06	Pump Station 47 (Tied to CCFM)	\$432,000	\$73,000	\$505,000
D-04	Pump Station 33 Upgrade	\$360,000	\$61,000	\$421,000
G-01	Pump Station 137 (Tied to CCFM)	\$949,000	\$160,000	\$1,109,000
H-01	Capital Circle West Force Main - Phase 1 (PS 73 to Hwy 90)	\$2,060,000	\$950,000	\$2,410,000
H-02	Capital Circle West Force Main - Phase 2 (TFS to PS 73)	\$3,885,000	\$660,000	\$4,545,000
H-11	Pump Station 157 Force Main Extension	\$89,000	\$15,000	\$104,000
H-13	Mission Road Gravity Sewer Upgrade	\$648,000	\$110,000	\$758,000

Total Capacity Related Improvements \$9,840,000

Operational Strategy Related Improvements

ProjectID	ProjectDescription	Construction Cost	Design Cost	Estimated Capital Cost
A-01	Pump Station 89 Gravity Outfall	\$284,000	\$48,000	\$332,000
A-02	Pump Station 112 Gravity Outfall	\$313,000	\$53,000	\$366,000
A-03	Pump Station 129 Gravity Outfall	\$626,000	\$106,000	\$732,000
A-04	Pump Station 128 Gravity Outfall	\$946,000	\$144,000	\$990,000
A-05	Pump Station 85 Gravity Outfall	\$454,000	\$77,000	\$531,000
B-02	Pump Station 5 & 96 Gravity Outfall	\$447,000	\$76,000	\$523,000
D-01	Pump Station 13 Gravity Outfall	\$234,000	\$40,000	\$274,000
D-02	Pump Station 133 Gravity Outfall	\$1,089,000	\$185,000	\$1,274,000
H-03	Pump Station 160 Gravity Outfall	\$952,000	\$162,000	\$1,114,000
H-04	CGNW Pump Station and Force Main	\$1,880,000	\$320,000	\$2,200,000
H-05	Pump Station 37 Gravity Outfall & Pump Station 78 Upgrade	\$528,000	\$90,000	\$618,000
H-06	Pump Station 95 Gravity Outfall	\$383,000	\$65,000	\$448,000
H-07	Pump Station 77 Gravity Outfall	\$259,000	\$44,000	\$302,000
H-10	Capital Circle West Force Main - Phase 3 (PS Talquin2 to Hwy 90)	\$2,514,000	\$427,000	\$2,941,000
H-12	Pump Station 66 Relocation	\$364,000	\$62,000	\$426,000
I-01	Blairstone 24" Force Main Bypass	\$1,921,000	\$327,000	\$2,248,000
J-01	Pump Station 117 (Tied to CCWFM)	\$29,000	\$5,000	\$34,000

Total Operational Strategy Related Improvements \$15,353,000

Notes:

- 1) Blue text = capacity related improvements
- 2) Red text = 1988 MSP target unsewered area related improvements.
- 3) Green text = operational strategy related improvements.
- 4) Purple text = large unsewered area related improvements.
- 5) Black text = Talquin service areas.



Sort By Project Type

TABLE 7-1: USA Master Plan Projects (Continued)

1988 MSP Target Unsewered Area Related Improvements

FINAL JAN-2010

Project ID	Project Description	Construction Cost	Design Cost	Estimated Capital Cost
A-07	Rose Hill			\$1,587,000
A-09	Killearn Acres			\$20,354,000
C-01	Centerville Trace			\$4,745,000
D-05	Buck Lake			\$29,734,000
H-17	Lake Jackson			\$24,453,000
H-18	Bobbin Mill			\$13,072,000
H-19	Huntington Estates			\$9,240,000
L-01	Lake Munson			\$30,615,000
N-01	Woodville			\$24,576,000

Total 1988 MSP Target Unsewered Area Related Improvements \$160,376,000

Large Unsewered Area Improvements (Not Included in 1988 MSP Target Areas)

Project ID	Project Description	Construction Cost	Design Cost	Estimated Capital Cost
A-09	Maclean Hills			\$2,878,000
A-10	Ox Bottom			\$5,043,000
A-11	Spencer			\$2,092,000
A-12	High Grove			\$2,878,000
A-13	Velda Dairy			\$2,169,000
A-14	Rabbit Pond			\$2,127,000
B-01	Middlebrook			\$607,000
D-03	Apalachee Parkway East	\$516,000	\$86,000	\$604,000
D-06	Davis Subdivision			\$1,113,000
D-07	Tongue Hill			\$1,456,000
D-08	Windwood Hills			\$976,000
D-10	Twin Lakes Subdivision			\$1,026,000
H-08	West Tennessee Street Pump Station	\$1,229,000	\$209,000	\$1,438,000
H-09	West Jackson Bluff			\$3,829,000
H-15	Aemon Church Gravity Sewer	\$981,000	\$167,000	\$1,148,000
H-16	W. B. Rodgers Gravity Main	\$382,000	\$65,000	\$447,000
H-20	Highway 20 West			\$1,648,000
H-21	Highway 90 West			\$4,565,000
H-22	Herbinwood			\$12,100,830
I-02	Lake Bradford Road			\$2,777,000

Total Large Unsewered Area Improvements \$50,922,830

Notes:

- 1) Blue text = capacity related improvements.
- 2) Red text = 1988 MSP target unsewered area related improvements.
- 3) Green text = operational strategy related improvements
- 4) Purple text = large unsewered area related improvements.
- 5) Black text = Takquin service areas.



Sort by Project Type



TABLE 7-1: USA Master Plan Projects (Continued)

FINAL JAN-2010

Talquin Service Areas

Project ID	Project Description	Construction Cost	Design Cost	Estimated Capital Cost
K1-01	Pump Station and Force Main to Replace Talquin WWTP	\$1,370,000	\$233,000	\$1,603,000
K2-01	Pump Station and Force Main to Replace Talquin WWTP	\$1,530,000	\$260,000	\$1,790,000
K3-01	Pump Station and Force Main to Replace Talquin WWTP	\$2,028,000	\$345,000	\$2,373,000
K4-01	Pump Station and Force Main to Replace Talquin WWTP	\$1,234,000	\$210,000	\$1,444,000
Total Talquin Service Areas				\$7,210,000
Total Estimated Capital Cost				\$243,701,830

Notes:

- 1) Blue text = capacity related improvements.
- 2) Red text = 1988 MSP target unsewered area related improvements.
- 3) Green text = operational strategy related improvements.
- 4) Purple text = large unsewered area related improvements.
- 5) Black text = Talquin service areas.



Hatch Mott
MacDonald



Sort by Project Type

TABLE 7-2: USA Master Plan Phasing 2011 - 2030*

FINAL JAN-2010

Phase I (2011 - 2015)

Year	Project ID	Project Description	Design Flow (gpm)	Construction Cost	Design Cost	Estimated Capital Cost
2011	H-01	Capital Circle West Force Main - Phase 1 (PS 73 to Hwy 90)	2,546 (16") / 4,854 (20")	\$2,060,000	\$350,000	\$2,410,000
2011	H-06	Pump Station 95 Gravity Outfall	10 (avg) / 13 (peak)	\$383,000	\$65,000	\$448,000
2011	H-07	Pump Station 77 Gravity Outfall	50 (avg) / 62 (peak)	\$258,000	\$44,000	\$302,000
2011	H-14	Aeon Church Gravity Outfall	100 (avg) / 130 (peak)	\$531,000	\$90,000	\$621,000
2012	I-01	Blairstone 24" Force Main Bypass	8,010 (avg) / 14,937 (peak)	\$1,921,000	\$327,000	\$2,248,000
2013	A-01	Pump Station 89 Gravity Outfall	45 (avg) / 82 (peak)	\$284,000	\$48,000	\$332,000
2013	D-02	Pump Station 133 Gravity Outfall	211 (avg) / 350 (peak)	\$1,089,000	\$185,000	\$1,274,000
2014	E-01	CGSE (Sambler) Pump Station & Force Main	1,569	\$542,000	\$92,000	\$634,000
2014	H-11	Pump Station 157 Force Main Extension	280	\$86,000	\$15,000	\$101,000
2015	D-09	Apalachee Pkwy / Williams Road	25 (avg) / 39 (peak)	\$1,886,000	\$321,000	\$2,207,000
				Phase I (2011 - 2015)		\$10,577,000

* Phasing plan is for general guidance only. Policy decisions, based upon available revenue and expenditures for system growth versus system operational strategy improvements, may result in significantly different capital budgets and phasing.

Notes:

- 1) Blue text = capacity related improvements.
- 2) Green text = operational strategy related improvements.
- 3) Purple text = large unsewered area related improvements.

Year	Estimated Capital Cost
2011	\$3,781,000
2012	\$2,248,000
2013	\$1,606,000
2014	\$735,000
2015	\$2,207,000
Total	\$10,577,000



Hatch Mott
MacDonald

TABLE 7-2: USA Master Plan Phasing 2011 - 2030 (continued)

FINAL JAN-2010

Phase II (2016 - 2020)

Year	Project ID	Project Description	Design Flow (gpm)	Construction Cost	Design Cost	Estimated Capital Cost
2016-2020	A-02	Pump Station 112 Gravity Outfall	6 (avg) / 10 (peak)	\$313,000	\$53,000	\$366,000
2016-2020	A-04	Pump Station 128 Gravity Outfall	68 (avg) / 123 (peak)	\$846,000	\$144,000	\$990,000
2016-2020	A-06	Pump Station 47 (Tied to CCFM)	1,012	\$432,000	\$73,000	\$505,000
2016-2020	B-02	Pump Station 5 & 96 Gravity Outfall	10 (avg) / 20 (peak)	\$447,000	\$76,000	\$523,000
2016-2020	D-01	Pump Station 13 Gravity Outfall	14 (avg) / 19 (peak)	\$234,000	\$40,000	\$274,000
2016-2020	G-01	Pump Station 137 (Tied to CCFM)	900	\$940,000	\$160,000	\$1,100,000
2016-2020	H-02	Capital Circle West Force Main - Phase 2 (TPS to PS 73)	6,100	\$3,885,000	\$660,000	\$4,545,000
2016-2020	H-04	CCNW Pump Station and Force Main	2,308	\$1,880,000	\$320,000	\$2,200,000
2016-2020	H-05	Pump Station 37 Gravity Outfall & Pump Station 78 Upgrade	202	\$528,000	\$90,000	\$618,000
2016-2020	H-13	Mission Road Gravity Sewer Upgrade	645 (avg) / 1,090 (peak)	\$648,000	\$110,000	\$758,000
2016-2020	J-01	Pump Station 117 (Tied to CCWFM)	385	\$29,000	\$5,000	\$34,000
Phase II (2016 - 2020)						\$41,913,000

Notes:

- 1) Blue text = capacity related improvements.
- 2) Green text = operational strategy related improvements.

TABLE 7-2: USA Master Plan Phasing 2011 - 2030 (continued)

FINAL JAN-2010

Phase III (2021- 2025)

Year	Project ID	Project Description	Design Flow (gpm)	Construction Cost	Design Cost	Estimated Capital Cost
2021-2025	A-03	Pump Station 129 Gravity Outfall	10 (avg) / 16 (peak)	\$626,000	\$106,000	\$732,000
2021-2025	A-05	Pump Station 85 Gravity Outfall	75 (avg) / 136 (peak)	\$454,000	\$77,000	\$531,000
2021-2025	D-04	Pump Station 33 Upgrade	825	\$360,000	\$61,000	\$421,000
2021-2025	H-12	Pump Station 66 Relocation	222	\$364,000	\$62,000	\$426,000
Phase III (2021 - 2025)						\$2,110,000

Phase IV (2026- 2030)

Year	Project ID	Project Description	Design Flow (gpm)	Construction Cost	Design Cost	Estimated Capital Cost
2026-2030	H-03	Pump Station 160 Gravity Outfall	555 (avg) / 1,368 (peak)	\$952,000	\$162,000	\$1,114,000
2026-2030	H-10	Capital Circle West Force Main - Phase 3 (PS Talquin2 to Hwy 90)	2,546	\$2,514,000	\$427,000	\$2,941,000
Phase IV (2026 - 2030)						\$4,055,000

Notes:

- 1) Blue text = capacity related improvements.
- 2) Green text = operational strategy related improvements.

Total Estimated Capital Cost (2011 - 2030) **\$28,655,000**



Hatch Mott
MacDonald

Summary & Recommendations

- The City of Tallahassee's *InfoSWMM* sanitary sewer trunk system model represents a valid working model of the existing system as of August 2008. All model entities are matched one-to-one with the City's GIS.
- A detailed analysis of nine (9) unsewered target areas was performed to determine the present day cost required to provide central sewer to these areas.
- Population projections for the existing USA were established via TAZ data provided by the Tallahassee -- Leon County Planning Department (September 2008).
- The 2030 Trunk System Model was established to provide sewer service to the entire existing USA, and the Woodville Rural Community.
- Capacity analysis of the gravity system showed minor manhole surcharging in 16 areas of the system during wet-weather. All of the observed gravity system surcharging is of little concern, due to minimal surcharging of manholes and significant system storage capacity prior to surface discharge (manhole "over-topping"). Minor surcharging of the system and manholes without detriment to connected customers or risk of overflow is acceptable, practical and economical. These reaches should be reviewed for rehabilitation, repair or replacement in order to reduce I/I entering the system upstream of the applicable area.
- Topographic information for all areas of manhole surcharging observed in the model were confirmed by field survey.
- Additional infiltration/inflow study may be warranted in four basins where wet-weather sources of inflow appear to contribute greatly to the basins' flows (Basins B, H, I, and M).
- All pump stations were individually analyzed for both dry- and wet-weather operation, and revealed some inefficiencies in pump cycle times, many of which may be rectified by adjusting pump operating levels. Several pump stations run minimally throughout the day and have significant capacity available for future flows.
- The wet-weather force main capacity analysis revealed several instances where force mains are either nearing or are exceeding capacity, based on a limiting condition of 6 fps. However none exceeds 10 feet per second for an appreciable time period.
- A phased Capital Improvements Program was created through the year 2030.

The following recommendations are offered to the City as a result of this project:

- Update the model's physical data, calibration (via flow monitoring), and operating scenario(s) to reflect evolving system conditions, operating protocol(s), and bypassing capabilities.
- Consider adjustments to several pump station operating levels, to better equalize the stations' performance.
- Consider modifications to several pump impellers and/or motors, to better equalize the stations' performance, enabling pumps to operate more efficiently.
- The infiltration/inflow into Pump Station 36 should be studied and evaluated in detail and reduced where practicable to reduce flows into and out of this pump station.
- Develop a model maintenance guidelines and specifications protocol, to ensure modifications are uniformly made to the model by all entities whose use of the model is authorized by the City. This protocol should also contain procedures to ensure the model is able to seamlessly update the City's GIS data as applicable, and vice-versa.
- Coordinate development of the Capital Circle West/Southwest Force Main with the proposed widening of Capital Circle.

1.0 Introduction

This report presents the City of Tallahassee *Sanitary Sewer System Master Plan - Phase 2*. The report describes the review and analyses conducted by Hatch Mott MacDonald (HMM), on the City of Tallahassee's trunk sewer system model. This phase of the project expanded the City's *InfoSWMM* model (developed in Phase 1) to include future piping, infrastructure, and projected wastewater flows through the year 2030; provide hydraulic and capacity analysis observations; and recommend improvements for a 20-year Capital Improvements Program.

HMM's scope of work for this project included the following:

- Update the 2005 Trunk System Model (developed in Phase 1) to include improvements made to the system through August 2008, including 1:1 match with the City's GIS.
- Develop population and wastewater flow projections through 2030 for the existing Urban Service Area (USA), using 100 gallons per capita-day (gpcd) flow.
- Evaluate nine (9) Unsewered Study Areas originally identified in a 1988 Master Sewer Plan, including preliminary layout of new infrastructure; incorporate the trunk elements of these areas into the *InfoSWMM* model; project future wastewater flows based on Tallahassee-Leon County TAZ population projections; and prepare detailed project cost opinions for each Study Area.
- Modify other areas of the model based on updated GIS information provided by the City, supplement the existing conditions model with additional geometric information, perform basin boundary adjustments as required, research available codes and standards as they relate to sewer system/service area expansion, define future sewershed delineations within the existing USA, and extend the model entities to incorporate all of these areas.
- Develop future conditions flow data for both dry-weather and wet-weather flow conditions.
- Using the 2030 trunk system model, assess future conditions collection system operation.
- Prepare a Collection System Capacity Assessment Report for future conditions (included in this Project Report).
- Prepare a 20-year Capital Improvements Program (CIP).
- Prepare this Project Report to present study methodology, results of system analyses, the Collection System Capacity Assessment Report, and the CIP.
- Present and demonstrate the updated model to City staff.
- Conduct other analyses, workshops, and presentations as requested by City staff.

The scope of the master-planned system was for a conventional gravity and force main sewer system, and therefore does not plan for or rely on low-pressure sewer systems to implement solutions.

3.0 Evaluation of Unsewered Target Areas

3.1 Identification of Unsewered Target Areas

In 1988, the City of Tallahassee commissioned a Master Sewer Plan which evaluated nine (9) septic tank areas within Leon County, eight (8) of which are located within the existing USA. The nine (9) septic tank areas are listed as follows:

1. Killearn Acres
2. Buck Lake/Lafayette Oaks/Mahan
3. Lake Jackson
4. Huntington Estates
5. Lake Munson/Four Points
6. Woodville Rural Community (currently outside the USA)
7. Bobbin Mill/Bobbin Brook
8. Centerville Trace
9. Rose Hill

In February 2009, HMM completed its analysis of these areas, and submitted a separate report to the City describing the evaluation. The boundary for the proposed "Woodville Rural Community" service area (Area 6) was extrapolated from the Tallahassee-Leon County Planning Department's "Future Land Use Map" (Rev. August 25, 2008).

Proposed sewer system layouts were overlaid upon the 2-foot contour Tallahassee-Leon County GIS layer, and saved as AutoCAD[®] drawings. Minor adjustments were made to the original unsewered area boundaries as provided by the City, to exclude areas which are presently sewered, as well as to keep proposed sewer service areas within the existing USA boundary.

3.2 Analysis of Unsewered Target Areas

In order to verify the feasibility of extending sanitary sewer service to each of these unsewered areas, HMM personnel studied each area to verify the general topography, the extent of existing development, and the proximity to existing sanitary sewer system infrastructure, from which new infrastructure would be extended to serve each respective area.

Evaluation of Unsewered Target Areas

Wastewater flows from each unsewered area were estimated using TAZ population data and 100 gpcd, as described above. See Table 3-1 for a summary of the population and flow projections for each area through 2030.

HMM then completed opinions of probable project cost for infrastructure construction in each area. The unit and lump-sum prices incorporated into these construction cost opinions were taken from recent contractors' bids for similar work items; a 20% construction contingency and estimated engineering cost of 10% were likewise included in each opinion of probable cost. From these values, the total project cost and an average cost per sanitary sewer connection were computed as shown (see Tables 3-2a & 3-2b). Detailed cost opinions for each area are shown in Tables 3-1 through 3-9 in HMM's February 2009 report.

In order to establish an accurate count of parcels and dwellings in each study area, the GIS database was used to assess pertinent information, and that information was overlaid on the base maps used to develop the Master Sewer System in each of the nine (9) study areas. These maps were individually reviewed and the features hand-counted. Based on that review, a count was developed of individual parcels (occupied and vacant), single-family homes, and multi-family dwellings (e.g., duplex homes and mobile home parks). In addition, an assessment was made of businesses in each study area that would likely be connected to available sewage collection lines. Based on this assessment, an estimate was made of any additional business connections that could be expected upon completion of the Master Sewer System in each of the nine (9) study areas. Finally, any large undeveloped areas that were not included in these counts were evaluated on a preliminary basis as to the likelihood of future development, considering the presence of significant wetland areas or other physical barriers to development. If the areas were judged to be developable, two (2) sanitary sewer connections per acre were included in the overall cost projection. The total number of connections represents the maximum estimated number of expected sanitary sewer connections for each study area. This number was used to determine the average cost per connection in each study area.

3.3 Factors Impacting Feasibility of Sewering Unsewered Target Areas

As part of the analysis, HMM identified factors that could impact the feasibility of constructing sanitary sewer systems in each study area, such as maintenance of traffic, right-of-way restoration, wetland impacts, etc. As a general statement for all areas, it should be noted that a significant amount of construction will occur in existing streets and roadways. As directed by City staff, the opinions of probable project cost include the cost of roadway replacement and right-of-way restoration where needed. The cost of pavement and right-of-way restoration

Evaluation of Unsewered Target Areas

averages just over 24% of the total estimated construction cost for each respective study area (ranging from 20% to 29%). Feasibility factors for each area are outlined in HMM's February 2009 report.

As shown in **Table 3-2b**, the three most cost-effective areas to which to provide sanitary sewer service are Areas 5 (Lake Munson), 8 (Centerville Trace), and 6 (Woodville). All of the Unsewered Target Areas have been incorporated into the 2030 Trunk System Model. Two of the three areas noted above (i.e., Woodville Rural Community and Centerville Trace Subdivision) are mentioned specifically as Target Water and Sewer Service Areas in Section 3 of the May 2005 City/County "Water and Sewer Agreement." The "Water and Sewer Agreement" lists a third target area (i.e., Harbinwood Subdivision), which currently lies within a Talquin Electric Cooperative franchise area.

Figure 3 illustrates the boundaries of these Unsewered Target Areas, and summarizes the cost, population and flow statistics associated with each. A copy of HMM's report for the Unsewered Target Areas is included in **Appendix A**.

TABLE 3-1: UNSEWERED AREAS POPULATION & FLOW PROJECTIONS

YEAR	UNSEWERED AREA POPULATION										UNSEWERED AREA TOTAL POPULATION	TOTAL EST. FLOWS (gpd) *	INCREMENTAL FLOW INCREASE (gpd) *
	Killearn Acres (Area 1)	Buck Lake/Lafayette Oaks/Mahan (Area 2)	Lake Jackson (Area 3)	Huntington Estates (Area 4)	Lake Munson/Four Points (Area 5)	Woodville (Area 6) †	Bobbin Mill/Brooke (Area 7)	Centerville Trace (Area 8)	Rose Hill (Area 9)				
2008	5,086	5,094	4,205	2,853	5,347	2,384	2,337	1,230	301	30,387	3,066,747	88,511	
2010	5,082	5,211	4,275	3,118	6,683	2,938	2,375	1,271	309	31,263	3,126,259	88,511	
2015	5,119	5,503	4,448	3,831	7,348	3,075	2,470	1,375	331	33,500	3,350,036	223,778	
2020	5,171	5,700	4,578	4,195	7,892	3,156	2,607	1,528	361	34,989	3,498,920	148,884	
2025	5,223	5,897	4,708	4,560	8,035	3,238	2,745	1,661	381	36,478	3,647,804	148,884	
2030	5,274	6,094	4,838	4,924	8,379	3,320	2,882	1,835	421	37,967	3,796,687	148,884	

20-Year Population Growth (2010 to 2030): 21.4%

* At 100 gallons per capita-day (as per HMM scope of work)

† Currently outside the USA



TABLE 3-2a: UNSEWERED AREAS SEWER CONNECTION STATISTICS

Unsewered Study Area	Estimated Project Cost (2009 \$)	Max. Estimated Number of Sewer Connections	Average Cost per Connection	2010 Projected Flow (gpd) *
1. Killlearn Acres	\$20,354,370	1,602	\$12,710	508,159
2. Buck Lake	\$29,734,500	1,901	\$15,640	521,094
3. Lake Jackson	\$24,452,990	1,532	\$15,960	427,459
4. Huntington Estates	\$9,240,490	729	\$12,680	311,803
5. Lake Munson	\$30,614,860	3,162	\$9,680	668,332
6. Woodville †	\$24,576,240	2,150	\$11,430	293,840
7. Bobbin Mill/Brooke	\$13,072,610	837	\$15,620	237,525
8. Centerville Trace	\$4,745,080	485	\$9,780	127,116
9. Rose Hill	\$3,587,520	98	\$36,610	30,931

* At 100 gallons per capita-day (as per HMM scope of work)

† Currently outside the USA



TABLE 3-2b: UNSEWERED AREAS SEWER CONNECTION STATISTICS
 (sorted in ascending order by "Average Cost per Connection")

Unsewered Study Area	Estimated Project Cost (2009 \$)	Max. Estimated Number of Sewer Connections	Average Cost per Connection	2010 Projected Flow (gpd) *
5. Lake Munson	\$30,614,860	3,162	\$9,680	668,332
8. Centerville Trace	\$4,745,080	485	\$9,780	127,116
6. Woodville †	\$24,576,240	2,150	\$11,430	293,840
4. Huntington Estates	\$9,240,490	729	\$12,680	311,803
1. Killlearn Acres	\$20,354,370	1,602	\$12,710	508,159
7. Bobbin Mill/Brooke	\$13,072,610	837	\$15,620	237,525
2. Buck Lake	\$29,734,500	1,901	\$15,640	521,094
3. Lake Jackson	\$24,452,990	1,532	\$15,960	427,459
9. Rose Hill	\$3,587,520	98	\$36,610	30,931

* At 100 gallons per capita-day (as per HMM scope of work)

† Currently outside the USA



Hatch Mott
MacDonald

3800 Esplanade Way, Suite 150
Tallahassee, FL 32311
T 850.222.0334 www.hatchmott.com

AAC000035 EB0000155 LB00006783 LC26000216

February 11, 2009

Tom Printy, PE
City of Tallahassee Underground Utilities
300 S. Adams Street, B-26
Tallahassee, Florida 32301

**RE: COT Master Sewer Plan Phase 2
Task 6-1: Evaluation of Unsewered Areas
HMM Project No. 246292**

Dear Tom:

Hatch Mott MacDonald (HMM) has completed its evaluation of the unsewered areas outlined in our Scope of Work for the above-referenced project. The following is our letter report detailing our work effort.

Background

HMM staff prepared preliminary sewer system maps of the nine (9) unsewered areas:

- Killearn Acres
- Buck Lake/Lafayette Oaks/Mahan
- Lake Jackson
- Huntington Estates
- Lake Munson/Four Points
- Woodville
- Bobbin Mill/Bobbin Brook
- Centerville Trace
- Rose Hill

Proposed sewer system layouts were overlaid upon the 2-foot contour Tallahassee/Leon County GIS layer, and saved as AutoCAD drawings. Minor adjustments were made to the original unsewered area boundaries as provided by the City, to exclude areas which are presently sewerred, as well as to keep proposed sewer service areas within the existing Urban Services Area (USA) boundary. The boundary for the proposed "Woodville Rural



Community" service area (Area 6) was extrapolated from the Tallahassee/Leon County Planning Department's "Future Land Use Map" (Rev. August 25, 2008).

Analysis

In order to verify the feasibility of extending sanitary sewer service to each of these unsewered areas, HMM personnel studied each area to verify the general topography, the extent of existing development, and the proximity to existing sanitary sewer system infrastructure, from which new infrastructure would be extended to serve each respective area.

Wastewater flows from each unsewered area were estimated using Tallahassee/Leon County TAZ population data, and by multiplying the projected population by 100 gallons per capita-day (gpcd; average daily flow) as per HMM's scope of work for this project. See **Table 1** for a summary of the population and flow projections for each area through 2030.

HMM then completed opinions of probable construction cost for infrastructure construction in each area. The unit and lump-sum prices incorporated into these construction cost opinions were taken from recent contractors' bids for similar work items. From these values, the total project cost and an average cost per sanitary sewer connection was computed as shown (see **Tables 2a & 2b**). Detailed cost opinions for each area are shown in **Tables 3-1** through **3-9**.

In order to get an accurate count of parcels and dwellings in each study area, the GIS database was used to assess pertinent information and overlay that information on the base maps used to develop the Master Sewer System in each of the nine (9) study areas. These maps were individually reviewed and the features hand-counted. Based on that review, a count was developed of individual parcels (occupied and vacant), single-family homes, and multi-family dwellings (e.g., duplex homes and mobile home parks). In addition, an assessment was made of businesses in each study area that would likely be connected to available sewage collection lines. Based on this assessment, an estimate was made of any additional business connections that could be expected upon completion of the Master Sewer System in each of the nine (9) study areas. Finally, any large undeveloped areas that were not included in these counts were evaluated on a preliminary basis as to the likelihood



of future development, considering the presence of significant wetland areas or other physical barriers to development. If the areas were judged to be developable, two (2) sanitary sewer connections per acre were included in the overall cost projection. The total number of connections represents the maximum estimated number of expected sanitary sewer connections for each study area. This number was used to determine the average cost per connection in each study area.

Factors Impacting Feasibility

As part of the analysis, HMM identified factors that could impact the feasibility of constructing sanitary sewer systems in each study area. As a general statement for all areas, it should be noted that a significant amount of construction will occur in existing streets and roadways. As directed by City staff, the opinion of probable costs includes the cost of roadway replacement and right-of-way restoration where needed. The cost of pavement and right-of-way restoration averages just over 24% of the total estimated construction cost for each respective study area (ranging from 20% to 29%).

The following is a summary of potential issues that could affect the feasibility of constructing sanitary sewers in each study area:

Area 1: Killlearn Acres

- This is a densely populated area with few vacant lots. Construction will cause traffic flow and routing issues, resulting in lane closures, detours, citizen complaints, etc.
- Environmental issues (e.g., wetlands, water bodies, flood zones) should not be significant, although proper stormwater runoff controls will be required to protect Gilbert Pond, Lake Killikee and other water bodies in the area.

Area 2: Buck Lake/Lafayette Oaks/Mahan

- Some construction activities will occur along major roadways (e.g., Buck Lake Road, Miccosukee Road, and Mahan Drive) resulting in traffic control issues.
- There are isolated lowlands and wetland areas to avoid, and stormwater pollution prevention will be required where appropriate. Runoff prevention/

Tom Printy, PE Page 3 February 11, 2009



Hatch Mott
MacDonald

sedimentation control is essential to protect Buck Lake as well as tributaries to the Alford Arm of Lake Lafayette.

- There are portions of the sewer system that are projected to be completed by others (e.g., Florida Department of Transportation and local developers) and are depicted as such on the maps for this study area. While the cost of these portions of the overall system are not included in the cost projections for the City, their completion is a vital part of the functional integrity of the overall sewer plan.

Area 3: Lake Jackson

- Construction along Lake Shore Drive will present challenges in relation to traffic control and roadway/right-of way restoration due to the rolling nature of the roadway, stormwater swales and numerous roadway curves. There are relatively few vacant lots in this portion of the study area.
- Due to the proximity to Lake Jackson (Ford's Arm and Meginnis Arm), stormwater pollution prevention and sedimentation control will be a major concern.

Area 4: Huntington Estates

- There are isolated lowlands and wetland areas to avoid, and stormwater pollution prevention will be required where appropriate.
- Traffic control in the densely developed areas will be a requirement.

Area 5: Lake Munson/Four Points

- While much of the construction will be on side streets, there is a significant amount of anticipated construction activity along Crawfordville Highway, Woodville Highway and Capital Circle SW, all of which are main thoroughfares. Traffic control will be a significant concern.
- Isolated lowlands/wetland areas will require filtration/sedimentation control.



- Significant effort has been expended to restore and maintain Munson Slough and Lake Munson. Construction-related activities will need to be monitored carefully to ensure they do not cause undue harm to these water bodies.

Area 6: Woodville

- There are lowland/wetland areas in the northern portion of the Woodville Highway area that must be avoided during construction.
- Woodville Highway is a major thoroughfare and traffic-control will be a major component of construction in this area.
- A significant cost is the length of force main (approximately 18,000 linear feet) necessary to connect this study area to the larger force main at Capital Circle.

Area 7: Bobbin Mill

- Due to their proximity to Lake Jackson, some areas will require more careful observation to ensure compliance with any stormwater pollution prevention plan.
- Isolated lowland/wetlands will need to be avoided during construction.

Area 8: Centerville Trace

- Few construction-related issues are anticipated for this study area.

Area 9: Rose Hill

- Portions of the gravity sewer system are proposed to run along the boundary of Lake Elizabeth. Construction in this area could prompt complaints from residents if stormwater pollution prevention measures are not properly installed and vigilantly maintained throughout construction.
- Since this is the least densely-populated study area, the cost per sanitary sewer connection is significantly higher than for any of the other areas.

As shown in Table 2b, the three most cost-effective areas to which to provide sanitary sewer service are Areas 5 (Lake Munson), 8 (Centerville Trace), and 6 (Woodville). All of the areas shown in the accompanying Tables have been incorporated into the 2030 Trunk

Tom Printy, PE Page 5 February 11, 2009

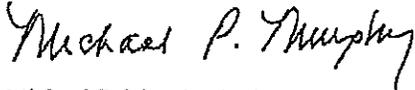


System Model. Two of the three areas noted above (i.e., Woodville Community and Centerville Trace Subdivision) are mentioned specifically as Target Water and Sewer Service Areas in Section 3 of the May 2005 City/County "Water and Sewer Agreement."

Once you have had a chance to review the attached documents in detail, we would welcome the opportunity to discuss them with you and your staff. In the interim, should you have any questions or need additional information regarding any aspect of this report please contact our office.

Very truly yours,

Hatch Mott MacDonald

A handwritten signature in cursive script that reads 'Michael P. Murphy'.

Michael P. Murphy, P.E.
Vice President
T 850.222.0334 F 850.561.0205
mike.murphy@hatchmott.com

MPM: mpk
encl.

cc: John Buss (City of Tallahassee)
Blas Gomez, PE (City of Tallahassee)
M. Broussard, PE (HMM)
A. Bishop, PE (HMM)
M. Kane, PE (HMM)
J. Hosey, EI (HMM)

TABLE 1: UNSEWERED AREAS POPULATION & FLOW PROJECTIONS

YEAR	UNSEWERED AREA POPULATION										UNSEWERED AREA TOTAL POPULATION	TOTAL EST. FLOWS (gpd) *	INCREMENTAL FLOW INCREASE (gpd) *
	Killbuck Acres (Area 1)	Buck Lake/Lafayette Oaks/Mahan (Area 2)	Lake Jackson (Area 3)	Huntington Estates (Area 4)	Lake Munson/Four Points (Area 5)	Woodville (Area 6) †	Bobbin Mill/Bobbin Brooke (Area 7)	Certerville Trace (Area 8)	Rose Hill (Area 9)				
2008	5,082	5,094	4,205	2,833	6,412	2,384	2,337	2,200	309	309	31,263	3,126,269	89,511
2010	5,082	5,211	4,275	3,119	6,683	2,938	2,375	1,271	309	309	31,263	3,126,269	89,511
2015	5,119	5,503	4,440	3,831	7,348	3,075	2,470	1,375	331	331	33,500	3,350,036	223,778
2020	5,171	5,700	4,578	4,195	7,692	3,156	2,607	1,528	361	361	34,989	3,498,920	148,884
2025	5,223	5,897	4,708	4,650	8,035	3,238	2,745	1,681	391	391	36,478	3,647,804	148,884
2030	5,274	6,094	4,838	4,924	8,379	3,320	2,882	1,835	421	421	37,967	3,796,687	148,884

20-Year Population Growth (2010 to 2030): 21.4%

* At 100 gallons per capita-day (as per HMM scope of work)

† Currently outside the USA



TABLE 2a: UNSEWERED AREAS SEWER CONNECTION STATISTICS

Unsewered Study Area	Estimated Project Cost (2009 \$)	Max. Estimated Number of Sewer Connections	Average Cost per Connection	2010 Projected Flow (gpd) *
1. Killearn Acres	\$20,354,370	1,602	\$12,710	508,159
2. Buck Lake	\$29,734,500	1,901	\$15,640	521,094
3. Lake Jackson	\$24,452,990	1,532	\$15,960	427,459
4. Huntington Estates	\$9,240,490	729	\$12,680	311,803
5. Lake Munson	\$30,614,860	3,162	\$9,680	668,332
6. Woodville †	\$24,576,240	2,150	\$11,430	293,840
7. Bobbin Mill	\$13,072,610	837	\$15,620	237,525
8. Centerville Trace	\$4,745,080	485	\$9,780	127,116
9. Rose Hill	\$3,587,520	98	\$36,610	30,931

* At 100 gallons per capita-day (as per HMM scope of work)

† Currently outside the USA



TABLE 2b: UNSEWERED AREAS SEWER CONNECTION STATISTICS
 (sorted in ascending order by "Average Cost per Connection")

Unsewered Study Area	Estimated Project Cost (2009 \$)	Max. Estimated Number of Sewer Connections	Average Cost per Connection	2010 Projected Flow (gpd) *
5. Lake Munson	\$30,614,860	3,162	\$9,680	668,332
8. Centerville Trace	\$4,745,080	485	\$9,780	127,116
6. Woodville †	\$24,576,240	2,150	\$11,430	293,840
4. Huntington Estates	\$9,240,490	729	\$12,680	311,803
1. Killearn Acres	\$20,354,370	1,602	\$12,710	508,159
7. Bobbin Mill	\$13,072,610	837	\$15,620	237,525
2. Buck Lake	\$29,734,500	1,901	\$15,640	521,094
3. Lake Jackson	\$24,452,990	1,532	\$15,960	427,459
9. Rose Hill	\$3,587,520	98	\$36,610	30,931

* At 100 gallons per capita-day (as per HMM scope of work)

† Currently outside the USA



TABLE 3-1: UNSEWERED AREA No. 1 - KILLEARN ACRES
 City of Tallahassee Master Sewer Plan Phase 2
 Preliminary Opinion of Probable Construction Cost
 Hatch Mott MacDonald Florida, LLC

Proj.: City of Tallahassee Master Sewer Plan Phase 2
 HMM Project No.: 246292

Study Area #1 Killearn Acres

Basis of Estimate: HMM Conceptual Design
 Estimator: M. Murphy, A. Bishop

Item	Description	Quantity	Unit	Unit Price	Amount
1	8" PVC Sanitary Sewer <=10' Deep	69034	LF	\$27.00	\$1,863,918.00
2	8" PVC Sanitary Sewer >10' Deep	23224	LF	\$32.00	\$743,168.00
3	12" PVC Sanitary Sewer >10' Deep	2140	LF	\$41.00	\$87,740.00
4	15" PVC Sanitary Sewer <=10' Deep	2966	LF	\$40.00	\$118,640.00
5	15" PVC Sanitary Sewer >10' Deep	1632	LF	\$45.00	\$73,440.00
6	4' - 10' Deep Manhole	336	EA	\$4,000.00	\$1,344,000.00
7	>10' Deep Manhole	158	EA	\$6,000.00	\$948,000.00
8	Pump Station	2	LS	\$300,000.00	\$600,000.00
9	Sand or Clay for Backfill	151464	CY	\$12.00	\$1,817,568.00
10	Sanitary Sewer Service (SF & SFA 1528)	1602	EA	\$1,250.00	\$2,002,500.00
11	PVC Force Main	2382	LF	\$12.00	\$28,584.00
12	Pavement Replacement	206136	SY	\$20.00	\$4,122,720.00
13	Right-of-Way Restoration	371044	SY	\$4.50	\$1,669,698.00
14					\$0.00
15					\$0.00
16					\$0.00
17					\$0.00
18					\$0.00
19					\$0.00
20					\$0.00
21					\$0.00
22					\$0.00
23					\$0.00
24					\$0.00
				CONSTRUCTION SUBTOTAL:	\$15,419,976.00
				CONST. CONTINGENCY (20%):	\$3,083,995.20
				EST. CONST. TOTAL:	\$18,503,971.20
				ENGINEERING/ADMIN (10%):	\$1,850,397.12
				EST. PROJECT BUDGET:	\$20,354,368.32



TABLE 3-2: UNSEWERED AREA No. 2 - BUCK LAKE/LAFAYETTE OAKS City of Tallahassee Master Sewer Plan Phase 2 Preliminary Opinion of Probable Construction Cost Hatch Mott MacDonald Florida, LLC					
Proj.: City of Tallahassee Master Sewer Plan Phase 2		Study Area #2		Buck Lake/Lafayette Oaks	
HMM Project No.: 246292		Basis of Estimate: HMM Conceptual Design			
				Estimator: M. Murphy, A. Bishop	
Item	Description	Quantity	Unit	Unit Price	Amount
1	8" PVC Sanitary Sewer <10' Deep	169030	LF	\$27.00	\$4,563,810.00
2	8" PVC Sanitary Sewer >10' Deep	20258	LF	\$32.00	\$648,256.00
3	10" PVC Sanitary Sewer <10' Deep	5530	LF	\$31.00	\$171,430.00
4	10" PVC Sanitary Sewer >10' Deep	694	LF	\$36.00	\$24,984.00
5	12" PVC Sanitary Sewer <10' Deep	1134	LF	\$34.00	\$38,556.00
6	4' - 10' Deep Manhole	671	EA	\$4,000.00	\$2,684,000.00
7	>10' Deep Manhole	87	EA	\$6,000.00	\$522,000.00
8	Pump Station	1	LS	\$300,000.00	\$300,000.00
9	Sand or Clay for Backfill	300868	CY	\$12.00	\$3,610,416.00
10	Sanitary Sewer Service (SF & SFA 1679)	1901	EA	\$1,250.00	\$2,376,250.00
11	PVC Force Main	3330	LF	\$12.00	\$39,960.00
12	Pavement Replacement	268558	SY	\$20.00	\$5,371,160.00
13	Right-of-Way Restoration	483404	SY	\$4.50	\$2,175,318.00
14					\$0.00
15					\$0.00
16					\$0.00
17					\$0.00
18					\$0.00
19					\$0.00
20					\$0.00
21					\$0.00
22					\$0.00
23					\$0.00
24					\$0.00
				CONSTRUCTION SUBTOTAL: \$22,526,140.00 CONST. CONTINGENCY (20%): \$4,505,228.00 EST. CONST. TOTAL: \$27,031,368.00 ENGINEERING/ADMIN (10%): \$2,703,136.80 EST. PROJECT BUDGET: \$29,734,504.80	



TABLE 3-3: UNSEWERED AREA No. 3 - LAKE JACKSON
 City of Tallahassee Master Sewer Plan Phase 2
 Preliminary Opinion of Probable Construction Cost
 Hatch Mott MacDonald Florida, LLC

Proj.: City of Tallahassee Master Sewer Plan Phase 2
 HMM Project No.: 246292

Study Area - #3 Lake Jackson

Basis of Estimate: HMM Conceptual Design
 Estimator: M. Murphy, A. Bishop

Item	Description	Quantity	Unit	Unit Price	Amount
1	8" PVC Sanitary Sewer <=10' Deep	110010	LF	\$27.00	\$2,970,270.00
2	8" PVC Sanitary Sewer >10' Deep	27161	LF	\$32.00	\$869,152.00
3	10" PVC Sanitary Sewer <=10' Deep	2645	LF	\$31.00	\$81,995.00
4	10" PVC Sanitary Sewer >10' Deep	147	LF	\$36.00	\$5,292.00
5	12" PVC Sanitary Sewer >10' Deep	1580	LF	\$41.00	\$64,780.00
6	4' - 10' Deep Manhole	458	EA	\$4,000.00	\$1,832,000.00
7	>10' Deep Manhole	129	EA	\$6,000.00	\$774,000.00
8	Pump Station	3	LS	\$300,000.00	\$900,000.00
9	Sand or Clay for Backfill	218091	CY	\$12.00	\$2,617,092.00
10	Sanitary Sewer Service (SF & SFA 1336)	1532	EA	\$1,250.00	\$1,915,000.00
11	PVC Force Main	15372	LF	\$12.00	\$184,464.00
12	Pavement Replacement	224589	SY	\$20.00	\$4,491,780.00
13	Right-of-Way Restoration	404260	SY	\$4.50	\$1,819,170.00
14					\$0.00
15					\$0.00
16					\$0.00
17					\$0.00
18					\$0.00
19					\$0.00
20					\$0.00
21					\$0.00
22					\$0.00
23					\$0.00
24					\$0.00
				CONSTRUCTION SUBTOTAL:	\$18,524,995.00
				CONST. CONTINGENCY (20%):	\$3,704,999.00
				EST. CONST. TOTAL:	\$22,229,994.00
				ENGINEERING/ADMIN (10%):	\$2,222,999.40
				EST. PROJECT BUDGET:	\$24,452,993.40



TABLE 3-4: UNSEWERED AREA No. 4 - HUNTINGTON ESTATES

City of Tallahassee Master Sewer Plan Phase 2
 Preliminary Opinion of Probable Construction Cost
 Hatch Mott MacDonald Florida, LLC

Proj.: City of Tallahassee Master Sewer Plan Phase 2 Study Area #4 Huntington Estates
 HMM Project No.: 246292
 Basis of Estimate: HMM Conceptual Design
 Estimator: M. Murphy, A. Bishop

Item	Description	Quantity	Unit	Unit Price	Amount
1	8" PVC Sanitary Sewer <=10' Deep	36220	LF	\$27.00	\$977,940.00
2	8" PVC Sanitary Sewer >10' Deep	16150	LF	\$32.00	\$516,800.00
3	12" PVC Sanitary Sewer <=10' Deep	6022	LF	\$34.00	\$204,748.00
4	4' - 10' Deep Manhole	155	EA	\$4,000.00	\$620,000.00
5	>10' Deep Manhole	17	EA	\$6,000.00	\$102,000.00
6	Pump Station	2	LS	\$300,000.00	\$600,000.00
7	Sand or Clay for Backfill	80126	CY	\$12.00	\$961,512.00
8	Sanitary Sewer Service (SF & SFA 619)	729	EA	\$1,250.00	\$911,250.00
9	PVC Force Main	5135	LF	\$12.00	\$61,620.00
10	Pavement Replacement	72758	SY	\$20.00	\$1,455,160.00
11	Right-of-Way Restoration	130964	SY	\$4.50	\$589,338.00
12					\$0.00
13					\$0.00
14					\$0.00
15					\$0.00
16					\$0.00
17					\$0.00
18					\$0.00
19					\$0.00
20					\$0.00
21					\$0.00
22					\$0.00
				CONSTRUCTION SUBTOTAL:	\$7,000,368.00
				CONST. CONTINGENCY (20%):	\$1,400,073.60
				EST. CONST. TOTAL:	\$8,400,441.60
				ENGINEERING/ADMIN (10%):	\$840,044.16
				EST. PROJECT BUDGET:	\$9,240,485.76



TABLE 3-5: UNSEWERED AREA No. 5 - LAKE MUNSON/FOUR POINTS
 City of Tallahassee Master Sewer Plan Phase 2
 Preliminary Opinion of Probable Construction Cost
 Hatch Mott MacDonald Florida, LLC

Proj.: City of Tallahassee Master Sewer Plan Phase 2 Study Area #5 Lake Munson/Four Points
 HMM Project No.: 246292
 Basis of Estimate: HMM Conceptual Design
 Estimator: M. Murphy, A. Bishop

Item	Description	Quantity	Unit	Unit Price	Amount
1	8" PVC Sanitary Sewer <=10' Deep	159770	LF	\$27.00	\$4,313,790.00
2	8" PVC Sanitary Sewer >10' Deep	1450	LF	\$32.00	\$46,400.00
3	10" PVC Sanitary Sewer <=10' Deep	6362	LF	\$31.00	\$197,222.00
4	10" PVC Sanitary Sewer >10' Deep	1843	LF	\$36.00	\$66,348.00
5	12" PVC Sanitary Sewer <=10' Deep	4869	LF	\$34.00	\$165,546.00
6	4' - 10' Deep Manhole	627	EA	\$4,000.00	\$2,508,000.00
7	>10' Deep Manhole	14	EA	\$6,000.00	\$84,000.00
8	Pump Station	5	LS	\$250,000.00	\$1,250,000.00
9	Sand or Clay for Backfill	266700	CY	\$12.00	\$3,200,400.00
10	Sanitary Sewer Service (SF & SFA 2279)	3162	EA	\$1,250.00	\$3,952,500.00
11	PVC Force Main	7828	LF	\$12.00	\$93,936.00
12	Pavement Replacement	260318	SY	\$20.00	\$5,206,360.00
13	Right-of-Way Restoration	468572	SY	\$4.50	\$2,108,574.00
14					\$0.00
15					\$0.00
16					\$0.00
17					\$0.00
18					\$0.00
19					\$0.00
20					\$0.00
21					\$0.00
22					\$0.00
23					\$0.00
24					\$0.00
				CONSTRUCTION SUBTOTAL:	\$23,193,076.00
				CONST. CONTINGENCY (20%):	\$4,638,615.20
				EST. CONST. TOTAL:	\$27,831,691.20
				ENGINEERING/ADMIN (10%):	\$2,783,169.12
				EST. PROJECT BUDGET:	\$30,614,860.32



TABLE 3-6: UNSEWERED AREA No. 6 - WOODVILLE

City of Tallahassee Master Sewer Plan Phase 2
 Preliminary Opinion of Probable Construction Cost
 Hatch Mott MacDonald Florida, LLC

Proj.: City of Tallahassee Master Sewer Plan Phase 2
 HMM Project No.: 246292

Study Area #6 Woodville

Basis of Estimate: HMM Conceptual Design
 Estimator: M. Murphy, A. Bishop

Item	Description	Quantity	Unit	Unit Price	Amount
1	8" PVC Sanitary Sewer <=10' Deep	113533	LF	\$27.00	\$3,065,391.00
2	8" PVC Sanitary Sewer >10' Deep		LF	\$32.00	\$0.00
3	10" PVC Sanitary Sewer <=10' Deep	9308	LF	\$31.00	\$288,548.00
4	12" PVC Sanitary Sewer <=10' Deep	9366	LF	\$34.00	\$318,444.00
5	4' - 10' Deep Manhole	423	EA	\$4,000.00	\$1,692,000.00
6	Pump Station	7	LS	\$250,000.00	\$1,750,000.00
7	Sand or Clay for Backfill	202278	CY	\$12.00	\$2,427,336.00
8	Sanitary Sewer Service (SF & SFA 1369)	2150	EA	\$1,250.00	\$2,687,500.00
9	PVC Force Main	19377	LF	\$12.00	\$232,524.00
10	Pavement Replacement	197958	SY	\$20.00	\$3,959,160.00
11	Right-of-Way Restoration	356324	SY	\$4.50	\$1,603,458.00
12	Force Main to Capital Circle	18000	LF	\$33.00	\$594,000.00
13					\$0.00
14					\$0.00
15					\$0.00
16					\$0.00
17					\$0.00
18					\$0.00
19					\$0.00
20					\$0.00
21					\$0.00
22					\$0.00
CONSTRUCTION SUBTOTAL:					\$18,618,361.00
CONST. CONTINGENCY (20%):					\$3,723,672.20
EST. CONST. TOTAL:					\$22,342,033.20
ENGINEERING/ADMIN (10%):					\$2,234,203.32
EST. PROJECT BUDGET:					\$24,576,236.52



TABLE 3-7: UNSEWERED AREA No. 7 - BOBBIN MILL
 City of Tallahassee Master Sewer Plan Phase 2
 Preliminary Opinion of Probable Construction Cost
 Hatch Mott MacDonald Florida, LLC

Proj City of Tallahassee Master Sewer Plan Phase 2
 HMM Project No.: 246292

Study Area #7 Bobbin Mill

Basis of Estimate: HMM Conceptual Design
 Estimator: M. Murphy, A. Bishop

Item	Description	Quantity	Unit	Unit Price	Amount
1	8" PVC Sanitary Sewer <=10' Deep	64197	LF	\$27.00	\$1,733,319.00
2	8" PVC Sanitary Sewer >10' Deep	14775	LF	\$32.00	\$472,800.00
3	10" PVC Sanitary Sewer <=10' Deep	401	LF	\$31.00	\$12,431.00
4	10" PVC Sanitary Sewer >10' Deep	948	LF	\$36.00	\$34,128.00
5	12" PVC Sanitary Sewer <=10' Deep	7103	LF	\$34.00	\$241,502.00
6	12" PVC Sanitary Sewer >10' Deep	2487	LF	\$41.00	\$101,967.00
7	4' - 10' Deep Manhole	267	EA	\$4,000.00	\$1,068,000.00
8	>10' Deep Manhole	20	EA	\$6,000.00	\$120,000.00
9	Pump Station	2	LS	\$350,000.00	\$700,000.00
10	Sand or Clay for Backfill	137981	CY	\$12.00	\$1,655,772.00
11	Sanitary Sewer Service (SF & SFA 666)	837	EA	\$1,250.00	\$1,046,250.00
12	PVC Force Main	4428	LF	\$12.00	\$53,136.00
13	Pavement Replacement	94811	SY	\$20.00	\$1,896,220.00
14	Right-of-Way Restoration	170660	SY	\$4.50	\$767,970.00
15					\$0.00
16					\$0.00
17					\$0.00
18					\$0.00
19					\$0.00
20					\$0.00
21					\$0.00
22					\$0.00
23					\$0.00
24					\$0.00
				CONSTRUCTION SUBTOTAL:	\$9,903,495.00
				CONST. CONTINGENCY (20%):	\$1,980,699.00
				EST. CONST. TOTAL:	\$11,884,194.00
				ENGINEERING/ADMIN (10%):	\$1,188,419.40
				EST. PROJECT BUDGET:	\$13,072,613.40



TABLE 3-8: UNSEWERED AREA No. 8 - CENTERVILLE TRACE
 City of Tallahassee Master Sewer Plan Phase 2
 Preliminary Opinion of Probable Construction Cost
 Hatch Mott MacDonald Florida, LLC

Proj City of Tallahassee Master Sewer Plan Phase 2
 HMM Project No.: 246292

Study Area #8 Centerville Trace

Basis of Estimate: HMM Conceptual Design
 Estimator: M. Murphy, A. Bishop

Item	Description	Quantity	Unit	Unit Price	Amount
1	8" PVC Sanitary Sewer <=10' Deep	15760	LF	\$27.00	\$425,520.00
2	8" PVC Sanitary Sewer >10' Deep	13181	LF	\$32.00	\$421,792.00
3	4' - 10' Deep Manhole	63	EA	\$4,000.00	\$252,000.00
4	>10' Deep Manhole	66	EA	\$6,000.00	\$396,000.00
5	Sand or Clay for Backfill	44280	CY	\$12.00	\$531,360.00
6	Sanitary Sewer Service (SF &SFA 398)	483	EA	\$1,250.00	\$603,750.00
7	Pavement Replacement	34318	SY	\$20.00	\$686,360.00
8	Right-of-Way Restoration	61772	SY	\$4.50	\$277,974.00
9					\$0.00
10					\$0.00
11					\$0.00
12					\$0.00
13					\$0.00
14					\$0.00
15					\$0.00
16					\$0.00
17					\$0.00
18					\$0.00
				CONSTRUCTION SUBTOTAL:	\$3,594,756.00
				CONST. CONTINGENCY (20%):	\$718,951.20
				EST. CONST. TOTAL:	\$4,313,707.20
				ENGINEERING/ADMIN (10%):	\$431,370.72
				EST. PROJECT BUDGET:	\$4,745,077.92



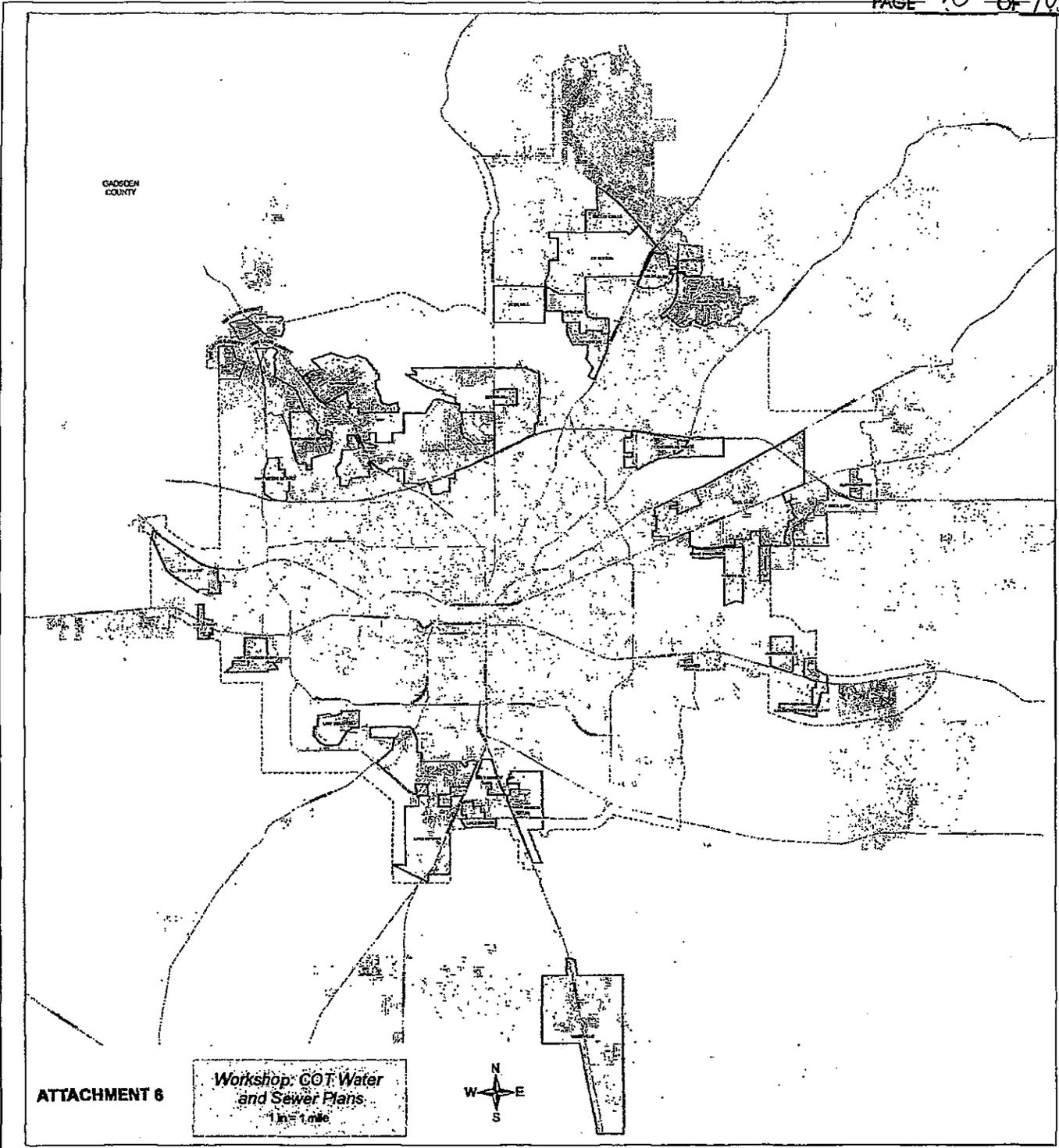
TABLE 3-9: UNSEWERED AREA No. 9 - ROSE HILL
 City of Tallahassee Master Sewer Plan Phase 2
 Preliminary Opinion of Probable Construction Cost
 Hatch Mott MacDonald Florida, LLC

Proj.: City of Tallahassee Master Sewer Plan Phase 2
 HMM Project No.: 246292

Study Area #9 Rose Hill

Basis of Estimate: HMM Conceptual Design
 Estimator: M. Murphy, A. Bishop

Item	Description	Quantity	Unit	Unit Price	Amount
1	8" PVC Sanitary Sewer <=10' Deep	16987	LF	\$27.00	\$458,649.00
2	8" PVC Sanitary Sewer >10' Deep	4486	LF	\$32.00	\$143,552.00
3	4' - 10' Deep Manhole	65	EA	\$4,000.00	\$260,000.00
4	>10' Deep Manhole	20	EA	\$6,000.00	\$120,000.00
5	Pump Station	1	LS	\$300,000.00	\$300,000.00
6	Sand or Clay for Backfill	32854	CY	\$12.00	\$394,248.00
7	Sanitary Sewer Service (SF & SFA 80)	98	EA	\$1,250.00	\$122,500.00
8	PVC Force Main	2620	LF	\$12.00	\$31,440.00
9	Pavement Replacement	31587	SY	\$20.00	\$631,740.00
10	Right-of-Way Restoration	58820	SY	\$4.50	\$255,690.00
15					\$0.00
16					\$0.00
17					\$0.00
18					\$0.00
19					\$0.00
20					\$0.00
21					\$0.00
22					\$0.00
23					\$0.00
24					\$0.00
				CONSTRUCTION SUBTOTAL:	\$2,717,819.00
				CONST. CONTINGENCY (20%):	\$543,563.80
				EST. CONST. TOTAL:	\$3,261,382.80
				ENGINEERING/ADMIN (10%):	\$326,138.28
				EST. PROJECT BUDGET:	\$3,587,521.08

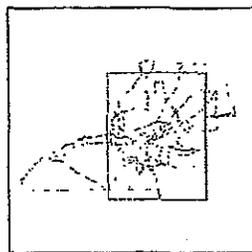


ATTACHMENT 6

Workshop: COT Water and Sewer Plans
 1 in = 1 mile



- | | |
|-------------------------------|--------------------------------------|
| ▲ Septic Tanks | Major Roads |
| ⊕ Study Areas | Talquin Water and Sewer Service Area |
| ⊕ County Identified Areas | Talquin Water Service Areas |
| ⊕ Urban Service Area Boundary | City Limit |
| ⋯ Sewer Lines | County Boundary |



NOTES: This map was prepared for the purpose of providing information to the public. It is not intended to be used for legal purposes. The user of this map is advised that the user assumes all responsibility for any errors or omissions. The user of this map is advised that the user assumes all responsibility for any errors or omissions. The user of this map is advised that the user assumes all responsibility for any errors or omissions.

Map created on December 1, 2010
 by Todd McClellan
 Title Engineer, Lee County GIS
 Telephone: (910) 855-1525
 WAC: http://www.digitalsg.com



Executive Summary

The City of Tallahassee selected the team of Malcolm Pirnie, SE Consulting (MBE), and Diversified Drafting and Design (3DS - MBE) to update the City's Water Master Plan. The purpose of the Water Master Plan Update was to identify water supply and system improvements necessary to meet projected water demands through the year 2030.

The majority of the improvements identified in this Water Master Plan Update are driven by water quality, water demand, fire flow, renewal and replacement of infrastructure and future growth, and as such the timing of those improvements is ultimately driven by when that growth occurs. The capital improvements plan (CIP) presented is intended to serve as a budgeting tool. The City will need to monitor growth and may need to adjust the CIP schedule and timing of certain projects as growth occurs. For example, growth in one development may occur more quickly than projected, and as such, certain improvements may need to happen sooner than indicated. On the other hand, growth may not return as quickly as projected, meaning certain projects can be delayed.

Population Projections

Three different population projection methodologies were evaluated: Traffic Analysis Zones (TAZ), University of Florida Bureau of Economic and Business Research (BEBR), and U.S. Census data. The Tallahassee-Leon County Planning Department utilizes TAZ projections for concurrency planning and development of the Comprehensive Plan. The City also recently utilized TAZ projections for development of the 2009 Master Sewer Plan. Thus, for consistency with other planning efforts and because TAZ projections have historically been the most representative growth in the Tallahassee area, the population and water demand estimates in this Water Master Plan Update are based upon TAZ projections.

The urban service area (USA) is intended to provide for growth and development within the planning horizon of the Comprehensive Plan (20 years). Development within the USA is characterized by an urban level of government services such as roads, mass transit, stormwater, water, sewer, solid waste and parks. There are 692 TAZs in the urban service area (USA). A summary of the TAZ-based population projections for growth inside the USA is provided in Table ES-1.

Executive Summary

**Table ES-1:
 Summary of TAZ-Based Population Projections**

Year	Estimated USA Population
2003	225,960
2005	233,430
2008	244,634
2010	252,103
2015	270,177
2020	285,548
2025	300,320
2030	315,092

Source: City of Tallahassee, Master Sewer Plan Phase 2 Population and Wastewater Flow Projection, Hatch Mott MacDonald (2009).

Future Water Demand

The Tallahassee-Leon County Planning Department estimates an additional 22,637 habitable units (single-family, multi-family, and other residential units) in known developments in the USA by the year 2030. The department utilizes a factor of 2.51 persons per unit for planning purposes. Therefore, an estimate of the persons associated with the 22,637 habitable units can be calculated by multiplying the number of units by 2.51 persons per unit for a total of 56,819 persons. Subtracting these persons from the total TAZ projected population growth of approximately 62,989 people results in approximately 6,170 additional people located in the USA, but not within one of the planned developments.

Future water demand was projected based on the following:

1. Average day demand of 100 gallons per capita per day (gpcd) to determine future annual average day demands and 160 gpcd to determine future maximum day demands within planned development in the Tallahassee-Leon County planning area (56,819 persons). This will be added to the existing demands so as not to diminish current non-residential demands. This assumes the majority of future growth in these areas is residential in nature.
2. Future maximum day demand outside known future development (6,170 persons), but within the USA, will be based on 150 gpcd due to the location of the demand.

Executive Summary

A summary of future demands for the period of 2010-2030 is provided in Table ES-2.

**Table ES-2:
 Projected Future Water Demands (2010-2030)**

YEAR	Increase in Population per TAZ (inside the USA) ¹	DEMAND (MGD)			
		Actual AAD	TAZ AAD	Adjusted AAD	Adjusted MDD ²
2010	0	26.63	39.58	33.10	49.65
2015	18,674	28.50	41.54	34.97	52.46
2020	14,771	29.98	43.09	36.46	54.68
2025	14,772	31.46	44.64	37.94	56.90
2030	14,772	32.90	46.19	39.37	59.06
TOTAL	62,989				

¹ The 2010 Actual projection is based on the 2008 consumption data. The 2010 TAZ projection is based on the TAZ population projection times 157 gpcd. The 2010 Adjusted projection is based on the 10 year maximum consumption.

² The Adjusted max day demand is calculated by multiplying the Adjusted AAD by a factor of 1.5

The City's existing consumptive use permit (CUP) establishes the following permitted capacities:

1. Combined average annual withdrawal of 33,700,000 gallons per day.
2. Maximum combined withdrawal of 59,310,000 gallons during a single day.
3. Combined monthly withdrawal of 1,415,400,000 gallons.

The use of TAZ-based demand projections as a basis for future CUP projections results in AAD and maximum day demand projections that are unrealistically high due to the inclusion of Talquin customers and currently unserved areas. Conversely, the use of the 2008 actual AAD as a basis for future CUP projections, likely results in projections that are unrealistically low. Therefore an adjusted AAD needs to be selected so that it is more in line with the observed historic values. The "Adjusted AAD" is then used as the base demand and then increases demand incrementally in proportion to the TAZ projections. The base adjusted demand (33.1 MGD) is slightly less than the current permitted average annual daily withdrawal. Based on the projections in Table ES-2, the projected 2015 AAD of 34.97 is larger than the permitted annual average withdrawal. However, the projected 2015 maximum day demand of 52.46 MGD, the AAD multiplied by a factor of 1.5, is less than the permitted maximum day withdrawal. The adjusted AAD projections can be used by the city as the basis for the CUP renewal. At a minimum, it likely will be necessary to modify the CUP annual average day capacities in the near future.

Executive Summary**Distribution Hydraulic Modeling**

For the purposes of developing the Water Master Plan Update, a hydraulic model was created in InfoWater, version 7.0 as requested by city staff. The City's geographic information system (GIS), including improvements completed as a part of this project, was used as the basis for the model development.

There are no strict guidelines for performance of calibration in terms of goodness-of-fit between modeled and measured data. The level of calibration required generally depends on the specific system being modeled and the intended use of the model. The calibration results for the Tallahassee model fall within the suggested goodness-of-fit ranges. The results at each of the storage tanks were very good, with predicted tank levels falling within the standard of ± 6 feet. The majority of final modeled flows were within 2% of the measured values.

The calibration process provided many insights into the operation of the Tallahassee distribution system. Overall, the calibration resulted in a model that will effectively serve to address the goals of the Water Master Plan, and enable the City to effectively evaluate distribution system operation and improvements in the future.

Future Water Supply Alternatives

Projected future water demand will result in the need for improvements to the water system. Specifically, an additional groundwater well will be required in the northeast quadrant of the system in the vicinity of existing Tank 7, and a new or larger tank with either significant changes to the well operational strategies for Wells 23 and 26, an additional groundwater well or upgraded piping will be required in the northwest quadrant in the vicinity of Tank 5. More detail about well operations is provided in Section 2.

Though productivity will vary locally depending on the site-specific geology encountered, a new well in the southeast quadrant is expected to have more than adequate capacity and favorable water quality similar to other existing wells in the area. Land for a new well site can be reserved prior to construction of the development.

The northwest quadrant is located at the western edge of the region of high groundwater availability. Although existing well capacities in the area are sufficient, the City has observed poor water quality in this area, particularly with respect to hydrogen sulfide, iron, and manganese. These observations are consistent with regional studies that indicate a general decline in water quality to the west of the City due to decreased aquifer recharge and permeability. Thus, a new well in this area may require some level of treatment.

Executive Summary**Distribution Expansion Alternatives**

The City's existing infrastructure is largely adequate to meet future water supply needs. The City has a highly looped, extensive water supply grid, and as a result there are very few identifiable bottlenecks in the system that would prevent the City from meeting future water demands. Based on a detailed review of the system and projected water demands from 2010 to 2030, the following improvements are recommended:

- Installation of a 2,500 gpm water supply well (Well 35) to supply water the Southwood DRI
- Installation of a 2,500 gpm water supply well (Well 32) as a redundant well to Well 25.
- Complete water main replacement project near Interstate 10 and State Highway 319/County Road 148B/Thomasville Road (in construction).
- Prior to 2020, install a new 500,000 gallon or larger elevated storage tank in the northwest quadrant of the system, or replace the existing tank with a 1,000,000 gallon or larger tank.
- Prior to 2020, install a new 1,500 gpm water supply well in the vicinity of the northeastern portion of the City's service area, i.e. the western portion of the Welaunee development.
- Prior to 2020, modify controls at Well 23 and 26 and/or complete one of the following:
 - Add greensand treatment at Well 23
 - Add a new well that includes greensand treatment in the northwest quadrant.
 - Replace 3.5 miles of existing 6-, 8-, and 10-inch piping running east to west along Mahan and Call, on either side of downtown with 12-inch mains.
- Installation of 500 ft of 6-inch pipe from Pottsdamer Road into Pennell Circle to aid with fire flow pressure.
- Installation of 1.5 miles of 8-inch pipe to loop the Highway 90 West fire flow issue. The loop will go south on Barineau Rd from the existing pipe in Highway 90 and east on Highway 20 to connect to the existing pipe.
- A parallel pipe to the Woodville pipe consisting of approximately 18,000 ft (3.5 miles) of 10 to 12-inch pipe, and would require an additional PRV on the pipe to reduce the pressures to the southern portion of the system.
- A parallel pipe to serve Chason Woods. The pipe would be approximately 29,000 ft (5.5 miles). Due to the uncertainty of the Chason Woods development this project has not been included in the Capital Improvement Plan.

Executive Summary

Downtown Infrastructure Replacement

Additional investigative work will assist in prioritizing water mains in the downtown area for replacement or rehabilitation, and help to ensure water supply and fire flows to the downtown area. Short of that investigative work, the following are recommended:

- **Gate Valves** - Exercise gate valves to find which gate valves are defective. Remove and replace defective gate valves prior to water main replacement or rehabilitation if the gate valve is required to isolate the water main. Otherwise remove and replace gate valve during water main replacement and rehabilitation activities.
- **6-inch Water Mains** - Remove and replace 6-inch water mains (2 and 4-inch water mains if distribution lines or hydrant lines) with 8-inch diameter pipe.
- **10-inch and 14-inch Water Mains** - Replace 10-inch and 14-inch water mains with 12-inch and 16-inch diameter pipe when these pipes need replacing.
- **Larger Diameter Water Mains** - Investigate the larger diameter water mains for corrosion by testing externally or internally. Establish a capital improvement program to replace or rehabilitate the larger diameter pipelines according to the remaining life expectancy.

It is recommended that the first phases of the project include the replacement of 4-inch (if necessary) and the 6-inch water mains with 8-inch diameter pipelines until completion. Upon completion of this phase, the larger diameter pipelines starting with 8-inch is to be addressed for rehabilitation or replacement.

Capital Improvements

Table ES-3 provides a summary of the capital improvement recommendations resulting from these master planning efforts. Obviously, these improvements do not include ongoing water main replacement and other City maintenance programs. The information contained in the table includes only those operational and capacity improvements necessary to meet the water supply needs of future customers and other improvements included in this report, such as the cost of the downtown infrastructure improvements.

1. Introduction

1.1. Overview

The City of Tallahassee selected the team of Malcolm Pirnie, SE Consulting, and Diversified Drafting and Design (3DS) to update the City's Water Master Plan. The purpose of the Water Master Plan Update was to identify water supply and system improvements necessary to meet projected water demands through the year 2030. The project consisted of the following main tasks:

1. Geographic information system (GIS) gap analysis and improvements to improve GIS and water distribution model connectivity and assure the water model was reflective of the physical distribution system as contained in the GIS.
2. Creation and calibration of an "all-pipes" water distribution system model.
3. Projection of future water demands through the year 2030.
4. Identification of deficiencies in the existing water distribution system and improvements to correct those issues.
5. Identification of distribution system improvements necessary to meet future demands.
6. Evaluation of the adequacy of the existing groundwater supply capacity and recommendations for additional supply capacity to meet future demands.
7. Cursory evaluation of the City's reuse and conservation efforts and a discussion of the impacts to water demand.
8. Development of a downtown area infrastructure replacement plan.
9. Prioritization of recommended improvements and preparation of a 20-year capital improvements plan (CIP) to be used by the City as a road map for future improvements.

The majority of the improvements identified in this Water Master Plan Update are driven by future growth, and as such the timing of those improvements is ultimately driven by when that growth occurs. The CIP presented is intended to serve as a budgeting tool. The City will need to monitor growth and may need to adjust the CIP schedule and timing of certain projects as growth occurs. For example, growth in one development

may occur more quickly than projected, and as such, certain improvements may need to happen sooner than indicated. On the other hand, growth may not return as quickly as projected, meaning certain projects can be delayed.

1.2. Purpose

The City of Tallahassee has experienced significant and continuous growth over the past 30 or more years. Since 1970, the population has grown from 103,000 to approximately 250,000 at a rate of approximately 45,000 people every 10 years. Being able to meet the demands associated with such growth requires vigilance on behalf of the City. This document identifies necessary improvements and other recommendations for the City's water system to continue successful operation and accommodate future growth.

In the years leading up to this project, Florida and the City of Tallahassee were experiencing record growth. However, the recent downturn in the economy has caused that growth to slow down and, in some cases, come to a complete stop. While this Water Master Plan Update has tried to account for the downturn in growth, the future is still uncertain. As such, this document will function as a guiding document in many ways.

There are a significant number of developments of regional impact (DRIs) and other planned communities in the Tallahassee water service area. This document makes some assumptions regarding the timing of that growth. However, it is likely that some developments may take longer to reach buildout than anticipated, others may develop more quickly, and some may never materialize. What is important is that this document identifies the water supply and distribution system improvements necessary to accommodate that growth. The City will need to monitor actual development and utilize the hydraulic model developed as a part of this project to determine when certain improvements actually need to be made. As such the CIP presented in this document is intended to be used by the Water Utility and the City's planning department for budgeting purposes, but the actual projects scheduled and constructed in a given year are likely to change.

1.3. Document Organization

This document includes an Executive Summary, 12 chapters, a number of appendices, and is organized as follows:

Executive Summary: Provides a summary of the evaluation and recommendations discussed in this document.

Chapter 1: Presents an introduction to the project and purpose of the Water Master Plan Update.

Chapters 2 – 10: Provides detailed discussions, evaluations, and recommendations for each of the main scope areas, including GIS, water demand projections, hydraulic model development and calibration, future supply alternatives, water reuse and conservation, and downtown area infrastructure replacement.

Chapter 11: Includes a 20-year CIP for the recommended improvements and infrastructure replacement.

Chapter 12: Summarizes the analyses and recommendations presented throughout the document.

Chapter 13: Provides references.

Appendices: Include additional details and other helpful information relative to the discussion, evaluation, and recommendations contained in the master plan.

5. Projected Water Demands

5.1. Overview

The purpose of this section is to provide water demand projections developed for the Water Master Plan Update and summarize the data sources utilized developing those projections. The planning horizon for these projections and the Water Master Plan Update is through the year 2030.

Existing City-County planning documents (Comprehensive Plan, EAR, etc.) and population projections for Leon County from a variety of sources including U.S. Census Bureau data, City and County Traffic Analysis Zone (TAZ) data, University of Florida's Bureau of Economic and Business Research (BEBR) and data provided by City-County Planning staff were reviewed as part of these efforts. Based on this data, population and water demand projections have been provided for the years 2008 (baseline or existing demand), 2010, 2015, 2020, 2025, and 2030.

The Tallahassee-Leon County Planning Department (TLCPD) maintains a considerable amount of data related to population projections for greater Leon County. The focus of this section is the population projections for the urban service area (USA). The USA was adopted as part of the Comprehensive Plan in 1990. Leon County consists of approximately 667 square miles, of which approximately 161 square miles are within the USA. Almost all of the City's 104 square miles are located within the USA. The USA is intended to provide for growth and development within the planning horizon of the Comprehensive Plan (20 years). Development within the USA is characterized by an urban level of government services such as roads, mass transit, stormwater, water, sewer, solid waste and parks.

The USA was established for a number of reasons revolving around managed and environmentally acceptable growth. Specifically, the reasons include:

1. Control premature development of rural lands;
2. Promote compact development;
3. Encourage multi-modal transportation options;
4. Encourage affordable living; and
5. Promote the economic and efficient provision of urban services.

Section 5
Projected Water Demands

Historically, the USA has remained virtually unchanged. The 2007 Evaluation and Appraisal Report (EAR) reflected this and confirmed that the USA contains sufficient developable land to accommodate approximately 90 percent of the development that has occurred since the Comprehensive Plan's adoption.

City-County Planning staff does not anticipate any substantial expansion of the existing USA limits through the year 2020.

Beyond 2020 staff anticipates additional population growth within the USA and in limited areas in which the USA would be expanded. The urban fringe land use category and location of planned development provide direction as to areas in which these long term population and water demand increases will occur.

5.2. Population Projection Data

5.2.1. Transportation Analysis Zone (TAZ) Data

In 2004, a database was developed by the Tallahassee-Leon County Planning Department based upon transportation analysis zones. These zones vary in size based upon the density or nature of development. In a predominantly urban area, the TAZ may be as small as a city block. In rural areas, a TAZ may be as large as 10 square miles. Typically the zones try to encompass homogeneous urban activities, i.e. residential, commercial, or industrial. Zones are designed to be relatively homogeneous traffic generators and are sized so that only 10-15 percent of the trips are intra-zonal. The TAZ data are developed based on historic development patterns, permitting activity, zoning and future land use categories, and anticipated new development.

Leon County contains 760 TAZs. The total number of TAZs in the USA is 692. The population estimated and projected for each zone formed the basis for the population projections developed by Hatch Mott MacDonald in 2009 as a part of the City of Tallahassee Master Sewer Plan and attached in Appendix A. That report analyzed each zone within the USA in the context of existing and planned development in that zone. A summary of the TAZ-based population projections for growth inside the USA is provided in Table 5-1.

Section 5
 Projected Water Demands

Table 5-1:
 Summary of TAZ-Based Population Projections

Year	Estimated USA Population
2003	225,960
2005	233,430
2008	244,634
2010	252,103
2015	270,177
2020	285,548
2025	300,320
2030	315,092

Source: City of Tallahassee, Master Sewer Plan Phase 2 Population and Wastewater Flow Projection, Hatch Mott MacDonald (2009).

It should be noted that the basis for TAZ data produced in 2008-2009 is the 2004 BEBR data. The BEBR data were broken down into the TAZ framework and specifically updated as development occurred or was anticipated. The most recent 2009 BEBR data are found in Appendix B. The trends reflected in BEBR data over the past 5 years should be considered.

The TAZ-based population projections are currently being used as the basis for capacity projections in connection with wastewater flow projections by the City of Tallahassee. Similarly, these population projections appear to be the most accurate when compared to the other methods discussed herein.

5.2.2. Bureau of Economic and Business Research Data

The University of Florida Bureau of Economic and Business Research provides annual population estimates and projections for the state of Florida and its local jurisdictions. BEBR uses the housing unit method, which encompasses a wide variety of data sources including occupied housing units, number of active electric utility meters, building permits, and the estimated average population per household. Historically, BEBR population estimates have tended to overestimate population growth in a growing housing market. The speculative boom during the 2002-2006 time frame resulted in a 2006 spike in the BEBR population estimates for Tallahassee and Leon County during the applicable planning period. Since 2006, the estimates have dropped significantly. The 2009 BEBR population estimates and 2010-2030 projections are attached in Appendix B. A comparison of the BEBR 2010-2030 projections during years 2004-2008 compiled by Tallahassee-Leon County Planning Department which shows the recent corrections, is provided in Table 5-2.

Section 5
 Projected Water Demands

**Table 5-2:
 Comparison of Recent BEBR 2030 Population Projections (2004-2008)**

YEAR	BEBR Population Projection				
	2004	2005	2006	2007	2008
2010	282,300	288,400	296,500	291,700	279,200
2020	316,800	326,100	342,200	331,600	312,400
2030	346,700	359,000	378,100	363,700	340,800

Source: University of Florida Bureau of Economic and Business Research (2004-2008)

Note: These projections produced by BEBR are for Leon County, not just the USA. They are informational to show the variation in projections between 2004-2008.

As discussed above, it should be noted that the 2004 BEBR data provided the base line data for the projections contained in the TAZ-based population projections for the USA. These projections were on the front end of the significant increase in population estimates. The 2009 projection for the year 2030 is 327,300 compared with the 2004 projection of 346,700 - a difference of 19,400, which is statistically relevant. In short, the TAZ-based numbers may tend toward the higher side on population projections due to their foundation in 2004 BEBR projections which were prior to the recent corrections.

5.2.3. Census Tract Data

A census tract is a geographic region defined for the purpose of taking the census. In most circumstances, these coincide with the boundaries of cities and towns in urban areas. In unincorporated areas, they can be arbitrary except for coinciding with political lines. Census tracts are subdivided into block groups or census blocks. Leon County contains 48 total census tracts. Attached in Appendix C is a map reflecting population growth by census tract between 2000-2008. Table 5-3 summarizes population growth and projections based on census tract data both within and outside the USA.

Tallahassee-Leon County Planning Department staff produced the following excerpted population growth estimates on the following page by census tract and produced the map attached in Appendix C. This effort brought special attention to the fastest growing census tracts between 2000 and 2007. These observations provided in the staff report are summarized below. The observations as to nature and extent of growth provide insight into what can be expected in the areas of the USA during the planning period for this project (2030).

Section 5
 Projected Water Demands

Population Growth Estimates by Census Tract 2000 – 2008

The population of Leon County increased 14.8% between April 1, 2000 and April 1, 2008 according to Bureau of Economic & Business Research estimates, growing from 239,452 to 274,892 (a net increase of 35,440 residents). To estimate the population growth by census tract, the net population increase was distributed across Leon County's 48 census tracts utilizing TLCPD's population estimation methodology described herein.

Total Growth in Population

By total growth, it is estimated fourteen census tracts added more than 1,000 net new residents between 2000 and 2008. Combined, these fourteen census tracts accounted for an estimated 65% of the net new residents during the period. The largest estimated numerical increase in net new residents has been in census tract 26.01 (80% of the growth coming from single-family attached and detached units built within Southwood).

Percentage Growth in Population

By percentage growth, Census Tract 26.01 doubled in population between 2000 and 2008, fueled by Southwood. Eleven other census tracts grew by more than 20% over the period: census tracts 25.04, 24.07 and 23.04 expanded with a blend of new single-family and multi-family units, census tracts 24.05, 25.05, 25.06 and 18.01 expanded almost exclusively by new single-family units while census tracts 18.02, 16.01, 21.02, and 20.02 all exhibited strong growth due almost entirely to new multi-family units.

Census Tract	Estimated Numerical Population Growth 2000-2008	Census Tract	Estimated Percentage Population Growth 2000-2008
26.01	2,986	26.01	99.6%
25.04	2,524	18.02	36.5%
24.05	2,321	25.04	33.6%
24.07	2,196	23.04	32.1%
21.02	1,928	24.07	30.4%
25.02	1,696	16.01	26.2%
25.06	1,502	21.02	25.5%
20.02	1,307	25.05	23.2%
18.02	1,264	24.05	23.0%
22.03	1,198	25.06	22.5%

Population Estimation Methodology

The Tallahassee-Leon County Planning Department's population estimates by census tract are based on factual information available regarding population growth since the decennial Census in April 2000. All certificates of occupancy issued for new units by type (single-family detached, townhouse, multi-family, etc.) and by Census Tract are added to the total unit count in the Census 2000 figures (which were measured in April of 2000) to reach a new total unit count for each Leon County census tract.

The relationship between housing units and population is set by the average persons-per-household for both owner and renter occupied units and the occupancy rate of housing units by housing unit type by census tract from Census 2000. Attempting to estimate changes in these figures in any census tract is at best conjecture. No reliable annual data exists on changes in persons-per household and occupancy rates. It can be safely assumed, and it is in this estimate methodology, that the overall relationship between housing units and population as measured by aggregate persons-per-household and occupancy varies only slightly over time, and should be very close in 2008 to that in April of 2000.

Sources:

- * 2000 U.S. Census Bureau
- * 2008 University of Florida
- * 2000-2008 Census Tract Estimates, Planning Department
- * Tallahassee-Leon County Planning Department

February 2009



City of Tallahassee
 Water Master Plan
 5258002



Section 5
 Projected Water Demands

**Table 5-3:
 Comparison of Recent Census-Based Population Projections**

YEAR	POPULATION INSIDE USA	PERCENT OF POPULATION INSIDE USA	TOTAL POPULATION
1970 CENSUS	96,861	94.0%	103,047
1980 CENSUS	135,047	90.8%	148,655
1990 CENSUS	170,527	88.6%	192,493
2000 CENSUS	208,432	87.0%	239,452
2015 PROJECTION	252,713	87.9%	287,500
2030 PROJECTION	288,024	88.0%	327,300

Source: TLCPD, 1970-2000, Tallahassee-Leon County Planning Department estimates based on U.S. Bureau of the Census data; 2003-2030, Capital region Transportation Planning Agency, Long Range Transportation Plan

Note: This provides a comparison of the trend in census population estimates to BEBR data. The population projections for the years 2015 and 2030 were modified to match the most recent 2009 BEBR population projections i.e. the BEBR total population projections were used for years 2015 and 2030, % of population inside the USA has been determined by TLCPD.

An additional illustrative resource is the map attached in Appendix C depicting the existing distribution system overlaid on the Census Tract map for Leon County.

5.3. Population Projection Methodology

The methodology used by the Tallahassee-Leon County Planning Department to formulate long-range population projections is set forth in a 2007 Tallahassee-Leon County Planning Department memorandum. In part, it explains that long range projections involve extrapolations (curve fittings) performed using U.S. Census Bureau population data and fit to linear, geometric, parabolic, modified exponential, Gompertz, and logistic curves. The extrapolation technique is a simplistic model that uses past gross population trends to project future population levels.

The base periods studied by Tallahassee-Leon County Planning Department were 1950-2000 and 1980-2000. Using the six curves and two different base periods, twelve possible models were generated. The fit of the models were evaluated using three quantitative statistical forms of evaluation. The base period 1980-2000 was chosen even though it includes only three points of observed data (census data), due to the fact that the curves resulted in projections much more similar in comparison with the BEBR projections through the year 2030 than when using the 1950-2000 base period. To decide which curve to use to project population, the following factors were considered: 1) the curve fit statistics; 2) how well the curve fit when visually compared to other plots; and 3) how realistic and close the projections were to the 2010, 2020 and 2030 BEBR projections.

Section 5
Projected Water Demands

The Gompertz curve with a base period of 1980-2000 was the model used for the population projections. The population estimates calculated by this model match the historical census data and the BEBR projections very well. Staff determined that the Gompertz curve predicts similar increases to those exhibited in the Census historical population data for Leon County and the projections produced by BEBR through 2030. (A Gompertz curve or function is a type of mathematical model characterized by the slowest rates of growth at the beginning and end of a time period. It assumes a confined area for growth to occur within and a limitation on resources within that area.) Staff notes that extreme caution should be exercised when using any long-range population projections.

5.3.1. Recommended Population Projection Method

The purpose of this section is to discuss the relative strengths and weaknesses of the various population projection methods. This section also considers specific current and anticipated areas of growth within the USA and outside the USA. Future water demand projections are presented based on the analysis of the various population projection methods and anticipated growth within the USA.

It should be noted that the City provides potable water outside the limits of the USA. However, City staff has indicated that water users located outside the USA and into neighboring Wakulla County account for only 1-2 percent of the total water used by the system. The demand from areas outside the USA is included in total flow numbers reported by the Northwest Florida Water Management District.

Historically, Tallahassee-Leon County Planning Department staff and consultants have used three sources of population data - TAZ, BEBR, and the Census - to develop population estimates and projections. In many cases, these data are blended in an effort to accurately model actual conditions. Analysis of the data, modeling, and discussions with planning staff resulted in the following observations:

- Census data are the backbone of the population projections.
- The current TAZ data utilize the 2000 Census information and 2004 BEBR estimate as its baseline.
- The TAZ data are regularly updated to reflect actual development and development in the planning stage. Although subjective, these updates reflect planning staff's judgment as to the realization of certain development.
- The BEBR data reflect a sharp increase in projected population during the 2004-2006 time frame and similarly sharp decrease from 2006-2009. The BEBR population estimates for 2030 peaked in 2006 at 378,100. The BEBR population projection for 2030 in 2009 is 327,300. A difference of 50,800 people.

Section 5
 Projected Water Demands

- Since 1970 the population in Leon County as reflected by Census Data has increased at a noticeably steady rate (Table 5-4). Note that this includes population outside the USA.
- A comparison of the most recent (2009) TAZ (Table 5-5) and BEBR (Table 5-6) projections in reflects similar population growth trends to Census data. Again, note these tables include population outside the USA.

Table 5-4:
 10-Year Population Growth Rates Using U.S. Census Data

CENSUS YEARS	YEAR 1	YEAR 10	POPULATION INCREASE
1970-1980	103,047	148,655	45,608
1980-1990	148,655	192,493	43,838
1990-2000	192,493	239,452	46,959

Source: U.S. Census Bureau (2000)

Table 5-5:
 Projected 10-Year Population Growth Rates Based on TAZ Data

YEARS	TAZ YEAR 1	TAZ YEAR 10	POPULATION INCREASE
2000-2010	239,452*	288,233	48,781
2010-2020	288,233	326,198	37,965
2020-2030	326,198	360,390	34,192

Source: City of Tallahassee, Master Sewer Plan Phase 2
 Population and Wastewater Flow Projection, Hatch Mott MacDonald (2009)
 *Note that this is the 2000 Census population.

Table 5-6:
 Projected 10-Year Population Growth Rates Based on BEBR Data

YEARS	BEBR YEAR 1	BEBR YEAR 10	POPULATION INCREASE
2000-2010	239,452*	275,800	36,348
2010-2020	275,800	301,500	25,700
2020-2030	301,500	327,300	25,800

Source: University of Florida, Bureau of Economic and Business Research (2009)
 *Note that this is the 2000 Census population.

Based on the qualitative analysis presented in Tables 5-4 through 5-6, the most recent TAZ projections contained in the 2009 City of Tallahassee Sewer Master Plan more closely track the historic trend in census data than the 2009 BEBR projections. In addition, the TAZ projections appear to be more stable than the BEBR data which has

Section 5
 Projected Water Demands

undergone a recent surge and is currently correcting. Consequently, the 2009 TAZ-based population projections are recommended for purposes of projecting water demand.

5.4. Planned Development in the Urban Service Area

The Tallahassee-Leon County Planning Department maintains a list of major planned and proposed developments inside the USA. A map prepared by Tallahassee-Leon County Planning Department showing the location of these developments is attached as Appendix D. A breakdown of the units anticipated from these developments and their associated future maximum day (based on 160 gpcd and 2.51 persons per unit or 401 gpd per unit) and average day (based on 100 gpcd or 251 gpd per unit) is provided in Table 5-7.

Table 5-7:
**Summary of Major Planned Developments in the USA
 and Associated Future Water Demand***

NAME OF DEVELOPMENT	NUMBER OF UNITS	Future Annual Average Day (MGD)	Future Maximum Day (MGD)
Southwood	3,166 (remaining in DRI)	0.79	1.27
Fallschase	1,514	0.38	0.61
Southside	2,800	0.70	1.12
Welaunee	4,819 (Toe and Heel only)	1.21	1.93
Pinnacle	400	0.10	0.16
Summerfield	447	0.11	0.18
Hopkins North	480	0.12	0.19
Collin English	2,000 (est.) (9,350 based on SESP)	0.50	0.80
TOTAL	15,626	3.92	6.27

Source: TLCPD Planning Department Report on Major Planned Developments in the TLCPD Planning Area;

* Note: No units have been attributed to Welaunee North inside the USA (approx. 1,900 acres), or Welaunee outside the USA inside the City (approx. 2,900 acres).

The Tallahassee-Leon County Planning Department maintains a database of other major projects (over 40 units) planned inside the USA. These amount to an additional 7,011 (approximately) units inside the USA contained in developments that are ongoing or proposed. A breakdown of these units is provided in and their associated future average and maximum day water demand is provided in Table 5-8 (again based on 2.51 persons per unit, 100 gpcd average day demand, and 160 gpcd maximum day demands).

Section 5
 Projected Water Demands

Table 5-8:
**Additional Planned Development in the TLCPD Planning Area and
 Associated Demand**

	SF Detached	Townhouse	Condo	Multi-Family	Total Units	Future Annual Average Day (MGD)	Future Maximum Day (MGD)
Proposed		56		730	786	0.20	0.32
Under review	348	96		312	756	0.19	0.30
Approved (in subs/projects not yet started)	195	554	298	1,241	2,288	0.57	0.92
Approved (in subs/projects under construction)	924	489	346		1,759	0.44	0.71
Clearing Site	447	120			567	0.14	0.23
Under Construction	96	178	296	285	855	0.21	0.34
Total by Type	2,010	1,493	940	2,568	7,011	1.76	2.81

Source: TLCPD Planning Department Report on Additional Major Projects (over 40 units) Planned in the TLCPD Planning Area.

A comprehensive map showing the location of major ongoing and proposed projects is attached in Appendix D. The map provides a good visual of the planned growth and allows one to easily identify areas of concentrated growth.

By combining the totals in Tables 5-7 and 5-8, the Tallahassee-Leon County Planning Department estimates that the combined number of units coming to the market by 2030 based on existing and proposed projects is 22,637. This translates to an increased annual average day potable water demand of 5.68 MGD and maximum day demand of 9.08 MGD through the year 2030.

An estimate of the persons associated with the 22,637 habitable units can be calculated by multiplying the number of units by 2.51 persons per unit for a total of 56,819 persons. Subtracting these persons from the total TAZ projected population growth of approximately 62,989 people results in approximately 6,170 additional people located in the USA, but not within one of the planned developments. The future maximum day demand for these persons is 0.93 MGD (based on 150 gpcd). The location of these additional persons is unknown at this time. It is anticipated that a portion of these units will come from Welaunee North and Welaunee outside the City. Projects of fewer than 40 units will satisfy some of the anticipated demand. The remainder of the additional demand may be located within City limits in developments of fewer than 40 units.

Section 5
 Projected Water Demands

Two sets of demand projections are shown in Table 5-9; "Actual" AAD using the 2008 billing data as a base, and TAZ AAD based on TAZ population projections within the USA.

Table 5-9:
 Comparison of Actual and TAZ Based Demands (2010-2030)

YEAR	Increase in Population (inside the USA) ¹	DEMAND (MGD)		
		Incremental Demand Increase	Actual AAD ²	TAZ AAD ³
			Cumulative	Cumulative
2010	0	0	26.63	39.58
2015	18,674	1.87	28.50	41.54
2020	14,771	1.48	29.98	43.09
2025	14,772	1.48	31.46	44.64
2030	14,772	1.44	32.90	46.19
TOTAL	62,989	6.27		

1. Incremental population increase within the USA based on TAZ population projections in Table 5-1.
2. Base Actual AAD is based on 2008 billing data.
3. Base TAZ AAD is based on 2010 TAZ population times 157 gpcd

The numbers in Table 5-9 do not account for system losses and abnormal usage, which staff have indicated to be in the range of 10-15 percent. Also note that the TAZ 2010 demand projection of 39.58 MGD is substantially higher than the 26.63 MGD based on actual billing data. This is due to the TAZ projection including the population for all of the residents within the USA, including the residents supplied by private wells and by Talquin. The actual AAD was calculated using the 2008 demand as a base and then adding the incremental increases in population provided by the TAZ projections (See Section 8). The Actual AAD projections were also used to construct the hydraulic model.

Both demand projections above differ from those of the NFWWMD (Table 4-2) because the NFWWMD projections rely on population projections developed when growth was occurring more rapidly and have not been corrected for the recent downturn. As a result the NFWWMD projections are on the high side in the years prior to 2030, whereas the demand projections included in this report are based on more recent population estimates which account for the recent downturn in growth.

Figure 5-1 and Table 5-10 present historic and projected AAD by a variety of methods. Of significance are two observations. First, the 2008 actual AAD was the lowest consumption in more than 10 years; however it was the most recent data available for this Master Plan. It is likely that a more representative AAD would be higher than the 2008 data. Second, the 2030 AAD projections by the NFWWMD and using TAZ are very similar – approximately 44 MGD and 46 MGD, respectively.

Section 5
 Projected Water Demands

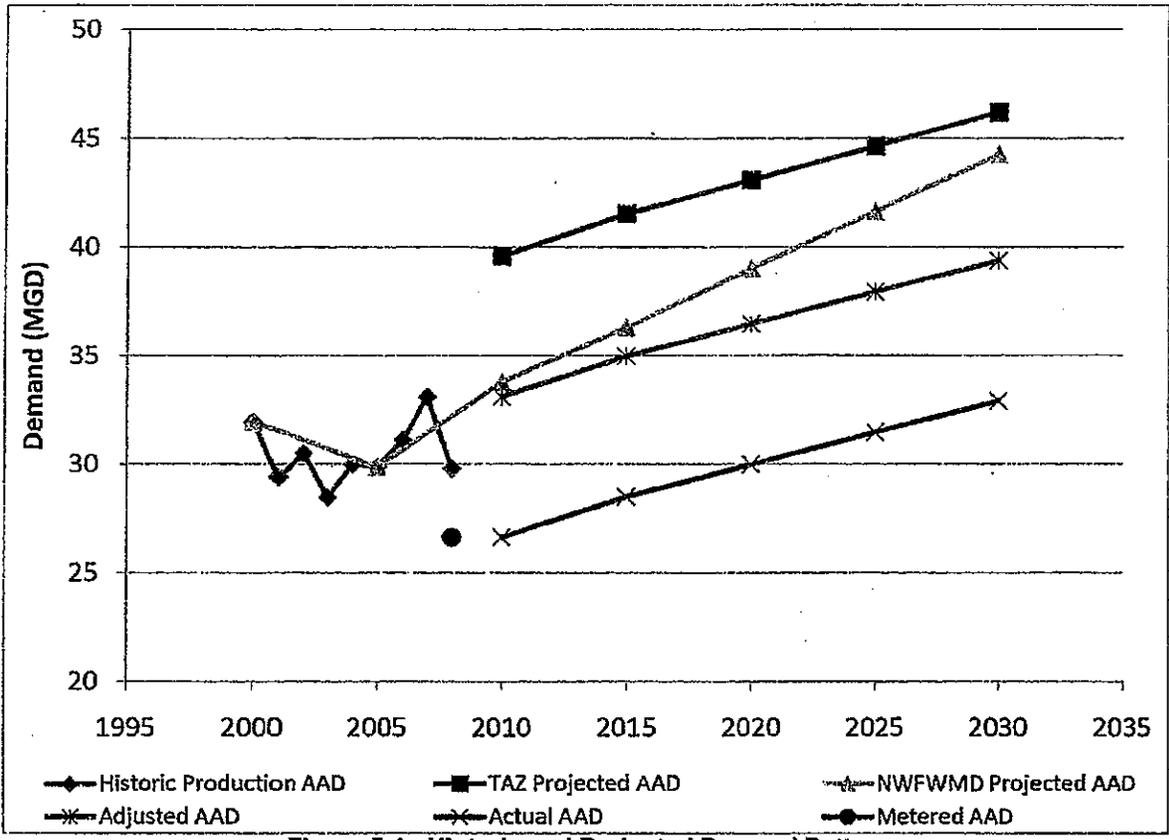


Figure 5-1: Historic and Projected Demand Patterns

Table 5-10:
 Comparison of Actual and TAZ Based Demands (2010-2030)

YEAR	DEMAND PROJECTIONS (MGD)			
	Actual AAD	TAZ AAD	Adjusted AAD	Adjusted Max Day ²
2010 ¹	26.63	39.58	33.10	49.65
2015	28.50	41.54	34.97	52.46
2020	29.98	43.09	36.46	54.68
2025	31.46	44.64	37.94	56.90
2030	32.90	46.19	39.37	59.06

1. The 2010 Actual projection is based on the 2008 consumption data. The 2010 TAZ projection is based on the TAZ population projection. The 2010 Adjusted projection is based on the 10 year maximum consumption.
2. The Adjusted maximum day demand is calculated by multiplying the Adjusted AAD by a factor of 1.5

Section 5
Projected Water Demands

5.4.1. Consumptive Use Permit

The City's existing Consumptive Use Permit (CUP) was issued on February 23, 2006 and expires on March 1, 2011. The CUP establishes the following permitted capacities:

1. Combined average annual withdrawal of 33,700,000 gallons per day.
2. Maximum combined withdrawal of 59,310,000 gallons during a single day.
3. Combined monthly withdrawal of 1,415,400,000 gallons.

The use of TAZ-based demand projections as a basis for future CUP projections results in AAD and maximum day demand projections that are unrealistically high due to the inclusion of Talquin customers and currently unserved areas. Conversely, the use of the 2008 actual AAD as a basis for future CUP projections, likely results in projections that are unrealistically low. Therefore an adjusted AAD needs to be selected so that it is more in line with the observed historic values. Based on this observation it seems reasonable to use the highest historic annual average demand shown on figure 5-1, which is 33.1 MGD, as the starting point for future CUP projections. The "Adjusted AAD" is then used as the base demand and then increases demand incrementally in proportion to the TAZ projections. The base Adjusted demand (33.1 MGD) is slightly less than the current permitted average annual daily withdrawal. Based on the projections in Table 5-10; the projected 2015 AAD of 34.97 is larger than the permitted annual average withdrawal. However, the projected 2015 maximum day demand of 52.46 MGD, the AAD multiplied by a factor of 1.5, is less than the permitted maximum day withdrawal. The Adjusted AAD projections can be used by the City as the basis for the CUP renewal. At a minimum, it likely will be necessary to modify the CUP annual average day capacities in the near future. A copy of the CUP is provided in Appendix E.

5.4.2. Target Water Service Areas

There are three specific geographic areas, Woodville Community, Centerville Trace and Harbinwoods Subdivisions, called "Target Areas" in the USA. Woodville receives a portion of its water demands from the City, but discharges no wastewater to the City. Centerville receives all of its water demand from the City, but similarly discharges no wastewater. Finally, Harbinwoods neither receives City water, nor discharges wastewater to the City. Per the Comprehensive Plan, the City must plan to provide water to the Target Areas. The Target Areas are included in the population projections of the USA, and thus accounted for in the demand projections.

5.4.3. Anticipated Direction of Planned Development

Over the past 30 years, the northeast quadrant of the City has seen the most growth. This has begun shifting to the Southeast since 2000 due to Southwood and the Southside developments - both developments of regional impact (DRI). The Comprehensive Plan tends to indicate that this trend will continue. The urban fringe land use category is found predominantly in the Southeast quadrant of the County. These are areas designated

Section 5
 Projected Water Demands

for expansion of the USA and future urban style growth. The Northeast is constrained to some extent by current land use designations. A copy of the Future Land Use Map is attached in Appendix F.

Particularly instructive is Appendix D which reflects that the four (4) major projects will continue to drive development in the Southeast quadrant of the USA. These projects are Southside, Southwood, Collin English, and Fallschase (bordering on the southeast quadrant). Together these account for 60.7% of the major planned development growth anticipated to occur in the County.

Another indicator of growth in the southeast quadrant of the City can be observed by the roadway projects planned for each approximate quadrant of the City. The Tallahassee-Leon County Planning Department divides the County into 'Significant Benefit Zones' for purposes of roadway improvement projects. These zones align roughly with the quadrants of the City. A map prepared by Tallahassee-Leon County Planning Department staff describing these projects and delineating the zones is attached as Appendix G. Table 5-11 is a summary of anticipated cost of the planned roadway projects.

Table 5-11:
Anticipated Cost of Roadway Projects by City Quadrant

Significant Benefit Zone	I (NE)	II(SE)	III (SW)	IV (NW)
Total Estimated Cost of Roadway Projects	\$40 million	\$110.5 million	\$55 million	\$49 million

Source: TLCPD, "Significant Benefit Zones" anticipated roadway projects and funding.

The data indicate that over twice as much money will be spent on major roadway improvements in Zone II (the approximate SE zone) of the City than any other. This provides an additional insight as to direction of growth.

11. Conclusions, Recommendations and Capital Improvement Plan

11.1. Conclusions

The majority of the improvements identified in this Water Master Plan Update are driven by future growth, and as such the timing of those improvements is ultimately driven by when that growth occurs. The CIP presented is intended to serve as a budgeting tool. The City will need to monitor growth and may need to adjust the CIP schedule and timing of certain projects as growth occurs. For example, growth in one development may occur more quickly than projected, and as such, certain improvements may need to happen sooner than indicated. On the other hand, growth may not return as quickly as projected, meaning certain projects can be delayed.

For consistency with other planning efforts and because TAZ projections have historically been the most representative growth in the Tallahassee area, the population and water demand estimates in this Water Master Plan Update are based upon TAZ projections. A summary of projected future population and water demands for the period of 2010-2030 is provided in Table 11-1.

**Table 11-1:
 Population and Water Demand Projections (2010-2030)**

YEAR	Increase in Population per TAZ (inside the USA) ¹	DEMAND (MGD)			
		Actual AAD	TAZ AAD	Adjusted AAD	Adjusted MDD ²
2010	0	26.63	39.58	33.10	49.65
2015	18,674	28.50	41.54	34.97	52.46
2020	14,771	29.98	43.09	36.46	54.68
2025	14,772	31.46	44.64	37.94	56.90
2030	14,772	32.90	46.19	39.37	59.06
TOTAL	62,989				

- ¹ The 2010 Actual projection is based on the 2008 consumption data. The 2010 TAZ projection is based on the TAZ population projection * 157 gpcd. The 2010 Adjusted projection is based on the 10 year maximum consumption.
- ² The Adjusted max day demand is calculated by multiplying the Adjusted AAD by a factor of 1.5

Section 11
Conclusions, Recommendations and Capital Improvement Plan

The City's existing consumptive use permit (CUP) establishes the following permitted capacities:

1. Combined average annual withdrawal of 33,700,000 gallons per day
2. Maximum combined withdrawal of 59,310,000 gallons during a single day
3. Combined monthly withdrawal of 1,415,400,000 gallons.

The use of TAZ-based demand projections as a basis for future CUP projections results in AAD and maximum day demand projections that are unrealistically high due to the inclusion of Talquin customers and currently unserved areas. Conversely, the use of the 2008 actual AAD as a basis for future CUP projections, likely results in projections that are unrealistically low. Therefore an adjusted AAD needs to be selected so that it is more in line with the observed historic values. The "Adjusted AAD" is then used as the base demand and then increases demand incrementally in proportion to the TAZ projections. The base adjusted demand (33.1 MGD) is slightly less than the current permitted average annual daily withdrawal. Based on the projections in Table ES-2, the projected 2015 AAD of 34.97 is larger than the permitted annual average withdrawal. However, the projected 2015 maximum day demand of 52.46 MGD, the AAD multiplied by a factor of 1.5, is less than the permitted maximum day withdrawal. The adjusted AAD projections can be used by the city as the basis for the CUP renewal. At a minimum, it likely will be necessary to modify the CUP annual average day capacities in the near future.

There are no strict guidelines for performance of a calibration in terms of goodness-of-fit between modeled and measured data. The calibration results for the Tallahassee model fall within the suggested goodness-of-fit ranges. The results at each of the storage tanks were very good, with predicted tank levels falling within the standard of ± 6 feet. The majority of final modeled flows were within 2% of the measured values.

The calibration process provided many insights into the operation of the Tallahassee distribution system. Overall, the calibration resulted in a model that will effectively serve to address the goals of the Water Master Plan, and enable the City to effectively evaluate distribution system operation and improvements in the future.

11.2. Recommendations

The proposed improvements are shown on Figure 11-1, are numbered and correspond to the CIP project numbers in Table 11-2.

11.2.1. Future Capacity Growth Improvements

Projected future water demand will result in the need for relatively minor improvements to the water system. Based on a detailed review of the system and projected water demands from 2010 to 2030, the following improvements are recommended:

Section 11

Conclusions, Recommendations and Capital Improvement Plan

- Installation of a 2,500 gpm water supply well (Well 35, already planned with Southwood DRI).
- Installation of a 2,500 gpm water supply well (Well 32, redundancy for Well 25).
- Complete water main replacement project near Interstate 10 and County Road 148B/Thomasville Road (in construction).
- Prior to 2020, install a new 500,000 gallon elevated storage tank in the northwest quadrant of the system.
- Prior to 2020, install a new 1,500 gpm water supply well in the eastern portion of the City's service area.
- Prior to 2020, modify controls at Well 23 and 26 and/or complete one of the following:
 - Add greensand treatment at Well 23 (allows wells to operate simultaneously).
 - Add a new well that includes greensand treatment in the northwest quadrant (allows Well 23 and 26 to continue to be rotated).
 - Replace 3.5 miles of existing 6-, 8-, and 10-inch piping running east to west along Mahan and Call, on either side of downtown with 12-inch mains.

11.2.2. Target Areas/Areas of Concern/Fire Flow Improvements

The Areas of Concern and results of the fire flow analysis produced a need for additional relatively minor improvements to the water system. The following improvements are recommended:

- Installation of 500 ft of 6-inch pipe from Pottsdamer Road into Pennell Circle to aid with fire flow pressure.
- Installation of 1.5 miles of 8-inch pipe to loop the Highway 90 West fire flow issue. The loop will go south on Barineau Rd from the existing pipe in Highway 90 and east on Highway 20 to connect to the existing pipe.

11.2.3. Downtown Infrastructure Improvements

Additional investigative work will assist in prioritizing water mains in the downtown area for replacement or rehabilitation, and help to ensure water supply and fire flows to the downtown area. Short of that investigative work, it is recommended that the first phases of the project include the replacement of 2 and 4-inch (if necessary) and the 6-inch water mains with 8-inch diameter pipelines until completion. Upon completion of this phase, the larger diameter pipelines starting with 8-inch is to be addressed for rehabilitation or replacement.

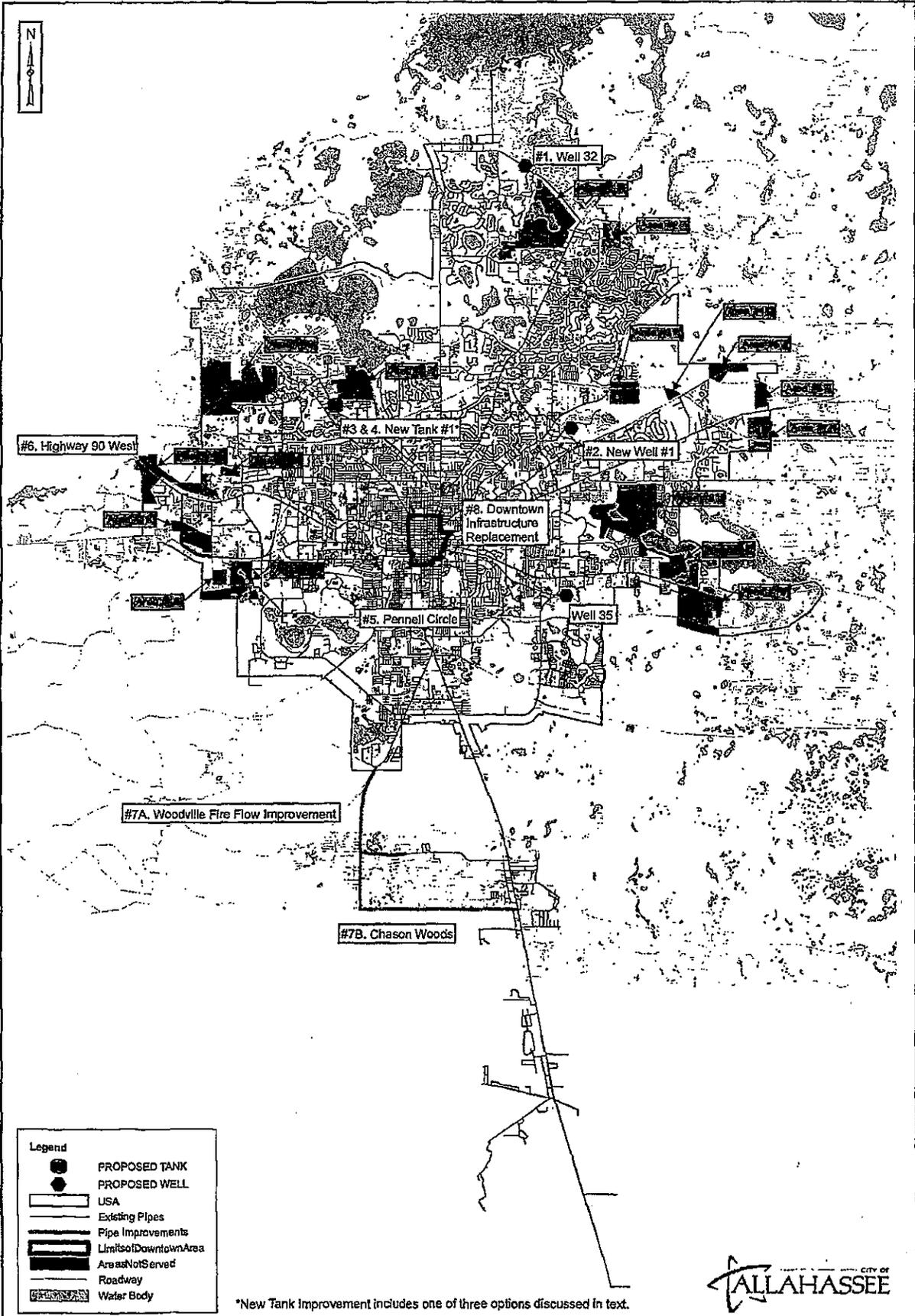
The downtown area infrastructure replacement has, at this time, been scheduled over a 13-year period beginning in 2011 to allow time for inclusion in the City's capital budget (for fiscal year 2011). The City Auditor acknowledged this in the 2009 report that

Conclusions, Recommendations and Capital Improvement Plan

directed the Water Utility to develop “a viable plan for replacing and upgrading the City’s aging downtown water infrastructure.” The Auditor recommended that that plan be followed once it is developed “to the extent funding is available.” Section 10 discusses a number of funding alternatives available to the City to help in keeping that plan on track.

11.3. Capital Improvement Plan

Table 11-2 presents a recommended 20-year capital improvements plan. The plan contains needed capacity and operational improvements during the planning period based on analyses presented in this report. It envisions an investment of more than \$15 million dollars for Downtown Infrastructure replacement. The plan also includes discretionary funding for areas associated with Hwy 90 West improvements and the Welaunee development. Actual funding appropriations for these areas will be evaluated during future updates of the Water Master Plan. Expansions into other unserved areas included in Section 8 (including the Woodville southern loop - Project 7B) have not been included in the CIP as these expansion would be funded based on financial feasibility, and development trends and needs. It also should be noted that this assumes developers will be responsible for the cost and construction of infrastructure within specific developments. A map depicting the general location of the projects in the CIP plan is included in Figure 11-1.



*New Tank Improvement includes one of three options discussed in text.

Legend

- PROPOSED TANK
- PROPOSED WELL
- USA
- Existing Pipes
- Pipe Improvements
- Limits of Downtown Area
- Areas Not Served
- Roadway
- Water Body



**Attached is Additional Information for
Workshop Item**

**Workshop on the City of Tallahassee's Updated
Water and Sewer Master Plans in Accordance with
the Water and Sewer Agreement between the City of
Tallahassee and Leon County**

**Tuesday, December 14, 2010
12:00 p.m. – 1:30 p.m.**

This document distributed December 10, 2010



Board of County Commissioners
Leon County, Florida
www.leoncountyfl.gov

Workshop Request
Executive Summary

December 14, 2010

Title:

Additional Information for the Workshop on Approval of the City of Tallahassee's Updated Water and Sewer Master Plans

Staff:

Parwez Alam, County Administrator
Alan Rosenzweig, Assistant County Administrator
Tony Park, P.E., Director of Public Works

Issue Briefing:

Per the request of Commissioner Proctor, additional information for the Workshop on the City of Tallahassee's updated Water and Sewer Master Plans is being provided. The additional information contemplates the expansion of the Woodville study area and the cost associated with a potential expansion (Attachment #1).

Fiscal Impact:

Expansion of the Woodville study area into the sectors identified would increase the cost by \$16 million.

Analysis:

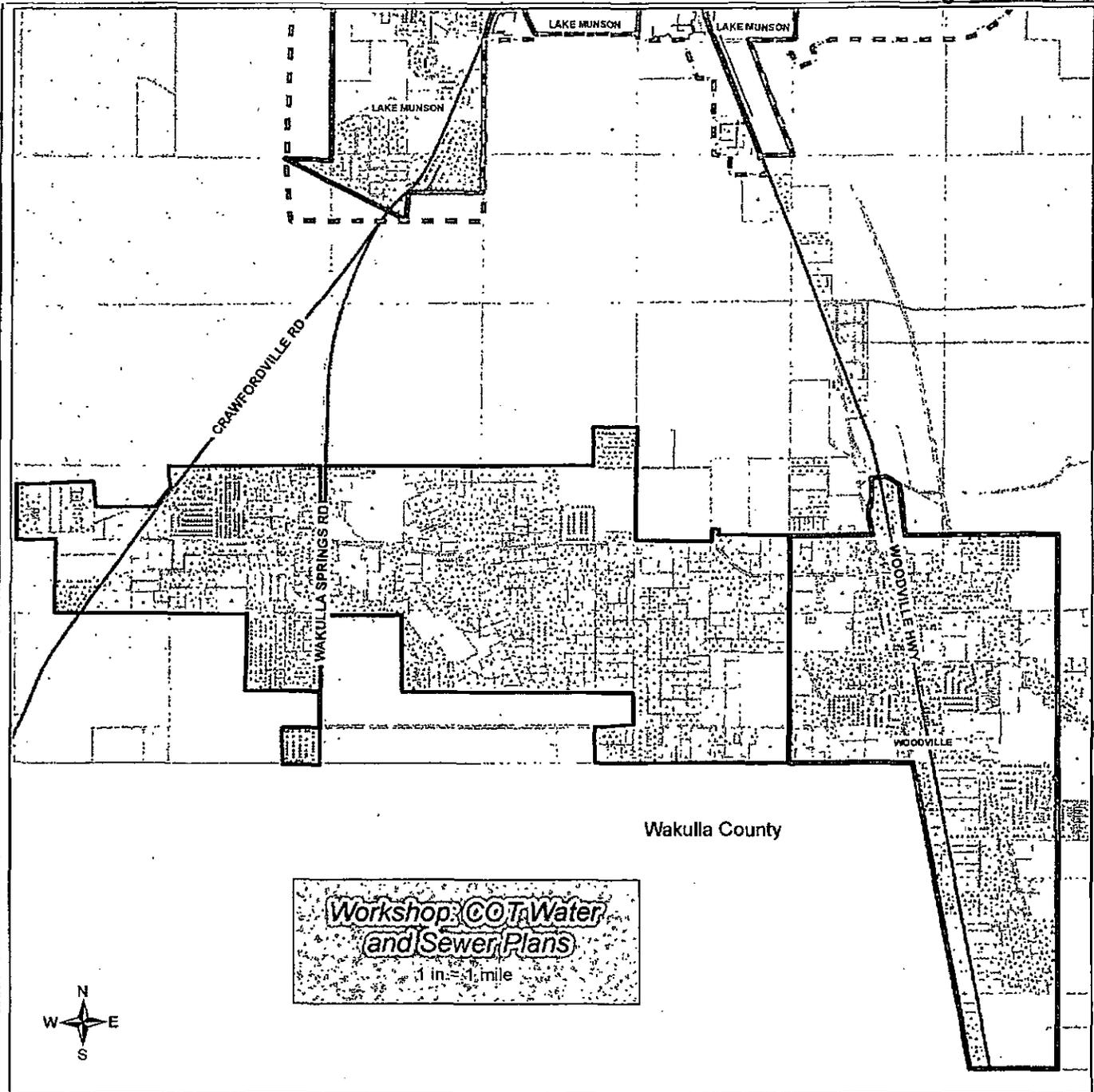
Table 1: Additional Area/Expansion of Woodville Study Area			
	Cost/Lot	# Lots	Cost
East of Wakulla Springs Rd. to Woodville Study Area Boundary	12,000	692	\$8,304,000
West of Wakulla Springs Rd.	12,000	644	\$7,728,000
Total Additional Cost		1,336	\$16,032,000

Attachment:

1. Map Identifying Additional/Expansion Areas

PA/AR/TP/LD/djw

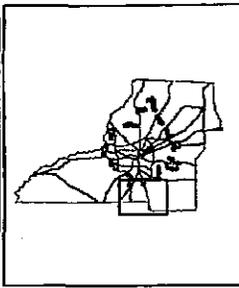
F:\Public Works\B O C C\Agenda Items\2010\12-14-10\Workshop WSA Master Plan Approval.DOC



**Workshop: CO, Water
 and Sewer Plans**
 1 in. = 1 mile



- | | |
|-----------------------------|--------------------------------------|
| Septic Tanks | Major Roads |
| Study Areas | Talquin Water and Sewer Service Area |
| County Identified Areas | Talquin Water Service Areas |
| Urban Service Area Boundary | City Limit |
| Additional Areas | County Boundary |
| | Sewer Lines |



DISCLAIMER
 NOTE: This product has been compiled from the most accurate sewer maps from Leon County - but is not a final product, and the Leon County Property Appraiser's Office is not responsible for the use of this product for any purpose other than as shown. It is not to be distributed as a final document or survey instrument. Any reliance on the information contained here is at the user's own risk. Leon County, the City of Tallahassee, and the Leon County Property Appraiser's Office accept no responsibility for any use of the information contained herein or any other results of such use.

Map created on December 9, 2010
 by Tracie McClanahan
 Tallahassee - Leon County GIS
 Telephone: (904) 606-1523
 Web: <http://www.lcgis.org>



Attachment # 2
Page 1 of 5

Board of County Commissioners

Leon County, Florida

www.leoncountyfl.gov

Agenda Item Executive Summary

Tuesday, February 22, 2011

Title:

Ratification of Actions taken at the January 18, 2011 Workshop on the County's 2/3 Program

Staff:

Parwez Alam, County Administrator
Alan Rosenzweig, Assistant County Administrator
Tony Park, P.E., Director of Public Works

Issue Briefing:

This item seeks Board ratification of actions taken at the January 18, 2011 Workshop on the County's 2/3 Program (Attachment #1). The Board approved all nine recommendations as outlined in the workshop packet. In addition to ratifying the actions taken at the workshop, the Board is requested to:

- adopt a consolidated policy entitled "Private Road Preventative Maintenance and Repair Program" (Attachment #2)
- adopt the Resolution of Public Purpose associated with the Homestead Loss Prevention Program Policy (Attachment #3)
- adopt the revised Homestead Loss Prevention Program Policy No. 06-03, to include increasing the qualifying amount of the assessed value of a homestead property to \$75,000, increasing the amount of financial assistance to include enough to pay off the remaining balance of the special assessment, and adding to the qualification criteria the requirement that the homestead property not be subject to an existing or imminent foreclosure action (Attachment #4)
- adopt the Resolution and Budget Amendment Request establishing an account of \$140,000 in support of the revised Homestead Loss Prevention Program from the Special Assessment Paving Fund Balance (Attachment #5)

Fiscal Impact:

This item may have a fiscal impact. The changes to the eligibility qualifications for the Homestead Loss Prevention Program may result in increased participation. The attached Budget Amendment request realizes \$140,000 in anticipation of the possible increase in usage of the Program.

Staff Recommendation:

- Option #1: Ratify the actions taken at the January 18, 2011 Workshop on the County's 2/3 Program.
- Option #2: Adopt proposed consolidated policy version of the Private Dirt Road Repair Program and Private Paved Road Preventative Maintenance and Repair Program policies, entitled the "Private Road Preventative Maintenance and Repair Program".
- Option #3: Adopt the Resolution of Public Purpose associated with the Homestead Loss Prevention Program Policy.
- Option #4: Adopt the revised the Homestead Loss Prevention Program Policy No. 06-03, to include increasing the qualifying amount of the assessed value of a homestead property to \$75,000, increasing the amount of financial assistance to include enough to pay off the remaining balance of the special assessment, and adding to the qualification criteria the requirement that the homestead property not be subject to an existing or imminent foreclosure action.
- Option #5: Adopt the Resolution and Budget Amendment Request establishing an account of \$140,000 in support of the revised Homestead Loss Prevention Program from the Special Assessment Paving Fund Balance.

Report and Discussion

Background:

A workshop was held on January 18, 2011 regarding the County's 2/3 Program and other related issues.

Analysis:

The following recommendations were adopted by the Board at the workshop:

Recommendation #1: Require 100% of the ROW be donated for a 2/3-2/3 project. This approach is consistent with the City of Tallahassee's program. Through this requirement, there would not be any uncertainty related to ROW acquisition as part of the assessment. Staff anticipates that in a voluntary situation, the ROW could all be acquired in less than a year thereby not delaying the project. This approach also addresses some property owners benefiting at the expense of the other owners.

Status: The ordinance is being rewritten by County Attorney and Public Works staff to accomplish the changes. The ordinance will be brought back to the Board at a later date.

Recommendation #2: If the road paving assessment amount, based on the cost construction estimate, exceeds 15% of the original petition amount, require the neighborhood to have the petition redone. Recommendation #1 will reduce the time from petition to construction and will provide some cost certainty. However, there may be other mitigating circumstances that were not included in the original cost estimate (i.e. additional stormwater needs) that increase the cost. At this point in time, even with the higher cost, the project still proceeds without the original petitioners having a chance to agree to the increased cost. If the petition is redone, but does not meet the necessary threshold, the County would have the fiscal exposure of the design cost (assuming the 100% donated ROW is implemented).

Status: The ordinance is being rewritten by County Attorney and Public Works staff to accomplish the changes. The ordinance will be brought back to the Board at a latter date.

Recommendation #3: Direct staff to include the consideration of funding private dirt roads that meet newly established criteria through any infrastructure sales tax extension at the April 12, 2011 Board workshop.

Status: Staff will include this as a funding consideration in the infrastructure sales tax extension workshop that will be held on April 12, 2011.

Recommendation #4: Consolidate the Private Dirt Road Repair Program and Private Paved Road Preventative Maintenance and Repair Program into one program. Having operated under the two separate policies for several years, staff believes that these two policies could and should be merged into one.

Status: The revised policy is provided as Attachment #2 for Board adoption.

Recommendation #5: Unless otherwise directed, staff will proceed with turning the Whispering Pines East delinquent accounts over to the County's collection agency. In addition, it is recommended that this policy be permanently sunset.

Status: Staff is proceeding with turning the Whispering Pines East delinquent accounts over to the County's collection agency.

Recommendation #6: Revise the Homestead Loss Prevention Program Policy No. 06-03, to include increasing the qualifying amount of the assessed value of a homestead property up \$75,000. State in the policy that the funds provided by the County are only to support that portion of the tax certificate associated with the paving non-ad valorem assessment. All other taxes and assessments are the obligation of the property owner and must be paid by the property owner. Modify the program to allow for the complete payment of the balance of the road assessment to prevent future tax certificates being issued.

Status: The revised policy is provided as Attachment #4 for Board approval. In order to address the possibility that an applicant's homestead property could be lost in a foreclosure despite receiving financial assistance from the County, as is the case with at least one pending application, Staff has added a provision to the qualification criteria requiring that the homestead property not be subject to an existing or imminent foreclosure action.

Recommendation #7: Change the administration of the Homestead Loss Prevention Program from Public Works to the County's Health and Human Services (HHS) Division. The administration of the program has functionally been transferred to HHS' Housing department.

Status: Accomplished in Article 3 of the revised policy, provided as Attachment #4.

Recommendation #8: Utilize \$140,000 from the Special Assessment Paving Fund Balance to establish an account in support of the revised Homestead Loss Prevention Program.

Status: The Resolution and Budget Amendment Request is provided as Attachment #5 for Board approval

Recommendation #9: Direct staff to make the modifications to the method of imposing the Rainbow Acres Special Improvement Assessment Liens as presented herein and to proceed with the necessary statutory process for adopting a new non-ad valorem assessment roll reflecting such modifications.

Status: Modifications will be made to the method of imposing the Rainbow Acres Special Improvement Assessment Liens and a new non-ad valorem assessment roll will be brought back to the Board at a later date.

Options:

1. Ratify the actions taken at January 18, 2011 Workshop on the County's 2/3 Program.
2. Adopt proposed consolidated policy version of the Private Dirt Road Repair Program and Private Paved Road Preventative Maintenance and Repair Program policies, entitled the "Private Road Preventative Maintenance and Repair Program".
3. Adopt the Resolution of Public Purpose associated with the Homestead Loss Prevention Program Policy
4. Adopt the revised the Homestead Loss Prevention Program Policy No. 06-03, to include increasing the qualifying amount of the assessed value of a homestead property to \$75,000, increasing the amount of financial assistance to include enough to pay off the remaining balance of the special assessment, and adding to the qualification criteria the requirement that the homestead property not be subject to an existing or imminent foreclosure action.
5. Adopt the Resolution and Budget Amendment Request establishing an account of \$140,000 in support of the revised Homestead Loss Prevention Program from the Special Assessment Paving Fund Balance
6. Do not ratify the actions taken at January 18, 2011 Workshop on the County's 2/3 Program.
7. Do not adopt the proposed Policy "Private Road Preventative Maintenance and Repair Program".
8. Do not adopt the revised the Homestead Loss Prevention Program Policy No. 06-03.
9. Do not adopt the Resolution and Budget Amendment Request establishing an account of \$140,000 in support of the revised Homestead Loss Prevention Program
10. Board Direction.

Recommendation:

Options #1, #2, #3, #4 and #5.

Attachments

1. Workshop packet without attachments
2. Proposed Private Road Preventative Maintenance and Repair Program Policy
3. Resolution establishing a Public Purpose
4. Proposed Homestead Loss Prevention Program Policy
5. Resolution and Budget Amendment Request



February 8, 2011 Follow-up

Consent Items Pulled for Discussion

Item 2 Approval of 2011 Action Plans
(Commissioner Maddox pulled Item #2 for discussion)

- Commissioner Maddox moved, seconded by Commissioner Dozier, to approve Option #1, as amended: **Approve the 2011 Action Plans for the FY 2010/2011 Board Retreat Priorities, with the addition of the one-cent infrastructure tax to the 2010/2011 list of priorities.**
- County Administrator Alam stated that staff would bring back the action plan for the additional 2010/11 priority.

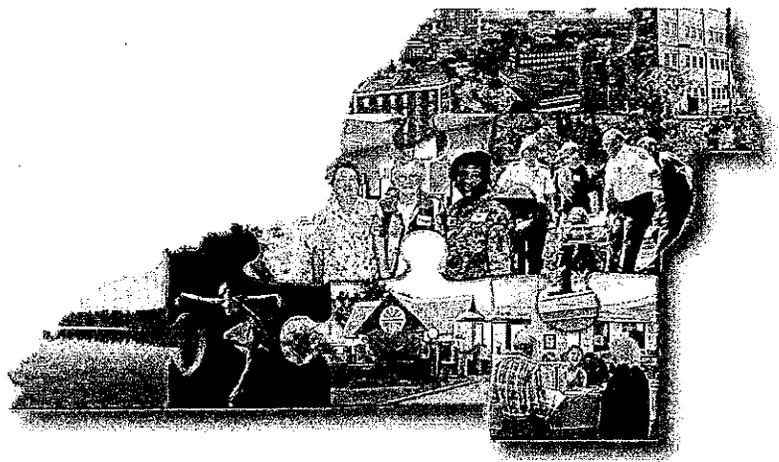
The motion passed 7-0.

Staff: County Administration/PIO – Vincent Long/Alan Rosenzweig/Jon Brown

LEON COUNTY

BOARD OF
COUNTY COMMISSIONERS

2010 - 2011 TOP PRIORITIES

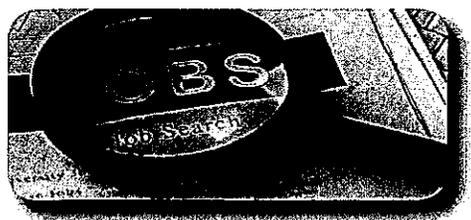


For more information, please contact Leon County Administration at (850) 606-5300 or visit www.LeonCountyFL.gov.

County Commissioners
Chairman John E. Dailley, District 3
Vice-Chair Alvin Akinyemi, At-Large
Bill Proctor, District 1
Jane S. Sauts, District 2
Karin Dozier, District 5
Bryan DeLooge, District 4
Nick Maddox, At-Large



1. Economic Development



2. Woodville Sewer Issue



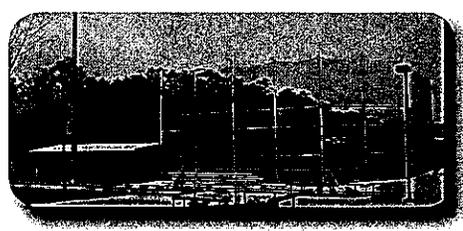
3. Apalachee Park/Sports Complex



4. Acquisition of the Flea Market Tract



5. Northeast Park



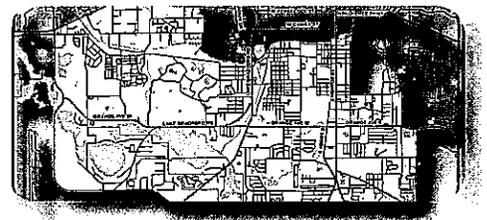
6. Comprehensive Plan Reform



7. Primary & Mental Health Care for the Uninsured



8. Southern Strategy



9. Comprehensive Program to Address Recidivism Reduction



10. Provide leadership in the evaluation of the local government infrastructure surtax extension





Board of County Commissioners
Leon County, Florida
www.leoncountyfl.gov

Agenda Item
Executive Summary

Tuesday, February 22, 2011

Title: Approval of the 2011 Action Plan for the Extension of the One-Cent Sales Tax to Fund Infrastructure Needs
Staff: Parwez Alam, County Administrator Vincent S. Long, Deputy County Administrator Alan Rosenzweig, Assistant County Administrator

Issue Briefing:

This agenda item requests Board approval of the 2011 Action Plan for the Extension of the One Cent Sales Tax to Fund Infrastructure Needs, which identifies specific tasks and activities to be undertaken with respect to this Board priority (Attachment #1).

Fiscal Impact:

This item has no fiscal impact.

Staff Recommendation:

Option #1: Approve the 2011 Action Plan for the Extension of the One-Cent Sales Tax to Fund Infrastructure Needs.

Report and Discussion

Attachment # 5
Page 2 of 3**Background:**

The Board held its Board Retreat on December 13, 2010, during which it time it identified the following FY 2010/2011 Board Priorities, which were ratified by the Board during its December 14, 2010 meeting:

1. Economic Development
2. Woodville Sewer Issue
3. Apalachee Park/Sports Complex
4. Acquisition of the Flea Market Tract
5. Northeast Park
6. Comprehensive Plan Reform
7. Primary and Mental Health Care for the Uninsured
8. Southern Strategy
9. Comprehensive Program to Address Recidivism Reduction, County Re-entry Program for Inmates, and Diversion, Including Youth Programs.

Action Plans, outlining the specific tasks and activities that will be performed for each priority, were presented to the Board during its February 8, 2011 meeting. The Board approved the Action Plans and added the Extension of the One-Cent Sales Tax to Fund Infrastructure Needs as a 2011 Board priority.

Analysis:

An Action Plan has been prepared for the Board's consideration, which outlines the tasks and activities that will be performed relative to the Extension of the One-Cent Sales Tax to Fund Infrastructure Needs.

Options:

1. Approve the 2011 Action Plan for the Extension of the One-Cent Sales Tax to Fund Infrastructure Needs.
2. Do not approve the 2011 Action Plan for the Extension of the One-Cent Sales Tax to Fund Infrastructure Needs.
3. Board Direction.

Recommendation:

Option #1.

Attachment:

1. 2011 Action Plan for the Extension of the One-Cent Sales Tax to Fund Infrastructure Needs

[Back](#) | [Print](#)

Action Plan, 2010 - 2011 Board Retreat Priorities

Priority Issue #5: To provide leadership in the evaluation of the local government infrastructure surtax extension.

Department Head: Vincent S. Long/Alan Rosenzweig

Project Leader: Vincent S. Long/Alan Rosenzweig

Fiscal Impact: The existing one cent infrastructure sales tax expires in fiscal year 2019. An extension of 15 years would generate in excess of \$500 million.

Task	Activity	Assigned To	Estimated Completion Date	Status	Fiscal Impact
Beginning process of identifying possible projects for consideration for sales tax extension	Conduct Water and Sewer Workshop	Alan Rosenzweig/ Tony Park	Dec. 14, 2010	Done. Board directed a workshop be scheduled to discuss the infrastructure sales tax extension and consider the inclusion of sewer projects in the funding list.	TBD
Beginning process of identifying possible projects for consideration for sales tax extension	Conduct 2/3-2/3 Road Workshop	Alan Rosenzweig/ Tony Park	January 18, 2011	Done. Board directed staff to consider the inclusion of the possible paying of some dirt roads through the sales tax extension and to include as part of workshop.	TBD
Outline initial process regarding the consideration of the sales tax extension	Conduct a workshop with the Board regarding process for moving with a sales tax extension	Vince Long/Alan Rosenzweig	April 12, 2011	The workshop has been scheduled.	TBD
Proceed with process for sales tax extension	Based on the outcome of the April 12, 2011 workshop, staff will develop a more detailed action plan for the remainder of the process and provide the Board a subsequent agenda item	Vince Long/Alan Rosenzweig	Summer 2011	On-going	TBD

(2) LOCAL GOVERNMENT INFRASTRUCTURE SURTAX.—

(a)1. The governing authority in each county may levy a discretionary sales surtax of 0.5 percent or 1 percent. The levy of the surtax shall be pursuant to ordinance enacted by a majority of the members of the county governing authority and approved by a majority of the electors of the county voting in a referendum on the surtax. If the governing bodies of the municipalities representing a majority of the county's population adopt uniform resolutions establishing the rate of the surtax and calling for a referendum on the surtax, the levy of the surtax shall be placed on the ballot and shall take effect if approved by a majority of the electors of the county voting in the referendum on the surtax.

2. If the surtax was levied pursuant to a referendum held before July 1, 1993, the surtax may not be levied beyond the time established in the ordinance, or, if the ordinance did not limit the period of the levy, the surtax may not be levied for more than 15 years. The levy of such surtax may be extended only by approval of a majority of the electors of the county voting in a referendum on the surtax.

(b) A statement which includes a brief general description of the projects to be funded by the surtax and which conforms to the requirements of s. 101.161 shall be placed on the ballot by the governing authority of any county which enacts an ordinance calling for a referendum on the levy of the surtax or in which the governing bodies of the municipalities representing a majority of the county's population adopt uniform resolutions calling for a referendum on the surtax. The following question shall be placed on the ballot:

FOR the -cent sales tax
 AGAINST the -cent sales tax

(c) Pursuant to s. 212.054(4), the proceeds of the surtax levied under this subsection shall be distributed to the county and the municipalities within such county in which the surtax was collected, according to:

1. An interlocal agreement between the county governing authority and the governing bodies of the municipalities representing a majority of the county's municipal population, which agreement may include a school district with the consent of the county governing authority and the governing bodies of the municipalities representing a majority of the county's municipal population; or
2. If there is no interlocal agreement, according to the formula provided in s. 218.62.

Any change in the distribution formula must take effect on the first day of any month that begins at least 60 days after written notification of that change has been made to the department.

(d) The proceeds of the surtax authorized by this subsection and any accrued interest shall be expended by the school district, within the county and municipalities within the county, or, in the case of a negotiated joint county agreement, within another county, to finance, plan, and construct infrastructure; to acquire land for public recreation, conservation, or protection of natural resources; or to finance the closure of county-owned or municipally owned solid waste landfills that have been closed or are required to be closed by order of the Department of Environmental Protection. Any use of the proceeds or interest for purposes of landfill closure before July 1, 1993, is ratified. The proceeds and any interest may not be

used for the operational expenses of infrastructure, except that a county that has a population of fewer than 75,000 and that is required to close a landfill may use the proceeds or interest for long-term maintenance costs associated with landfill closure. Counties, as defined in s. 125.011, and charter counties may, in addition, use the proceeds or interest to retire or service indebtedness incurred for bonds issued before July 1, 1987, for infrastructure purposes, and for bonds subsequently issued to refund such bonds. Any use of the proceeds or interest for purposes of retiring or servicing indebtedness incurred for refunding bonds before July 1, 1999, is ratified.

1. For the purposes of this paragraph, the term "infrastructure" means:

- a. Any fixed capital expenditure or fixed capital outlay associated with the construction, reconstruction, or improvement of public facilities that have a life expectancy of 5 or more years and any related land acquisition, land improvement, design, and engineering costs.
- b. A fire department vehicle, an emergency medical service vehicle, a sheriff's office vehicle, a police department vehicle, or any other vehicle, and the equipment necessary to outfit the vehicle for its official use or equipment that has a life expectancy of at least 5 years.
- c. Any expenditure for the construction, lease, or maintenance of, or provision of utilities or security for, facilities, as defined in s. 29.008.
- d. Any fixed capital expenditure or fixed capital outlay associated with the improvement of private facilities that have a life expectancy of 5 or more years and that the owner agrees to make available for use on a temporary basis as needed by a local government as a public emergency shelter or a staging area for emergency response equipment during an emergency officially declared by the state or by the local government under s. 252.38. Such improvements are limited to those necessary to comply with current standards for public emergency evacuation shelters. The owner must enter into a written contract with the local government providing the improvement funding to make the private facility available to the public for purposes of emergency shelter at no cost to the local government for a minimum of 10 years after completion of the improvement, with the provision that the obligation will transfer to any subsequent owner until the end of the minimum period.
- e. Any land acquisition expenditure for a residential housing project in which at least 30 percent of the units are affordable to individuals or families whose total annual household income does not exceed 120 percent of the area median income adjusted for household size, if the land is owned by a local government or by a special district that enters into a written agreement with the local government to provide such housing. The local government or special district may enter into a ground lease with a public or private person or entity for nominal or other consideration for the construction of the residential housing project on land acquired pursuant to this sub-subparagraph.

2. Notwithstanding any other provision of this subsection, a local government infrastructure surtax imposed or extended after July 1, 1998, may allocate up to 15 percent of the surtax proceeds for deposit in a trust fund within the county's accounts created for the purpose of funding economic development projects having a general public purpose of improving local economies, including the funding of operational costs and incentives related to economic development. The ballot statement must indicate the intention to make an allocation under the authority of this subparagraph.

(e) School districts, counties, and municipalities receiving proceeds under the provisions of this subsection may pledge such proceeds for the purpose of servicing new bond indebtedness incurred pursuant to law. Local governments may use the services of the Division of Bond Finance of the State Board of Administration pursuant to the State Bond Act to issue any bonds through the provisions of this subsection. Counties and municipalities may join together for the issuance of bonds authorized by this subsection.

(f)1. Notwithstanding paragraph (d), a county that has a population of 50,000 or less on April 1, 1992, or any county designated as an area of critical state concern on the effective date of this act, and that imposed the surtax before July 1, 1992, may use the proceeds and interest of the surtax for any public purpose if:

- a. The debt service obligations for any year are met;
- b. The county's comprehensive plan has been determined to be in compliance with part II of chapter 163; and
- c. The county has adopted an amendment to the surtax ordinance pursuant to the procedure provided in s. 125.66 authorizing additional uses of the surtax proceeds and interest.

2. A municipality located within a county that has a population of 50,000 or less on April 1, 1992, or within a county designated as an area of critical state concern on the effective date of this act, and that imposed the surtax before July 1, 1992, may not use the proceeds and interest of the surtax for any purpose other than an infrastructure purpose authorized in paragraph (d) unless the municipality's comprehensive plan has been determined to be in compliance with part II of chapter 163 and the municipality has adopted an amendment to its surtax ordinance or resolution pursuant to the procedure provided in s. 166.041 authorizing additional uses of the surtax proceeds and interest. Such municipality may expend the surtax proceeds and interest for any public purpose authorized in the amendment.

3. Those counties designated as an area of critical state concern which qualify to use the surtax for any public purpose may use only up to 10 percent of the surtax proceeds for any public purpose other than for infrastructure purposes authorized by this section. A county that was designated as an area of critical state concern for at least 20 consecutive years prior to removal of the designation, and that qualified to use the surtax for any public purpose at the time of the removal of the designation, may continue to use up to 10 percent of the surtax proceeds for any public purpose other than for infrastructure purposes for 20 years following removal of the designation, notwithstanding subparagraph (a)2. After expiration of the 20-year period, a county may continue to use up to 10 percent of the surtax proceeds for any public purpose other than for infrastructure if the county adopts an ordinance providing for such continued use of the surtax proceeds.

(g) Notwithstanding paragraph (d), a county having a population greater than 75,000 in which the taxable value of real property is less than 60 percent of the just value of real property for ad valorem tax purposes for the tax year in which an infrastructure surtax referendum is placed before the voters, and the municipalities within such a county, may use the proceeds and interest of the surtax for operation and maintenance of parks and recreation programs and facilities established with the proceeds of the surtax throughout the duration of the surtax levy or while interest earnings accruing from the proceeds of the surtax are available for such use, whichever period is longer.

(h) Notwithstanding any other provision of this section, a county shall not levy local option sales surtaxes authorized in this subsection and subsections (3), (4), and (5) in excess of a combined rate of 1 percent.

SECTION 7. PROJECT RESTRICTIONS.

Permissible Dedicated Sales Surtax projects are restricted to the following categories:

- A. Stormwater and Water Quality
- B. Transportation Improvements
- C. Greenways and Parks and Recreation

SECTION 8. PROJECTS.

The proceeds of the Dedicated Sales Surtax which are dedicated to Blueprint 2000 Projects shall be used for the purpose of funding Blueprint 2000 Projects as approved by the County and City Commissions on July 10, 2000, as follows (a -i represent first priority, j -w represent second priority):

a. Map 2A: Widening of Capital Circle NW from I-10 to Blountstown Hwy; (includes six lanes from I-10 to Tennessee Street without service roads, four lanes from Tennessee Street to Blountstown Hwy., and two interchanges); Water resource protection through greenway linkages, floodplain acquisition, protection and restoration of Gum Swamp system.

b. Map 4: Widening of Capital Circle SE from Crawfordville Hwy. to St. Augustine Road; (Includes portion of Tram Road ROW for future transit; acquisition of environmentally sensitive areas and greenway connection between St. Marks Trail and Southwood; deletes proposed interchanges at Apalachee Parkway and Crawfordville Road).

c. Map 3: Franklin Boulevard improvements, roundabout at Franklin/Meridian/Gaines intersection; Reconstruction of Cascades Park with series of lakes for stormwater retrofit of urban area; Reconstruction of St. Augustine Branch as urban waterway with series of lakes for stormwater treatment; acquisition of land for phase II stormwater improvements along the

central drainage ditch, greenways throughout the system and trailhead development.

d. Water Quality Program - Funding for stormwater and water quality retrofit to be split 50/50 between City and County (includes \$10 million for retrofit and drainage improvements in Frenchtown watershed and \$5 million for various County retrofit projects in the urban area previously identified as high priority).

e. Map 7: Phase I-Eastern Leon County groundwater and floodplain protection.

f. Map 6: Lafayette Basin floodplain/greenway land acquisition for future stormwater improvements and greenway connection from Lafayette Heritage Trail to Miccosukee greenway.

g. Map 2B: Widening of Capital Circle SW from Blountstown Hwy. to Springhill Road; includes (Option 1-Realignment; includes ROW, construction, and stormwater for roadway improvements only, and land acquisition for future greenway).

h. Map 2C: Widening of Capital Circle SW from Springhill Road to Crawfordville Road; (includes ROW, construction, and stormwater for roadway improvements only and land acquisition for future greenway).

i. Map 5B: Land acquisition only for greenway linkages between Maclay Gardens, Timberlane Ravine, Goose Pond, and Tom Brown Park.

j. Map 3, Segment 4: Old St. Augustine Branch stormwater improvements (Gamble Street to confluence with Munson Slough).

k. Gaines Street Reconstruction and extension of Jackson Bluff Road (\$17 million).

l. Map 6: Widening of Mahan Drive from Dempsey Mayo Road to I-10, and stormwater improvements for roadway and Lake Lafayette; trail head

development.

m. Map 2B/2C: Airport Gateway-Connector from Capital Circle SW to Lake Bradford Road.

n. Map 7: Phase II-Eastern Leon County groundwater and floodplain protection.

o. Map 1: Fred George and Ochlockonee River Basins stormwater improvements, groundwater protection, and greenway acquisition.

p. Map 5A: Meridian Road intersection improvements and greenway connections from Timberlane Ravine to Klapp-Phipps-Overstreet Park.

q. Water quality program funding-Phase II.

r. Map 5B: Lake Lafayette Basin stormwater improvements and floodplain protection.

s. Map 2C: Springhill Road ROW and construction; stormwater system and improvements from Springhill Road east to Indianhead Acres; greenways/trail development.

t. Map 2B: Black Swamp restoration, regional stormwater pond, and Cascades to Munson slough greenway trail development.

u. Map 4: Tram Road ROW and construction; interchange at Crawfordville Road.

v. Map 2B: Roadway improvements connecting Capital Circle SW and Springhill Road and interchange at Orange Avenue and Capital Circle SW.

w. Map 2A: Service Roads (Capital Circle NW).

SECTION 9. AMENDMENT, DELETION OR ADDITIONS TO PROJECTS.

The above listed projects can only be significantly amended, deleted, or added to if unforeseen conditions, as determined by the Board of Directors, require such changes and if the City Commission and the Board of County

Commissioners each approve such change by a supermajority vote (a majority plus one of the voting members of each body), after taking into consideration the recommendations of the Citizen Advisory Committee, the Blueprint 2000 Technical Coordinating Committee, and the Intergovernmental Management Committee. Such a vote will not be taken until the Blueprint 2000 Intergovernmental Agency holds at least two noticed public hearings with respect to such proposed change.

SECTION 10. ADDITIONAL COUNTY PROJECTS.

The 10% share of the proceeds dedicated to Leon County projects shall be used for the following purposes as approved by the County Commission on July 10, 2000, and ratified in County Resolution R00-30:

- A. Transportation Projects
- B. Stormwater and Water Quality
- C. Parks and Recreation Facilities
- D. Intersection Improvements, Bridges, Sidewalks, Bike Lanes, Bike Paths, Traffic Calming,
- E. Greenway and Bike Trails, and
- F. Other projects approved by the Board of County Commissioners.

SECTION 11. ADDITIONAL CITY PROJECTS.

The 10% share of the proceeds dedicated to City of Tallahassee projects shall be used for the following purposes as approved by the City Commission on July 10, 2000 and ratified in City Resolution 00-R-44:

- A. Transportation Projects
- B. Stormwater and Water Quality
- C. Parks and Recreation Facilities
- D. Gateway Enhancements

- E. Greenway and Bike Trails, and
- F. Other projects approved by the City Commission.

SECTION 12. REIMBURSEMENT.

The Blueprint 2000 Intergovernmental Agency may establish, from time to time, procedures for reimbursement for reasonable expenses incurred by the Blueprint 2000 Intergovernmental Agency.

PART VI
FINANCING

SECTION 1. SHARE OF SURTAX.

As further provided herein, the proceeds of the Extended Sales Surtax levied as provided by law and distributed by this Agreement to the County and the City or as specified herein throughout the term of this Agreement as follows:

<u>Governmental Body</u>	<u>Share of Proceeds</u>
Leon County	50%
City of Tallahassee	50%

As further provided herein, the County and the City hereby irrevocably agree that 80% of the total proceeds previously, defined herein as the "Dedicated Sales Surtax," shall be used for Blueprint 2000 Projects as approved by the County and City Commissions on July 10, 2000, and ratified in Part V hereof. The County and the City further hereby irrevocably agree that the Dedicated Sales Surtax shall be deposited directly into the account of the Blueprint 2000 Intergovernmental Agency by the Florida Department of Revenue ("DOR") and irrevocably direct DOR to make such deposits for the term of such tax. The Intergovernmental Management Committee shall administer the spending of those funds on the Blueprint 2000 Projects.

Completed Tier 1 Projects

Capital Circle NW (I-10 to US 90) - This section of Capital Circle is 6 through lanes with additional turn lanes at intersections.

Capital Circle SE (Tram to Connie) - This section of Capital Circle is 6 through lanes with additional turn lanes at intersections.

Capital Circle SE (Woodville to Tram) - This section of Capital Circle is 6 through lanes with additional turn lanes at intersections.

Tier 1 Projects Under Construction (or Near Commencement)

Capital Circle SE (Woodville to Crawfordville) - This design/build project is currently underway. Construction is scheduled to begin in April 2011. This project is funded entirely with federal stimulus dollars as part of the American Recovery and Reinvestment Act (ARRA) of 2009. Six through lanes with a dedicated right turn lane the entire project length (for westbound traffic) and additional turn lanes at intersections will be provided.

Capital Cascade Trail – Segment 2 (Cascade Park) - This is the Blueprint signature project which is currently under construction. The completion date is currently July 2012. One 2-lane road (Cascade Lane) will be built as part of the overall park construction

Capital Circle NW/SW (US 90 to Orange) - Final design is currently being reviewed. Construction limits of this project are from US 90 to just north of SR 20 with the funds currently available for construction (\$43M). Blueprint has a commitment from FDOT in Chipley for an additional \$9.5M (available in July 2011) to construct to south of SR 20. Advertisement for construction will occur this fall pending results of FDEP permit challenge. Six lanes will be provided along this portion of Capital Circle.

Cascade Trail – Segment 1 (Franklin Blvd.) - This is a storm water improvement project which will construct a concrete box culvert in the current median ditch of Franklin Blvd. from Pensacola Street to Tennessee Street. Blueprint received \$4.2M in federal funds from the US Department of Housing and Urban Development (HUD) to be managed by the Florida DCA. The project is under design with construction scheduled to begin in January 2012. Franklin Blvd will remain at four (4) lanes of traffic.

Funded Tier 1 Projects Currently Under Design

Capital Cascades Connector Bridge - This project will provide a signature pedestrian bridge over South Monroe (just south of the existing CSX Railroad Bridge over South Monroe) which will link Cascade Park to Capital Cascade Trail Segment 3. Blueprint has contracted with Tallahassee based Figg Engineering for the design which will be complete by late December 2011.

Capital Cascade Trail – Segment 3 (Monroe to Gamble) & Segment 4 (Gamble to Black Swamp) - These segments are currently under design. Segment 3 is currently slated to be constructed with the FAMU Way Extension project. Segment 4 is primarily storm water ponds and stream improvements.

Tier 1 Projects Currently Under Design With No Available Construction Funding

Capital Circle SW (Crawfordville to Orange) - The Preliminary Design and Environmental (PD&E) Study for this section of Capital Circle will be finalized with the last Public Meeting this summer. FDOT has indicated that approximately \$2.7M may become available for further design of a portion of this project in July 2011. The planned construction of this section of Capital Circle will provide six through lanes. There are currently no construction dollars for this project.

Blueprint 2000 Corridor and Environmental Project Listing

Corridor/Transportation Projects:

- Capital Circle NW (I-10 to south of US 90; approx. 2 miles): six lane project is complete. Project included bike lanes and sidewalks on both sides.
- Capital Circle SE (Connie Drive to south of Tram Road; approx. 3 miles): six lane project is complete. Project included bike lanes on both sides, a 5-foot sidewalk on the west side, and a 10-foot sidewalk on the east side.
- Capital Circle SE (Tram Road to west of Woodville Highway; approx. 2 miles): six lane project is complete. Project included bike lanes on both sides, a 5-foot sidewalk on the north side, and a 10-foot trail on the south side. The project's trail connects with the St. Marks Trail at Woodville Highway.
- Capital Circle SE (Woodville Highway to Crawfordville Road; approx. 1.5 miles): Design-build project has been let to construction, funded by the American Recovery and Reinvestment Act. Consistent with the other segments, bike lanes are to be provided on both sides and the project will include sidewalks on both sides.

With the three projects above, approximately 34 miles of bike lanes or sidewalks will have been constructed.

- Capital Circle NW/SW (US 90 to Orange Avenue; approx. 3 miles): The six-laning of this segment is fully designed and right-of-way acquisition is complete. At this time, funding is available to construct the project from south of US 90 to north of SR 20. The tentative FDOT Work Program includes funding to extend this construction south for approximately one mile through the SR 20 intersection. Consistent with the other segments, bike lanes are to be provided on both sides and the project will include sidewalks on both sides. Construction is expected to begin in early 2012, subject to an environmental permit challenge.

The project will provide approximately 12 additional miles of bike lanes and sidewalks when constructed.

Environmental Projects and Elements (tied to Corridor Projects):

- The Capital Circle NW project noted above included a 15.3-acre Regional Stormwater Pond; 71.4% of the pond's treatment volume was for stormwater retrofit. In addition, this facility was named the Martha Wellman Park, and includes a 0.7 mile trail, benches, landscaping, parking, and lighting. Aquatic plants were used to improve water quality. The Park opened in June 2009, and has won two awards.
- The Capital Circle NW/SW project noted above includes considerable mitigation to and restoration of the hydrology of Gum Swamp. The 114-acre Delta Property has been acquired as part of the project's mitigation, and a portion will be used for a stormwater pond. The 33-acre Broadmoor Estates Mobile Home Park was purchased for use as a regional stormwater pond. A total of 184 acres was purchased as mitigation or for restoration. Stormwater management/erosion

- control during and after construction will be well above the minimum requirements. Several wildlife crossing (ecopassages) will be constructed under the roadway at Gum Swamp to assist in wildlife migration under the corridor.
- The 230-foot Blueprint right-of-way width for corridor projects allowed the construction of the meandering trail, a wide landscaped median and landscaped borders, and is capable of accommodating additional facilities for transit in the future. Several bus pull-outs were constructed on Capital Circle NW (I-10 to US 90) and Capital Circle SE (east of Woodville Highway) and will be included in all Blueprint projects where StarMetro provides service.
 - The wide right-of way allowed construction of several linear stormwater ponds along Capital Circle SE (Tram Road to Woodville Highway). On several Capital Circle projects, an inverted grass median was installed to help capture stormwater.

Environmental Projects:

- Headwaters of the St. Marks River: In conjunction with the Florida Communities Trust (FCT) and the Leon County Division of Parks and Recreation, 754 acres of the Headwaters of the St. Marks River has been acquired and preserved (Booth I, Booth II, and Copeland Sink). In partnership with the Northwest Florida Water Management District, a conservation easement has been placed on an additional 132 acres nearby (Lex Thompson), and an easement was acquired on an additional 191 acres to the north (Billingsley). At the request of Blueprint 2000 and with assistance from The Nature Conservancy (TNC), a 1,057 acre tract (which includes Wood Sink) immediately south of the Headwaters properties was purchased by TNC, and subsequently sold to the State.
- Fred George Basin acquisitions: Blueprint 2000 funds were the cash match to an FCT grant used to acquire approximately 172 acres within the Fred George Basin. The Planning Department and Leon County facilitated these acquisitions.
- Cascade Park: The four-segment Capital Cascade Trail project has been under development since 2003. Construction began on Cascade Park (Segment 2) in July 2010 and is scheduled for completion in Mid-2012. As stated, this is a "major stormwater facility disguised as a World Class Park." In addition to its stormwater function, Segment 2 will include approximately 2.3 miles of sidewalks and trails. The Park design is also incorporating "green technologies" as appropriate. Blueprint received a \$1.5 million Legislative Appropriation for the Park's stormwater components, and received a \$421,919 Section 319 Grant for the stormwater chemical (alum) treatment system.
- Capital Cascade Trail: Segments 3 and 4 of Capital Cascade Trail are currently under study and preliminary design. These segments will provide significant stormwater storage and water quality benefits. A Transportation Enhancement Grant was received through FDOT to design and construct a pedestrian/bicycle bridge across South Monroe Street; the trail will extend west and connect with the St. Marks Trail. Several properties have already been acquired in Segments 3 and 4 using Blueprint and/or FCT funds, or through donation.
- Franklin Boulevard Flood Relief Project: Using \$4.2 million in "Tropical Storm Faye" funding from the US Department of Housing and Urban Development, Blueprint is currently designing flood relief improvements for Franklin Boulevard

from East Tennessee Street to Pensacola Street. The project will begin construction in late 2011 and be complete in late 2012.

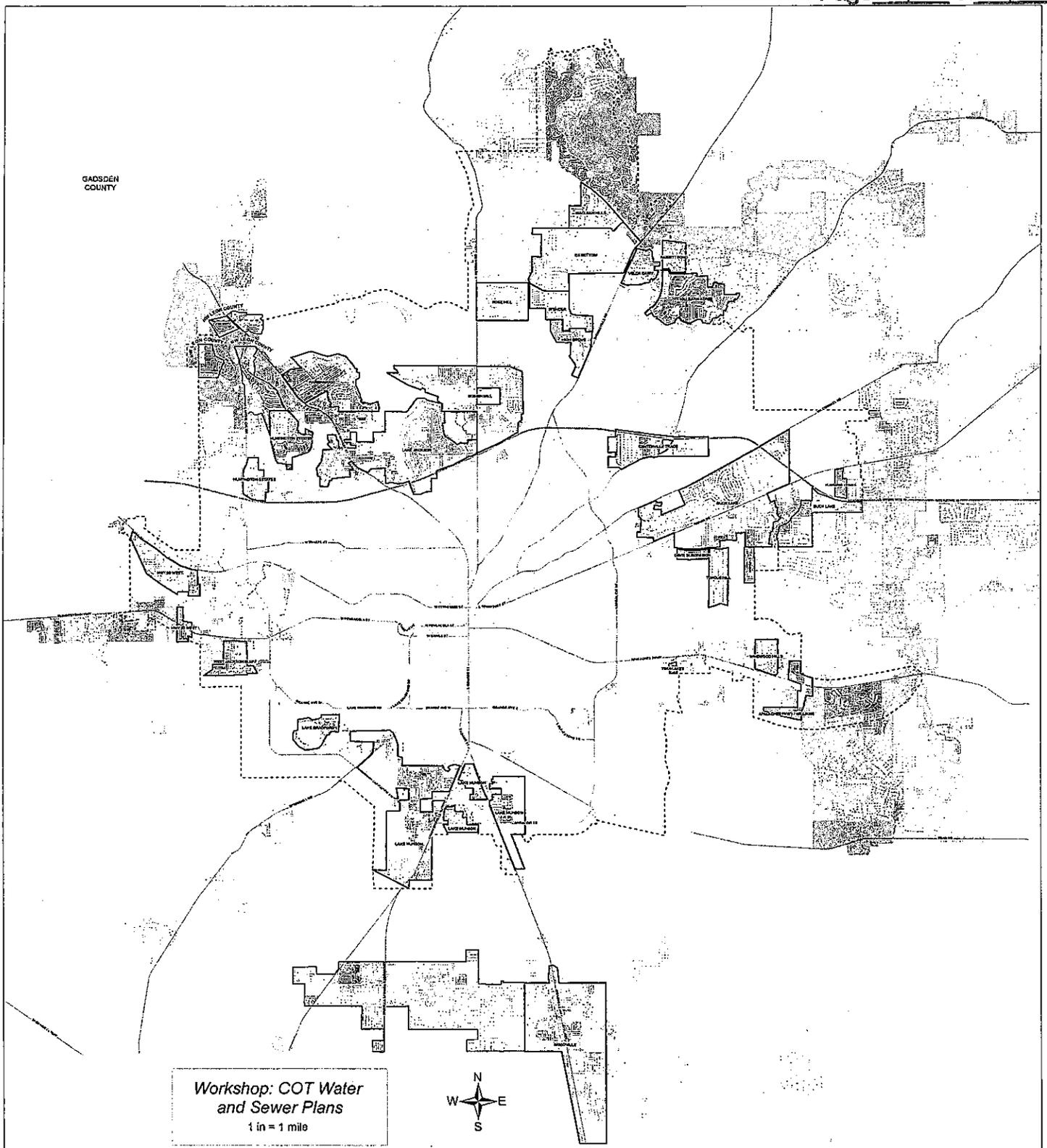
- Lafayette Heritage Trail Park: Blueprint 2000 assisted the City Department of Parks, Recreation, and Neighborhood Affairs in the preparation of a Recreational Trails Program Grant Application (\$250,000) for the construction of a bridge (and approach ramping) over the CSX railroad. Blueprint will provide \$500,000 toward the project's construction. The Grant was ranked #1 in the State.
- City and County Water Quality funding - (\$25 Million each): In addition to the stormwater retrofit ponds that have been designed and constructed with several roadway projects, \$50 million has been set aside for City and County stormwater/water quality retrofit projects. Leon County has utilized funding for improvements to Rhoden Cove Pond, the Okeeheepkee Basin, and the Killearn Lakes "Septic to Sewer" project. The City has identified stormwater improvements needed in the Frenchtown area.

Blueprint Master Plan (Funded Projects 2003-2020)

Water Quality/Sensitive Lands	Allocated Costs	Estimated Finish/ Remaining Funds
Water Quality City of Tallahassee	\$25,000,000	Ongoing Through 2020 \$15,640,509 Remaining Funds
Water Quality Leon County	\$22,148,717	Ongoing Though 2020 \$12,625,925 Remaining Funds
Headwaters St. Marks NFWMD	\$1,500,000	Completed Protection of Sensitive lands
Headwaters St. Marks	\$10,470,221	Ongoing \$6,909,032 Remaining Funds Protection of Sensitive lands
Lake Jackson Basin/Fred George	\$3,042,429	On going \$1,360,203 Remaining Protection of Sensitive lands
Lafayette Floodplain	\$1,392,237	Ongoing \$892,237 Remaining Funds Protection of Sensitive lands
Capital Projects	Allocated Costs	Phase
Capital Circle Northwest (I-10 - US90)	\$75,702,421	Completed
Capital Circle NW/SW (US90 – Orange)	\$100,698,632	Design Completed. Construction Delayed Due to Legal Challenge
Capital Circle SE (Tram to Connie)	\$38,692,559	Completed
Capital Circle SE (Woodville to Tram)	\$38,337,793	Completed
Capital Circle Southeast (Woodville to Crawfordville)	\$11,216,704	Under Construction
Capital Circle SW (Crawfordville to Orange) Design Only	\$4,505,041	Preliminary Design Underway
Capital Cascade Trail – Segment 1 & PM	\$15,014,637	Includes initial CCT concept and Modeling for all segments, Program Management for all segments and Franklin Blvd. Franklin under design.

Capital Projects (cont.)	Allocated Costs	Phase (cont.)
Capital Cascade Trail – Segment 2 (Cascade Park)	\$34,859,124	Under Construction
Capital Cascade Trail – Segment 3 (Monroe to Gamble) & Segment 4 (Gamble to Black Swamp)	\$96,314,692	Preliminary Design Underway
Capital Cascade Trail Connector Bridge	\$ 250,000	Preliminary Design beginning 3/11

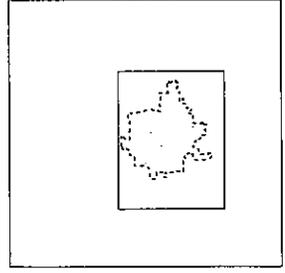
GADSDEN COUNTY



Workshop: COT Water and Sewer Plans
 1 in = 1 mile



- | | |
|-------------------------------|--------------------------------------|
| ▲ Septic Tanks | Major Roads |
| ⊕ Study Areas | Talquin Water and Sewer Service Area |
| ⊕ County Identified Areas | Talquin Water Service Areas |
| ⊕ Urban Service Area Boundary | City Limit |
| ⊕ Additional Areas | County Boundary |
| | Sewer Lines |



DISCLAIMER
 NOTE: This product has been compiled from the most accurate data available from Gadsden County, the City of Tallahassee, and the Leon County Property Appraiser's Office. However, the product and its related products may not be considered as a legal instrument in any jurisdiction. Any reliance on the information contained here, or on its use, is at the user's own risk. Leon County, the City of Tallahassee, and the Leon County Property Appraiser's Office cannot be responsible for any loss of the information contained herein or any loss resulting therefrom.

Map created on December 1, 2010
 by Tracy McClintock
 Tallahassee-Leon County GIS
 Telephone: (850) 606-1529
 Web: <http://www.lcgis.org>



Version: 10/31/08

Attachment B.

Significant Benefit Project Priority List		
DISTRICT 1		
Tier A	Tier B	Tier C
<p>Mahan Drive Section: Dempsey Mayo to I-10 Jurisdiction: State Includes: construction, & ROW Estimated Cost: \$40 million Justification: #1 CRTPA Project Priority; SIS Connector *20% of funds will support transit/bike/pedestrian facilities</p>	<p>★ Bannerman (Phase 1) Section: Thomasville to Tekesta Jurisdiction: County Includes: TBD Estimated Cost: TBD Justification: Alternate route to relieve Thomasville, an SIS Collector *20% of funds will support transit/bike/pedestrian facilities</p>	<p>★ Bannerman (Phase 2) Section: Tekesta to Preservation Point Jurisdiction: County Includes: TBD Estimated Cost: TBD Justification: Alternate route to relieve Thomasville, an SIS Collector *20% of funds will support transit/bike/pedestrian facilities</p>
DISTRICT 2		
Tier A	Tier B	Tier C
<p>Mahan Drive Section: Dempsey Mayo to I-10 Jurisdiction: State Includes: PD&E, construction, & ROW Estimated Cost: \$40 million Justification: - #1 CRTPA Project Priority; SIS Connector *20% of funds will support transit/bike/pedestrian facilities</p>	<p>Woodville Highway Section: Galle Avenue to 21000 feet south north of Capital Circle SE Jurisdiction: State Includes: PD&E, Design, ROW & Construction Estimated Cost: \$53 million Justification: #5 CRTPA Project Priority *20% of funds will support transit/bike/pedestrian facilities</p>	<p>Weems Road Section: Mahan to Capital Circle NE Jurisdiction: City Includes: PD&E, construction, & ROW Estimated Cost: \$17.5 million Justification: - Alternate route to relieve Mahan/CGNE intersection on SIS Collector *20% of funds will support transit/bike/pedestrian facilities</p>
DISTRICT 3		
Tier A	Tier B	
<p>North South Connector Section: Orange to Jackson Bluff Jurisdiction: (City) Includes: PD&E, construction, & ROW Estimated Cost: \$15 million Justification: Relieve CCSW; In City 5-Year CIP *20% of funds will support transit/bike/pedestrian facilities</p>	<p>Pensacola Street Section: Capital Cir SW to Appleyard Jurisdiction: (State) Includes: PD&E, construction, & ROW Estimated Cost: \$40 million Justification: - #12 CRTPA Project Priority; Parallel Route to Tennessee *20% of funds will support transit/bike/pedestrian facilities</p>	
DISTRICT 4		
Tier A	Tier B	
<p>★ Tharpe Street (Phase 1) Section: Blountstown Highway to Ocala Jurisdiction: (County) Includes: PD&E, construction, & ROW Estimated Cost: \$33 million Justification: In LRTP; Parallel I-10 & Tennessee; 60% design complete *20% of funds to support transit/bike/pedestrian facilities</p>	<p>★ Tharpe Street (Phase 2) Section: Blountstown Highway to Capital Circle Jurisdiction: (County) Includes: PD&E, construction, & ROW Estimated Cost: \$16 million Justification: In LRTP; Parallel I-10 & Tennessee; 60% design complete *20% of funds to support transit/bike/pedestrian facilities</p>	
DISTRICT 5 (Multimodal District)		
Tier A	Tier B	
<p>80% - District Bike/Ped/Transit Facilities 20% - FAMU Way bike/ped facilities</p>	<p>100% - District Bike/Ped/Transit Facilities</p>	

