

**EVALUATION AND APPRAISAL REPORT
SECTION D. INFRASTRUCTURE ELEMENT**

Preparation of this document was aided through financial assistance received from the State of Florida Evaluation and Appraisal Report Assistance Program authorized by Chapter 93-206, Laws of Florida, and administered by the Florida Department of Community Affairs.

Prepared August, 1998, by the Putnam County Planning, Zoning and Building Department
Updated June, 1999, by the Northeast Florida Regional Planning Council

I. General Status of the Infrastructure Element

This Element is the Sanitary Sewer, Solid Waste, Drainage, Potable Water and Natural Groundwater Aquifer Recharge Element which is referred to in the Putnam County Plan as either the Public Facilities Element or Infrastructure Element. Below is an analysis of the Infrastructure Element. The analysis is divided into three parts. Part A is an assessment of the background document on which the adopted portion of the element is based. Part B identifies recommended changes to the goals, objectives and policies based on the assessment of the background document and any changes to growth management laws and rules. Please note, further assessment of the objectives and policies is the subject of Section II of this document which includes additional recommendations for amendments to the objectives and policies and provides an assessment of the plan at the date of the EAR. Part C is an assessment of adopted figures, such as maps and lists, which includes a recommendation regarding whether to retain, delete or amend them.

The assessments in Parts A through C include where appropriate the following:

- < summary statements regarding the data and analysis at time of plan adoption
- < identification of changes in conditions described in the element since plan adoption including current conditions
- < provision of a new existing land use map
- < provision of a new table of existing land uses
- < provision of a new existing traffic circulation map
- < a summary of the condition and quality of all natural resources
- < identification of changes made to the element since adoption of the plan including background information, map changes and amendments to adopted maps and text (see Appendix 1)
- < identification of problems specifically listed in Rule 9J-5.0053(6)(a)4.a.-o.(each element will not include all items listed in a.-o., see Appendix 2)
- < identification of other unanticipated and unforeseen problems and opportunities and their impact on the comprehensive plan
- < statements regarding the effect on the comprehensive plan of changes to the State Comprehensive Plan, Strategic Regional Policy Plan, Rule 9J-5, F.A.C., and Chapter 163, Part II, F.S.
- < identification of any needed actions to address the issues raised in this section including

provision of new, revised, minimum 5-year and minimum 10 year time frames and population projections; updated population projections; new and revised goals, objectives, and policies; revised future conditions maps; new capital improvements element; new monitoring and evaluation procedures; and studies to be completed.

A. BACKGROUND DOCUMENT

Summary and Introduction - These sections provide a very brief description of County facilities as they existed in 1991. The introduction provides an intent statement for the element which is referred to as the "Public Facilities" Element. Information in this section has not been updated since 1991 when the plan was adopted.

Recommendation - If it is our intent to provide an element summary, then this section should be updated to provide current information. The introduction should include some reference to how the following document is set up. Change the name of the element to "Infrastructure".

Section I. Sanitary Sewer - This section is divided into two subsections - Existing Conditions and Analysis of Need. Neither subsection has been updated since 1991, when the plan was adopted.

In 1991 on-site sewage disposal and treatment systems (septic tanks) and package treatment plants were the principal means of providing wastewater treatment in the unincorporated portion of the County. Palatka and Crescent City had public wastewater treatment plants, while Welaka had a package treatment plant, but was constructing a public wastewater system. There were thirty-one other private package treatment plants in the County, most of which were located outside of municipal limits. The County did not own, and was not involved in, the operation of public systems. The private package plants were generally operating at capacity. The County did not have any plans to construct a wastewater treatment system at the time of plan adoption, although it was noted that the East Palatka area was under preliminary consideration for a central system. No local level of service standard was set. Sewage disposal systems were to meet the application standards of DOH and DEP.

In 1998 on-site sewage disposal and treatment systems and package treatment plants are still the principal means of providing wastewater treatment in the unincorporated portion of the County. Palatka, Crescent City and Welaka have public wastewater treatment systems. In addition, Putnam County has funding for, and is moving forward with, the construction of a wastewater treatment system in East Palatka. The County has also taken over two package plants since the time of plan adoption, because of default by the operators.

Recommendation - Update information on the number and status of wastewater treatment plants in the County, including details on the East Palatka wastewater treatment system, and changes in existing wastewater treatment plants. Update Table D-1 and provide service area and capacity information for all package plants. Update and expand information on the use of individual on-site sewage disposal systems including identification of potential problem areas due to concentrations of small lot development especially in proximity to water bodies. Combine information on Figures D-1 and D-2 which show soil suitability for individual on site sewage disposal systems.

Section II. Solid Waste - This section is subdivided into five subsections; definitions, existing conditions, recycling efforts, intergovernmental coordination and analysis of need. This section has not been updated since the plan was adopted in 1991. In 1991 the County operated Central Landfill, a Class I landfill, and two Class III landfills. Projected solid waste generation annually through the year

2001 was provided in Table D-3 based on 6.4 pounds per capita per day. Tomoka Refuse Service was the refuse collector for the County other than Palatka and Crescent City. The County was in the process of entering interlocal agreements with the municipalities for waste disposal and reduction. A recycling program had been initiated in response to Senate Bill 1192

In 1998 the County still operates a Class I landfill and is in the process of opening a new cell. The status of the two Class III landfills has changed. Based upon data from the Sanitation Department, the per capita amount of solid waste generated per day has been reduced since 1991. The population estimates were too high. The recycling program has changed, and the refuse collection company is different. State laws pertaining to waste management have been revised.

Recommendation: Update the background analysis based on information received from the Sanitation Department regarding all aspects of waste management including site use and size, planned expansions and closures, recycling program, litter control, refuse collection and intergovernmental coordination. Update tables to provide new 5 and 10 year projections.

Section III. Potable Water - This section is divided into three subsections; existing conditions, cones of influence and analysis of need. This section has not been updated since the plan was adopted in 1991. In 1991 the overwhelming majority of the County was serviced by on-site individual wells. There were also 133 privately operated public water systems which typically service a single development such as a subdivision, business, campground or mobile home park. Palatka, Melrose Crescent City and Welaka all had municipal systems. The information on geographic service areas was not provided. The "Analysis of Need" subsection did not identify any County involvement in providing municipal service. The wellhead protection zone was noted to be a 100 foot fixed radius around wellheads, but this information is different from Policy D.1.7.1 which establishes a minimum of 200 feet and a greater distance if required by State rules. Level of service standards were set to comply with the application standards for DOH and DEP.

In 1999, the overwhelming majority of the County is still serviced by on-site individual wells. The County has become involved in providing service both through receivership from plant operators defaulting on their responsibilities at two plants, and by constructing County operated facilities to address environmental and health concerns in the East Palatka area. The County also operates two systems that were not noted in the 1991 data, one at the Public Works maintenance yard and one at the Agricultural Center. Updated information regarding public water systems is available from the County Public Works Department, Water Management Districts, DEP, and the County Environmental Health Unit.

Recommendation: Update information on the number and status of water systems in the County, including details on the East Palatka water system, and changes in existing water systems. The County will update this section based on information received from SJRWMD regarding wellhead protection zones and will change text regarding wellhead protection zones to be consistent with Policy D.1.7.1. The "Analysis of Need" subsection will be updated based on DOH comments which includes

a note that the number of limited use permits regulated by each department is 165 DEP Water Systems and 139 DOH Water Systems. It is anticipated that this section will also be updated, prior to EAR amendments, after further correspondence with the County Public Works Department, Water Management Districts, and DEP..

Section IV. Drainage - The section is divided into three subsections; existing conditions, analysis of need and existing regulations and programs. The existing conditions subsection provides information on topography, natural drainage features, manmade drainage features, areas of flooding and surface water quality. This section has not been updated since the plan was adopted in 1991. In 1991 there were two drainage districts in the County, which were not identified by geographic area on maps. The County was responsible for drainage associated with County-maintained roads and other drainage improvements accepted by the County for maintenance. The extent of the drainage system was not at all well defined. Problems of flooding, sedimentation and poor water quality were identified. It was noted the County must prepare a master drainage plan. Since there was no stormwater management plan to provide standards, the adopted level of service standards were to comply with state standards for different facility types.

In 1999, the County has new information on flooding and drainage problems due to some storm events between 1991 and 1999, and more water quality information is available. The County has committed to developing a stormwater management plan in 1999.

Recommendation: A work program for developing the master stormwater management plan will be obtained and included . After completion of the Master Drainage Plan this section should be updated again. After consultation with Public Works it was found that the date for which the County has committed to developing a stormwater management plan should be changed to 2000.

Section V. Natural Groundwater Recharge areas. This section is divided into four subsections; aquifers, aquifer recharge classification scheme, existing conditions, and existing regulations and programs that govern land use and development to protect aquifer recharge. In 1991 three primary aquifer systems were identified. The aquifer recharge classifications were low, moderate and high based on inches per year of recharge, and two maps were included. One map showed the general recharge characteristics in the County and the other map showed the recharge rates in a detailed study area of the Fruitland Peninsula area of the County. No specific groundwater quality problems were identified.

The only changes made to this section since the plan was adopted in 1991, were Figures D-7 and D-7a, Aquifer Recharge Maps, were replaced with a new Figure D-7 which is a single updated map from the St. Johns River Water Management District. Map D-7a was deleted. In 1999 the same three aquifer systems exist. Groundwater quality information is available from the water management districts. There have been changes to the regulations and aquifer protection programs since 1991.

Recommendation: The SJRWMD reports that rules that have been promulgated to protect aquifer recharge relate to the District's stormwater rule criteria as cited in Policy A.1.4.16. However, the legislature has passed the Blue-belt legislation as part of Florida Statutes Chapter 193.501, which

grants local governments the power to lower taxes in exchange for temporary conservation easements placed upon the property. The SJRWMD has not mapped any special protection or groundwater problem areas within Putnam County but has provided a map of ARecharge Potential to the Floridan Aquifer. This map will be included in this section. Per SJRWMD recommendations, the APrime Groundwater Recharge areas should be replaced with Aareas of High Recharge Potential to the Floridan Aquifer and made to reflect that areas of High Recharge Potential to the Floridan Aquifer quantify the amount of recharge expected to occur over the course of a year in a given area. The District recommends utilizing the areas marked as having recharge greater than 8 inches a year and above and discharge zones (where the water table is very close to the surface), for the purpose of protection intended in this element. High Recharge Potential to the Floridan Aquifer is defined as having a recharge greater than 8 inches a year. The SJRWMD has not mapped any special protection or groundwater problem areas within Putnam County. Update the existing conditions and analysis to reflect this information obtained from the St. Johns River Water Management District.

B. GOALS, OBJECTIVES AND POLICIES

Amendments to this element of note were as follows:

Ord. 93-19, adopted pursuant to a compliance agreement with DCA to bring the plan into compliance with growth management laws and rules, amended the policies providing level of service standards for the provision of potable water and wastewater service to specifically reference appropriate regulations.

Ord. 98-2 amended Policy D.1.5.5 to reference an updated recharge map completed by St. Johns River Water Management District, and Policy D.1.6.1 to change the date for the County to develop a drainage plan from 1994 to 1999.

In the adopted plan there is a reference to an ordinance in brackets after each objective and policy amended since plan adoption. Changes to Chapter 163, Part II, F.S. and Rule 9J-5 F.A.C., do not require amendments to the plan. No other amendments were identified by the review above. Other amendments to the plan are recommended in Section II of this report which begins on the next page. On July 10, 1997, the Northeast Florida Regional Planning Council adopted their Strategic Regional Policy Plan (SRPP) to replace the Comprehensive Regional Policy Plan (CRPP). There have been changes made to the State Plan since 1991.

Recommendation - All proposed amendments to the goals, objectives and policies of Putnam County's plan must be reviewed for consistency with the SRPP and the State Plan. This will take place as the amendments to implement the findings in this report are prepared for public hearings. Delete all references to the CRPP. See Section II beginning on the following page for additional recommendations.

C. ADOPTED FIGURES (MAPS AND LISTS)

The only changes made to the maps in this element since the plan was adopted in 1991, were amendments adopted by Ord. 98-2 that replaced Figures D-7 and D-7a, Aquifer Recharge Maps, with a new Figure D-7 which is a single updated map from the St. Johns River Water Management District. Map D-7a was deleted.

Recommendation - Retain Figure D-7

II. Achievement of Infrastructure Objectives

Section 9J-5.0053(6)(a)3 of the Florida Administrative Code requires the County to complete an analysis to determine whether or not the objectives adopted in the County's Comprehensive Plan were achieved between December 1991 and June 1999. Below is an analysis of the Infrastructure objectives. Under each objective is a statement indicating what measure should be used to determine whether or not the objective has been achieved, a status statement regarding what has been done to meet the objective, and a recommendation to retain, amend or delete the objective. Following the analysis of the objective, each policy under the objective is analyzed. The analysis includes a recommendation to retain, amend or delete the policy, and statements regarding how the policy has been implemented.

GOAL D.1 [9J-5.011 (2)(a);]: Putnam County shall ensure that Sanitary Sewer, Potable Water, Solid Waste and Drainage shall meet existing and projected demands at the Level of Service identified in this Element. Also, the County, containing land areas of high aquifer recharge capacity, shall protect and preserve this resource for the long-term benefit of its residents and all populations which draw water from this shared resource.

Objective D.1.1 [9J-5.011(2)(b)1 & 2;]: To correct existing deficiencies as well as to coordinate the extension of facilities to meet future needs, the County shall, upon plan adoption, implement the following policies.

Measure: Deficiencies identified, deficiencies corrected and facilities extended. Annual adoption of a five-year schedule of capital improvement needs.

Status: . A Public Works Capital Improvement Plan Project listing is included as Table CI-XI. The draft Land Development Code, to be adopted prior to EAR amendments, includes sections which implement this objective.

Recommendation: Amend Objective D.1.1 to delete "upon plan adoption".

Policy D.1.1.1 [9J-5.011 (2)(c)1;]: Upon Plan adoption, the County shall develop and maintain a five-year schedule of capital improvement needs for public facilities, to be updated annually in conformance with the requirement established by 9J-5.016(4)(a)1.

Amend Policy D.1.1.1 to delete "upon plan adoption" and replace with "annually". The County Administrator organized a Capital Improvements Plan and Schedule. Departments have submitted their 5 year capital improvement needs to Administration and the Administrator formed a committee which reviewed the requests. The resulting Public Works Capital Improvement Plan Project listing, which lists projects recommended to be included in the CIP over a five year period, is included as Table CI-XI.

Policy D.1.1.2 [9J-5.011(2)(c)1;]: The County Commission or its designated representative will coordinate, evaluate, and rank capital improvement projects proposed for inclusion in the 5-year schedule of capital improvement needs, according to the following priority level guidelines:

Level One - Whether the project is needed to protect public health and safety, and to

provide the County's legal commitment to provide services.

Level Two - Whether the project eliminates existing capacity deficits to developed service areas shown for such facilities in the Future Land Use element of this plan.

Level Three - Whether the project represents a logical extension of facilities and services within a designated service area thereby controlling urban sprawl.

Retain Policy D.1.1.2. The Capital Improvements Program committee will consider this policy in setting priorities for the capital improvements plan and schedule. Per a DOH recommendation, the County will consider DOH studies regarding provision of sewerage and water to high density subdivisions utilizing well and septic tanks for ALevel One ranking.

Policy D.1.1.3 [9J-5.011 (2)(c)1;]: Unless modified by an amendment to the element, projects shall be completed in accordance with the schedule provided in the Capital Improvements Five-Year Plan.

Amend Policy D.1.1.3 to clarify amendment to the element means CIE, and to allow modification by Board resolution if allowed by statute and rule. CIP committee will consider this policy in their annual review process.

Policy D.1.1.4 [9J-5.011 (2)(c)1;]: The County shall maintain up-to-date inventories of all public facilities and identify locations required to support future development needs.

*Retain Policy D.1.1.4. An inventory was obtained and provided by the Public Works Department. This Public Works Capital Improvement Plan Project listing is included as Table CI-X1. In addition, the Solid Waste Department has maintained a map of existing solid waste facilities, which will be included in the background element.***Objective D.1.2** [9J-5.011(2)(b)2 & 3]: Upon Plan adoption, the County shall maximize the use of existing infrastructure, coordinate the extension of, or increase the capacity of, potable water, sanitary sewer, solid waste and drainage facilities to meet future needs.

Measure: *Increase/decrease in the percentage of an infrastructure being used. Increase in the capacity of any infrastructure system, or the addition of new infrastructure. Regulate land use and discourage urban sprawl through the land development code, to be adopted prior to EAR amendments. Require concurrency for new developments.*

Status: *County's development review procedures address this policy. The draft Land Development Code, to be adopted prior to EAR amendments, includes sections which implements this policy. Water and sewer facilities are being built in E. Palatka service area by the County. This objective will be considered in annual review of CIP. The Public Works Department has found the above proposed language acceptable and provided a five year Public Works Capital Improvement Plan Project listing included as Table CI-X1.*

Recommendation: *Amend Objective D.1.2 to delete "upon plan adoption"*

Policy D.1.2.1 [Rev. 93-19; 9J-5.011(2)(c)2, identical to Policy H.5.1.1]: The County shall ensure that the continuation of current service and the extension of service into the future meets

the needs of the residents of Putnam County through the endorsement of state regulations pertaining to permitting, construction and quality standards of potable water, specifically:

A. Private water wells shall be permitted and constructed in accordance with the requirements of Chapter 17-532, FAC, Chapter 10D-4, FAC, Rules 40A-E3, FAC, and Putnam County Ordinance 87-2.

B. Water systems serving the public shall be permitted and constructed in accordance with the requirements of Chapters 17-550, 17-555, 17-560, and 10D-4, FAC, and Putnam County Ordinance 87-2.

C. Drinking water shall meet the quality standards established in Chapter 17-555 Part III, and 10D-4, FAC.

D. The minimum gallons per day requirement of new potable water systems serving the public shall be established at a level of service based upon the sewage flow volumes contained in Rule 10D-6.048, FAC, plus ten percent.

E. Water systems designed to serve the public in Putnam County shall provide storage for the number of gallons of potable water at a rate equal to ten times the peak flow per minute (peak flow per minute equals minimum daily design flow divided by 1440 times 4.5).

F. A public water system in Putnam County shall provide a minimum pressure of 20 pounds per square inch at all service connections during peak water demands.

G. The County will not issue construction permits unless the design and location of water supply system (including private wells) has been approved by the County Health Department and/or DEP.

Amend Policy D.1.2.1, County development review procedures address this policy. The draft land development code, to be adopted prior to EAR amendments, includes sections which implement this policy. The Public Works Department suggests that citations be corrected. In order to make these corrections the County will amend this policy based on the following recommendations from agencies: Per SJRWMD comment, change water well construction rule to SJRWMD F.A.C. 40C-3 and SRWMD 40B-3 and Consumptive Use permitting rule to SJRWMD F.A.C. 40C-2. The DOH suggests that D.1.2.1.A read APublic water wells shall be permitted and constructed in accordance with the requirements of the St. Johns River Water Management District. Private water wells shall be permitted and constructed in accordance with the requirements of Putnam County Ordinance 87-2. DOH recommends that policy D.1.2.1.B read AWater systems serving the public shall be permitted and constructed in accordance with the requirements of DEP and DOH. Water systems serving private homes shall be permitted and constructed in accordance with the requirements of Putnam County Ordinance 87-2. DOH suggests that D.1.2.1.C be revised to say ADrinking water shall meet the quality standards established by DOH and DEP. DOH suggests that D.1.2.1.D remove the reference to Rule 10 D 6.048, FAC. DOH suggests that D.1.2.1.E remove the phrase Aat a rate equal to ten times the peak flow per minute (peak flow per minute

equals minimum daily design flow divided by 1440 times 4.5" and insert Aas required by DEP and DOH standards for public water systems. The DEP did not comment on this policy in their response to EAR recommendations. Correspondence between the County and DEP is ongoing and DEP response will be included in the EAR amendments.

Policy D.1.2.2 [Rev. 93-19; 9J-5.011(2)(c)2; identical to Policy H.5.1.3]: The County shall establish the following level of service standards to ensure that the continuation of current service and the extension of service into the future meets the needs of the residents of Putnam County. The permitting, construction and standards for sanitary sewer treatment and disposal shall comply with the following:

A. No septic tank or other domestic on-site sewage disposal system shall be installed until an application form HRS-H Form 4015 is submitted and an "On site Sewage Disposal System Construction Permit" (HRS-H Form 4016) has been obtained from the Department of Health and Rehabilitative Services.

B. The sizing and location of sanitary sewer disposal systems (including septic tanks) shall be in accordance with Chapter 10D-6, sections .044 through .049, FAC, and Putnam County Ordinance Numbers 87-5 and 80-1, as amended by Ordinances 87-8 and 91-03. Rule 10D-6.048, FAC, provides minimum design flows based on estimated daily sewage flow as determined from Table II or according to methodology provided in the rule, which will be used for level of service standards.

C. Treatment and disposal of the sewage flow from a building or establishment shall be in compliance with Florida Department of Environmental Protection (DEP) standards and rules when:

1. The volume of domestic sewage from an establishment exceeds 5,000 gallons per day. Rule 10D-6-048(1) shall be used for determining the total daily establishment sewage flow from all sources located on one or more parcels of land.
2. Sewage or wastewater contains industrial or toxic or hazardous chemical waste.
3. An area is zoned for industrial or manufacturing use, or its equivalent, and where system use may be for disposing of other than domestic wastes.

D. Site evaluation for the location of septic tanks shall meet the site evaluation criteria specified in Chapters 10D-6.047 and 17-600, Part I, FAC.

E. Discharge water quality of wastewater treatment plants shall meet the criteria specified in Chapter 17-600, Part II, FAC.

F. Mandatory connections to municipally owned or investor-owned public sewerage systems shall be required as provided in Sections 10D-6.041(2), 10D-6.042(9), and 10D-6.046(7), FAC.

G. The County will not issue construction permits unless the design and location of the sewage treatment system has been approved by the County Health Department and/or DEP.

Amend Policy D.1.2.2, County development review procedures address this policy. Per DOH recommendation amend policy D.1.2.2A. to add Atreatment and≡after ANo septic tank or other domestic on-site sewage≡and add ATreatment and≡after A. . . an >On site Sewage=≡, delete (HRS H Form 4016) and Aand Rehabilitative Services.≡ DOH recommends that policy D.1.2.2.B be revised to delete the reference to Chapter 10D 6, sections .044 through .049, FAC and replace with ADOH standards for Onsite Sewage Treatment and Disposal Systems≡, remove reference to Rule 10D 6.048, FAC and add ADOH standards for Onsite Sewage Treatment and Disposal Systems≡, and delete the phrase Aflow as determined from Table II or according to methodology provided in the rule.≡ DOH recommends that policy D.1.2.2.C.1 be amended to reflect and increase in gallons per day from 5,000 to 10,000, and to delete the reference to Rule 10D 6 048(1) and replace it with ADOH standards for Onsite Sewage Treatment and Disposal Systems.≡ DOH suggests that the reference to Chapter 10D 6.047 and 17 600, Part I, FAC be removed from policy D.1.2.2.D and replaced with ADOH standards for Onsite Sewage Treatment and Disposal Systems.≡DOH recommends that the reference to Chapter 17 600, Part II, FAC be removed from policy D.1.2.2.E and replace with Aby DEP.≡ DOH also recommends that D.1.2.2.F be revised to replace the reference to Sections 10D 6.041 (2), 10D 6.042(9), and 10D 6.046(7), FAC with a reference to Chapter 381, Florida Statute. DOH should be referenced in D.1.2.2.G instead of the County Health Department according to DOH. Public Works suggested that a reference to DEP rules and regulations for the siting and construction of wastewater treatment plants and collection systems needs to be added to Section B. Ongoing communication with DEP will determine specific references to be added prior to EAR amendments. The draft land development code, to be adopted prior to EAR amendments, includes sections which implement this policy.

Policy D.1.2.3 [9J-5.011 (2)(c)2]: The following level of service standards for drainage facilities shall be used as the basis for determining the availability of facility capacity and the demand generated by a development.

Stormwater management facilities shall be designed to accommodate the 25-year frequency, 24-hour duration design storm to meet the standards that follow:

Water Quantity - Peak post-development run-off rates shall not exceed peak pre-development run-off rates.

Water Quality - Stormwater treatment shall be required for all new development and redevelopment to provide a level of treatment which meets the standards of Chapter 40C-42.025, FAC. Ambient water quality standards will be maintained in accordance with the requirements of Rule 17-302.55, FAC.

Wetland Stormwater Discharge - Permits for wetland stormwater discharge shall follow Rule 17-25.042, FAC.

Stormwater Discharge Facilities - Permits for construction of new stormwater discharge facilities shall follow Rule 17-25.040, FAC.

Closed Conduits - 10 year frequency, 24-hour duration; IDF curve Zone 5, DOT Drainage Manual 1987.

Open Channels - 25 year frequency, 24-hour duration; IDF curve Zone 5, DOT Drainage Manual 1987.

Level of Service - Shall meet DER Stormwater Drainage Rule 17-25 (retain the first inch of stormwater for drainage basins over 100 acres; the first one-half inch of stormwater for drainage basins under 100 acres).

The standards stated above shall pertain to all new development and redevelopment without exception. The exemption regarding project size thresholds provided in Rule 17-25.040, FAC, does not apply for concurrency determination.

Note: The Florida Administrative Code (FAC) citations refer to these regulations as they exist at the time of adoption of this comprehensive plan.

Amend Policy D.1.2.3 (should be identical to H.5.1.5), . to make the policy and Ordinance 83-9 and Ordinance 83-8 consistent with this policy, as, according to the Public Works Department, there are currently discrepancies. The Stormwater Management Plan scheduled for completion in 2002 will use these standards but may also establish different standards which will result in a policy amendment. County development review procedures address this policy. The draft land development code, to be adopted prior to EAR amendments, includes sections which implement this policy.

Policy D.1.2.4 [9J-5.011 (2)(c)2;]: The level of service standards for the County's solid waste facilities of 6.4 pounds per capita per day shall be adopted and utilized to assess adequacy of service and project the expected lifetime of the County landfill.

Amend Policy D.1.2.4 to include updated figures for per capita per day amount and for recycling and yard trash. According to the Solid Waste Department, the pounds per capita per day rate of waste generated is 6.95 based on a population of 70,243 and 89,000 tons of waste collected. The pounds per capita per day rate of waste landfilled is 4.66 based on a population of 70,243 and 59,800 tons of waste landfilled. The County's 1998 recycling rate is 33% which includes 13% for yard trash recycling. County development review procedures address this policy. The draft land development code, to be adopted prior to EAR amendments, includes sections which implement this policy.

Policy D.1.2.5 [9J-5.011(2)(c)2;]: By 1992, the County shall enter into interlocal agreements with the municipalities (of the County) whereby the County and municipalities shall commit themselves to negotiate a solid waste disposal capacity which the County will provide at its landfill to meet reasonable solid waste generation projections of local communities.

Amend Policy D.1.2.5 to remove "By 1992" and reword to reflect current situation. . Per Solid Waste Department recommendation, revise the policy to reflect that the County has entered into and renews annually, interlocal agreements with the Cities of Palatka, Pomona Park, Welaka, Interlachen and Crescent City. These agreements are recorded with the Clerk of the Court and provide for the disposal of solid waste in a proper, sanitary and efficient manner and provide and effective method of collecting the costs of the services rendered.

Policy D.1.2.6 [9J-5.011(2)(c)2]: The County shall continue its recycling effort to meet the requirements of Florida Statutes 403.706(2) and (4), and 187.201(13)(b)1 which commands each county and municipality to undertake recycling efforts and to reduce the volume of solid waste requiring disposal by 30 percent, by 1994. The County shall continue interlocal agreements with each municipality which stipulate how each municipality shall assist in meeting the requirements of Senate Bill 1192.

Amend Policy D.1.2.6 by changing year, and citing law instead of Senate Bill 1192. As the County appears to be expanding it's recycling efforts, consider reflecting expansion programs in the policy. The Solid Waste Department reports that the County, as stated in D.1.2.4 recommendations, has achieved a recycling rate of 33% which includes 13% for yard trash recycling in 1998. In addition, as reflected in D.1.2.5 recommendations, the County has entered into and renews annually interlocal agreements with five cities.

Policy D.1.2.7 [9J-5.011 (2)(c)2;]: All improvements for replacement, expansion, or increase in capacity of facilities shall be compatible with the level of service standards for the facilities stated in this Element and with the scheduling for implementation identified in Subparagraphs 9J-5.0055(2)(a), (b), and (c), FAC.

Amend Policy to correct reference to 9J-5.0055. County development review procedures address this policy. The draft land development code, to be adopted prior to EAR amendments, includes sections which implement this policy. The CIP committee will consider this policy when completing their annual CIP review.

Objective D.1.3 [9J-5.011 (2)(b)3]: Upon plan adoption, the County shall regulate land use and control urban sprawl by adopting land development regulations which require maximum use of current available and planned infrastructure facilities.

Measure: *Land development code adopted. Number of map amendments. Acres of agricultural land changed to residential, commercial or industrial use.*

Status: *County development review procedures address this objective. The draft land development code, to be adopted prior to EAR amendments, includes sections which implement this objective. There have been very few map amendments which were not simply corrections.*

Recommendation: *Revise Objective D.1.3 to delete "upon plan adoption".*

Policy D.1.3.1 [9J-5.011 (2)(c)2;]: The County shall adopt and implement the spatial distribution of land use as identified in the Future Land Use Map.

Amend Policy D.1.3.1 to provide statements to consider availability of infrastructure when processing land use changes. County development review procedures address this policy. The draft land development code, to be adopted prior to EAR amendments, includes sections which implement this policy.

Policy D.1.3.2: The County shall adopt Land Development Regulations that specify density bonuses for development which includes the construction of central water/sewer systems which serve that development and additional bonuses for the construction of water/sewer systems with excess capacity that is made available to new construction that may occur beyond the limits of the planned subdivision. Land development infrastructure density bonuses shall be as provided in the Future Land Use Element adoptable document.

Amend Policy D.1.3.2 to make a proper reference to the land development code and to make it clear that the density bonus can be over the highest density allowed in a future land use category (see also policies under Objective A.1.8, Policies A.1.9.3.C, and A.1.9.4). County development review procedures address this policy. The draft land development code, to be adopted prior to EAR amendments, includes sections which implement this policy.

Objective D.1.4 [9J-5.011 (2)(b)4;]: Upon Plan Adoption, the County shall conserve potable water resources by implementing specific measures in the policies listed below.

Measure: *Per capita water consumption. Commercial water consumption. Assess policies.*

Status: *Draft land development code, to be adopted prior to EAR amendments, includes sections which implement this objective. Policies are evaluated below.*

Recommendation: *Amend Objective D.1.4 to delete "upon plan adoption."*

Policy D.1.4.1 [9J-5.011 (2)(c)3]: The County shall request the assistance of the Suwannee River Water Management District, St. Johns River Water Management District and other agencies to facilitate and conduct a public information program alerting residents of wasteful water practices encouraging responsible and practical use of potable and water resources. Through this program the County shall maintain a public awareness of the diminishing supply of potable water in the State of Florida and be prepared to explore alternative sources of water if the situation becomes exacerbated. The Planning, Zoning and Building Department will display brochures provided by SJRWMD and SRWMD concerning water conservation techniques.

Amend Policy D.1.4.1 to clearly state the County will participate in a public information program to encourage responsible use of potable and other water resources. Planning, Zoning and Building Department has made brochures available. The Administration Department reports that water bills provide conservation information for customers. SJRWMD and SRWMD outreach programs provide brochures free of charge containing effective xeriscaping plants and other water conservation techniques. Change policy to reflect, where the County has control over the public utility supplying water, that conservation information will be distributed in water bills.

Policy D.1.4.2 [9J-5.011 (2)(c)3]: The County shall adopt land development regulations that

implement the requirements of Chapter 553.14, FS, "The Water Conservation Act", and continue to require low water consumption plumbing devices and other water conservation measures, such as xeriscaping.

Amend Policy D.1.4.2, to make proper reference to the land development code, and clarify plumbing code reference. County development review procedures address this policy. The draft land development code, to be adopted prior to EAR amendments, includes sections which implement this policy.

Policy D.1.4.3: To protect the long-term life of the Floridan Aquifer the County shall request the assistance of the SJRWMD and SRWMD to identify and utilize alternative sources of water for commercial, agricultural and industrial operations.

Retain Policy D.1.4.3. This policy is sufficient, the SJRWMD has been working with the County on hooking-up East Palatka to a public supply facility. When the County becomes ready to initiate a waste water system for this area, based on District suggestion, the County will consider a reuse system as a component of the program. County development review procedures address this policy. The draft land development code, to be adopted prior to EAR amendments, includes sections which implement this policy.

Objective D.1.5 [9J-5.011 (2)(b)5;]: The County shall adopt land development regulations that protect the functions of natural groundwater recharge areas and natural drainage features.

Measure: Regulations adopted.

Status: County development review procedures address this objective. The draft land development code, to be adopted prior to EAR amendments, includes sections which implement this objective.

Recommendation: Retain Objective D.1.5

Policy D.1.5.1 [9J-5.011 (2)(c)4]: The County shall coordinate with Florida Department of Environmental Regulation to establish schedules for routine inspection of all County-owned wastewater treatment plants.

Amend Policy D.1.5.1 to give the correct cite for the Department of Environmental Protection. . According to Public Works, DEP inspection of wastewater treatment plants is a standard condition of every permit issued by them, no further agreement with them is required.

Policy D.1.5.2 [9J-5.011 (2)(c)4]: The County shall continue to enforce Section 1A of County Ordinance 80-1, as enacted on the date of plan adoption, which regulates wastewater effluent discharges into the St. Johns River.

Amend Policy D.1.5.2 to update the ordinance reference. County development review procedures address this policy. The draft land development code, to be adopted prior to EAR amendments, includes sections which implement this policy.

Policy D.1.5.3 [9J-5.011 (2)(c)4;]: The County shall endorse SJRWMD and SRWMD programs to determine all known point and nonpoint sources of pollution within the County. All discharges

requiring permits shall be required to meet State Water Quality Standards. Any discharges not requiring permits shall be required to meet any existing Best Management Practices (BMPs).

Amend Policy D.1.5.3 . The Public Works Department supports all efforts by the WMDs to determine all known point and non-point sources of pollution within the County. County development review procedures address this policy. The draft land development code, to be adopted prior to EAR amendments, includes sections which implement this policy and address BMPs. According to the SJRWMD the DEP is in charge of point source pollution permitting (industrial, power and sanitary sewer), not the Water Management Districts. However, the SJRWMD supports the County's effort in this regard. The County will contact DEP prior to EAR amendments to determine what role that agency plays in determining all known point and nonpoint sources of pollution, as the WMD does not regulate point source discharges.

Policy D.1.5.4 [9J-5.011(3)(c)4;]: Upon Plan adoption, groundwater quality within Prime Groundwater Recharge areas to the Floridan Aquifer as defined by the SJRWMD and SRWMD shall be protected through prohibition of landfills, underground storage of toxic materials and locating of hazardous waste sites within such areas, except as may be permitted by other jurisdictional agencies.

Amend Policy D.1.5.4 to delete "upon plan adoption", . Replace references to the APrime Groundwater Recharge areas with Areas of High Recharge Potential to the Floridan Aquifer. Revise policy to reflect that areas of High Recharge Potential to the Floridan Aquifer quantify the amount of recharge expected to occur over the course of a year in a given area. The District recommends utilizing the areas marked as having recharge greater than 8 inches a year and above and discharge zones (where the water table is very close to the surface), for the purpose of protection intended in this policy. This policy will be revised to identify areas of High Recharge Potential to the Floridan Aquifer as having a recharge greater than 8 inches a year. Water quality and water quality protection in discharge zones is adequately addressed throughout the plan in policies such as; E.1.2.17, E.1.2.9, E.1.2.11, D.1.6.1, D.1.6.4, D.1.6.5, D.1.6.6, and D.1.6.7. County development review procedures address this policy. The draft land development code, to be adopted prior to EAR amendments, includes sections which implement this policy.

Policy D.1.5.5 [Rev. 98-2; 9J-5.011(2)(c)4]: The County shall adopt Land Development Regulations that protect areas of high aquifer recharge. Areas of high aquifer recharge would include areas where recharge is more than 8 inches per year, as shown on the St. Johns River Water Management District Map entitled Floridan Aquifer Recharge Areas of Putnam County (December 1996). That portion of the County that falls within the Suwannee River Water Management District is in a high aquifer recharge area. Development in these areas must provide a method of capturing storm water run-off on site in a facility that will treat it and recharge the aquifer, except that a site may be developed without addressing additional stormwater management standards particular to aquifer recharge if it has an impervious surface area of less than 35% of the total area of the site. Site specific information may be substituted for the identified map for the purpose of determining whether or not a particular site is in an area of high

recharge. Approval of a required storm water retention facility by the Director of Public Works is to occur at the time of building permit application. Building permits will not be issued unless this policy is met.

Amend Policy D.1.5.5 to reference Figure D-7 which is the map identified in the policy and reassess the percentage of impervious surface. County development review procedures address this policy. The draft land development code, to be adopted prior to EAR amendments, includes sections which implement this policy.

Policy D.1.5.6 [9J-5.011(2)(c)4]: The County shall amend the Comprehensive Plan and the Land Development Regulations in accordance with Chapter 163.3187, FS, regarding land coverage by impervious area in aquifer recharge areas after reviewing the completed studies and recommendations of, and in consultation with, the SJRWMD.

Delete Policy D.1.5.6 as Policy D.1.5.5. was amended after consultation with the SJRWMD. The draft land development code, to be adopted prior to EAR amendments, includes sections which implement this policy.

Objective D.1.6 [9J-5.011 (2)(b)5;]: Upon plan adoption, the County shall take specific flood protection measures, which will protect all surface water bodies from pollutants.

Measure: *Comparison of water quality data and specific flood protection measures enacted.*

Status: *County development review procedures address this objective. The draft land development code, to be adopted prior to EAR amendments, includes sections which implement this objective.*

Recommendation: *Amend Objective D.1.6 to delete "upon plan adoption".*

Policy D.1.6.1 [Rev. 98-2; 9J-5.011 (2)(c)4]: The County shall adopt as a land development regulation the level of service standards of Policy D.1.2.3 for stormwater management as required by Section 163.3202, FS. By 1999 the county shall develop a drainage master plan, for enactment as a stormwater management ordinance. Upon approval by the Putnam County Board of County Commissioners, the Drainage Master Plan shall be incorporated in a stormwater management ordinance and be made part of the Public Facilities Element through the amendment process presented in Section 163.3187, FS.

The drainage master plan shall delineate strategies for:

- 1) determining the volume, rate, timing, and pollutant load of runoffs where improvements have been made;
- 2) identifying areas which have recurring drainage problems and evaluating the extent to which water bodies are being impacted by the stormwater discharges;
- 3) determining where additional improvements are needed;

- 4) a priority listing of drainage projects based upon Policy D.1.1.2, and costs and time associated with the completion of each project required to correct current deficiencies and meet future needs.

Amend Policy D.1.6.1 to change Public Facilities Element to Infrastructure Element, and correct reference to land development code. County development review procedures address this policy. The draft land development code, to be adopted prior to EAR amendments, includes sections which implement this policy. Drainage master plan should be revised to stormwater master plan. The year to adopt the plan should be changed from 1999 to 2000.

Policy D.1.6.2 [9J-5.011 (2)(c)4;]: The County shall implement a routine maintenance program of County-maintained drainage ditches, the costs of which are incorporated into the County's operating budget, and upon the recommendation of the LPA and approval of the Board of County Commissioners, the Comprehensive Plan shall be amended in accordance with Chapter 163.3187, FS, to incorporate recommendations of the Master Plan.

Amend Policy D.1.6.2 to delete everything after "budget" as the previous policy covers the master plan adoption. According to the Public Works Department, the County currently maintains drainage ditches on an annual basis for road side ditches and when needed for outfalls.

Policy D.1.6.3 [9J-5.011 (2)(c)4]: The County shall coordinate with the Department of Transportation for DOT's fulfillment of DOT's responsibility to implement a maintenance program for drainage ditches along state maintained roads.

Amend Policy D.1.6.3 to remove some DOT references. Public Works department offered two suggestions for this policy. Public Works suggested that the County either delete this policy because the County routinely communicates with the FDOT when problems or concerns occur OR add language to stipulate that the County shall communicate with DOT when necessary. In order to indicate that the County does communicate with DOT on this matter, as proposed by Public Works, the County will add language to stipulate that the County shall communicate with DOT when necessary.

Policy D.1.6.4 [Rev. 93-19; 9J-5.011(2)(c)4]: The County shall, upon Plan adoption and subsequently through its Land Development Regulations, require new development to establish a 20 foot buffer of native vegetation adjacent to wetlands and a buffer adjacent to water bodies meeting the requirements of Policy A.1.4.12 and identical Policy E.1.2.5 to provide filtration of stormwater pollutants. Exceptions to the wetland buffer are provided in Policy A.1.4.13 and identical Policy E.1.2.18.

Amend Policy D.1.6.4 to delete "upon Plan adoption and subsequently through its Land Development Regulations", After consultation with the water management districts, change the 20-foot buffer to an average minimum of 25 feet around a wetland per District-Rule. F.A.C. 40-C-4. County development review procedures address this policy. The draft land development code, to be adopted prior to EAR amendments, includes sections which implement this policy.

Policy D.1.6.5 [9J-5.011 (2)(c)4]: The County shall adopt Land Development Regulations which require that new construction be engineered to reduce erosion due to stormwater runoff both during and after construction. Erosion controls shall include, but not be limited to, the use of hay bales, scheduling of construction, diversion channels and temporary fences.

*Amend Policy D.1.6.5 to make proper reference to the Land Development Code Per the Public Works Department, the last sentence should read A*Erosion control measures shall consist of Best Management Practices available.*≅ (see also Policy A.1.4.8 and E.1.3.4). County development review procedures address this policy. The draft land development code, to be adopted prior to EAR amendments, includes sections which implement this policy.*

Policy D.1.6.6 [9J-5.011(2)(c)4]: The County shall adopt Land Development Regulations which require that surface water runoff from new construction sites be retained on-site to permit no greater runoff than existed prior to construction activities. Exempted from this policy are subdivisions with an approved master drainage plan and construction associated with a DRI.

*Amend Policy D.1.6.6 to make proper reference to the land development code, and may need further revision when the master stormwater drainage plan is completed. . Amend policy per Public Works recommendation, A*The County shall adopt Land Development Regulations which require that surface water runoff from new construction sites not be greater than the runoff from the site prior to construction activities...*≅ County development review procedures address this policy. The draft land development code, to be adopted prior to EAR amendments, includes sections which implement this policy.*

Policy D.1.6.7: The County shall adopt Land Development Regulations that reinforce the Florida Administrative Code 17-3.051 which states that all surface waters of the state shall at all places and at all times be free from domestic, industrial, agricultural or other man-induced non-thermal components of discharge which contribute to surface water pollution.

Amend Policy D.1.6.7 to make proper reference to the Land Development Code, and to clarify the County's role in enforcing this code. County development review procedures address this policy. The draft land development code, to be adopted prior to EAR amendments, includes sections which implement this policy.

Objective D.1.7: Upon Plan adoption, the County shall implement the following policy to reduce the potential of groundwater contamination through well head intrusion into the aquifer.

Measure: Policy implemented.

Status: County development review procedures address this objective. The draft land development code, to be adopted prior to EAR amendments, includes sections which implement this objective.

Recommendation: Amend Objective D.1.7 to delete "Upon Plan adoption".

Policy D.1.7.1: Public water wellheads shall be protected from adverse impacts of development by requiring a minimum 200-foot Reasonable Fixed Radius Zone of non-polluting land uses around each wellhead as described in the SJRWMD publication, SJ91-SP9, "Guide to

Groundwater Protection in Florida", Volume II, January, 1991, pages 62-63; or greater, where required by Chapter 17-555.312, FS.

Non-polluting land uses shall include Recreational and Conservation land uses, low and medium density residential land uses and commercial land uses that do not, in their operations, produce, store, use nor sell toxic materials as defined in SARA Title III (Consolidated List of Hazardous Materials).

Any nonconforming land use located within 200 feet of a well serving the public will not be permitted to expand or be improved.

Should later calculations of zones of influence or zones of contribution by the Water Management District find that cones of influence for wells within the County are greater or less than 200 feet, the Plan shall be amended through procedures identified in Chapter 163, FS, to reserve land use in an amount appropriate to adequate protection.

Amend Policy D.1.7.1, in conjunction with Policies A.1.4.5, A.1.4.6, and E.1.2.15 the County will amend policy based on draft policies and comments pertaining to wellhead protection and stormwater quality supplied by the SJRWMD. County development review procedures address this policy. The draft land development code, to be adopted prior to EAR amendments, includes sections which implement this policy