

## INFRASTRUCTURE ELEMENT

### **GOALS, OBJECTIVES, AND POLICIES**

GOAL 1: Consistency with the 5-Year Capital Improvements Program and the adopted levels of service - required public facilities will be provided in a manner that promotes orderly, compact, and efficient urban growth.

Objective 1.1: The City will ensure that the public facilities needed through 2020 are in place in accordance with the adopted 5-Year Capital Improvements schedule, and ensure that when building permits are issued, adequate facility capacity is available, or will be available to serve the development at the time required. The long-term planning window shall be the period from the 2015 update of this document to 2035. Long-term infrastructure planning needs to build-out are and will be implemented as identified in the Montgomery Watson Harza Facilities Planning Report (2005 ed.).

Policy 1.1.1. The following levels of service are hereby adopted by the City as a means of determining the availability of facility capacity and the demand created by new development:

#### Sanitary Sewer Facilities

200 gallons per day/dwelling unit for dwelling units located in the Urban Services Infill and Transition Areas that are serviced by the City's sanitary sewer utility.

The Level of service standard will be equivalent to the Department of Environmental Protection requirements for package treatment plants as identified in Rule 62-555.348 FAC located in Planned Development Projects and Developments of Regional Impact within the Urban Services Reserve Area.

The City Level of service standard for onsite septic systems will be equivalent to the County Department of Health requirements for septic systems in Planned Development Projects and Developments of Regional Impact within the Urban Services Reserve Area.

No level of service standard exists for individual private homes within the Urban Services Reserve Area.

#### Solid Waste Facilities

Average Solid Waste Generation Rate  
Citywide 4.74 lbs per capita per day

#### Drainage Facilities

Citywide

Based on, *Basis of Review for Surface Water Management Permit Applications*, South Florida Water Management District (See Appendices I and II).

Drainage Facilities Quantity:

Design Storm (3 day duration, 25 year return frequency)

Drainage Facilities Quality:

The City adopts Chapter 17-25, F.A.C. as standards for water quality.

Potable Water Facilities

200 gallons per day/dwelling unit for areas serviced by municipal utilities.

No level of service standard exists for private self serve wells within the Urban Services Reserve Area.

200 gallons per day/dwelling unit for potable water in areas serviced by the Greater Pine Island Water Association.

Policy 1.1.2. All improvements for replacement, expansion, or increase in capacity of public facilities will be compatible with adopted levels of service.

Policy 1.1.3. All new facilities, as well as improvements to existing facilities will be designed to meet or be expandable to meet buildout system requirements.

Policy 1.1.4. The City will maintain procedures to ensure adequate facility capacity before building permits are issued.

Policy 1.1.5. The City will prepare annual summaries of capacity and demand information for each facility to coincide with the annual update to the Capital Improvement Program (CIP).

Policy 1.1.6. Provision by the City of centralized sanitary sewer and potable water service will be limited to the urban services infill and transition areas, as outlined in the adopted future land use map and amended annually via the plan amendment process, and to those areas where the City has a legal commitment to provide services and facilities, including, but not limited to the North Spreader Ecological Management Agreement. The City hereby designates, when feasible, a dual water system which consists of both the irrigation and domestic water supply for the extension of public water service to those portions of the Urban Services Transition Area per the future land use map as amended not currently served by both public water and sewer. In accordance with this, the extension of public water and sewer service to these areas will include the extension of dual water service, when feasible, using non-potable sources for irrigation purposes.

Policy 1.1.7: New City of Cape Coral potable water, wastewater, and public irrigation water facilities, except for water distribution or wastewater collection facilities, shall not be located within the Coastal High-Hazard Area.

Objective 1.2: The City will maintain a five year schedule of capital improvements, to be updated annually to conform to the annual review process for the Capital Improvements Element of this plan.

Policy 1.2.1. Capital Improvements projects proposed for inclusion in the five year schedule of capital improvement needs will be evaluated by City Council or its designee. Council will, at least annually, update this schedule to ensure that public facilities and improvements are provided at adopted levels of service concurrent with growth.

Objective 1.3: The City will continue its cooperation with other local and state agencies for the inspection of on-site wastewater treatment systems.

Policy 1.3.1. Issuance of development permits will continue to be conditioned upon demonstration of compliance with all applicable federal, state, and local permit requirements for on-site wastewater treatment systems.

Policy 1.3.2. The City will coordinate with appropriate federal and state agencies to require that issuance of permits for replacement or expansion of on-site wastewater services is conditioned upon compliance with current regulatory requirements and water quality standards.

Objective 1.4: The City will make maximum use of its existing treatment/processing facilities (in each respective service area) but will construct additional facilities, in accordance with thresholds identified in the Florida Administrative Code.

Policy 1.4.1. Existing septic tanks and package treatment plants may remain in service until such time as centralized service is made available unless the continued operation of the facility poses a threat to public health, safety, or welfare.

GOAL 2: Provision of Sanitary Sewer, Drainage, Potable Water, and Solid Waste Services - the City of Cape Coral will provide sanitary sewer, drainage, and potable water facilities, and will coordinate with private and County sources for provision of solid waste facilities to meet the existing and projected needs identified in this plan.

Objective 2.1: Existing deficiencies will be corrected by undertaking the following projects:

a) Sanitary Sewer and Potable Water  
Implement Utility Expansion Program

b) Drainage  
Implement recommendations of the Master Storm Water Management Plan

Policy 2.1.1. All projects will be undertaken in accordance with the Five Year Schedule of Capital Improvements adopted as part of the Capital Improvements Element.

Policy 2.1.2. Projects needed to correct existing deficiencies will be given priority in the formation and implementation of the Capital Improvements Plan.

Objective 2.2: Projected demands through the year 2018 will be met.

Policy 2.2.1.

The City will meet projected demands by undertaking the following projects within the short-term planning timeframe:

- a. Sewer and Water Projects
  1. Continue to provide planning and studies necessary for orderly expansion
  2. North 1 Utility Expansion Program
  3. North 2 Utility Expansion Program
  4. Construct North Cape Water Reclamation Facility
  5. Upgrade Lift Stations
  6. Rehab/Replace Raw Water Production Wells
  7. Southwest Bio-Solids Centrifuges
  8. Palm Tree Water Main Extension Phase I
  9. Palm Tree Water Main Extension Phase II
  10. Galvanized Pipe Replacement
  11. UCD Administration Building
  12. Manhole Rehabilitation
  13. Infiltration/Inflow
  14. Weir# 4 Construction
  15. Force main Interconnect
  16. Fire Sprinkler Conversion (Irr to PW)

17. Weir# 16 and # 17 Construction
  18. Reuse Water Main-River Crossing
  19. ASR/Irrigation Supply Improvement
  20. North RO Deep Injection Well
  21. Potable Water Infrastructure Replacement
  22. Reuse Utilities Main Extension-FGUA
  23. SWRO Deep Injection Well
  24. Southwest Operations Building
  25. Analyzer Building
  26. Retro SWRO Well Field Control/Communication
  27. SWRO Control Systems Upgrade
  28. Distribution System Automation
- b. Solid Waste Projects
    - to be coordinated with Lee County
  - c. Drainage Projects
    1. Continue to construct city-wide drainage improvements, including modifications to weirs, based on the recommendations in the Master Storm Water Management Plan.
    2. Continue to dredge the canals to provide required conveyance of storm water.

Policy 2.2.2. Projects generally will be undertaken in accordance with the schedule provided in the Capital Improvements Element of this plan and its amendments.

Policy 2.2.3. Projects will be scheduled in such a way as to minimize disruption of services and duplication of labor and to maintain service levels for all facilities.

Policy 2.2.4. All required Federal, State, or County permits must be obtained before the City undertakes, or authorizes contractors to undertake, construction or operation of facilities.

Policy 2.2.5. All projects will be designed and constructed to meet or exceed the needs of

projected population up to and including buildout if appropriate.

Objective 2.3: For areas not currently programmed to receive utilities, the City will extend services to areas consistent with recommendations of an annually updated implementation plan.

Policy 2.3.1. The City will amend its future land use map at least annually via the plan amendment process to include in the Urban Services Transition Area those subdivided units, unplatted areas, and miscellaneous subdivisions which are 30 or more percent developed and which are contiguous to the existing Urban Services Transition Area. Exceptions to this policy are provided for those extreme circumstances where the City has entered into an interlocal agreement to provide centralized utilities, or as provided in Policy 1.1.6 of the Infrastructure Element.

Policy 2.3.2. Provision of potable water and/or sanitary sewer facilities beyond the area shown on the current five year capital improvements plan will be guided by the following methodology unless as otherwise formulated by a comprehensive utility master plan:

1. The subdivided unit to receive sewer or water must be in the Urban Services Infill or Transition area (as defined by the Future Land Use Map, or any amendments thereto.)
2. The subdivided unit to receive sewer or water must be contiguous to a subdivided unit currently receiving sewer or water.

Policy 2.3.3. The extension of water and sewer beyond the adopted Urban Services Infill and Transition Areas may be, pending adequate facility capacity, undertaken through developer contributions, or through special assessment districts, should that option become available to the City.

Policy 2.3.4. Potable water, secondary irrigation water, and sanitary sewer service will be extended concurrently to new service areas unless unusual conditions peculiar to a particular area warrant a deviation based on sound planning principals.

Policy 2.3.5. The City hereby adopts the Water Supply Facilities Work Plan, dated May12, 2014, thereby being consistent with the South Florida Water Management District's Lower West Coast Water Supply Plan Update. The City shall continue to coordinate future updates of the Water Supply Facilities Work Plan with the South Florida Water Management District, as required by law.

Objective 2.4: The City will continue to assure that public health, environmental health, property values, and quality of life is maintained through assurance of the provision of solid waste facilities and services.

Policy 2.4.1. The City will continue to require that all developed properties receive solid waste collection and disposal services.

GOAL 3: Stormwater drainage provision - adequate stormwater drainage will be

provided to afford reasonable protection from flooding and to prevent degradation of quality of receiving waters.

Objective 3.1: By 2020, the stormwater drainage regulations contained in the City's Land Use and Development regulations will be reviewed and amended to ensure that future development utilizes stormwater management systems compatible with an adopted comprehensive stormwater management plan.

Policy 3.1.1. The Public Works Department will ensure that major drainage systems are inspected on an as needed basis, and that they receive required maintenance.

Policy 3.1.2. The City will maintain a Stormwater Utility ordinance or an alternative funding system to fund improvements and maintenance of the stormwater drainage system within the City.

Policy 3.1.3. The City will install a two (2) foot sump in the last accessible catch basin of each drainage system for new systems and as drainage systems are repaired and/or replaced.

Policy 3.1.4. The City will combine stormwater retention/detention as part of development of public parks.

Policy 3.1.5. The City will update a capital improvement schedule for correction of deficiencies in the stormwater drainage system based on historic flooding or pollutant loading conditions.

GOAL 4: Groundwater recharge protection - the functions of natural groundwater aquifer recharge areas within the City of Cape Coral will be maintained.

Objective 4.1: The City will protect the functions of natural groundwater recharge areas through means identified jointly by the City and the South Florida Water Management District (SFWMD).

Policy 4.1.1. The City will maximize recharge of the surficial aquifer by maintaining the function of the weirs and maintaining adjustable structures to provide the maximum the water levels that will not cause flooding or other property damage.

Policy 4.1.2. The City will coordinate with federal, state, and local agencies to achieve regional aquifer recharge protection objectives. Such coordination shall include, but not necessarily be limited to, staff interaction, interlocal agreements, and participation on joint committees.

Policy 4.1.3. The City will investigate methods to develop long term dependable water storage capacity.

Policy 4.1.4. The City will develop a program of best management practices, including techniques such as provision of retention basins, grassed swales, infiltration areas, etc. to protect the surficial aquifer and create development standards which maintain aquifer recharge at its pre-development levels.

Policy 4.1.5. The City will maintain regulations to prohibit littering in canals and lakes and to provide recovery of costs incurred in response and recovery efforts related to hazardous materials incidents to protect the surficial aquifer.

Goal 5: Potable Water resource protection - the City will protect and conserve its potable water resources.

Objective 5.1: The City will continue programs with a goal of continuing to reduce the consumption rate of potable water used for irrigation and other outdoor purposes from (2004) levels.

Policy 5.1.1. The City will incorporate and/or maintain water conservation measures into its land development regulations (adopted pursuant to F.S. 163.3202) and development orders for Planned Development Projects and Developments of Regional Impact including, but not limited to:

- Adherence to the Standard Plumbing Code to require the use of water saving devices.
- Maintain provisions of the Landscape Ordinance that strongly encourage the use of Xeriscape principles.
- Maintain a rate schedule to discourage wasteful use of potable water.
- Establishing irrigation conserving time of use restrictions.

GOAL 6: Efficient and safe solid waste disposal - the City will continue to minimize the per household quantity of non-hazardous solid waste delivered to the Lee County solid waste disposal facilities from Cape Coral and discourage littering and illegal dumping.

Objective 6.1: The City of Cape Coral will reduce the volume of non-hazardous solid waste requiring disposal to seventy percent of the total volume.

Policy 6.1.1. The solid waste materials to be picked up in the City's recycling program shall consist of aluminum containers, steel, tin cans, newsprint/newspaper, magazines, brown grocery bags, glass (clear, brown, and green) containers, and plastic #1 (HDPE), #2 (PETE), #3, #4, #5, #6, and #7 plastic, and cardboard.

Policy 6.1.2. The City will maintain a program to educate the public and increase their awareness of the solid waste disposal problem, and the importance of recycling. This program may include, but not necessarily be limited to, public presentations, video presentations, and publications. This program may be coordinated with similar programs offered by the Lee County Division of Solid Waste, the Lee County Extension Service, and other agencies.

Policy 6.1.3. The City will continue to ensure that collection and disposal of horticultural waste is separate from other waste collection.



Policy 6.1.4. The City will continue to support programs which develop or expand recyclable material markets, especially those involving plastics, metals, paper, and glass.

Objective 6.2: The City will maintain regulations to discourage littering and illegal dumping.

Policy 6.2.1. The City will maintain a requirement that mandates subscription to a solid waste collection service for all occupied dwelling units.