

## INFRASTRUCTURE ELEMENT

### GOALS, OBJECTIVES AND POLICIES

**GOAL 1: WASTEWATER SUB-ELEMENT. TO COORDINATE WITH ORANGE COUNTY TO PROVIDE AN EFFICIENT AND ADEQUATE LEVEL OF WASTEWATER SERVICE IN A COST-EFFICIENT MANNER TO ACCOMMODATE EXISTING AND FUTURE DEVELOPMENT WITHIN THE CITY.**

**OBJECTIVE 1.1:** The City shall coordinate with Orange County Public Utilities (OCU) to provide wastewater service which maximizes use of existing facilities and promotes orderly, compact growth through the implementation of the following policies:

**Policy 1.1.1:** The City shall require all new commercial and residential development to connect to a central wastewater system, if available, within ¼ mile or install dry lines to be connected to a central sewer system when available.

**Policy 1.1.2:** The City shall require that new construction on lots that are less than 1 acre in size use enhanced nutrient reducing septic systems where sewer is not available.

**Policy 1.1.3:** The City shall require all septic tank users to hook into a central sewer system within one (1) year of notification by the City to the property owner that such a system is available ~~(abutting the property)~~. within ¼ mile of the subject property.

**Policy 21.1.4:** The City shall notify all property owners who abut a newly installed central sewer line that the line and capacity are available within 3 months of the installation and operation of the line.

**Policy 21.1.5:** All development order approvals (including institutional use) ~~issued on or after January 1, 1992~~ shall be conditioned upon the availability of adequate wastewater capacity. If the approval of a development proposal would reduce the level of service, the City Council may approve a reasonable use of the property. Reasonable use shall be defined as a use which is permitted under the zoning classification as outlined in the LDC Land Development Code and does not lower the adopted level of service.

**Policy 21.1.6:** ~~Beginning on January 1, 1992, the~~ The availability of wastewater capacity shall be determined using the adopted level of service standards in the Comprehensive Plan. An application shall be filed with Orange County Public Utilities in conjunction with the associated preliminary development submittals (site plan and preliminary plat) for determination of available capacity. Should the availability of services and facilities be found adequate, a written Certification of Capacity will be issued by Orange County Public Utilities.

**Policy 21.1.7:** Deficiencies shall be defined as existing environmental or health problems resulting from a septic tank failure that cannot be improved through maintenance or repair of the septic tank system. When the need arises, the City shall work with the County to develop a funding mechanism, such as grants, low interest loans, or CDBG, to assist in financing the installation of central sewer to correct deficiencies.

**Policy 21.1.8:** ~~Beginning in June 2004, the~~ The City shall coordinate with the Orange County Health Department in the event of suspected failure of a petroleum product tank ~~or~~ septic tank system, or other harmful chemicals and pollutants, and if the need arises, will contract with an independent testing company to determine the magnitude of any problem.

**Policy 21.1.9:** The following standards shall be used to determine whether a District is deficient and needs to be converted to central sewer:

- **Maintenance Failures** – When septic tank systems in a District are deficient. Solution – The homeowners are to repair, replace, or remove petroleum tanks, septic tanks, and drainfields that tests revealed to be deficient and replace with updated septic systems permitted by Orange County.
- **Potential System Failures** – When the septic tank systems in a District are believed to be deficient: Solution – The City will coordinate testing to be performed by Orange County and replacement will be to Orange County standards.

**OBJECTIVE 21.2:** The City shall require the correction of any existing or future deficiencies found in any wastewater systems through the implementation of the following policies.

**Policy 21.2.1:** The City shall require all deficient septic tank systems to hook into a central sewer system, consistent with the City's septic to sewer planning, within one (1) year of notification by the City that such a system is available ~~(abutting) to that property~~ within ¼ mile of the subject property.

**Policy 21.2.2:** The City shall require that the owners of deficient septic systems shall be responsible for removal of contaminated soil and restoration of the site.

**Policy 21.2.3:** In coordination with Orange County, Florida Department of Environmental Protection and the St. Johns River Water Management District, the City shall prepare a Septic to Sewer Conversion Master Plan strategy to inventory existing septic tanks, prioritize conversion to available sanitary sewer services, and identify funding sources through federal and state agencies.

**GOAL 2: NATURAL GROUNDWATER AQUIFER RECHARGE SUB-ELEMENT. TO PROTECT AND MAINTAIN THE FLORIDAN AQUIFER, THE SURFICIAL AQUIFER, AND THE FUNCTIONS OF THE NATURAL GROUNDWATER AQUIFER RECHARGE AREAS WITHIN THE CITY, THEREBY PRESERVING THE POTABLE WATER SUPPLY.**

**OBJECTIVE 2.1:** The City shall protect all aquifer recharge areas through policies listed below.

**Policy 2.1.1:** The City shall maintain a map delineating the aquifer recharge areas and indicating whether it is high, moderate or poor recharge area.

Recharge Area Classifications

Classification	Inch/Year	Comments
No Recharge	0	Water Table is at or above land surface. Surface is usually flat.
Low Recharge	≤2	Water table is at land surface. Dry season allows table to drop and water to percolate. Soil has a high concentration of clay.
Low-Moderate Recharge	2-10	Water table is below land surface. Often has no slope and high amounts of clay-like soils. Percolation of rainwater is limited by clay.
High Recharge	10-20	Land surface is often sloped and the soil is often sandy. The water table is below the land surface.

**Policy 2.1.2:** The City shall continue to require provisions for developments in all recharge areas to protect the ability of the site to recharge the aquifer, protect groundwater quantity and quality by utilizing the following guidelines:

- Limiting the maximum total impervious surface to less than 60% of the total site;
- Requiring retention/detention on-site of the first ½” of runoff over the entire site or the runoff from the first 1” of rainfall, whichever is greater for water quality; and requiring on-site retention/detention of at least the 25-year, 24-hour storm for water quantity.

**Policy 2.1.3:** The City shall require retention/detention basins with no positive outfall for all new development in areas identified as high or moderate recharge areas, but may allow retention/detention basins with positive outfalls for all new development in poor recharge areas.

**Policy 2.1.3.1:** The City shall map and document high, moderate and poor recharge areas.

**Policy 2.1.4:** The City shall utilize information gathered by Orange County, the Army Corp of Engineers, and the St. John's-Johns River Water Management District when developing or revising groundwater recharge regulations.

**Policy 2.1.5:** The ~~LDC's~~ Land Development Code regulations shall continue to provide for imposition of penalties for any person, corporation or other entity which contaminates groundwater or violates the policies identified in this element.

**OBJECTIVE 2.2:** The City shall coordinate with other entities to preserve the quantity and quality of groundwater and to reduce the potential pollution of the aquifers.

**Policy 2.2.1:** After January 1992, the City shall not permit any new wellfields.

**Policy 2.2.2:** The City shall require Xeriscaping in all new non-residential developments in order to reduce the City's consumption of groundwater.

**Policy 2.2.3:** The City shall continue to inform the residents of Belle Isle through educational programming and communication of the need to conserve groundwater and on ways to reduce the demand for groundwater.

**Policy 2.2.4:** The City shall continue to revise the Impervious Surface Ordinance to preserve groundwater quantity and quality.

**OBJECTIVE 2.3:** The City shall adopt the following policies to maintain or improve water recharge to enable safe and sustainable water consumptive use. *[Formerly Conservation Element Objective 1.2]*

**Policy 2.3.1:** The City shall continue to support the St. John's-Johns River Water Management District's water conservation programs by educating the City's residents on the need to conserve water and require water conserving devices in all permits for new construction and renovations. *[Formerly Conservation Element Policy 1.1.3]*

**Policy 2.3.12:** The City of Belle Isle shall continue with the established Wellhead Protection Program in conjunction with Orange County and St. John's-Johns River Water Management District. The program shall address the following issues: *[Formerly Conservation Element Policy 1.1.2]*

- a. Identify zones of contributions and cones of influence for each wellhead as areas within a 500-foot radius of the wellhead;
- b. Regulations prohibiting potentially high-risk land uses, such as but not limited to wastewater facilities, manufacturing and storage of hazardous or toxic wastes, and all industrial uses, within the established cones of influence;
- c. Regulations for ~~Land Use~~ use and development in cones of influence, including a minimum of 20% of total area for open space and a maximum of 80% for development, shall be established to protect the function of natural drainage features and aquifer recharge areas; and
- d. Elimination of all existing high-risk land uses from the identified cones of influence within 5 years.

**OBJECTIVE 2.4:** Ten-year water supply facilities work plan: The City shall assess projected water needs and sources for at least a ten-year planning period by creating and maintaining a water supply facilities work plan (WSFWP). The WSFWP shall maximize the efficient use of groundwater and where possible substitute alternative water sources for the use of groundwater. [*Formerly Conservation Element Goal 3*]

**Policy 2.4.1:** Establish, promote and require water conservation techniques and programs where feasible for current and future development. These techniques and programs are identified in the Water Supply Facilities Work Plan, affixed as an exhibit to the Infrastructure Element. The City of Belle Isle shall continue to implement the water conservation efforts identified in the work plan. [*Formerly Conservation Element Objective 3.1*]

- a. The City's Land Development Code shall be amended to require waterwise landscape and irrigation practices consistent with the Water Management District's lawn and landscape irrigation rule for new development and substantial renovations. [*Formerly Conservation Element Policy 3.1.1*]
- b. The City shall provide information on water conservation to the public through the appropriate form of media. [*Formerly Conservation Element Policy 3.1.2*]
- c. The City shall require all new development and redevelopment to utilize water conserving plumbing fixtures. [*Formerly Conservation Element Policy 3.1.3*]
- d. The City shall promote and encourage the use of Low Impact Development techniques for private development and as part of the city's own public work projects. [*Formerly Conservation Element Policy 3.1.4*]

**GOAL 3: DRAINAGE SUB-ELEMENT. TO MANAGE THE DRAINAGE SYSTEM OF THE CITY OF BELLE ISLE TO PREVENT FLOODING AND IMPROVE THE WATER QUALITY OF THE CONWAY CHAIN OF LAKES.**

**OBJECTIVE 3.1:** The City shall adopt a stormwater management master plan which identifies existing deficiencies in the stormwater drainage system.

**Policy 3.1.1:** The City shall continue to work and update the stormwater management master plan III.

**Policy 3.1.2:** Revenue generated by the Stormwater Utility Fee shall be used exclusively for stormwater projects within the City. Projects not funded will be rescheduled in future years as the funding becomes available.

**Policy 3.1.3:** The City shall obtain approval from St. ~~John's~~ Johns River Water Management District (SJRWMD) for all drainage improvement projects requiring permits.

**Policy 3.1.4:** The City shall include all drainage improvements, exceeding a cost of \$1,000, in the ~~5-year~~ 5-year Capital Improvement Plan ~~Program~~ and in the Capital Improvements Element.

**Policy 3.1.5:** The City shall amend the Comprehensive Plan to incorporate the results of the 2003 stormwater management master plan.

**Policy 3.1.6:** Belle Isle shall continue cooperation efforts through ~~interlocal~~ interlocal Agreements ~~agreements~~ with other governmental agencies that are involved in stormwater management practices affecting the Conway Chain of Lakes. This shall include the sharing of drainage data and information. The stormwater management criteria shall be consistent between each agency, and with all applicable state and federal regulations.

**Policy 3.1.7:** The City shall examine the use of new technologies and innovative techniques for extending the life of the existing drainage system as part of the stormwater management master plan.

**Policy 3.1.8:** The City shall adopt the following implementation as part of the ~~5-Year~~ 5-Year Capital Improvements Program as follows:

**OBJECTIVE 3.2:** The City shall adopt level of service standards that address both water quantity and water quality.

**Policy 3.2.1:** The City shall adopt the following water quality Level of Service standards for all new drainage systems:

All new development and redevelopment ~~will have to~~ shall provide sufficient water retention to meet either the first ½ inch of runoff over the entire site or the amount of runoff from the first 1 inch of rainfall, whichever is greater, and comply with the rules of SJRWMD.

**Policy 3.2.2:** Drainage facilities of all new development shall meet the level of service standards adopted by this Plan.

**Policy 3.2.3:** The ~~LDC's~~ Land Development Code shall contain regulations which govern the design and location of new drainage systems for both commercial site plans and residential subdivisions.

**Policy 3.2.4:** The City shall continue to revise Article ~~XVII~~ III, Section ~~50-74~~, Impervious Surface Ratio, of the City's ~~Zoning~~ Land Development Code, ~~also known as all sections of Ordinance Numbers 88-19 (10-04-1988), 90-5 (05-01-1990), and 03-15 (02-04-2003)~~ to preserve groundwater quantity and quality.

**OBJECTIVE 3.3:** The City shall protect the natural drainage features of Belle Isle through the ~~LDC's~~ Land Development Code regulations, particularly where the water quality of the Conway Chain of Lakes is affected.

**Policy 3.3.1:** ~~After June 1991, the~~ The City shall not permit any new development in flood hazard areas, and will require all new development to be consistent with the Federal, State, and local flood management laws.

**Policy 3.3.2:** The ~~LDC's~~ Land Development Code regulations shall require on site stormwater management systems to be consistent and compatible

with the natural drainage features of the site.

**Policy 3.3.3:** The Land Development Code regulations LDC's shall require stormwater systems to:

- a. ~~have~~ Have peak discharge post development equal to peak discharge prior to development;
- b. ~~not~~ Not cause personal or property damage to adjacent, upstream or downstream property owners; ~~and~~
- c. ~~be~~ Be ~~self-sufficient~~ self-sufficient in each phase of a multi-phased development; ~~and,~~
- d. ~~and comply~~ Comply with the rules of SJRWMD.

**Policy 3.3.4:** ~~After June 1991, the~~ The City shall prohibit any new stormwater system to discharge directly into the Conway Chain of Lakes and canals without treatment through Best Management Practices (BMPs).

**Policy 3.3.5:** The City shall continue to plan for retrofitting of existing direct drainage outfalls into the Conway Chain of Lakes wherever possible, which are located within Belle Isle in order to preserve the water quality. These efforts shall be coordinated with neighboring agencies as outlined in the Intergovernmental Coordination Element and through policies in the Conservation Element.

**Policy 3.3.6:** The City shall continue to identify and apply for available grants to achieve Policy 3.3.5.

**OBJECTIVE 3.4:** The City shall continue to adopt Land Development Code regulations LDC's that require the on-site management of drainage and stormwater based on the following criteria:

- a. either the runoff from the first inch of rainfall on the site or the first two and a half inches of runoff for the impervious areas, whichever is greater;
- b. the requirements of the St. John's-Johns River Water Management District; and
- c. the Level of Service established in the Drainage Sub-element of the Comprehensive Plan. [Formerly Conservation Element Objective 1.1]

**Policy 3.4.1:** The City shall continue to require all new commercial and subdivision development to show on the plans how the retention/detention system will limit sediment loads in the stormwater runoff. [Formerly Conservation Element Policy 1.1.2]

**Policy 3.4.2:** The City shall work with Orange County, the Department of Environmental Protection, the Department of Health, water management districts, and public and private domestic wastewater treatment facilities to develop an onsite sewage treatment and disposal system remediation plan to extend wastewater collection lines and connect priority septic systems to the utilities' central sewer service. [Formerly Conservation Element Policy

1.1.5]

**Policy 3.4.3:** All new development within the city-City of Belle Isle shall be required to connect to and be served by the utilities' central sewer service. [Formerly Conservation Element Policy 1.1.6]

**Policy 3.4.4:** No new permits for septic tanks within the city City limits shall be approved. In areas served by central sanitary sewer facilities where property owners choose to remain on existing septic tanks, no permits shall be issued for repairs to septic tanks. [Formerly Conservation Element Policy 1.1.7]

**Policy 3.4.5:** New development or redevelopment shall be charged the full cost of extending central sanitary sewer services to their project in areas where existing sanitary sewer services do not exist. [Formerly Conservation Element Policy 1.1.8]

**GOAL 4: TO COORDINATE WITH ORANGE COUNTY PUBLIC UTILITIES, AND ORLANDO UTILITIES COMMISSION FOR THE PROVISION OF POTABLE WATER TO THE CITY THROUGH IMPLEMENTATION OF THE FOLLOWING OBJECTIVES AND POLICIES.**

**OBJECTIVE 4.1:** The City shall maximize the use of existing facilities to ensure capacity is available for existing and proposed development.

**Policy 4.1.1:** The City shall adopt level of service standards for potable water as follows:

User	Level of Service Standard
Residential	350 gallons/unit/day
Non-Residential	2,000 gallons/unit/day

**Policy 4.1.2:** All development order approvals (including institutional use) issued ~~on or after January 1, 1992~~ shall be conditioned upon the availability of adequate potable water capacity. If the approval of a proposed development would reduce the level of service, the City Council may approve a reasonable use of the property. Reasonable use shall be defined as a use which is permitted under the zoning classification and does not reduce the level of service.

**Policy 4.1.3:** Beginning on January 1, 1992, the availability of potable water capacity shall be determined using the level of service standards adopted in the Comprehensive Plan. An application shall be filed with Orange County Public Utilities or Orlando Utilities Commission in conjunction with preliminary development submittals (site plan and preliminary plat) for determination of available capacity.

Should the availability of services and facilities be found adequate, a written Certificate of Capacity will be issued by Orange County Public Utilities or Orlando Utilities Commission.

**Policy 4.1.4:** The City's annual water consumption will be equal to or less than the

amount allocated under the District-issued consumptive use permit.

**OBJECTIVE 4.2:** The City shall require all new and existing developments to conserve water through the implementation of the following policies.

**Policy 4.2.1:** The City shall assist in the implementation of water conservation programs of the St. John's—Johns River Water Management District by educating the City's residents on the need to conserve water, and require water conserving devices for all permits for new construction and renovations.

**Policy 4.2.2:** The City shall distribute material to educate the public on the need to conserve water and function as an information center for other agencies, including the St. John's—Johns River Water Management District, Orlando Utilities Commission, and Orange County Public Utilities, to notify residents of any water conservation programs within the City.

**Policy 4.2.3:** The City shall adopt a landscape ordinance which shall include requirements for Xeriscaping in common areas in new subdivisions and commercial developments. The City shall monitor and enforce Xeriscape regulations as outlined in the Article III, Section 50-76 of the LDC—Land Development Code.

**GOAL 5: WATER SUPPLY FACILITIES WORK PLAN. IMPROVE THE COORDINATION OF WATER SUPPLY AND LAND USE PLANNING BY MAINTAINING A WATER SUPPLY FACILITIES WORK PLAN (WSFWP) THAT ADDRESSES THE WATER SUPPLY FACILITIES NECESSARY TO SERVE THE EXISTING AND FUTURE DEVELOPMENT THAT OCCURS WITHIN THE CITY'S WATER SERVICE AREA TO 2018.**

**Objective 5.1:** ~~To maintain a Water Supply Facilities Work Plan (WSFWP) for at least 10 years as required by and in accordance with Florida Statutes that addresses the water supply facilities that are necessary to serve existing and future development within the City's water service area.~~ Ten-year water supply facilities work plan: The city City shall assess projected water needs and sources for at least a ten-year planning period by creating and maintaining a water supply facilities work plan (WSFWP). The WSFWP shall maximize the efficient use of groundwater and where possible substitute alternative water sources for the use of groundwater. [Formerly Conservation Element Goal 3]

**Policy 5.1.1:** The City of Belle Isle Water Supply Facilities Work Plan (~~FY 2008/2009-2017—2018~~) is herein adopted and affixed as Exhibit A to the Infrastructure Element of the Comprehensive Plan.

**Policy 5.1.2:** The city shall participate in updates of the SJRWMD's water supply assessments and updates of the District Water Supply Plan to enable the City to design and implement an effective water supply plan.

**Policy 5.1.3:** The WSFWP shall be updated within 18 months of an update to the St. Johns River Water Management District Water Supply Plan that affects the City.

**Policy 5.1.4:** ~~To e~~ Establish, promote and require water conservation techniques

and programs where feasible for current and future development. These techniques and programs are identified in the Water Supply Facilities Work Plan, affixed as an exhibit to the Infrastructure Element. The City of Belle Isle shall continue to implement the water conservation efforts identified in the work plan. [Formerly Conservation Element Objective 3.1]

- a. The City's Land Development Code shall be amended by 2009 to require waterwise landscape and irrigation practices consistent with the water management Management district's Districts lawn and landscape irrigation rule for new development and substantial renovations. [Formerly Conservation Element Policy 3.1.1]
- b. The City shall provide information on water conservation to the public through printed media and the City's website. [Formerly Conservation Element Policy 3.1.2]
- c. The City shall require all new development and redevelopment to utilize water conserving plumbing fixtures. [Formerly Conservation Element Policy 3.1.3]
- d. The City shall promote and encourage the use of Low Impact Development techniques for private development and as part of the city's own public work projects. [Formerly Conservation Element Policy 3.1.4]

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