

# **COMPREHENSIVE PLAN**

## CONSERVATION ELEMENT

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Policy Document

## **CHAPTER 8: CONSERVATION ELEMENT**

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### **INVENTORY OF MAPS**

**FIGURE 8 – 1 PROTECTED AREAS**

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## INTRODUCTION

The City of Port Orange has played an important role in environmental protection and conservation in the Halifax area and intends to continue to remain active in these areas into the future.

The City's commitment to conservation and environmental protection has been reflected in its willingness to 1) protect floodplains through the Conservation land use designation and Floodplain-Conservation (F-C) Zoning District; 2) regulate tree and vegetation removal; 3) safeguard the purity of the air, water, and soil; 4) avoid the disturbance of wetlands; 5) identify and protect natural communities and endangered species; and 6) take a leadership role in the implementation of wastewater effluent reuse.

The purpose of the Element is to provide guidance for the conservation and protection of natural resources which are important to the local quality of life. The intent of the element is to protect the public health, safety and welfare through the retention and protection of "environmentally sensitive lands." Environmentally sensitive lands are defined as...

"...areas of land or water designated in the plan as being needed to serve the purpose of conserving or protecting natural resources or environmental quality and includes areas designated for such purposes as protection of soils, protection of quality or quantity of groundwater or surface water, shorelines, fisheries and wildlife management, protection of vegetative communities or protection of wildlife habitats."

There is an on-going need to protect the natural resources and environmental quality that attracted people to the area. This Element will help maintain and improve areas that are suited for development and guide new development away from areas that are not.

## GOALS, OBJECTIVES, AND POLICIES

### GOAL 1: CONSERVATION OF AIR, WATER, AND SOIL RESOURCES

CONSERVE, PROTECT, MANAGE, RESTORE, AND ENHANCE THE CITY'S AIR, WATER, AND SOIL RESOURCES IN ORDER TO MAINTAIN A LIVING ENVIRONMENT THAT SUPPORTS A HEALTHY POPULATION AND DOES NOT CAUSE ILLNESS.

**Objective 1.1:** The City shall continue to meet or exceed all minimum air quality levels required by the Florida Department of Environmental Protection (FDEP).

*Policy 1.1.1:* The City shall require all industrial land uses to obtain the necessary state, federal, and local emission permits prior to issuing local construction permits.

*Policy 1.1.2:* Industrial land uses will be located so as to minimize the impact on any areas with identified air quality problems.

*Policy 1.1.3:* No industrial or commercial land uses which would emit air pollutants in sufficient volumes to degrade the City's ambient air quality--whether in terms of public health, visual aesthetics, or odor--will be permitted unless it can be proven to the City that all available pollution control devices and practices will be employed upon occupancy.

*Policy 1.1.4:* In an effort to reduce potential air pollution hazards from automobile emissions, the City will require walls, fencing and/or vegetative buffers between residential land uses and arterial roadways.

*Policy 1.1.5:* Recognizing that automobile emissions contribute to air pollution, the City shall promote the use mass transit and non-motorized transportation modes, as well as encourage a more compact pattern of urban development, in accordance with the provisions of the Future Land Use and Transportation Elements.

*Policy 1.1.6:* The City shall continue to require that all buildings scheduled for demolition or renovation be surveyed by the applicant for the presence of asbestos. Asbestos shall be removed prior to demolition. Any asbestos removal and disposal shall be performed by a contractor licensed by the Florida Department of Professional Regulation.

**Objective 1.2:** The City of Port Orange shall protect, enhance and improve the ambient water quality of surface waters within the City.

*Policy 1.2.1:* The City will continue to monitor and upgrade its sewage treatment facility to insure it complies with state and federal effluent standards.

*Policy 1.2.2:* The City will expand its reclaimed water system in accordance with the 2005 Utility Master Plan and subsequent updates in an effort to improve water quality in the Halifax River. The City shall establish a target of 100% reuse of average daily wastewater flow by the year 2020, except for operational conditions, including current weather conditions, anticipated weather patterns, reclaimed water demand, reclaimed water use patterns, system draw down restrictions, system surplus volume, interruptible customer service restrictions, system operational efficiency, production capability, reclaimed reservoir capacity, availability of storm and groundwater augmentation sources, and other agency regulatory restrictions that require river discharge.

*Policy 1.2.3:* The City will, in cooperation with local, regional, and state agencies, continue to identify, monitor, and where possible, manage, all point and non-point source discharges into area surface waters.

*Policy 1.2.4:* The City shall require, in accordance with the provisions of the Sanitary Sewer Sub-Element, that existing homes utilizing septic tank systems on lots smaller than one acre must connect to the City central sewer system if available within 100 feet of the property.

*Policy 1.2.5:* On-site waste treatment system facilities and drainfields shall not be located within 75 feet of the 100-year floodplain; within 75 feet of an upland/wetland interface; or within 120 feet of the mean high water mark of any surface water body, whichever is greater. On-site waste treatment systems should be located as far inland from a water body or wetland as possible.

*Policy 1.2.6:* The City shall continue to educate residents regarding deliberate deposition of lawn debris, washing of paint brushes, the use of fertilizers and chemicals, or the storage of hazardous chemicals and fuel supplies in close proximity to water bodies. "Close proximity" shall be defined according to the nature of the proposed activity and the degree to which the adjacent water body is to be protected.

*Policy 1.2.7:* The City will continue to utilize standards which meet or exceed the County Minimum Standards regarding surface water quality management, and will meet EPA and FDEP drainage standards for outfalls.

*Policy 1.2.8:* The City shall encourage the establishment of living shorelines and the use of nonstructural shoreline stabilization measures to promote natural water quality improvement.

*Policy 1.2.9:* The City shall support and promote programs to improve the natural tidal flushing action of adjacent water bodies, such as the Halifax River and Rose Bay, as a way to restore and maintain ambient water quality.

*Policy: 1.2.10:* The City shall coordinate with state, regional, and local agencies in permitting the construction of new marina facilities on the Halifax River. In

accordance with the provisions of the Coastal Zone Management Element and the Volusia County Manatee Protection Plan, the City shall continue to enforce its marina facility siting and design standards.

*Policy 1.2.11:* The City will continue to enforce County and State minimum standards for stormwater management and adopt additional requirements, as necessary, to address unique local concerns.

*Policy 1.2.12:* The City will utilize stormwater management design performance standards in accordance with the provisions of the Drainage Sub-element.

*Policy 1.2.13:* The City will work with the FDEP, Volusia County, and the SJRWMD to maintain or improve the water quality in Spruce Creek, thereby, ensuring its viability as an Outstanding Florida Water (OFW).

**Objective 1.3:** Continue to utilize programs and development regulations to protect the Volusia-Floridan sole source aquifer, in accordance with the policies of this Comprehensive Plan.

*Policy 1.3.1:* The City will utilize wellhead protection and water conservation measures in accordance with the provisions of the Groundwater Aquifer Recharge Sub-Element.

*Policy 1.3.2:* The City will monitor ground water testing information on an annual basis to ascertain changes in water quality in the surficial and artesian aquifer.

*Policy 1.3.3:* The City will employ conservation well spacing and withdrawal procedures to avoid saltwater intrusion by:

- A. Monitoring the potentiometric surface of pumping wells and terminating operation when the surface reaches elevation of 5 M.S.L.
- B. Assuring that well spacing be greater than 750 ft. when withdrawal rates exceed 350 GPM in order to control interference drawdown.
- C. Rotating wells in order to reduce withdrawal demand on individual wells.

*Policy 1.3.4:* The City shall prohibit excavation projects from removing the confining layer of material separating the bottom of borrow pits from the top of the aquifer.

*Policy 1.3.5:* Groundwater resources shall be protected from leaking underground storage tanks by the utilization of state-of-the art leak-prevention technology, such as double-walled storage tanks.

*Policy 1.3.6:* All requests for development shall be reviewed to ensure that potential impacts of the proposed development do not negatively impact the quantity and quality of groundwater resources.

**Objective 1.4:** Continue to promote and implement existing water conservation programs.

*Policy 1.4.1:* The average consumption of potable water will not exceed the adopted level-of-service standard in the Public Facilities Element or CUP capacity for groundwater withdrawals.

*Policy 1.4.2:* The City will continue to implement the Master Utility Plan, which, in accordance with the Sanitary Sewer Sub-Element, outlines the planned extension of the City's reclaimed water system to other City properties, private residences, and businesses.

*Policy 1.4.3:* Continue to utilize the Land Development Code to require the installation of reuse mains in new subdivisions, when supply of reclaimed water is available.

*Policy 1.4.4:* The City shall utilize the SJRWMD emergency water use plan during declared water emergencies.

*Policy 1.4.5:* The City shall discourage the over-watering of lawns and other landscaping vegetation, particularly when automatically timed sprinkler systems are used. Furthermore, the City shall continue to prohibit the watering of lawns during hours of high evaporation potential.

*Policy 1.4.6:* The City shall reduce groundwater withdrawal through water conservation and reuse programs as identified in Objective 3 and subsequent policies of the Potable Water Sub-element.

**Objective 1.5:** Continue to protect against local soil erosion by enforcing the City's erosion and sedimentation control regulations.

*Policy 1.5.1:* Development plans shall indicate areas containing highly erodible soils, as defined by the U.S. Soil Conservation Service, and shall minimize and avoid where possible, disturbance of those areas.

*Policy 1.5.2:* The City shall prohibit new development and construction on hydric soils, as defined by the U.S. Soil Conservation Service and Florida Department of Agriculture, except to accommodate an overriding public interest, or as allowed within the wetland regulations.

*Policy 1.5.3:* Any construction, excavation, and land-clearing activities shall minimize the exposed ground surface area. Those areas that are not to be disturbed shall be protected by an adequate barrier from construction activity. Any area that is to be exposed for an extended time period shall be seeded, mulched, or sodded. Whenever possible, natural vegetation shall be retained and protected.

*Policy 1.5.4:* New development activities shall not allow pollution, sedimentation, and/or erosion into adjacent wetlands or other water bodies.

*Policy 1.5.5:* All swales, retention, and detention areas constructed in association with new development shall be sodded or otherwise vegetated to help prevent soil erosion, filter nutrients, and to facilitate efficient maintenance.

*Policy 1.5.6:* The City will, in accordance with the provisions of the Drainage Sub-Element, identify sediment discharge sources to the Halifax River and minimize sediment pollution thereto through the administration of the Stormwater Management Ordinance and the Environmental Preservation Code.

**Objective 1.6:** Protect and conserve area resources through a comprehensive recycling program and by promoting energy efficiency and the use of renewable energy resources.

*Policy 1.6.1:* Continue to maintain and promote a curb side recycling program in coordination with Volusia County.

*Policy 1.6.2:* Continue to maintain a recycling program that reduces the City's waste stream.

*Policy 1.6.3:* In support of state policy, the City shall promote energy conservation and efficiency measures in all "end-use sectors".

*Policy 1.6.4:* Encourage the production and use of energy generated from renewable resources (e.g. solar and wind).

*Policy 1.6.5:* Encourage installation of renewable energy systems by homeowners and businesses.

*Policy 1.6.6:* Maximize natural areas and assets and incorporate Florida Friendly landscaping into development projects to reduce energy and water consumption.

*Policy 1.6.7:* Create, protect and manage systems of "green infrastructure" (i.e., urban forests, parks and open spaces, green roofs, natural drainage systems).

*Policy 1.6.8:* Protect and enhance green spaces to provide natural carbon sinks in soils, vegetation, and streambeds to mitigate carbon emissions.

*Policy 1.6.9:* Encourage site design techniques that restore natural "green infrastructure" (i.e., urban forests, parks and open spaces, natural drainage systems) instead of relying solely on engineered systems that require higher energy and carbon inputs.

**Objective 1.7:** The City will coordinate a hazardous waste management program with

Volusia County, in accordance with the provisions of the Solid Waste Sub-Element.

*Policy 1.7.1:* The City will cooperate with the implementation the County's hazardous waste management program.

*Policy 1.7.2:* The City will utilize its quarterly newsletter to publicize the locations where the County will accept household and small business hazardous waste as part of their collection program.

**Objective 1.8:** The City shall ensure that the local environment is capable of supporting a healthy population and does not cause illness.

*Policy 1.8.1:* The City shall uphold and protect the right of every Florida resident to breathe clean air, drink pure water, and eat nutritious food.

*Policy 1.8.2:* In accordance with the provisions of this Comprehensive Plan, the City shall work with all relevant local, regional, and state agencies to assure a safe and healthful environment by monitoring and regulating activities which impact the quality of the air, water, and food.

*Policy 1.8.3:* The City shall ensure that future growth does not cause the environment to adversely affect the health of the population.

*Policy 1.8.4:* Encourage food production for local consumption in order decrease the distance that food must travel, and consequently green house gas (GHG) emissions, by allowing community gardens by right in appropriate zoning districts.

## **GOAL 2: CONSERVATION OF THE NATURAL ENVIRONMENT**

CONSERVE, PROTECT, MANAGE, RESTORE, AND ENHANCE THE FUNCTIONAL, AESTHETIC, AND QUALITATIVE VALUE OF THE NATURAL ENVIRONMENT FOR THE BENEFIT OF PRESENT AND FUTURE GENERATIONS.

**Objective 2.1:** The City will continue to protect the natural function of the 100-year floodplains of Spruce Creek, the Halifax River, and their tributaries. In accordance with the provisions of the Comprehensive Plan, the City shall enforce development regulations, to maintain the capability of floodplains to carry, store and filter flood waters.

*Policy 2.1.1:* The City will continue the use of the Conservation land use designation, as well as the Floodplain-Conservation (F-C) Zoning District, to protect the natural functions of floodplains and shorelines. Permitted uses shall be limited to those described in the Future Land Use Element.

*Policy 2.1.2:* In addition to the Conservation land use designation and the Floodplain-Conservation (F-C) zoning district, the City shall protect Spruce Creek through the use of the "Spruce Creek Environmental Corridor." The corridor is defined as the area within 50 feet landward from the top of the river bank. In places where the top of the bank is not discernable, either the mean high water line or the upland/wetland boundary shall be used, whichever is greater. Development within the corridor shall be managed as follows:

- A. Lots created after November 1, 1990 shall denote the corridor on the lot survey, and shall dedicate the corridor to the City via conservation easement.
- B. Only water-dependent uses within the corridor are permitted.
- C. Existing vegetation within the corridor shall be preserved. Where native vegetation has been disturbed in the past, it shall be restored concurrent with new development.
- D. Where new plantings are required, a restoration plan, specifying appropriate vegetation for rehabilitation of shores and associated lands (such as grasses for submerged lands and shorelines, and trees/shrubs for banks sloping away from shore) shall be submitted as part of the development proposal. The type of vegetation selected for new plantings shall be based upon its ability to provide shore stabilization, water purification, and wildlife habitat.

*Policy 2.1.3:* Floodplains whose functional values have been degraded or destroyed through human intervention should be restored, if possible, through the public acquisition of historic floodplain lands. Various state, regional, and local acquisition programs shall be used for this purpose.

*Policy 2.1.4:* No fill will be allowed in the Floodplain-Conservation (F-C) Zoning District that will decrease the flood carrying capacity of the riverine floodplain, except as provided by *Policy 2.1.6* below.

*Policy 2.1.5:* No fill will be allowed in isolated floodplain pockets that will decrease the flood storage capacity of depressional wetlands, except as provided by *Policy 2.1.6* below.

*Policy 2.1.6:* If any filling of land occurs during site design such that the volume of floodplain storage would be reduced, an equal volume of soil shall be excavated within the same floodplain to provide compensatory storage. Such excavations shall not be located within land areas identified for preservation purposes, or within the jurisdictional wetland limits of regulatory agencies, except for the purpose of providing pretreated stormwater storage capacity.

*Policy 2.1.7:* The City shall ensure that fill material or other structures do not adversely obstruct the natural movement of floodwater overland sheetflow or pose a threat to the public health, safety, and welfare.

*Policy 2.1.8:* The City shall encourage the development of a strict floodplain management program by state, regional, and local governments designed to preserve hydrologically significant wetlands and other natural floodplain features.

*Policy 2.1.9:* The City shall continue to participate in the National Flood Insurance Program.

***Objective 2.2:*** The City shall protect wetlands by directing incompatible uses away from wetland areas, and establishing standards for mitigation based on a policy of no-net-loss of wetlands function, as a last resort.

*Policy 2.2.1:* The City will continue to protect the natural functions of wetlands through the Conservation land use designation, as well as the Floodplain-Conservation (F-C) Zoning District. Wetlands that do not currently fall under this designation or zoning district shall be protected in accordance with the Land Development Code Environmental Protection regulations.

*Policy 2.2.2:* Land use planning and site design shall support development patterns that minimize the impact of development on wetland communities.

*Policy 2.2.3:* The City shall maintain acceptable criteria for wetland modification in the Land Development Code, consistent with the minimum standards for wetland protection as approved by Volusia County.

*Policy 2.2.4:* Where the direct impact upon wetlands by incompatible uses cannot be avoided outright on new development or redevelopment sites, mitigation proposals shall be considered that shall include one or more of the following mitigation strategies, listed in descending order of preference:

- A. Minimize impacts by limiting the degree or magnitude of the action or its implementation.
- B. Rectify the impact by repairing, rehabilitating, or restoring the affected environment.
- C. Reduce or eliminate the impact over time through preservation and maintenance operations over the life of the action.
- D. Compensate for the impact by replacing or providing substitute resources or environments through the creation of new wetlands, enhancement of existing wetlands, or restoration of wetlands or significant upland areas that are no longer functioning due to significant past alteration.

*Policy 2.2.5:* Mitigation shall take place on-site or in close proximity, and within the same drainage basin or sub-basin. Mitigation through restoration of other degraded wetlands or preservation of significant upland areas is preferred over wetland creation. In lieu of mitigation requirements, the City may collect a mitigation fee that will fund an off-site wetlands mitigation bank program.

*Policy 2.2.6:* Wetlands shall not be used as sediment traps during development. No grading, cutting, or filling shall commence adjacent to wetland areas until erosion and sedimentation control devices have been installed between the disturbed area and the wetlands.

*Policy 2.2.7:* The City shall encourage the incorporation of natural drainageways and isolated forested wetlands into stormwater management systems as detention facilities, in order to avoid the filling and excavation of wetlands. Hydroperiods and stage elevations shall be designed to maintain the existing natural wetlands community, except in such cases when permitting agencies agree that water quality, wildlife habitat, or other wetlands functions can be enhanced by alteration of the natural community.

**Objective 2.3:** The City shall provide for the perpetuation of the Port Orange urban forest, as well as require, through its Land Development Code regulations, the protection and use of drought resistant, native vegetation, and Florida Friendly landscaping and sod on sites under development review.

*Policy 2.3.1:* All new development, expansions of existing development, and redevelopment, except for single-family homes, shall provide for the protection of native vegetation on site, and the removal of invasive, exotic plant species. Existing developments should utilize native plants in common areas in instances where replanting becomes necessary.

*Policy 2.3.2:* The City shall require the protection of specimen and historic trees, as defined by the minimum County standards, which have been identified on sites under development. Such trees shall be preserved and protected through conservation easements granted to the City.

*Policy 2.3.3:* The City shall continue to review proposals to clear, fill, or excavate sites under development where such alteration would result in the destruction, moving, or removing of trees and natural vegetation. In order to preserve the existing vegetation to the greatest extent possible, all development proposals shall be reviewed according to the following criteria:

- A. The extent to which the actual or intended use of the property requires cutting down or destroying trees, or necessitates a change of grade;
- B. The desirability of preserving any tree by reason of its size, age, or some other outstanding quality, such as uniqueness, rarity, or status as a historic or specimen tree;
- C. The extent to which the area would be subject to increased water runoff and other environmental degradation due to removal of vegetative cover or change of grade;
- D. The heightened desirability of preserving or enhancing tree cover in densely developed or populated areas;
- E. The need for visual screening in transitional areas, or relief from glare, blight, commercial or industrial unsightliness or any other affront to the visual or aesthetic sense in the area;
- F. The effect that changes in the natural existing grade will have on the trees to be protected and preserved; and
- G. The effect that changes in the natural existing grade will have on drainage

and its impact on adjoining properties.

*Policy 2.3.4:* To ensure survival of trees during construction, the City shall utilize the provisions of the Tree Protection Manual for Builders and Developers published by the State Department of Agriculture and Consumer Services.

*Policy 2.3.5:* The City shall require, through its Land Development Regulations, that a minimum of 50% of the landscaping on any site design be selected from a list of drought resistant native vegetation, and shall be based on the Florida Friendly landscape principals described in the Florida Friendly Yard and Neighborhood Program.

*Policy 2.3.6:* A minimum of 75% of shade trees preserved or planted on any site design shall be native Florida trees.

*Policy 2.3.7:* Encourage multiple uses of forest resources, where appropriate, to provide for timber production, recreation, wildlife habitat, watershed protection, erosion control, and maintenance of water quality.

*Policy 2.3.8:* Vegetation on new City landscaping projects shall incorporate the Florida Friendly landscaping principals described in the Florida Friendly Yard and Neighborhood Program.

*Policy 2.3.9:* The City will continue to maintain its Tree City USA status and will seek to increase the tree canopy throughout the City.

*Policy 2.3.10:* The City will seek to partner with the Florida Department of Transportation, the County, and private developments to consider additional opportunities to increase the tree canopy within the road rights-of-way throughout the City.

***Objective 2.4:*** Continue to utilize Land Development Code regulations to preserve natural communities identified as potential habitat for listed plant and animal species.

*Policy 2.4.1:* The City shall continue to utilize the Conservation land use category along with the F-C zoning designation to protect natural communities identified as potential habitat for listed plant and animal species. Permitted uses shall be limited to those described in the Future Land Use Element.

*Policy 2.4.2:* The City shall work with local, regional, state, and federal agencies to maintain, refine, and expand its Florida Land Use and Cover Forms Classification System (FLUCFCS) inventory and map of natural communities potentially inhabited by species endangered, threatened, or of special concern.

*Policy 2.4.3:* Continue to utilize regulations requiring the submission of a survey showing species that are endangered, threatened, or of special concern for proposed

development requiring site plan or plat approval. Surveys required by this policy shall include the following information:

- A. The vegetative community types observed on the site, in accordance with the natural communities listing in this Element;
- B. The presence or evidence of listed species; and
- C. The field surveying method applied, such as transect, arrays, etc.

*Policy 2.4.4:* Site development activities shall not result in the harming, pursuit, or harassment of wildlife species classified as endangered, threatened, or of special concern by either the state or federal governments, as required by state and federal laws. Should such species be determined to be residing on, or be otherwise significantly dependent upon the project site, the developer shall cease all activities which might negatively affect that individual or population and immediately notify the Florida Fish and Wildlife Conservation Commission, or FDEP, the U.S. Fish and Wildlife Service, and the City. Proper protection and habitat management, to the satisfaction of all agencies, shall be provided by the developer.

*Policy 2.4.5:* Where natural communities and listed species habitats are found on a site, in accordance with *Policies 2.4.3 - 2.4.4* above, such areas shall be protected in perpetuity, to the greatest extent practicable, through appropriate legal mechanisms. Protection mechanisms may include conservation easements dedicated to the City, rezoning of the area to Floodplain-Conservation (F-C) in conjunction with a rezoning of the site, or changing the future land use designation of the area to Conservation in conjunction with an amendment to the Future Land Use Map of the site. Other mechanisms may include buffer zones, acquisition, density transfers, transfer of development rights (TDRs), purchase of development rights or land exchanges. The adequacy of any particular protection mechanism shall be evaluated based on the following:

- A. Approval by the Florida Fish and Wildlife Conservation Commission, which will be consulted by the City;
- B. Provision of any permits needed from the Florida Fish and Wildlife Conservation Commission or the U.S. Fish and Wildlife Service;
- C. The connection of conservation easements, zones, or land use designations on the subject development property to any like easements, zones, or land use designations on adjoining properties, and/or to the city's designated environmental corridor along Spruce Creek; and
- D. The cumulative and macro-level impacts upon native floral and faunal species, their habitats, and wildlife corridors.

*Policy 2.4.6:* The City shall encourage the clustering of residential units where functioning natural communities or critical habitats, as defined by local, state and federal regulatory programs, are preserved on the site.

*Policy 2.4.7:* The City shall continue to ensure the protection of manatees by, at a minimum: supporting the regulation and enforcement of boat speeds; regulating safety and water sports activities; utilizing the boat facility siting plan in Phase II of the Manatee Protection Plan for Volusia County (October 2005); monitoring and

ensuring the proper maintenance of signage denoting manatee habitat and associated boat speed zone; requiring mitigation through contributions to the Manatee Conservation Fund; and ensuring the distribution of educational materials about manatees and their protection at boat launch and marina facilities. All manatee protection measures shall be consistent with Phase I (February 2001) and Phase II (October 2005) of the State approved Manatee Protection plan for Volusia County.

*Policy 2.4.8:* Any bridge or road crossings over water bodies and/or wetlands shall be designed and constructed to minimize the right-of-way width, minimize overstory vegetation removal, and provide adequate space under the bridge or road span to accommodate normal wildlife movement and water flow.

*Policy 2.4.9:* The City will continue to cooperate with Volusia County and the adjacent coastal cities to conserve and protect unique natural communities located within more than one local jurisdiction.

*Policy 2.4.10:* The City of Port Orange shall protect the water resources within its jurisdiction by regulating boating impacts to this environment consistent with the Volusia County Manatee Protection Plan, and as described in Objective 5.5 and associated policies within Coastal Zone Management Element of this Plan.

*Policy 2.4.11:* The City, in cooperation with State, regional, and local agencies, shall participate in a program to enhance the aesthetic, recreational, botanical, fish, and wildlife values of spoil islands.

*Policy 2.4.12:* Protect existing natural shoreline areas, establish shoreline management standards that minimize the impact of man-made structures on shoreline systems, and restore altered shorelines within the City's jurisdiction.

**Objective 2.5:** Continue to protect resource-based recreation areas from adverse impacts of adjacent development.

*Policy 2.5.1:* Require a buffer zone between adjacent development and resource based parks.

*Policy 2.5.2:* Coordinate the extension of wildlife corridors with adjoining development through the development review process.

*Policy 2.5.3:* The City shall monitor and review development and recreation activities along Spruce Creek and its tributaries to identify the impacts that these activities have on fish and wildlife within the creek's riparian wildlife corridor.

### **GOAL 3: LOW IMPACT DEVELOPMENT**

FOR NEW DEVELOPMENT AND REDEVELOPMENT, ENCOURAGE LOW IMPACT

DEVELOPMENT (LID) TECHNIQUES, AND PURSUE COMMITMENTS TO REDUCE STORMWATER RUNOFF VOLUMES AND PEAK FLOWS, TO INCREASE GROUNDWATER RECHARGE, AND TO INCREASE PRESERVATION OF UNDISTURBED AREAS.

**Objective 3.1:** By 2025, the City shall amend the Land Development Code to eliminate impediments to LID techniques.

*Policy 3.1.1:* Integrate into the Land Development Code the source control concept that places a greater importance on managing smaller, cost-effective landscape features located on each lot rather than through costly pipe and pond stormwater management design.

*Policy 3.1.2:* Maintain or improve infiltration, frequency and volume of discharges, and groundwater recharge by placing greater emphasis on reducing pervious surfaces, functional grading, open channel sections, and increasing the use of bioretention/filtration landscape areas.

*Policy 3.1.3:* Integrate alternative stormwater management practices such as on-lot microstorage, functional landscaping, open drainage swales, reduced imperviousness, flatter grades, increased runoff travel time, and depression storage into a multifunctional site design.

*Policy 3.1.4:* Encourage integrated stormwater management practices (IMPs), which distribute stormwater in small portions of a lot or parcel, near the source of impacts.

*Policy 3.1.5:* Amend the Land Development Code and Construction Details to permit LID designs that can significantly reduce development costs by:

- Reducing impervious surfaces (roadways), curb, and gutters;
- Decreasing the use of storm drain piping, inlet structures; and
- Eliminating or decreasing the size of large stormwater ponds.

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