

CHAPTER 5: CONSERVATION ELEMENT

This section stipulates goals, objectives, and implementing policies for the Conservation Element Pursuant to 163.3177(6)(d), F.S., and Rule 9J-5.013(2), F.A.C.

GOAL 5-1: CONSERVE, PROTECT, AND APPROPRIATELY MANAGE AND RESTORE THE CITY'S NATURAL RESOURCES. THE CITY OF SANFORD SHALL ENHANCE THE QUALITY OF NATURAL SYSTEMS, INCLUDING BUT NOT LIMITED TO: AIR, SURFACE WATER, GROUNDWATER, WETLANDS, FLORA AND FAUNA, SURFICIAL AND FLORIDAN AQUIFERS THROUGH CONSERVATION, PROTECTION, AND MANAGEMENT ACTIVITIES.

Objective 5-1.1: Protect Air Quality. The City shall meet or exceed the minimum air quality standards established by the Florida Department of Environmental Protection (DEP) and shall continue to enforce regulatory programs to prevent and/or minimize non-point sources of air pollution.

Policy 5-1.1.1: Cooperate with DEP Air Quality Monitoring Activities. The City of Sanford shall cooperate with DEP in the monitoring of air quality and in the placement of air monitoring devices currently located in the City of Sanford. Such cooperation shall be furthered by City enforcement of the techniques which include:

- Combat erosion and generation of fugitive dust particles;
- Achieve compatible land uses;
- Require new development to incorporate design features responsive to prevailing wind directions and other pollution abatement factors;
- Abate nuisance factors by mandating that new development be designed in a manner which avoids emissions of smoke, particulate matter including dust, odor and toxic matter which exceed best management standards;
- Require proposed developments of regional impact respond to East Central Florida Regional Planning Council air quality management techniques which include air quality monitoring and modeling; and
- Assist Seminole County's air quality monitoring programs.

Policy 5-1.1.2: Combat Erosion and Generation of Dust Particles. The City shall require that measures be taken on sites proposed for excavation and/or construction activity as well as on cleared areas which assure that exposed, destabilized, or other altered soil is expeditiously covered with an acceptable erosion control material to combat erosion and generation of fugitive dust particles. Every use shall be so-operated as to prevent the emission into the air of dust or other solid matter. The City shall also require that soil erosion and sedimentation control techniques be implemented as required in this plan.

Policy 5-1.1.3: Maintain Air Pollution Nuisance Abatement. The City shall continue to protect against loss of air quality by maintaining land use controls which promote only activities compatible with existing land uses and natural systems and by enforcing nuisance abatement regulations governing emission of smoke and particulate matter. In addition, site plan review standards shall

include consideration of prevailing wind directions and other pollution abatement factors in the site plan review process. All uses and development activity shall be constructed, maintained and operated in a manner which is not injurious or offensive to the occupation of adjacent premises due to the emission or accretion or smoke, dust or other particulate matter, toxic or noxious waste materials and odors. Air pollutants, including smoke, particulate matter, odor and toxic matter shall be abated pursuant to the following criteria:

1. Smoke. Every use shall be operated as to prevent the emission of smoke as specified in Florida Administrative Code (F.A.C.).
2. Particulate Matter Including Dust. Every use shall be operated as to prevent the emission into the air of dust or other solid matter as specified in F.A.C.
3. Odor. Every use shall be operated as to prevent the emission of objectionable or offensive odors in such concentration as to be readily perceptible at any point at or beyond the lot line of the property on which the use is located as specified in F.A.C.
4. Toxic Matter. The ambient air quality standards for guiding the release of airborne toxic materials across lot lines shall be in accordance with F.A.C.

The City shall require that applications which are developments of regional impact include applicable techniques for responding to air quality management required by the East Central Florida Regional Planning Council.

Objective 5-1.2: Ensure Water Quality And Quantity. Coordinate with Seminole County, St. Johns River Water Management District (SJRWMD) as well as federal, State, and regional entities having water-related jurisdiction, in order to conserve and protect the quality and quantity of current and projected future water sources and surface water run-off.

Policy 5-1.2.1: Coordinate Surface Water Management and Land Use. The City shall protect groundwater from point and non-point pollution sources by assisting the State and SJRWMD in managing water quality by preventing the discharge of poor quality stormwater into public water bodies through the adoption of the following level of service standard:

- a. Surface water management systems shall be designed and constructed to meet the following standards:

Limit the allowable stormwater peak discharge detained from a site to be developed or altered to the pre-development or pre-alteration peak discharge for the 25-year frequency, 24-hour duration storm with positive outfall or 96-hour duration without positive outfall. In addition, the City's shall enforce regulations governing surface water management to include the following considerations.

Incorporate a floodplain management standard which requires that no net reduction occur in flood storage (e.g., 100-yr flood) for any development within the impacted area. The intent is to allow some development to occur in the 100-yr floodplain but only where drainage improvements are constructed which provide compensatory storage in order to alleviate flood problems within the impacted area. However, no development shall be allowed within the 100 year flood hazard area (floodway).

The stormwater management ordinance shall include mandatory retention and/or detention of stormwater discharge from developed or altered sites which in the City Engineer's discretion are volumetrically sensitive. Furthermore, the ordinance shall incorporate applicable SJRWMD storm water management criteria.

- b. A vegetated and functional littoral zone shall be established as part of the surface water management system of lakes occurring on all property, excluding seawalled area, and navigation areas. Prior to construction of the surface water management system for any phase of a project, the developer shall prepare a design and management plan for the wetland/littoral zone that will be developed as part of these systems. The plan shall:
 - i. Include typical cross sections of the surface water management system showing the average water elevation and the three foot contour (i.e., below average elevation);
 - ii. Specify how vegetation is to be established within this zone, including the extent, method, type and timing of any planting to be provided; and
 - iii. Provide a description of any management procedures to be followed in order to assure the continued viability and health of the littoral zone. The littoral zone as established shall consist entirely of native vegetation and shall be maintained permanently as part of the water management system. As a minimum, 10 square feet of vegetated littoral zone per linear foot of lake shoreline shall be established as part of the surface water management system.
- c. All lakes and major tributaries within the City of Sanford, including Lake Monroe and its tributaries are Class III waters. The City shall limit dredging activities to DEP approved dredging. Furthermore, the City shall ensure good water quality by coordinating with the DEP and the SJRWMD in monitoring the quality of stormwater run-off and all discharge. The City shall notify the appropriate agency with jurisdiction as potential issues or problems are identified by the City. The City shall limit the use of Class III waters to water dependent activities that are not contrary to the public interest and satisfy a community need.
- d. Stormwater facilities shall be designed to meet the design and performance standards established in Ch. 62, F.A.C. with treatment of the runoff from the first one inch of rainfall on-site to meet the water quality standards required by Ch. 62, F.A.C. Stormwater discharge facilities must be designed so as not to degrade the receiving water body below the minimum conditions necessary to assure the suitability of water for the designated use of its classification as established in Chapter 62, F.A.C. Where a conflict exists between two or more LOS standards, the more restrictive shall be enforced.

Policy 5-1.2.2: Monitor-Stormwater Issues. The City shall coordinate with the ECFRPC and the DEP in matters regarding documentation of:

- stormwater management practices;
- stormwater construction and maintenance costs; and
- monitoring of selected stormwater management facilities.

Finally the City shall coordinate with the, ECFRPC, DEP the SJRWMD and other entities as directed in a unified State program directed at educating the general public on the non-point source

pollution problems and available stormwater management practices to abate non-point source impacts on water quality.

Policy 5-1.2.3: Regulate Agricultural Activities to Preserve Water Quality. The City of Sanford shall incorporate and enforce regulations requiring that agricultural activities shall:

- a. Not be conducted adjacent to existing waterways and shall require that surface water management activities comply with all applicable policies of the DEP, SJRWMD, and other agencies having appropriate jurisdiction as well as State laws;
- b. Maintain natural drainage patterns;
- c. Promote the use of surface water supplies for irrigation purposes;
- d. Prohibit the expansion of agricultural activities into wetland areas; and
- e. Use best management principles and practices in order to reduce pesticide and fertilizer run-off, prevent soil erosion, and preserve water quality.

Policy 5-1.2.4: Regulate Wastewater Treatment Discharge to Preserve Water Quality. The City of Sanford shall incorporate the following performance standards in order to protect water quality:

- a. All new residential subdivisions as well as multiple family and nonresidential development within the City of Sanford which are served by existing or planned future expansions to the City of Sanford wastewater collection and disposal system shall be required to connect to the public wastewater system.
- b. In areas where developments cannot be connected to the public sewer, private wastewater disposal systems are acceptable as interim measures provided such facilities are approved by the City Utilities Director's office. Notwithstanding all private wastewater disposal systems shall be designed to facilitate mandatory hookups to the public wastewater system when the public system becomes available.
- c. The City of Sanford shall promote application of innovative concepts in wastewater collection and disposal including wastewater reuse through such programs as use of reclaimed water for spray irrigation. The City has adopted the "Utilities Standards and Specifications and Design Standards for Water Conservation" (Refer to as Utilities Manual"). All new developments within the distance listed in the manual should connect to the City's reclaimed water system. Development that are not required to connect to the existing reclaimed water system shall be required to install irrigation lines connected to an alternative water supply system utilizing the lowest quality available water such as capable of connecting to the City's reclaimed water lines when reclaimed water becomes available in the future. All developments shall be required to install an irrigation system.

Policy 5-1.2.5: Preserve the Shoreline of Major Floodways. The City of Sanford shall require that development along portions of the shoreline which are subject to erosion include a plan for revegetation to stabilize the shoreline and encourage reintroduction of wildlife.

The City has determined floodways and floodprone areas to be environmentally sensitive including areas located in Floodways and Zone "A" of the Flood Insurance Rate Map prepared by the Federal Emergency Management Agency. Accordingly, the 100-year flood plain has been designated a "resource protection area".

Policy 5-1.2.6: Establish Flood-Prone Area Design and Performance Criteria. Uses and activities in flood-prone areas shall comply with the following design and performance criteria:

1. Retention-Detention Facilities - Retention-detention ponds proposed to be located in flood-prone areas shall:
 - a. 10-Year Flood Plain - Be located above the 10-year flood elevation. No alteration shall be allowed within the 10-year flood line.
 - b. Soil Suitability - Be located in soils that are suitable for retention-detention ponds. Soils which have been identified by the Soil Conservation Service as having a very low potential for septic tank absorption fields shall be considered as unsuitable for retention-detention ponds.
 - c. Floodway Hazard - Not create a negative impact on existing flooding conditions. Construction of the retention-detention pond shall not constitute a net reduction in flood plain storage or limit the flow capacity of the floodway.
2. Open Space and Recreational Uses - Flood-prone areas may be used for open space and recreational uses. Recreation-oriented structural improvements shall not impair the flood flow or flood storage capacity nor shall such structures contribute to the debris which may become swept up by flood waters. Open space and recreational uses include the following:
 - a. Hiking and nature trails
 - b. Gazebos, picnic tables and resting benches
 - c. Boardwalks and observation decks
 - d. Open play areas
 - e. Canoe launches
3. Traversing Works - Traversing works in flood prone areas shall not create a net reduction in either flood flow or flood storage capabilities immediately upstream or downstream of the structure.
4. Compensating Storage - Reshaping and filling within flood-prone areas shall be balanced by providing an equal volume of compensating storage. Such compensation shall be located between the ordinary high water elevation and the 100-year elevation. Fill shall not be placed below the 10-year flood elevation and in no case shall fill in the flood plain extend beyond 100 feet of the original floodline. Reshaping the flood plain shall not create a rise in flood elevation, reduce flood storage capabilities, increase food flow velocities, or reduce flood flow capacity.
5. Parking Spaces and Vehicular Circulation Areas - Required parking spaces and vehicular circulation areas located within flood prone areas shall not cause a net decrease in flood storage or a change in flood flow capacity. Flood free emergency access must be maintained. Required parking spaces shall not be located within the 10-year flood elevation.

6. Utilities - Utilities shall be located outside of flood prone areas wherever feasible. When it is not feasible to avoid placing utilities within a flood plain, such utilities shall comply with the following provisions.
 - a. Materials - Material and equipment shall be resistant to flood damage.
 - b. Construction Methods - Construction methods and practices shall minimize flood damage.
 - c. Potable Water Supply - Potable water supply systems shall be designed and constructed to prevent damage by flood waters.
 - d. Sanitary Sewage System - Sanitary sewage systems shall be designed and constructed to minimize or eliminate infiltration of flood waters. Discharges shall be located to avoid impairment or contamination during flooding.
7. Exemption Adjacent to Lake Monroe - Because the Lake Monroe shoreline and adjacent lands are in a highly altered state from natural conditions, the City shall have the authority to exempt flood prone areas adjacent to Lake Monroe where such exemption is consistent with the public interest and required to preserve reasonable use of the land and/or to avoid a "taking" of property without just compensation.
8. Maintain Existing Surface Drainage - Site alteration shall not adversely affect existing surface water flow pattern. Drainage subbasin boundaries shall be maintained except where modification is required by overriding public interest or to preserve a "reasonable" use of the land and prevent a "taking" of private property without just compensation.
9. Natural Drainageways and Watercourses - Developments that contain an existing natural drainageway or watercourse, related floodplain and adjacent vegetation shall maintain and incorporate such features into the project design. Drainage system design shall ensure that sediment from runoff will not enter such natural drainageway.

Policy 5-1.2.7: Protect Floridan and Surficial Aquifer Recharge Areas and Public Wellfields.

The City shall prohibit mining, resource extraction, junkyards, outdoor storage of hazardous material and waste in "most effective" recharge areas. The City shall also incorporate aquifer recharge standards which regulate excavating groundwater runoff, as well as changes in topography and shall restrict the amount of impermeable surface allowed within effective recharge areas. The regulations shall be designed to mandate retention of open space in recharge areas in order to preserve the quality and quantity of groundwater resources within the surficial and deep aquifers.

The City shall protect wellfields delineated in the Future Land Use Element: Development other than wellfield facilities or passive recreation is prohibited within the primary protection zone. The secondary protection zone prohibits the following land use activities: sanitary landfills, animal feedlots, wastewater treatment facilities, petroleum and pesticide storage facilities, incinerators, and all other activities that store, handle, or generate hazardous materials or wastes. Above-ground or below-ground pipes which store or transfer pollutants or other contaminants as well as open drainage cuts below the seasonal high water table shall also be prohibited within the secondary protection zone.

The City shall prohibit the use of on-site septic tanks within a designated aquifer recharge area. The City has identified sixteen potential groundwater recharge sites in order to offset groundwater withdraw within the Tri-Party service area.

Policy 5-1.2.8: Conserve Deep Aquifer Water. In order to protect the quality and quantity of the Floridan aquifer, the City shall coordinate with the SJRWMD and other applicable regulatory agencies in identifying free flowing deep aquifer wells and in requiring corrective measures, including capping, plugging, or installing regulatory devices which control the discharge of water from the deep aquifer.

The City shall also coordinate with local, State, and federal agencies to achieve regional aquifer recharge protection objectives.

Policy 5-1.2.9: Potable Water Supply. In order to conserve potable water supply and achieve a reduction in the current rates of water consumption the City shall incorporate the following performance standards:

- a. The City shall implement the Water Supply Facilities Work Plan for at least a 10-year planning period addressing water supply facilities necessary to serve existing and new development. The plan shall consider the SJRWMD district water supply plan.
- b. Potable water supplies may not be used to meet irrigation needs for the new developments. All new development within the City's service area shall utilize a dual distribution system so that irrigation needs are met by using the lowest quality available water. The City has adopted the "Utilities Standards and Specifications and Design Standards for Water Conservation" (Referred to as "Utilities Manual"). All new developments within the distance listed in the manual should connect to the City's reclaimed water system. Development that is not required to connect to the existing reclaimed water system shall be required to install irrigation lines connected to an alternative water supply system utilizing the lowest quality available water such as capable of connecting to the City's reclaimed water lines when reclaimed water becomes available in the future. All developments shall be required to install an irrigation system.
- c. The City's water quality shall continue to use conservation measures such as use of reclaimed water, improving and accelerating leak surveys and repair programs, installing and calibrating meters and stabilizing and equalizing system pressures, water conservation blocks, water restrictions, fixture exchanges and public education.
- d. New or renovated buildings are required to install water conserving plumbing fixtures that are at a minimum consistent with the requirements of the State Water Conservation Act.
- e. New development shall employ and/or preserve native vegetation, or use drought-resistant plants for landscaping to the greatest practicable extent. Native or drought resistant plants include, but are not limited to, those in the Florida Native Plant Society's *Native Plants for Landscaping in Florida*, or comparable guidelines prepared by the Florida Department of Agriculture and Consumer Services, the Florida Game and Freshwater Fish Commission, the Florida Department of Natural Resources, the East Central Florida Regional Planning Council, or the St. Johns Water Management District. Where the City's reclaimed water system is available for irrigation, more highly water dependent vegetation may be used.
- f. For residential developments, the water budget plan must demonstrate that water requirements do not exceed the equivalent residential connection (ERC) of 300 gallons per day. The plan must also include an assurance that the water budget plans are available to every prospective home buyer.

For commercial, industrial and multifamily developments, the developer must demonstrate compliance with the City's take-back reuse program for future growth and development. This program requires new developments that connect to the City's wastewater system to "take-back" the same amount of highly treated effluent as generated by the developments. Effluent from development will receive tertiary treatment, which can be used for non-potable water purposes such as irrigation and fire protection.

- g. The City has extensive on-going program in order to develop alternative water supply sources in order to meet the water demand in the future. The alternatives include surface water augmentation, aquifer storage and recovery system, and brackish groundwater. The City will coordinate with SJRWMD and Seminole County to development its alternative water supply sources.

Policy 5-1.2.10: Coordinate Emergency Conservation of Water Sources. The City shall coordinate with the SJRWMD in implementing emergency water conservation measures based on the SJRWMD Chapter 40C-21 *The Water Shortage Plan*, for management of the region's water resources through the following actions as contained in the *Water Shortage Plan*:

- The City shall increase communication with the District regarding hydrologic conditions during a water shortage warning declared by the District pursuant to 40C-21.231.
- The City shall provide data as requested by the District in anticipation of and during a declared water shortage or water shortage emergency pursuant to 40C-21.401(1) & (2)(d).
- Local law enforcement officials communicate with the District of any water emergency declaration or change of restrictions in effect within the City's areas of responsibility.
- The City shall adopt ordinances which substantially incorporate the provisions of the Chapter 40C-21, *Water Shortage Plan*, and which provide for local enforcement as authorized.
- As appropriate, the City's water utility shall institute voluntary conservation measures such as reclaiming of backwash water, improving and accelerating leak detection surveys and repair programs, installing and calibrating meters, and stabilizing and equalizing system pressures.
- When a critical water shortage is declared by the District, initial pressure of City's water utility will be reduced by at least 15% where it is operationally feasible to do so. Prior to the reduction of pressure, the utility will notify the appropriate firefighting agencies and make arrangements for direct communication when additional pressure is required.

Objective 5-1.3: Maintain Floodplains. The City shall protect the natural functions of the 100-year floodplain in order to protect and maintain its flood-carrying and flood storage capacity.

Policy 5-1.3.1: Enforce Policies to Maintain Floodplains. Consistent with ECFRPC floodplain policy, the City shall incorporate floodplain protection measures sufficient to protect and preserve the value and function of floodplains from encroachment by development. The City shall provide that flood control measures for new development minimize fill within the 100-year floodplain. Where no alternative to fill within the 100-year floodplain exists, compensatory storage for such fill shall be provided through excavation of a volume of uplands equivalent to the loss of storage within the 100-year floodplain caused by the placement of fill. No development shall occur in the 100-year floodway.

The City shall maintain consistency with program policies of the Federal Insurance Administration. The City shall monitor new cost effective programs for minimizing flood damage. Such programs may include modification in construction setback requirements or other site design techniques, as well as upgraded building and construction techniques to protect against flood hazards.

Structures shall be clustered on the non-floodplain portions of the site, or where the entire site lies in the floodplain, they shall also be elevated on pilings. Densities and/or intensities of land uses shall be reduced within floodplains.

Septic tanks and other sewer facilities shall be prohibited. No hazardous materials or waste shall be stored within the floodplain.

In order to protect the natural function of floodplains and flood prone areas dredge and fill practices and the clearing of natural vegetation shall be minimized in order to maintain the natural topography and hydrological functions of floodplains.

For sites (parcels recorded on or before the date of plan adoption) which do not contain sufficient uplands to permit development, fill and clearing of natural vegetation shall be allowed only in conjunction with a minimal accessway and a minimum amount beneath one residential structure, provided the direction and rate of historical surface water flows are not altered. Subsequent to plan adoption, the City shall not allow lots or parcels to be created without sufficient uplands.

Objective 5-1.4: Protect and Preserve Wetlands. The City shall maintain and enforce land development regulations that include performance criteria designed to protect and preserve wetlands from physical and hydrologic alterations as well as specifically direct incompatible land uses away from wetlands.

Policy 5-1.4.1: Protect Wetland Transition Areas. Transition areas shall be defined as the area separating wetland and upland areas and in which development activities may be regulated to protect wetlands. The transition zone is an area having a direct groundwater or surface water influence. The transition area provides a buffer between wetlands and upland development or other land alteration activities. The purpose of the transition zone is to ensure the continuing function of respective wetland communities. The City shall retain the right to prohibit development within the wetland transition area. The boundary of a wetland transition area shall be established by field investigation. At a minimum the following uses shall be prohibited within the wetland transition areas:

- All industrial uses;
- Sanitary landfills;
- Wastewater treatment facilities;
- Incinerators;
- Animal feedlots;
- Petroleum or pesticide storage facilities;
- Above-ground or below-ground pipes for pollutants or contaminants; and
- Any land uses that stores, handles, or generates hazardous material or waste.

Policy 5-1.4.2: Develop Wetland Development Restrictions. Wetlands identified with the "Resource Preservation" designation, shall be protected from physical or hydrologic alterations in order to maintain natural functions (The "Resource Preservation" designation is the City's

"Conservation" designation). No development shall be permitted in wetlands other than approved passive recreation, open space, restricted accessway, bird sanctuary, natural stormwater retention/detention, natural preserve, or other similar land uses approved by the City pursuant to land development regulations designed to carry out the intent of the Comprehensive Plan. The City shall continue to enforce existing regulations that address the following issues:

- a. Criteria and stipulations for protecting wetlands and managing the development review criteria;
- b. Protection of wetlands and fragile transition areas (i.e., Transition areas shall be defined as the area separating wetland and upland areas and in which development activities may be regulated to protect wetlands. The transition zone is an area having a direct ground water or surface water influence and provides a buffer between wetlands and development or other land alteration activities. The purpose of the transition zone is to ensure the continuing function of respective wetland communities. The boundary of transition zones adjacent to specific wetland areas shall be established by field investigation); and
- c. Compensatory mitigation where proposed upland development presents a potential hazard to wetland functions.

The City's existing regulations require uses and activities in wetlands to comply with design and performance criteria which also regulate retention of natural drainage characteristics, minimization of alteration or modification, stormwater, minimum ground floor elevations, and wetland buffers.

Structures shall be clustered on the non-floodplain portions of the site, or where the entire site lies in the floodplain, they shall also be elevated on pilings. Residential densities of land use shall be no greater than one dwelling unit per acre within floodplains in undeveloped areas of the City.

Policy 5-1.4.3: Required Dedication of Conservation Easements or Reservation. The City shall enforce performance criteria designed to protect and preserve wetlands, wetland transition areas and water management areas. The City shall enforce its stormwater management and wetland preservation regulations to provide for the dedication of conservation easements or reservations where the City finds that the dedication is reasonable in order to protect the value and function of a wetland or to further the objective of stormwater management plan.

Policy 5-1.4.4: Enforce Wetland Buffers. The City shall continue to enforce the specific buffer widths as follows: a wetland buffer of 25 feet in width shall be provided adjacent to wetlands that are five acres or less; and a wetland buffer of 50 feet in width shall be provided adjacent to wetlands that are greater than five acres. The area of wetlands in question shall include all contiguous wetlands located on the site and adjacent to the site. The width of the wetland buffer shall be measured and provided parallel to the edge of the wetland in question. The required wetland buffer shall be planted and maintained in landscaping materials including ground cover, shrubs, hedges or trees.

Policy 5-1.4.5: Allow Exceptions for Sites Existing Prior to 1990. The City shall not allow lots or parcels to be created without sufficient uplands. For sites, parcels, and lots recorded or platted on or before October 28, 1990 that do not contain sufficient uplands to permit development, the City shall allow one (1) residential structure. The City shall allow fill and clearing of natural vegetation only in conjunction with a minimal accessway and a minimum

amount beneath the structure, and provided that the direction and rate of historical surface water flows are not altered.

Objective 5-1.5: Combat Soil Erosion. Reduce the incidence of soil erosion caused by land clearing, breaches in stabilized shorelines, and lands having exposed soil without vegetative cover.

Policy 5-1.5.1: Implement Erosion and Sedimentation Controls. The City shall require that appropriate measures be taken during land clearing and building operations to assure that exposed, destabilized or otherwise altered soil is expeditiously covered with an acceptable erosion control material. These provisions shall be applicable to the act of subdividing and installation of related improvements as well as during the development review process including the period during which improvements are being undertaken. The tree protection and erosion control measures shall be applicable to all clearing and grading activities and shall include specifications for managing vegetation and revegetation.

The City shall require that plans for development and excavation incorporate all measures necessary to minimize soil erosion and to control sedimentation in the disturbed land area. The following protection shall be provided within all disturbed areas: minimize velocities of water runoff, maximize protection of disturbed areas from stormwater runoff, and retain sedimentation within the development site as early as possible following disturbances. A list of major problem areas for erosion and sedimentation control follows. For each one, the purpose(s) of requiring control is described. Soil erosion and sedimentation control measures for all such areas shall be provided with a view toward achieving the specific purpose listed below for which a control plan is required.

- a. Erodible slopes: Prevent detachment and transportation of soil particles from slope.
- b. Streams, streambeds, streambanks, bodies of water, lake shorelines: Prevent detachment and transportation of soil particles.
- c. Drainageways: Prevent detachment and transportation of soil particles (which would otherwise deposit in streams, bodies of water, or wetlands); promote deposit or sediment loads (traversing these areas) before these reach bodies of water.
- d. Land adjacent to streams, ponds, lakes, and wetlands: Prevent detachment and transportation of soil particles. The applicant shall not adversely impact aquatic vegetation within the sensitive transition zone separating wetlands and uplands except in cases of overriding public interest. No such vegetation shall be disturbed without approval of the City. Any such approval shall be based on a demonstrated necessity which promotes the overall public health, safety and welfare. Furthermore, any such disturbance of aquatic vegetation shall be compensated by revegetation based on a plan approved by the City as stipulated herein. Such mitigation shall provide for replacement on the basis of a ratio of at least two to one. The applicant shall coordinate plans for development with appropriate state and/or federal agencies having jurisdiction. Other requisite performance criteria governing shoreline protection, wetland buffers, and the littoral zone contained in the Conservation element shall be satisfied.
- e. Enclosed drainage structure: Prevent sedimentation in structure, erosion at outfall of system, and deposit of sediment loads within system or beyond it.
- f. Large flat surface areas (unpaved): Prevent detachment of soil particles and their off-site transportation.

- g. Impervious surfaces: Prevent the detachment and transportation of soil.
- h. Borrow and stockpile areas: Divert runoff from face of slopes which are exposed in the excavation process; convey runoff in stabilized channels to stable disposal points; leave borrow areas and stockpiles in stable condition and plant native ground cover to assist such stabilization.
- i. Adjacent properties: Prevent erosion on adjacent properties and avoid depositing sediment on adjacent properties.

Appropriate measures shall be taken during land clearing and building operations to assure that exposed, destabilized or otherwise altered soil is expeditiously covered with an acceptable erosion control material. All criteria herein stipulated shall be applicable to the act of subdividing and installation of related improvements as well as throughout the duration of the development process and whenever soil is caused to be exposed to natural elements.

Objective 5-1.6: Prevent Potential Adverse Impacts of Future Mining and Excavation Activities. Mining activities shall be regulated within the City of Sanford since the City's natural systems could potentially receive irretrievable losses from the impacts of unregulated mining operations.

Policy 5-1.6.1: Regulate Mining Activities. The City of Sanford shall restrict mining activities based on the irretrievable losses which such intense activities may potentially impose on the City's ecosystem. The City's land development regulations shall require that all mining and resource extraction including but not limited to, sand and peat excavation shall be conducted according to an excavation and reclamation plan approved by the City. Because of the high potential for surface and groundwater contamination associated with mining and extraction activities, a horizontal impervious layer (possibly including a portion of the extracted resource) shall, if feasible, be left undisturbed and unpenetrated beneath all excavated areas. The amount and location of the impervious layer to remain intact, if any, will be determined by soil surveys prior to excavation.

The City shall enforce a regulatory program including procedures for managing preparation and review of the excavation and reclamation plan. The regulatory program shall be designed to preserve natural resources such as recharge areas, wetlands, and wellfields and mining shall be prohibited within these areas. Where mining is permitted, the regulatory program shall require restoration of sites and revegetation. Predevelopment plans must be submitted for review and approval by the City prior to mining and excavation such plans must provide for the following:

1. Quantity of material to be mined or extracted.
2. Scaled plans and drawings that indicate area and dimensions of proposed mining.
3. Time frame, dates and phasing of each increment of mining or extraction activity.
4. Soil survey prepared by a geotechnical engineer registered in the State of Florida depicting the feasibility of retaining an impervious layer of material and amount and location of such impervious layer.
5. Restoration and reclamation plan including scaled drawings and plans that indicate restored

elevations, restoration materials, landscape, revegetation, structures and uses after mining or each phase or increment thereof has been completed.

6. Setbacks, buffers, fencing, landscaping and other methods of protecting adjacent land from adverse impact of proposed mining activities.

Policy 5-1.6.2: Require Reclamation Plans. The City shall require that mining sites, including borrow pits, undergo reclamation. The City shall require restoration and reclamation plans including scaled drawings and plans that indicate restored elevations, restoration materials, landscape, revegetation, structures and uses after mining or each phase or increment thereof that has been completed.

Objective 5-1.7: Protect Native Vegetation and Aquatic Habitats. The City shall protect and retain major vegetative communities as well as aquatic habitats which include: forested wetlands, herbaceous wetlands, Shrub wetlands, and aquatic wetlands; hardwood hammock communities; wetland and vegetative communities adjacent to Lake Monroe, other water bodies, and along other major drainage corridors; and shorelines.

Policy 5-1.7.1: Protect Vegetative Communities and Aquatic Habitats. The City shall implement programs designed to:

1. Protect and retain major vegetative communities:
 - Protect existing trees from destruction by requiring site development permits issued pursuant to review criteria prior to any action which may directly or indirectly damage a tree.
 - Protect existing trees by requiring measures such as protective barriers to protect trees during development as well as regulations pertaining to utility companies.
 - Protect existing trees to allow required parking space reductions to result in the preservation of six-inch diameter existing trees.
 - Protect existing trees by allowing existing healthy trees to be used towards required trees.
 - Require tree and landscape area plantings within residential areas, within front yards, required landscaped areas, public streets and adjacent to the perimeter boundaries of parcels, within off-street parking and vehicular circulation areas, and along required visual screens.
 - The City shall provide performance standards governing development activities.
 - The City shall review site plans for proposed development in forested uplands to assure that common areas and other buffer areas use native vegetation to the greatest feasible extent.
 - The City shall mandate fair and equitable restoration and/or compensatory mitigative measures in order to compensate for loss of vegetation and to enhance stabilization of fragile slopes and/or shorelines.

2. Protect and retain aquatic habitats: Maintain the City's existing wetland regulations to manage and protect the impacts of development on the following wetland and vegetative communities:

Forested Wetlands

Cypress
 Bayhead
 Hardwood Swamp
 Hydric Hammock

Shrub Wetlands

Shrub Swamp
 Scrub Bog
 Transitional Shrub

Herbaceous Wetlands

Wet Prairie
 Shallow Marsh
 Deep Marsh
 Water Lilies

Aquatic Wetlands

Lakeshore Emergents
 Free Floating

- The City shall protect hardwood hammock communities. Maintain the City's existing wetland regulations to manage and protect the impacts of development on the wetland and vegetative communities adjacent to Lake Monroe, other water bodies, and along other major drainage corridors.

Objective 5-1.8: Protect Wildlife and Wildlife Habitats. The City shall coordinate with the St. Johns River Water Management District and the State in protecting fisheries, wildlife, and wildlife habitat.

Policy 5-1.8.1: Manage the Impacts of Development on Aquatic Habitats. The City shall incorporate procedures for coordinating with the St. Johns River Water Management District, the Florida Game and Freshwater Fish Commission, and the DEP, as appropriate, in reviewing the implications of development proposals, including proposed subdivisions and site plan review petitions. Such coordination shall be designed to assist in identifying potential adverse impacts of proposed development on aquatic habitats. The City shall incorporate performance standards which are designed to preserve the water quality within Lake Monroe and which protect freshwater grassbeds and in order to preserve aquatic habitats and fisheries.

The removal or control of native species of emergent, submersed or floating vegetation in natural waters of the State shall be limited to that necessary to provide for reasonable and beneficial uses of surface waters. Proposed activities which destroy or degrade the function of wetlands or deepwater habitats shall not be permitted except where such activities are not contrary to the public interest and there is no practical alternative which reduces or avoids impacts to wetlands or deepwater habitats. Unavoidable losses of viable wetlands shall be mitigated through the demonstrably successful restoration, creation or (where no other alternative is feasible) preservation of wetlands whose functional values are at least comparable to those of the wetlands lost. Wetlands mitigation shall occur within the same watershed as the proposed impact to ensure that there is no net loss of wetland functional values within the drainage basin where the loss is to occur. Creation of new wetlands as mitigation shall avoid impacts to ecologically valuable uplands including but not limited to, bird nesting, migratory wildlife corridors and rare or endangered ecosystems.

To be effective at providing habitats so that significant wetlands can protect their ecological values, buffers shall be delineated and maintained in such a way so that they protect: the quality of the wetland habitat; the quantity of habitat that will provide sufficient space for species; and the wildlife in these buffers from adverse impacts of adjacent land-uses.

In order to maintain good water quality in stormwater management detention ponds and maximize the provision of fish and wildlife habitats, stormwater management systems with permanently wet detention ponds shall be designed, operated and maintained so as to resemble a natural pond to the greatest extent practicable. A natural pond design shall include: a littoral zone comprised of native emergent and submersed aquatic macrophytic vegetation; a deep, open-water limnetic zone free of rooted emergent and submersed vegetation; and where feasible, an upland buffer of native trees, shrubs and understory vegetation.

Best Management Practices (BMP) for control of erosion and sedimentation shall be employed for all road construction, urban development, and agricultural activities in order to protect natural water bodies, water courses, and wetlands from siltation. BMP's shall also be employed, as necessary, to protect the function of stormwater management systems.

Agriculture and forestry operations shall use Integrated Pest Management (IMP) programs, where appropriate, in order to reduce the use of chemical pesticides which may contaminate soils, groundwater and surface water. IPM programs shall be modeled, after the guidelines given in Institute of and Agricultural Sciences, University of Florida. Gainesville, Florida.

Wastewater treatment plant effluent impacts on surface water quality shall be reduced to the maximum extent feasible. Mechanisms for reducing the impacts of wastewater treatment plants include, but are not limited to: consideration of the cumulative impacts of both point source and non-point source pollution in the establishment of wasteload allocations; increased monitoring of impacts of wastewater treatment plant effluent on surface waters; establishment of maintenance programs to ensure that wastewater treatment plants are in good repair; enactment of swift enforcement action against violations of State standards by wastewater treatment plants; and implementation of alternatives to surface water discharge of wastewater where such alternatives are economically feasible, environmentally sound and consistent with the protection of public health.

Parks, open spaces, and recreation areas shall be protected, to the greatest degree practicable, from the adverse affects of encroaching urbanization. Impacts which shall be limited include those which would affect the hydrology, water quality, air quality, ambient noise level, wildlife populations, natural ecosystems and aesthetics of parks. Impacts shall be avoided through comprehensive planning and development reviews, as appropriate.

The City of Sanford shall enforce the following techniques to implement these policies:

- Cluster of development on upland portion of sites;
- Reduce densities or intensities of land uses within floodplains except within the Riverfront and Downtown Overlay districts;
- Prohibit Septic tanks and other sewer facilities;
- Prohibit hazardous materials or waste storage within the floodplain; and
- Retain natural function of floodplain and floodprone areas.

Policy 5-1.8.2: Protect Wildlife and Wildlife Habitats. The City shall preserve wetland areas identified mainly as resource protection areas. The wetlands are designated "Resource Preservation" and constitute wildlife habitat areas. No development shall be permitted in the wetlands. In addition, the City shall require implementation of protective measures such as preservation of native plant species which serve as wildlife habitat in cases where such actions do not constitute a taking and provide for reasonable use of the land. The site plan review process shall include review of wildlife habitats and shall restrict development activities known to adversely impact endangered, threatened, or rare wildlife and wildlife habitats as well as wildlife and wildlife habitats of special concern.

Objective 5-1.9: Protect Environmentally Sensitive Lands. Designate environmentally sensitive lands for protection based on locally determined criteria which further the goals, objectives and policies of the Conservation Element. The City shall develop regulatory programs which protect the natural functions of existing soils, lakes, floodplains, and fisheries as directed by the below stated policies. The City has no rivers, bays, or harbors. This objective shall be measured through the implementation of the following policies.

Policy 5-1.9.1: Design Environmentally Sensitive Areas. The City's land development regulations shall include performance standards and/or criteria for preserving wetlands, managing surface waters, maintaining storage functions of the floodplain, protecting wildlife and wildlife habitats and promoting water quality. The City shall protect the natural function of soils by protecting against soil erosion, by protecting against development in areas with hydric soils and restricting mining and excavation and by protecting recharge areas including soils and topography. Lakes and fisheries shall be protected by managing aquatic habitats.

Objective 5-1.10: Manage Hazardous Waste. The City of Sanford shall coordinate with Seminole County as well as appropriate State and regional agencies in developing effective plans for managing hazardous waste.

Policy 5-1.10.1: Manage Hazardous Waste. The City shall prohibit the location of land use activities which handle, store, or generate hazardous materials or wastes in the following areas:

- Within 600 feet of wellheads;
- Within an areas identified as an effective recharge area; and
- Within a wetland area or other environmentally sensitive area pursuant to adopted land development regulations.

In addition, the City shall enforce a regulatory program which requires that all users and generators of hazardous waste and material located in the City shall submit plans, procedures and documentation which ensure that such waste and material is properly stored, disposed and processed. The City shall have the authority to require that such plans, procedures and verification include but are not necessarily limited to the following:

1. On-site plans, procedures and facilities that explain procedures, processes and facilities to be utilized for the storage, disposal and processing of hazardous waste and materials.
2. Documentation from one or more responsible public agencies that hazardous waste and materials plans and programs for the premises in question are approved and/or in compliance with applicable requirements. Such responsible public agencies shall include

one or more of the following:

- U.S. Environmental Protection Agency
 - U.S. Department of Transportation
 - Florida Department of Environmental Protection
 - Florida Department of Community Affairs
 - St. Johns River Water Management District
3. The City shall review each application and shall impose conditions regarding on-site storage, transfer, and/or treatment of hazardous wastes, including prohibition of activities deemed harmful to natural resources.

The City shall enforce land development regulations which incorporate development restrictions directed toward preserving natural systems. The City shall continue to work with the County and appropriate State and regional agencies in identifying industries which use hazardous materials or generate hazardous wastes. In addition the City shall coordinate with the County in developing an improved areawide solid waste management program which includes more innovative solid waste management technologies that conserve energy; produce renewable energy; and effectively manage hazardous waste.

Policy 5-1.10.2: Manage Hazardous Waste. The City shall enforce land development regulations which incorporate development restrictions directed toward preserving natural systems. The City shall continue to work with Seminole County and appropriate State and regional agencies in developing an improved area-wide solid waste management program which includes more innovative solid and hazardous waste management technologies that save energy, produce renewable energy and effectively manage hazardous waste.

Objective 5-1.11: Preserve Historic Resources. The City of Sanford shall assure that there shall be no loss of historic resources on City-owned property. Historic resources on private property shall be protected, preserved, and/or re-used in a manner sensitive to the historic properties of the site and/or structure.

Policy 5-1.11.1: Promote Identification of the City's Historic, Archaeological, and Cultural Resources. The City shall coordinate with the State Division of Historic Resources in continuing to identify, protect, analyze, and explain the City's historical, archaeological, and cultural resources. Such efforts shall include determination of their worth and vulnerability, as well as determination of specific applicable preservation management policies.

Policy 5.1.11.2: Establish Performance Standards for Protecting Sites of Historic or Archaeological Significance. Land development regulations shall include precautions designed to prevent the following adverse impacts to historic or archaeological sites of significance:

- a. Destruction or alteration of all or part of such site;
- b. Isolation from, or alteration of, the surrounding environment;
- c. Introduction of visual, audible, or atmospheric elements that are out of character with a property or alter its setting;
- d. Transfer or sale of the site of significance without adequate conditions or restrictions regarding preservation, maintenance, use, or re-use;
- e. Vegetation removal shall not be permitted on a historic or archaeological site unless the vegetation to be removed is a part of a duly authorized scientific excavation, or is a part of

- an approved development plan; and
- f. Other forms of neglect resulting in resource deterioration.

Policy 5-1.11.3: Permit Alternatives to Preserving Historic or Archaeological Sites. As an alternative to preserving historic or archaeological sites, the owner of impacted lands may allow excavation of the site by the Division of Historic Resources or another State approved entity prior to development. Should a site be scientifically excavated in this manner, development may proceed following completion of the scientific excavation by the approved entity.

Objective 5-1.12: Apply Energy Resource Management and Conservation Concepts. Monitor concepts for managing energy resources conservation issues confronted by the City. Consider application of concepts which have been demonstrated to be successful and cost effective in resolving development and conservation issues.

Policy 5-1.12.1: Coordinate Energy Management. Coordinate energy management with concerned entities within the public and private sectors. Coordinate formulation of energy related decisions with concerned federal, state, regional, and County agencies as well as with concerned private entities. Work with these agencies and entities in order to maximize awareness of energy related problems, issues, alternative techniques for resolving energy related problems and issues, and to identify future areas where joint efforts may enhance mutual goals and objectives.

Policy 5-1.12.2: Encourage Energy Efficiency in Plans. Encourage land use, traffic circulation systems, and urban design which minimizes energy consumption and maximizes effectiveness of energy consumed. Reduce travel demands by locating major traffic generators on accessible sites situated along major traffic corridors near potential users. Promote a systematic approach to the development of pedestrian and bicycle path networks by the public and private sectors in order to improve energy efficient transportation links between major activity areas such as residential neighborhoods, employment centers, shopping areas, parks, and schools.

Policy 5-1.12.3: Require Energy Efficient Design. Promote site planning and design which reduces demand for artificial heating, cooling, ventilation and lighting. Design factors include building design, siting and orientation that effectively utilize natural solar resources, wind conditions, tree canopy, and plant material to reduce the effects of exposure to extreme weather conditions. Energy efficient construction shall be promoted through enforcement of the building and energy codes, through application of new and proven energy-efficient technology and through cooperative efforts with building trades, design professionals, building officials, and county, regional and state agencies concerned with energy conservation.

Policy 5-1.12.4: Enforce Energy Conservation in Building and Construction. The City shall enforce energy efficient building codes and promote efficient energy conservation in building heating and cooling systems. The City shall promote training workshops in energy efficiency in construction and continue to foster cooperative relationships between building trades, architects, engineers and building officials.

Policy 5-1.12.5: Monitor New Energy Conservation Techniques. The City shall monitor new cost effective techniques for managing land development and energy conservation. The City shall coordinate these reviews with the State and the East Central Florida Regional Planning Council. These review efforts shall consider innovation in analysis of energy supplies; alternative energy sources; energy consumption patterns; cost implications; and energy related impacts of utilities including the electrical utility, water and wastewater systems, and solid waste disposal. Energy use

in housing, transportation, industry and commerce shall be monitored and evaluated on a continuing basis using available analytical techniques. Analytical findings shall be used to formulate public policy directed toward needed corrective energy conservation measures.

Objective 5-1.13: Administer Intergovernmental Coordination for Managing Conservation Activities. Establish an intergovernmental coordination mechanism in order to manage natural resources and assist in implementing appropriate laws, ordinances, and plans of existing State, regional and local agencies sharing responsibilities for managing natural resources within the City.

Policy 5-1.13.1: Implement Policies for Intergovernmental Coordination to Manage Conservation Activities. The City of Sanford shall coordinate with Seminole County and appropriate regional, State, and federal agencies in managing conservation resources.

The City shall coordinate with Seminole County and other public entities as needed by participating in technical reviews concerning water quality, floodplain management, surface water management, and fish and wildlife, especially issues impacting major environmentally sensitive resources such as Lake Monroe, Cloud Branch, and Mill Creek. The activities shall also be coordinated with State and regional entities having appropriate jurisdictional interests.

The City shall coordinate with Seminole County in order to assure that all future development shall be timed and staged to assure that requisite infrastructure and services are available to respective developments concurrent with the impacts of the development. The City shall be especially interested in reviewing impacts generated by development within the unincorporated area on the City. Such development reviews shall closely monitor and evaluate impacts on:

- City infrastructure levels of service, especially impacts on: roadways, water and wastewater systems, floodplain and storm water management, and the area-wide recreation system.
- Natural resources especially water quality and quantity issues which transcend local jurisdictional boundaries.

Major issues and activities to be coordinated with the Department of Environmental Protection (DEP), the St. Johns River Water Management District (SJRWMD), the Florida Game and Fresh Water Fish (FGFWFC) Commission, and the Division of Forestry as may be appropriate in managing the following activities:

The City shall coordinate with technical staff within the SJRWMD, DEP in order to assure implementation of sound principles and practices of conservation resource management during the development review process as well as in the formulation of policies impacting coastal resource management.

The City shall coordinate with the SJRWMD as well as other appropriate State agencies in matters surrounding stormwater management, floodplain protection, drainage, water quality and quantity, and consumptive use permitting.

The City shall coordinate with the East Central Florida Regional Planning Council (ECFRPC) in preparing the Comprehensive Plan and amendments thereto in order to assure consistency with the East Central Florida Regional Planning Council Comprehensive Plan. In addition, the City shall coordinate other planning issues of regional significance with the ECFRPC.

The City shall forward copies of development proposals impacting major conservation resources such as Lake Monroe, Cloud Branch, and Mill Creek to public agencies having jurisdiction in the

management of potentially impacted natural resources.

Existing waterways and surface water management activities shall comply with all applicable policies of the St. Johns River Water Management District as delegated by the DEP to prevent adverse impacts to water quality.

The City shall coordinate with the SJRWMD in implementing emergency water conservation measures for the management of the region's water resources, based on the SJRWMD *The Water Shortage Plan*.

The City shall conduct the following activities as contained in Policy 5-1.1.3 to protect against loss of air quality:

- The City shall require specific DEP standards which regulate air pollutants, including smoke, particulate matter, odor, and toxic matter;
- The City shall require that applications which are developments of regional impact include applicable techniques for responding to air quality management required by the East Central Florida Regional Planning Council; and
- The City shall participate with Seminole County in assessing the feasibility of air quality monitoring programs for major transportation construction projects, non-DRI projects with projected high traffic volumes and areas of high traffic congestion.

To maintain and perpetuate the functions of the recharge of aquifers, the City shall coordinate with the SJRWMD with the following activities and actions stated in Policies of the Public Facilities Element:

- The City shall assist in protecting groundwater from point and non-point pollution sources by including the SJRWMD in the review of new development proposed within aquifer recharge areas.
- The City shall coordinate with the SJRWMD and other applicable agencies in identifying free flowing deep aquifer wells and in requiring corrective measures which control the discharge of water from the deep aquifer.

The City shall incorporate floodplain protection measures to protect the natural function of the 100-year floodplain consistent with the East Central Florida Regional Planning Council floodplain policy to protect and preserve the value and function of floodplains by development.

The City and the City engineer shall continue to coordinate and assist the DEP to preserve the quality of State lands, waters, and area resources, through the regulation of industrial waste, air pollution emission, hazardous wastes, potable water usage, solid waste disposal, dredge and fill activities and alterations to environmentally sensitive areas.

The City shall continue to assist the DEP which has jurisdiction over State owned submerged bottom lands and thus any construction that will impact the submerged bottom lands of Lake Monroe, as the City of Sanford is located within DEP East Central Management District. The DEP houses Division of Recreation and Parks and is the most significant external agency that Sanford has coordinated with in regard to provision of open space and recreational amenities.

The City shall continue to coordinate its comprehensive planning activities with the FGFWFC in order to achieve appropriate fish and wildlife management perspectives of issues potentially

impacting Lake Monroe or other water bodies in the City, and related fish and wildlife habitat, particularly that of endangered and threatened species. These activities shall include, but not be limited to, review of proposed development potentially impacting natural resources, including development petitions for docks, shoreline stabilization, dredging, or other alteration of natural resources under the State's jurisdiction. The City Manager shall continue to serve as a principal liaison with the Florida Game and Fresh Water Fish Commission (FGFWFC).

The City shall continue to assist the Division of Forestry which manages growth and preservation of woodlands within Seminole County, as well as authorizes controlled burning of grasslands, and flatwood understories.

The City shall continue its coordination with the Department of Community Affairs (DCA) which provides technical assistance to the City in the areas of land and water management.

Objective 5-1.14: Continue Evaluation of the Conservation Element Effectiveness. The City shall use the following policies as criteria in evaluating the effectiveness of the Conservation Element.

Policy 5-1.14.1: Review the Impact of Changing Conditions on Conservation Policy. The City shall monitor and evaluate significant changes in the characteristics of natural resources within the City. Policy implications of such changes shall be examined and corrective measures shall be pursued. Conservation policies shall be refined as needed in order to remain responsive to evolving problems and issues.

Policy 5-1.14.2: Schedule, Budget, and Implement Programmed Activities. The timely scheduling, programming, budgeting and implementation of programmed conservation activities identified in this Element shall be evidence of the City's effectiveness in carrying out a systematic program for implementing conservation coastal management goals, objectives, and policies.

Policy 5-1.14.3: Coordinate with Public and Private Sectors. While continually implementing and evaluating the Conservation Element the City shall maintain a process of intergovernmental coordination as well as coordination with private sector groups interested in conservation policy and programs. The effectiveness of this approach shall be evaluated by the success of coordination mechanisms in resolving conservation problems and issues.

Policy 5-1.14.4: Achieve Effect Resolution of Conservation Goals, Objectives and Policies. The effectiveness of the Conservation Element shall be measured by the City's success in achieving conservation goals, objectives and policies. The Conservation Element incorporates a systematic planning process for identifying conservation problems and issues and implementing corrective measures.

GOAL 5-2: PROTECT FUNCTIONS OF GROUNDWATER AQUIFER RECHARGE AREAS. THE FUNCTIONS OF NATURAL GROUNDWATER AQUIFER RECHARGE AREAS WITHIN THE CITY SHALL BE PROTECTED AND MAINTAINED.

Objective 5-2.1: Coordinate Issues Surrounding Aquifer Recharge. The non-partisan shallow aquifer and the deeper Floridan aquifer are the source of the City's potable water. The mapped areas identified as most effective for recharge provide vital areas for receiving rainfall which recharges the aquifers. In order to maintain and perpetuate the functions of these natural

groundwater aquifers the City shall regulate development which presents a threat to the natural process aquifer recharge. New development proposed within aquifer recharge areas shall be coordinated with the St. Johns River Water Management District (SJRWMD) in order to ensure maintenance of aquifer recharge area functions. During the development review process the City shall ensure that the functions of the City's most effective natural groundwater recharge areas are protected by:

- Conserving open space;
- Prohibiting uses within recharge areas which generate or otherwise require on site use of hazardous materials;
- Preserving pre-development soil types, grade elevations, drainage rates, and water levels; and
- Minimizing reduction of recharge to the surficial aquifer.

These regulations are necessary since the City's shallow aquifer is especially sensitive to pollutants such as oils, gasoline, or other improperly managed hazardous substances that may seep downward into the shallow aquifer. The downward drift of pollutants also endangers the deeper Floridan aquifer which receives water from the shallow aquifer through downward percolation.

The City shall enforce performance criteria to ensure effective maintenance of groundwater aquifer recharge. The intent of the regulatory process shall be to assist management of recharge areas and recharge of groundwater in order to promote continuance of natural hydrological processes.

Policy 5-2.1.1: Protect Surficial Aquifer Recharge Areas. The City shall assist in protecting groundwater from point and non-point pollution sources by including the St. Johns River Water Management District in the review of development plans located within areas designated as "most effective" recharge areas. The development review process shall incorporate performance standards for purposes of ensuring that the functions of the aquifer recharge areas are maintained. This review process shall ensure conservation and efficient use of water as it travels through groundwater systems.

Similarly, the City shall regulate development to ensure maintenance of adequate supplies of high quality groundwater. The City shall assist the State and St. Johns River Water Management District in managing water quality by involving appropriate State agencies and the SJRWMD in review of water quality management issues, including the discharge of inadequately treated wastewater and poor quality stormwater into public water bodies.

The City shall require and enforce standards which minimize impervious surface coverage in the City's "most effective recharge areas". The City shall further enhance the natural groundwater aquifer recharge function in the City's most effective recharge areas through the City's water reuse system involving irrigation of the Mayfair Golf Course and other public lands.

Policy 5-2.1.2: Conserve Deep Aquifer Water. In order to protect the quality and quantity of deep aquifer water resources, the City shall coordinate with the SJRWMD and other applicable regulatory agencies in identifying free flowing deep aquifer wells. The City will coordinate with the appropriate regulatory agency in determining if corrective measures, including capping, plugging, or installing regulatory devices which control the discharge of water from the deep aquifer are required.

Policy 5-2.1.3: Retain Run-off to Maximize Recharge. The City shall require stormwater management techniques requiring retention of stormwater run-off to maximize groundwater recharge. In order to achieve such stormwater retention the City shall require that the following water retention, settling structures, and flow attenuation devices are met.

1. Criteria for Drainage Easements, and Site Preparation or Excavation

- a. Maintain Existing Surface Drainage. Site alteration shall not adversely affect existing surface water flow pattern. Drainage subbasin boundaries shall be maintained unless it is determined to be in the public interest to allow such change in established drainage patterns.
- b. Maximize Recharge. The parcel shall be developed to maximize the amount of natural rainfall which is infiltrated into the soil and to minimize direct overland runoff into adjoining streets and watercourses. Storm water runoff from roofs and other impervious surfaces shall be diverted into swales or terraces on the lot when possible.
- c. Control Overland Flow. Runoff from impervious areas shall be diverted using one of the following techniques before entering a receiving water body:
 - i. The runoff shall be diverted so as to flow over vegetated areas.
 - ii. The runoff shall be diverted to a detention pond with the ability to attenuate peak outflows to pre-development rates and to provide filtration for the pollution volume.
- d. Design Dry Retention Ponds. Unless retention ponds are approved as a water feature or other similar special facility, such retention-detention facilities shall be designed to insure dry bottom within 72 hours after the design storm event. Dry bottom shall mean the absence of standing water.
- e. Design Without Positive Outfall. Developments without a positive outfall for discharge shall retain all runoff resulting from the design storm as computed for the developed condition.
- f. Design Based on Soils. The design of stormwater management facilities shall be based upon soil conditions as set forth in the Soil Survey of Seminole County, Florida and any supplements thereof as prepared by the U.S. Department of Agriculture, Soil Conservation Service. In areas where the soils are poorly drained or experience a high groundwater table, such facilities shall be designed for detention with filtration.
 - i. Retention - Retention ponds shall be designed to retain the difference in runoff volume between pre- and post-development or the pollution abatement volume, whichever is greater.
 - ii. Exfiltration - Exfiltration systems shall be designed to store and exfiltrate over the duration of the storm the difference in runoff volume between pre and post - development or the pollution abatement volume, whichever is greater.

2. Criteria for Wetlands, Flood-prone Areas, and Effective Aquifer Recharge Areas. These regulations shall apply to any use or alteration of a parcel which contains environmentally sensitive lands within the corporate limits of the City of Sanford. Environmentally sensitive

land includes wetlands, soils with limited potential for certain manmade activities, flood-prone areas and areas with effective groundwater aquifer recharge characteristics.

a. Wetland Design and Performance Criteria: Uses and activities in wetlands shall comply with the following design and performance criteria:

- i. Retain Natural Drainage Characteristics - Natural surface water patterns shall be maintained. Proposed drainage conditions shall approximate existing drainage conditions. The velocity of water flowing through wetlands shall remain approximately the same before and after development.
- ii. Minimize Alteration or Modification - No land use or development shall be permitted that would result in the elimination of any beneficial function of a wetland. If permitted, any alteration or modification of wetlands shall be the minimum necessary to conduct the use or activity.

3. Flood-Prone Area Design and Performance Criteria. Uses and activities in flood-prone areas shall comply with the following design and performance criteria:

a. Retention - Detention Facilities - Retention- detention ponds proposed to be located in flood-prone areas shall:

- i. Ten-year Flood Plain - Be located above the 10-year flood elevation. No alteration shall be allowed within the 10-year flood line.
- ii. Soil Suitability - Be located in soils that are suitable for retention-detention ponds. Soils which have been identified by the Soil Conservation Service as giving a very low potential for septic tank absorption fields shall be considered as unsuitable for retention-detention ponds.

Policy 5-2.1.4: Coordinate with Other Recharge Protection Programs. The City will, in concert with local, State, and federal agencies, achieve regional aquifer recharge protection objectives by actions herein listed in the following Policies and Objective:

- Implement Drainage Policy Concerning Maximizing Recharge;
- Provide Adequate On-Site Retention and Ground Water Recharge while Directing the Surplus Run-off to Receiving Waterways in a Manner which Prevents Imbalance to their Ecosystems;
- Implement Stormwater Management Plan;
- Coordinate Issues Surrounding Aquifer Recharge;
- Protect Surficial Aquifer Recharge Areas;
- Deep Aquifer Water Conservation; and
- Retain Run-off to Maximize Recharge.