

Getting the Water Right in “The Chain of Lakes City”

The 50 lakes inside and adjacent to Winter Haven, Florida, are a source of great pride to its residents, and an economic engine that has long attracted people to the area. The City’s economy, its quality of life, and its current and future viability depend on preserving and sustaining the health of water resources, the most visible of which are its lakes. Protecting these resources—*getting the water right*—is crucial as the City, the eight other municipalities¹, and Polk County plan for the build-out of the Peace Creek watershed. This is where opportunity meets necessity: *properly planned and managed, the business and economic growth opportunities in the watershed could help restore and protect the water resources necessary to sustain a healthy and vital local economy, culture, and environment.*

The communities in the Peace Creek watershed, located in eastern Polk County, are about to experience an economic boom and a period of unprecedented growth, driven by the CSX Integrated Logistics Center (ILC)², Legoland, and the Inland Fiber and Data Center. The growth will be facilitated by the Polk Parkway extension which will increase transportation access to Winter Haven and the southern portions of the watershed and support the build-out of the watershed over the next 15-20 years. The new development will increase the demand for public infrastructure in the watershed and add to the pressing need for water supply (human use and lake levels), restoration of lake water quality, flood protection, and environmental health³.

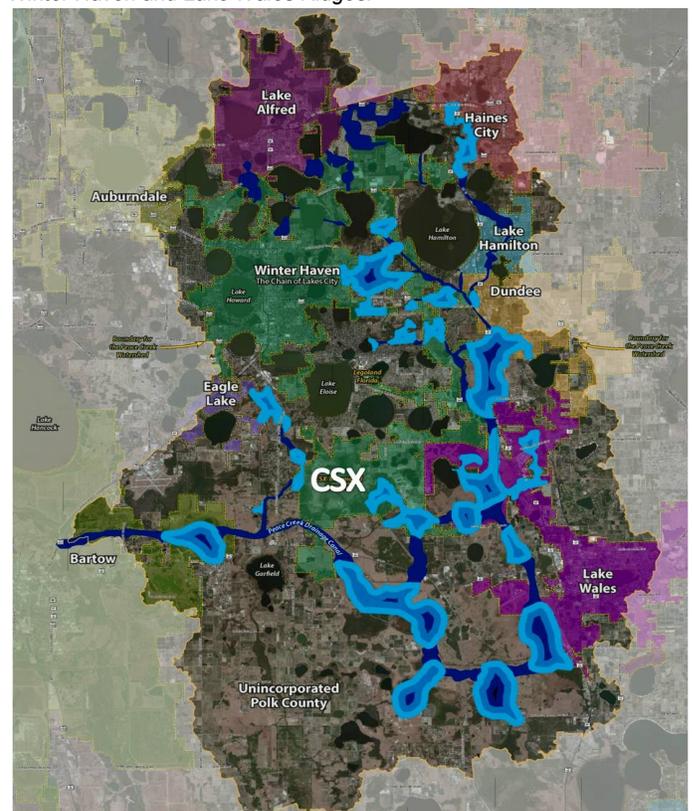
¹ Auburndale, Bartow, Dundee, Eagle Lake, Haines City, Lake Alfred, Lake Hamilton, and Lake Wales

² At build-out, the ILC will create an estimated 8,500 jobs with a total annual payroll of \$282.2 million. It is projected to generate more than \$10 billion in economic development over 10-years and add \$900 million in state and federal tax revenue. The City of Winter Haven will receive approximately \$21.8 million from CSX for purchase of the property to build the ILC. The ILC is projected to generate \$40 million in ad valorem tax revenues to the City, and more than double its property tax base from \$1.8 to \$4 billion.

³ In 2013 the Central Florida Water Initiative (CFWI) determined that withdrawals from the Floridan aquifer, the sole source of drinking water in Polk County, are at or near capacity. Impaired lake water quality documented by Florida Department of Environmental Protection (FDEP) in 2005 and 2010 in 25 of the 50 lakes in Winter Haven. Flooding is wide-spread in the middle and southern portions of the watershed, as evidenced in 2004. Digging of the Peace Creek Drainage Canal and the canals linking the lakes in the Winter Haven Chain of Lakes from 1917-1950 has dewatered the watershed and impacted lake levels, water supply, water quality, and environmental resiliency throughout the watershed. Environmental resiliency is the capacity of the environment to absorb shocks and disturbances and still retain and further develop the same fundamental structure, functions, and feedbacks necessary for environmental health, including the capture, storage, and cleansing of water—services that also benefit humans.

The City of Winter Haven supports the opportunity for economic growth and has adopted the Peace Creek Sustainable Water Resource Management Plan (Sustainability Plan) to ensure the ongoing and future water resource needs of the watershed are met (copy of plan available at www.sustainablewinterhaven.net). The regional system for storing flood waters and managing water proposed in the *Sustainability Plan*, consisting of aquifer, wetland, and lake storage (**Figure 1**, aka “Sapphire Necklace”), will provide much needed flood protection in the southern portion of the watershed, where a great deal of the new development will occur. This approach to managing and storing water is less costly to implement and more beneficial than traditional drainage canal systems designed to drain and dispose of water. It maximizes the amount of developable land, while at the same time providing other important benefits, including water storage for supply, treatment, restoration, recreation, beauty, education, and community identity. *Getting the water right and building a solid foundation for economic, cultural, and environmental sustainability in the Peace Creek watershed are the primary objectives of the Sustainable Winter Haven Initiative.*

Figure 1. Regional Infrastructure for Managing Water (aka “Sapphire Necklace”). Conceptual restoration plan for the Peace creek watershed. Lighter blue areas are restored wetland storage features; darker blue areas are enhanced conveyance features. Not shown are improved storage in lakes and more infiltration in sandy soils along Winter Haven and Lake Wales Ridges.



Benefits of the Sustainable Water Resource Management Plan

The Peace Creek *Sustainable Water Resource Management Plan* is an investment in the capacity of the natural landscape to provide multiple water resource benefits. In contrast, man-made structural solutions such as channels, ditches, reservoirs, and pipes are generally implemented primarily for singular benefits. In the long term, using the natural landscape to provide these multiple benefits will result in a less costly, more efficient water supply system for people and the environment. The *Sustainability Plan's* multiple benefits include the following:

- **Water quality benefits**—Improves water quality in the Peace Creek watershed's lakes, rivers, and wetlands, and restores water quality in impaired waters as part of the state's Total Maximum Daily Load (TMDL) Program. Higher lake levels prevent sediment re-suspension and reduce residence time in the lakes. Wetland restoration provides water quality treatment.
- **Environmental benefits**—Restores wetlands; enhances water levels in the lakes and the wetlands surrounding those lakes; creates and protects quality habitat for fish, wildlife, and plants native to the community; and helps to restore natural rainfall and climate patterns in the area.
- **Water supply benefits**—Recharges aquifers where all public water supply and most other supplies originate; provides more water for natural systems, lakes, and aquifers in the Peace Creek watershed; contributes to the maintenance of Minimum Flows and Levels (MFLs) in the Peace River; and is an important component of the Southwest Florida Water Management District's Recovery Strategy for the Floridan aquifer in the Southern Water Use Caution Area (SWUCA).
- **Flood protection benefits**—Increases the capacity of the landscape to treat and store the water from small rainfall events that is currently being discharged from the watershed in the name of flood protection and, through increased storage and conveyance, provides much-needed flood protection during large storms.
- **Economic benefits**—Restores and protects lakes, which are the reason that many people move to the area; expands the effective amount of waterfront to attract future development; creates economic opportunities for mitigation banking, water storage, and stewardship for landowners; facilitates economic growth by establishing a viable watershed approach to mitigation planning and stormwater permitting for future development; and saves money over the long term by using the natural infrastructure to provide valuable water resource services. Paying for these services now by restoring and preserving the natural infrastructure will provide more benefits and will be less costly than implementing and maintaining structural solutions in the future.
- **Social, cultural, and recreational benefits**—Provides an integrated system of parks, trails, and other recreational areas (such as greenways and blueways), improves the area's aesthetic beauty, provides a more enjoyable and safe place to live with increased property values, strengthens the community's identity, creates a collaborative water resource management framework for many of the east Polk County cities and towns, provides the basis for making future land use decisions, and improves quality of life.

For additional information about the *Sustainability Plan* or to learn how you can get involved in protecting the water resources in Winter Haven, please visit www.SustainableWinterHaven.net or contact Mike Britt, Natural Resources Director, City of Winter Haven at mbritt@mywinterhaven.com or 863-291-5881; or Tom Singleton, Thomas L. Singleton Consulting at tom@tsingletonconsulting.com or 850-556-9733.