

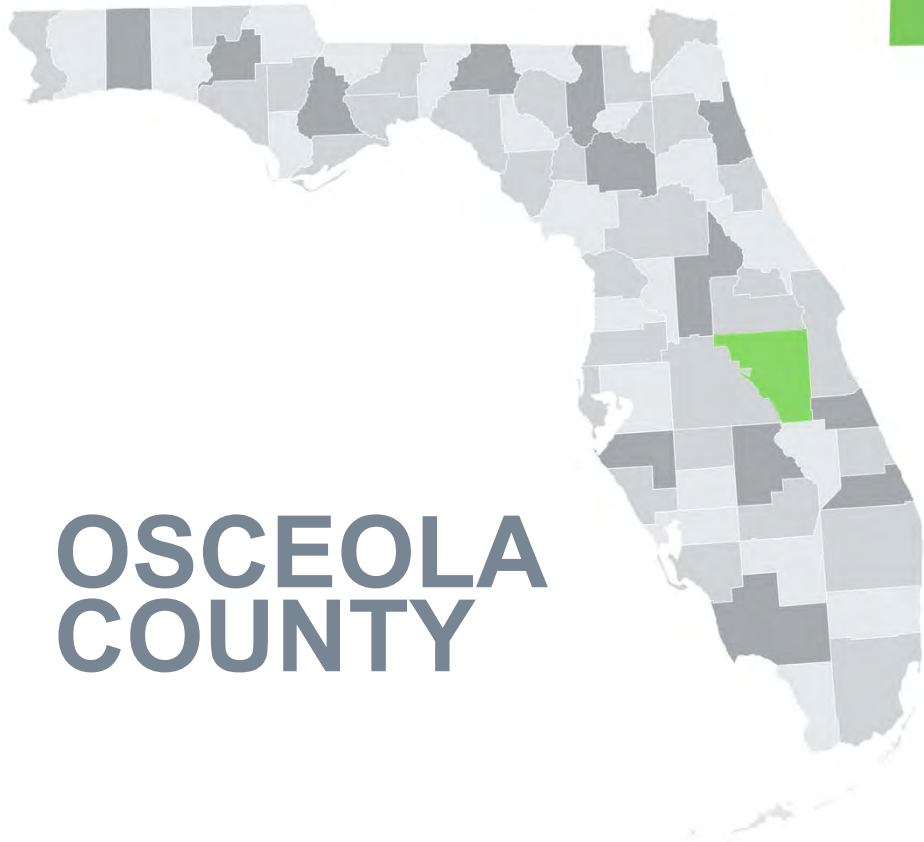


December 5, 2019
FSA 2019 Winter
Conference

Osceola County

Lake Tohopekaliga Water Restoration Project





OSCEOLA COUNTY





Valencia College

Hwy 192

CRA BOUNDARY

Downtown Kissimmee

Osceola Heritage Park

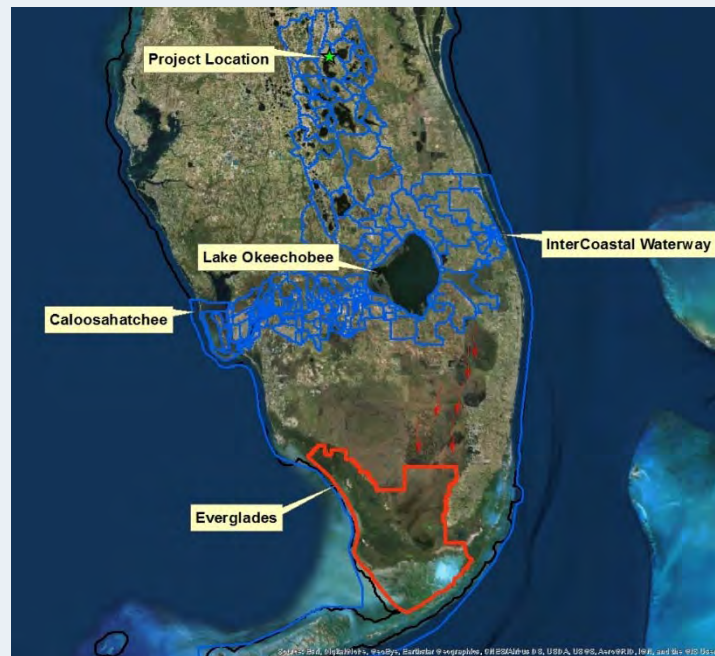
Florida's Turnpike

NEOCITY

Lake Toho



Neocity, Lake Toho Water Restoration, and the Everglades



Neocity



Stakeholders



**US Army Corps
of Engineers®**



Time Lapse

(from Jan 2014 to Dec 2018)



Time Lapse

(from Jan 2014 to Dec 2018)



Time Lapse

(from Jan 2014 to Dec 2018)



Time Lapse

(from Jan 2014 to Dec 2018)



Time Lapse

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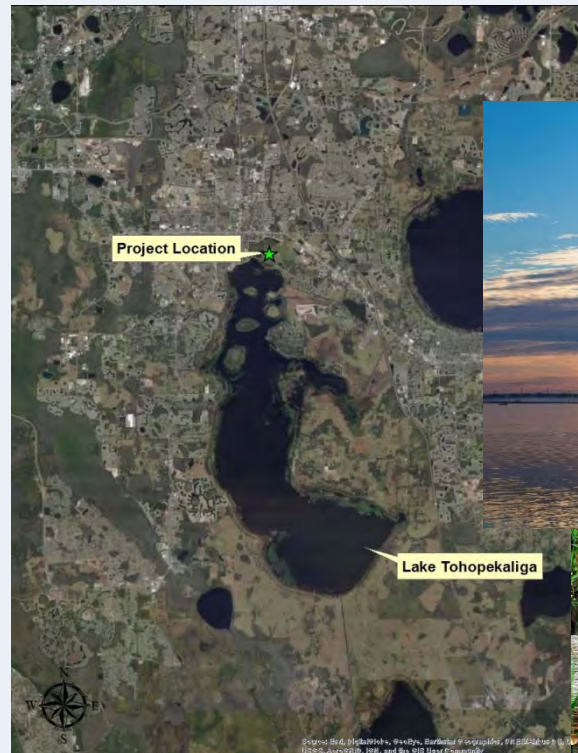


Neocity



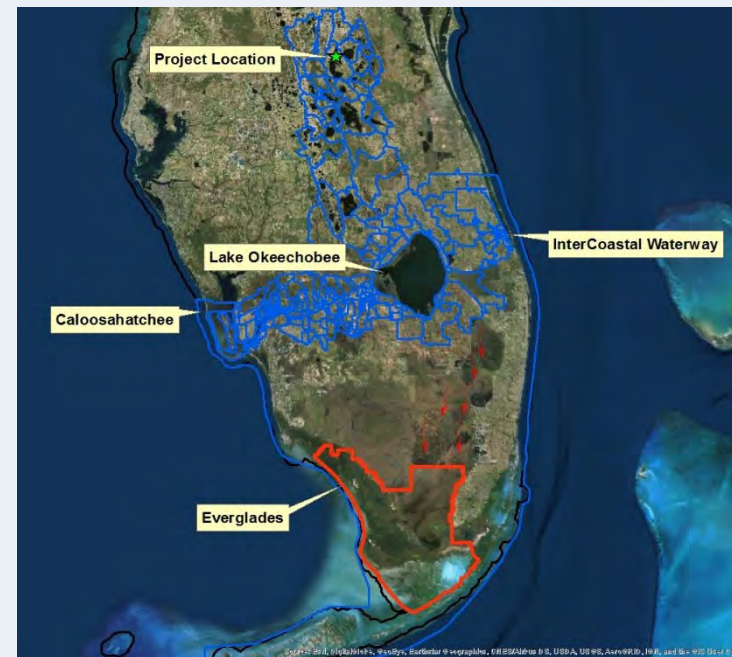
Lake Tohopekaliga

- Second Largest Lake in the Kissimmee Chain of Lakes.
- Headwaters to Lake Okeechobee and the Everglades.
- Approximately 22,000 acres.
- Receives water from approximately 473 square miles.
- Known for bass fishing, bird watching, and ecotourism.



Lake Tohopekaliga

- First channelized by Hamilton Disston.
- Further channelization and connectivity occurred with the Central and Southern Florida Flood Project.
- Water levels are managed by South Florida Water Management District under ACOE permit to control flooding in wet season and maintain water in dry season.
- The channelization of the watershed resulted in degradation of surface waters and increased downstream flow.



Lake Toho and Section (303)d

- FDEP listed as Impaired based on Trophic State Index in 2010.
- Local stakeholders disagreed due to the lack of knowledge of the interactions between ambient water quality, hydrilla, and current management activities.
- FDEP agreed to more research, revised the cause of impairment, and moved the lake from Category 5 to Category 4e.
- The local stakeholders entered into the Lake Tohopekaliga Nutrient Reduction Plan (NRP) to facilitate the change in status.
- Local stakeholders agreed to monitor nutrient levels entering Lake Toho and reduce nutrient flows through enacting a suite of Best Management Practices.



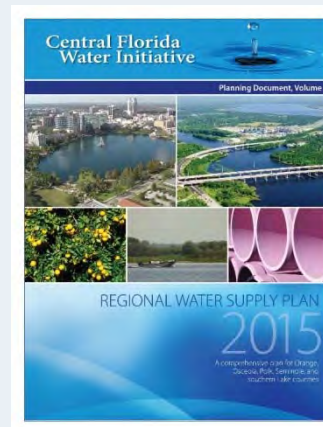
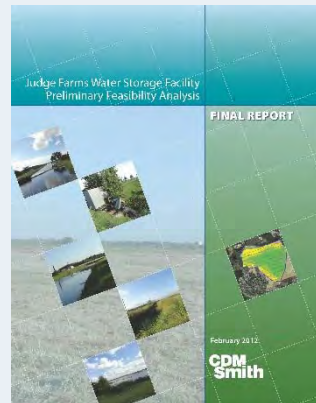
Lake Toho and Section (303)d

- Lake Toho is located in the Upper Kissimmee sub-watershed in the Lake Okeechobee watershed
- FDEP adopted the Lake Okeechobee Basin Management Action Plan (LOBMAP) in 2014.
- Based on calendar years 2001-12, the Upper Kissimmee sub-watershed contributes 35% of all water and 17% of the phosphorus load to Lake Okeechobee.
- BMPs from the NRP were incorporated into LOBMAP including the Lake Tohopekaliga Restoration Project.
- Stakeholders in the NRP choose to maintain the NRP within the LOBMAP in 2017.



Multiple Studies & Visions

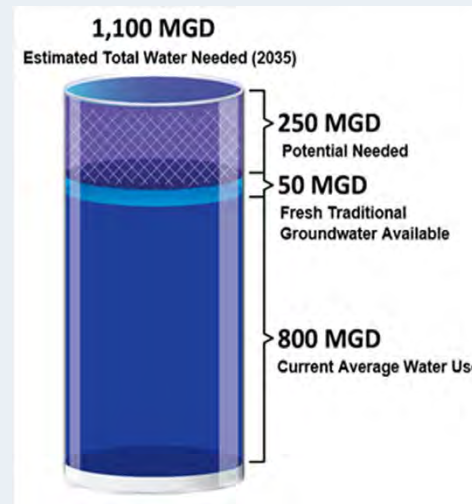
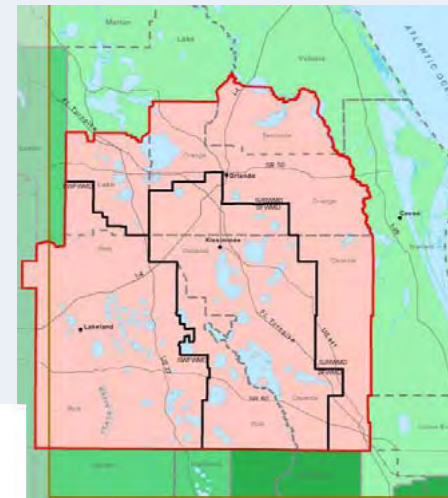
- Preliminary Feasibility Analysis
- Central Florida Water Initiative (CFWI)



Multiple Studies & Visions

Central Florida Water Initiative

- Geography
 - Orange, Osceola, Seminole, Polk, and Southern Lake Counties
 - Approximately 5,300 square miles
- Population
 - 2.7 million in 2010
 - Projected 4.1 million in 2035
- Water Use
 - 800 MGD in 2010
 - Projected 1,100 MGD in 2035
- Drivers
 - Continued Growth
 - Finite Water Supplies



Multiple Studies & Visions

CDM Smith Preliminary Feasibility Analysis

- Completed in 2012.
- Determined the feasibility of a water resource plan to provide reuse augmentation and treatment of surface waters.
- Goal to extend groundwater supply for potable purposes.



How Do We Get There?

- Stormwater Harvesting
 - Collecting and storing stormwater for eventual reuse.
 - Reduces downstream flow.
 - Reduces nutrient levels.
- Reduction of Withdrawals
 - Finding alternative water supply and conserving water.



Lake Toho Water Restoration Project



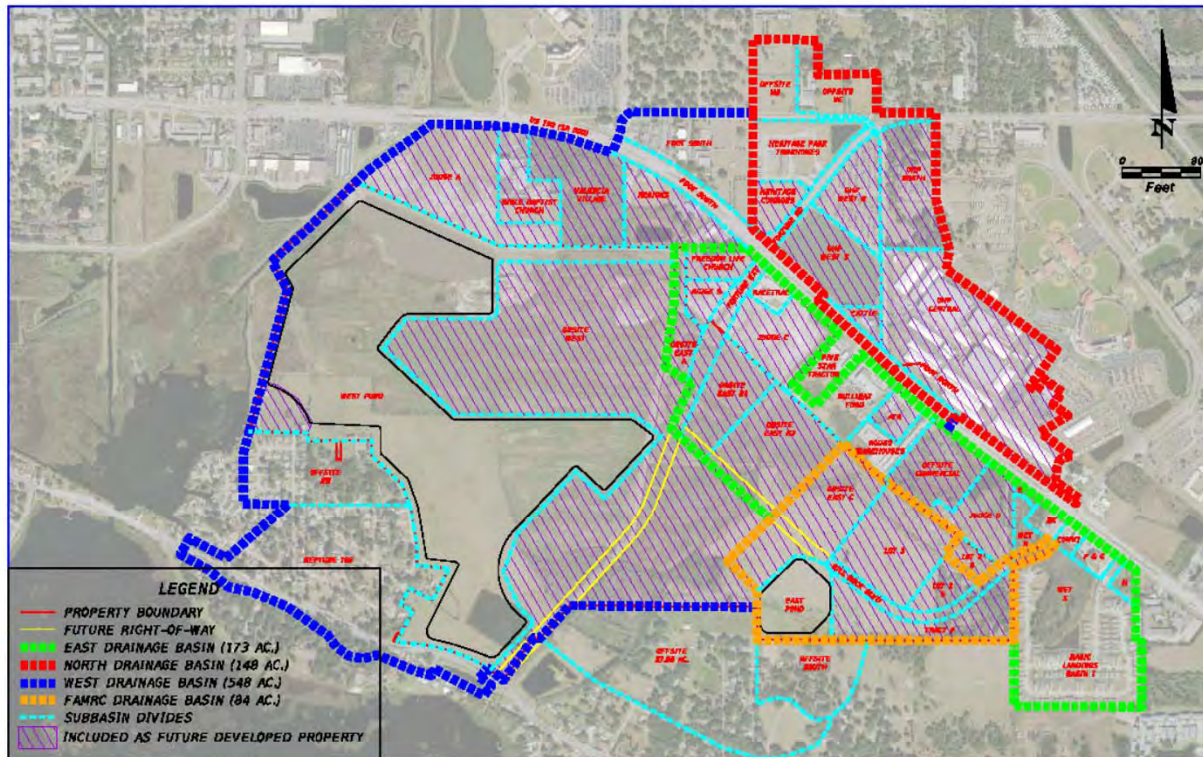
- Regional Stormwater Facility with a water surface of approximately 150 acres.
- Water Quality Treatment for approximately 1,000 acres.
- 50 foot wide berms to accommodate trails.
- Scheduled to be completed mid 2020.
- One of the largest active municipal stormwater treatment project in the State.



Conceptual Design



Onsite and Offsite Basins



DATE	DESCRIPTION	DATE	DESCRIPTION

Dowberry
 800 N. MARICOLA AVE., ORLANDO, FL 32809
 407-484-9139 / DOWBERRY.COM
 PAPER COPY OF AUTHORIZATION NO. 1291

**BUILDOUT CONDITIONS
 DRAINAGE BASIN MAP**

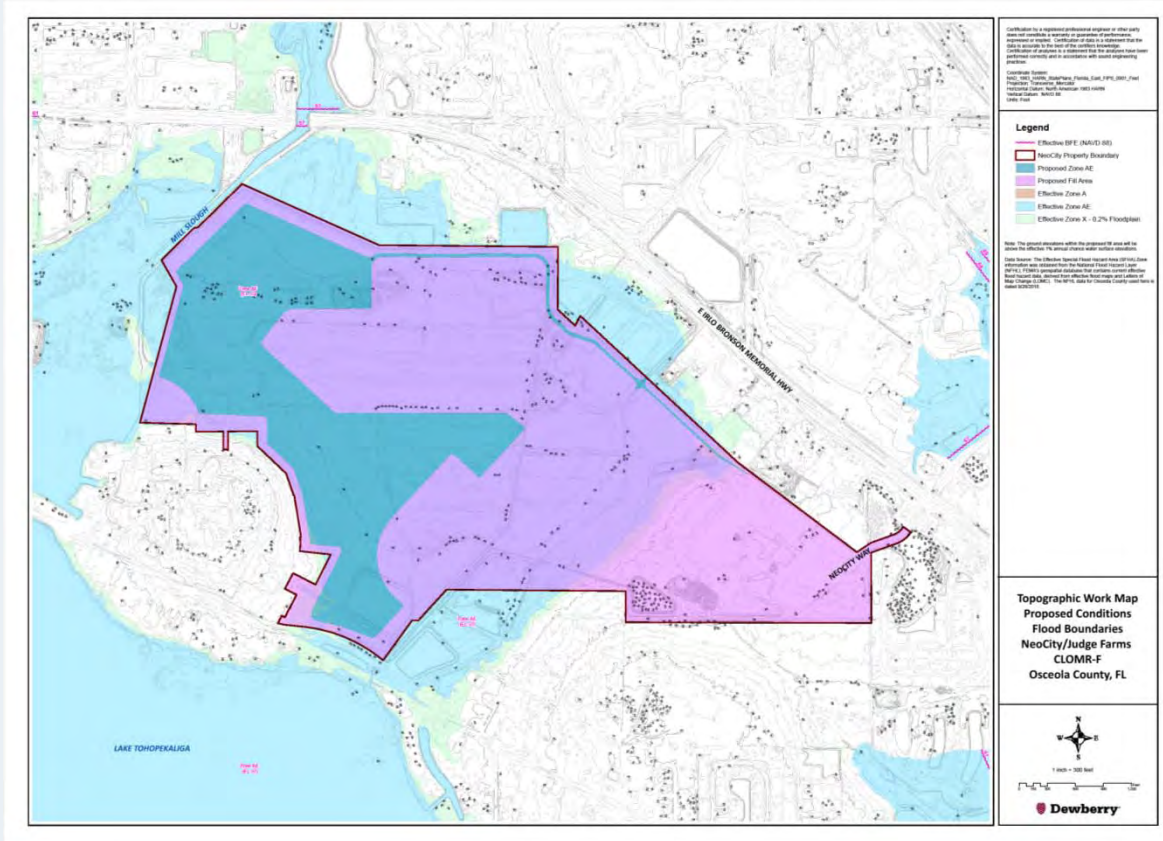
**FARM PROPERTY
 WEST PHASE 2**

SHEET NO.

Exhibit 1



FEMA Exhibit



Alternative Water Supply Project



- Alternative to Lake Tohopekaliga surface water and ground water withdrawals.
- Up to 400 Million Gallons of alternative water supply.
- Captures nutrients and reduces discharge to Lake Tohopekaliga.
- Up to 8.2 Million Gallons per Day of reuse for irrigation to offset potable water use.
- Removal of 25,500 pounds of Total Nitrogen, and 2,700 pounds of Total Phosphorus.



Next Steps?



- Diversion Wall
- Funding, permitting and design challenges





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2019 Winter Conference

Thank you!

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