Water Conservation as an Alternative Water Supply

Pierce Jones

Program for Resource Efficient Communities
University of Florida

Program for Resource Efficient Communities

We promote application of design, construction and management practices that minimize environmental degradation and make more efficient use of energy, water and other natural resources in master planned residential communities.

Growth Trends

Population - Florida:

- 1980   ~10,000,000
- 2005   ~17,000,000
- 2030   ~28,000,000

Growth Trends

Building Permits - Florida:

- 2003   ~155,000
- 2004   ~185,000
- 2005   ~208,000
- 2006   ~146,000
- 2007   ~72,000

Growth Trends

Growth Trends

Growth Trends

Growth Trends

South Pasco County

Water Supply

Water Supply

Florida Freshwater Withdrawals
(in million gallons per day)

Ground water
Surface water

1950 '55 '60 '65 '70 '75 '80 '85 '90 '95 2000

Source: U.S. Geological Survey
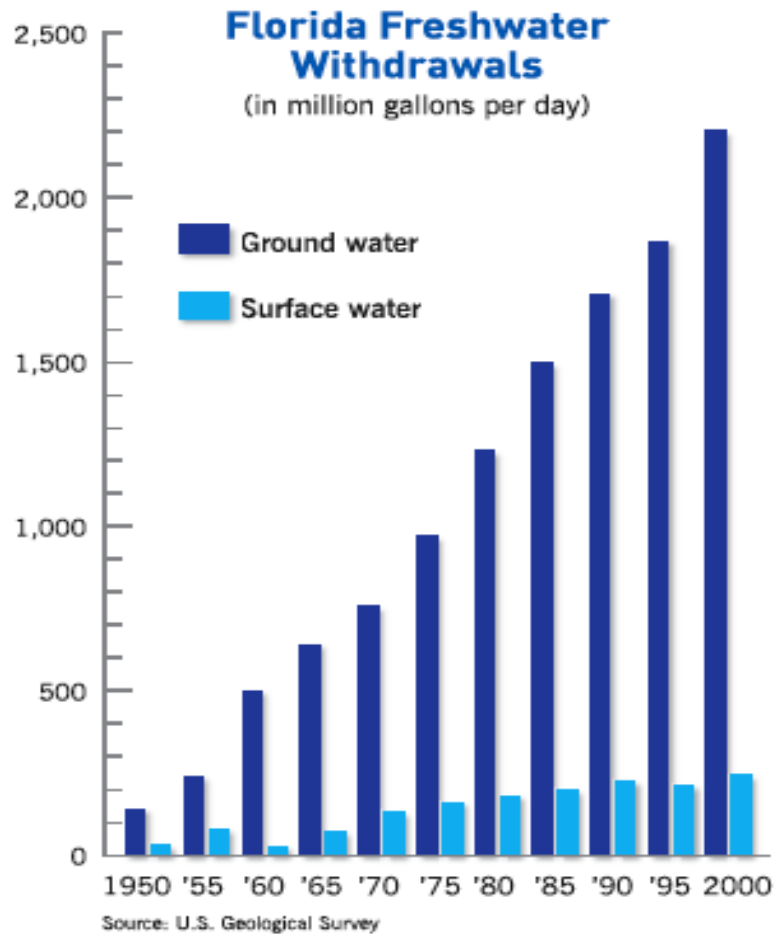
Tampa Bay Water Desalinization Facility

Water Supply

Water Supply

Demand for Florida homes permitted in 2005:
- Total Water Use   ~20,800,000,000 Gal/yr
- Irrigation   ~10,400,000,000 Gal/yr

Water Supply

Demand for Florida homes permitted in 2005:
- Total Water Use ~20,800,000,000 Gal/yr
- Irrigation ~10,400,000,000 Gal/yr
- Overwatering ~ 5,020,000,000 Gal/yr

UF UNIVERSITY of FLORIDA

Water Supply

200,000 Gallon Water Tower

Water woes hit development

EDITOR'S NOTE: *This is the first in a series examining how the region's drinking water is running low.*

BY SUSAN STABLEY

South Florida has run out of natural sources of drinking water and will likely experience halted development due to the problem.

Major real estate projects in the tri-county area must be curbed until alternative sources of water can be developed, according to the state. Already, it has told Miami-Dade County to reject 17 large-scale projects because of drinking water scarcity.

And the creation of alternative water sources will not happen soon. The work will cost of hundreds of millions of dollars and can take decades to complete, according to estimates from regional and local water officials.

"For us to go back into a built environment is a very expensive proposition," said Doug Yoder, assistant director of Miami-Dade County's water and sewer department.
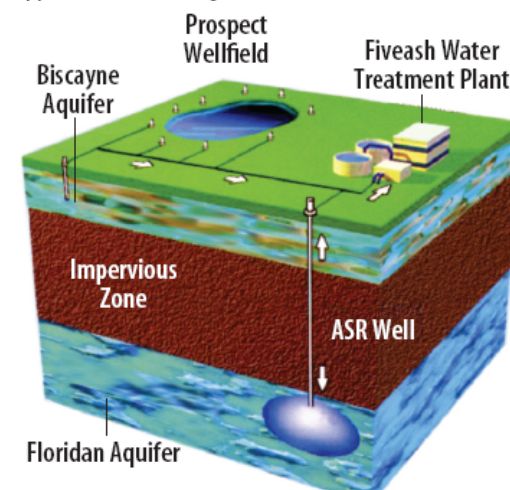
Last week, Gov. Jeb Bush vowed to make South Florida confront its water issues before the state will approve any more large projects.

"It makes no sense to develop west and west and west without the adequate development of infrastructure and water supply," Bush said at the Urban Land Institute's Symposium on Regional Cooperation on March 17.

POTENTIAL SOLUTION

Fort Lauderdale is pumping water into the saltier Floridan Aquifer, where it forms a freshwater bubble that can be tapped in times of drought.

Biscayne Aquifer · Prospect Wellfield · Fiveash Water Treatment Plant · Impervious Zone · ASR Well · Floridan Aquifer

Source: City of Fort Lauderdale Public Services Department

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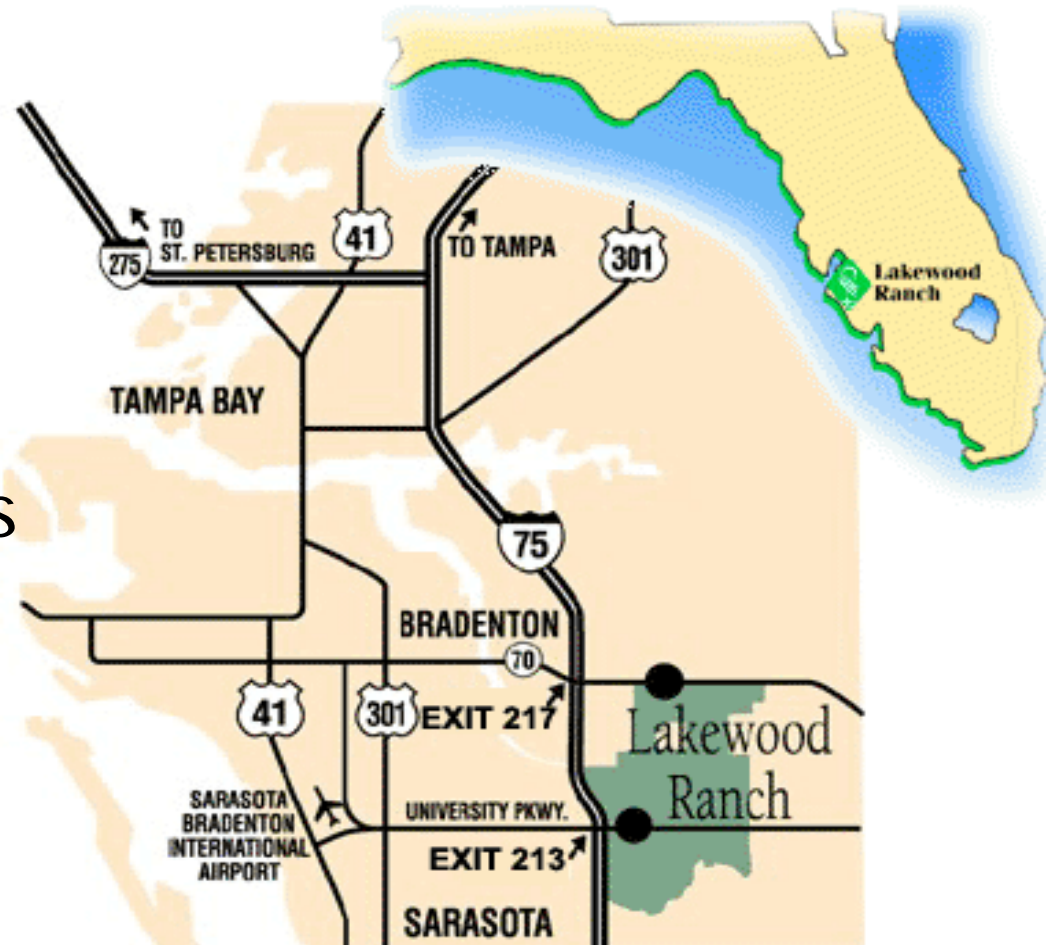
Certification/Incentives

Certifications/Incentives

Lakewood Ranch - Bradenton

FGBC Certified:
- Sales Centers
- Homes
- Community

AI Certified Golf Courses

Beazer Homes – Jacksonville

Demonstrations

Madera
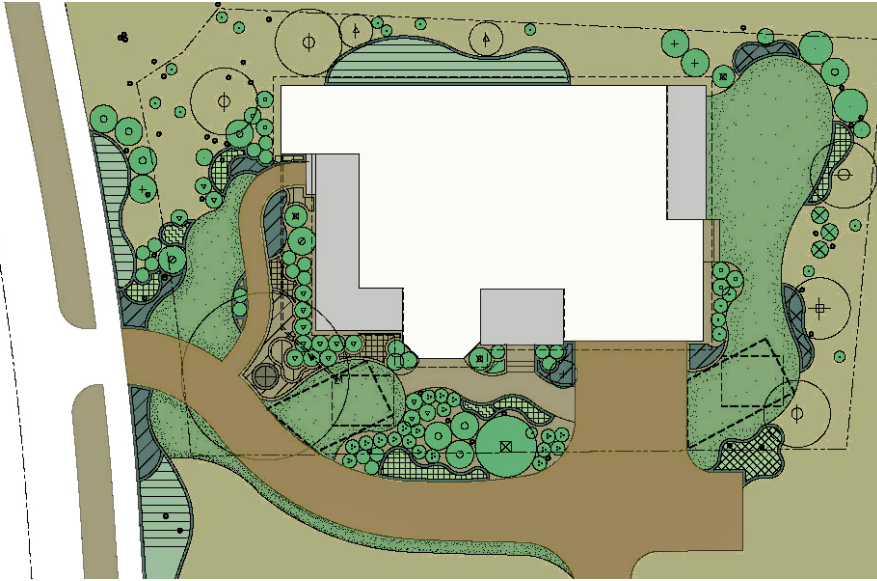

Reduced Impact Landscape

Madera

Reduced Impact Landscape

Idylwild

Conventional Practice

Summary

Summary

Lake County

Oakland Park

OAKLAND AVENUE LOT

FRONT YARD

Trees . . . . minimum of 2 canopy trees
and 2 accent trees
Shrubs . . . . .20% minimum
Groundcover . .15% minimum
Turf . . . . .60% maximum

SIDE YARD

Trees . . . . minimum of 1 canopy tree
and 2 accent trees
Shrubs . . . . .30% minimum
Groundcover . .0% minimum
Turf . . . . .70% maximum

ALLEY YARD

Shrubs . . . . .30% minimum
Groundcover . .0% minimum
Turf . . . . .70% maximum
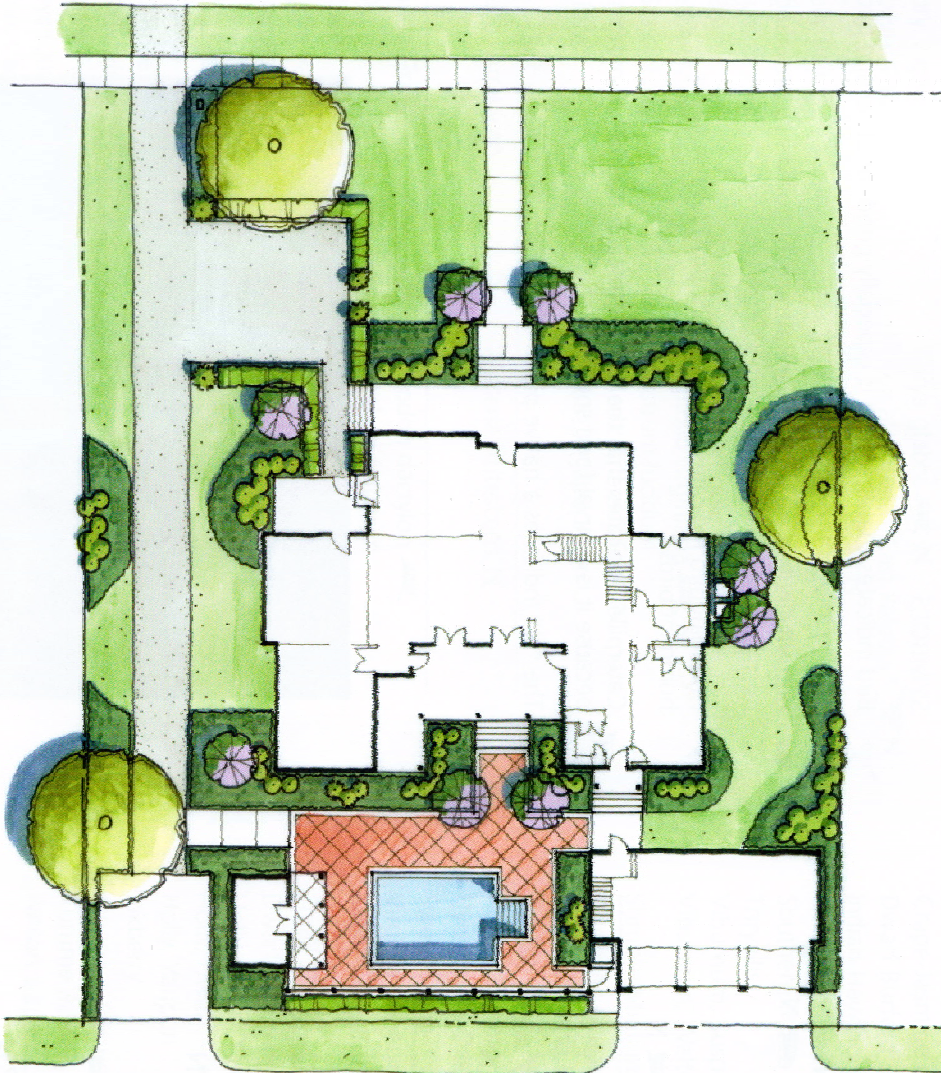
Hills of Minneola

East Central Florida Regional Planning
Council Recommendations:
- No St Augustine grass
- Half of all models 100% xeriscaped
- All homes Florida Water Star qualified

Bella Colina

Reduced Impact Landscape

Summary

Florida's Development Environment:
- New growth happens fast
- Tested, better practices are available
- Certification programs are in place
- Plenty of room to improve quickly
- Developers are not resistant

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Context

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