ERP Update
Overall Process

2020: SB 712 Passed – Clean Waterways Act

      Directed DEP to adopt new rules to improve water quality (including ERP)

2020-21: Technical Advisory Committee

      14 stakeholder representatives; 13 meetings on various topics

      Made recommendations to FDEP

2022-23: FDEP Rule Making Process

      Draft rule

      Public Comment

      Adopted (not Ratified)

      DEP Updated AH Vol. I & Working with WMDs to update AH Vol. IIs

2024 (March): (Tentatively) Submit for Ratification by Legislature

Treatment Requirement

Existing stormwater design regulations have design criteria that are based on treating the runoff for specified rainfall amounts.
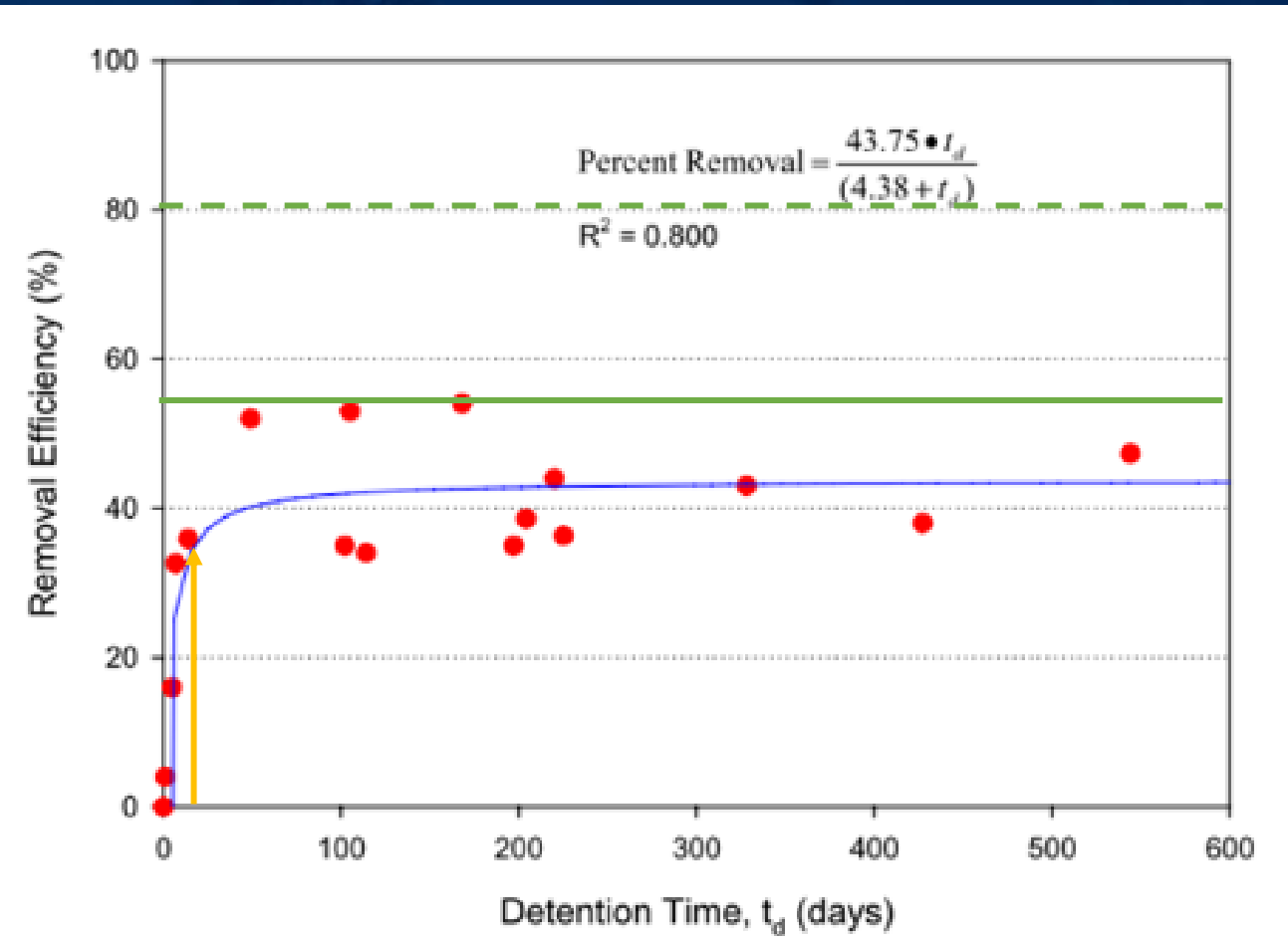
The proposed rule would update the design regulations so that they are expressed as a performance-based design criteria. (Long-term annual loading reduction).

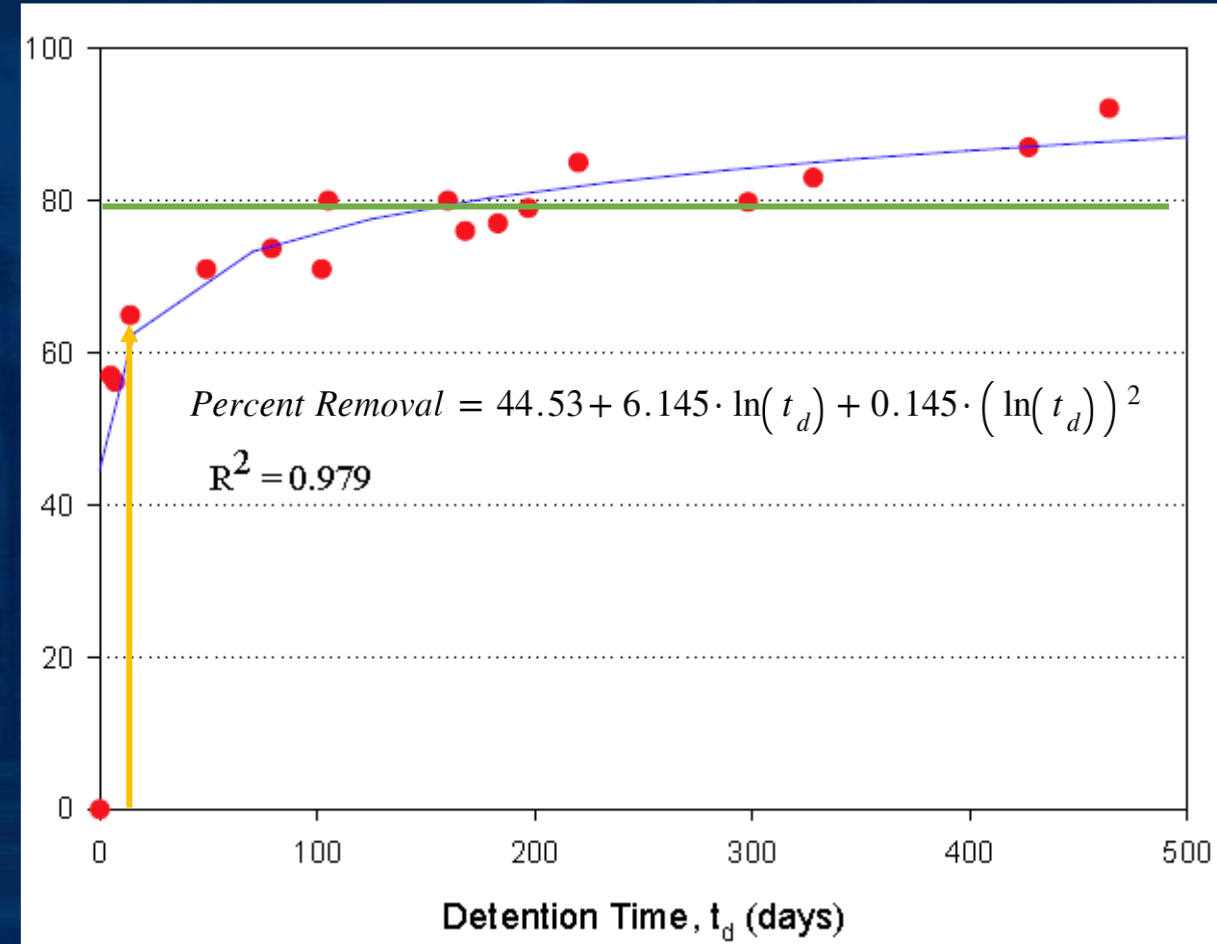Generally, the proposed rule has minimum treatment performance standards:

All sites not impaired	OFWs	Impaired Waters	Impaired OFWs	Redevelopment (Limited Sites)
Post ≤ Pre, and TP: 80% & TN: 55%	Post ≤ Pre, and TP: 95% & TN: 80%	Post ≤ Pre, TP: 80% & TN: 55% and Post < Pre (Impaired Parameters)	Post ≤ Pre, TP: 95% & TN: 80% and Post < Pre (Impaired Parameters)	TP: 80% & TN: 45% or TP: 95% & TN: 60% (for OFWs)

Wet Detention Will Not Making the Cut for N

Total Nitrogen
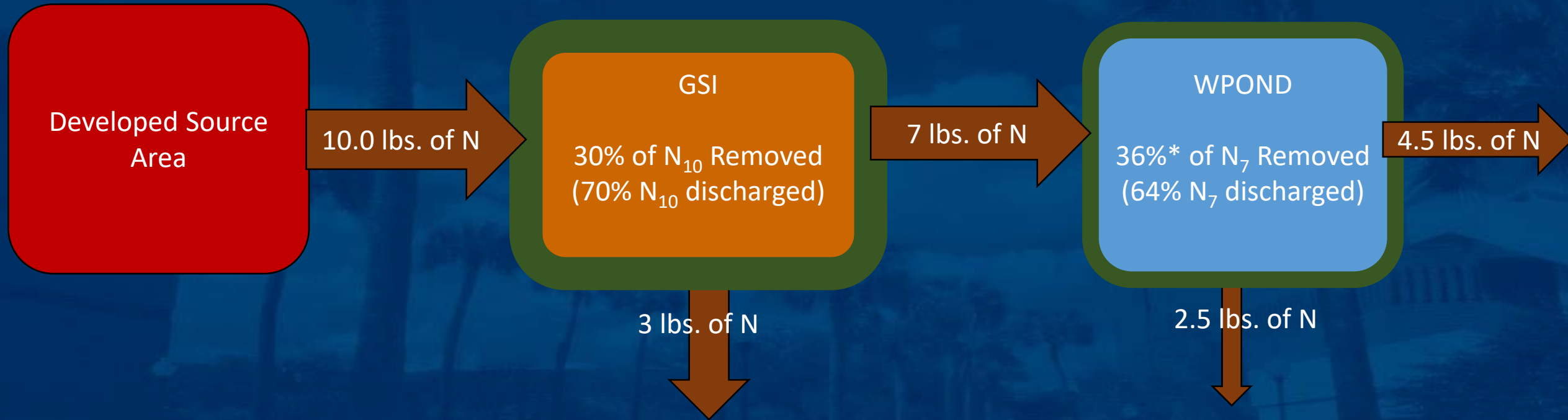

$$\text{Percent Removal} = \frac{43.75 \cdot t_d}{(4.38 + t_d)}$$

$$R^2 = 0.800$$

Total Phosphorus

$$\textit{Percent Removal} = 44.53 + 6.145 \cdot \ln\left(t_d\right) + 0.145 \cdot \left(\ln\left(t_d\right)\right)^2$$

$$R^2 = 0.979$$

Treatment Train

| Developed Source Area | → 10.0 lbs. of N → | GSI

30% of N_{10} Removed
(70% N_{10} discharged) | → 7 lbs. of N → | WPOND

36%* of N_7 Removed
(64% N_7 discharged) | → 4.5 lbs. of N → |

3 lbs. of N

2.5 lbs. of N

$$Treatment\ Train\ Efficiency = \ Eff_1 + ((1 - Eff_1) * Eff_2 = 55\%$$

$$30\% + (1 - 30\%) * 36\% = 30\% + 25\% = 55\%$$

*36% is N removal efficiency for proposed minimum residence time of 21-day residence time

LID vs. GSI: Development Process
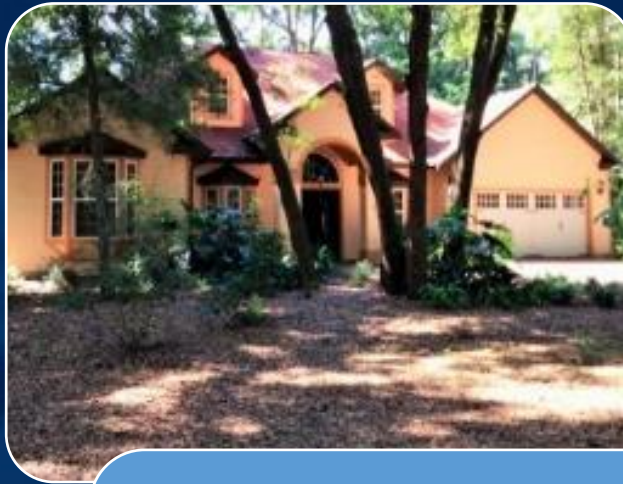
Avoidance (LID)

- Map natural infrastructure
- Preserve open spaces, natural areas, trees and native soils
- Retain natural hydrologic and topographic features in site plan

Minimization (LID)

- Limit and disconnect impervious surfaces
- Mimic and maximize pre-development hydrologic processes
- Integrate practices that provide co-benefits and multifunctional areas

Mitigation (GSI)

- Implement runoff source control measures
- Employ natural processes to treat and retain stormwater
- Provide treatment and attenuation in multiple areas across the site

LID vs. GSI: Development Process

City or County Level:

Codes & Ordinances, Comprehensive Plans, & Zoning

Direct & Indirect Impact on Stormwater Management

FDEP & WMDs:

TMDL/BMAP, MS4, ERP Programs

Avoidance (LID)

- Map natural infrastructure
- Preserve open spaces, natural areas, trees and native soils
- Retain natural hydrologic and topographic features in site plan

Minimization (LID)

- Limit and disconnect impervious surfaces
- Mimic and maximize pre-development hydrologic processes
- Integrate practices that provide co-benefits and multifunctional areas

Mitigation (GSI)

- Implement runoff source control measures
- Employ natural processes to treat and retain stormwater
- Provide treatment and attenuation in multiple areas across the site

Code Audit Tools

- Based on:
  - WI Sea Grant Tool
  - Center for Watershed Protection Tool
- Adapted to Florida
  - Sensitive Groundwater Areas (Karst)
  - Coastal Areas
- Partnership between
  - UF IFAS
  - TNC Florida
  - Eric Livingston
- Identify explicit & implicit restrictions or barriers to LID+GSI

Enabling Low Impact Development and Green Stormwater Infrastructure

A CODE AUDIT TOOL FOR FLORIDA COUNTIES AND MUNICIPALITIES

APRIL 1, 2022

Code Audit Tools

Enabling Low Impact Development and Green Stormwater Infrastructure

A CODE AUDIT TOOL FOR FLORIDA COUNTIES AND MUNICIPALITIES

Points	Criteria	Example Code Requirements
4	Practice is clearly described and approved or is allowed with design approval.	Where feasible, parking lot islands and perimeter landscaped areas shall be designed and installed to function as stormwater management areas, following design standards for bioretention found in the Stormwater Design Manual. If not feasible, native plants, suitable for the site shall be used.
3	Practice is encouraged, but some ambiguity or potential conflict exists.	Parking lot islands and perimeter landscaped areas are encouraged to be designed as part of the site's stormwater management system, based on bioretention standards in the Stormwater Design Manual. Trees must be planted at a maximum interval of 20 feet.
2	Practice is mentioned, but without standards or guidance for use.	Landscaped areas in parking lot perimeters and islands may be designed and used as stormwater bioretention areas.
1	Code is silent or significant limits exist, but practice could possibly be used.	Landscaping in parking lot islands and perimeters must achieve a minimum of 75% cover within two years of planting.
0	Practice is prohibited or very unlikely to be approved.	Parking lot perimeters shall be graded into a berm with a minimum slope of 2:1, covered with landscaping that will form a dense evergreen screen within tow years of planting.

Administrative
- About
- Definitions
- Codes Review Log
- Contact Information
- Scoring Instructions
- Score Summary

Local Government Planning and Policy
- Comprehensive Plan
- Zoning

Protecting Nature
- Natural Resources Protection and Management
- Coastal Areas
- Trees
- Sensitive Groundwater Areas

Stormwater and Water Quality
- Stormwater Management
- Pollutant Reduction

The Built Environment
- Site Plan Review
- Buildings & Landscape
- Streets
- Parking
- Permeable
- Construction
- Subdivisions & Greenfield
- Education and Demonstration

Code Audit Process: Pre-Audit

Lay the groundwork

- **Establish a core team (3-4)**
- *Educate staff and decisionmakers*
- *Plan for **Scoping Exercise** and **Code Audit***
- *Budget time and/or costs for <u>internal/external</u> audit*

Community Scoping Exercise

- *Assess GSI in the community and <u>local acceptance</u> of GSI, identify local natural resources, identify water quality and stormwater challenges and solutions*
- *ID specific code sections or topics for the audit*

Community Scoping Exercise

- Guided questions for Core Group and Liaisons
    - How does stormwater or water quality affect your community?
    - What natural assets function as stormwater infrastructure?
    - What LID+GSI is currently in your community?
    - How accepting is your community? Elected officials?
    - Who would be allies? Who would be opponents?

- Goal:
    - Identify strategies for auditing and updating codes
    - Guide sections of Code Audit Spreadsheet Tool to complete
    - Discussion amongst municipal departments and organizations

Code Audit Process: Conducting Audit

Adapt the CAST
- Full audit, section of audit, or individual topics
- Gather applicable codes and ordinances

Perform the Code Audit
- Work through questions, finding & referencing code locations
- Record comments and score questions
- Seek input from liaisons

Summarize Results
- Calculate and compare scores by category or topic
- Identify relative strengths & weaknesses of sections
- Report findings

City of Gainesville

Search or jump to

✉ NOTIFICATIONS   ➔ SIGN IN   ❓ HELP   G Select Language ▼

VERSION: **MAY 11, 2022 (CURRENT)** ▾

CODE OF ORDINANCES CITY OF GAINESVILLE, FLORIDA

SUPPLEMENT HISTORY TABLE `modified`

> PART I - CHARTER LAWS

> Chapter 1 - GENERAL PROVISIONS

> Chapter 2 - ADMINISTRATION

> Chapter 3 - ECONOMIC DEVELOPMENT

> Chapter 4 - ALCOHOLIC BEVERAGES

> Chapter 5 - ANIMAL CONTROL

> Chapter 5.5 - ART IN PUBLIC PLACES

> Chapter 6 - BUILDINGS AND BUILDING REGULATIONS

> Chapter 7 - CEMETERIES

> Chapter 8 - DISCRIMINATION

> Chapter 9 - ELECTIONS

> Chapter 10 - FIRE PREVENTION AND PROTECTION

Code of Ordinances

Supplement 56 Update 2

Online content updated on May 11, 2022

CODE OF ORDINANCES City of GAINESVILLE, FLORIDA Codified through Ordinance No. 210666, adopted January 20, 2022 and Ordinance No. 200744, adopted February 17, 2022. (Supp. No. 56, Update 2)

S VIEW WHAT'S CHANGED

This Code of Ordinances and/or any other documents that appear on this site may not reflect the most current legislation adopted by the Municipality.

Adopted Ordinances Not Yet Codified

The listing below includes all legislation received by Municipal Code since the last update (printed or electronic) to the Code of Ordinances. This legislation has been enacted, but has not yet been codified.

Ordinance No. 210163

Adopted 5/5/22

AN ORDINANCE OF THE CITY OF GAINESVILLE, FLORIDA, AMENDING SECTION 9-1.1 ELECTION DISTRICTS OF THE CODE OF ORDINANCES BY REDISTRICTING THE CITY OF GAINESVILLE INTO FOUR RATABLY OR EQUALLY PROPORTIONED ELECTION DISTRICTS AS REQUIRED BY LAW; MAKING FINDINGS; PROVIDING A SEVERABILITY CLAUSE; PROVIDING A REPEALING CLAUSE; AND PROVIDING AN IMMEDIATE EFFECTIVE DATE.

www.municode.com

Code Audit Spreadsheet Tool: Summarization

Section Topic	Section	Total Points	Potential Points	Percentage of points credited Section	Topic
Local Government Planning and Policy	Comprehensive Plan	0	104	*0%*	
Local Government Planning and Policy	Zoning	0	20	*0%*	
	Average for Local Government Planning and Policy	**0**	**124**		**0%**
Protecting Nature	Natural Resources Protection Management	0	36	*0%*	
Protecting Nature	Coastal Areas	0	24	*0%*	
Protecting Nature	Trees	0	28	*0%*	
Protecting Nature	Sensitive Groundwater	0	16	*0%*	
	Average for Protecting Nature	**0**	**104**		**0%**
Stormwater and Water Quality	Stormwater Management	0	68	*0%*	
Stormwater and Water Quality	Pollutant Reduction	0	28	*0%*	
	Average for Stormwater and Water Quality	**0**	**96**		**0%**
The Built Environment	Site Plan Review	0	24	*0%*	
The Built Environment	Building & Landscape	0	84	*0%*	
The Built Environment	Streets	0	60	*0%*	
The Built Environment	Parking	0	60	*0%*	
The Built Environment	Permeable Hardscape	0	28	*0%*	
The Built Environment	Construction	0	28	*0%*	
The Built Environment	Subdivisions & Greenfield	0	28	*0%*	
The Built Environment	Education & Demonstration	0	40	*0%*	
	Average for The Built Environment	**0**	**284**		**0%**
Average for full audit		**0**	**608**		**0%**

Code Audit: Scoring Examples

B8. Do the goals, objectives, and policies of the future land use element of the comprehensive plan include protection of natural areas and open spaces?

Tips	Code References	Notes, Ideas and Strategies	Score
Protecting remaining natural areas inside urban services area should be a stated priority as well as preventing urban sprawl into rural areas.	Comprehensive Plan, Conservation and Open Space Element, and Objective 1.2 (p. 248) The goal of this element is "to conserve, manage, and restore or enhance the natural and human-related resources to ensure long-term environmental quality for the future."	Several areas in the comprehensive plan refer to protecting natural areas and open space. No further action is needed.	3

G2. Are sand dunes and other coastal terrestrial habitats protected from development in code?

Tips	Code References	Notes, Ideas and Strategies	Score
Requiring setbacks for new or expanded structures and impervious surfaces, and limitations on clearing or grading near protected areas are common provisions. Martin County's Shoreline Protection Zones and related Preserve Area Management Plans are good examples.	Code Chapter 10, Building Regulations, Article V Coastal Construction, Sec. 10: Construction shall be located a sufficient distance landward of the beach to permit natural shoreline fluctuations and to preserve dune stability Article X Resource Protection, Division 2. Dunes, Sec.26: It shall be unlawful to remove, cover, or destroy natural vegetation growing upon any dune within the town without a permit from the town administrator.	Although Code requires development to be "a sufficient distance from the beach", the distance is not specified or required to be set by a qualified person. The prohibition on removing native vegetation on dunes is left to the discretion of the town administrator. This ordinance could be stronger. Discuss options for strengthening these protections with Environmental Protection staff.	1

Code Audit Process: Post Audit

Adoption Strategy

- *Prioritize code amendments for local needs*
- *Gather applicable codes and ordinances*
- *Draft suggested code revisions*

Hurdles Beyond Codes

- *Find allies and promote social acceptance*
- *Evaluate and address financial concerns*
- *Develop GSI capability (e.g., construction, inspection & preventative maintenance knowledge & procedures)*

Follow Through

- *Implement code revisions*
- *Develop a pilot or other early GSI projects*
- *Monitor, maintain, educate, and publicize*
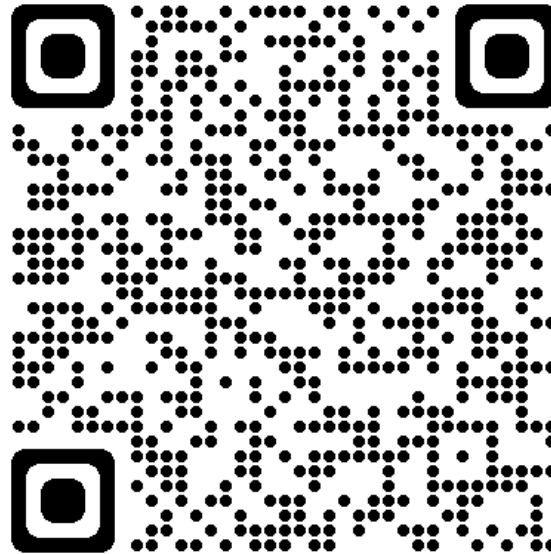
Next Steps

- Code Audit Tools
  - Identifies opportunities, gaps, or problem areas

- Pilots
  - Alachua County
  - Cocoa Beach, FL
  - Wildwood, FL

- Phase II (currently contracting UF/TNC/FDEP)
  - Example code language to address audit results

Download Code Audit Tools

https://ufl.qualtrics.com/jfe/form/SV_0T9JEXj7lcR6EOq

Questions?

Eban Z. Bean, Ph.D., P.E.

Assistant Professor & Extension Specialist

Urban Water Resources Engineering

ezbean@ufl.edu

@EbanBean