Item #190993

# Countywide Septic Tank Ordinance Discussion Joint Water Policy 2/24/20

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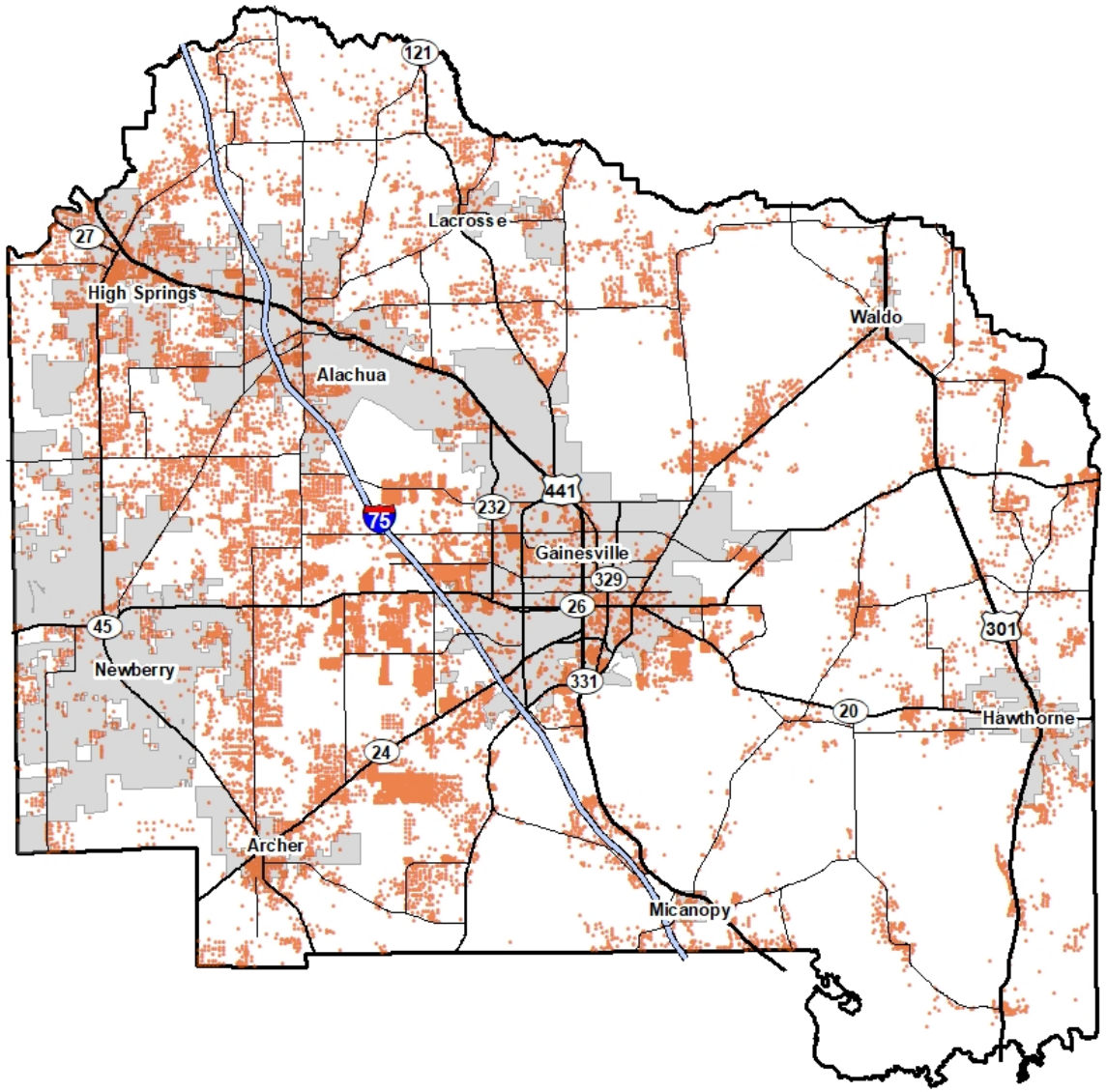
# Distribution of Septic Tanks in Alachua County




- 26,179 septic tanks countywide.
- Total TN pollution estimated at 246,968 pounds of Nitrogen/year

# Options to Reduce Nitrogen from Septic Systems:

- In new construction:
  - Require nitrogen reducing septic systems.
  - Require central sewer.
- For remediation of existing loads:
  - Upgrade to nitrogen reducing septic systems
  - Septic to sewer conversion projects.

# Presentation Outline

**Items that will be addressed today:**

1. 11/12/19- BoCC asked staff to get with local septic tank installers to understand the real cost of implementing an ordinance.
2. 1/14/20- Refer to the Joint Water Committee for the County to be the supplier of the proper materials for a nutrient removing septic tank drain field.
3. 12/16/19- Joint Water Policy Committee request for an estimate of how many existing septic systems would require aerobic treatment for retrofits (ie- don’t meet criteria for passive systems).

# Item 1- Cost Data

| Source | Description | Standard system | Aerobic (ATU) | INRB* |
|---|---|---|---|---|
| Dept. of Health SERC | Cost estimate for rulemaking regarding BMAP areas | N/A | $13,000 | $8,200 |
| FOWA (Statewide estimate) | Wastewater industry report | N/A | $8,000-$18,000 | $10,000 |
| Citrus County | 12 septic contractor responses (3bd/2ba home) | $3,000 - $8,000 | $7,000-$15,000 | $10,000 |
| Brevard County | County staff provided ranges | | $12,000 - $20,000 | NA (0 Installed) |
| Alachua County | 3 general contractor and 1 septic contractor responses | $3,000 - $5,500 | $10,000- $15,000 | $12,000 - $15,000 (1 estimate) |

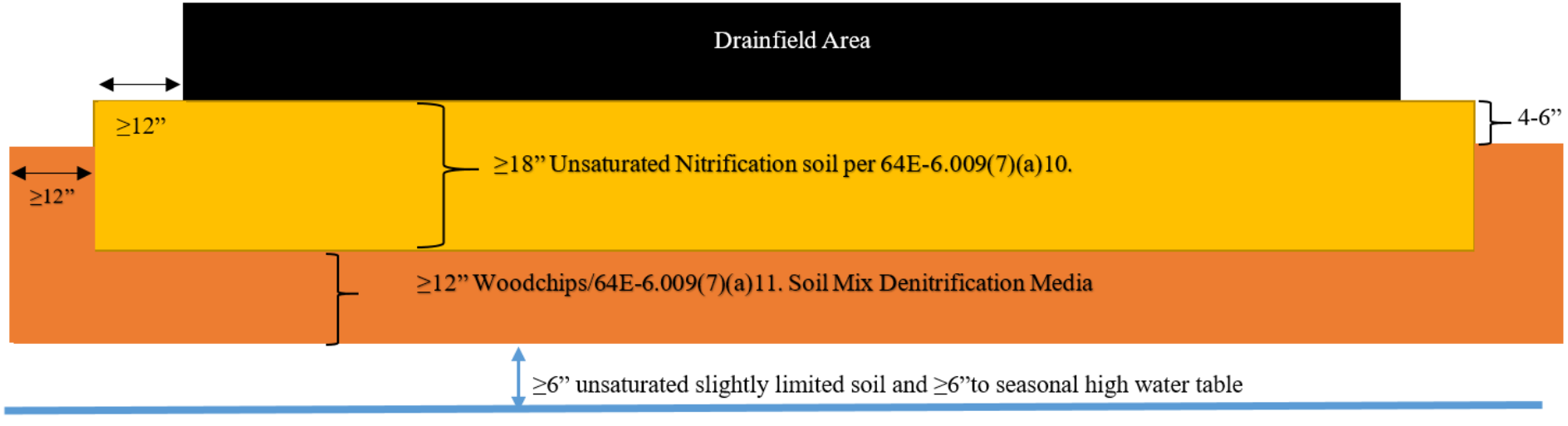
*In-Ground Nitrogen Reducing Biofilter (INRB)

# Item 2

- 1/14/20- Refer to the Joint Water Committee for the County to be the supplier of the proper materials for a nutrient removing septic tank drain field.

# In-Ground Nitrogen Reducing Biofilter (INRB)

- INRB drain fields require more area than conventional drain fields.
- Excavation is required below the drain field for the nitrification and denitrification layers. Excavated material is typically removed from site.
- The nitrification and denitrification layers require imported material (sand and wood chips).



# Poe Springs Lodge Septic Tank Upgrade

- Installer provided:
  - Labor and equipment for excavation etc.
  - Removal of existing tank
  - Replacement of tank and drain field
  - Sand for nitrification layer
  - Mixing and placement of denitrification layer

- County purchased:
  - Wood chips and sand for denitrification layer

# Poe Springs Lodge Septic Tank Upgrade

- The replacement included a new tank and drain field, so it is basically a new system.
- This system is larger than a typical residential system.
- Wood chips and sand for the denitrification layer accounted for 19% of the total price.

# Denitrification Layer Material Cost

- Wood chips were sourced locally. The actual cost of the wood chips was greater than the transport cost:
  - $25/Cubic Yard material versus $2/Cubic Yard transport.

- The sand was sourced from Interlachen. The transport cost of the sand was greater than the material cost:
  - $3/Cubic Yard material versus $15/Cubic Yard transport.
  - DOH specification for sand required testing. Also it is not a specification that suppliers are familiar with.

# Issues with County Supplied Denitrification Materials

- County owned sand mine and consistent supply of wood for chipping would be needed to fully realize cost savings.
  - Mechanism needed for County to sell these materials
  - Transport costs would still be high

- Would only impact the material costs (19% for Poe) and would not influence costs for work provided by installer.

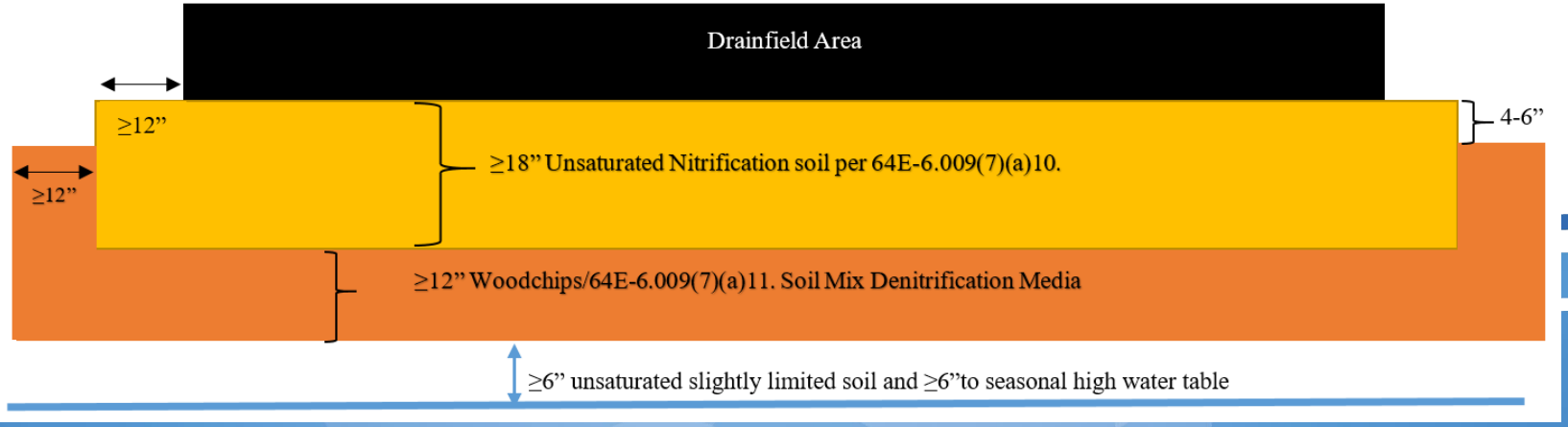
# Item 3

12/16/19- Joint Water Policy Committee request for an estimate of how many existing septic systems would require aerobic treatment for retrofits (ie- don’t meet criteria for passive system).

# In-Ground Nitrogen Reducing Biofilter (INRB) Limitations

- INRB limiting factors:
  - Water table depth
  - Set back and area requirements

- When INRB is not feasible then an NSF-245 Aerobic Treatment Unit (ATU) is the only option.



# Existing Septic with Potential Upgrade Limitations

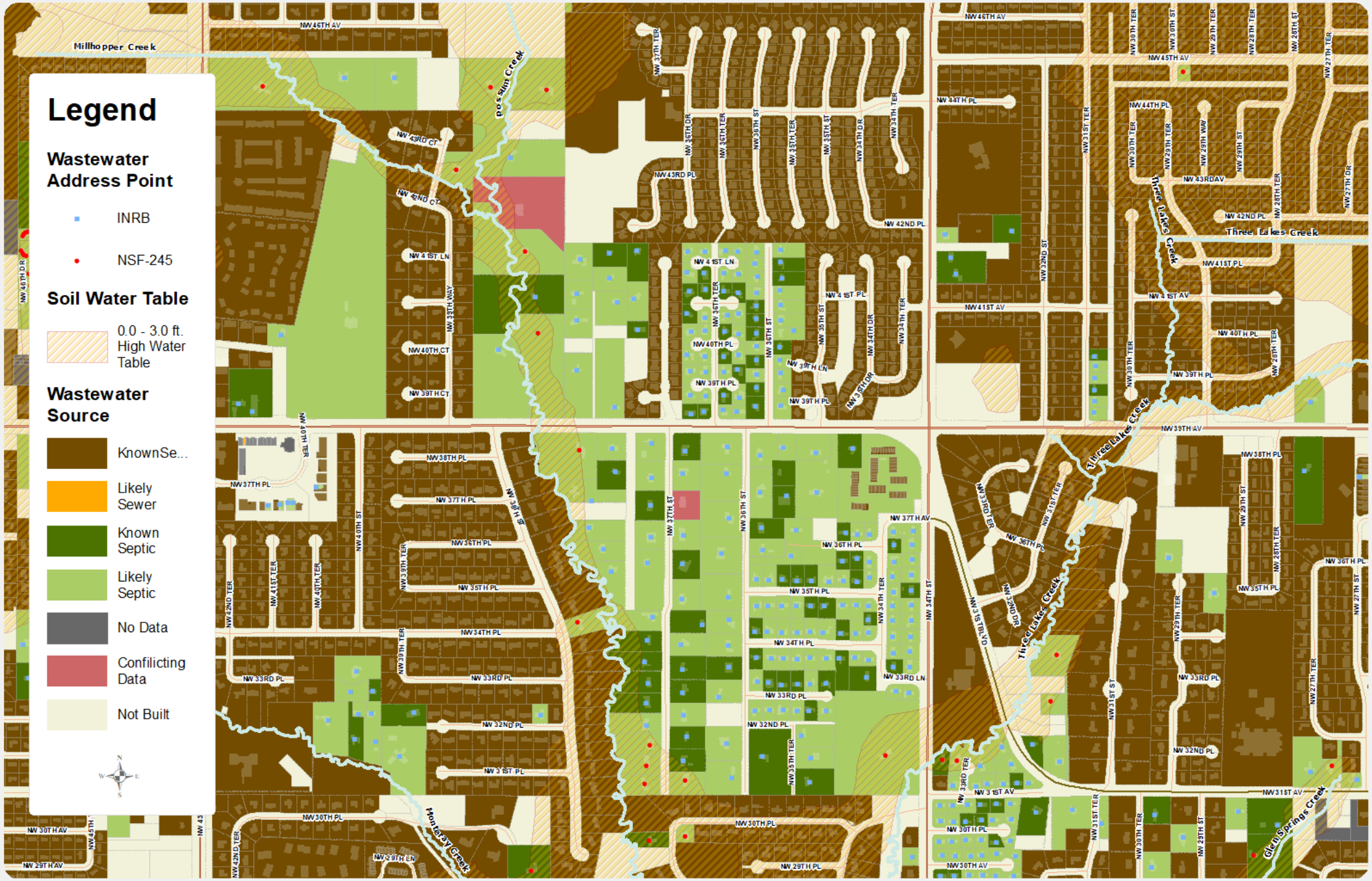
- Whether upgrade of an existing septic system is limited to an aerobic treatment unit needs to be determined based on site specific conditions.

- Soils data can be used to estimate where a high water table limits the type of drain field (depth to seasonal high water table < 3 feet).

# Potentially Limited Sites

- Countywide 25-30% of existing septic systems are in areas where water table is potentially too high for an INRB.
  - Mainly on the east side of the County and near waterbodies.
  - These ~8,000 systems would potentially require an Aerobic Treatment Unit if a nutrient reducing retrofit was required

# Possum Creek at NW 39th AVE



# Possum Creek at NW 39th AVE

# Next Steps

- The drain field at the Poe Springs  concession stand is currently being retrofitted.
  - Staff will continue to monitor the two Poe Springs retrofits
- The Basin Management Action Plan challenge should come to a conclusion this spring and we may see some state requirements for nutrient treating systems in the County.
- Staff will continue to request that the Florida Department of Environmental Protection extend retrofit rebate funds to Alachua County.

# Staff Recommendation

- Request a staff update to the BoCC on the progress of the next steps during the summer or fall of 2020