Marion County

Board of County Commissioners Workshop

Meeting Agenda

Tuesday, October 1, 2024 **3:30 PM** **McPherson Governmental Campus Auditorium**

Workshop to Discuss the CR 475A Roadway Improvement Projects to Elevate a Portion of the Roadway (Task A) and to Provide Intersection Improvements (Task B)

INTRODUCTION OF WORKSHOP BY CHAIR MICHELLE STONE

PLEDGE OF ALLEGIANCE

ROLL CALL

WORKSHOP PRESENTATION

1. WORKSHOP: Discussion for CR 475A (SW 27th Avenue) Roadway Improvements from South of SW 55th Street to SW 42nd Street and SW 66th Street at CR 475A (SW 27th Avenue) Intersection Improvements

BOARD DISCUSSION AND CLOSING COMMENTS

Marion County

Board of County Commissioners Workshop

Agenda Item

File No.: 2024-16763 **Agenda Date:** 10/1/2024 **Agenda No.:** 1.

SUBJECT:
WORKSHOP: Discussion for CR 475A (SW 27th Avenue) Roadway Improvements from South of SW 55th Street to SW 42nd Street and SW 66th Street at CR 475A (SW 27th Avenue) Intersection Improvements

INITIATOR:
Steven Cohoon, P.E., County Engineer

DEPARTMENT:
Office of the County Engineer

DESCRIPTION/BACKGROUND:
Kittelson and Associates has been selected to provide design services, construction plans and bid documents for intermediate roadway improvements on CR 475A (SW 27th Avenue) including solutions to remedy the current roadway flooding situation and serve as a basis for a future four (4) lane roadway. The team has also been selected to provide an intersection alternative at the intersection of SW 66th Street at CR 475A (SW 27th Avenue) which includes the consideration of a roundabout.

The presentation by Kittleson and Associates will cover:

- Typical section alternatives
- Drainage and known flooding areas surrounding the corridor
- Maintenance of Traffic considerations
- Wall alternatives
- Future expansion to four lanes
- Traffic analysis and Roundabout design at SW 66th Street

RECOMMENDED ACTION:
Review and discuss the proposed improvements**.**

KITTELSON & ASSOCIATES

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Task A: CR 475A Profile Adjustment

Project Purpose:

Design improvements to alleviate existing drainage issues and provide opportunity for future four-lane expansion

Defined Issues:

Drainage **Right-of-Way** **Utilities** **Stakeholders**

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Project Approach

- Fully understand defined issues to develop **constructable, cost-effective, and expandable** typical section alternatives
- Determine County preferred **typical section**(s)
- **Coordinate conversation** between County and Stakeholders for proposed improvements
  - Ocala Stud, Glen Hill Farm, Westbury neighborhood
- Advance typical(s) into **design**

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Task A - Project Limits

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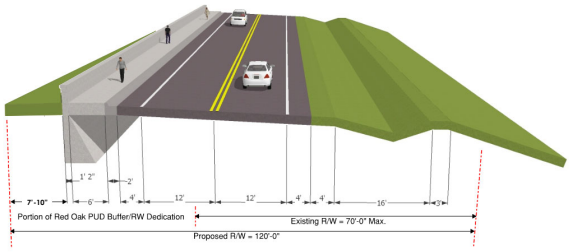
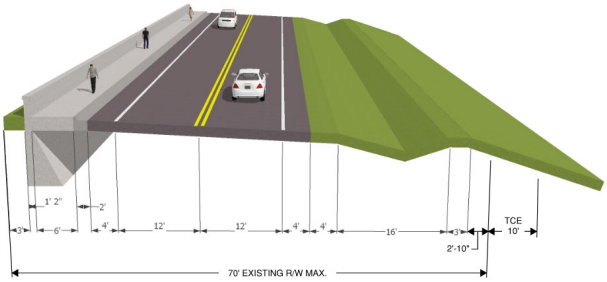
Task A Stage 1- Typical Sections (Pre-Four Lane)

- Limit ROW Impacts
- Provide drainage solutions
- Cost-effective wall solutions
- Provide continued access
- Limit utility impacts
- Expandable alternative



SECTION THROUGH RED OAK / OCALA STUD PROPERTY

LOOKING NORTH



SECTION ALONGSIDE WESTBURY NEIGHBORHOOD

LOOKING NORTH

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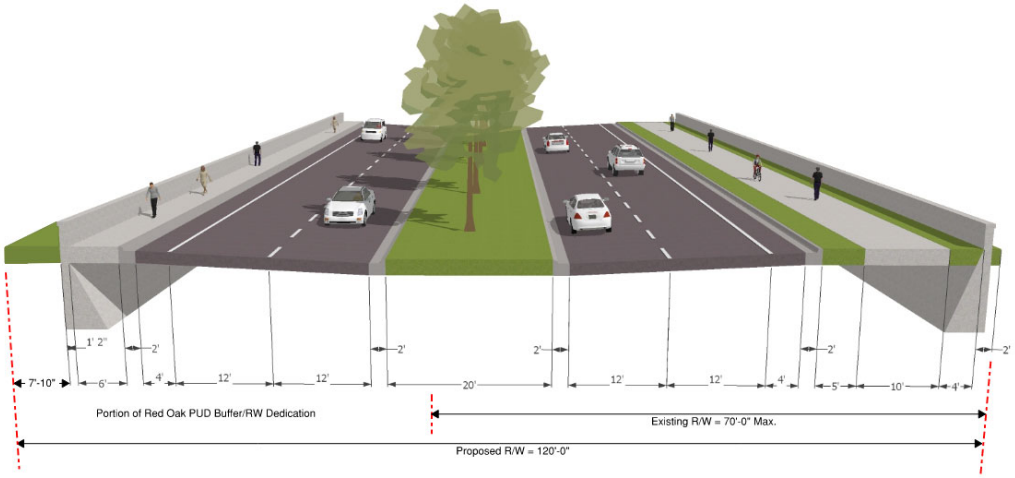
Task A Stage 2 – Four Lane Typical Section



SECTION THROUGH RED OAK / OCALA STUD PROPERTY

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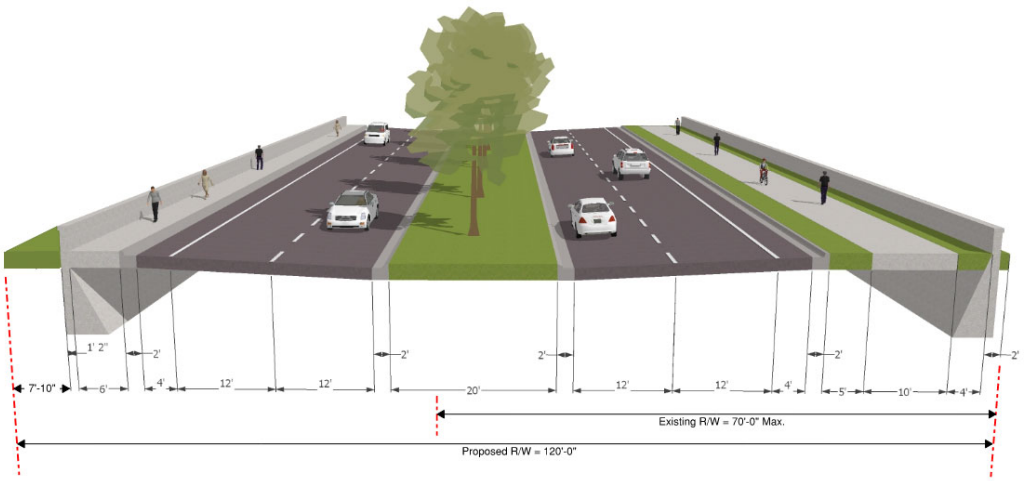
Task A Stage 2 – Four Lane Typical Section



SECTION ALONGSIDE WESTBURY NEIGHBORHOOD

LOOKING NORTH

Existing Condition: Drainage

Three Flood-Prone Locations:

- Glen Hill Farm: 0.5 mile, 5' depth
- Westbury – 700', 32" depth
- SW 66th St – 600', 29" depth

Flooding from:

- Large contributing area
- Poor soils/limited infiltration
- High Water Table

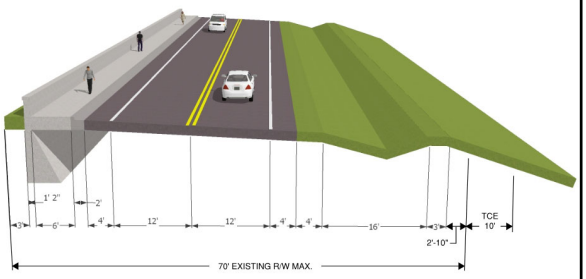
Task A Stage 1: Drainage

Design Approach:

- Elevate road above peak flood
  - Will require 10-ft of adjustment in low point near Glen Hill Farm Entrance
- Provide stormwater treatment & storage in existing right-of-way
- Achieved using swales with earthen ditch blocks

Considerations:

- Provide 4' separation from estimated seasonal high-water table
- Backfill elevated area with high permeability sands



SECTION ALONGSIDE WESTBURY NEIGHBORHOOD

LOOKING NORTH

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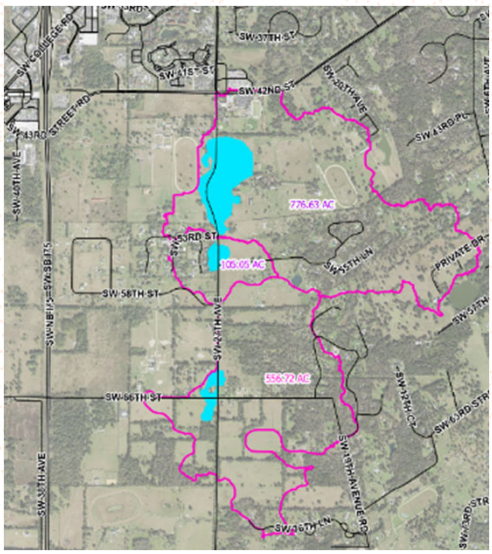
Floodplain Impacts & Compensation

Glen Hill Farms	SW 66th St
24.85 ac-ft impact *0.39'rise*	*2.43 ac-ft impact* *0.22'rise*
Westbury	*No impact to existing structures.*
4.06 ac-ft impact *0.50'rise*	*Easement agreements in lieu of compensating storage area*



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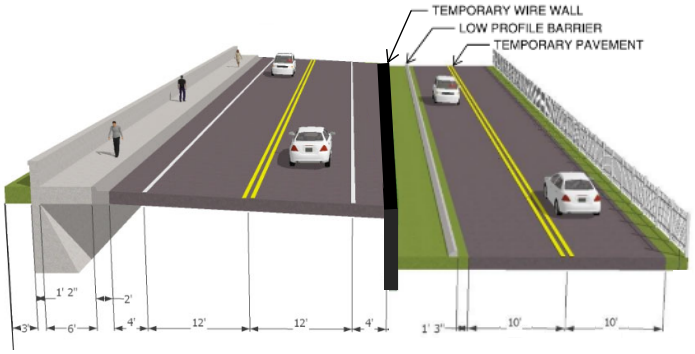
Maintenance of Traffic - Stage 1

- Temporary pavement for maintaining traffic
- FDOT index 102-120 low profile barrier good for 45 mph or less
- 9" min setback from back of low-profile barrier to work zone
- Construct interim 2-lane typical section (future SB lanes for 4-lane typical section)
- Temporary drainage
- Temporary wire face wall



CR 475A - TWO LANE ALTERNATIVE - STAGE 1
LOOKING NORTH

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Temporary Wire Face Wall

- Engineered for specific project needs
- Can be buried and left in place
- Consider future drainage design (e.g. pipe penetrations)

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Wall Alternatives

- Evaluate wall options for cost, constructability, construction duration, aesthetics
- Evaluate wall options vs. acquiring R/W
- Best value recommendation

Segmental Block Wall

MSE Wall

Gravity Wall

Cantilever Retaining Wall

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Permanent Pump Installation

- Ongoing coordination with Glen Hill Farms
- Pump to assist with drawing down existing pond to provide extra flood storage
- Discharge to existing pond on SW 42nd Street
- Coordination with City occurring for discharge

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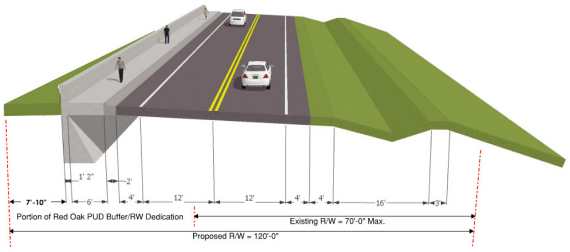
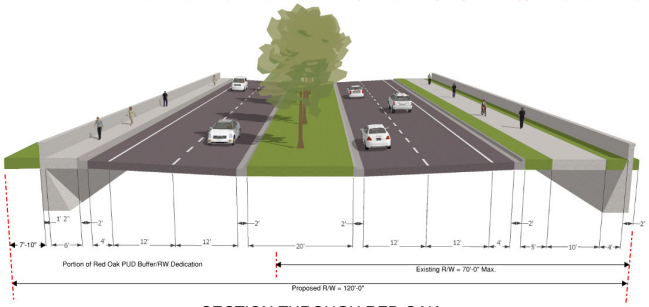
Task A Stage 2: Two Lane Expansion to Four Lane

- Two lane alternative considers expansion
- Minimum impact to existing infrastructure during four lane widening



SECTION THROUGH RED OAK / OCALA STUD PROPERTY
LOOKING NORTH



SECTION THROUGH RED OAK / OCALA STUD PROPERTY
LOOKING NORTH

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Task B: Roundabout

- Traffic Analysis
- Speed Control
- Design Vehicle
- Property Impacts
- Minor reconstruction for expansion

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Task B: Benefits of Roundabouts

- Preferred alternative due to a number of potential benefits:
  - Safety performance
  - Economic benefits
  - Operational performance
  - Environmental benefits
  - Access management
  - Operation and maintenance costs
  - Aesthetics

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Task B: Roundabout Safety

- Roundabouts have a proven safety record for reducing motor vehicle crashes, particularly injury crashes
- Improved safety performance is due to several basic contributing factors:
  - Reduced vehicle speeds
  - Reduced driver decisions
  - Reduced conflict points
  - Reduced conflict severity

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Task B: Navigating a Roundabout

- Slow speeds to 10-15 mph on approach
- Follow signs and marking to determine your lane
- Yield to pedestrians/cyclists crossing the entry
- Yield to motorists already in the roundabout (circulatory roadway)
- Enter roundabout when it is safe to do so
- When you approach your destination street, turn on right-turn signal and exit
- Yield to pedestrians/cyclists crossing the exit lane

This guide can be found at:

https://www.alerttodayflorida.com/Resource/Roundabout%20Guide.pdf

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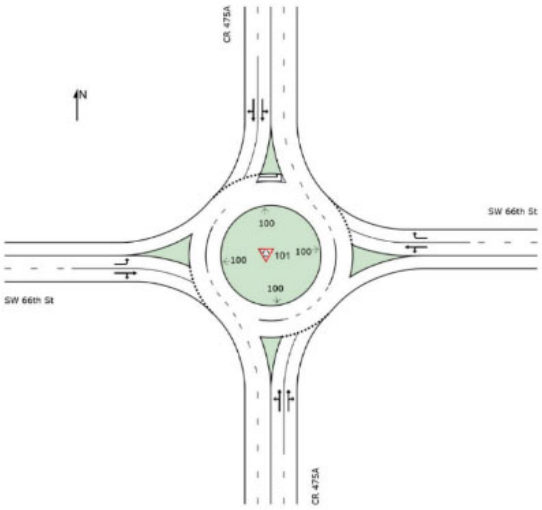
Task B: Roundabout Operations

- Annual Growth Rates
  - CR 475A – 3%
  - SW 66th – 2.3%
- Will remain under capacity until 2048 using the above annual growth rates



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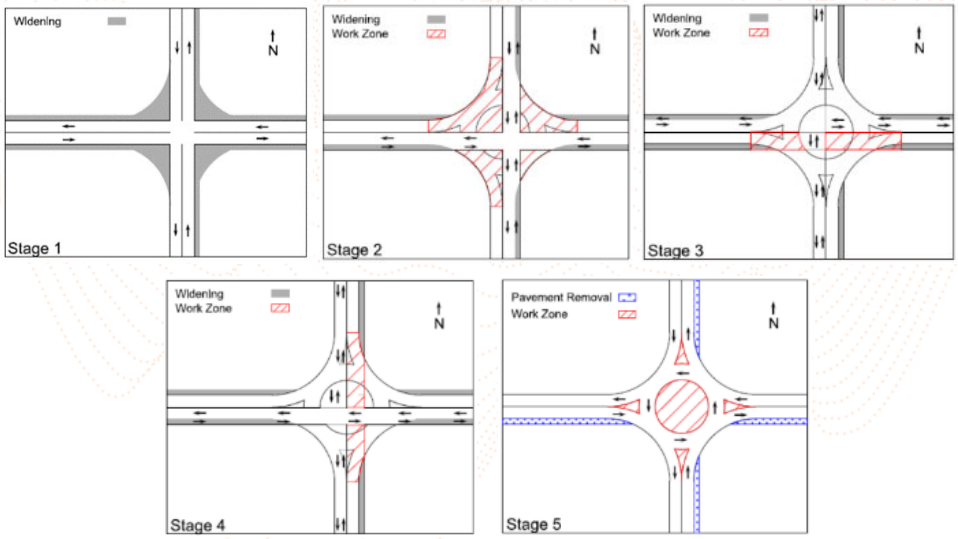
SW 66th St Roundabout Maintenance of Traffic



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Task B: Drainage

- Proposed roundabout to add 1.5 acres of new impervious
- Not feasible to address runoff in existing Right of Way
- Acquire 1 acre for drainage retention area
- Elevate roundabout above peak flood state

SW 66th St & SW 27th Ave

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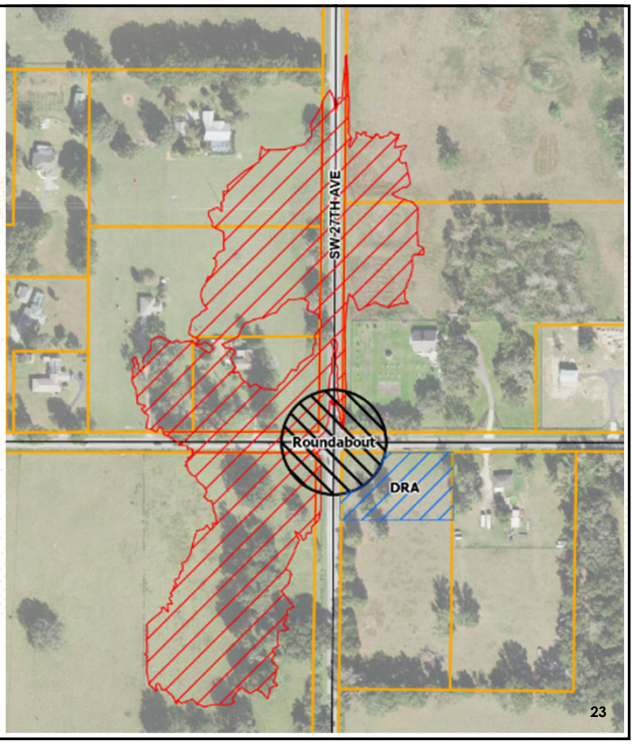
Task B: Drainage

- Floodplain Impacts with elevating roundabout
- Minimal increase in flood stages
- Easement agreement in lieu of compensating storage area
- Previous design for intersection completed by Tillman & Associates



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Cost Savings Opportunities

- Expandable Section
- Single Drainage Trunk Line
- Retaining Wall vs R/W Cost Analysis
- Minimizing Impacts
- Wire Wall

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Next Steps

- Began March 2024
- Task A Stage 1(Profile Adjustment)
  - Roadway Alternative Analysis (Underway)
  - Preliminary Design (Underway)
  - Public Meeting (October 17, 2024)
  - Construction (Unfunded)

- Task B (Roundabout Design)
  - Roundabout Analysis (Complete)
  - Roundabout Design (Underway)
  - Public Meeting (October 17, 2024)
  - Construction (Unfunded)

- Task A Stage 2 (Unfunded) (Four Lane Widening)
  - PER anticipated to follow Task A and B Design Submittals (Unfunded)
  - Design – 14 Months (Unfunded)
  - Construction 18 Months (Unfunded)

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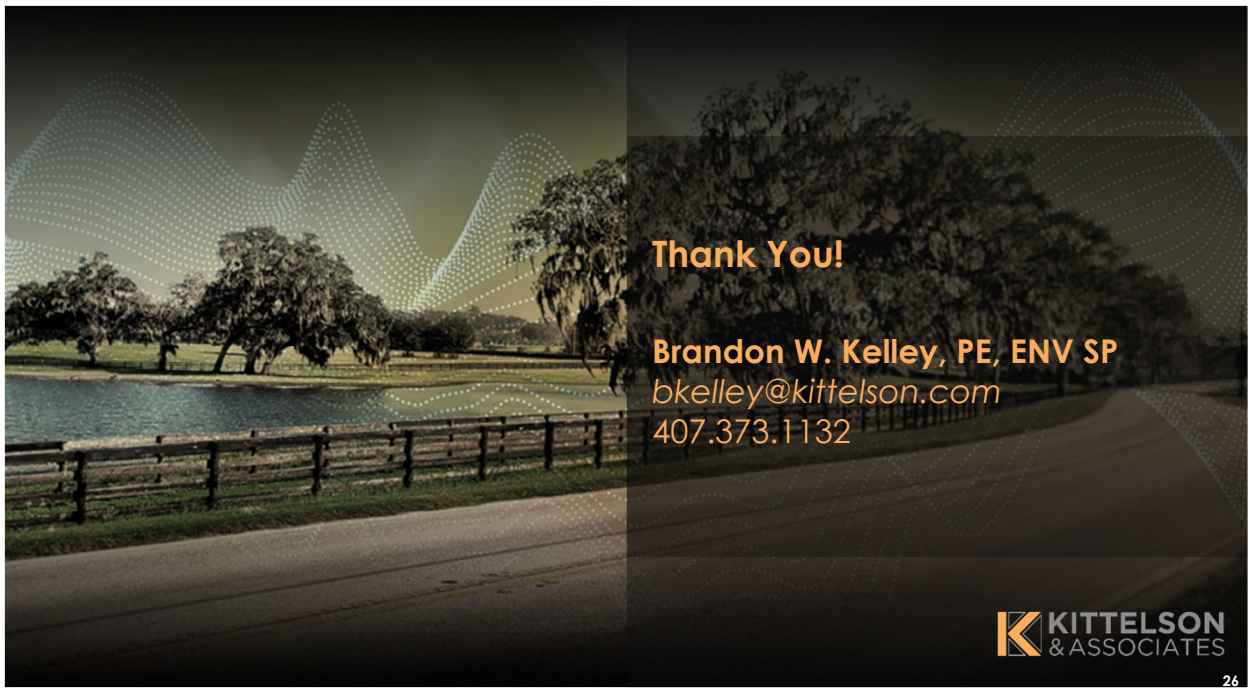

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