



# Raymond Tucker, Golden Pheasant & Windwood Hills Drainage Improvements

## Public Open House Meeting

Leon County Public Works  
July 17, 2014



# Introduction & Historical Background

- ISSUE: Following severe rainfall events, such as TS Fay, Weeping Willow Way, Windwood Way, Golden Pheasant Drive and Raymond Tucker Road became inundated with water cutting off access for residents and emergency personnel to neighborhoods. Weeping Willow Way was completely washed out during the storm.
- CAUSE: Cross drains on these roadways do not have the capacity to handle storms of such magnitude.
- GOALS: Design cross drains to maintain “accessible” roadway during extreme events. During construction it is critical to maintain traffic access through construction area. Windwood Hills & Golden Pheasant have one point of ingress and egress.



# Phase I – Drainage Study

## Objective of Phase I

- Survey critical areas to be used in conjunction with latest GIS information.
- Analyze the existing conditions for the contributing drainage basins.
  - [2,110 Acre contributing area](#)
- Calibrate the model based on observed conditions and rainfall data obtained during TS Fay.
- Run calibrated model for the following events to determine the design storm event:
  - 10 Year
  - 25 Year
  - 100 Year
  - TS Fay



# Phase II – Design

## Box Culverts

### Pros:

- Ease of constructability, under normal conditions.
- Pre-Manufactured

### Cons:

- Existing poor soil conditions require up to 7 foot undercut below bottom of box culvert.
- To maintain safe driving conditions requires building temporary road within wetlands.
- Maintaining base flow during construction would require coffer dams and pumps.
- Additional permitting requirements for temporary road.
- To maintain an “accessible” roadbed while retaining the flow capacity would require several box culverts in succession, side-by-side. Susceptible to clogging.
- Minimal cover over box culverts would require substantial cover plates which results in substantial cost increase.



# Phase II – Design

## Simple Span Bridge

### Pros:

- Maintain traffic flow using existing roadway - phased construction.
- Maintain existing base flow without coffer dams and pumps
- Achieve flow requirements with less length than box culverts.
- Less susceptible to debris clogging.
- Lower cost and shortened construction time while compared to the box culvert option for this area.
- Will maintain a more natural connection.

### Cons:

- Piles will be driven producing more noise.
- Bridge decks will be cast-in-place.



# Proposed Bridge - Typical



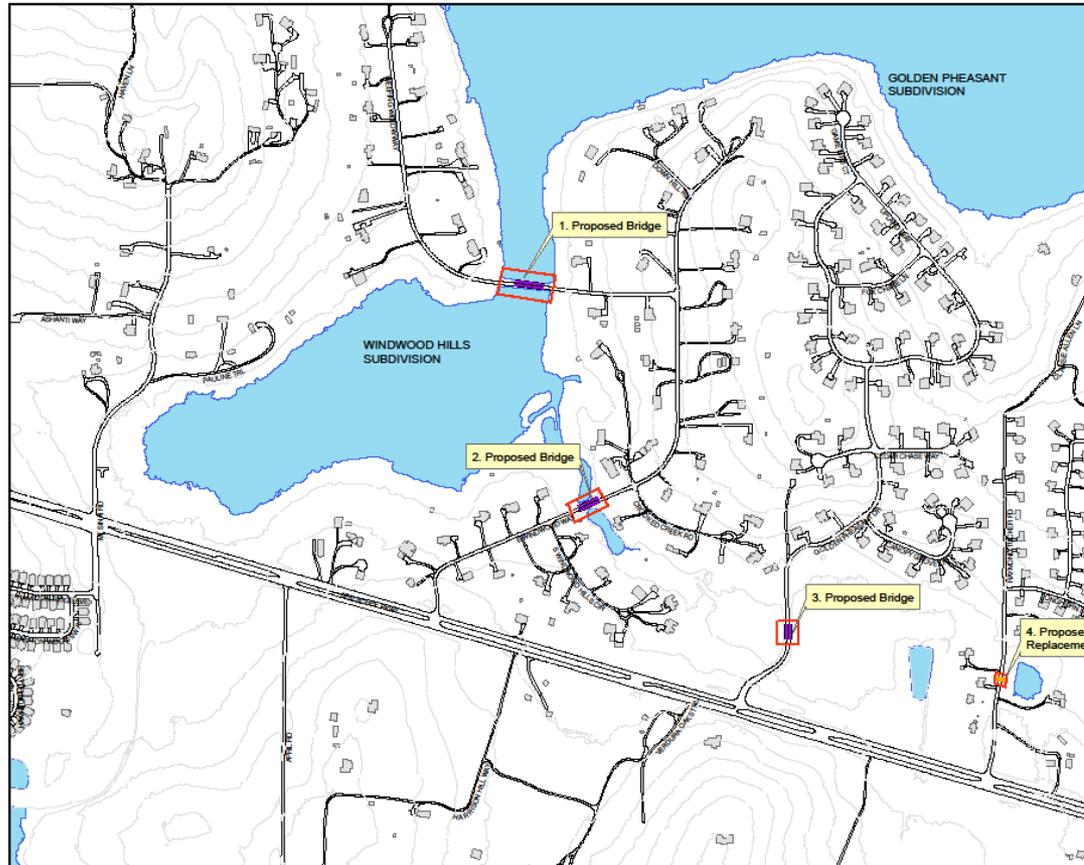
- Context sensitive solution applied to the bridge and guardrail to blend in with the natural environment.





# Phasing and Detour

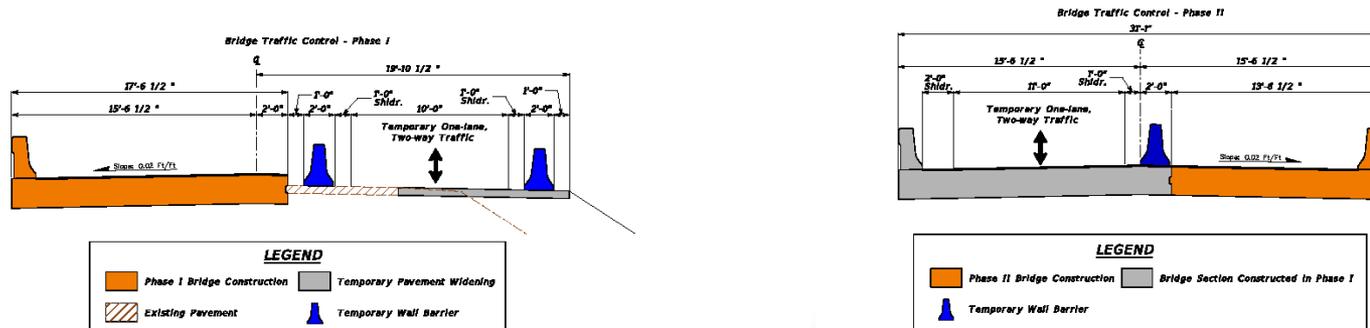
Phasing: Work is anticipated to proceed down stream to upstream



# Phasing and Detour

## Detour:

- For Weeping Willow Way, E. Windwood Way and Golden Pheasant Drive the bridge Construction will be phased to always allow one-lane, two-way traffic. During construction hours flaggers will be present, non construction hours the one-lane will be “self” policed.

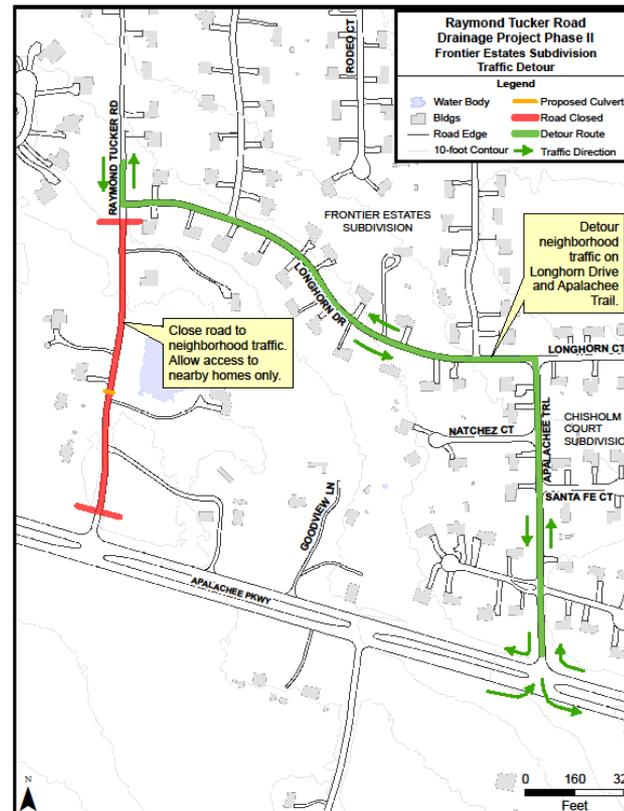




# Phasing and Detour

Detour:

- For Raymond Tucker Road traffic will be detoured through Frontier Estates



# Construction Schedule

- Anticipated construction commencement - Summer/Fall 2015
  - Construction plans at 90 % completion
  - In permitting phase (3 months)
  - Utility design at 60% (Sewer at Golden Pheasant)
- Anticipated duration for construction– 45 to 60 days per bridge
- Overall construction time 7 months.





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**<http://cms.leoncountyfl.gov/Home/County-Projects/Raymond-Tucker-Goldern-Pheasant-Windwood-Hills-Cross-Drain-Project>**

