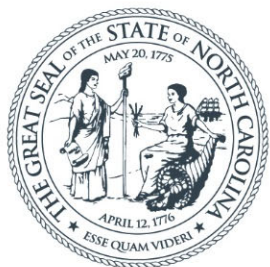


06/06/2024



NORTH CAROLINA Department of Transportation



Rotary Club Presentation – R-5600 Project

Jeanette White, PE - NCDOT Division 14, Project Development Team Lead

Lonnie Watkins, PE - NCDOT Division 14, Project Manager

Luis Hemmer, MBA – NCDOT Division 14, Engineer I Consultant

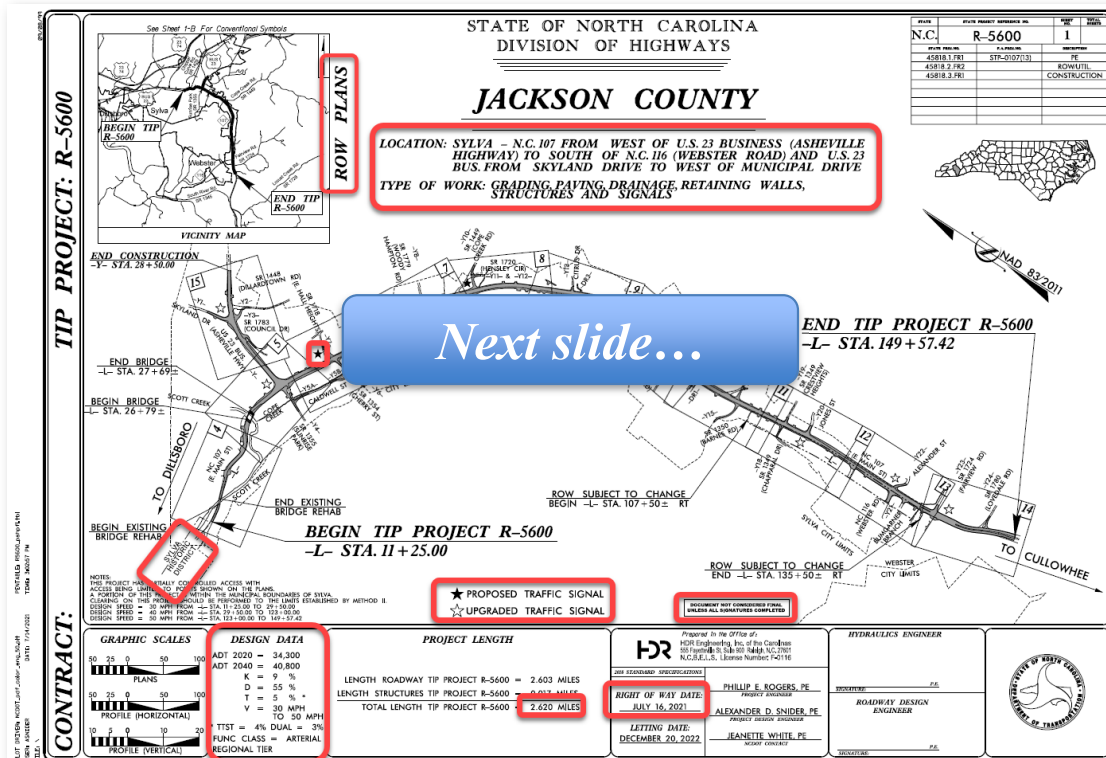
Jake Day - NCDOT Division 14, Senior Right-of-Way Agent

Project Overview

R-5600

- **Name: “R-5600 NC 107”**
 - R = Rural project area
 - 5600 = State Transportation Improvements Program (STIP)
- **Project Location**
 - Jackson County (NC 107)
 - Length of road: ~ 2.6 mi.
- **Project Cost Estimate: (08/2023)**
 - Engineering Design - ~\$2.5 M
 - Right of Way Acquisition - ~\$60 M
 - Utilities - ~\$7.2M
 - Construction - ~\$85.2 M
 - **Total = ~\$154.9 M**

(Variation to project cost – such as utilities, and upcoming design & construction of ~1700 LF Stormwater Box – Later discussed.)



Next slide...

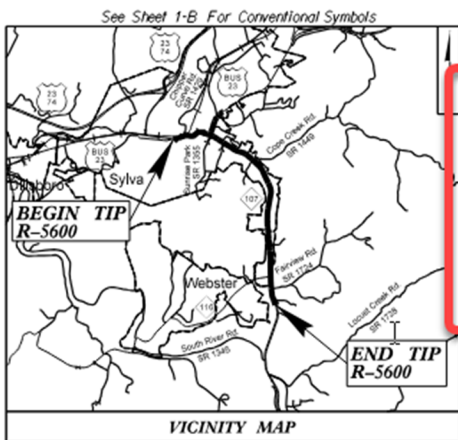
TIP PROJECT: R-5600

CONTRACT:

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

JACKSON COUNTY

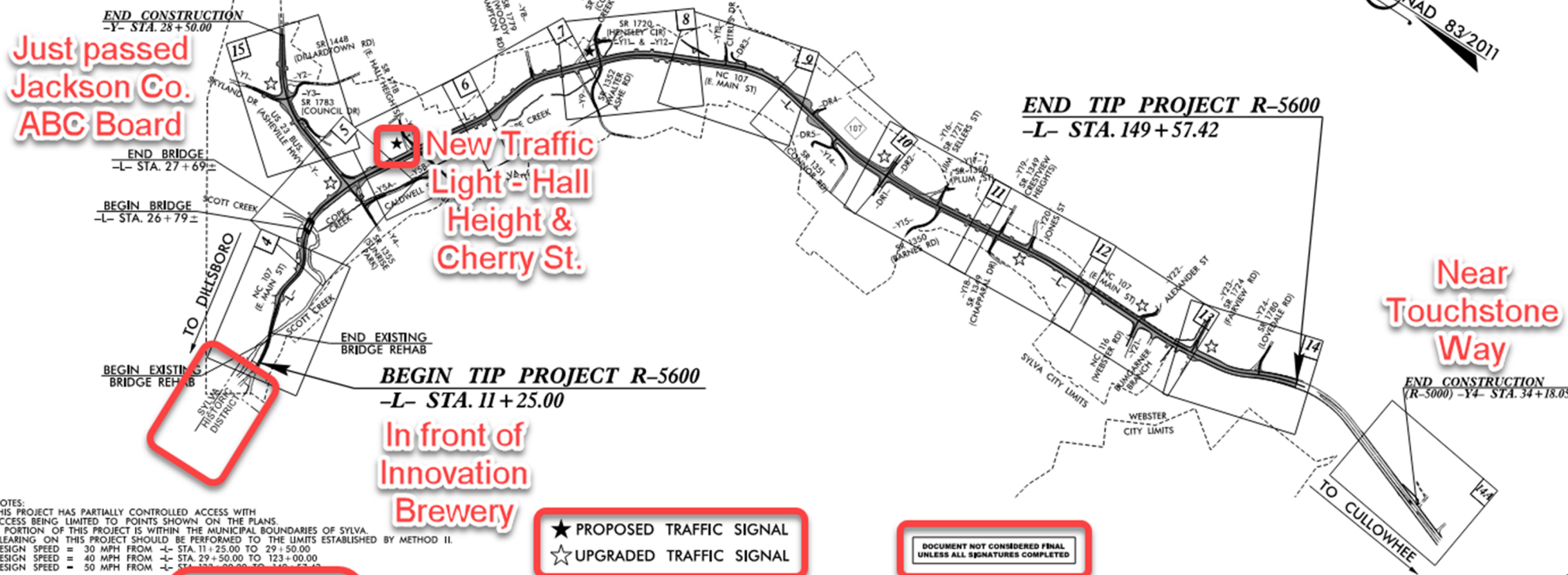
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-5600	1	
STATE PROJ. NO.	P.A. PROJ. NO.	DESCRIPTION	
45818.1.FR1	STP-0107(13)	PE	
45818.2.1		ROW/UTIL	
45818.3.FR1		CONSTRUCTION	



ROW PLANS

LOCATION: SYLVA - N.C. 107 FROM WEST OF U.S. 23 BUSINESS (ASHEVILLE HIGHWAY) TO SOUTH OF N.C. 116 (WEBSTER ROAD) AND U.S. 23 BUS. FROM SKYLAND DRIVE TO WEST OF MUNICIPAL DRIVE

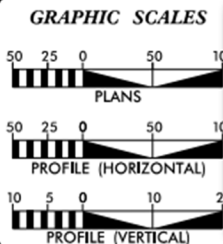
TYPE OF WORK: GRADING, PAVING, DRAINAGE, RETAINING WALLS, STRUCTURES AND SIGNALS



NOTES:
THIS PROJECT HAS PARTIALLY CONTROLLED ACCESS WITH ACCESS BEING LIMITED TO POINTS SHOWN ON THE PLANS. A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF SYLVA. CLEARING ON THIS PROJECT SHOULD BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.
DESIGN SPEED = 30 MPH FROM -L- STA. 11 + 25.00 TO 29 + 50.00
DESIGN SPEED = 40 MPH FROM -L- STA. 29 + 50.00 TO 123 + 00.00
DESIGN SPEED = 50 MPH FROM -L- STA. 123 + 00.00 TO 149 + 57.42

★ PROPOSED TRAFFIC SIGNAL
☆ UPGRADED TRAFFIC SIGNAL

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



DESIGN DATA

ADT 2020	= 34,300
ADT 2040	= 40,800
K	= 9 %
D	= 55 %
T	= 5 %
V	= 30 MPH TO 50 MPH
* TTST	= 4% DUAL = 3%
FUNC CLASS	= ARTERIAL REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-5600 = 2.603 MILES
 LENGTH STRUCTURES TIP PROJECT R-5600 = 0.017 MILES
 TOTAL LENGTH TIP PROJECT R-5600 = 2.620 MILES



Prepared in the Office of:
HDR Engineering, Inc. of the Carolinas
555 Fayetteville St. Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

308 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JULY 16, 2021

LETTING DATE:
JULY 15, 2025

PHILIP E. ROGERS, PE
PROJECT ENGINEER

ALEXANDER D. SNIDER, PE
PROJECT DESIGN ENGINEER

JEANETTE WHITE, PE
NCDOT CONTACT

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

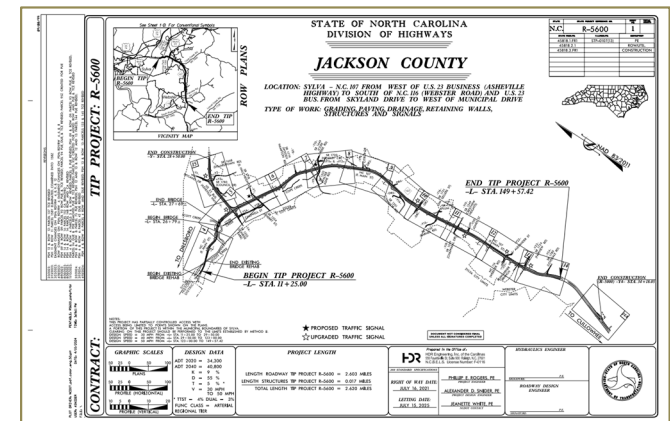
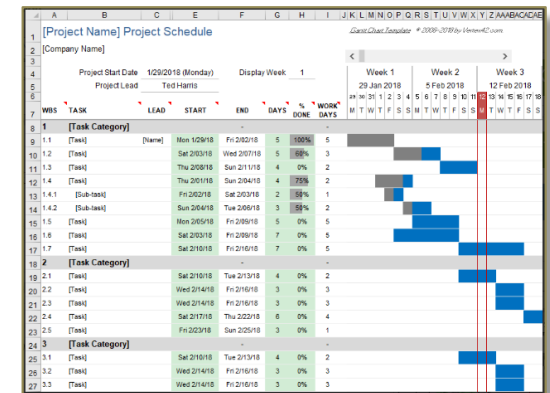


Project Overview

R-5600

Project Schedule: ...Moving forward!

- This project was significantly impacted due to the COVID impacts on the State's Budget.
- Yet fortunately, unlike many other Statewide project, it was only delayed by ~ 2 years and is allowed to *Move-Forward! The current LET date is now 15th July 2023.*
- **Design Completed to Date:**
 - Approximately 90% of the roadway design plans are complete.
 - Roadway alignment is set!
 - Yet the plans are DRAFT – and thus, relatively small changes will occur.
 - All the easements and ROW locations are set. (Structures and business relocation will be discussed shortly).
 - Decisions were based on cost and minimizing long-term impact to the community.
 - The project easements, including ROW, have been designed to assist in facilitating future rebuilding while minimizing overall impact where possible.
 - The Stormwater Box Culvert (SWBC), with the dimensions ~ 12 FT x ~5 FT stormwater (SW) box culvert (BC), ~1750 LF must be installed.
 - GeoEnvironmental analysis for potential soil contamination concerns is now completed.



– Design In-Progress:

- (next slide) ...

Project Overview

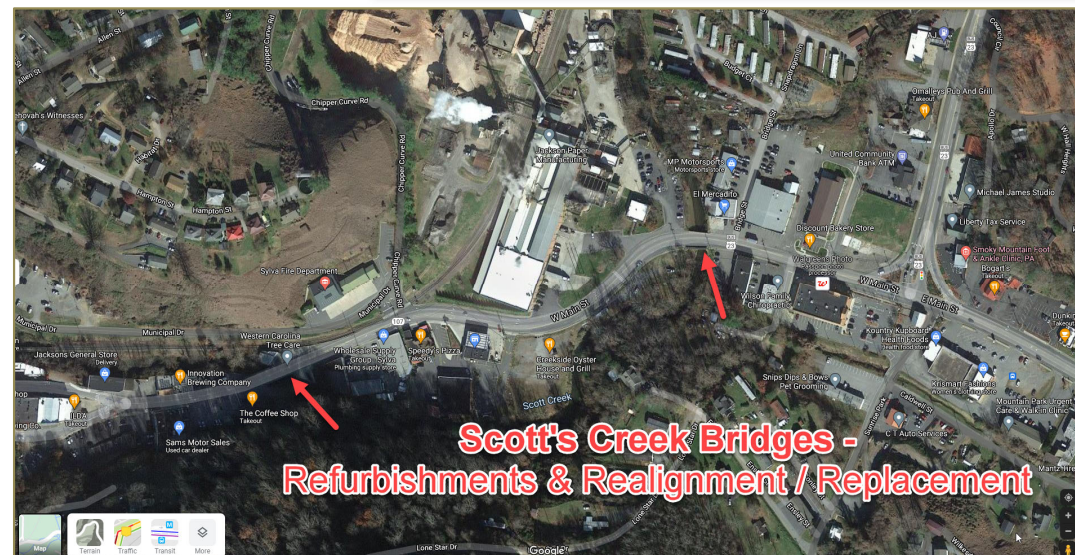
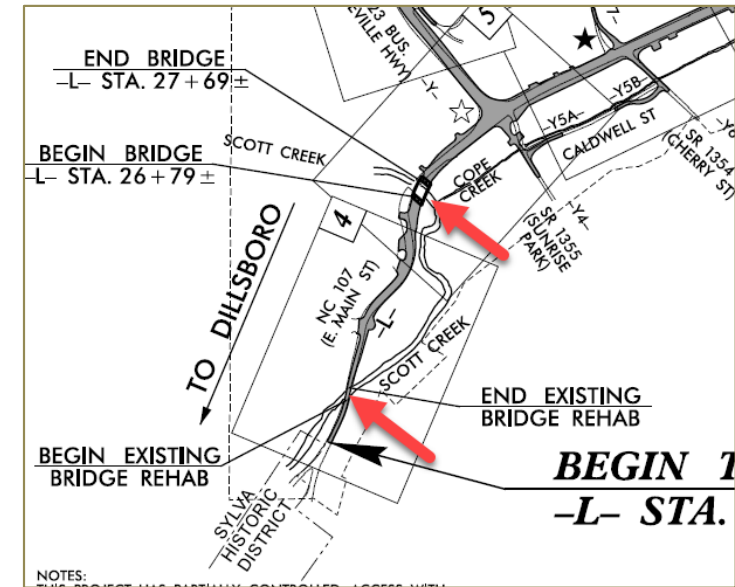
R-5600

Project Schedule: ...moving forward! (Cont.)

– Design In-Progress:

- **Traffic Management Plans** – Further defining how will the project be built. (A proposed detour option will be discussed later...)
- **Utility Phasing concepts** – *How to maintain standard utility services during construction.*
- **Scott's Creek Bridges** – *One bridge will be replaced, and one will be rehabbed - design is ongoing.*
- **Erosion Control Design**
- **Pavement Design**
- **Wall Designs** – *Determining the design intent and aesthetics of 24 wall facings.*
- **Street Lighting** – The relocation of ~160 streetlights is being determined. Cost escalations to the Town and the County are a concern.

- Utility Relocations will Begin –
Soon! Before LET, July 2025.
(next slide) ...



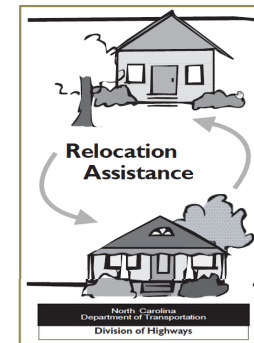
Project Overview

R-5600

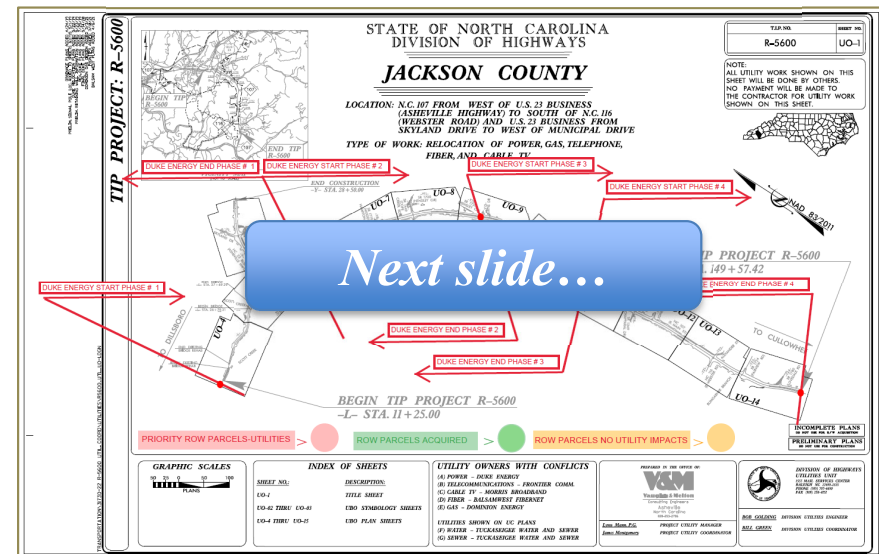
Project Schedule: ...moving forward! (Cont.)

- Utility relocations will begin during the remaining design
 - ROW Acquisition has been a ~3-year process.
 - The relocation of dry utilities (overhead utility lines) will begin soon.
 - The community will soon begin to see some DRY utilities, such as power poles, begin to be relocated, back and away from the roadway, all along the corridor.
 - This is typical of most roadway projects. Thus, ROW Acquisition is moving forward as quickly as possible so this project will stay on schedule.
 - Thus, ...

- Utility Phasing:
 - The project has been subdivided along various “phases.”
 - Four phases, 1-4.



Many landowners have received the ROW handouts, as seen here.

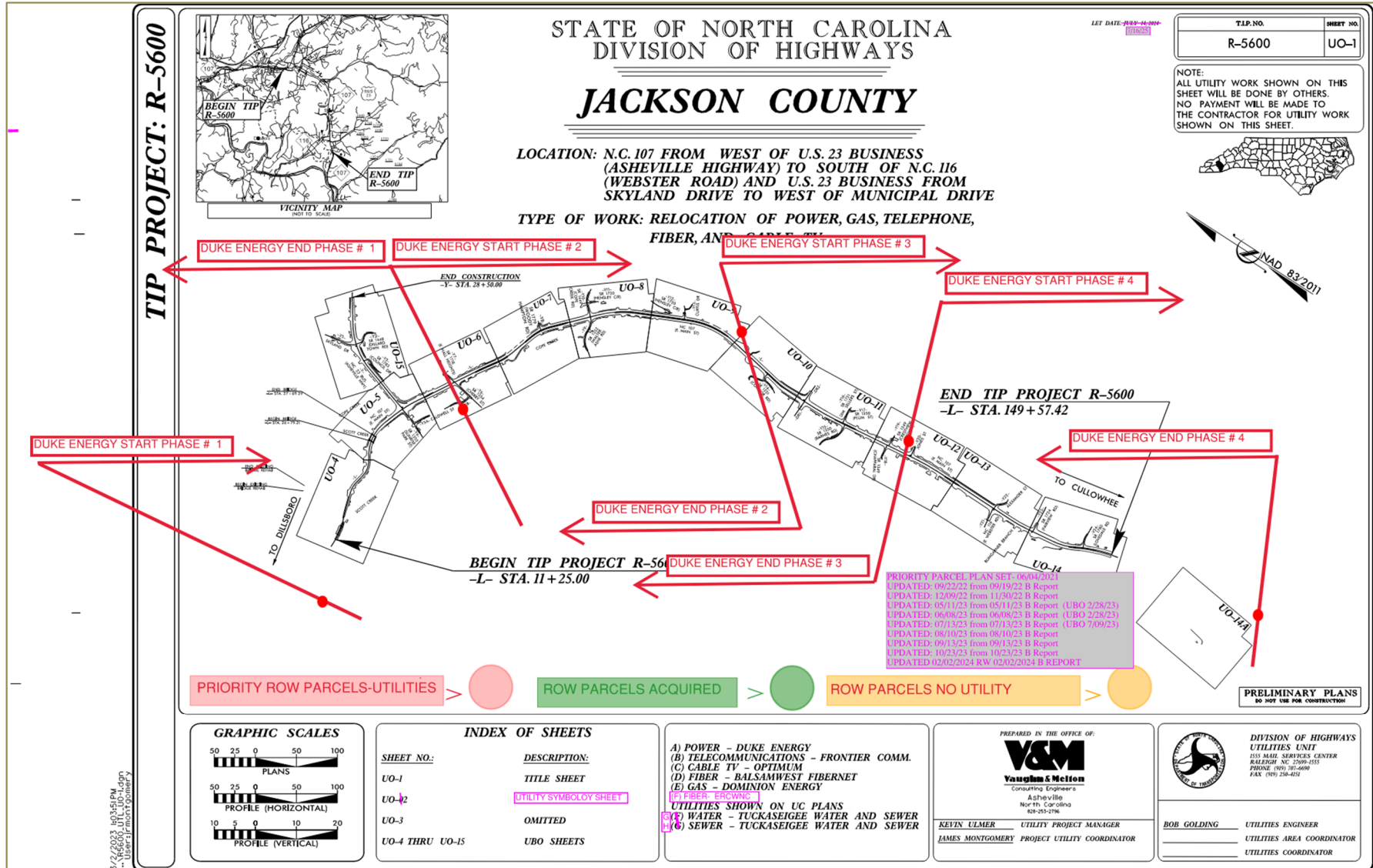


Next slide...

Project Overview

R-5600

Project Schedule: ...moving forward! (Cont.)



*Next, community
concerns.*

Business Impacts R-5600

- **Total Businesses Impacted** **40**
 - Businesses relocated within Jackson County 26
 - Businesses relocated outside of Jackson County 1
 - Businesses that did not reopen 8
 - Businesses that are undecided 5
- **Businesses that have the option to move (all undecided)** **6**
- **~91% ROW completed (15 Parcels left of a total of 157 parcels)**



Business Impacts R-5600

- Those are the group of local officials that have been very helpful with facilitating this project.



Business Impacts

Rebuilding On Site

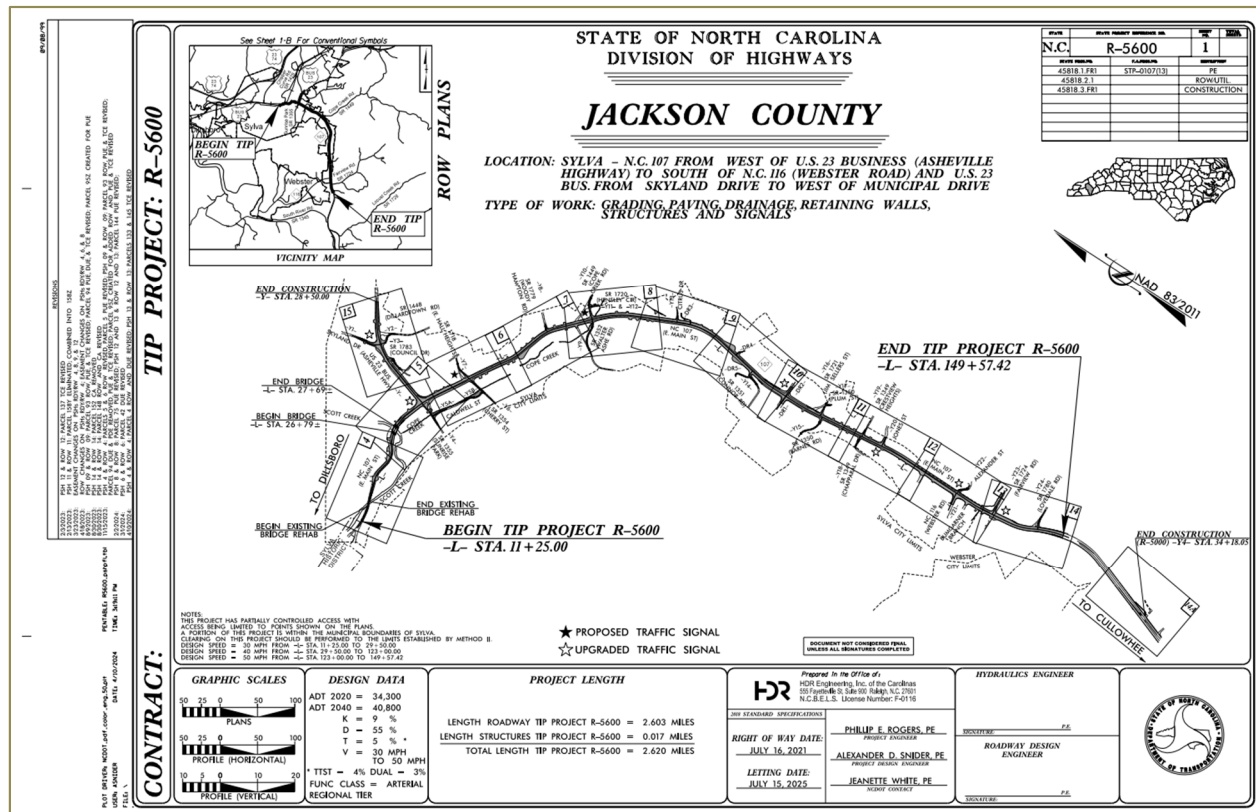
- Must submit a site plan for review by NCDOT
- Must obtain an NCDOT driveway permit
- Stay outside NCDOT right of way and easements



Business Impacts

Working With Businesses/Developers

- Adjusting Driveways, turning movements and signals.
- Working with businesses and developers with available lots for future developments on the whole area.



Overall, and in recap of our previous presentation, what is being proposed with this roadway project?

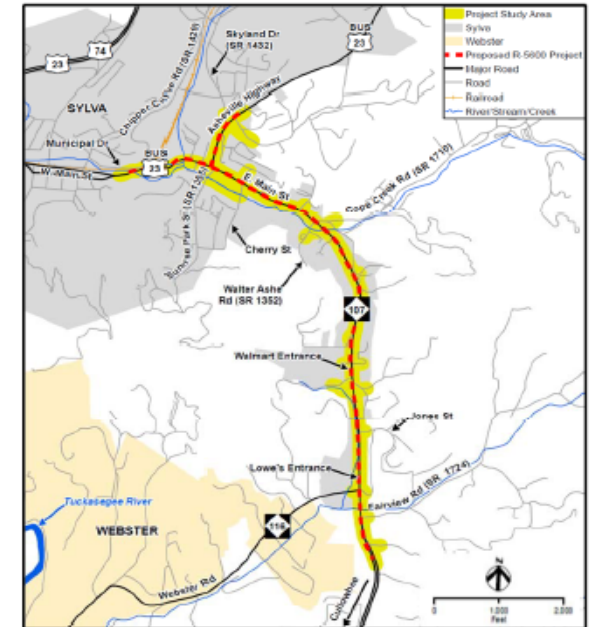
Project Highlights

R-5600

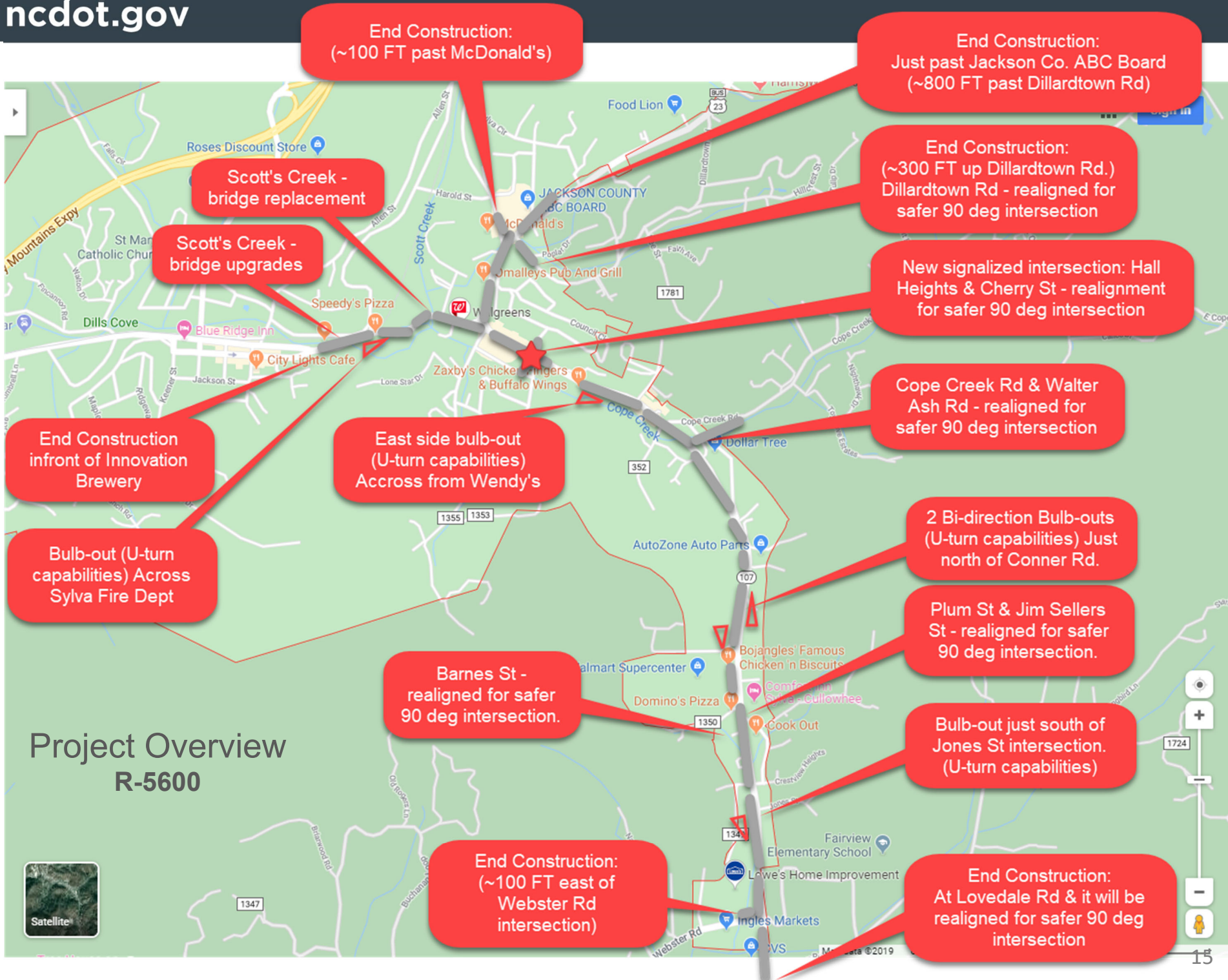
- 1 new signalized intersection:
 - Cherry Street & East Hall Heights
- 6 new bulb-outs to allow for U-turn access points:
 - Additional to signalized intersection U-turn capabilities
- 6 upgraded traffic signals
- 24 walls:
 - Walls will lessen the project impact
 - Height range from a few feet tall to ~35 FT tall!
- Scott's Creek:
 - 1 Bridge rehab
 - 1 Bridge upgrade

**New Signalized Location:
Hall Heights and Cherry Street
(Includes realignment of ~ 90 intersection - Safer Roadway)**

Project Extents



More info next slide...



Project Overview

R-5600

- What will the new road look like?
- Roadway cross-sections (XS):
 - A XS is a slice the road, much like a slice of bread. Lift the slice up, and view face of the bread. This sliced view identifies the depth and widths along the full length of the road as the design changes through the project.
 - Cross-sections illustrate design elements such as: lane and shoulder widths, cross slopes, sidewalks, curb and gutter, bike lanes, details of the median, and other design features.

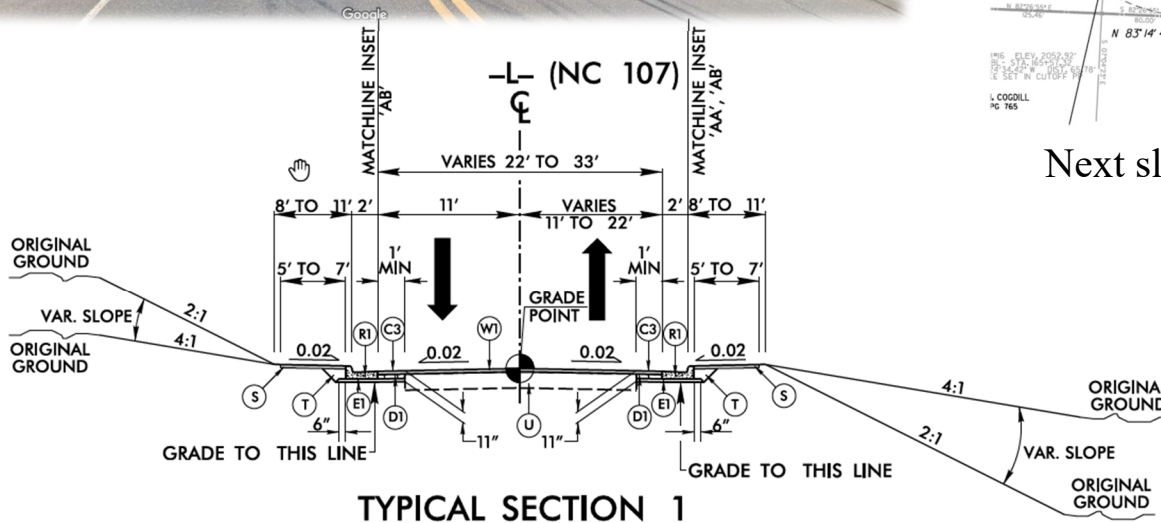
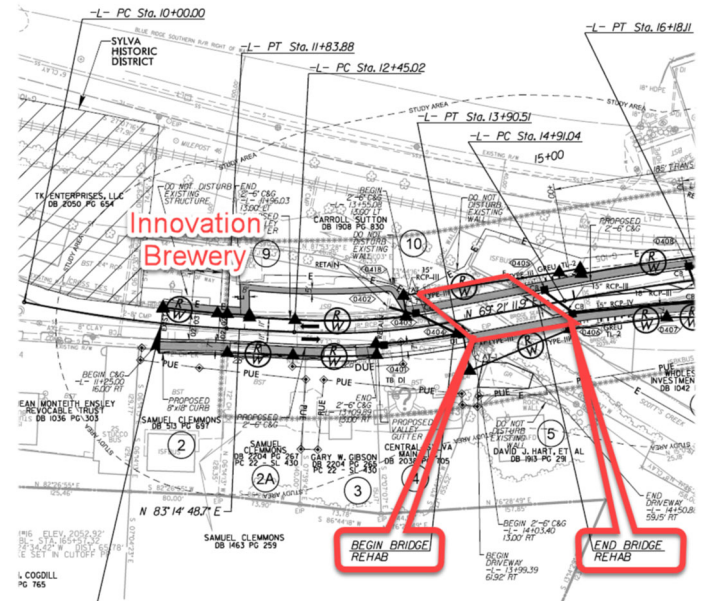


US 23 Business: Asheville Highway - *southbound*

Project Overview

R-5600

- What will the new road look like?
 - Beginning at Innovation Brewery... sidewalk both sides of the roadway.
 - Then, transitioning to the next cross-section near the Fire Station...

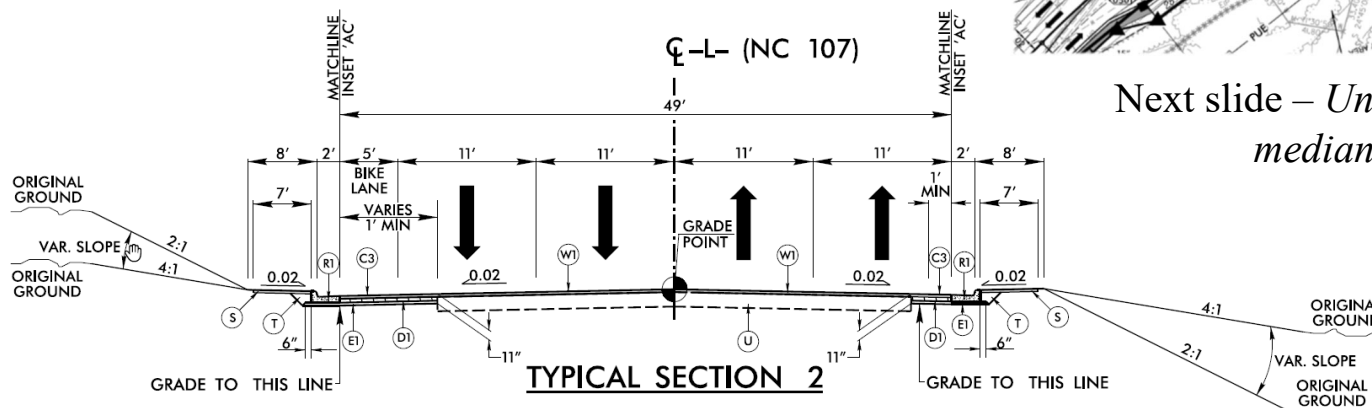
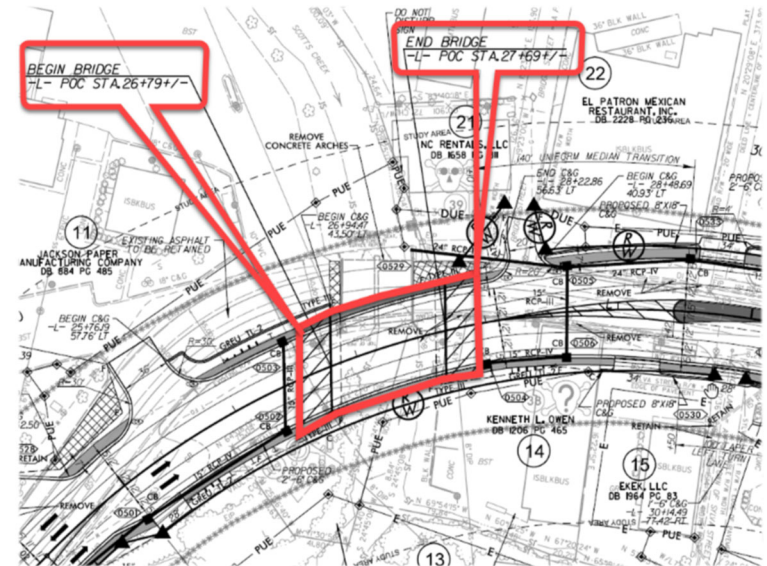


Next slide – *The realigned bridge replacement*

Project Overview

R-5600

- What will the new road look like?
 - Then, just past the Fire Station and near the Jackson Paper Mill... to the intersection of Asheville Hwy, and NC 107 - Bike lanes, not shown on both sides of the road, will begin just before the second Scott's Creek bridge crossing, the realigned/replaced bridge.



Next slide – Understanding the median widths

Project Overview

R-5600

- **What will the new road look like?**
 - ...From the intersection of Asheville Hwy, and NC 107, the primary roadway cross-sections:
 - 1. Small 5.5 FT concrete median that varies to 16 FT**
 1. Variation to allow for transition between middle vehicle storage lanes
 2. Concrete – grass can not be easily maintained in areas less than 5 FT wide
 - 2. 17.5 FT grass or concrete median:**
 1. 12 FT storage lane for left hand turns...
 2. $+5.5 \text{ FT} / 2 = 2.5 \text{ FT}$ needed for lane separation and stormwater collection - curb and gutter
 3. Needed so that road does not “snake” in and out along corridor when storage for left turn movements is not needed.



Next slide - *The cross-sections...North & Southbound - Asheville Highway*

Project Overview

R-5600

• What will the new road look like?

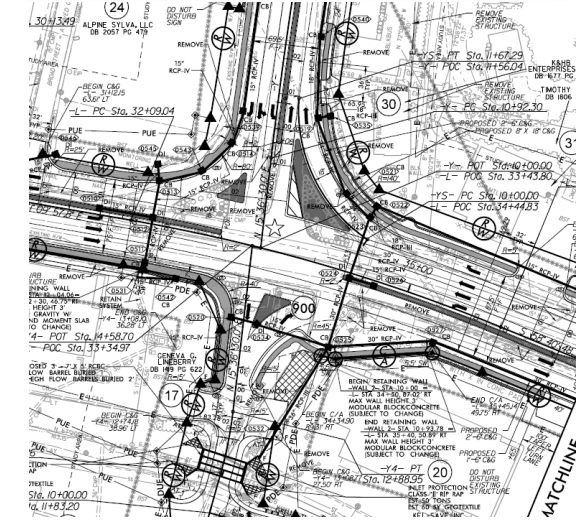
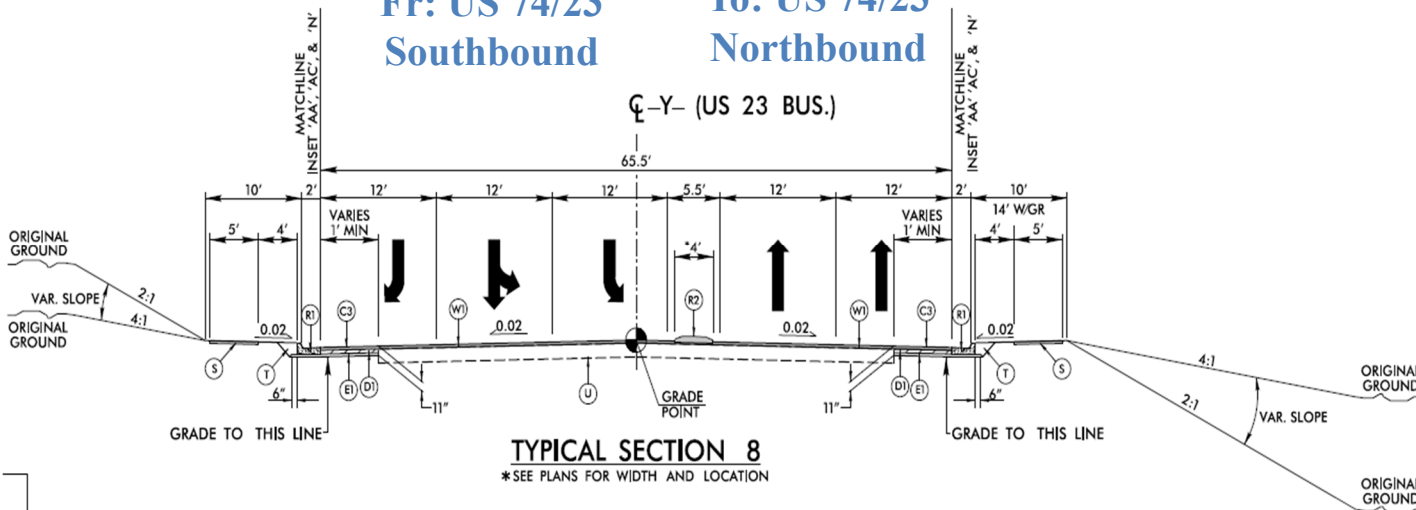
- Intersection of Asheville Highway and NC 107:
- Sidewalk will be added, yet bike lanes will not be added along Asheville Hwy.



Fr: US 74/23
Southbound



To: US 74/23
Northbound



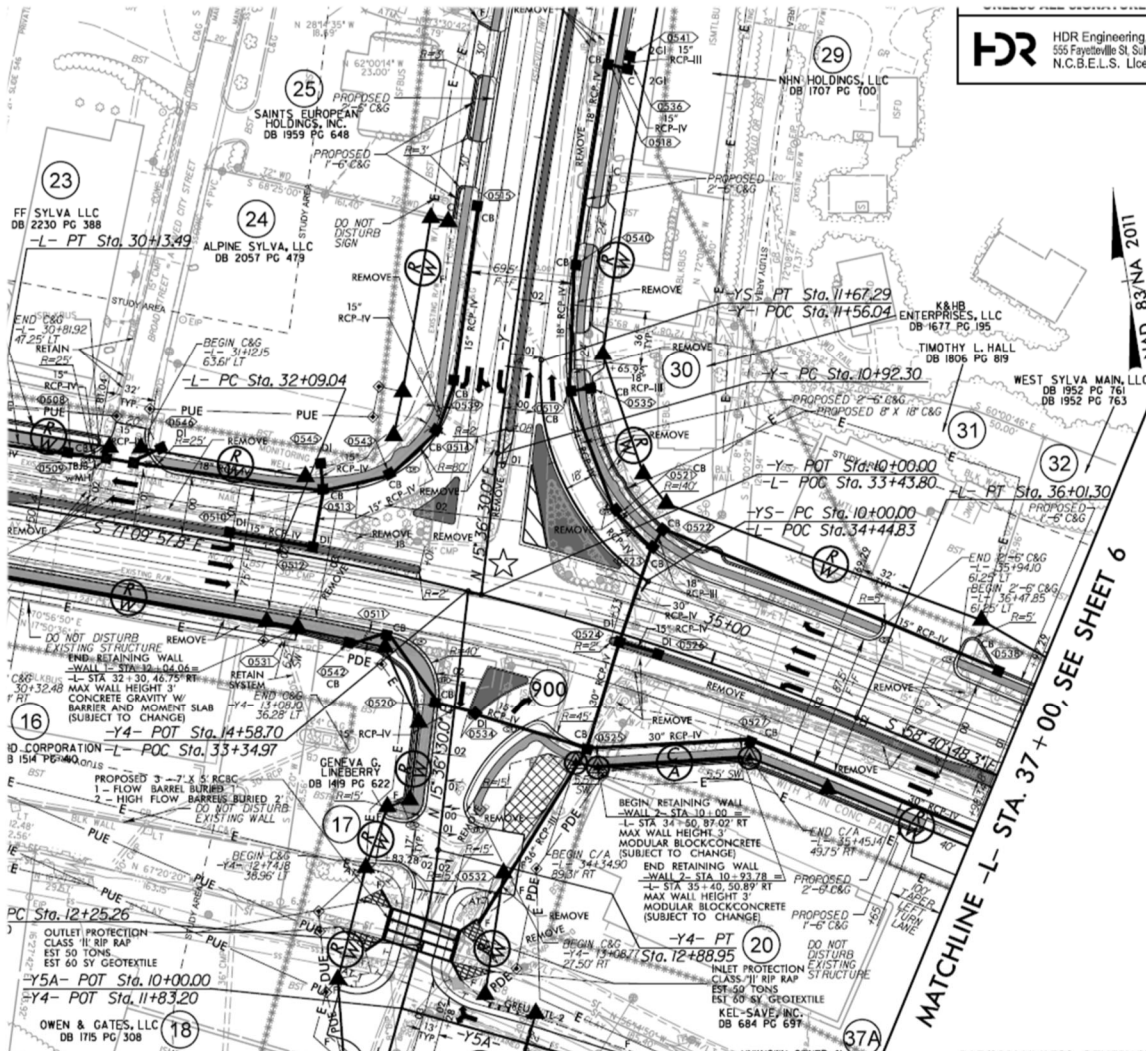
Next slide – *More review of this intersection...*

1. Notice SB - two left turn lanes, next to the smaller concrete median:
2. Here, there is ~500 FT of two-lane vehicle storage southbound arriving off Asheville Hwy
 - @ ~25 FT per vehicle, for 2-lanes, ~ 40 cars will store within these 2-left turn lanes.
 - The new traffic light will account for appropriate “green time” for left-turn movements.

Project Overview

R-5600

- What will the new road look like?
 - Intersection of Asheville Highway and NC 107:

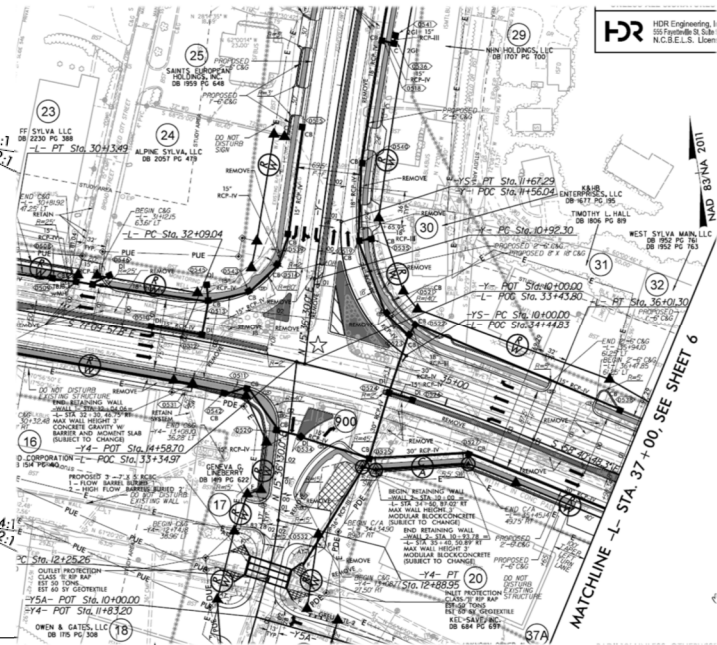
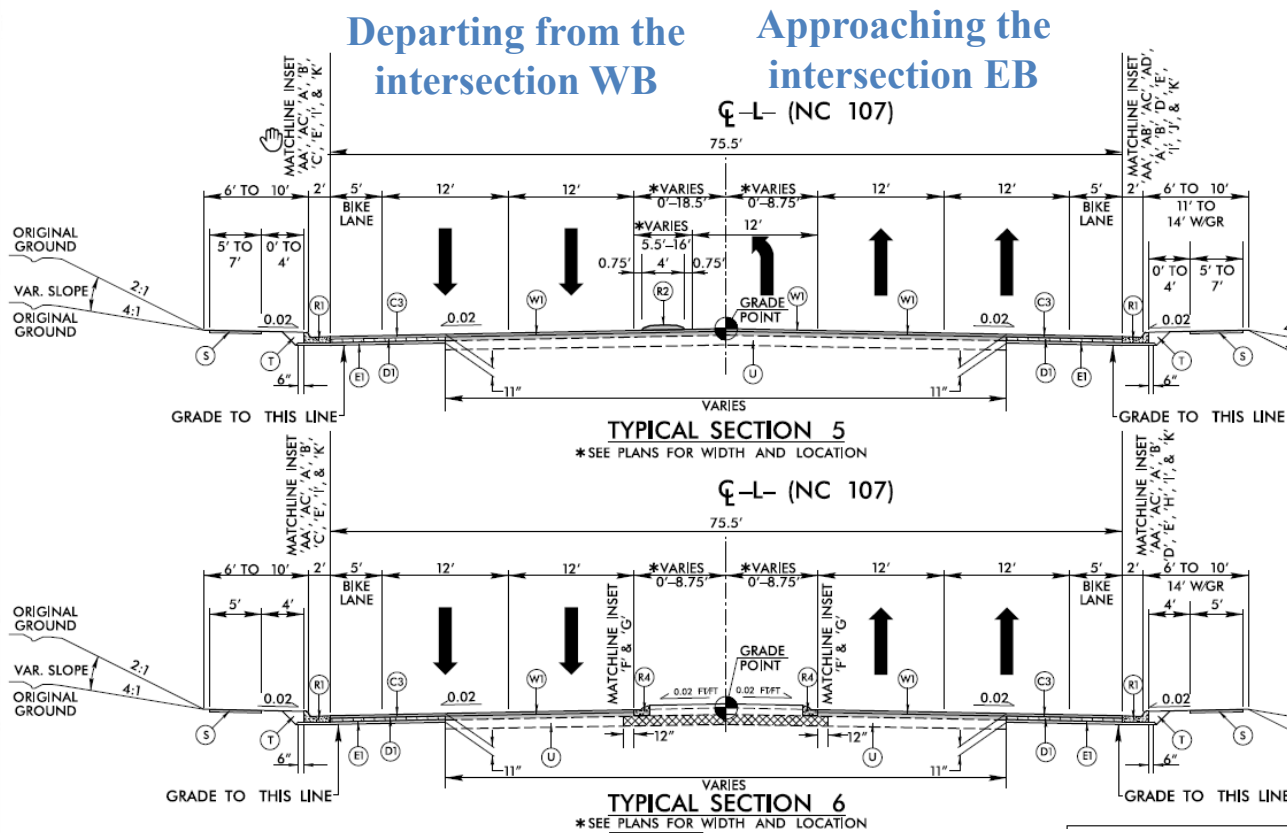


Next slide –
Along NC 107, the arrival and departure XS at this intersection...

Project Overview

R-5600

- What will the new road look like? *Along NC 107...*



Departing EB

Approaching WB
(Free-flow lane not shown)

Next slide –
Advancing along NC 107,
the primary XS...

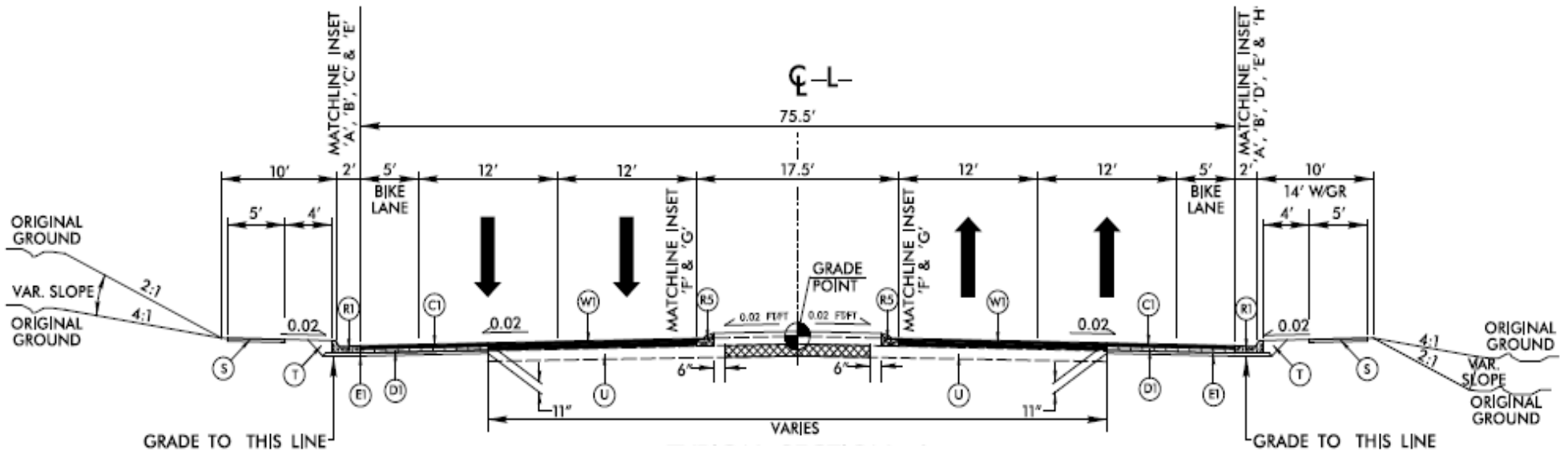
Project Overview

R-5600

- What will the new road look like?
 - Near O'Reilly Auto Parts, the corridor will...
 - Transition from a 17.5 concrete median to a grass median



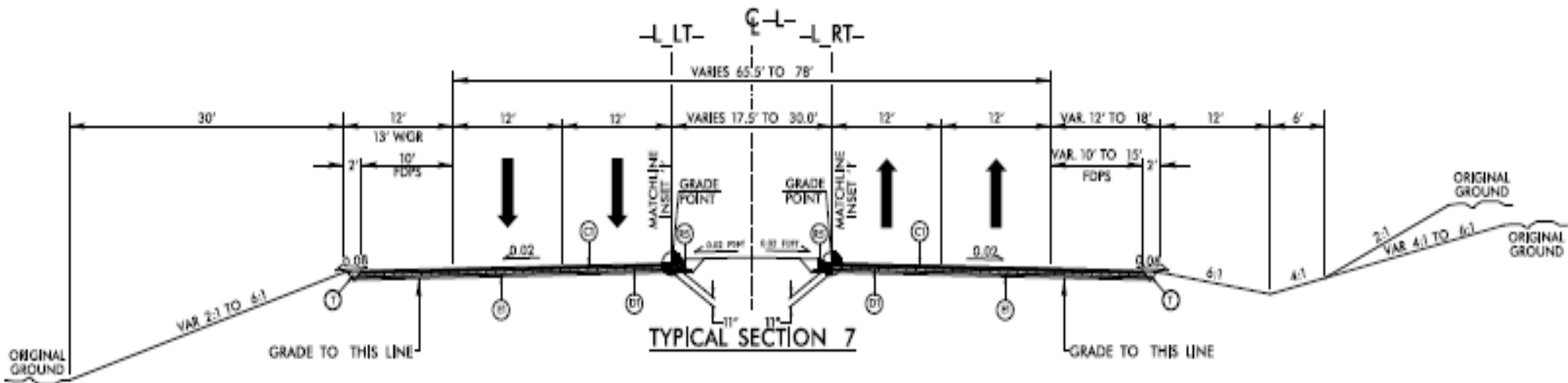
Next slide –
Project ends along Lovedale Road.



Project Overview

R-5600

- What will the new road look like?
...End construction near Touchstone Way.

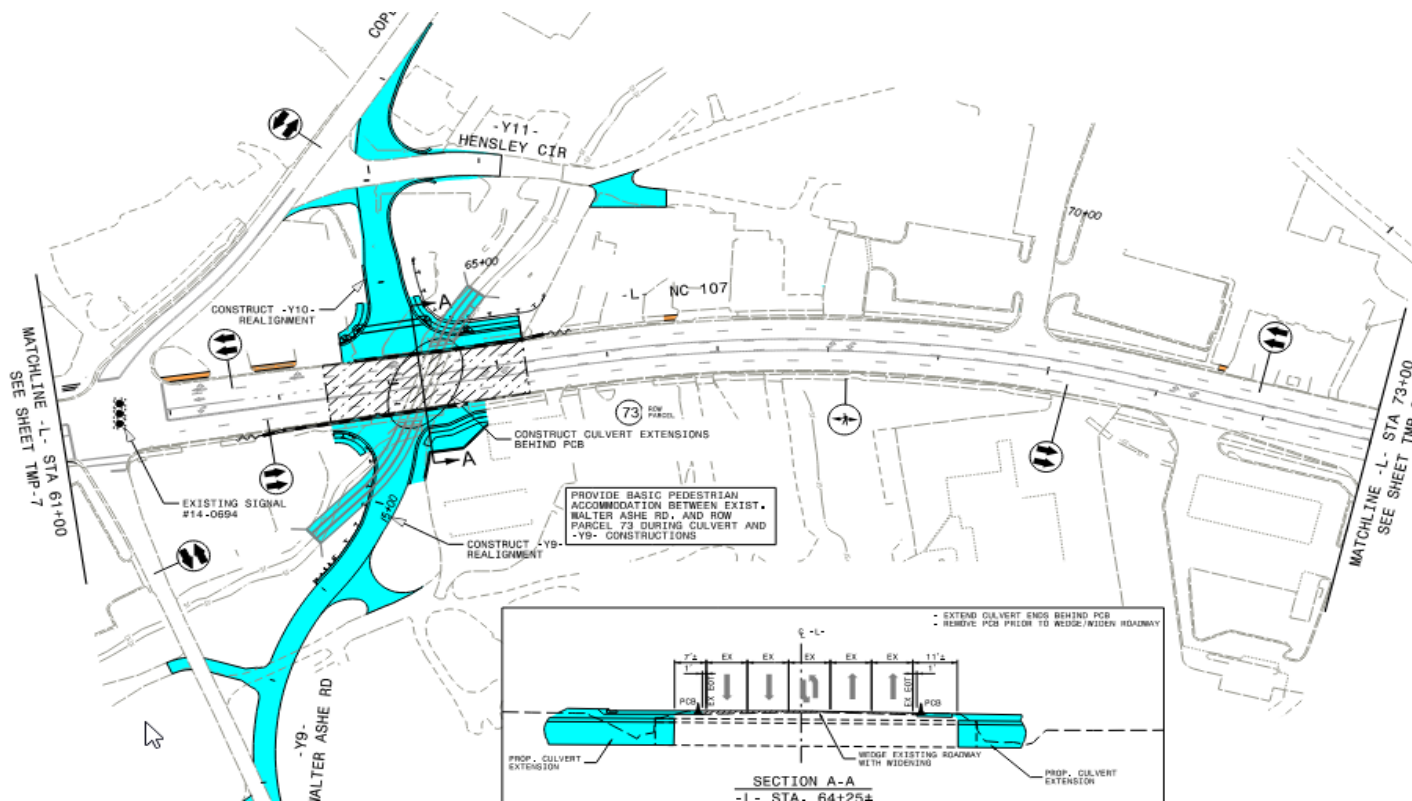


3. With the *grass* median – *varying from 17.5 FT to 30 FT*

Construction Staging/ Phasing

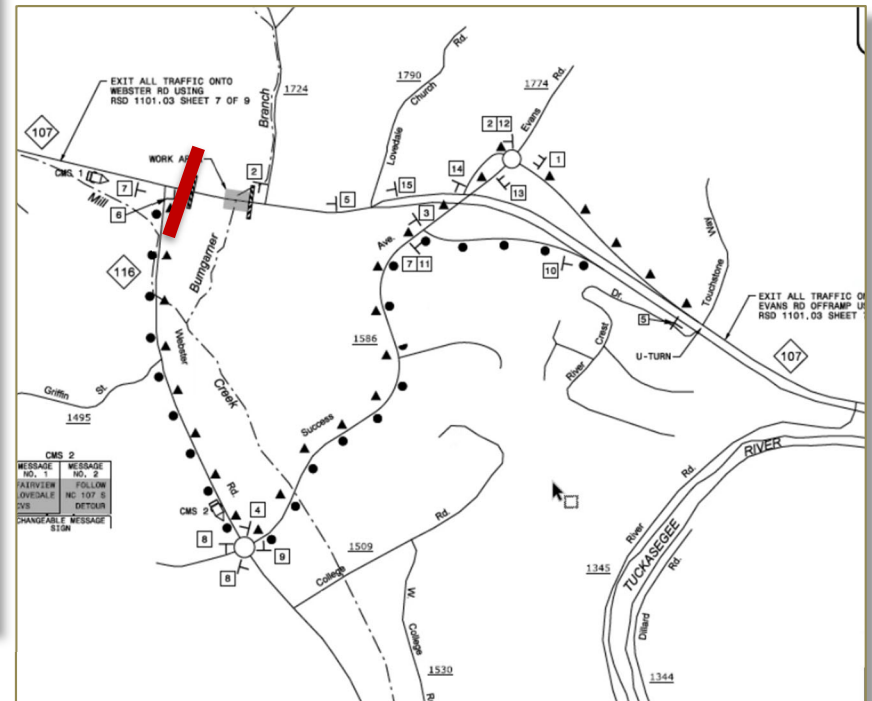
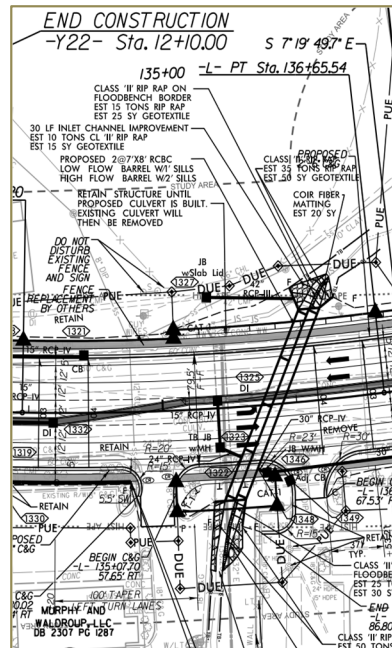
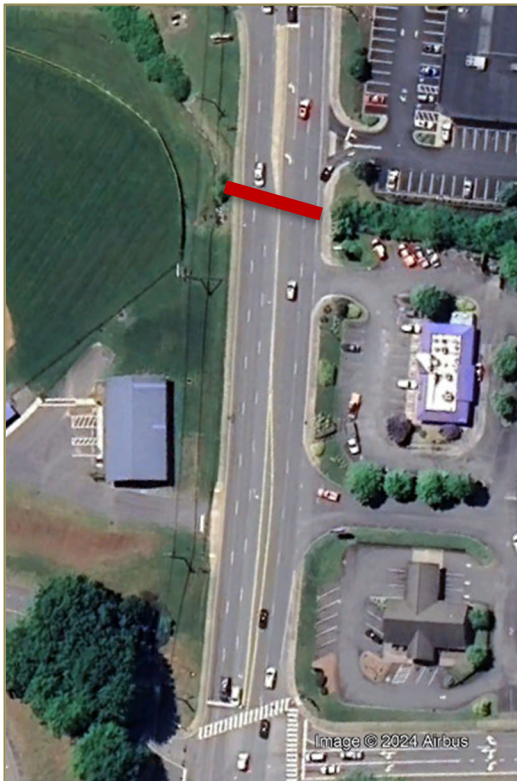
General Concept – 3 Phases

- Construct items outside of travel-way – for example such as bulb-outs
- Shift traffic to one side with one lane open in each direction and then construct opposite side of roadway
- Shift traffic to newly constructed side of roadway and construct opposite side.



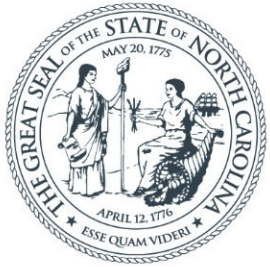
Construction Staging/ Phasing

- **Culvert Construction across NC107, between CVS and Burger King**
 - Possible Detour.
 - Detour would be on NC116, Webster Road, and Success Avenue.
 - NC107 would be closed for approximately 2 months.
 - The RABs will exceed capacity.



Questions?





NORTH CAROLINA

Department of Transportation



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<https://www.ncdot.gov>